APPENDIX III

Chu Chua North

Lithogeochemical Results

MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7C7
TELEPHONE: (705) 264-9996

RECEIVED AUG 29 89

Assay Certificate

9V-0894-RA1

Company: MINNOVA INC.
Project: CHU-CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: AUG-26-89

Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

He hereby certify the following Assay of 30 ROCK samples submitted AUG-17-89 by D.FELLER.

Sample Number	LOI %
9WCCT001	2.70
9WCCT002	7.70
9WCCT003	2.50
9WCCT004	1.95
9WCCT005	3.40
9WCCT006	1.25
9WCCL001	1.30
9WCCL002	1.10
9WCCL003	2.80
9WCCL004	.50
9WCCL005	1.25
9WCCL006	1.40
9WCCL007	2.10
9WCCL008	3.70
9WCCL009	1.10
9WCCL010	.75
9WCCL011	1.40
9WCCL012	.70
9WCCL013	.80
9WCCL014	1.55
9WCCL015	1.40
9WCCL016	1.40
9WCCL017	2.00
9WCCL018	3.05
9WCCL019	9.30
9WCCL020	9.30
9WCCL021	2.20
9WCCL022	1.40
9WCCL023	1.25
9WCCL024	.35

Certified by _____

MIN-EN LABORATORIES

MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
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TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0894-RA2

Company: MINNOVA INC.
Project: CHU-CHUA 616
Attn: I.PIRIE/D.HEBERLEIN.

Date: AUG-26-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

He hereby certify the following Assay of 30 ROCK samples submitted AUG-17-89 by D.FELLER.

Sample Number	LOI %
9WCCL025	1.05
9WCCL026	1.15
9WCCL027	1.30
9WCCL028	1.25
9WCCL029	3.50
9WCCL030	.70
9WCCL031	.80
9WCCL032	1.00
9WCCL033	.85
9WCCL034	.55
9WCCL035	2.70
9WCCL036	2.10
9WCCL037	2.70
9WCCL038	2.05
9WCCL039	.55
9WCCL040	1.40
9WCCL041	1.40
9WCCL042	1.30
9WCCL043	.75
9WCCL044	.90
9WCCL045	2.20
9WCCL046	1.95
9WCCL047	2.00
9WCCL048	2.70
9WCCL049	3.05
9WCCL050	2.05
9WCCL051	2.20
9WCCL052	2.10
9WCCL053	2.70
9WCCL054	1.20

Certified by _____

MIN-EN LABORATORIES

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SPECIALISTS IN MINERAL ENVIRONMENTS
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TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0894-RA3

Company: MINNOVA INC.
Project: CHU-CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: AUG-26-89

Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

He hereby certify the following Assay of 30 ROCK samples submitted AUG-17-89 by D.FELLER.

Sample Number	LOI %
9WCCL055	.85
9WCCL056	.90
9WCCL057	1.20
9WCCL058	2.40
9WCCL059	2.25
9WCCL060	1.20
9WCCL061	1.10
9WCCL062	1.25
9WCCL063	.80
9WCCL064	1.20
9WCCL065	1.50
9WCCL066	1.15
9WCCL067	1.20
9WCCL068	1.30
9WCCL069	2.65
9WCCL070	.95
9WCCL071	1.00
9WCCL072	1.45
9WCCL073	.85
9WCCL074	1.10
9WCCL075	2.00
9WCCL076	2.50
9WCCL077	1.05
9WCCL078	.70
9WCCL079	.80
9WCCL080	.65
9WCCL081	.60
9WCCL082	1.10
9WCCL083	1.30
9WCCL084	.75

Certified by _____

MIN-EN LABORATORIES

MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
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TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0894-RA4

Company: MINNOVA INC.
Project: CHU-CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: AUG-26-89

Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

He hereby certify the following Assay of 8 ROCK samples submitted AUG-17-89 by D.FELLER.

Sample Number	LOI %
9WCCL085	1.05
9WCCL086	.95
9WCCL087	.80
9WCCL088	.50
9WCCL089	1.10
9WCCL090	1.15
9WCCL091	.85
9WCCL092	1.80

Certified by

MIN-EN LABORATORIES

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0894-RL1+2
DATE: AUG-26-89
* TYPE ROCK GEOCHEM * (ACT:FIRE)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
9WCCT001	7.98	.055	2.43	9.05	.04	2.73	.58	.78	.16	71.75	.50	.71	96.75
9WCCT002	2.66	.050	4.34	14.86	.41	1.51	.36	.24	.21	66.34	.15	7.40	98.51
9WCCT003	5.13	.040	4.83	3.67	.01	2.44	.13	1.80	.15	78.21	.43	.02	96.84
9WCCT004	8.38	.070	2.21	4.04	.26	1.62	.08	3.39	.11	76.44	.41	.57	97.59
9WCCT005	14.21	.095	5.38	9.86	.75	5.40	.17	4.90	.24	53.51	.99	2.42	97.92
9WCCT006	6.75	.155	1.32	3.72	.87	1.11	.78	.96	.10	81.86	.33	.24	98.19
9WCCL001	17.76	.035	5.35	8.60	.16	2.85	.21	6.61	.21	54.35	1.63	.02	97.80
9WCCL002	15.11	.045	9.55	11.11	.88	6.76	.23	2.97	.33	48.89	1.94	.48	98.30
9WCCL003	11.35	.005	10.12	11.95	.01	10.81	.20	2.12	.36	47.91	1.36	.01	96.19
9WCCL004	16.25	.060	11.06	10.17	.40	7.20	.21	3.18	.33	48.59	1.08	.17	98.69
9WCCL005	16.33	.180	9.59	9.90	.59	7.46	.17	3.16	.32	48.92	.95	1.13	98.72
9WCCL006	4.15	.260	.43	1.28	.65	.80	.02	.03	.04	90.01	.11	.15	97.92
9WCCL007	14.94	.125	10.54	9.09	.48	8.80	.19	2.55	.32	48.73	.96	.08	96.81
9WCCL008	13.59	.440	1.24	4.63	3.27	2.25	.06	.09	.10	69.23	.72	.52	96.12
9WCCL009	15.20	.165	8.74	10.30	.13	7.44	.31	3.59	.32	50.22	1.36	.11	97.89
9WCCL010	8.07	.145	2.05	3.80	1.98	1.32	.24	.14	.11	80.03	.42	.09	98.38
9WCCL011	15.46	.040	8.66	11.17	.13	6.98	.26	3.96	.32	49.30	1.63	.03	97.94
9WCCL012	16.54	.030	7.28	9.90	.01	4.48	.27	5.66	.26	52.30	1.65	.06	98.44
9WCCL013	4.46	.060	.45	2.44	.70	.98	.14	.33	.06	88.64	.23	.03	98.53
9WCCL014	15.36	.075	8.14	10.59	.51	7.02	.41	3.43	.31	49.83	1.80	.04	97.51
9WCCL015	15.52	.030	9.44	10.91	.18	6.87	.21	3.73	.32	48.68	1.90	.01	97.81
9WCCL016	2.76	.660	.20	2.37	.12	.67	.24	.09	.05	90.64	.14	.36	98.29
9WCCL017	17.67	.040	12.37	6.91	1.53	7.59	.16	2.64	.33	47.07	.91	.01	97.22
9WCCL018	15.42	.020	9.38	10.41	.01	6.36	.20	3.38	.30	48.77	1.75	.02	96.00
9WCCL019	15.33	.025	8.23	10.35	.91	5.19	.19	2.84	.30	44.64	1.68	.04	89.72
9WCCL020	15.74	.045	8.38	10.95	1.70	4.58	.20	1.57	.29	44.43	1.91	.05	89.84
9WCCL021	16.66	.010	9.43	11.90	.01	4.97	.21	3.58	.31	47.81	2.03	.02	96.93
9WCCL022	17.44	.070	10.69	9.35	.25	6.84	.21	3.57	.31	47.63	1.26	.02	97.64
9WCCL023	16.18	.660	8.04	9.48	1.32	8.01	.28	3.10	.32	49.08	1.51	.43	98.40
9WCCL024	5.46	.070	.83	2.67	.60	1.07	.19	.82	.07	86.67	.24	.04	98.73
9WCCL025	14.95	.035	8.41	9.72	.23	6.11	.25	4.02	.30	52.24	1.54	.01	97.81
9WCCL026	8.67	.390	2.14	2.72	2.24	1.46	.03	.25	.09	79.39	.35	.37	98.11
9WCCL027	11.48	.590	2.43	4.01	3.26	3.93	.06	.56	.15	70.89	.62	.32	98.30
9WCCL028	5.97	.550	1.47	2.58	1.16	1.51	.04	.18	.08	83.94	.27	.36	98.12
9WCCL029	14.73	.005	8.77	10.73	.10	7.27	.21	3.25	.30	48.43	1.70	.01	95.50
9WCCL030	16.57	.110	6.97	11.39	.66	3.83	.27	5.23	.28	50.87	2.31	.07	98.56
9WCCL031	14.93	.030	10.31	10.77	.24	6.66	.26	3.45	.33	49.38	1.82	.24	98.43
9WCCL032	15.27	.070	10.90	12.08	.82	6.55	.26	2.55	.33	47.18	1.91	.16	98.08
9WCCL033	15.79	.425	7.51	10.09	.57	5.42	.21	4.62	.27	52.00	1.28	.25	98.44
9WCCL034	16.39	.075	12.13	8.61	.97	7.30	.20	2.94	.34	48.60	.94	.02	98.51
9WCCL035	15.30	.015	7.53	10.45	.17	5.02	.20	3.66	.28	51.88	1.70	.07	96.28
9WCCL036	15.34	.010	8.67	10.72	.20	4.92	.21	3.72	.30	51.13	1.80	.02	97.04
9WCCL037	15.45	.005	10.33	11.35	.01	7.02	.21	3.08	.34	46.52	1.87	.01	96.20
9WCCL038	15.56	.015	9.95	11.32	.66	6.88	.23	3.13	.36	47.41	1.71	.10	97.31
9WCCL039	16.28	.190	6.87	11.56	.66	3.81	.24	5.22	.27	51.09	2.15	.16	98.50
9WCCL040	9.15	.350	.03	3.64	2.80	1.70	.15	.37	.07	78.94	.45	.24	97.89
9WCCL041	7.83	1.675	.24	3.09	2.32	2.41	.06	.23	.08	79.69	.29	1.18	99.09
9WCCL042	6.90	.380	.95	2.84	1.98	1.24	.06	.26	.08	82.71	.36	.42	98.18
9WCCL043	16.16	.090	11.65	8.29	1.09	7.33	.19	2.89	.32	49.45	1.02	.06	98.53
9WCCL044	8.24	.640	1.75	3.74	2.04	3.79	.05	1.89	.13	75.28	.58	.47	98.59
9WCCL045	15.74	.055	11.38	9.27	1.21	6.67	.20	2.92	.31	48.22	1.01	.03	97.02
9WCCL046	7.37	.250	1.68	2.92	1.68	2.02	.08	1.10	.09	79.77	.39	.31	97.66
9WCCL047	15.91	.005	11.98	10.64	.11	5.15	.22	2.43	.31	48.76	1.74	.02	97.27
9WCCL048	16.18	.035	8.20	10.95	.28	4.97	.20	3.35	.28	50.07	1.81	.05	96.39
9WCCL049	17.27	.010	8.91	14.71	.22	5.75	.24	2.93	.31	43.23	2.34	.04	95.96
9WCCL050	15.18	.040	7.24	10.82	.05	6.60	.22	4.25	.28	50.72	1.60	.08	97.06
9WCCL051	15.29	.010	7.54	10.72	.01	6.16	.21	4.81	.28	50.16	1.75	.23	97.14
9WCCL052	15.07	.015	9.43	11.03	.15	6.11	.21	3.74	.30	49.12	1.73	.19	97.08
9WCCL053	16.06	.005	10.01	11.26	.05	6.08	.23	2.76	.30	48.06	1.78	.02	96.61
9WCCL054	8.66	.070	.36	3.81	1.08	1.67	.07	1.43	.08	80.13	.50	.04	97.90

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0894-RL3+4
DATE: AUG-26-89
* TYPE ROCK GEOCHEM * (ACT:FIRE)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
9WCCL055	15.83	.125	8.31	10.59	1.15	6.42	.29	4.01	.29	49.15	1.82	.05	98.03
9WCCL056	15.78	.060	9.73	10.45	.92	7.30	.25	3.34	.31	48.04	1.79	.07	98.03
9WCCL057	15.83	.015	10.30	10.57	.11	6.56	.23	3.54	.31	48.73	1.87	.04	98.12
9WCCL058	15.14	.005	12.72	10.59	.08	5.23	.21	.53	.32	49.99	1.78	.01	96.61
9WCCL059	16.81	.015	11.31	7.36	.79	8.50	.16	2.95	.32	47.45	.95	.03	96.64
9WCCL060	4.04	.065	.95	2.24	.72	.74	.55	.69	.06	87.79	.20	.04	98.08
9WCCL061	15.67	.040	9.09	10.62	.07	6.30	.22	4.47	.29	49.78	1.37	.17	98.10
9WCCL062	15.31	.440	8.10	10.65	4.05	8.29	.31	1.51	.30	46.95	1.75	.38	98.04
9WCCL063	16.72	.080	7.32	10.65	.99	4.79	.34	4.98	.27	50.15	1.94	.06	98.30
9WCCL064	16.68	.030	9.11	10.57	.64	4.60	.20	4.47	.27	49.45	1.86	.49	98.38
9WCCL065	9.15	.435	1.13	2.99	2.75	2.05	.05	.28	.09	78.06	.43	.25	97.67
9WCCL066	15.04	.070	9.24	10.97	.61	7.33	.26	3.50	.31	48.88	1.73	.03	97.97
9WCCL067	8.67	.175	.69	6.67	1.51	3.29	1.00	.62	.12	74.47	.49	.21	97.91
9WCCL068	14.72	.075	8.48	9.56	.53	6.86	.23	3.83	.28	52.06	1.33	.27	98.22
9WCCL069	15.37	.100	11.36	10.04	1.51	7.10	.21	2.92	.32	45.80	1.47	.06	96.27
9WCCL070	7.65	.120	1.92	3.55	1.60	1.36	.45	1.24	.10	79.69	.39	.09	98.16
9WCCL071	16.92	.125	7.94	10.67	.98	4.19	.24	4.63	.26	50.56	1.82	.30	98.63
9WCCL072	9.54	.420	2.25	4.04	2.23	3.51	.07	.93	.13	73.99	.52	.27	97.89
9WCCL073	15.68	.075	9.14	10.87	.75	7.65	.22	3.18	.30	48.72	1.79	.06	98.44
9WCCL074	15.63	.070	9.10	11.28	.66	7.71	.32	2.97	.31	48.08	1.76	.21	98.11
9WCCL075	15.76	.005	10.36	9.31	.10	6.71	.19	3.72	.30	49.48	1.34	.01	97.27
9WCCL076	18.34	.005	11.81	8.34	.14	6.15	.16	3.12	.31	47.27	1.14	.04	96.82
9WCCL077	14.77	.030	9.65	10.96	.51	7.64	.24	3.51	.32	48.81	1.71	.03	98.18
9WCCL078	14.87	.035	9.55	11.28	.96	7.18	.21	3.60	.32	48.34	1.93	.02	98.32
9WCCL079	15.33	.025	8.29	10.58	.34	7.10	.25	3.85	.31	50.34	1.70	.02	98.14
9WCCL080	15.24	.095	9.05	10.66	.62	7.32	.24	3.96	.32	49.20	1.66	.02	98.37
9WCCL081	16.11	.015	7.80	10.37	.25	4.56	.20	5.12	.27	51.71	2.12	.04	98.57
9WCCL082	14.92	.460	6.45	8.66	1.39	6.81	.23	3.53	.27	53.90	1.24	.27	98.13
9WCCL083	9.88	.235	.34	3.73	2.91	1.60	.07	.94	.08	77.73	.50	.15	98.18
9WCCL084	5.82	.175	1.18	2.28	1.33	.95	.45	.57	.07	85.10	.33	.16	98.43
9WCCL085	7.02	.140	.73	3.40	.23	1.18	.07	1.75	.06	82.86	.43	.16	98.04
9WCCL086	15.56	.095	11.41	10.99	.35	7.65	.21	2.25	.36	47.48	1.55	.08	97.98
9WCCL087	15.39	.015	10.57	9.46	.10	7.09	.19	3.47	.33	50.43	1.46	.02	98.52
9WCCL088	15.37	.030	9.26	11.85	.10	6.92	.23	3.92	.32	48.45	2.00	.01	98.47
9WCCL089	15.02	.020	8.90	11.62	.01	7.23	.25	3.65	.31	48.91	1.99	.01	97.90
9WCCL090	15.24	.015	9.28	11.46	.01	6.63	.22	4.00	.30	48.92	1.99	.01	98.07
9WCCL091	14.72	.115	8.42	11.00	.01	7.32	.22	4.15	.31	50.08	1.84	.07	98.25
9WCCL092	9.89	.240	.43	4.22	2.85	2.04	.09	.47	.08	76.42	.47	.34	97.55

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0894-RJ1+2
DATE: AUG-26-89
• TYPE ROCK GEOCHEM • (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
9WCCT001	.8	33	442	409	228	4	159	210
9WCCT002	.6	84	23	179	26	1	55	75
9WCCT003	.6	16	392	34	9	1	21	15
9WCCT004	.3	12	152	111	15	1	23	50
9WCCT005	1.7	25	457	794	22	1	38	460
9WCCT006	.5	23	350	302	21	1	69	15
9WCCL001	1.1	47	176	10	25	1	51	5
9WCCL002	3.2	30	349	110	26	1	61	10
9WCCL003	1.3	17	25	161	42	3	39	10
9WCCL004	1.9	1	374	83	30	2	53	40
9WCCL005	1.9	13	987	253	36	1	63	15
9WCCL006	.2	14	358	17	6	1	50	5
9WCCL007	2.7	36	1023	151	31	1	51	5
9WCCL008	1.0	8	891	42	16	1	137	10
9WCCL009	1.5	14	1401	8	29	1	60	5
9WCCL010	.3	22	423	32	15	1	61	5
9WCCL011	1.6	15	256	32	38	1	82	5
9WCCL012	1.6	14	131	6	31	1	68	5
9WCCL013	.1	19	352	31	18	1	51	10
9WCCL014	1.6	18	593	10	28	1	57	5
9WCCL015	2.1	18	230	26	22	1	53	5
9WCCL016	.1	3	2131	55	10	1	43	25
9WCCL017	1.5	5	238	6	30	1	71	10
9WCCL018	2.2	8	86	8	24	1	41	5
9WCCL019	1.9	18	38	56	38	2	103	5
9WCCL020	1.8	31	64	38	37	1	84	10
9WCCL021	2.4	4	44	53	21	1	69	5
9WCCL022	1.2	1	456	28	33	1	74	5
9WCCL023	1.2	9	5768	14	52	2	75	5
9WCCL024	.1	7	345	33	11	1	42	5
9WCCL025	.8	11	213	4	34	1	67	5
9WCCL026	.1	8	274	30	10	1	47	5
9WCCL027	.8	5	1307	19	25	1	100	5
9WCCL028	.5	21	619	45	14	1	39	10
9WCCL029	2.9	17	33	37	33	2	61	5
9WCCL030	1.2	15	819	23	35	1	79	5
9WCCL031	1.6	13	160	61	25	1	53	5
9WCCL032	2.1	2	580	44	25	1	61	5
9WCCL033	1.1	4	3963	50	22	1	57	5
9WCCL034	1.3	1	576	11	37	1	75	10
9WCCL035	2.7	13	64	33	33	2	78	5
9WCCL036	2.8	3	33	18	31	2	69	5
9WCCL037	2.3	2	25	8	23	1	50	5
9WCCL038	2.0	1	84	47	32	1	58	5
9WCCL039	1.0	5	1364	47	22	1	60	5
9WCCL040	.1	8	928	30	14	1	58	5
9WCCL041	.1	13	5135	234	17	1	70	5
9WCCL042	.5	23	488	54	11	1	63	5
9WCCL043	1.8	1	725	14	35	1	70	10
9WCCL044	.9	11	2497	9	22	2	40	5
9WCCL045	1.2	11	456	8	19	1	48	5
9WCCL046	.2	9	609	41	16	1	64	10
9WCCL047	2.6	11	40	41	16	1	54	5
9WCCL048	2.3	9	85	67	30	1	81	5
9WCCL049	3.3	7	64	56	36	2	98	5
9WCCL050	2.3	20	362	54	36	2	65	5
9WCCL051	2.4	9	41	45	29	1	57	5
9WCCL052	1.8	1	47	48	19	1	54	5
9WCCL053	1.3	3	23	7	32	1	56	5
9WCCL054	.1	6	240	23	5	1	44	5

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0894-RJ3+4
DATE: AUG-26-89
* TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
9WCCL055	1.8	12	1181	16	33	1	62	5
9WCCL056	1.5	7	552	32	29	1	56	5
9WCCL057	1.5	9	92	51	17	1	41	5
9WCCL058	3.0	20	27	35	24	1	57	5
9WCCL059	1.5	22	59	14	31	1	64	5
9WCCL060	.1	3	133	42	19	1	38	5
9WCCL061	1.3	1	248	80	29	1	65	5
9WCCL062	2.6	15	1214	62	31	1	92	5
9WCCL063	1.6	57	705	64	28	1	77	10
9WCCL064	2.2	4	214	72	26	1	46	25
9WCCL065	.9	22	850	29	23	1	81	15
9WCCL066	1.1	16	653	38	29	1	50	10
9WCCL067	.5	1	1806	156	42	3	147	5
9WCCL068	1.4	14	565	62	24	1	51	5
9WCCL069	2.3	10	972	61	30	1	52	5
9WCCL070	.6	32	291	91	29	1	73	10
9WCCL071	2.5	3	1086	67	20	1	55	70
9WCCL072	1.1	3	1845	26	29	1	93	5
9WCCL073	1.6	2	723	36	21	1	53	5
9WCCL074	1.4	8	657	111	27	1	54	5
9WCCL075	1.7	2	21	11	24	1	40	5
9WCCL076	1.7	2	22	17	23	1	50	5
9WCCL077	2.0	1	232	13	38	1	59	5
9WCCL078	2.3	11	309	9	39	3	73	5
9WCCL079	1.1	20	181	25	22	2	43	5
9WCCL080	1.6	25	734	8	37	4	61	5
9WCCL081	1.1	9	58	10	10	1	26	5
9WCCL082	1.3	27	4197	24	25	2	49	5
9WCCL083	.5	9	460	34	17	1	59	5
9WCCL084	.3	12	308	79	30	1	65	5
9WCCL085	.4	1	1067	44	12	1	53	5
9WCCL086	2.1	1	819	72	73	8	50	5
9WCCL087	1.8	23	116	13	18	1	30	5
9WCCL088	1.5	1	217	35	30	1	59	5
9WCCL089	1.1	1	136	21	20	1	48	5
9WCCL090	1.3	1	58	25	17	1	43	5
9WCCL091	1.4	19	875	8	28	1	49	5
9WCCL092	.5	1	362	46	16	1	73	5

MIN
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SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
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TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

SEP. 8 1989

Ans'd .....

Assay Certificate

9V-0969-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: I.PIRIE

Date: SEP-05-89

Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify **the following Assay of 30 ROCK samples submitted AUG-23-89 by KATHI HOFMANN.**

Sample Number	LOI %
9WCCL093	2.00
9WCCL094	1.35
9WCCL095	3.20
9WCCL096	2.40
9WCCL097	1.25
9WCCL098	.50
9WCCL099	.35
9WCCL100	.70
9WCCL101	1.10
9WCCL102	1.00
WCCL103	1.50
9WCCL104	1.30
9WCCL105	.95
9WCCL106	1.50
9WCCL107	1.10
9WCCL108	2.10
9WCCL109	1.30
9WCCL110	1.40
9WCCL111	1.20
9WCCL112	1.30
9WCCL113	.45
9WCCL114	2.60
9WCCL115	2.40
9WCCL116	1.00
9WCCL117	1.70
9WCCL118	1.40
9WCCL119	1.05
9WCCL120	1.10
9WCCL121	.35
9WCCL122	1.80

Certified by _____

MIN-EN LABORATORIES

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VANCOUVER OFFICE:
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TIMMINS OFFICE:
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P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0969-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: SEP-04-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 29 ROCK samples submitted AUG-23-89 by KATHI HOFMANN.

Sample Number	LOI %
9WCCL123	2.20
9WCCL124	.85
9WCCL125	N/S
9WCCL126	3.50
9WCCL127	1.25
9WCCL128	1.10
9WCCL129	.65
9WCCL130	.90
9WCCL131	1.20
9WCCL132	1.50
WCCL133	1.20
9WCCL134	1.25
9WCCL135	1.00
9WCCL136	1.20
9WCCL137	1.10
9WCCL138	1.05
9WCCL139	1.00
9WCCL140	1.20
9WCCL141	1.00
9WCCL142	.15
9WCCL143	5.10
9WCCL144	3.10
9WCCL145	2.40
9WCCL146	2.20
9WCCL147	3.20
9WCCL148	1.30
9WCCL149	1.35
9WCCL150	1.40
9WCCL151	.90
9WCCL152	.50

Certified by

MIN-EN LABORATORIES

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VANCOUVER OFFICE:
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TIMMINS OFFICE:
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TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0969-RA3

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: SEP-04-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 26 ROCK samples submitted AUG-23-89 by KATHI HOFMANN.

Sample Number	LOI %
9WCCL153	.85
9WCCL154	.80
9WCCL155	.90
9WCCL156	.95
9WCCL157	.80
9WCCL158	.60
9WCCL159	1.10
9WCCL160	.70
9WCCL161	1.00
9WCCL162	1.40
WCCL163	1.10
9WCCL164	1.10
9WCCL165	.85
9WCCL166	.80
9WCCL167	.60
9WCCL168	.25
9WCCL169	1.40
9WCCL170	1.40
9WCCL171	2.90
9WCCL172	2.00
9WCCL173	1.70
9WCCL174	2.00
9WCCL175	.95
9WCCL176	1.00
9WCCL177	.90
9WCCL025	1.40

Certified by

MIN-EN LABORATORIES

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0969-RL1+2
DATE: SEP-05-89
* TYPE ROCK GEOCHEM * (ACT:FIRE)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
9WCCL093	12.45	.015	10.95	10.96	.01	10.60	.22	2.14	.36	47.57	1.51	.01	96.79
9WCCL094	15.47	.020	9.84	11.26	.01	7.00	.21	3.46	.32	48.10	1.82	.02	97.53
9WCCL095	15.30	.015	12.55	7.82	.01	9.01	.16	1.91	.36	47.80	1.00	.04	95.96
9WCCL096	16.80	.010	11.16	9.05	.01	6.02	.17	3.19	.32	48.54	1.34	.02	96.62
9WCCL097	14.90	.030	12.42	11.78	.96	6.89	.19	1.43	.37	46.95	1.80	.02	97.73
9WCCL098	15.30	.025	12.91	10.61	.01	6.87	.19	2.93	.36	47.84	1.62	.01	98.68
9WCCL099	9.99	.105	5.91	8.63	2.37	2.80	.56	.89	.22	66.51	.65	.06	98.69
9WCCL100	16.85	.040	8.93	11.96	.14	5.55	.24	4.19	.32	47.76	2.24	.01	98.23
9WCCL101	16.21	.020	10.19	11.80	.01	5.79	.22	3.56	.33	47.65	2.13	.01	97.91
9WCCL102	15.18	.015	10.06	11.63	.01	7.07	.23	3.24	.34	48.28	2.01	.01	98.05
9WCCL103	15.31	.100	8.54	11.37	.68	6.88	.24	3.61	.32	48.38	1.93	.06	97.43
9WCCL104	6.69	.130	.81	2.52	.99	1.34	.05	2.23	.08	82.54	.44	.08	97.89
9WCCL105	14.19	.065	9.67	11.27	.14	7.89	.24	3.50	.34	48.78	1.82	.02	97.93
9WCCL106	15.77	.375	8.76	11.29	.20	7.96	.24	3.11	.34	47.90	1.78	.34	98.07
9WCCL107	6.23	.145	1.71	4.19	.01	2.04	.06	1.46	.10	81.57	.34	.08	97.91
9WCCL108	10.67	.285	.12	4.15	2.59	2.14	.23	.08	.09	76.09	.52	.22	97.18
9WCCL109	15.10	.455	9.46	10.04	.57	6.81	.27	3.00	.33	50.48	1.46	.31	98.30
9WCCL110	5.65	.345	5.24	5.18	.14	1.87	5.10	.20	.29	73.39	.26	.22	97.89
9WCCL111	6.83	.200	.55	2.84	.64	1.29	.37	.40	.08	84.56	.35	.13	98.25
9WCCL112	15.77	.025	9.95	10.25	.01	7.53	.18	3.37	.33	48.75	1.52	.26	97.95
9WCCL113	15.45	.020	10.23	10.39	.44	6.97	.20	3.72	.34	49.46	1.51	.01	98.75
9WCCL114	2.08	.070	.69	3.48	.63	.91	.04	.14	.07	88.48	.12	.54	97.24
9WCCL115	9.28	.025	2.85	3.55	.01	1.65	.09	4.94	.12	73.80	.49	1.28	98.08
9WCCL116	9.19	.205	2.61	4.78	1.04	2.68	.09	2.19	.14	74.47	.64	.13	98.15
9WCCL117	10.41	.075	11.39	10.61	.36	12.86	.24	1.08	.41	48.22	1.44	.04	97.14
9WCCL118	7.27	.395	.56	3.46	1.55	1.88	.14	.48	.08	81.45	.39	.26	97.91
9WCCL119	18.22	.055	9.94	8.86	.30	6.04	.18	4.14	.30	49.01	1.01	.04	98.08
9WCCL120	7.84	.260	1.54	3.31	1.71	2.11	.10	.54	.10	80.00	.34	.29	98.15
9WCCL121	17.04	.025	9.06	11.53	.49	4.69	.26	3.95	.32	49.62	1.95	.02	98.95
9WCCL122	17.04	.755	.55	4.19	5.09	2.66	.07	.38	.11	65.49	.85	.55	97 74
9WCCL123	9.89	.615	.41	3.58	2.47	1.77	.02	.05	.07	77.16	.61	.83	97.49
9WCCL124	8.93	.140	1.62	3.53	1.46	2.99	.15	.23	.13	78.37	.49	.09	98.12
9WCCL126	14.45	.785	5.01	6.23	.40	5.53	.14	3.69	.21	58.56	.75	1.24	97.00
9WCCL127	15.30	.100	8.63	9.65	.09	7.53	.21	3.78	.30	50.74	1.35	.06	97.74
9WCCL128	14.71	.080	9.56	10.23	.28	7.54	.23	3.16	.32	50.28	1.47	.04	97.90
9WCCL129	14.86	.020	11.06	10.62	.30	7.03	.21	2.90	.33	49.74	1.45	.01	98.53
9WCCL130	15.85	.035	12.06	11.03	.53	7.88	.20	1.61	.36	47.01	1.51	.03	98.11
9WCCL131	16.49	.055	8.91	9.60	1.01	7.81	.19	3.49	.27	48.48	1.38	.02	97.72
9WCCL132	16.77	.110	8.62	9.83	1.49	6.81	.20	3.86	.29	48 10	1.45	.06	97.59
9WCCL133	14.22	.140	7.33	10.27	2.13	7.39	.23	4.00	.28	50.11	1.71	.09	97.91
9WCCL134	14.24	.155	7.43	9.99	.79	6.42	.23	3.93	.29	52.43	1.69	.20	97.79
9WCCL135	14.24	.030	10.25	11.43	.70	7.96	.24	2.54	.34	48.45	1.87	.01	98.06
9WCCL136	14.54	.010	9.34	12.61	1.27	7.92	.24	3.06	.35	46.38	1.93	.01	97.65
9WCCL137	14.74	.010	9.19	11.29	.29	6.94	.23	3.03	.32	50.17	1.91	.02	98.16
9WCCL138	15.00	.035	8.95	11.66	.95	7.29	.23	3.16	.32	48.24	1.98	.01	97.81
9WCCL139	15.08	.020	8.70	11.66	.34	7.52	.23	3.58	.33	48.54	1.96	.01	97.98
9WCCL140	14.24	.015	10.49	10.82	.22	8.55	.22	2.83	.34	48.72	1.60	.01	98.06
9WCCL141	16.69	.015	9.16	12.88	.05	5.32	.25	4.01	.33	47.18	2.16	.01	98.05
9WCCL142	16.46	.020	8.78	11.54	.01	5.26	.21	4.01	.29	50.51	2.01	.04	99.14
9WCCL143	14.97	.010	8.74	10.84	.40	5.89	.21	3.38	.30	47.39	1.79	.03	93.95
9WCCL144	16.13	.005	11.15	7.93	.01	8.60	.16	2.56	.33	48.00	1.14	.03	96.04
9WCCL145	15.75	.005	10.14	9.82	.01	6.50	.20	3.28	.32	49.54	1.38	.01	96.93
9WCCL146	14.55	.015	6.63	13.85	.01	4.34	.25	4.13	.28	50.51	2.50	.01	97.06
9WCCL147	15.75	.010	10.29	8.63	.01	11.50	.16	1.61	.36	46.63	.83	.02	95.78
9WCCL148	16.70	.015	9.15	11.08	.01	5.25	.23	3.23	.29	49.82	1.90	.05	97.72
9WCCL149	15.65	.025	8.72	11.77	.01	7.12	.24	3.40	.31	48.54	1.91	.03	97.71
9WCCL150	15.90	.005	9.51	11.63	.01	5.90	.21	2.90	.30	49.42	1.94	.01	97.71
9WCCL151	10.86	.010	4.47	8.77	.01	3.65	.43	1.85	.20	67.00	.80	.01	98.05
9WCCL152	17.55	.015	8.79	11.59	.01	4.72	.22	4.29	.31	49.19	2.09	.02	98.79

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0969-RL3
DATE: SEP-05-89
• TYPE ROCK GEOCHEM • (ACT:FIRE)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
9WCCL153	13.46	.020	10.60	11.11	.01	9.32	.23	2.51	.38	48.73	1.61	.01	97.96
9WCCL154	8.88	.065	2.43	4.75	.01	1.59	.14	2.38	.11	77.31	.45	.02	98.13
9WCCL155	6.91	.030	3.44	2.99	.11	1.66	.11	2.11	.12	80.44	.39	.04	98.36
9WCCL156	15.27	.025	8.51	11.30	.01	6.34	.21	4.26	.31	49.82	1.96	.02	98.02
9WCCL157	15.31	.025	9.27	11.75	.01	7.52	.23	3.48	.35	48.25	1.97	.02	98.18
9WCCL158	15.43	.025	8.86	11.93	.01	7.17	.23	3.90	.32	48.66	2.04	.01	98.59
9WCCL159	12.64	.010	5.03	9.74	.29	6.15	.44	3.16	.26	58.71	1.45	.19	98.07
9WCCL160	15.09	.015	8.85	11.71	.01	7.42	.24	3.76	.34	48.81	1.97	.03	98.24
9WCCL161	15.24	.055	9.33	10.92	.01	7.50	.24	3.38	.35	49.24	1.77	.05	98.06
9WCCL162	15.29	.300	6.60	11.57	.16	7.77	.20	4.05	.32	49.45	1.92	.12	97.75
9WCCL163	14.65	.150	8.75	12.06	.74	8.43	.25	2.85	.36	47.74	1.76	.08	97.83
9WCCL164	16.25	.030	9.99	9.25	.01	7.53	.21	3.29	.33	49.75	1.35	.08	98.06
9WCCL165	15.48	.035	11.01	9.55	.01	6.90	.20	3.02	.33	50.03	1.44	.11	98.09
9WCCL166	14.72	.020	11.42	10.78	.01	7.54	.20	2.39	.36	49.61	1.41	.09	98.54
9WCCL167	16.74	.035	5.74	10.17	.01	2.56	.20	5.58	.23	55.24	1.79	.02	98.30
9WCCL168	17.42	.305	3.76	10.69	1.37	3.14	.23	5.87	.21	53.88	1.88	.19	98.96
9WCCL169	7.68	.245	.36	3.67	1.33	1.10	.05	1.05	.07	82.05	.35	.14	98.08
9WCCL170	7.67	.240	.35	3.63	1.06	1.10	.05	1.04	.08	82.10	.34	.15	97.82
9WCCL171	4.60	.855	1.15	2.29	1.67	1.46	.06	.12	.08	83.81	.20	.51	96.80
9WCCL172	4.33	.970	.11	1.95	1.46	.92	.03	.05	.06	86.94	.22	.55	97.58
9WCCL173	16.04	.650	5.47	11.32	.95	5.90	.24	4.42	.27	50.90	1.31	.36	97.83
9WCCL174	16.67	.380	6.20	10.75	.40	6.13	.25	4.41	.27	50.37	1.40	.39	97.63
9WCCL175	12.77	.500	3.29	6.22	1.25	3.47	.20	3.29	.16	66.11	.97	.34	98.57
9WCCL176	17.23	.030	7.39	11.74	.23	4.60	.28	4.29	.30	49.85	2.05	.23	98.23
9WCCL177	16.96	.355	7.57	10.27	.63	6.39	.21	4.06	.30	49.93	1.35	.25	98.28
9WCCL025	9.45	.170	.68	3.81	1.57	1.92	.06	2.03	.10	77.35	.51	.13	97.78

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0969-RJ1+2
DATE: SEP 05-89
* TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
9WCCL093	.8	29	89	21	52	1	67	10
9WCCL094	1.0	15	107	9	24	1	45	5
9WCCL095	1.2	32	52	26	20	1	42	5
9WCCL096	1.4	5	25	12	18	1	29	10
9WCCL097	2.6	3	220	26	25	1	61	5
9WCCL098	2.0	20	115	10	32	1	52	5
9WCCL099	.8	6	256	145	34	1	72	50
9WCCL100	1.5	7	251	67	31	1	66	10
9WCCL101	2.0	15	126	66	25	1	46	5
9WCCL102	1.5	17	58	39	26	1	48	5
9WCCL103	1.8	18	846	9	29	1	59	10
9WCCL104	1.8	13	158	98	15	1	23	440
9WCCL105	1.8	58	443	11	35	2	50	5
9WCCL106	1.8	30	1992	115	29	1	51	10
9WCCL107	.1	17	1209	69	12	1	30	20
9WCCL108	.5	19	849	61	24	1	83	5
9WCCL109	2.3	18	3651	55	21	1	48	5
9WCCL110	.1	1	663	47	71	2	46	20
9WCCL111	.1	10	339	51	17	1	46	10
9WCCL112	2.0	24	188	132	27	1	37	20
9WCCL113	1.9	22	104	41	21	1	36	5
9WCCL114	.8	33	72	77	52	1	36	5
9WCCL115	3.0	32	20	55	362	5	224	5
9WCCL116	1.1	25	1184	69	20	1	52	5
9WCCL117	1.9	105	640	15	30	3	40	20
9WCCL118	.3	6	1894	74	22	1	72	5
9WCCL119	1.2	12	296	39	22	1	47	5
9WCCL120	.9	21	820	126	22	1	299	10
9WCCL121	1.0	11	115	18	14	1	41	5
9WCCL122	.5	11	543	22	13	1	51	5
9WCCL123	.1	10	388	54	10	1	77	10
9WCCL124	.5	8	1108	42	24	1	75	5
9WCCL125	NO SAMPLE – see bottom							
9WCCL126	.9	12	216	58	21	1	39	5
9WCCL127	1.5	18	762	29	23	1	45	5
9WCCL128	2.3	35	650	25	24	1	41	5
9WCCL129	2.4	23	96	22	20	1	31	5
9WCCL130	2.4	16	321	35	17	1	48	5
9WCCL131	2.2	51	460	29	34	2	53	10
9WCCL132	2.2	29	712	74	39	1	65	5
9WCCL133	2.5	37	1097	12	35	2	51	5
9WCCL134	1.7	22	1178	86	28	1	34	5
9WCCL135	1.8	27	204	13	28	1	46	5
9WCCL136	1.7	18	40	48	30	1	57	5
9WCCL137	1.5	13	51	51	21	1	38	5
9WCCL138	2.2	24	220	43	26	1	54	10
9WCCL139	1.6	30	163	15	31	1	52	5
9WCCL140	2.3	29	67	40	27	1	43	10
9WCCL141	2.0	20	57	11	35	5	71	5
9WCCL142	2.4	13	126	50	35	1	53	5
9WCCL143	2.1	15	29	52	32	1	92	5
9WCCL144	.9	23	13	19	31	1	45	5
9WCCL145	2.1	15	30	14	19	1	35	5
9WCCL146	3.3	26	47	12	21	1	52	5
9WCCL147	1.2	24	30	55	35	1	51	5
9WCCL148	2.1	6	54	21	22	1	48	5
9WCCL149	2.0	30	162	46	30	1	49	5
9WCCL150	1.6	22	10	43	17	1	39	5
9WCCL151	.3	13	77	151	22	1	51	10
9WCCL152	.8	8	50	27	19	1	35	5

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0969-RJ3
DATE: SEP-05-89
* TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
9WCCL153	.6	5	101	9	24	1	36	5
9WCCL154	.1	9	272	34	17	1	44	10
9WCCL155	.4	38	230	76	11	1	24	5
9WCCL156	2.0	12	115	60	25	1	46	5
9WCCL157	1.9	19	212	9	33	1	54	5
9WCCL158	1.6	24	197	32	31	1	59	10
9WCCL159	1.2	8	40	99	16	1	44	10
9WCCL160	1.6	21	105	10	33	1	52	5
9WCCL161	1.7	24	462	19	29	1	49	5
9WCCL162	1.7	24	2581	98	34	1	44	5
9WCCL163	2.1	21	181	15	29	1	39	5
9WCCL164	1.8	13	221	99	31	1	54	10
9WCCL165	1.8	1	96	64	7	1	35	20
9WCCL166	1.8	1	95	64	11	1	35	5
9WCCL167	1.5	14	71	24	11	1	35	5
9WCCL168	1.4	9	83	38	18	1	31	5
9WCCL169	2.2	13	2330	24	21	1	69	5
9WCCL170	.1	19	949	39	15	1	74	10
9WCCL171	.6	14	425	40	19	1	72	5
9WCCL172	.1	4	3856	18	13	1	13	5
9WCCL173	1.8	23	4252	108	30	4	67	5
9WCCL174	2.0	27	1495	155	36	2	63	110
9WCCL175	1.6	19	4550	79	20	1	52	10
9WCCL176	1.8	6	208	86	20	1	56	5
9WCCL177	2.0	25	3233	11	30	1	60	5
9WCCL~~025~~ 125	.6	14	891	25	15	1	64	5

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VANCOUVER OFFICE:
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NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE (705) 264-9996

Assay Certificate

9V-0975-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: SEP-01-89

Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., PENTICTON, B.C.

RECEIVED SEP 6 1989 Ans'd .....

We hereby certify the following Assay of 9 ROCK samples submitted AUG-23-89 by D.HEBERLEIN.

Sample Number	LOI %
9WCCL178	1.05
9WCCL179	.55
9WCCL180	1.20
9WCCL181	1.20
9WCCL182	.90
9WCCL183	1.90
9WCCL184	1.20
9WCCL185	1.90
9WCCL186	2.40

Certified by

MIN-EN LABORATORIES

CQMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0975-RL1
DATE: SEP-01-89

• TYPE ROCK GEOCHEM • (ACT:FIRE)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
9WCCL178	14.54	.185	11.56	8.19	.82	9.16	.19	2.85	.37	49.08	.78	.13	97.84
9WCCL179	17.07	.030	10.45	10.57	.32	4.52	.22	3.68	.30	49.62	1.57	.01	98.35
9WCCL180	15.66	.280	1.91	8.47	3.82	3.20	.19	.29	.16	62.87	1.22	.18	98.24
9WCCL181	7.88	.335	1.84	3.60	2.24	1.88	.08	.67	.10	78.67	.45	.19	97.94
9WCCL182	13.92	.410	7.67	10.85	1.70	7.77	.34	3.23	.30	50.25	1.59	.27	98.31
9WCCL183	8.23	.295	.51	3.06	3.22	1.52	.04	.18	.08	79.68	.46	.87	98.15
9WCCL184	16.29	.535	4.72	10.49	1.21	6.14	.22	3.54	.25	53.07	1.32	.37	98.16
9WCCL185	5.35	.495	.29	2.54	1.59	.72	.02	.62	.05	85.15	.23	.26	97.32
9WCCL186	7.42	.740	.01	2.79	2.96	1.44	.03	.17	.07	80.68	.34	.57	97.21

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0975-RJ1
DATE: SEP-01-89
* TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
9WCCL178	1.7	16	1521	34	32	1	48	5
9WCCL179	2.1	14	96	11	20	1	40	5
9WCCL180	2.1	6	718	291	26	1	100	5
9WCCL181	1.0	40	390	60	15	1	59	5
9WCCL182	1.6	29	3690	9	26	3	45	5
9WCCL183	1.2	54	316	67	16	4	86	5
9WCCL184	2.0	30	2527	152	32	2	51	5
9WCCL185	1.3	22	766	9	146	2	14	5
9WCCL186	.7	23	717	90	29	2	28	5

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VANCOUVER OFFICE:
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NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-1029-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: SEP-09-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 30 ROCK samples submitted AUG-31-89 by S.NOBLE.

Sample Number	LOI %
9WCCL187	1.45
9WCCL188	2.30
9WCCL189	.95
9WCCL190	1.00
9WCCL191	2.10
9WCCL192	.35
9WCCL193	2.00
9WCCL194	.80
9WCCL195	1.20
9WCCL196	1.30
9WCCL197	2.10
9WCCL198	1.10
9WCCL199	.90
9WCCL200	.70
9WCCL201	1.70
9WCCL202	1.10
9WCCL203	.80
9WCCL204	.70
9WCCL205	.65
9WCCL206	1.30
9WCCL207	1.20
9WCCL208	.80
9WCCL209	2.00
9WCCL210	.60
9WCCL211	.95
9WCCL212	.90
9WCCL213	.40
9WCCL214	1.30
9WCCL215	1.00
9WCCL216	.55

Certified by

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SPECIALISTS IN MINERAL ENVIRONMENTS
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VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-1029-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: SEP-10-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 30 ROCK samples submitted AUG-31-89 by S.NOBLE.

Sample Number	LOI %
9WCCL217	.85
9WCCL218	1.05
9WCCL219	1.10
9WCCL220	1.00
9WCCL221	1.20
9WCCL222	2.60
9WCCL223	2.20
9WCCL224	1.10
9WCCL225	.90
9WCCL226	1.00
9WCCL227	.70
9WCCL228	1.00
9WCCL229	1.25
9WCCL230	.95
9WCCL231	.50
9WCCL232	.85
9WCCL233	1.80
9WCCL234	1.30
9WCCL235	.70
9WCCL236	1.70
9WCCL237	.90
9WCCL238	1.30
9WCCL239	1.00
9WCCL240	.85
9WCCL241	.50
9WCCL242	1.10
9WCCL243	.90
9WCCL244	1.10
9WCCL245	.70
9WCCL246	1.00

Certified by

MIN-EN LABORATORIES

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SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
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TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-1029-RA3

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: SEP-10-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 3 ROCK samples submitted AUG-31-89 by S.NOBLE.

Sample Number	LOI %
9WCCL247	.85
9WCCL248	1.30
9WCCL249	.40

Certified by

MIN-EN LABORATORIES

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-1029-RL1+2
DATE: SEP-10-89
* TYPE ROCK GEOCHEM * (ACT:FIRE)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
9WCCL187	17.02	.775	6.48	12.19	1.50	5.36	.27	2.42	.29	48.81	2.13	.54	97.79
9WCCL188	3.68	.595	.09	2.28	1.21	.47	.02	.05	.04	87.67	.22	.41	96.74
9WCCL189	16.62	.595	6.99	10.75	1.24	4.13	.23	3.51	.26	51.86	2.09	.42	98.70
9WCCL190	16.48	.135	5.04	10.26	.31	4.28	.22	5.70	.24	53.15	2.12	.10	98.04
9WCCL191	16.86	.070	10.29	8.54	.18	2.48	.36	4.74	.27	51.32	1.65	.68	97.44
9WCCL192	17.06	.055	6.55	10.86	.01	3.10	.25	5.20	.23	53.64	1.84	.01	98.80
9WCCL193	12.31	.150	14.75	11.55	.89	7.20	.39	1.51	.40	46.33	1.39	1.08	97.93
9WCCL194	16.07	.015	8.05	10.90	.01	7.30	.21	4.22	.30	49.39	1.52	.26	98.24
9WCCL195	15.15	.080	9.71	10.03	.52	8.07	.23	2.89	.35	49.25	1.47	.06	97.81
9WCCL196	16.47	.480	5.79	12.08	.42	4.39	.25	4.59	.24	50.58	2.40	.30	98.00
9WCCL197	9.17	.210	1.38	3.87	.51	1.62	.03	3.35	.08	75.79	.53	.15	96.71
9WCCL198	14.50	.020	9.65	11.86	.01	7.34	.25	3.39	.31	48.77	1.68	.01	97.77
9WCCL199	13.50	.030	9.11	11.92	.01	9.08	.24	3.22	.33	48.72	1.77	.02	97.94
9WCCL200	13.41	.015	7.67	9.11	.01	6.81	.19	4.52	.27	54.72	1.65	.03	98.40
9WCCL201	15.28	.015	7.67	11.97	.01	7.12	.27	4.56	.32	47.83	2.01	.05	97.11
9WCCL202	14.97	.015	10.38	12.03	.01	6.89	.22	3.04	.34	47.83	1.99	.03	97.74
9WCCL203	15.72	.060	7.76	10.83	.18	7.84	.30	3.98	.28	49.58	1.81	.16	98.50
9WCCL204	16.82	.015	9.47	11.41	.01	5.43	.22	4.09	.31	48.41	2.09	.02	98.28
9WCCL205	15.10	.030	8.50	10.83	.09	7.84	.24	3.70	.31	50.06	1.76	.02	98.50
9WCCL206	11.34	.010	12.13	10.87	.01	11.67	.24	1.55	.38	47.98	1.42	.04	97.63
9WCCL207	15.20	.005	9.39	10.77	.01	7.64	.24	3.53	.32	49.12	1.69	.03	97.93
9WCCL208	4.75	.320	.25	1.24	.34	1.22	.01	1.39	.04	88.53	.26	.22	98.57
9WCCL209	15.54	.010	10.26	10.76	.01	6.76	.21	3.34	.32	48.14	1.81	.02	97.17
9WCCL210	15.80	.010	10.34	10.80	.01	6.87	.21	3.42	.31	48.77	1.83	.03	98.38
9WCCL211	16.45	.010	9.91	11.35	.01	6.62	.22	3.08	.33	48.16	1.78	.02	97.94
9WCCL212	14.98	.010	8.57	11.30	.01	7.14	.41	3.68	.31	49.81	1.76	.03	98.01
9WCCL213	16.10	.015	10.24	11.36	.01	6.07	.22	4.00	.33	48.37	1.91	.02	98.64
9WCCL214	5.62	.440	.19	1.65	1.76	.84	.01	.73	.05	86.10	.24	.30	97.95
9WCCL215	15.86	.050	11.15	8.58	.01	7.99	.18	3.25	.33	49.91	.88	.07	98.25
9WCCL216	11.85	.415	3.40	4.76	2.89	3.05	.05	.52	.14	70.61	.61	.30	98.58
9WCCL217	15.87	.175	8.20	10.52	1.06	7.02	.26	3.42	.31	49.41	1.69	.12	98.06
9WCCL218	2.83	.100	.12	.99	.47	.36	.01	.01	.03	92.84	.14	.09	97.97
9WCCL219	13.91	.200	5.91	8.69	.51	4.60	.30	3.77	.23	58.31	1.63	.17	98.24
9WCCL220	15.57	.240	6.24	10.46	.40	6.24	.22	4.88	.25	52.13	1.32	.17	98.12
9WCCL221	10.33	.225	1.58	3.89	3.66	2.89	.13	.39	.10	73.90	.56	.16	97.80
9WCCL222	8.76	.010	12.34	11.50	.01	14.65	.31	.27	.44	47.05	1.02	.59	96.94
9WCCL223	5.82	.690	.05	3.50	2.23	.72	.02	.01	.05	83.16	.29	.50	97.03
9WCCL224	17.36	.055	5.51	9.87	.14	2.54	.23	5.91	.22	54.34	1.66	.02	97.85
9WCCL225	16.98	.040	5.48	9.52	.21	2.30	.21	6.29	.21	54.91	1.99	.01	98.16
9WCCL226	7.50	.145	.45	4.38	1.40	1.49	.24	.39	.07	81.57	.31	.10	98.04
9WCCL227	16.76	.050	5.39	9.97	.20	2.93	.26	6.40	.21	54.12	1.89	.02	98.20
9WCCL228	15.32	.025	10.03	9.66	.42	7.12	.18	2.95	.33	50.51	1.44	.04	98.03
9WCCL229	16.05	.125	10.50	10.11	.74	7.79	.22	2.78	.35	47.51	1.38	.12	97.68
9WCCL230	15.80	.245	7.63	12.10	1.09	6.46	.22	4.04	.30	48.21	2.20	.18	98.48
9WCCL231	15.64	.025	8.60	11.89	.14	5.98	.23	4.27	.31	49.11	2.07	.02	98.28
9WCCL232	14.55	.015	10.17	12.63	.10	6.25	.20	4.09	.35	47.84	1.87	.03	98.09
9WCCL233	16.44	.070	11.91	8.27	.61	8.17	.17	2.75	.33	47.91	.84	.05	97.53
9WCCL234	8.41	.465	2.11	3.53	1.34	2.13	.11	1.01	.10	78.03	.42	.33	97.98
9WCCL235	16.56	.065	6.65	10.84	.26	3.94	.28	5.20	.26	52.53	1.92	.01	98.51
9WCCL236	16.09	.340	5.62	10.34	1.97	6.01	.24	4.03	.25	51.09	1.30	.25	97.53
9WCCL237	15.13	1.090	10.12	9.84	.58	7.94	.26	2.57	.36	49.12	1.21	.79	99.02
9WCCL238	1.78	.040	2.96	4.17	.08	1.75	.44	.18	.14	86.27	.07	.76	98.64
9WCCL239	16.71	.100	6.80	12.02	.69	4.28	.30	4.64	.30	49.84	2.48	.09	98.25
9WCCL240	16.50	.020	6.45	11.53	.30	2.60	.22	4.79	.26	53.77	1.70	.02	98.16
9WCCL241	16.28	.035	6.41	10.62	.32	3.21	.22	4.44	.24	54.93	1.67	.04	98.42
9WCCL242	15.61	.035	9.83	9.79	.32	7.42	.18	3.41	.33	49.47	1.47	.03	97.90
9WCCL243	14.85	.035	9.12	10.92	.23	7.39	.25	3.60	.31	49.70	1.71	.01	98.13
9WCCL244	14.90	.060	8.64	11.41	.94	7.19	.21	3.53	.32	48.66	1.94	.02	97.82
9WCCL245	15.00	.020	10.24	11.54	.24	6.52	.20	3.75	.33	48.72	1.92	.03	98.49
9WCCL246	15.54	.015	9.56	10.99	.01	6.22	.20	3.69	.30	49.55	1.81	.01	97.90

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-1029-RL3
DATE: SEP-10-89
• TYPE ROCK GEOCHEM • (ACT:FIRE)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
9WCCL247	15.86	.010	8.88	10.95	.01	6.15	.21	4.14	.29	49.59	1.85	.02	97.95
9WCCL248	10.32	.020	13.57	9.22	.07	9.88	.22	2.42	.38	50.31	1.11	.01	97.51
9WCCL249	16.59	.030	9.62	12.24	.01	5.43	.18	4.46	.31	48.16	1.74	.05	98.79

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-1029-RJ1+2
DATE: SEP-10-89
* TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
9WCCL187	2.2	1	6341	605	23	1	85	10
9WCCL188	.1	40	1883	28	27	1	66	5
9WCCL189	1.4	1	3153	24	17	1	67	5
9WCCL190	.5	8	930	22	15	2	39	10
9WCCL191	2.2	10	87	338	8	3	87	5
9WCCL192	.6	11	291	36	6	1	35	5
9WCCL193	2.4	1	542	512	35	1	86	5
9WCCL194	1.2	33	69	125	35	2	62	10
9WCCL195	1.7	8	760	11	25	1	65	5
9WCCL196	1.2	7	3683	15	24	1	45	5
9WCCL197	.5	51	184	105	15	1	38	5
9WCCL198	.9	42	84	12	19	1	49	10
9WCCL199	1.1	4	257	13	36	2	61	5
9WCCL200	.6	40	78	9	14	1	32	10
9WCCL201	1.3	9	66	47	42	4	70	5
9WCCL202	1.2	16	63	51	17	1	45	5
9WCCL203	1.5	16	496	68	38	3	60	5
9WCCL204	1.5	1	101	20	23	1	58	5
9WCCL205	1.6	32	263	19	34	1	51	5
9WCCL206	1.5	4	105	78	24	1	54	10
9WCCL207	1.4	11	30	20	31	1	77	5
9WCCL208	.1	51	594	8	10	1	17	10
9WCCL209	2.4	8	33	32	45	1	80	5
9WCCL210	1.5	15	204	17	18	1	50	5
9WCCL211	1.4	5	110	17	24	1	66	5
9WCCL212	1.4	23	37	46	25	2	53	5
9WCCL213	1.2	2	40	16	31	1	59	5
9WCCL214	.1	25	586	25	8	1	32	5
9WCCL215	.6	13	304	52	13	1	37	10
9WCCL216	.9	1	985	16	19	1	151	5
9WCCL217	.8	40	1639	6	37	2	32	10
9WCCL218	.1	1	140	9	1	1	1	25
9WCCL219	1.0	28	1585	132	21	2	30	150
9WCCL220	.7	6	1925	65	19	3	16	5
9WCCL221	1.1	25	304	34	30	1	75	5
9WCCL222	.7	69	37	115	26	1	19	10
9WCCL223	1.0	63	989	22	51	10	1	50
9WCCL224	.3	1	231	34	2	1	8	5
9WCCL225	.3	1	154	11	7	1	8	5
9WCCL226	.2	11	648	16	17	1	42	5
9WCCL227	.6	15	184	9	10	1	15	5
9WCCL228	1.2	3	204	23	12	1	9	10
9WCCL229	1.7	2	1063	44	20	1	36	20
9WCCL230	1.1	9	2120	20	27	2	24	5
9WCCL231	.7	13	193	42	18	1	16	15
9WCCL232	2.3	18	55	64	30	5	27	360
9WCCL233	1.4	1	576	43	23	1	19	10
9WCCL234	.8	39	2275	44	25	1	67	5
9WCCL235	.7	6	343	44	11	1	4	400
9WCCL236	1.8	20	2829	46	37	3	67	10
9WCCL237	1.5	17	9433	5	19	1	24	5
9WCCL238	.1	17	107	58	5	1	7	5
9WCCL239	1.7	17	453	22	28	3	41	5
9WCCL240	1.1	16	237	165	16	1	38	15
9WCCL241	1.1	1	90	8	7	1	15	15
9WCCL242	1.3	17	299	15	16	1	16	5
9WCCL243	.8	8	199	11	22	2	6	5
9WCCL244	1.3	14	469	45	23	3	19	5
9WCCL245	1.6	8	136	25	23	1	14	5
9WCCL246	.6	1	47	33	13	1	4	10

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: I.PIRIE/D.HEBERLEIN

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-1029-RJ3
DATE: SEP-10-89
* TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
9WCCL247	.9	3	46	41	16	1	37	10
9WCCL248	1.2	1	71	12	13	1	31	5
9WCCL249	1.5	27	77	31	24	2	38	5

MIN
•EN
LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-1069-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: SEP-15-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 30 ROCK samples submitted SEP-06-89 by S.NOBLE.

Sample Number	LOI %
9WCCL250	1.80
9WCCL251	2.40
9WCCL252	2.00
9WCCL253	1.15
9WCCL254	1.70
9WCCL255	1.50
9WCCL256	2.30
9WCCL257	2.90
9WCCL258	.85
9WCCL259	1.20
9WCCL260	1.00
9WCCL261	1.05
9WCCL262	1.30
9WCCL263	1.50
9WCCL264	.90
9WCCL265	2.20
9WCCL266	3.60
9WCCL267	3.30
9WCCL268	3.20
9WCCL269	2.60
9WCCL270	2.10
9WCCL271	2.80
9WCCL272	2.40
9WCCL273	.85
9WCCL274	1.80
9WCCL275	1.15
9WCCL276	2.70
9WCCL277	3.40
9WCCL278	.75
9WCCL279	.55

Certified by _____

MIN-EN LABORATORIES

MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-1069-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: I.PIRIE/D.HEBERLEIN

Date: SEP-15-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 15 ROCK samples submitted SEP-06-89 by S.NOBLE.

Sample Number	LOI %
9WCCL280	.65
9WCCL281	.90
9WCCL282	3.40
9WCCL283	2.30
9WCCL284	2.20
9WCCL285	1.10
9WCCL286	.75
9WCCL287	.90
9WCCL288	.70
9WCCL289	2.20
9WCCL290	.55
9WCCL291	3.30
9WCCL292	1.00
9WCCL293	.70
9WCCL294	2.20

Certified by

MIN-EN LABORATORIES

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: D.HEBERLEIN/I.PIRIE

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-1069-RL1+2
DATE: SEP-15-89
• TYPE ROCK GEOCHEM • (ACT:FIRE)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
9WCCL250	8.76	.560	.01	3.96	2.81	2.67	.03	.56	.08	77.15	.49	.23	97.32
9WCCL251	8.45	.305	.01	2.23	2.10	.57	.02	.03	.02	82.41	.42	.16	96.71
9WCCL252	9.24	.530	.39	4.30	2.38	1.73	.15	.24	.08	77.72	.57	.36	97.69
9WCCL253	15.24	.165	6.84	11.01	.50	6.24	.25	4.27	.28	51.39	1.62	.12	97.93
9WCCL254	13.82	.125	6.28	7.91	.25	4.21	.23	4.38	.23	58.64	1.24	.08	97.39
9WCCL255	12.15	.045	11.83	11.78	.04	9.98	.37	1.79	.40	47.59	1.63	.32	97.93
9WCCL256	1.55	.025	.05	3.87	.01	.19	.02	.01	.04	90.90	.07	.25	96.98
9WCCL257	2.95	.190	3.84	6.62	.35	2.07	1.60	.14	.17	78.00	.15	.56	96.64
9WCCL258	17.18	.060	6.41	10.77	.37	3.58	.26	5.40	.22	51.73	2.27	.05	98.30
9WCCL259	14.83	.015	10.56	11.43	.01	7.10	.24	3.52	.34	48.03	1.83	.01	97.91
9WCCL260	13.53	.030	11.01	11.93	.32	8.17	.22	2.97	.35	47.50	1.84	.01	97.89
9WCCL261	15.10	.015	8.86	11.69	.01	7.00	.32	4.24	.31	48.58	1.95	.01	98.07
9WCCL262	14.53	.010	10.10	11.53	.01	7.50	.27	3.39	.33	48.22	1.72	.02	97.62
9WCCL263	15.32	.010	9.75	11.27	.01	6.99	.23	3.73	.32	48.38	1.80	.02	97.82
9WCCL264	15.45	.030	10.19	10.95	.08	6.02	.20	3.64	.31	49.53	1.62	.01	98.03
9WCCL265	15.18	.010	9.93	10.85	.01	6.69	.22	3.32	.32	48.70	1.62	.10	96.94
9WCCL266	14.52	.005	10.86	11.57	.01	6.45	.22	2.92	.33	46.92	1.94	.02	95.75
9WCCL267	15.42	.005	9.84	10.57	.01	6.61	.20	3.57	.32	47.72	1.48	.03	95.77
9WCCL268	14.78	.005	10.94	12.03	.04	6.89	.23	2.42	.36	46.45	1.88	.03	96.05
9WCCL269	14.68	.005	11.69	11.23	.05	6.50	.21	2.47	.35	47.43	1.81	.02	96.44
9WCCL270	15.31	.005	11.51	9.84	.01	6.05	.19	2.15	.32	50.40	1.35	.01	97.13
9WCCL271	14.47	.005	11.12	11.83	.01	6.57	.25	2.31	.34	47.60	1.96	.01	96.47
9WCCL272	18.58	.020	10.80	7.27	.84	6.59	.15	3.27	.31	48.06	.92	.01	96.80
9WCCL273	15.60	.010	9.86	12.19	.01	6.22	.22	3.54	.31	48.28	1.94	.13	98.30
9WCCL274	10.11	.625	.37	4.04	2.31	2.21	.08	.96	.07	75.69	.70	.36	97.54
9WCCL275	12.42	.210	5.09	7.72	.34	3.92	.24	3.22	.21	63.15	1.37	.11	97.99
9WCCL276	9.09	.500	1.39	3.87	2.49	1.38	.04	.06	.08	76.98	.51	1.24	97.63
9WCCL277	2.41	.160	6.90	10.93	.04	1.91	1.79	.26	.26	70.77	.12	2.84	98.40
9WCCL278	16.66	.030	9.51	12.76	.33	4.99	.23	3.42	.33	47.97	2.33	.01	98.55
9WCCL279	16.64	.030	8.68	10.92	.34	3.27	.20	4.44	.27	51.67	2.04	.01	98.51
9WCCL280	15.19	.045	9.31	10.47	.53	7.31	.22	3.32	.33	49.83	1.65	.01	98.22
9WCCL281	15.52	.025	9.84	11.40	.18	5.78	.20	4.05	.32	48.79	1.86	.19	98.17
9WCCL282	16.17	.005	7.45	11.99	.07	6.95	.23	3.22	.28	47.53	1.98	.01	95.89
9WCCL283	15.47	.005	9.16	10.93	.13	6.87	.21	3.29	.31	48.52	1.77	.03	96.68
9WCCL284	15.13	.005	8.93	10.84	.12	6.71	.21	3.26	.32	49.50	1.77	.02	96.81
9WCCL285	15.12	.045	9.45	10.22	.30	7.29	.25	3.29	.33	49.92	1.89	.01	98.11
9WCCL286	16.02	.010	9.50	11.96	.16	6.71	.20	3.54	.32	47.78	2.06	.02	98.28
9WCCL287	15.33	.020	9.32	10.76	.42	6.22	.24	3.71	.30	49.76	1.96	.03	98.07
9WCCL288	14.46	.045	10.41	11.67	.13	7.67	.23	3.40	.34	48.03	1.91	.67	98.97
9WCCL289	15.23	.005	9.26	10.94	.12	6.62	.21	3.62	.31	48.79	1.77	.03	96.90
9WCCL290	14.73	.150	8.25	11.88	.43	7.70	.30	3.73	.33	48.90	1.91	.12	98.43
9WCCL291	6.46	.155	7.66	10.77	1.07	3.78	1.05	.31	.26	64.04	.17	3.35	99.07
9WCCL292	5.21	.310	2.26	10.99	.96	2.33	1.91	.10	.18	73.45	.16	.68	98.55
9WCCL293	15.40	.070	8.43	10.81	.46	6.94	.28	3.70	.31	50.53	1.62	.03	98.59
9WCCL294	14.68	.010	8.99	11.14	.12	7.69	.20	3.51	.32	48.13	1.89	.01	96.68

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: D.HEBERLEIN/I.PIRIE

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-1069-RJ1+2
DATE: SEP-15-89
* TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
9WCCL250	.4	1	1437	40	24	1	229	10
9WCCL251	.1	1	417	33	4	1	65	5
9WCCL252	.4	1	790	26	17	1	108	10
9WCCL253	.8	19	1343	40	24	1	104	5
9WCCL254	.8	27	493	60	16	2	95	5
9WCCL255	1.2	8	381	40	37	2	339	10
9WCCL256	.7	35	94	15	27	3	46	15
9WCCL257	.4	78	191	88	25	2	56	5
9WCCL258	.8	1	430	69	19	2	42	5
9WCCL259	1.3	12	82	15	27	2	55	5
9WCCL260	1.3	10	239	10	28	1	53	5
9WCCL261	.8	6	97	12	41	1	167	5
9WCCL262	1.3	6	59	18	31	1	62	5
9WCCL263	1.2	1	81	10	28	1	68	5
9WCCL264	1.1	1	186	5	29	1	60	5
9WCCL265	1.6	1	54	41	34	1	81	5
9WCCL266	2.4	1	45	18	32	1	80	5
9WCCL267	2.2	1	12	68	39	1	77	5
9WCCL268	2.2	10	15	48	43	4	85	5
9WCCL269	2.1	1	18	56	32	1	75	5
9WCCL270	1.9	1	37	54	22	1	56	5
9WCCL271	2.6	1	26	16	33	1	75	5
9WCCL272	1.4	1	68	6	35	1	80	10
9WCCL273	1.7	1	53	81	26	1	60	5
9WCCL274	.7	1	1586	30	21	1	104	5
9WCCL275	1.3	21	1733	119	21	1	49	5
9WCCL276	1.0	25	329	65	12	1	161	5
9WCCL277	.8	19	317	305	17	1	86	5
9WCCL278	1.3	1	138	30	26	1	52	5
9WCCL279	1.5	32	162	14	9	1	30	5
9WCCL280	1.7	18	395	7	26	1	54	5
9WCCL281	2.6	12	130	173	242	7	147	5
9WCCL282	3.8	3	17	91	103	5	125	5
9WCCL283	3.0	15	19	73	56	2	82	10
9WCCL284	3.6	10	21	60	46	1	91	10
9WCCL285	1.8	12	185	9	23	1	43	5
9WCCL286	2.2	8	45	67	37	2	68	5
9WCCL287	2.2	6	130	34	23	1	49	5
9WCCL288	2.1	4	217	34	44	1	63	10
9WCCL289	3.1	19	12	56	35	1	68	5
9WCCL290	1.8	16	1370	51	36	3	83	5
9WCCL291	1.1	1	186	124	42	1	250	5
9WCCL292	.4	19	2115	122	62	9	170	5
9WCCL293	1.6	27	617	54	24	1	44	5
9WCCL294	2.6	5	38	16	51	2	80	10

APPENDIX IV
Drill Logs (& Results)

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 9999.70N
EAST: 9932.60E
ELEV: 1794.60

ALTERNATE COORDS GRID: CC-1
NORTH: 99+99N
EAST: 99+32E
ELEV: 1794.60

COLLAR DIP: -52° 0' 0"
LENGTH OF THE HOLE: 89.60m
START DEPTH: 0.00m
FINAL DEPTH: 89.60m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: May 25, 1989
DATE COMPLETED: May 26, 1989
DATE LOGGED: May 27, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: PULLED
CORE STORAGE: BARRIERE

PURPOSE: FURTHER DEFINE MAIN LENS FOOTWALL 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
30.48	-	-53° 0'	ACID	OK		-	-	-	-	-	
60.96	-	-52° 0'	ACID	OK		-	-	-	-	-	
85.60	-	-52° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.00	CASING					Recovery is ~100%.
3.00 TO 45.60	«BSLT»	Pale green, fg; several series of planar fractures/joints are present principally at low angles to ca. Fracture filling <0.5mm calcite + green/black chlorite, minor pyrite locally. Brecciation along carbonate stringers.	20	Carbonate and chlorite along fractures.	Trace to 1% pyrite generally along fractures.	Moderately broken up core more so at top of hole where oxidation along fractures is significant.
	16.9-17.67	Milky white/pale green. Strong calcite-chlorite fractures and veinlets.	20			
	17.67-18.5	Intense calcite-chlorite veining, brecciated wall rock crosscutting white calcite stringers. 30-50% vein material.		Carbonate in basalt strong fizz.		
	18.8-19.7	As above >50% vein material.				
	19.7-20.1	Grey/green. <5% vein material along carbonate altered pillow selvages. 2 pillow contacts/meter.				Sharply defined pillow margins.
	23.0-23.4	Carbonate microveinlets,increased fracture density			Trace-1% pyrite in microveinlets.	
	23.4-24.2	Carbonate vein with slivers of slightly schistose basalt fragments.			1-2% pyrite along vein selvages.	
	⎨24.0-24.2⎬	Semi massive and disseminated sulphides in basalt.		Decrease carbonate in sulphide zone.	10-30% sx, «5-10% cp» + cubic pyrite semi massive over 10cm.	
	24.2-37.0	Microveinlets of calcite;strong microfracturing in places;extensive but quite variable in intensity. Pillow selvages apparent ~2 per meter. Core is broken up locally. Minor brecciation in pillow interstices.		Chlorite along fractures strong carbonate throughout.	Trace-1%(along fractures)-cubic.	
	35.3-40.5	Pillow selvages are more chloritic, core looks greener.		Strongly calcareous.		
		Low angle calcite veinlets. Microfracturing much diminished.	20			
	40.5-43.9	F-mg; becoming coarser grained, 0.2-0.4mm.				
	43.9-44.0	Brecciation in pillow interstices. Autoclastic matrix supported.				
	45.1-45.6	Broken core.				
	45.4-45.6	Autoclastic breccia with fine grained interstitial pyrite. Dark green fragments in pale matrix, fragment supported.			5-10% pyrite, trace chalcopyrite.	
45.60 TO 64.90	«MSSX»	Dull to brassy/bronze, fg, wispy irregular bands of massive sulphide in chloritic fine grained basalt breccia.	25		90% pyrite.	Sharp but irregular curved contact.
	45.7-46.3	95% sulphide. Minor calcite stringers.			1-2% chalcopyrite.	
	⎨46.3-46.6⎬	Layering of sulphides with coarse brassy chalcopyrite in variable grain size pyrite bands. Numerous 1mm thick stringers of carbonate.	20		«5+% cp»	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	46.6-47.5	Fg.			Pyrite, 1-2% cp.	Chalco appears to be spatially and genetically related to carbonate veining.
	47.5-48.4	Increased fracturing with pyrite `smeared' or flattened along fracture plane.			Minor coarse cp in carbonate filled fracture.	
	48.4-49.4	49.6 grades into fine grained pyrite, coarser sections.			«1-2% fg sph+gl»	
	50.1-50.2				2% cp, spotty.	
	52.6-53.9 54.3-64.9	Mg, pyrite coarsens downhole. Cp wispy along carbonate stringers at low angle to ca. Cp-rich sections run at low angle to ca.	20		«2-3% cp» «2-10% cp» esp at 56.6m- 10cm almost massive cp.	High grade.
64.90 TO 73.60	«SMSX»	Grey + metallic yellow, fg-mg, mainly pyrite stringers 1-5cm thick; coarse granular texture becoming finer in grey altered host. Basalt is pale to med grey with black chlorite speckles.		Host is probably silicified basalt, very hard. Late qtz vein cuts stockwork.	20-30% pyrite.	
	65.2-65.4 65.8-66.0				Cp in pyrite stwk «5% cp» Gradual decrease in sulphide content to 10%.	
73.60 TO 75.80	«BSLT» PILLOWED 73.6-75.45	Grey, fg, pale weakly porphyritic, possibly infilled vescicles; pale greyish/green round average diameter 1mm.		No carbonate altn.	15% disseminated pyrite. 74.45m- 2-3cm pyrite stringer.	Stringer zone diminishes to almost nothing.
	75.45-75.8	«Qtz vein» with clay and chlorite along partings.		Chlorite + clay.		
75.80 TO 78.40	«FAULT» 75.8-76.0 76.1-76.2 76.2-76.6 76.6-78.4	Fault gouge, chloritic shears. Broken chips. Broken chips. Basalt, fg, massive. Clay and chlorite (talc horizon). Strongly sheared, brecciated.			Trace-1% pyrite.	Minor loss of core recovery.
78.40 TO 89.60	«BSLT»			Carbonate alteration continues weak to mod to EOH (depends on concentration of stringers).		Sharp transition to hard, fresh basalt.
	78.4-79.5	Wisps and stringers of pyrite.			Pyrite stringers to 2%, cubic crystals to 2mm.	
	79.9-80.3	Carbonate veinlets 5-10mm. Pale olive/green. Increasing pillow structure. Good selvage development. Brecciated, cubic pyrite between pillows. Looking "cherty" at bottom, very bleached and silicified.		Weakly silicified, very hard, bleached. Silicification increasing. Variable carbonate.	Cubic pyrite in selvages of carbonate stringers and pillows.	Brittle blocky fractures.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD22326	44.10	45.60	1.50	0.044	0.01	0.02	0.05	2.2	2.77	
BCD22327	45.60	47.10	1.50	4.040	0.04	0.18	0.76	12.0	3.88	
BCD22328	47.10	48.60	1.50	2.370	0.02	0.08	0.64	9.4	4.66	
BCD22329	48.60	50.10	1.50	1.200	0.02	0.12	0.92	10.0	6.49	
BCD22330	50.10	51.60	1.50	0.944	0.01	0.06	0.77	6.3	4.60	
BCD22331	51.60	52.60	1.00	1.020	0.02	0.34	0.64	8.2	4.51	
BCD22332	52.60	53.60	1.00	1.210	0.02	0.07	0.82	8.4	4.31	
BCD22333	53.60	54.80	1.20	1.940	0.02	0.06	1.25	14.5	4.54	
BCD22334	54.80	55.80	1.00	7.650	0.04	0.34	1.50	28.6	4.39	
BCD22335	55.80	56.60	0.80	6.640	0.03	0.12	1.70	27.4	4.23	
BCD22336	56.60	58.10	1.50	3.300	0.02	0.10	0.96	16.3	4.47	
BCD22337	58.10	59.60	1.50	2.040	0.02	0.08	1.02	12.1	4.38	
BCD22338	59.60	61.10	1.50	1.590	0.04	0.28	1.04	10.0	4.59	
BCD22339	61.10	62.60	1.50	1.460	0.03	0.19	1.49	10.4	4.38	
BCD22340	62.60	63.90	1.30	1.850	0.02	0.14	1.48	12.3	4.36	
BCD22341	63.90	64.90	1.00	1.710	0.03	0.11	0.96	8.7	4.19	
BCD22342	64.90	66.40	1.50	0.651	0.01	0.21	0.27	4.2	3.18	
BCD22343	66.40	67.90	1.50	0.452	0.01	0.02	0.21	3.8	3.24	
BCD22344	67.90	69.40	1.50	0.530	0.01	0.01	0.08	2.0	3.15	
BCD22345	69.40	70.90	1.50	0.380	0.01	0.01	0.04	1.5	3.29	
BCD22346	70.90	72.40	1.50	0.010	0.01	0.01	0.02	0.9	2.85	
BCD22347	72.40	73.90	1.50	0.008	0.01	0.01	0.03	1.2	2.75	

HOLE NUMBER: CCF-32

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION:

PLOTTING COORDS GRID: CC
NORTH: 10030.50N
EAST: 9935.60E
ELEV: 1799.30

ALTERNATE COORDS GRID: CC
NORTH: 100+30N
EAST: 99+35E
ELEV: 1799.30

COLLAR DIP: -53° 0' 0"
LENGTH OF THE HOLE: 93.27m
START DEPTH: 0.00m
FINAL DEPTH: 93.27m

COLLAR GRID AZIMUTH: ° ' "

COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: May 27, 1989
DATE COMPLETED: May 28, 1989
DATE LOGGED: May 28, 1989

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

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

CONTRACTOR: Leclerc Drilling Ltd.
CASING: Pulled
CORE STORAGE: Barriere

PURPOSE: Further define main lens footwall zone massive sulphide. Possibly test south lens.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
10.90	-	-53° 0'	ACID	OK		-	-	-	-	-	
60.96	-	-53° 0'	ACID	OK		-	-	-	-	-	
93.27	-	-53° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 10.97	«CASING»					
10.97 TO 24.10	«MSSX»	Dull yellow, f-mg, granular, sugary pyrite-95%, rounded grains of quartz-possibly detrital;dark streaky cast probably indicates higher conc of sphalerite. Black grungy oxide on a few broken surfaces. 14.0- Covellite on fracture surfaces with cp. Cp often assoc with irregular barite stringers. Covellite assoc with barite @17.1-18.1 Very coarse "vuggy" sections in pyrite. 18.1-10-20% covellite + cp. Becoming strongly banded, coarse and massive. 18.6-19.4:pyritic,low cp 19.2-19.7 Very poor recovery,pyritic pebbles 19.7-20.1 Highgrade Cu,irradescent purple blue "peacock ore" ⟊20.12-20.5⟋ sulphide "mud". 20.5-20.8 Very high grade. 20.8- finer pyrite + barite (increase to 20+%) 20.8-23.6 Pyrite+barite,minor cp flecks. ⟊23.6-24.1⟋ Coarse bands of brassy cp.	 45	Minor oxidation 23.3 5mm veinlet of whitish carbonate very reactive to HCl.	«95% py,1-2% sph,1-2% cp» Covellite content increasing (bornite) «Covellite to 20%» «10-15% cp»	Block of basalt at top rotated by drill bit; recovery 60% 10.97-12.8 61% 12.8 -14.02 53% 14.02-15.54 100% 15.54-16.76 100% Core is very heavy soft white mineral ~20% of core - barite. Copper rich section. 18.59-19.2 95% 19.2-20.12 65% Recovered mud in highgrade zone. Sulphide content is gradually decreasing, becoming more baritic. Highgrade.
24.10 TO 25.35	«TALC MAGNETITE»	Black and milky grey,fg,black massive magnetite with pale greenish powdery talc. Talc occurs as thin wispy stringers esp notable on fracture surfaces. contact	 60		*10-20% Pyrite as stringers, disseminations.	Talc-magnetite horizon. Thin massive layer.
25.35 TO 27.15	«MSSX»	Brassy yellow, fg, mainly pyrite with 5% magnetite 2-5% cp, 10+% barite (decreasing). 26.1 White soft barite band or vein, irregular banding. Extremely sharp contact.	 20 45	Carbonate is increasing as stringers and in matrix. 27.0 Carbonate stringer 2-3mm thick	⟊25.55-25.7⟋ 10% cp. 25.7-27.15 tr cp.	Barite seems to form matrix to more granular pyrite.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
27.15 TO 38.15	«BSLT»	Dark green, f-mg, dark greyish green mafic volcanic, mod chloritic, weakly porphyritic (plag) 30.3-30.55 Coarse grained bleb of pyrite, remobilized stringer. Weak tan carbonate stringer stockwork (Fe-carb?)		Dark green to black chlorite along fracture partings.	2-5% pyrite, minor cp along fractures, stringers.	Some shearing noted in chloritic partings. Mod competent.
38.15 TO 63.80	«MSSX»	Dull metallic yellow, mg. 38.15-38.5 Brecciated coarse fragments, up to 2cm, fragment supported; 10-15% barite. 41.15 Notable barite veinlets. 41.25-41.7 Strong barite stockwork, diminishing slightly at 41.7. 44.2-44.55 Magnetite zone, 50%+ pyrite. 44.65-44.8 Black to grey siliceous stringer (with barite?). 44.8-48.15 Barite stringers with cp along selvage 48.15 Pyrite becoming more granular. 48.65 Ore becoming more massive. 50.85 Brecciated 2cm wide carbonate vein recrystallized. 53.6 1cm carbonate veinlet 54.0-63.8 Massive pyrite, spotty cp; carbonate veinlets. Barite absent. 58.25 Qtz stringer 5-8mm thick. 59.8-60.05 Barite 60.6-61.1 Stockwork in black silicified basalt (py + barite.) 61.1-63.8 Barite, massive pyrite, 2-5% cp. 61.6,61.7 Patchy barite. 63.5 Chunk of basalt.	 70 75 20	Weakly calcareous, carbonate along fractures minor components of stringers Significant barite stwk.	80% py, tr cp. 40.5 blotchy cp. 41.15 sharp increase in cp to 2-3%, assoc with barite 2-3% cp. {48.0-49.0} 5% cp. 49.5-49.6 40-50% cp. 50.4 Bluish covellite along fracture. Continuous wispy cp. 51.65-52.0 5% cp. 53.3 1-2cm massive cp. 54.0 1-2cm massive cp with carb. {60.2-60.6} «10-20% cp» 2-5% cp.	 Barite stockwork much weaker
63.80 TO 64.65	«BSLT»	Black, vfg; contact with soft, dark fg basalt; minor talc, carbonate.		Carbonate.	10% sx	

HOLE NUMBER: CCF-31 GEOCHEM. SHEET DATE: 11-December-1989

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD22351	3.00	8.00	5.00	14.34	.049	10.46	10.83	.11	6.04	.19	2.55	.14	47.78	1.66	.08	94.22	2.4	25	10	132	63		56	4			114	
BCD22352	8.00	13.00	5.00	14.76	.076	10.80	10.61	.15	5.95	.18	2.88	.13	48.05	1.70	.06	95.36	2.4	31	5	135	58		53	2			91	
BCD22353	13.00	18.00	5.00	14.53	.107	12.98	10.70	.16	5.94	.19	2.00	.11	47.12	1.68	.06	95.59	2.7	29	5	306	60		53	1			88	
BCD22354	18.00	23.00	5.00	12.62	.238	13.45	9.48	.52	5.20	.17	1.56	.12	43.22	1.44	.19	88.20	3.0	54	5	452	141		61	4			93	
BCD22355	23.00	28.00	5.00	14.65	.526	8.64	11.80	.86	6.64	.19	1.10	.13	43.68	1.71	.34	90.28	3.0	56	10	1368	304		77	4			113	
BCD22356	28.00	33.00	5.00	14.42	1.252	8.98	11.09	.75	6.17	.19	1.36	.14	48.28	1.69	.67	94.99	2.6	47	5	2580	145		57	2			98	
BCD22357	33.00	38.00	5.00	14.47	2.215	9.56	10.85	1.06	6.16	.19	1.64	.10	46.17	1.70	1.61	95.72	2.8	57	10	7347	91		58	3			93	
BCD22358	38.00	42.00	4.00	13.87	4.581	8.59	10.69	1.01	6.14	.18	.82	.11	45.17	1.61	2.68	95.45	3.3	51	5	26516	96		62	7			98	
BCD22359	42.00	45.50	3.50	13.82	6.397	7.22	10.53	.23	6.37	.17	.01	.13	44.75	1.59	3.06	94.29	3.1	39	5	34240	96		75	8			111	
BCD22362	75.00	80.00	5.00	9.41	.716	1.09	10.75	.52	10.94	.15	.01	.08	57.34	.68	2.20	93.88	.6	42	5	1053	43		81	5			260	
BCD22363	80.00	85.00	5.00	13.29	1.898	9.53	9.88	.81	5.77	.21	.84	.13	45.21	1.54	1.06	90.18	1.7	79	5	10594	60		70	4			104	
BCD22364	85.00	89.60	4.60	14.25	.705	9.49	11.27	.40	6.08	.20	2.48	.14	45.62	1.67	.39	92.69	3.4	46	10	3063	65		62	4			102	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
64.65 TO 68.00	«TALC MAGNETITE»	Pale green to black. 64.65-65.3 Broken up core, Talcy partings. 65.3-65.7 Waxy green, massive talc. 65.7-68.0 Strong magnetite ┤66.7-67.6├ Semi-massive py+cp with mag.			«10% cp, 25% py»	Strong copper zone.
68.00 TO 68.80	«MSSX»	Brassy yellow, f-mg. 68.0 Massive pyrite ┤68.2-68.9├ Increasing chalcopyrite, then magnetit			«10-20% cp»	
68.80 TO 72.80	«TALC MAGNETITE»	Black to waxy green. Massive and coarse grained magnetite in talcy matrix. 70.4- 10cm pyrite pod, trace magnetite. 71.4-71.8 Spotted black setion, pale greenish, round phenocrysts. 72.0-72.7 Mushy talcy fault gouge. 72.7-72.8 White qtz vein. Sharp lower contact to siliceous mafics.	45	Carbonate along fractures. Talc, magnetite, carbonate.	5% cp blebs along vein selvages	Little true massive magnetite-lots of talc.
72.80 TO 93.27	«SILIC BSLT»	Pale gray, vfg. 72.8-75.2 Hard, brittle. Black chloritic stockwork (possibly sulphides) 75.2-81.15 Extremely hard, brittle, silicified mafics shot through with black stringer stockwork. Pale grey green, vfg. 81.15-93.27 Hard brittle, silicified pillow basalt. END OF HOLE.		Silicification. Carbonate, qtz along pillow selvages. Chlorite along fractures.	5% Disseminated pyrite. 1% throughout.	84.5-93.27 Decreased fracturing.

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD20651	10.97	12.90	1.93	.990		.02	.57	9.8	4.90	
BCD20652	12.90	14.40	1.50	.705		.01	.64	8.1	5.00	
BCD20653	14.40	15.90	1.50	.437		.02	.44	4.2	5.10	
BCD20654	15.90	17.40	1.50	1.840		.03	.34	5.7	4.86	
BCD20655	17.40	18.60	1.20	10.010		.03	.80	17.8	4.81	
BCD20656	18.60	19.20	0.60	1.290		.05	.59	5.8	4.95	
BCD20657	19.20	20.10	0.90	8.420		.16	.99	16.0	4.67	
BCD20658	20.10	20.60	0.50	1.710		.04	1.61	41.9	4.59	
BCD20659	20.60	21.10	0.50	10.750		.78	.81	18.2	4.59	
BCD20660	21.10	22.60	1.50	.780		.88	.60	5.6	4.86	
BCD20661	22.60	23.60	1.00	.224		2.31	.40	3.2	5.10	
BCD20662	23.60	24.10	0.50	7.400		.53	.60	17.0	4.72	
BCD20663	24.10	25.35	1.25	1.010		.35	.08	3.6	3.68	
BCD20664	25.35	27.15	1.80	1.220		.03	.26	4.8	4.67	
BCD20665	38.15	39.65	1.50	.199		.04	.08	3.7	4.81	
BCD20666	39.65	41.20	1.55	.572		.04	.16	4.3	4.86	
BCD20667	41.20	42.70	1.50	1.410		.18	.21	8.0	4.35	
BCD20668	42.70	44.20	1.50	1.590		.02	.34	11.9	4.76	
BCD20669	44.20	45.70	1.50	3.670		2.59	.39	19.5	4.17	
BCD20670	45.70	47.20	1.50	1.540		.14	.27	10.0	4.81	
BCD20671	47.20	48.70	1.50	3.500		.04	.26	14.2	4.81	
BCD20672	48.70	49.90	1.20	3.820		.12	.21	12.1	4.72	
BCD20673	49.90	51.40	1.50	1.390		.02	.22	7.9	5.00	
BCD20674	51.40	52.60	1.20	1.650		.02	.30	8.3	4.90	
BCD20675	52.60	54.10	1.50	.780		.28	.22	4.2	5.00	
BCD20676	54.10	55.60	1.50	.196		.50	.37	3.6	4.90	
BCD20677	55.60	57.10	1.50	.860		.26	.46	6.2	4.95	
BCD20678	57.10	58.60	1.50	.980		.32	.52	5.4	4.95	
BCD20679	58.60	60.10	1.50	.410		.02	.25	4.2	4.51	
BCD20680	60.10	61.10	1.00	2.190		.05	.20	6.3	4.46	
BCD20681	61.10	62.60	1.50	1.240		.30	.61	6.2	4.72	
BCD20682	62.60	63.80	1.20	3.280		.68	.44	10.0	4.42	
BCD20683	63.80	65.30	1.50	.025		.04	.01	2.1	2.98	
BCD20684	65.30	66.75	1.45	.270		.04	.02	2.0	3.62	
BCD20685	66.75	67.55	0.80	2.210		.17	.24	6.6	4.39	
BCD20686	67.55	68.10	0.55	.095		.01	.02	1.8	3.65	
BCD20687	68.10	68.90	0.80	4.500		1.32	.39	13.8	4.28	
BCD20688	68.90	70.40	1.50	.158		.03	.04	1.7	3.31	

Sample	From (m)	To (m)	Length (m)	Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc
BCD20689	70.40	71.90	1.50	.067		.01	.01	1.9	3.14

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD20701	27.20	32.70	5.50	15.45	6.342	2.23	13.93	.12	10.34	.17	.01	.19	38.57	1.80	1.46	90.60	1.2	44	5	38607	51		80	12			318	
BCD20702	32.70	38.20	5.50	15.67	6.988	1.79	12.66	.11	9.39	.16	.01	.22	41.30	1.75	1.99	92.03	1.0	40	5	41689	49		76	12			196	
BCD20705	72.80	78.00	5.20	8.49	2.720	.01	5.72	.88	3.53	.84	.01	.02	69.91	.43	.77	93.31	.4	26	20	8418	127		60	1			114	
BCD20706	78.00	83.00	5.00	10.49	.834	4.78	8.43	.62	4.05	.40	1.34	.04	61.64	1.00	1.10	94.72	1.0	39	10	1056	282		48	1			87	
BCD20707	83.00	88.00	5.00	13.98	.211	11.67	11.05	.07	6.37	.24	2.90	.14	46.10	1.72	.08	94.53	2.7	44	5	1483	56		46	2			76	
BCD20708	88.00	93.30	5.30	14.79	.236	14.05	10.04	.06	5.43	.19	1.96	.12	46.43	1.53	.01	94.83	2.7	28	10	1641	55		39	1			65	

HOLE NUMBER: CCF-33

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC 1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC
NORTH: 10024.40N
EAST: 9954.40E
ELEV: 1799.40

ALTERNATE COORDS GRID: CC
NORTH: 100+24N
EAST: 99+54E
ELEV: 1799.40

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 53.34m
START DEPTH: 0.00m
FINAL DEPTH: 53.34m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: May 28, 1989
DATE COMPLETED: May 29, 1989
DATE LOGGED: May 29, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: FURTHER DEFINE MAIN LENS FOOTWALL ZONE MASSIVE SULPHIDE.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.05	-	45° 0'	ACID	OK		-	-	-	-	-	
53.34	-	46° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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-	-	-	-	-		-	-	-	-	-	
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-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«CASING»					
3.05 TO 12.10	«BSLT»	-lt grey-green; overall massive appearance -pillow selvages (1-2 per metre)		-lt to mod silicification -black & green chlorite along fractures -rust staining on most broken surfaces	-tr py	-typical lightly altered hangingwall pillow basalts
12.10 TO 13.40	«FAULT»	-lt green basalt breccia frags (2-5+cm) in a coarse (<1-3mm) matrix	40			-basalt blocks rotated by drill -fault angle determined by elongated fault breccia -core recovery approx 35%
13.40 TO 33.50	«MSSX»	-dull yellow to black colour; fine to med grained -granular, sugary texture 13.4-15.0m: predominantly py with up to 10% barite(?) and trace cp 15.0-16.5m: incr. cp in irreg. patches; covellite staining on fracture surfaces 16.5-22.0m: decreased cp/barite/covellite 22.0-26.2m: incr. barite at the expense of py; noticeable sph; granular texture 26.2-30.1m: massive py; no barite or covellite 30.1-31.5 / 31.5-32.2: massive cp with covellite on fracture; cp & py breccia frags (0.2-2.5cm) in blue qtz and sulphide matrix 31.7-32.2m: decr cp 32.2-33.5m: fine grained texture; moderately defined banding	40		-py (85%+) -py (>85%) -cp (up to 5%) -covellite tr. -sph (tr.-15%) -cp (tr.-2%) -py (>95%) «cp 80-90%» «cp 30%» -py (70-90%)	-the cp-rich horizon w/covellite on fractures may be a recognizable (enrichment?) zone within the deposit
33.50 TO 53.30	«BSLT»	-lt to dk grey; massive appearance; v fine grained 33.5-35.9m: sulphide stockworks (py +/- cp) 35.9-36.8m: stockwork texture consists of black, cherty basalt with white, 1-2mm, "snowballs", intruding the lighter coloured, mildly silicified basalt 36.8-37.5m: fairly massive, uniform, moderately silicified basalt; no stockwork alt. 37.5m: 37.9-47.0m: pillow basalt; occasional pillow selvages with qtz. & black chlorite 47.0-53.3m: pillow basalt		- silicification (mod-extensive) - chloritization (usually black) - silicification - black, pyritic, silicified stockwork with 1-2mm "snowballs" of unknown composition - silicification (lt-mod) - intense qtz/carbonate veining + black chloritization - carbonate; both pervasive & in randomly oriented microveins	«stockwork py» - py (up to 5%) in black stockwork	-typical footwall stockwork alteration as seen in other Chu Chua core -the "snowball" and stockwork form recognizable footwall alteration facies

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD20690	11.90	13.40	1.50	.022	.01	.01	3.8	.17	2.78	
BCD20691	13.40	14.90	1.50	3.210	.02	.20	11.9	1.35	4.25	
BCD20692	14.90	16.40	1.50	3.540	.01	.04	10.7	.79	4.44	
BCD20693	16.40	17.90	1.50	3.020	.01	.05	10.9	.64	4.22	
BCD20694	17.90	19.40	1.50	1.170	.02	.03	6.2	.43	3.98	
BCD20695	19.40	20.90	1.50	1.280	.02	.02	7.8	.58	4.26	
BCD20696	20.90	22.40	1.50	1.770	.01	.01	6.3	.39	4.31	
BCD20697	22.40	23.90	1.50	3.250	.01	.02	7.9	.42	4.50	
BCD20698	23.90	25.40	1.50	4.950	.02	.02	10.2	.67	4.39	
BCD20699	25.40	26.90	1.50	2.630	.02	.04	6.4	.44	4.43	
BCD20700	26.90	28.40	1.50	1.210	.02	.01	7.8	.68	4.37	
BCD20726	28.40	30.10	1.70	1.880	.02	.07	9.3	.59	4.52	
BCD20727	30.10	31.10	1.00	12.400	.02	.75	28.1	1.15	4.23	
BCD20728	31.10	32.20	1.10	15.300	.06	1.26	31.9	1.21	4.10	
BCD20729	32.20	33.50	1.30	4.640	.11	2.64	22.3	1.32	4.08	
BCD20730	33.50	35.00	1.50	.240	.01	.11	1.8	.09	2.62	
BCD20731	35.00	36.50	1.50	.042	.01	.04	1.4	.03	3.23	

HOLE NUMBER: CCF-33 GEOCHEM. SHEET DATE: 11-December-1989

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD20709	5.00	10.00	5.00	14.95	1.611	8.79	11.61	1.03	6.04	.18	2.05	.13	47.78	1.73	1.01	96.91	.9	40	20	4594	148		50	1			114	
BCD20711	38.50	43.50	5.00	8.25	4.007	.01	4.82	.57	2.21	.72	.01	.04	73.98	.50	2.84	97.94	.9	37	5	28629	367		82	1			1549	
BCD20712	43.50	48.50	5.00	8.41	.557	2.82	5.30	.98	2.47	.38	.85	.01	72.17	.66	.37	94.97	.6	29	10	1718	93		46	1			107	
BCD20713	48.50	53.30	4.80	14.41	.382	11.52	10.69	.20	5.38	.20	2.47	.14	48.40	1.67	.28	95.73	.8	34	5	1154	53		45	1			79	

HOLE NUMBER: CCF-34

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 9977.80N
EAST: 9930.10E
ELEV: 1791.70

ALTERNATE COORDS GRID:
NORTH: 99+77N
EAST: 99+30E
ELEV: 1791.70

COLLAR DIP: -60° 0' 0"
LENGTH OF THE HOLE: 116.70m
START DEPTH: 0.00m
FINAL DEPTH: 116.70m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: May 29, 1989
DATE COMPLETED: May 30, 1989
DATE LOGGED: May 30, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: Further define main lens footwall zone massive sulphide. Possibly test south lens.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.05	-	-61° 0'	ACID	OK		-	-	-	-	-	
30.50	-	-60° 0'	ACID	OK		-	-	-	-	-	
71.90	-	-61° 0'	ACID	OK		-	-	-	-	-	
111.60	-	-60° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«CASING»					
3.05 TO 14.40	«BSLT»	Lt grey/green, vfg, pillow structures/selvages (1-2 per metre). 2 sets of calcite veins (1-10mm wide)	20	Calcite veins (1-10mm). Black & green chlorite in selvages & fractures. Lt to moderate silicification. Calcite in pillow selvages.		Many calcite veins may be indicative of a carbonate altn facies?
14.40 TO 15.05	«MSSX» {14.4-15.1}	Dull yellow, fg, massive; some qtz stringers. Granular texture.			«Py 90+%»	Last "gasp" of sulphide deposition?
15.05 TO 61.30	«BSLT» 53.5-56.0 59.0-61.2 61.2-61.3	Lt grey/green, vfg, pillow selvages (1-2 per metre). Calcite veins (1-3mm wide). Well brecciated pillow selvages, one with ~5% py. Increased blk chlorite alteration. Core broken up. Highly chloritized and carbonatized basalt.		Calcite veins (1-3mm). Lt to mod silicification. Black & green chlorite + calcite in selvages. Moderate chloritization (black & green) along fractures. Chlorite, calcite.		Check litho results for possible precious metre enrichment in pillow selvages. Marks contact with massive sulphides.
61.30 TO 95.20	«MSSX» 61.45-61.55 61.55-63.0 {63.0-63.6} {65.8-66.8} 66.8-69.5 {69.5-70.7} 70.7-75.2 75.2-76.2 76.2-83.7 {83.7-84.7} 84.7-85.7 85.7-86.7 86.7-93.6 {93.6-94.8}	Dull yellow, fg-vfg, massive, granular texture. Increase cp to ~5% in "blebs". Predominantly py, increased cp as belbs (vfg). High grade; cp + chalcocite, assoc with qtz-carbonate veining. Coarse banding parallel to veining. Predominantly py with fine grn cp. Increased cp as concentrations of fine grains. Py(+ tr cp), barite + qtz-carb veins & weak flooding. Increase cp. Vuggy appearance (calcite probably leached out). Mostly py. Increase cp in blebs & fg disseminations. Mostly py. Increase cp in blebs & fg disseminations. Mostly py. Increase cp in blebs.	20	Rare calcite pods/vescicles. Rare qtz. Qtz-carbonate veining & weak flooding. Rare calcite veinlets. Barite? Barite + qtz-carb. Barite (?) + qtz-carb.	Py 80-100%, cp tr 2%. Cp 1-5%. «cp 5-7%» «cp 10%», chalcocite 1-2%. Py 80-100%. «cp 5-7%», py ~70%. 80% py, tr cp. Py. 85% py, tr-2% cp. «3-5% cp» 85+% cp 3-5% cp. «py 85+%» «cp 2-3%», up to 20% over 0.1m.	 High grade zone with possible supergene type enrichment; possible correlation with "covellite-rich" sections in other holes? Barite facies?? 73.5-76.2: core recovery ~60%.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
95.20 TO 96.80	«BSLT»	Lt grey, vfg, massive.		Mod chlorite (black & green).Light talc		
96.80 TO 102.50	«MSSX»	Dull yellow. 96.8-98.8: high grade cp in irreg blebs. Vfg py. 98.8-102.5: mostly py.			Cp ~15%. Py 90%+.	
102.50 TO 108.40	«MAGNETITE TALC» ┤106.9-108.4├	Black & white, fg, irregular bodies of talc and magnetite. Cp blebs in talc-magnetite.		30% talc, 70% magnetite.	«cp 5%».	Can correlate this alteration facies with other drill sections.
108.40 TO 115.70	«BSLT/SX/STWK»	Black & white, vfg, stockwork; altered black basalt; talc; sulphide stockwork (mostly py). Sulphides decrease to nil nr. bottom of interval.		10-20% talc, 2-3% py (decreasing with depth).		108.4-115.7m probably correlates with "snowball" alteration stockwork in CCF-33.
115.70 TO 116.70	«BSLT»	Med/dark grey, massive. END OF HOLE.		weakly chloritic, black.		Unaltered footwall.

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD20732	14.40	15.10	0.70	.408	.02	.06	3.9	.59	4.03	
BCD20733	61.30	62.80	1.50	1.000	.03	.24	7.8	.54	4.01	
BCD20734	62.80	64.30	1.50	2.760	.04	1.24	14.2	.63	4.44	
BCD20735	64.30	65.80	1.50	1.940	.04	.56	15.9	.42	4.46	
BCD20736	65.80	66.80	1.00	2.710	.04	.66	12.1	.39	4.09	
BCD20737	66.80	68.30	1.50	1.860	.04	.42	14.3	.38	4.45	
BCD20738	68.30	69.50	1.20	1.350	.03	.40	12.4	.39	4.39	
BCD20739	69.50	70.70	1.20	2.900	.04	.66	10.3	.41	4.15	
BCD20740	70.70	72.20	1.50	.568	.04	.52	11.8	.40	4.40	
BCD20741	72.20	73.70	1.50	.727	.02	.34	7.9	.38	4.48	
BCD20742	73.70	75.20	1.50	1.180	.03	.28	9.8	.57	4.38	
BCD20743	75.20	76.20	1.00	2.240	.02	.24	10.4	.46	4.17	
BCD20744	76.20	77.70	1.50	.750	.02	.26	8.3	.58	4.40	
BCD20745	77.70	79.20	1.50	1.800	.02	.17	13.3	.61	4.39	
BCD20746	79.20	80.70	1.50	1.790	.02	.07	12.2	.44	4.40	
BCD20747	80.70	82.20	1.50	3.180	.02	.36	13.8	.58	4.26	
BCD20755	82.20	83.70	1.50	1.470	.03	.38	12.2	.67	4.62	
BCD20748	83.70	84.70	1.00	3.520	.01	.45	14.9	.73	4.60	
BCD20749	84.70	85.70	1.00	1.830	.01	.14	11.0	.72	4.63	
BCD20750	85.70	86.70	1.00	2.560	.02	.16	12.2	.69	4.43	
BCD20751	86.70	88.20	1.50	1.000	.01	.03	10.4	.66	4.42	
BCD20752	88.20	89.20	1.00	.453	.01	.01	8.1	.64	4.59	
BCD20753	89.20	90.70	1.50	1.660	.01	.19	10.6	.61	4.54	
BCD20754	90.70	92.20	1.50	1.310	.03	.54	13.7	.84	4.69	
BCD20756	92.20	93.60	1.40	.529	.02	.44	8.4	.94	4.56	
BCD20757	93.60	94.80	1.20	2.800	.10	1.70	23.7	1.68	4.51	
BCD20758	94.80	95.20	0.40	.860	.14	4.33	19.9	1.96	4.11	
BCD20759	95.20	96.80	1.60	.163	.01	.08	3.7	.14	2.96	
BCD20760	96.80	97.80	1.00	5.110	.06	1.18	27.7	1.59	4.10	
BCD20761	97.80	98.80	1.00	10.650	.04	.60	42.3	2.51	4.31	
BCD20762	98.80	100.30	1.50	1.210	.06	1.14	13.9	1.11	4.47	
BCD20763	100.30	101.80	1.50	1.560	.01	.05	9.7	.66	4.46	
BCD20764	101.80	102.50	0.70	1.370	.01	.04	7.7	.61	4.29	
BCD20765	102.50	104.00	1.50	.192	.01	.01	2.1	.03	3.29	
BCD20766	104.00	105.50	1.50	.064	.01	.01	1.2	.04	2.79	
BCD20767	105.50	106.90	1.40	.083	.01	.01	1.8	.01	2.88	
BCD20768	106.90	108.40	1.50	2.220	.01	.01	6.3	.05	3.60	
BCD20769	108.40	109.90	1.50	.374	.01	.01	2.2	.01	2.60	

Sample	From (m)	To (m)	Length (m)	Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc		

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD20714	3.05	8.50	5.45	14.57	.116	11.21	11.78	.25	6.16	.19	2.20	.11	46.37	1.77	.11	94.86	.9	33	5	224	68		51	2			94	
BCD20715	8.50	14.40	5.90	14.61	.190	10.32	10.77	.26	6.12	.19	2.87	.13	47.23	1.72	.13	94.54	.8	36	5	267	59		44	4			84	
BCD20716	15.10	21.60	6.50	14.55	.598	9.75	10.86	.36	6.33	.19	2.41	.13	48.16	1.70	.40	95.44	.8	60	10	2219	103		50	3			88	
BCD20717	21.60	27.00	5.40	14.02	.381	10.37	10.22	.30	5.78	.19	2.68	.11	48.51	1.60	.25	94.41	.7	45	5	1941	70		53	2			94	
BCD20718	27.00	33.50	6.50	14.24	.295	11.67	10.85	.18	5.98	.19	2.39	.11	47.80	1.63	.22	95.55	.9	35	5	1081	66		45	3			88	
BCD20719	33.50	40.20	6.70	14.59	.337	11.80	11.05	.23	6.12	.19	2.53	.12	47.95	1.69	.26	96.86	.6	27	5	1209	66		49	1			82	
BCD20720	40.20	47.50	7.30	14.50	.439	11.58	10.97	.24	6.14	.20	2.48	.12	47.76	1.69	.29	96.41	.6	32	5	1437	63		41	1			79	
BCD20721	47.50	54.30	6.80	14.48	.579	11.21	11.15	.23	6.08	.19	2.21	.10	47.46	1.69	.45	95.84	.7	26	10	2720	70		43	1			85	
BCD20722	54.30	61.30	7.00	14.52	1.475	10.27	11.44	.44	6.55	.19	1.33	.13	46.72	1.69	1.07	95.83	.8	53	5	7476	60		51	3			85	
BCD20723	109.90	116.70	6.80	6.55	.050	2.13	15.57	.01	18.27	.06	.01	.08	48.14	.51	4.70	96.07	1.2	66	5	255	1420		74	7			159	

HOLE NUMBER: CCF-35

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: Chu Chu Mtn.

PLOTTING COORDS GRID: CC-1
NORTH: 9977.40N
EAST: 9931.60E
ELEV: 1791.70

ALTERNATE COORDS GRID: CC-1
NORTH: 99+77N
EAST: 99+31E
ELEV: 1791.70

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 73.50m
START DEPTH: 0.00m
FINAL DEPTH: 73.50m

COLLAR GRID AZIMUTH: 90° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: May 30, 1989
DATE COMPLETED: May 31, 1989
DATE LOGGED: June 1, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: To test near surface extension of Main Lens foot- wall zone.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.05	-	-45° 0'	ACID	OK	
30.80	-	-46° 0'	ACID	OK	
73.50	-	-45° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«CASING»					
3.05 TO 17.80	«BSLT»	Light grey/green, vfg, massive appearance. Pillows/pillow selvages not readily visible.	20	Carbonate (calcite) veins 1-10mm wide. Black and green chlorite on fracture surfaces.		Core recovery 11.3-12.5m: 50%
	15.2-17.4				Py tr-2%	
	17.4-17.8				Py 7-10% in 1mm cubes & vfg masses	
17.80 TO 22.40	«MSSX»	Dull yellow, fg.			Cp tr-1% as v fine grains; py 85%	
	18.1-18.3			Qtz-carb flooding (carb dissolved, leaving vugs).		
	19.3-19.65			Qtz-carb flooding (carb dissolved, leaving vugs).		
	21.35-21.9				«cp 10%»	
	21.9-22.4				mostly pyrite	
22.40 TO 24.90	«MSBX»	Dull yellow, breccia texture; 0.2-5+cm sulphide breccia frags in a qtz stockwork matrix.				Uppermost part of footwall?
	22.4-24.9				«py 70-90%, cp tr-1%»	
24.90 TO 37.80	«MT-SX-TALC BX»	Black,creamy white. More sulphide (py) than magnetite.				
	24.9-31.7	Stockwork/breccia texture. Talc up to 40%.			«4-5% py, 5-10% mt»	
	31.7-37.8	More magnetite than sulphides (py).			«10-20% mt»	
37.80 TO 65.20	«MT-TALC»	Black & creamy white. Massive magnetite with irregular, stockwork talc.				
	37.8-42.0	Predominantly magnetite.			«Mt 70-90%»	
	42.0-44.9	Less magnetite, more talc (70%).			«Mt 20-30%»	
	44.9-55.5	Mostly massive magnetite; occasional 10-20cm sections of 30-40% talc.			«90% Mt»	Does the large quantity of magnetite indicate proximity to a vent?
	55.5-65.2	55.5-65.2m: Magnetite + talc + sulphides. Fine grained blebs of py.			Py 10%	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
65.20 TO 67.10	«BSLT»	Lt grey/green, vfg, mottled lt green & grey. Non magnetic. Irregular masses of fine to med grained pyrite cubes.			Py 10%	
67.10 TO 67.50	«TALC»	Lt grey/green, massive; broken up.				Sharp contact between massive talc & massive magnetite.
67.50 TO 70.90	«MT» ⟨70.3-70.9⟩	Black, vfg, massive, rare concentrations of fine grained py. 50% talc, 50% magnetite.				
70.90 TO 73.50	«BSLT» ⟨70.9-71.0⟩	Lt grey/green, vfg, basalt/sulphide breccia.		Moderate chloritization (black & green) "Snowball" texture alteration in bslt.	Py.	Correlate the "snowball" alteration with that seen and noted in other holes (CCF 31/33/34)
	⟨71.0-73.5⟩	Massive		Lt pervasive carbonatization + calcite microveins.		
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD20776	16.30	17.80	1.50	.008	.01	.01	.01	1.8	2.90	
BCD20777	17.80	19.30	1.50	1.120	.02	.14	.45	7.9	3.90	
BCD20778	19.30	20.80	1.50	2.860	.01	.06	.43	8.7	4.00	
BCD20779	20.80	22.30	1.50	3.410	.01	.47	.40	12.2	4.00	
BCD20780	22.30	23.80	1.50	1.700	.01	.20	.23	10.4	3.74	
BCD20781	23.80	24.90	1.10	2.920	.01	.30	.21	10.3	3.52	
BCD20782	24.90	26.40	1.50	1.630	.01	.14	.17	7.0	3.47	
BCD20783	26.40	27.90	1.50	.820	.01	.20	.05	4.1	3.10	
BCD20784	27.90	29.40	1.50	1.290	.01	.15	.01	4.3	3.10	
BCD20785	29.40	30.90	1.50	.880	.01	.12	.23	3.8	3.03	
BCD20786	30.90	32.40	1.50	.750	.01	.02	.07	3.0	3.00	
BCD20787	32.40	33.90	1.50	.482	.01	.02	.02	2.2	2.98	
BCD20788	33.90	35.40	1.50	.143	.01	.01	.04	.07	2.82	
BCD20789	35.40	36.90	1.50	.023	.01	.01	.01	.06	2.74	
BCD20790	36.90	37.80	0.90	.032	.02	.01	.02	1.2	2.93	
BCD20791	37.80	39.30	1.50	.006	.01	.01	.03	2.5	3.73	
BCD20792	39.30	40.80	1.50	.103	.01	.02	.02	3.2	3.67	
BCD20793	40.80	42.00	1.20	.040	.01	.01	.02	2.9	3.96	
BCD20794	42.00	43.50	1.50	.001	.01	.02	.02	0.4	2.94	
BCD20795	43.50	44.90	1.40	.001	.02	.01	.01	0.3	3.01	
BCD20796	44.90	46.40	1.50	.003	.01	.01	.01	2.1	3.60	
BCD20797	46.40	47.90	1.50	.015	.01	.03	.02	2.3	3.57	
BCD20798	47.90	49.40	1.50	.008	.01	.06	.03	2.0	3.99	
BCD20799	49.40	50.90	1.50	.018	.01	.02	.02	2.2	3.74	
BCD20800	50.90	52.40	1.50	.252	.01	.04	.03	2.1	3.68	
BCD20801	52.40	53.90	1.50	.002	.01	.01	.02	2.0	3.49	
BCD20802	53.90	55.40	1.50	.001	.01	.02	.01	2.6	4.19	
BCD20803	55.40	56.90	1.50	.307	.01	.03	.03	2.3	3.97	
BCD20804	56.90	58.40	1.50	.008	.01	.01	.04	2.0	3.57	
BCD20805	58.40	59.90	1.50	.267	.01	.01	.03	2.1	3.26	
BCD20806	59.90	61.40	1.50	.132	.01	.01	.01	2.4	3.61	
BCD20807	61.40	62.90	1.50	.007	.01	.01	.04	1.9	3.95	
BCD20808	62.90	64.40	1.50	.028	.01	.01	.02	1.6	3.18	
BCD20809	64.40	65.20	0.80	.006	.01	.02	.01	1.8	3.12	
BCD20810	65.20	66.70	1.50	.173	.01	.03	.37	2.3	3.07	
BCD20811	66.70	68.00	1.30	.815	.01	.01	.31	2.5	3.10	
BCD20812	68.00	69.50	1.50	.022	.01	.01	.02	3.4	4.03	
BCD20813	69.50	70.90	1.40	.012	.01	.01	.03	2.4	3.70	

Sample	From (m)	To (m)	Length (m)	Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc
BCD20814	70.90	72.40	1.50	.006	.01	.01	.02	1.8	2.77

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD20724	3.05	8.10	5.05	13.93	.554	12.23	10.45	.59	5.81	.18	2.04	.10	46.74	1.64	.33	94.60	.8	32	5	1795	133		46	1			81	
BCD20725	8.10	13.10	5.00	13.78	.333	10.74	10.35	.64	5.73	.18	1.97	.12	45.16	1.60	.22	90.83	1.1	48	5	892	73		60	5			106	
BCD20879	13.10	17.80	4.70	14.20	.956	9.24	11.25	.88	6.15	.18	1.54	.13	45.09	1.68	.66	91.96	1.0	45	5	3307	109		61	6			107	
BCD20880	72.40	73.50	1.10	13.51	4.625	8.83	10.06	.71	5.98	.18	.01	.12	44.55	1.59	3.03	93.20	.9	76	5	31097	48		62	7			101	

HOLE NUMBER: CCF-36

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC1
NORTH: 9978.80N
EAST: 9958.50E
ELEV: 1793.10

ALTERNATE COORDS GRID: CC1
NORTH: 99+78N
EAST: 99+58E
ELEV: 1793.10

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 31.40m
START DEPTH: 0.00m
FINAL DEPTH: 31.40m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 1, 1989
DATE COMPLETED: June 1, 1989
DATE LOGGED: June 2, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: To test main lens footwall 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
3.05	-	-45° 0'	ACID	OK		-	-	-	-	-	
31.40	-	-46° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«CASING»					
3.05 TO 11.00	«BSLT» 4.0-9.4	Lt grey, vfg, may be pillow bslt, but too broken up to tell.		Lt Fe-oxidation. Calcite veins (1-3mm wide).		40-50% core recovery.
11.00 TO 12.40	«FAULT»	Chalky white fault gouge (bleached basalt?)		bleached fault gouge.		Does this fault(in/near the creek) offset the sulphide body?
12.40 TO 17.50	«MSSX» 12.4-13.5 13.5-15.8 15.8-17.5	Dull yellow, fg, massive; overall fairly low grade. Massive py, vaguely defined banding? Very broken up; massive py. Massive py.		Rare qtz veining.	Py 95+%, cp tr-2%	Core recovery ~40%. Broken up core;recovery ~70%
17.50 TO 17.60	«BSLT»	Lt grey, vfg, extremely broken up.				Fault bound slice??
17.60 TO 22.90	«MSSX» 17.6-18.6 18.6-22.9	Dull yellow, fg, massive. Fg-vfg. Massive pyrite.		Rare qtz veining.	«1-3% cp,tr cov» «1-5% cp»	Poor core recovery: 60%
22.90 TO 29.30	«SX/BSLT/ STWK» 27.7-28.0	Lt grey + dull yellow, fg-vfg, stockwork texture Possible shear?	25	Sx stockwork altn, weak to moderate silicification of bslt.	Py 20-30%, tr cp.	Later overprinting of light silicification. Banded Sx-bslt: 1-3mm bands, softer, friable.
29.30 TO 31.30	«BSLT»	Lt grey, vfg, massive appearance; pillowed. END OF HOLE.		Light chloritization (black + green). Strong pervasive carbonate altn.		Well broken up.

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD20815	11.00	12.40	1.40	.010	.01	.01	2.2	.19	2.76	
BCD20816	12.40	13.90	1.50	2.230	.02	.16	17.6	1.00	4.51	
BCD20817	13.90	14.40	0.50	1.820	.01	.07	12.8	1.11	4.76	
BCD20818	14.40	15.90	1.50	.995	.02	.04	8.6	.82	4.62	
BCD20819	15.90	17.40	1.50	.720	.01	.04	8.7	1.83	4.68	
BCD20820	17.40	18.90	1.50	1.110	.03	.16	14.1	2.44	4.68	
BCD20821	18.90	20.40	1.50	1.860	.05	.20	18.0	3.11	4.44	
BCD20822	20.40	21.90	1.50	2.190	.16	3.22	25.8	3.01	4.67	
BCD20823	21.90	23.40	1.50	.728	.02	.70	10.2	1.71	4.31	
BCD20824	23.40	24.90	1.50	.201	.01	.04	2.2	.39	3.27	
BCD20825	24.90	26.40	1.50	.490	.03	.09	6.0	.58	3.66	
BCD20826	26.40	27.90	1.50	.370	.01	.14	4.8	.43	3.44	
BCD20827	27.90	29.40	1.50	.442	.02	.16	8.2	.41	3.25	
BCD20828	29.40	30.90	1.50	.039	.01	.01	1.7	.18	2.79	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD20881	4.20	11.00	6.80	14.76	.470	10.29	11.78	.38	6.13	.21	2.42	.12	47.46	1.74	.29	96.04	.8	59	10	1870	63		50	4			109	
BCD20882	11.00	12.40	1.40	9.70	4.328	.03	1.62	1.97	.78	.01	.05	.01	77.45	.25	2.77	98.98	.7	12	5	9854	23		14	1			41	
BCD20883	29.40	31.30	1.90	14.15	.840	8.88	10.84	1.51	6.07	.20	.27	.12	45.90	1.67	.60	91.05	.9	91	5	1327	60		62	6			94	

HOLE NUMBER: CCF-37

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC 1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC 1
NORTH: 9954.00N
EAST: 9956.50E
ELEV: 1790.00

COLLAR GRID AZIMUTH: 90° 0' 0"

ALTERNATE COORDS GRID: CC 1
NORTH: 99+54N
EAST: 99+56E
ELEV: 1790.00

COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 40.50m
START DEPTH: 0.00m
FINAL DEPTH: 40.50m

DATE STARTED: June 1, 1989
DATE COMPLETED: June 2, 1989
DATE LOGGED: June 2, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: To test main lens footwall 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
3.05	-	-47° 0'	ACID	OK		-	-	-	-	-	
29.00	-	-47° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«CASING»					
3.05 TO 11.20	«BSLT»	Lt green/grey, vfg, pillow basalts. Selvages 1-2 per meter.				
	3.05-5.8	Fractured bslt with rust staining on fracture surfaces.		Fe oxidation.		
	5.8-11.2	Pillow bslt.		Pervasive carbonate veining. Light silicification.	Tr py.	Fairly unaltered hangingwall lithology
11.20 TO 21.90	«MSSX»	Dull yellow/black, fg, massive.				
	11.2-11.4	Massive py.		Black chl altn.	Py 80+%	Possibly a bslt/ sulfide transition where the bslt has been chloritized.
	⎨11.4-12.4⎬	High grade zone. Calcite: 10% (altn).		Carbonate altn.	«cp 30%, py 60%»	
	12.4-15.2	Massive Py.		No coarbonate altn.	Py 90+%	
	15.2-16.7	15.2-16.7m: occassional intervals (up to 10cm) of carbonate-sx breccia.		Carbonate veining.	Py 80%, «cp 5%»	
	⎨15.8-16.4⎬					
	36.7-21.9	16.7-21.9m: massive py.		Localized carbonate altn.	Py 95%, tr py.	
21.90 TO 27.70	«SX/BSLT/ STWK»	Lt grey, weak stockwork of py in basalt.		Light to moderate silicification no carbonate.		Transition b/w carb altn to silicification.
27.70 TO 40.50	«BSLT»	Lt grey, vfg.		Moderate-extensive pervasive carbonate altn.		
	27.7-33.4			Light chl along fractures.		
	33.4-34.1	Veins.	45	Extensive carbonate, veining (coarse grained, 5-10cm thick).		
	34.1-40.5			Carbonate altn-extensive pervasive.	Tr py.	Pillowed?
			45	Carbonate veins 0.5-3cm wide at spacing of 5-15cm.		
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD20829	9.70	11.20	1.50	.026	.01	.01	.3	.01	2.66	
BCD20830	11.20	11.40	0.20	.432	.02	.09	9.4	1.20	3.79	
BCD20831	11.40	12.40	1.00	10.040	.05	.61	46.3	3.44	4.14	
BCD20832	12.40	13.90	1.50	1.220	.04	.44	13.8	2.31	4.49	
BCD20833	13.90	15.40	1.50	1.350	.02	.07	14.1	2.25	4.41	
BCD20834	15.40	15.90	0.50	.752	.02	.02	9.4	1.11	4.28	
BCD20835	15.90	16.50	0.60	2.730	.01	.10	14.4	1.02	3.97	
BCD20836	16.50	18.00	1.50	.486	.01	.01	5.2	.20	4.43	
BCD20837	18.00	19.50	1.50	.316	.01	.02	4.0	.18	4.37	
BCD20838	19.50	21.00	1.50	.312	.01	.04	4.0	.07	4.42	
BCD20839	21.00	21.90	0.90	.204	.01	.01	4.7	.22	4.50	
BCD20840	21.90	23.40	1.50	.111	.01	.03	1.0	.01	2.94	
BCD20841	23.40	24.90	1.50	.014	.01	.02	0.8	.04	2.86	
BCD20842	24.90	26.40	1.50	.035	.01	.17	2.5	.30	2.86	
BCD20843	26.40	27.70	1.30	.890	.57	1.79	25.0	.28	2.92	
BCD20844	27.70	29.20	1.50	.006	.01	.02	2.2	.01	2.79	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD20884	3.05	7.10	4.05	14.89	.237	9.12	11.34	.27	6.61	.21	2.93	.14	47.24	1.75	.1294.	84	1.1	48	5	382	60		60	6			108	
BCD20885	7.10	11.20	4.10	13.64	1.685	7.69	7.20	.56	4.05	.14	1.42	.01	57.91	1.07	1.14	96.50	.8	41	10	9373	47		49	1			90	
BCD20886	27.70	32.00	4.30	13.76	.435	8.88	10.87	.23	6.16	.19	2.73	.12	45.89	1.68	.31	91.26	1.0	61	5	1967	52		63	4			99	
BCD20887	32.00	36.00	4.00	12.19	.202	13.01	9.13	1.03	5.20	.18	1.57	.09	44.00	1.48	.15	88.24	1.1	56	5	551	57		59	5			98	
BCD20888	36.00	40.50	4.50	13.76	.298	10.76	10.35.	52	5.83	.18	2.67	.12	46.64	1.64	.22	92.98	.9	45	5	414	58		52	4			87	

HOLE NUMBER: CCF-38

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC 1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC 1
NORTH: 10131.60N
EAST: 9986.20E
ELEV: 1813.90

ALTERNATE COORDS GRID: CC 1
NORTH: 101+31N
EAST: 99+86E
ELEV: 1813.90

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 34.10m
START DEPTH: 0.00m
FINAL DEPTH: 34.10m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 3, 1989
DATE COMPLETED: June 3, 1989
DATE LOGGED: June 4, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: To test south part of North lens.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.05	-	-45° 0'	ACID	OK		-	-	-	-	-	
26.50	-	-45° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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HOLE NUMBER: CCF-38

MINNOVA INC.
DRILL HOLE RECORD

DATE: 11-December-1989

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.10	«CASING»					
3.10 TO 3.60	«OVBN»	Granitic intrusive boulder.				
3.60 TO 11.30	«BSLT»	Lt grey, vfg, well developed pillow selvages (2 per metre); basalt breccia in qtz. Fractures (3-4 per metre)	20	Lt chloritization on fractures. Qtz in pillow selvages. Rust on fracture surfaces.		Relatively unaltered hangingwall pillow basalt.
11.30 TO 14.80	«FAULT»	Fault zone marked by light-med grey muddy fault gouge.			9.0-19.2m: core recovery ~45%.	
14.80 TO 19.20	«BSLT»	White, vfg, massive.		Extensive "bleaching" to white colour.	Tr py (in .5-1mm cubes).	Take lithology sample (14.8-19.2m) to determine alteration chemistry.
19.20 TO 26.20	«MSSX»	Dull yellow/black, fg, massive, with vugs (indicating dissolution of carbonate).		Qtz "wisps" & grains.		
	19.2-20.9 20.9-21.6	Massive, sugary texture py. Increased cp + covellite staining.		Covellite.	«95% py,tr-1% cp» Py 85%,«cp 3-7%,tr cov»	Poor core recovery (~45%).
	21.6-26.2	Massive py.			Py 95%; tr cp.	Carbonate alteration exists throughout the massive sulphides, but has been dissolved out at higher levels, creating the previously noted vuggy texture.
	22.0-34.1			Carbonate altn (pervasive).		
26.20 TO 29.30	«BSLT/SX STWK»	Lt grey, fg-vfg, sulphide stockwork in lt grey basalt.		Lt pervasive carbonate alteration.	Py 15-20%, tr cp.	Correlate with stockwork interval in other sections.
29.30 TO 34.10	«BSLT»	Lt grey, vfg, massive; some brecciated zones with carbonate matrix. END OF HOLE.		Extensive pervasive carbonate alteration + carbonate veins & micro veins.	Py tr-1%.	Extensive carbonate alteration (pervasive) is restricted to the sulphides & the footwall zone; silicification is mostly in hanging wall. Do we recognize this is other holes?

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD20845	19.20	20.70	1.50	2.130	.02	.13	14.2	1.07	4.15	
BCD20846	20.70	22.20	1.50	3.350	.01	.09	12.2	.61	4.42	
BCD20847	22.20	23.70	1.50	.825	.01	.02	8.5	.44	4.38	
BCD20848	23.70	25.20	1.50	1.270	.04	.40	14.1	.58	4.09	
BCD20849	25.20	26.20	1.00	1.480	.01	.10	4.5	.20	3.94	
BCD20850	26.20	27.70	1.50	.042	.01	.01	1.7	.01	2.80	
BCD20876	27.70	29.30	1.60	.149	.01	.01	1.0	.16	3.08	
BCD20877	29.30	30.80	1.50	.005	.01	.01	0.4	.02	2.87	
BCD20878	30.80	31.50	0.70	.001	.01	.01	0.3	.04	2.79	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD20889	3.60	11.30	7.70	14.34	.177	9.42	11.23	.38	5.89	.20	2.97	.10	49.52	1.66	.12	96.02	.6	36	5	362	364		45	2			153	
BCD20891	14.80	19.20	4.40	12.55	1.636	1.94	2.36	1.94	.80	.03	.59	.01	74.87	.29	1.07	98.07	.3	1	5	7982	371		30	1			53	
BCD20892	29.30	34.10	4.80	12.75	.942	6.97	10.52	.63	5.99	.19	1.11	.09	51.69	1.45	.74	93.07	1.4	21	5	1305	489		76	4			535	

HOLE NUMBER: CCF-39

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 10228.00N
EAST: 9930.50E
ELEV: 1817.40

ALTERNATE COORDS GRID: CC-1
NORTH: 102+28N
EAST: 99+30E
ELEV: 1817.40

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 83.20m
START DEPTH: 0.00m
FINAL DEPTH: 83.20m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 3, 1989
DATE COMPLETED: June 4, 1989
DATE LOGGED: June 5, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: To test north extension of main lens and north lens.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.05	-	-45° 0'	ACID	OK		-	-	-	-	-	
30.50	-	-46° 0'	ACID	OK		-	-	-	-	-	
79.60	-	-45° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.10	«CASING»					
3.10 TO 7.00	«BSLT» 6.2-6.4	Lt green, vfg, pillow selvages marked by qtz & chlorite. Green. Qtz-carbonate stockwork stringer system. veins	 15	Chlorite along fractures. Rare calcite veins. Calcite & chlorite.		
7.00 TO 10.40	«BSLT/CHERT BX» 7.6-8.5 8.5-10.4	Basalt breccia in chert matrix/cement.				Use lithogeochemistry to tell if siliceous zones are exhalites or alteration Core recovery approx. 20% Core recovery 80-90%
10.40 TO 20.90	«BSLT BX» 14.6-14.8	Dark grey/black, poorly sorted, angular clasts, supported in cherty matrix.		Qtz stockwork. Later calcite veinlets.	Py (structurally related fine granular clusters).	Phreatic breccia.
20.90 TO 45.80	«SILIC BSLT»	Lt grey, vfg, massive cherty appearance.		Silicification.		Not banded but mottled altered appearance suggests that alteration more than lithology has changed.
	{20.9-21.2}	«SX STWK»			«py. 20%»	
	21.2-23.3	Massive cherty appearance.			Py 10% (weak stockwork).	
	{23.3-23.7}	«SX STWK»			«py 20-25%»	
	23.7-31.4	Cherty.			Py 5-10%; disseminated and in fractures	
	24.75	Vein breccia; cherty frags in carbonate matrix.	20			
	{29.3-29.4}	«FAULT»				
	31.4-32.2	Lt green; chloritic partings, not silicified bslt.		Chlorite.		
	32.2-35.9	Cherty; rare qtz veins.				
	35.9-43.1	Lt green, fg, breccia, cherty bslt fragments in cherty qtz-carb matrix, fragment supported, some leached away.		Weak qtz-carb stringer stockwork with 1-5mm alteration envelopes.		
	43.1-45.8	Lt grey/green, massive, fg, cherty appearance.		Silicification most apparent enveloping stringers.	Tr- 1% py, vfg.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
45.80 TO 58.30	«MAFIC DYKE»	Medium greenish grey, fine to medium grained, equigranular basaltic sill or dyke. Sharp upper-contact, brecciated over 5cm. Fine grained near contact, possible chill effect. Grain size increases gradually.	50	Chloritic along fractures. Intermittant pyrite flooding gives patchy appearance cut by white qtz stringers, 10-20 deg to c.a. Qtz-pyrite flooding forms a "pseudo foliation"	Fg-cg pyrite.	Patchy nature of core, equigranular, variable grain sizes suggest dyke or large basalt flow.
	49.45-50.0	Pale tan-brown.		Pyrite flooding with significant qtz stringer stockwork. Significant qtz flooding of wallrock.	Up to 20% pyrite.	
	50.0-50.2	Qtz vein.				
	50.2-55.9	Coarse grained weakly porphyritic fining down phenocrysts are chlorite.				Different `flows'.
	55.4-55.5	Qtz veining 5cm thick.	45			
	55.9-56.4	«FAULT», white fault gouge, blocky fragments clay & carbonate along fracture.				
	56.4-56.5	Fine grained, relatively unaltered flow or dyke.				
	56.5-56.6	Fault; clay gougy, qtz stringers at lower `contact'.				
	56.6-56.7	Sheared breccia.		Qtz flooded, 5-10% pyrite flooding, weakly chloritic.		
	56.7-56.85	Pale grey cherty `block' very sharp contacts.				
	56.85-57.6	Sheared, mod brecciated weakly-mod porphyritic.	45	Chloritic partings.		
	57.6-57.8	Brownish grey, mottled, f-mg basalt.		Fine grained qtz-pyrite flooding, minor cg recrystallized pyrite along `stringers' of little pyrite flooding.	25-30% py.	
	57.8-58.3	Greenish grey, mottled fragmental flow breccia, white fragments (silicified) in chloritic matrix. Very sharp lower contact.	80	Pyrite and chlorite define shear plane.		Flow bottom.
58.30 TO 75.10	«SILIC BSLT»	Pale grey, massive cherty appearance, very hard, competent.		Silicification.		Polished, unfractured.
	58.3-59.9	Fractured along thin qtz stringers.				Sections of broken core.
	58.8-59.9			Fg, greenish appearance slightly less silicified.		
	59.9-63.5	Streaky, bleached, and mottled appearance. Very sharp contrasts may indicate block or pillow boundaries. At least 2 sets of stringer fractures, approx. orthogonal.		Thin yellowish/tan and white qtz stringers often surrounded by bleached envelope.	Pyrite along stringers and disseminated into wall rock.	Part of silicification process.
	63.5-65.1	Streaky almost banded appearance.		Pale almost waxy green `sericitic' appearance.	Fractures and stringers pyritic often upto 5mm into wall. Pyrite upto 10%.	
	65.1-65.2	White clay along fractures.				
	65.2-70.9	Pale grey, more random stockwork; swirly banded creamy (see diagram).				
	67.7-67.75	Fault, greenish/white gouge.				
	70.9-72.4	Darker greenish/grey patchy pyrite, fg.		Chlorite + pyrite, weak qtz stockwork.	20-30% pyrite some coarser recrystallized cubes.	No carbonate detected.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	72.4-75.1	Gradational decrease in pyrite, lightens to pale cherty greenish/grey.		Weak stringer stwk.	1mm cubes of diss pyrite.	
75.10 TO 75.50	«FAULT»	Fault gouge, breccia.		Weak-mod carbonate.		
75.50 TO 77.50	«SILIC BSLT BX» ǂ75.5-77.5ǂ	Stockwork breccia, much shearing. «Fine pyrite stwk»		Qtz flooding weak chlorite along fractures.	«10-25% py» esp 77.25m.	North lens.
77.50 TO 78.90	«FAULT» 78.5-78.9	Grey, highly fractured, broken up, shears with clay and carbonate. Blocky stockwork breccia. Banding caused by stringer veining.		Qtz-carbonate-clay.	10-20% wispy pyrite esp in pieces in upper fault gouge.	
78.90 TO 83.20	«BSLT»	Pale greenish/grey, pillow basalt, fine grained. END OF HOLE.		Calcite stringers, microveins, chloritic partings. Moderately silicified.	1-2% pyrite locally, esp below fault.	Footwall basalt.

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD11876	19.40	20.90	1.50	.104	.01	.03	.01	2.0	2.98	
BCD11877	20.90	22.40	1.50	.012	.01	.01	.01	1.4	2.91	
BCD11878	22.40	23.70	1.30	.014	.01	.01	.02	1.1	3.03	
BCD11879	23.70	25.20	1.50	.011	.01	.01	.02	.7	2.87	
BCD11880	73.60	75.10	1.50	.006	.01	.02	.01	.6	2.73	
BCD11881	75.10	76.10	1.00	.143	.01	.04	.01	5.8	2.81	
BCD11882	76.10	77.10	1.00	.062	.01	.02	.03	1.7	2.78	
BCD11883	77.10	78.10	1.00	.064	.01	.02	.05	2.1	2.81	
BCD11884	78.10	79.60	1.50	.033	.01	.04	.02	2.0	2.83	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD21876	3.10	7.00	3.90	15.24	.063	10.20	11.24	.10	6.13	.21	2.80	.13	46.74	1.79	.06	94.70	2.5	34	5	340	61		44	1			85	
BCD21877	7.00	10.40	3.40	9.59	.134	6.14	6.10	.39	2.57	.19	1.59	.01	67.89	.87	.03	95.49	.9	30	10	886	58		33	1			60	
BCD21878	10.40	12.90	2.50	13.63	.111	7.20	10.41	.06	5.13	.23	4.00	.18	53.05	1.74	.02	95.76	3.9	38	5	758	73		47	1			89	
BCD21879	12.90	15.40	2.50	11.77	.149	5.46	15.54	.05	7.43	.12	.75	.12	50.05	1.43	.47	93.33	1.3	34	5	832	144		65	7			119	
BCD21880	15.40	17.90	2.50	14.02	.020	2.53	19.23	.01	11.26	.10	.01	.19	43.18	1.87	.02	92.44	1.0	1	5	144	161		97	16			160	
BCD21881	17.90	20.90	3.00	13.96	.011	1.81	18.58	.01	10.72	.10	.01	.22	44.02	1.88	.53	91.84	.9	20	5	39	607		75	11			143	
BCD21882	20.90	23.70	2.80	7.03	.353	.01	13.46	.93	3.31	.03	.01	.01	63.94	.62	9.20	98.90	.2	31	5	79	247		36	1			55	
BCD21883	23.70	27.00	3.30	6.62	.317	.01	4.60	1.04	3.28	.02	.01	.01	80.69	.35	1.05	97.97	.2	26	5	364	99		28	1			30	
BCD21884	27.00	30.00	3.00	6.77	.208	.01	3.30	.67	4.62	.02	.01	.01	81.53	.36	.02	97.49	.3	31	5	255	12		37	1			34	
BCD21885	30.00	33.00	3.00	6.64	.082	.01	4.38	.32	5.56	.03	.01	.01	80.48	.29	.01	97.79	.4	26	5	131	16		44	2			50	
BCD21886	33.00	36.00	3.00	4.41	.035	.20	3.44	.15	3.79	.02	.01	.07	84.98	.21	.01	97.31	.2	33	15	58	18		37	1			38	
BCD21887	36.00	39.20	3.20	4.44	.026	.01	3.63	.09	4.30	.02	.01	.01	84.91	.23	.01	97.65	.5	27	5	42	6		40	1			34	
BCD21888	39.20	42.50	3.30	6.31	.094	.01	4.11	.28	6.05	.04	.01	.01	78.66	.43	.02	95.99	.4	18	10	174	5		45	1			43	
BCD21889	42.50	45.80	3.30	6.08	.187	.66	4.09	.62	4.69	.08	.01	.01	79.70	.49	.03	96.62	.6	34	5	330	5		34	1			36	
BCD21890	45.80	49.00	3.20	13.46	.281	3.73	10.27	.71	9.09	.22	1.26	.15	49.46	1.70	.39	90.71	1.1	24	5	804	225		73	9			107	
BCD21891	49.00	52.00	3.00	15.88	.293	1.40	7.74	.99	15.12	.11	.01	.22	46.62	2.09	.24	90.70	.9	1	5	375	154		96	18			107	
BCD21892	52.00	55.00	3.00	15.28	.218	1.86	12.25	.79	12.50	.15	.20	.18	45.50	2.04	.42	91.38	1.1	5	5	329	157		85	16			140	
BCD21893	55.00	58.30	3.30	14.51	.164	2.29	9.51	.53	14.93	.10	.05	.20	45.94	1.83	.30	90.35	1.2	1	5	762	80		86	17			93	
BCD21894	58.30	61.50	3.20	6.30	.308	.62	3.81	1.49	2.22	.03	.01	.20	81.74	.28	1.10	98.11	1.2	29	5	626	593		33	1			158	
BCD21895	61.50	65.00	3.50	5.30	.267	.01	4.03	1.20	1.75	.03	.01	.01	84.33	.28	1.75	98.94	.3	17	5	426	274		17	1			259	
BCD21896	65.00	68.50	3.50	6.31	.203	.24	2.61	.88	4.96	.05	.01	.01	80.58	.36	.40	96.59	.7	28	5	443	126		43	1			88	
BCD21897	68.50	72.00	3.50	6.52	.203	.57	2.82	.85	5.14	.03	.01	.08	79.54	.26	.56	96.57	.6	32	5	468	48		44	2			68	
BCD21898	72.00	75.10	3.10	4.73	.027	1.11	3.59	.08	5.18	.02	.01	.53	80.84	.24	.47	96.82	.8	34	5	72	52		60	4			76	
BCD21899	75.10	75.60	0.50	6.43	.007	1.00	8.97	.01	6.89	.04	.01	.01	69.34	.25	3.10	96.04	1.4	27	5	19	375		77	6			213	
BCD21900	75.60	77.50	1.90	5.70	.123	.62	9.03	.60	4.25	.03	.01	.01	73.63	.27	3.55	97.81	1.8	51	10	181	563		54	5			181	
BCD21901	77.50	78.90	1.40	9.45	.475	2.67	8.21	1.83	3.35	.16	.01	.01	66.36	.79	1.26	94.57	1.7	44	5	467	475		45	1			367	
BCD21902	78.90	81.90	3.00	14.44	.342	8.76	11.34	1.07	4.91	.19	2.58	.11	46.64	1.68	1.14	93.21	2.1	46	5	521	130		57	5			128	
BCD21903	81.90	83.20	1.30	13.84	.175	6.51	8.42	.17	4.00	.14	4.78	.10	56.81	1.48	.08	96.49	3.4	36	5	389	35		33	1			64	

HOLE NUMBER: CCF-40

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 10181.00N
EAST: 9931.80E
ELEV: 1813.20

ALTERNATE COORDS GRID: CC-1
NORTH: 101+81N
EAST: 99+31E
ELEV: 1813.20

COLLAR DIP: -46° 0' 0"
LENGTH OF THE HOLE: 82.60m
START DEPTH: 0.00m
FINAL DEPTH: 82.60m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 5, 1989
DATE COMPLETED: June 6, 1989
DATE LOGGED: June 7, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: To test northern extension of main lens and down dip extension of north lens.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.10	-	-48° 0'	ACID	OK		-	-	-	-	-	
30.50	-	-47° 0'	ACID	OK		-	-	-	-	-	
64.90	-	-48° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.10	«CASING»					
3.10 TO 27.70	«BSLT»	Medium grey, mainly fine grained, obviously pillowed.		Purplish hue around pillow selvages, green and white outside pillow.	Trace pyrite.	High hangingwall basalt.
	3.1-11.9	Oxidized along fractures generally low angle to c.a. Low to moderate fracture frequency, very hard. Pillow selvages show brecciation-spalled bslt (glass) fragments or shards in carbonate matrix 1-2 pillows/meter.		Chlorite along fractures very calcareous. Numerous white calcite stringers.		
	20.4-21.3	Dark olive green section weakly brecciated.				
	21.0-21.05	Qtz-carb-chl vein 3-4cm thick.	45			
	21.8-24.7	Medium grained section 40% white phenocrysts<1mm diameter.				
	25.0-27.7	Minor brecciation along carbonate veinlets. Fine to medium grained.		Secondary calcite crystals to 2mm with chlorite along fractures.	Trace pyrite.	
27.70 TO 29.40	«MSSX»	Dull yellow. Fine to medium grained massive granular pyrite minor chalcopyrite and covellite. Minor white qtz.		Pitted appearance due to leached carbonate.	80% py, 1-2%cp, 1% cov.	Core recovery ~80%.
	{28.6-29.3}	Bluish, brassy yellow copper mineralization. White barite or Fe carbonate toward end of section		Tarnished blue, purple covellite.	«30% cp, 5-10% cov»	`High grade' Very crumbly, poor recovery near lower contact.
29.40 TO 41.10	«SX STWK BSLT»	Pale to medium grey bleached pyritic footwall well developed pyrite stringer stwk system.		Strong silicification, minor carbonate along later fractures.	«10-15% py, trace cp»	Pyrite content consistent throughout.
	39.5-39.6	Qtz vein with pyritic silic basalt fragments.				
	{39.7-41.1}	Becoming darker as pyrite content increases.			«20% py».	
41.10 TO 42.80	«SILIC BSLT»	Pale grey, very fine grained cherty appearance. Highly fractured.		Silicification.	Trace-1% pyrite mainly along dark hairline stringers or fractures.	More cherty looking than previous unit.
42.80 TO 44.00	«BSLT BX»	Subrounded silic bslt fragments in a spotted chlorite-carbonate matrix. Matrix supported, clasts disappear @ 43.5m. Pyrite is fg in matrix and is most concentrated around clasts.		Strong chlorite and carbonate.	5-10% pyrite in matrix.	Units are more gradational between each other, may signify different alteration regimes.
44.00 TO 46.60	«SILIC BSLT»	Pale grey cherty looking bslt with many pyritic chlorite partings, fractures and stringers. Core is very broken up along fracturing.		Chlorite-pyrite-carbonate along fractures.	5% pyrite along fractures.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
46.60 TO 47.80	«BSLT BX» {46.7-50.0}	Dark green/grey, highly fractured pyritic basalt. Very fine grained, brecciated at upper contact.		Softer, sericific look and feel.	«10-20% py».	Breccia diminishes downhole.
47.80 TO 50.50	«SILIC BSLT»	Pale grey, vfg, highly fractured cherty bslt. Minor breccia texture; cherty fragments.		Silicification. Some sections are very pyritic.	5-10% pyrite.	As above.
50.50 TO 51.60	«BSLT»	Dark green, pyritic, very soft, friable, highly fractured. Shot through with pyrite, medium gr granular disseminations.		Chlorite, clay, carbonate. Carbonate as 1-2mm `clasts'.	5-10% pyrite.	
51.60 TO 61.20	«BSLT» 52.1-55.2 56.9 57.9-61.2 60.9-61.2	Pale greyish/green; fractured, weakly brecciated in places, weak pyrite, carbonate, and chlorite. Well developed banding caused by qtz and chlorite stringers. 1cm sand and clay gouge. Increased stringer stockwork. Very weakly brecciated fractured by stwk system. Increasing pyrite. Offset of more recent qtz veining by even more recent fractures.	0 90	Mod silicified. Mainly qtz, minor chlorite.	Tr-1% pyrite. 10% pyrite.	Sharp change in alteration.
61.20 TO 63.30	«SILIC BSLT»	Pale grey to white, vfg. Moderate pyrite stwk, most fractures and stringers containing sx @ Gradational lower contact.	60		«10% py, tr cp»	
63.30 TO 66.90	«BSLT BX» {63.65-63.7} 64.6-65.5 {65.6-65.8}	Increasing clay and chlorite along fractures developing into a darker grey muddy matrix. «FAULT» sand and clay gouge. Pale grey cherty basalt fragments in very soft matrix. Weak pyrite (tr cp) stockwork system. «4-5cm round mssx clasts».				
66.90 TO 67.50	«FAULT»	Very soft mushy fault gouge with 1cm fragments of silic bslt. Very sharp lower contact.		1cm qtz-carb veinlet at top.		
67.50 TO 81.60	«BSLT» 67.5-81.6 74.5-81.6	Pale grey/green, fine grained, less altered bslt; subtle colour variations. Mottled pale grey and green, fine grained, hard, minor brecciation. Pale waxy green and flesh coloured, hard, locally		Weak-mod silic. Very little chlorite or carbonate.	1-2% pyrite. Pyrite along fractures qtz stringers.	More typical footwall basalt, much more competent although there are many slip planes and zones of fracturing.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		weakly banded. Increasing fracturing.				
81.60 TO 82.60	«FAULT»	Sand and clay gouge. END OF HOLE.			Core tube and bit sanded in.	

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD11885	27.70	28.60	0.90	.839	.02	.06	.80	8.6	4.59	
BCD11886	28.60	29.30	0.70	5.030	.07	1.04	1.27	26.2	4.43	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD21904	3.10	9.10	6.00	14.4	.088	11.70	10.98	.13	6.38	.19	2.82	.12	48.42	1.72	.06	97.01	3.1	42	5	171	63		44	2			80	
BCD21905	9.10	15.10	6.00	14.6	.080	12.51	11.12	.08	6.43	.21	2.78	.14	47.93	1.71	.02	97.60	2.7	42	5	203	62		42	2			81	
BCD21906	15.10	20.40	5.30	14.58	.189	12.51	11.14	.10	6.39	.20	2.22	.12	46.88	1.70	.13	96.16	3.5	37	5	1030	75		45	3			91	
BCD21907	20.40	21.00	0.60	14.86	.277	12.31	9.84	.17	5.29	.17	1.83	.93	44.63	1.71	.04	92.07	2.6	57	5	2176	61		54	4			92	
BCD21908	21.00	24.70	3.70	15.36	.521	10.57	10.59	.23	6.31	.20	1.79	.91	46.92	1.70	.07	95.16	3.0	47	5	3428	61		35	1			85	
BCD21909	24.70	27.70	3.00	15.22	1.096	7.87	12.67	.53	7.73	.21	1.33	.90	45.77	1.83	.79	95.94	3.4	58	5	4886	60		64	4			121	
BCD21910	29.40	35.00	5.60	6.11	.957	.63	11.24	1.56	.58	.02	.06	.35	68.66	.31	8.20	98.67	1.4	31	50	140	795		44	1			736	
BCD21911	35.00	41.10	6.10	6.99	.442	.37	8.21	1.58	1.78	.02	.06	.31	72.78	.48	5.75	98.78	.3	22	5	509	776		23	1			206	
BCD21912	41.10	42.80	1.70	4.26	.009	1.08	2.69	.08	6.12	.03	.02	.36	81.02	.23	.46	96.36	.6	28	10	27	468		45	1			41	
BCD21913	42.80	44.00	1.20	10.19	.011	6.07	5.42	.07	16.97	.22	.01	.88	46.73	.51	.43	87.51	1.5	1	5	89	587		93	15			105	
BCD21914	44.00	46.60	2.60	4.18	.005	.15	3.02	.08	5.66	.01	.01	.32	83.02	.19	.71	97.35	.2	35	5	13	131		43	1			33	
BCD21915	46.60	47.80	1.20	14.34	.005	.15	8.42	.01	16.45	.03	.01	.64	49.28	1.63	1.58	92.56	1.3	1	5	14	1126		101	21			92	
BCD21916	47.80	50.50	2.70	3.76	.005	.33	4.70	.05	5.14	.02	.01	.35	82.09	.22	1.54	98.21	.4	25	5	11	358		38	1			35	
BCD21917	50.50	51.60	1.10	13.79	.008	.89	14.19	.04	15.46	.05	.07	.80	41.56	1.55	4.80	93.21	.8	1	10	40	451		100	16			115	
BCD21918	51.60	56.60	5.00	6.63	.079	.02	5.84	.12	5.31	.03	.02	.32	77.39	.38	.12	96.27	.2	23	5	128	87		44	1			48	
BCD21919	56.60	61.20	4.60	6.89	.094	.83	8.67	.23	4.07	.06	.21	.41	73.80	.42	1.02	96.69	.3	24	5	182	362		42	1			59	
BCD21920	61.20	63.30	2.10	3.34	.208	.38	5.87	.43	2.52	.03	.01	.29	82.87	.18	3.10	99.22	.2	28	5	454	336		28	1			160	
BCD21921	63.30	66.90	3.60	6.21	.156	1.28	5.06	.18	9.14	.06	.01	.50	71.58	.41	1.48	96.06	.8	7	10	757	225		68	5			158	
BCD21922	66.90	67.50	0.60	8.91	.235	2.65	5.27	.06	12.53	.11	.01	.66	60.35	.81	.56	92.13	1.3	1	5	1445	245		83	12			144	
BCD21923	67.50	74.50	7.00	6.27	.974	.25	2.89	.79	3.64	.04	.02	.28	82.37	.31	.63	98.47	.3	23	5	6453	96		36	1			68	
BCD21924	74.50	81.60	7.10	7.42	.479	.08	2.08	1.27	3.80	.02	.03	.24	81.19	.39	.28	97.28	.2	30	5	939	9		29	1			55	
BCD21925	81.60	82.60	1.00	7.54	.102	.07	7.57	.29	8.01	.05	.01	.43	69.34	.42	.08	93.90	.4	16	5	217	16		67	3			870	

HOLE NUMBER: CCF-41

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 10175.00N
EAST: 9918.30E
ELEV: 1808.50

ALTERNATE COORDS GRID: CC-1
NORTH: 101+75N
EAST: 99+18E
ELEV: 1808.50

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 64.60m
START DEPTH: 0.00m
FINAL DEPTH: 64.60m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 6, 1989
DATE COMPLETED: June 7, 1989
DATE LOGGED: June 8, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: *To test northern extension of main lens.*

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.10	-	-44° 0'	ACID	OK		-	-	-	-	-	
30.50	-	-44° 0'	ACID	OK		-	-	-	-	-	
71.00	-	-44° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«CASING»					
3.05 TO 3.20	«OVBN»	Boulder till.				
3.20 TO 46.50	«BSLT»	Fine to medium grained, pale greenish/grey, relatively fresh looking pillow basalt. Moderate fracture density quite brittle but variable. Well developed pillows 1-2 selvages per meter.		Numerous thin calcite (carbonate stringers). Chlorite along numerous fractures.	Trace pyrite.	Fresh hangingwall pillowed basalts.
	5.0-5.1	Carbonate rich interpillow breccia.				
	11.7-11.8	Good selvage, dark at pillow contact, bleached 1cm into pillow.				
	21.2-21.3	Spalling of pillow fragments into interpillow matrix.				
	21.8-23.2	High fracture density.		Black chlorite on fractures.	Pyrite conc along fractures with chlorite.	
	26.9-27.7	High fracture density. Fractures cut across pillow selvages, no preferred direction-stockwork.				
	33.5-39.6	Medium grained feldspar and chloritic mafic minerals.				
	39.6-39.8			Apple green epidote vfg; associated with carbonate stringers. Also, weak pyrite and chl stringers.		
	42.3-46.1	Pervasive apple green tint.				
	46.1-46.5	Fractured, soft, becoming very pyritic at contact.	45		20-40% py.	Very sharp upper contact pyrite extends only 10cm above.
46.50 TO 54.40	«MSSX»	Brown to bright yellow massive to granular and possibly brecciated.		10% carbonate.	70-80% pyrite. 5% cp over interval.	Recovery ~100%.
	46.5-48.3	Rolled block sulphide clasts at uppercontact.			«2-3% cp, fg»	
	47.4-47.5				10% cp.	
	48.3-49.1				«15% cp»	
	49.1-49.3				«50% cp»	
	49.3-49.7	Fine grained.			80% py, 10% cp.	
	49.7-50.1				«30% cp»	
	50.1-51.2				«5% cp»	
	51.2-52.2				«3-4% cp»	
	52.2-53.2				«2-3% cp»	
	53.2 53.6				«1-2% sph, 2-3% cp»	Zinc zone.
	54.2-54.4	Very hard, microcrystalline qtz veining; contact zone.			«4-5% cp»	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
54.40 TO 64.60	«BSLT» 55.6-55.7 55.7-55.9	Very sharp transition to pale grey silicified bslt contains occasional black angular bslt fragments. Qtz vein with minor carbonate and clay. Brownish tint-pyrite flooding? Pale greenish/grey, weakly silicified basalt, occasional probable pillow selvages. Minor qtz-carb stringer stockwork, moderately fractured. END OF HOLE.	50	Silicification.	1-2% pyrite.	Typical footwall basalt very little stringer stockwork development.

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD11887	46.50	47.40	0.90	.915	.02	.06	.43	6.0	4.43	
BCD11888	47.40	48.30	0.90	1.340	.04	.31	.62	12.9	4.47	
BCD11889	48.30	49.30	1.00	10.400	.04	.52	1.01	24.3	4.39	
BCD11890	49.30	50.30	1.00	7.100	.06	.56	1.07	27.8	4.51	
BCD11891	50.30	51.30	1.00	6.550	.02	.31	.75	21.9	4.59	
BCD11892	51.30	52.20	0.90	3.420	.04	.44	.98	16.2	4.59	
BCD11893	52.20	53.20	1.00	2.180	.06	1.01	.95	16.7	4.55	
BCD11894	53.20	54.40	1.20	1.990	.16	2.94	.76	18.1	4.47	
BCD11895	54.40	55.90	1.50	.168	.01	.05	.06	1.9	2.79	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD21926	3.20	8.50	5.30	14.96	.053	10.28	10.72	.17	6.34	.20	2.65	.91	48.76	1.71	.06	96.81	3.3	37	5	160	68		43	1			83	
BCD21927	8.50	14.00	5.50	14.62	.040	11.43	10.43	.11	6.29	.20	2.24	.90	48.34	1.70	.03	96.22	3.6	35	5	116	66		43	1			92	
BCD21928	14.00	19.50	5.50	14.88	.073	10.09	10.76	.18	6.59	.20	3.19	.89	47.98	1.74	.07	96.63	2.8	31	5	109	69		52	1			84	
BCD21929	19.50	25.00	5.50	14.85	.053	10.60	10.63	.15	6.50	.20	3.08	.87	48.13	1.73	.04	96.84	4.1	24	5	91	74		50	1			85	
BCD21930	25.00	31.00	6.00	15.44	.071	10.28	10.89	.04	6.14	.19	2.79	.86	47.55	1.70	.06	96.00	3.7	32	5	190	70		44	1			87	
BCD21931	31.00	36.50	5.50	14.40	.145	11.19	10.34	.21	6.10	.19	2.30	.90	48.36	1.68	.10	95.92	4.1	43	10	654	63		45	2			87	
BCD21932	36.50	41.50	5.00	15.20	.243	9.83	10.77	.17	6.21	.20	2.50	.89	47.81	1.78	.17	95.78	3.8	44	5	1379	67		45	1			86	
BCD21933	41.50	46.50	5.00	15.96	.940	4.78	11.64	.57	5.84	.17	1.62	.68	47.65	1.87	.89	92.41	1.3	41	5	2237	96		61	5			114	
BCD21934	54.40	59.50	5.10	8.23	.615	.50	6.97	.15	6.49	.05	.02	.44	71.19	.59	.56	95.81	.7	28	20	3222	243		63	5			134	
BCD21935	59.50	64.60	5.10	7.03	.290	.48	4.67	.72	3.43	.04	.12	.28	78.76	.41	.28	96.52	.4	26	5	680	62		45	1			55	

HOLE NUMBER: CCF-42

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 10190.00N
EAST: 9899.00E
ELEV: 1809.00

ALTERNATE COORDS GRID: CC-1
NORTH: 101+90N
EAST: 98+99E
ELEV: 1809.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 85.30m
START DEPTH: 0.00m
FINAL DEPTH: 85.30m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 8, 1989
DATE COMPLETED: June 9, 1989
DATE LOGGED: June 10, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: To test northern extension of main lens.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.10	-	-42° 0'	ACID	OK		-	-	-	-	-	
30.50	-	-41° 0'	ACID	OK		-	-	-	-	-	
51.80	-	-42° 0'	ACID	OK		-	-	-	-	-	
85.30	-	-43° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 0.90	«CASING»					
0.90 TO 65.50	«BSLT»	Very fine grained, pale green grey, pillow basalt.		Weakly calcareous, black chlorite along fractures increasing downhole.	Trace pyrite.	Well preserved hanging wall pillow basalt.
	3.0-3.2	Pillow breccia, very hard, white and greenish interpillow matrix with subrounded to angular fragments and shards. Very well developed pillow selvages.				
	5.4-5.7	Pillow fragments and a few angular shards in interpillow matrix.				
		Later calcite stringer 1-2mm thick. 1-2 pillow selvages per meter.	15			
	16.0-16.2	Brecciated selvage with later carbonate (calcite) and qtz flooding pillow interstices. 2-3cm of offset along these fractures.				
	19.2-19.3	Selvage with round clast in shard filled matrix - baby pillow.				
	29.9-32.7	Medium grained with fining to chill margins above and below at pillow selvages.				
	39.0-39.9	Weak chloritic stockwork highly fractured core.				
	41.5-41.9	Chloritic fracture stockwork.				
	46.0-47.4	Patchy pale green alteration. Later white calcite stringers cut chloritic and hairline fractures. Chloritic fractures cut and displace pale green hairline fractures.		Strong carbonate; alteration centred around hairline fractures not associated with black chloritic fractures.	1% pyrite associated with chlorite.	
	48.9-57.6	Fractured, broken up, few competent sections; core is very hard but fails along chloritic fractures. Pillow selvages easily distinguished.				
	57.8-60.7	Medium grained section fining to upper and lower pillow selvages.				
	60.0-65.5	Calcite veinlets 2-10mm thick.				
	64.2-64.5	Fractured, healed calcite veinlets, few mm displacements along fractures.			2-3% pyrite along veinlet selvages.	
	65.4-65.5	Contact zone from green basalt, bleached to apple green to a 1cm thick pillow selvage to pale green finely banded flow texture on top of sulphides.	40			
65.50 TO 69.10	«MSSX»	Fine grained dull to brassy yellow, fine grained and granular to massive.		90% py, 3-5% cp.		
	{65.7-66.0}				«20% cp»	
	66.0-66.5	Carbonate rich section.		~20% carbonate (calcite)		
	{66.5-66.8}	Blotchy cp.			«30% cp»	
	66.8-67.5	Fine grained.			90% py, 1-2% cp.	
	{67.5-69.1}	Cp rich zone.		Much secondary carbonate (calcite).	«10% cp»	Over 1.6m.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	69.0-69.1	Lower sulphide contact. Pyrite clasts 2-10cm surrounded by secondary cp; some recrystallization. Very sharp lower contact	40	Weaker fizz, carbonate + barite or Fe-carb.		
69.10 TO 85.30	«SILIC BSLT»	Pale grey to white bleached very hard, very fine grained.		Silicified, weakly sericitized.	Up to 10% disseminated py, tr-1% cp.	
	┤69.1-69.5├	Sulphide stringer zone fairly coarse pyrite cubes 0.2-0.5mm aligned parallel to contact. Sulphide content decreases rapidly over interval. Sharp lower 'contact' to white bleached bslt.			«20% py, 1% cp»	
	69.5-70.1	White qtz stringer stockwork. 70.8: 1.5cm qtz vein sharply defined.	75		5-10% diss py decreasing downhole.	
	70.7-72.8	Highly fractured, broken up mottled light grey with white hairline stwk.		White clay along fractures.		
	75.9-76.2	Intense quartz stwk, core is rubble.				
	76.2-76.7	Soft green talc and/or chlorite along numerous fractures. Some polished surfaces indicating movement.				
	┤76.7-77.4├	«Talc zone», dark grey matrix with blocks of pale grey cherty bslt.			2% py.	20% talc over interval. Harder sections are probably chloritic.
	┤77.4-77.5├	Qtz vein with minor talc/chlorite fragments terminating in 1-2cm of «FAULT» gouge.				
	77.5-85.3	Pale grey, fractured, chloritic partings, weakly mottled.		Dark grey fractures mainly chlorite.		
		84.0: Dark grey, white phenocrysts (1-2mm) across 1cm true width, very sharp contacts with silic bslt.	30			Resembles pillow selvage possibly highly altered.
	82.0-85.3	Marked decrease in fracture density.				Not typical footwall basalt but is probably silicified version.
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD11896	65.50	66.50	1.00	3.710	.05	.12	.65	15.8	4.27	
BCD11897	66.50	67.50	1.00	2.980	.02	.49	.62	13.9	4.67	
BCD11898	67.50	68.30	0.80	6.700	.02	1.03	.83	22.3	4.55	
BCD11899	68.30	69.10	0.80	7.350	.04	.48	1.00	27.8	4.43	
BCD11900	69.10	69.50	0.40	.284	.01	.03	.02	2.0	2.86	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD21936	0.90	10.00	9.10	14.92	.015	10.11	10.99	.12	6.36	.21	3.17	.86	48.36	1.77	.04	96.92	3.8	33	5	30	70		44	1			83	
BCD21937	10.00	20.00	10.00	14.28	.016	12.80	10.92	.08	5.98	.20	2.61	.09	47.02	1.69	.04	95.72	2.3	16	5	57	59		47	1			81	
BCD21938	20.00	30.00	10.00	14.38	.019	12.33	10.69	.07	6.52	.19	3.19	.12	46.87	1.68	.02	96.09	2.0	20	10	26	59		36	1			77	
BCD21939	30.00	40.00	10.00	14.56	.038	12.42	10.76	.07	5.99	.19	2.85	.10	46.18	1.64	.02	94.83	3.0	14	5	136	57		446	1			84	
BCD21940	40.00	50.00	10.00	14.85	.088	11.54	11.05	.10	6.07	.20	2.67	.13	46.45	1.75	.03	94.93	1.9	8	5	335	53		47	1			83	
BCD21941	50.00	60.00	10.00	14.58	.107	11.54	11.07	.11	6.20	.20	2.83	.12	47.40	1.72	.07	95.95	2.3	15	5	304	58		42	1			83	
BCD21942	64.20	64.40	0.20	12.21	.394	13.89	9.32	.31	5.52	.20	2.04	.11	43.93	1.43	.06	89.41	3.9	27	10	1765	132		57	7			90	
BCD21943	64.40	65.50	1.10	15.46	.516	9.55	11.76	.29	7.61	.21	1.49	.18	44.56	1.83	.14	93.59	3.4	23	5	1645	78		71	9			138	
BCD21944	69.50	76.70	7.20	7.65	.339	.38	3.12	1.12	4.62	.02	.01	.01	78.23	.45	.53	96.46	.2	18	5	418	70		45	2			78	
BCD21945	76.70	85.30	8.60	6.96	.115	.39	3.55	.52	5.20	.03	.51	.01	78.67	.37	.12	96.43	.1	7	5	139	49		44	2			43	

HOLE NUMBER: CCF-43

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 10206.00N
EAST: 9915.30E
ELEV: 1812.90

ALTERNATE COORDS GRID: CC-1
NORTH: 102+ 6N
EAST: 99+15E
ELEV: 1812.90

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 107.30m
START DEPTH: 0.00m
FINAL DEPTH: 107.30m

COLLAR GRID AZIMUTH: 90° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 9, 1989
DATE COMPLETED: June 11, 1989
DATE LOGGED: June 10, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: To test northern extension of main lens and down dip extension of north lens.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.10	-	-48° 0'	ACID		
30.50	-	-44° 0'	ACID	OK	
61.00	-	-45° 0'	ACID	OK	
79.20	-	-45° 0'	ACID	OK	
107.30	-	-45° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 1.50	«CASING»					Overburden, very rocky recovered.
1.50 TO 52.00	«BSLT»	Fine grained, pale green grey, pillowed breccia.		Weakly calcareous. Chloritic along fractures.	Tr-1% py.	Casing cut to between 3 and 4 feet.
	3.05-4.5	Broken core, oxidized orange brown on fracture surfaces.				
	4.9-5.0	Pillow selvage 1-8cm wide with good alteration rim (chilled margins), spalled bslt shards in fg pale grey carbonate matrix. 1-2 pillow selvages per meter. Pillow interiors are noticeably coarser grained.				*Typical "Chu Chua pillows"*
	10.5-10.8	*Several pillows come together, no brecciation;* greenish at pillow selvage, white/grey interstice.				
	32.0-32.2	Chloritic fractures cut pillow selvages.				
	32.5-32.9	Broken up core.				
	40.4-40.8	Broken up core.				
	41.4-42.1	Broken up core.				
	44.2-45.1	Broken up core.				
	45.1-45.2	10cm mssx, remobilized along a pillow selvage or system `last gasp'.		Carbonate.	90% py, 3% cp.	Main lens.
		Sharp contact although pyrite blebs are common in bslt and along calcite veinlets.	30			
		Truncated by a fracture or pillow margin.				
	45.2-45.5	Pale grey silicified bslt.				Footwall altn.?
	45.5-45.6	1-2cm lens of massive pyrite.				
	45.6-50.0	Pyrite as blebs and coarse to fine disseminations. 48.0: pyrite stringers.			5% pyrite.	
	49.9-50.0	Alteration transition with sulphide flooding along stringers.			20% py, 2% cp.	
	50.0-52.0	Pale green/grey, spotted with 10% white feldspar phenocrysts mottled patchy appearance.		Weakly silicified. Weakly sericitized.	Tr-1% pyrite.	Spotted appearance very distinguishing.
	51.5-51.8	Coarse pyrite (1-2mm) disseminated in darker green part. Weakly sheared.			10% pyrite.	
52.00 TO 58.50	«BSLT BX»					
	52.0-52.2	Pale grey silicified, pyrite stockwork breccia.			5-10% pyrite.	Intense fracturing plus recementing.
	52.2-52.3	Calcite veinlet, pyrite stockwork below and along lower vein selvage.	30			
	52.6-53.0	Darker grey, tiny white feldspar phenocrysts. Round blocks 5-10cm, paler grey.		Chloritic along fractures.	< 1% pyrite.	
	53.0-53.2	2cm wide white calcite vein.	30	Bleached greenish carbonate flooded alteration envelope.		
	53.2-53.45	Weak breccia texture.		Polished chlorite shear sufaces on fractures.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	53.45-53.6	Sheared white calcite veinlet, banded crumbly 1-2cm thick.	20			
	53.6-54.7	Pale grey silicified bslt breccia. Pyrite stockwork at top.		Strongly silicified cherty appearance.	1-5% pyrite.	
	54.7-58.5	Weak breccia texture. Crumbly due to numerous shear planes.		Weakly silicified strong chlorite along shear planes.		
		55.5: Begin to see white cherty silic bslt fragments. Chloritic bslt matrix has `flowed' around very hard cherty clasts.				
		55.9: 1cm wide qtz vein no identifiable alteration envelope.	80			
		57.2-57.5: Strong breccia texture, silic bslt fragments in darker matrix - clast supported.				
		57.5-58.5: High fractured mainly cherty bslt clasts. A few sandy shear planes.				
58.50 TO 62.00	«SILIC BSLT»	Pale milky/grey, vfg, mottled, very hard cherty appearance, competent but brittle.		Strongly silicified.		
62.00 TO 70.70	«BSLT»	Medium to pale greenish/grey with pale milky/grey sections.		Weakly to moderately silicified.	1-2% pyrite diss along certain fracture planes.	
	64.2-67.0	More strongly silicified.				
	67.2	Very sharp 2cm wide white qtz vein in medium grained.	60			
	67.8-68.2	Cherty looking pale silic bslt.				
	68.2-69.0	Breccia; highly broken up.				
	69.4-70.7	Silic bslt; blocky possibly brecciated.				
		70.7: Dark cg pyrite marks contact.				
70.70 TO 72.00	«BSLT BX»	Darker greenish/grey, fine to medium grained, contains occasional clasts of pale grey silic bslt. Fractures at bottom contain sand and clay.		Weakly silicified chloritized, minor carbonate along fractures. Patchy qtz flooding at bottom.		
72.00 TO 75.70	«SILIC BSLT»	Very pale milky greenish/grey, very fine grained. Banded as noted previously.				
	72.8-73.0				2% coarse cubic pyrite.	
	75.0-75.4	Weak pyrite stringer zone.			5-10% pyrite.	
75.70 TO 76.80	«BSLT BX»	Sharp contact with medium green/grey breccia with silic bslt and dark green bslt clasts, angular, very poorly sorted. Pyrite stringer zones present pyrite diss throughout matrix.			2-5% pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
76.80 TO 80.20	«SILIC BSLT» 79.1-80.2	As before, highly fractured. Rubble.			<1% pyrite.	
80.20 TO 84.40	«SILIC BSLT BX» 82.1-82.4 82.4-84.4 {84.2-84.4}	Pale grey, brecciated by pyrite stockwork. Coarse blocks of fractured silic bslt. Stringer stockwork. Sulphide content and alteration decreasing. Much shearing and brecciation. Strongly sheared sand and clay gouge «FAULT».		Qtz-calcite flooding; white sand and clay mark zones of intense altn.	10-15% cg pyrite. 1-2% pyrite.	Fault contact.
84.40 TO 96.30	«SILIC BSLT» 89.5-90.5	Fine grained, pale green/grey to pale grey.		Moderately silicified, weakly sericitized? Strongly silicified.	1% finely diss pyrite. 2-3% mg diss pyrite.	Brittle but more competent, very few sheared fracture planes.
96.30 TO 96.90	«BSLT»	Medium greenish/grey, fine to medium grained. Fine grained diss pyrite thoughout, patchy yellow cp. Granular appearance.		Chloritic.	«20% py, 1% cp»	
96.90 TO 98.10	«FAULT» 97.8-98.1	10cm recovered grey clay, mainly rubble, possibly fault breccia. Silic bslt bx probably fault related, clay filled fracture matrix. 98.1: qtz veinlet.	60			50% core recovery.
98.10 TO 99.10	«SX ZONE» 98.1-98.4 {98.4-99.1} 98.8-99.1	Brown, highly broken up semi-massive to massive pyrite in bslt. Wispy bands of pyrite in pale banded silic bslt. «20-50% fg py». Rubbly sulphide mud. Pyritic sand and clay along contact surface.	60		5-10% pyrite bands and disseminations. 20-50% pyrite.	North lens - 80% core recovery. Difficult to estimate pyrite content.
99.10 TO 102.60	«SILIC BSLT» 100.8-101.0 {102.5 - 102.7}	Pale grey mottled, brecciated stringer stockwork. Breccia texture ends, weak pyrite stringer zone. Contact zone.	50	Orange and red stain, extremely calcareous.	«5-10%py, 3% cp».	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
102.60 TO 107.30	«BSLT»	Pale greenish grey, massive weakly fractured, fine grained. END OF HOLE.		Occasional hairline calcite stringers. Weakly silicified.	< 1% pyrite.	Footwall basalt.

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD21960	45.10	45.70	0.60	.392	.01	.13	.34	3.9	2.76	
BCD21961	49.20	50.00	0.80	.228	.01	.02	.02	1.7	2.84	
BCD21962	98.10	99.10	1.00	.269	.01	.06	.04	7.6	3.14	
BCD21963	102.10	102.80	0.70	.072	.02	.31	.21	2.1	2.86	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD21964	1.50	10.00	8.50	14.73	.033	13.17	10.50	.15	6.60	.20	2.37	.09	47.00	1.59	.09	96.53	2.6	3	5	102	76		33	1			78	
BCD21965	10.00	20.00	10.00	14.44	.027	12.17	11.20	.06	6.34	.19	2.61	.13	46.73	1.69	.13	95.73	2.7	9	5	51	81		42	1			84	
BCD21966	20.00	30.00	10.00	14.82	.048	12.46	11.36	.07	6.00	.19	2.10	.14	45.40	1.72	.17	94.48	3.2	3	5	149	72		45	1			88	
BCD21967	30.00	40.00	10.00	14.31	.042	12.68	10.87	.05	6.28	.19	2.23	.14	46.18	1.68	.06	94.71	3.0	13	5	81	67		36	1			84	
BCD21968	40.00	45.10	5.10	12.61	.127	8.67	11.53	.18	5.52	.17	1.74	.09	52.10	1.35	1.49	95.58	2.7	18	70	440	926		52	1			1483	
BCD21969	45.10	52.00	6.90	6.63	.039	.51	10.14	.12	5.82	.03	.01	.01	71.36	.45	1.17	96.28	.8	3	5	63	533		47	1			83	
BCD21970	52.00	58.50	6.50	12.04	.026	.31	8.95	.15	12.51	.05	.01	.12	57.32	1.30	.01	92.77	.9	3	5	49	72		73	7			101	
BCD21971	58.50	62.00	3.50	7.36	.314	.06	3.02	1.04	3.70	.02	.01	.01	80.74	.38	.02	96.67	.4	9	5	393	40		27	1			31	
BCD21972	62.00	70.70	8.70	7.23	.018	.26	7.59	.06	6.43	.05	.01	.01	73.34	.47	.24	95.69	.6	3	5	38	179		51	1			75	
BCD21973	70.70	72.00	1.30	11.08	.143	1.13	10.64	.56	9.04	.12	.01	.05	58.64	1.24	.40	93.04	.9	3	5	199	30		62	1			106	
BCD21974	72.00	75.70	3.70	7.74	.316	1.63	6.15	1.22	4.38	.14	.01	.04	73.02	.58	.75	95.95	.7	3	5	445	126		38	1			91	
BCD21975	75.70	76.80	1.10	11.82	.176	.72	12.22	.68	9.84	.13	.01	.16	55.01	1.38	2.86	94.99	1.0	3	20	237	989		77	7			124	
BCD21976	76.80	80.20	3.40	8.26	.331	.51	4.10	1.47	5.51	.05	.01	.01	73.95	.45	1.35	95.96	.7	3	5	462	15		61	1			102	
BCD21977	80.20	84.40	4.20	7.83	.041	3.18	6.41	.13	10.86	.12	.01	.01	63.26	.64	1.74	94.22	1.0	3	5	155	42		78	4			188	
BCD21978	84.40	96.30	11.90	5.94	.246	.16	4.26	1.17	2.37	.08	.01	.01	81.64	.34	1.12	97.32	.5	14	10	385	88		27	1			132	
BCD21979	96.30	98.10	1.80	8.61	.031	.81	13.23	.26	9.95	.10	.01	.06	55.76	.93	1.24	90.98	1.0	3	5	72	194		70	4			210	
BCD21980	98.10	107.30	9.20	10.00	.211	5.39	7.98	.72	4.07	.14	1.70	.04	64.14	.90	.60	95.89	1.6	19	5	609	123		48	1			133	

HOLE NUMBER: CCF-44

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC 1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC 1
NORTH: 10031.10N
EAST: 9916.00E
ELEV: 1797.90

ALTERNATE COORDS GRID: CC 1
NORTH: 100+31N
EAST: 99+16E
ELEV: 1797.90

COLLAR DIP: -53° 0' 0"
LENGTH OF THE HOLE: 111.60m
START DEPTH: 0.00m
FINAL DEPTH: 111.60m

COLLAR GRID AZIMUTH: 90° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 11, 1989
DATE COMPLETED: June 13, 1989
DATE LOGGED: June 14, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: TO TEST MAIN LENS AT 1730m ELEVATION.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.10	-	-51° 0'	ACID	OK	
30.50	-	-50° 0'	ACID	OK	
71.00	-	-50° 0'	ACID	OK	
94.80	-	-51° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.10	«CASING»					
3.10 TO 81.20	«BSLT»	Fine grained, medium greenish/grey pillowed basalt Very distinguishable pillow selvages with distinct hyaloclastic interpillow breccias; 2 per meter.		Weakly-mod calcareous. Some crosscutting white calcite stringers. Chlorite along fractures.	Trace vfg pyrite.	Typical hangingwall pillow basalts.
	3.1-5.6	Bright orange oxidation along fractures.				
	11.0-11.1	Typically well developed interpillow breccia with shards of bslt in a creamy mainly carbonate matrix				
	20.8-21.6	Pillow breccia; mottled green bslt blocks and fragments in bslt and carbonate matrix.				
	⎨23.2-26.5⎬	Medium grained, equigranular green and white spotted appearance, fining to vfg chill margins; probably a flow.				«mg flow/dyke»
	34.5-38.5	Moderate fracture density.		Green fractures, weakly chloritic.		Pillowed; 1-2 per meter.
	42.5-43.0	Moderate fracturing.		Black chlorite along fractures.		
	43.2-44.1	Dark stringer stockwork, minor brecciation between stringers. Cuts pillow selvage and altn envelope		Black chlorite.		
	53.9-54.6	Highly fractured, due to weak chloritic stringer stwk.		Black chlorite.		
	55.1-55.6	Moderately fractured, weak chloritic fracture network.				
	55.6-80.8	Moderately hard, very competent pillow basalt. Little fracturing.		Very weakly altered minor chlorite, carbonate.	1% pyrite, coarse grained.	
	80.8-81.2	Broken up, calcite veinlets and stringers increasing to lower contact.		Calcite along fractures, moderately calcareous, weak chlorite.	2% pyrite.	
81.20 TO 89.90	«MSSX»	Generally fine grained, dull to brassy yellow; up to 25% pale white carbonate. Blotch cp.				
	81.2-81.3	25-30% white calcite.		Extremely calcareous.		
	81.3-82.3	20% calcite.		Strongly calcareous.		
	⎨81.2-82.5⎬				«70% py, 1% cp»	Cp is fg in thin wispy bands, may be underestimated.
	⎨82.5-83.5⎬	Blotchy cp. 82.6-83.1: 20% cp associated with calcite.			«70% py, 10% cp»	
	⎨83.5-84.5⎬	Weak cp mineralization. 84.1-84.2: 10% cp.			«1-3% cp»	
	⎨84.5-85.5⎬	Increasing cp content. Increasing magnetite.			«10-15% cp, 20% mt»	Appears to be higher cp with the introduction of talc-magnetite.
	84.9-85.5	25% hard compact fg mt with wispy bands of talc.				
	⎨85.5-86.1⎬	Medium grained granular texture, fining down.			«5-10% cp»	
	86.1-86.5				1-2% cp.	
	⎨86.5-87.5⎬	Blotchy cp.			«5% cp»	
	87.5-88.3				1-3% cp.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	87.9-88.3	Fractured.				
	88.3-89.0	Bright brassy yellow massive cp.			«50% cp»	High grade, footwall zone.
	89.0-89.9	Increasing silica.			«5% cp»	
	89.6-89.9	Broken up.				
89.90 TO 97.80	«TALC»	Medium brownish/grey mottled, with a white talcy stockwork.		Stwk appearance indicates alteration to talc from bslt.		No magnetite detected. Dumping of Ca & Mg into system.
	89.9-90.0	Grey clay gouge, up to 5mm thick in fracture planes at contact.	60			
	93.7	Clay parting.				
	93.8	Clay gouge.				
	94.0	Clay parting.				
	94.3-94.4	2cm of clay gouge.	35			
	94.4-94.5	Qtz veinlets, 4cm zone.	35			
	94.8	5cm of clay and talc.	35			
	96.0-96.1	Qtz veinlets.	35			
	97.4-97.8	Lower contact zone 3cm (true) of clay, series 1cm qtz veinlets.	35			
		Very sharp unsheared lower contact.	40			Probably very limited shearing along talc horizon.
97.80 TO 111.60	BSLT»	Stringer stockwork.				Vfg sx in vfg qtz.
	97.8-100.6	Pale grey, few stringers.			5% fg diss py.	
	100.6-109.5	Strong black stringer stwk; hard, brittle polished surface.			2% fg sx.	
		102.5-103.3: Dense stwk; brecciation along tan silica veinlet cuts stwk.			5% py.	
		104.7-105.0: Dense stwk. Core is much darker due to density of stringers.				
	109.5-111.6	Decreasing intensity of stwk.				
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD21951	81.20	82.50	1.30	1.205	.02	.48	.82	8.3	4.41	
BCD21952	82.50	83.50	1.00	3.710	.03	1.11	.84	16.2	3.99	
BCD21953	83.50	84.50	1.00	1.140	.02	.67	.69	10.0	4.20	
BCD21954	84.50	85.50	1.00	4.890	.02	.69	.60	20.4	3.94	
BCD21955	85.50	86.50	1.00	2.980	.03	.41	.42	17.7	4.42	
BCD21956	86.50	87.50	1.00	2.470	.02	.40	1.13	19.0	4.12	
BCD21957	87.50	88.30	0.80	1.690	.05	.37	1.81	23.9	4.07	
BCD21958	88.30	89.00	0.70	12.250	.11	.43	3.95	76.2	3.75	
BCD21959	89.00	89.60	0.60	3.580	.10	1.02	2.01	35.8	4.00	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD21981	3.10	10.00	6.90	14.37	.052	12.01	11.36	.18	5.88	.20	2.44	.14	46.57	1.74	.04	94.98	3.3	3	5	68	59		34	1			86	
BCD21982	10.00	20.00	10.00	14.61	.053	11.69	11.52	.14	6.22	.20	2.81	.12	47.25	1.76	.05	96.43	3.4	11	5	65	66		42	1			82	
BCD21983	20.00	30.00	10.00	14.38	.080	12.31	10.88	.17	6.30	.19	2.57	.11	47.31	1.71	.03	96.05	3.4	3	5	92	68		37	1			85	
BCD21984	30.00	40.00	10.00	14.41	.105	12.23	11.09	.16	6.41	.20	2.55	.13	46.74	1.71	.07	95.80	3.2	3	5	209	68		44	1			85	
BCD21985	40.00	50.00	10.00	14.50	.133	12.26	11.08	.15	6.32	.20	2.32	.16	46.85	1.73	.05	95.76	3.4	8	5	399	61		42	1			80	
BCD21986	50.00	60.00	10.00	14.49	.178	11.86	10.85	.17	6.44	.19	2.56	.14	47.33	1.71	.04	95.95	3.2	3	5	535	61		42	1			82	
BCD21987	60.00	70.00	10.00	14.50	.367	11.85	11.20	.31	6.31	.20	2.38	.10	46.71	1.71	.08	95.73	3.4	6	15	1192	67		39	1			85	
BCD21988	70.00	76.00	6.00	14.46	.392	11.46	10.87	.26	6.23	.19	2.32	.12	47.09	1.69	.06	95.15	3.4	25	5	1466	64		41	1			85	
BCD21989	76.00	81.20	5.20	14.15	.779	11.01	12.25	.40	6.38	.19	1.70	.10	47.63	1.59	.39	96.58	3.0	25	5	2827	124		44	1			85	
BCD21990	89.90	94.00	4.10	13.38	.020	2.83	5.25	.01	21.18	.08	.01	.12	42.72	1.63	.52	87.73	1.7	3	30	97	1143		100	14			439	
BCD21991	94.00	97.80	3.80	14.98	.026	1.61	6.11	.04	23.15	.13	.01	.14	36.73	1.99	.02	84.93	1.2	3	5	47	9		89	13			91	
BCD21992	97.80	105.00	7.20	6.52	1.150	.84	3.70	1.10	2.94	.30	.03	.01	78.88	.37	.69	96.53	.6	28	5	1642	136		38	1			94	
BCD21993	105.00	111.60	6.60	6.04	.475	.76	2.82	1.24	1.55	.19	.18	.01	83.24	.30	.64	97.44	.4	17	5	710	27		24	1			107	

HOLE NUMBER: CCF-45

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 9999.40N
EAST: 9922.80E
ELEV: 1794.80

ALTERNATE COORDS GRID: CC-1
NORTH: 99+99N
EAST: 99+22E
ELEV: 1794.80

COLLAR DIP: -58° 0' 0"
LENGTH OF THE HOLE: 119.20m
START DEPTH: 0.00m
FINAL DEPTH: 119.20m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 13, 1989
DATE COMPLETED: June 14, 1989
DATE LOGGED: June 15, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: TO TEST MAIN LENS AROUND 1720m ELEVATION.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.10	-	-58° 0'	ACID	OK		-	-	-	-	-	
30.50	-	-58° 0'	ACID	OK		-	-	-	-	-	
61.00	-	-58° 0'	ACID	OK		-	-	-	-	-	
91.40	-	-56° 0'	ACID	OK		-	-	-	-	-	
119.20	-	-55° 0'	ACID	OK		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.10	«CASING»					
3.10 TO 82.30	«BSLT»	Fine grained, medium greenish grey pillowed bslt. Easily distinguished pillow selvages with distinct hyaloclastic interpillow breccias; average 1-2 per meter.		Weakly-mod calcareous. Some cross-cutting white calcite stringers. Chlorite along fractures.	Trace vfg pyrite.	Typical hangingwall pillow basalts.
	3.1-5.5	Bright orange oxidation along fracture surfaces.				
	6.4-8.2	«PILLOW BRECCIA» Pale green matrix with greenish/ grey pillow clasts, rounded, clast supported. Weak chlorite + pyrite stwk. in parts of matrix.		Pale alteration rims around pillow fragments same as pillow selvages.		Spilitization.
	10.2-14.1	«PILLOW BRECCIA» Calcite veinlets crosscut these early depositional structures.				As above.
	33.5-34.4	Broken core, brittle fracture.				
	46.0-46.6	Black, chlorite hairline fracture stwk.				
	59.3-66.8	Moderate degree of fracturing(approx. 10-12/meter)				
	63.5-64.9	Medium grained bslt flow.				
	73.5-76.2	Medium grained bslt flow.				
	81.7-82.3	Brecciated flow bottom.				
	82.1-82.3	Massive sulphide clasts in dark grey/green bslt. Mixing of upper bslt and lower mssx.			30% pyrite.	
82.30 TO 100.50	«MSSX»	Generally, dull pyritic, brownish/yellow, fine grained, very massive pyrite with blotchy chalco-pyrite concentrated in hangingwall and footwall zones.		Many carbonate stringers, matrix is white and soft, has to be persuaded to fizz.	80% py, 1-3% cp.	
	82.3-83.8	Cp as thin wisps and blotches associated with white carbonate.			«2-3% cp»	Hangingwall zone.
	82.5-82.7				20% cp.	
	83.8-85.3	Cp is very fine grained; may be underestimated.			1-2% cp.	
	85.3-86.8	Definite breccia texture in ore, blocky pyrite, interstial cp. 85.7-85.8 5cm of chalky massive talc.			1-3% cp.	
	86.8-88.3	Wispy cp along carbonate stringers, fine grained.			«3-4% cp»	
	88.7-88.9	Very fg.			«5-7% cp»	
	88.9-97.8	Mainly massive pyrite.			«0-2% cp»	
	97.8-99.0	Very fg.			«1-3% cp»	
	99.0-99.9	Blotchy cp, massive blobs.			«5-7% cp»	
	99.9-100.5	Finer cp.			«3% cp»	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
100.50 TO 118.10	«SX STWK BSLT»	Variable pyrite stwk in slightly bleached pale to medium grey bslt.		Moderately calcareous minor clay alteration.	Up to 25% py, 1% cp.	Good sulphide feeder stockwork.
	⎨100.5-102.8⎬	Moderately silicified with 5-10% coarse diss py.				«SILIC BSLT»
	102.8-102.9	Sheared, broken contact zone.	50			
	102.9-109.0	Strong pyrite stwk.			10-15% py.	
		103.0-103.2: Cp along stringer veinlet.			5% cp.	
	⎨103.7-103.8⎬	«FAULT» clay gouge.				
	103.8-105.2	Highly fractured.			1% py.	
	⎨105.2-105.3⎬	«FAULT» clay gouge.			10% py.	
	105.3-109.0	Well developed pyrite stwk.			10% py.	
	109.0-109.7	Quartz veining, chloritic shears.			10% py.	
	109.7-111.9	Mottled coarse grained porphyry, much shearing, qtz veining, minor pyrite stwk.		Clay along shears.	2% py.	
	111.9-118.1	Pyrite stwk in bleached bslt, well developed feeder zone.		Weak to mod silicification.	10% py.	
	113.0-113.1	Qtz vein-clay shear.				
	113.1-118.1	Very hard, competent.				
118.10 TO 119.20		Pale greenish/grey pillow bslt; very competent.		Moderately calcareous.	Trace py.	
		118.7: Well preserved pillow selvage.				
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD22501	82.30	83.80	1.50	2.250	.02	.18	.42	7.9	4.04	
BCD22502	83.80	85.30	1.50	1.390	.01	.13	.56	6.8	4.36	
BCD22503	85.30	86.80	1.50	1.520	.01	.48	.50	7.5	4.12	
BCD22504	86.80	88.30	1.50	1.500	.01	.31	.38	6.4	4.25	
BCD22505	88.30	89.80	1.50	1.690	.02	.27	.43	8.7	4.46	
BCD22506	89.80	91.30	1.50	1.120	.01	.42	.42	9.2	4.63	
BCD22507	91.30	92.80	1.50	1.530	.01	.11	.53	9.8	4.55	
BCD22508	92.80	94.30	1.50	.810	.01	.19	.25	5.3	4.71	
BCD22509	94.30	95.80	1.50	.895	.01	.21	.39	6.8	4.76	
BCD22510	95.80	97.30	1.50	1.020	.01	.09	.42	8.2	4.57	
BCD22511	97.30	98.80	1.50	1.2	.02	.40	.62	9.7	4.63	
BCD22512	98.80	99.90	1.10	2.62	.12	1.83	1.37	31	4.47	
BCD22513	99.90	100.50	0.60	1.08	.11	2.06	1.68	23.8	4.26	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD22514	12.30	22.30	10.00	14.58	.050	10.71	11.61	.18	6.27	.19	2.67	.24	47.32	1.74	.12	95.67	3.2	1	5	92	133		40	1			84	
BCD22515	52.30	62.30	10.00	14.39	.215	10.51	11.59	.23	6.41	.20	2.37	.26	46.63	1.70	.16	94.66	2.9	1	5	513	96		46	1			85	
BCD22516	62.30	72.30	10.00	14.57	.275	10.8	11.59	.18	6.48	.20	2.34	.24	47.32	1.73	.23	95.96	3.1	4	5	1093	76		38	1			81	
BCD22517	72.30	82.30	10.00	14.27	.815	9.37	12.02	.43	6.34	.19	1.83	.22	46.78	1.68	.69	94.64	3.2	27	5	3599	90		48	1			100	
BCD22518	100.50	102.80	2.30	4.79	3.18	.01	9.54	.50	.41	.01	.08	.10	72.39	.24	7.50	98.73	.7	16	70	638	524		40	1			1282	
BCD22519	102.80	109.70	6.90	3.93	.33	.01	10.27	.10	4.26	.01	.01	.10	72.01	.19	7.25	98.45	.4	15	20	350	633		47	1			3804	
BCD22520	109.70	111.90	2.20	7.49	.01	2.33	8.36	.01	12.81	.10	.01	.12	56.58	.36	1.49	89.66	1.1	1	5	115	108		93	5			140	
BCD22521	111.90	118.10	6.20	6.90	.48	.64	11.95	1.02	3.83	.12	.02	.40	65.35	.43	7.60	98.73	.6	28	80	333	137		67	1			203	
BCD22522	118.10	119.20	1.10	13.51	.765	7.26	11.35	1.57	6.85	.33	.17	.23	44.90	1.66	.51	89.10	1.0	21	10	1824	57		65	1			101	

HOLE NUMBER: CCF-46 — MINNOVA INC. DRILL HOLE RECORD — IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 9964.90N
EAST: 9917.20E
ELEV: 1789.30

ALTERNATE COORDS GRID: CC-1
NORTH: 99+64N
EAST: 99+17E
ELEV: 1789.30

COLLAR DIP: -55° 0' 0"
LENGTH OF THE HOLE: 39.90m
START DEPTH: 0.00m
FINAL DEPTH: 39.90m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 14, 1989
DATE COMPLETED: June 15, 1989
DATE LOGGED: June 18, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: TO TEST FOR PRESENCE OF SOUTH LENS.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.10	-	-55° 0'	ACID	OK		-	-	-	-	-	
30.50	-	-53° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«CASING»					
3.05 TO 22.00	«BSLT»	Pale green/grey, generally very fine grained pillowed basalt. Well developed pillow selvages with hyaloclastic interpillow breccia. Pillow varies from pale green to a 1cm darker border to pale green and white between pillows.		Strong calcite and weak chlorite along fractures and stringers.	Stringer pyrite with chlorite - 1%.	Typical hangingwall pillow bslt.
	3.05-5.5	Oxidation evident along numerous fractures.				
	10.1-13.2	Pillow breccia, increasing qtz-calcite veining becoming dominate.		Calcite stringers appear to cut and flood earlier quartz stringer stwk.		Turquoise mineral, fine grained, assoc with qtz stringers.
	10.4-10.7	40% white quartz-calcite vein with very grungy dirty green wall rock that extends to 10.9m.		Carbonate (calcite) plus pale green sericite.		
	10.7-12.7	Poorly sorted pillows and pillow fragments in feldspar porphyry matrix.			1% diss py.	
	12.7-13.2	Qtz-calcite veinlets with waxy green soft sericite (not talc).				
	19.4-19.8	Very fine white calcite stringer stwk.				
	20.5-20.7	Qtz and calcite veinlets in zone of weak shearing.	40	Calcite, clays, weak chlorite.		
	21.6-22.0	Medium grained spotted bslt shot through with medium grained crystals and stringers of pyrite. Moderately sheared.		Moderate chlorite, clay along fractures	«10-20% py»	
22.00 TO 23.60	«MSSX»	Dull metallic yellow, medium grained granular appearing. White/grey carbonate (+ barite?) matrix.		Cp tarnished.	«60% py, 1% cp»	Tiny black grains of magnetite (<1%).
		Very sharp lower contact.	90	Chlorite.		No footwall alteration.
23.60 TO 24.70	«BSLT»	Dark to pale greenish/grey bslt, fine grained, featureless.				
	23.6-23.7	Dark green, angular, fragment supported bslt breccia.				
	24.6-24.7	Dark green bslt, brecciated by fine calcite stwk.				
24.70 TO 25.60	«SMSX»	Mottled green and grey bslt shot through with medium and fine grained cubic pyrite in a matrix. Blocks of massive pyrite and unmineralized basalt in soft sheared chlorite-carbonate-clay matrix.		Chlorite, clay, carb.	«20-40% py»	Slump breccia, blocks of mssx and bslt in sulphide rich matrix.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
25.60 TO 39.90	«BSLT»	Pale greenish/grey, fg pillowed bslt -as before. Very good pillow selvages. Very competent. END OF HOLE.		Strong calcite along fractures.		Still hangingwall style, pillow basalt.

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc		COMMENTS
BCD22523	22.00	23.60	1.60	.476	.01	.01	.06	1.8	3.97		

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD22524	3.10	10.10	7.00	14.5	.020	9.65	11.72	.08	6.54	.21	3.4	.28	46.68	1.80	.09	94.96	2.0	1	5	41	60		46	1			84	
BCD22525	10.10	13.20	3.10	13.77	.030	12.68	10.55	.19	5.42	.19	1.44	.22	46.58	1.50	.03	92.60	2.8	20	5	108	51		46	1			80	
BCD22570	13.20	22.00	8.80	14.06	.970	7.72	12.49	.61	6.52	.18	2.34	.23	46.16	1.61	.72	93.61	2.1	20	5	2022	557		53	1			432	
BCD22571	23.60	24.70	1.10	12.66	2.255	6.48	15.31	.37	11.21	.14	.04	.29	36.34	1.59	1.76	88.44	1.1	1	5	16346	63		79	3			115	
BCD22572	24.70	25.60	0.90	3.79	.090	3.70	24.77	.01	12.61	.07	.04	.17	37.65	.20	13.50	96.59	2	1	10	139	5510		68	9			68	
BCD22573	25.60	32.70	7.10	13.95	1.185	8.78	11.79	.79	6.87	.18	1.92	.26	46.02	1.62	.94	94.31	2.5	4	5	2733	270		50	4			95	
BCD22574	32.70	39.90	7.20	14.63	.200	10.97	11.66	.21	6.30	.20	2.51	.26	47.38	1.69	.16	96.17	2.6	26	5	444	70		45	1			82	

HOLE NUMBER: CCF-47

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 9964.80N
EAST: 9917.70E
ELEV: 1789.30

ALTERNATE COORDS GRID: CC-1
NORTH: 99+64N
EAST: 99+17E
ELEV: 1789.30

COLLAR DIP: -47° 0' 0"
LENGTH OF THE HOLE: 97.20m
START DEPTH: 0.00m
FINAL DEPTH: 97.20m

COLLAR GRID AZIMUTH: 90° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 15, 1989
DATE COMPLETED: June 16, 1989
DATE LOGGED: June 18, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: TO TEST SOUTHERN PART OF MAIN LENS.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.10	-	-46° 0'	ACID	OK	
30.50	-	-45° 0'	ACID	OK	
61.00	-	-45° 0'	ACID	OK	
91.40	-	-45° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 1.00	«CASING»					Exact depth of casing is undetermined.
1.00 TO 21.00	«BSLT»	Pale greenish/grey, fine grained pillow basalt with well developed pillow selvages and hyaloclastic breccias.		Calcite stringers.	Trace py.	Typical hangingwall basalt.
	1.0-4.0	Broken core.				
	1.0-6.9	Oxidation along fracture surfaces.				
	9.9-10.3	Basalt blocks in white tan carbonate-silica matrix				Syndepositional.
	10.3-12.2	Develops into good pillow breccia-small pillows and fragments of pillows in hyaloclastic breccia.				
	{14.3-15.4}	Intense qtz-calcite veining. Pale green and grey mottled grungy looking. Very sharp contacts.	10	Strong carbonate altn, mod silicification.		«QTZ-CB VEINING» Begin to see it at 14.0m.
	15.4-15.9	Dark, black chlorite stringers and white calcite veinlets related to above.				
	16.8-18.9	Broken core; highly fractured, brittle.				
	19.4-20.4	Broken core - as above.				
21.00 TO 22.00	«TALC»	Pale, waxy, powdery green and white, very dirty talc. Very sharp upper contact.	45			
		Large round massive pyrite clast, 4cm dia, immed below contact.				
	21.8-21.9	Sulphide rich horizon.			15% py, 5% cp.	
22.00 TO 26.50	«TALC MAGNETITE»	Black and mottled waxy green.				Looks like a breccia.
		Fine grained massive magnetite cut by numerous talc partings.				
		22.3: 7cm dia massive py 'clast'.				
		Pyrite surrounds some of the magnetite blocks and bands as a halo.				
26.50 TO 27.50	«TALC MAGNETITE SX»	Introduction of pyrite and chalcopyrite as bands and matrix to magnetite blocks; 10% talc, 70% magnetite.			«20% py, 2% cp»	Gradational contacts.
27.50 TO 28.60	«MSSX»	Bright yellow massive pyrite and patchy cp. Cp also finely diss in py.			«5% cp»	Transitional upper contact. May underestimate grade.
	{27.9-28.6}	Cp assoc with 1-2cm wide white qtz veinlet.			«10% cp»	
		Very sharp lower contact, uneven; sx deposited on basalt surface.	60			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
28.60 TO 51.30	«BSLT»	Pale greenish/grey pillow basalt; good pillow selvages, hyaloclastic breccias at pillow interstices.		Weak to strong carbonate along fractures and in basalt matrix.	Trace py.	Very unremarkable.
	49.0-51.3	High fracture density, very broken up core.				Little chlorite even along fractures.
51.30 TO 74.70	«MSSX»	Fine grained dull yellow metallic massive pyrite with finely diss and coarse blotchy cp.				
	51.3-53.5	Very fine grained cp.		Strong calcite in matrix.	«2% cp»	
	53.5-56.8	Thin splotchy cp.			«3-4% cp»	
	56.8-57.1	Low sg, 50% white qtz-carb, vuggy.			«8-10% cp»	
	57.1-57.5	Cp wisps and diss in py.			«5% cp»	
	57.5-58.5	Low sg, 50% white qtz-carb occurs as coarse stringers.			«10-12% cp»	
	58.5-59.1	High grade.			2% sph.	
	59.1-59.3	Vfg.			«1-2% cp»	
	59.3-68.1	Low grade.			«2-3% cp»	
	68.1-74.7	Minor splotchy cp.				
74.70 TO 81.00	«TALC MAGNETITE»	Black and grey mottled massive magnetite with talc stockwork.			«10-15% py, 2% cp»	
	74.7-75.4				10% py	
	80.4-81.0	Increasing pyrite bands.				
81.00 TO 82.10	«BSLT»					
	81.0-81.1	Mainly massive py.		Sheared, chloritic.		Breccia contact.
	82.0-82.1	20-50% pyrite into hangingwall.				
82.10 TO 82.90	«MSSX»	Fine to medium grained granular looking py + cp. Cp is blotchy and finely diss.			«5-7% cp»	
		Sharp lower contact.	60			
82.90 TO 86.50	«TALC-BSLT BX»	Highly foliated mottled waxy green talc with occasional basalt blocks, rotated in high sheared soft and crumbly talc matrix. Several small white qtz veinlets follow foliation.	45			«FAULT»
	82.9-83.1	Intense shearing.	20	Talc + chlorite.		
	83.1-83.4	Patchy looking pale and dark green talc bx.				
	83.4-85.4	Pale weakly silicified bslt blocks in talc matrix.				
	85.4-85.5	Dark green talc-chlorite-quartz veinlets in shear zone.				
	85.5-85.8	Pale and dark green/grey mottled talc, more competent blocks in sheared matrix.				
	85.8-85.9	Clay mush - fault gouge.				
	85.9-86.5	Intensely sheared, numerous qtz veinlets; much clay and saturated talc in matrix hosting blocks				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		of more competent talc.				
86.50 TO 91.20	«MSSX»	Brighter yellow, copper rich zone.				Footwall zone.
	86.5-87.6	Finely diss cp, plus some coarse patchy cp.			«5% cp»	
	87.6-88.1	Broken up high grade zone.			«20% cp»	
	88.1-88.9	Patchy and finely diss cp.			«2-3% cp»	
	88.9-89.4	Pieces of massive cp. 82.9-89.3: Broken up.			«25% cp»	90% core recovery.
	89.4-91.2	Mainly finely diss cp.			«3% cp»	
91.20 TO 97.20	«BSLT»	Pale greenish/grey.		Weakly silicified.		Footwall bslt.
	⎨91.2-91.8⎬	Pyrite stockwork zone, mg diss py in diffuse stringers.			«10% py, tr cp»	«SX STWK»
	91.8-93.8	Quartz stringer stockwork zone, some brecciated zones of shearing.				
	⎨92.6-92.7⎬	Massive sulphide section.			«20% py, 10% cp»	Assayed.
	93.8-97.2	Pillow basalt, slightly coarser grained, identifiable pillow selvages. Homogeneous, competent.		Weakly calcareous.		
		END OF HOLE.				

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD22526	26.50	27.50	1.00	.720	.01	.05	.08	3.7	3.67	
BCD22527	27.50	28.60	1.10	3.200	.01	.02	.18	9.6	4.21	
BCD22528	51.30	52.50	1.20	.507	.01	.03	.56	3.9	4.77	
BCD22529	52.50	53.50	1.00	1.090	.02	.06	.41	5.7	4.62	
BCD22530	53.50	54.20	0.70	3.970	.02	.08	.48	10.6	4.54	
BCD22531	54.20	55.20	1.00	2.840	.01	.09	.40	8.1	4.68	
BCD22532	55.20	56.00	0.80	2.180	.01	.03	.43	11.8	4.84	
BCD22533	56.00	56.80	0.80	3.680	.02	.21	.41	10.4	4.44	
BCD22534	56.80	57.10	0.30	3.030	.01	.06	.02	5.8	3.10	
BCD22535	57.10	57.50	0.40	6.850	.01	.02	.46	16.2	4.41	
BCD22536	57.50	58.50	1.00	4.290	.01	.03	.04	6.4	3.10	
BCD22537	58.50	59.10	0.60	6.900	.02	.09	.55	16.3	4.25	
BCD22538	59.10	60.60	1.50	.885	.03	.50	.38	6.9	4.56	
BCD22539	60.60	62.10	1.50	1.060	.02	1.02	.37	6.2	4.65	
BCD22540	62.10	63.60	1.50	.620	.01	.06	.44	4.4	4.50	
BCD22541	63.60	65.10	1.50	.730	.01	.09	.24	4.3	4.31	
BCD22542	65.10	66.60	1.50	.421	.01	.03	.35	4.3	4.16	
BCD22543	66.60	68.10	1.50	1.31	.02	.02	.27	5.8	4.65	
BCD22544	68.10	69.60	1.50	1.4	.01	.09	.21	6.2	4.51	
BCD22545	69.60	71.10	1.50	1.87	.02	.07	.22	6.4	4.50	
BCD22546	71.10	72.60	1.50	1.18	.02	.03	.23	6.0	4.69	
BCD22547	72.60	73.70	1.10	.69	.01	.44	.17	3.5	4.73	
BCD22548	73.70	74.70	1.00	.193	.01	.27	.04	2	4.54	
BCD22549	74.70	75.40	0.70	.68	.01	.18	.03	2.6	3.65	
BCD22550	82.10	82.90	0.80	2.37	.01	1.05	.93	7.4	3.81	
BCD22551	86.40	87.60	1.20	2.3	.03	.68	1.18	8.3	4.25	
BCD22552	87.60	88.10	0.50	10.5	.02	.73	2.02	22.4	4.28	
BCD22553	88.10	88.90	0.80	1.03	.03	.08	1	6.5	4.42	
BCD22554	88.90	89.40	0.50	7.99	.04	.83	1.29	16.9	4.62	
BCD22555	89.40	90.40	1.00	.985	.01	.13	.84	4.7	4.49	
BCD22556	90.40	91.20	0.80	1.23	.02	.44	1.03	4.6	4.45	
BCD22557	92.50	92.70	0.20	2.07	.02	.02	.16	5.1	3.38	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD22558	1.00	14.30	13.30	14.73	.070	10.07	11.88	.17	6.33	.20	2.98	.24	47.15	1.75	.06	95.63	3	1	5	92	66		43	1			81	
BCD22559	14.30	15.40	1.10	13.46	.160	15.58	8.03	.24	3	.14	1.17	.16	50.12	.91	.12	93.09	2.8	15	5	558	30		33	1			41	
BCD22560	15.40	20.40	5.00	13.87	1.890	8.08	11.16	1.12	6.16	.18	1.87	.19	42.66	1.66	1.33	90.18	1.3	10	5	9317	66		49	1			98	
BCD22561	21.00	22.00	1.00	1.49	.6	1.37	15.23	.01	19.74	.01	.07	.16	50.82	.03	2.10	91.09	1.9	8	5	291	4918		71	4			1496	
BCD22562	22.00	26.50	4.50	.74	.02	.69	42.63	.01	14.79	.01	.07	.13	35.45	.01	1.54	96.08	.3	1	5	166	259		32	1			80	
BCD22563	28.60	36.20	7.60	14.02	.75	9.63	11.86	.46	6.41	.18	2.03	.22	46.76	1.65	.55	94.52	2.5	6	5	2242	90		47	1			99	
BCD22564	36.20	43.80	7.60	14.34	.875	9.51	11.37	.69	6.29	.19	2.78	.21	46.99	1.69	.64	95.58	3.1	17	5	1761	69		44	1			80	
BCD22565	43.80	51.30	7.50	14.11	4.525	7.62	11.37	.85	6.12	.19	.81	.21	45.72	1.64	3.02	96.18	2.7	8	5	26120	73		52	1			91	
BCD22566	74.50	81.00	6.50	.27	.015	.01	64.86	.01	9.60	.01	.04	.15	23.42	.01	.13	98.51	.2	22	5	131	89		9	1			227	
BCD22567	81.00	82.10	1.10	4.97	.205	.34	28.06	.08	15.93	.03	.02	.14	39.22	.29	4.56	93.84	5.4	1	5	260	14301		80	16			256	
BCD22568	82.90	86.50	3.60	7.70	.01	.50	7.88	.01	17.64	.03	.01	.17	57.39	.37	.42	92.13	1.2	1	5	31	1433		73	3			135	
BCD22569	91.20	97.20	6.00	10.09	.745	1.07	15.69	.22	9.23	.08	.04	.20	52.52	1.03	3.58	94.50	1.1	1	5	256	1364		74	3			548	

HOLE NUMBER: CCF-48

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN

PLOTTING COORDS GRID: CC-1
NORTH: 9912.00N
EAST: 9914.00E
ELEV: 1779.80

ALTERNATE COORDS GRID:
NORTH: 99+12N
EAST: 99+14E
ELEV: 1779.80

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 76.50m
START DEPTH: 0.00m
FINAL DEPTH: 76.50m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 17, 1989
DATE COMPLETED: June 17, 1989
DATE LOGGED: June 18, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: TO TEST FOR SOUTH EXTENSION OF SOUTH LENS

HOLE LENGTHENED JUNE 23-24, LOGGED JUNE 24.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
0.50	-	-45° 0'	ACID	OK	
39.60	-	-44° 0'	ACID	OK	
76.50	-	-44° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments

HOLE NUMBER: CCF-48

MINNOVA INC.
DRILL HOLE RECORD

DATE: 19-December-1989

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 0.50	«CASING»					Depth of casing uncertain
0.50 TO 57.40	«BSLT»	Generally fine grained pale to medium greenish grey pillowed basalt with well developed pillow selvages and hyaloclastic interpillow breccias. later calcite veinlets and stringers are common. weak to moderate fracturing 0.5 - 10.1m: Oxidation apparent on fracture surfaces. 10.6 - 10.70m: Good interpillow breccia (hyaloclastic). 13.8 - 15.4: Weak black clorite fracture stwk. 18.0 - 19.1m Weak chl stwk. 28.2 - 32.4m Weak chl stwk. 33.8 - 34.1m Mottled white-grey qtz- calcite veinlet, 7cm true thickness. 34.9 - 35.3m Qtz-calcite-chl veinlet 5-10cm true thickness. Little or no assoc altn. 37.3 - 57.4m Black chlorite along fractures, fracture density increases marginally. Calcite also along fractures as very thin stringers.	15 15		trace pyrite.	Parallel to above veinlet. No evidence of any sulphide horizon Hole restarted June 23, at 46.0m
57.40 TO 66.80	«MSSX»	Fine grained dark brown yellow massive pyrite with brassy yellow patchy cp. Occasional talc + serpentine and magnetite noted, but no distinct interval. ⌊57.4 - 58.4⌋ Fine grained cp, some coarse patchy cp. 58.0: Fibrous serpentine across 1.5cm. Fibres parallel to c.a. ⌊58.4 - 62.4⌋ Patchy cp 60.5 patchy mt. 62.4 - 63.6m Massive pyrite, vfg cp. ⌊63.6 - 64.8⌋ Patchy massive cp. 64.8 - 66.8m Massive pyrite, copper poor.			«2% cp» «3% cp»	
66.80 TO 67.10	«BSLT»	Fine grained, med grey, very sharp contacts. No chill margins.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
67.10 TO 70.10	«MSSX»	-As before. 67.1 - 67.7m Massive pyrite. ⟨67.7 - 69.2⟩ Increasing cp, patchy often assoc. with calcite (barite) matrix. ⟨69.2 - 70.1⟩ Patchy swirled vein-like cp cuts massive pyrite. Very sharp lower contact.	40		«10% cp» 20% coarse diss py. «2-3% cp» «5-7% cp»	
70.10 TO 76.50	«BSLT»	Pale grey bleached looking pillow basalt. Quartz veinlet - 1 cm wide - 5cm below and parallel to contact. 10cm of pyrite rich, calcareous bslt. Looks silicified, moderately hard - may be very weakly silicified. END OF HOLE		Weak - mod calcite.		

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
BCD21851	57.40	58.40	1.00	1.69	0.03	0.68	0.8	10.3	4.51	
BCD21852	58.40	59.40	1.00	1.61	0.02	0.42	0.65	10.2	4.72	
BCD21853	59.40	60.40	1.00	1.88	0.01	0.61	0.53	10.0	4.64	
BCD21854	60.40	61.30	0.90	3.12	0.02	1.28	0.60	12.3	4.34	
BCD21855	61.30	62.30	1.00	2.46	0.04	0.86	0.77	11.9	5.04	
BCD21856	62.30	63.60	1.30	0.61	0.02	0.19	0.40	13.4	4.72	
BCD21857	63.60	64.80	1.20	5.92	0.04	1.31	1.03	20.0	4.45	
BCD21858	64.80	66.20	1.40	0.695	0.02	0.18	0.45	7.6	4.68	
BCD21859	66.20	67.70	1.50	0.382	0.01	0.10	0.20	4.1	4.37	
BCD21860	67.70	69.20	1.50	0.388	0.01	0.07	0.18	6.2	4.37	
BCD21861	69.20	70.10	0.90	2.01	0.01	0.08	0.35	8.4	4.34	

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD22575	0.50	12.00	11.50	14.59	0.017	10.41	11.60	0.11	6.27	0.21	2.62	0.26	46.82	1.69	0.04	94.62	3.0	9	5	32	62		45	3			80	
BCD22576	12.00	24.00	12.00	14.53	0.032	10.28	11.57	0.11	6.36	0.20	2.72	0.24	47.12	1.69	0.05	94.90	2.4	14	5	62	60		43	2			78	
BCD22577	24.00	36.00	12.00	14.45	0.070	10.69	11.31	0.25	6.33	0.19	2.46	0.25	44.82	1.66	0.09	92.56	3.2	10	5	205	60		56	4			87	
BCD22578	36.00	46.00	10.00	14.31	0.102	10.84	11.35	0.14	6.29	0.20	2.45	0.24	46.32	1.67	0.17	94.08	2.9	15	5	227	61		47	1			82	
BCD21862	46.00	57.40	11.40	14.28	0.701	10.70	10.79	0.42	5.98	0.20	2.43	0.08	48.32	1.63	0.49	96.02	4.2	17	5	2387	64		90	1			331	
BCD21863	70.10	76.50	6.40	14.14	1.952	8.49	11.32	1.00	7.02	0.18	1.60	0.13	45.47	1.71	1.44	94.46	3.8	19	5	8117	59		50	1			93	

HOLE NUMBER: CCF-49

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA

PLOTTING COORDS GRID: CC-1
NORTH: 9915.50N
EAST: 9919.00E
ELEV: 1782.20

ALTERNATE COORDS GRID: CC-1
NORTH: 99+15N
EAST: 99+19E
ELEV: 1782.20

COLLAR DIP: -62° 0' 0"
LENGTH OF THE HOLE: 134.10m
START DEPTH: 0.00m
FINAL DEPTH: 134.10m

COLLAR GRID AZIMUTH: 90° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 17, 1989
DATE COMPLETED: June 19, 1989
DATE LOGGED: June 20, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: TO TEST FOR THE PRESENCE OF A SOUTH LENS AND ITS RELATIONSHIP TO THE MAIN LENS.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
0.50	-	-61° 0'	ACID	OK	
30.50	-	-61° 0'	ACID	OK	
51.80	-	-61° 0'	ACID	OK	
89.90	-	-61° 0'	ACID	OK	
121.90	-	-62° 0'	ACID	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 0.50	«CASING»					Depth of casing uncertain say 0.5.
0.50 TO 59.60	«BSLT»	Pale greenish/grey, fine grained brittle pillow basalt. Well developed pillow selvages with occasional interpillow hyaloclastic breccia. White calcite stringers and veinlets are common 30deg to 45deg to ca. Minor brittle fracturing and black chlorite along certain fracture surfaces. Subtle darkening in colour downhole.		Calcite veinlets, weak carbonate in matrix. Chlorite along fractures.	Trace pyrite.	Typical hangingwall pillow basalt.
	58.3-58.8	Sulphide zone, clasts and stringers of py, cp in barite (?) matrix. Cp occurs as stringers along clast boundaries and fractures.			«10% py, 5% cp»	
	58.8-59.6	Green bslt.				
59.60 TO 65.40	«MSSX»	Mainly massive pyrite.				
	59.6-59.7				«10% cp»	
	59.6-60.1	Granular pyrite, rolled sulphide clasts.				
	59.7-61.8				<1% cp.	
	61.8-62.8	Pale orange brown clasts of sphalerite with cp concentrated along patchy margins. Vuggy carbonate rich texture.			«5-7% cp, 5% sph»	
	62.8-64.1	Fine grained cp.			«2% cp»	Possibly higher cp.
	64.1-65.4	Fine grained cp.			«3% cp»	
		65.3-65.4: Minor breccia in sx at contact.	50			
65.40 TO 68.00	«BSLT»	Darker greenish/grey basalt flow, fractured and brecciated at contacts.				
	67.2-67.4	Interpillow or flow breccia. Chlorite and calcite at shear on lower contact.				
68.00 TO 68.40	«SMSX»	Highly mixed breccia shear zone with mssx, mt, calcite, and talc (+ qtz and barite). Irregular but continuous contact with underlying mssx.				
68.40 TO 84.60	«MSSX»	Massive pyrite becoming copper-rich down hole.				
	70.2-71.7	Magnetite rich section blocks or very sharp patches of black.				
	72.8-73.2	Vuggy, loss of carb.				
	74.0-77.1	Vfg cp.			«1-2% cp.»	
	77.1-78.7	Patchy cp.			«3-4% cp.»	
	78.7-79.3	Coarse patch cp.				
	79.3-82.6	Occasional patch cp.			«1-2% cp»	
	82.6-83.8	Massive 'veins' of cp, very patchy.			«15-20% cp»	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	⟨83.8-84.6⟩				«5% cp»	
84.60 TO 85.60	«BSLT»	Dark greenish/grey fg basalt.				
85.60 TO 92.40	«MSSX»	Vfg, massive pyrite, maybe some fg cp.				Difficult to estimate a grade.
92.40 TO 108.00	«TALC MT»	Mixture of black magnetite, variable amounts of				
TO 120.60		talc and sulphide. Clasts of sulphide caught in sheared talc.				
	92.4-93.1	Mt-py.				
	93.1-94.4	Talc-mt.				
	94.4-94.8	Mt.				
	94.8-96.2	Talc, minor mt.				
	96.2-97.1	Mt, minor talc, py.				
	97.1-97.7	Mt, py.				
	97.7-101.1	Talc-mt.			50% fg py.	
		98.0-98.2:			20% py.	
	101.1-102.0	Mt, py; increased py.				
	102.0-104.9	Talc-mt.			5% py.	
	⟨104.9-106.0⟩	«Mt-sx», minor talc.			«1% cp»	Assay.
	⟨106.0-106.7⟩	«Talc-mt-sx» sheared along talcy partings.			«5-7% cp»	
	⟨106.7-107.3⟩				20% py.	
	⟨107.3-108.0⟩				«2% cp»	
108.00 TO 108.50	«BSLT»	Dark green, fine grained chloritic mafic.		Chlorite.	Trace py.	Sheared.
108.50 TO 120.60	«TALC MT»	As above.				
	108.5-113.0	Talc, magnetite, up to 20% patchy pyrite.				
	113.0-113.7	Massive talc.				
	113.7-115.2	Talc-magnetite.				
	115.2-118.0	Massive magnetite.				
	⟨118.0-	Magnetite-sx.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	118.5+ 118.5-119.4 119.4-120.6	Talc-magnetite. Talc-magnetite-sx; sheared pyritic lower contact, qtz veinlet parallel to shear.	20		«30% py, <1% cp»	Assay.
120.60 TO 123.80	«MSSX»	Massive, fg pyrite, extensively brecciated. Numerous 1-2cm angular clasts, fragment supported; stringer matrix of black chlorite and locally cp. Sharp lower contact sheared in sulphides.	20		«1-5% cp»	Higher density noted. Cp remobilized by later quartz stringer activity.
123.80 TO 125.60	«BSLT»	Dark green, fine grained, very weakly porphyritic basalt flow. Irregular lower contact.	20			
125.60 TO 128.40	«MSSX»	More weakly brecciated fine grained massive pyrite fine grained interstitial and remobilized cp.			«2-5% cp»	
128.40 TO 128.70	«FAULT» 128.4-128.6 128.6-128.7	Pale greenish/grey bslt with weak qtz-calcite stringers. Strongly sheared qtz-calcite vein with pyrite and clay at contacts.	30		10% py.	
128.70 TO 134.10	«BSLT»	Pale grey to bleached green, fg bslt with weakly altered pillow selveges. Minor qtz-calcite and chl stringers. END OF HOLE.		Moderate carbonate (calcite).	Trace py.	Looks highly altered and silicified but is just 'bleached'.

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc	COMMENTS
1CD22579	59.60	60.70	1.10	.738	.03	.10	.47	4.8	4.12	
BCD22580	60.70	61.80	1.10	.942	.03	.20	.44	6.1	4.33	
BCD22581	61.80	62.80	1.00	3.280	.06	8.20	.46	12.2	4.14	
BCD22582	62.80	64.10	1.30	1.760	.04	.19	.41	8.3	4.54	
BCD22583	64.10	65.40	1.30	1.270	.03	.11	.78	6.2	4.42	
BCD22584	68.00	68.80	0.80	.359	.02	.18	.21	4.1	3.54	
BCD22585	68.80	70.20	1.40	1.080	.04	.61	.59	5.9	4.41	
BCD22586	70.20	71.70	1.50	.532	.02	.23	.22	4.8	4.08	
BCD22587	71.70	72.50	0.80	.719	.04	.30	.60	6	4.49	
BCD22588	72.50	74.00	1.50	.918	.04	.76	.61	6.2	4.57	
BCD22589	74.00	75.50	1.50	.182	.02	.08	.49	4.0	4.67	
BCD22590	75.50	77.00	1.50	.447	.02	.12	.38	4.1	4.60	
BCD22591	77.00	78.00	1.00	1.090	.03	.11	.40	7.9	4.20	
BCD22592	78.00	78.70	0.70	2.440	.04	.16	.42	11.7	4.41	
BCD22593	78.70	79.30	0.60	1.660	.04	.12	.59	10.2	4.40	
BCD22594	79.30	80.50	1.20	.924	.07	2.06	.58	7.8	4.64	
BCD22595	80.50	82.00	1.50	.943	.06	.83	.46	7.1	4.81	
BCD22596	82.00	82.60	0.60	.374	.02	.24	.43	7.9	4.60	
BCD22597	82.60	83.80	1.20	9.900	.02	1.16	.96	38.3	4.19	
BCD22598	83.80	84.60	0.80	2.470	.02	.68	.39	14	4.38	
BCD22599	84.60	85.60	1.00	.378	.01	.04	.02	2.2	3.06	
BCD22600	85.60	86.60	1.00	1.140	.02	.72	.33	5.9	4.51	
BCD22601	86.60	87.60	1.00	1.190	.02	.51	.22	5.7	4.61	
BCD22602	87.60	89.00	1.40	.688	.01	.26	.24	3	4.57	
BCD22603	89.00	90.20	1.20	.189	.01	.37	.19	2.1	4.59	
BCD22604	90.20	91.40	1.20	.579	.02	.46	.20	2	4.69	
BCD22605	91.40	92.40	1.00	.446	.01	.23	.04	2.3	4.66	
BCD22606	104.90	106.00	1.10	.183	.01	.01	.01	1.9	3.73	
BCD22607	106.00	106.70	0.70	2.020	.01	.02	.08	4.1	3.31	
BCD22608	106.70	107.30	0.60	.846	.01	.01	.02	3.8	3.06	
BCD22609	107.30	108.00	0.70	1.820	.02	.02	.21	5.9	3.72	
BCD22610	108.00	119.40	11.40	.234	.01	.01	.04	2.2	3.80	
BCD22611	119.40	120.60	1.20	.151	.01	.01	.02	3.9	3.79	
BCD22612	120.60	121.60	1.00	1.230	.01	.28	.19	2.8	4.28	
BCD22613	121.60	122.70	1.10	1.280	.01	.06	.18	3.7	4.51	
BCD22614	122.70	123.80	1.10	2.[illegible]50	.02	.31	.20	5.8	4.39	
BCD22615	125.60	127.00	1.40	.682	.04	1.12	.54	8.2	4.63	
BCD22616	127.00	128.40	1.40	.679	.03	.73	.61	11.8	4.63	

Sample	From (m)	To (m)	Length (m)	Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc		

HOLE NUMBER: CCF-49 GEOCHEM. SHEET DATE: 1-January-1980

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD21864	30.00	40.00	10.00	14.33	0.087	12.55	10.86	0.13	6.26	0.20	2.34	0.12	47.26	1.70	0.06	95.89	3.9	6	10	128	58		45	1			79	
BCD21865	40.00	50.00	10.00	14.41	0.150	11.83	11.31	0.13	6.22	0.20	2.36	0.12	46.34	1.72	0.10	94.90	4.1	4	5	491	66		58	1			92	
BCD21866	50.00	59.60	9.60	12.57	0.758	9.28	13.19	0.30	6.28	0.18	1.51	0.12	47.87	1.53	1.76	95.35	4.0	17	10	98	159		57	2			113	
BCD21867	65.40	68.00	2.60	13.65	5.734	8.41	12.75	0.38	8.22	0.18	0.13	0.14	41.63	1.61	3.94	96.78	4.5	1	5	25760	56		56	1			143	
BCD21868	84.60	85.60	1.00	13.83	6.022	4.16	14.19	0.08	8.95	0.16	0.01	0.16	39.18	1.73	4.21	92.69	1.9	1	5	20598	72		55	1			332	
BCD21869	92.40	97.10	4.70	0.53	0.076	0.01	53.56	0.03	11.44	0.03	0.04	0.17	29.12	0.02	1.09	96.10	0.3	1	5	619	1233		14	1			351	
BCD21870	97.10	104.90	7.80	0.53	0.096	0.01	51.56	0.02	10.69	0.07	0.02	0.14	30.47	0.02	3.72	97.34	0.4	1	10	52	1430		20	1			61	
BCD21871	108.50	113.00	4.50	1.83	0.209	0.01	48.39	0.05	11.78	0.03	0.01	0.14	31.72	0.24	3.64	98.03	0.8	3	5	191	790		14	1			439	
BCD21872	113.00	115.20	2.20	0.43	0.040	0.01	51.79	0.03	12.21	0.03	0.02	0.14	31.88	0.02	0.39	96.97	0.1	59	10	305	36		4	1			59	
BCD21873	115.20	118.00	2.80	0.48	0.035	0.01	85.17	0.03	3.26	0.04	0.01	0.20	9.62	0.01	0.02	98.86	0.1	1	5	191	72		2	1			88	
BCD21874	123.80	125.60	1.80	15.66	0.006	1.20	26.73	0.01	11.70	0.20	0.01	0.25	31.99	2.00	0.04	89.77	1.7	1	5	26	76		63	1			404	
BCD21875	128.70	134.10	5.40	13.54	1.668	9.49	10.31	1.35	6.11	0.18	0.75	0.12	42.99	1.64	1.19	89.32	1.6	19	5	7162	60		52	2			98	

HOLE NUMBER: CCF-50

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 9927.40N
EAST: 9946.90E
ELEV: 1786.00

ALTERNATE COORDS GRID: CC-1
NORTH: 99+27N
EAST: 99+46E
ELEV: 1786.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 39.90m
START DEPTH: 0.00m
FINAL DEPTH: 39.90m

COLLAR GRID AZIMUTH: 90° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 19, 1989
DATE COMPLETED: June 20, 1989
DATE LOGGED: June 22, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: TO TEST SOUTHERN LIMIT OF NEAR SURFACE MAIN LENS.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.10	-	-44° 0'	ACID	OK		-	-	-	-	-	
39.60	-	-43° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
1.00 TO 3.10	«CASING»					
3.10 TO 24.20	«BSLT» 3.1-4.8	Pale greenish/grey, fine grained pillow basalt. Good pillow selvages with minor interpillow hyaloclastic breccia. Cut by minor calcite and chlorite hairline stringers. Weakly to moderately fractured. 1-2 pillow selvages per meter. Oxidation along fracture surfaces.		Weak carbonate, chlorite along fractures.		Typical hangingwall basalt.
24.20 TO 24.40	«SILIC BSLT»	Pale green, very fine grained silicified bslt. Extremely hard and brittle.		Strong silicification.		
24.40 TO 24.80	«QTZ-CB STWK»	50% white quartz cut by 20% pale grey calcite stringers in dark grey basalt host.				
24.80 TO 26.30	«MSSX»	Mainly fine grained massive pyrite. Cp is fg and often occurs in and along quartz stringers. Becomes more massive toward footwall.			«2-3% cp»	One 1.5m sample.
26.30 TO 31.20	«SILIC BSLT» 29.8-30.2	Pale grey, hard, almost glassy appearance. Minor qtz veinlets and stringers. Pyrite stockwork.			10% py.	
31.20 TO 32.20	«FAULT»	2cm of qtz stringer, silicified basalt fragments in clay.				
32.20 TO 39.90	«BSLT»	Pale to medium grey, fine grained, softer, pillow basalts; more altered than hangingwall. Occasional calcite, quartz, and chlorite stringers. END OF HOLE.		Weakly to mod calcareous.	Trace py.	

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc		COMMENTS
BCD22876	24.80	26.30	1.50	0.804	0.06	0.7	1.8	10.1	4.6		

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD22877	1.50	24.20	22.70	13.74	0.228	11.01	11.18	0.28	6.21	0.19	2.57	0.12	46.70	1.65	0.43	94.31	4.3	8	5	479	66		46	2			96	
BCD22878	24.20	24.40	0.20	14.80	0.123	17.84	7.65	0.23	2.20	0.12	0.01	0.20	50.43	0.81	3.46	97.87	3.0	53	5	77	458		403	7			1340	
BCD22879	26.30	31.20	4.90	9.39	0.937	2.04	7.57	1.83	3.03	0.14	0.03	0.04	68.50	0.54	0.67	94.72	4.4	24	220	1674	59		45	1			88	
BCD22880	32.20	39.90	7.70	14.22	0.685	9.79	10.63	0.58	5.99	0.20	2.56	0.10	48.34	1.67	0.56	95.30	4.6	22	5	76	115		46	1			92	

From (m)	To (m)	Length (L)	Sum Of Length S>= 0.00cm	RQD S/LX100	Number Of Fracturs	Fracturs Per Metres	Number Of Veins	Veins Per Metres	Angle	Comments
0.00	0.00	0.00	0.00	0	0	0	0	0	0	

HOLE NUMBER: CCF-51

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: CHU CHUA
PROJECT NUMBER: 616
CLAIM NUMBER: CC-1
LOCATION: CHU CHUA MTN.

PLOTTING COORDS GRID: CC-1
NORTH: 10190.00N
EAST: 9899.00E
ELEV: 1809.00

ALTERNATE COORDS GRID: CC-1
NORTH: 101+90N
EAST: 98+99E
ELEV: 1809.00

COLLAR DIP: -55° 0' 0"
LENGTH OF THE HOLE: 88.70m
START DEPTH: 0.00m
FINAL DEPTH: 88.70m

COLLAR GRID AZIMUTH: 90° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 90° 0' 0"

DATE STARTED: June 20, 1989
DATE COMPLETED: June 22, 1989
DATE LOGGED: June 23, 1989

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

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

CONTRACTOR: LECLERC DRILLING LTD.
CASING: LEFT IN HOLE
CORE STORAGE: BARRIERE

PURPOSE: TO TEST NORTH AND DOWN DIP EXTENTION OF MAIN LENS.

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
3.10	-	-55° 0'	ACID	OK	
30.50	-	-55° 0'	ACID	OK	
61.00	-	-55° 0'	ACID	OK	
88.70	-	-55° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 1.00	«CASING»					
1.00 TO 82.60	«BSLT»	Pale green-grey, fine grained pillow basalts; well developed pillow selvages and interpillow hyaloclastic breccia. Numerous calcite stringers and veinlets. Generally very competent, weakly fractured.		Calcite veining, chlorite along fractures.	Tr py.	Typical hangingwall basalts. Very homogenous.
	11.4-11.9	Angular insitu breccia, fragment supported, weak pale green stockwork matrix.				
	15.5-15.6	Pale cream-grey pillow selvage, 10cm wide, cut by later white calcite stringers.				
	16.7-16.8	Well developed hyaloclastic breccia; coarse angular bleached interpillow clasts.				
	30.5-31.7	Late vuggy calcite veinlet, associated stringers of calcite and chlorite; increased fracturing.	10			
	{45.0-52.0}	Medium grained «augite por bslt flow» 45.0-45.5: Fine grained flow top.				
	48.4-55.2	Highly fractured, broken up core.				
	{52.0-54.8}	«pillow bslt»				
	{54.8-61.2}	«augite por bslt flow»				
	{61.2-72.2}	«pillow bslt» continues as above, some coarsening of grain size at centre of pillows.				Typical hangingwall basalts.
	70.4-72.2	Pale green, very fine grained, weak silicification Weakly brecciated.		Chlorite along fractures, weakly silic later calcite stringers.	1% py.	Flow top?
	{72.2-74.2}	«feldspar por bslt flow»				
	82.3-82.4	10cm wide white calcite vein, numerous associated stringers.	40			
	82.4-82.6	Increasing pyrite, white quartz veinlets in bslt.			5% py.	
82.60 TO 83.20	«MSSX»	70% sulphides, 20% calcite, 10% silic bslt frags. Wispy cp associated with fine grained matrix.			«20% cp»	
		Very sharp irregular footwall contact.	20			
		hangingwall contact.	50			
83.20 TO 88.70	«SILI BSLT»	Pale grey, fine grained,moderately silicified basalt. Very hard, minor pyrite stringers. Mottled patchy look- variable alteration.		Mod silicified.	5% py, finely diss & as fine stringers.	
		END OF HOLE				

Sample	From (m)	To (m)	Length (m)	ASSAYS Cu %	Pb %	Zn %	Au g/t	Ag g/t	SG g/cc		COMMENTS
BCD22881	82.60	83.20	0.60	6.30	0.02	0.53	0.59	20.2	3.94		

Sample	From (m)	To (m)	Length (m)	Al2O3 %	Bat %	CaO %	Fe2O3 %	K2O %	MgO %	MnO2 %	Na2O %	P2O5 %	SiO2 %	TiO2 %	S %	TOT %	Ag ppm	As ppm	Au ppb	Ba ppm	Cu ppm	Nb ppm	Pb ppb	Sb ppm	Sr ppm	Y ppm	Zn ppm	Zr ppm
BCD22882	68.00	74.20	6.20	13.86	0.04	12.41	10.46	0.04	5.92	0.19	2.82	0.11	47.58	1.62	0.21	95.26	3.7	8	10	590	191		52	1			95	
BCD22883	74.20	82.60	8.40	14.03	0.17	11.45	10.16	0.51	5.69	0.19	2.29	0.13	47.11	1.54	1.69	94.95	0.8	30	5	314	63		43	3			113	
BCD22884	83.20	88.70	5.50	5.83	0.269	0.34	4.79	1.39	1.36	0.05	0.01	0.01	80.87	0.33	0.48	95.71	3.0	24	5	327	121		31	1			52	

APPENDIX V
Chu Chua Drilling Assay
and
Lithogeochemical Results

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TIMMINS OFFICE:
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P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Certificate of Assay

9V-0430-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILDE/I.PIRIE

Date: JUN-08-89
Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 22 ROCK samples submitted JUN-05-89 by J.HOLLAND.

Sample Number	CU %
BCD22326	.044
BCD22327	4.040
BCD22328	2.370
BCD22329	1.200
BCD22330	.940
BCD22331	1.020
BCD22332	1.210
BCD22333	1.940
BCD22334	7.650
BCD22335	6.640
BCD22336	3.300
BCD22337	2.040
BCD22338	1.590
BCD22339	1.460
BCD22340	1.850
BCD22341	1.710
BCD22342	.651
BCD22343	.452
BCD22344	.530
BCD22345	.380
BCD22346	.010
BCD22347	.008

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TELEPHONE: (705) 264-9996

Assay Certificate

9V-0430-PA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD

Date: JUL-14-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 22 PULPS samples submitted JUL-11-89 by C.WILD.

Sample Number	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON
BCD22326	.01	.02	2.2	.06	.05	.001
BCD22327	.04	.18	12.0	.35	.76	.022
BCD22328	.02	.08	9.4	.27	.64	.019
BCD22329	.02	.12	10.0	.29	.92	.027
BCD22330	.01	.06	6.3	.18	.77	.022
BCD22331	.02	.34	8.2	.24	.64	.019
BCD22332	.02	.07	8.4	.25	.82	.024
BCD22333	.02	.06	14.5	.42	1.25	.036
BCD22334	.04	.34	28.6	.83	1.50	.044
BCD22335	.03	.12	27.4	.80	1.70	.050
BCD22336	.02	.10	16.3	.48	.96	.028
BCD22337	.02	.08	12.1	.35	1.02	.030
BCD22338	.04	.28	10.0	.29	1.04	.030
BCD22339	.03	.19	10.4	.30	1.49	.043
BCD22340	.02	.14	12.3	.36	1.48	.043
BCD22341	.03	.11	8.7	.25	.96	.028
BCD22342	.01	.21	4.2	.12	.27	.008
BCD22343	.01	.02	3.8	.11	.21	.006
BCD22344	.01	.01	2.0	.06	.08	.002
BCD22345	.01	.01	1.5	.04	.04	.001
BCD22346	.01	.01	0.9	.03	.02	.001
BCD22347	.01	.01	1.2	.04	.03	.001

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Assay Certificate

9V-0430-PA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-25-89

Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

He hereby certify the following Assay of 22 PULP samples submitted JUN-22-89 by C.WILD.

Sample Number	SPECIFIC GRAVITY
BCD22326	2.77
BCD22327	3.88
BCD22328	4.66
BCD22329	6.49
BCD22330	4.60
BCD22331	4.51
BCD22332	4.31
BCD22333	4.54
BCD22334	4.39
BCD22335	4.23
BCD22336	4.47
BCD22337	4.38
BCD22338	4.59
BCD22339	4.38
BCD22340	4.36
BCD22341	4.19
BCD22342	3.18
BCD22343	3.24
BCD22344	3.15
BCD22345	3.29
BCD22346	2.85
BCD22347	2.75

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TELEPHONE: (705) 264-9996

Certificate of Assay

9V-0430-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILDE/I.PIRIE

Date: JUN-08-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

He hereby certify the following Assay of 8 ROCK samples submitted JUN-05-89 by J.HOLLAND.

Sample Number	AU G/TONNE	AU OZ/TON
BCD22329	1.03	.030
BCD22333	1.22	.036
BCD22334	1.43	.042
BCD22335	1.62	.047
BCD22337	1.01	.029
BCD22338	.99	.029
BCD22339	1.42	.041
BCD22340	1.44	.042

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Geochemical Analysis Certificate

9V-0430-RG1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILDE/I.PIRIE

Date: JUN-08-89
Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 22 ROCK samples submitted JUN-05-89 by J.HOLLAND.

Sample Number	ZN PPM	AG PPM	AU-FIRE PPB
BCD22326	152	2.1	60
BCD22327	1480	10.2	740
BCD22328	630	8.4	530
BCD22329	840	7.6	1000
BCD22330	420	5.3	645
BCD22331	2850	6.8	606
BCD22332	500	7.1	890
BCD22333	520	13.2	1150
BCD22334	2800	22.4	1360
BCD22335	1020	21.0	1500
BCD22336	760	14.9	795
BCD22337	680	10.5	1000
BCD22338	2350	8.2	1000
BCD22339	1640	9.7	1370
BCD22340	1350	11.6	1340
BCD22341	860	7.6	740
BCD22342	1880	3.8	242
BCD22343	215	3.4	162
BCD22344	21	1.8	40
BCD22345	28	1.4	38
BCD22346	27	0.9	28
BCD22347	48	1.0	16

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Certificate of Assay

9V-0429-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-09-89
Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 30 CORE samples submitted JUN-05-89 by J.HOLLAND.

Sample Number	CU %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON	SPECIFIC GRAVITY
BCD20651	.990	.02	9.8	.29	.57	.017	4.90
BCD20652	.705	.01	8.1	.24	.64	.019	5.00
BCD20653	.437	.02	4.2	.12	.44	.013	5.10
BCD20654	1.840	.03	5.7	.17	.34	.010	4.86
BCD20655	10.010	.03	17.8	.52	.80	.023	4.81
BCD20656	1.290	.05	5.8	.17	.59	.017	4.95
BCD20657	8.420	.16	16.0	.47	.99	.029	4.67
BCD20658	1.710	.04	41.9	1.22	1.61	.047	4.59
BCD20659	10.750	.78	18.2	.53	.81	.024	4.59
BCD20660	.780	.88	5.6	.16	.60	.018	4.86
BCD20661	.224	2.31	3.2	.09	.40	.012	5.10
BCD20662	7.400	.53	17.0	.50	.60	.018	4.72
BCD20663	1.010	.35	3.6	.11	.08	.002	3.68
BCD20664	1.220	.03	4.8	.14	.26	.008	4.67
BCD20665	.199	.04	3.7	.11	.08	.002	4.81
BCD20666	.572	.04	4.3	.13	.16	.005	4.86
BCD20667	1.410	.18	8.0	.23	.21	.006	4.35
BCD20668	1.590	.02	11.9	.35	.34	.010	4.76
BCD20669	3.670	2.59	19.5	.57	.39	.011	4.17
BCD20670	1.540	.14	10.0	.29	.27	.008	4.81
BCD20671	3.500	.04	14.2	.41	.26	.008	4.81
BCD20672	3.820	.12	12.1	.35	.21	.006	4.72
BCD20673	1.390	.02	7.9	.23	.22	.006	5.00
BCD20674	1.650	.02	8.3	.24	.30	.009	4.90
BCD20675	.780	.28	4.2	.12	.22	.006	5.00
BCD20676	.196	.50	3.6	.11	.37	.011	4.90
BCD20677	.860	.26	6.2	.18	.46	.013	4.95
BCD20678	.980	.32	5.4	.16	.52	.015	4.95
BCD20679	.410	.02	4.2	.12	.25	.007	4.51
BCD20680	2.190	.05	6.3	.18	.20	.006	4.46

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TELEPHONE: (705) 264-9996

Certificate of Assay

9V-0429-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-09-89
Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

He hereby certify the following Assay of 8 CORE samples submitted JUN-05-89 by J.HOLLAND.

Sample Number	CU %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON	SPECIFIC GRAVITY
BCD20681	1.240	.30	6.2	.18	.61	.018	4.72
BCD20682	3.280	.68	10.0	.29	.44	.013	4.42
BCD20683	.025	.04	2.1	.06	.01	.001	2.98
BCD20684	.270	.04	2.0	.06	.02	.001	3.62
BCD20685	2.210	.17	6.6	.19	.24	.007	4.39
BCD20686	.095	.01	1.8	.05	.02	.001	3.65
BCD20687	4.500	1.32	13.8	.40	.39	.011	4.28
BCD20688	.158	.03	1.7	.05	.04	.001	3.31
BCD20689	.067	.01	1.9	.06	.01	.001	3.14

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TELEPHONE: (705) 264-9996

Certificate of Assay

9V-0453-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-13-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

He hereby certify the following Assay of 30 CORE samples submitted JUN-07-89 by A.LOWE.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON
BCD 20690	.022	.01	.01	3.8	.11	.17	.005
BCD 20691	3.210	.02	.20	11.9	.35	1.35	.039
BCD 20692	3.540	.01	.04	10.7	.31	.79	.023
BCD 20693	3.020	.01	.05	10.9	.32	.64	.019
BCD 20694	1.170	.02	.03	6.2	.18	.43	.013
BCD 20695	1.280	.02	.02	7.8	.23	.58	.017
BCD 20696	1.770	.01	.01	6.3	.18	.39	.011
BCD 20697	3.250	.01	.02	7.9	.23	.42	.012
BCD 20698	4.950	.02	.02	10.2	.30	.67	.020
BCD 20699	2.630	.02	.04	6.4	.19	.44	.013
BCD 20700	1.210	.02	.01	7.8	.23	.68	.020
BCD 20726	1.880	.02	.07	9.3	.27	.59	.017
BCD 20727	12.400	.02	.75	28.1	.82	1.15	.034
BCD 20728	15.300	.06	1.26	31.9	.93	1.21	.035
BCD 20729	4.640	.11	2.64	22.3	.65	1.32	.039
BCD 20730	.240	.01	.11	1.8	.05	.09	.003
BCD 20731	.042	.01	.04	1.4	.04	.03	.001
BCD 20732	.408	.02	.06	3.9	.11	.59	.017
BCD 20733	1.000	.03	.24	7.8	.23	.54	.016
BCD 20734	2.760	.04	1.24	14.2	.41	.63	.018
BCD 20735	1.940	.04	.56	15.9	.46	.42	.012
BCD 20736	2.710	.04	.66	12.1	.35	.39	.011
BCD 20737	1.860	.04	.42	14.3	.42	.38	.011
BCD 20738	1.350	.03	.40	12.4	.36	.39	.011
BCD 20739	2.900	.04	.66	10.3	.30	.41	.012
BCD 20740	.568	.04	.52	11.8	.34	.40	.012
BCD 20741	.727	.02	.34	7.9	.23	.38	.011
BCD 20742	1.180	.03	.28	9.8	.29	.57	.017
BCD 20743	2.240	.02	.24	10.4	.30	.46	.013
BCD 20744	.750	.02	.26	8.3	.24	.58	.017

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TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Certificate of Assay

9V-0453-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-13-89
Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

He hereby certify the following Assay of 26 CORE samples submitted JUN-07-89 by A.LOWE.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON
BCD 20745	1.800	.02	.17	13.3	.39	.61	.018
BCD 20746	1.790	.02	.07	12.2	.36	.44	.013
BCD 20747	3.180	.02	.36	13.8	.40	.58	.017
BCD 20748	3.520	.01	.45	14.9	.43	.73	.021
BCD 20749	1.830	.01	.14	11.0	.32	.72	.021
BCD 20750	2.560	.02	.16	12.2	.36	.69	.020
BCD 20751	1.000	.01	.03	10.4	.30	.66	.019
BCD 20752	.453	.01	.01	8.1	.24	.64	.019
BCD 20753	1.660	.01	.19	10.6	.31	.61	.018
BCD 20754	1.310	.03	.54	13.7	.40	.84	.025
BCD 20755	1.470	.03	.38	12.2	.36	.67	.020
BCD 20756	.529	.02	.44	8.4	.25	.94	.027
BCD 20757	2.800	.10	1.70	23.7	.69	1.68	.049
BCD 20758	.860	.14	4.33	19.9	.58	1.96	.057
BCD 20759	.163	.01	.08	3.7	.11	.14	.004
BCD 20760	5.110	.06	1.18	27.7	.81	1.59	.046
BCD 20761	10.650	.04	.60	42.3	1.23	2.51	.073
BCD 20762	1.210	.06	1.14	13.9	.41	1.11	.032
BCD 20763	1.560	.01	.05	9.7	.28	.66	.019
BCD 20764	1.370	.01	.04	7.7	.22	.61	.018
BCD 20765	.192	.01	.01	2.1	.06	.03	.001
BCD 20766	.064	.01	.01	1.2	.04	.04	.001
BCD 20767	.083	.01	.01	1.8	.05	.01	.001
BCD 20768	2.220	.01	.01	6.3	.18	.05	.001
BCD 20769	.374	.01	.01	2.2	.06	.01	.001
BCD 20797	.015	.01	.03	2.3	.07	.02	.001

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TIMMINS OFFICE:
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P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0453-PA1

Company: MINNOVA INC.,
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-25-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

He hereby certify the following Assay of 30 PULP samples submitted JUN-22-89 by C.WILD.

Sample Number	SPECIFIC GRAVITY
BCD20690	2.78
BCD20691	4.25
BCD20692	4.44
BCD20693	4.22
BCD20694	3.98
BCD20695	4.26
BCD20696	4.31
BCD20697	4.50
BCD20698	4.39
BCD20699	4.43
BCD20700	4.37
BCD20726	4.52
BCD20727	4.23
BCD20728	4.10
BCD20729	4.08
BCD20730	2.62
BCD20731	3.23
BCD20732	4.03
BCD20733	4.01
BCD20734	4.44
BCD20735	4.46
BCD20736	4.09
BCD20737	4.45
BCD20738	4.39
BCD20739	4.15
BCD20740	4.40
BCD20741	4.48
BCD20742	4.38
BCD20743	4.17
BCD20744	4.40

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Assay Certificate

9V-0453-PA2

Company: MINNOVA INC.,
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-25-89

Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 26 PULP samples submitted JUN-22-89 by C.WILD.

Sample Number	SPECIFIC GRAVITY
BCD20745	4.39
BCD20746	4.40
BCD20747	4.26
BCD20748	4.60
BCD20749	4.63
BCD20750	4.43
BCD20751	4.42
BCD20752	4.59
BCD20753	4.54
BCD20754	4.69
BCD20755	4.62
BCD20756	4.56
BCD20757	4.51
BCD20758	4.11
BCD20759	2.96
BCD20760	4.10
BCD20761	4.31
BCD20762	4.47
BCD20763	4.46
BCD20764	4.29
BCD20765	3.29
BCD20766	2.79
BCD20767	2.88
BCD20768	3.60
BCD20769	2.60
BCD20797	3.57

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TELEPHONE: (705) 264-9996

Assay Certificate

9V-0467-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-15-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

He hereby certify the following Assay of 30 ROCK samples submitted JUN-08-89 by A.LOWE.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON
BCD20776	.008	.01	.01	1.8	.05	.01	.001
BCD20777	1.120	.02	.14	7.9	.23	.45	.013
BCD20778	2.860	.01	.06	8.7	.25	.43	.013
BCD20779	3.410	.01	.47	12.2	.36	.40	.012
BCD20780	1.700	.01	.20	10.4	.30	.23	.007
BCD20781	2.920	.01	.30	10.3	.30	.21	.006
BCD20782	1.630	.01	.14	7.0	.20	.17	.005
BCD20783	.820	.01	.20	4.1	.12	.05	.001
BCD20784	1.290	.01	.15	4.3	.13	.01	.001
BCD20785	.880	.01	.12	3.8	.11	.23	.007
BCD20786	.750	.01	.02	3.0	.09	.07	.002
BCD20787	.482	.01	.02	2.2	.06	.02	.001
BCD20788	.143	.01	.01	0.7	.02	.04	.001
BCD20789	.023	.01	.01	0.6	.02	.01	.001
BCD20790	.032	.02	.01	1.2	.04	.02	.001
BCD20791	.006	.01	.01	2.5	.07	.03	.001
BCD20792	.103	.01	.02	3.2	.09	.02	.001
BCD20793	.040	.01	.01	2.9	.08	.02	.001
BCD20794	.001	.01	.02	0.4	.01	.02	.001
BCD20795	.001	.02	.01	0.3	.01	.01	.001
BCD20796	.003	.01	.01	2.1	.06	.01	.001

BCD20762-BCD20769-NO SAMPLE
BCD20797-NO SAMPLE

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TIMMINS OFFICE:
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TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0467-RA3

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-14-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 17 ROCK samples submitted JUN-08-89 by A.LOWE.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON
BCD20798	.008	.01	.06	2.0	.06	.03	.001
BCD20799	.018	.01	.02	2.2	.06	.02	.001
BCD20800	.252	.01	.04	2.1	.06	.03	.001
BCD20801	.002	.01	.01	2.0	.06	.02	.001
BCD20802	.001	.01	.02	2.6	.08	.01	.001
BCD20803	.307	.01	.03	2.3	.07	.03	.001
BCD20804	.008	.01	.01	2.0	.06	.04	.001
BCD20805	.267	.01	.01	2.1	.06	.03	.001
BCD20806	.132	.01	.01	2.4	.07	.01	.001
BCD20807	.007	.01	.01	1.9	.06	.04	.001
BCD20808	.028	.01	.01	1.6	.05	.02	.001
BCD20809	.006	.01	.02	1.8	.05	.01	.001
BCD20810	.173	.01	.03	2.3	.07	.37	.011
BCD20811	.815	.01	.01	2.5	.07	.31	.009
BCD20812	.022	.01	.01	3.4	.10	.02	.001
BCD20813	.012	.01	.01	2.4	.07	.03	.001
BCD20814	.006	.01	.01	1.8	.05	.02	.001

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TELEPHONE: (705) 264-9996

Assay Certificate

9V-0467-PA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-25-89

Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 21 PULP samples submitted JUN-22-89 by C.WILD.

Sample Number	SPECIFIC GRAVITY
BCD20776	2.90
BCD20777	3.90
BCD20778	4.00
BCD20779	4.00
BCD20780	3.74
BCD20781	3.52
BCD20782	3.47
BCD20783	3.10
BCD20784	3.10
BCD20785	3.03
BCD20786	3.00
BCD20787	2.98
BCD20788	2.82
BCD20789	2.74
BCD20790	2.93
BCD20791	3.73
BCD20792	3.67
BCD20793	3.96
BCD20794	2.94
BCD20795	3.01
BCD20796	3.60

BCD20762 - BCD20769 NO SAMPLE
BCD20797 NO SAMPLE

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TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0467-PA3

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-25-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 17 PULP samples submitted JUN-22-89 by C.WILD.

Sample Number	SPECIFIC GRAVITY
BCD20798	3.99
BCD20799	3.74
BCD20800	3.68
BCD20801	3.49
BCD20802	4.19
BCD20803	3.97
BCD20804	3.57
BCD20805	3.26
BCD20806	3.61
BCD20807	3.95
BCD20808	3.18
BCD20809	3.12
BCD20810	3.07
BCD20811	3.10
BCD20812	4.03
BCD20813	3.70
BCD20814	2.77

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TELEPHONE: (705) 264-9996

Assay Certificate

9V-0468-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-14-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

He hereby certify the following Assay of 30 ROCK samples submitted JUN-11-89 by JAMIE HOLLAND.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON
BCD20829	.026	.01	.01	0.3	.01	.01	.001
BCD20830	.432	.02	.09	9.4	.27	1.20	.035
BCD20831	10.040	.05	.61	46.3	1.35	3.44	.100
BCD20832	1.220	.04	.44	13.8	.40	2.31	.067
BCD20833	1.350	.02	.07	14.1	.41	2.25	.066
BCD20834	.752	.02	.02	9.4	.27	1.11	.032
BCD20835	2.730	.01	.10	14.4	.42	1.02	.030
BCD20836	.486	.01	.01	5.2	.15	.20	.006
BCD20837	.316	.01	.02	4.0	.12	.18	.005
BCD20838	.312	.01	.04	4.0	.12	.07	.002
D20839	.204	.01	.01	4.7	.14	.22	.006
BCD20840	.111	.01	.03	1.0	.03	.01	.001
BCD20841	.014	.01	.02	0.8	.02	.04	.001
BCD20842	.035	.01	.17	2.5	.07	.30	.009
BCD20843	.890	.57	1.79	25.0	.73	.28	.008
BCD20844	.006	.01	.02	2.2	.06	.01	.001
BCD20845	2.130	.02	.13	14.2	.41	1.07	.031
BCD20846	3.350	.01	.09	12.2	.36	.61	.018
BCD20847	.825	.01	.02	8.5	.25	.44	.013
BCD20848	1.270	.04	.40	14.1	.41	.58	.017
BCD20849	1.480	.01	.10	4.5	.13	.20	.006
BCD20850	.042	.01	.01	1.7	.05	.01	.001
BCD20814	MISSING						
BCD20815	.010	.01	.01	2.2	.06	.19	.006
BCD20816	2.230	.02	.16	17.6	.51	1.00	.029
BCD20817	1.820	.01	.07	12.8	.37	1.11	.032
BCD20818	.995	.02	.04	8.6	.25	.82	.024
BCD20819	.720	.01	.04	8.7	.25	1.83	.053
BCD20820	1.110	.03	.16	14.1	.41	2.44	.071
BCD20821	1.860	.05	.20	18.0	.53	3.11	.091

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TIMMINS OFFICE:
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TELEPHONE: (705) 264-9996

Assay Certificate

9V-0468-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-15-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 30 ROCK samples submitted JUN-11-89 by JAMIE HOLLAND.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON
BCD20822	2.190	.16	3.22	25.8	.75	3.01	.088
BCD20823	.728	.02	.70	10.2	.30	1.71	.050
BCD20824	.201	.01	.04	2.2	.06	.39	.011
BCD20825	.490	.03	.09	6.0	.18	.58	.017
BCD20826	.370	.01	.14	4.8	.14	.43	.013
BCD20827	.442	.02	.16	8.2	.24	.41	.012
BCD20828	.039	.01	.01	1.7	.05	.18	.005
BCD20876	.149	.01	.01	1.0	.03	.16	.005
BCD20877	.005	.01	.01	0.4	.01	.02	.001
BCD20878	.001	.01	.01	0.3	.01	.04	.001

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P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0468-PA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-25-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 29 PULP samples submitted JUN-22-89 by C.WILD.

Sample Number	SPECIFIC GRAVITY
BCD20829	2.66
BCD20830	3.79
BCD20831	4.14
BCD20832	4.49
BCD20833	4.41
BCD20834	4.28
BCD20835	3.97
BCD20836	4.43
BCD20837	4.37
BCD20838	4.42
BCD20839	4.50
BCD20840	2.94
BCD20841	2.86
BCD20842	2.86
BCD20843	2.92
BCD20844	2.79
BCD20845	4.15
BCD20846	4.42
BCD20847	4.38
BCD20848	4.09
BCD20849	3.94
BCD20850	2.80
BCD20814	N/S
BCD20815	2.76
BCD20816	4.51
BCD20817	4.76
BCD20818	4.62
BCD20819	4.68
BCD20820	4.68
BCD20821	4.44

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P.O. BOX 867
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TELEPHONE: (705) 264-9996

Assay Certificate

9V-0468-PA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-25-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., BARRIERE, B.C.

We hereby certify the following Assay of 10 PULP samples submitted JUN-22-89 by C.WILD.

Sample Number	SPECIFIC GRAVITY
BCD20822	4.67
BCD20823	4.31
BCD20824	3.27
BCD20825	3.66
BCD20826	3.44
BCD20827	3.25
BCD20828	2.79
BCD20876	3.08
BCD20877	2.87
BCD20878	2.79

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Assay Certificate

9V-0478-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-17-89
Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 25 ROCK samples submitted JUN-13-89 by J.HOLLAND.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON	SPECIFIC GRAVITY
BCD11876	0.104	0.01	0.03	2.0	.06	0.01	.001	2.98
BCD11877	0.012	0.01	0.01	1.4	.04	0.01	.001	2.91
BCD11878	0.014	0.01	0.01	1.1	.03	0.02	.001	3.03
BCD11879	0.011	0.01	0.01	0.7	.02	0.02	.001	2.87
BCD11880	0.006	0.01	0.02	0.6	.02	0.01	.001	2.73
BCD11881	0.143	0.01	0.04	5.8	.17	0.01	.001	2.81
BCD11882	0.062	0.01	0.02	1.7	.05	0.03	.001	2.78
BCD11883	0.064	0.01	0.02	2.1	.06	0.05	.001	2.81
BCD11884	0.033	0.01	0.04	2.0	.06	0.02	.001	2.83
BCD11885	0.839	0.02	0.06	8.6	.25	0.80	.023	4.59
BCD11886	5.030	0.07	1.04	26.2	.76	1.27	.037	4.43
BCD11887	0.915	0.02	0.06	6.0	.18	0.43	.013	4.43
BCD11888	1.340	0.04	0.31	12.9	.38	0.62	.018	4.47
BCD11889	10.400	0.04	0.52	24.3	.71	1.01	.029	4.39
BCD11890	7.100	0.06	0.56	27.8	.81	1.07	.031	4.51
BCD11891	6.550	0.02	0.31	21.9	.64	0.75	.022	4.59
BCD11892	3.420	0.04	0.44	16.2	.47	0.98	.029	4.59
BCD11893	2.180	0.06	1.01	16.7	.49	0.95	.028	4.55
BCD11894	1.990	0.16	2.94	18.1	.53	0.76	.022	4.47
BCD11895	0.168	0.01	0.05	1.9	.06	0.06	.002	2.79
BCD11896	3.710	0.05	0.12	15.8	.46	0.65	.019	4.27
BCD11897	2.980	0.02	0.49	13.9	.41	0.62	.018	4.67
BCD11898	6.700	0.02	1.03	22.3	.65	0.83	.024	4.55
BCD11899	7.350	0.04	0.48	27.8	.81	1.00	.029	4.43
BCD11900	0.284	0.01	0.03	2.0	.06	0.02	.001	2.86

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TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0524-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-25-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

He hereby certify the following Assay of 13 CORE samples submitted JUN-19-89 by J.HOLLAND.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON	SPECIFIC GRAVITY
BCD21951	1.205	.02	.48	8.3	.24	.82	.024	4.4
BCD21952	3.710	.03	1.11	16.2	.47	.84	.025	3.9
BCD21953	1.140	.02	.67	10.0	.29	.69	.020	4.2
BCD21954	4.890	.02	.69	20.4	.60	.60	.018	3.9
BCD21955	2.980	.03	.41	17.7	.52	.42	.012	4.4
BCD21956	2.470	.02	.40	19.0	.55	1.13	.033	4.1
BCD21957	1.690	.05	.37	23.9	.70	1.81	.053	4.0
BCD21958	12.250	.11	.43	76.2	2.22	3.95	.115	3.7
BCD21959	3.580	.10	1.02	35.8	1.04	2.01	.059	4.0
BCD21960	.392	.01	.13	3.9	.11	.34	.010	2.7
BCD21961	.228	.01	.02	1.7	.05	.02	.001	2.8
CD21962	.269	.01	.06	7.6	.22	.04	.001	3.1
BCD21963	.072	.02	.31	2.1	.06	.21	.006	2.8

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Assay Certificate

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9V-0556-RA1

Company: MINNOVA INC.
Project: CHU CHUA 6/6
Attn: C.WILD/I.PIRIE

Date: JUL-01-89

Copy 1. MINNOVA, BARRIERE, B.C.
2. MINNOVA, VANCOUVER, B.C.

We hereby certify the following Assay of 30 CORE samples submitted JUN-23-89 by A.LOWE.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON	SPECIFIC GRAVITY
BCD22501	2.250	0.02	0.18	7.9	.23	0.42	.012	4.04
BCD22502	1.390	0.01	0.13	6.8	.20	0.56	.016	4.36
BCD22503	1.520	0.01	0.48	7.5	.22	0.50	.015	4.12
BCD22504	1.500	0.01	0.31	6.4	.19	0.38	.011	4.25
BCD22505	1.690	0.02	0.27	8.7	.25	0.43	.013	4.46
BCD22506	1.120	0.01	0.42	9.2	.27	0.42	.012	4.63
BCD22507	1.530	0.01	0.11	9.8	.29	0.53	.015	4.55
BCD22508	0.810	0.01	0.19	5.3	.15	0.25	.007	4.71
BCD22509	0.895	0.01	0.21	6.8	.20	0.39	.011	4.76
BCD22510	1.020	0.01	0.09	8.2	.24	0.42	.012	4.57
CD22511	1.200	0.02	0.40	9.7	.28	0.62	.018	4.63
BCD22512	2.620	0.12	1.83	31.0	.90	1.37	.040	4.47
BCD22513	1.080	0.11	2.06	23.8	.69	1.68	.049	4.36
BCD22526	0.720	0.01	0.05	3.7	.11	0.08	.002	3.67
BCD22527	3.200	0.01	0.02	9.6	.28	0.18	.005	4.21
BCD22528	0.507	0.01	0.03	3.9	.11	0.56	.016	4.77
BCD22529	1.090	0.02	0.06	5.7	.17	0.41	.012	4.62
BCD22530	3.970	0.02	0.08	10.6	.31	0.48	.014	4.54
BCD22531	2.840	0.01	0.09	8.1	.24	0.40	.012	4.68
BCD22532	2.180	0.01	0.03	11.8	.34	0.43	.013	4.84
BCD22533	3.680	0.02	0.21	10.4	.30	0.41	.012	4.44
BCD22534	3.030	0.01	0.06	5.8	.17	0.02	.001	3.10
BCD22535	6.850	0.01	0.02	16.2	.47	0.46	.013	4.41
BCD22536	4.290	0.01	0.03	6.4	.19	0.04	.001	3.10
BCD22537	6.900	0.02	0.09	16.3	.48	0.55	.016	4.25
BCD22538	0.885	0.03	0.50	6.9	.20	0.38	.011	4.54
BCD22539	1.060	0.02	1.02	6.2	.18	0.37	.011	4.65
BCD22540	0.620	0.01	0.06	4.4	.13	0.44	.013	4.50
BCD22541	0.730	0.01	0.09	4.3	.13	0.24	.007	4.31
BCD22542	0.421	0.01	0.03	4.3	.13	0.35	.010	4.16

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TIMMINS OFFICE:
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P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0556-RA2

Company: MINNOVA INC.
Project: CHU CHUA 6/6
Attn: C.WILD/I.PIRIE

Date: JUL-01-89
Copy 1. MINNOVA, BARRIERE, B.C.
2. MINNOVA, VANCOUVER, B.C.

We hereby certify the following Assay of 16 CORE samples submitted JUN-23-89 by A.LOWE.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON	SPECIFIC GRAVITY
BCD22543	1.310	0.02	0.02	5.8	.17	0.27	.008	4.65
BCD22544	1.400	0.01	0.09	6.2	.18	0.21	.006	4.51
BCD22545	1.870	0.02	0.07	6.4	.19	0.22	.006	4.50
BCD22546	1.180	0.02	0.03	6.0	.18	0.23	.007	4.69
BCD22547	0.690	0.01	0.44	3.5	.10	0.17	.005	4.73
BCD22548	0.193	0.01	0.27	2.0	.06	0.04	.001	4.54
BCD22549	0.680	0.01	0.18	2.6	.08	0.03	.001	3.65
BCD22550	2.370	0.01	1.05	7.4	.22	0.93	.027	3.81
BCD22551	2.300	0.03	0.68	8.3	.24	1.18	.034	4.25
BCD22552	10.500	0.02	0.73	22.4	.65	2.02	.059	4.28
CD22553	1.030	0.03	0.08	6.5	.19	1.00	.029	4.42
BCD22554	7.990	0.04	0.83	16.9	.49	1.29	.038	4.62
BCD22555	0.985	0.01	0.13	4.7	.14	0.84	.025	4.49
BCD22556	1.230	0.02	0.44	4.6	.13	1.03	.030	4.45
BCD22557	2.070	0.02	0.02	5.1	.15	0.16	.005	3.38
BCD22523	0.476	0.01	0.01	1.8	.05	0.06	.002	3.97

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TELEPHONE: (705) 264-9996

Assay Certificate

9V-0589-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUL-03-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 13 ROCK samples submitted JUL-28-89 by JAMIE HOLLAND.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON	SPECIFIC GRAVITY
BCD1851	1.690	0.03	0.68	10.3	.30	0.80	.023	4.5
BCD1852	1.610	0.02	0.42	10.2	.30	0.65	.019	4.7
BCD1853	1.880	0.01	0.61	10.0	.29	0.53	.015	4.6
BCD1854	3.120	0.02	1.28	12.3	.36	0.60	.018	4.3
BCD1855	2.460	0.04	0.86	11.9	.35	0.77	.022	5.0
BCD1856	0.610	0.02	0.19	13.4	.39	0.40	.012	4.7
BCD1857	5.920	0.04	1.31	20.0	.58	1.03	.030	4.4
BCD1858	0.695	0.02	0.18	7.6	.22	0.45	.013	4.6
BCD1859	0.382	0.01	0.10	4.1	.12	0.20	.006	4.3
BCD1860	0.388	0.01	0.07	6.2	.18	0.18	.005	4.3
BCD1861	2.010	0.01	0.08	8.4	.25	0.35	.010	4.3
BCD22876	0.804	0.06	0.70	10.1	.29	1.80	.053	4.6
BCD22881	6.300	0.02	0.53	20.2	.59	0.59	.017	3.9

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TELEPHONE: (705) 264-9996

Assay Certificate

9V-0577-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUL-04-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 30 CORE samples submitted JUN-28-89 by A.LOWE.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON	SPECIFIC GRAVITY
BCD22579	.738	.03	.10	4.8	.14	.47	.014	4.12
BCD22580	.942	.03	.20	6.1	.18	.44	.013	4.33
BCD22581	3.280	.06	8.20	12.2	.36	.46	.013	4.14
BCD22582	1.760	.04	.19	8.3	.24	.41	.012	4.54
BCD22583	1.270	.03	.11	6.2	.18	.78	.023	4.42
BCD22584	.359	.02	.18	4.1	.12	.21	.006	3.54
BCD22585	1.080	.04	.61	5.9	.17	.59	.017	4.41
BCD22586	.532	.02	.23	4.8	.14	.22	.006	4.08
BCD22587	.719	.04	.30	6.0	.18	.60	.018	4.49
BCD22588	.918	.04	.76	6.2	.18	.61	.018	4.[illegible]
BCD22589	.182	.02	.08	4.0	.12	.49	.014	4.67
BCD22590	.447	.02	.12	4.1	.12	.38	.011	4.60
BCD22591	1.090	.03	.11	7.9	.23	.49	.012	4.20
BCD22592	2.440	.04	.16	11.7	.34	.42	.012	4.41
BCD22593	1.660	.04	.12	10.2	.30	.59	.017	4.49
BCD22594	.924	.07	2.06	7.8	.23	.58	.017	4.64
BCD22595	.943	.06	.83	7.1	.21	.46	.013	4.81
BCD22596	.374	.02	.24	7.9	.23	.43	.013	4.60
BCD22597	9.900	.02	1.16	38.3	1.12	.96	.028	4.19
BCD22598	2.470	.02	.68	14.0	.41	.39	.011	4.38
BCD22599	.378	.01	.04	2.2	.06	.02	.001	3.06
BCD22600	1.140	.02	.72	5.9	.17	.33	.010	4.51
BCD22601	1.190	.02	.51	5.7	.17	.22	.006	4.61
BCD22602	.688	.01	.26	3.0	.09	.24	.007	4.57
BCD22603	.189	.01	.37	2.1	.06	.19	.006	4.59
BCD22604	.579	.02	.46	2.0	.06	.20	.006	4.67
BCD22605	.446	.01	.23	2.3	.07	.04	.001	4.66
BCD22606	.183	.01	.01	1.9	.06	.01	.001	3.73
BCD22607	2.020	.01	.02	4.1	.12	.08	.002	3.31
BCD22608	.846	.01	.01	3.8	.11	.02	.001	3.06

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TELEPHONE: (705) 264-9996

Assay Certificate

9V-0577-RA2

Company: MINNOVA INC.
Project: CHU CHUA 6/6
Attn: C.WILD/I.PIRIE

Date: JUL-04-89
Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 8 ROCK samples submitted JUN-28-89 by A.LOWE.

Sample Number	CU %	PB %	ZN %	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON	SPECIFIC GRAVITY
BCD22609	1.820	.02	.02	5.9	.17	.21	.006	3.72
BCD22610	.234	.01	.01	2.2	.06	.04	.001	3.80
BCD22611	.151	.01	.01	3.9	.11	.02	.001	3.79
BCD22612	1.230	.01	.28	2.8	.08	.19	.006	4.28
BCD22613	1.280	.01	.06	3.7	.11	.18	.005	4.51
BCD22614	2.060	.02	.31	5.8	.17	.20	.006	4.39
BCD22615	.682	.04	1.12	8.2	.24	.54	.016	4.63
BCD22616	.679	.03	.73	11.8	.34	.61	.018	4.63

Certified by _____

MIN-EN LABORATORIES

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SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9V-0430-RG2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILDE/I.PIRIE

Date: JUN-11-89
Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted JUN-05-89 by J.HOLLAND.

Sample Number	LOI %
BCD22351	4.65
BCD22352	3.50
BCD22353	3.70
BCD22354	10.90
BCD22355	8.95
BCD22356	4.75
BCD22357	4.85
BCD22358	6.10
BCD22359	7.75
BCD22362	7.35
CD22363	9.75
CD22364	6.70
9ABR001	12.80
9ABR002	6.25
9ABR003	7.00
9ABR004	7.45
9CBR001	4.30
9CBR002	10.85
9CBR003	14.95
9CBR004	11.55
9CBR005	9.75
9CBR006	12.30
9CBR007	3.80
9CBR008	11.05
9CBR009	.25
9CBR010	5.00
9CBR011	7.60
9CBR012	4.25

Certified by

MIN-EN LABORATORIES

COMPANY: MINNOVA INC. MIN-EN LABS ICP REPORT (ACT:F26) PAGE 1 OF 2

PROJECT NO: CHU CHUA 616 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 FILE NO: 9/V/0430/R/L/002

ATTENTION: C.WILDE/I.PIRIE (604)980-5814 OR (604)988-4524 * TYPE ROCK GEOCHEM * DATE: 06-11-198?

(VALUES IN %)	AL2O3	BAT	CAO	FE2O3	K2O	MGO	MNO2	NA2O	P2O5	SIO2	TIO2	S
BCD22351	14.34	.049	10.46	10.83	.11	6.04	.19	2.55	.14	47.78	1.65	.08
BCD22352	14.76	.076	10.80	10.61	.15	5.95	.18	2.88	.13	48.05	1.70	.06
BCD22353	14.53	.107	12.98	10.70	.16	5.94	.19	2.00	.11	47.12	1.68	.06
BCD22354	12.62	.238	13.45	9.48	.52	5.20	.17	1.56	.12	43.22	1.44	.19
BCD22355	14.65	.526	8.64	11.80	.86	6.64	.19	1.10	.13	47.68	1.71	.34
BCD22356	14.42	1.252	8.98	11.09	.75	6.17	.19	1.36	.14	48.28	1.69	.67
BCD22357	14.47	2.215	9.56	10.85	1.06	6.16	.19	1.64	.10	46.17	1.70	1.61
BCD22358	13.87	4.581	8.59	10.67	1.01	6.14	.18	.82	.11	45.17	1.61	2.68
BCD22359	13.82	6.397	7.22	10.53	.23	6.37	.17	.01	.13	44.75	1.59	3.05
BCD22362	9.41	.716	1.09	10.75	.52	10.94	.15	.01	.08	57.34	.68	2.20
BCD22363	13.29	1.898	9.53	9.88	.91	5.77	.21	.84	.13	45.21	1.54	1.06
BCD22364	14.25	.705	9.49	11.27	.40	6.08	.20	2.48	.14	45.62	1.67	.39
9ABR001	15.08	.086	8.21	7.41	2.70	3.21	.05	2.10	.05	46.59	.64	.09
9ABR002	17.62	.089	2.80	7.39	1.93	3.87	.09	4.20	.09	54.13	.78	.06
9ABR003	17.14	.128	3.79	7.14	1.99	4.11	.08	3.35	.06	53.38	.74	.06
9ABR004	16.21	.052	7.00	6.58	2.74	1.36	.06	1.37	.06	55.50	.65	.06
9CBR001	9.65	.011	2.98	4.71	.21	.88	.16	5.30	.01	70.86	.30	1.62
9CBR002	13.99	.093	7.89	6.23	2.23	2.32	.08	1.47	.03	54.01	.60	.08
9CBR003	15.44	.071	9.11	7.54	2.09	3.16	.08	1.64	.08	44.10	.68	.06
9CBR004	17.61	.099	7.63	5.58	2.70	2.32	.09	1.76	.05	48.82	.77	.06
9CBR005	17.34	.092	8.93	6.85	2.78	2.84	.10	1.54	.09	48.12	.79	.08
9CBR006	17.11	.091	9.77	6.50	3.18	2.31	.07	2.10	.09	45.01	.79	.01
9CBR007	1.78	.012	.01	8.88	.12	.24	.02	.74	.01	83.63	.03	.28
9CBR008	14.01	.047	11.08	5.52	1.91	1.50	.07	1.10	.07	52.14	.56	.06
9CBR009	.17	.005	.01	.42	.01	.02	.01	.01	.01	98.12	.01	.06
9CBR010	.23	.005	.01	.37	.01	.01	.01	.09	.01	93.38	.01	.09
9CBR011	15.40	.077	5.07	5.29	1.32	1.70	.10	6.55	.01	55.39	.61	.06
9CBR012	19.29	.079	1.51	7.30	1.02	2.89	.03	7.06	.06	54.62	.81	.06

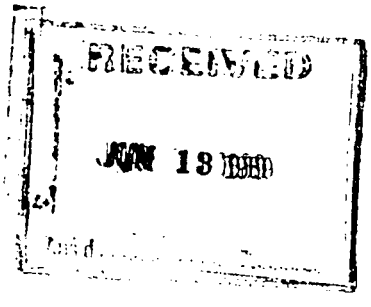
(VALUES IN %)	TOT(%)
BCD22351	94.22
BCD22352	95.36
BCD22353	95.59
BCD22354	88.20
BCD22355	90.28
BCD22356	94.99
BCD22357	95.72
BCD22358	95.45
BCD22359	94.29
BCD22362	93.88
BCD22363	90.18
BCD22364	92.69
9ABR001	86.20
9ABR002	93.06
9ABR003	91.98
9ABR004	91.64
9CBR001	96.68
9CBR002	89.02
9CBR003	84.36
9CBR004	87.49
9CBR005	89.54
9CBR006	87.02
9CBR007	95.74
9CBR008	88.06
9CBR009	98.81
9CBR010	94.16
9CBR011	91.58
9CBR012	94.72

COMPANY: MINNOVA INC.
PROJECT NO: CHU CHUA 616
ATTENTION: C.WILDE/I.PIRIE

MIN-EN LABS ICP REPORT
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)989-4524

(ACT:F31) PAGE 1 OF 1
FILE NO: 9/V/0430/R/J/002
* TYPE ROCK GEOCHEM * DATE: 06-10-1989

(VALUES IN PPM)	AG	AS	BA	CU	FB	SB	ZN	AU-FFB
BCD22351	2.4	25	132	63	56	4	114	10
BCD22352	2.4	31	135	58	53	2	91	5
BCD22353	2.7	29	306	60	53	1	88	5
BCD22354	3.0	54	452	141	61	4	93	5
BCD22355	3.0	56	1368	304	77	4	113	10
BCD22356	2.6	47	2580	145	57	2	98	5
BCD22357	2.8	57	7347	91	58	3	93	10
BCD22358	3.3	51	26516	96	62	7	98	5
BCD22359	3.1	39	34240	96	75	8	111	5
BCD22362	.6	42	1053	43	81	5	260	5
BCD22363	1.7	79	10594	60	70	4	104	5
BCD22364	3.4	46	3063	65	62	4	102	10
9ABR001	.8	24	446	21	55	1	96	5
9ABR002	.5	24	302	10	49	1	99	5
9ABR003	.6	20	254	23	46	1	90	5
9ABR004	.3	9	137	35	28	1	81	5
9CBR001	.3	4	98	55	34	1	43	5
9CBR002	.4	12	112	18	32	1	53	5
9CBR003	.6	27	86	18	48	1	90	5
9CBR004	.7	24	98	29	42	1	71	5
9CBR005	.7	23	100	19	48	1	73	5
9CBR006	.7	24	97	23	40	1	60	10
9CBR007	.3	53	40	19	67	1	42	60
9CBR008	.6	16	62	19	39	1	71	5
9CBR009	.1	1	13	7	6	1	11	5
9CBR010	.1	1	13	9	10	1	11	5
9CBR011	.4	16	69	7	34	1	62	5
9CBR012	.3	34	55	21	42	1	98	5



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TIMMINS OFFICE:
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TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9V-0429-LG1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-11-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Geochemical Analysis of 6 CORE samples submitted JUN-05-89 by J.HOLLAND.

Sample Number	LOI %
BCD20701	9.80
BCD20702	7.85
BCD20705	4.85
BCD20706	4.70
BCD20707	4.45
BCD20708	3.55

Certified by

MIN-EN LABORATORIES

COMPANY: MINNOVA INC. MIN-EN LABS ICP REPORT (ACT:F26) PAGE 1 OF 2

PROJECT NO: CHU CHUA 616 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 FILE NO: 9/V0429/L/L/001

ATTENTION: C.WILDE/I.PIRIE (604)980-5814 OR (604)988-4524 * TYPE ROCK GEOCHEM * DATE: 06-11-1989

(VALUES IN %)	AL2O3	BAT	CAO	FE2O3	K2O	MGO	MNO2	NA2O	P2O5	SIO2	TIO2	S
BCD20701	15.45	6.342	2.23	13.93	.12	10.34	.17	.01	.19	38.57	1.80	1.46
BCD20702	15.67	6.988	1.79	12.66	.11	9.39	.16	.01	.22	41.30	1.75	1.99
BCD20705	8.49	2.720	.01	5.72	.88	3.53	.84	.01	.02	69.91	.43	.77
BCD20706	10.49	.834	4.78	8.43	.62	4.05	.40	1.34	.04	61.64	1.00	1.10
BCD20707	13.98	.211	11.67	11.05	.07	6.37	.24	2.90	.14	46.10	1.72	.38
BCD20708	14.79	.236	14.05	10.04	.06	5.43	.19	1.96	.12	46.43	1.53	.01

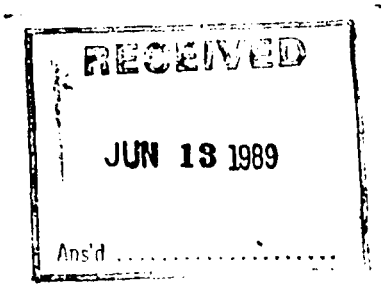
(VALUES IN %)	TOT(%)
BCD20701	90.60
BCD20702	92.03
BCD20705	93.31
BCD20706	94.72
BCD20707	94.53
BCD20708	94.83

COMPANY: MINNOVA INC. | MIN-EN LABS ICP REPORT | (ACT:F31) PAGE 1 OF 1

PROJECT NO: CHU CHUA 616 | 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 | FILE NO: 9/V/0429/L:1/001

ATTENTION: C.WILDE/I.PIRIE | (604)980-5814 OR (604)988-4524 | * TYPE ROCK GEOCHEM * | DATE: 06-11-1989

(VALUES IN PPM)	AG	AS	BA	CU	PB	SB	ZN	AU-FEB
BCD20701	1.2	44	38607	51	80	12	318	5
BCD20702	1.0	40	41689	49	76	12	196	5
BCD20705	.4	26	8418	127	60	1	114	20
BCD20706	1.0	39	1056	282	48	1	87	10
BCD20707	2.7	44	1483	56	46	2	76	5
BCD20708	2.7	28	1641	55	39	1	65	10



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VANCOUVER OFFICE:
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TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0471-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-18-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

He hereby certify the following Assay of 28 ROCK samples submitted JUN-12-89 by ALAN LOWE.

Sample Number	LOI %
BCD20709	2.90
BCD20710	N/S
BCD20711	3.95
BCD20712	4.30
BCD20713	3.50
BCD20714	4.40
BCD20715	4.55
BCD20716	3.85
BCD20717	4.85
BCD20718	3.70
CD20719	2.25
BCD20720	2.80
BCD20721	3.45
BCD20722	4.45
BCD20723	7.30
BCD20724	4.60
BCD20725	8.65
BCD20879	7.70
BCD20880	9.05
BCD20881	3.20
BCD20882	2.95
BCD20883	8.80
BCD20884	4.40
BCD20885	3.65
BCD20886	7.85
BCD20887	10.90
BCD20888	6.30
BCD20889	3.00
BCD20890	N/S
BCD20891	1.95

Certified by _____

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VANCOUVER OFFICE:
705 WEST 15TH S[illegible]
NORTH VANCOUVER, B[illegible] CANADA V7M 1T2
TELEPHONE (604) 9[illegible]5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7[illegible]1067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0471-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-18-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

He hereby certify the following Assay of 1 ROCK samples submitted JUN-12-89 by ALAN LOWE.

Sample Number	LOI %
BBCD20892	6.40

Certified by _____

MIN-EN LABORATORIES

COMPANY: MINNOVA INC. | MIN-EN LABS ICP REPORT | PAGE 1 OF 2

PROJECT NO: CHU CHUA 616 | 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 | FILE NO: 87-0471/R-1-001

ATTENTION: C.WILD/I.PIRIE | (604)980-5814 OR (604)988-4524 | * TYPE ROCK GEOCHEM * | DATE: 06-18-1987

(VALUES IN %)		AL2O3	BAT	CAO	FE2O3	K2O	MGO	MNO2	NA2O	P2O5	SIO2	TIO2	
BCD20709		14.95	1.611	8.79	11.61	1.03	6.04	.18	2.05	.13	47.78	1.73	1.91
BCD20710	N/S												
BCD20711		8.25	4.007	.01	4.82	.57	2.21	.72	.01	.04	73.93	.30	2.84
BCD20712		8.41	.557	2.82	5.30	.98	2.47	.38	.85	.01	72.17	.66	.37
BCD20713		14.41	.382	11.52	10.69	.20	5.38	.20	2.47	.14	48.49	1.67	.68
BCD20714		14.57	.116	11.21	11.78	.25	6.16	.19	2.30	.11	48.37	1.77	.11
BCD20715		14.61	.190	10.32	10.77	.26	6.12	.19	2.87	.13	47.13	1.72	.13
BCD20716		14.55	.598	9.75	10.86	.36	6.33	.19	2.41	.13	48.16	1.70	.70
BCD20717		14.02	.381	10.37	10.22	.30	5.78	.19	2.68	.11	48.51	1.60	.25
BCD20718		14.24	.295	11.67	10.85	.18	5.98	.19	2.39	.11	47.60	1.63	.22
BCD20719		14.59	.337	11.80	11.05	.23	6.12	.19	2.53	.12	47.95	1.69	.26
BCD20720		14.50	.439	11.58	10.97	.24	6.14	.20	2.48	.12	47.76	1.69	.29
BCD20721		14.48	.579	11.21	11.15	.23	6.08	.19	2.21	.10	47.36	1.69	.45
BCD20722		14.52	1.475	10.27	11.44	.44	6.55	.19	1.13	.13	46.72	1.69	1.07
BCD20723		6.55	.050	2.13	15.57	.01	18.27	.06	.01	.08	48.14	.51	4.70
BCD20724		13.93	.554	12.23	10.45	.59	5.81	.18	2.04	.10	46.74	1.74	.33
BCD20725		13.78	.333	10.74	10.35	.64	5.73	.18	1.97	.12	45.16	1.60	.22
BCD20879		14.20	.956	9.24	11.25	.98	6.15	.18	1.54	.13	47.07	1.68	.66
BCD20880		13.51	4.625	8.83	10.06	.71	5.98	.18	.01	.12	44.55	1.57	3.33
BCD20881		14.76	.470	10.29	11.78	.38	6.13	.21	1.42	.12	47.45	1.74	.29
BCD20882		9.70	4.328	.03	1.62	1.97	.78	.01	.05	.01	77.45	.35	2.77
BCD20883		14.15	.840	8.88	10.84	1.51	6.07	.20	.27	.12	47.90	1.67	.69
BCD20884		14.89	.237	9.12	11.34	.27	6.61	.21	2.93	.14	47.24	1.73	.13
BCD20885		13.64	1.685	7.69	7.20	.56	4.05	.14	1.42	.01	57.91	1.07	1.14
BCD20886		13.76	.435	8.88	10.87	.23	6.16	.19	2.73	.12	48.69	1.66	.31
BCD20887		12.19	.202	13.01	9.13	1.03	5.20	.18	1.57	.09	54.30	1.48	.15
BCD20888		13.76	.298	10.76	10.35	.52	5.83	.18	2.67	.12	46.34	1.64	.22
BCD20889		14.34	.177	9.42	11.23	.38	5.89	.20	2.97	.10	48.52	1.66	.13
BCD20890	N/S												
BCD20891		12.55	1.636	1.94	2.36	1.94	.80	.07	.59	.01	71.67	.19	1.97
BCD20892		12.75	.742	6.97	10.52	.63	5.99	.19	1.11	.09	51.69	1.45	.74

(VALUES IN %)		TOT(%)
BCD20709		96.91
BCD20710	N/S	
BCD20711		97.94
BCD20712		94.97
BCD20713		95.73
BCD20714		94.86
BCD20715		94.54
BCD20716		95.44
BCD20717		94.41
BCD20718		95.55
BCD20719		96.86
BCD20720		96.41
BCD20721		95.84
BCD20722		95.83
BCD20723		96.07
BCD20724		94.60
BCD20725		90.83
BCD20879		91.96
BCD20880		93.20
BCD20881		96.04
BCD20882		98.98
BCD20883		91.05
BCD20884		94.84
BCD20885		96.50
BCD20886		91.26
BCD20887		88.24
BCD20888		92.98
BCD20889		96.02
BCD20890	N/S	
BCD20891		98.07
BCD20892		93.07

COMPANY: MINNOVA INC. MIN-EN LABS ICP REPORT (ACT:F31) PAGE 1 OF 1
PROJECT NO: CHU CHUA 616 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 FILE NO. 9[illegible]/0371/R/[illegible]
ATTENTION: C.WILD/I.PIRIE (604)980-5814 OR (604)988-4524 * TYPE ROCK GEOCHEM * DATE: [illegible]

(VALUES IN PPM)	AG	AS	BA	CU	PB	SB	ZN	AU-PPB
BCD20709	.9	40	4594	148	50	1	114	20
BCD20711	.9	37	28629	367	82	1	1549	5
BCD20712	.6	29	1718	93	46	1	107	10
BCD20713	.8	34	1154	53	45	1	79	5
BCD20714	.9	33	224	68	51	2	94	5
BCD20715	.8	36	267	59	44	4	84	5
BCD20716	.8	60	2219	103	50	3	88	10
BCD20717	.7	45	1941	70	53	2	94	5
BCD20718	.9	35	1081	66	45	3	88	5
BCD20719	.6	27	1209	65	49	1	82	5
BCD20720	.6	32	1437	63	41	1	79	5
BCD20721	.7	26	2720	70	43	1	85	10
BCD20722	.8	53	7476	60	51	3	55	5
BCD20723	1.2	66	255	1420	74	7	139	5
BCD20724	.8	32	1795	133	46	1	81	5
BCD20725	1.1	48	892	73	60	5	106	5
BCD20879	1.0	45	3307	109	61	6	107	5
BCD20880	.9	76	31097	48	62	7	101	5
BCD20881	.8	59	1870	63	50	4	109	10
BCD20882	.7	12	9854	23	14	1	41	5
BCD20883	.9	91	1327	60	62	6	94	5
BCD20884	1.1	48	382	60	60	6	108	5
BCD20885	.8	41	9373	47	49	1	90	10
BCD20886	1.0	61	1967	52	63	4	99	5
BCD20887	1.1	56	551	57	59	5	98	5
BCD20888	.9	45	414	58	52	4	87	5
BCD20889	.6	36	362	364	45	2	153	5
BCD20891	.3	1	7982	371	30	1	53	5
BCD20892	1.4	21	1305	489	76	4	535	5

MIN
• EN
LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0512-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-27-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 31 ROCK samples submitted JUN-16-89 by JAMIE HOLLAND.

Sample Number	LOI %
BCD21876	4.15
BCD21877	3.35
BCD21878	3.50
BCD21879	6.00
BCD21880	6.45
BCD21881	7.70
BCD21882	9.35
BCD21883	2.00
BCD21884	1.60
BCD21885	1.30
BCD21886	1.60
BCD21887	1.45
BCD21888	2.95
BCD21889	2.70
BCD21890	8.50
BCD21891	8.45
BCD21892	8.25
BCD21893	8.90
BCD21894	2.15
BCD21895	1.80
BCD21896	3.00
BCD21897	3.25
BCD21898	2.85
BCD21899	6.00
BCD21900	4.60
BCD21901	5.60
BCD21902	7.00
BCD21903	2.55
BCD21904	2.25
BCD21905	1.35
BCD21906	3.00

Certified by _____

MIN-EN LABORATORIES

COMPANY: MINNOVA INC. MIN-EN LABS ICP REPORT (ACT:F26) PAGE 1 OF 2

PROJECT NO: CHU CHUA 616 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 FILE NO: 97-0512/P7+8

ATTENTION: C.WILD/I.PIRIE (604)980-5814 OR (604)988-4524 * TYPE ROCK GEOCHEM * DATE: 06-27-1997

(VALUES IN %)	AL203	BAT	CAO	FE203	K20	MGO	MNO2	NA20	P205	SIO2	TIO2	S
BCD21876	15.24	.063	10.20	11.24	.10	6.13	.21	2.80	.13	45.74	1.79	.06
BCD21877	9.59	.134	6.14	6.10	.39	2.57	.19	1.59	.01	57.87	.87	.02
BCD21878	13.63	.111	7.20	10.41	.06	5.13	.23	4.00	.18	53.05	1.74	[illegible]
BCD21879	11.77	.149	5.46	15.54	.05	7.43	.12	.75	.12	50.05	1.43	.47
BCD21880	14.02	.020	2.53	19.23	.01	11.26	.10	.01	.19	43.18	1.87	.02
BCD21881	13.96	.011	1.81	18.58	.01	10.72	.10	.01	.22	44.02	1.88	.53
BCD21882	7.03	.353	.01	13.46	.93	3.31	.03	.01	.01	63.94	.62	9.20
BCD21883	6.62	.317	.01	4.60	1.04	3.28	.02	.01	.01	80.69	.35	1.05
BCD21884	6.77	.208	.01	3.30	.67	4.62	.02	.01	.01	81.53	.36	.02
BCD21885	6.64	.082	.01	4.38	.32	5.56	.03	.01	.01	80.48	.29	.01
BCD21886	4.41	.035	.20	3.44	.15	3.79	.02	.01	.07	84.98	.21	.01
BCD21887	4.44	.026	.01	3.63	.09	4.30	.02	.01	.01	84.91	.23	.01
BCD21888	6.31	.094	.01	4.11	.28	6.05	.04	.01	.01	78.66	.42	.02
BCD21889	6.08	.187	.66	4.09	.62	4.69	.08	.01	.01	75.70	.49	.03
BCD21890	13.46	.281	3.73	10.27	.71	9.09	.22	1.26	.15	49.46	1.70	.39
BCD21891	15.88	.293	1.40	7.74	.99	15.12	.11	.01	.22	45.62	2.09	.24
BCD21892	15.28	.218	1.86	12.25	.79	12.50	.15	.20	.18	45.50	2.04	.42
BCD21893	14.51	.164	2.29	9.51	.53	14.93	.10	.05	.20	45.94	1.83	.20
BCD21894	6.30	.308	.62	3.81	1.49	2.22	.03	.01	.20	81.74	.28	1.10
BCD21895	5.30	.267	.01	4.03	1.20	1.75	.03	.01	.01	84.73	.28	1.75
BCD21896	6.31	.203	.24	2.61	.88	4.96	.05	.01	.01	80.58	.74	.40
BCD21897	6.52	.203	.57	2.82	.85	5.14	.03	.01	.08	79.54	.26	.56
BCD21898	4.73	.027	1.11	3.59	.08	5.18	.02	.01	.53	80.84	.24	.47
BCD21899	6.43	.007	1.00	8.97	.01	6.89	.04	.01	.01	63.34	.25	3.16
BCD21900	5.70	.123	.62	9.03	.69	4.25	.03	.01	.01	77.63	.27	3.55
BCD21901	9.45	.475	2.67	8.21	1.83	3.35	.16	.01	.01	66.76	.77	1.26
BCD21902	14.44	.342	8.76	11.34	1.07	4.91	.19	2.58	.11	46.64	1.58	1.14
BCD21903	13.84	.175	6.51	8.42	.17	4.00	.14	4.78	.10	56.81	1.48	.09
BCD21904	14.40	.088	11.70	10.98	.13	6.38	.19	2.82	.12	46.42	1.72	.06
BCD21905	14.60	.080	12.51	11.12	.08	6.43	.21	2.78	.14	47.37	1.71	.02
BCD21906	14.58	.189	12.51	11.14	.10	6.39	.20	2.22	.12	46.88	1.70	.13

COMPANY: MINNOVA INC.
PROJECT NO: CHU CHUA 616
ATTENTION: C.WILD/I.PIRIE

MIN-EN LABS ICP REPORT
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9?V?512/R/T/?
* TYPE ROCK GEOCHEM * DATE: 06-27-1987

(VALUES IN %)	TOT(%)
BCD21876	94.70
BCD21877	95.49
BCD21878	95.76
BCD21879	93.33
BCD21880	92.44
BCD21881	91.84
BCD21882	98.90
BCD21883	97.97
BCD21884	97.49
BCD21885	97.79
BCD21886	97.31
BCD21887	97.65
BCD21888	95.99
BCD21889	96.62
BCD21890	90.71
BCD21891	90.70
BCD21892	91.38
BCD21893	90.35
BCD21894	98.11
BCD21895	98.94
BCD21896	96.59
BCD21897	96.57
BCD21898	96.82
BCD21899	96.04
BCD21900	97.81
BCD21901	94.57
BCD21902	93.21
BCD21903	96.49
BCD21904	97.01
BCD21905	97.60
BCD21906	96.16

COMPANY: MINNOVA INC.　　　MIN-EN LABS ICP REPORT　　　(ACT:F31) PAGE 1 OF 1
PROJECT NO: CHU CHUA 616　　　705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2　　　FILE NO: 9/V-0512/R/J.001
ATTENTION: C.WILD/I.PIRIE　　　(604)980-5814 OR (604)988-4524　　　* TYPE ROCK GEOCHEM *　DATE: 06-27-1989

(VALUES IN PPM)	AG	AS	BA	CU	PB	SB	ZN	AU-PPB
BCD21876	2.5	34	340	61	44	1	85	5
BCD21877	.9	30	886	58	33	1	60	10
BCD21878	3.9	38	758	73	47	1	89	5
BCD21879	1.3	34	832	144	65	7	119	5
BCD21880	1.0	1	144	161	97	16	160	5
BCD21881	.9	20	39	607	75	11	143	5
BCD21882	.2	31	79	247	36	1	55	5
BCD21883	.2	26	364	99	28	1	30	5
BCD21884	.3	31	255	12	37	1	34	5
BCD21885	.4	26	131	16	44	2	50	5
BCD21886	.2	33	58	18	37	1	38	15
BCD21887	.5	27	42	6	40	1	34	5
BCD21888	.4	18	174	5	45	1	43	10
BCD21889	.6	34	330	5	34	1	36	5
BCD21890	1.1	24	804	225	73	9	107	5
BCD21891	.9	1	375	154	96	18	107	5
BCD21892	1.1	5	329	157	85	16	140	5
BCD21893	1.2	1	762	80	86	17	93	5
BCD21894	1.2	29	626	593	33	1	158	5
BCD21895	.3	17	426	274	17	1	259	5
BCD21896	.7	28	443	126	43	1	88	5
BCD21897	.6	32	468	48	44	2	68	5
BCD21898	.8	34	72	52	60	4	76	5
BCD21899	1.4	27	19	375	77	6	213	5
BCD21900	1.8	51	181	563	54	5	181	10
BCD21901	1.7	44	467	475	45	1	367	5
BCD21902	2.1	46	521	130	57	5	128	5
BCD21903	3.4	36	389	35	33	1	64	5
BCD21904	3.1	42	171	63	44	2	80	5
BCD21905	2.7	42	203	62	42	2	81	5
BCD21906	3.5	37	1030	75	45	3	91	5

MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0512-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-27-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

He hereby certify the following Assay of 30 ROCK samples submitted JUN-16-89 by JAMIE HOLLAND.

Sample Number	LOI %
BCD21907	6.80
BCD21908	3.75
BCD21909	4.10
BCD21910	8.32
BCD21911	5.90
BCD21912	3.25
BCD21913	11.90
BCD21914	2.30
BCD21915	7.85
BCD21916	2.40
BCD21917	10.45
BCD21918	3.00
BCD21919	3.25
BCD21920	3.15
BCD21921	4.30
BCD21922	7.40
BCD21923	1.50
BCD21924	2.10
BCD21925	5.40
BCD21926	2.25
BCD21927	3.00
BCD21928	2.70
BCD21929	2.40
BCD21930	3.05
BCD21931	3.10
BCD21932	3.40
BCD21933	7.55
BCD21934	3.75
BCD21935	3.10
BCD21936	2.10

Certified by

MIN-EN LABORATORIES

MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0512-RA3

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-27-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 9 ROCK samples submitted JUN-16-89 by JAMIE HOLLAND.

Sample Number	LOI %
BCD21937	3.10
BCD21938	2.75
BCD21939	4.40
BCD21940	4.00
BCD21941	3.05
BCD21942	9.80
BCD21943	5.50
BCD21944	2.95
BCD21945	2.75

Certified by _____

MIN-EN LABORATORIES

COMPANY: MINNOVA INC. MIN-EN LABS ICP REPORT

PROJECT NO: CHU CHUA 616 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

ATTENTION: C.WILD/I.PIRIE (604)980-5814 OR (604)988-4524 DATE: 06-27-1989

(VALUES IN %)	AL203	BAT	CAO	FE203	K20	MGO	MNO2	NA20	P2O5	SIO2	TIO2	S
BCD21907	14.86	.277	12.31	9.84	.17	5.29	.17	1.83	.93	44.62	1.71	.04
BCD21908	15.36	.521	10.57	10.59	.23	6.31	.20	1.79	.91	46.92	1.70	.07
BCD21909	15.22	1.096	7.87	12.67	.53	7.73	.21	1.33	.90	45.77	1.82	.73
BCD21910	6.11	.957	.63	11.24	1.56	.58	.02	.06	.35	68.66	.71	9.20
BCD21911	6.99	.442	.37	8.21	1.58	1.78	.12	.06	.31	78.79	.48	5.75
BCD21912	4.26	.009	1.08	2.69	.08	6.12	.03	.02	.36	81.02	.23	.46
BCD21913	10.19	.011	6.07	5.42	.07	16.97	.22	.01	.88	46.75	.51	.47
BCD21914	4.18	.005	.15	3.02	.08	5.66	.01	.01	.32	83.02	.19	.71
BCD21915	14.34	.005	.15	8.42	.01	16.45	.03	.01	.64	49.28	1.67	1.58
BCD21916	3.76	.005	.33	4.70	.05	5.14	.02	.01	.35	82.09	.22	1.54
BCD21917	13.79	.008	.89	14.19	.04	15.46	.05	.07	.80	41.56	1.55	4.80
BCD21918	6.63	.079	.02	5.84	.12	5.31	.03	.02	.32	77.39	.38	.12
BCD21919	6.89	.094	.83	8.67	.23	4.07	.06	.21	.41	73.80	.42	1.02
BCD21920	3.34	.208	.38	5.87	.43	2.52	.03	.01	.29	82.87	.18	3.10
BCD21921	6.21	.156	1.28	5.06	.18	9.14	.06	.01	.50	71.58	.41	1.48
BCD21922	8.91	.235	2.65	5.27	.06	12.53	.11	.01	.66	60.35	.81	.56
BCD21923	6.27	.974	.25	2.89	.79	3.64	.04	.02	.28	82.37	.31	.63
BCD21924	7.42	.479	.08	2.08	1.27	3.80	.02	.03	.24	81.19	.39	.29
BCD21925	7.54	.102	.07	7.57	.29	8.01	.05	.01	.43	69.34	.42	.09
BCD21926	14.96	.053	10.28	10.72	.17	6.34	.20	2.65	.91	48.76	1.71	.06
BCD21927	14.62	.040	11.43	10.34	.11	6.29	.20	2.24	.90	48.34	1.70	.03
BCD21928	14.88	.073	10.09	10.76	.18	6.59	.20	3.19	.89	47.98	1.74	.07
BCD21929	14.85	.053	10.60	10.63	.15	6.50	.20	3.08	.87	48.13	1.73	.04
BCD21930	15.44	.071	10.28	10.89	.04	6.14	.19	2.79	.86	47.55	1.79	.06
BCD21931	14.40	.145	11.19	10.34	.21	6.10	.19	2.30	.90	46.36	1.68	.13
BCD21932	15.20	.243	9.83	10.77	.17	6.21	.20	2.50	.89	47.81	1.78	.17
BCD21933	15.96	.940	4.78	11.64	.57	5.84	.17	1.62	.58	47.45	1.87	.89
BCD21934	8.23	.615	.50	6.97	.15	6.49	.05	.02	.44	71.19	.59	.56
BCD21935	7.03	.290	.48	4.67	.72	3.43	.04	.12	.28	78.76	.41	.28
BCD21936	14.92	.015	10.11	10.99	.12	6.36	.21	3.17	.86	48.36	1.77	.04

(VALUES IN %)	TOT(%)
BCD21907	92.07
BCD21908	95.16
BCD21909	95.94
BCD21910	98.67
BCD21911	98.78
BCD21912	96.36
BCD21913	87.51
BCD21914	97.35
BCD21915	92.56
BCD21916	98.21
BCD21917	93.21
BCD21918	96.27
BCD21919	96.69
BCD21920	99.22
BCD21921	96.06
BCD21922	92.13
BCD21923	98.47
BCD21924	97.28
BCD21925	93.90
BCD21926	96.81
BCD21927	96.22
BCD21928	96.63
BCD21929	96.84
BCD21930	96.00
BCD21931	95.92
BCD21932	95.78
BCD21933	92.41
BCD21934	95.81
BCD21935	96.52
BCD21936	96.92

COMPANY: MINNOVA INC. — MIN-EN LABS ICP REPORT — ACT:F21 PAGE 1 OF 1

PROJECT NO: CHU CHUA 616 — 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 — FILE NO: 7/V/0512/R/L/DC

ATTENTION: C.WILD/I.PIRIE — (604)980-5814 OR (604)988-4524 — * TYPE ROCK GEOCHEM * — DATE: 06-27-1987

(VALUES IN %)	AL2O3	BAT	CAO	FE2O3	K2O	MGO	MNO2	NA2O	P2O5	SIO2	TIO2	S
BCD21937	14.28	.016	12.80	10.92	.08	5.98	.20	2.61	.09	47.02	1.69	.04
BCD21938	14.38	.019	12.33	10.69	.07	6.52	.19	3.19	.12	46.87	1.68	.02
BCD21939	14.56	.038	12.42	10.76	.07	5.99	.19	2.85	.10	46.18	1.64	.02
BCD21940	14.85	.088	11.54	11.05	.10	6.07	.20	2.67	.13	46.45	1.75	.03
BCD21941	14.58	.107	11.54	11.07	.11	6.20	.20	2.83	.12	47.40	1.72	.07
BCD21942	12.21	.394	13.89	9.32	.31	5.52	.20	2.04	.11	43.93	1.47	.06
BCD21943	15.46	.516	9.55	11.76	.29	7.61	.21	1.49	.18	44.56	1.83	.14
BCD21944	7.65	.339	.38	3.12	1.12	4.62	.02	.01	.01	78.23	.45	.53
BCD21945	6.96	.115	.39	3.55	.52	5.20	.03	.51	.01	78.67	.37	.12

COMPANY: MINNOVA INC.
PROJECT NO: CHU CHUA 616
ATTENTION: C.WILD/I.PIRIE

MIN-EN LABS ICP REPORT
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

(ACT:F26) PAGE [illegible]
FILE NO: 9/V[illegible]0512/R[illegible]
* TYPE ROCK GEOCHEM * DATE: 06-27-1989

(VALUES IN %)	TOT(%)
BCD21937	95.72
BCD21938	96.09
BCD21939	94.83
BCD21940	94.93
BCD21941	95.95
BCD21942	89.41
BCD21943	93.59
BCD21944	96.46
BCD21945	96.43

COMPANY: MINNOVA INC.
PROJECT NO: CHU CHUA 616
ATTENTION: C.WILD/I.PIRIE

MIN-EN LABS ICP REPORT
705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9[illegible]/JJ002
* TYPE ROCK GEOCHEM * DATE: 06-27-1989

(VALUES IN PPM)	AG	AS	BA	CU	PB	SB	ZN	AU-FPB
BCD21907	2.6	57	2176	61	54	4	92	5
BCD21908	3.0	47	3428	61	35	1	85	5
BCD21909	3.4	58	4886	60	64	4	121	5
BCD21910	1.4	31	140	795	44	1	736	50
BCD21911	.3	22	509	776	23	1	206	5
BCD21912	.6	28	27	468	45	1	41	10
BCD21913	1.5	1	89	587	93	15	105	5
BCD21914	.2	35	13	131	43	1	33	5
BCD21915	1.3	1	14	1126	101	21	92	5
BCD21916	.4	25	11	358	38	1	35	5
BCD21917	.8	1	40	451	100	16	115	10
BCD21918	.2	23	128	87	44	1	48	5
BCD21919	.3	24	182	362	42	1	59	5
BCD21920	.2	28	454	336	28	1	160	5
BCD21921	.8	7	757	225	68	5	158	10
BCD21922	1.3	1	1445	245	83	12	144	5
BCD21923	.3	23	6453	96	36	1	68	5
BCD21924	.2	30	939	9	29	1	55	5
BCD21925	.4	16	217	16	67	3	870	5
BCD21926	3.3	37	160	68	43	1	82	5
BCD21927	3.6	35	116	66	43	1	92	5
BCD21928	2.8	31	109	69	52	1	84	5
BCD21929	4.1	24	91	74	50	1	85	5
BCD21930	3.7	32	190	70	44	1	87	5
BCD21931	4.1	43	654	63	45	2	97	10
BCD21932	3.8	44	1379	67	45	1	86	5
BCD21933	1.3	41	2237	96	61	5	114	5
BCD21934	.7	28	3222	243	63	5	124	20
BCD21935	.4	26	680	62	45	1	55	5
BCD21936	3.8	33	30	70	44	1	82	5
BCD21937	2.3	16	57	59	47	1	81	5
BCD21938	2.0	20	26	59	36	1	77	10
BCD21939	3.0	14	136	57	46	1	84	5
BCD21940	1.9	8	335	53	47	1	82	5
BCD21941	2.3	15	304	58	42	1	82	5
BCD21942	3.9	27	1765	132	57	7	90	10
BCD21943	3.4	23	1645	78	71	9	138	5
BCD21944	.2	18	418	70	45	2	78	5
BCD21945	.1	7	139	49	44	2	43	5

MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER [illegible]
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0524-RA2

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUN-26-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 30 ROCK samples submitted JUN-19-89 by J.HOLLAND.

Sample Number	LOI %
BCD21964	2.35
BCD21965	3.20
BCD21966	4.90
BCD21967	4.25
BCD21968	4.50
BCD21969	4.00
BCD21970	6.20
BCD21971	2.30
BCD21972	3.60
BCD21973	6.40
BCD21974	3.70
BCD21975	6.80
BCD21976	4.25
BCD21977	6.75
BCD21978	2.70
BCD21979	9.20
BCD21980	4.00
BCD21981	3.05
BCD21982	2.80
BCD21983	2.95
BCD21984	3.40
BCD21985	3.50
BCD21986	3.25
BCD21987	3.30
BCD21988	3.80
BCD21989	2.75
BCD21990	11.60
BCD21991	14.00
BCD21992	3.45
BCD21993	2.25

Certified by _____

MIN-EN LABORATORIES

PROJECT NO: CHU CHUA 616 | 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 | FILE NO: 9[illegible] 0524/R/L/001

ATTENTION: C.WILD/I.PIRIE | (604)980-5814 OR (604)988-4524 | * TYPE LITHO [illegible] * | DATE: 06-26-1989

(VALUES IN %)	AL2O3	BAT	CAO	FE2O3	K2O	MGO	MNO2	NA2O	P2O5	SIO2	TIO2	S
BCD21964	14.73	.033	13.17	10.50	.15	6.60	.20	2.37	.09	47.00	1.59	.09
BCD21965	14.44	.027	12.17	11.20	.06	6.34	.19	2.61	.13	46.73	1.69	.13
BCD21966	14.82	.048	12.46	11.36	.07	6.00	.19	2.10	.14	45.40	1.72	.17
BCD21967	14.31	.042	12.68	10.87	.05	6.28	.19	2.23	.14	46.18	1.68	.06
BCD21968	12.61	.127	8.67	11.53	.18	5.52	.17	1.74	.09	52.10	1.35	1.49
BCD21969	6.63	.039	.51	10.14	.12	5.82	.03	.01	.01	71.36	.45	1.17
BCD21970	12.04	.026	.31	8.95	.15	12.51	.05	.01	.12	57.32	1.30	.01
BCD21971	7.36	.314	.06	3.02	1.04	3.70	.02	.01	.01	80.74	.38	.02
BCD21972	7.23	.018	.26	7.59	.06	6.43	.05	.01	.01	73.34	.47	.24
BCD21973	11.08	.143	1.13	10.64	.56	9.04	.12	.01	.05	58.64	1.24	.40
BCD21974	7.74	.316	1.63	6.15	1.22	4.38	.14	.01	.04	73.02	.58	.75
BCD21975	11.82	.176	.72	12.22	.68	9.84	.13	.01	.16	55.01	1.38	2.86
BCD21976	8.26	.331	.51	4.10	1.47	5.51	.05	.01	.01	73.95	.45	1.35
BCD21977	7.83	.041	3.18	6.41	.13	10.86	.12	.01	.01	63.26	.64	1.74
BCD21978	5.94	.246	.16	4.26	1.17	2.37	.08	.01	.01	81.64	.34	1.12
BCD21979	8.61	.031	.81	13.23	.26	9.95	.10	.01	.06	55.76	.93	1.24
BCD21980	10.00	.211	5.39	7.98	.72	4.07	.14	1.70	.04	64.14	.90	.60
BCD21981	14.37	.052	12.01	11.36	.18	5.88	.20	2.44	.14	46.57	1.74	.04
BCD21982	14.61	.053	11.69	11.52	.14	6.22	.20	2.81	.12	47.25	1.76	.05
BCD21983	14.38	.080	12.31	10.88	.17	6.30	.19	2.57	.11	47.31	1.71	.03
BCD21984	14.41	.105	12.23	11.09	.16	6.41	.20	2.55	.13	46.74	1.71	.07
BCD21985	14.50	.133	12.26	11.08	.15	6.32	.20	2.32	.16	46.95	1.73	.05
BCD21986	14.49	.178	11.86	10.85	.17	6.44	.19	2.56	.14	47.33	1.71	.04
BCD21987	14.50	.367	11.85	11.20	.31	6.31	.20	2.38	.10	46.71	1.71	.08
BCD21988	14.46	.392	11.46	10.87	.26	6.23	.19	2.32	.12	47.09	1.69	.06
BCD21989	14.15	.779	11.01	12.25	.40	6.38	.19	1.70	.10	47.63	1.59	.79
BCD21990	13.38	.020	2.83	5.25	.01	21.18	.08	.01	.12	42.72	[illegible]	.52
BCD21991	14.98	.026	1.61	6.11	.04	23.15	.13	.01	.14	36.73	1.99	.02
BCD21992	6.52	1.150	.84	3.70	1.10	2.94	.30	.03	.01	78.88	.37	.69
BCD21993	6.04	.475	.76	2.82	1.24	1.55	.19	.18	.01	83.24	.30	.64

(VALUES IN %)	TOT(%)
BCD21964	96.53
BCD21965	95.73
BCD21966	94.48
BCD21967	94.71
BCD21968	95.58
BCD21969	96.28
BCD21970	92.77
BCD21971	96.67
BCD21972	95.69
BCD21973	93.04
BCD21974	95.95
BCD21975	94.99
BCD21976	95.96
BCD21977	94.22
BCD21978	97.32
BCD21979	90.98
BCD21980	95.89
BCD21981	94.98
BCD21982	96.43
BCD21983	96.05
BCD21984	95.80
BCD21985	95.76
BCD21986	95.95
BCD21987	95.73
BCD21988	95.15
BCD21989	96.58
BCD21990	87.73
BCD21991	84.93
BCD21992	96.53
BCD21993	97.44

•COMPANY: MINNOVA INC. MIN-EN LABS ICP REPORT (ACT:F31) PAGE 1 OF 1
PROJECT NO: CHU CHUA 616 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 FILE NO: 9V-0524/R/J/001
ATTENTION: C.WILD/I.PIRIE (604)980-5814 OR (604)988-4524 * TYPE ROCK GEOCHEM * DATE: 06-26-1989

(VALUES IN PPM)	AG	AS	BA	CU	PB	SB	ZN	AU-PPB
BCD21964	2.6	3	102	76	33	1	78	5
BCD21965	2.7	9	51	81	42	1	84	5
BCD21966	3.2	3	149	72	45	1	88	5
BCD21967	3.0	13	81	67	36	1	94	5
BCD21968	2.7	18	440	926	52	1	1493	70
BCD21969	.8	3	63	533	47	1	83	5
BCD21970	.9	3	49	72	73	7	101	5
BCD21971	.4	9	393	40	27	1	31	5
BCD21972	.6	3	38	179	51	1	75	5
BCD21973	.9	3	199	30	62	1	106	5
BCD21974	.7	3	445	126	38	1	91	5
BCD21975	1.0	3	237	989	77	7	124	20
BCD21976	.7	3	462	15	61	1	102	5
BCD21977	1.0	3	155	42	78	4	188	5
BCD21978	.5	14	385	88	27	1	132	10
BCD21979	1.0	3	72	194	70	4	210	5
BCD21980	1.6	19	609	123	48	1	133	5
BCD21981	3.3	3	68	59	34	1	86	5
BCD21982	3.4	11	65	66	42	1	82	5
BCD21983	3.4	3	92	68	37	1	85	5
BCD21984	3.2	3	209	68	44	1	85	5
BCD21985	3.4	8	399	61	42	1	80	5
BCD21986	3.2	3	535	61	42	1	82	5
BCD21987	3.4	6	1192	67	39	1	85	15
BCD21988	3.4	25	1466	64	41	1	85	5
BCD21989	3.0	25	2827	124	44	1	85	5
BCD21990	1.7	3	97	1143	100	14	439	30
BCD21991	1.2	3	47	9	89	13	91	5
BCD21992	.6	28	1642	136	38	1	[illegible]	5
BCD21993	.4	17	710	27	24	1	107	5

MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE
705 WEST 15TH STREET
NORTH VANCOUVER B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0556-RA3

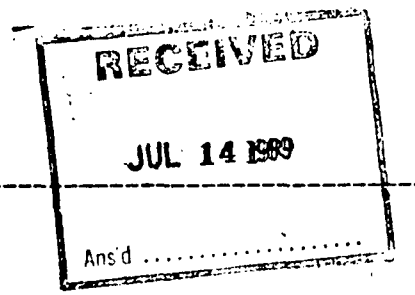
Company: MINNOVA INC.
Project: CHU CHUA 6/6
Attn: C.WILD/I.PIRIE

Date: JUL-11-89

Copy 1. MINNOVA, BARRIERE, B.C.
2. MINNOVA, VANCOUVER, B.C.

We hereby certify the following Assay of 21 ROCK samples submitted JUN-23-89 by A.LOWE.

Sample Number	LOI %
BCD22514	3.25
BCD22515	4.30
BCD22516	3.50
BCD22517	4.95
BCD22518	7.55
BCD22519	7.40
BCD22520	10.80
BCD22521	7.75
BCD22522	10.40
BCD22558	3.45
CD22559	5.90
BCD22560	10.20
BCD22561	9.10
BCD22562	4.65
BCD22563	4.85
BCD22564	4.00
BCD22565	6.10
BCD22566	0.55
BCD22567	8.60
BCD22568	7.10
BCD22569	8.00



Certified by _____

MIN-EN LABORATORIES

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: C.WILD/I.PIRIE

MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0556-RD1
DATE: JUL-11-89
* TYPE LITHO GEOCHEM * (ACT:F26)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
BCD22514	14.58	.050	10.71	11.61	.18	6.27	.19	2.67	.24	47.32	1.74	.12	95.67
BCD22515	14.39	.215	10.51	11.59	.23	6.41	.20	2.37	.26	46.63	1.70	.16	94.66
BCD22516	14.57	.275	10.80	11.59	.18	6.48	.20	2.34	.24	47.32	1.73	.23	95.96
BCD22517	14.27	.815	9.37	12.02	.43	6.34	.19	1.83	.22	46.78	1.68	.69	94.64
BCD22518	4.79	3.180	.01	9.54	.50	.41	.01	.08	.10	72.39	.24	7.50	98.73
BCD22519	3.93	.330	.01	10.27	.10	4.26	.01	.01	.10	72.01	.19	7.25	98.45
BCD22520	7.49	.010	2.33	8.36	.01	12.81	.10	.01	.12	56.58	.36	1.49	89.66
BCD22521	6.90	.480	.64	11.95	1.02	3.83	.12	.02	.40	65.35	.43	7.60	98.73
BCD22522	13.51	.765	7.26	11.35	1.57	6.85	.33	.17	.23	44.90	1.66	.51	89.10
BCD22558	14.73	.070	10.07	11.88	.17	6.33	.20	2.98	.24	47.15	1.75	.06	95.63
BCD22559	13.46	.160	15.58	8.03	.24	3.00	.14	1.17	.16	50.12	.91	.12	93.09
BCD22560	13.87	1.890	8.08	11.16	1.12	6.16	.18	1.87	.19	42.66	1.66	1.33	90.18
BCD22561	1.49	.060	1.37	15.23	.01	19.74	.01	.07	.16	50.82	.03	2.10	91.09
BCD22562	.74	.020	.69	42.63	.01	14.79	.01	.07	.13	35.45	.01	1.54	96.08
BCD22563	14.02	.750	9.63	11.86	.46	6.41	.18	2.03	.22	46.76	1.65	.55	94.52
BCD22564	14.34	.875	9.51	11.37	.69	6.29	.19	2.78	.21	46.99	1.69	.64	95.58
BCD22565	14.11	4.525	7.62	11.37	.85	6.12	.19	.81	.21	45.72	1.64	3.02	96.18
BCD22566	.27	.015	.01	64.86	.01	9.60	.01	.04	.15	23.42	.01	.13	98.51
BCD22567	4.97	.205	.34	28.06	.08	15.93	.03	.02	.14	39.22	.29	4.56	93.84
BCD22568	7.70	.010	.50	7.88	.01	17.64	.03	.01	.17	57.39	.37	.42	92.13
BCD22569	10.09	.745	1.07	15.69	.22	9.23	.08	.04	.20	52.52	1.03	3.58	94.50

COMP: MINNOVA INC.
PROJ: CHU CHUA 6/6
ATTN: C.WILD/I.PIRIE

MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0556-RJ1
DATE: JUL-11-89
• TYPE ROCK GEOCHEM • (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
BCD22514	3.2	1	92	133	40	1	84	5
BCD22515	2.9	1	513	96	46	1	85	5
BCD22516	3.1	4	1093	76	38	1	81	5
BCD22517	3.2	27	3599	90	48	1	100	5
BCD22518	.7	16	638	524	40	1	1282	70
BCD22519	.4	15	350	633	47	1	3804	20
BCD22520	1.1	1	115	108	93	5	140	5
BCD22521	.6	28	333	137	67	1	203	80
BCD22522	1.0	21	1824	57	65	1	101	10
BCD22558	3.0	1	92	66	43	1	81	5
BCD22559	2.8	15	558	30	33	1	41	5
BCD22560	1.3	10	9317	66	49	1	98	5
BCD22561	1.9	8	291	4918	71	4	1496	5
BCD22562	.3	1	166	259	32	1	80	5
BCD22563	2.5	6	2242	90	47	1	99	5
BCD22564	3.1	17	1761	69	44	1	80	5
BCD22565	2.7	8	26120	73	52	1	91	5
BCD22566	.2	22	131	89	9	1	227	5
BCD22567	5.4	1	260	14301	80	16	256	5
BCD22568	1.2	1	31	1433	73	3	135	5
BCD22569	1.1	1	256	1364	74	3	548	5

MIN-EN LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0577-RA3

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUL-11-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 11 CORE samples submitted JUN-28-89 by A.LOWE.

Sample Number	LOI %
BCD22524	3.95
BCD22525	6.25
BCD22570	6.25
BCD22571	12.20
BCD22572	15.70
BCD22573	5.75
BCD22574	2.95
BCD22575	4.30
BCD22576	4.15
BCD22577	6.55
BCD22578	4.95

Certified by

MIN-EN LABORATORIES

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: C.WILD/I.PIRIE

MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0577-RD1
DATE: JUL-11-89
* TYPE LITHO GEOCHEM * (ACT:F26)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
BCD22524	14.50	.020	9.65	11.72	.08	6.54	.21	3.40	.28	46.68	1.80	.09	94.96
BCD22525	13.77	.030	12.68	10.55	.19	5.42	.19	1.44	.22	46.58	1.50	.03	92.60
BCD22570	14.06	.970	7.72	12.49	.61	6.52	.18	2.34	.23	46.16	1.61	.72	93.61
BCD22571	12.66	2.255	6.48	15.31	.37	11.21	.14	.04	.29	36.34	1.59	1.76	88.44
BCD22572	3.79	.090	3.70	24.77	.01	12.61	.07	.04	.17	37.65	.20	13.50	96.59
BCD22573	13.95	1.185	8.78	11.79	.79	6.87	.18	1.92	.26	46.02	1.62	.94	94.31
BCD22574	14.63	.200	10.97	11.66	.21	6.30	.20	2.51	.26	47.38	1.69	.16	96.17
BCD22575	14.59	.015	10.41	11.60	.11	6.27	.20	2.62	.26	46.82	1.69	.04	94.62
BCD22576	14.53	.030	10.28	11.57	.11	6.36	.20	2.72	.24	47.12	1.69	.05	94.90
BCD22577	14.45	.070	10.69	11.31	.25	6.33	.19	2.46	.25	44.82	1.66	.09	92.56
BCD22578	14.31	.100	10.84	11.35	.14	6.29	.20	2.45	.24	46.32	1.67	.17	94.08

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: C.WILD/I.PIRIE

MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0577-RJ1
DATE: JUL-11-89
* TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
BCD22524	2.0	1	41	60	46	1	84	5
BCD22525	2.8	20	108	51	46	1	80	5
BCD22570	2.1	20	2022	557	53	1	432	5
BCD22571	1.1	1	16346	63	79	3	115	5
BCD22572	2.0	1	139	5510	68	9	68	10
BCD22573	2.5	4	2733	270	50	4	95	5
BCD22574	2.6	26	444	70	45	1	82	5
BCD22575	3.0	9	32	62	45	3	80	5
BCD22576	2.4	14	62	60	43	2	78	5
BCD22577	3.2	10	205	60	56	4	87	5
BCD22578	2.9	15	227	61	47	1	82	5

MIN
• EN
LABORATORIES

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-0589-RA1

Company: MINNOVA INC.
Project: CHU CHUA 616
Attn: C.WILD/I.PIRIE

Date: JUL-12-89

Copy 1. MINNOVA INC., BARRIERE, B.C.
2. MINNOVA INC., VANCOUVER, B.C.

We hereby certify the following Assay of 21 ROCK samples submitted JUL-03-89 by J.HOLLAND.

Sample Number	LOI %
BCD21862	3.25
BCD21863	5.80
BCD21864	3.40
BCD21865	4.10
BCD21866	5.35
BCD21867	6.30
BCD21868	10.40
BCD21869	3.65
BCD21870	5.20
BCD21871	4.40
BCD21872	2.25
BCD21873	0.15
BCD21874	9.00
BCD21875	11.10
BCD21877	4.95
BCD21878	4.45
BCD21879	5.00
BCD21880	4.25
BCD21882	4.15
BCD21883	5.70
BCD21884	4.00

Certified by _____

MIN-EN LABORATORIES

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: C.WILD/I.PIRIE

MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0589-RL1
DATE: JUL-12-89
• TYPE LITHO GOCHEM • (ACT:F26)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%)
BCD21862	14.28	.700	10.70	10.79	.42	5.98	.20	2.43	.08	48.32	1.63	.49	96.02
BCD21863	14.14	1.950	8.49	11.32	1.00	7.02	.18	1.60	.13	45.47	1.71	1.44	94.46
BCD21864	14.33	.085	12.55	10.86	.13	6.26	.20	2.34	.12	47.26	1.70	.06	95.89
BCD21865	14.41	.150	11.83	11.31	.13	6.22	.20	2.36	.12	46.34	1.72	.10	94.90
BCD21866	12.57	.760	9.28	13.19	.30	6.28	.18	1.51	.12	47.87	1.53	1.76	95.35
BCD21867	13.65	5.735	8.41	12.75	.38	8.22	.18	.13	.14	41.63	1.61	3.94	96.78
BCD21868	13.83	6.020	4.16	14.19	.08	8.95	.16	.01	.16	39.18	1.73	4.21	92.69
BCD21869	.53	.075	.01	53.56	.03	11.44	.03	.04	.17	29.12	.02	1.09	96.10
BCD21870	.53	.095	.01	51.56	.02	10.69	.07	.02	.14	30.47	.02	3.72	97.34
BCD21871	1.83	.210	.01	48.39	.05	11.78	.03	.01	.14	31.72	.24	3.64	98.03
BCD21872	.43	.040	.01	51.79	.03	12.21	.03	.02	.14	31.88	.02	.39	96.97
BCD21873	.48	.035	.01	85.17	.03	3.26	.04	.01	.20	9.62	.01	.02	98.86
BCD21874	15.66	.005	1.20	26.73	.01	11.70	.20	.01	.25	31.99	2.00	.04	89.77
BCD21875	13.54	1.670	9.49	10.31	1.35	6.11	.18	.75	.12	42.99	1.64	1.19	89.32
BCD22877	13.74	.230	11.01	11.18	.28	6.21	.19	2.57	.12	46.70	1.65	.43	94.31
BCD22878	14.80	.125	17.84	7.65	.23	2.20	.12	.01	.20	50.43	.81	3.46	97.87
BCD22879	9.39	.935	2.04	7.57	1.83	3.03	.14	.03	.04	68.50	.54	.67	94.72
BCD22880	14.22	.685	9.79	10.63	.53	5.99	.20	2.56	.10	48.34	1.67	.56	95.30
BCD22882	13.86	.040	12.41	10.46	.04	5.92	.19	2.82	.11	47.58	1.62	.21	95.26
BCD22883	14.03	.170	11.45	10.16	.51	5.69	.19	2.29	.13	47.11	1.54	1.69	94.95
BCD22884	5.83	.270	.34	4.79	1.39	1.36	.05	.01	.01	80.87	.33	.48	95.71

COMP: MINNOVA INC.
PROJ: CHU CHUA 616
ATTN: C.WILD/I.PIRIE

MIN-EN LABS ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 9V-0589-RJ1
DATE: JUL-12-89
* TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
BCD21862	4.2	17	2387	64	90	1	331	5
BCD21863	3.8	19	8117	59	50	1	93	5
BCD21864	3.9	6	128	58	45	1	79	10
BCD21865	4.1	4	491	66	58	1	92	5
BCD21866	4.0	17	98	159	57	2	113	10
BCD21867	4.5	1	25760	56	56	1	143	5
BCD21868	1.9	1	20598	72	55	1	332	5
BCD21869	.3	1	619	1233	14	1	351	5
BCD21870	.4	1	52	1430	20	1	61	10
BCD21871	.8	3	191	790	14	1	439	5
BCD21872	.1	59	305	36	4	1	59	10
BCD21873	.1	1	191	72	2	1	88	5
BCD21874	1.7	1	26	76	63	1	404	5
BCD21875	1.6	19	7162	60	52	2	98	5
BCD22877	4.3	8	479	66	46	2	96	5
BCD22878	3.0	53	77	458	403	7	1340	5
BCD22879	4.4	24	1674	59	45	1	88	220
BCD22880	4.6	22	76	115	46	1	92	5
BCD22882	3.7	8	590	191	52	1	95	10
BCD22883	.8	30	314	63	43	3	113	5
BCD22884	3.0	24	327	121	31	1	52	5

APPENDIX VI

Transient Electromagnetic Survey

Logistics Report and Profiles

LOGISTICS REPORT FOR TRANSIENT ELECTROMAGNETIC SURVEY OVER THE CHU CHUA PROPERTY BARRIERE, B.C.

on behalf of

MINNOVA INC.
VANCOUVER B.C.

Toronto, Canada
Sept, 1989
QCI Project C-152

S.T. Coulson, Geophysicist
QUANTECH CONSULTING INC.

TABLE OF CONTENTS

LOGISTICS REPORT FOR TRANSIENT ELECTROMAGNETIC SURVEY OVER THE CHU CHUA PROPERTY BARRIERE B.C.

1.0 INTRODUCTION

During the period of September 18 - 28, 1989, Quantech Consulting Inc. of Toronto, Canada conducted a Transient Electromagnetic Survey over the Chu Chua Property on behalf of Minnova Inc. of Vancouver, B.C.

The survey over the Chu Chua Property covered a total of 24.3 line km.

Survey personnel included Sherwood Coulson, Crew Leader/Geophysicist. Sheri Noble and Darcy were supplied as field assistants by Minnova.

2.0 LOCATION AND ACCESS

The Chu Chua Property is located approxiamately 50 km. northeast of the town of Barriere B.C. It can be reached by travelling on the North Barriere Lake Road to the Berk Creek Road which goes to Chu Chua Mountain. Old drill roads, passable with four wheel drive truck, give good access across the grid.

3.0 SURVEY PROCEDURE

3.1 Theory and Instrumetation

The survey was executed using the Geonics EM-37 transient EM system and the BH-43 borehole assembly, both manufactured by Geonics Limited, Toronto, Ontario. Data was recorded using the Polycorder manufactured by Omnidata, Inc., North Logan, Utah. A complete description of the equipment and a technical note are contained in Appendix B.

To conduct either the surface or borehole survey, a bi-polar square wave with a linear ramp shut-off is generated in a wire loop by a 2500 watt transmitter, powered by a gasoline generator. The loop is constructed with lengths of #10 gauge copper wire, which has a resistance of approximately 0.75 ohm/km. The pulse repetition frequency of the system may be selected at 3 Hz, 7.5 Hz, or 30 Hz. depending on the conductivity of the target of interest and the host environment.

The current in the loop produces a primary magnetic field (H) both inside and outside the loop. This primary field induces a vortex current pattern which energizes conductors which in turn create their own secondary magnetic field (Bs). The rate of change of the secondary magnetic flux (dBs/dt) is measured as one, two, or three orthogonal vector

components on surface using an air-core coil. These analog voltage measurements are recorded over 20 channels in the receiver, transferred to the Polycorder unit where they are digitized and stored in solid state memory in voltage units. The stored data is later transferred to a microcomputer where it is corrected for the turn-off time, loop area, system gain and current, producing units in nanovolts per ampere-meter squared.

In the case of the borehole survey, the rate of change of the secondary magnetic flux (dBs/dt) is measured as the axial down-the-hole component by the borehole probe. The same data reduction used for surface data is applied to the borehole data.

The borehole survey is particularly useful to determine the geometrical relationship between a conductor or a complex swarm of conductors and the drill hole. Of particular importance is its application in cases where drilling is believed to have missed the target of interest. A borehole survey can effectively determine the direction and distance from the drill hole to the conductor by comparing the results of logs from several loops positioned around the hole, or by comparing the response from hole-to-hole. Additionally, conductors located below the end of a drill hole, which either may be too deep and/or have gone previously undetected from surface, may be discovered during the course of a borehole survey.

3.2 Computer Software

3.2.1 Data Acquisition and Reduction

Data dumping, editing and reduction is controlled by the GSP37 software package written by Geonics Ltd., running under Compaq DOS 3.1, written by Compaq Computer Corporation.

Data is uploaded from the Polycorder using POL37. The data is recorded on diskette as individual line .RAW files. These raw data files are reduced to normalized .RED files using a turn-off time, current, loop area, and gain correction factor with DAT37. Finally, the reduced files are converted to GEOSOFT (trademark of Geosoft Inc., Toronto) format .DAT files, using TEMRED, written by Quantech Consulting Inc.

3.2.2 Data Profiling

Each component of the reduced/converted .DAT files is profiled on a dot-matrix printer using TEMPLOT Ver. 1.3 written by Quantech Consulting Inc. Files are printed at a true distance scale, either with all twenty channels referenced to one single axis or distributed over two, three

or twenty separate axes. Data units are either scaled linearly or logarithmically depending on data amplitudes or to emphasize specific early-time or late-time features.

To help resolve conductor trends for surface data, selected channels of selected components of the data may be contoured on the screen or printer and plotter using the 2-D MAPPING SYSTEM system developed by Geosoft Inc.

3.3 Computer Hardware

3.3.1 Data Acquisition

In-field data acquisition for the EM-37 utilized the Omnidata Polycorder. The Polycorder digitizes and records the voltage output for channels 1 to 20 for each polarity then stores the averaged value along with the primary field voltage. Data is dumped in ASCII format via a standard RS-232C serial port for processing.

3.3.2 In-field Data Processing

In-field data processing used a Portable II microcomputer manufactured by Compaq Computer Corporation. The unit is configured with a 16 bit 80286 CPU, 640 Kbytes of RAM, 20 Mbyte hard disk, two 360 Kbyte floppies, 80287 math coprocessor, RS-232C serial port and parallel port.

Data profiles were plotted using a DL3400 dot matrix printer manufactured by Fujitsu Limited.

4.0 SURVEY SUMMARY

A complete daily summary is included in Appendix C at the back of this report.

The surface survey over the Chu Chua Property was conducted using the Deepem method of surveying. Two loops approximately 400m x 900m and one loop 400m x 800m were used to cover the property from L87N to L113N. All loops were placed to the east of the target area from 104E to 108E. All the lines were read from 104+00E to 95+50E. The coil orientation was up and west.

Respectfully submitted,
Quantech Consulting Inc.

S.T. Coulson
Geophysicist

STATEMENT OF QUALIFICATIONS

I, Sherwood Coulson, hereby declare that:

1. I am a geophysicist with residence in Waterdown, Ontario and am presently employed in this capacity and as a director with Quantech Consulting Inc. of Toronto, Ontario.

2. I am a graduate of Cambrian College, Sudbury, Ontario, in 1974, with an Honours Diploma of Geophysical Engineering Technology.

3. I have practiced my profession in North America, South America, and Europe continuously since graduation.

4. I am a member of the Canadian Exploration Geophysicists Society, and a member of the Prospectors and Developers Association.

5. I have no interest nor do I expect to receive any interest, direct or indirect, in the properties or securities of Minnova Inc.

6. The statements made by me in this report represent my best opinion and judgement based on the information available to me at the time of writing of this report.

Toronto, Canada
September, 1989

Sherwood Coulson, Dipl.Geoph.
Geophysicist

APPENDIX A

Data Profiles

MINNOVA_INC.

TRANSIENT EM SURVEY

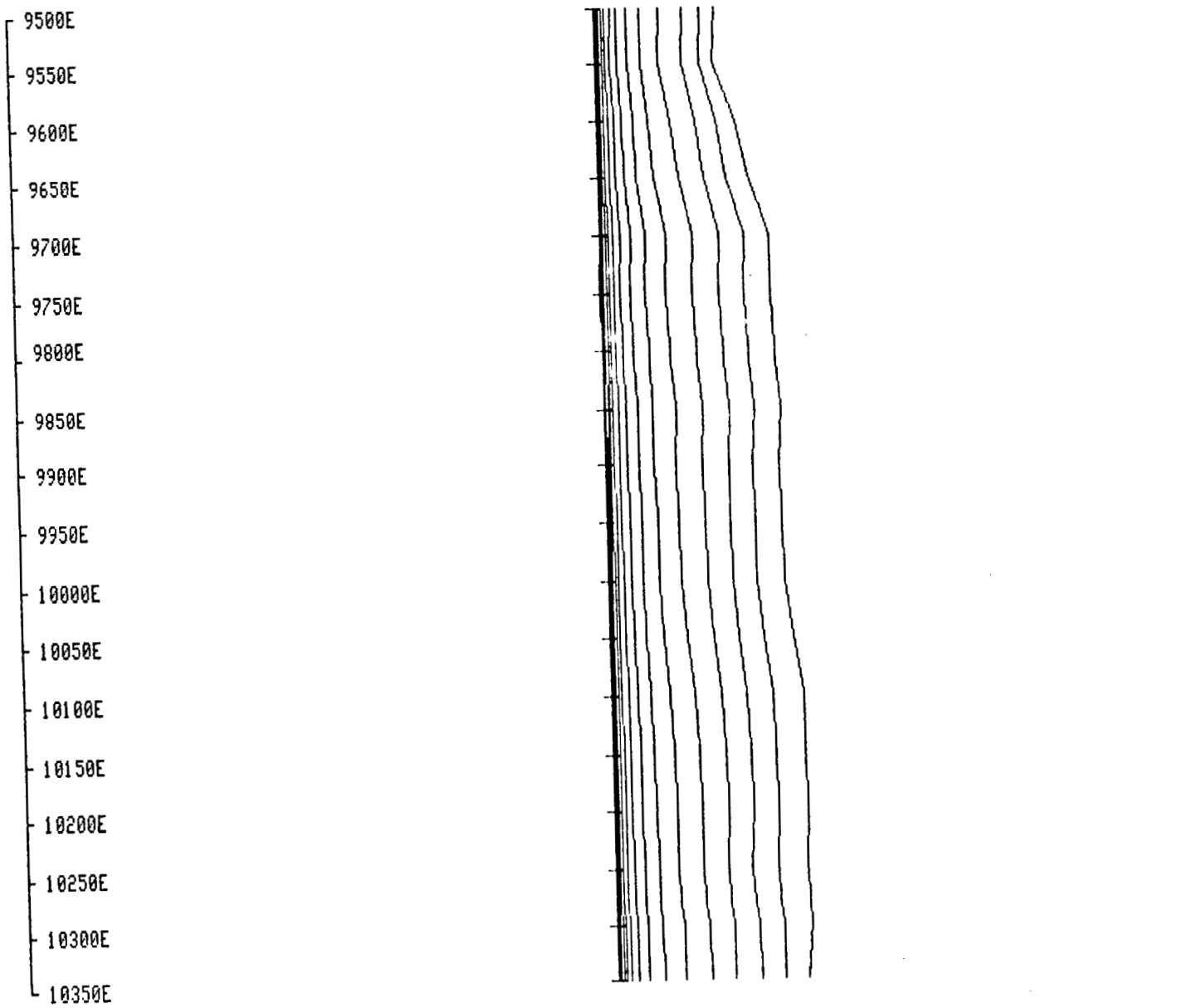
Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**87N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**24/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

Vertical Component dBz/dt



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**87N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**24/09/89**	**Gain:**	**6**

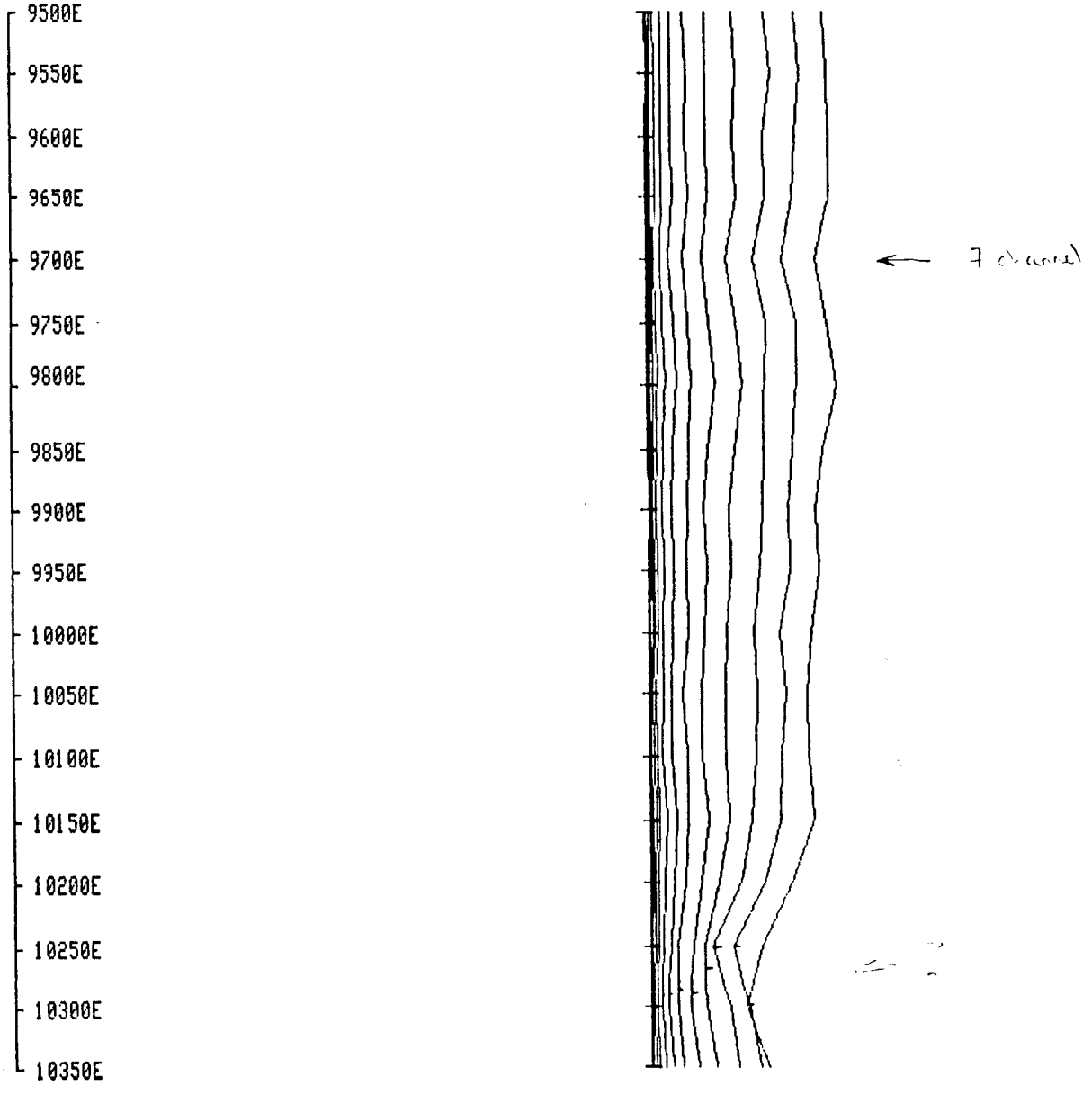
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log In-line Horizontal Component dBx/dt

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 +10 $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**88N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**24/09/89**	**Gain:**	**6**

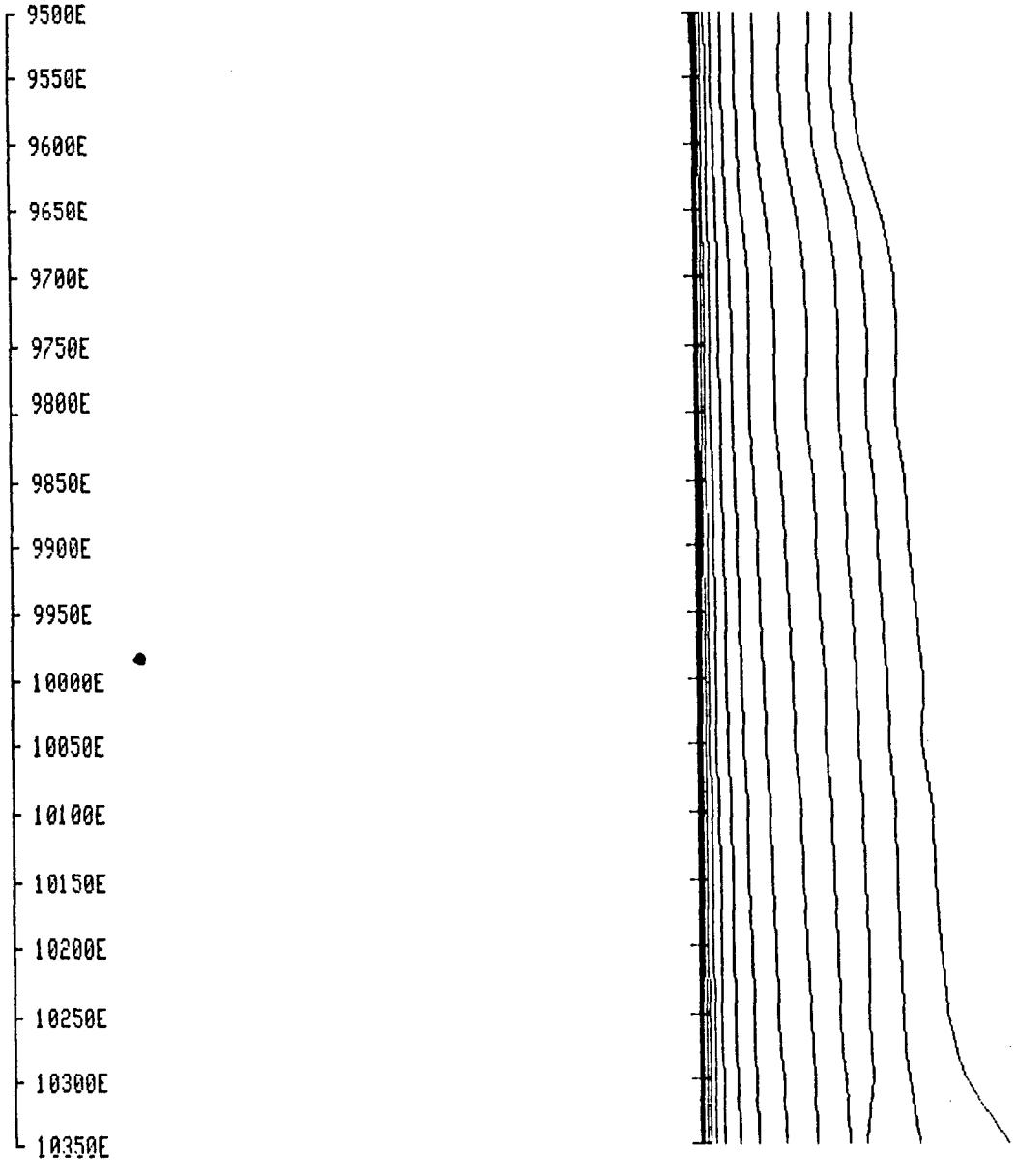
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

Vertical Component dBz/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**88N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**24/09/89**	**Gain:**	**6**

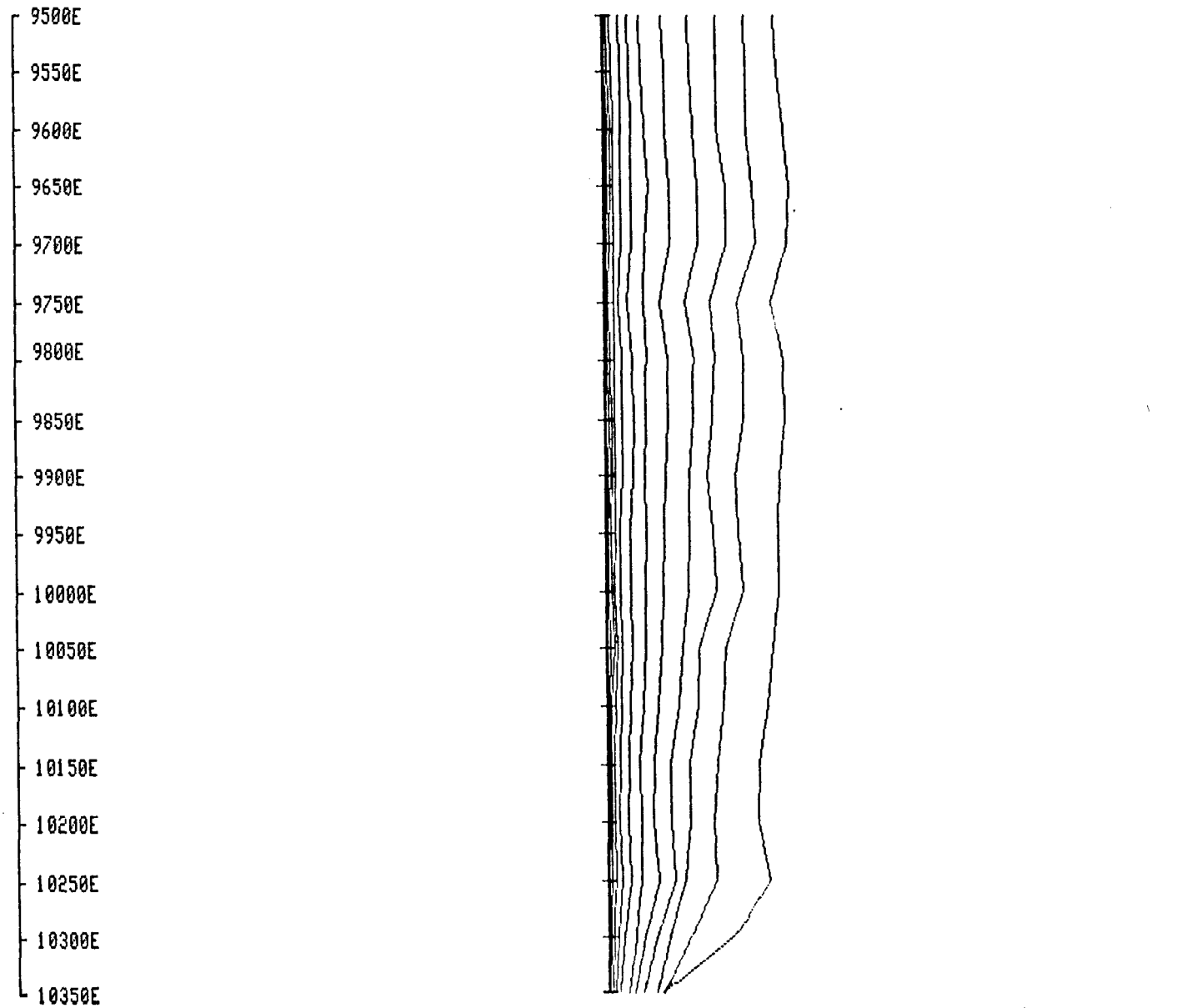
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$

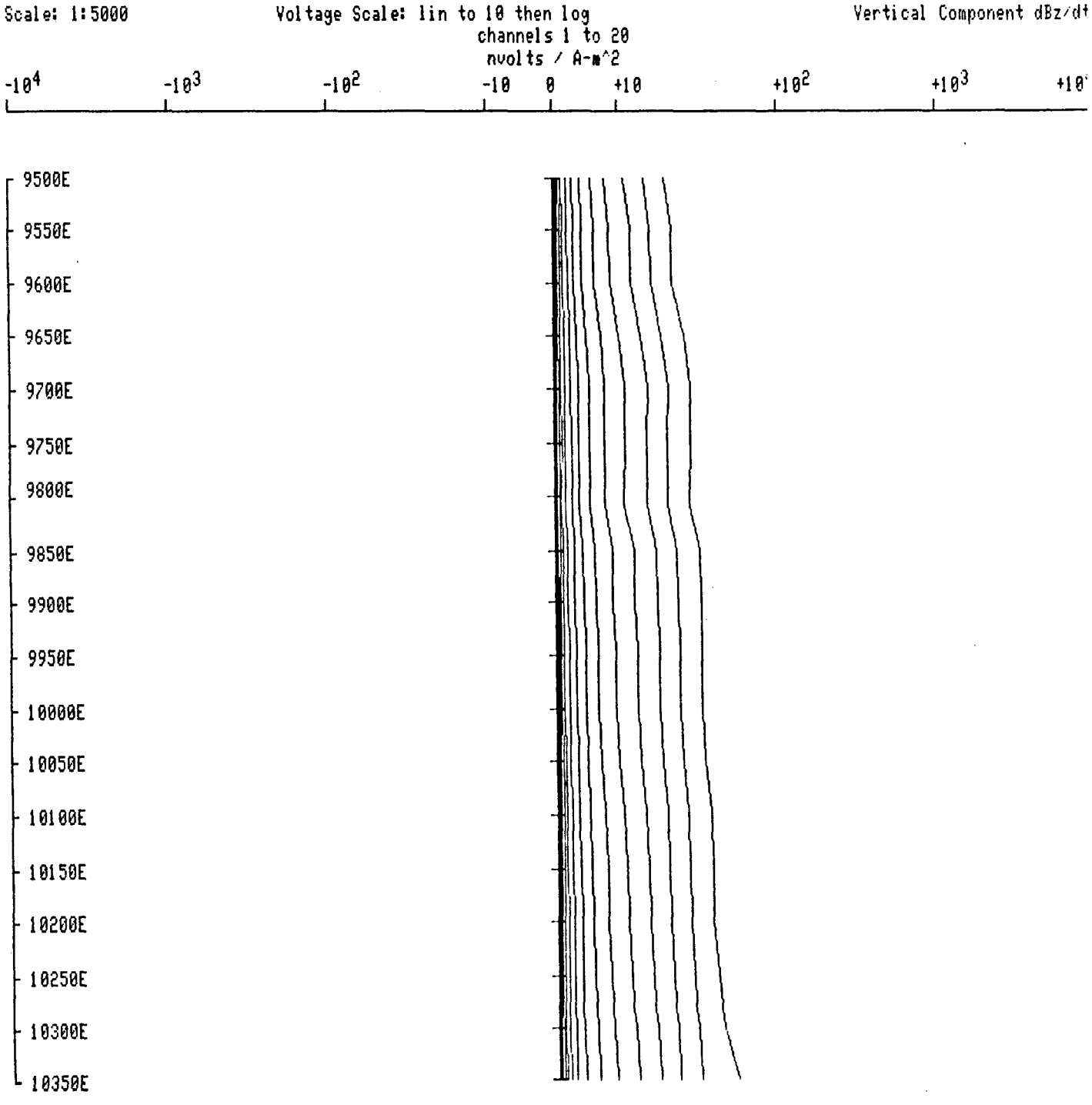


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**89N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**23/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**89N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**23/09/89**	**Gain:**	**6**

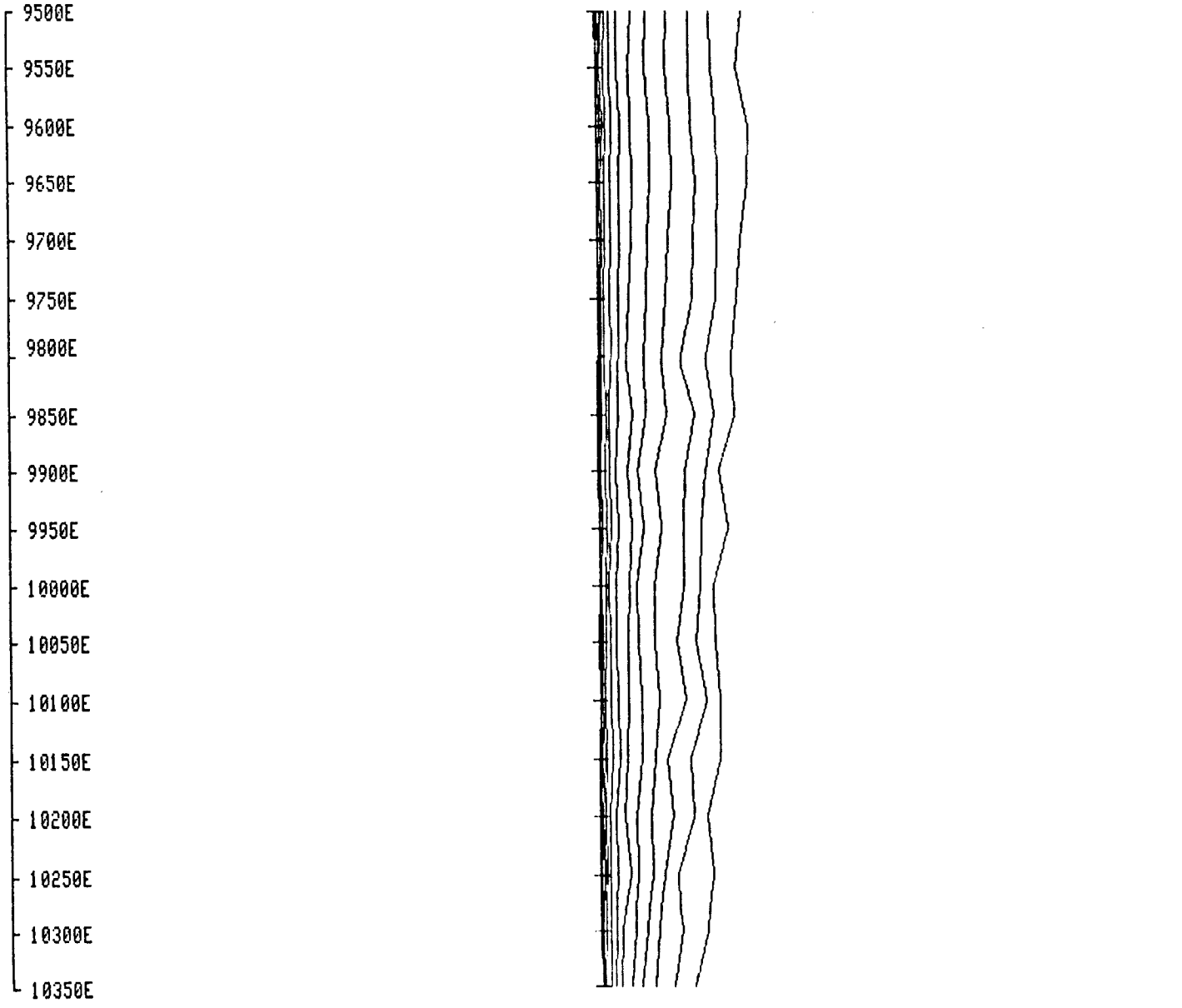
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**90N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**23/09/89**	**Gain:**	**6**

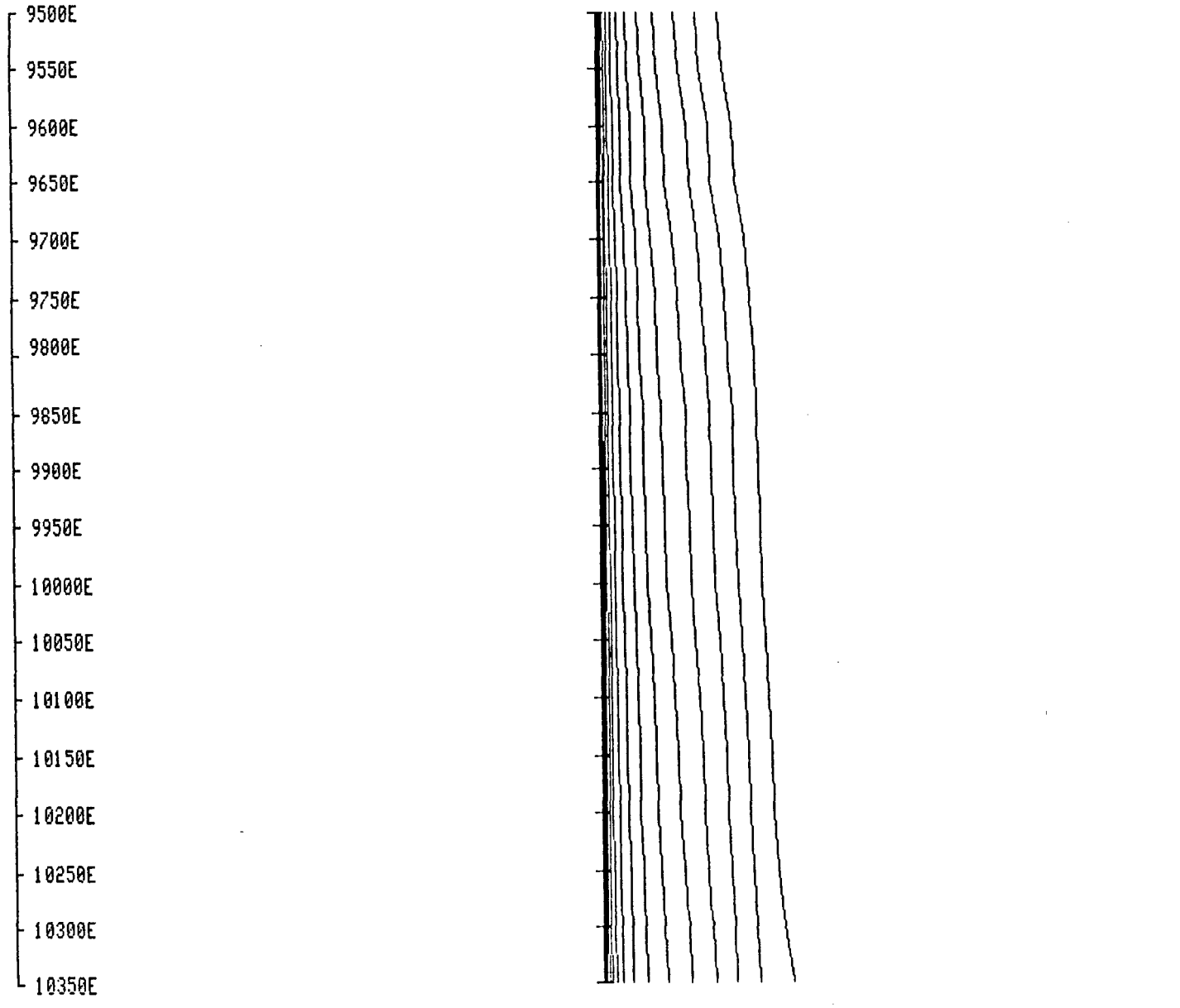
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

Vertical Component dBz/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**90N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**23/09/89**	**Gain:**	**6**

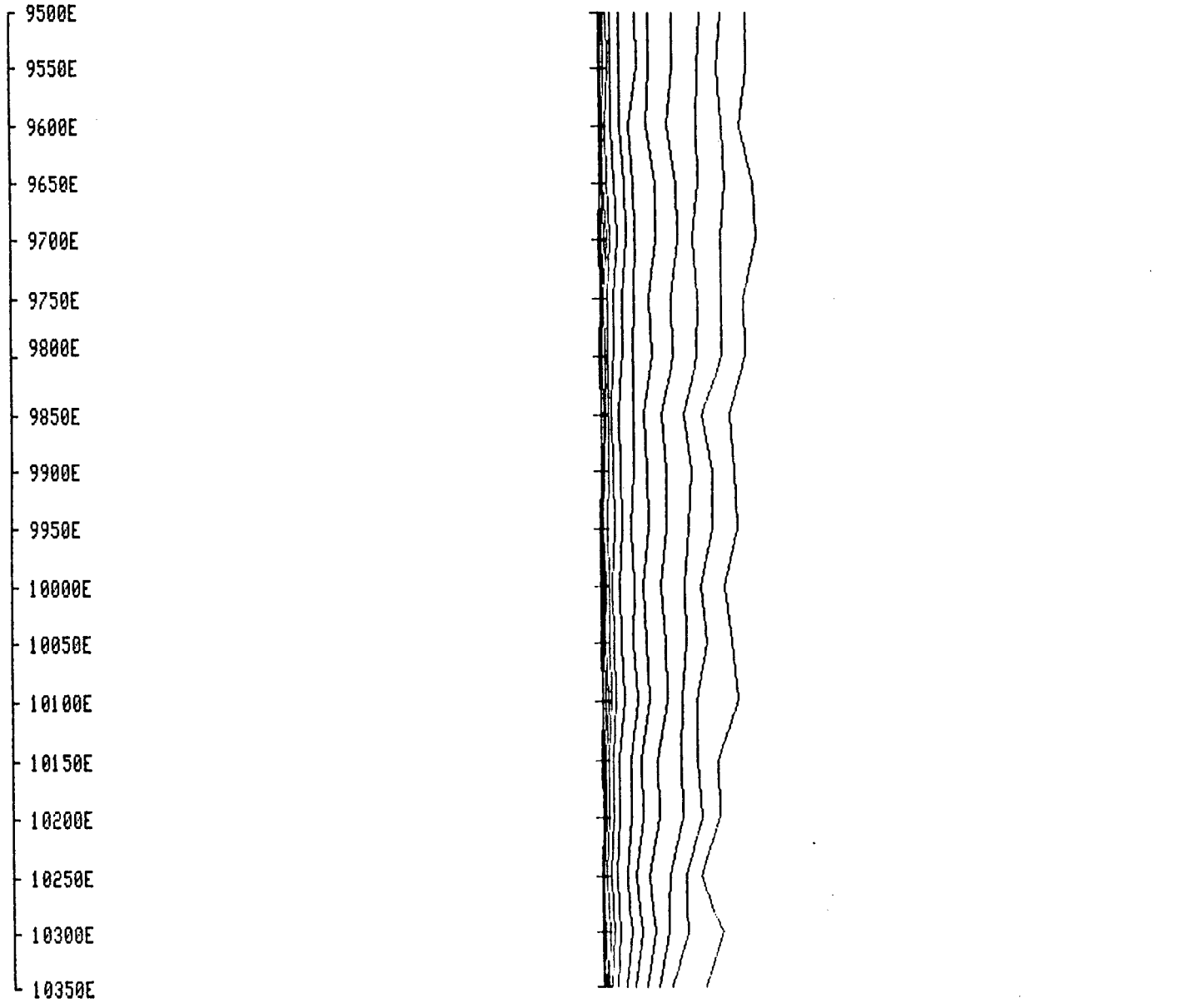
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**91N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**23/09/89**	**Gain:**	**6**

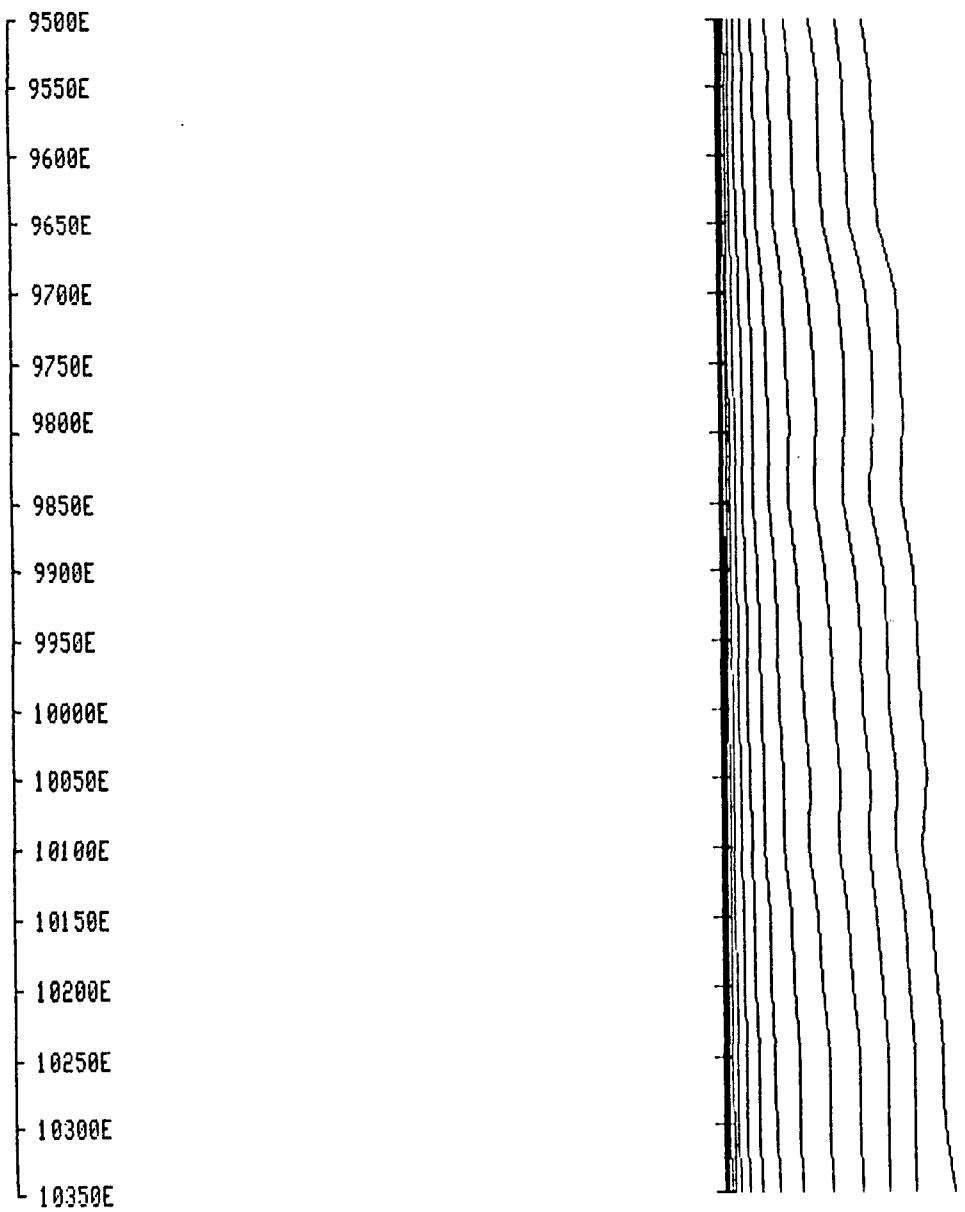
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log Vertical Component dBz/dt

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**91N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**23/09/89**	**Gain:**	**6**

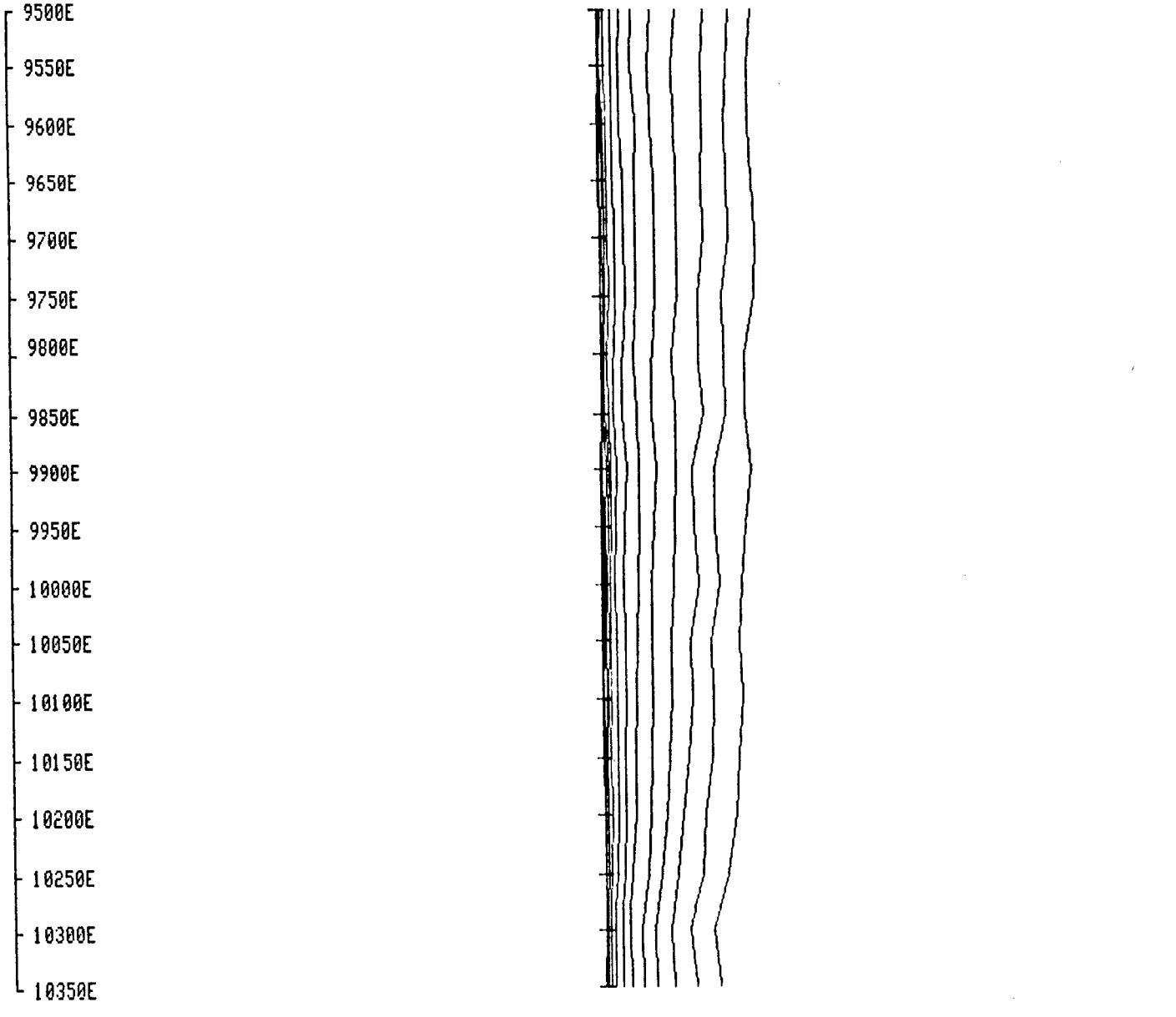
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**92N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**23/09/89**	**Gain:**	**6**

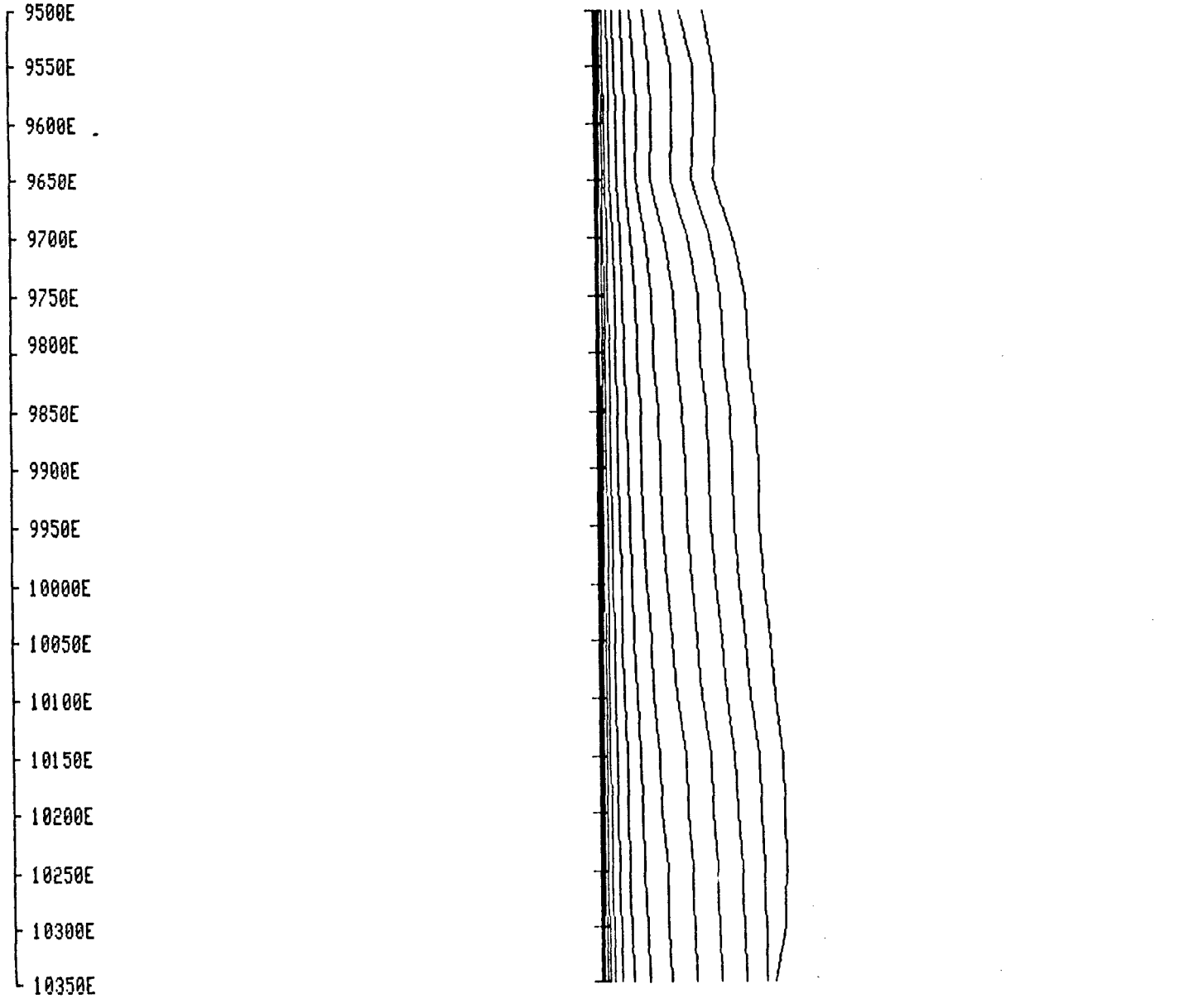
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

Vertical Component dBz/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87N-L96N;104E-108E**
Line:	**92N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**23/09/89**	**Gain:**	**6**

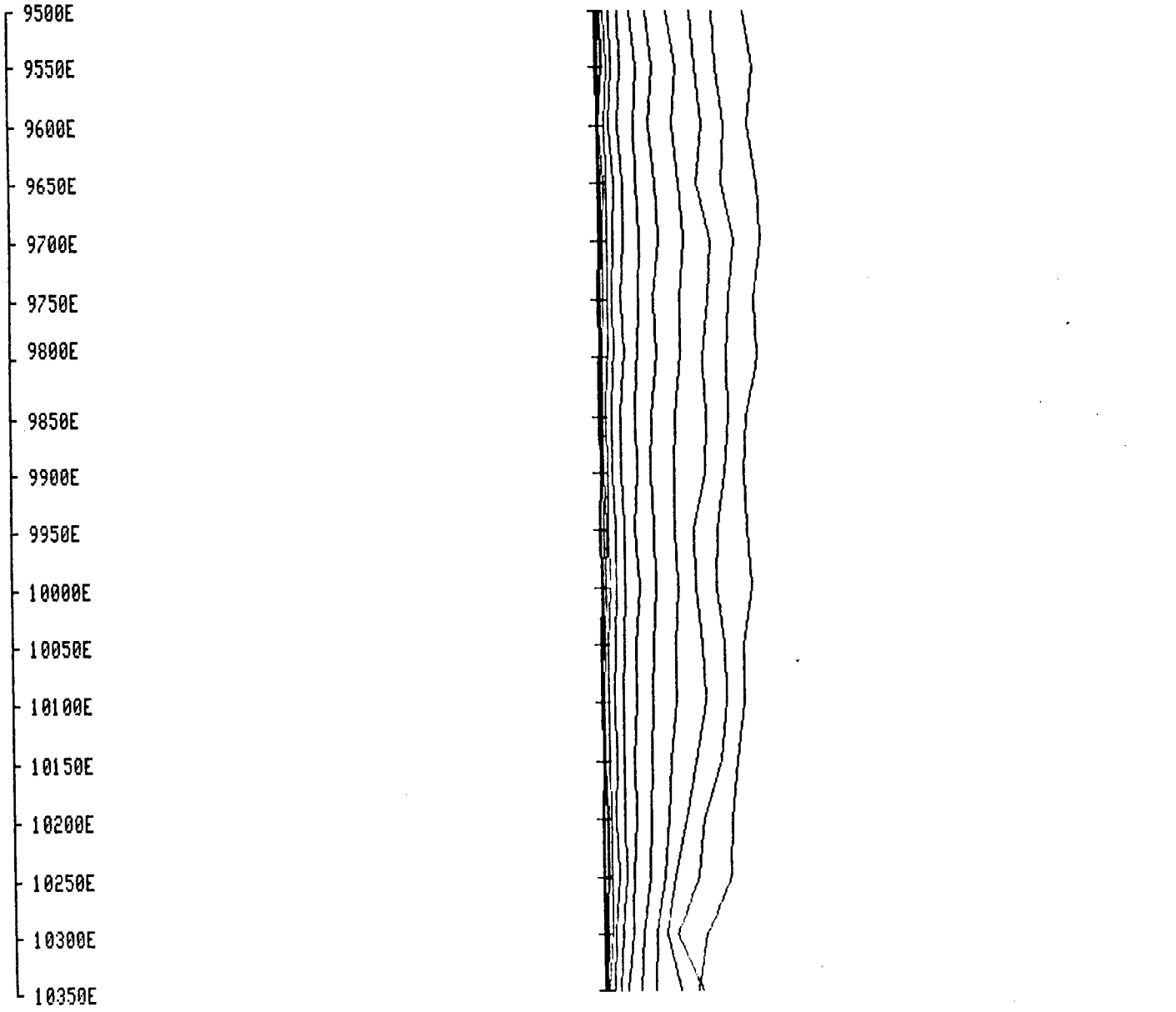
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log In-line Horizontal Component dBx/dt

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 +10 $+10^2$ $+10^3$ $+10^4$

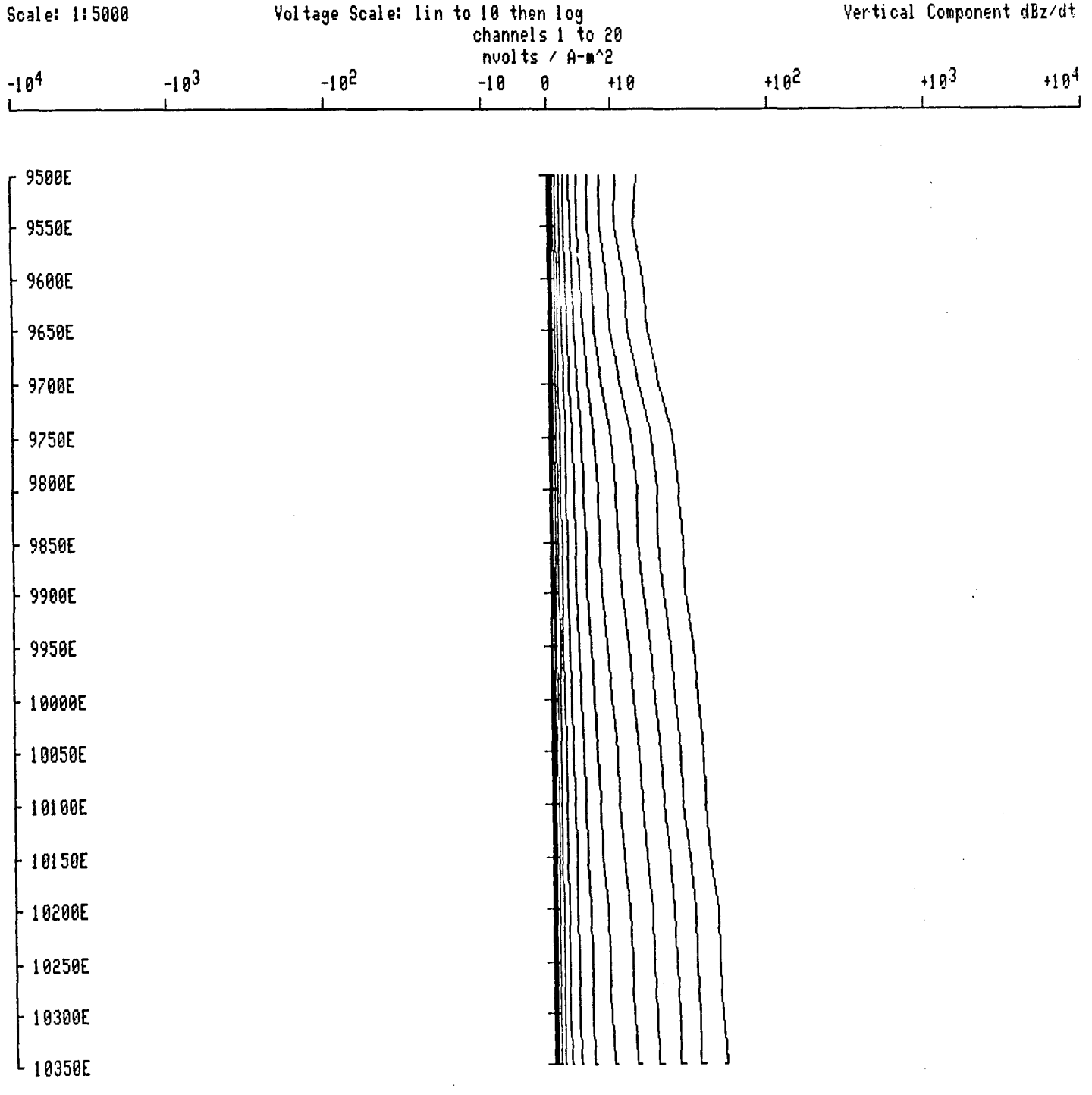


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87E-L96E;104E-108E**
Line:	**93N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**22/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

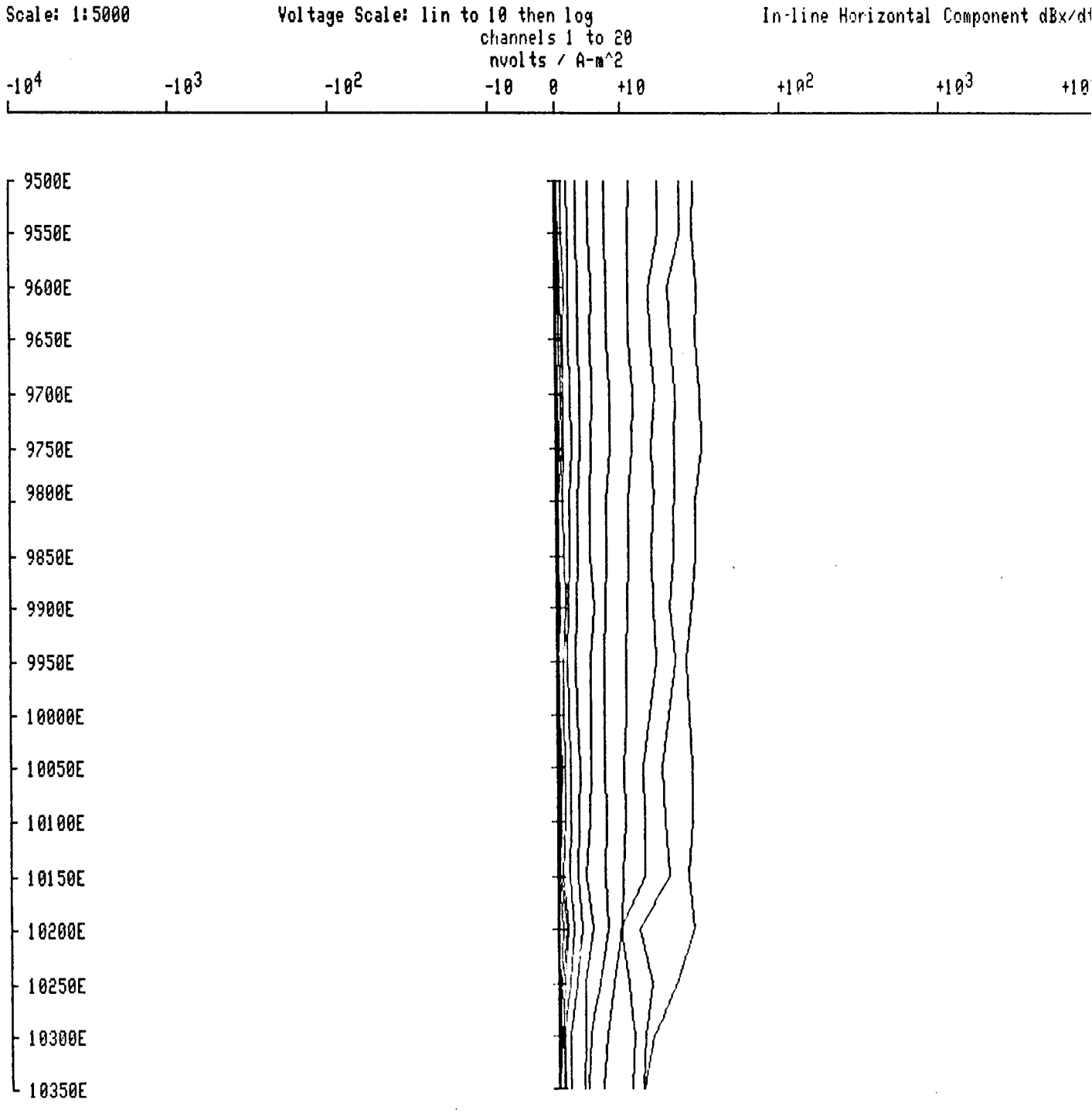


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87E-L96E;104E-108E**
Line:	**93N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**22/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

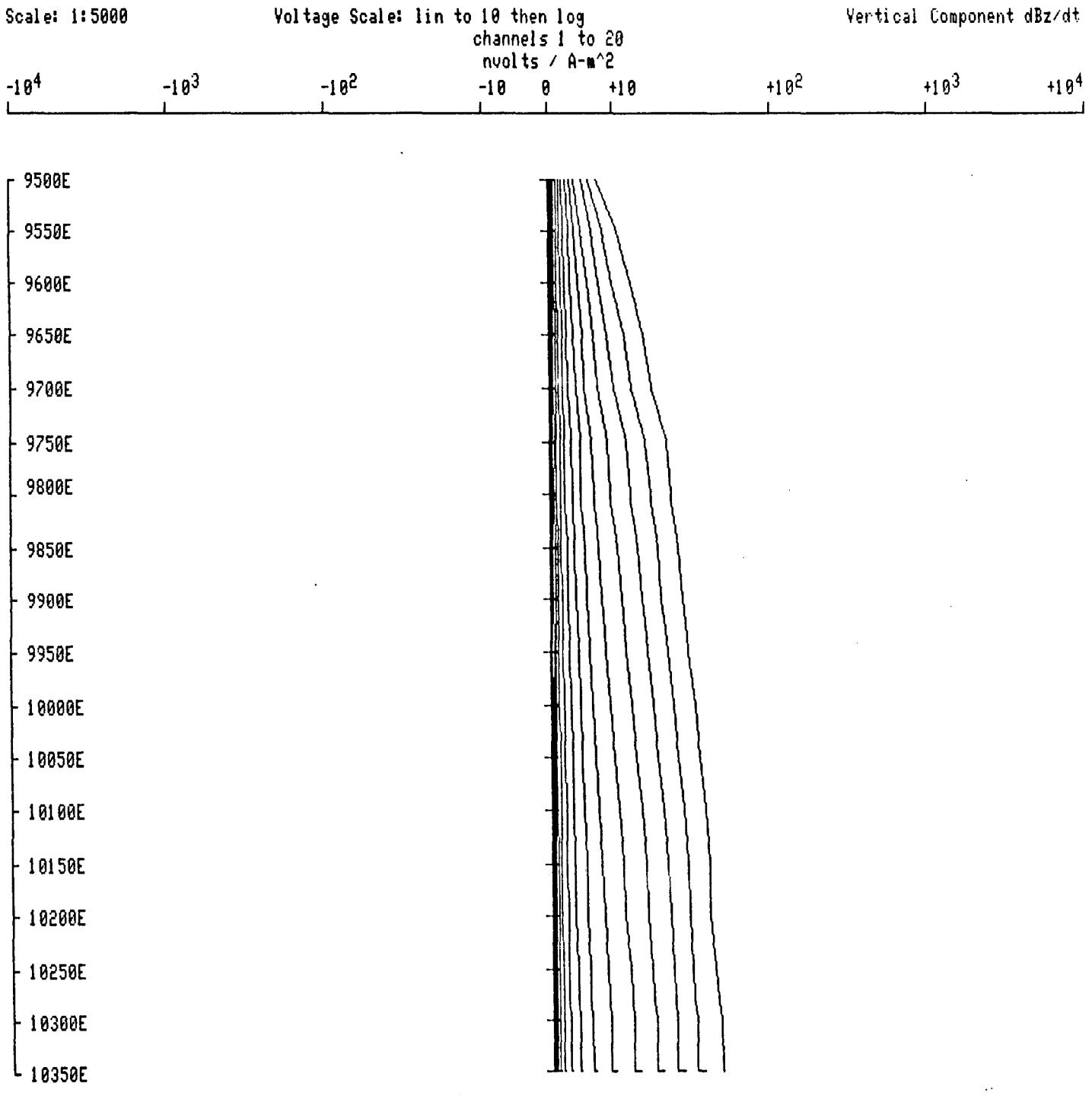


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87E-L96E;104E-108E**
Line:	**94N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**22/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada



MINNOVA_INC.

TRANSIENT EM SURVEY

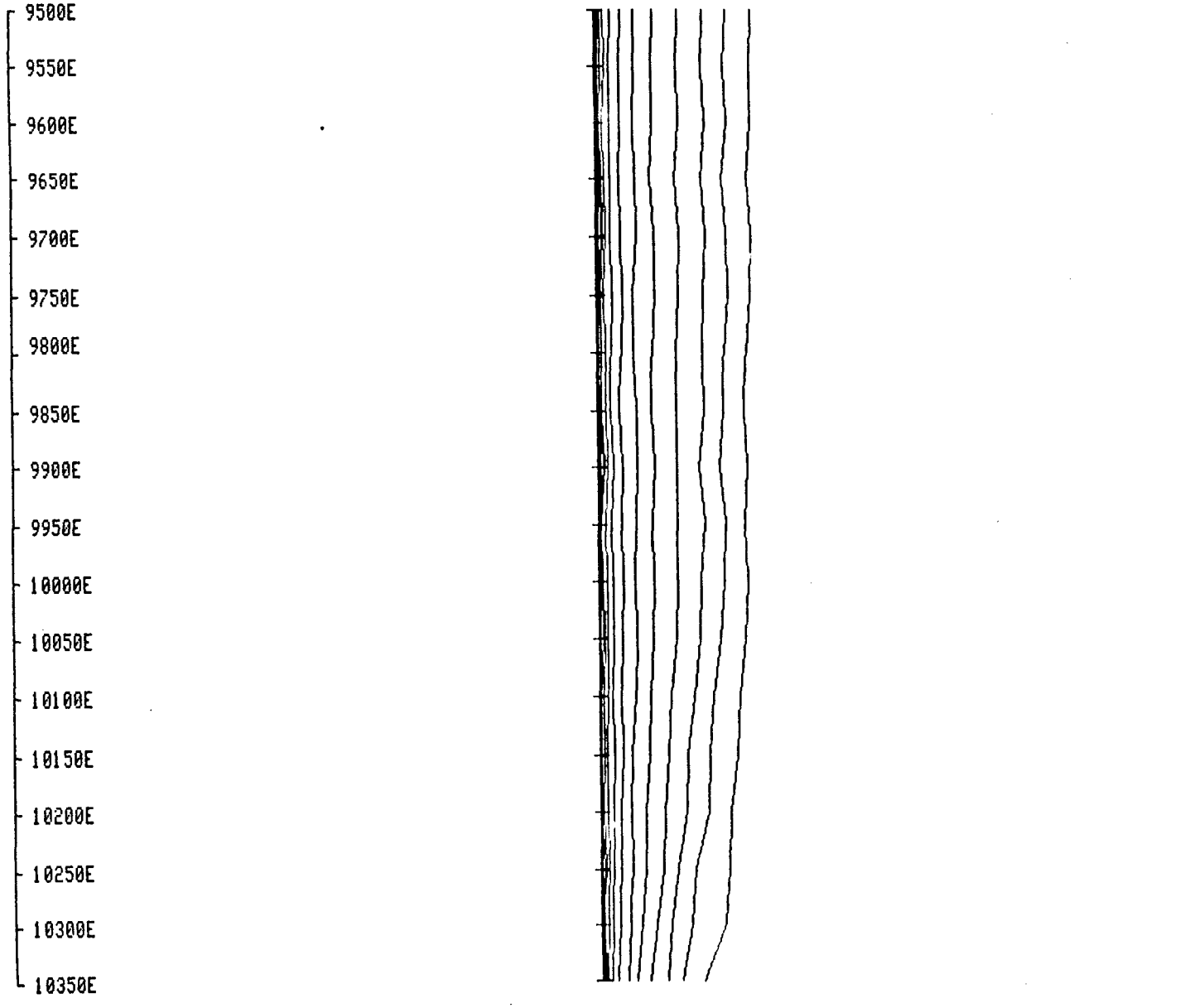
Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87E-L96E;104E-108E**
Line:	**94N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**22/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87E-L96E;104E-103E**
Line:	**95N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**22/09/89**	**Gain:**	**6**

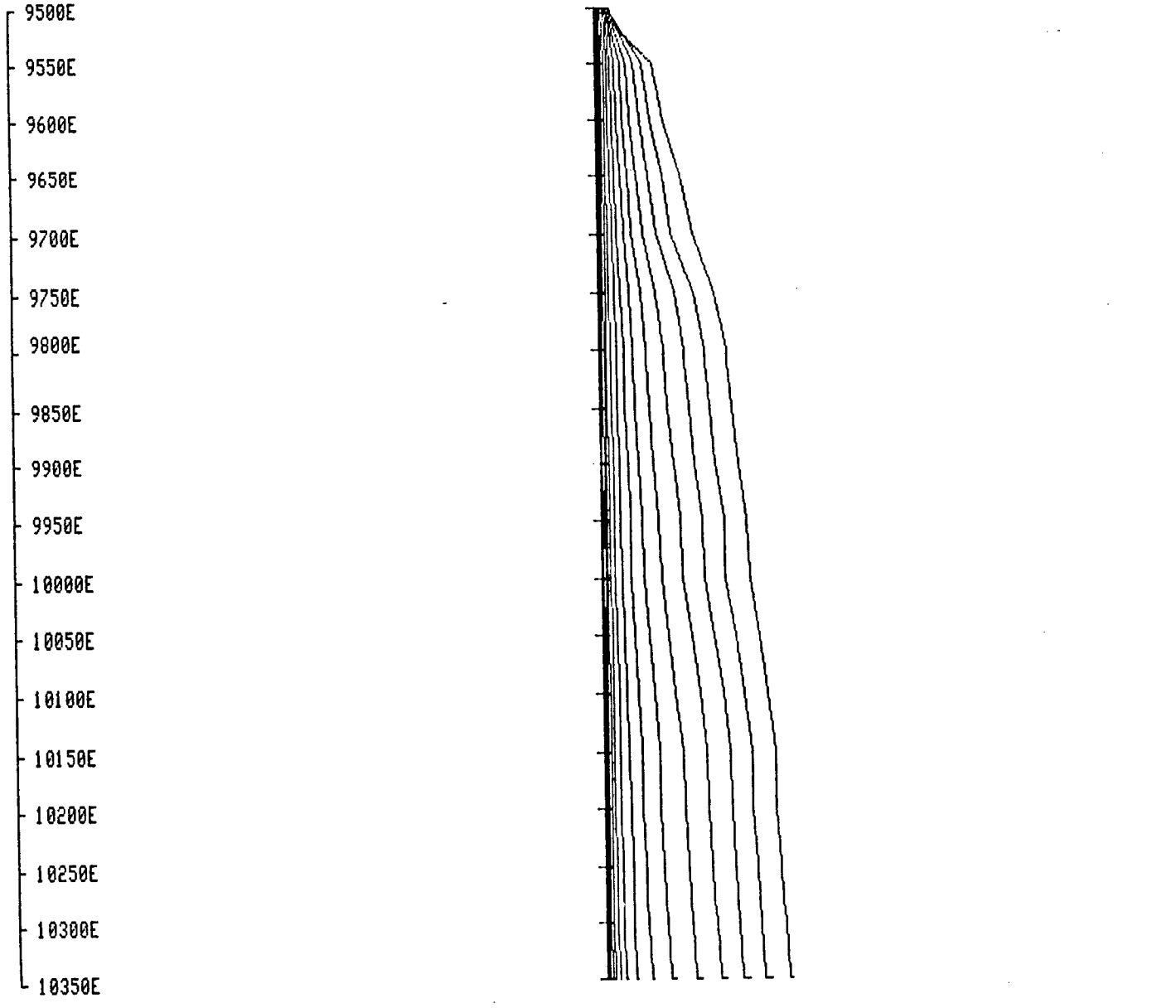
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

Vertical Component dBz/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



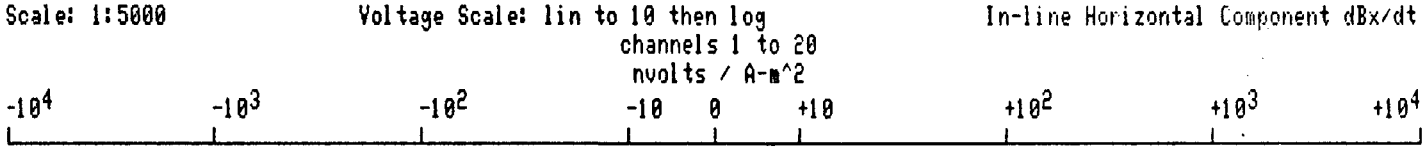
MINNOVA_INC.

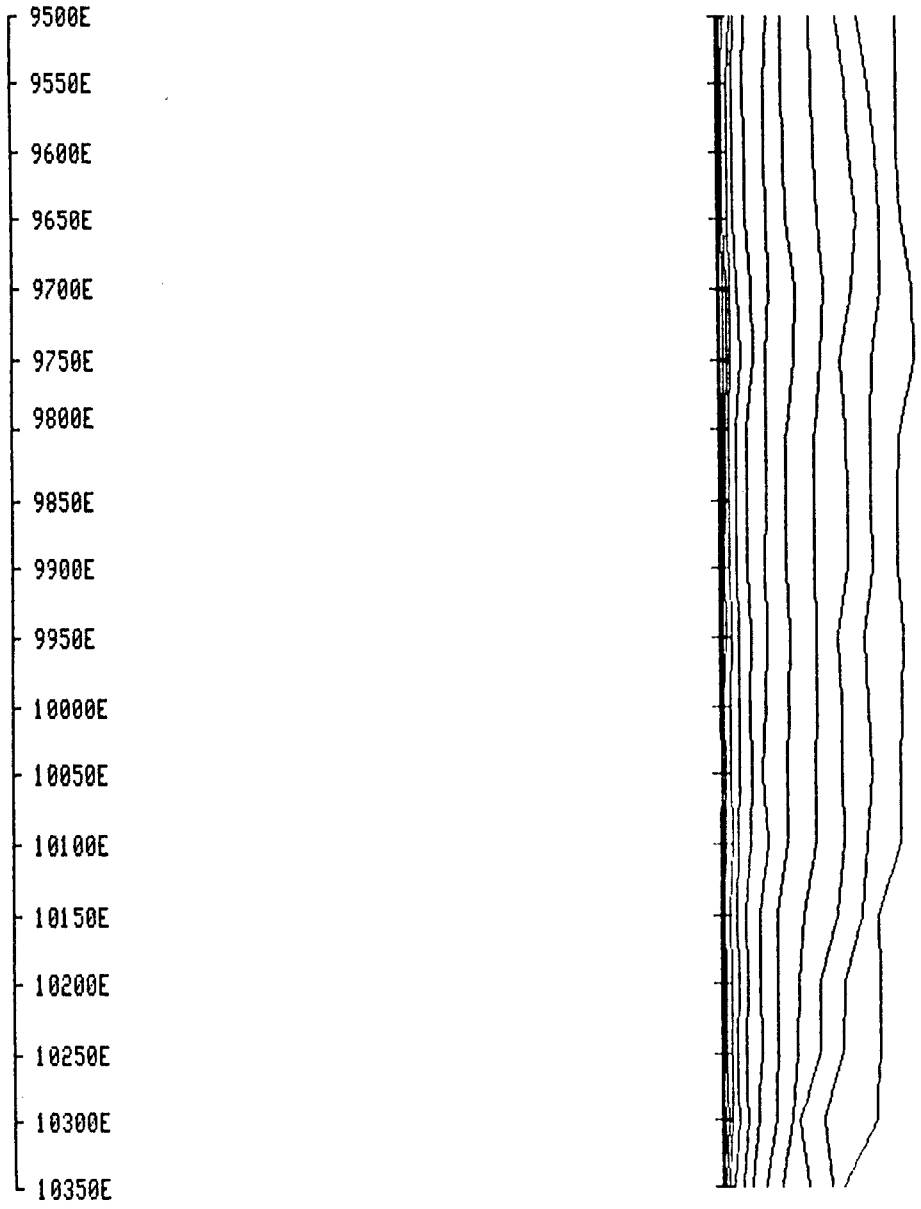
TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87E-L96E;104E-108E**
Line:	**95N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**22/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log channels 1 to 20 nvolts / A-m^2 In-line Horizontal Component dBx/dt





MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87E-L96E;104E-108E**
Line:	**96N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**22/09/89**	**Gain:**	**6**

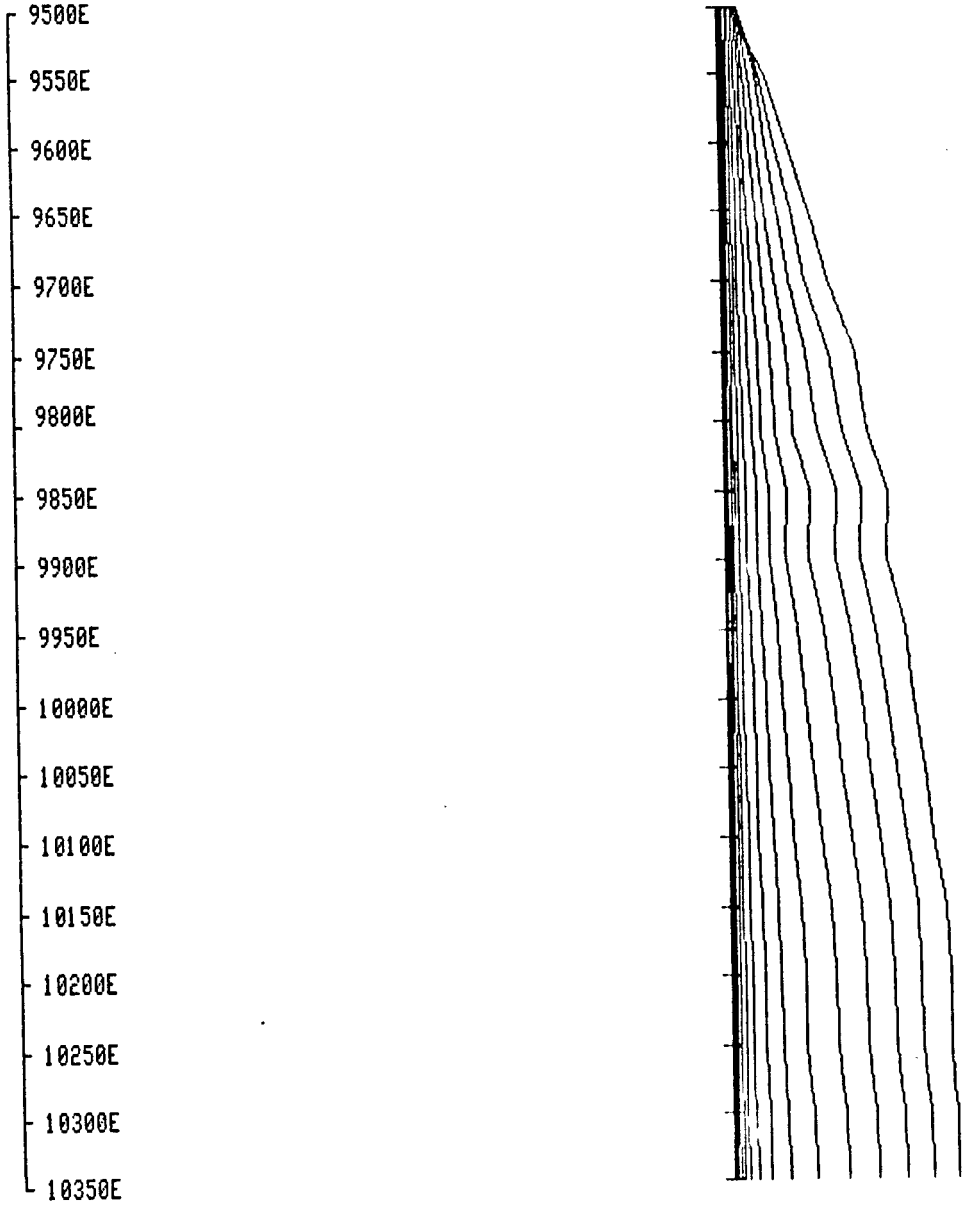
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

Vertical Component dBz/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$

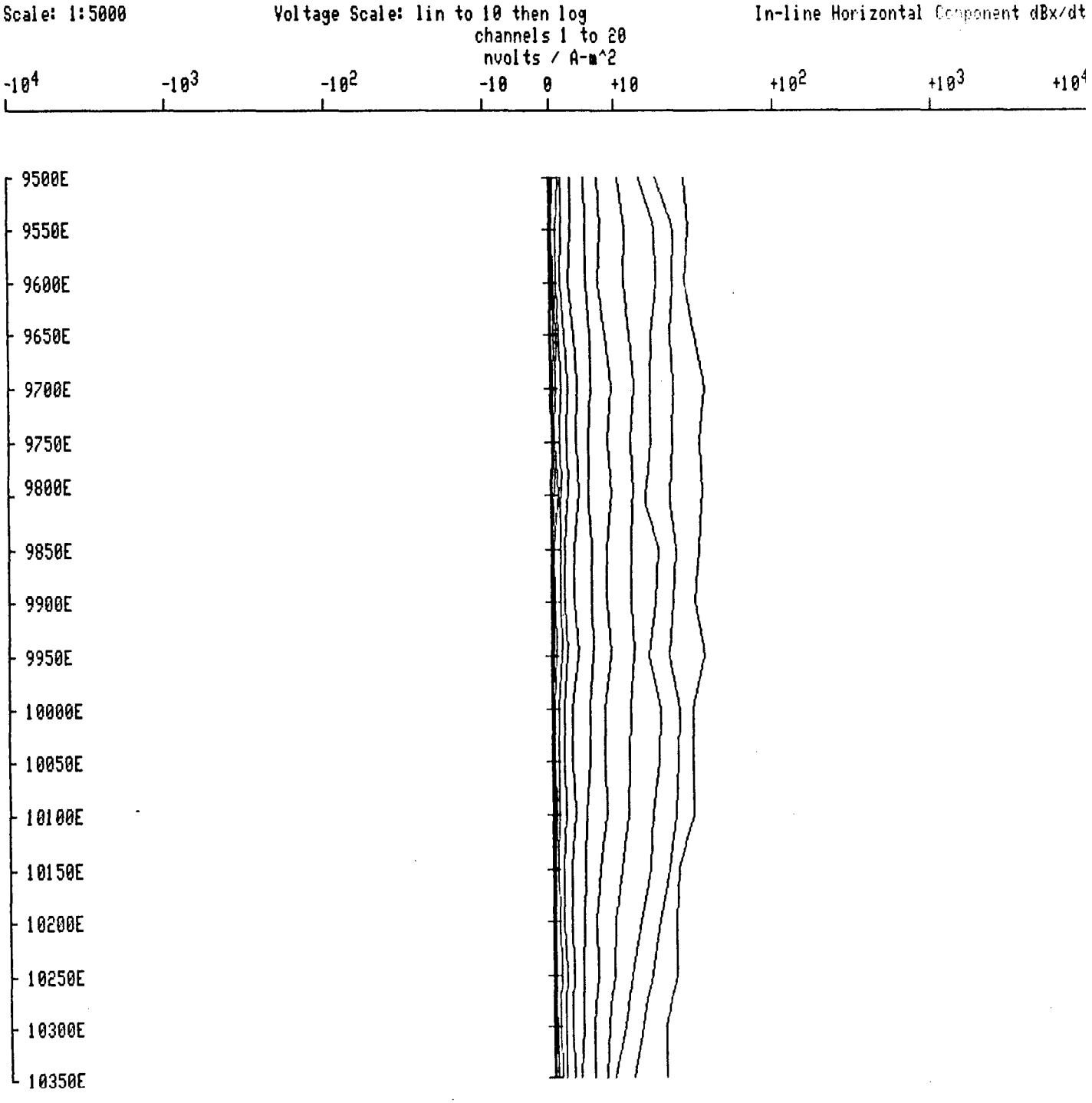


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**1**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L87E-L96E;104E-108E**
Line:	**96N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**22/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

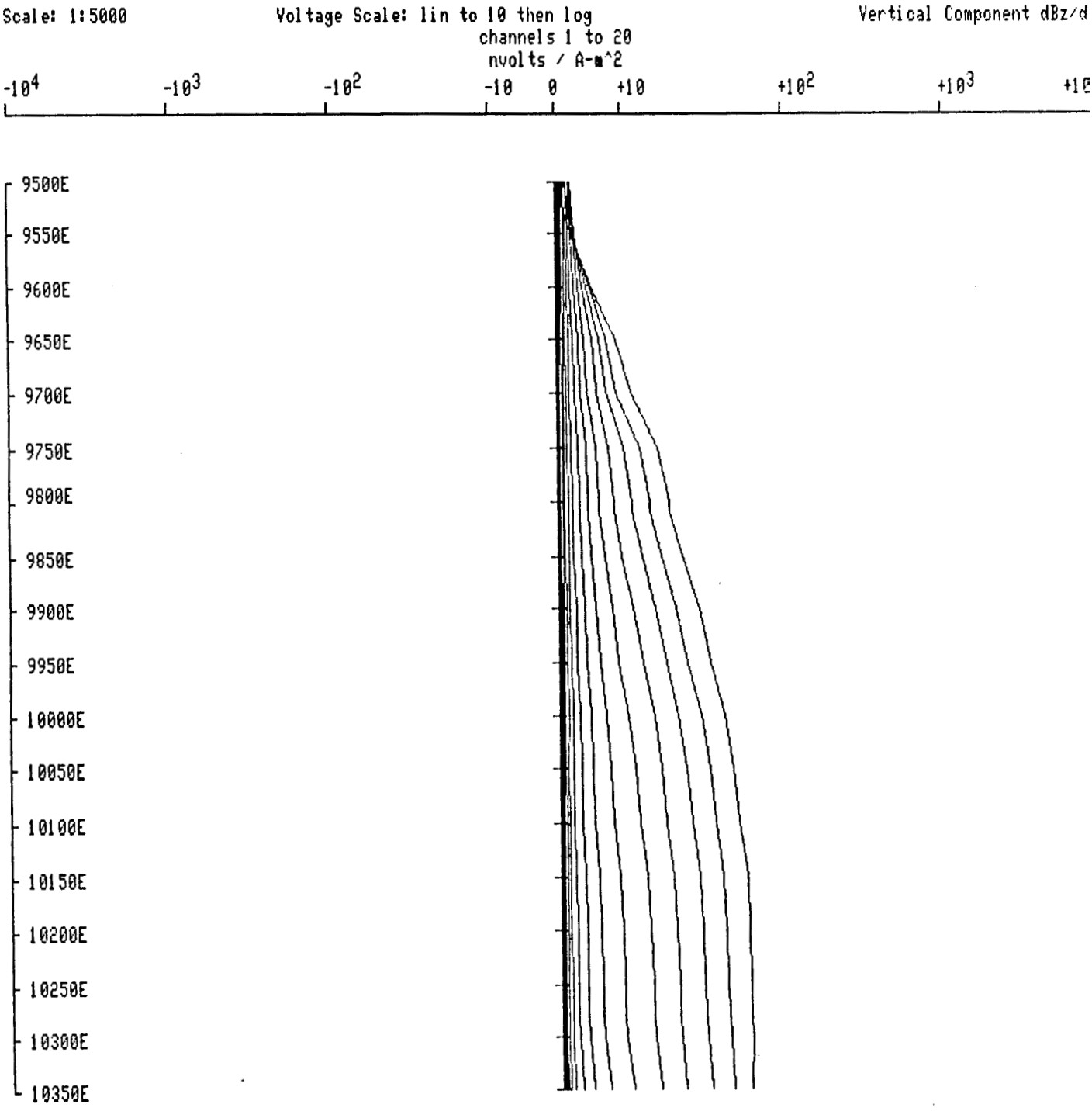


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**97N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**24/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**97N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**24/09/89**	**Gain:**	**6**

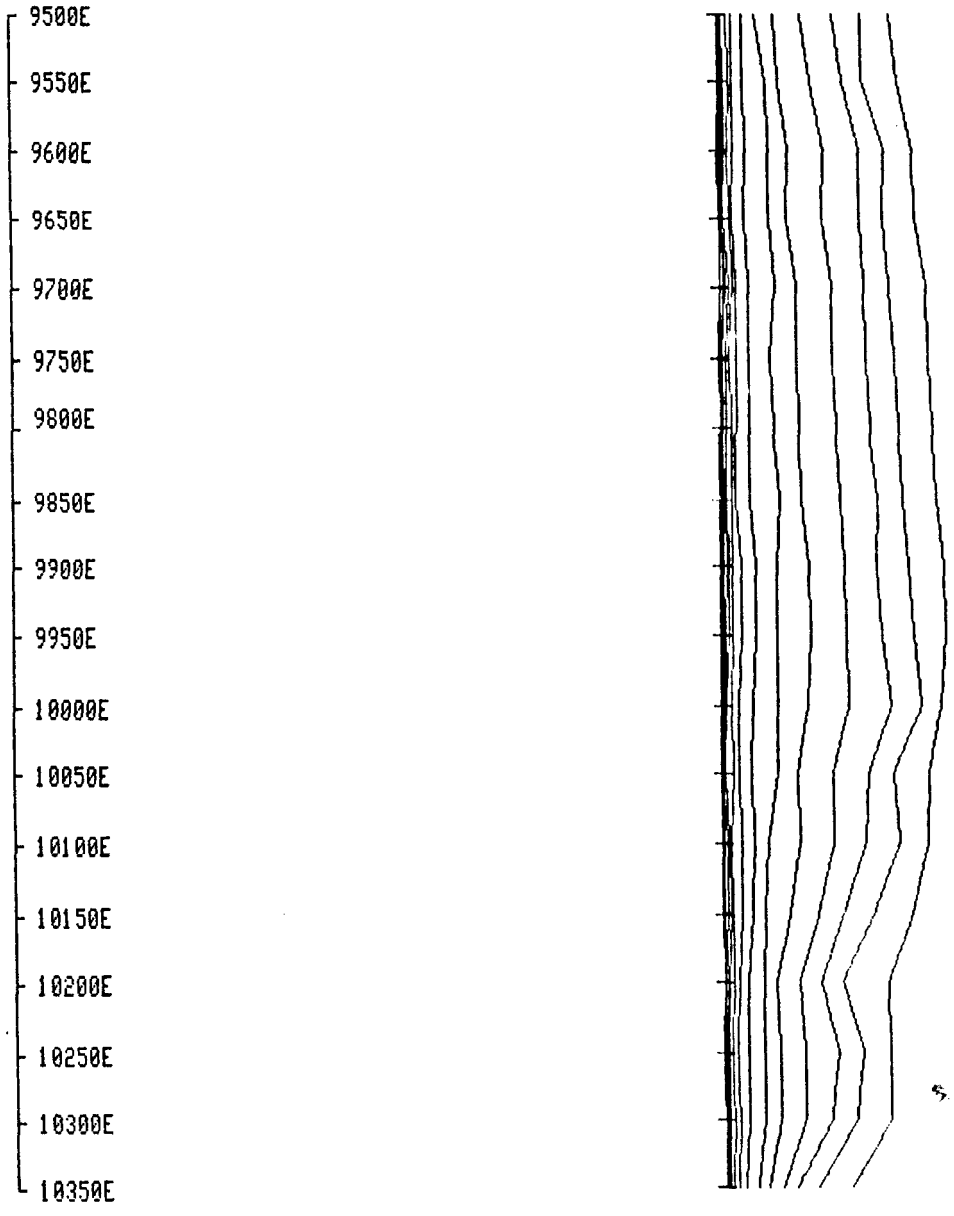
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$

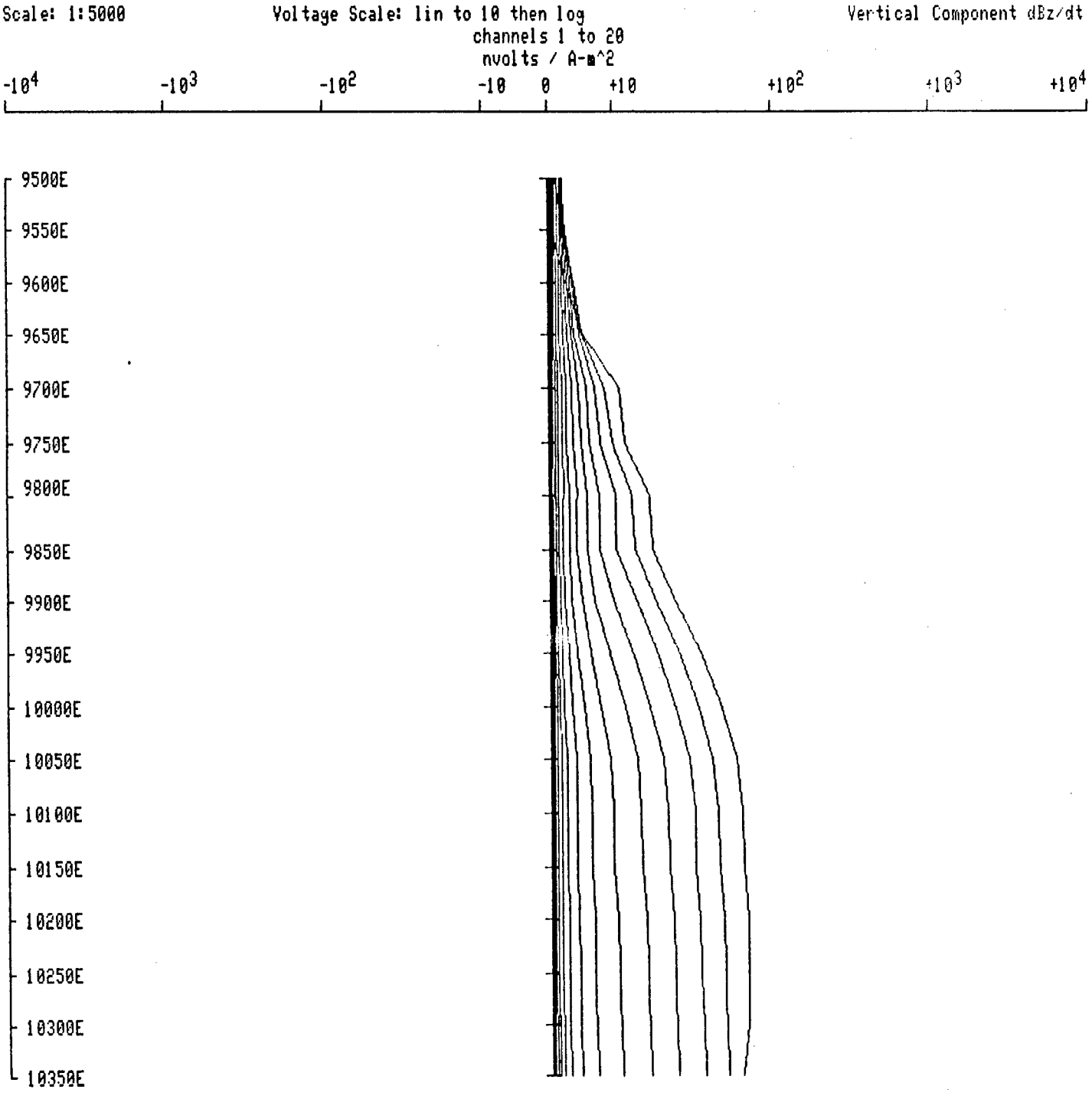


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**98N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**24/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada



MINNOVA_INC.

TRANSIENT EM SURVEY

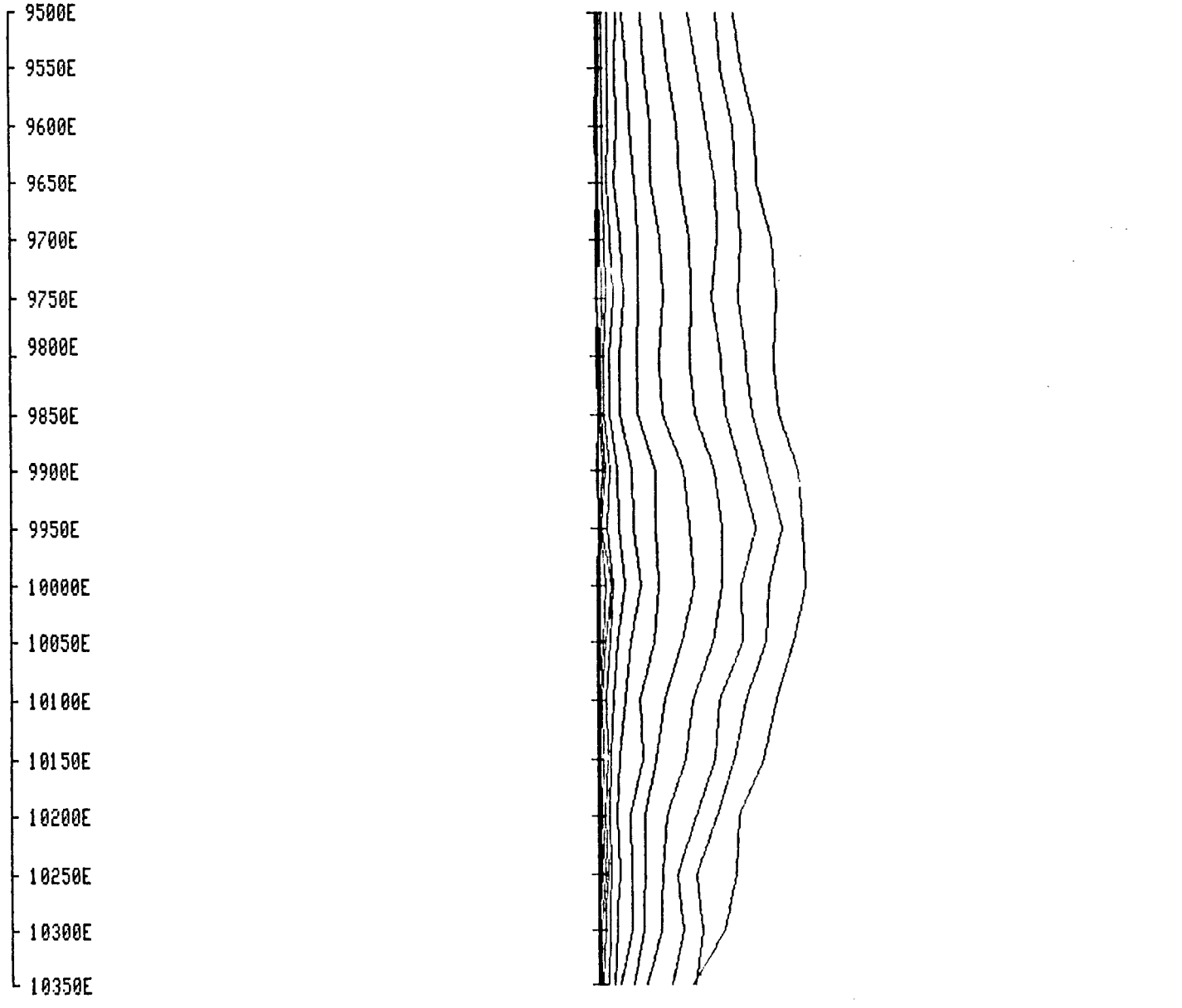
Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**98N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**24/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt



MINNOVA_INC.

TRANSIENT EM SURVEY

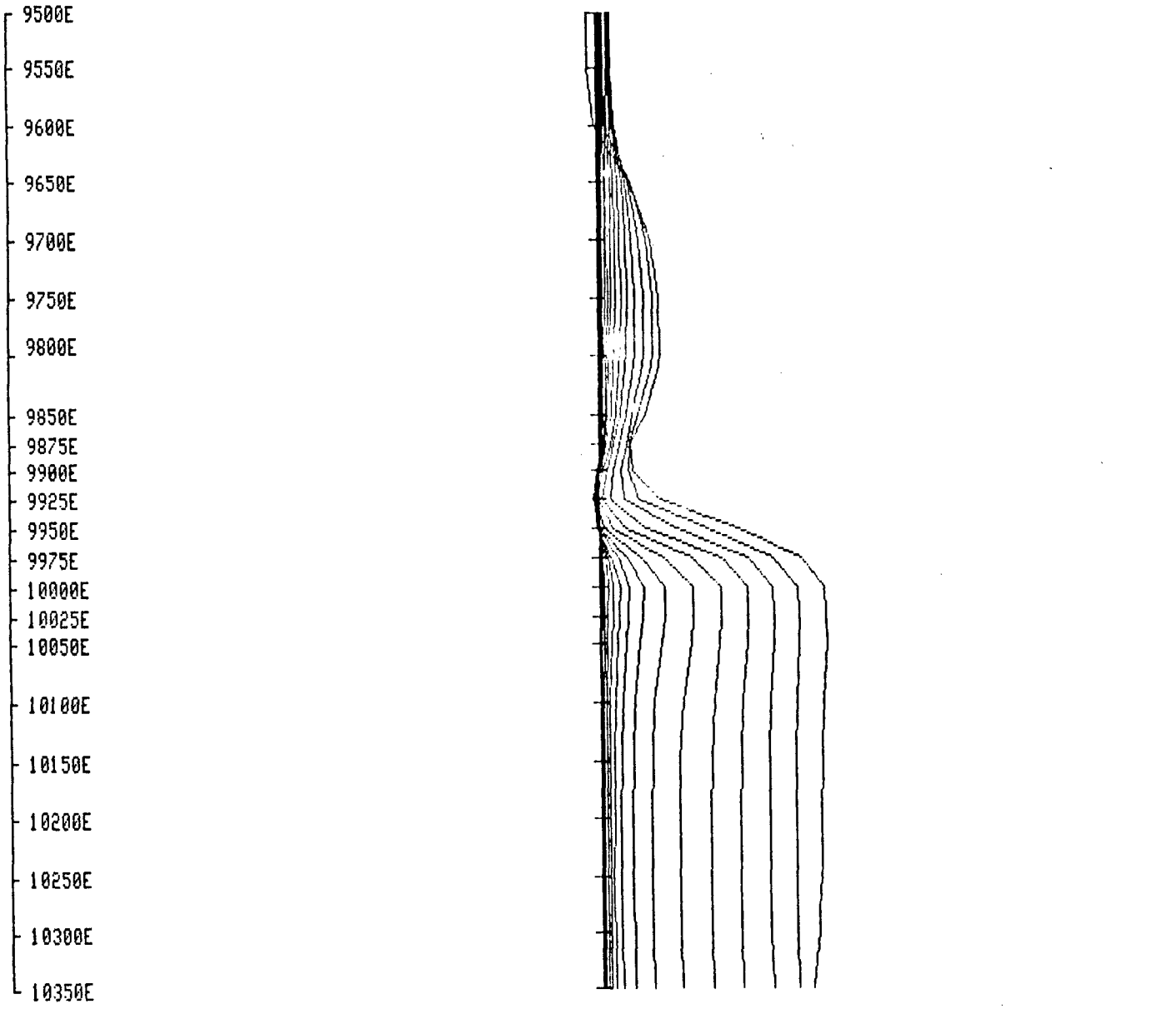
Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**99N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**25/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

Vertical Component dBz/dt

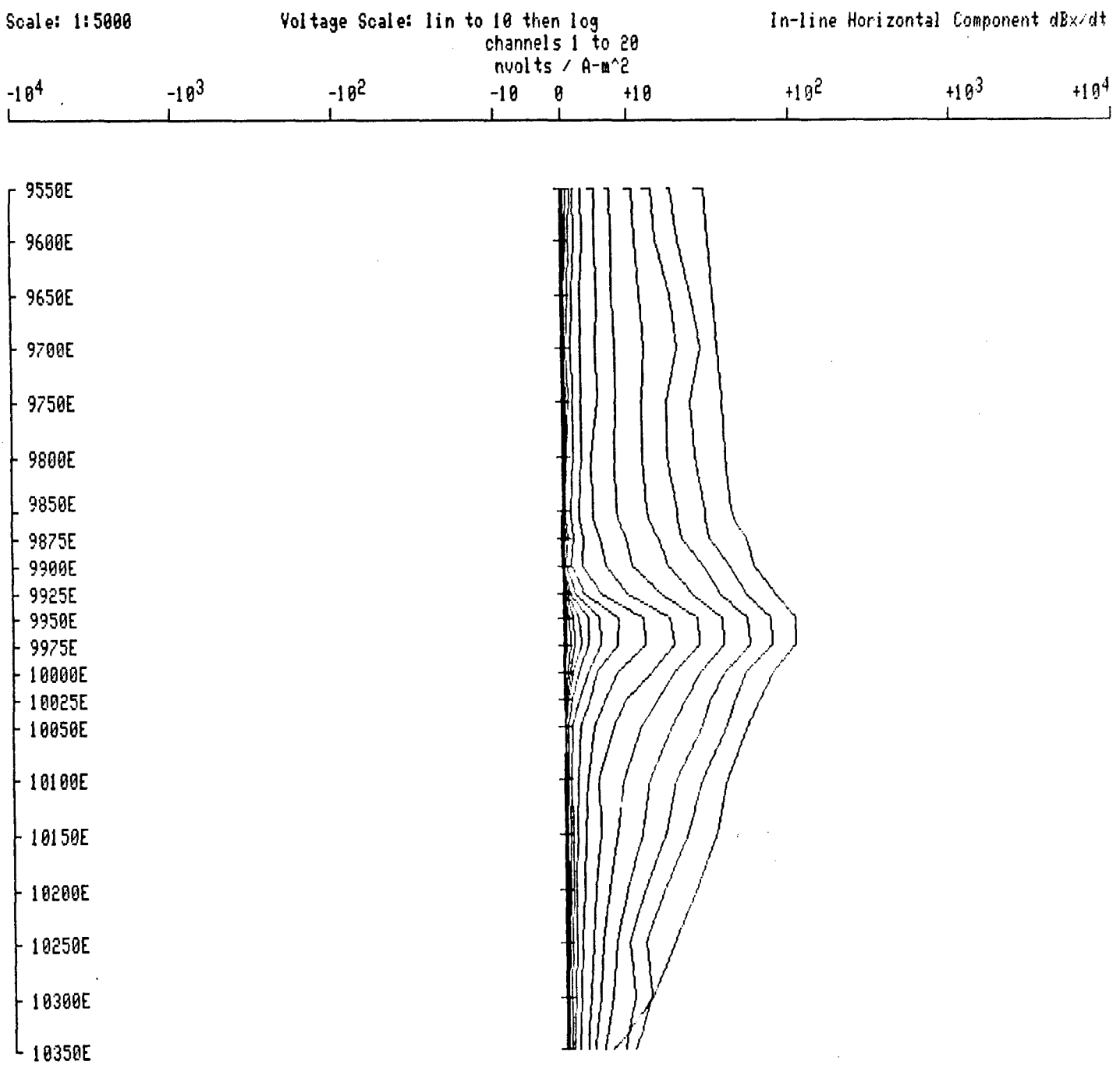


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**99N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**25/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

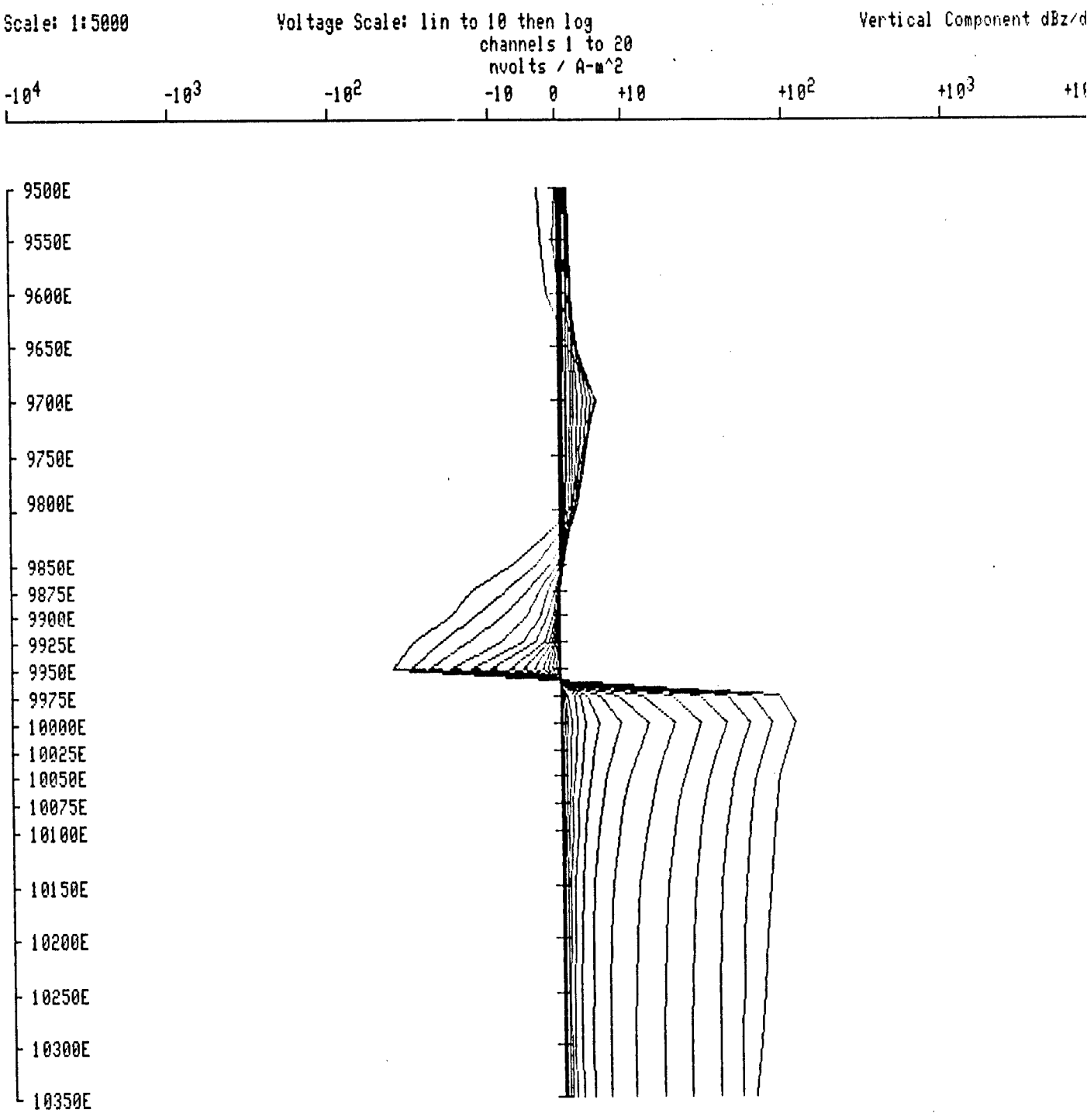


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**100N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**25/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

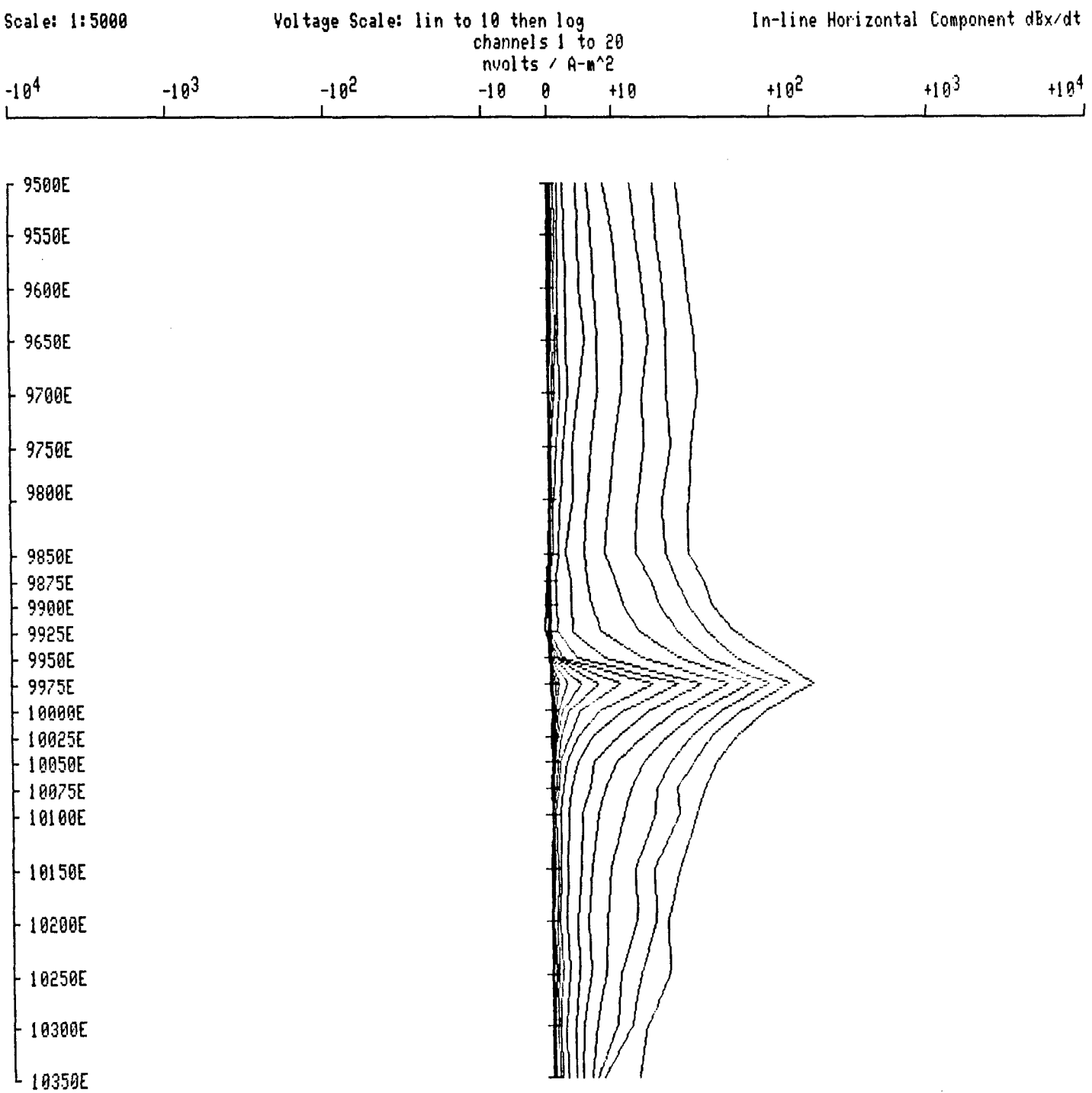


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**100N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**25/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

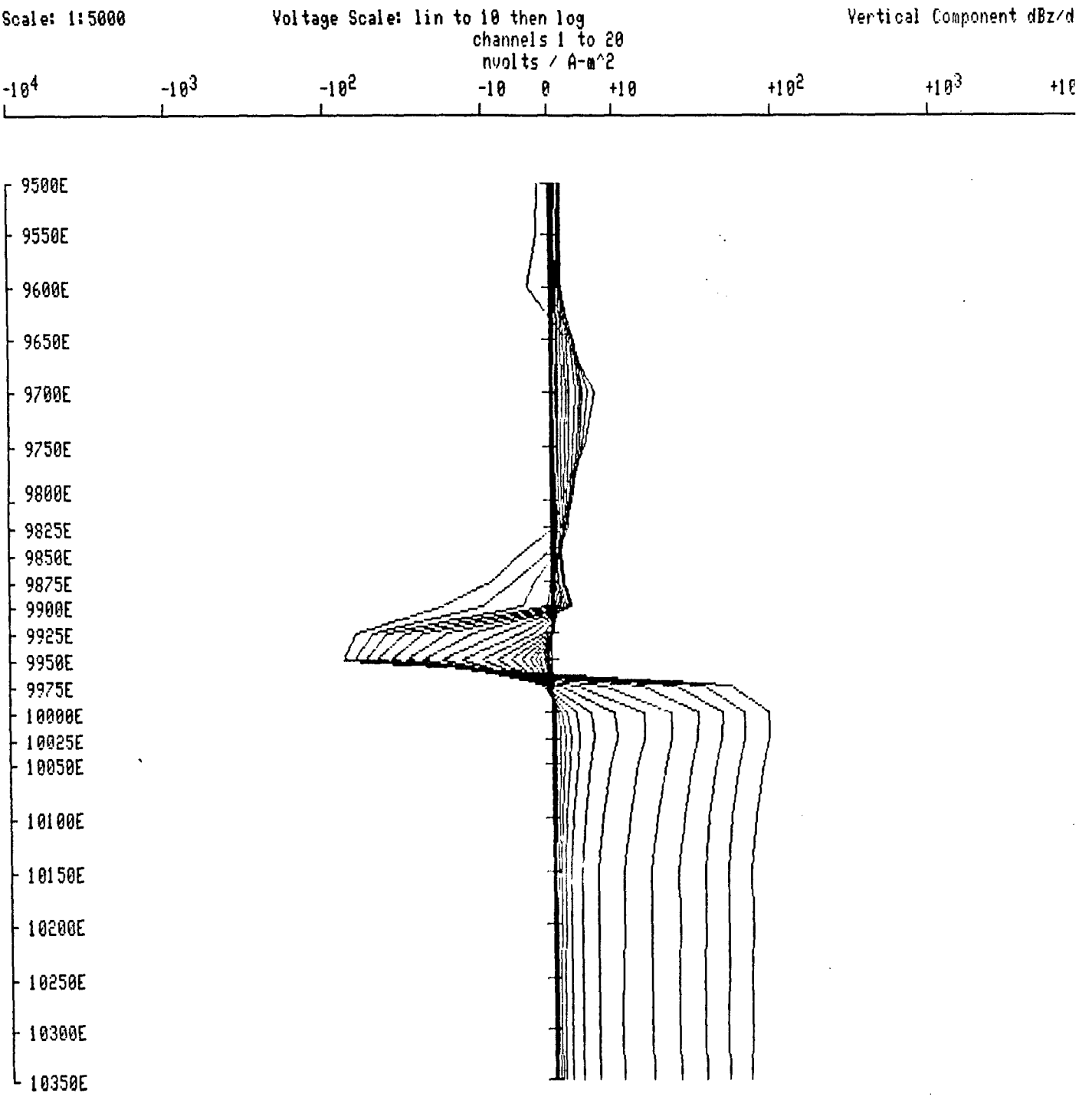


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**101N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**25/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada



MINNOVA_INC.

TRANSIENT EM SURVEY

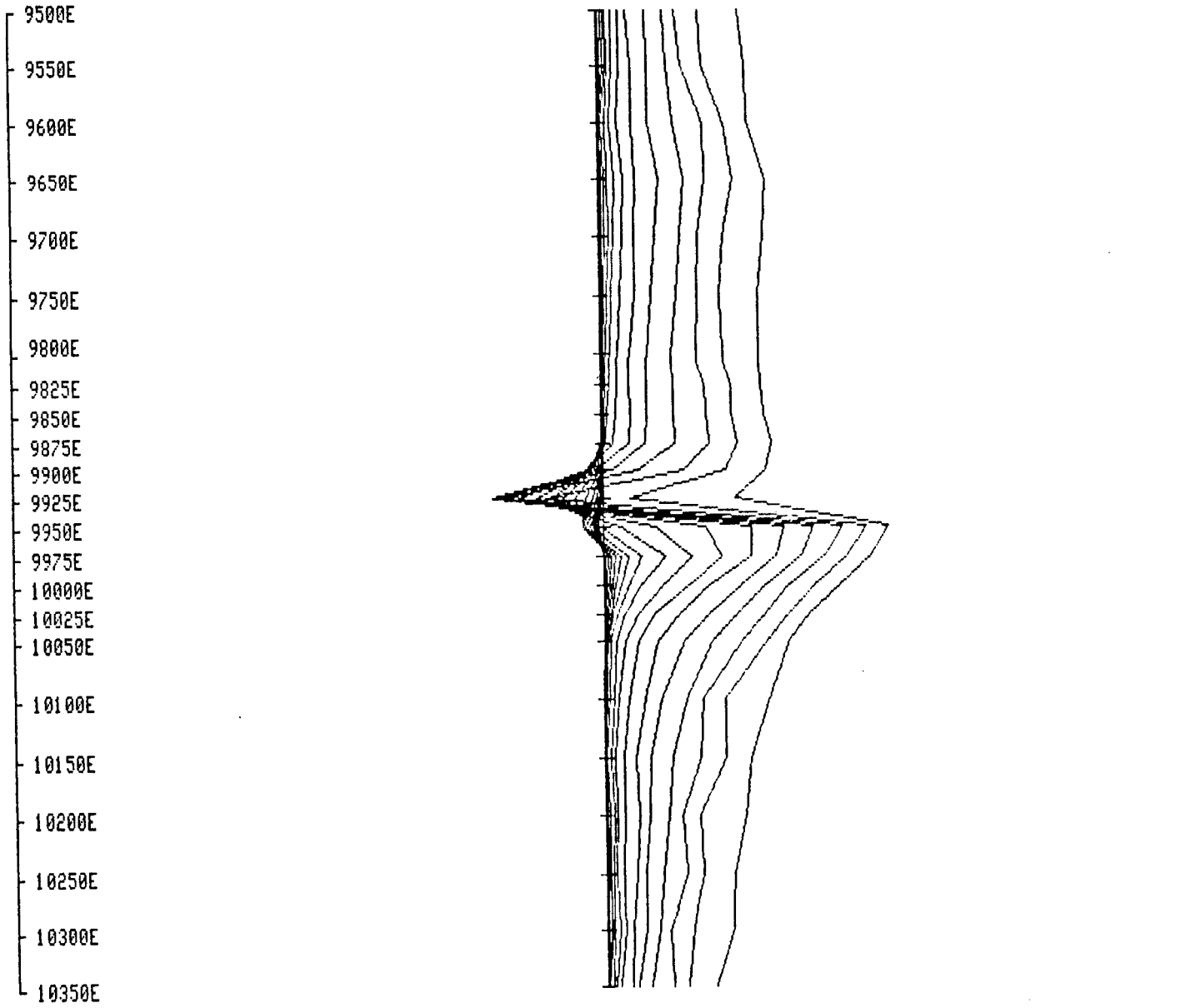
Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**101N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**25/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt

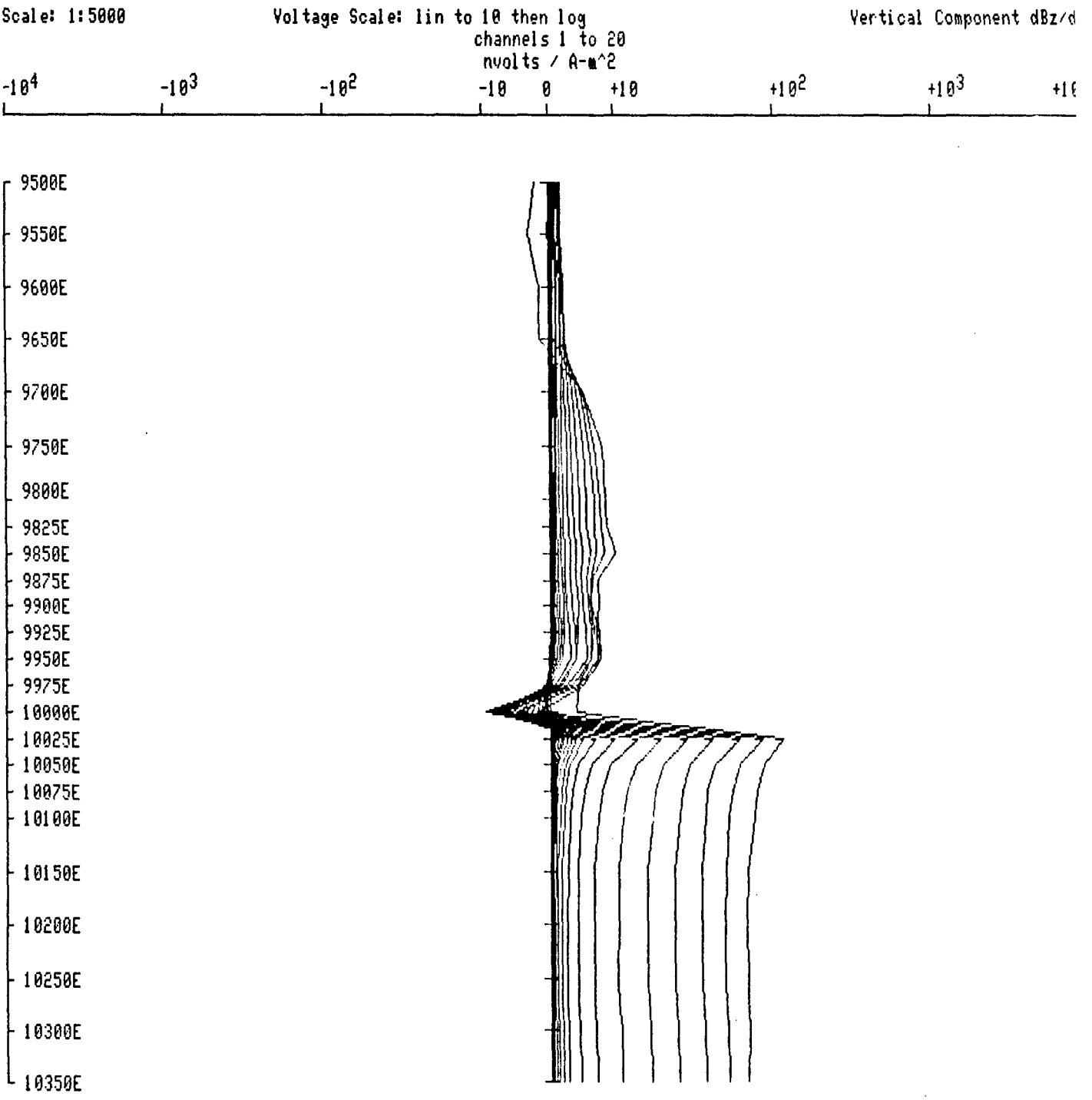


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**102**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**25/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada



MINNOVA_INC.

TRANSIENT EM SURVEY

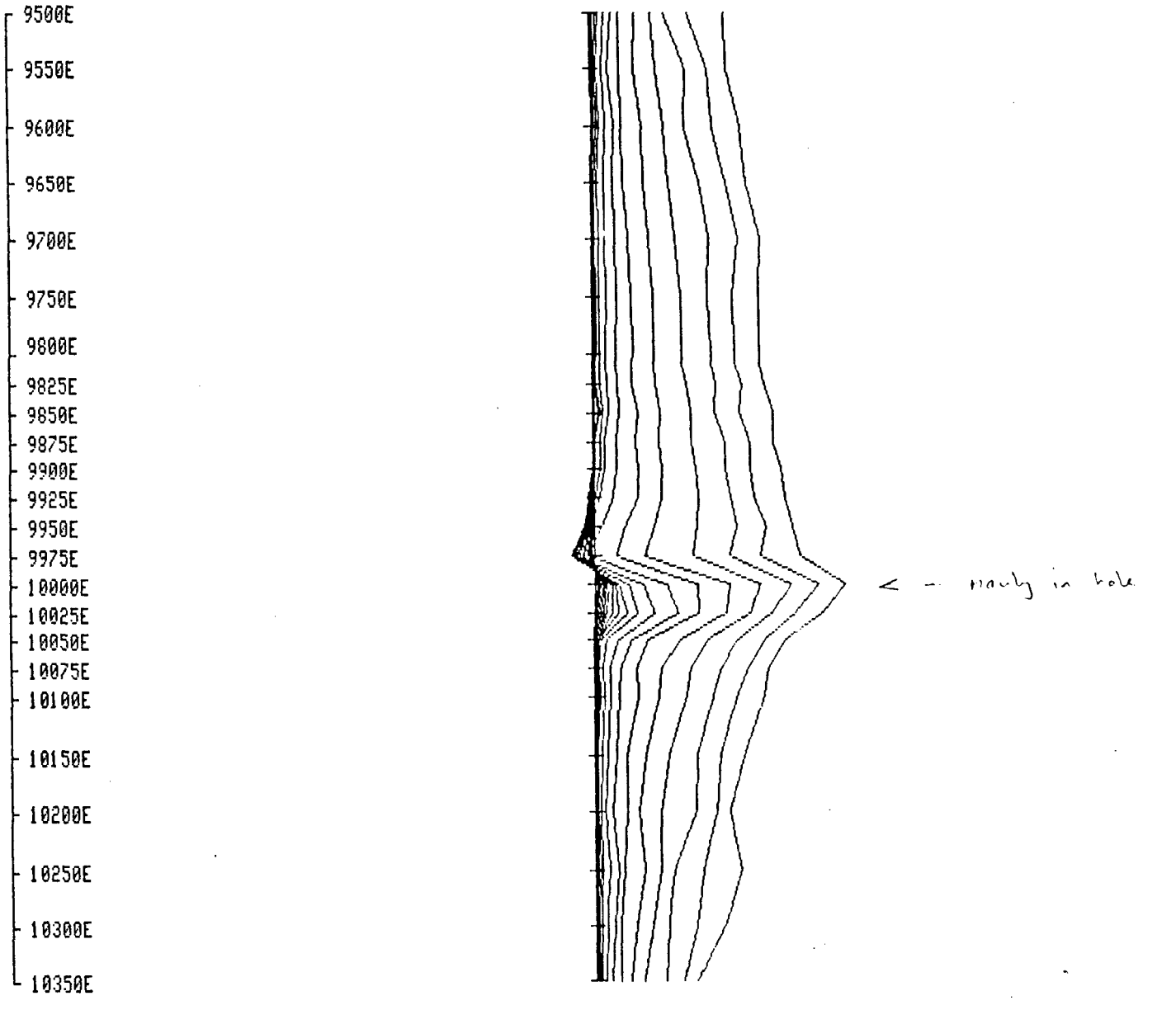
Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**102**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**25/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**103N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**26/09/89**	**Gain:**	**6**

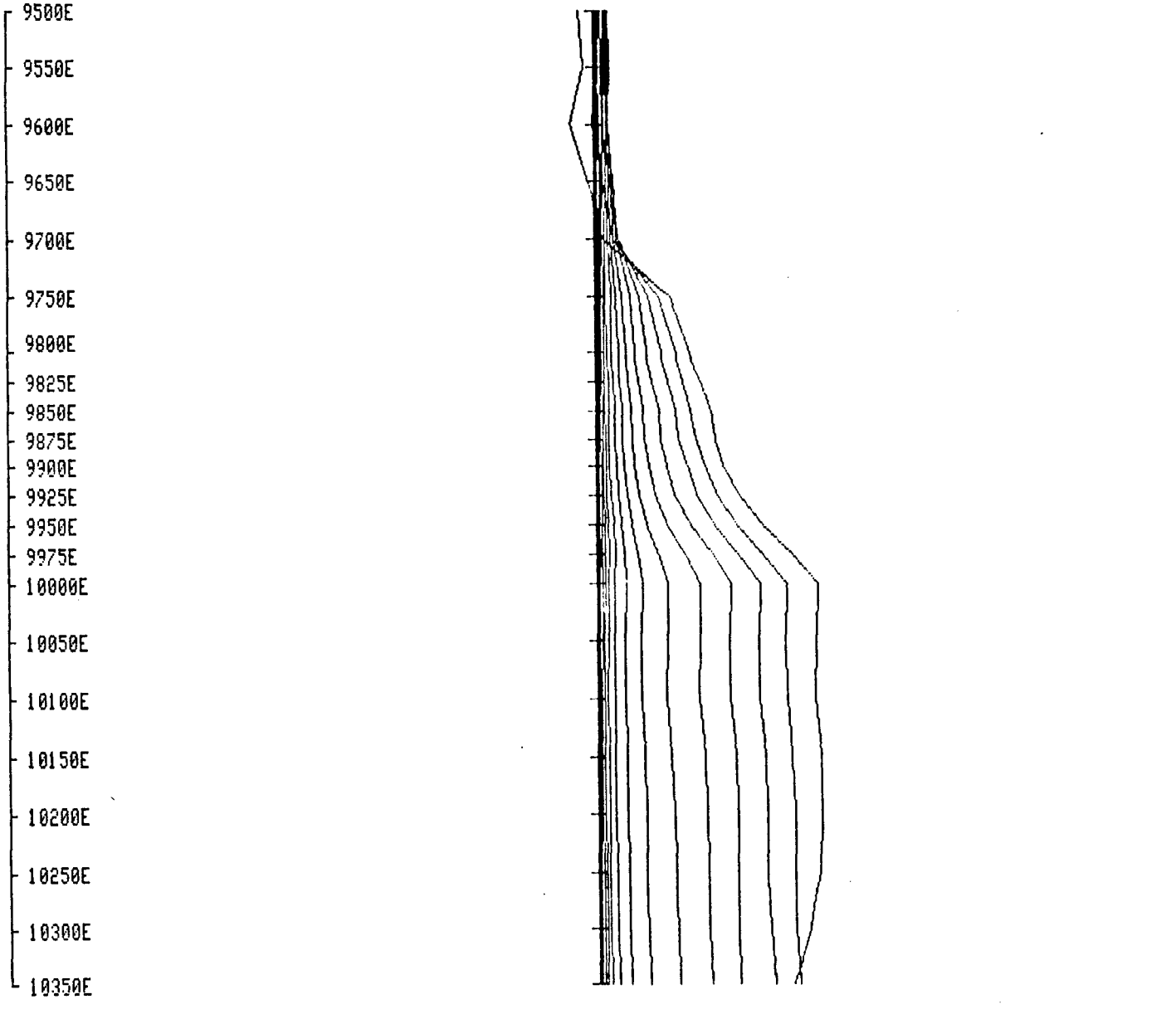
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log Vertical Component dBz/dt

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 +10 $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**103N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**26/09/89**	**Gain:**	**6**

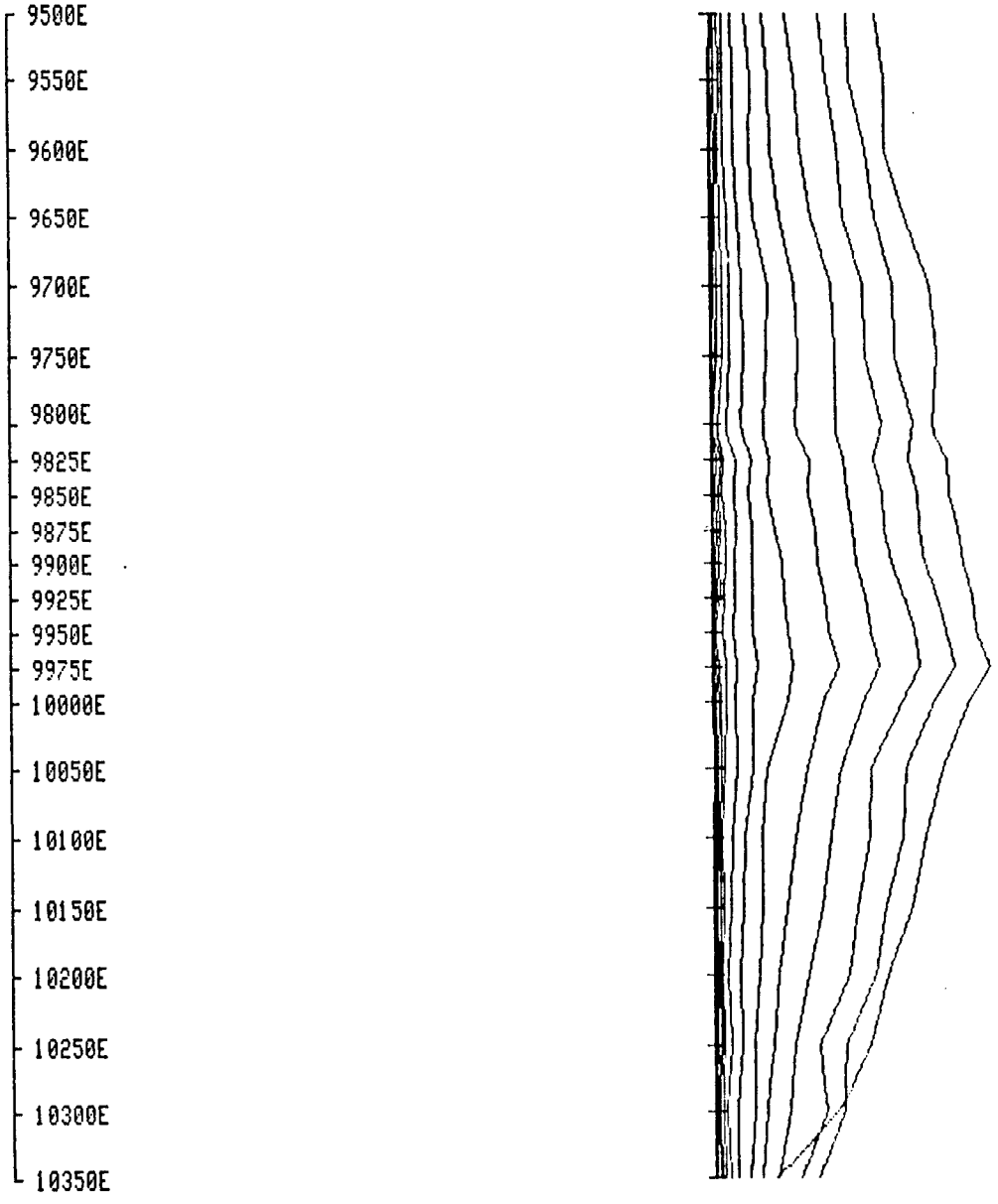
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log In-line Horizontal Component dBx/dt

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**104N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**26/09/89**	**Gain:**	**6**

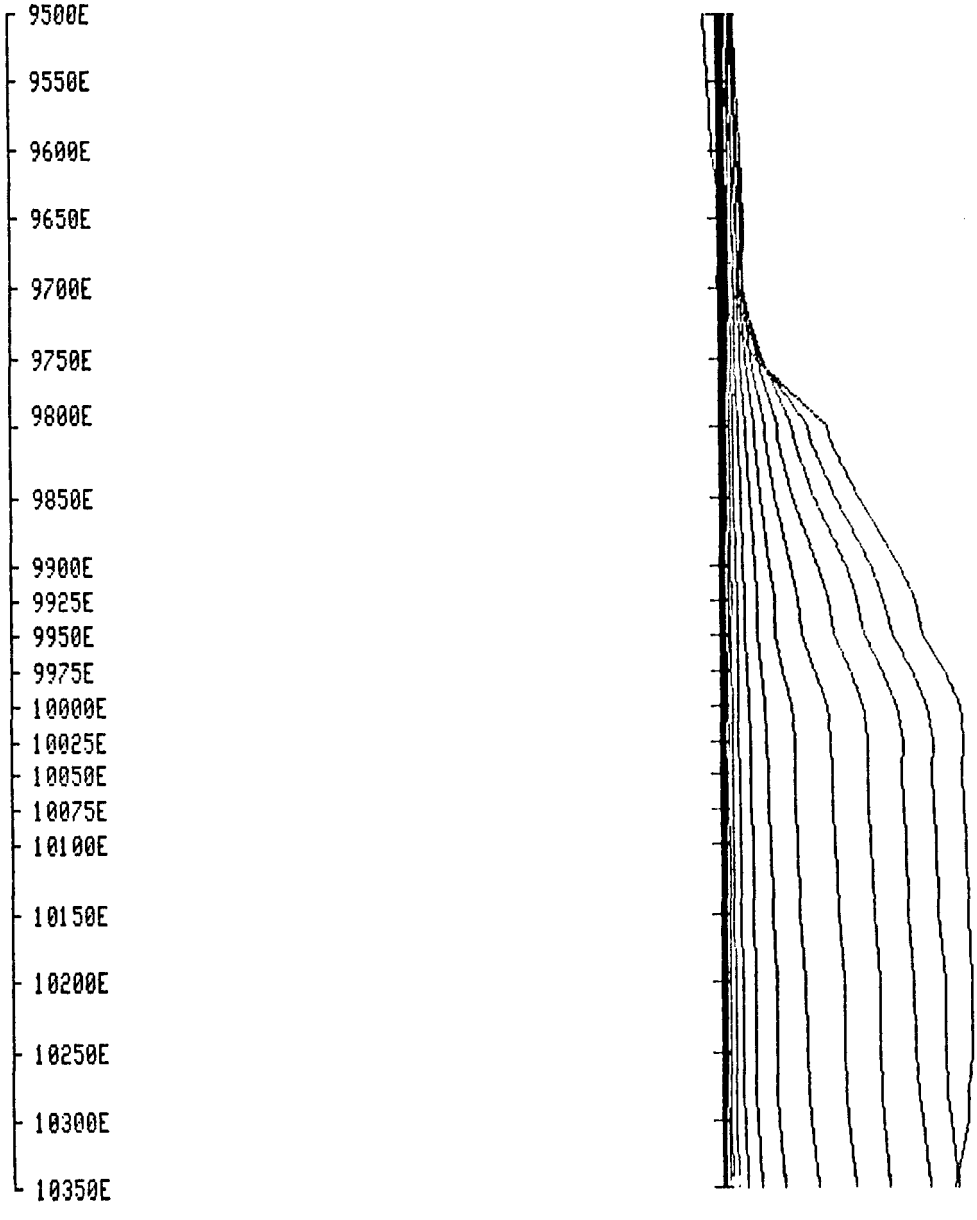
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

Vertical Component dBz/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

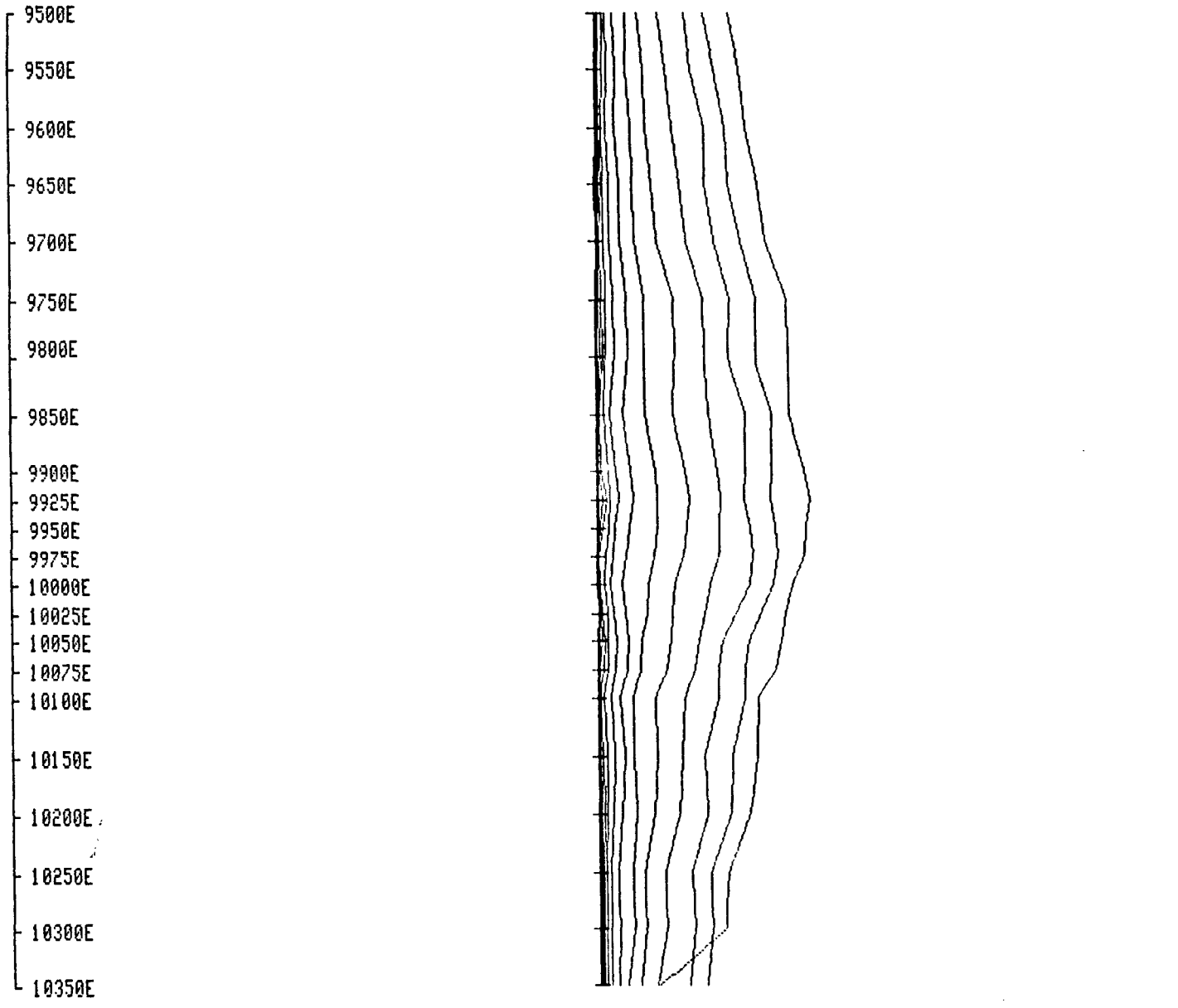
Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**104N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**26/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**105N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**26/09/89**	**Gain:**	**6**

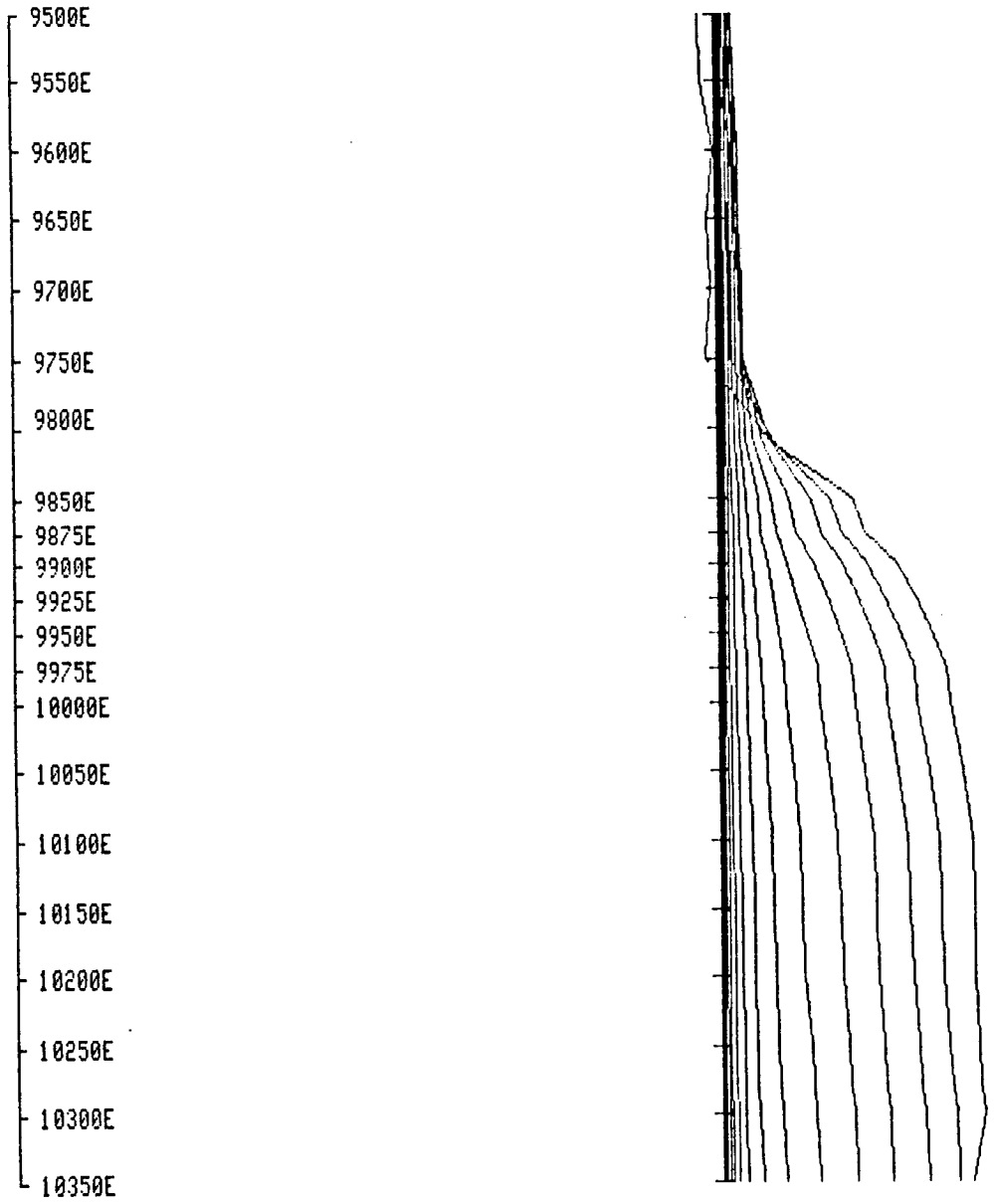
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

Vertical Component dBz/d

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ +1



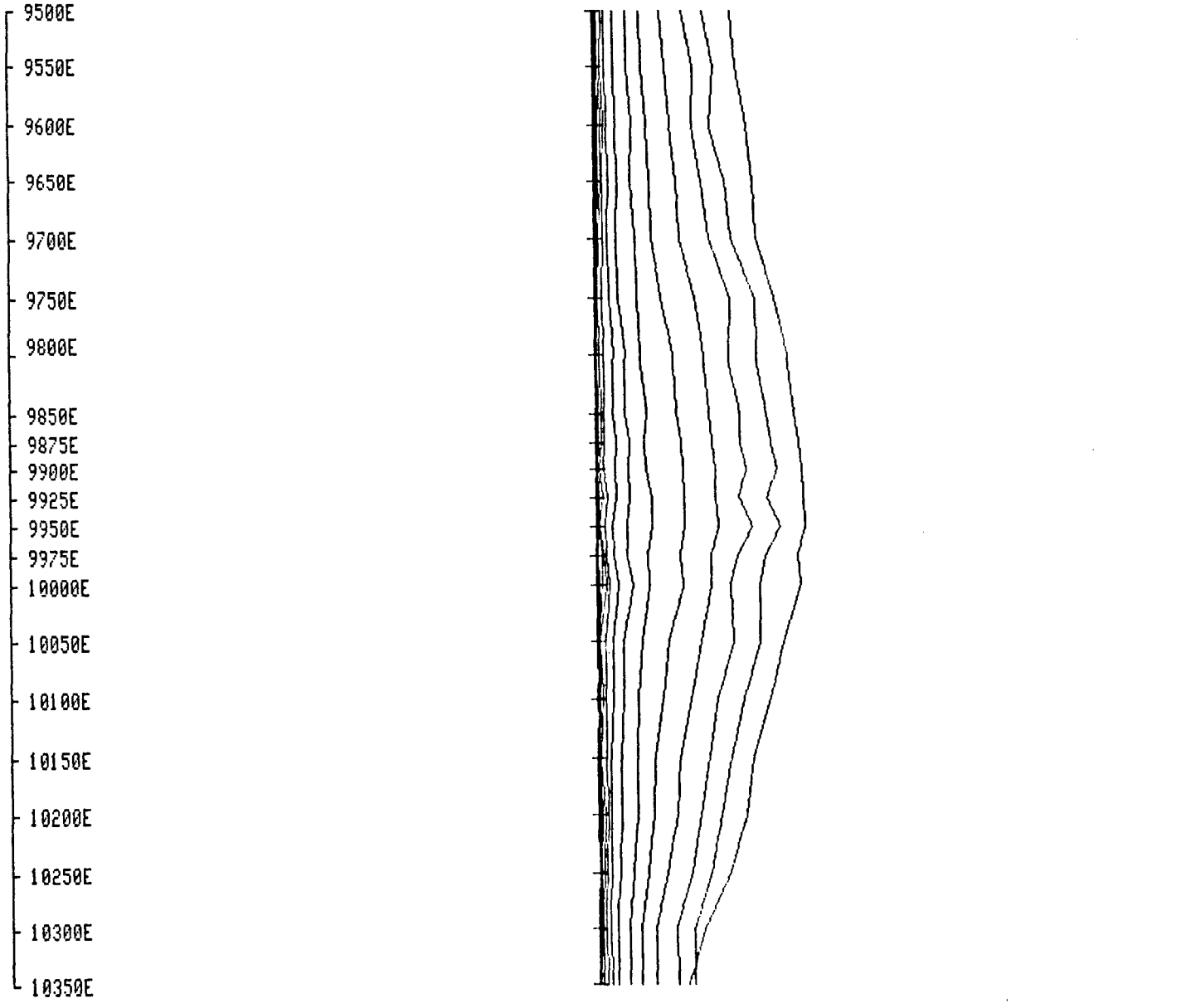
MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**2**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L96N-L105N;104E-108E**
Line:	**105N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**26/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log channels 1 to 20 nvolts / A-m^2 In-line Horizontal Component dBx/dt



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**106N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

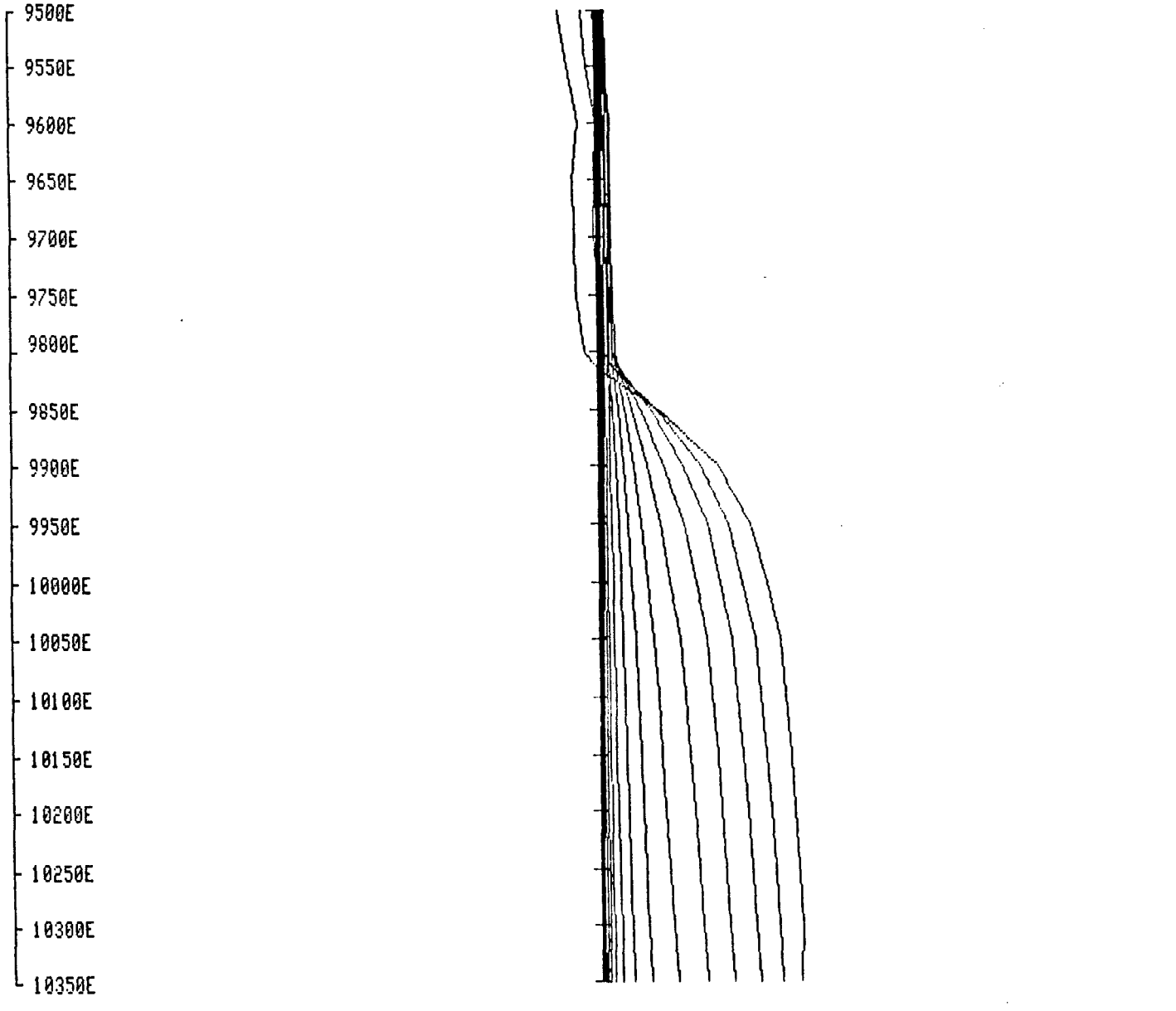
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log Vertical Component dBz/dt

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**106N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

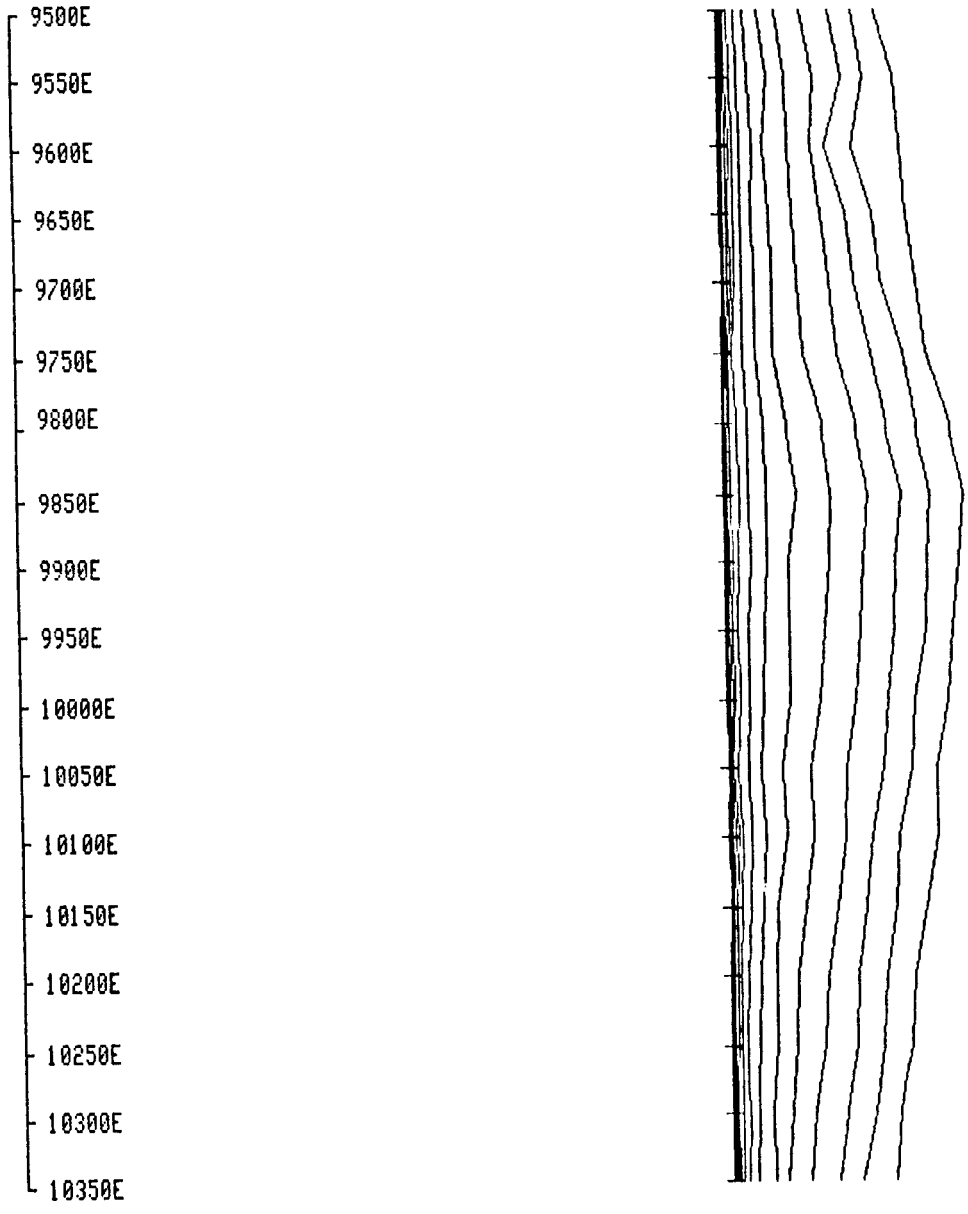
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$

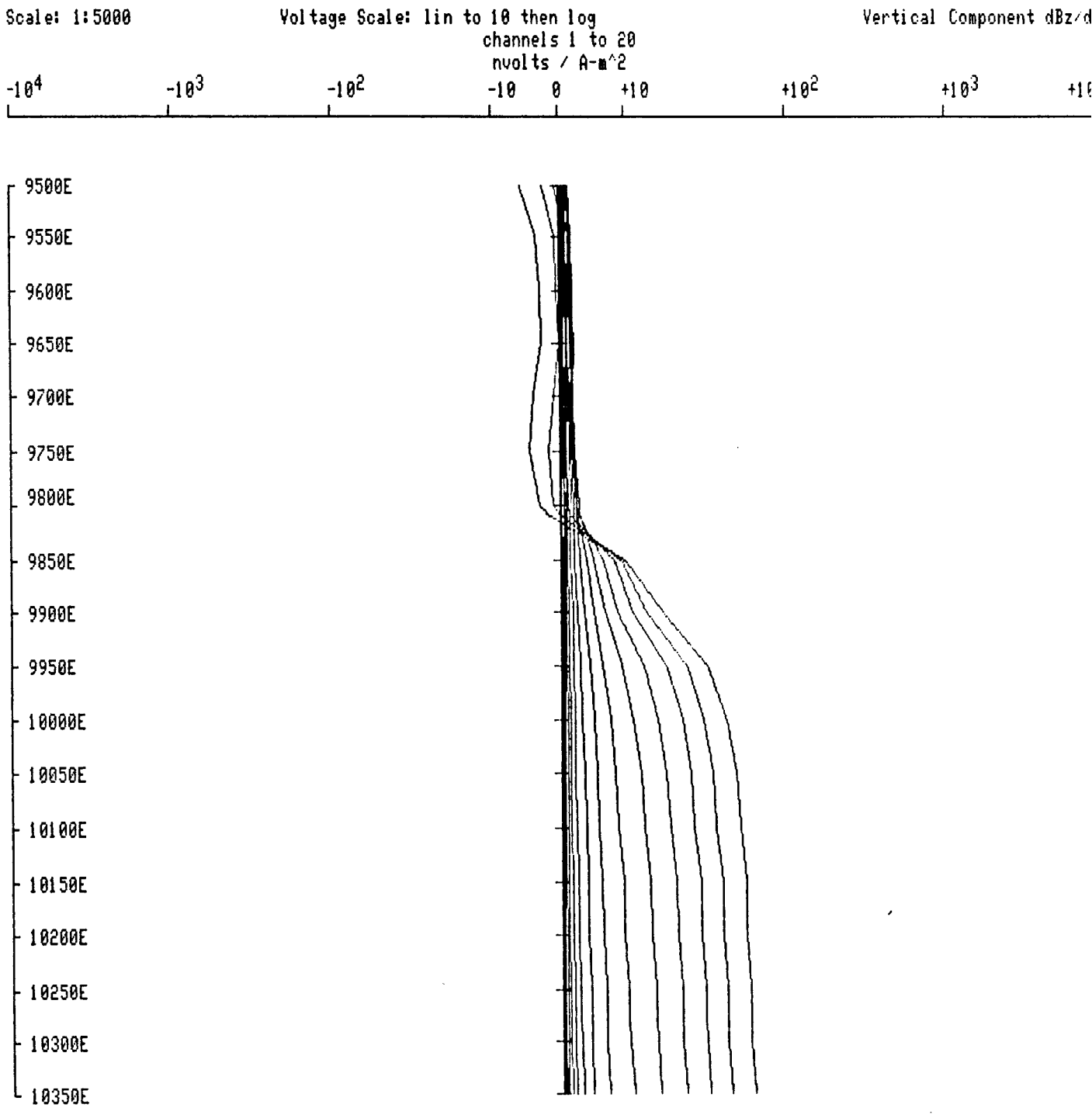


MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**107N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada



MINNOVA_INC.

TRANSIENT EM SURVEY

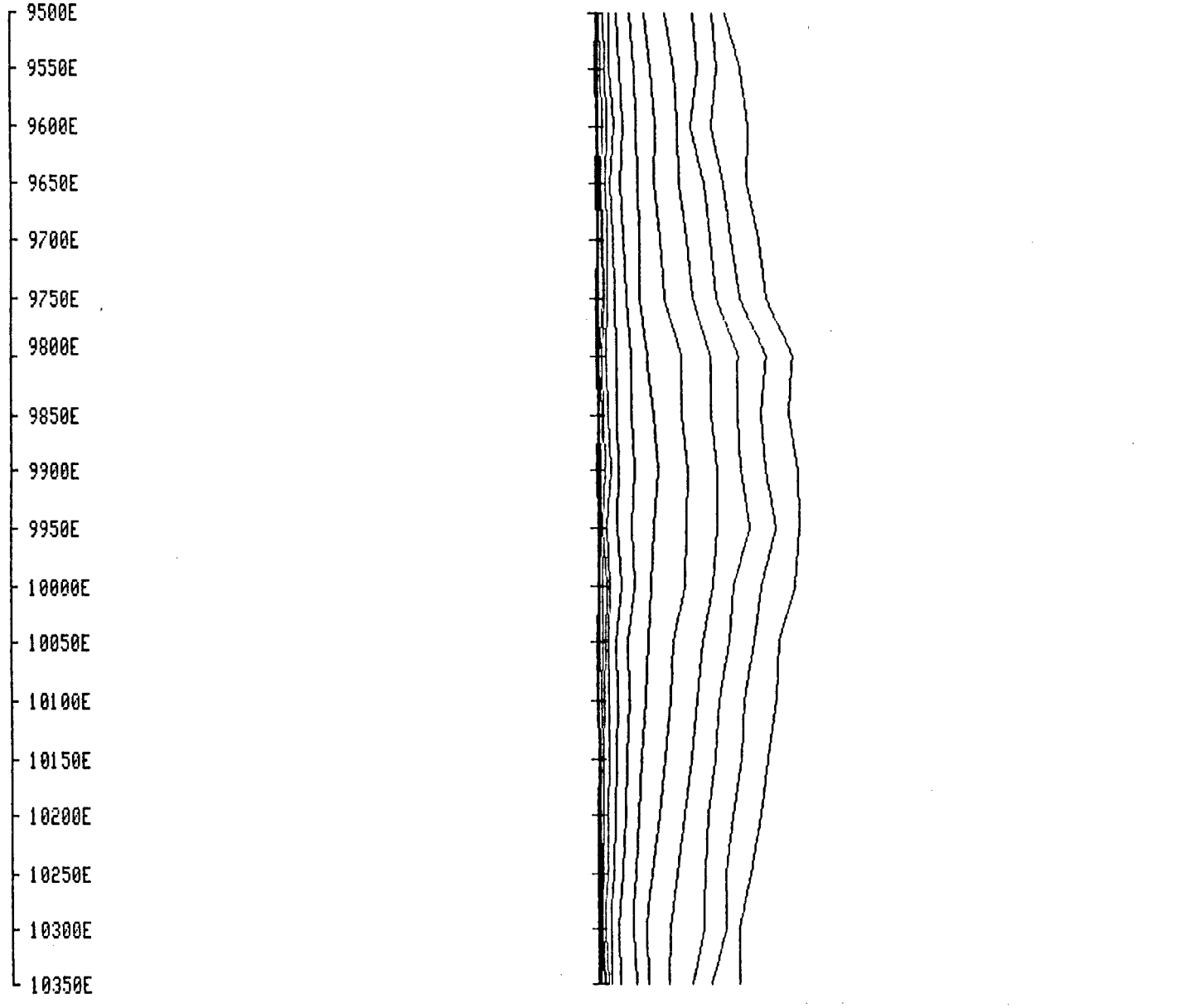
Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**107N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**108N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

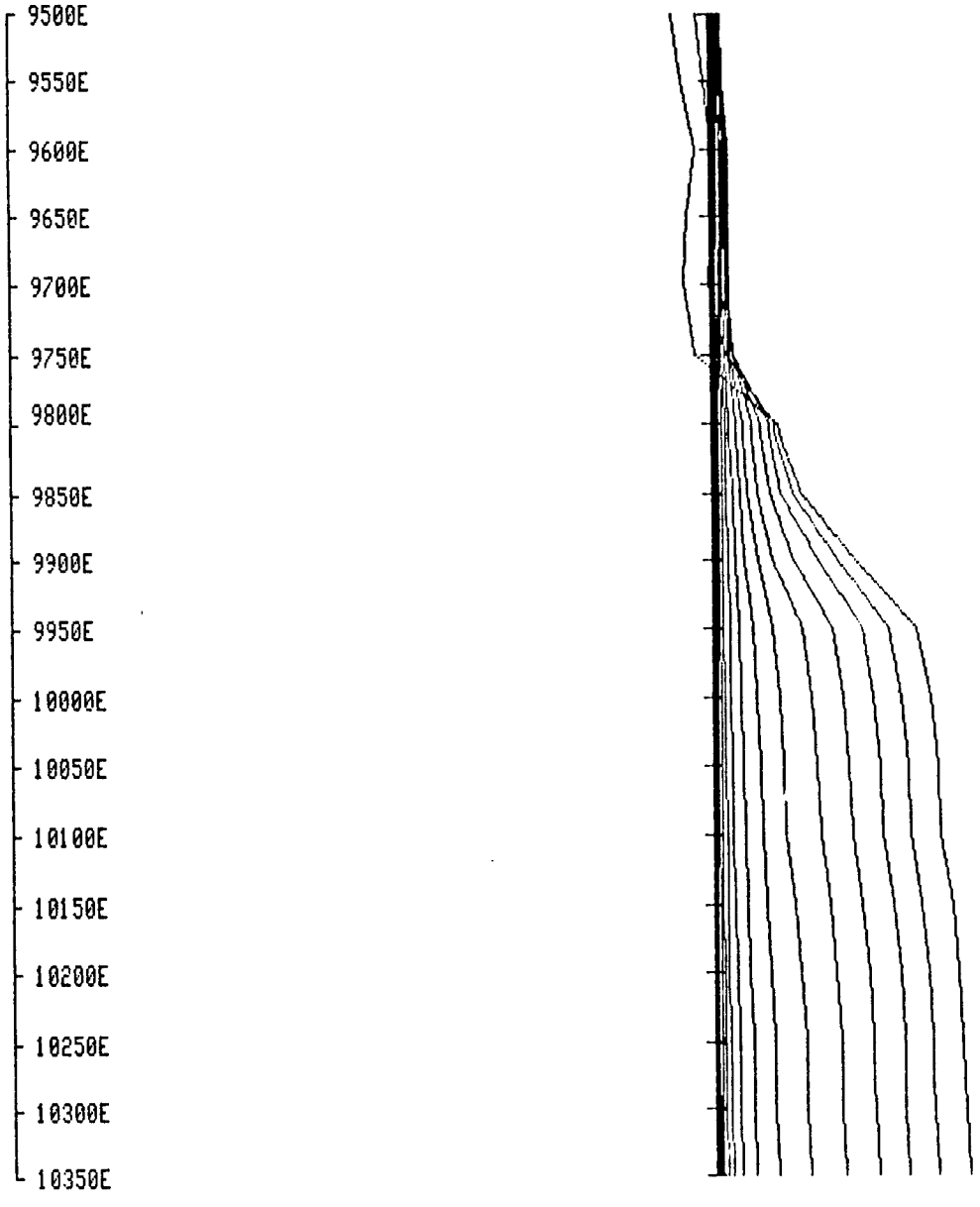
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log Vertical Component dBz/dt

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 +10 $+10^2$ $+10^3$ +10



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**108N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

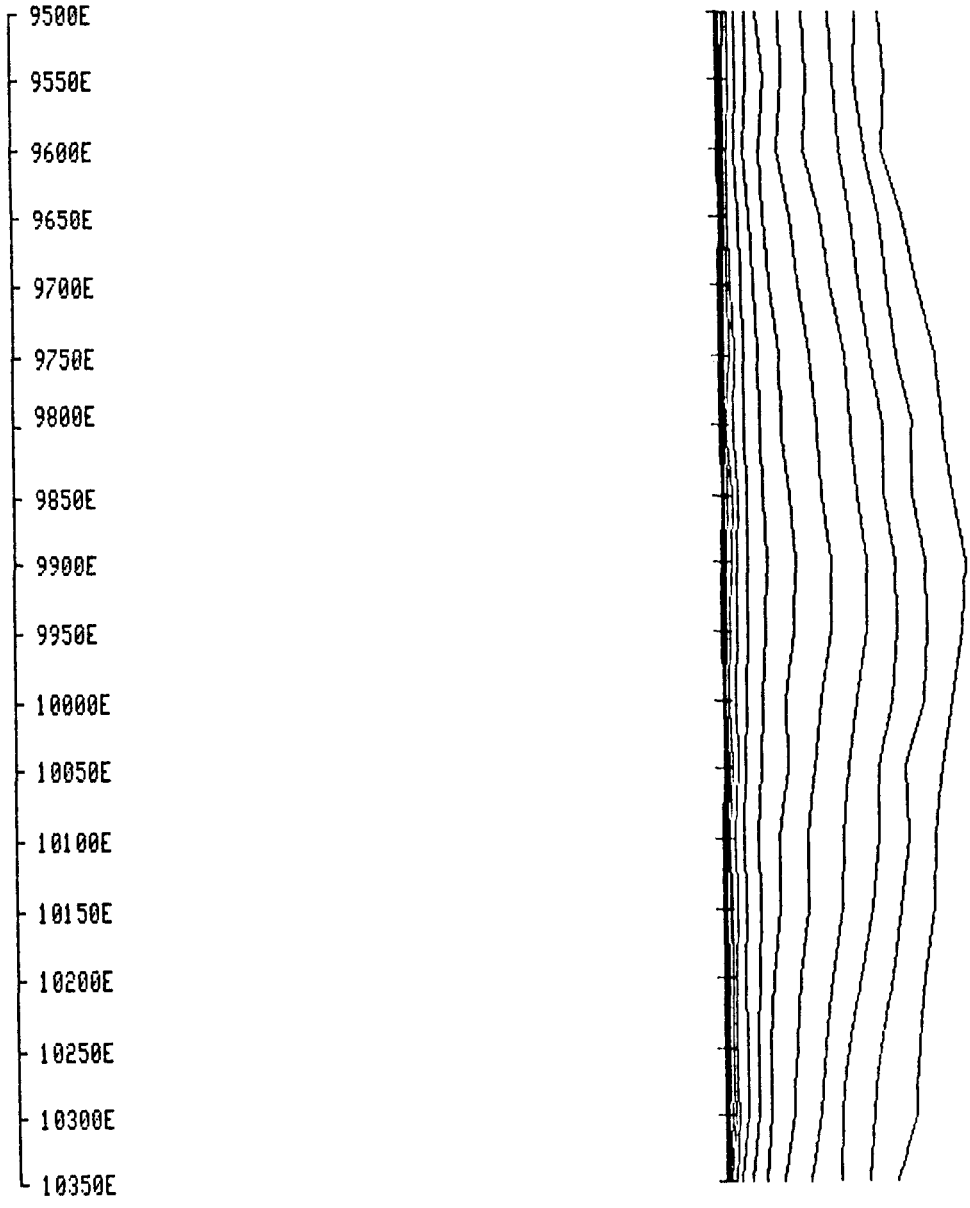
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ +10



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**109N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

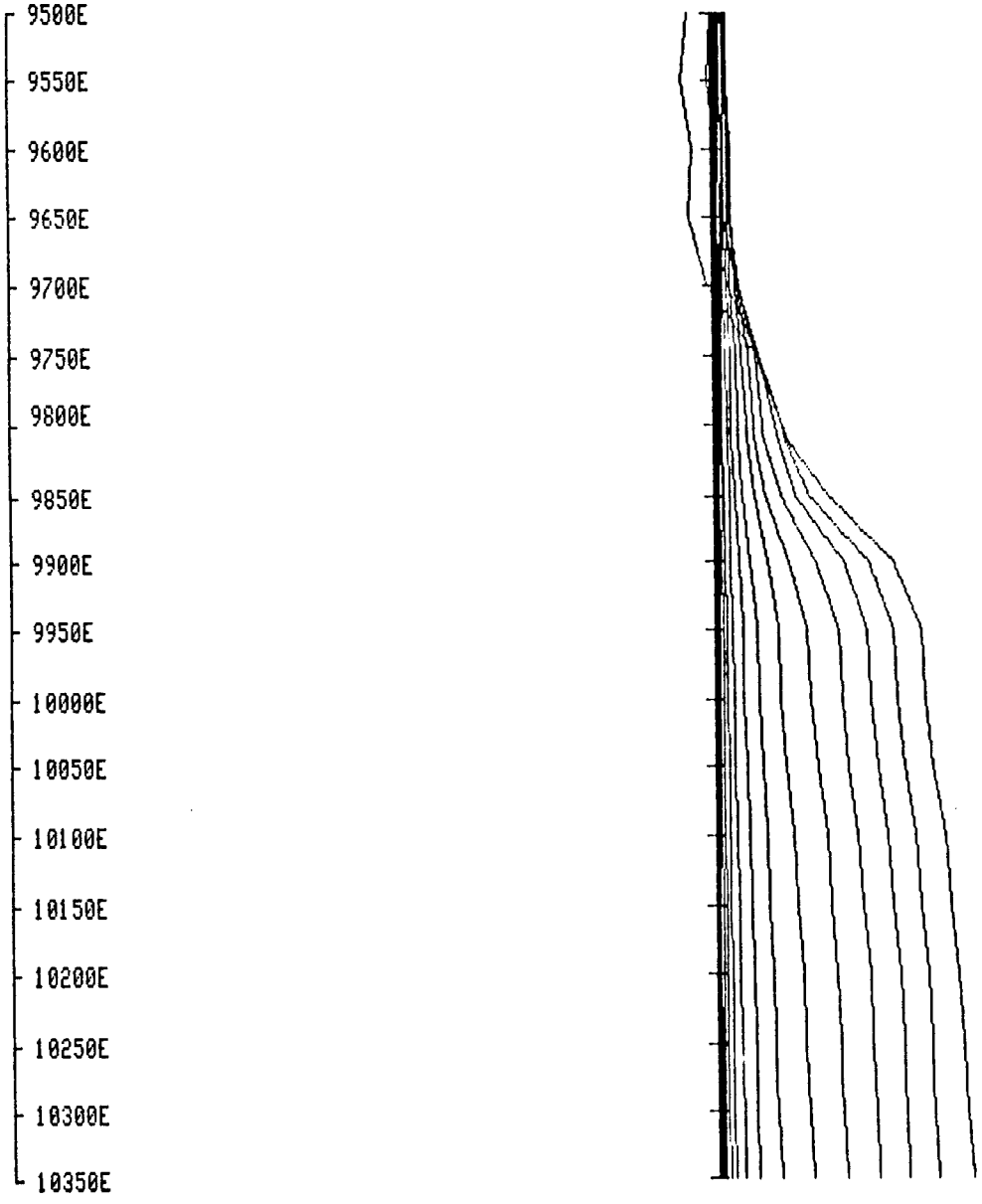
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log Vertical Component dBz/d

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 +10 $+10^2$ $+10^3$ +10



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**109N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

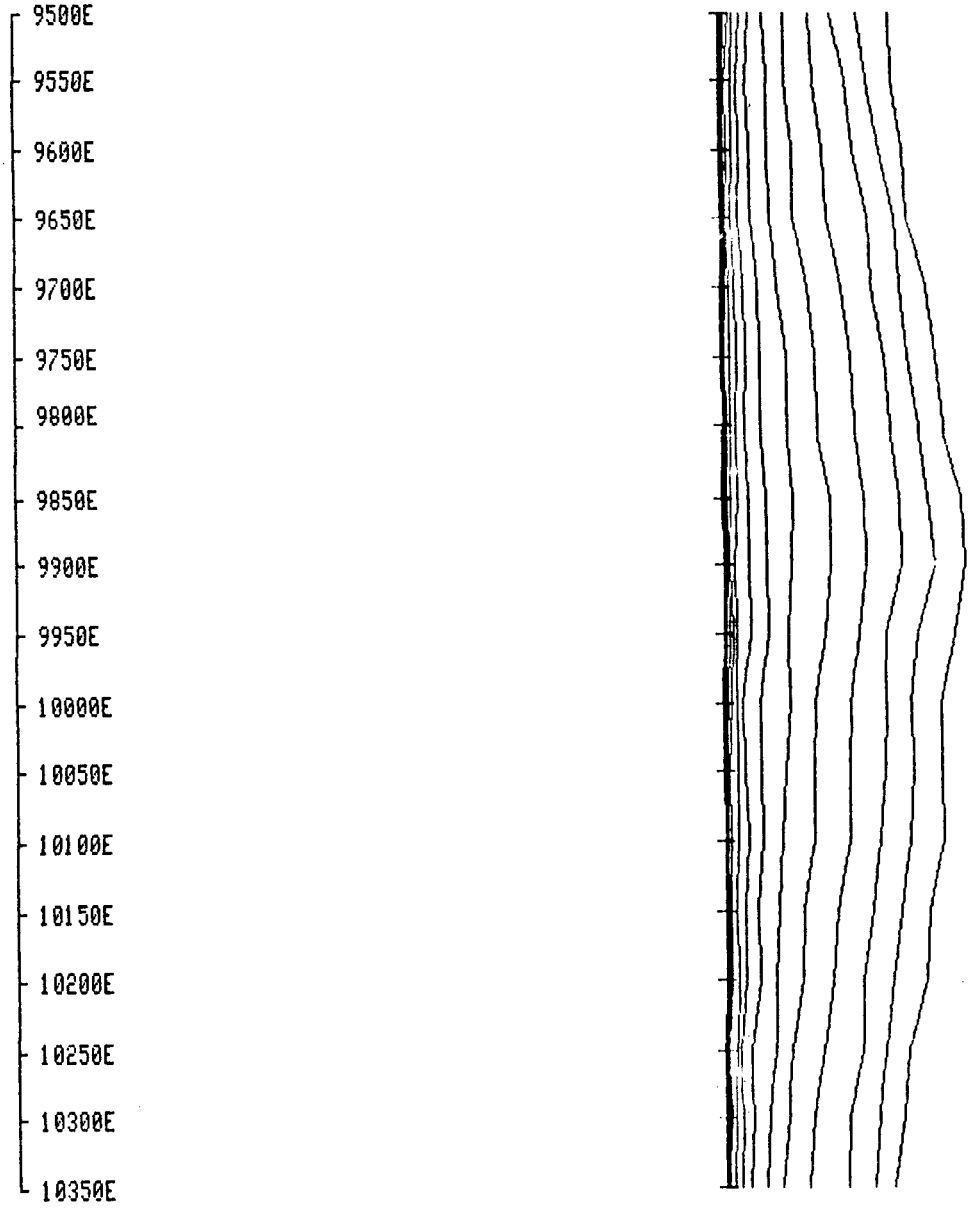
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log In-line Horizontal Component dBx/d

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 +10 $+10^2$ $+10^3$ +1



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**110N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

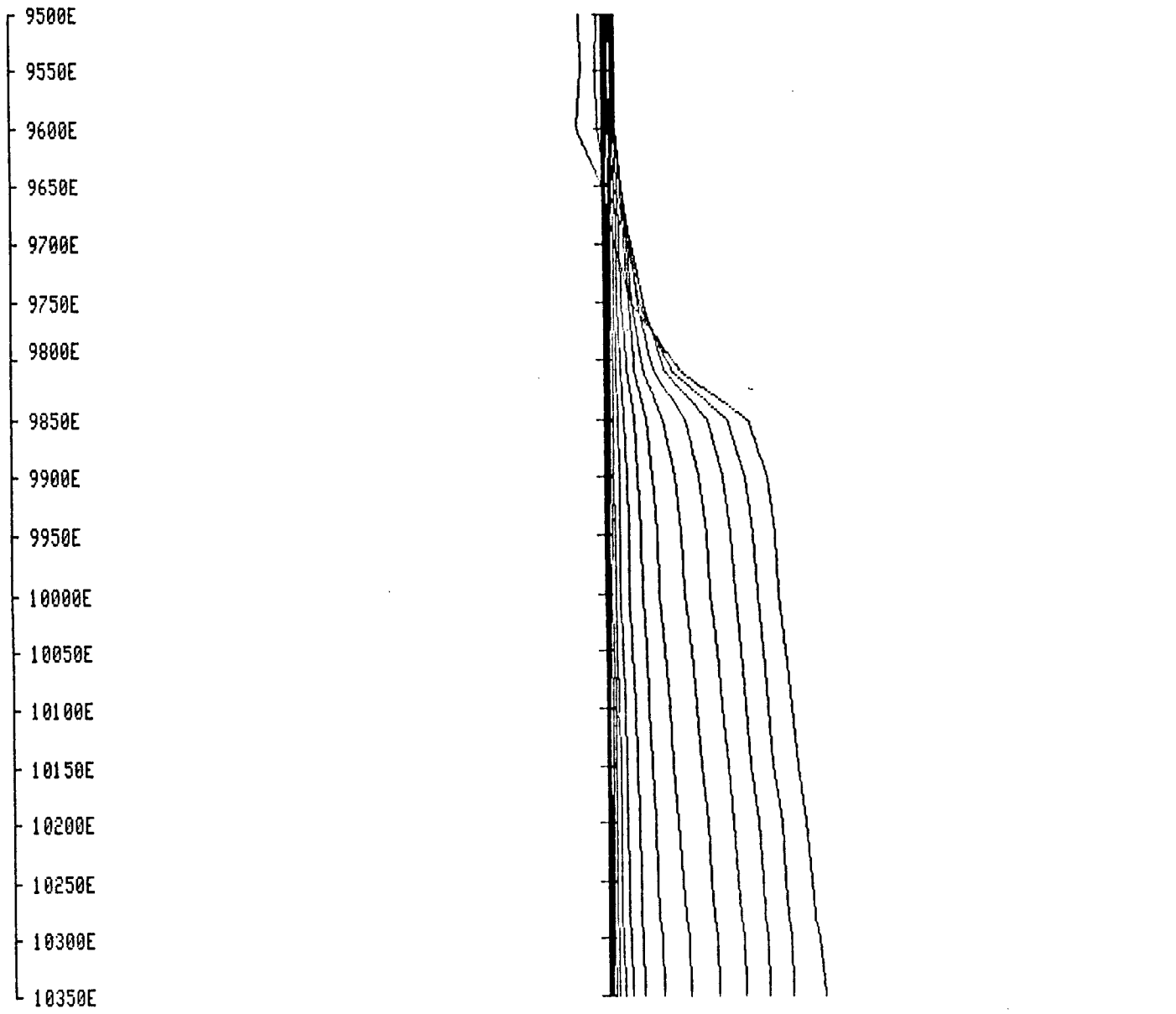
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log Vertical Component dBz/d

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 +10 $+10^2$ $+10^3$ +1



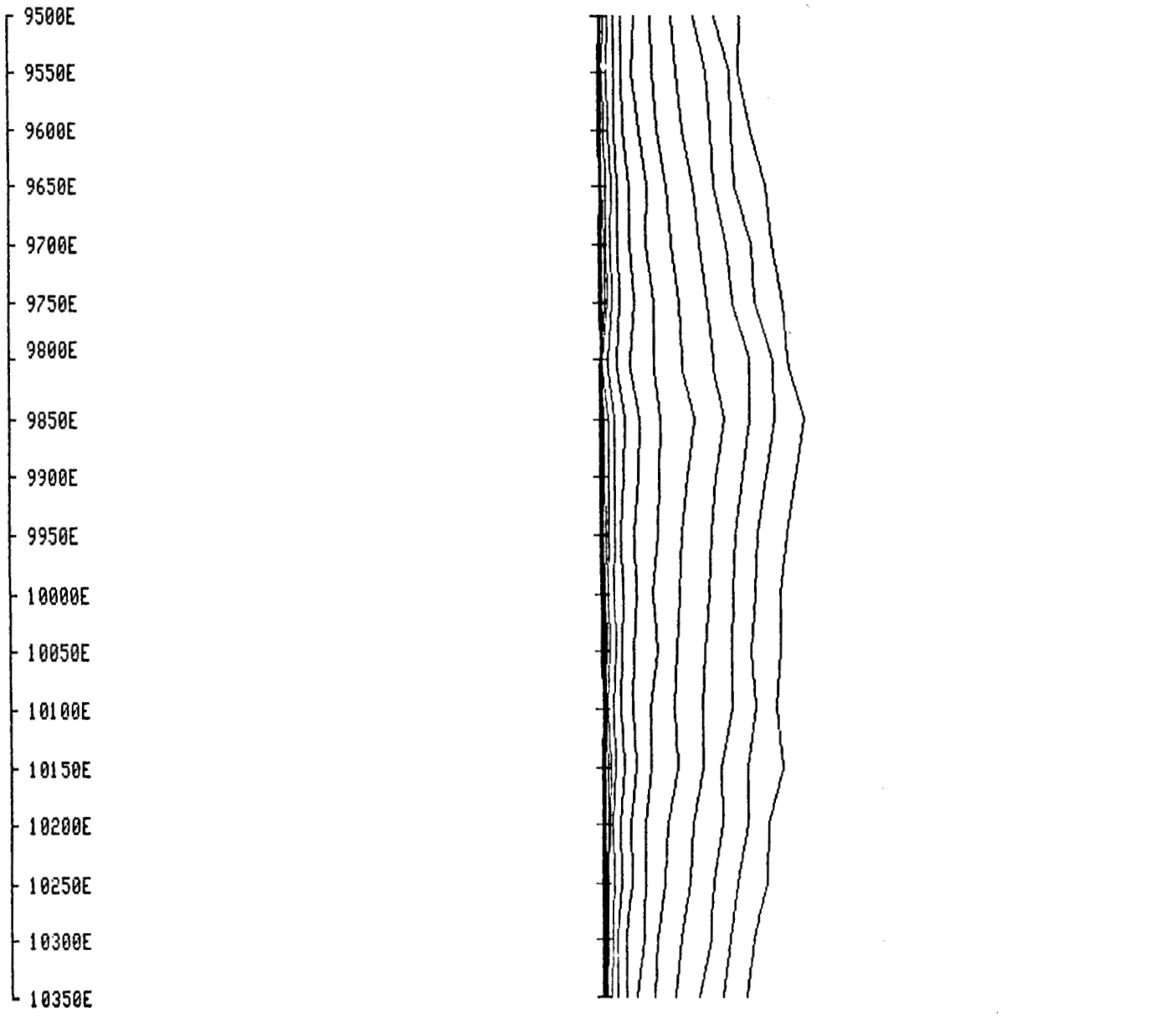
MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**110N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log channels 1 to 20 nvolts / A-m^2 In-line Horizontal Component dBx/d



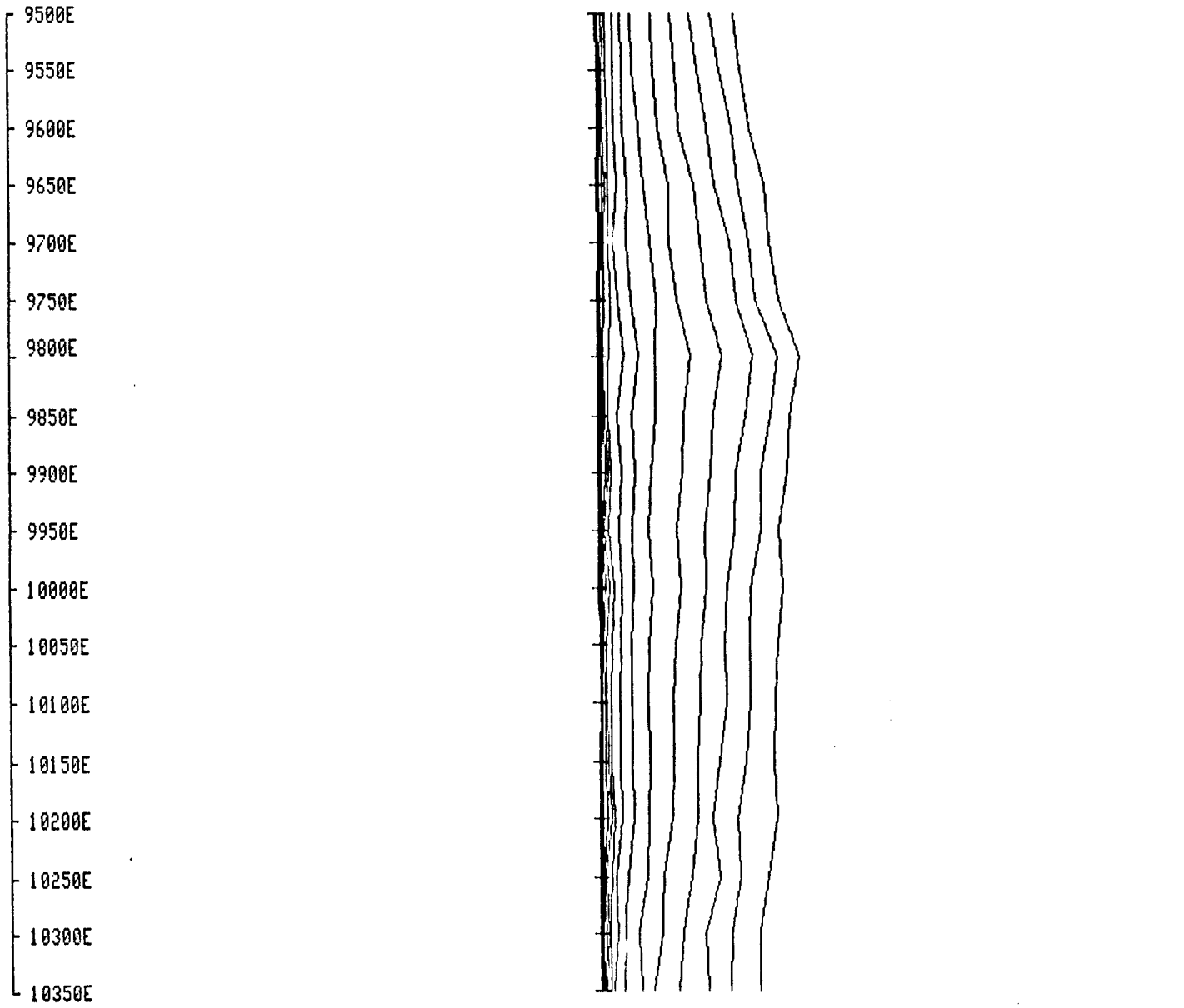
MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**111N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**27/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log channels 1 to 20 nvolts / A-m^2 In-line Horizontal Component dBx/dt



MINNOVA_INC.

TRANSIENT EM SURVEY

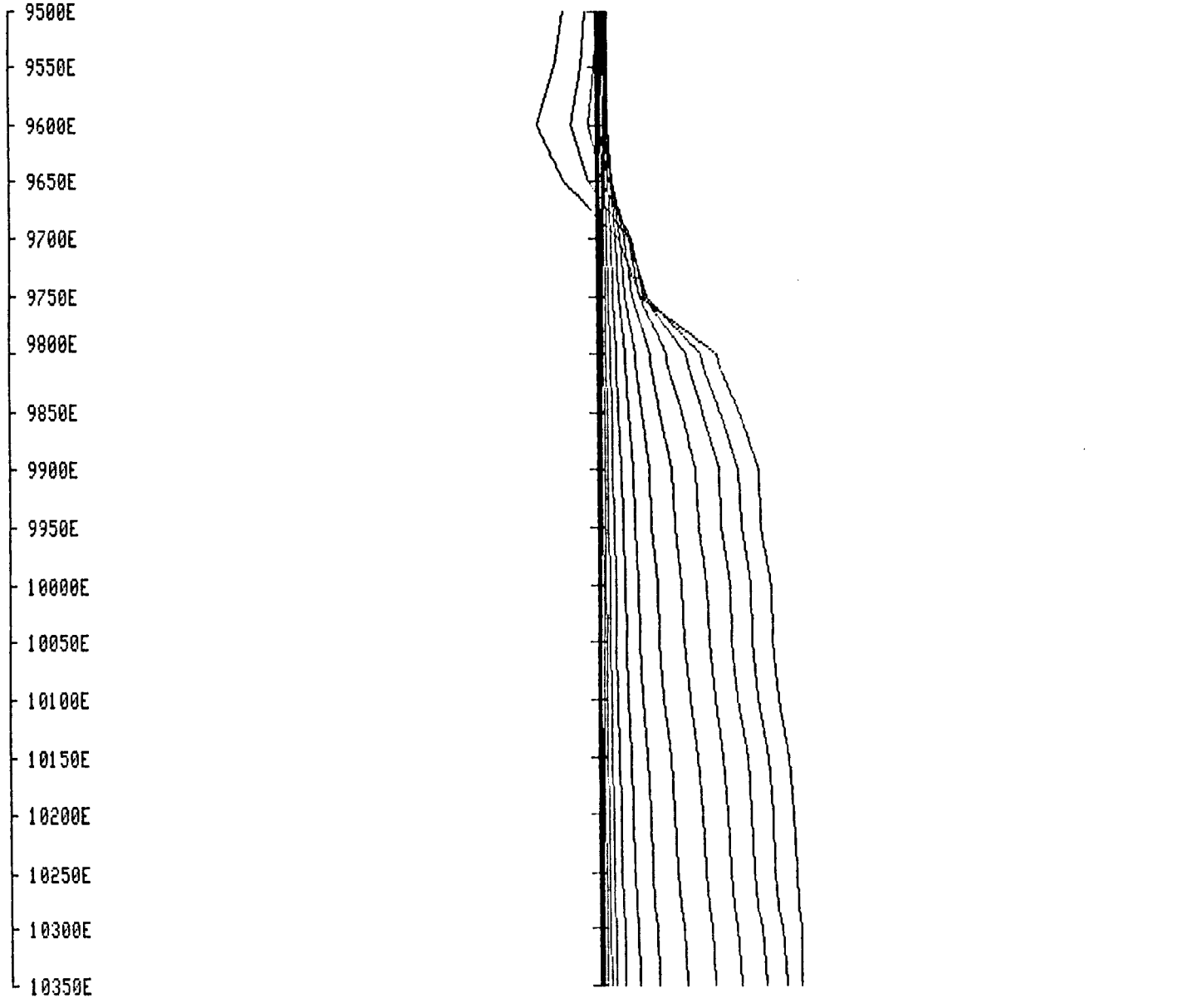
Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**112N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**28/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

Vertical Component dBz/dt



MINNOVA_INC.

TRANSIENT EM SURVEY

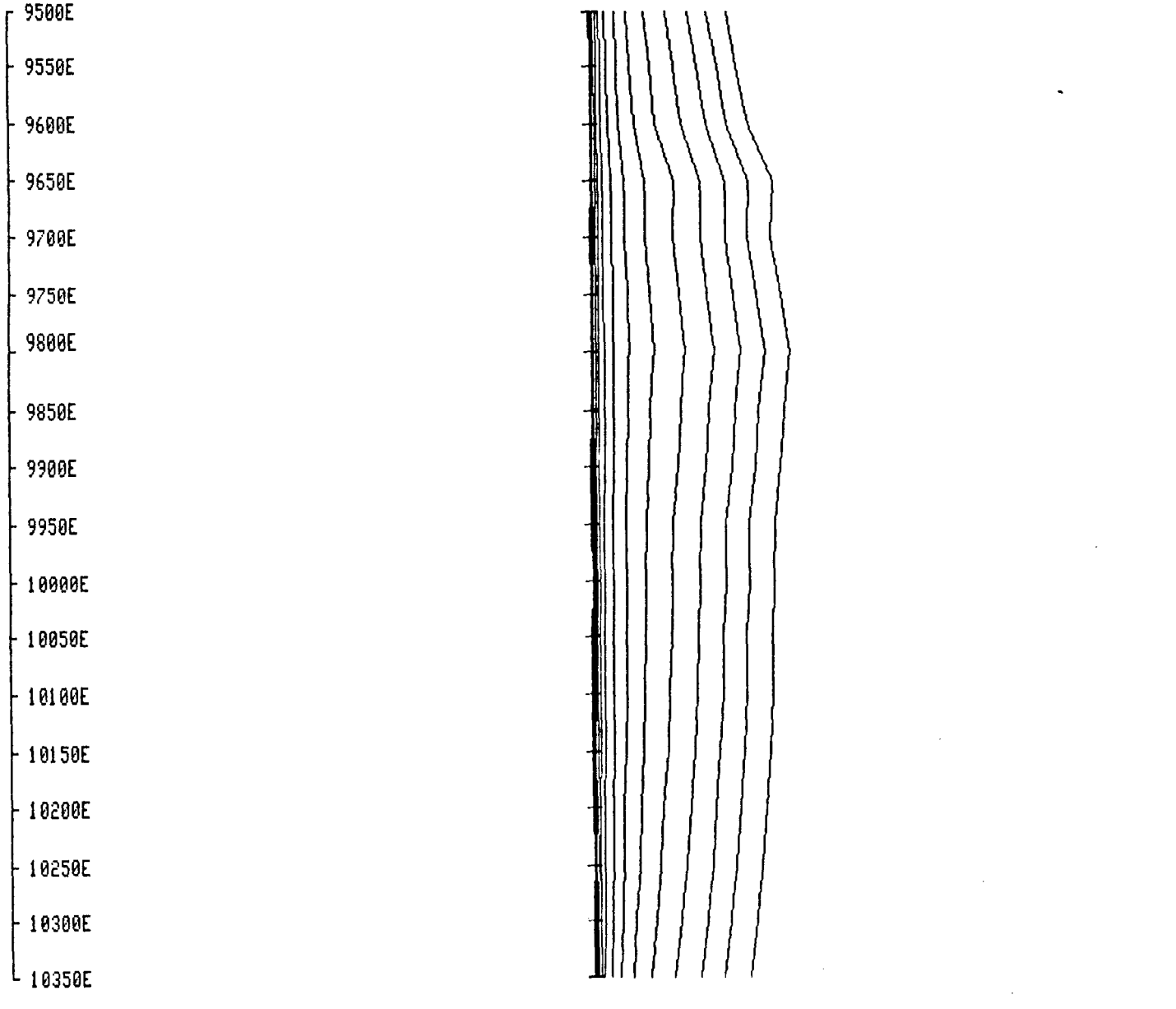
Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**112N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**28/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt



MINNOVA_INC.

TRANSIENT EM SURVEY

Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**113N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**28/09/89**	**Gain:**	**6**

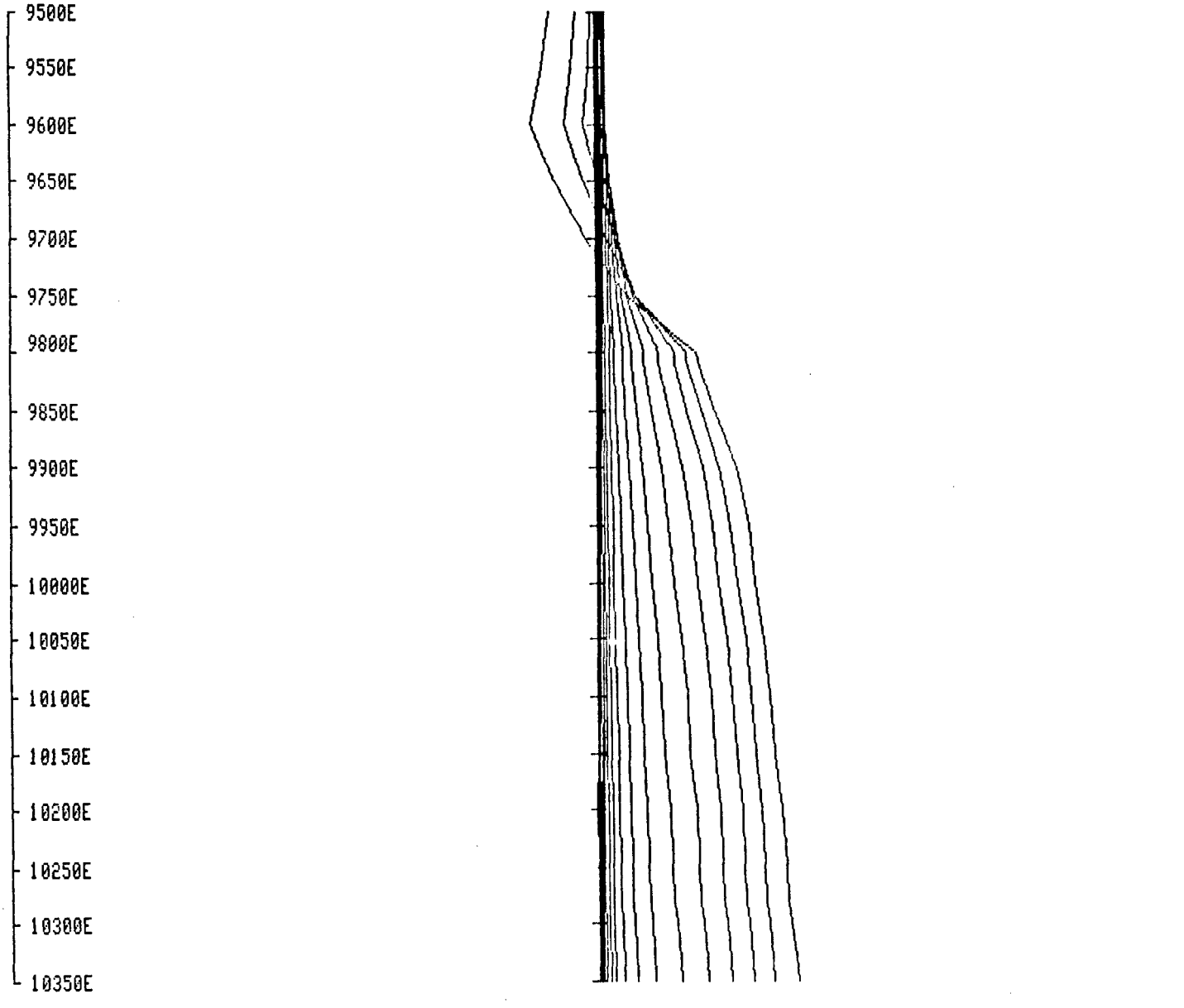
Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000 Voltage Scale: lin to 10 then log Vertical Component dBz/dt

channels 1 to 20

nvolts / A-m^2

-10^4 -10^3 -10^2 -10 0 $+10$ $+10^2$ $+10^3$ $+10^4$



MINNOVA_INC.

TRANSIENT EM SURVEY

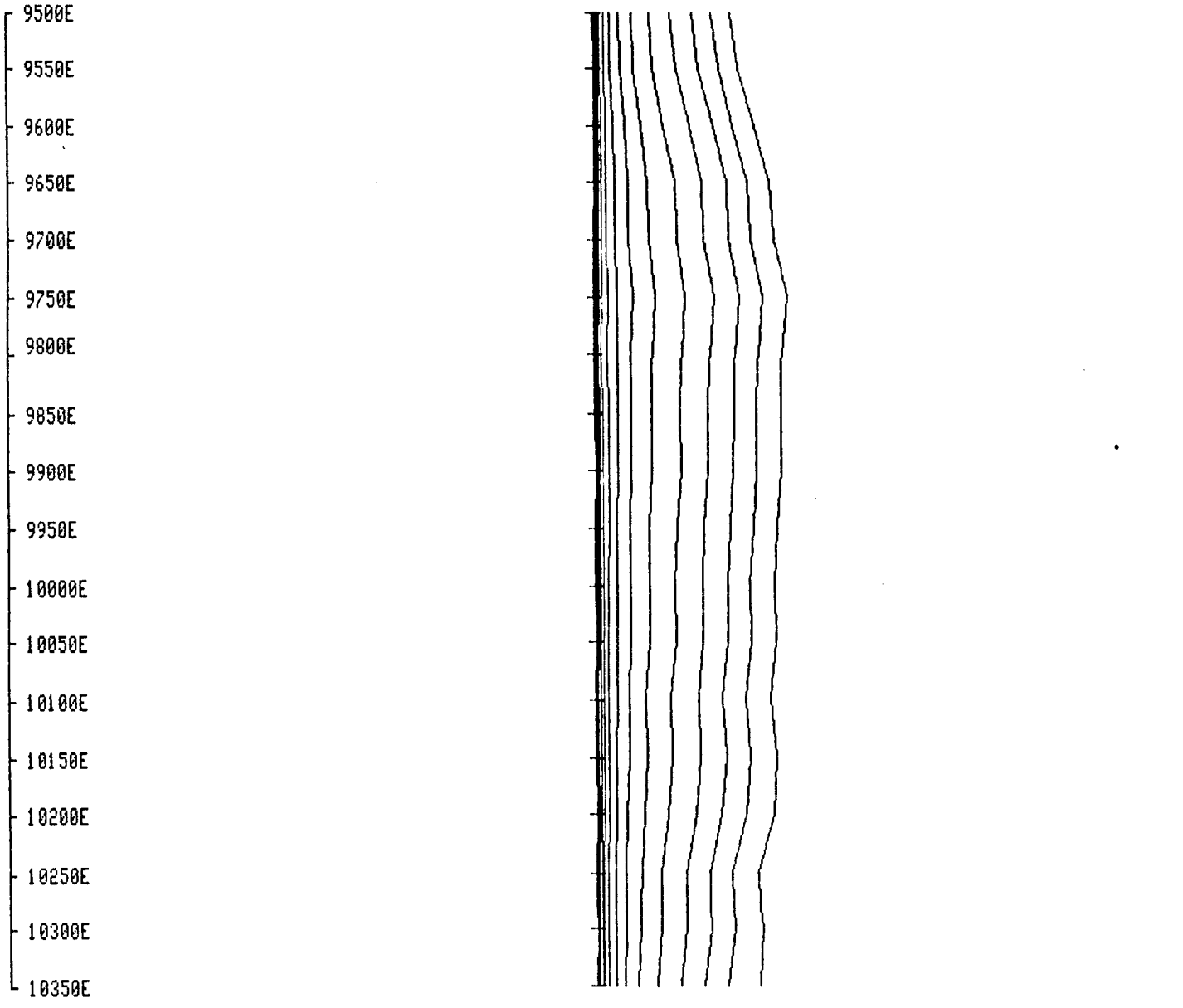
Project:	**BARRIERE**	**Tx Loop:**	**3**
Grid:	**CHU_CHUA**	**Current:**	**14 Amps**
System:	**Geonics_EM-37**	**Position:**	**L105N-L113N;104E-108E**
Line:	**113N**	**Turn-off:**	**370 us**
Survey mode:	**SURFACE**	**Frequency:**	**30 Hz**
Date:	**28/09/89**	**Gain:**	**6**

Surveyed and Processed by QUANTECH CONSULTING INC., Toronto, Canada

Scale: 1:5000

Voltage Scale: lin to 10 then log
channels 1 to 20
nvolts / A-m^2

In-line Horizontal Component dBx/dt



APPENDIX B

Daily Log Summary

DAILY LOG SUMMARY - PROJECT C152

September 20 - Mob

Mob Toronto to Barriere. Sorted equipment at Minnova warehouse and went over work with Chris Wild.

September 21 - Production Day

Went to grid but had problems locating. Finally got there at noon. Laid out Tx #1 - L87N - L96N; 104E - 108E. Checked out transmitter and receiver - all okay. Checked out access to rest of grid - road runs to L108N then ends.

September 22 - Production Day

Read L96N, L95N, L94N and L93N from Tx #1 from 10400E - 9500E.

September 23 - Production Day

Read L92N, L91N, L90N and L89N from Tx #1 from 10400E - 9500E. Darcy laid out most of Tx #2 - L96N - L105N; 104E - 108E.

September 24 - Production Day

Finished reading Tx #1 - L88N and L87N. Picked up one length of wire and completed Tx #2. Read L97N and L98N.

September 25 - Production Day

Read L99N, L100N, L101N and L102N from Tx #2. Darcy picked up Tx #1 and started laying Tx #3 - L105N - L113N, 104E - 108E.

September 26 - Production Day

Read L103N, L104N and L105N from Tx #2. Darcy finished putting out most of Tx #3. Shery and I rolled up Tx #2 and completed TX #3.

September 27 - Production Day

Read L106N, L107N, L108N, L109N, L110N and L111N from Tx #3.

September 28 - Production Day

Read L112N and L113N from Tx #3. Rolled up loop and moved all gear out of grid.