84-1195-12906

Geophysical Report

- on the -

Big P Group

Vernon Mining Division, British Columbia
N.T.S. 82E/15E, 16W

49°53'
118°32'

- for -

Zalmac Mines Limited

P.O. Box 1027

Vernon, B. C.

Prepared by:

G. Belik and Associates Ltd.

664 Sunvalley Drive

Kamloops, B. C.

Gary D. Belik, M.Sc.

December 8, 1984

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APPENDIX:

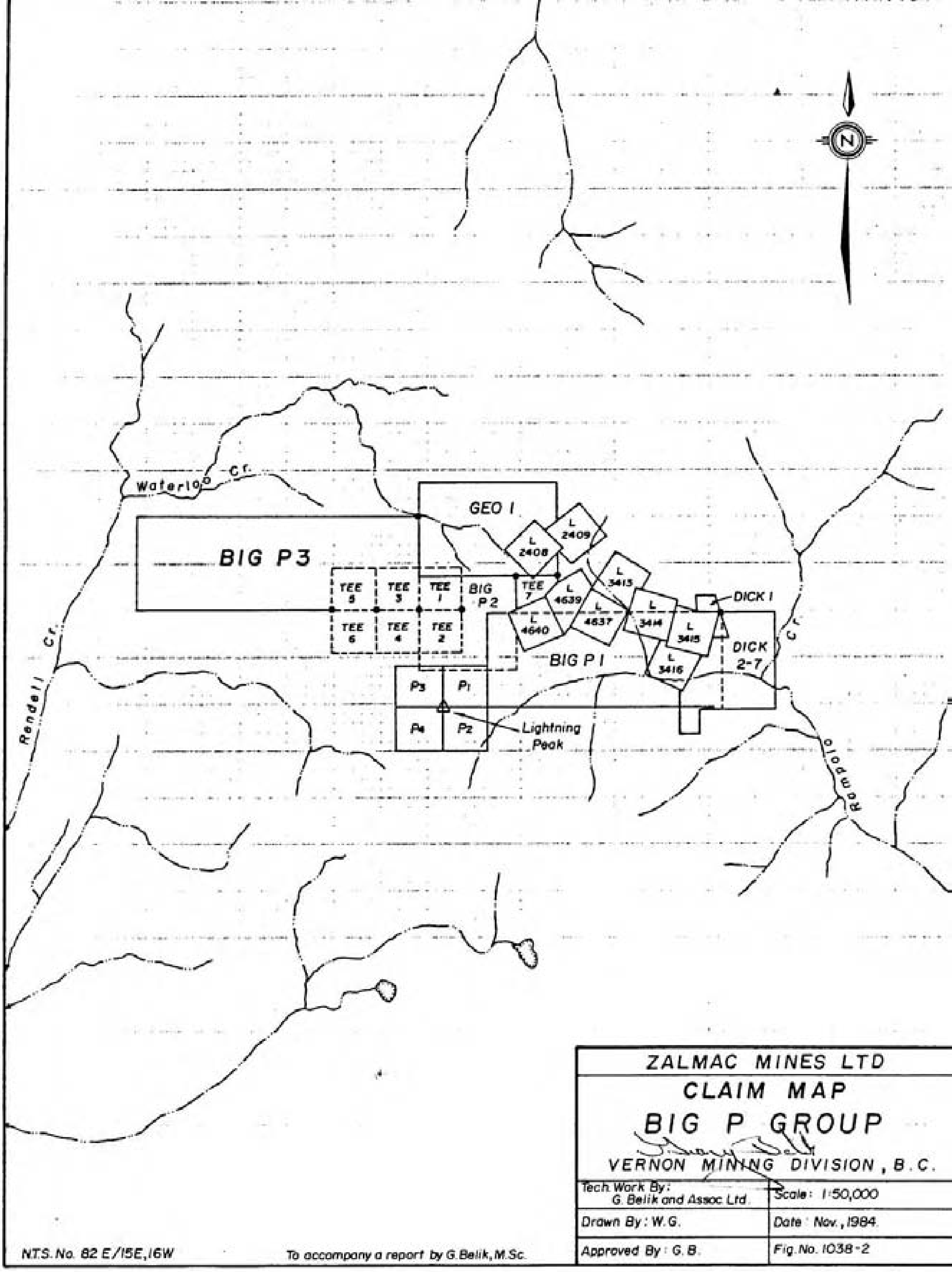
ZALMAC MINES LTD.

LOCATION MAP

BIG P GROUP

VERNON MINING DIVISION, B.C.

Technical Work by : G. Belik and Assoc. Ltd.	Date : Nov., 1984
Scale : 1cm. = 87 km.	Dwg No. 1038-1



Waterloo Cr.
GEO 1
L 2409
L 2408
BIG P3
TEE 5
TEE 3
TEE 1
BIG P2
TEE 7
L 4639
L 3413
L 4637
L 3414
L 3415
DICK 1
TEE 6
TEE 4
TEE 2
L 4640
BIG P 1
L 3416
DICK 2-7
Cr.
Rendell Cr.
P3
P1
P4
P2
Lightning Peak
Rampolo Cr.
ZALMAC MINES LTD
CLAIM MAP
BIG P GROUP
VERNON MINING DIVISION, B.C.
Tech. Work By: G. Belik and Assoc. Ltd.
Scale: 1:50,000
Drawn By: W.G.
Date: Nov., 1984
Approved By: G.B.
Fig. No. 1038-2
N.T.S. No. 82 E/15E, 16W
To accompany a report by G. Belik, M.Sc.

INTRODUCTION

This report presents the results of V.L.F.-Electromagnetic and Induced Polarization/Resistivity surveys carried out during October 17-25, 1984, over parts of the Big P1-3 and Tee 1-6 mineral claims situated near Lightning Peak in the Vernon Mining Division, south-central British Columbia. Field work was carried out by G. Belik & Associates Ltd., Kamloops, B. C., under the supervision of G. D. Belik, M.Sc.

CLAIMS

The Big P1-3 and Tee 1-6 claims form part of the Big P Group, a claim block consisting of 5 contiguous MGS claims totalling 39 units and 6 2-post claims as detailed below:

Mining Division	Claim Name	Units	Record No.	Record Date
Vernon	Dick 1	1	671	August, 1979
Vernon	Dick 2-7	6	891	July, 1980
Vernon	Big P1	10	955	November, 1980
Vernon	Big P2	4	956	November, 1980
Vernon	Big P3	12	957	November, 1980

Vernon	Tee 1	2-post	1877	October, 1984
Vernon	Tee 2	2-post	1878	October, 1984
Vernon	Tee 3	2-post	1879	October, 1984
Vernon	Tee 4	2-post	1880	October, 1984
Vernon	Tee 5	2-post	1881	October, 1984
Vernon	Tee 6	2-post	1882	October, 1984

The registered owner of the above claims is Zalmac Mines Ltd., P.O. Box 1027, Vernon, B. C.

LOCATION AND ACCESSIBILITY

The Big P claim group is located in the Vernon Mining Division, southcentral British Columbia (N.T.S. 82E/15E, 16W). The center of the property is situated about 70 km southeast of the city of Vernon at geographic co-ordinates 49° 53' North Latitude and 118° 32' West Longitude.

The property can be reached by travelling east from Vernon along highway 6 for about 80 km and thence southerly along the Kettle River road. At K62 on the Kettle River road, a secondary logging road is then followed southeast across Winnifred Creek, up over a divide into the Lightning Peak area. The final segment of road, which is rough, extends southerly to Lightning Peak, through the central part of the claim area.

PHYSIOGRAPHY AND VEGETATION

The claim area is situated on the southwest flank of the Monashee Mountains near the north end of the Midway Range. The claim area extends across a plateau-like area centered between Rampalo Creek to the east and Rendell Creek to the west. Lightning Peak, the highest point in the vicinity of the claims attains an elevation of 2,139 meters.

Elevation of the claim area ranges from about 1500 meters a.s.l. to about 2000 meters a.s.l. The central part of the claim area is characterized by areas of gentle to moderate relief with thick overburden and few bedrock exposures. Relief in the western part of the claim area, adjacent to Rendell Creek and the eastern part of the claim area, adjacent to Rampalo Creek is moderate to steep with local cliffs and rocky bluffs.

Below 1800 meters a.s.l. thick stands of mature balsam, spruce, fir and cedar with heavy underbrush predominate. Above 1800 meters a.s.l. forest cover is lighter and above 2,000 meters a.s.l. alpine-type vegetation prevails.

GENERAL GEOLOGICAL SETTING

The claim area straddles the contact between a pendant of Anarchist Group Metavolcanics and Metasediments to the north and Nelson and Valhalla granites to the south. Outcrop within the area of the claims is scarce with large areas totally concealed by overburden.

Numerous small silver-bearing and locally gold-bearing, polymetallic quartz veins and shear zones are evident within the pendant area. Most of these occurences are described by C. E. Cairnes in G.S.C. Summary Report 1930, Part A, pp. 79A-115A. Briefly summarized the showings are of two general types which include a) sulphide-quartz-carbonate lenses within strong east-west shear zones, and b) steeply dipping, northerly trending quartz veins.

The only known mineralization within the area of the subject claims is the Lumpy showing. This prospect, which is situated in the northcentral part of the Big P2 claim, was explored by three short adits and a few shallow surface cuts between 1908 and 1910. This work exposed a pyritic, partly silicified limestone which locally contains very narrow seams and blebs of sphalerite and galena with high silver ± gold values.

GRID PREPARATION

In order to provide control for the geophysical surveys, a grid was constructed consisting of 2 east-west base-lines and 17 north-south cross-lines spaced at 200-meter intervals. Grid lines were blazed and marked with orange flagging with stations at 50-meter intervals identified by yellow and orange flagging marked with the line number and station location.

In total 18.0 km of grid was constructed during the 1984 program.

V.L.F. ELECTROMAGNETIC SURVEY

The electromagnetic survey was carried out utilizing a Saber Model 27 VLF-E.M. receiver manufactured by Saber Electronic Instruments Ltd., 4245 East Hastings Street, Vancouver, B. C. This instrument measures the relative strength and dip of electromagnetic fields transmitted by radio stations in the 15-25 KH_z range. These 'primary fields' are horizontal but can be disrupted by the presence of electrical conductors and by local topographic relief. Disruptions caused by conductors are actually caused by 'secondary fields' which are induced by the primary field. The tilt of the secondary field can be obtained by measuring the angle of null (minimum signal) in a vertical plane, normal to the wave front of the primary field.

The relative strength and magnitude of the secondary field caused by a conductor can be affected by many factors which include:

1. Conductivity of the conductor
2. Width of the conductor
3. Length of the conductor
4. Depth of the conductor
5. Orientation of the conductor relative to the transmitter station
6. Frequency of the transmitter

For tabular elongate bodies maximum coupling and hence the strongest secondary electromagnetic field is obtained when the conductor is aligned normal to the primary wave (ie. conductor points to the transmitting station). There is virtually no coupling when conductors are aligned parallel to the primary field.

Local topographic relief can also cause a tilting of the primary field and lead to anomalous responses along ridge crests or along a sharp break-in-slope. In theory topographic anomalies can be eliminated by a lack of a corresponding increase in field strength values which generally are associated with bedrock conductors. However, this is not always the case and care must be taken when interpreting V.L.F. anomalies within areas of moderate to steep topographic relief.

For this survey the transmitting station utilized is located at Annapolis, Maryland (21.4 KH_z). Readings were taken at 25-meter intervals along all north-south lines. In total 14.85 km of grid was surveyed.

Presentation of Results

The dip angles and relative field strength values obtained during the survey are listed in Appendix I. Drawing 1038-3 is a contour map of the filtered dip angles and shows definite (solid), probable (long dash) and possible (short dash) conductor axes.

The filtering technique utilized was developed by D. C. Fraser (Geophysic, V.34, No. 6, P. 958-967; 1969). Briefly summarized, this technique converts anomalous cross-overs and inflections into positive values by a simple mathematical treatment of the dip angle data. This technique overcomes the difficulty, in many cases, of interpreting profiles and enables the data to be plotted in plan form with conductor areas defined by contours.

Discussion of Results

Numerous anomalies were defined within the survey area. Based on the general magnitude of anomalous inflections and on corresponding field strength values conductors have been categorized as definite, probable and possible. Anomalies which appear to be caused solely by changes in topography are indicated as such on Map 1038-3.

The source of the conductors identified within the area surveyed has not been established. Outcrop is scarce with large areas totally concealed by overburden. A few outcrops of pendant are evident along the 4+00S base line between 2+00E and 4+00E, near the north end of 4+00W and 6+00W and along the south ends of lines 6+00W to 12+00W. Granitic rocks of the Nelson Batholith are exposed in cliffs and bluffs along the south ends of lines 8+00E to 14+00E.

Most of the conductors have a general east-west trend which is parallel to the shear direction which hosts most of the mineralization in the Lightning Peak area. This suggests that some of the conductors may reflect similar mineralized structures.

INDUCED POLARIZATION RESISTIVITY SURVEY

An Induced Polarization/Resistivity test was carried out on line 2+00W to determine the effectiveness of this technique in evaluating conductors identified by the V.L.F.-E.M. survey. Two set-ups were completed; one over a strong conductor centered at 1+60N and another over a moderate conductor centered at 3+00S. The survey was carried out utilizing variable frequency I.P. equipment manufactured by Sabre Electronic Instruments Ltd., 4245 East Hastings Street, Vancouver, B. C.

The theory of Induced Polarization as applied in mining exploration is fully described in the literature. Briefly summarized, this phenomenon refers to the blocking action or capacitive-like effect of electronic conducting minerals* in rock through which an electrical current is being passed. This blocking action creates a resistance to current flow which increases with the length of time that a d.c. current is allowed to flow. Thus, assuming that appreciable conducting minerals are present, it can be seen that by varying the frequency of the transmitted current (ie. varying the length of time that current is allowed to flow in any one direction) the apparent resistivity of the rock mass being tested will change. The percent change in apparent resistivity when measured at two frequencies is recorded as Percent Frequency Effect or P.F.E. For this survey frequencies of $10H_z$ and $0.3H_z$ were utilized.

Method

A dipole-dipole electrode configuation was employed with an electrode separation of 25 meters. Readings were taken every 25 meters to n= 4 (ie. 25m, 50m, 75m and 100 meter separation between current electrodes and potential electrodes).

*includes most metallic sulphides, graphite, magnetite and some varieties of hematite.

Presentation of Results

In this report the results of the Induced Polarization and Resistivity Survey are presented and contoured in profile form (Figure 1038-4) at a scale of 1:1,250.

On the section map, percent frequency effect values are plotted on the top line of the data profile above resistivity values. On the third line, below the resistivity values are plotted metal factors (Metal Factor= $\frac{\text{F.E. x 1000}}{\text{Resistivity}}$). Values are plotted midpoint between the locations of current and potential electrodes.

The separation between current and potential electrodes is only one factor which determines the depth of penetration at any one set up. Thus, while the section maps illustrate in a general way changes in frequency effect and apparent resistivity with depth this relationship is one-linear and may vary significantly depending on the resistivity of the ground being tested and the dipole separation utilized. As a general rule the depth of penetration is between 0.5 and 1.0 times the electrode spread for the first separation (n= 1) and diminishes for successively greater separations.

In some situations the measured voltage at the low frequency setting (0.3H_z) is too noisy to render a reliable F.E. reading. In this situation the symbol N/R is recorded on the data plot. A data plot followed by the symbol (N) indicates that the reading was noisy but considered reliable. Occasionally negative F.E. values are recorded (indicated in brackets () on the Data Plot). Small negative F.E. values fall within the range of instrument and/or operator error when little polarizable material is present within the groundmass being tested. Larger negative values may be a result of spurious electrical effects or unusual geological conditions.

Discussion of Results

Apparent resistivities within the area surveyed are low and range from 15 ohm-meters to 272 ohm-meters. Frequency effects range from 0 percent to 8.0 percent.

Three main anomalous zones were identified which correlate well with conductive zones previously identified by the V.L.F.-E.M. survey.

North Anomaly

On line 2+00W a definite I.P. anomaly was defined centered at about 1+50N. The anomaly is associated with a zone of lower resistivity which appears to be between one and two dipoles wide (ie. apparent width of 25m-50m). A pronounced increase in F.E. values at n= 3 and n= 4 suggests that the zone strengthens at depth.

Central Anomaly

A zone of moderate to strong F.E. values was partly delineated south of 0+75N. This anomaly probably is associated with a V.L.F. conductor centered at 0+30N.

South Anomaly

A pronounced resistivity low, associated with a distinct zone of weakly anomalous F.E. values was defined on line 2+00W, centered at about 3+00S. The anomalous zone correlates well with a V.L.F. conductor which strengthens to the east and west of line 2+00W. A progressive increase in F.E. values for successively greater separations suggests that on line 2+00W the zone strengthens with depth.

CONCLUSIONS AND RECOMMENDATIONS

The V.L.F. Electromagnetic survey has identified numerous conductors within the Big P claim group. A preliminary I.P. test has demonstrated that segments of at least 3 of the conductors are associated with weak to strongly polarizable zones which could reflect significant sulphide mineralization. In view of this and in view of the apparent east-west trend of most of the conductors, which is parallel to the strike of shear zones which host the main polymetallic, silver-rich deposits in the Lightning Peak area, the Big P claim group is viewed has having a good exploration potential. Further work is warranted.

Additional I.P. is recommended in order to further evaluate conductors identified by the 1984 programs. Priority targets should then be tested by trenching. If significant mineralization is encountered in the trenching program a diamond drill program should then be considered.

Respectfully Submitted,

G. D. Belik, M.Sc.

Kamloops, B. C.
December 8, 1984

APPENDIX I

V.L.F.-Electromagnetic Data

VLF – EM SURVEY

PROJECT: Big P PAGE: 1
GRID: DATE:
LINE: 18+00W OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
10+00N	67	+6	12		
	60	+6	12	3	
	55	+6	9	–	
	60	+3	15	–	
9+00N	56	+12	21	–	
	62	+7	17	9	
	62	+8	12	5	x Possible
	58	+4	12	–	
8+00N	56	+8	24	–	
	55	+16	28	8	
	62	+12	16	22	x Probable
	63	+4	6	13	
7+00N	60	+2	3	2	
	62	+1	4	–	
	58	+3	6	–	
	61	+3	6	–	
6+00N	57	+3	10	–	
	54	+7	18	–	
	55	+11	23	–	
	57	+12	21	2	
5+00N	57	+7	21	2	

VLF – EM SURVEY

PROJECT: Big P PAGE: 5
GRID: DATE:
LINE: 14+00W OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
10+00N	44	+5	16		
	73	+11	31	–	
	50	+20	37	2	
	52	+17	27	18	
9+00N	60	+12	19	23	x Definite
	63	+7	6	16	
	55	-1	3	0	
	55	+4	6	–	
8+00N	55	+2	8	–	
	55	+6	8	–	
	52	+2	11	–	
	45	+9	23	–	
7+00N	47	+14	31	–	
	50	+17	36	–	
	58	+19	33	12	
	69	+14	24	19	
6+00N	72	+10	14	24	
	75	+4	0	33	x Definite
	77	-4	-19	26	
	63	-15	-26	1	
5+00N	59	-10	-20	–	

VLF – EM SURVEY

PROJECT: Big P PAGE: 3
GRID: DATE:
LINE: 16+00 W OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
10+00N	55	+9	17		
	57	+8	19	–	
	52	+11	23	–	
	53	+12	27	–	
9+00N	57	+15	25	12	
	60	+10	15	19	x Definite
	62	+5	6	10	
	60	+1	5	–	
8+00N	53	+4	13	–	
	51	+9	19	–	
	56	+10	20	–	
	57	+10	21	–	
7+00N	58	+11	27	–	
	60	+16	31	2	
	65	+15	25	19	
	76	+10	12	28	x Definite
6+00N	82	+2	-3	21	
	70	-5	-7	2	
	60	-4	-5	–	
	58	-1	0	–	
5+00N	58	+1	1	0	

VLF – EM SURVEY

PROJECT: Big P PAGE: 7
GRID: DATE:
LINE: 12+00 W OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
10+00N	47	-1	-3		
	45	-2	3	–	
	43	+5	16	–	
	42	+11	25	–	
9+00N	50	+14	25	–	
	50	+9	26	–	
	42	+17	36	–	
	56	+19	31	10	
8+00N	58	+12	26	4	x Possible
	55	+14	27	–	
	52	+13	27	–	
	52	+14	31	–	
7+00N	58	+17	36	–	
	60	+19	33	12	
	60	+14	24	13	x Probable
	62	+10	20	6	
6+00N	62	+10	18	6	
	62	+8	14	7	
	58	+6	11	2	
	58	+5	12	–	
5+00N	54	+7	17	–	

VLF – EM SURVEY

PROJECT: Big P PAGE: 2
GRID: DATE:
LINE: 18+00 W OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST	IN PHASE	FRASER FILTER		REMARKS
	60	+12	19	8	
	60	+7	13	6	
	62	+6	13	–	
4+00N	56	+7	16	–	
	61	+9	17	2	
	63	+8	14	5	
	68	+6	12	7	
3+00N	69	+6	7	10	X Probable
	65	+1	2	7	
	64	+1	0	7	
	65	-1	-5	10	
2+00N	63	-4	-10	12	X Probable
	62	-6	-17	10	
	58	-11	-20	–	
	51	-9	-12	–	
1+00N	44	-3	-7	–	
	46	-4	-5	–	
	45	-1	0	–	
	46	+1	6		
0+00	48	+5			

VLF – EM SURVEY

PROJECT: Big P PAGE: 6
GRID: DATE:
LINE: 14+00 W OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST	IN PHASE	FRASER FILTER		REMARKS
	47	-10	-16	–	
	50	-6	-9	–	
	48	-3	-1	–	
4+00N	47	+2	9	–	
	42	+7	12	–	
	48	+5	13	–	
	47	+8	24	–	
3+00N	53	+16	33	–	
	54	+17	32	8	
	62	+15	25	12	X Possible
	64	+10	30	–	
2+00N	67	+10	26	0	
	67	+16	20	19	
	78	+4	7	18	↑
	72	+3	2	19	X Definite
1+00N	75	-1	-12	21	↓
	68	-11	-19	3	
	62	-8	-15	–	
	60	-7	-13		
0+00	50	-6			

VLF – EM SURVEY

PROJECT: Big P PAGE: 4
GRID: DATE:
LINE: 16+00 W OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST	IN PHASE	FRASER FILTER		REMARKS
	58	0	0	1	
	59	0	0	–	
	55	0	1	–	
4+00N	55	+1	5	–	
	53	+4	10	–	
	55	+6	15	–	
	60	+9	19	–	
3+00N	64	+10	18	10	
	75	+8	9	21	X Definite
	82	+1	-3	16	
	71	-4	-7	1	
2+00N	66	-3	-4	–	
	64	-1	-5	0	
	67	-4	-4	0	
	68	0	-5	6	
1+00N	67	-5	-10	4	X Possible
	65	-5	-7	–	
	64	-4	-7	0	
	64	-5	-9		
0+00	61	-4			

VLF – EM SURVEY

PROJECT: Big P PAGE: 8
GRID: DATE:
LINE: 12+00 W OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST	IN PHASE	FRASER FILTER		REMARKS
	55	+10	15	5	
	60	+5	12	–	
	53	+7	16	–	
4+00N	55	+9	18	–	
	51	+9	22	–	
	56	+13	28	–	
	57	+15	27	4	
3+00N	60	+12	24	9	
	65	+12	18	14	
	65	+6	10	13	X Probable
	63	+4	5	5	
2+00N	61	+1	5	–	
	59	+4	9	–	
	60	+5	11	–	
	60	+6	16	–	
1+00N	60	+10	14	12	
	70	+4	4	11	X Probable
	58	0	3	–	
	55	+3	8	–	
0+00	52	+5	13	–	
	50	+8	19	–	

VLF – EM SURVEY

PROJECT: Big P — PAGE: 9
GRID: — DATE:
LINE: L 12+00 W — OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST	IN PHASE	FRASER FILTER		REMARKS
	50	+11	19	6	
	58	+8	13	14	X Possible
1+00S	58	+5	5	12	
	53	0	1	1	
	54	+1	4	–	
	52	+3	7	–	
2+00S	48	+4	8	–	
	50	+4	11	–	
	47	+7	15	–	
	47	+8	18	–	
3+00S	52	+10	20	0	
	52	+10	18	8	
	58	+8	12	9	X Possible
	56	+4	9		
4+00S	55	+5			

VLF – EM SURVEY

PROJECT: Big P — PAGE: 10
GRID: — DATE:
LINE: 10+00 W — OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE	IN PHASE	FRASER FILTER		REMARKS
4+50N	72 / 71	+14 / +10	24		X Probable
	65	+7	17	7	
4+00N	63	+10	17	–	
	64	+9	17	–	
	65	+9	18	1	
	63	+9	18	5	X Possible
3+00N	66	+4	13	7	
	63	+7	11	1	
	62	+5	12	0	
	61	+6	11	–	
2+00N	60	+11	17	–	
	65	+9	20	–	
	65	+11	20	0	
	67	+9	20	0	
1+00N	70	+11	20	8	
	77	+1	12	18	X Definite
	68	+1	2	11	
	66	+0	1	4	
0+00	60	-2	-2	7	X Possible
	60	-4	-6	5	
	58	-3	-7	–	
			-3	–	

VLF – EM SURVEY

PROJECT: Big P — PAGE: 12
GRID: — DATE:
LINE: 8+00 W — OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE	IN PHASE	FRASER FILTER		REMARKS
4+50N	59 / 63	+20 / +23	43		
	74	+18	41	12	X Definite
4+00N	70	+13	31	16	
	68	+12	25	8	
	67	+11	23	4	
	67	+10	21	–	
3+00N	68	+16	26	–	
	76	+13	29	7	
	77	+6	19	23	X Definite
	68	0	6	22	
2+00N	62	-3	-3	10	
	60	-1	-4	0	
	57	+4	3	–	
	58	+5	7	–	
1+00N	58	+4	9	1	
	60	+4	8	2	
	60	+3	7	1	
	57	+4	7	–	
0+00	58	+4	8	–	
	56	+5	9	–	
	57	+5	10	–	
			15	–	

VLF – EM SURVEY

PROJECT: Big P — PAGE: 14
GRID: — DATE:
LINE: 6+00 W — OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE	IN PHASE	FRASER FILTER		REMARKS
4+00N	72 / 74	+16 / +8	30 / 24	8	
	76	+4	12	22	X Definite
	70	-2	2	14	
	63	0	-2	0	
3+00N	62	+2	2	–	
	65	+4	6	–	
	67	+2	6	6	X Possible
	62	-2	0	7	
2+00N	55	+1	-1	–	
	57	+6	7	–	
	60	+10	16	–	
	67	+8	18	5	X Probable
1+00N	67	+3	11	13	
	65	+2	5	8	
	58	+1	3	0	
	60	+4	5	–	
0+00	62	+4	8	–	
	56	+3	7	1	
	58	+4	7	–	
	53	+4	8	–	
1+00S	54	+6	10	–	
			12	–	

VLF – EM SURVEY

PROJECT ______ PAGE ______

GRID ______ DATE ______

LINE ______ OPERATOR ______

SOURCE STATION ______

STATION	OUT OF PHASE	IN PHASE	FRASER FILTER		REMARKS

VLF – EM SURVEY

PROJECT Big P PAGE 11

GRID ______ DATE ______

LINE 10+00 W OPERATOR G.B.

SOURCE STATION Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST	IN PHASE	FRASER FILTER		REMARKS
	58	0	-2	–	
1+00S	58	-2	1	–	
	54	+1	4	–	
	55	+3	8	–	
	55	+5	13	–	
2+00S	58	+8	16	2	
	63	+8	11	7	x Possible
	61	+3	7	2	
	60	+4	9	–	
3+00S	60	+5	10	–	
	57	+5	11	–	
	62	+6	13	–	
	60	+7	12		
4+00S	60	+5			

VLF – EM SURVEY

PROJECT Big P PAGE 13

GRID ______ DATE ______

LINE 8+00 W OPERATOR G.B.

SOURCE STATION Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST	IN PHASE	FRASER FILTER		REMARKS
	58	+10	25	–	
1+00S	55	+15	28	4	
	62	+13	21	14	x Possible
	63	+8	14	11	
	65	+6	10	5	
2+00S	63	+4	9	0	
	65	+5	10	0	
	65	+5	9	3	
	66	+4	7	3	
3+00S	63	+3	6	0	
	62	+3	7	1	
	62	+4	5	4	
	57	+1	3		
4+00S	62	+2			

VLF – EM SURVEY

PROJECT Big P PAGE 15

GRID ______ DATE ______

LINE 6+00 W OPERATOR G.B.

SOURCE STATION Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST	IN PHASE	FRASER FILTER		REMARKS
	55	+6	18	–	
	58	+12	22	–	
	58	+10	24	–	
2+00S	65	+14	26	8	
	72	+12	16	21	
	70	+4	5	16	x Definite
	65	+1	0	8	
3+00S	65	-1	-3	2	
	62	-2	-2	–	
	60	0	1	–	
	60	+1	2		
4+00S	58	+1			

VLF – EM SURVEY

PROJECT: Big P　PAGE: 16
GRID:　DATE:
LINE: 4100 W　OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE / FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
4100N	52	0	3		
	50	+3	7	–	
	55	+4	8	–	
	53	+4	9	–	
3100N	52	+5	11	–	
	53	+6	14	–	
	52	+8	16	–	
	50	+8	20	–	
2100N	52	+12	19	7	
	57	+7	13	4	X Possible
	53	+6	15	–	
	53	+9	18	–	
1100N	52	+9	24	–	
	62	+15	25	12	
	69	+8	12	18	X Definite
	68	+4	5	11	
0100	62	+1	1	6	
	60	0	-1	3	
	57	-1	-4	5	
	57	-3	-6	4	
1100S	49	-3	-8	5	

VLF – EM SURVEY

PROJECT: Big P　PAGE: 18
GRID:　DATE:
LINE: 2100 W　OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE / FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
4100N	52	0	0		F.S. 2360
	53	0	2	–	
	50	+2	4	–	
	52	+2	5	–	
3100N	50	+3	5	2	
	52	+2	3	–	
	50	+1	8	–	
	49	+7	17	–	
2100N	48	+10	21	–	
	53	+11	18	17	
	60	+7	4	21	X Definite
	58	-3	-3	0	
1100N	57	0	4	–	
	58	+4	8	2	
	62	+4	2	10	X Possible
	62	-2	-2	1	
0100	58	0	1	–	
	58	+1	0	3	
	61	-1	-2	3	
	54	-1	-3	1	
1100S	55	-2	-3	–	

VLF – EM SURVEY

PROJECT: Big P　PAGE: 20
GRID:　DATE:
LINE: 0+00　OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE / FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
4100N	60	-1	0		F.S. 2360
	60	+1	4	–	
	60	+3	6	–	
	60	+3	8	–	
3100N	60	+5	10	–	
	61	+5	11	–	
	61	+6	14	–	
	61	+8	15	2	
2100N	63	+7	12	3	
	65	+5	12	2	
	63	+7	10	4	
	66	+3	8	7	
1100N	67	+5	3	11	X Probable
	70	-2	-3	4	
	60	-1	-1	–	
	60	0	1	–	
BL	58	+1	3	0	
	63	+2	1	5	
	61	-1	-2	2	X Possible
	60	-1	-1	–	
1100S	61	0	0	–	

VLF – EM SURVEY

PROJECT: Big P　PAGE: 22
GRID:　DATE:
LINE: 0+00　OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE / FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
	46	-11	-21	–	
	42	-10	-20	–	
7100S	40	-10	-19	–	
	40	-9	-17	–	
	40	-8	-16	–	
	42	-8	-15		
8100S	40	-7			

VLF – EM SURVEY

PROJECT Big P PAGE 17

GRID DATE

LINE 4100 W OPERATOR G.B.

SOURCE STATION Annapolis

STATION	OUT OF PHASE	IN PHASE	FRASER FILTER		REMARKS
	49	-5			
	50	-6	-11	4	
	52	-6	-12	2	
2100S	50	-7	-13	–	
	47	-2	-9	–	
	48	-1	-3	–	
	47	0	-1	–	
3100S	50	0	0	0	
	57	-1	-1	3	
	57	-2	-3	4	x Possible
	51	-3	-5	2	
4100S	55	-2	-5		

VLF – EM SURVEY

PROJECT Big P PAGE 19

GRID DATE

LINE 2100 W OPERATOR G.B.

SOURCE STATION Annapolis

STATION	~~OUT OF PHASE~~ Field St.	IN PHASE	FRASER FILTER		REMARKS
	50	-1			
	49	+2	1	–	
	50	+3	5	–	
2100S	50	+2	5	–	
	52	+5	7	–	
	56	+5	10	2	
	61	0	5	14	
3100S	63	-4	-4	14	x Probable
	58	-5	-7	9	
	60	-8	-13	8	
	58	-9	-17	7	
4100S	56	-11	-20		

VLF – EM SURVEY

PROJECT Big P PAGE 21

GRID DATE

LINE 0+00 OPERATOR G.B.

SOURCE STATION

STATION	~~OUT OF PHASE~~ Field St.	IN PHASE	FRASER FILTER		REMARKS
	61	0			
	61	+1	1	–	
	62	+2	3	–	
2100S	65	0	2	4	
	72	-1	-1	11	
	68	-8	-9	15	Definite
	68	-8	-16	7	Ck
3100S	71	-8	-16	7	
	74	-15	-23	17	Definite
	62	-18	-33	10	
	58	-15	-33	–	
4100S	58	-13	-28	–	
	58	-13	-26	–	
	55	-12	-25	–	
	52	-12	-24	–	
5100S	55	-10	-22	–	
	55	-12	-22	2	
	53	-12	-24	2	
	48	-12	-24	0	
6100S	47	-12	-24	0	
	46	-12	-24	–	
			-23	–	

VLF – EM SURVEY

PROJECT PAGE

GRID DATE

LINE OPERATOR

SOURCE STATION

STATION	OUT OF PHASE	IN PHASE	FRASER FILTER		REMARKS

VLF – EM SURVEY

PROJECT: Big P PAGE: 23
GRID: DATE:
LINE: 2+00E OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE	IN PHASE	FRASER FILTER		REMARKS
	70	+1	5		
	72	+4	3	11	
1+00S	77	-1	-6	16	X Probable
	77	-5	-13	6	
	68	-8	-12	—	
	68	-4	-7	—	
2+00S	70	-3	-4	—	
	68	-1	-2	—	
	78	-1	-7	14	
	77	-6	-16	15	
3+00S	75	-10	-22	13	X Definite
	77	-12	-29	14	
	72	-17	-36	9	
	65	-19	-38	—	
4+00S	60	-19	-35	—	
	57	-16	-34	—	
	49	-18	-32	—	
	51	-14	-29	—	
5+00S	51	-15	-30	2	
	50	-15	-31	1	
	44	-16	-31	—	
	42	-15	-27	—	

VLF – EM SURVEY

PROJECT: Big P PAGE: 25
GRID: DATE:
LINE: 4+00E OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE	IN PHASE	FRASER FILTER		REMARKS
	76	-1	-1		
	77	0	-3	8	
1+00S	76	-3	-9	9	
	77	-6	-12	1	
	78	-6	-10	1	
	77	-4	-13	12	
2+00S	83	-9	-22	16	X Definite
	75	-13	-27	8	
	75	-16	-30	—	
	68	-14	-28	—	
3+00S	65	-14	-27	2	Steep Slope
	62	-15	-30	1	
	60	-15	-30	2	
	58	-15	-32	4	
4+00S	57	-17	-34	9	
	51	-17	-41	10	X Possible
	52	-24	-44	—	
	47	-20	-39	—	
5+00S	45	-19	-35	—	
	41	-16	-30	—	
	41	-14	-27	—	
	41	-13	-24	+	

VLF – EM SURVEY

PROJECT: Big P PAGE: 27
GRID: DATE:
LINE: 6+00E OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE	IN PHASE	FRASER FILTER		REMARKS
	Field Gr[illegible]				
1+00S	70	-3			
	68	-2	-5		
	72	-2	-4	1	
	73	-4	-6	6	
2+00S	75	-6	-10	10	
	69	-10	-16	10	X Probable
	63	-10	-20	5	
	65	-11	-21	1	
3+00S	66	-10	-21	3	
	68	-13	-23	9	
	65	-17	-30	13	X Possible
	60	-19	-36	10	
4+00S	55	-21	-40	5	
	50	-20	-41	—	
	49	-19	-39	—	
	46	-15	-34	—	
5+00S	45	-15	-30	—	
	42	-14	-29	—	
	43	-13	-27	—	
	40	-12	-25	—	
			-23	—	

VLF – EM SURVEY

PROJECT: Big P PAGE: 29
GRID: DATE:
LINE: 8+00E OPERATOR: G.B.
SOURCE STATION: Annapolis

STATION	OUT OF PHASE	IN PHASE	FRASER FILTER		REMARKS
	Field St				
1+00S	61	0			F.S. 2360
	62	+1	1		
	62	+4	5	—	
	72	-2	2	15	
2+00S	69	-8	-10	21	X Definite
	64	-11	-19	15	
	58	-14	-25	9	
	55	-14	-28	3	
3+00S	50	-14	-28	—	
	48	-11	-25	—	
	48	-8	-19	—	
	48	-8	-16	—	
4+00S	47	-7	-15	0	
	43	-9	-16	3	
	45	-9	-18	1	
	45	-8	-17	—	
5+00S	42	-9	-17	4	
	38	-12	-21	7	
	35	-12	-24	2	
	32	-11	-23	—	
			-17	—	

VLF – EM SURVEY

PROJECT Big P PAGE 24

GRID DATE

LINE 2400 E OPERATOR G.B.

SOURCE STATION Annapolis

STATION	OUT OF PHASE (Field St.)	IN PHASE	FRASER FILTER		REMARKS
6+00S	42	-12			
			-23	–	
	40	-11			
			-19	–	
	42	-8			
			-17	–	
	42	-9			
			-17	–	
7+00S	40	-8			
			-11	–	
	37	-3			
			-5	–	
	37	-2			
			-4	–	
	37	-2			
			-4		
8+00S	37	-2			

VLF – EM SURVEY

PROJECT Big P PAGE 26

GRID DATE

LINE 4400 E OPERATOR G.B.

SOURCE STATION Annapolis

STATION	OUT OF PHASE (Field St.)	IN PHASE	FRASER FILTER		REMARKS
6+00S	41	-11			
			-19	–	
	38	-8			
			-13	–	
	40	-5			
			-10	–	
	40	-5			
			-9	–	
7+00S	39	-4			
			-9	2	
	38	-5			
			-11	0	
	35	-6			Main Cr
			-9	–	
	37	-3			
			-3		
8+00S	34	0			

VLF – EM SURVEY

PROJECT Big P PAGE 28

GRID DATE

LINE 6400E OPERATOR G.B.

SOURCE STATION Annapolis

STATION	OUT OF PHASE (Field St.)	IN PHASE	FRASER FILTER		REMARKS
6+00S	37	-11			
			-19	–	
	40	-8			
			-16	–	
	40	-8			
			-15	–	
	40	-7			
			-14	–	
7+00S	38	-7			
			-10	–	← Main Cr
	35	-3			
			-6	–	
	35	-3			
			-5	–	
	33	-2			
			-2		
8+00S	32	0			

VLF – EM SURVEY

PROJECT Big P PAGE 30

GRID DATE

LINE 8400 E OPERATOR G.B.

SOURCE STATION Annapolis

STATION	OUT OF PHASE (Field St.)	IN PHASE	FRASER FILTER		REMARKS
6+00S	30	-6			
			-9	–	
	32	-3			
			-8	2	
	33	-5			
			-11	3	
	33	-6			
			-11	0	
7+00S	33	-5			Cr
			-11	–	
	27	-6			
			-9	–	
	27	-3			
			-3	–	
	24	0			
			5	–	
8+00S	31	+5			
			7	–	
	30	+2			
			7	–	
	30	+5			
			16	–	
	30	+11			
			27		
9+00S	32	+16			45° Slope

VLF – EM SURVEY

PROJECT: Big P PAGE: 31
GRID: DATE:
LINE: L10+00E OPERATOR: G.R.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
2+00S	62	-9	-18		
	58	-9	-17	–	
	57	-8	-15		
	59	-7	-15	5	
3+00S	57	-8	-20	11	
	54	-12	-26	9	Topo?
	52	-14	-29	4	
	51	-15	-30	–	
4+00S	46	-15	-28	–	
	42	-13	-24	–	
	41	-11	-15	–	
	38	-4	-4	–	
5+00S	45	0	-2	3	
	50	-2	-7	13	
	47	-5	-15	13	X Probable
	43	-10	-20	–	
6+00S	34	-10	-14	–	
	28	-4	-4	–	
	40	0	0	–	Ck
	35	0	-3	6	
7+00S	40	-3	-6	1	

VLF – EM SURVEY

PROJECT: Big P PAGE: 35
GRID: DATE:
LINE: L14+00E OPERATOR: G.R.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
2+00S	64	-7	-15		
	66	-8	-20	13	
	67	-12	-27	19	
	67	-15	-39	22	X Probable
3+00S	62	-24	-49	12	
	55	-25	-51	0	
	51	-26	-49	–	
	45	-23	-44	–	
4+00S	42	-21	-39	–	
	41	-18	-33	–	
	40	-15	-28	–	
	42	-13	-25	–	
5+00S	39	-12	-19	–	
	40	-7	-9	–	
	40	-2	1	–	
	48	+3	1	8	
6+00S	48	-2	-7	15	
	48	-5	-16	6	X Probable
	43	-11	-13	–	
	36	-2	7	–	
7+00S	35	+9	20	–	Ck

VLF – EM SURVEY

PROJECT: Big P PAGE: 33
GRID: DATE:
LINE: 12+00E OPERATOR: G.R.
SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
2+00S	54	-17	-33		
	52	-16	-30	–	
	52	-14	-28	–	
	51	-14	-28	–	
3+00S	50	-14	-25	–	
	48	-11	-23	–	
	45	-12	-22	–	
	41	-10	-20	–	
4+00S	42	-10	-15	–	
	43	-5	-6	–	
	45	-1	3	–	
	91	+4	8	4	
5+00S	58	+4	-1	17	X Definite
	55	-5	-9	11	
	51	-4	-12	17	
	45	-8	-26	23	X Definite
6+00S	40	+8	-35	–	Steep
	29	-17	-25	–	
	23	-8	-9	–	
	24	-1	9	–	
7+00S	40	+10	16	3	

VLF – EM SURVEY

PROJECT: Big P PAGE: 32

GRID: DATE:

LINE: 10+00E OPERATOR: G.B.

SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
	38	-3			
	35	-1	-4	–	
	33	+1	0	–	
8+00S	35	+1	2	–	
	34	0	1	–	
	34	+3	3	–	
	35	+4	7	–	
9+00S	35	+6	10		

VLF – EM SURVEY

PROJECT: Big P PAGE: 36

GRID: DATE:

LINE: 14+00E OPERATOR: G.B.

SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
	40	+11			
	49	+8	19	8	x Possible
	48	+4	12	13	
8+00S	44	+2	6	8	
	45	+2	4	–	
	42	+5	7	–	
	42	+6	11	–	
9+00S	42	+7	13		

VLF – EM SURVEY

PROJECT: Big P PAGE: 34

GRID: DATE:

LINE: 12+00E OPERATOR: G.B.

SOURCE STATION: Annapolis

STATION	~~OUT OF PHASE~~ FIELD ST.	IN PHASE	FRASER FILTER		REMARKS
	47	+6			
	48	0	6	19	x Possible
	47	-3	-3	8	
8+00S	46	+1	-2	–	
	47	+2	3	–	
	44	0	2	3	
	42	0	0	–	
9+00S	45	+3	3		

APPENDIX II

Induced Polarization/Resistivity Data

G. Belik and Associates Ltd., - I.P. Data Sheets

CLIENT:	Zalmac Mines Ltd.
PROPERTY:	Big P Group
OPERATOR:	G. Belik
FREQ'S USED:	10Hz/0.3Hz
DATE:	October 24-25, 1984

Line 2+00W

Tx Location:	1+50N	
Calibration:	2+00-2+25N	+3.3
	1+75-2+00N	+3.9
	1+50-1+75N	+1.5
	1+25-1+50N	+2.4
	1+00-1+25N	+2.5
	0+75-1+00N	+3.0

Rx Loc.	Tx Loc.	Vernier Voltage	Voltage Scale	I	F.E.	Corr. F.E.	Apparent Resistivity
3+25-3+50N	2+00-2+25N	984	10	110	5.0	2.2	134
3+00-3+25N	2+00-2+25N	218	100	110	6.6	3.3	149
	1+75-2+00N	943	10	120	6.6	2.7	120
2+75-3+00N	2+00-2+25N	389	100	110	6.0	2.7	106
	1+75-2+00N	143	100	120	6.0	2.1	89
	1+50-1+75N	807	10	175	5.5	4.0	69
2+50-2+75N	2+00-2+25N	156	1000	110	7.2	3.9	106
	1+75-2+00N	483	100	120	6.6	2.7	121
	1+50-1+75N	228	100	180	6.5	5.0	95
	1+25-1+50N	700	10	230	2.5	0.1	46
2+25-2+50N	1+75-2+00N	274	1000	115	7.2	3.3	178
	1+50-1+75N	680	100	170	5.2	3.7	120
	1+25-1+50N	207	100	215	5.4(N)	3.0	72
	1+00-1+25N	820	10	115	7.8	5.3	107

Line: 2+00W   Tx: 1+50N

Rx Loc.	Tx Loc.	Vernier Voltage	Voltage Scale	I	F.E.	Corr. F.E.	Apparent Resistivity
2+00-2+25N	1+50-1+75N	355	1000	165	5.4	3.9	161
	1+25-1+50N	422	100	205	5.7	3.3	62
	1+00-1+25N	142	100	110	8.4	5.9	97
1+75-2+00N	1+25-1+50N	135	1000	205	5.2	2.8	49
	1+00-1+25N	310	100	110	6.6	4.1	84
1+50-1+75N	1+00-1+25N	910	100	110	6.6	4.1	62
0+75-1+00N	1+25-1+50N	321	1000	200	3.0	0.6	120
	1+50-1+75N	460	100	115	6.6	5.1	120
	1+75-2+00N	106	100	110	8.3	4.4	72
	2+00-2+25N	772	10	100	9.6(N)	6.3	116
0+50-0+75N	1+00-1+25N	399	1000	110	7.0	4.5	272
	1+25-1+50N	804	100	210	6.0	3.5	115
	1+50-1+75N	183	100	165	8.7	7.2	83
	1+75-2+00N	507	10	110	9.6	5.7	69
0+25-0+50N	0+75-1+00N	355	1000	130	5.6	2.6	205
	1+00-1+25N	447	100	110	8.0	5.5	122
	1+25-1+50N	171	100	215	6.0(N)	3.6	60
	1+50-1+75N	536	10	170	8.0(N)	6.5	47
0+00-0+25N	0+75-1+00N	635	100	130	10.0	7.0	146
	1+00N-1+25N	133	100	110	10.5	8.0	91
	1+25-1+50N	102	100	200	8.0(N)	5.6	77
0+25S-0+00	0+75-1+00N	308	100	130	8.7	5.7	177
	1+00N-1+25N	864	10	110	9.6	7.1	118
0+25-0+50S	0+75-1+00N	768	10	130	7.5(N)	4.5	89

Line 2+00W

Tx Location:	3+00S	
Calibration:	2+25-2+50S	+2.2
	2+50-2+75S	+1.8
	2+75-3+00S	+3.0
	3+00-3+25S	+1.8
	3+25-3+50S	+1.8
	3+50-3+75S	+3.3

Rx Loc.	Tx Loc.	Vernier Voltage	Voltage Scale	I	F.E.	Corr. F.E.	Apparent Resistivity
1+00-1+25S	2+25-2+50S	495	10	140	7.0	4.8	53
1+25-1+50S	2+25-2+50S	139	100	140	7.0	4.8	74
	2+50-2+75S	515	10	175	3.9	2.1	44
1+50-1+75S	2+25-2+50S	539	100	175	5.1	2.9	92
	2+50-2+75S	129	100	195	3.3	1.5	49
	2+75-3+00S	519	10	135	3.0	0	58
1+75-2+00S	2+25-2+50S	156	1000	160	4.8	2.6	73
	2+50-2+75S	271	100	195	3.5	1.7	42
	2+75-3+00S	755	10	135	3.9	0.9	42
	3+00-3+25S	565	10	170	3.6	1.8	49
2+00-2+25S	2+50-2+75S	200	1000	200	3.9	2.1	75
	2+75-3+00S	299	100	135	3.5	0.5	66
	3+00-3+25S	137	100	170	4.0	2.2	60
	3+25-3+50S	692	10	190	3.3	1.5	55
2+25-2+50S	2+75-3+00S	874	100	135	3.0	0	49
	3+00-3+25S	206	100	175	3.7	1.9	35
	3+25-3+50S	784	10	195	3.6	1.8	30
2+50-2+75S	3+00-3+25S	764	100	180	3.0	1.2	32
	3+25-3+50S	136	100	195	3.9	2.1	21
2=75-3+00S	3+25-3+50S	388	100	200	3.1	1.3	15
3+50-3+75S	3+00-3+25S	870	100	180	2.1	0.3	36
	2+75-3+00S	121	100	135	4.5	1.5	27
	2+50-2+75S	552	10	200	4.5	2.7	21
	2+25-2+50S	338	10	160	5.4	3.2	32

3+75-4+00S	3+25-3+50S	857	100	190	3.9	2.1	34
	3+00-3+25S	344	100	175	3.3	1.5	59
	2+75-3+00S	813	10	135	4.2	1.2	45
	2+50-2+75S	439	10	195	4.5	2.7	34
4+00-4+25S	3+50-3+75S	816	100	140	4.8	1.5	44
	3+25-3+50S	324	100	195	4.5	2.7	50
	3+00-3+25S	168	100	175	2.4	0.6	72
	2+75-3+00S	476	10	135	4.8	1.8	53
4+25-4+50S	3+50-3+75S	239	100	135	5.4	2.1	53
	3+25-3+50S	122	100	185	3.7	1.9	49
	3+00-3+25S	755	10	165	3.9	2.1	69
4+50-4+75S	3+50-3+75S	105	100	135	4.7	1.4	58
	3+25-3+50S	622	10	185	3.7	1.9	50
4+75-5+00S	3+50-3+75S	356	10	140	3.6	0.3	38

APPENDIX III

Statement of Expenditures

Statement of Expenditures

Big P Project

1). Labour:

G. Belik, M.Sc. October 15-25, 1984 10.0 days at $300/day	$3,000.00	
D. Arens, Senior Assistant October 17-26, 1984 10.0 days at $160/day	1,600.00	
M. Forbes, Assistant October 17-25, 1984 9.0 days at $140/day	1,260.00	$5,860.00

2). Expenses & Disbursements:

a) Truck Rental & Operating Expenses		$675.66	
b) Camp Rental, Food and Travel Expenses		981.97	
c) Equipment Rental			
V.L.F.-E.M. Unit	$135.00		
I.P. Unit	250.00	385.00	
d) Field Supplies		151.24	
e) Misc. Items		20.00	2,213.87

3). Report Preparation:

Professional fees, Drafting, Secretarial, Maps, Xerox and Binding		1,400.00
	Total	$9,473.87

APPENDIX IV

Statement of Qualifications

G. D. Belik

GARY D. BELIK, M.Sc.
Consulting Geologist
Mineral Exploration

#6 NICOLA PLACE, 310 NICOLA STREET • KAMLOOPS, B.C. V2C 2P5 • PHONE (604) 374 4247

CERTIFICATE

I, GARY D. BELIK, OF THE CITY OF KAMLOOPS, BRITISH COLUMBIA, DO HEREBY CERTIFY THAT:

(1). I am a member of the Canadian Institute of Mining and Metallurgy, and a fellow of the Geological Association of Canada.

(2). I am employed by G. Belik and Associates Ltd., with my office at 664 Sunvalley Drive, Kamloops, B. C.

(3). I am a graduate of the University of British Columbia with a B. Sc. in Honors Geology and a M. Sc. in Geology.

(4). I have practised continuously as a geologist since May, 1970.

(5). I have gained considerable geophysical experience over the past 11 years including extensive use of Induced Polarization and V.L.F.-E.M. systems.

Gary D. Belik, M. Sc.

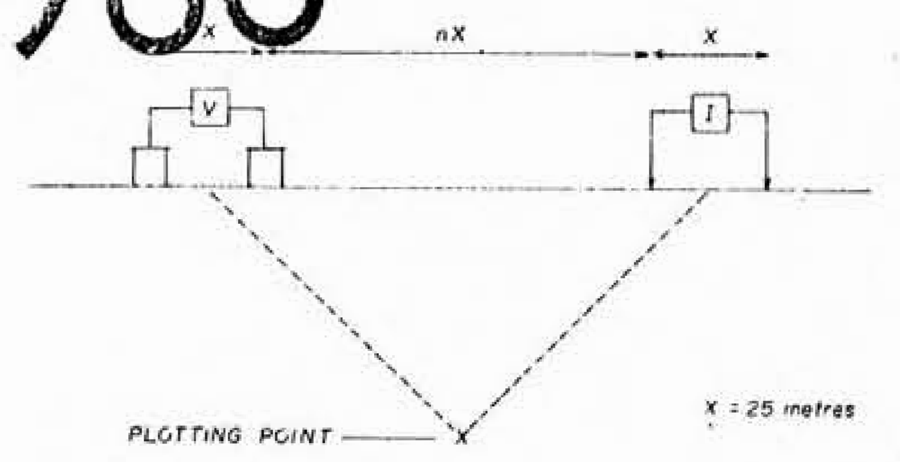
GEOLOGIST

December 8, 1984

G. BELIK AND ASSOCIATES LTD.
Consulting Geologist

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,906



SURFACE PROJECTION OF ANOMALOUS ZONE

DEFINITE	————————
PROBABLE	– – – – – – – –
POSSIBLE	··················

CONTOUR INTERVALS

PFE - 2.0, 3.0, 5.0, 7.5, 10, 15
RESISTIVITY - 1, 1.5, 3, 5, 7.5, 10, 15.....
METAL FACTOR - 10, 15, 20, 30, 50, 75, 100....

ZALMAC MINES LTD.

INDUCED POLARIZATION & RESISTIVITY SURVEY

LINE NO. 2+00W

BIG P GROUP

VERNON MINING DIVISION, B.C.

TECHNICAL WORK BY G. BELIK AND ASSOCIATES LTD.	DATE SURVEYED OCTOBER, 1984
APPROVED BY: G. BELIK, M.Sc.	FIG. NO. 1038-4

ZALMAC MINES LTD.

VLF-EM SURVEY

TRANSMITTER : ANNAPOLIS, MARYLAND 21.4 KHz.

BIG P GROUP

VERNON MINING DIVISION, BRITISH COLUMBIA.

TECHNICAL WORK BY: G. BELIK AND ASSOCIATES LTD.	SCALE: 1:5,000
DRAWN BY: W.G.	DATE: NOVEMBER, 1984
APPROVED BY: G. BELIK, M.Sc.	FIG. NO. 1038-3

To accompany a report by G. Belik, M.Sc.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,906