85-411-13804
5/86

A V.L.F. ELECTROMAGNETIC SURVEY

SPECIFIC CLAIMS INVOLVED:	Shik 1 #4331 Shik 2 #4332
MINING DIVISION:	Cariboo
SPECIFIC N.T.S. LOCATION:	93A/6W
LATITUDE & LONGITUDE:	52° 27' 121° 27'
OWNER OF CLAIMS:	R. DURFELD & J.W. MORTON
OPERATOR:	R. DURFELD & J.W. MORTON
AUTHOR OF REPORT:	J.W. MORTON
DATE:	JUNE 1985

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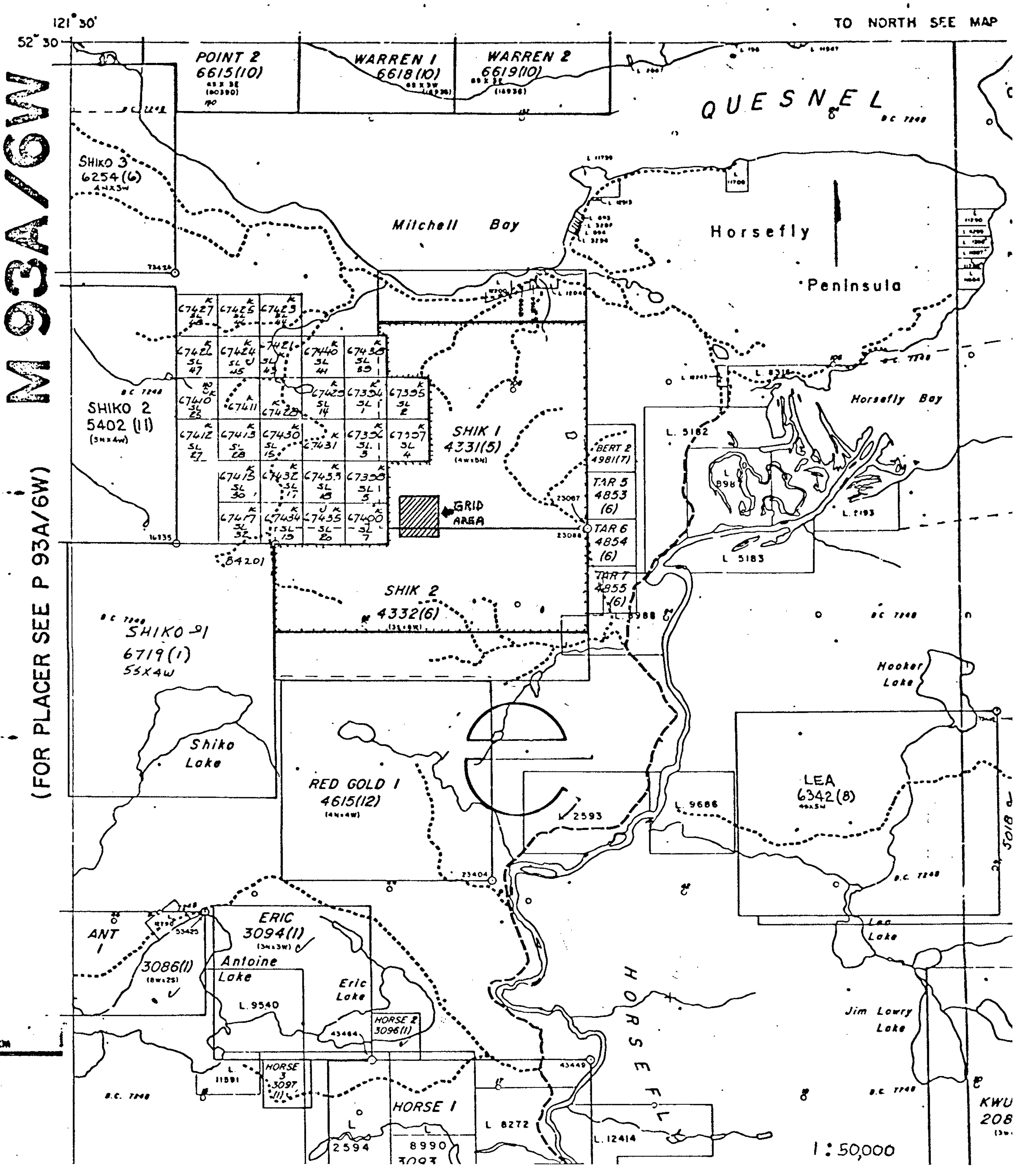


121°30'
52°30
TO NORTH SEE MAP
M 93A/6W
(FOR PLACER SEE P 93A/6W)
POINT 2
6615(10)
WARREN 1
6618(10)
WARREN 2
6619(10)
QUESNEL
Mitchell Bay
Horsefly
Peninsula
Horsefly Bay
SHIKO 3
6254(6)
SHIKO 2
5402 (11)
SHIK 1
4331(5)
SHIK 2
4332(6)
GRID AREA
BERT 2
4981(7)
TAR 5
4853
(6)
TAR 6
4854
(6)
TAR 7
4855
(6)
L. 5182
L. 5183
L. 2193
SHIKO 21
6719(1)
55x4W
Shiko
Lake
RED GOLD 1
4615(12)
Hooker
Lake
LEA
6342(8)
L. 9686
2593
ANT
1
ERIC
3094(1)
3086(1)
Antoine
Lake
Eric
Lake
L. 9540
HORSE 2
3096(1)
HORSE
3
3097
(1)
HORSE 1
L 8272
L. 12414
2594
8990
HORSEFLY
Lea
Lake
Jim Lowry
Lake
KWU
1 : 50,000

Location and Physiographic Position

The Shik Mineral claims are located in the Central Interior of B.C. near the southwest end of Quesnel Lake. The claims occupy a region of rolling topography with elevations varying between 730 m and 1,000 m (2,400 ft to 3,300 ft). The mature vegetation type occurring on the claims is of a wet belt, mixed coniferous variety. In recent years, clearcut logging has been conducted on much of the area of Shik claims.

Access to the Shik claims is via 100 kilometers of paved and all-weather gravel road (the Horsefly Road to Horsefly townsite and then the Mitchell Bay Forest Access Road).

Property Definition (Regional Summary)

The most significant single geological structure in the Horsefly area is called the Quesnel Trough. The Quesnel Trough is a Mesozoic tectonic feature that occurs between the Paleozoic Omineca Crystalline Belt to the east and the oceanic deposited rocks of the Paleozoic Cache Creek group to the west. Deposition within the trough has been predominatly by Triassic-Jurassic volcanics and their minor intercalated volcaniclastic sediments. The volcanic pile, in large, is derived from phreatic eruption and submarine laharic activity. Phreatic centres are identified by the presence of comagmatic felsic intrusives (often with a subvolcanic habit). The Quesnel Trough is an extensive feature, thought to have formed by an Upper Triassic to Lower Jurassic active island arc system. It more or less extends from the United States border to the Yukon border where it becomes known as the Whitehorse Trough. Throughout its length, composition of rocks varies between calc-akaline and distinctly alkaline. In the Horsefly area the trough has a higher alkaline habit. During the late nineteenth century, major placer gold occurrences were worked in several locations within the Horsefly River watershed.

Property Definition (Property Summary)

The area of the Shik claims described in this report can be described as a comagnatic assemblage of volcanic and subvolcanic alkalic rocks. A more mafic unit (formerly described as a basaltic agglomerate) is believed to represent an auto-brecciated formation that originated as a debris slope on the side of a volcanic center. This volcanic breccia has been intruded by a more felsic (also brecciated) unit that has a more pronounced intrusive character. This felsic unit, largely syenite in composition, may have originated in the throat of the volcanic edifice. Distinctly intrusive diorite and syenite dykes cut both the basalt breccia and the subvolcanic breccia.

Extensive and pervasive propylitic alteration have affected both the basaltic breccia and the felsic breccia (epidote-chlorite-calcite). Sulfide mineralization (pyrite, cubanite and chalcopyrite) occur with variable intensities throughout the area of this survey.

Economic interest in the property is largely a reflection of the variable gold and copper content that occurs with the propylitically altered sections (see previous assessment reports [1983 and 1984]).

Summary of Work Completed

* Six kilometers of V.L.F. survey.
* Work was completed on both the Shik 1 and Shik 2 claims.

Electromagnetic Survey (V.L.F.) Theory and Instrumentation

Theory

Propagating electromagnetic fields can induce secondary fields in receiver coils of proper sensitivity. In addition to essentially causing the secondary field to exist, the induction of a secondary field causes a coupling effect between the primary and the induced secondary field so that the amplitude and wave phase relationship of the two fields become changed. In very low frequency electromagnetics, high powered, very low frequency transmitters, in place on a world-wide basis, are employed as the source field for the survey. These transmitters transmit a pulsing very low frequency wave. The propagating very low frequency electromagnetic wave is stratabound, unless it encounters a grounded more conductive medium. At this point, the electromagnetic field becomes earthbound. The very low frequency (V.L.F.) survey measures the presence of an earthbound field through the establishment of an induced secondary field and/or a coupling effect that shifts the wave phase of the primary field. In a V.L.F. survey employing Geonex EM-16 instrumentation a primary earthbound field, hence an earthbound conductor, effectively changes the orientation of the vector ellipse representing the total electromagnetic field at a given point. The instrument established a maximum and a minimum signal as it is rotated through this ellipse. The minimum audio signal of the instrument is calibrated to coincide with the long axis of the field ellipse. In the presence of no secondary field, the ellipse is essentially horizontal, hence the minimum audio signal is received with the instrument in an horizontal orientation. In the presence of a secondary field the long axis of the total field ellipse becomes inclined and hence the minimum signal of the instrument is received in an inclined orientation. This inclination is measured as the dip angle percent (90° inclination being 150%). The out of phase effect of the electromagnetic coupling is measured by shifting the primary field in the instrument to obtain a minimum signal and measuring this phase shift on the precalibrated instrument controls. The out of phase component of the coupling effect is called the quadrature component.

Electromagnetic Responses

As opposed to magnetic susceptibility, many sulfides are good conductors and generate very strong electromagnetic responses. Graphite also gives a strong electromagnetic response. Conversely, magnetite generally gives a weak electromagnetic response. The presence of water in rock units increases the electromagnetic effect. Fault zones containing wet clays can give moderately strong electromagnetic responses, although clay derived responses are normally less than significant sulfide or graphite derived responses.

Instrumentation

The V.L.F. Electromagnetic Survey completed on the Shik Prospect was completed between May 19 and May 20, 1985, using a Geonex EM-16 Electromagnetic receiver. The survey lines in this survey run approximately at right angles to the transmitter located near Seattle, Washington (Freq. 24.8 KH2).

Interpretation of Results

Fifteen line profiles are plotted and are included within this report.

The single-most consistent response obtained is a north-south trending positive crossover running at approximately 75 metres east from line 00N through line 300N. This positive crossover, reflecting some kind of conductive response, is strongest at 275N and 300N. It is presumed that this linear geopyhysical feature probably reflects some kind of structural feature; either a fault, a shear zone or a contact relationship.

An additional apparent conductor occurs in the northeastern corner of the grid along a diagonal trending from 175N, 400E to 275N, 325E. It is likewise presumed to reflect a probable fault or shear zone.

Costs

Labour:	Morton -- May 18 - May 21, 1985 4 days @ $200/day	$800.00
	Durfeld -- May 19 - May 20, 1985 2 days @ $200/day	400.00
	Vehicle Costs -- Vancouver - Williams Lake return; two trips Williams Lake-Horsefly return, 1,488 km @ $.30/km	440.00
	Room & Board -- 6-man days @ $40.00/day	240.00
	Report Preparation	500.00
	Miscellaneous -- flagging and hip chain string	20.00
	TOTAL	$2,400.00

Author's Qualifications

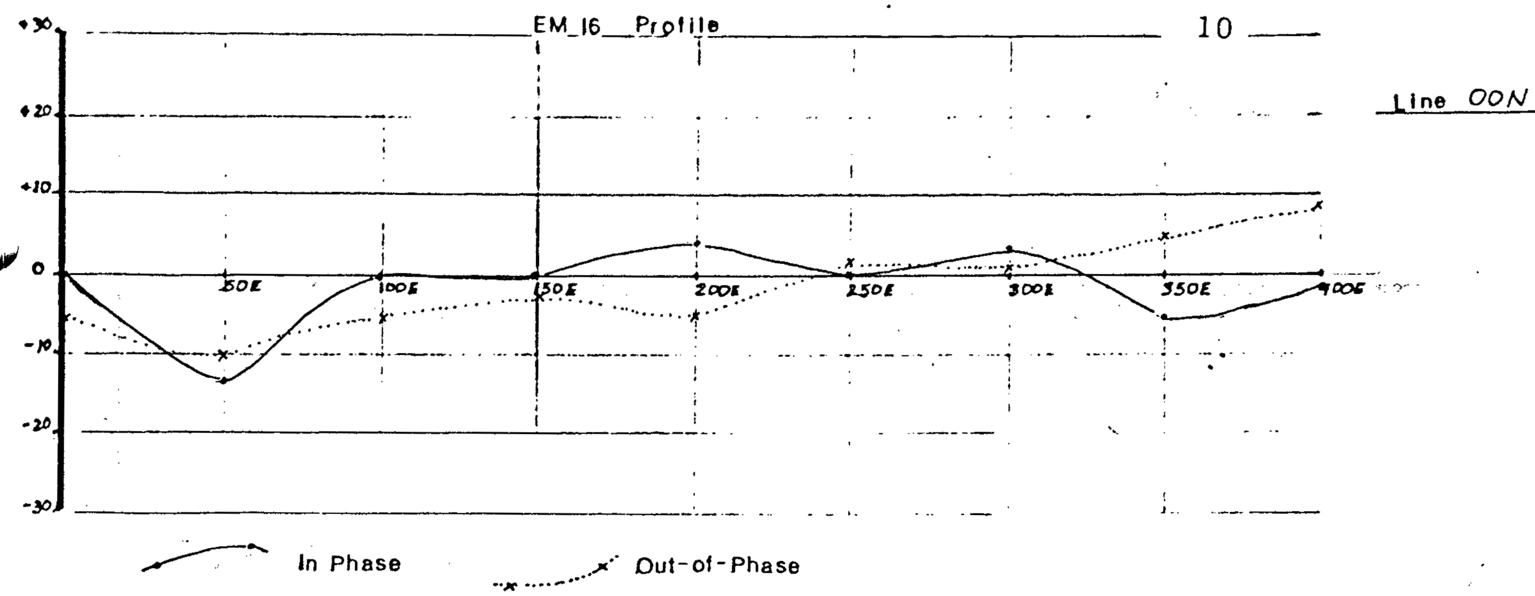
I, JAMES W. MORTON, CERTIFY THE FOLLOWING:

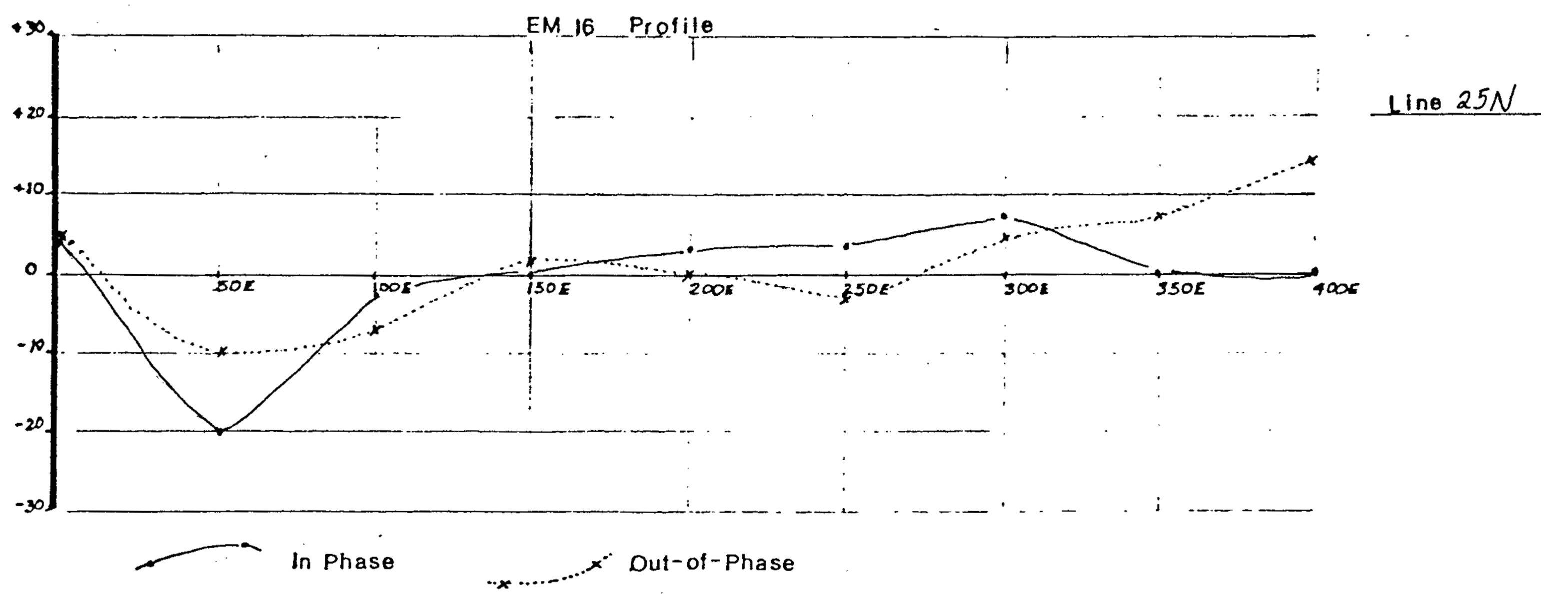
I graduated from Carleton University in 1971 with a Bachelor of Science in Geology.

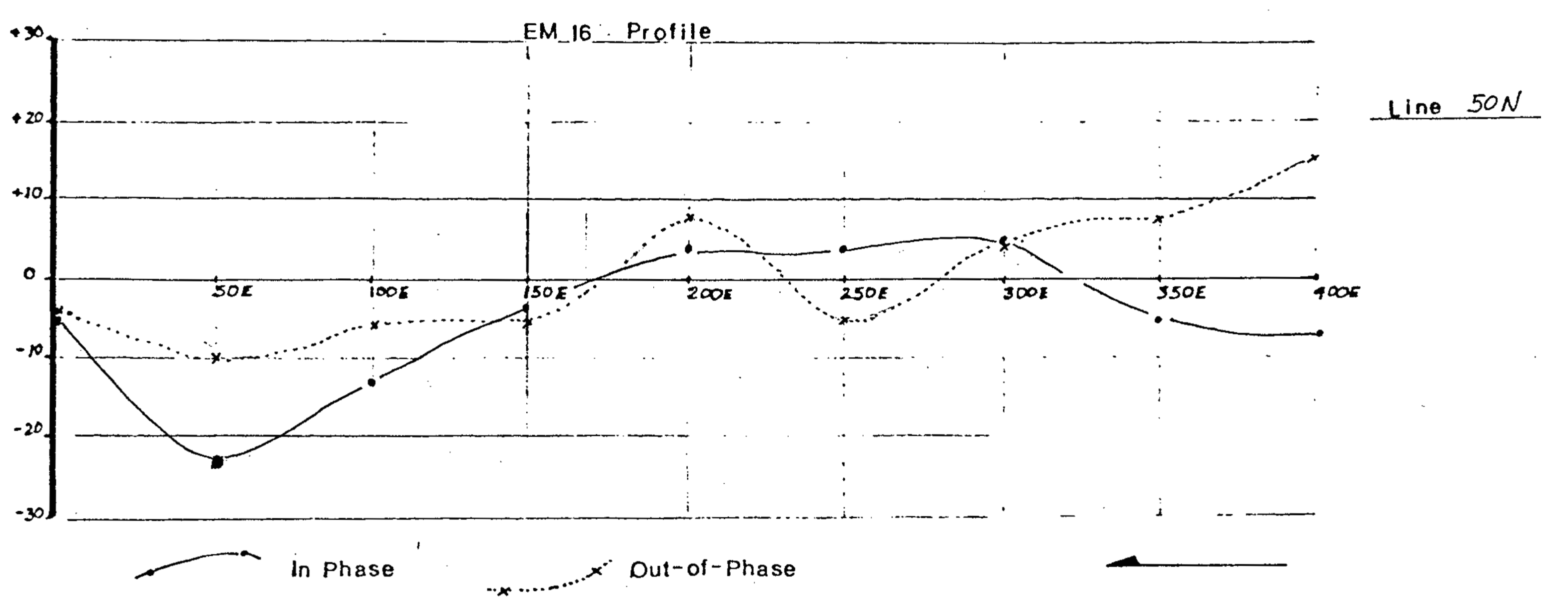
I graduated from the University of British Columbia in 1976 with a Master of Science in Soil Science.

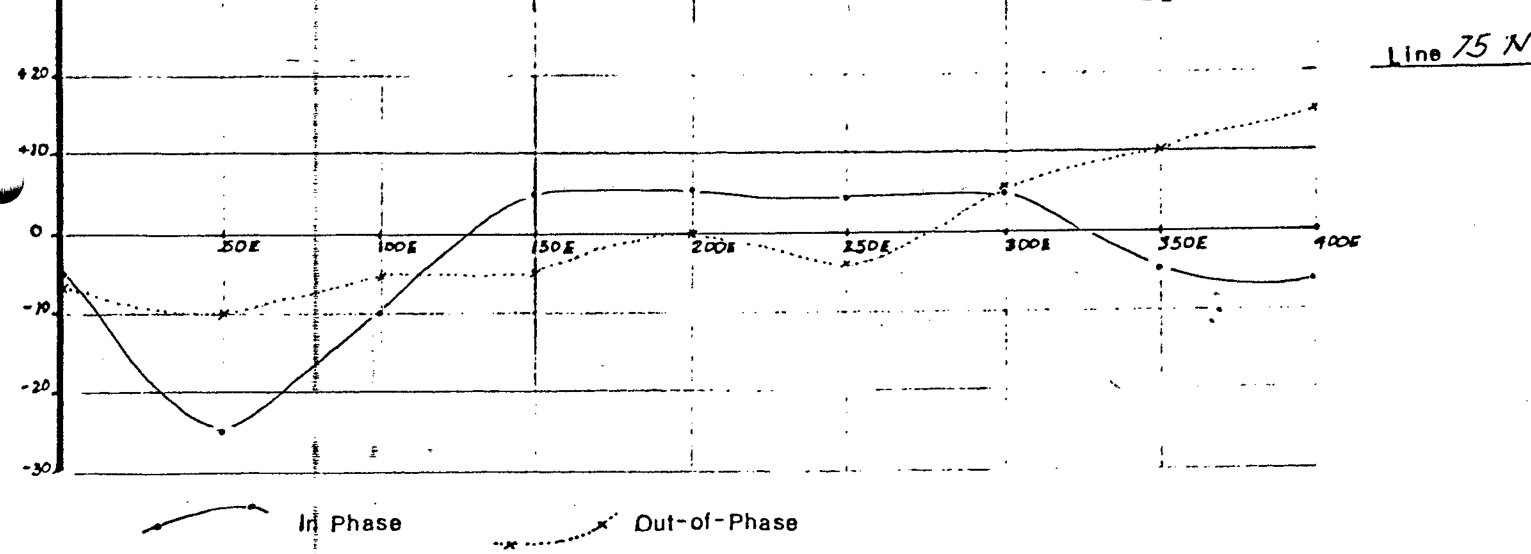
I have worked for various mining and exploration companies since 1968.

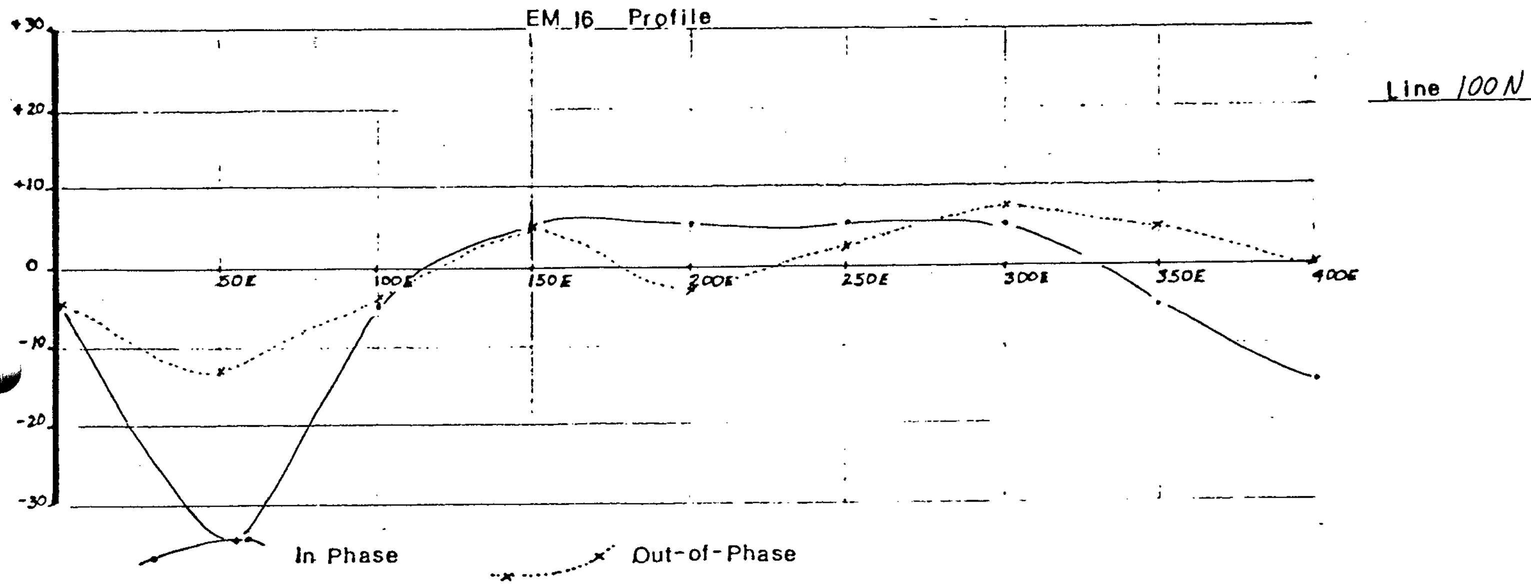
J.W. Morton,
Geologist

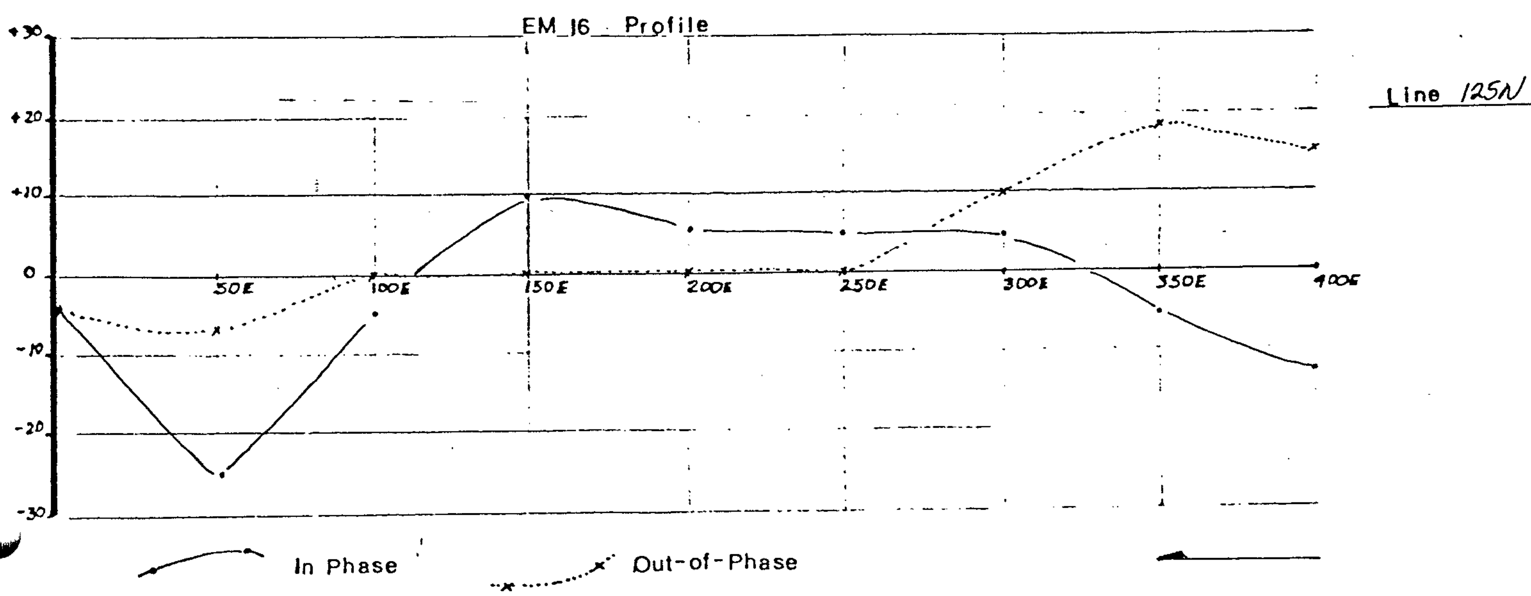

EM 16 Profile
Line 00N
+30
+20
+10
0
-10
-20
-30
50E
100E
150E
200E
250E
300E
350E
400E
In Phase
Out-of-Phase


EM 16 Profile
Line 25N
+30
+20
+10
0
-10
-20
-30
50E
100E
150E
200E
250E
300E
350E
400E
In Phase
Out-of-Phase

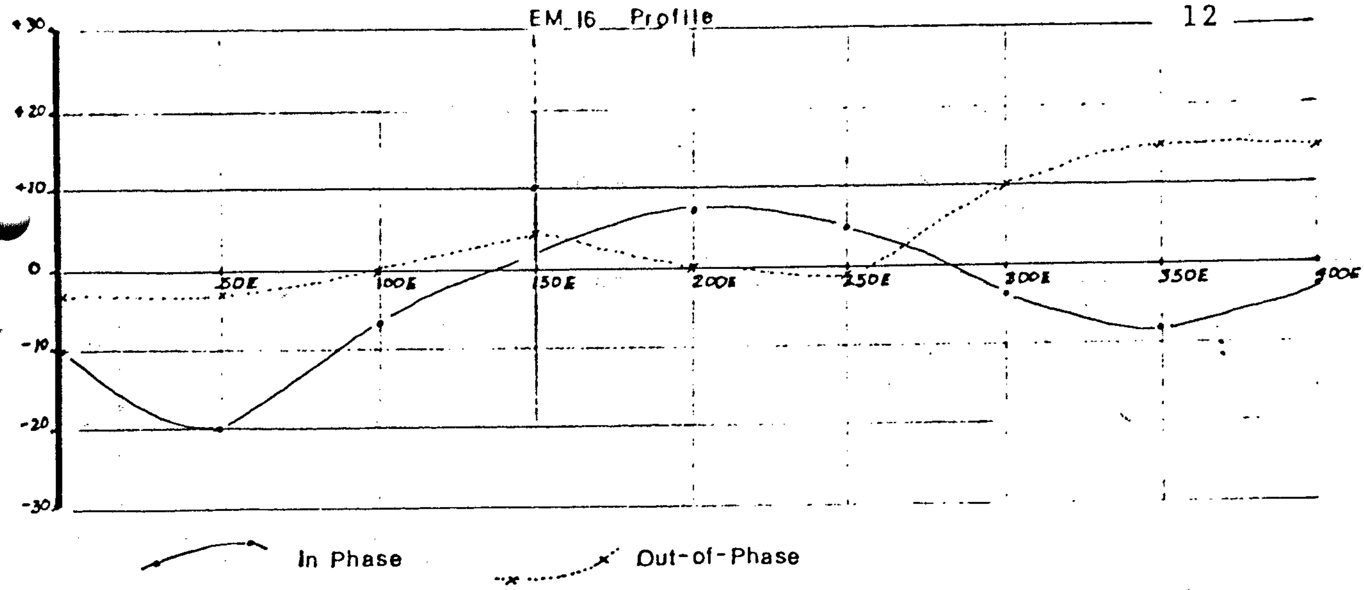

EM 16 Profile
Line 50N
+30
+20
+10
0
-10
-20
-30
50E
100E
150E
200E
250E
300E
350E
400E
In Phase
Out-of-Phase


EM 16 Profile
Line 75 N
+30
+20
+10
0
-10
-20
-30
50E
100E
150E
200E
250E
300E
350E
400E
In Phase
Out-of-Phase

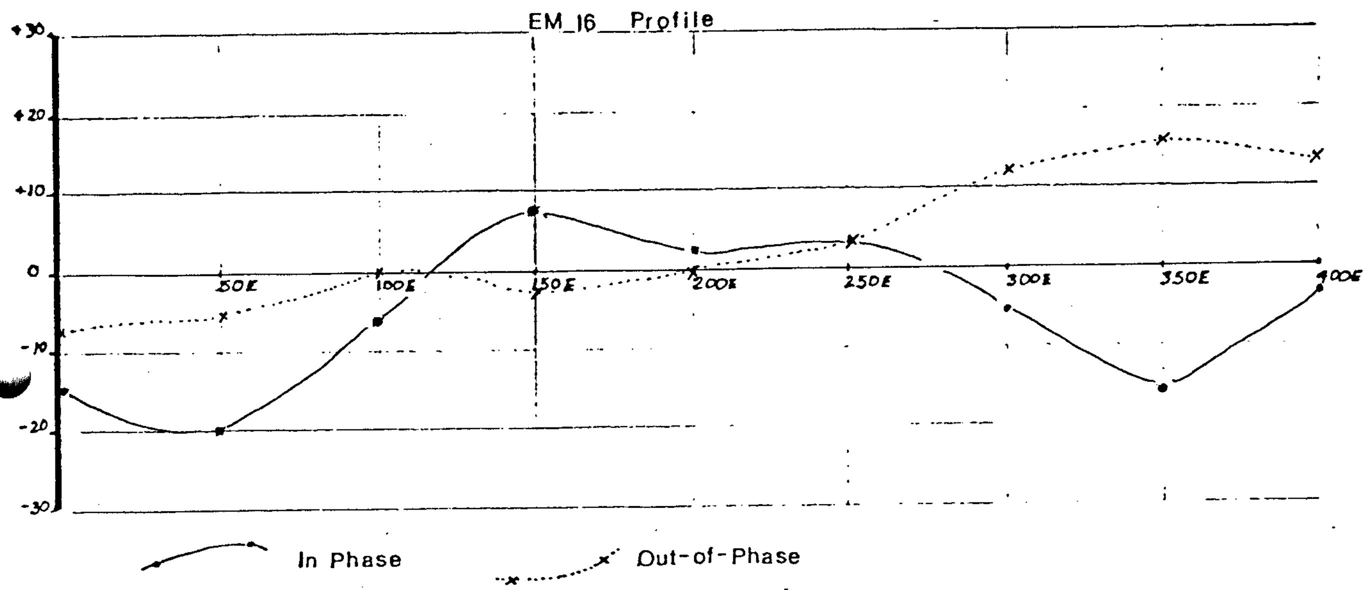

EM 16 Profile
Line 100 N
+30
+20
+10
0
-10
-20
-30
50E
100E
150E
200E
250E
300E
350E
400E
In Phase
Out-of-Phase


EM 16 Profile
Line 125N
+30
+20
+10
0
-10
-20
-30
50E
100E
150E
200E
250E
300E
350E
400E
In Phase
Out-of-Phase

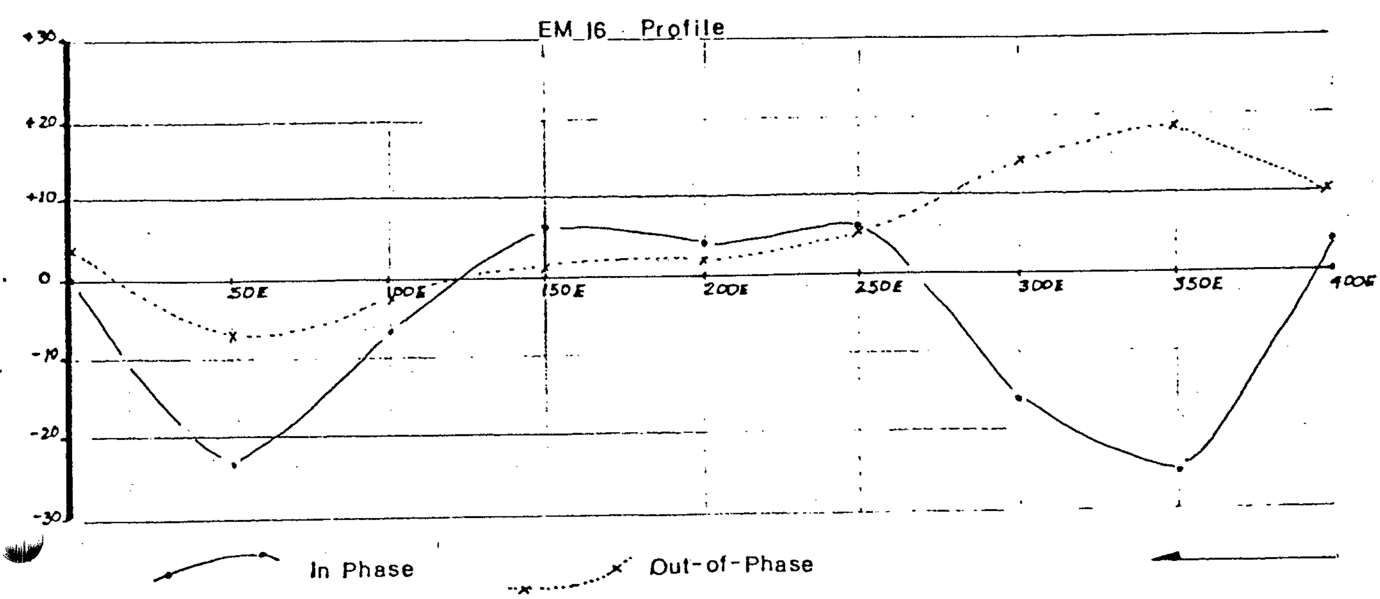
Line 150N

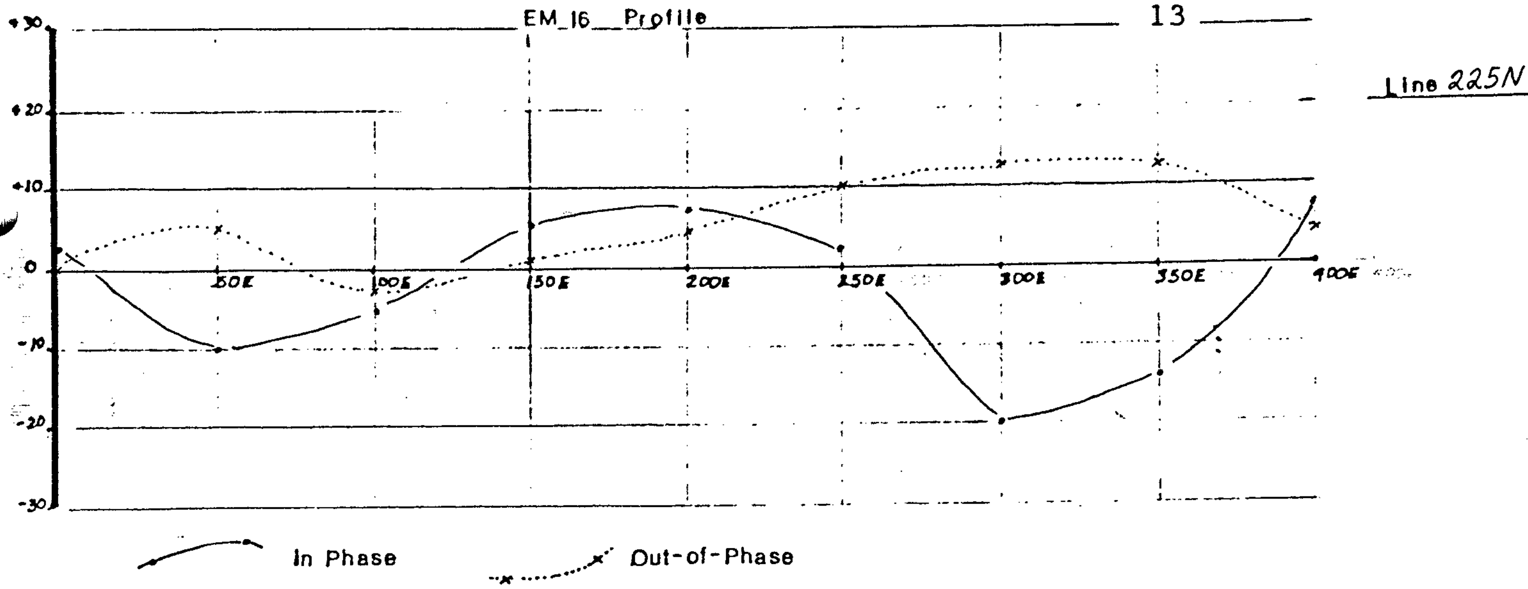


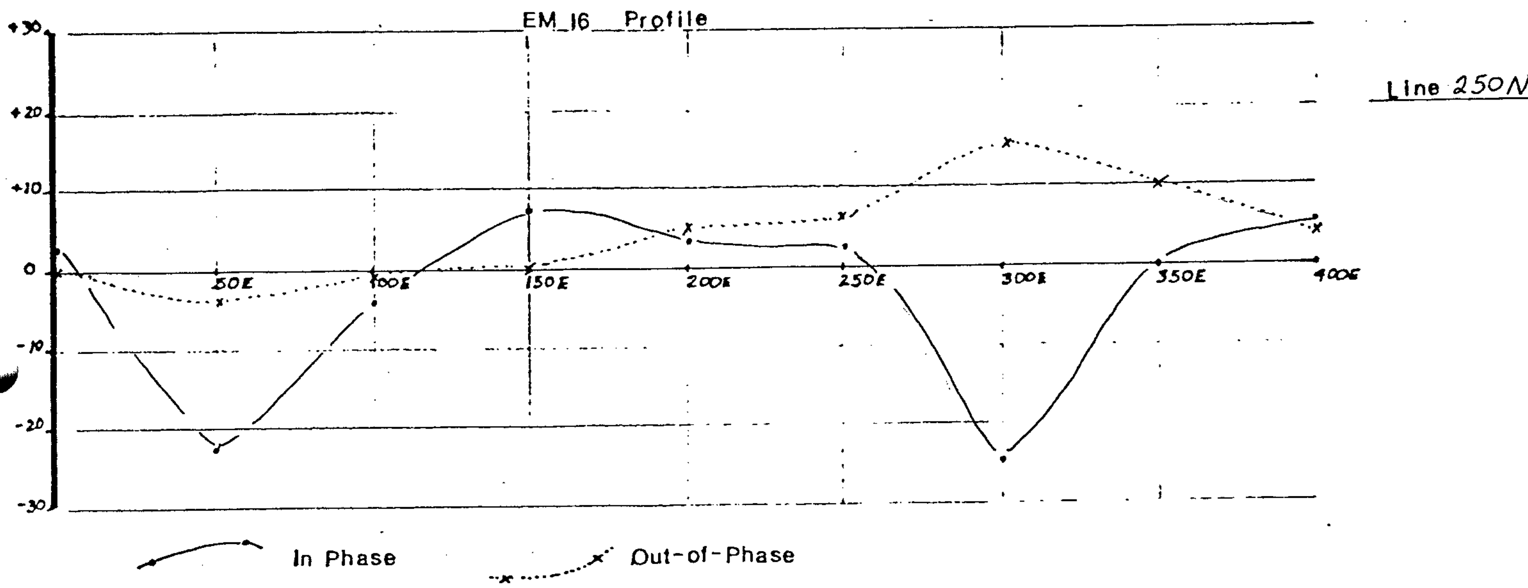
Line 175N

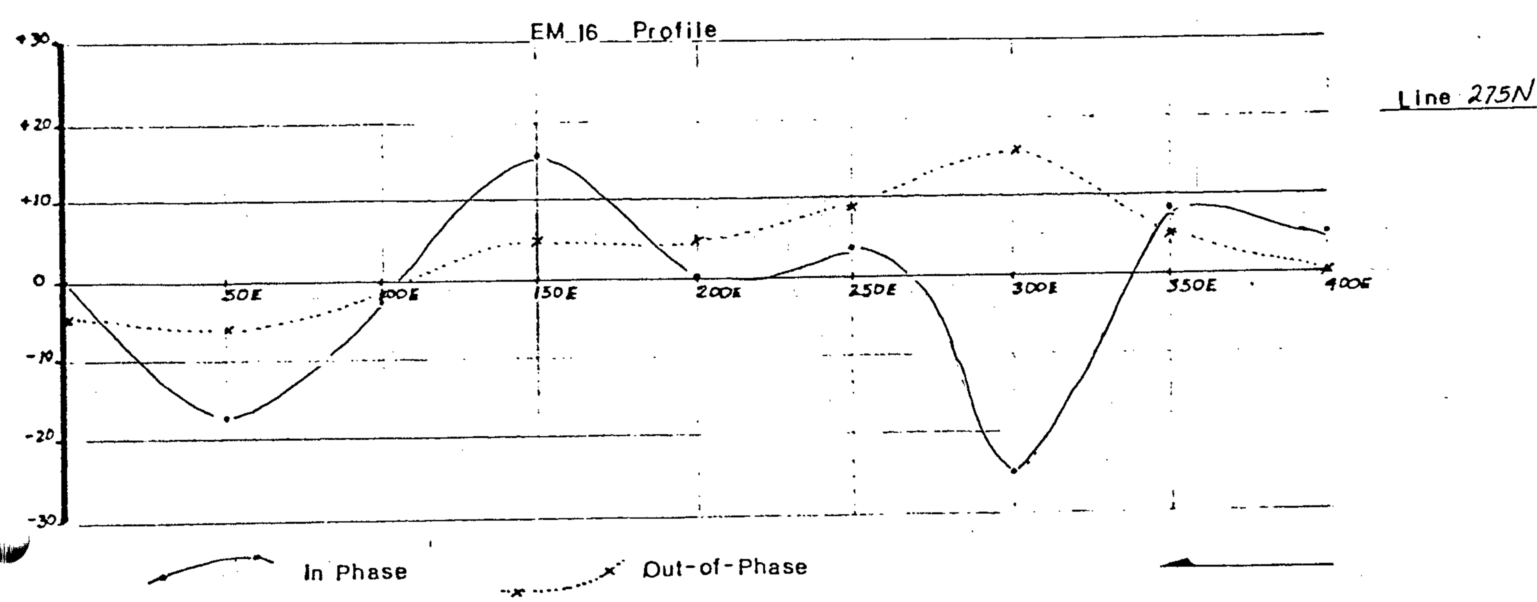


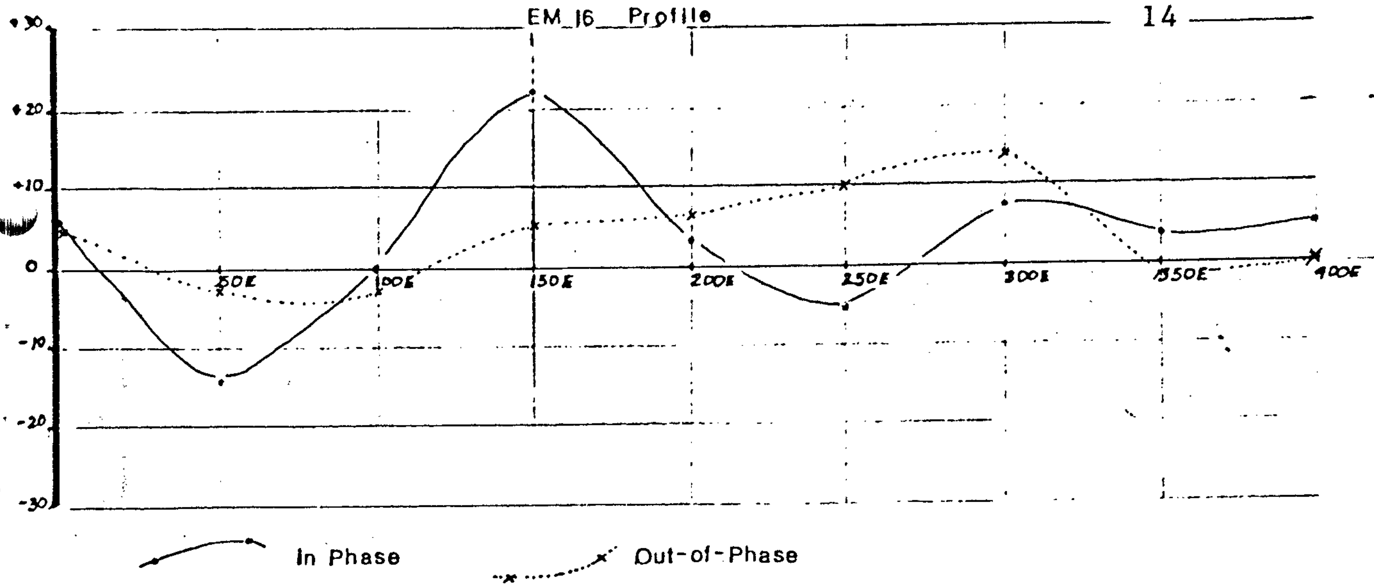
Line 200N



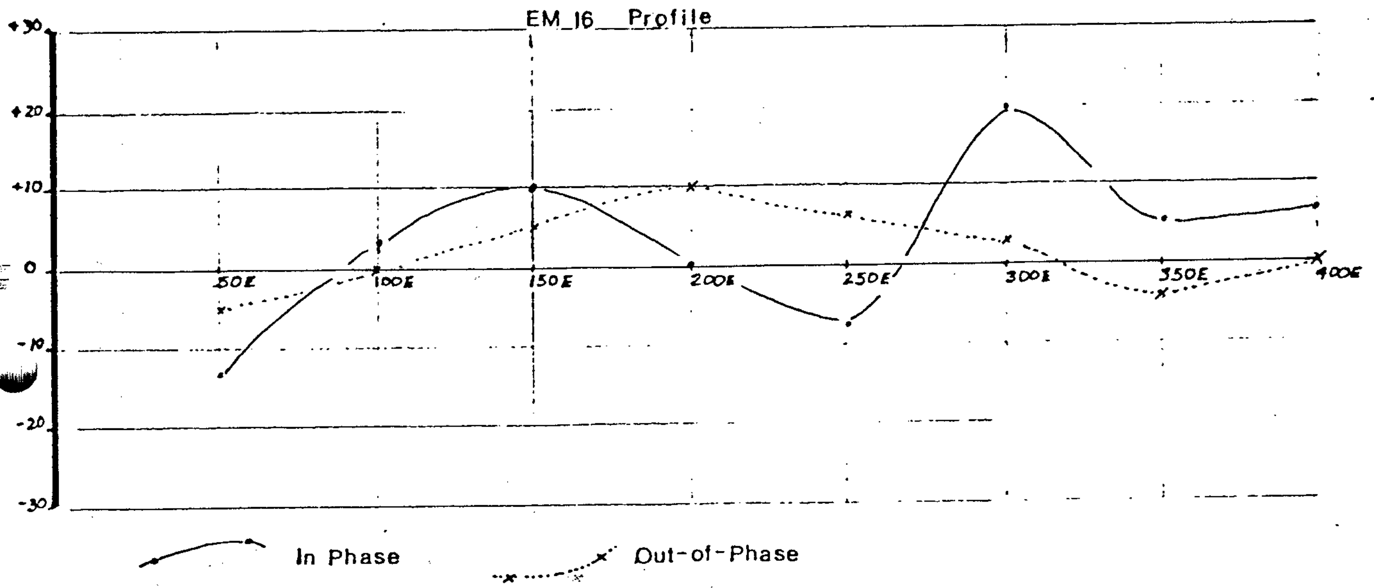

EM 16 Profile
Line 225N
+30
+20
+10
0
-10
-20
-30
50E
100E
150E
200E
250E
300E
350E
400E
In Phase
Out-of-Phase


EM 16 Profile
Line 250N
+30
+20
+10
0
-10
-20
-30
50E
100E
150E
200E
250E
300E
350E
400E
In Phase
Out-of-Phase

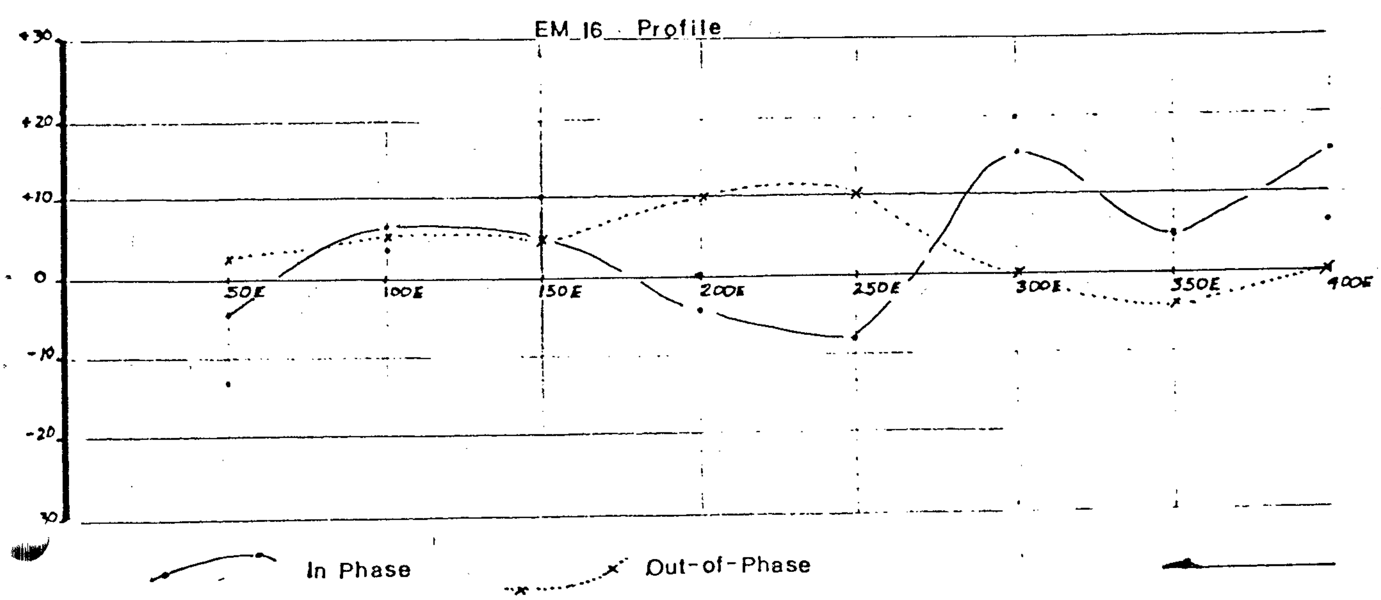

EM 16 Profile
Line 275N
+30
+20
+10
0
-10
-20
-30
50E
100E
150E
200E
250E
300E
350E
400E
In Phase
Out-of-Phase



Line 300N



Line 325N



Line 350N

Station	Dip Angle (Degrees)	Quadrature (Degrees)
00E 150N	-10	-3
50E 150N	-20	-2
100E 150N	-7	0
150E 150N	+10	+4
200E 150N	+8	0
250E 150N	+5	-1
300E 150N	-3	+10
350E 150N	-8	+14
400E 150N	-3	+14
00E 175N	-15	-8
50E 175N	-20	-6
100E 175N	-6	0
150E 175N	+8	-2
200E 175N	+3	0
250E 175N	+3	+3
300E 175N	-5	+12
350E 175N	-16	+16
400E 175N	-2	+13
00E 200N	0	+2
50E 200N	-23	-7
100E 200N	-7	-2
150E 200N	+8	+1
200E 200N	+4	+2
250E 200N	+7	+7
300E 200N	-17	+13
350E 200N	-26	+18
400E 200N	+4	+10
00E 75N	-5	-7
50E 75N	-25	-10
100E 75N	-10	-6
150E 75N	+5	-4
200E 75N	+7	0
250E 75N	+4	-3
300E 75N	+4	+6
350E 75N	-5	+15
00E 100N	-5	-6
50E 100N	-34	-12
100E 100N	-5	-3
150E 100N	+5	+5
200E 100W	+5	-2
250E 100N	+5	+2
300E 100N	+5	+8
350E 100N	-3	+4
400E 100N	-15	0

Station	Dip Angle (Degrees)	Quadrature (Degrees)
00E 125N	-3	-4
50E 125N	-25	-7
100E 125N	-5	0
150E 125N	+10	0
200E 125N	+6	0
250E 125N	+5	0
300E 125N	+4	+10
350E 125N	-5	+18
400E 125N	-12	+14
00E 00N	0	-6
50E 00N	-13	-10
100E 00N	0	-5
150E 00N	0	-2
200E 00N	+3	-4
250E 00N	0	+2
300E 00N	+3	+1
350E 00N	-5	+6
400E 00N	-2	+9
00E 25N	+4	+4
50E 25N	-20	-10
100E 25N	-2	-7
150E 25N	0	+2
200E 25N	+3	0
250E 25N	+3	-2
300E 25N	+8	+5
350E 25N	0	+8
400E 25N	0	+13
0E 50N	-5	-4
50E 50N	-23	-10
100E 50N	-13	-6
150E 50N	-3	-5
200E 50N	+4	+8
250E 50N	+3	-5
300E 50N	+5	+4
350E 50N	-5	+8
400E 50N	-7	+14
00E 225N	+2	0
50E 225N	-10	+5
100E 225N	-5	-2
150E 225N	+6	+1
200E 225N	+8	+5
250E 225N	+3	+10
300E 225N	-20	+12
350E 225N	-13	+12
400E 225N	+8	+5

Station	Dip Angle (Degrees)	Quadrature (Degrees)
00E 250N	+2	0
50E 250N	-22	-3
100E 250N	-3	-1
150E 250N	+8	0
200E 250N	+3	+5
250E 250N	+2	+7
300E 250N	-25	+13
350E 250N	0	+10
400E 250N	+5	+3
00E 275N	0	-4
50E 275N	-18	-5
100E 275N	-2	-1
150E 275N	+15	+5
200E 275N	0	+5
250E 275N	+3	+9
300E 275N	-25	+15
350E 275N	+9	+5
400E 275N	+5	0
00E 300N	+6	+4
50E 300N	-14	-2
100E 300N	0	-2
150E 300N	+22	+5
200E 300N	+3	+7
250E 300N	-5	+10
300E 300N	+8	+13
350E 300N	+3	-1
400E 300N	+5	0
00E 325N	--	--
50E 325N	-13	-4
100E 325N	+3	0
150E 325N	+10	+5
200E 325N	0	+10
250E 325N	-8	+7
300E 325N	+20	+3
350E 325N	+5	-3
400E 325N	+7	0
00E 350N	--	--
50E 350N	-3	+2
100E 350N	+7	+6
150E 350N	+5	+4
200E 350N	-3	+10
250E 350N	-8	+10
300E 350N	+15	0
350E 350N	+5	-3
400E 350N	+15	0