

SAMATOSUM EXPLORATION

DIAMOND DRILL HOLES

825112

RG 32 - RG 42

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
0.00 TO 15.55	CASING <CB>					
15.55 TO 35.10	MAFIC LAPILLI TUFF <MT>	Colour - dark grey to light grey to buff Grain Size - fine grained Pale coloured (<1.5mm lapilli in a fairly altered matrix. So many of the lapilli are hexagonal in shape - suspect monomineralic (cordierite?). They are NOT flattened along the moderately to weakly developed foliations. Bottom of unit (in the hole) (top in stratigraphy?) is marked by two muddy pyrite beds, approx. 10cm and 25cm thick, separated by 10cm of sericitic tuff. Contact sharp at =	90	Begins predominantly chloritic but with buff, sericitic patches. Becomes more sericitic especially so beyond 25m	Traces of pyrite only except locally in qtz-carb veins. 30% py, tr sp in beds.	Minerals are hexagonal to slightly rounded, generally white, locally tinged blue or green. Many fizz slightly when scratched. Hardness close to six but can be softer.
35.10 TO 35.40	PYRITIC ARGILLITE <PY ARG>	Colour - black Grain Size - very fine grained Weakly conductive black pyritic argillite with fine pyritic beds in upper part. Minor qtz-carb-py veinlets. Bedding 85° =	90		<15% py> Average 15% py but up to 50% locally	'Minerals' are hexagonal
35.40 TO 36.70	PYRITIC TUFF <PY TUFF>	Colour - pale grey Grain Size - fine grained Homogeneous, pale, soft tuff with finely disseminated pyrite and marcasite? Contact badly broken up partly ground.		Sericite	6-8% py (-marcasite?)	
36.70 TO 38.70	QUARTZ VEIN <QV>	Colour - white Grain Size - Bull quartz vein with 10% silvery grey sericite. Blocky and broken throughout. Contact broken.			Singe 1 1/2cm diameter bleb of cp-py in the middle.	
38.70 TO 59.60	BLACK CHERT AND CHERTY ARGILLITE <CHT+ARG>	Colour - black Grain Size - very fine grained Laminated, locally brecciated chert with minor tuff. Most is black, argillitic, quite soft. Lesser, usually thin (<5mm), light coloured chert and tuff laminae. Lots of contortion, much caused by primary slumping. Minor secondary		Tuffaceous component is often sericitized	1-2% finely disseminated pyrite throughout.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		quartz. Gouge zones: 40.8 - 41.4, 42.8 - 43.3 plus numerous very thin ones. Locally very variable but averages	80 - 90			
59.60 TO 80.30	MASSIVE CHERT <CHT>	Colour - white - creamy white Grain Size - aph Mainly massive to finely laminated chert. Moderate tuffaceous component. A few black cherty argillite beds to 64m. Contact marked by a quartz vein with mica and carbonate. 65.1 - 66.05 Several possible beds with pyrite, green mica and yellow sericite abundant 66.05 - 76.4 Very massive chert with strong pyrite as fracture fillings and in breccia zones in the matrix. No tuff component. 76.4 - 80.3 Moderately-strongly sericitic tuffaceous chert. Highly contorted	80 80	Good sericite in tuffaceous component Massive green mica locally. Strong yellow-ochre sericite	Traces of py. 20% py as semi-massive beds to 2cm. 66.05-76.4 <40% py> Up to 40% py over 10 cm averaging 5%. Very fine black py. 1% diss'd py.	
80.30 TO 93.10	BLACK CHERT <CHT>	Colour - black Grain Size - very fine grained Predominantly black, argillitic chert with lighter beds. Intensely contorted. Some interdigitation at contact.		Mod. sericite with tuffaceous component	Trace py 3-4% in tuff screens.	
93.10 TO 110.40	SERICITIC CHERT <SERT>	Colour - Grain Size - Predominantly light coloured chert with a moderate sericitic tuff component. Minor dark beds. Varies from massive, to laminated to brecciated.	70	Mod-strong sericite throughout.	Pods of galena in qtz vein at 100.00m. Otherwise just 1-2% py, locally up to 5%	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
		A moderate amount of secondary quartz. Strong veins at: 97.35 - 98.7 99.6 - 100.0 and 100.2 - 100.5 Contact marked by 5cm of fault gouge.				
110.40 TO 113.30	INTERBEDDED CHERT AND MUDSTONE <CHT+MUD>	Colour - d. green to greeny grey Grain Size - very fine grained Interbeds of light grey impure chert and black mudstone. One bed has an oolitic top, indicating tops down the hole. 111.3 - 112.35 Mafic dyke. Contacts sharp at 70 degrees and 85 degrees.	70	Minor sericite with the chert.	<5% py> 4-5% finely diss'd pyrite in mudstone 5-10% py with Qtz-carb veins probably associated with mafic dyke. 5% aver. overall.	
113.30 TO 126.05	BLACK CHERT <CHT>	Colour - black Grain Size - very fine grained Predominantly black, argillaceous chert with light grey chert beds and a few tuffaceous chert beds. Very conductive locally with good graphitic laminae. Highly contorted, finely laminated or brecciated usually. Grey chert component increases down the hole. Numerous thin gouge zones but little obvious displacement.	60 - 75	Sericite in tuffaceous component.	5-8% py, mostly with fine quartzose veinlets but also disseminated in some beds. Distinctly more sulphides than previous section.	
126.05 TO 126.40	SERICITIC CHERTY TUFF <SERT+CHT>	Colour - buff-grey Grain Size - very fine grained Distinctive sericitic tuff with fine laminae of black cherty argillite and secondary quartz variable	65	Sericite	5-8% py	
126.40 TO 126.80	MAFIC TUFF <MT>	Colour - light grey - buff Grain Size - fine grained Fairly massive tuff. Minor intermixed argillite component but not as laminae		Weak sericite (-chlorite)	6% py.	
126.80 TO 127.50	SERICITIC CHERTY TUFF <SERT>	As 126.05 - 126.4	85 - 90			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALISATION	REMARKS
127.50 TO 129.35	MAFIC TUFF <MT>	As 126.4 - 126.8 Contact sharp at	70	Very weak sericite - chlorite	8% py.	
129.35 TO 148.48	SERICITIC CHERTY TUFF <SERT>	Colour - light grey-buff Grain Size - very fine grained Predominantly chert with at least 25% tuff component with local zones of black chert laminae. Very contorted with angles close to the core axis up to 60 degrees but definitely average = by the bottom of the hole. (Bedding?) Moderate amounts of secondary quartz. END OF HOLE	50	Moderate sericite throughout.	<3-4% py> 3-4% py only, mostly with qtz veins.	

Sample	From (m)	To (m)	Length (m)	ASSAYS						GEOCHEMICAL						COMMENTS		
				CU %	ZN %	PB %	AG g/T	AU G/T	SB %	AS %	CU PPM	ZN PPM	PB PPM	SG oz/t	AG oz/t		AU oz/t	
BCD2992	33.55	34.50	0.95									25	85	7				
BCD2993	34.50	35.50	1.00									80	175	25	0.9	145		
BCD2994	36.50	37.50	1.00									25	26	10	0.4	40		
BCD2995	37.50	38.75	1.25									1100	47	15	0.7	115		
BCD2996	65.10	66.05	0.95									117	25	23	0.4	10		
BCD2997	66.05	67.55	1.50									44	24	9	0.2	5		
BCD2998	67.55	69.05	1.50									18	9	23	0.1	5		
BCD2999	69.05	70.55	1.50									18	10	20	0.1	5		
BCD3000	70.55	72.05	1.50									9	10	6	0.1	5		
BCD2965	72.05	73.55	1.50									25	52	8	0.1	5		
BCD2966	73.55	75.05	1.50									10	14	7	0.1	5		
BCD2967	75.05	76.55	1.50									21	24	9	0.1	5		
BCD2968	97.35	98.70	1.35									124	35	13	0.1	5		
BCD2969	99.60	100.50	0.90									152	44	363	0.5	5		
BCD2970	111.00	112.40	1.40									122	130	12	0.3	5		
BCD2971	113.35	114.95	1.60									83	118	30	0.5	5		
BCD2972	119.50	121.10	1.60									41	150	32	0.3	5		
BCD2973	122.30	123.80	1.50									38	48	33	0.3	5		
BCD2974	126.40	127.85	1.45									93	145	73	0.6	5		
BCD2975	127.85	129.35	1.50									239	195	90	0.9	5		

HOLE NUMBER: RG-33

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-July-1988

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 12.20	CASING <CB>					
12.20 TO 120.40	CHERT, TUFF <CHT, TUFF>			<Strong ser.>	<3-4% py>	
120.40 TO 133.25	CHERTY ARGILLITE <ARG>			<Wk ser.>	<5% py>	
133.25 TO 148.50	MAFIC TUFF, CHERT <MAF. TUFF>			<Wk-mod. ser.>	<2% py>	
148.50 TO 177.90	ARGILLITE, TUFF, CHERT <ARG.>			{149.45-149.65} <Int. gr talc/mica/chl>	<5-10% py>	150-177.9 FLT ZONE.
177.90 TO 179.30	TRANSITION ZONE <TRAN. ZONE>					
179.30 TO 365.40	MAFIC PYROCLASTIC <MAF. PYRD>			<Wk-mod. ser-qtz + chl, rare gr.mica>	<10% py>	
365.40 TO 396.20	CHERT, TUFF <CHT, TUFF>			<Strong ser.>	<5-15% py, tr sp.>	
396.20 TO 401.10	MAFIC TUFF <MAF. TUFF>			<chl>	<2% py>	
401.10 TO 401.80	FAULT BRECCIA <FLT BX>					
401.80 TO 416.40	TUFF, CHERT <TUFF, CHT>			<Strong ser.>	<5% py>	

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MINNOVA INC.
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE: TO CA:	ALTERATION	MINERALIZATION	REMARKS
416.40 TO 416.50	FAULT GOUGE <FLT GOUGE>				<Tr. py>	
416.50 TO 428.20	TUFF & ARGILLITE <TUFF&ARG>			<Mk chl>	<5% py>	
428.20 TO 440.90	INT. TUFF & MINOR ARG. <TUFF& ARG>			<Mod. ser.>	<5% py>	

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GEOCHEM. SHEET

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Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	FeO %	MnO %	TiO2 %	Ba %	Zr %	Cu ppm	Zn ppm	Pb %	Total %	Au ppb	Ba ppm	Ag ppm	Pb ppm
3176	189.00	191.00	3.00	47.33	13.37	10.15	5.89	1.03	2.94	8.38	.16	1.31	.060	.005	87	71	.005		5			
3177	221.00	224.00	3.00	46.56	14.46	7.80	5.62	1.24	2.95	7.98	.29	1.40	.030	.005	83	57	.010		5			
3178	250.50	253.50	3.00	42.53	12.99	8.47	6.61	1.06	2.27	8.64	.44	1.75	.025	.010	80	72	.010		5			
3180	294.00	297.00	3.00	41.34	11.86	9.07	9.21	2.82	.10	10.13	.23	1.71	.005	.005	78	103	.005					
3181	340.00	343.00	3.00	39.45	13.29	4.46	12.90	1.24	.01	11.59	.17	1.97	.005	.010	73	98	.010					
3182	417.00	420.00	3.00	62.29	17.89	1.63	2.25	.18	4.48	3.81	.08	.61	.110	.025	33	70	.005					
3183	436.50	439.50	3.00	64.94	14.53	3.09	2.29	.39	3.43	3.48	.05	.43	.185	.025	30	51	.005					

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GEOCHEM. SHEET

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 12.20	OVERBURDEN <OB>					
12.20 TO 24.70	MAFIC VOLCANIC <MAF. VOLC>			<ser/chl>	<5-10% py>	
24.70 TO 25.00	FAULT GOUGE <FLT GOUGE>					
25.00 TO 28.80	REA BRECCIA WITH SER. TUFF <BX & TUFF>			<ser>	<SM py w/ 1% sp in exh., 5% py through>	
28.80 TO 29.30	QTZ VEIN WITH CLAY GOUGE <QV>					
29.30 TO 33.30	SER. TUFF WITH MINOR CHERT <TUFF&CHT>			<ser>	<10% py>	
33.30 TO 42.90	MAFIC TO INT. TUFF <TUFF>			<minor ser.>	<2% py>	
42.90 TO 47.20	MAFIC DEBRIS FLOW <DEB.FLOW>			<wk. ser.>	<10% py>	
47.20 TO 48.60	MIXED TUFF AND PYRITIC ARGILLITE <TUFF&ARG>				<15-20% py overall, locally 50%>	
48.60 TO 59.10	MAFIC TUFF AND LAPILLI TUFF <TUFF>			<wk chl/ser>	<10% py>	

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
59.10 TO 59.80	FINE PY. DEBRIS FLOW <DEB. FLOW>				<30% py, tr sp>	
59.80 TO 61.50	MIXED TUFF AND CHERT <TUFF&CHT>				<5% py>	
61.50 TO 71.30	ARGILLITE WITH MINOR WACKE <ARG.>				<local py. layers>	
71.30 TO 82.60	QUARTZOSE WACKE <QTZ WACKE>				<1-2% py>	

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ASSAY SHEET

DATE: 6-July-1988

Sample	From (m)	To (m)	Length (m)	ASSAYS										GEOCHEMICAL							COMMENTS					
				CU %	ZN %	PB %	AG G/T	AU G/T	SE %	AS %	CU PPM	ZN PPM	PB PPM	S.G.	AG OZ/T	AU OZ/T	AS PPM	BA PPM	BA Z	SB PPM		AG PPM	AU PPB			
3102	19.90	21.40	1.50				0.5	0.1				125	190	50				150	600							
3103	21.40	22.90	1.50				1.3	0.1				110	215	50				280	800							
3104	22.90	25.00	2.10				2.0	0.1				53	240	58				170	800							
3105	25.00	25.40	0.40				5.8	0.5				97	720	180				1000	720							
3106	25.40	26.80	1.40				5.3	0.2				68	130	42				90	1200							
3107	26.80	28.80	2.00				5.8	0.4				28	225	32				2400	760							
3108	47.10	48.70	1.60				4.7	0.1				44	170	32				88	760							

HOLE NUMBER: RG-35

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: SAM
PROJECT NUMBER: 333
CLAIM NUMBER:
LOCATION: 82M/4W

PLOTTING COORDS GRID: MATN
NORTH: 583.00N
EAST: 9100.00W
ELEV: 1334.75
COLLAR GRID AZIMUTH: ^{180°}225° 0' 0"

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

COLLAR DIP: -89° 0' 0"
LENGTH OF THE HOLE: 852.40m
START DEPTH: 0.00m
FINAL DEPTH: 852.40m

DATE STARTED: March 9, 1985
DATE COMPLETED: March 26, 1985
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RSD LOG: NO

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

CONTRACTOR: F. BDISVENU
CASING: TO 742.0M
CORE STORAGE: BARRIERE

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
38.00	-	-89° 0'	ACID	OK		811.00	206° 0'	-46° 0'	TROPARI	OK	
61.00	-	0° 0'	ACID			-	-	-	-	-	
87.00	-	-89° 0'	ACID	OK		-	-	-	-	-	
122.00	-	0° 0'	ACID		UNREADABLE	-	-	-	-	-	
157.00	-	-81° 0'	ACID	OK		-	-	-	-	-	
188.00	-	0° 0'	ACID		UNREADABLE	-	-	-	-	-	
213.00	-	-77°30'	ACID	OK		-	-	-	-	-	
252.00	-	-78°30'	ACID		BAD ETCH	-	-	-	-	-	
284.00	-	-72° 0'	ACID	OK		-	-	-	-	-	
307.00	-	-75° 0'	ACID		BAD ETCH	-	-	-	-	-	
334.00	-	0° 0'	ACID		UNREADABLE	-	-	-	-	-	
363.00	-	-71° 0'	ACID	OK		-	-	-	-	-	
398.00	-	-70° 0'	ACID	OK		-	-	-	-	-	
427.00	-	-66° 0'	ACID	OK		-	-	-	-	-	
457.00	-	-63° 0'	ACID	OK		-	-	-	-	-	
490.00	-	-61°30'	ACID	OK		-	-	-	-	-	
525.00	-	-60° 0'	ACID	OK		-	-	-	-	-	
549.00	-	-60° 0'	ACID	OK		-	-	-	-	-	
590.00	-	-55° 0'	ACID	OK		-	-	-	-	-	
610.00	-	-54° 0'	ACID	OK		-	-	-	-	-	
648.00	-	-51° 0'	ACID	OK		-	-	-	-	-	
671.00	-	-51° 0'	ACID	OK		-	-	-	-	-	
703.00	-	-49° 0'	ACID	OK		-	-	-	-	-	
730.00	-	-48° 0'	ACID	OK		-	-	-	-	-	
762.00	-	-48° 0'	ACID	OK		-	-	-	-	-	
801.00	-	-47° 0'	ACID	OK		-	-	-	-	-	
852.00	-	0° 0'	ACID		NO ETCH	-	-	-	-	-	
204.60	210°30'	-80° 0'	TRO-PARI	OK		-	-	-	-	-	

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MINNOVA INC.
DRILL HOLE RECORD

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 354.00	MAFIC TUFF <MAF TUFF>			<Wk-mod alteration>	<10-15% py, up to 20% locally>	
354.00 TO 358.00	REA BRECCIA <REA BX>				<5% disse. py>	
358.00 TO 364.00	MUDDY TUFF <MUD TUFF>			<Int. ser/chl alteration>	<25-30% disse. py, loc. 75% in f.beds> <Tr sp, gal>	
364.00 TO 371.45	REA BRECCIA <REA BX>				<15% py, up to 60% loc. in beds, tr sp>	
371.45 TO 371.60	<SMS> <i>15m</i>				<35% py, 25% sp, 2% cpy, 5% gal>	
371.60 TO 371.80	<SMS>				<50% py>	
371.80 TO 372.40	<SMS>				<40% py, tr sp>	
372.40 TO 388.90	MUDDY TUFF <MUD TUFF>				<10-25% py, thin beds of sp & gal>	
388.90 TO 389.80	<FAULT BX>					
389.80 TO 644.00	MAFIC FRAGMENTAL <MAF FRAG>			<wk alter., isolated patches st. ser.>		
644.00 TO 733.00	MAFIC FRAGMENTAL <MAF FRAG>			<Mod-st. ser/chl alter.>	<5% py overall increasing to 15% loc.>	

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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE: TO CA:	ALTERATION	MINERALIZATION	REMARKS
733.00 TO 756.00	MAFIC FRAGMENTAL <MAF FRAG>			<Int. altered>	<15-20% py with secondary qtz>	
756.00 TO 757.00	MAFIC TUFF <MAF TUFF>			<Chl?>	<20% py, tr gal, sp, cpy>	
757.00 TO 852.00	MAFIC FRAGMENTAL <MAF FRAG>			<Unalt. except qtz-carb veinlets>		

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ASSAY SHEET

DATE: 6-July-1988

Sample	From (m)	To (m)	Length (m)	ASSAYS				GEOCHEMICAL											COMMENTS							
				CU %	ZN %	PB %	AG G/T	AU G/T	SB %	AS %	CU PPM	ZN PPM	PB PPM	S.G.	AG OZ/T	AU OZ/T	AS PPM	BA PPM		BA %	SB PPM	AG PPM	AU PPB			
3109	18.10	19.00	0.90				0.7	0.1																		
3110	49.60	50.40	0.80				0.7	0.1																		
3111	75.60	77.10	1.50				0.3	0.1																		
3112	77.10	77.60	0.50	.01	.48	.74	0.3	0.1																		
3113	77.60	79.10	1.50				0.3	0.1																		
3114	81.10	82.90	1.80	.01	.04	.38	0.3	0.1																		
3115	107.20	108.70	1.50	.01	.04	.06	2.0	0.1																		
3116	111.30	112.80	1.50				3.4	0.1																		
3117	112.80	113.60	0.80	.02	.12	.08	0.3	0.1																		
3126	357.70	359.20	1.50	.01	.01	.01	0.7	0.1																		
3127	359.20	360.70	1.50	.01	.04	.10	4.1	0.2																		
3128	360.70	362.20	1.50	.01	.22	.14	3.4	0.1																		
3129	362.20	363.70	1.50	.01	.14	.08	1.4	0.1																		
3130	363.70	365.20	1.50	.01	.17	.12	3.4	0.1																		
3131	365.20	365.70	1.50	.03	.29	.32	7.5	0.1																		
3132	366.70	368.20	1.50	.01	.01	.01	2.0	0.1																		
3133	368.20	369.70	1.50	.01	.06	.05	9.6	0.2																		
3134	369.70	370.70	1.00	.01	.09	.06	4.1	0.2																		
3135	370.70	371.45	0.75	.01	.08	.06	6.8	0.2																		
3136	371.45	371.60	0.15	.39	5.14	1.14	30.9	0.2																		
3137	371.60	373.10	1.50	.02	.08	.05	2.7	0.1																		
3138	373.10	374.60	1.50	.01	.02	.01	2.7	0.1																		

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ASSAY SHEET

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GEOCHEM. SHEET

DATE: 6-July-1988

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	FeO %	MnO %	TiO2 %	Ba %	Zr %	Cu ppm	Zn ppm	Pb %	Total %	Au ppb	Ba ppm	Ag ppm	Pb ppm		
3184	35.00	38.00	3.00	47.91	13.94	7.94	10.50	3.94	.07	11.11	.21	1.36	.005	.005	80	72	.005							
3185	65.00	68.00	3.00	41.11	12.70	7.44	9.84	1.88	.02	10.10	.21	1.28	.005	.005	92	90	.010							
3187	122.00	125.00	3.00	45.85	13.42	5.87	8.83	3.16	.03	9.12	.21	1.13	.005	.005	101	310	.010							
3188	164.00	167.00	3.00	48.70	13.42	3.55	10.54	.52	.43	10.23	.20	1.41	.020	.005	52	312	.005							
3189	189.50	193.00	3.50	45.56	16.31	6.54	9.49	1.95	1.50	10.79	.28	1.57	.100	.005	73	99	.020							
3186	249.00	252.00	3.00	39.35	12.43	8.99	9.15	1.68	.38	10.00	.20	.99	.025	.005	100	83	.005							
3190	325.00	328.00	3.00	45.26	12.80	7.87	6.52	1.00	1.97	11.97	.30	1.74	.105	.010	54	250	.010						5	
3191	400.00	403.00	3.00	43.70	12.56	7.43	10.04	2.77	.06	10.33	.23	1.34	.005	.005	97	80	.005							
3192	459.00	462.00	3.00	45.60	14.60	7.50	10.63	2.83	.03	11.42	.18	1.50	.005	.005	92	85	.010							
3193	521.00	524.00	3.00	44.77	16.49	9.22	12.17	2.46	.05	12.16	.31	2.32	.005	.010	99	79	.015							
3194	579.00	582.00	3.00	44.12	14.04	4.39	14.09	.95	.07	11.31	.20	1.83	.005	.010	38	87	.010							
3195	641.00	644.00	3.00	44.13	13.44	7.94	9.33	2.39	.01	10.78	.21	1.65	.010	.005	83	83	.005							
3196	693.00	696.00	3.00	44.15	13.10	8.91	8.78	1.51	1.75	9.29	.21	1.69	.040	.005	74	71	.005							5
3197	749.00	752.00	3.00	44.87	14.25	8.84	6.27	.90	3.24	9.39	.30	1.54	.030	.005	72	83	.005							5
3198	782.00	785.00	3.00	40.05	13.79	9.94	9.74	1.74	.03	12.04	.17	1.61	.005	.005	92	210	.005							
3199	836.50	839.50	3.00	43.24	12.35	11.37	7.82	2.14	.17	9.39	.17	1.53	.010	.005	71	70	.005							

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GEOCHEM. SHEET

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HOLE NUMBER: RG-36

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-July-1988

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 4.60	OVERBURDEN <OB>					
4.60 TO 116.00	MAFIC FRAGMENTALS <MAF, FRAGS>			4.6 - 41.2 <carb.> 41.2 - 56.5 <ser/carb/chl/qtz alt.> 56.5 - 88.7 <chl> 90.2 - 112.6 <mod. bleaching> 112.6 - 116 <ser/chl>	4.6 - 41.2 <1% py> 41.2 - 56.5 <3-5% py> 56.5 - 88.7 <5% py> 90.2 - 112.6 <5-8% py> 112.6 - 116 <10% py>	
116.00 TO 118.00	FAULT GOUGE <FLT GOUGE>					
118.00 TO 118.60	REA BRECCIA <REA BX>				<15% py>	
118.60 TO 119.00	FAULT GOUGE <FLT GOUGE>					
119.00 TO 119.30	SER. TUFF WITH MINOR CHERT <TUFF&CHT>				<5% py>	
119.30 TO 120.10	PYRITIC MUDDY TUFF <MUD. TUFF>				<40% py>	
120.10 TO 120.40	FAULT GOUGE <FLT GOUGE>					
120.40 TO 127.00	SER. TUFF AND QUARTZ <TUFF&QTZ>				<15% py>	
127.00 TO 136.00	PYRITIC MUDDY TUFF WITH MINOR CHERT AND QUARTZ <TUFF, CHT> <QTZ>				127 - 129.5 <5% py> 129.5 - 131 <60-70% py in tuff> <but only 30-35% when qtz taken into <account> 131 - 136 <25-30% py>	

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DRILL HOLE RECORD

LOGGED BY: I. D. PIRIE

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HOLE NUMBER: RG-36

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-July-1988

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
136.00 TO 138.00	FAULT <FLT GOUGE>					
138.00 TO 144.50	MIXED CHERT AND MUDDY TUFF <CHT&TUFF>		<ch1>		<15-20% py>	
144.50 TO 156.10	MIXED SER. TUFF AND CHERT <TUFF&CHT>		<ser>		<5-10% py>	

HOLE NUMBER: RG-36

GEOCHEM. SHEET

DATE: 6-July-1988

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	FeO %	MnO %	TiO2 %	Ba %	Zr %	Cu ppm	Zn ppm	Pb %	Total %	Au ppb	Ba ppm	Ag ppm	Pb ppm
3200	45.00	48.00	3.00	43.74	14.58	5.54	10.62	1.16	.26	10.34	.20	1.36	.025	.005	90	104	.005					
3026	101.50	104.50	3.00	45.91	15.61	8.47	5.22	1.44	1.56	6.80	.28	2.46	.370	.015	70	61	.005					

HOLE NUMBER: RG-37

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-July-1988

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 62.00	MAFIC VOLCANICS <MAF VOLC>			<Wk-mod. altered>	<2-3% py>	
62.00 TO 63.00	MINERALIZED HORIZON <MIN. HOR>			<chl-qtz mud>	<30% py, tr sp, gal>	
63.00 TO 63.60	MAFIC FRAGMENTALS <MAF FRAGS>				<3-4% py>	
63.60 TO 63.90	MINERALIZED HORIZON <MIN. HDR.>			<qtz-chl mud>	<10% py, minor sp, gal>	
63.90 TO 65.70	MAFIC FRAGMENTAL <MAF FRAG>			<Wk minerralized horizon>	<8-10% py>	
65.70 TO 73.90	<CHERT>			<Ser.>		
73.90 TO 77.50	MINERALIZED CHERT <MIN CHERT>				74.7 - 75.2 <25% py, 5% sp> 75.8 - 76.0 <35% py, 15% sp> 77.2 - 77.4 <30% py, 15% sp>	
77.50 TO 88.70	MUDDY TUFF <MUD. TUFF>				<25-30% py>	
88.70 TO 100.00	ARGILLITE & GREYHACKE <ARG, GREYW>					

HOLE NUMBER: RG-37

DRILL HOLE RECORD

LOGGED BY: I. D. PIRIE

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HOLE NUMBER: RG-37

GEOCHEM. SHEET

DATE: 6-July-1988

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	FeO %	MnO %	TiO2 %	Ba %	Zr %	Cu ppm	In ppm	Pb %	Total %	Au ppb	Ba ppm	Ag ppm	Pb ppm	
3027	21.00	24.00	3.00	42.19	12.00	8.94	12.79	.29	.02	11.28	.21	1.10	.005	.005	97	112	.005						
3028	52.00	55.00	3.00	45.68	15.18	5.91	11.16	2.57	.01	11.36	.18	1.48	.005	.005	93	177	.005						

HOLE NUMBER: RG-38

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-July-1988

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE: TO CA:	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 10.10	CASING					
10.10 TO 97.40	MIXED SER. TUFF & CHERT <TUFF&CHT>			<ser>	<5% py>	
97.40 TO 239.40	MAFIC PYROCLASTIC <MAF. PYRD>			<chl/ser>	<2-3% py>	
239.40 TO 250.00	<CHERT>			<ser>	<5-10% py>	

HOLE NUMBER: RG-38

ASSAY SHEET

DATE: 6-July-1988

Sample	From (m)	To (m)	Length (m)	ASSAYS								GEOCHEMICAL								COMMENTS		
				CU %	ZN %	PB %	AG G/T	AU G/T	SB %	AS %	CU PPM	ZN PPM	PB PPM	S.G.	AG OZ/T	AU OZ/T	AS PPM	BA PPM	BA %		SB PPM	AG PPM
2251	47.30	47.55	0.25	.76	1.98	1.50	34.2	0.04														

HOLE NUMBER: RG-39

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-July-1988

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE: TO CA:	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.00	<CASING>					
3.00 TO 137.40	MAFIC PYROCLASTIC <MAF PYRDC>			<Wk-mod chl, ser>	<2-5% py, loc. to 40%>	
137.40 TO 145.10	CHERT BRECCIA <CHT BX>				<4-5% dissea py>	
145.10 TO 160.90	CHERT, CHERT BRECCIA <CHT BX>			<Ser. & green mica>	<1-20% py, loc. up to 25-30%>	
160.90 TO 166.00	QUARTZ WACKE <QTZ WACKE>					
166.00 TO 190.80	<CHERT>				<5% py>	

HOLE NUMBER: RG-39

DRILL HOLE RECORD

LOGGED BY: I. D. PIRIE

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HOLE NUMBER: R6-39

ASSAY SHEET

DATE: 6-July-1988

Sample	From (m)	To (m)	Length (m)	ASSAYS								GEOCHEMICAL								COMMENTS					
				CU %	ZN %	PB %	AG G/T	AU G/T	SB %	AS %	CU PPM	ZN PPM	PB PPM	S.G.	AG QZ/T	AU QZ/T	AS PPM	BA PPM	BA %		SB PPM	AG PPM	AU PPB		
2252	24.70	25.40	0.70	.130	1.39	1.10	8.3	.05																	
2253	51.20	52.20	1.00				2.5	.02																	
2254	58.90	60.70	1.80				2.0	.03																	
2255	69.50	70.50	1.00				2.0	.02																	
2274	93.30	94.80	1.50	.014	.41	.28	2.5	.03																	
2275	94.80	95.60	0.80	.062	1.94	1.36	5.9	.06																	
2276	95.60	97.10	1.50	.112	.92	1.51	7.5	.01																	
2277	97.10	98.50	1.40	.092	1.43	.84	10.0	.20																	
2256	145.10	146.30	1.20	.039	.22	.12	10.0	.04																	
2257	146.30	148.20	1.90	.060	.28	.07	20.2	.20																	
2258	148.20	149.20	1.00	.017	.10	.12	2.3	.18																	
2259	151.25	152.50	1.25	.010	.4	.01	0.2	.13	.01																
2260	152.50	153.65	1.15	.010	.1	.02	0.4	.02	.01																
2261	153.65	154.40	0.75	.249	1.12	.28	82.0	.06	.12																
2262	154.40	155.80	1.40	.050	.16	.08	14.5	.02	.01																
2263	155.80	156.80	1.00	.198	.14	.04	60.5	.066	.10																

HOLE NUMBER: R6-39

ASSAY SHEET

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HOLE NUMBER: RG-40

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-July-1988

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE: TO CA:	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 1.80	<CASING>					
1.80 TO 46.00	MAFIC PYROCLASTIC <MAF PYROC>			<Wk chl>	<2-5% py>	
46.00 TO 54.00	CHERT, CHERT BX <CHT>			<Ser>	<5% dissen py>	
54.00 TO 75.80	CHERT, CHERT BX <CHT BX>				<2-5% py, 50% loc.> {72.95 - 73.85} <15-20% combined sulph>	
75.80 TO 73.85	<QTZ WACKE>			<graphitic>	<tr py>	

HOLE NUMBER: RG-40

DRILL HOLE RECORD

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HOLE NUMBER: RG-41

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-July-1988

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE: TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 13.10	<CASING>					
13.10 TO 42.60	MAFIC TUFF <MAF TUFF>				<2-3% py>	
42.60 TO 107.50	ARGILLITE WITH CHT & LIMEY CHT <ARG & CHT>				<1-2% py; tr sp, gal assoc. with veins>	

HOLE NUMBER: RG-41

DRILL HOLE RECORD

LOGGED BY: I. D. PIRIE

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HOLE NUMBER: RG-42

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-July-1988

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE: TO CA:	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 9.10	<CASING>					
9.10 TO 44.00	MAFIC TUFF LAPILLI TUFF <TUFF>			<Mod-st. altered>	{21 - 24.5} <5-10% sul./10cm, cp+sp+gn> <1-2% combined over sect.>	
44.00 TO 48.10	CHERT & ARGILLITE <CHT & ARG>	<Rea Breccia>				
48.10 TO 71.00	FAULT BX <FLT BX>			<Int. sericite>	{70.3 - 70.4} <15-20% py-tet-sp-cp> <Ag Zone?>	
71.00 TO 76.80	SERICITIC TUFF <SER. TUFF>			<Ser.>		
76.80 TO 81.30	CHERTY ARGILLITE <CHTY ARG>	<Rea Breccia>				
81.30 TO 83.80	<FLT BX>					
83.80 TO 127.30	MAFIC VOLCANICS <MAF VOLC>			<Wk-mod. ser/chl>		
127.30 TO 216.10	CHERT & ARGILLITE <CHT & ARG>	<Rea Breccia>			<up to 25% py loc.> {201.8 - 203.3} <15-20% py, 2% sp, > <1% tet, 1% gal, tr cp> <Ag Zone>	

HOLE NUMBER: RG-42

DRILL HOLE RECORD

LOGGED BY: I. D. PIRIE

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HOLE NUMBER: RG-42

GEOCHEM. SHEET

DATE: 6-July-1988

Sample	From (m)	To (m)	Length (m)	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	FeO %	MnO %	TiO2 %	Ba %	Zr %	Cu ppm	Zn ppm	Pb %	Total %	Au ppb	Ba ppm	Ag ppm	Pb ppm	
2951	28.00	31.00	3.00	41.51	12.05	9.21	12.34	0.22	0.79	9.78	0.40	1.18	.020	.005	23	168	.009						
2952	92.50	95.50	3.00	47.24	13.31	8.82	10.59	1.92	.01	10.52	0.31	1.22	.005	.005	82	82	.005						
2953	120.00	123.00	3.00	48.75	13.18	7.68	9.12	1.32	1.65	10.51	0.35	1.16	.055	.005	56	114	.005						