HOLE NUMBER: JS44-01   42A11SW2028 2.20286 JESSOP   010

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 04/13/2000
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: KIDD/HBED/EAL JV
PROJECT NUMBER: 8036
CLAIM NUMBER: 1228133,SpectrEM 506
LOCATION: Jessop Twp.

PLOTTING COORDS GRID: UTM
NORTH: 5382270.00mN
EAST: 471800.00mE
ELEV: 290.00

ALTERNATE COORDS GRID:
NORTH: 1+40S
EAST: 1+ 0W
ELEV: 0.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 236.00M
START DEPTH: 0.00M
FINAL DEPTH: 236.00M

COLLAR ASTRONOMIC AZIMUTH: 135° 0' 0"   GRID ASTRONOMIC AZIMUTH: 315° 0' 0"

DATE STARTED: 03/25/00
DATE COMPLETED: 03/27/00
DATE LOGGED: 03/07/2000

COLLAR SURVEY: YES
RQD LOG: NO
HOLE MAKES WATER: NO

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

CONTRACTOR: Bradley Bros.
CASING: 49.0m
CORE STORAGE: Kidd Creek Minesite
UTM COORD.:

COMMENTS : Drilled to test SpectrEM target 506. Intersected conductive graphitic argillite
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
62.00	134° 0' 0"	-44° 0' 0"	S	OK		-	-	-	-	-	
164.00	141° 0' 0"	-42°30' 0"	S	OK		-	-	-	-	-	
215.00	147° 0' 0"	-41° 0' 0"	S	OK		-	-	-	-	-	
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G. Collins
for D. Stevenson.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 49.00	«┤ob├»	OVERBURDEN				
49.00 TO 109.50	«2,m,<Ch>»	SPOTTY CHLORITE MAFIC VOLCANIC -fine grained massive dark green to grey-green spotty chlorite mafic volcanic -unit consists of 55% hornblende+chlorite and 40% feldspar and 5% calcite -pillow selvages are occassionally present and recongnized by <1.5cm thick chlorite concentrations -white calcite is found as <2mm euhedral crystals (feldspar phenocryst replacement?) -the unit has a distinct spotty appearance due to 1-3mm aggregates of secondary? chlorite. These aggregates comprise up to 25% of the unit.		-pervasive weak to moderate calcite alteration -pervasive weak chlorite alteration	-trace-2% pyrrhotite and trace chalcopyrite in chlorite vein system and trace-2% pyrite, trace chalcopyrite and trace sphalerite in quartz-tourmaline vein system	-Mag. suscept.: 0.33-2.56
		49.00-72.20 This part of the unit is host to moderately dense thin fracture controlled vein system consisting of chlorite+calcite+quartz+sulphides which is overprinted by a thicker vein system consisting of quartz+tourmaline+calcite+sericite+sulphides -at times the areas adjacent to the quartz-tourmaline veins are bleached, strongly calcitic and altered to a light maroon color -the chlorite vein system is an irregular stockwork with no preferred orientation. The veins range in width from <1mm to <0.5cm -the quartz tourmaline veins range in width from <1cm to 30cm and trend from 25 to 55 deg to CA				
		72.20-109.50 This part of the unit is frequently cut by thin (<1cm) to thick (<5cm) white quartz-pyrite-pyrrhotite veins that trend from 20 to 65 deg to CA. Again there is some moderate bleaching and light maroon alteration			-trace-2% dissemianted pyrrhotite, trace dissemianted pyrite	-Mag. suscept.: 0.34-1.12

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		associated with the veining. The bleaching and maroon alteration extends for 10-20cm from the edge of the vein. 92.70-95.00 There is a 1-2cm quartz-tourmaline? vein located at 93.56 that appears to have a halo of 2-3% disseminated masses of pyrrhotite over the indicated width 109.10-109.50 Quartz-albite-calcite vein with 2-4% disseminated to masses of pyrite and trace sphalerite. Upper contact sharp at 10 deg to CA. Maroon alteration extends for 75cm beyond the upper vein edge. -lower unit contact sharp at 50 deg to CA				
109.50 TO 112.10	«5,g»	GRAPHITIC MUDSTONE-ARGILLITE -fine grained finely laminated to thinly bedded black graphitic mudstone-argillite -laminations/bedding are 50 deg to CA -the unit contains occassional interbedded layers (<2cm thick) of poorly cubic pyrite. Pyrite cubes are <2mm in diameter -unit is locally insitu-brecciated 111.83-112.00 40-50% interbedded pyrite -lower unit contact broken		-no distinct alteration present	-1-3% poorly cubic pyrite -40-50% interbedded pyrite	-Mag. suscept.: 0.02-0.18 -Strongly conductive
112.10 TO 116.00	«6,L»	PERIDOTITE -fine to medium grained dark grey-green spotty peridotite -unit is comprised of 25% rounded black olivine phenocrysts (now pseudomorphed to pyroxene?), 60% hornblende and 15% feldspar -the unit has a distinct spotty texture due to the rounded black olivine phenocrysts. These phenocrysts coarser grained (<2mm) in the center		-pervasive weak chlorite alteration	-no visible sulphides present	-Mag. suscept.: 0.40-10.1

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		of the unit and much finer grained at the edges (<<1mm)				
		-rare <<1mm calcite veins cut the unit				
		115.25-115.35 White quartz-calcite-graphite breccia		-strong calcite alteration	-1-2% pyrite masses	
		115.35-115.50 Peridotite				
		115.50-116.00 White quartz-calcite-graphite breccia		-strong calcite alteration	-1-2% pyrite masses	
		-lower unit contact sharp at 30 deg to CA				
116.00 TO 144.50	«5,g,W»	WEAKLY GRAPHITIC GREYWACKE		-pervasive weak calcite alteration	-trace to locally up to 2% disseminated to cubic pyrite	-Mag. suscept.: 0.06-0.45
		-fine grained massive to thinly laminated to thinly bedded dark grey weakly graphitic greywacke				
		-laminations/bedding trend 25-35 deg to CA				
		-<5% flat (<2cm by <2mm) graphite fragments are scatter throughout the unit				
		-unit is locally weakly fractured to insitu-brecciated. The fractures and brecciated areas are in-filled with graphite.			-1-2% cubic pyrite	
		116.00-131.00 This part of the unit contains 1-2% irregular cubic pyrite. Cubes/masses are 1-3mm in diameter				
		124.90-125.15 Fault zone (highly broken core)			-1-2% pyrite masses	
		130.00-130.10 White quartz-calcite vein trending 70 deg to CA				
		133.00-133.20 Fault zone (highly broken core)			-1-3% disseminated pyrite on fracture surfaces	
		138.00-138.15 Fault zone? (highly broken core)				
		139.55-139.65 Fault zone? (highly broken core)				
		-lower unit contact gradational				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
144.50 TO 155.58	«5,g,a»	GRAPHITIC MUDSTONE-ARGILLITE		-pervasive weak calcite alteration	-trace to 2% disseminated pyrite	-Mag. suscept.: 0.00-0.45
		-fine grained thinly laminated to thinly bedded black graphitic mudstone-argillite				-Non to locally strongly conductive
		-laminations/bedding trend 50-55 deg to CA				
		-unit contains several (<5%) quartz-calcite argillaceous fragments? that often host fine disseminated pyrite. These fragments are <1.5cm by <0.5cm and often oval in shape.				
		-the unit is frequently cut by thin (<1mm) white calctie veinlets trending 55-70 deg to CA				
		152.15-155.58 Fault zone/graphite fault paste (highly broken core)				
		152.90-152.95 White calcite quartz vein		-strong calcite alteration	-no visible sulphides	
		155.00-155.58 10cm lost core				
		-lower unit contact sharp at 30 deg to CA				
155.58 TO 166.66	«5,g,F»	WEAKLY GRAPHITIC GREYWACKE				
		-fine to medium grained massive to locally thinly laminated light to dark grey weakly graphitic greywacke				
		-this unit is distinctly different from the upper greywacke in that it is slightly coarser grained				
		-unit is comprised of 90% quartzo-feldspathic fragments...				
155.58 TO 175.20	«5,g,F»	WEAKLY GRAPHITIC GREYWACKE		-pervasive weak calcite alteration	-trace to locally 1-2% disseminated cubic pyrite, trace to 1% pyrrhotite	-Mag. suscept.: 0.09-1.17 (po)
		-fine to medium grained massive to locally thinly laminated light to dark grey weakly graphitic greywacke				
		-this unit is distinctly different from the upper greywacke in that it is slightly coarser grained				
		-unit is comprised of 90% quartzo-feldspathic				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		fragments, 5% graphitic argillaceous matrix, 4% graphitic mudstone fragments and 1% disseminated and fragmental pyrite -the quartzo-feldspathic grains are angular and <3mm in diameter while the graphitic mudstone fragments can be up to 2cm by <0.3mm. Pyrite fragments can have similar dimensions as the graphitic mudstone fragments. -unit is periodically cut by <5cm white quartz-calcite-chlorite veins trending 30-35 deg to CA 160.10-160.71 Fault zone (highly broken core) with 3-<5cm white quartz-calcite veins. 20cm of lost core. Core fragments are porous. Drillers noted at water seam at this location. 161.00-161.23 Fault zone (highly broken core) with white quartz-calcite vein fragments. 10cm of lost core. 161.65-161.68 Fault zone (highly broken core). Core is porous for 2-5cm adjacent to the fault zone 168.60-170.00 Fracture/fault zone. The greywacke is host to several large (>10cm by 3cm) irregular pyrite-pyrrhotite-bearing graphitic mudstone clasts and as a result the fracturing and faulting has focused within this section. 170.75-171.75 Fault/fracture zone (highly broken and porous core) 172.65-172.77 Fault zone (highly broken core) 173.30-173.40 Fault zone (highly broken and porous core) -lower unit contact gradational at 60 deg to CA			-trace to 5% cubic pyrite -trace to 1% disseminated pyrite -trace to 1% disseminated pyrite on fracture surfaces -1-2% pyrite masses, 1-2% pyrrhotite masses	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
175.20 TO 194.82	«5,F»	GREYWACKE -as above however the graphite component is very minor to non existent				
175.20 TO 196.80	«5,F»	GREYWACKE -fine grained massive to locally faintly thinly laminated light to dark grey-green greywacke -as above however the graphite component is very minor to non existent and the grain size has decreased to fine grained -laminations trend 30 deg to CA -the unit is host to several 30-75cm sections where the core is very porous, due to water interaction -unit is rarely cut by white quartz-calcite veins and veinlets 175.55-175.82 Fracture zone (highly broken and porous core) 177.13-177.35 Fracture zone (highly broken and porous core) 177.87-179.00 Fault/fracture zone (highly broken and porous core) 179.95-180.75 Fault/fracture zone (highly broken and porous core) White quartz-calcite vein (<0.5cm) is nearly completely eroded 181.48-181.55 Fault zone (highly broken core) 182.25-182.55 Barren white quartz-chlorite-calcite vein trending 30 deg to CA 183.17-183.50 Fault/fracture zone (highly broken core)		-pervasive weak calcite alteration	-trace disseminated pyrite	-Mag. suscept.: 0.22-0.33

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		184.45-184.70 Fault/fracture zone (highly broken and porous core) White quartz-calcite vein is partially eroded. 194.05-194.20 Fault/fracture zone (highly broken core) 194.20-194.40 <5% rounded (2-3mm) calcite nodules 194.58-194.61 Barren white quartz-calcite vein trending 30 deg to CA 195.20-195.70 <5% rounded (1-4mm) calcite nodules -lower unit contact sharp at 30 deg to CA				
196.80 TO 230.75	«5,g,a»	GRAPHITIC MUDSTONE-ARGILLITE -fine grained thinly (<1cm) laminated to thickly (>1m) bedded black to grey graphitic mudstone to argillite -unit consists of continuous alternations of laminations and beds of black graphitic mudstone-argillite and grey weakly graphitic argillite-greywacke ╣208.60╠ «┤S0 30°├» -graded and crossbedding at 208.60 suggests younging direction is downhole 200.20-200.40 Brecciated barren white quartz-calcite veining 201.00-203.00 Lost/ground core 205.10-205.35 Fracture zone (moderately broken core) 212.20-212.85 Fault/fracture zone (highly broken core) 215.75-219.20 Strong graphitic fault zone/gouge		-pervasive weak calcite alteration	-trace-1% disseminated and masses of pyrite, trace disseminated pyrrhotite	-Mag. suscept.: 0.09-0.98 -Non- to locally moderately conductive

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		(zone consists of small (<2cm) fragments of graphitic mudstone-argillite and graphitic paste) Slickenslides are evident on fragments. 1.45m lost core. 219.20-230.75 This part of the unit is cut by numerous thin (<2mm) white calcite veins and veinlets that are spaced 0.5-1.0cm apart. The veins and veinlets are weak to locally strongly (ptygmatic) folded. Calcite veining is trending 30 deg to CA. This part of the unit also contains occassional narrow (<3cm) layers of near massive cubic pyrite and pyrrhotite -lower unit contact sharp at 30 deg to CA			-trace to locally near massive cubic pyrite over <3cm intervals, trace-1% disseminated pyrrhotite	
230.75 TO 236.00	«5,F,g»	WEAKLY GRAPHITIC GREYWACKE -fine graind massive dark grey-black weakly graphitic greywacke -unit is occassionally cut by thin (<3mm) white quartz-calcite veinlets -unit is weakly fractured with graphite coating thy fracture planes -fractures and veining are trending 60 deg to CA		-pervasive weak calcite alteration	-trace-1% disseminated cubic pyrite, trace disseminated pyrrhotite	-Mag. suscept.: 0.54-0.67
236.00 TO 236.00	«EOH»					-33 BQ boxes

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Sb ppm
AU07950	53.00	54.50	1.50	97	141	13	35.0	3	0									
AU08551	59.00	60.50	1.50	88	120	17	41.0	7	0									
AU08552	60.50	62.00	1.50	91	131	6	42.0	0	0									
AU08553	92.70	93.85	1.15	60	155	1	40.0	3	0									
AU08554	93.85	95.00	1.15	32	168	1	37.0	7	0									
AU08555	108.50	109.50	1.00	133	149	3	40.0	0	0									
AU08556	109.50	110.80	1.30	218	2230	34	148.0	0	1									
AU08557	110.80	112.10	1.30	219	1840	38	149.0	3	1									
AU08558	115.25	116.00	0.75	37	84	11	98.0	10	0									
AU08559	143.00	144.50	1.50	22	277	10	14.0	10	0									
AU08560	144.50	146.00	1.50	27	212	9	16.0	7	0									
AU08561	146.00	147.50	1.50	30	176	11	13.0	10	0									
AU08562	147.50	149.00	1.50	45	240	8	23.0	7	0									
AU08563	149.00	150.50	1.50	59	323	12	30.0	3	0									
AU08564	150.50	152.00	1.50	63	375	7	39.0	10	0									
AU08565	152.00	153.50	1.50	61	535	10	58.0	10	0									
AU08566	153.50	155.58	2.08	67	382	19	44.0	7	0									
AU08567	155.58	157.08	1.50	53	192	1	25.0	0	0									
AU08568	214.25	215.75	1.50	10	60	3	6.0	0	0									
AU08569	219.20	220.70	1.50	62	371	8	27.0	3	0									
AU08570	220.70	222.20	1.50	28	106	4	10.0	3	0									
AU08571	222.20	223.70	1.50	31	158	6	17.0	7	0									
AU08572	223.70	225.20	1.50	55	247	14	27.0	3	0									
AU08573	225.20	226.70	1.50	133	695	23	68.0	7	0									
AU08574	226.70	228.20	1.50	141	570	17	67.0	7	0									
AU08575	228.20	229.70	1.50	39	121	8	22.0	0	0									
AU08576	229.70	230.75	1.05	38	147	4	23.0	3	0									

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	CO2 %	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
KA04478	68.00	71.00	3.00	40.42	11.23	8.86	4.19	3.28	0.48	15.70	2.59	0.42	0.27		11.88	99.32	45	200					80	250	240	110	2,<Ch>,2(h)yz		89
KA04479	104.00	107.00	3.00	43.22	12.44	7.06	4.20	3.00	0.52	14.97	2.91	0.47	0.25		10.33	99.37	55	220					40	335	335	125	2,<Ch>,2(h)yz		118

Sample	From (M)	To (M)	Leng. (M)	AG PPM	AU PPB	CO PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	SE PPM	HF PPM	TA PPM	W PPM	MO PPM	TH PPM	U PPM	B PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM
KA04478	68.00	71.00	3.00			80		6100	455																				
KA04479	104.00	107.00	3.00			85		6100	480																				

Sample	From (M)	To (M)	Leng. (M)	DY PPM	ER PPM	LU PPM	OS PPB	IR PPB	RU PPB	RH PPB	PT PPB	PD PPB	LI PPM	BE PPM	MN PPM	GA PPM	GE PPM	IN PPM	TL PPM	SC PPM	BR PPM	YB PPM	NB PPM	HG PPB	MGO#	CA/AL	NI/MGO	ISHIKW	ZN/NA2
KA04478	68.00	71.00	3.00											20						45			10		0.39	0.79	57	28	76
KA04479	104.00	107.00	3.00											20						45			<10		0.40	0.57	80	32	112

HOLE NUMBER: JS51-02 **42A11SW2028 2.20286 JESSOP** **020**

FALCONBRIDGE LIMITED
DRILL HOLE RECORD

DATE: 04/13/2000
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: KIDD/HBED/EAL JV
PROJECT NUMBER: 8036
CLAIM NUMBER: Prop#JV7, Spect Targ#536
LOCATION: NW Jessop TWP

PLOTTING COORDS GRID: UTM
NORTH: 5383046.00N
EAST: 466399.00E
ELEV: 290.00

ALTERNATE COORDS GRID: J36 Grid
NORTH: 12+ 0mN
EAST: 13+ 0mE
ELEV: 290.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 165.00M
START DEPTH: 0.00M
FINAL DEPTH: 165.00M

COLLAR ASTRONOMIC AZIMUTH: 155° 0' 0"

GRID ASTRONOMIC AZIMUTH: 65° 0' 0"

DATE STARTED: 03/25/1999
DATE COMPLETED: 03/26/1999
DATE LOGGED: 04/15/1999

COLLAR SURVEY: NO
RQD LOG: NO
HOLE MAKES WATER: YES

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

CONTRACTOR: Bradley Bros.
CASING: 26
CORE STORAGE: Minesite
UTM COORD.:

COMMENTS : Collared on P1228121
Intersected Po from 98.0 to 100.0m
WEDGES AT:

DIRECTIONAL DATA:

Depth (M)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
35.00	157° 0' 0"	-48° 0' 0"	S	OK	
95.00	162° 0' 0"	-48° 0' 0"	S	OK	Az may be affected by Po
152.00	0° ' "	-48° 0' 0"	A	OK	Bad Azimuth due to Po
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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 25.00	«┤ob├»					
25.00 TO 71.00	«2,p,n,*e»	PILLOWED MAFIC VOLCANICS -Dark green, fine grain pillowed mafic volcanics. -Primary textural features are well preserved. Pillows have massive, weakly brecciated non vesicular interiors, and become increasingly brecciated to fragmental in texture toward pillow margins. Pillow selvages are well defined, commonly containing abundant hyaloclastite material. Selvages commonly are infilled by carbonaceous material. -Pillow margins often develop variolitic devitrification textures related to initial quenching during formation. -No conclusive facing directions were obtained, due to lack of determining features. -Selvages frequently cut the core at angles ranging between 45 and 60°. -Downhole contact is indistinct, marked by a gradual increase in selvage controlled Po and inversely, a decrease in carbonaceous material.		-Fracture controlled carbonaceous material infills all fractures and selvages. -Minor fracture controlled carbonate alteration. -Qtz/carbonate veining containing minor buff coloured axinite observed between 39.7 and 40.3m	-Trace selvage controlled Po developed towards downhole contact.	
71.00 TO 98.90	«2,p,s»	SULPHIDIC PILLOWED MAFIC VOLCANICS -Dark green, fine grain pillowed mafic volcanics. -Unit is similar in appearance to previous unit, but locally hosts up to 20% Po. -Po infills fractures and selvages, gradually increasing in concentration between 83.0 and 92.5m. Po content drops off below 92.5m. -Within strongly sulphidic zone, pillow selvages and selvage hosted mafic fragments are strongly bleached, and white in colour. -Downhole contact is gradual, marked by a decrease in Po mineralization.		-Moderate to strong fracture and selvage controlled carbonate alteration. Pervasive carbonatization is weak. -Qtz/carbonate viening accompanies selvage controlled mineralization between 83.5 and 83.7m, and 91.25 and 91.35m.	-From 71.0 to 83.0m, selvage controlled Po occupies 2% of core. -Between 83.0 and 92.5m, selvage controlled Po and minor Py is 10-15% abundant. Trace amounts of fine disseminated red spalerite are observed throughout interval. -Intervals of semi-massive (30-35%) Po containing brecciated nodular textured Py and trace Sph are observed between 87.4 and 87.95m, and 88.95 and 89.45m. ╢83.0-92.5╟ «10-15% Po,Tr Sph» -Downhole from 92.5m, Po content drops	-Po mineralization strongly conductive and magenetic. -Target HLEM conductor.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					off to between 1 to 2%.	
98.90 TO 113.45	«2,p,n,e»	PILLOWED MAFIC VOLCANICS -Dark green, fine grain pillowed mafic volcanics. -Mafics are similar in appearance to pillowed mafic unit logged at top of hole. Pillows are well defined, characterized by massive to insitu brecciated interiors, and hyaloclastite bearing selvages. Well developed variolitic quench textures occur around pillow margins. -Unit becomes increasingly harder towards downhole contact. Mafics change from dark green to olive green/black in colour. Colour/hardness change appears to be related to a contact metamorphic effect related to the diabase. -Downhole contact is broken.		-Minor qtz/carbonate veining. -Pervasive silicification/epidotization increases towards lower contact. Alteration may be a contact metamorphic effect, caused by the underlying basic dyke.	-Trace selvage controlled Po. -Trace disseminated Py observed around lower contact.	
113.45 TO 131.30	«10,a»	DIABASE DYKE -Fine to medium grained, dark green to black, plagioclase phyric diabase dyke. -Grain size becomes extremely fine around uphole and downhole contacts, indication chilling against mafics. -Uphole contact is sharp, 50° TCA. -Diabase is massive, and weakly fractured. -Minor gash filling chlorite occurs throughout unit. -Medium grained sections within interior of dyke exhibit well developed ophitic texture. -Downhole contact is broken.		-Weak pervasive carbonatization.	-Diabase hosts trace disseminated Py.	-Moderate to strongly magnetic.
131.30 TO 164.00	«2,p,n,*e»	PILLOWED MAFIC VOLCANICS -Dark green, fine grained pillowed variolitic mafic volcanics. Mafics host minor amounts of selvage controlled Po. -From uphole contact to 142.0m, unit is strongly		-Strong silicification/epidotization developed around uphole contact. -Minor fracture controlled qtz/carbonate veining.	-Fracture and selvage controlled Po hosting trace fine disseminated Cp observed between 134.0 and 143.0m. ╡134.0-143.0╞ «1-3% Po»	-Several strongly conductive intervals noted between 150.5 and 157.1m.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		silicified/epidotized due to contact metamorphic effects caused by the diabase dyke. Hyaloclastite textures are enhanced by epidotization. -Interval hosts 1 to 3% fracture and selvage controlled Po. -Between 150.0 and 157.1m, unit becomes strongly bleached/albitized and hosts selvage controlled Po. -Slug of barren massive Po observed between 155.65 and 156.1m. ╡155.65-156.1╞ «Ms Po»		-Fracture controlled to pervasive carbonate, and qtz/albite alteration bleaches zone hosting Po mineralization between 150.0 and 157.1m. -Minor fracture and selvage controlled carbonaceous alteration.	-Selvage controlled Po developed between 150.5 and 157.1m. -Massive Po intersected between 156.65 and 157.1m. ╡150.5-155.65╞ «2-3% Po» ╡155.65-156.1╞ «75% Po, TrPy,Cp» ╡156.1-157.1╞ «2% Po»	
164.00 TO 164.00	«EOH»					

Sample	From (M)	To (M)	Leng. (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Cu/Zn	Co ppm	Pt ppb	Pd ppb	S ppm	Se ppm	As ppm	Hg ppb	Sb ppm
AU04601	75.50	77.00	1.50	61	175	1	25.0	0	0									
AU04602	77.00	78.50	1.50	58	179	1	22.0	0	0									
AU04603	78.50	80.00	1.50	42	192	1	18.0	0	0									
AU04604	80.00	81.50	1.50	54	178	1	25.0	0	0									
AU04605	81.50	83.00	1.50	52	217	1	23.0	0	0									
AU04606	83.00	84.50	1.50	122	525	2	36.0	0	0									
AU04607	84.50	86.00	1.50	47	194	1	43.0	0	0									
AU04608	86.00	87.50	1.50	48	232	1	40.0	7	0									
AU04609	87.50	89.00	1.50	56	147	1	47.0	0	0									
AU04610	89.00	90.50	1.50	61	131	1	48.0	0	0									
AU04611	90.50	92.00	1.50	43	161	1	41.0	7	0									
AU04612	92.00	93.50	1.50	37	177	1	42.0	24	0									
AU04613	93.50	95.00	1.50	29	196	1	34.0	0	0									
AU04614	95.00	96.50	1.50	55	204	1	23.0	3	0									
AU04615	96.50	98.00	1.50	65	212	2	27.0	0	0									
AU04616	98.00	98.90	0.90	60	292	1	38.0	0	0									
AU04617	135.50	137.00	1.50	57	133	1	27.0	0	0									
AU04618	137.00	138.50	1.50	62	230	3	28.0	0	0									
AU04619	138.50	140.00	1.50	51	123	1	25.0	0	0									
AU04620	140.00	141.50	1.50	69	173	2	25.0	3	0									
AU04621	152.50	154.00	1.50	30	144	1	43.0	34	0									
AU04622	154.00	155.65	1.65	36	165	1	35.0	0	0									
AU04623	155.65	156.10	0.45	152	233	3	93.0	0	0									
AU04624	156.10	157.10	1.00	43	128	1	28.0	0	0									

Sample	From (M)	To (M)	Leng. (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	CR2O3 %	LOI %	SUM %	Y PPM	ZR PPM	BA PPM	RB PPM	SR PPM	CO2 %	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM
AU04563	44.00	47.00	3.00	57.05	12.94	6.14	3.12	3.62	0.82	11.79	1.82	0.24	0.18		2.16	99.88	40	170					5	20	<5	10		2,7(h)	122
AU04564	74.00	77.00	3.00	56.06	12.42	6.01	2.98	2.56	0.87	13.87	1.74	0.21	0.21		2.73	99.66	40	150					<5	15	<5	10		2,7(h)	132
AU04565	98.00	101.00	3.00	56.31	12.89	7.27	2.93	2.11	0.63	12.79	1.80	0.24	0.20		2.67	99.84	40	160					5	85	<5	10		2,7(h)	129
AU04566	122.00	125.00	3.00	48.45	14.01	10.29	6.04	2.16	1.34	13.19	1.03	0.11	0.20		2.96	99.78	20	70					20	110	5	15		2,7(h)	102
AU04567	134.00	135.50	1.50	53.28	12.75	8.71	3.28	1.12	0.59	15.84	1.81	0.23	0.24		1.85	99.70	40	170					5	25	<5	10		2,7(h)	122
Au04568	150.00	152.50	2.50	49.77	12.68	8.10	3.24	2.12	2.58	15.60	2.02	0.30	0.21		3.11	99.73	45	170					5	130	5	5		2,7(h)	99
AU04569	161.00	164.00	3.00	55.87	12.62	7.70	2.98	1.69	0.42	12.72	1.82	0.24	0.22		3.51	99.79	40	170					<5	25	<5	5		2,7(h)	129

Sample	From (M)	To (M)	Leng. (M)	AG PPM	AU PPB	CO PPM	PB PPM	S PPM	V PPM	AS PPM	SN PPM	CD PPM	SB PPM	BI PPM	SE PPM	HF PPM	TA PPM	W PPM	MO PPM	TH PPM	U PPM	B PPM	CS PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	GD PPM
AU04563	44.00	47.00	3.00			5		0.67	325																				
AU04564	74.00	77.00	3.00			5		1.69	325																				
AU04565	98.00	101.00	3.00			5		0.72	325																				
AU04566	122.00	125.00	3.00			5		0.16	280																				
AU04567	134.00	135.50	1.50			5		0.99	340																				
Au04568	150.00	152.50	2.50			5		4.68	335																				
AU04569	161.00	164.00	3.00			5		0.45	325																				

Sample	From (M)	To (M)	Leng. (M)	DY PPM	ER PPM	LU PPM	OS PPB	IR PPB	RU PPB	RH PPB	PT PPB	PD PPB	LI PPM	BE PPM	MN PPM	GA PPM	GE PPM	IN PPM	TL PPM	SC PPM	BR PPM	YB PPM	NB PPM	HG PPB	MGO#	CA/AL	NI/MGO	ISHIKW	ZN/NA2
AU04563	44.00	47.00	3.00											<5						5			10		0.38	0.47	2	29	6
AU04564	74.00	77.00	3.00											<5						5			20		0.34	0.48	2	31	6
AU04565	98.00	101.00	3.00											<5						5			10		0.35	0.56	2	28	40
AU04566	122.00	125.00	3.00											<5						5			<10		0.52	0.73	1	37	51
AU04567	134.00	135.50	1.50											<5						5			10		0.33	0.68	2	28	22
Au04568	150.00	152.50	2.50											<5						5			10		0.33	0.64	2	36	61
AU04569	161.00	164.00	3.00											<5						5			10		0.36	0.61	2	27	15

REPORT ON
GEOPHYSICAL WORK

ON

JESSOP 12
JESSOP TOWNSHIP

NTS: 42-A/11 PROJ # : 8036

for
FALCONBRIDGE LIMITED

APRIL 2000

D. LONDRY
TIMMINS GEOPHYSICS LTD.

SUMMARY AND RECOMMENDATIONS

HLEM and magnetic surveys were carried out on the Jessop 12 property for Falconbridge Limited in October of 1999.

The EM survey detected one bedrock conductor. A hole, drilled by Noranda Exploration in 1992 to test this conductivity, intersected a graphite zone. It is recommended that the conductor is tested by diamond drilling on Line 1900 West where there is a coincident magnetic anomaly.

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INTRODUCTION

During October 1999 magnetic and horizontal loop electromagnetic (HLEM) surveys were carried out on the Jessop 12 property for Falconbridge Limited.

The property is located approximately 10 kilometres northwest of the city of Timmins in the southwest corner of Jessop Township, Porcupine Mining Division (Figure 1(a)). It was accessed from a gravel road which leads to the radio tower at the Timmins airport; the road runs west from Highway 629, directly to the south of the airport.

The surveys covered parts of 9 claims, located in Lots 9 to 11, Concessions I, Jessop Township (Table 1)).

The magnetic survey was carried out by J. derWeduwen and the HLEM survey was run by B. Pigeon and D. Dunstan.

CLAIM #	# of UNITS	RECORDING DATE	RECORDED HOLDER	DESCRIPTION	TOWNSHIP
986663	1	April, 1987	J. Huot	SW1/4, N1/2, Lot 10, Con I	Jessop
986664	1	April, 1987	J. Huot	NW1/4, S1/2, Lot 10, Con I	Jessop
986665	1	April, 1987	J. Huot	SW1/4, S1/2, Lot 10, Con I	Jessop
1189441	3	Jan, 1992	J. Huot	S1/2, N1/2, Lot 10, Con I SE1/4. N1/2, Lot 11, Con I	Jessop
1190023	4	May, 1992	J. Huot	NW1/4, .N1/2, Lot 10, Con I N1/4, Lot 11, Con I NE1/4, .N1/2, Lot 12, Con I	Jessop
1193145	3	April, 1993	J. Huot	S1/4, Lot 10, Con II SE1/4, .S1/2, Lot 11, Con II	Jessop
1204198	1	Jan, 1996	J. Huot	NE1/4, N1/2, Lot 10, Con I	Jessop
1204199	7	Jan, 1996	J. Huot	NW1/4, S1/2, Lot 8, Con I S3/4. Lot 9, Con I SE1/4, N1/2, Lot 10, Con I NE1/4, S1/2, Lot 10, Con I	Jessop
1223829	2	Dec, 1997	Explorers Alliance Corp	SW1/4, S1/2, Lot 9, Con I SE1/4, S1/2, Lot 10, Con I	Jessop

Table 1 : Property Description

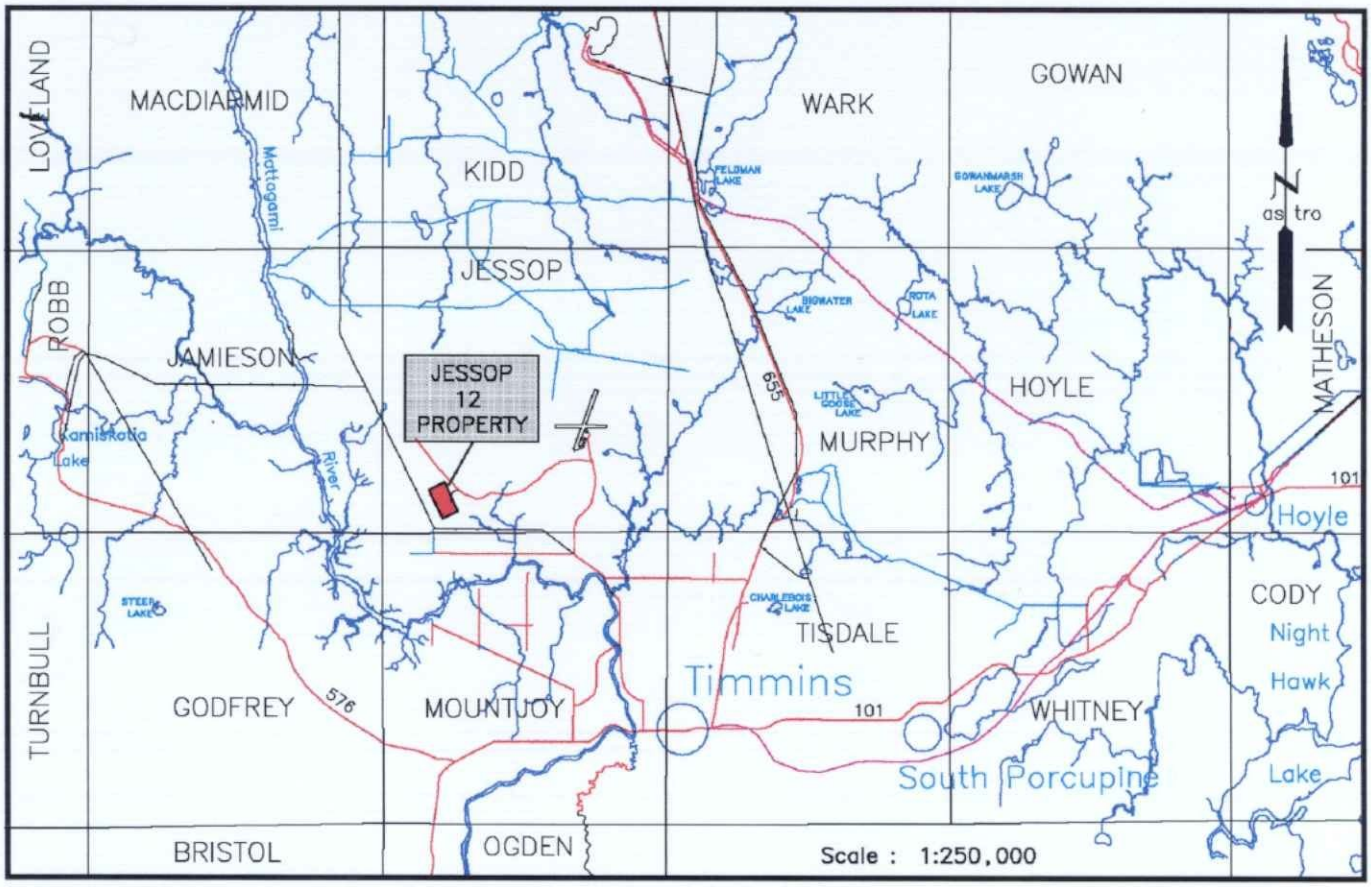

Figure 1(a) : Location Map

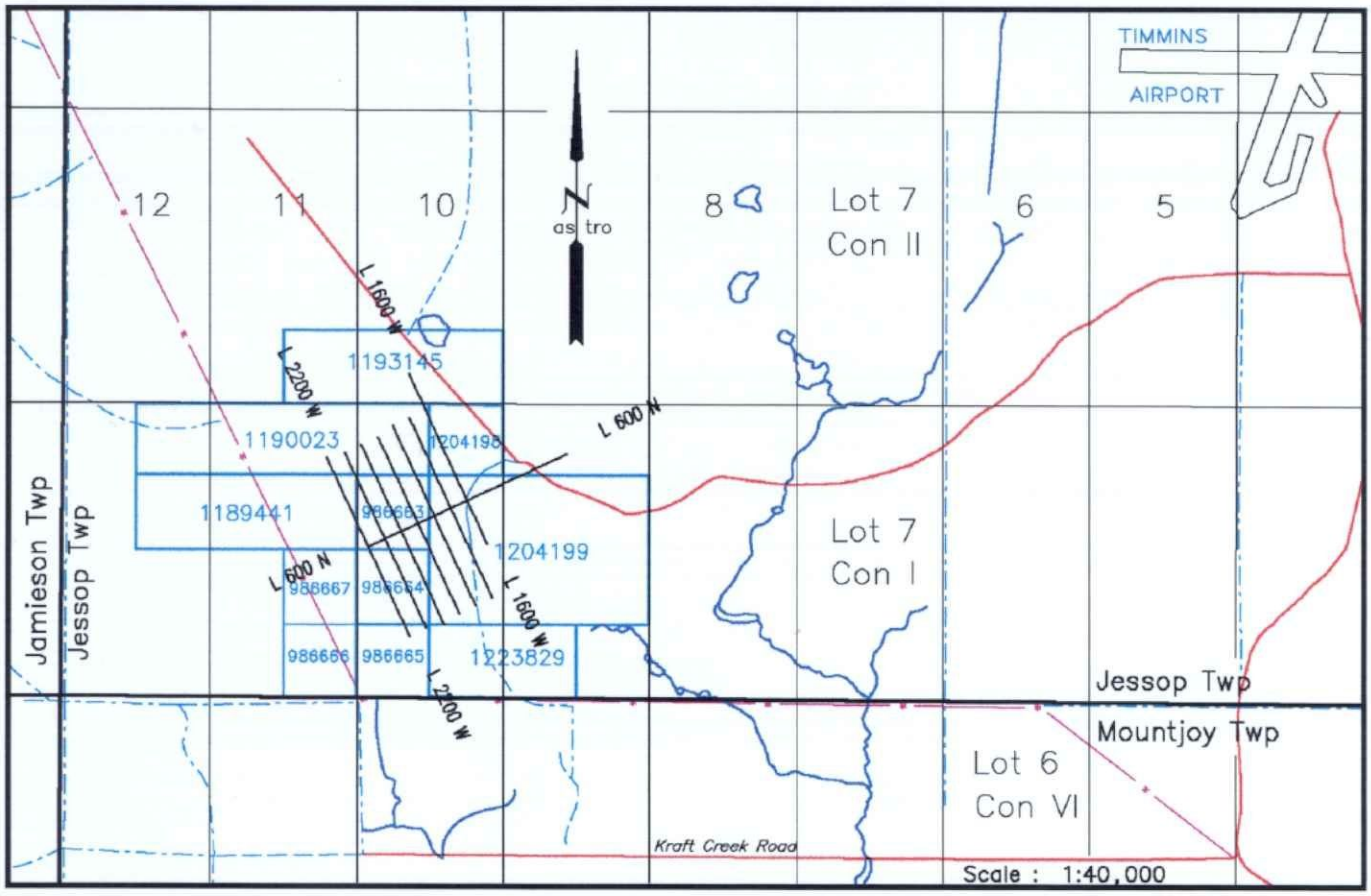

Figure 1(b) : Grid Sketch

GENERAL GEOLOGY

The geology of Jessop Township is presented on map 2205 at a scale of 1 inch to 4 miles (Pyke etal, 1973) and on map P3379 at a scale of 1:100,000 (Ayer etal, 1998). Most of the township is underlain by clastic medisediments. Felsic to mafic volcanics occupy the northwest corner of the township and occur as narrow bands through the center of the township.

Previous surveys and drilling indicate that the property is underlain by a narrow sequence of steeply dipping, east northeast striking, mafic to felsic volcanics and interbedded sediments. The volcanics are often present as tuffs and breccias,

PREVIOUS WORK

The following is a description of previous work which has been filed for assessment credits on the property (Table 2).

In 1964, **Silvermaque Mining Limited** carried out magnetic and Turam EM surveys over a block of 16 claims in southwest Jessop Township, which covered the northern half of the present survey area. The surveys were run along north-south lines spaced every 400 feet. The magnetic readings were taken with a vertical field, fluxgate magnetometer. The two receiver coils in the Turam survey were kept at a separation of 200 metres.

In the early 1980's, **Kidd Creek Mines Ltd.** held a block of 37 claims in southwest Jessop Township, which included the present survey area. Magnetic and HLEM surveys were carried out over the all of the claims, along lines spaced every 100 metres and oriented north-south. The magnetic survey was run with a total field, proton precession magnetometer and the HLEM survey was conducted with a coil separation of 160 metres and frequencies of 444 and 1777 hertz. Two holes (J12-1 & 2) were drilled directly to the west

of the present survey area, to test coincident magnetic and EM anomalies. The anomalies were explained by graphite and sulphides (pyrite and pyrrhotite) in felsic to mafic volcanics.

YEAR	COMPANY	GEOPHYSICS	DRILL HOLES	AFRI FILE
1964	Silvermaque Mining Limited	Mag, Turam EM		42A11SW0002
1982/83	Kidd Creek Mines Ltd.	Mag, HLEM	J12-1, 2	42A11SW0002/ 04/12/92/94
1990-92	Noranda Exploration Company Ltd.		JW92-3	42A11SW0025/ 29/67/68/8385
1980	Jessop Syndicate	Mag, TEM	K2-87-1 to 3 K2-92-1, 2	42A11SW0065/ 82/145/147

Table 2. Summary of previous assessment work.

In 1987, the **Geological Survey of Canada** flew a combined airborne magnetic and EM survey over the Timmins area which included Jessop Township. This survey was flown along north-south lines spaced approximately every 200 metres.

In 1989, **Noranda Exploration Company Ltd.** carried out an exploration program on a block of nine claims in southwest Jessop Township. The grid on the property, which covered the east half of the present survey area, consisted of north-south lines spaced every 100 metres. Hole JW92-3 was drilled in the north half of Lot 10, Concession I and intersected a wide graphite zone within felsic to mafic volcanics. In 1995, Noranda ran magnetic and HLEM surveys over a block of 42 optioned claims, directly to the northeast. These surveys were run along grid lines spaced every 100 metres and oriented 30° west of north. An Induced polarization (IP) survey was later run along five of the grid lines. A dipole-dipole array was used in the IP survey with an 'a' spacing of 50 metres and 'n' values were read from 1 to 6.

The **Jessop Syndicate** has held a large group of claims in southwest Jessop Township and northwest Mountjoy Township since 1987. Claims have been added to the original block and the property now includes the ground covered in the present surveys. A number of diamond drill holes, sunk in 1987 and 1992 to the southwest of the present grid, were filed for assessment credits. In 1996, they also filed magnetic and PEM surveys which were run along three north-south lines in the south half of Lot 10, Concession I.

SURVEY DESCRIPTIONS

A base line, designated 600 North and oriented at 65° Az., was established through the middle of the survey area. Grid lines, oriented at right angles to the base line and designated 1600 West to 2200 West, were cut every 100 metres; all of the lines were picketed every 20 metres.

The magnetic readings were taken every 10 metres with a Scintrex IGS-2/MP-4. This instrument is a proton precession magnetometer which measures the earth's total magnetic field to an accuracy of 0.1 nT. Diurnal variations were monitored every 10 seconds with a Scintrex MP-3 base station magnetometer, located off the grid along the access road. A total of 865 readings were taken along 8.7 kilometres of line.

The horizontal loop EM survey was carried out with the Apex Parametrics MaxMin I-5. This instrument measures the in-phase and quadrature components of the secondary field as a percentage of the primary field; the depth of penetration is approximately one half of the coil separation. Readings were taken every 20 metres using a coil separation of 160 metres and frequencies of 444 and 1777 Hertz. A total of 324 stations were read along 7.5 kilometres of line.

MAGNETIC RESULTS

The magnetic results are contoured every 20 nT on map 1 at a scale of 1:5000. The results are also presented in Figure 2 at a scale of 1:10,000.

A broad, linear, high magnetic anomaly strikes east northeast across the southern portion of the grid at approximately 250 North. A second anomaly strikes east northeast between 475 North on Line 2200 West and 750 North on Line 1600 West. This anomaly is less continuous and has a lower amplitude than the anomaly to the south, however, there is conductivity associated with it. The source of these anomalies is likely pyrrhotite mineralization which has been intersected in previous drill holes.

The area of low magnetic field, over the north half of the property, is likely underlain by sediments. Holes K2-87-1 and K2-92-1, which were collared to the west of the present grid and drilled north, both intersected sediments at the bottom of the holes.

EM RESULTS

The results of the HLEM survey are profiled on maps 2, 3 and 4 at a scale of 1:5000; the profile scale used for all of the frequencies is 1 cm = 20 %. The results using 444 Hertz are also presented in Figure 3 at a scale of 1:10,000.

The following is a description of the one bedrock conductor which was detected in the survey and is labelled anomaly 'A' on the maps.

Anomaly 'A' consists of two segments, one which strikes east northeast from 550 North on Line 2000 West to 590 North on Line 1800 West and the other which is centered at 685 North on Line 1600 West. The source of the anomaly on Lines 1800 West to 2000 West is a 20 metre wide zone of fair conductivity with a coincident high magnetic field. The depth to the conductor increases from 32 metres on Line 2000 West to 80 metres on Line 1800 West (Table 3).

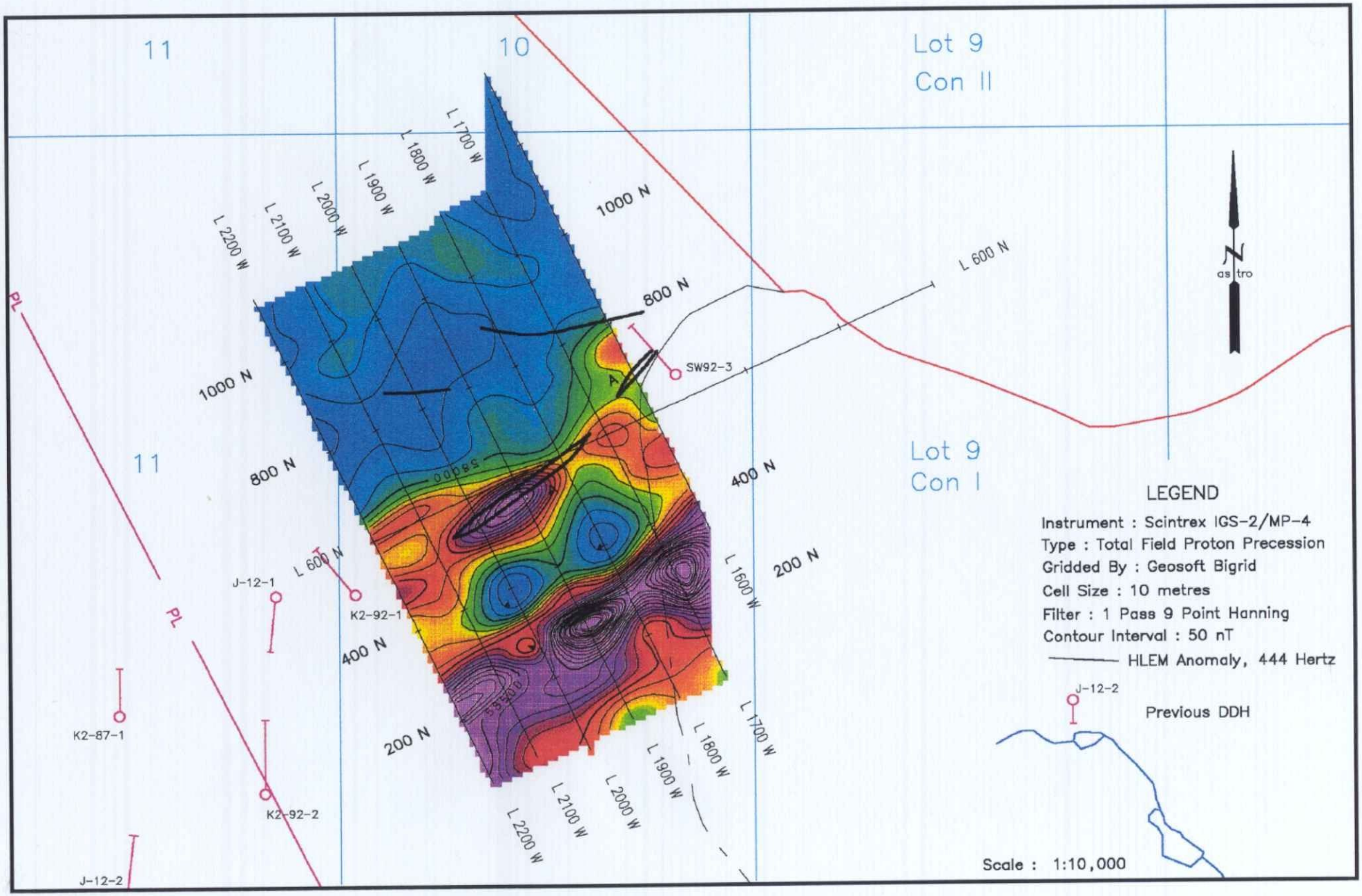

Figure 2 : Total Magnetic Field, Jessop 12 Property

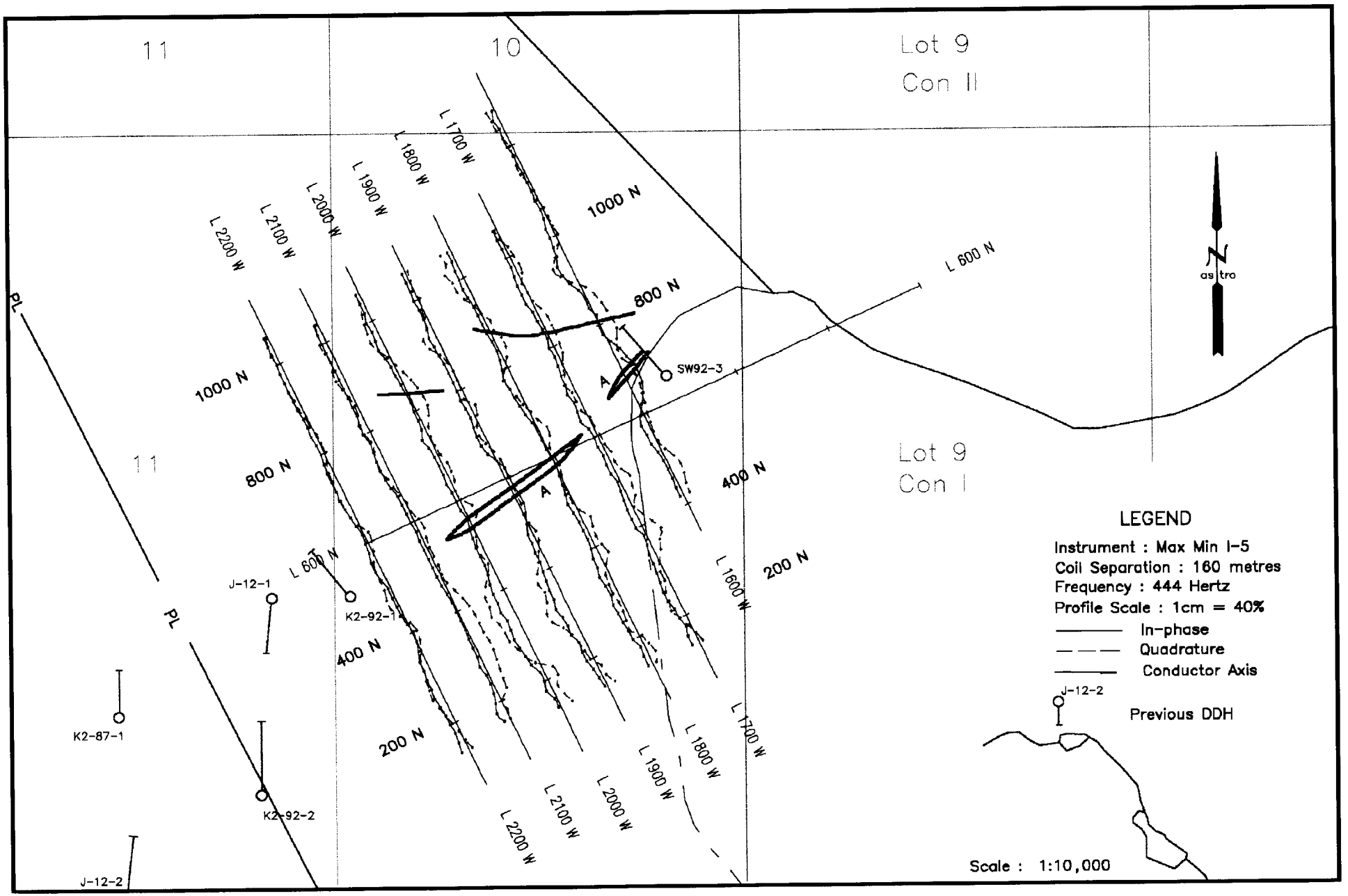

Figure 3 : HLEM Survey, 444 Hertz, Jessop 12 Property

The source of the anomaly on Line 1600 West is a 20 metre wide zone of good conductivity at a depth of 64 metres. This segment of the conductor was the target of hole JW92-3 , which was drilled by Noranda Exploration in 1980. The hole was drilled from south to north and intersected a number of zones of graphite within a lapilli tuff.

Two east-west striking anomalies are located to the north of anomaly 'A' within the area of low magnetic field. They are mainly quadrature responses and are not considered significant.

LINE	ANOMALY CENTER	ANOMALY WIDTH (m)	IP (%)	Q (%)	DEPTH (m)	CONDUCTIVITY THICKNESS (mhos)	COMMENTS
1600 W	685 N	20	-8	-6	64	19	
1800 W	590 N	20	-2	-2	80	9	
1900 W	570 N	20	-4	-4	64	9	
2000 W	550 N	20	-1	-2	32	3	

Table 3: Anomaly 'A' Interpretation, 444 Hz, 160 metre coil separation.

April 8, 2000
Date

Douglas Londry
D. Londry
Timmins Geophysics Ltd.

REFERENCES

Ayer, J.A. and Trowell, N.F.

1998: Geological Compilation of the Timmins Area, Abitibi Greenstone Belt; Ontario Geological Survey, Preliminary **Map P.3379**, scale 1:100,000.

Ontario Geological Survey

1988: Airborne Electromagnetic and Total Intensity Survey, Timmins Area, **Jessop Township**, Districts of Cochrane and Timiskaming Ontario; by Geoterrex Limited, for Ontario Geological Survey, Geophysical/Geochemical Series **Map 81070.** Scale 1:20,000. Survey and Compilation from 1987 to October 1987.

Pyke, D.R., Ayres, L.D. and Innes, D.G.

1973: Timmins-Kirkland Lake Sheet, Districts of Cochrane, Sudbury and Timiskaming; Ontario Div. Mines, **Map 2205**, Geol. Comp. Ser., Scale 1 inch to 4 miles.

REPORT ON
GEOPHYSICAL WORK

ON

JESSOP 44
JESSOP TOWNSHIP

NTS: 42-A/11 PROJ # : 8036

for **FALCONBRIDGE LIMITED**

APRIL 2000

D. LONDRY
TIMMINS GEOPHYSICS LTD.

SUMMARY AND RECOMMENDATIONS

HLEM and magnetic surveys were carried out on the Jessop 44 property for Falconbridge Limited in October of 1999.

The magnetic survey mapped a northwest striking diabase dike and the HLEM survey detected five conductors. Two of the conductors have been previously tested by diamond drilling within the present survey area and two have been tested along strike to the west. It is recommended that anomalies 'D' and 'E' are drilled with one hole on Line 100 West, to the east of the diabase dike.

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INTRODUCTION

During October 1999, magnetic city of Timmins in the north central portion of Jessop Township, and horizontal loop electromagnetic (HLEM) surveys were carried out on the Jessop 44 property for Falconbridge Limited.

The property is located 14 kilometres north of the Porcupine Mining Division (Figure 1(a)). The property was accessed by helicopter from the Timmins airport which is located 4 kilometres to the south. It could also be accessed in the winter by snowmobile, along bush roads from Highway 655 which is located 6 kilometres to the east.

The survey covered parts of 3 claims which are located in Lots 4, 5 and 6, Concessions IV and V, Jessop Township (Figure 1(b)); the claim numbers are listed in Table 1.

The magnetic survey was carried out by J. derWeduwen and the HLEM survey was run by D. Londry and N. Collins.

CLAIM #	# of UNITS	DESCRIPTION	TOWNSHIP
1224040	10	S3/4, Lot 5, Con V N1/2, Lot 5, Con IV	Jessop
1228132	16	S3/4, Lots 5 & 6, Con V N1/4, Lots 5 & 6, ConIV	Jessop
1228133	16	S3/4, Lots 5 & 6, Con IV N1/4, Lots 5 & 6, Con III	Jessop

Table 1 : Property Description

GENERAL GEOLOGY

The geology of Jessop Township is presented on map 2205 at a scale of 1 inch to 4 miles (Pyke etal, 1973) and on map P3379 at a scale of 1:100,000 (Ayer etal, 1998). Most of the township is underlain by

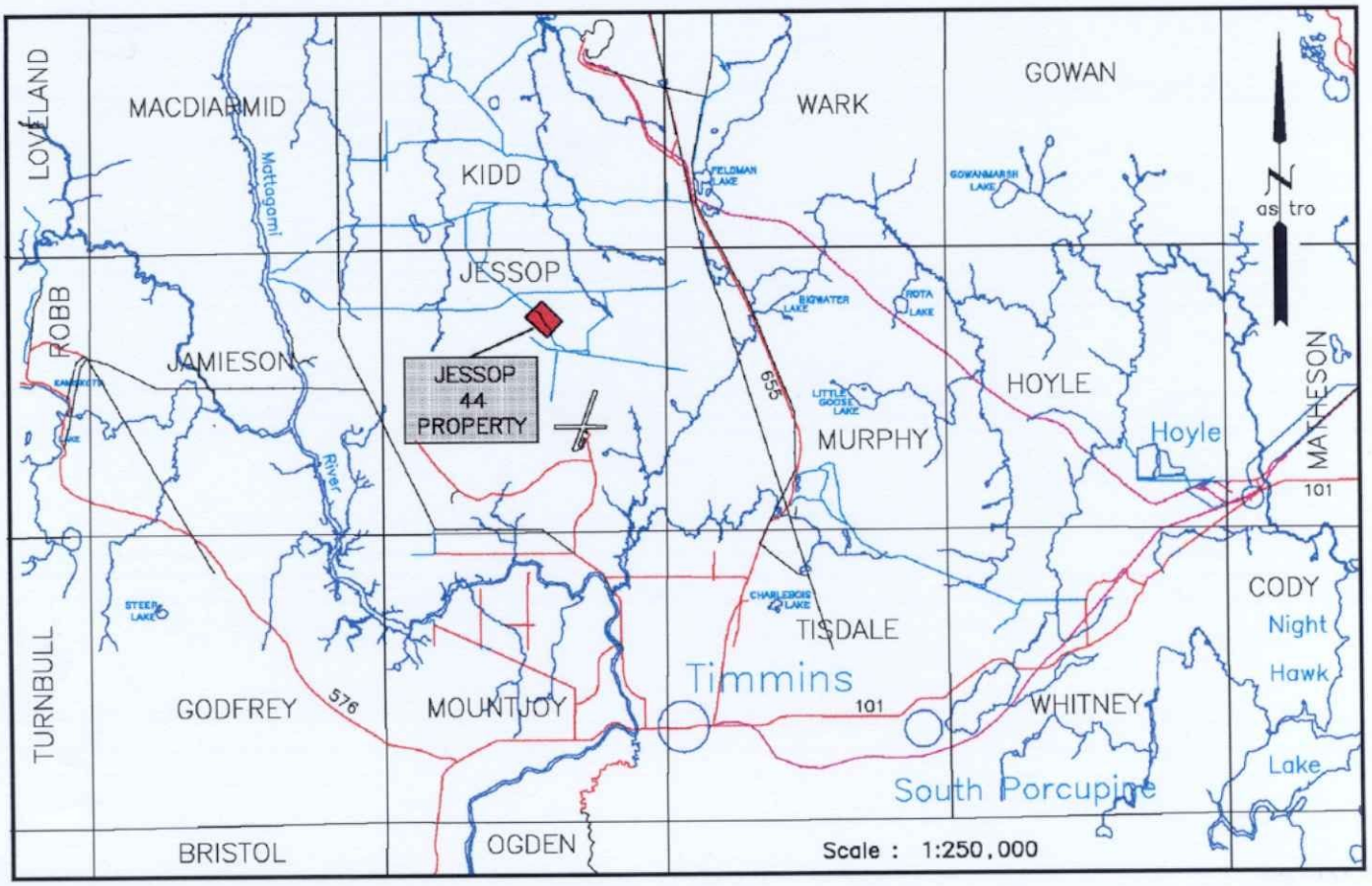

Figure 1(a) : Location Map

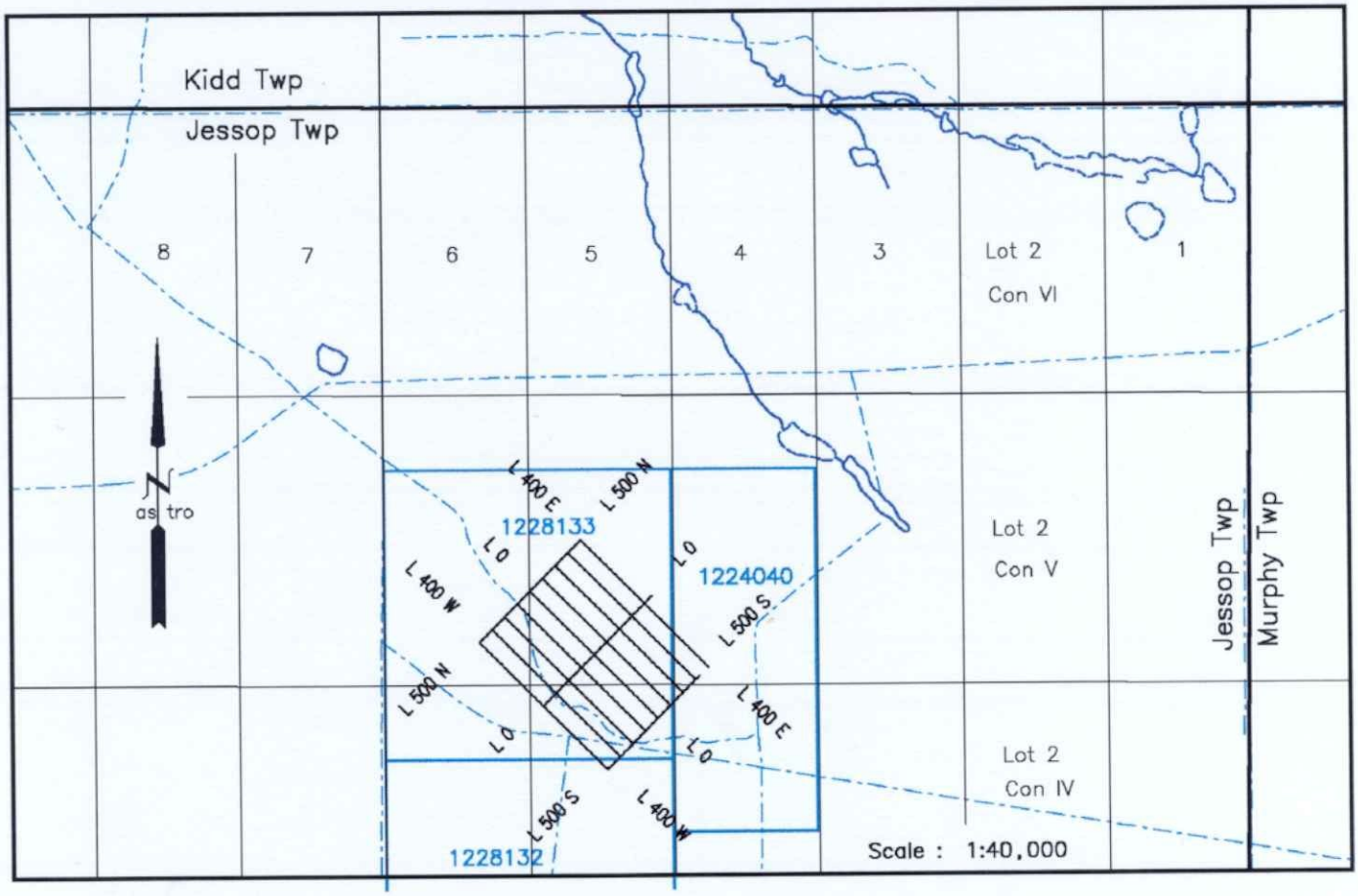

Figure 1(b) : Grid Sketch

clastic medisediments. Felsic to mafic volcanics occupy the northwest corner of the township and occur as narrow bands through the center of the township.

Previous drilling indicates that the property is underlain by steeply dipping, northeast striking mafic to felsic volcanics, tuffs and sediments. Conductivity on the property, which has been outlined in a number of EM surveys, can be attributed to graphitic sediments. Regional airborne magnetic surveys (OGS, 1988) suggest that a northwest striking diabase dike cuts all of the rocks on the property.

PREVIOUS WORK

The following is a description of previous work which has been filed for assessment credits on the property (Table 2).

In 1964, **Peerless Canada Exploration Ltd.** held a block of nine claim units in Lots 5 and 6, Concession V, Jessop Township. Magnetic and HLEM surveys were carried out along north-south lines spaced every 400 feet. The magnetic survey was run with a vertical field, fluxgate magnetometer and the HLEM survey was run with a coil separation of 300 feet and a frequency of 1666 Hertz.

In 1971, **Hollinger Mines Ltd.** filed the results from one diamond drill hole (J2-2-71). The hole intersected graphitic zones within an intermediate volcanic, close to a volcanic-sediment contact.

In 1980, **Hudson Bay Exploration & Development Co. Ltd.** held a block of 36 claims in Jessop Township which included the present survey area. An HLEM survey was carried out along grid lines oriented northwest-southeast and spaced every 100 metres. The survey was run with a coil separation of 200 metres at frequencies of 444 and 1777 hertz.

YEAR	COMPANY	GEOPHYSICS	DRILL HOLES	AFRI FILE
1964	Peerless Canada Exploration Ltd.	Mag, HLEM, VLEM		42A11SW8390
1971	Hollinger Mines Ltd.		J2-2-71	42A11SW0054
1980	Hudson Bay Expl. & Dev. Co. Ltd.	HLEM		42A11SW0016
1988	Granges Exploration Ltd.	Mag, HLEM	B-1 to 5	42A11SW0079

Table 2. Summary of previous assessment work.

In 1987, the **Geological Survey of Canada** flew a combined airborne magnetic and EM survey over the Timmins area which included Jessop Township. This survey was flown along north-south lines spaced approximately every 200 metres.

In 1988, **Granges Exploration Ltd.** carried out magnetic and HLEM surveys over a large grid which included the present survey area. The grid consisted of lines oriented northwest-southeast and spaced every 100 metres. The magnetic survey was run with a total field, proton precession magnetometer and the HLEM was run with a coil separation of 150 metres and frequencies of 444 and 888 Hertz. The results of this EM survey and the survey run by Hudson Bay in 1971 are very helpful in showing the extent of the conductors detected in the present survey.

Five diamond drill holes (B-1 to 5) were sunk to test conductors outlined in the EM survey. All of the holes intersected graphitic zones within sediments and tuffs.

SURVEY DESCRIPTIONS

A base line, designated 0 North and oriented at 45° Az., was established through the middle of the survey area. Grid lines, oriented at right angles to the base line and designated 400 East to 400 West, were cut

every 100 metres. Tie lines were cut at the end of the lines, at 500 North and 500 South, and all of the lines were picketed every 20 metres.

The magnetic readings were taken every 10 metres with a Scintrex IGS-2/MP-4. This instrument is a proton precession magnetometer which measures the earth's total magnetic field to an accuracy of 0.1 nT. Diurnal variations were monitored every 12 seconds with a Scintrex MP-3 base station magnetometer, located at 20 North on Line 300 East; the base station value to which all of the readings were levelled is 57900 nT. A total of 1150 readings were taken along 11.4 kilometres of line.

The horizontal loop EM survey was carried out with the Apex Parametrics MaxMin I-5. This instrument measures the in-phase and quadrature components of the secondary field as a percentage of the primary field; the depth of penetration is approximately one half of the coil separation. Readings were taken every 20 metres using a coil separation of 160 metres and frequencies of 222, 444 and 1777 Hertz. A total of 490 stations were read along 11.4 kilometres of line.

MAGNETIC RESULTS

The magnetic results are contoured every 20 nT on map 1 at a scale of 1:5000. The results are also presented in Figure 2 at a scale of 1:10,000.

The magnetic field on the property is dominated by a linear, northwest striking, high anomaly which represents a diabase dike. The low field to the west of the dike is likely part of the response from the dike, indicating a northeast dip. The higher field to the east of the dike between approximately 150 North and 400 South may also be part of the dike response or possibly due to the presence of volcanics. The strike of the dike changes to a more north-south direction between EM anomalies 'C' and 'D', most likely because of a change in rock type.

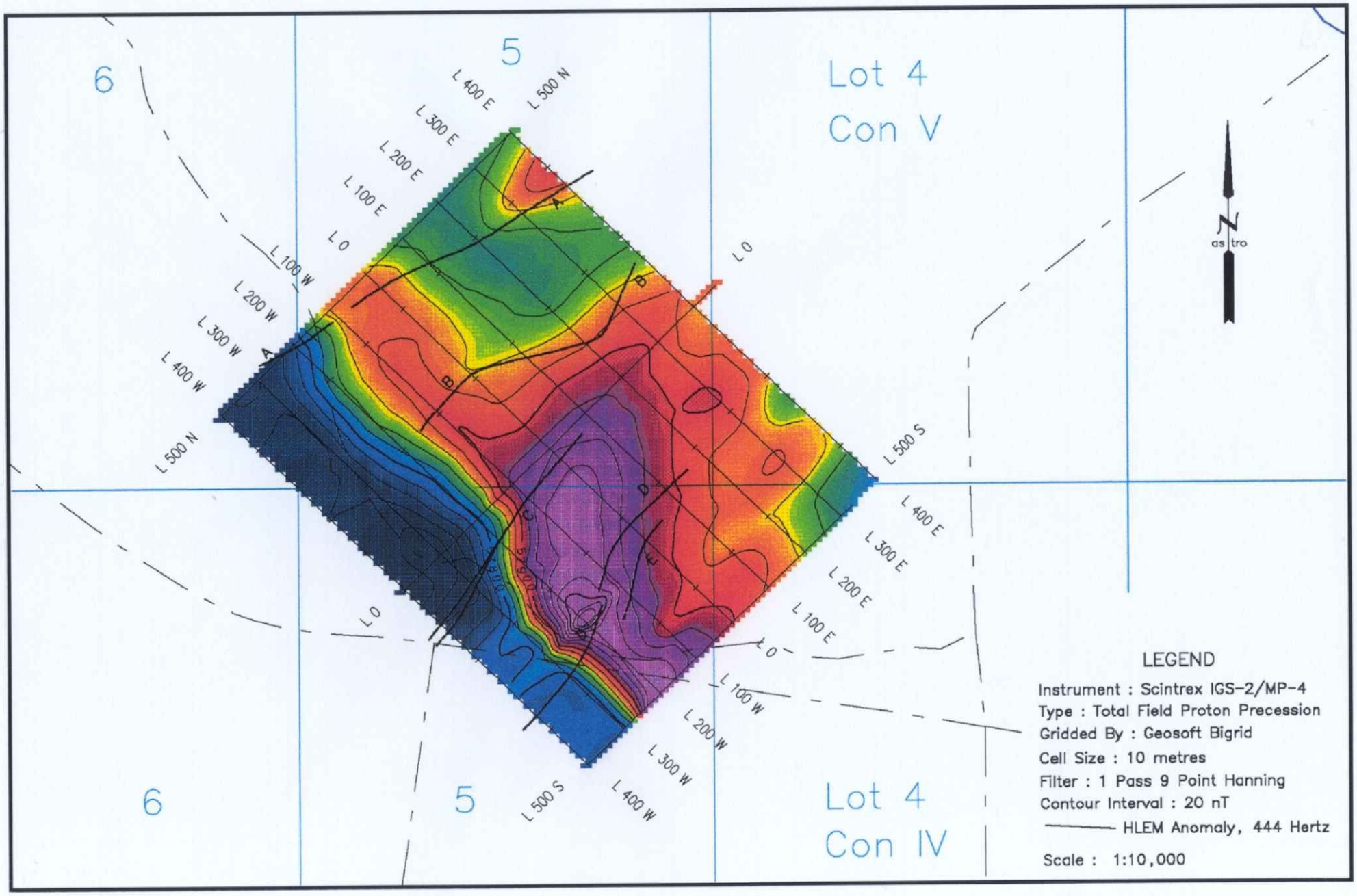

Figure 2 : Total Magnetic Field, Jessop 44 Property

EM RESULTS

The results of the HLEM survey are profiled on maps 2, 3 and 4 at a scale of 1:5000; the profile scale used for all of the frequencies is 1 cm = 20 %. The results using 444 Hertz are also presented in Figure 3 at a scale of 1:10,000.

The following is a description of five conductors which were detected in the survey and are labelled 'A' to 'E' on the maps.

Anomaly 'A' is located along the northwest edge of the survey area. The anomaly is incomplete on most of the lines, however the in-phase/quadrature ratio indicates that the source of the anomaly is good conductivity (Table 3). The depth to the conductor on the four most eastern lines is approximately 40 metres and the depth on Line 500 North, which crosses the conductor at a very low angle, is 80 metres. The results on Lines 500 North and 200 East indicate a width of 10 to 20 metres. The profile on Line 400 East, although incomplete, suggests an even greater width, however, this may be due to a second conductor which was outlined to the northeast in the 1980 and 1988 surveys by Hudson bay and Granges.

Anomaly 'A' was the target of Hole B-2 , which was drilled by Granges in 1988. The hole was drilled

LINE	ANOMALY CENTER	ANOMALY WIDTH (m)	IP (%)	Q (%)	DEPTH (m)	CONDUCTIVITY THICKNESS (mhos)	COMMENTS
500 N	200 W	20	-3	-3	80	7	
0 E	460 N	?	?	?	?	?	
100 E	430 N	?	-12	-12	37	13	
200 E	390 N	20	-18	-11	40	25	
300 E	370 N	?	-18	-13	35	20	
400 E	360 N	?	-10	-9	48	16	

Table 3: Anomaly 'A' Interpretation, 444 Hz, 160 metre coil separation.

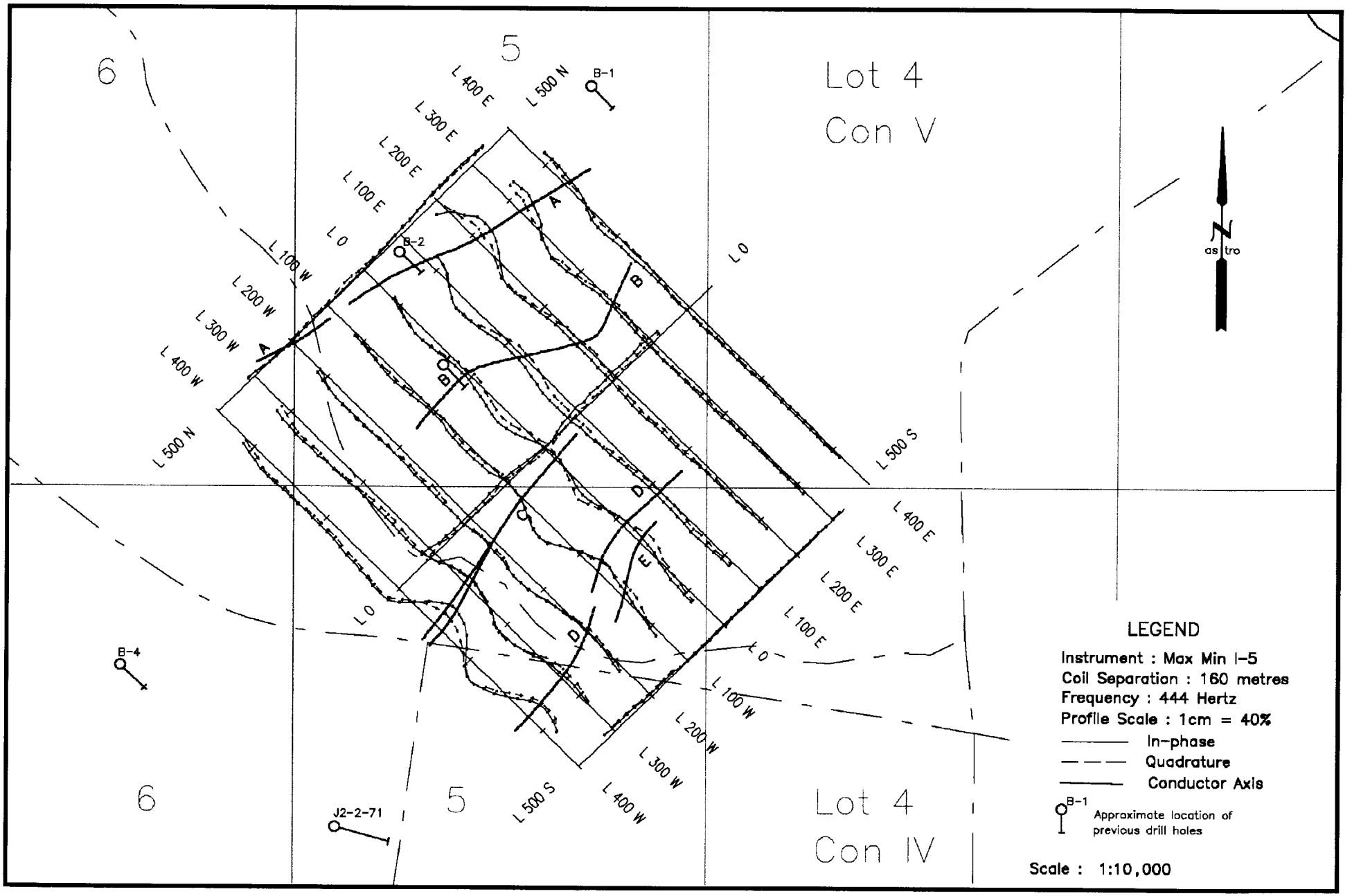

Figure 3 : HLEM Survey, 444 Hertz, Jessop 44 Property

from north to south and intersected a number of zones of graphite within a lapilli tuff.

Anomaly 'B' is located between 210 North on Line 100 West and 150 North on Line 400 East. The source of the anomaly is a narrow zone of poor conductivity at a shallow depth (16 to 32 metres) except on Line 100 West where the calculated depth is 64 metres (Table 4).

This conductor appears to have been the target of Hole B-3, which was drilled by Granges in 1988. The hole, which was also drilled from north to south, intersected a couple of graphite zones, one within an argillite unit and the other within an intermediate lapilli tuff.

LINE	ANOMALY CENTER	ANOMALY WIDTH (m)	IP (%)	Q (%)	DEPTH (m)	CONDUCTIVITY THICKNESS (mhos)	COMMENTS
100 W	210 N	narrow	-3	-3	64	9	
0 E	210 N	narrow	-3	-7	16	3	
100 E	160 N	narrow	-3	-8	16	3	
200 E	100 N	narrow	-1	-4	14	2	
300 E	110 N	narrow	-2	-4	32	3	
400 E	150 N	narrow	-0	-3	<16	<1	

Table 4: Anomaly 'B' Interpretation, 444 Hz, 160 metre coil separation.

Anomaly 'C' is located between 110 South on Line 400 West and 30 South on Line 0. The anomaly is poorly defined on Lines 0 to 200 West because of interference from the stronger response of anomaly 'D', to the south. The source of the anomaly on these lines is a narrow zone of poor to fair conductivity at a depth which ranges between 48 and 64 metres (Table 5). The source of the anomaly on Lines 300 and 400 West is a 20 metre wide zone of good conductivity at a depth of 40 metres on Line 300 West and 20 metres on Line 400 West.

LINE	ANOMALY CENTER	ANOMALY WIDTH (m)	IP (%)	Q (%)	DEPTH (m)	CONDUCTIVITY THICKNESS (mhos)	COMMENTS
400 W	110 S	20	-26	-16	22	25	
300 W	85 S	10	-11	-10	40	15	
200 W	60 S	narrow	-2	-3	48	3	
100 W	40 S	narrow	-4	-4	64	9	
0 W	30 S	narrow	-6	-7	50	9	

Table 5: Anomaly 'C' Interpretation, 444 Hz, 160 metre coil separation.

Anomaly 'D ' represents poor conductivity located between 360 South on Line 400 West and 220 South on Line 100 East. The depth to the conductor ranges between 16 metres on Line 100 East and 43 metres on Line 200 West (Table 6). The width of the zone is difficult to determine because of incomplete profiles and interference from anomaly 'E', directly to the south.

This zone was probably the target of a hole which was drilled on strike, to the west of the present survey area. Hole J2-2-71 intersected graphite, close to a contact between intermediate volcanics to the north and sediments to the south.

LINE	ANOMALY CENTER	ANOMALY WIDTH (m)	IP (%)	Q (%)	DEPTH (m)	CONDUCTIVITY THICKNESS (mhos)	COMMENTS
400 W	360 S	?	-17	-19	16	11	
300 W	350 S	?	-7	-11	29	6	
200 W	320 S	?	-5	-7	43	6	
100 W	250 S	?	-13	-13	35	13	
0 W	230 S	?	-7	-10	32	7	
100 E	220 S	?	-1	-3	16	3	

Table 6: Anomaly 'D' Interpretation, 444 Hz, 160 metre coil separation.

Anomaly 'E ' is located approximately 60 metres to the south of anomaly 'D'. No parameters were interpreted for this anomaly because of its proximity to anomaly 'D', however, the profiles indicate a greater quadrature response and therefore, poorer conductivity than that represented by anomaly 'D'. This conductor is interpreted on Lines 0 and 100 West to the east of the diabase dike, however, the width of the partial anomalies, in the high frequency results, suggests that it most likely continues to the west of the dike.

April 8, 2000
Date

D. Londry
Timmins Geophysics Ltd.

REFERENCES

Ayer, J.A. and Trowell, N.F.

1998: Geological Compilation of the Timmins Area, Abitibi Greenstone Belt; Ontario Geological Survey, Preliminary **Map P.3379**, scale 1:100,000.

Ontario Geological Survey

1988: Airborne Electromagnetic and Total Intensity Survey, Timmins Area, **Jessop Township**, Districts of Cochrane and Timiskaming Ontario; by Geoterrex Limited, for Ontario Geological Survey, Geophysical/Geochemical Series **Map 81070.** Scale 1:20,000. Survey and Compilation from 1987 to October 1987.

Pyke, D.R., Ayres, L.D. and Innes, D.G.

1973: Timmins-Kirkland Lake Sheet, Districts of Cochrane, Sudbury and Timiskaming; Ontario Div. Mines, **Map 2205**, Geol. Comp. Ser., Scale 1 inch to 4 miles.

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Quantec Consulting Inc.

Geophysical Survey Assessment Report

Quantec

Regarding the FIXED LOOP TRANSIENT ELECTROMAGNETIC PROFILING BOREHOLE AND SURFACE SURVEYS over the FOUR CORNERS and JESSOP 12 PROPERTIES, JESSOP AND GODFREY TWPS., ON on behalf of FALCONBRIDGE LIMITED,Timmins, ON

QCI QCI QCI QCI QCI

QCI C458d/C431b
JLegault, SCoulson
October, 1999
Porcupine, ON

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LIST OF FIGURES AND TABLES

1. INTRODUCTION

- **QCI Project No:** C458d and C431b
- **Client Name:** **FALCONBRIDGE LIMITED**
- **Client Address:** P.O. Box 1140
  Timmins, ON
  P4N 7H9
- **Project Name:** Four Corners Area and Jessop 12
- **Survey Period:** Sept 8th – 11th, 1999 and July 22nd to July 28th, 1998
- **Survey Type:** Fixed Loop 3D Borehole and Surface Profiling Surveys
- **Client Representative:** Sharon Taylor
- **Survey Objective:** a) To locate and determine the extent of possible bedrock conductors associated with potential massive sulphide mineralization, lying within 0 – 250 m depths using the Fixed Off-Loop profiling technique.
  b) To determine the extent of mineralization intersected by the drill holes and the existence of possible conductive mineralization within a 100 to 150 meter radius of the drill hole.
- **Report Type:** Assessment

2. GENERAL SURVEY DETAILS

2.1 Location

- **General Area:** At the junction of Godfrey, Jessop, Jamieson and Mountjoy Twps. near Timmins, ON
- **Province:** Ontario
- **Country:** Canada
- **Nearest Settlement:** Timmins, ON
- **Nearest Highway:** Hwy. 629
- **NTS Map Reference:** 42A/5,6,11,12

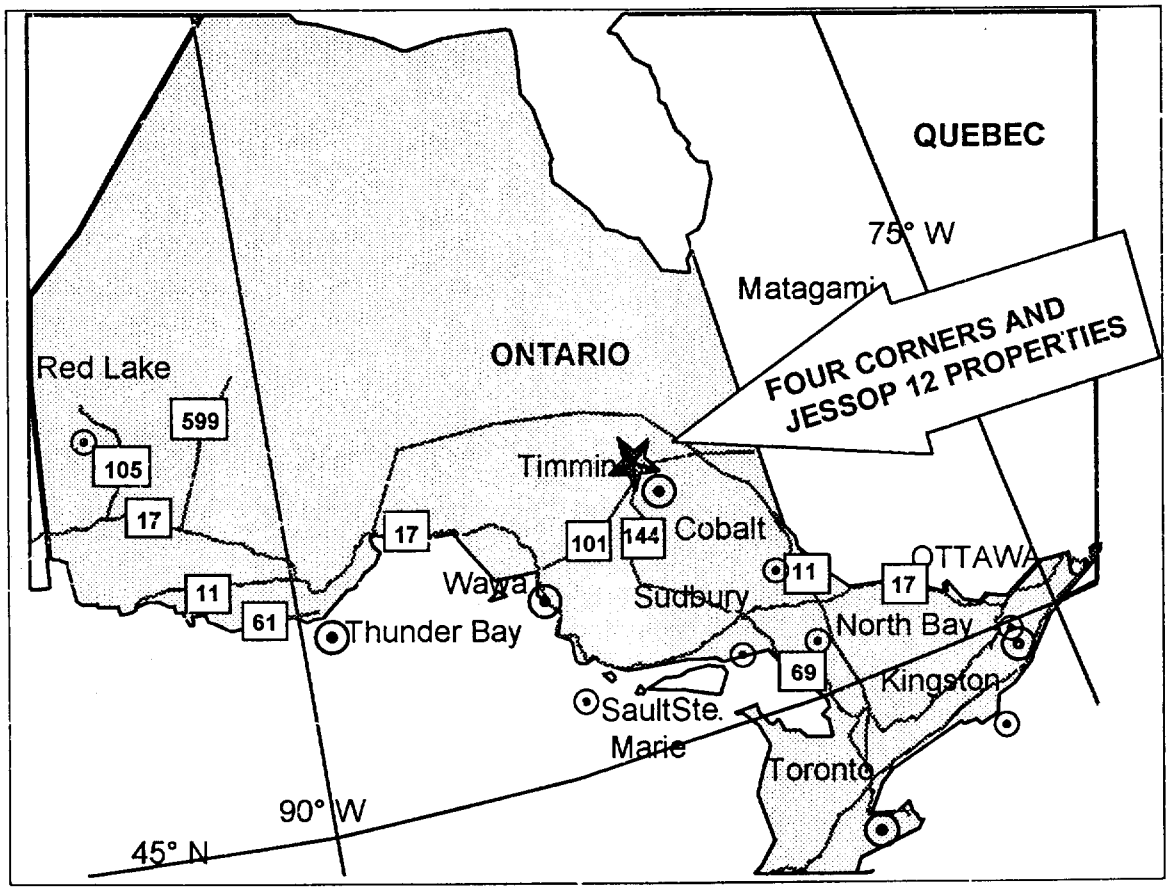

Figure 1: General Location of the Four Corners and Jessop 12 Properties

2.2 Access

- **Base of Operations:** Porcupine, Ontario
- **Mode of Access to Properties:** North on Hwy. 629, about half way between Timmins and the airport, 6km West on Craft Creek road to grid
- **Mode of Access to Grids:** 4X4 truck and tracked ATV

2.3 Survey Grids

- **Coordinate Reference System:** Local exploration grids (UTM referenced)
- **Established:** Prior to survey execution by Falconbridge Limited
- **Method of Chaining:** Metric, Slope-Distance
- **Line Directions:** Four Corners - N320° (Grid N-S lines)
  Jessop 12 – Grid 1 = N155°
  Grid 2 = 0°
- **Line Separation:** Four Corners - 100m
  Jessop 12 - Grid 1 = 125m
  Grid 2 = 200m
- **Station Interval:** Surface Survey = 20m
  Borehole Survey = 5m – 10m
- **Claims Covered:**[1] Four Corners Surface Survey – P1189418, P1189440, P723296, P723295, P723132, P723297, P1189417, P723298, P7233131
  Jessop 12 Borehole Survey – P1193143, P1204199, P1189441, P986669, P986666, P986667

[1] Based on Topographic and Claim/Line location CAD map supplied by Falconbridge Ltd (04-2000).

3. SURVEY WORK

3.1 Generalities

- **Survey Dates:** Sept 8th to 11th, 1999 and July 22nd to 28th, 1998
- **Survey Period:** 8.5 days
- **Survey Days (read time):** 8.5 days
- **Total Survey Coverage:** Surface Survey - 9.32 line km (see Table I)
  Borehole Survey – 1,744m from 4 boreholes

LINE	START	END	TOTAL (m)
800W	500S	320N	820
700W	500S	440N	940
600W	500S	580N	1080
500W	500S	580N	1080
400W	500S	580N	1080
300W	500S	580N	1080
200W	500S	580N	1080
100W	500S	580N	1080
0W	500S	580N	1080
		TOTAL	9320

Table I: Surface TEM Coverage at Four Corners Area.

HOLE	SURVEY TYPE	START (depth m)	END (depth m)	TOTAL (m)	DRILLED DEPTH(m)
JS12-03	3-D (C-loop3)	0	255	255	290
JS12-05	3-D (C loop3)	0	385	385	428
JS12-05	3-D (S loop2)	0	385	385	428
JS12-06	3-D (C loop4)	0	229	229	229
JS12-02(Grid2)	3-D (C loop5)	0	490	490	490
			TOTAL	1,744	

Table II: Borehole TEM Coverage at the Jessop 12 Property.

3.2 Specifications

3.2.1 Surface Survey

- **Method:** Transient Electromagnetic
- **Technique:** Profiling
- **Configuration:** Surface Fixed Off-Loop Profiling
- **Output Power Stage:** Low Power (2.8kW)
- **Dimension:** 3D (X, Y and Z components)

- **Loop Location:** 800W – 0E; 500S – 1000S
- **Loop Size:** 800m x 500m
- **Sampling Interval:** 20m

3.2.2 Borehole Survey

- **Method:** Transient Electromagnetic
- **Technique:** Profiling
- **Configuration:** 3-D Borehole
- **Output Power Stage:** Low Power
- **Dimension:** 3D (X, Y and Z components)
- **Borehole Names/Locations:** see Table II
- **Borehole Azimuth/Dip:** see Table II
- **Loop Location:** Loop 2: 500N-750N; 750W-1000W
  Loop 3: 750N-1000N; 750W-1000W
  Loop 4: 600N-800N; 1800W-2000W
  Loop 5: (Grid 2) 0N-400N; 1000E-1400E
- **Loop Size:** Varies from 200 x 200m - 400 x 400m - see Loop Locations

HOLE	COLLAR LOCATION	AZIMUTH/DIP
JS12-03	900W / 900N	155,-50
JS12-05	900W / 1025N	155,-50
JS12-06	680N / 1900W	155,-50
JS12-02(Grid2)	1210E / 0+32N	5,-45

Table III: Borehole Specifications at the Jessop 12 Project.

3.3 Personnel

- **Project Supervisor:** Sherwood Coulson, Porcupine, ON
- **Field Project Manager:** Four Corners – Martin Kratochvil, Brampton, ON
  Jessop 1 – Paul Plazek
- **Geophysical Technician:** Four Corners – Paul Cassidy, Porcupine, ON
  Jessop 12 – David MacGillvary, Sudbury, ON

3.5.2 Borehole Survey

Pulse repetition frequency:	30Hz
Gain:	3 to 6
Integration number:	15 sec
Loop Size:	200x200m - 400x400m
Current:	15 to 21 amps
Turn-off time:	160-260 μs
Receiver Delay	None – No on time measurement
Gate position:	(see Appendix C)
Synchronization mode:	Crystal

Table VI: System Parameters for Borehole TEM Survey.

- **Coil Conventions:** (see Fig. B3)

COMPONENT	COIL ORIENTATION	Grid 1	Grid 2
Z	Positive Axially Up hole	Up hole	Up hole
X	+ up orthogonal to hole and along BH azimuth (Grid North)	Grid South	Grid North
Y	+ left orthogonal to hole and horizontal (Grid West)	Grid East	Grid West

Table VII: Coil Conventions for Borehole TEM Survey.

- **Data Reduction:** nanoVolts/metre^2

3.6 Measurement accuracy and repeatability

3.6.1 Survey Survey

- **Number of Repeats per Station:** 0-1
- **Number of Repeats per Day:** 5-10
- **Number of Repeats per Grid:** 15-30
- **Average Repeatability at Channel 1 and 20:** 1-5% in early channels
- **Worst Repeatability at Channel 1 and 20:** 7-10% (estimated)

3.6.2 Borehole Survey

- **Number of Repeats per Station:** 0-1
- **Number of Repeats per Hole:** 3-5
- **Average Repeatability at Channel 1 and 20:** 1-5% in early channels
- **Worst Repeatability at Channel 1 and 20:** 7-10%

3.4 Instrumentation

- **Receiver:** Geonics Digital Protem (time-domain / 3 channels @ 20 time gates + primary pulse - see Appendix C)
- **Receiver Coil:** Geonics 3D-3 (X-Y-Z @ 200m^2) Surface Induction Coil (dB_{xyz}/dt). Geonics BH-43-3D Borehole Pobe with Tilt Sensors
- **Transmitter:** Geonics EM-37 (24-160V_{OUT} / 3-7.5-30Hz @ 50% duty cycle)
- **Power Supply:** Geonics GPU 2000, with Honda 5.5HP motor with Georator alternator (2.8kVA @ 400Hz)

3.5 Parameters

3.5.1 Surface Survey

Pulse repetition Frequency:	30Hz
Gain:	6
Integration number:	15 sec
Loop Sizes:	800m x 500m
Current (Amps):	16 amps
Turn-off time (μs):	360 μs
Gate position:	80-6136 μs (see Appendix C)
Synchronization mode:	Crystal

Table IV: System Parameters for Surface and Borhole TEM Surveys

- **Coil Conventions:**

COMPONENT	COIL ORIENTATION
Z	Positive Up
X	Positive Grid North
Y	Positive West

Table V: Coil Conventions for Surface TEM Survey

- **Measurements:** gated time-derivative (dB/dt) of transient secondary EMF (mV/ Off-time decay) and primary pulse (mV / On-time ramp)
- **Data Reduction:** nanoVolt/Ampere metre squared[2] (using Geonics Datem^{TM})

[2] Equivalent to Crone units of nanotesla per second, normalized to a unit current

3.7 Data Presentation

3.7.1 Surface Survey

- **Profiles:**

Profile Format	4-Axis (see Fig. 2)
# of Profiles:	36
Horizontal Map Scale:	1:5000
Vertical Profile Scales:	Varies to best display data for each component (see profiles in Appendix G)
Components Profiled:	3D survey: Total Field,[2] X, Y and Z

Table VIII: Surface TEM Profile Specifications.

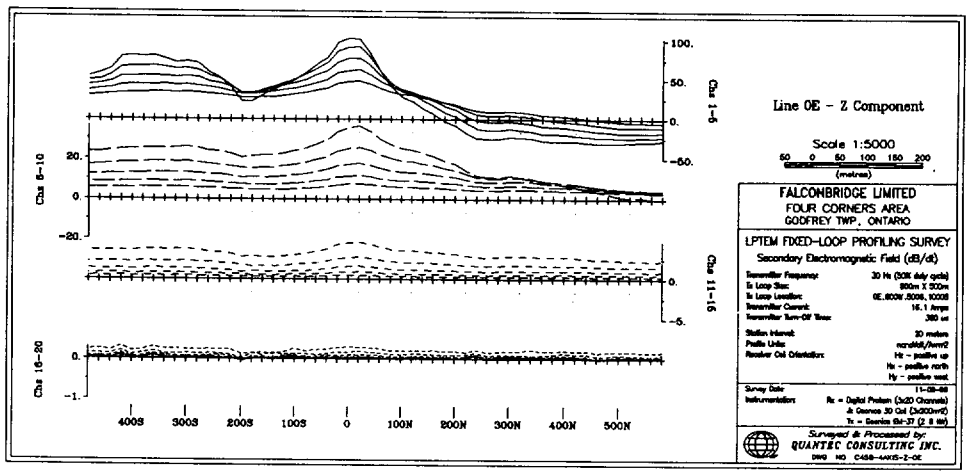

Figure 2: 4-Axis Surface TEM Profile Format.

- **Plan Maps:**

Plan Map Type:	Posted/Contoured Total TEM Field
Channel Contoured:	12
# of TEM Plan Maps:	1
Map Scale:	1:5000
Grid Cell Size:	12.5m
Gridding Method:	Bi-directional
Contouring Method:	Linear
Contour Interval:	.1, .5, 2 nanoVolt/A*m^2

Table IX: Plan Map Specifications for Surface TEM Survey.

- **Digital Data:** Daily raw files and processed data (Geosoft .XYZ format) on 3.5 inch HD (1.44 Mbytes) diskettes

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[2] TF = SQRT { $(dB_X/dt)^2 + (dB_Y/dt)^2 + (dB_Z/dt)^2$ }, using Quantec Geoparse™

a) raw data dump files, according to acquisition date (DDMMYY.RAW ie. 090999.raw) Geonics Digital Protem format (refer to Protem manual)

b) reduced XYZ ASCII data files, according to line number and component (i.e. l100wk.xyz where, k=component – Z, X, Y or T for Total Field).

Column 1: N-S Line/E-W Station number
Column 2: E-W Station/N-S Line number
Column 3: Primary pulse (millivolts)
Column 4: Channel 1 secondary rate of decay of TEM field (nanoVolt/ampere*m^2)
Column 5: Channel 2
⇓
Column 23: Channel 20 secondary rate of decay of TEM field (nanoVolt/ampere m^2)

3.7.2 Borehole Survey

- **Profiles:**

Profile Format	4-Axis (see Fig. 2)
# of Profiles:	20
Map Scale:	1:2000
Components:	3D survey: Total Field, X, Y and Z

Table X: Borehole TEM Profile Specifications.

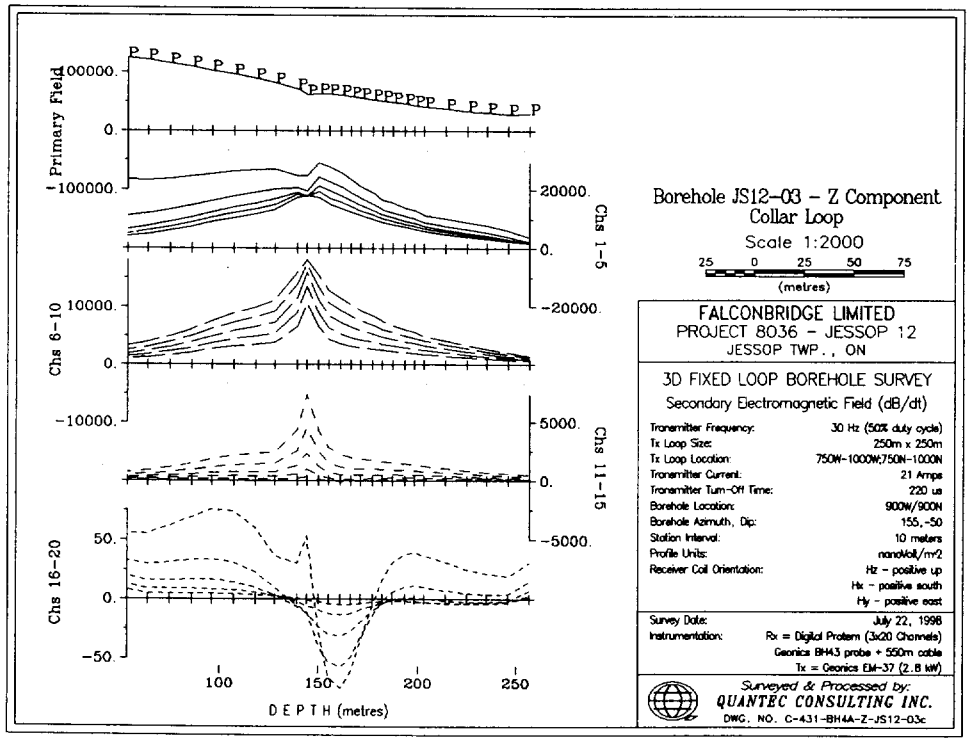


Figure 3: 4-Axis Borehole TEM Profile Format.

- **Digital Data:** Daily raw files and processed data (Geosoft .XYZ format) on 3.5 inch HD (1.44 Mbytes) diskette(s) - see Appendix G

a) raw data dump files, according to acquisition date (DDMMYY.RAW)
Geonics Digital Protem format (refer to Protem manual)

b) reduced XYZ ASCII data files, according to hole number and component
(i.e. JS126ck.xyz where c=loop location, k=component - Z.X, Y or T for Total Field).

Column 1: hole number
Column 2: Station number ie. depth down hole(m)
Column 3: Primary pulse (millivolts)
Column 4: Channel 1 secondary rate of decay of TEM field (nanoVolt/ampere*m^2)
Column 5: Channel 2 ...
⇓
Column 23: Channel 20 secondary rate of decay of TEM field (nanoVolt/ampere m^2)

4. SURVEY RESULTS

The geology and the exploration history of the Four Corners and Jessop 12 Properties are unknown although previous work was evident from drill holes on the properties. The following interpretation is based solely on the geophysical results.

4.1 Four Corners Surface TEM Survey

The results of the Surface TEM survey are outlined in detail in Table XI below and on the accompanying Interpretation Plan Map at the back of the report.

The Surface TEM survey over the Four Corners Area outlined 4 conductive trends of weak to moderate strength. Conductor A is a weak to moderate strength conductor traced from L800W at 280N where it remains open to the west, to L200W at 180N. The conductor is best defined on L400W at 200N where the estimated depth to the top is 75m and the dip appears sub-vertical. A north-south displacement in the conductor between lines 500W and 400W suggest a possible grid north-south fault in the vicinity of lines 500W and 400W. A drill hole located at 400W/60N, drilled grid north, may provide an explanation as to the source of this conductor.

Conductor B is a weak conductor trend striking grid east-west from L800W to L400W at 60S. It is best defined on L500W at 40S where the estimated depth to the top is 100m and the dip appears sub-vertical. There is significant increase in the amplitude of the repsonse on this line suggesting a possible concentration of poorly conductive mineralization. A drill hole located at 400W/240S, drilled grid north, may provide an explanation as to the source of this conductor.

Conductor C is a short strike length moderate strength conductor best defined on L100W at 160S. The conductor continues east and west for approximately 100m but is poorly defined and may be edge effects only. The estimated depth to top is approximately 60m and dip appears moderate to steep south. The mid time reponse may indicate a possible sulphide source.

Conductor D is a weak feature traced from L100W at 100N to L0 at 80N where it remains open to the east. This may in fact be a continuation of Conductor A however the character of the responses have changed significantly with strong migrations evident in the Hz and Hx component data. This suggests the conductor may be an overburden related feature i.e. a bedrock low north of the conductor. A drill located at 0/180N, drilled grid south, may provide an explanation as to the source of this conductor.

LINE	STATION	# CHANNELS	DEPTH	QUALITY	COMMENTS
800W	275S	7	50m?	Weak	Weak conductor possibly related to weakly mineralized contact or shear. Sub-vertical dip.
800W	175S	7	?	Weak	Poorly resolved due to conductor to north.
800W	60S	8	50-100m	Weak	Broad response possibly due to wide conductor or overburden related feature.
800W	280N	12	?	Moderate	Incomplete response. Possibly overburden related however good stacking Hx in mid time.
700W	60S	7	50-100m	Weak	Weak conductor may be related to weakly mineralized contact or shear.
700W	280N	11	75-100m	Moderate	Broad response suggests wide conductor or may be overburden related however good Hx stacking in mid time.
600W	40S	10	50m	Weak	Weak sub-vertical conductor.

LINE	STATION	# CHANNELS	DEPTH	QUALITY	COMMENTS
600W	260N	13	100m	Moderate	Moderate strength sub-vertical.
500W	220S	7	50-75m?	Weak	Strong influence from conductor to north. Poorly resolved but probably sub-vertical.
500W	40S	12	100m	Moderate	Marked increase in strength from L600W. Well resolved high amplitude early time response suggests concentration of poorly conductive mineralization.
500W	100N	8	?	Weak	Pooly resolved due to multiple conductor responses
500W	160N	8	?	Weak	Probable near surface sub-vertical conductor.
500W	240N	11	75-100m	Weak	Decreased resolution from L600W.
400W	220S	5	?	Weak	Poor conductor may be overburden related.
400W	120S	7	?	Weak	Poorly resolved due to multiple conductor responses.
400W	60S	7	?	Weak	Poorly resolved due to multiple conductor responses - probably near surface sub-vertical.
400W	60N	7	?	Weak	Poorly resolved weak conductor.
400W	200N	11	75m?	Moderate	Well resolved moderate amplitude early to mid time response - probable sub-vertical dip.
300W	280S	5	?	Weak	Poorly resolved weak conductor.
300W	180S	6	?	Questionable	Questionable conductor.
300W	40S	7	?	Questionable	Poorly resolved questionable conductor.
300W	200N	11	75m?	Moderate	Well resolved but Hy suggests centre of conductor lies west of line.
200W	120S	11	?	Weak	Weak to moderate strength - improving mid time response. Negative Hy repsonse suggests possible moderate dipping conductor to the east.
200W	60N	11	?	Weak	Poorly resolved questionable response.
200W	180N	11	?	Weak	Probably off end of conductor to west.
200W	520N	11	?	Weak	Incomplete response. Possible conductor however poorly resolved due long distance from loop.
100W	160S	14	60m	Moderate	Well resolved mid time response but low amplitude - moderate to sub-vertical dip.
100W	100N	?	?	Questionable	Strong migration in Hz and Hx components suggest possible overburden related source.
100W	200N	?	?	Questionable	May be overburden related.
0E	220S	10	?	Weak	May be off end of conductor to west.
0E	80N	13	50m?	Moderate	Moderate strenght moderate north dip. May be overburden related i.e. bedrock low to north.

Table XI: Surface TEM Results.

4.2 Jessop 12 Borehole TEM Results

The 3D borehole TEM surveys over the Jessop 12 Properties outlined both in hole and off hole conductors. Detailed locations, information and interpretation is provided for each hole in the table below.

HOLE #	ANOMALY DEPTH (m)	ANOMALY TYPE	ANOMALY POLARITY	COMMENTS
JS12-02	90	In hole/Cross-over	Hz: -ve to +ve Hx: -ve to +ve Hy: +ve to –ve	Small surface area (<25m^2), limited depth extent, high conductivity conductor. Drill logs indicate graphitice argillite in the core from 93. Any increase in conductivity lies above (up dip) and right (grid east of the hole).
	130 - 140	Off hole	Hz: -ve Hx: +ve Hy: -ve to +ve	Moderate surface area (50m^2), high conductivity conductor. Althoug drill logs indicate graphitice argillite in the core from 93 to 165 meters it appears hole to be centred on conductor in dip direction but approximately 15 to 20 right (grid east) of source centre.

HOLE #	ANOMALY DEPTH (m)	ANOMALY TYPE	ANOMALY POLARITY	COMMENTS
	470	Edge/Off hole	Hz: +ve early time, -ve late time Hx: +ve to –ve Hy: +ve to –ve	Hole has tested edge of small surface area (<25m^2), high conductivity conductor. Source centre is interpreted to lie 5 – 10m below (down dip) and right (grid east) of the drill hole.
JS12-03	145	In hole	Hz: +ve Hx: -ve Hy: +ve to –ve	Hole has tested centre region of moderate area (50m^2), moderate to strong conductivity conductor. Any increase in conductivity will lie left (grid east) of the hole.
	160	Off hole	Hz: -ve Hx: +ve to –ve Hy: +ve to –ve	Moderate area (50m^2), high conductivity conductor – late time response only (Ch 16 – 20). Source is interpreted to lie approximately 20m below (down dip) and left (grid east) of the drill hole. Migration of the Total Field peak down the hole (175m) suggests the conductor is not at right angles to the drill hole.
JS12-05 Collar Loop	300	In hole	Hz: +ve Hx: -ve to +ve Hy :+ve to -ve	Hole has tested centre region of moderate area (50m^2) moderate to strong conductivity conductor. Proabable down dip extension of conductor tested in JS12-03 at 145m. Any increase in conductivity will be located above (up dip) and right (grid west) of the drill hole.
	325	In hole	Hz: +ve Hx: +ve to –ve? Hy: -ve to +ve	Small area (<25m^2)weak conductor tested by drill hole.
JS12-05 South Loop	300	Reversed In hole	Hz: -ve Hx: –ve to +ve Hy: +ve to –ve	Same as Collar Loop – Responses reversed polarity due to reversed energization from south loop.
	325	Reversed In hole	Hz: -ve Hx: –ve to +ve Hy: +ve to –ve	Same as above.
JS12-06	150	Off hole	Hz: -ve Hx: –ve to +ve Hy: -ve to +ve	Moderate area (50m2) high conductivity source located approximately 30m above (up dip) but predominantly right (grid west) of the hole

Table XII: Borehole TEM Results.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Four Corners Surface TEM Survey

The TEM suvey over the Four Corners area was successful in delineating conductive trends mostly in the weak to moderate conductance (7 – 13 channels) and small to moderate size (50 – 100m area). These conductors may be related to weakly mineralized bodies, contacts or shears, or also may represent zones of weak conductive mineralization associated with zinc rich sulphides. Drill holes located on lines 400W and 0 should provide an explanation of the source of Conductors A, B and D. Conductor C has not been tested within the survey grid area but should be investigated further with respect to its mineral potential should the other conductors contain economic mineralization.

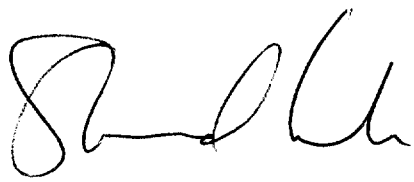
5.2 Jessop 12 Borehole TEM Surveys

The 3D borehole TEM surveys over the Jessop 12 Property were successful in providing information with respect to conductors tested by the drill holes and conductors lying off the drill holes. Of particular interest are off hole conductors detected in holes JS12-03 and JS12-06.

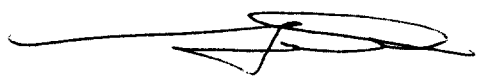
The off hole conductor at 150m in JS12-03 is significant due to its' long time constant (CH 16-20 response) and its' proximity to the in hole response at 145m. This is interpreted as a separate conductor consisting of more conductive material i.e. massive suphide source. Although it appears this conductor may have limited depth extent (Hx response indicates conductor is up dip from hole) drill testing should be considered to determine its' mineral potential.

The off hole conductor in hole JS12-06 may have potential as well however the survey indicates the hole has passed below the conductor indicating a sourve of limited depth extent. If this conductor is felt to be geologically favourable, drill testing is recommended to the intersect the source west and south of the existing drill hole.

RESPECTFULLY SUBMITTED

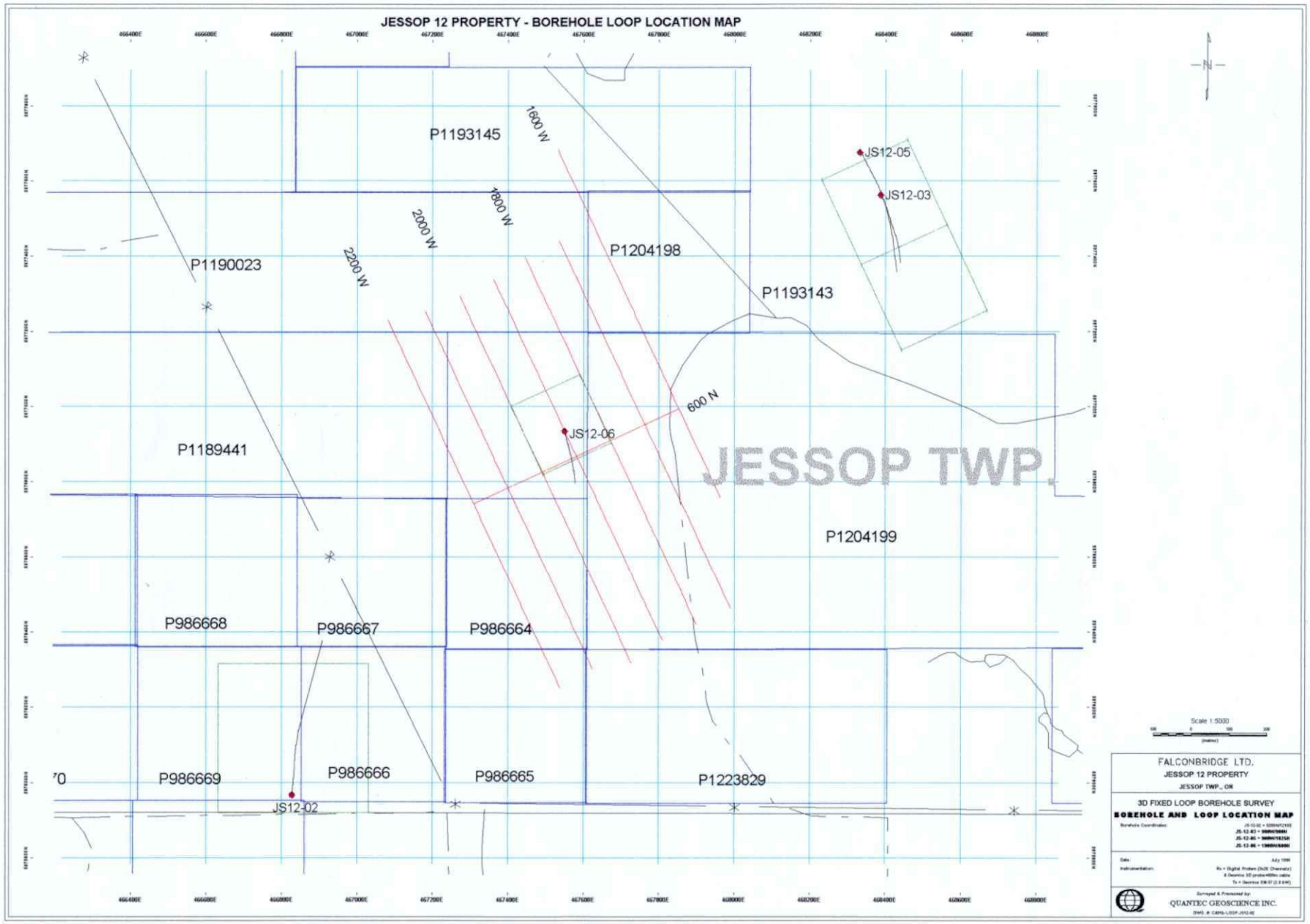


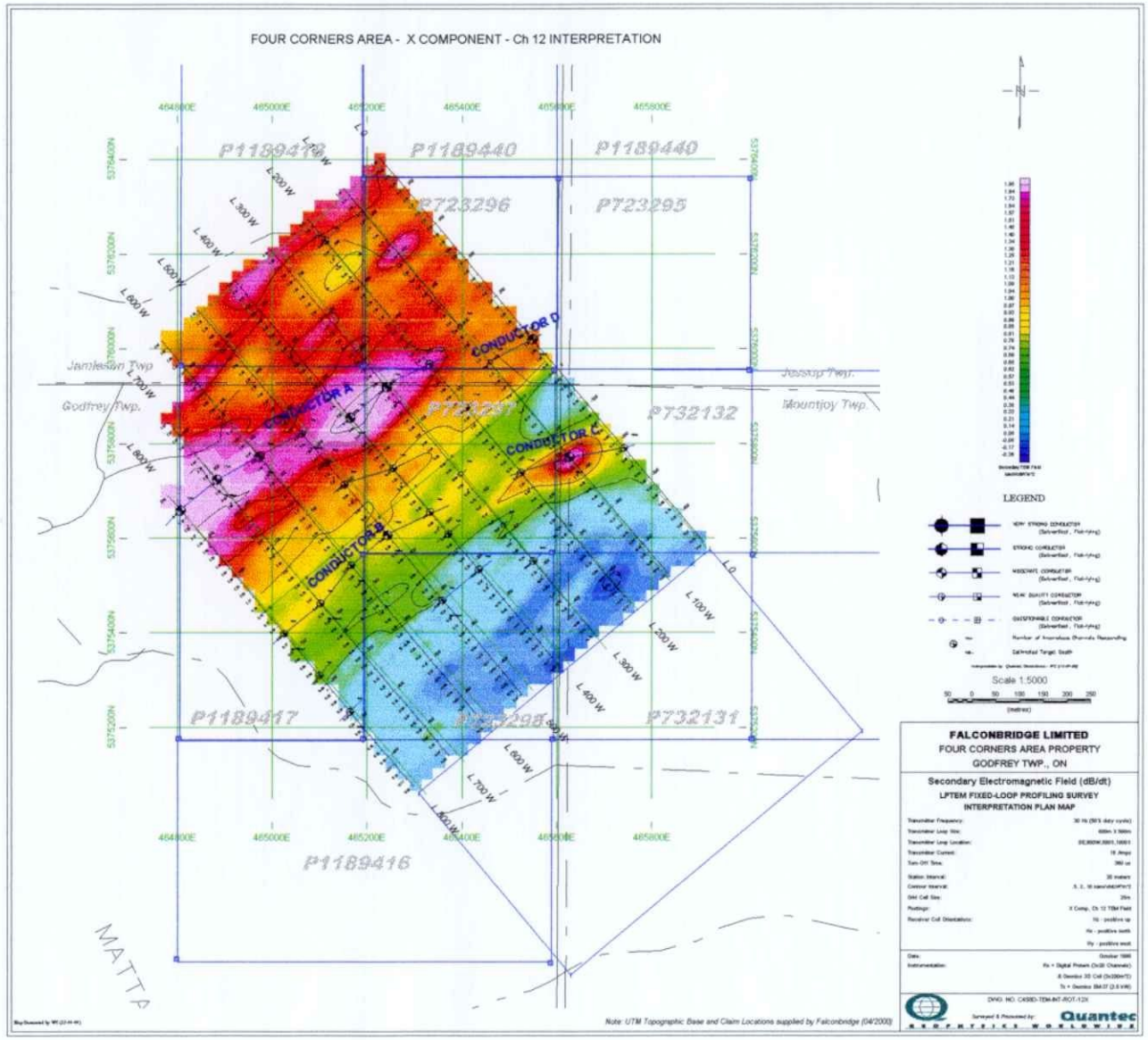
Sherwood Coulson
Senior Geophysicist



Jean Legault
Senior Geophysicist

Porcupine ON


JESSOP 12 PROPERTY - BOREHOLE LOOP LOCATION MAP
P1193145
1600 W
1800 W
2000 W
2200 W
JS12-05
JS12-03
P1204198
P1190023
P1193143
600 N
JS12-06
P1189441
JESSOP TWP.
P1204199
P986668
P986667
P986664
P986669
P986666
P986665
P1223829
JS12-02
Scale 1:5000
FALCONBRIDGE LTD.
JESSOP 12 PROPERTY
JESSOP TWP., ON
3D FIXED LOOP BOREHOLE SURVEY
BOREHOLE AND LOOP LOCATION MAP
QUANTEC GEOSCIENCE INC.


FOUR CORNERS AREA - X COMPONENT - Ch 12 INTERPRETATION
464800E
465000E
465200E
465400E
465600E
465800E
5376400N
5376200N
5376000N
5375800N
5375600N
5375400N
5375200N
P1189417
P1189440
P723296
P723295
P732132
P732131
P1189416
CONDUCTOR A
CONDUCTOR B
CONDUCTOR C
CONDUCTOR D
L 100 W
L 200 W
L 300 W
L 400 W
L 500 W
L 600 W
L 700 W
L 800 W
L 0
Jamieson Twp.
Godfrey Twp.
Mountjoy Twp.
MATTA
LEGEND
Scale 1:5000
FALCONBRIDGE LIMITED
FOUR CORNERS AREA PROPERTY
GODFREY TWP., ON
Secondary Electromagnetic Field (dB/dt)
LPTEM FIXED-LOOP PROFILING SURVEY
INTERPRETATION PLAN MAP
Quantec
GEOPHYSICS WORLDWIDE
Note: UTM Topographic Base and Claim Locations supplied by Falconbridge (04/2000)

APPENDIX A

STATEMENT OF QUALIFICATIONS

I, Sherwood T. Coulson, hereby declare that:

1. I am a consulting geophysicist with residence in Porcupine, Ontario and am presently employed in this capacity with Quantec Consulting Inc. of Porcupine, Ontario.

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

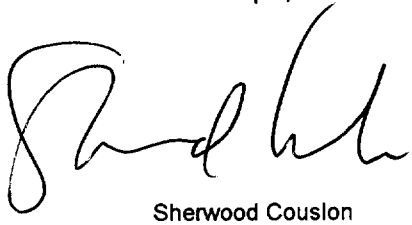
3. I have practiced my profession in Europe and North America continuously since graduation.

4. I am a member of the Canadian Society of Exploration Geophysicists and 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 **Falconbridge Limited.**

6. I oversaw the survey execution and validation of data. The statements made by me in this report represent my best opinion and judgment based on the information available to me at the time of the writing of this report.

Porcupine, Ontario
April, 2000



Sherwood Coulson
Senior Geophysicist
Quantec Consulting Inc.

APPENDIX A

STATEMENT OF QUALIFICATIONS

I, Jean M. Legault, declare that:

1. I am a consulting geophysicist with residence in South Porcupine, Ontario and am presently employed in this capacity with Quantec IP Inc. of Waterdown, Ontario.

2. I obtained a Bachelor's Degree, with Honours, in Applied Science (B.A.Sc.), Geological Engineering (Geophysics Option), from Queen's University at Kingston, Ontario, in Spring 1982.

3. I am a registered professional engineer, since 1987, with license to practice in the Province of Ontario (Reg #90531542).

4. I have practiced my profession continuously since May, 1982, in North-America, South-America and North-Africa.

5. I am a member of the Association of Professional Engineers of Ontario, the Northern Prospectors Association, the Prospectors and Developers Association of Canada, and the Society of Exploration Geophysicists.

6. I have no interest, nor do I expect to receive any interest in the properties or securities of **FALCONBRIDGE LTD.**

7. I reviewed the contents of this report and the maps contained. The statements made in this report represent my professional opinion based on my consideration of the information available to me at the time of writing this report.

Porcupine, Ontario
April, 2000

Jean M. Legault, P.Eng.
Chief Geophysicist
Dir. Technical Services
Quantec Group

APPENDIX B

SURVEY PROCEDURES AND GENERAL THEORY

TEM Surface Surveys

TEM profiling is conducted on lines either adjacent to (Off-Loop mode) or surrounded by (In-Loop mode) a large fixed rectangular transmit loop. Current is passed through the loop which following the Turn-Off, produces a primary magnetic field (H) both inside and outside (Figure B1). This primary field induces a vortex current pattern, which energizes conductors and which in turn create their own secondary magnetic field (Bs). The rate of change of the decaying secondary magnetic flux (dBs/dt) is measured as the vertical (**Hz**), in-line horizontal (**Hx**) and/or cross line horizontal (**Hy**) vector components on surface using an air-core sensor coil. These measurements of the TEM decay (20 log-time slices) are taken during the "Off-Time", using a 30 cycle/sec, base repetition rate.

In keeping with the industry standard, the primary field is always considered positive up inside the loop and negative down outside. Similarly, for secondary EM fields, the receiver coil is oriented positive vertical up for the **Hz** component. The convention for In-Loop surveys, has the in-line component, **Hx** oriented either positive east (for grid EW lines) or north (for grid NS lines). The Off-Loop survey convention differs, with the receiver coil orientation for **Hx** pointing positive away from the transmit loop (for EW or NS lines). Finally, the sign convention in all cases, has the **Hy** component pointing positive orthogonal to the left of the **Hx,** according to the right-hand-rule.

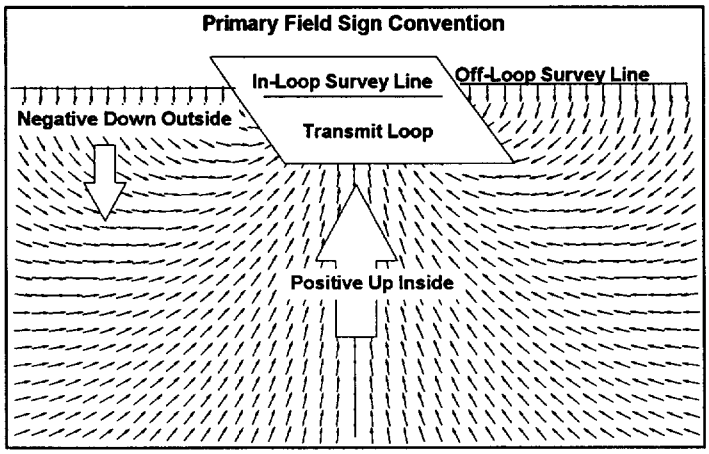


Figure B1: Primary field sign convention for TEM surveys.

At the end of each survey day, the stored data are transferred to a microcomputer using PROTEM and edited and viewed using DATEM (both programs written by **Geonics**). From there the data is corrected for the turn-off time, loop area, system gain and current, converted from millivolts to nanoVolts per ampere meter squared or nanoVolts per meter squared and Geosoft formatted XYZ files created using GEOPARSE written by Quantec. The data are then transferred to disk for storage and processing. Report quality field plots are generated on site, using a 24-pin printer in order to monitor the data characteristics and to provide a preliminary interpretation capability.

The following equations govern the transient EM response for buried plate-like conductive bodies[1]

Target Response to Transmitter Current Waveform:

$$emf = \frac{1}{\tau} e^{-t/\tau}$$

$$\textit{where: } t = \textit{fixed time}$$

$$e = \textit{exponential decay}$$

$$\tau = \textit{time constant of conductor}$$

The time constant of the response is alternatively defined as the slope of the lin-log decay curve (Geonics) or, more exactly, as the time channel where the amplitude of the decay collapses to 37% (1/e) of its maximum value. Both τ and the analogous decay strength (ie., the number of anomalous channels above background), are commonly used as indicators of conductor quality. This relationship between decay-strength and the conductivity-thickness can easily be demonstrated in the following equation for a vertically dipping conductive sheet:

$$\tau = \frac{\sigma\mu th}{\pi^2} \textit{ for a thin plate}$$

$$\textit{where } \sigma = \textit{conductivity of target}$$

$$\mu = \textit{magnetic susceptibility}$$

$$t = \textit{thickness of plate}$$

$$h = \textit{vertical extension of plate}$$

thereby giving, for an infinite vertical sheet:

$$\sigma t = \frac{\pi^2}{\mu h}\tau \approx \tau/_{0.31} \textit{ mhos / metre (siemens)}$$

From these equations and relationships, it therefore becomes obvious of the common use of the anomaly strength of decay as a simple, rule-of thumb indicator of the relative conductivity-thickness product for TEM surveys.

In addition, the total secondary field is calculated using the three components (Hx, Hy and Hz) in the following formula

$$Htot = \sqrt{Hx^2 + Hy^2 + Hz^2}\, nanoVolt / Am^2.$$

[1] From Geonics Limited, EM-37 TEM System Design Parameter, Mississauga, Ont., 1982.

APPENDIX C

INSTRUMENT SPECIFICATIONS

GEONICS LIMITED

EM-37 Transmitter
Technical Specifications

Current Waveform: bipolar square wave.

Repetition Rate: 3Hz, 7.5Hz or 30Hz in countries using 60Hz power line frequency; 2.5Hz, 6.25Hz or 25Hz in countries using 50Hz power line frequency; all six base frequencies are switch selectable.

Turn-off Time (t): fast linear turn-off maximum of 450 μsec. at 30 amps into a 300x600 meter loop. Decreases proportionally with current and the root of the loop area to a maximum of 20 μ sec. Actual value of t read on front panel meter.

Transmitter Loop: any dimensions from 40x40 meters to 300x600 meters maximum at 30 amps. Larger dimensions at reduced current. Transmitter output voltage switch adjustable for smaller loops. Value of loop resistance read from front panel meter; resistance must be greater than 1 ohm on lowest setting to prevent overload.

Protection: circuit breaker protection against input over voltage; instantaneous solid state protection against output short circuit; automatically resets on removal of short circuit. Input voltage output voltage and current indicated on front panel meter.

Output voltage: 24 to 160 volts (zero to peak) maximum

Output power: 2800 watt maximum

Motor generator: 5 HP Honda gasoline engine coupled to a 120 volt, three phase, 400 Hz alternator. Approximately 8 hours continuous operation from built-in fuel tank.

Component Dimensions and Weights

Transmitter Console: 20 by 42 by 32 cm, 20 kg

GPU: 44 by 32 by 21 cm, 65 kg

APPENDIX C

INSTRUMENT SPECIFICATIONS

GEONICS LIMITED

Digital Protem Ground Transient Electromagnetic System
Technical Specifications

Receiver

Measured Quantity: Time rate of decay of magnetic flux along 3 axes

Sensors:

1. (L.F.):	Air-cored coil of bandwidth 60 kHz; 100 cm diameter
2. (H.F.):	Air-cored coil of bandwidth 850 kHz; 100 cm diameter
3. (3D-3):	Three orthogonal component sensor; simultaneous operation
4. (3D-1):	Three orthogonal component sensor; sequential operation

Time channels: 20 geometrically spaced time gates for each base frequency gives range from 6 μsec to 800 msec.

Repetition Rate: (Base Frequency) 0.3 Hz, 0.75, 3, 7.5, 30, 75 or 285 Hz for 60 Hz power-line networks

Synchronization: (switch selectable):
(1) reference cable
(2) high stability (oven controlled) quartz crystals.

Integration time: 2, 4, 8, 15, 30, 60, 120, 240 sec.

Calibration: Internal self calibration
External Q coil calibration (optional)

Keyboards: Two 3 x 4 matrix sealed key pads with positive tactile feedback

Gain: Automatic or manual control

Dynamic Range: 23 bits (132 dB)

Display Quantity:
(1) Table of time rate of decay of magnetic flux (dB/dt)
(2) Curve of rate of decay of magnetic flux (dB/dt)
(3) Table of apparent resistivity (ρ_a)
(4) Curve of apparent resistivity (ρ_a)
(5) Profile of dB/dt
(6) Real time noise monitor
(7) Calibration curve
(8) Data acquisition statistics (real time)

Storage: Solid state memory with capacity for over 3000 data sets

Display: 8 lines by 40 character (240 x 64 dot) graphic LCD

Data Transfer: Standard RS-232 communications port.

Processor: CMOS 68HC000 8 MHz CPU

Receiver Battery: 12 volts rechargeable battery for 8 hours continuous operation. 6 hours in XTAL mode

Receiver Size: 34 x 38 x 27 cm

Receiver Weight: 15 kg

Operating Temp.: -40°C to +50°C

Transmitters: (1) Geonics TEM47
(2) Geonics TEM57
(3) Geonics TEM37

Gate Locations

GATE	285/237.5 Hz			75/62.5 Hz			30/25 Hz			GATE
1	6.000	6.813	1.625	32.00	35.25	6.500	80.00	88.13	16.25	1
2	7.625	8.688	2.125	38.50	42.75	8.500	96.25	106.9	21.25	2
3	9.750	11.13	2.750	47.00	52.5	11.00	117.5	131.3	27.5	3
4	12.50	14.19	3.375	58.00	64.75	13.50	145.0	161.9	33.75	4
5	15.88	18.07	4.375	71.5	80.25	17.50	178.8	200.6	43.75	5
6	20.25	23.06	5.625	89.00	100.3	22.50	222.5	250.6	56.25	6
7	25.88	29.44	7.125	111.5	125.8	28.50	278.8	314.4	71.25	7
8	33.00	37.56	9.125	140.0	158.3	36.50	350.0	395.6	91.25	8
9	42.13	47.94	11.63	176.5	199.8	46.50	441.3	499.4	116.3	9
10	53.75	61.13	14.75	223.0	252.5	59.00	557.5	631.3	147.5	10
11	68.50	77.94	18.88	282.0	319.8	75.50	705.0	799.4	188.8	11
12	87.38	99.38	24.00	357.5	405.5	96.00	893.8	1014	240.0	12
13	111.4	126.7	30.63	453.5	514.8	122.5	1134	1287	306.3	13
14	151.7**	166.4	29.38	576.0	654.3	156.5	1440	1636	391.3	14
15	181.1	206.0	49.88	732.5	832.3	199.5	1831	2081	498.8	15
16	231.0	262.8	62.63	932.0	1059	254.5	2330	2648	636.3	16
17	294.6	335.2	81.25	1187	1349	325.0	2966	3373	812.5	17
18	375.9	427.7	103.6	1512	1719	414.5	3779	4297	1036	18
19	479.5	545.6	132.1	1926	2190	528.5	4815	5475	1321	19
20	611.6	695.9	168.5	2455	2792	674.0	6136	6978	1685	20
21*	780.1			3129			7821			21*

* End of Gate 20

** A Gap of 9.7 μsec exists between Gate 13 and Gate 14 in the micro-frequency range/

This Table applies to both synchronization modes regardless of which of TEM37, TEM47 and TEM57 transmitters is used, provided that correct Tx model is selected in Header (2.4).

Note: 7.5/6.25 and 0.75/0.625 Hz proportional to 75/62.5 Hz
3/2.5 and 0.3/0.25 Hz proportional to 30/25 Hz

APPENDIX D

PRODUCTION SUMMARY

	FOUR CORNERS AREA				
	SURFACE TEM SURVEY				
DATE	DESCRIPTION	LINE/ HOLE	START	END	TOTAL (m)
8-Sep	Travel to 4 Corners grid and lay out loop in afternoon				
9-Sep	Read 3.5 lines at 30 Hz. Stopped late afternoon due to thunderstorm.	800W	500S	320N	820
		700W	500S	440N	940
		600W	500S	580N	1080
		500W	120N	580N	460
10-Sep	Read 3.5 lines at 30Hz. Hx data noisy in late time - lots of repeats.	500W	500S	120N	620
		400W	500S	580N	1080
		300W	500S	580N	1080
		200W	500S	580N	1080
11-Sep	Finish reading lines, retrieve loop and demob grid.	100W	500S	580N	1080
		0	500S	580N	1080
	Total for Four Corners Area				**9,320**

	JESSOP 12 PROJECT				
	3D BOREHOLE TEM SURVEY				
DATE	DESCRIPTION	HOLE	START (m)	END (m)	TOTAL(m)
22-Jul	Mob all equiment in and lay collar and south loops. Dummy holes JS12-03 (to 255 m) and JS12-05 (to 385m). JS12-05 gets too shallow at depth for the dummy or probe to go any further. Transmitter problem stops probing of JS12-05 before completion.	JS12-03	50	255	255
		JS12-05	50	220	220
23-Jul	JS12-05 is read from collar and south loops. Both loops picked up and all equipment demobed.	JS12-05	200	385	185
		JS12-05	50	385	385
24-Jul	All gear moved in place and the loop layed for JS12-06. Dummy and read hole to 229m.	JS12-06	50	229	229
27-Jul	Mob all equipment to new location and locate 1996 holes. J-96-1 blocked at 161m and dummy lost at that location. J-96-2 blocked at 200m and dummy lost there. JS12-02 dummied to 490m				
28-Jul	400m x 400m loop layed and JS12-02 logged. Loop picked up and all equipment demobed.	JS12-02	20	490	490
	Total for Jessop 12 Area				1764

APPENDIX E

OPERATOR COMMENTS

The survey over the Four Corners Area proceeded smoothly and without incidence except for a lightning-thunder storm in the afternoon of the first day (09/08/99). The operator was forced to shut down to prevent damage to equipment and maintain data quality that would have been compromized by the atmospheric activity.

The recut survey lines were good, as was the access to the grid.

Coil orientation and its distance from the receiver was maintained throughout to minimize noise.

Martin Kratochvil
Senior Geophysical Operator, QCI
10/99

The borehole survey over the Jessop 12 property produced clean, good quality data but several incidents were encountered which slowed or impeded progress. Hole JS12 -03 was too shallow at depth for the dummies or probe to slide further than 255m on a drilled hole of 290m. Two dummies were sent down simultaneously but no additional progress was made. JS12-05 had to be logged in two different sections due to equipment problems but the data sets were overlapped to ensure there were no merging problems.

Holes J-96-1 and J-96-2 were both blocked well above the areas of interest and the client chose not to have them logged. Some time was spent locating these holes because they were old and most markings were gone. However, access was good, given their age, and the grid was still visible.

Paul Plazek
Field Project Manager
pers.com., 08/98

APPENDIX F

LIST OF MAPS

- **LPTEM Surface Profiles:** **Multi-Channel 4-Axis Profile Plots:** (time rate of decay of the secondary electromagnetic field, 3D: Total Field, X, Y and Z components, 30Hz, 1:5000 scale, nanoVolts per metre^2)

LINES	DRAWING # (K=Z,X,Y+TF)	Number of Profiles
0E	C458-4AXIS-K-0E	4
100W	C458-4AXIS-K-100W	4
200W	C458-4AXIS-K-200W	4
300W	C458-4AXIS-K-300W	4
400W	C458-4AXIS-K-400W	4
500W	C458-4AXIS-K-500W	4
600W	C458-4AXIS-K-600W	4
700W	C458-4AXIS-K-700W	4
800W	C458-4AXIS-K-800W	4
	TOTAL	36

- **Plan Maps:** **Contoured/Posted Plan:** Total TEM Field, 1:5000 scale

  C-458d-TEM-CONT-4CORNERS-12TF

TOTAL MAPS: 36 profiles + 1 plan

- **LPTEM Borehole Profiles:** **Multi-Channel 4-Axis Profile Plots:** (time rate of decay of the secondary electromagnetic field, 3D:Total Field, X, Y and Z components, 1:2000 scale, nanoVolts per metre^2)

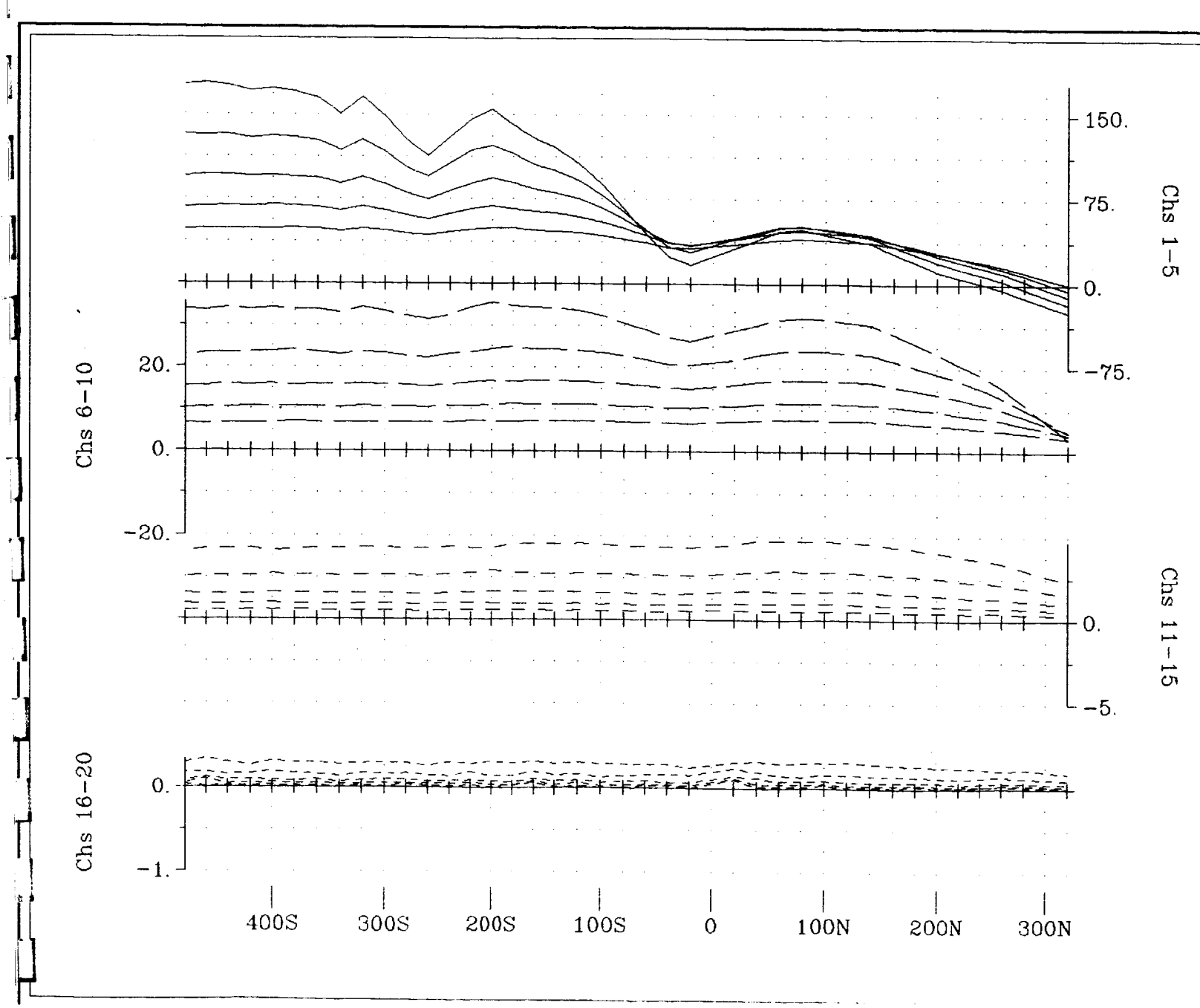
HOLE	DRAWING # (K=X,Y,Z and TF for Total Field
JS12-03	C-431—BH4A-K-JS12-03c
JS12-05	C-431—BH4A-K-JS12-05s
JS12-05	C-431—BH4A-K-JS12-05c
JS12-06	C-431—BH4A-K-JS12-06c
JS12-02	C-431—BH4A-K-JS12-02c
TOTAL	20

- **Borehole Location Map** (1:5000 scale):

1. Borehole Loops and Locations:
   C-431-LOOP-JS12-02
   C-431-LOOP-JS12-03
   C-431-LOOP-JS12-05
   C-431-LOOP-JS1205
   C-431-LOOP-JS12-06

APPENDIX G

PROFILES AND PLAN



Line 800W - Z Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

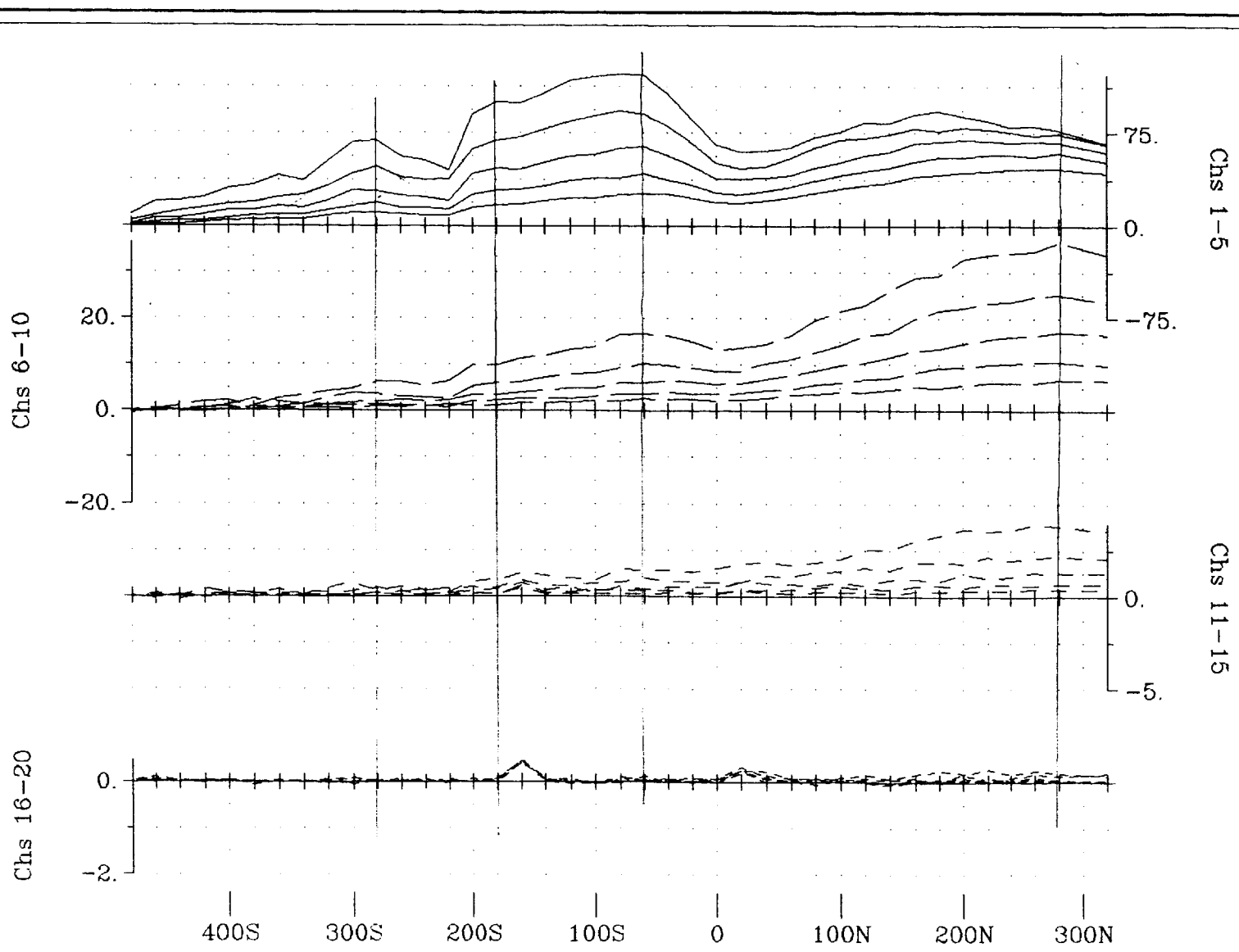
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Z-800W



Line 800W - X Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

Secondary Electromagnetic Field (dB/dt)

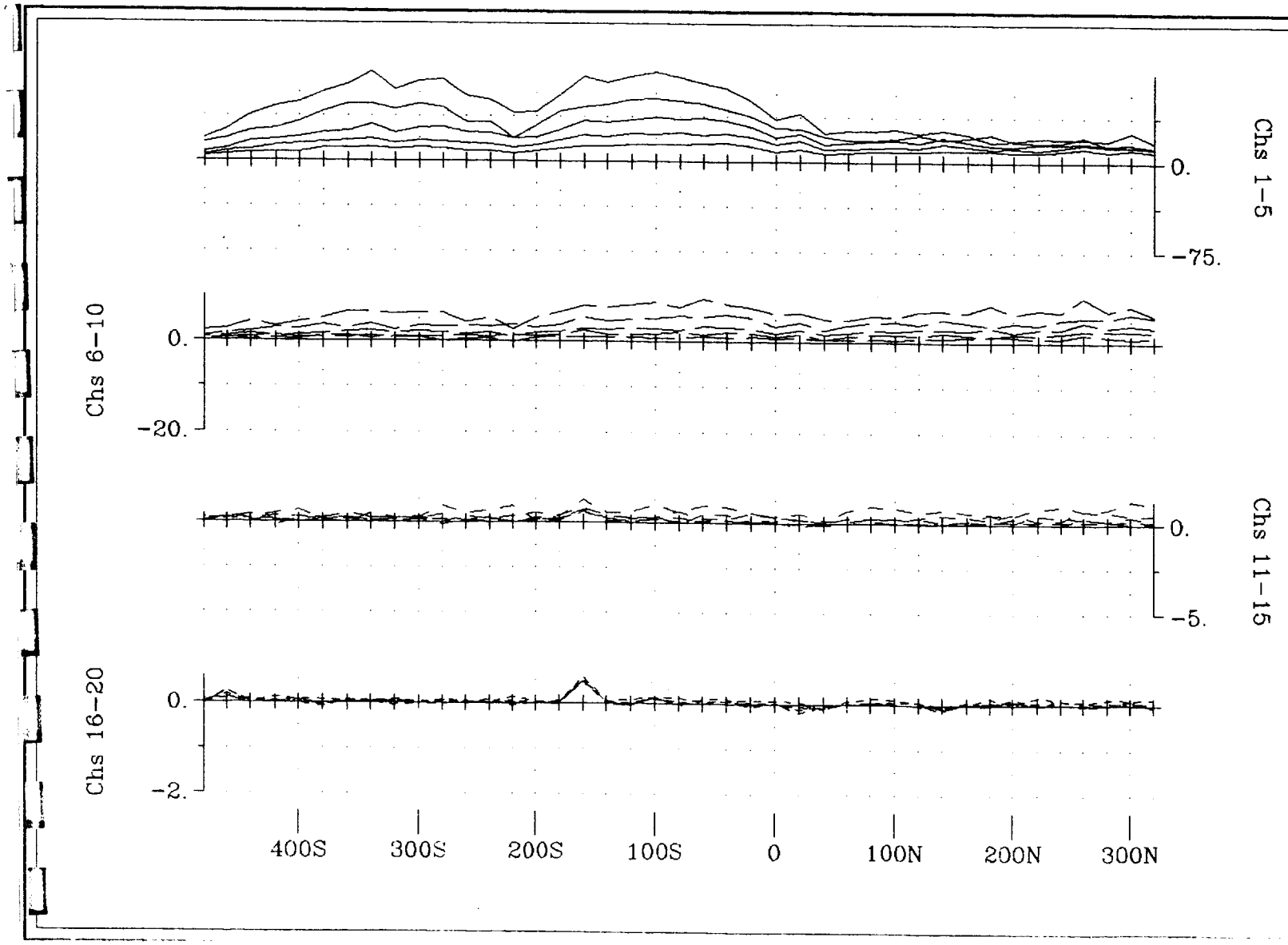
Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-X-800W

Line 800W – Y Component



Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

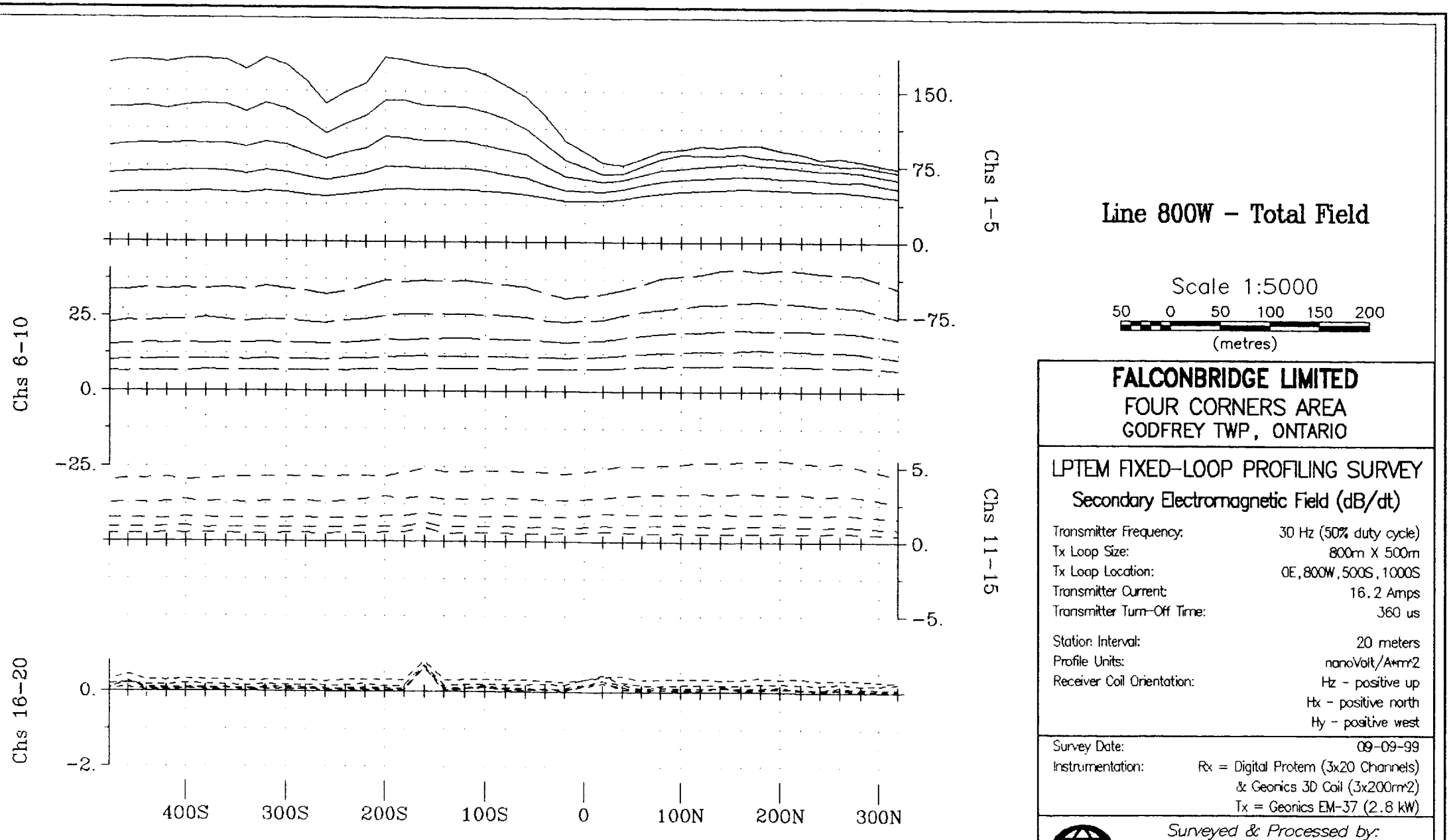
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Y-800W



Line 800W - Total Field

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

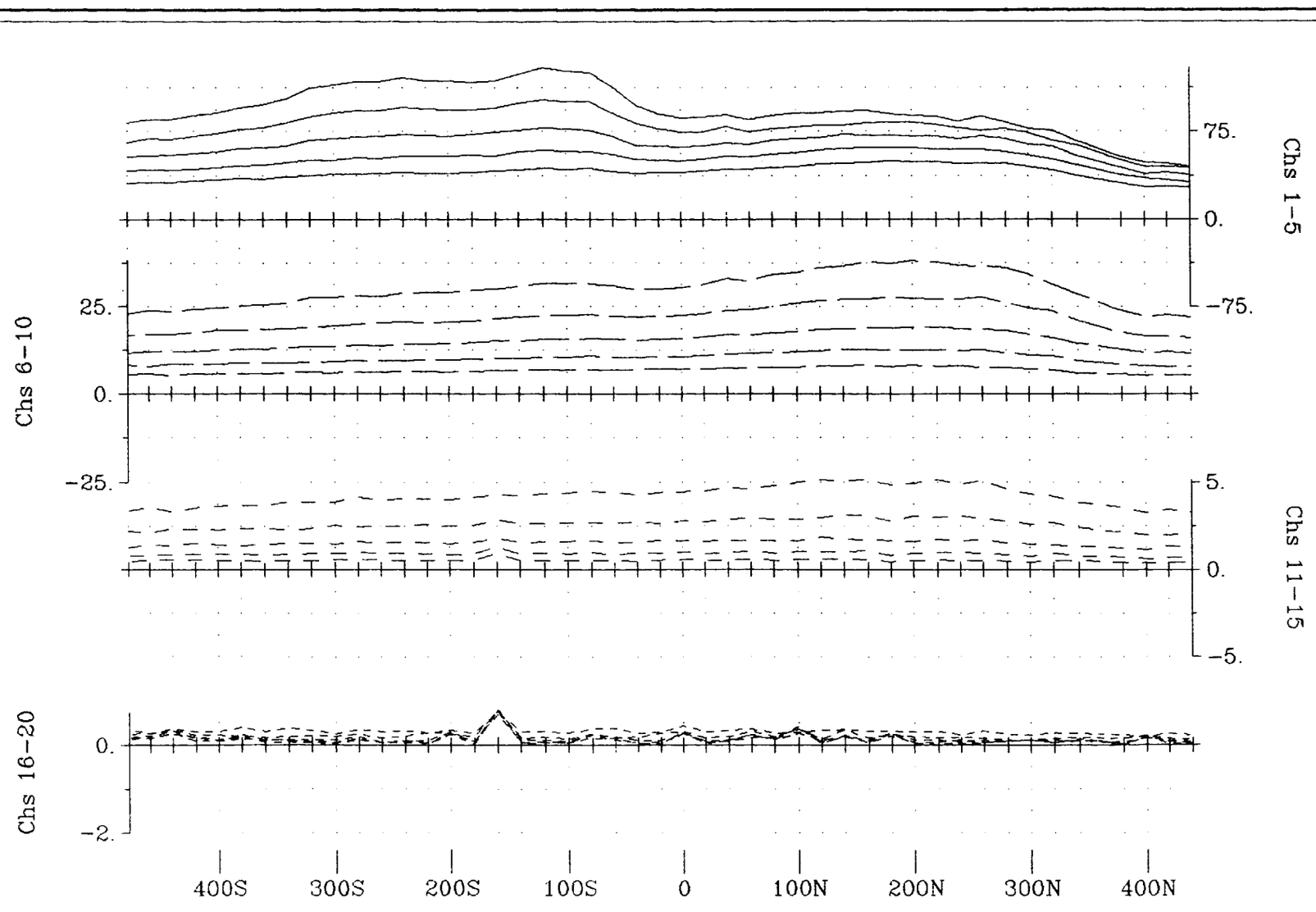
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-TF-800W



Line 700W – Total Field

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

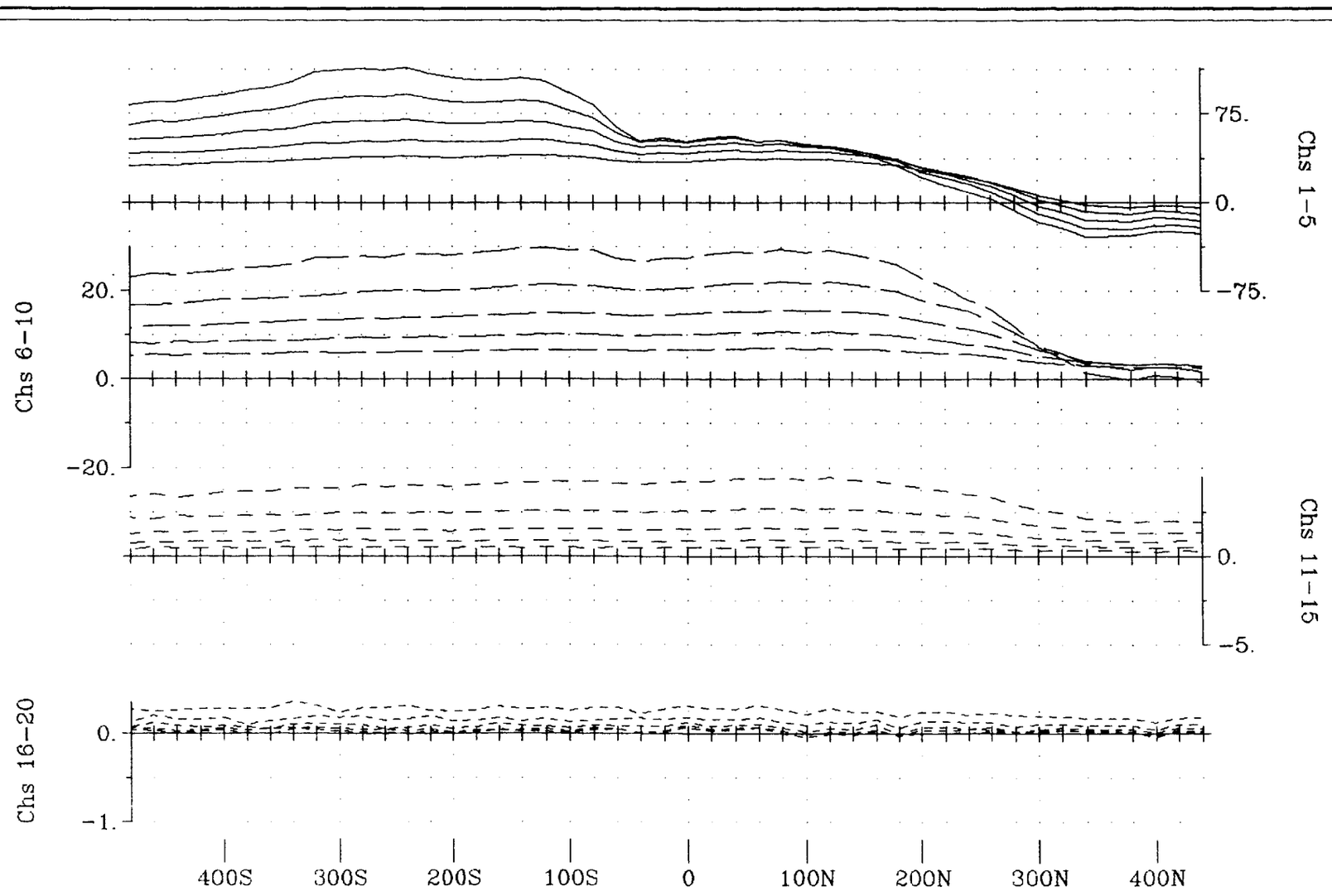
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/Am^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-TF-700W



Line 700W - Z Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

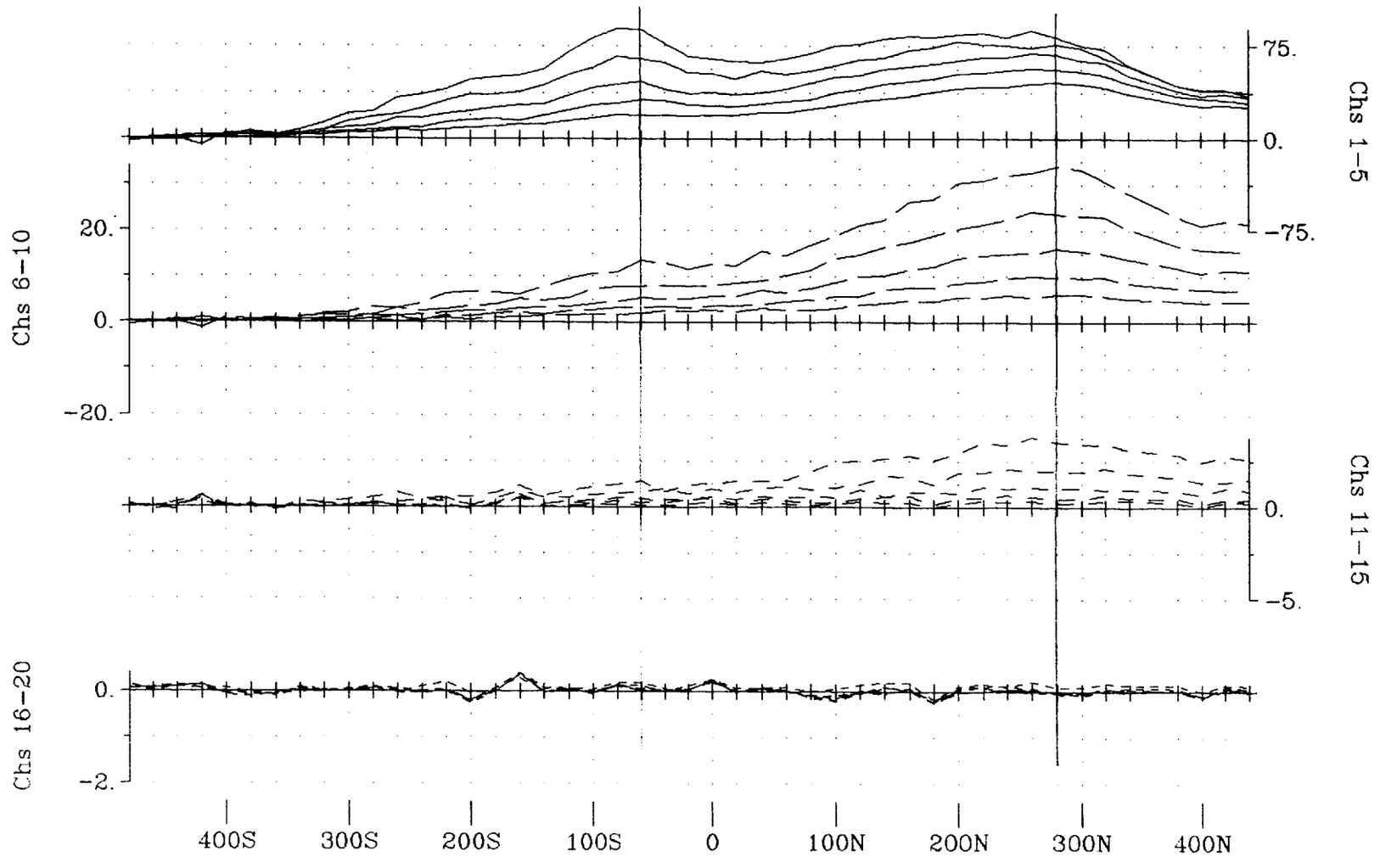
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Z-700W



Line 700W - X Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

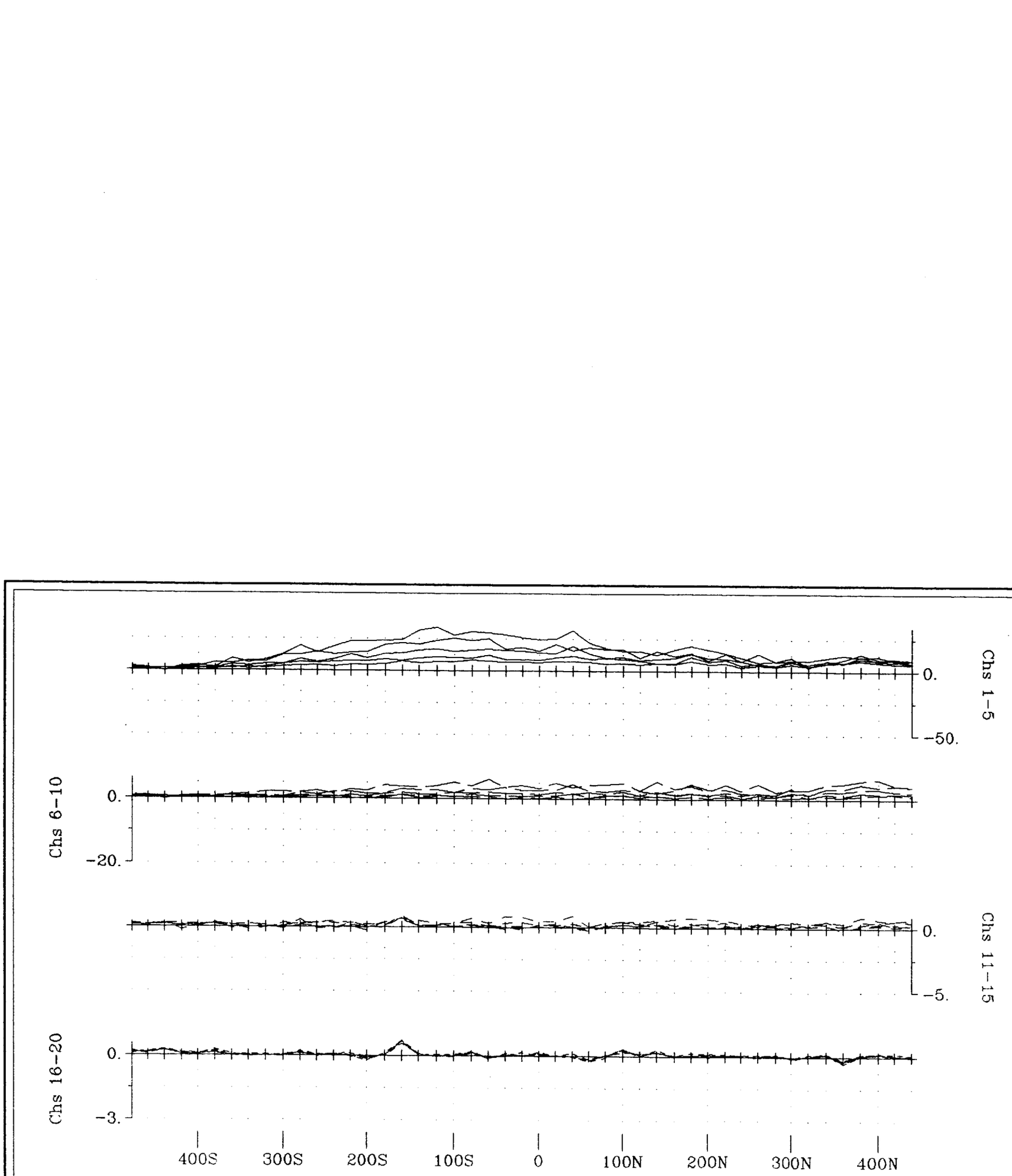
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-X-700W



Line 700W – Y Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

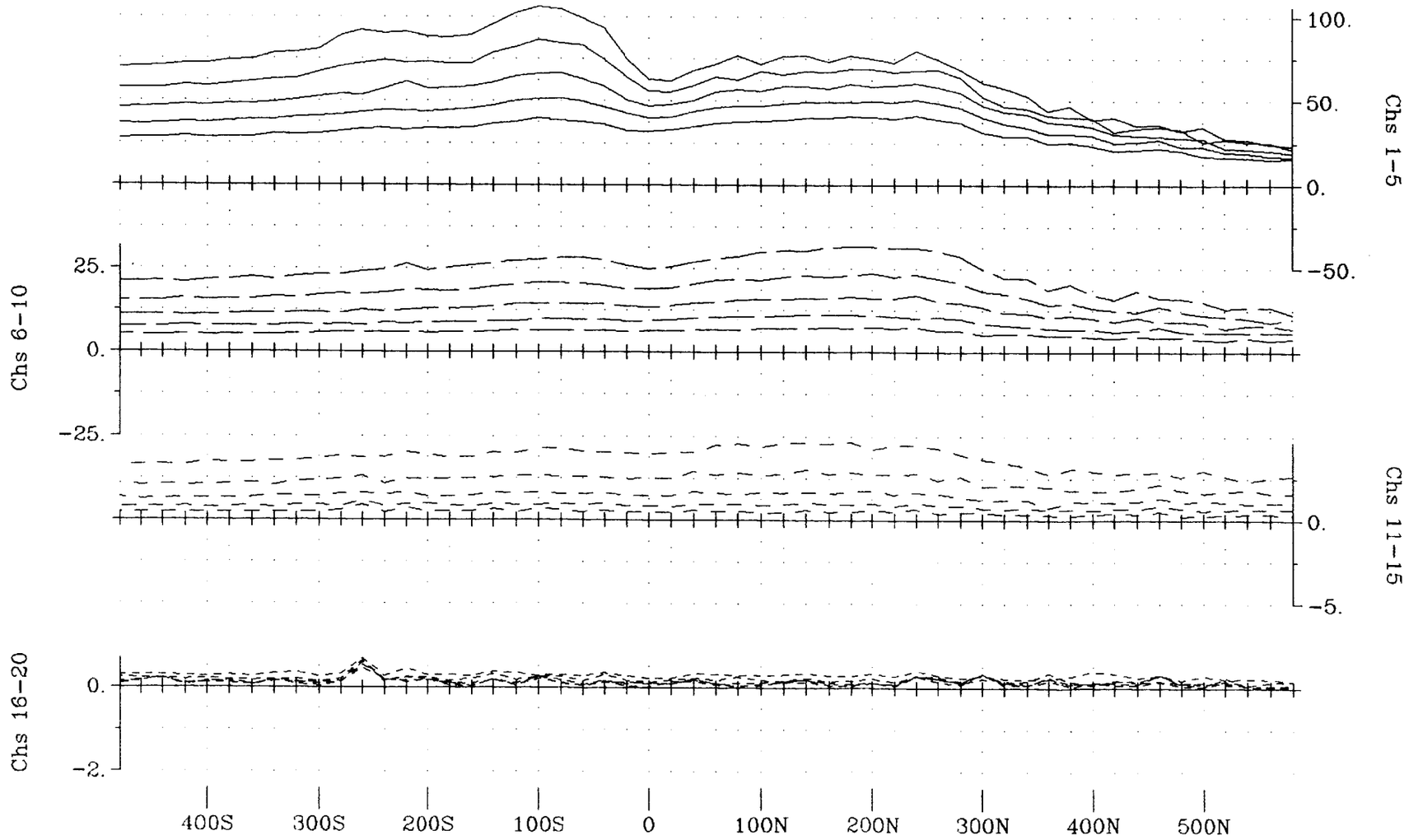
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A-m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Y-700W



Line 600W – Total Field

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

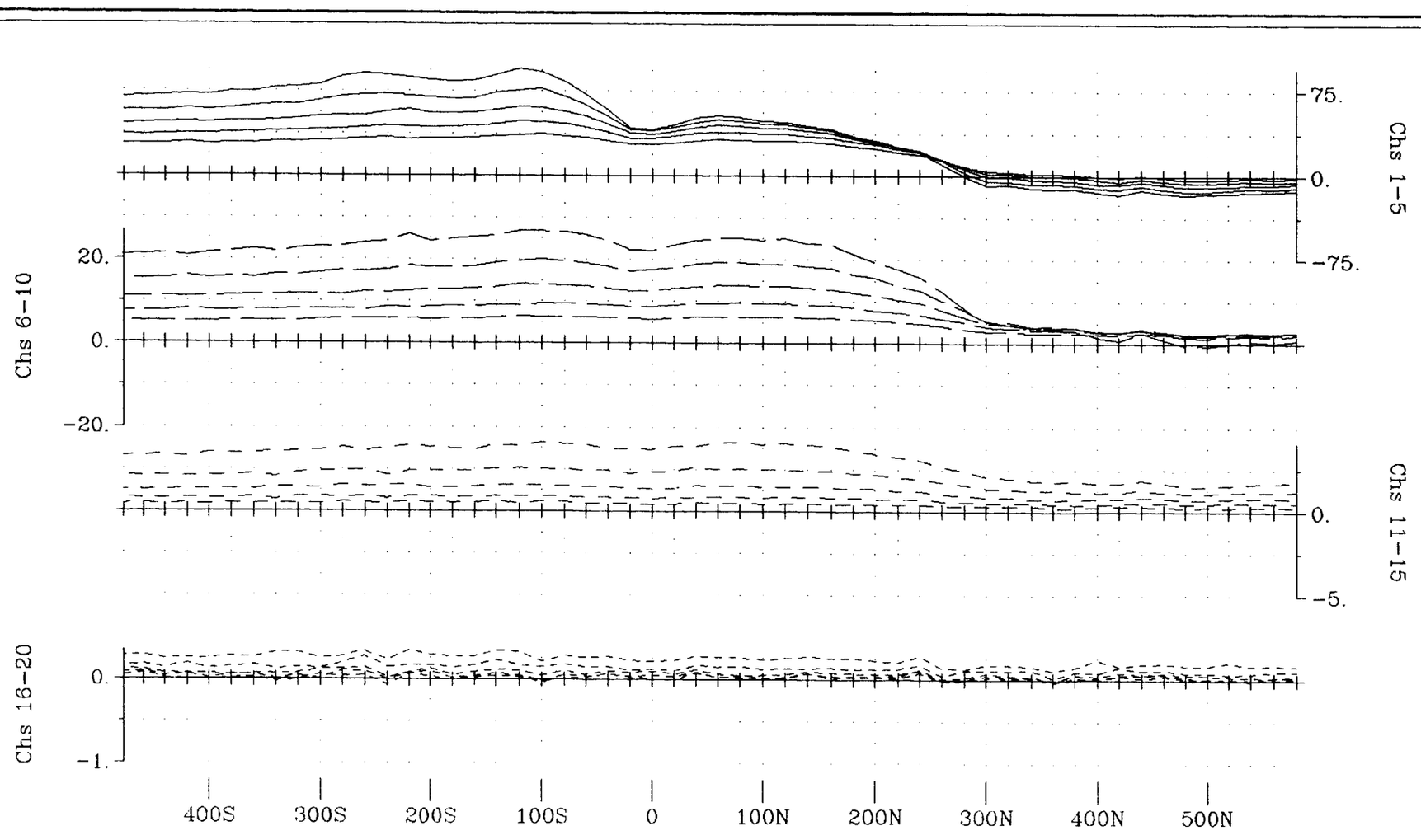
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-TF-600W



Line 600W – Z Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

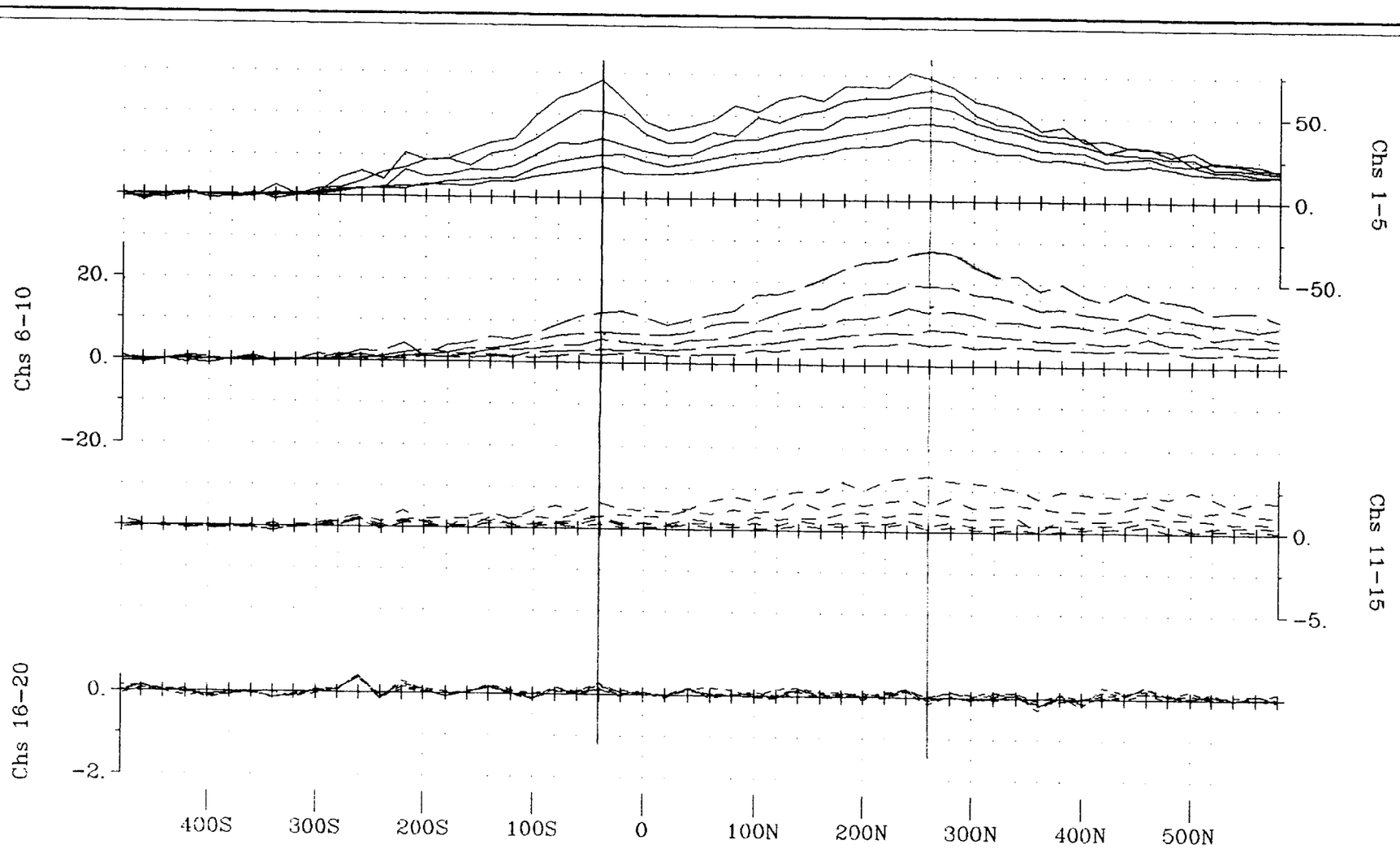
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Z-600W



Line 600W – X Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

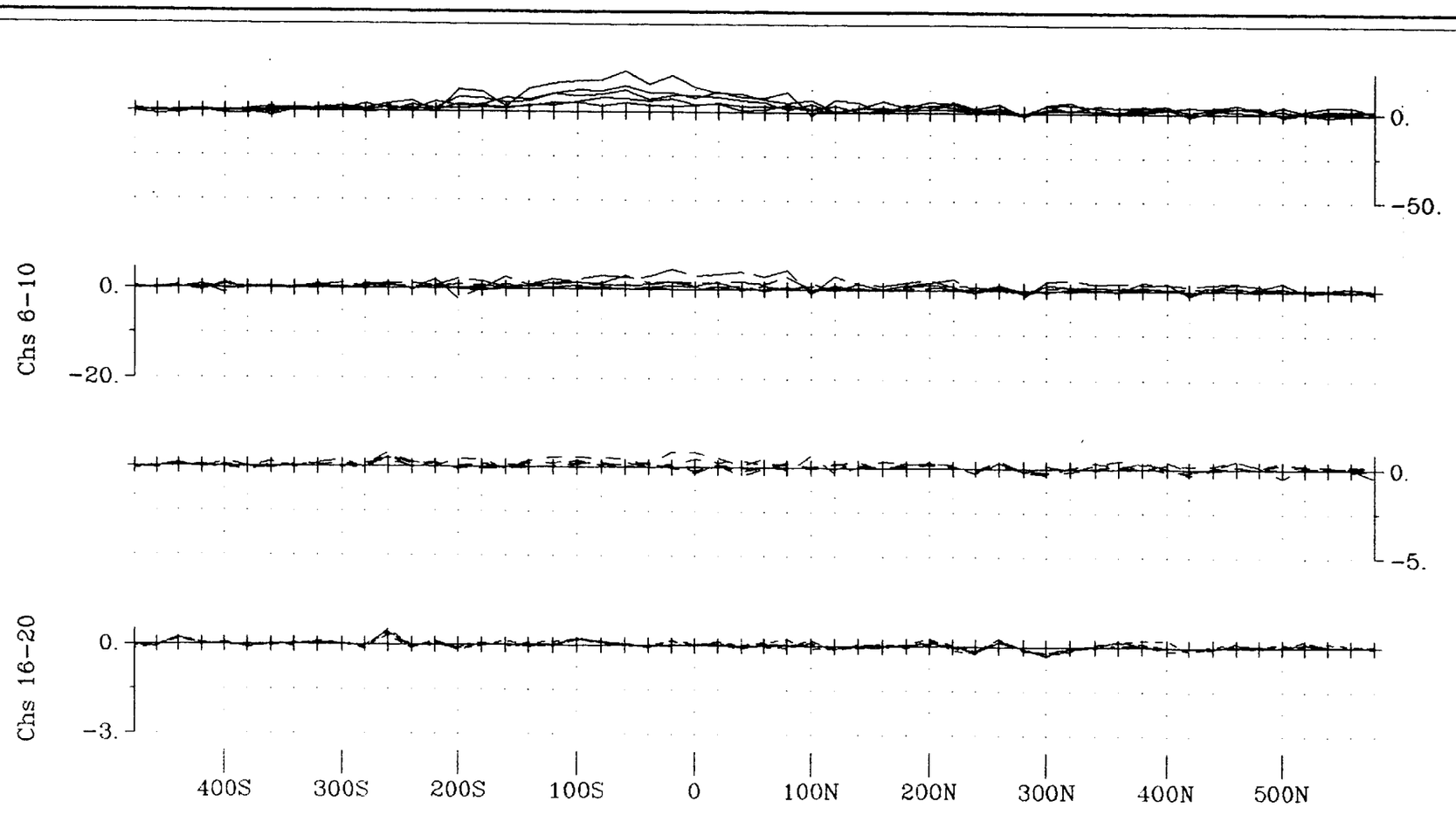
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-X-600W



Line 600W – Y Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

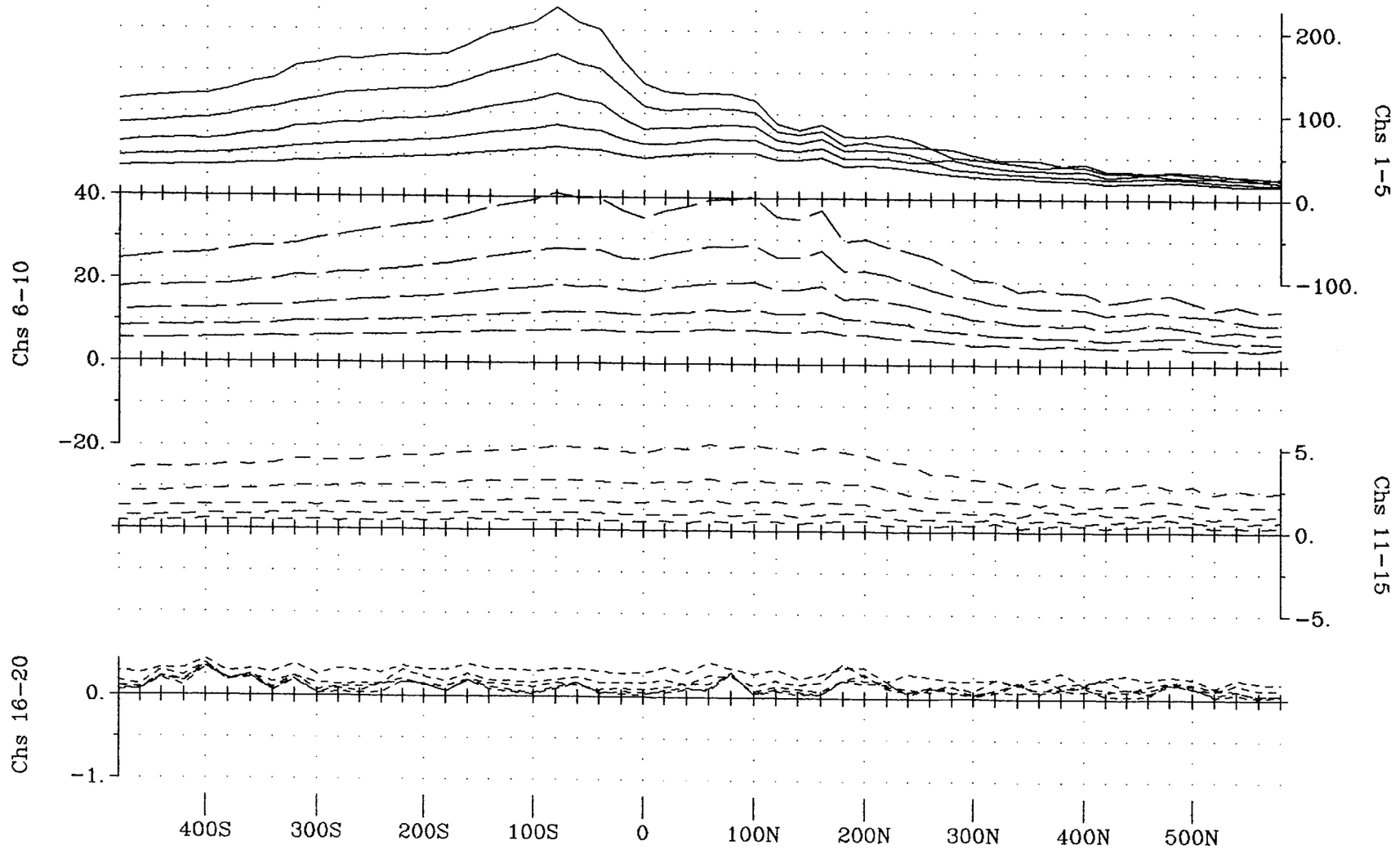
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.2 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	09-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Y-600W



Line 500W – Total Field

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWOOP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

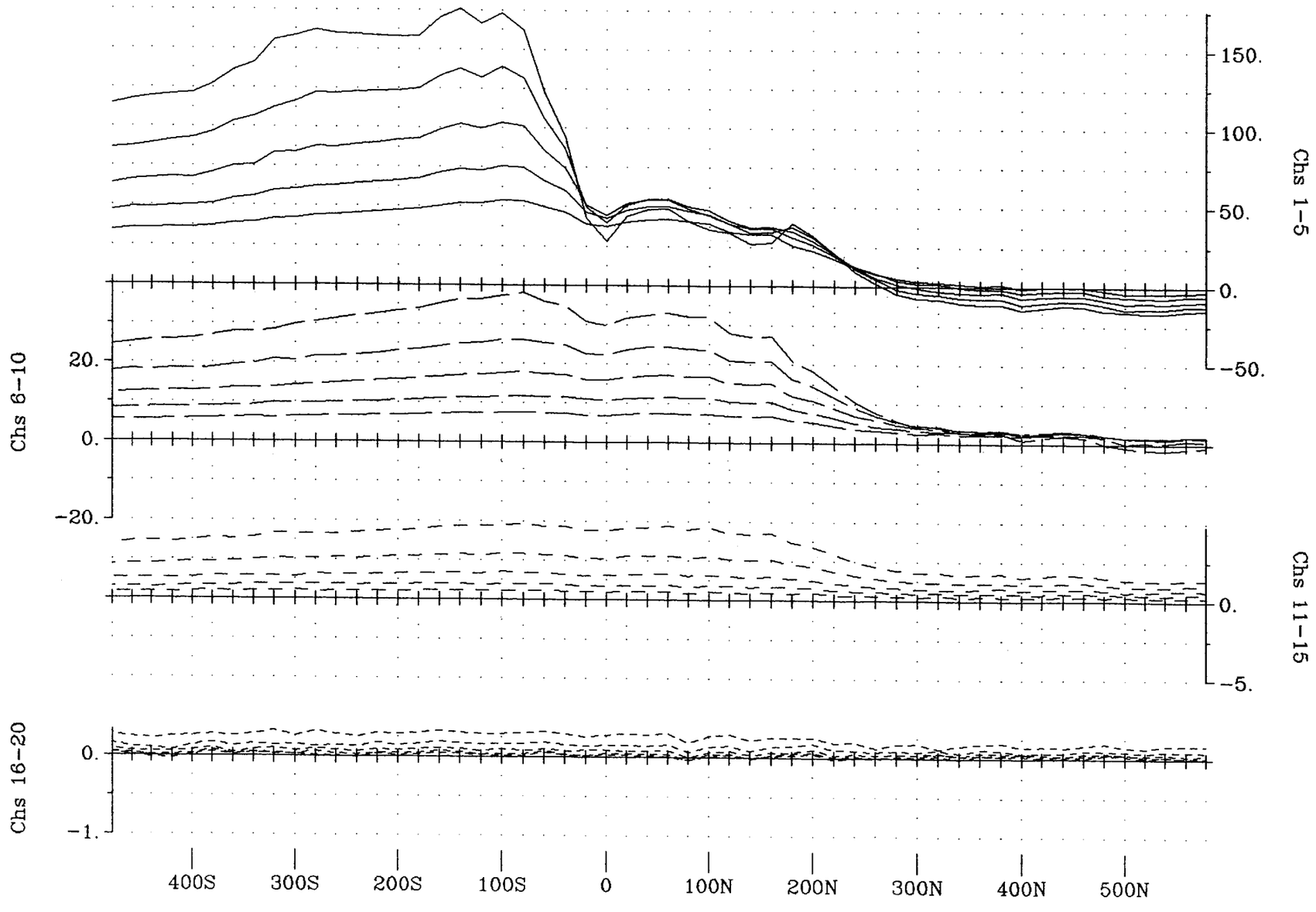
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m x 500m
Tx Loop Location:	0-800W;500S-1000S
Transmitter Current:	16 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C-458-4AXIS-TF-500W



Line 500W – Z Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

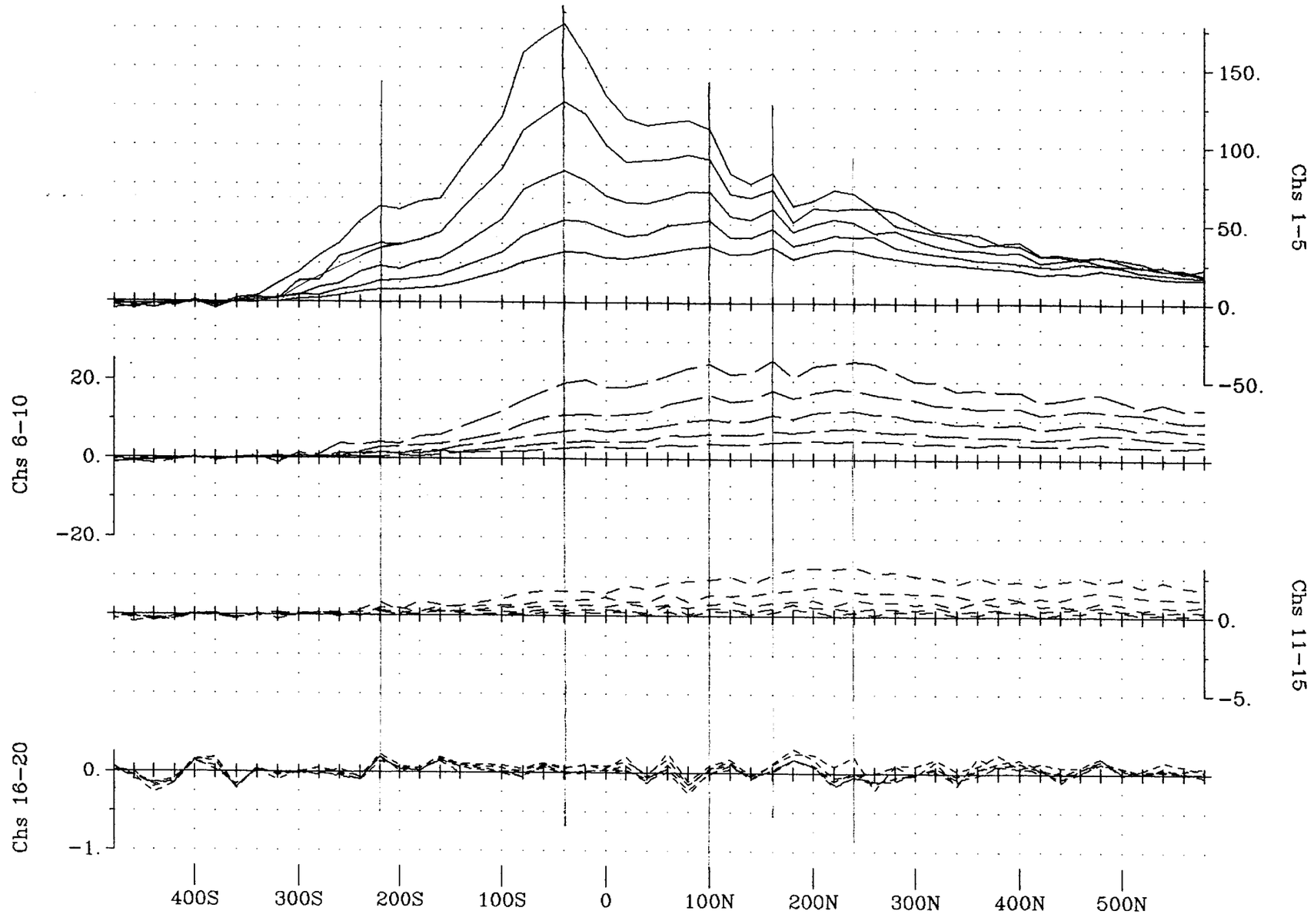
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m x 500m
Tx Loop Location:	0-800W;500S-1000S
Transmitter Current:	16 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C-458-4AXIS-Z-500W



Line 500W – X Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

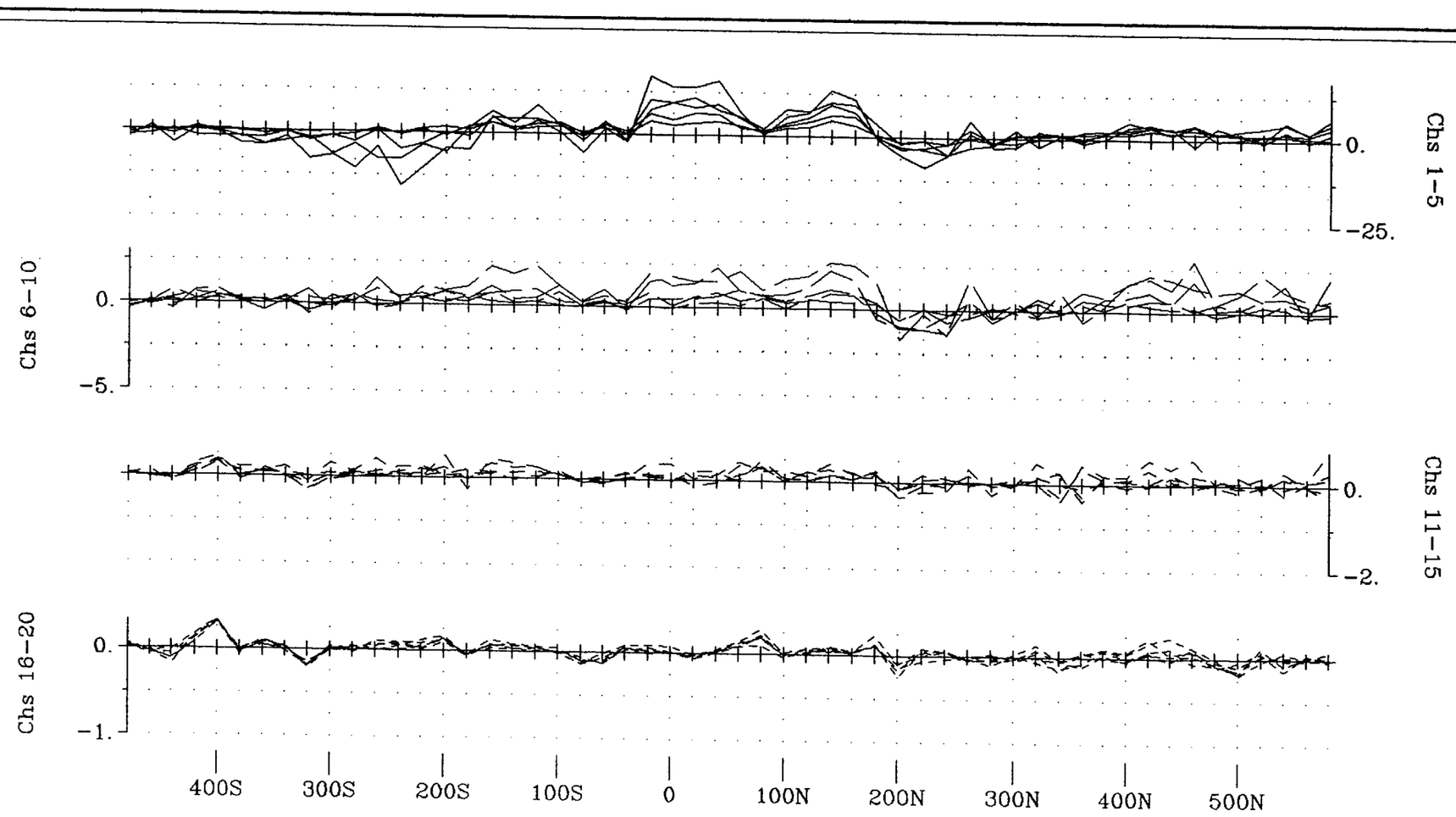
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m x 500m
Tx Loop Location:	0-800W;500S-1000S
Transmitter Current:	16 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C-458-4AXIS-X-500W



Line 500W - Y Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

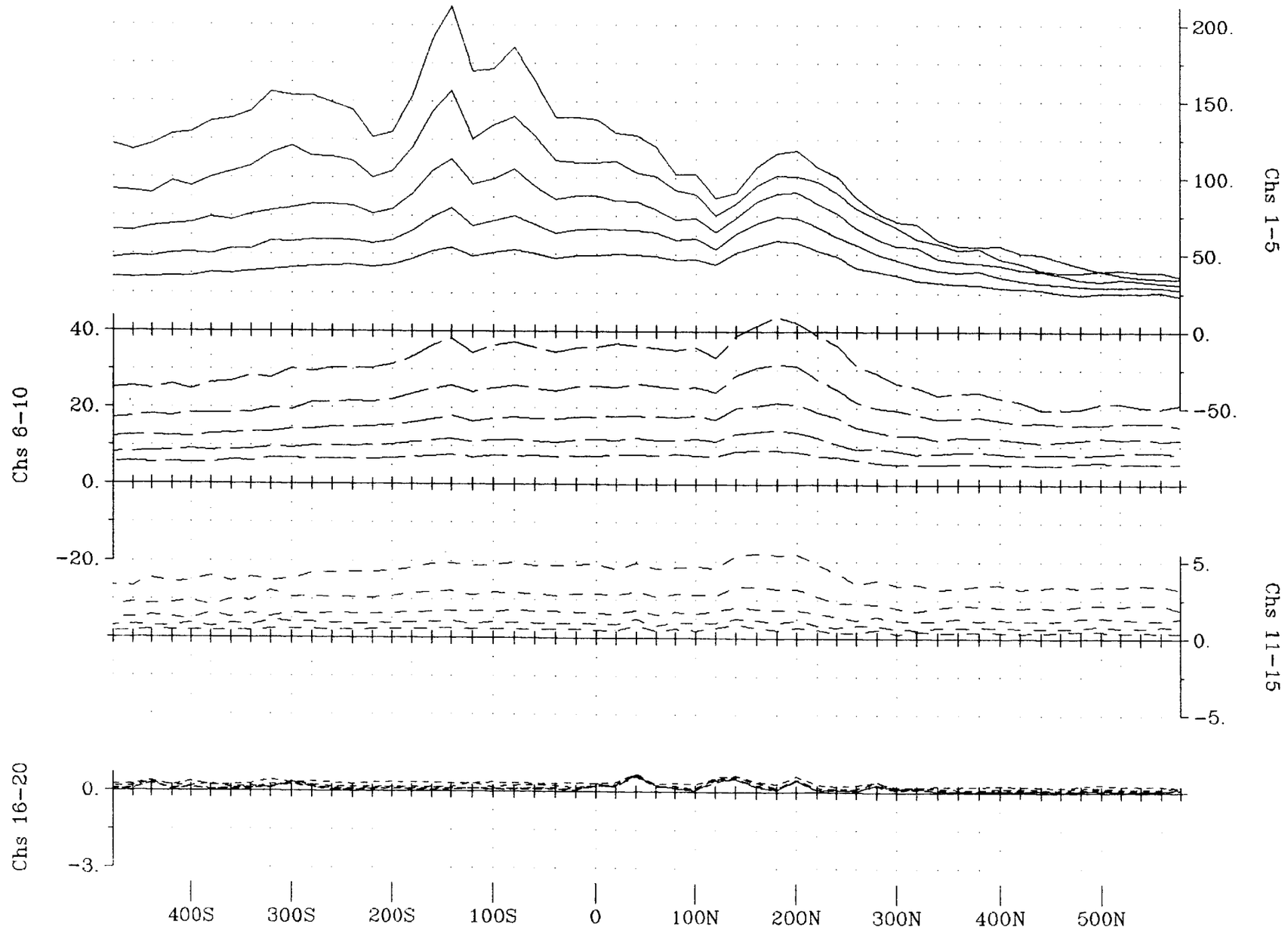
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m x 500m
Tx Loop Location:	0-800W;500S-1000S
Transmitter Current:	16 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C-458-4AXIS-Y-500W



Line 400W – Total Field

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

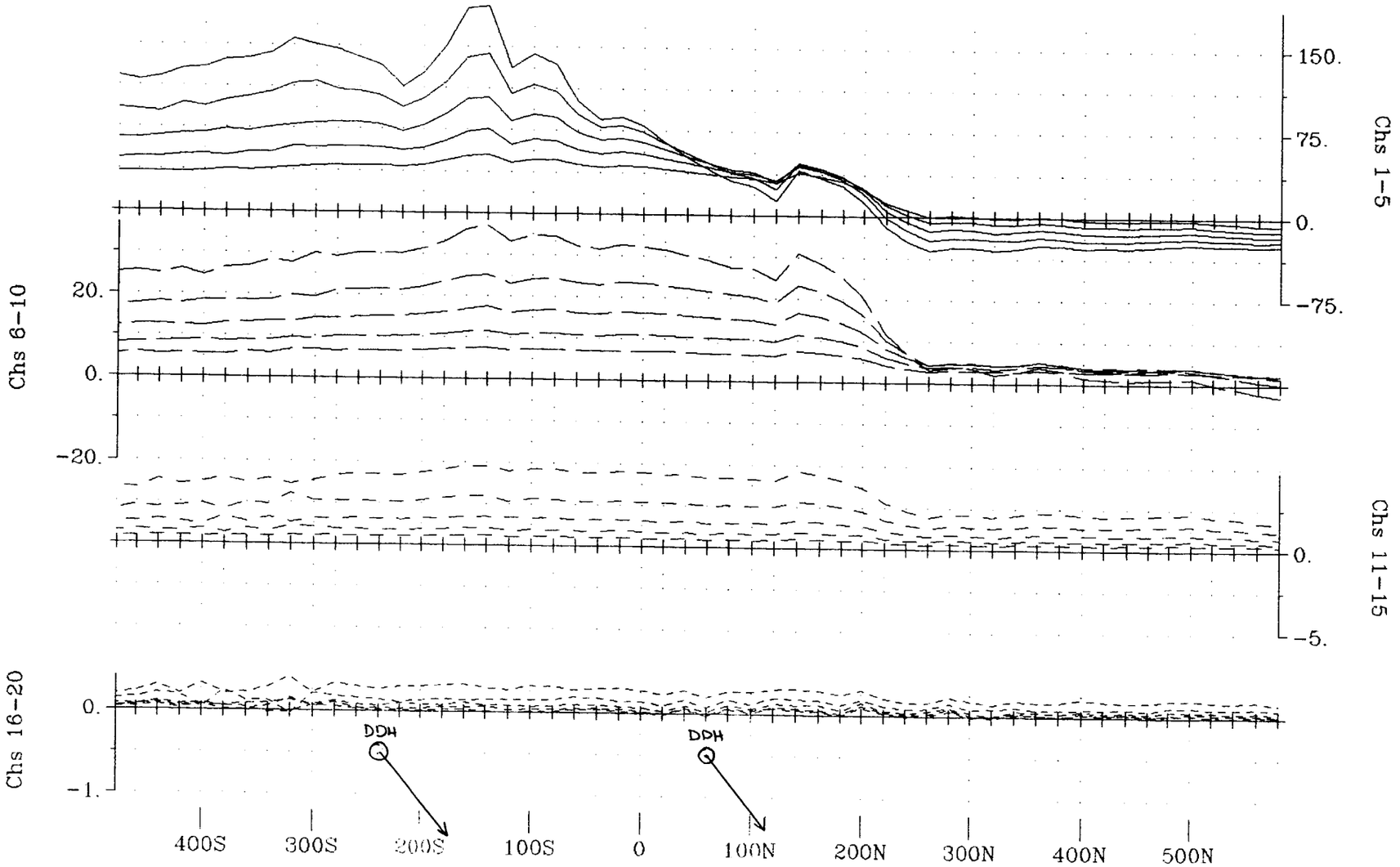
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-TF-400W



Line 400W – Z Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

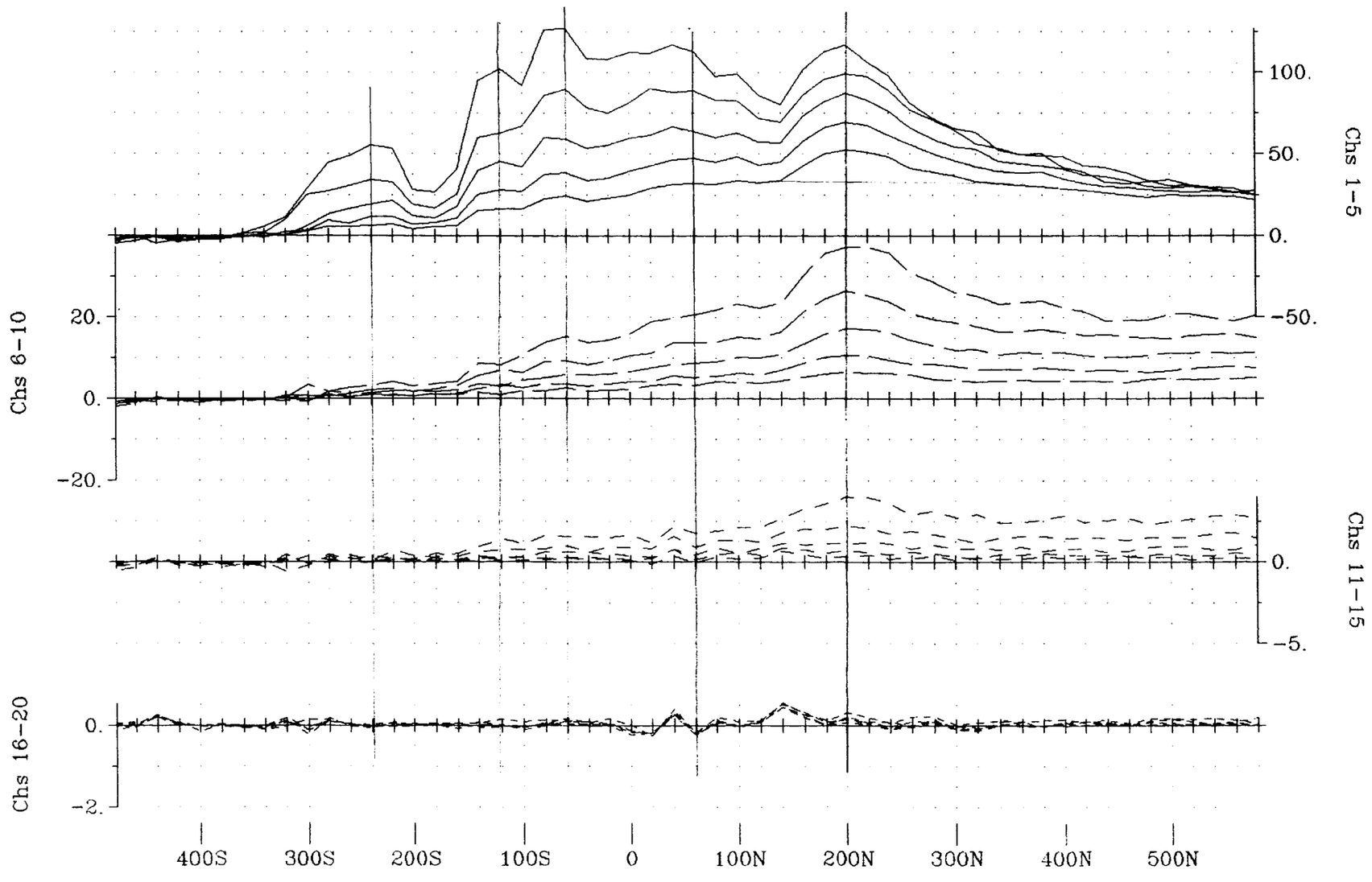
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Z-400W



Line 400W – X Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

Secondary Electromagnetic Field (dB/dt)

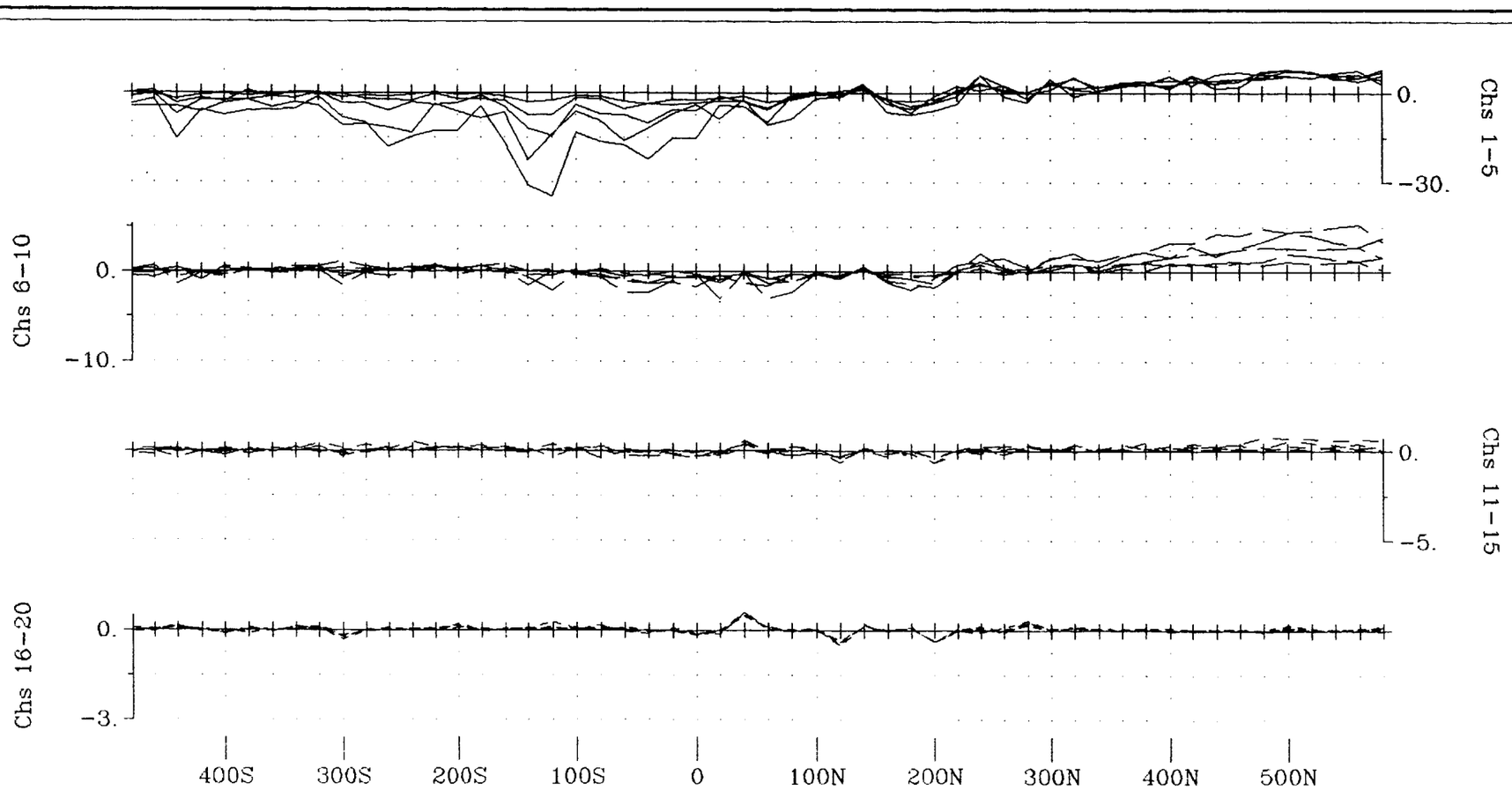
Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-X-400W

Line 400W – Y Component



Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

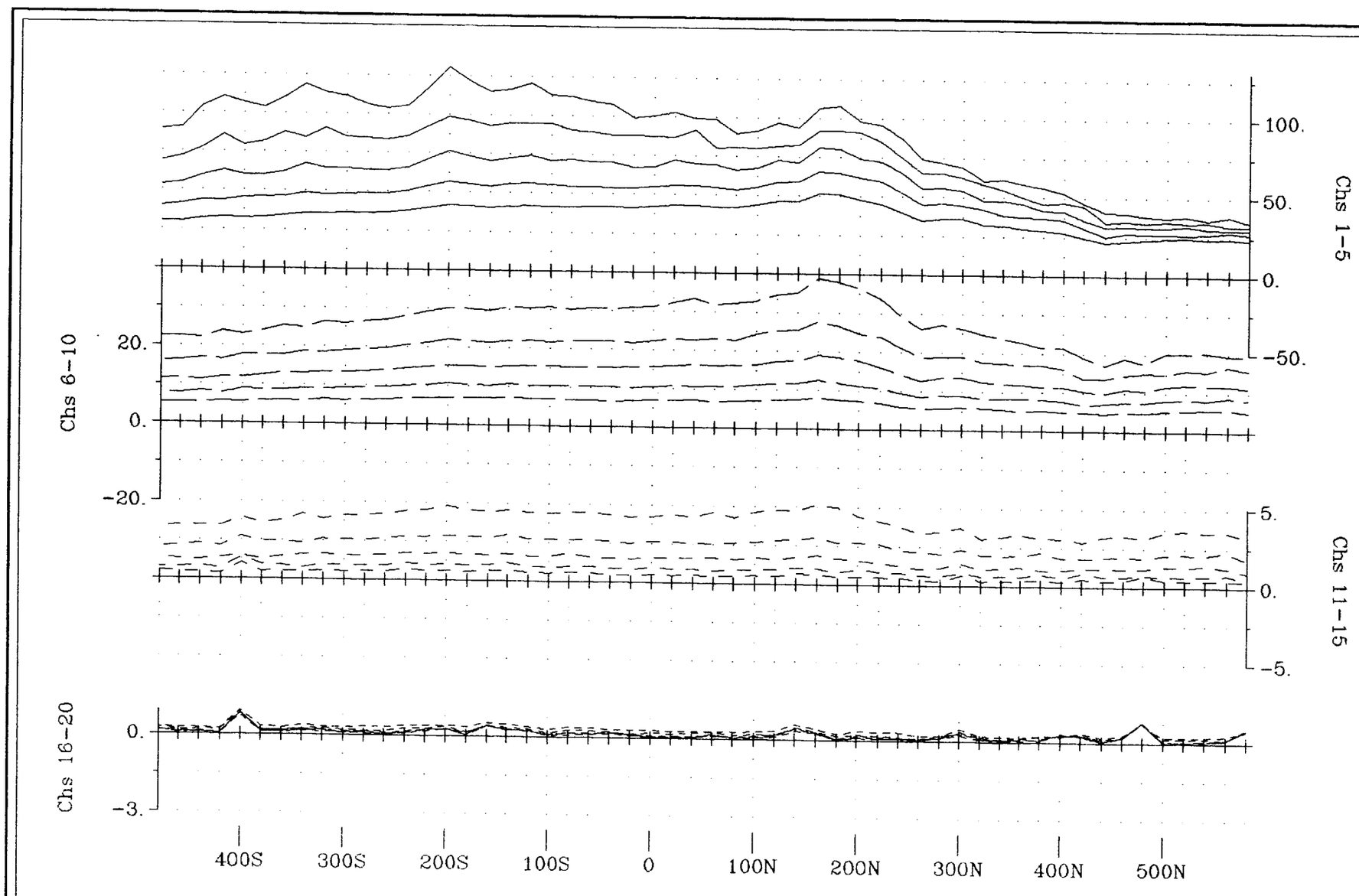
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Y-400W



Line 300W – Total Field

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

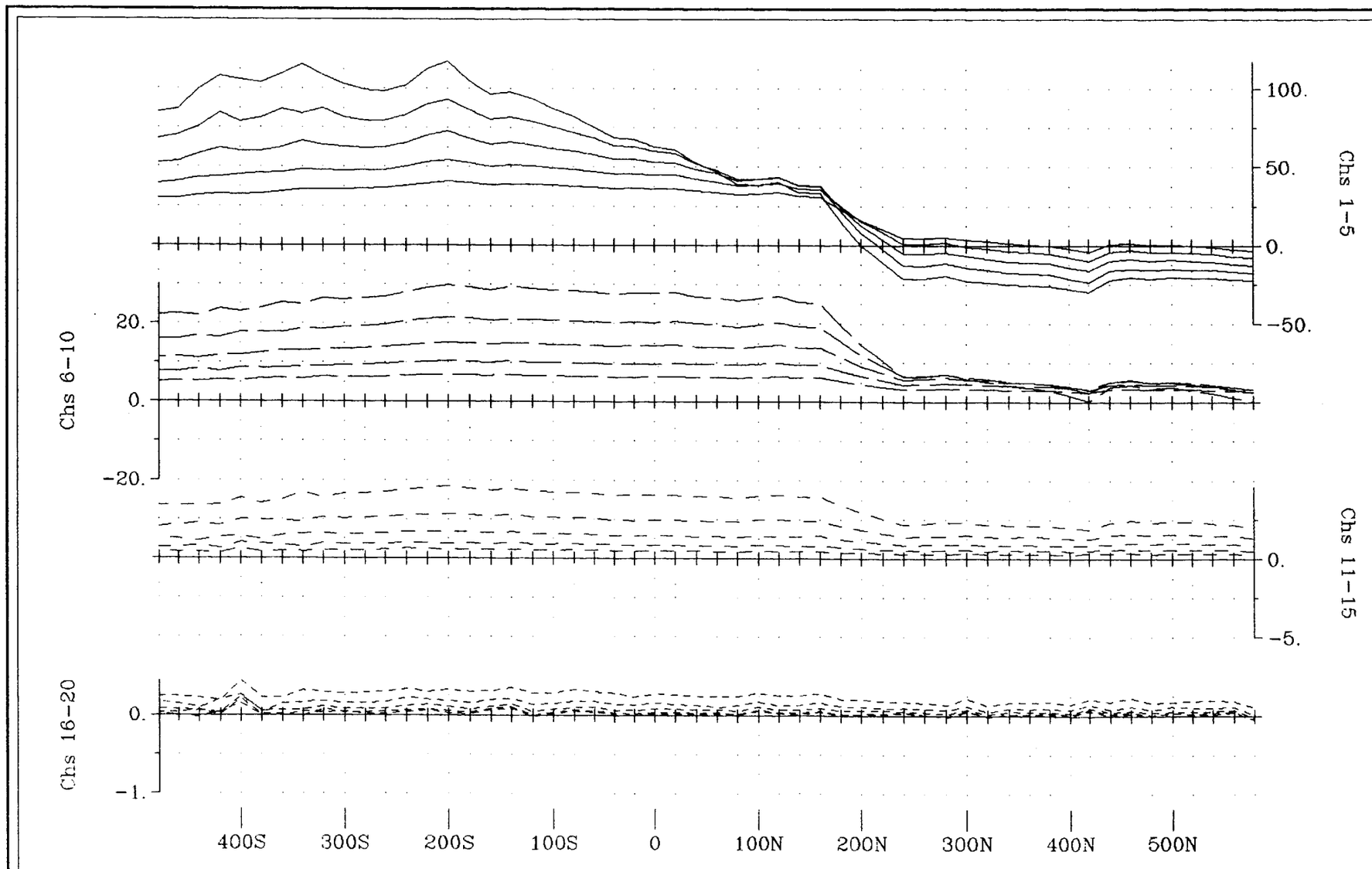
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	OE, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-TF-300W



Line 300W – Z Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

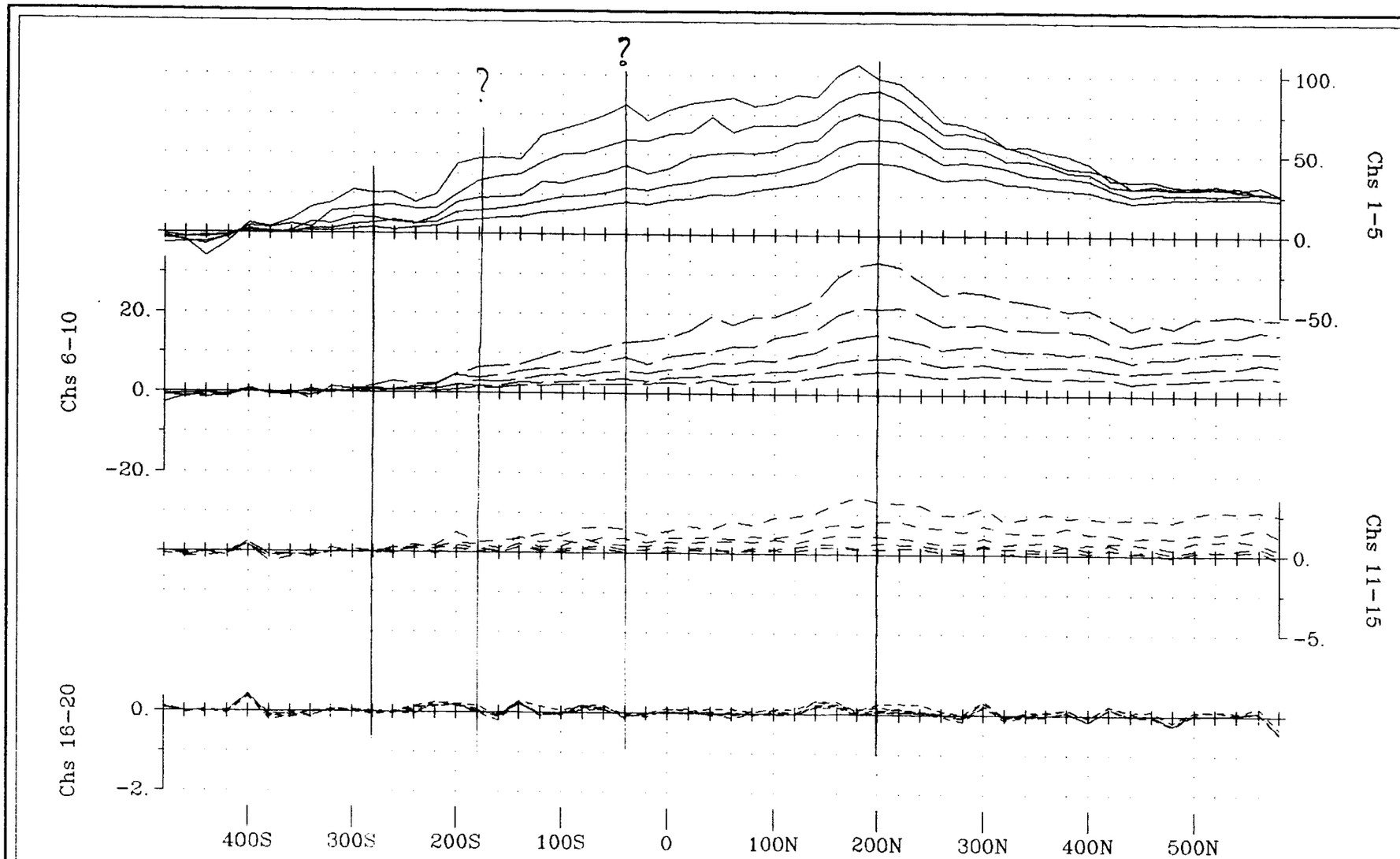
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	OE, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A•m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Z-300W



Line 300W – X Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

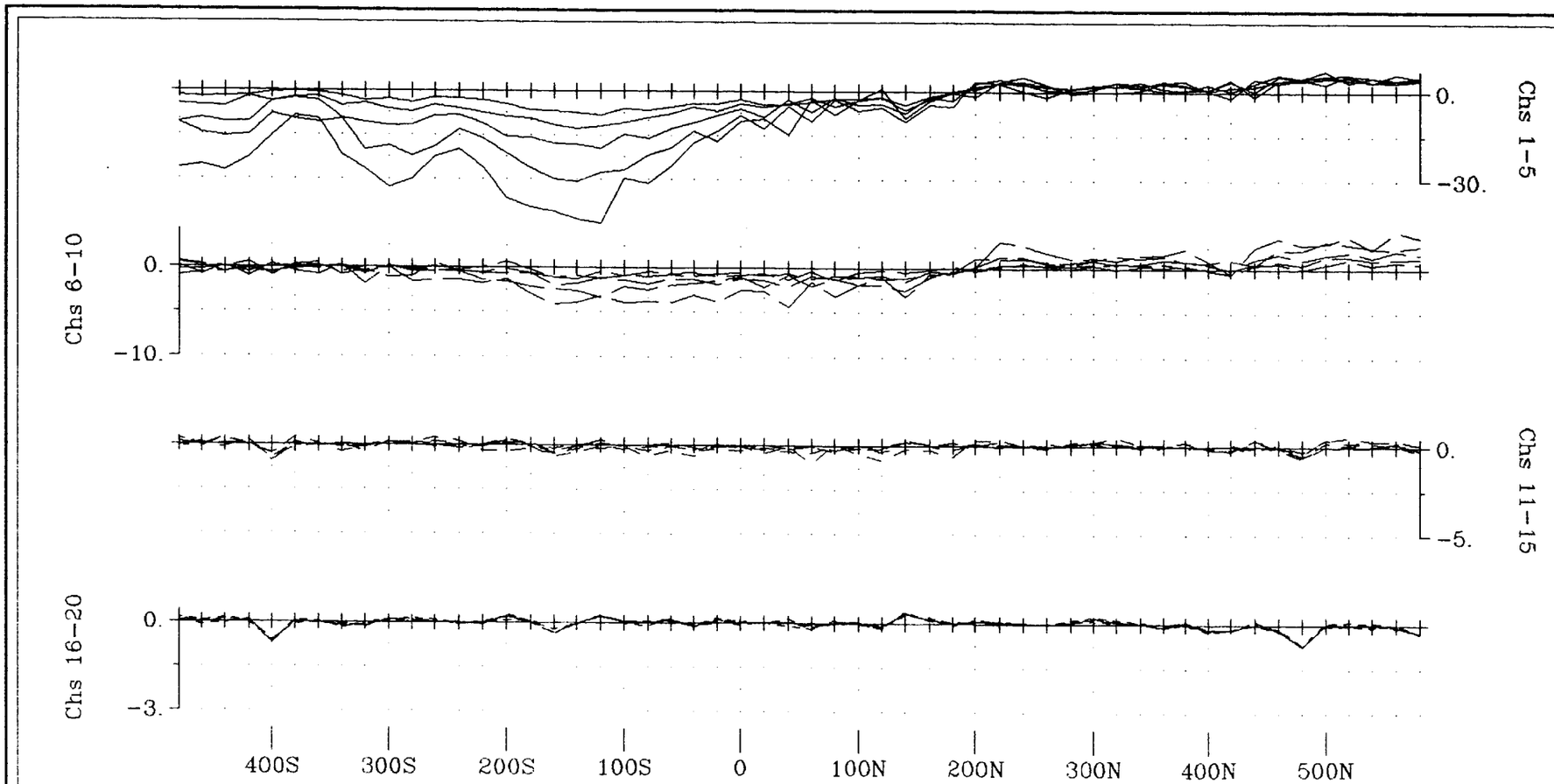
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	OE, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-X-300W



Line 300W - Y Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

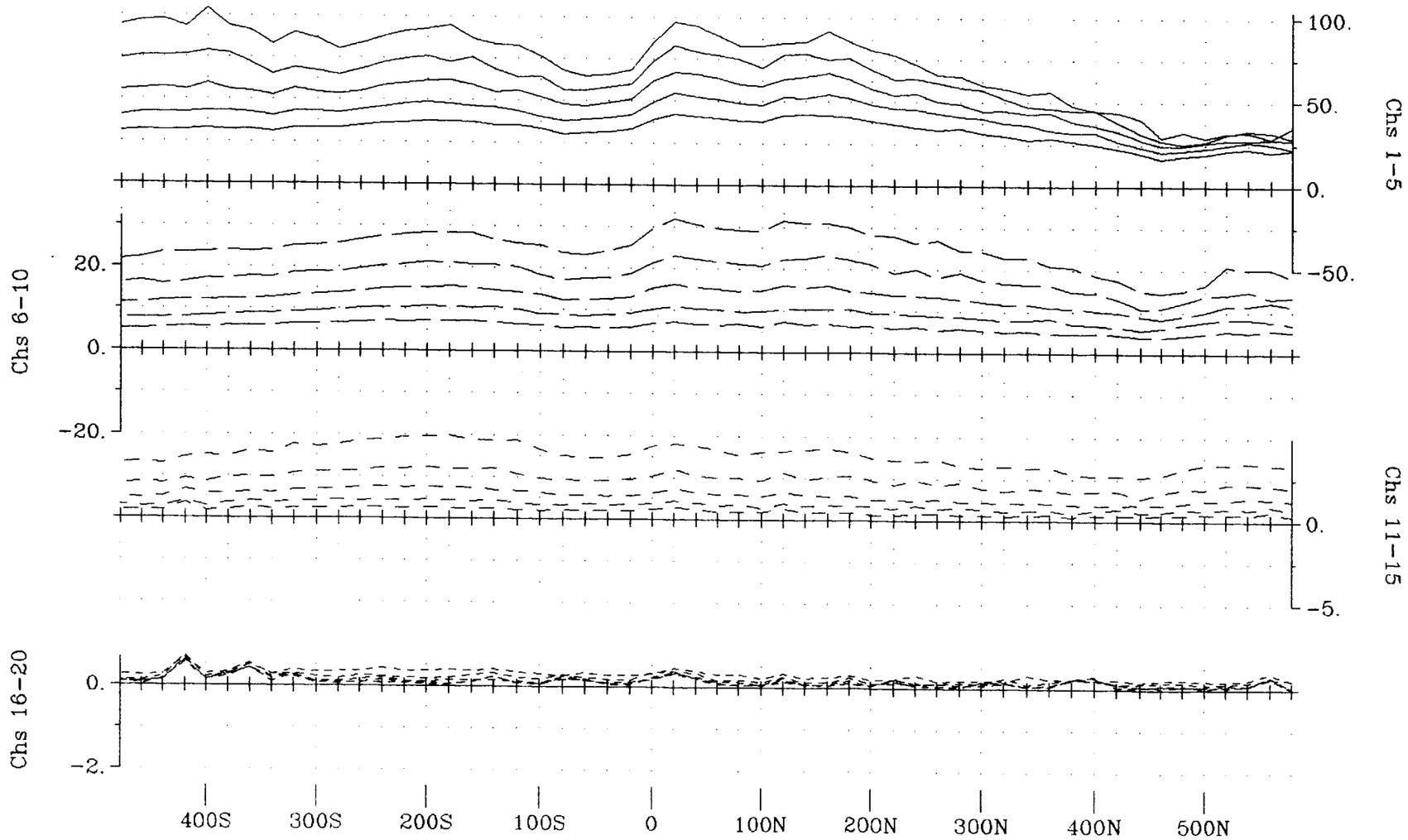
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E,800W,500S,1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Y-300W



Line 200W – Total Field

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

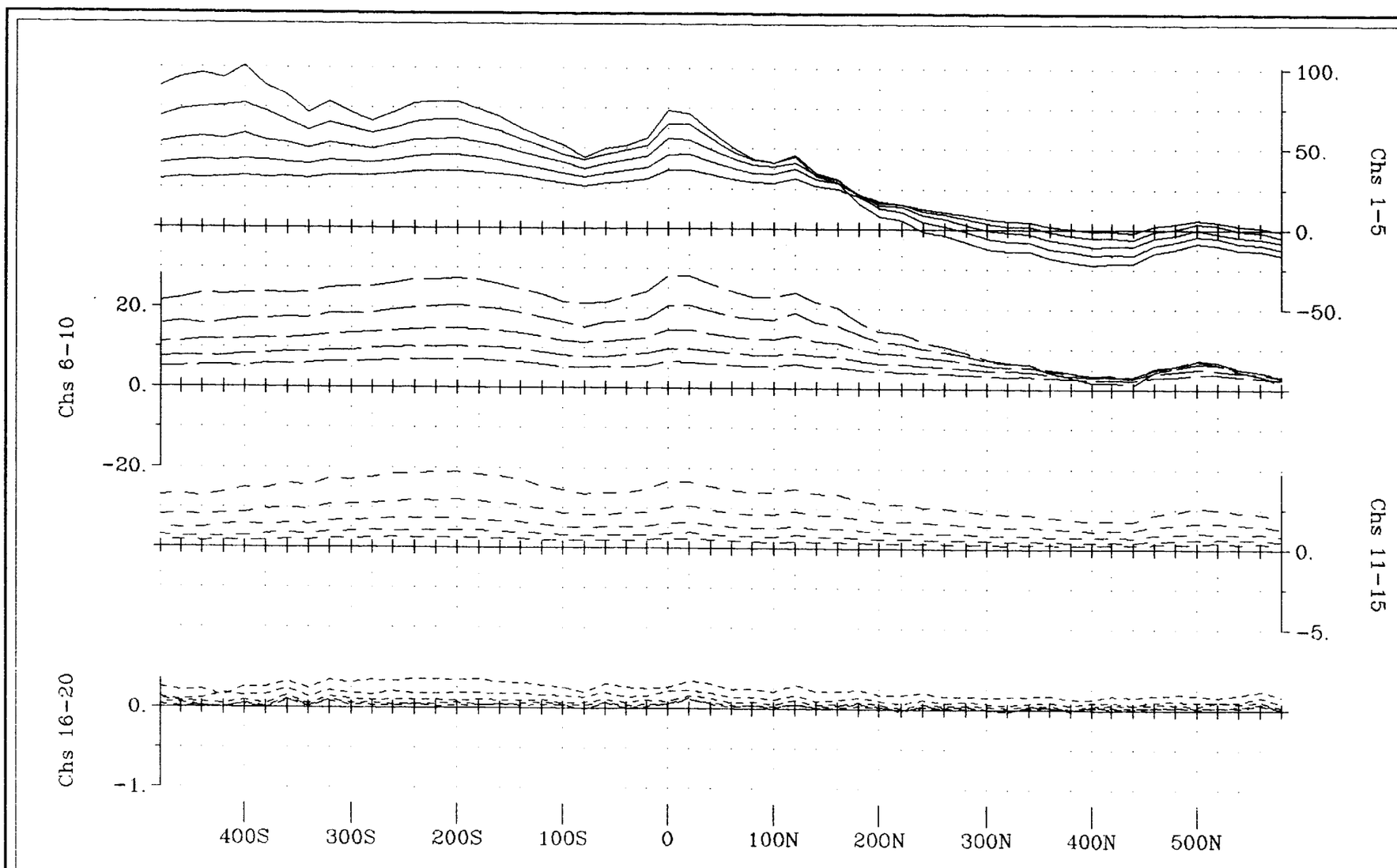
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	OE, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-TF-200W



Line 200W – Z Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

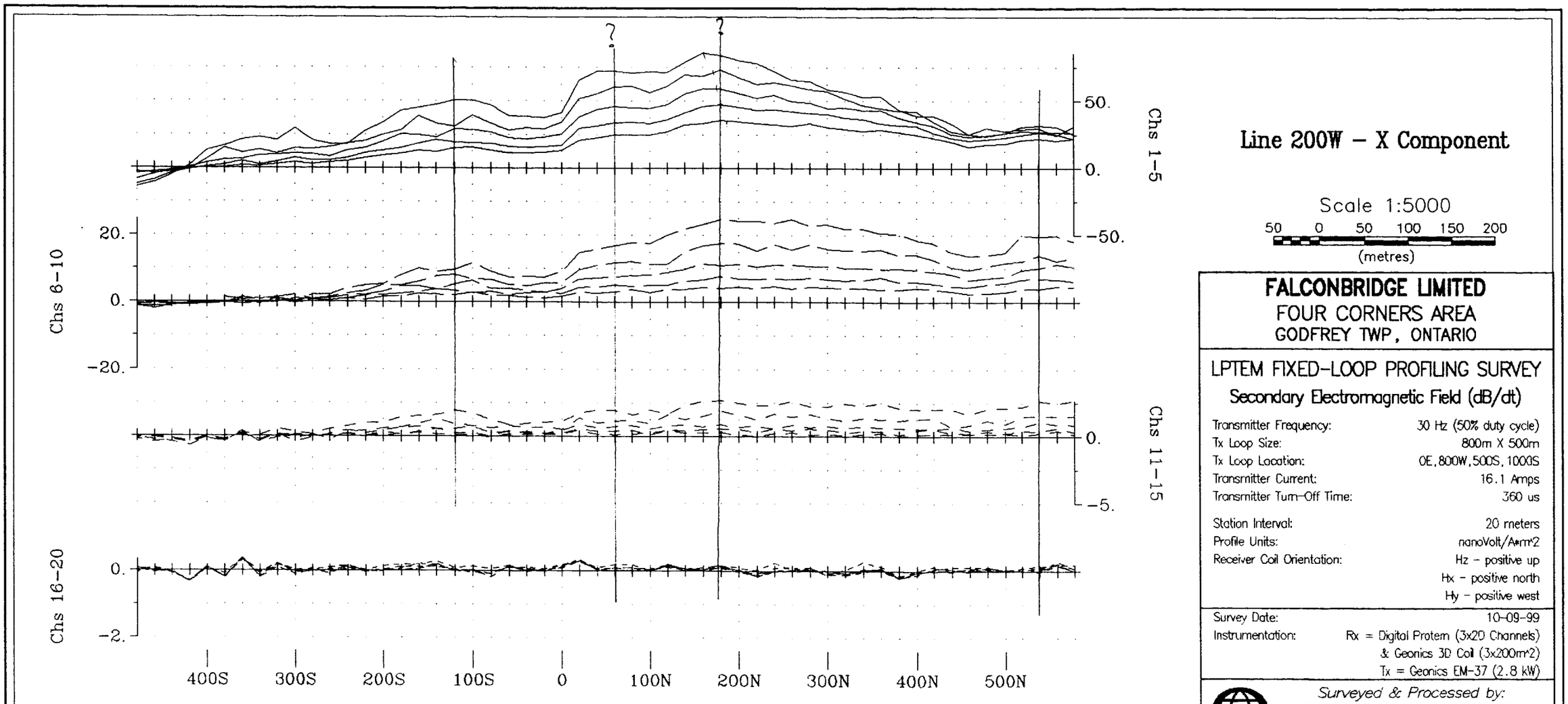
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transrnitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Z-200W



Line 200W – X Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

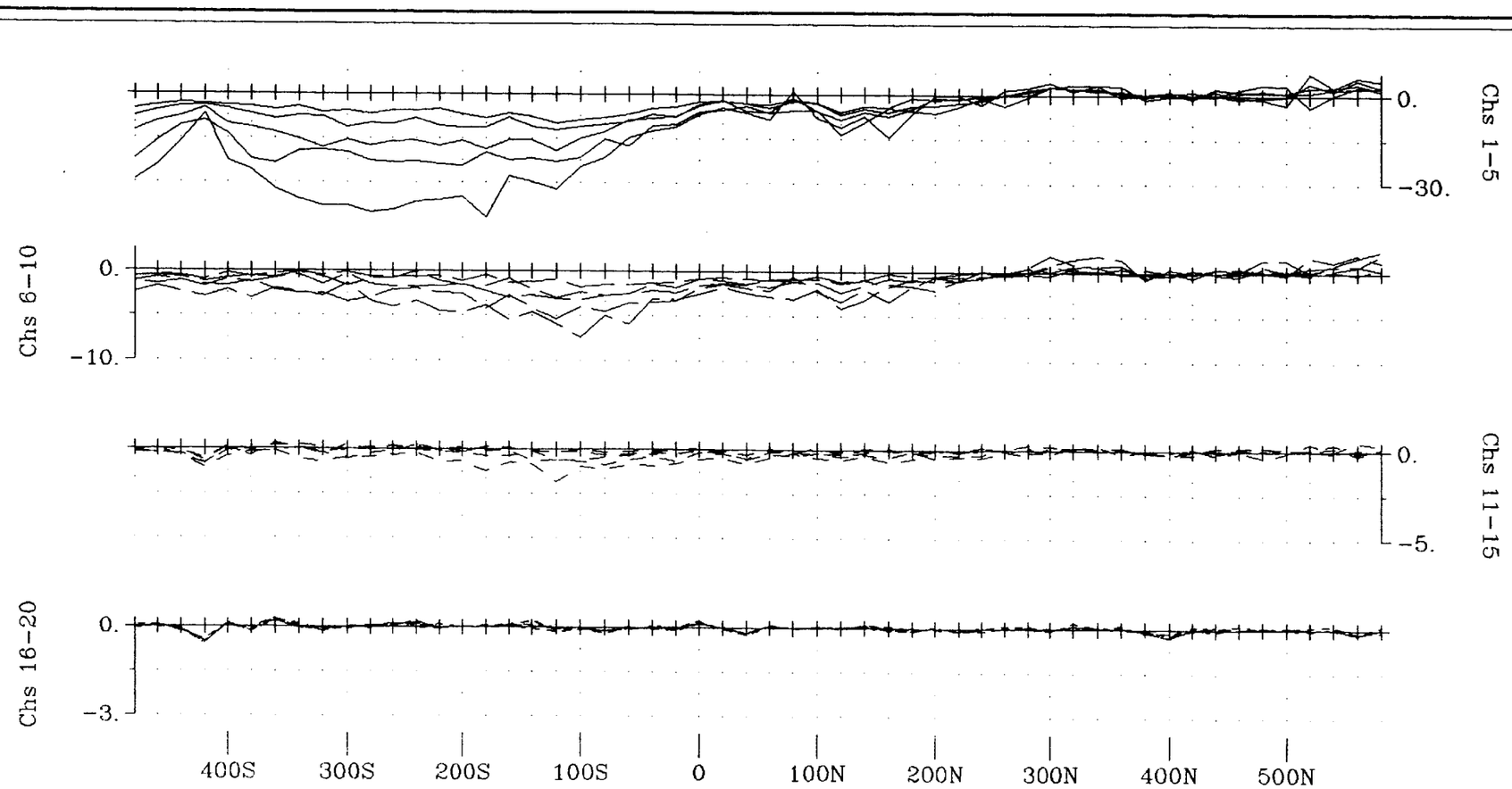
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-X-200W



Line 200W - Y Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

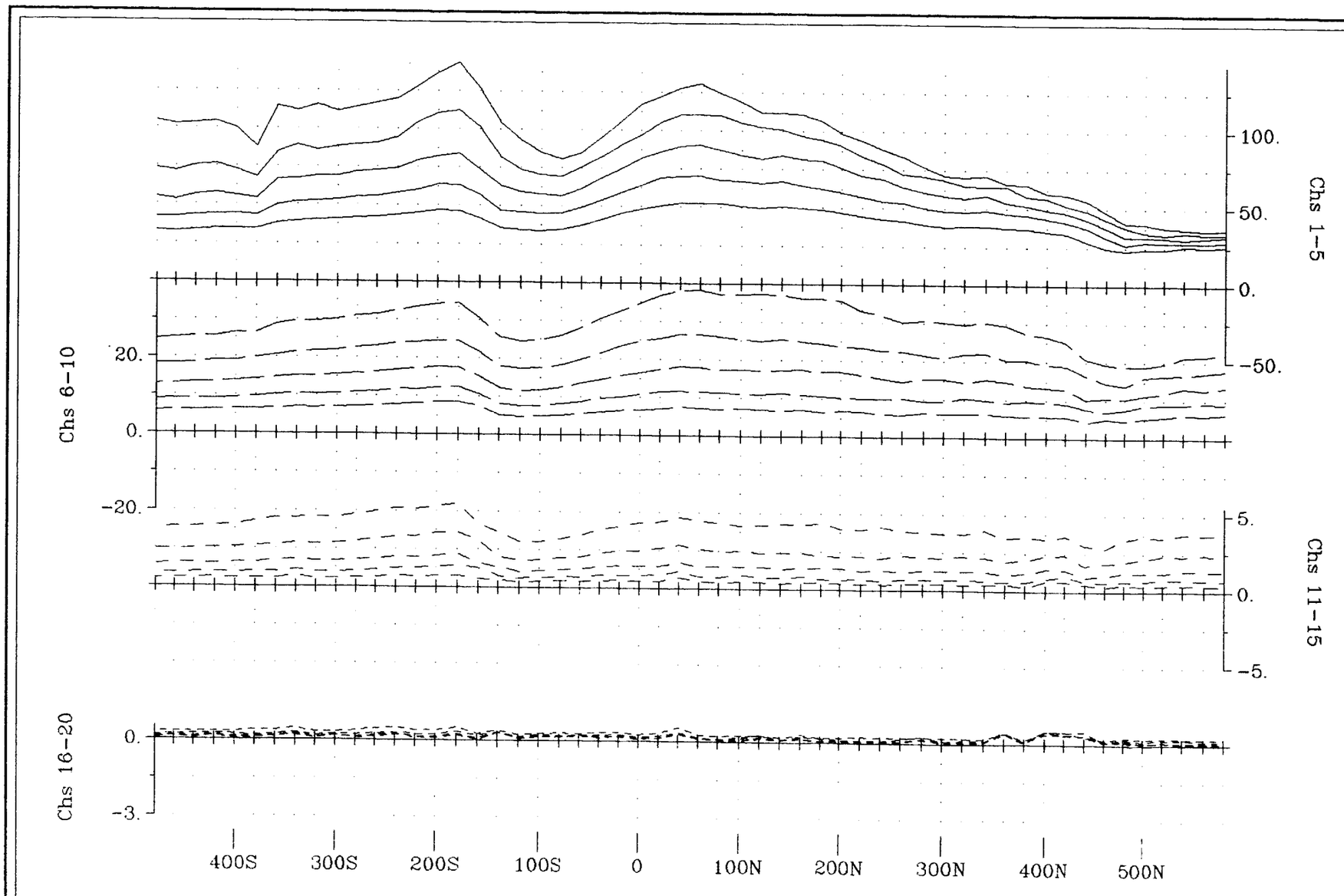
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	10-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Y-200W



Line 100W – Total Field

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

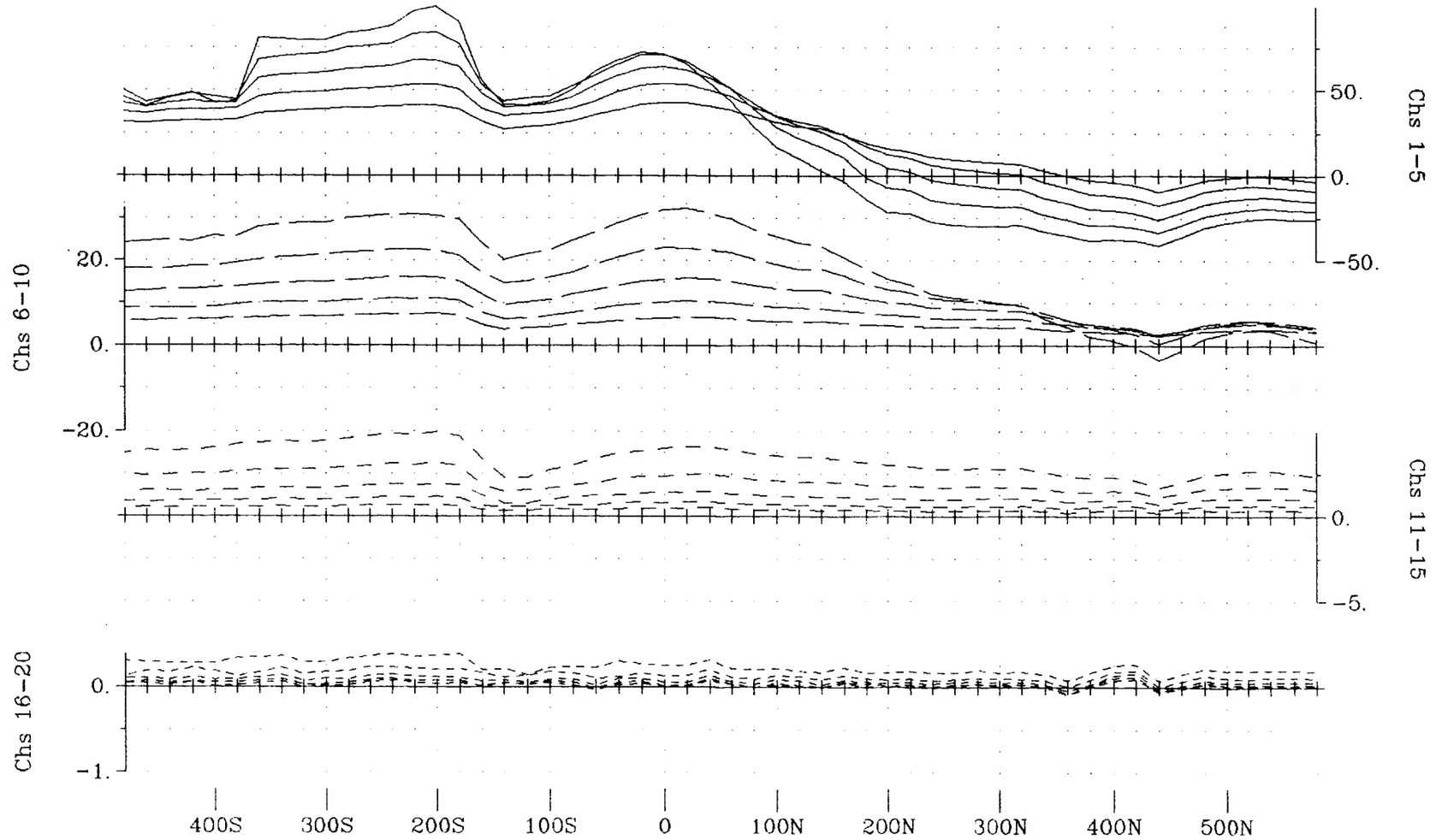
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-TF-100W



Line 100W – Z Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

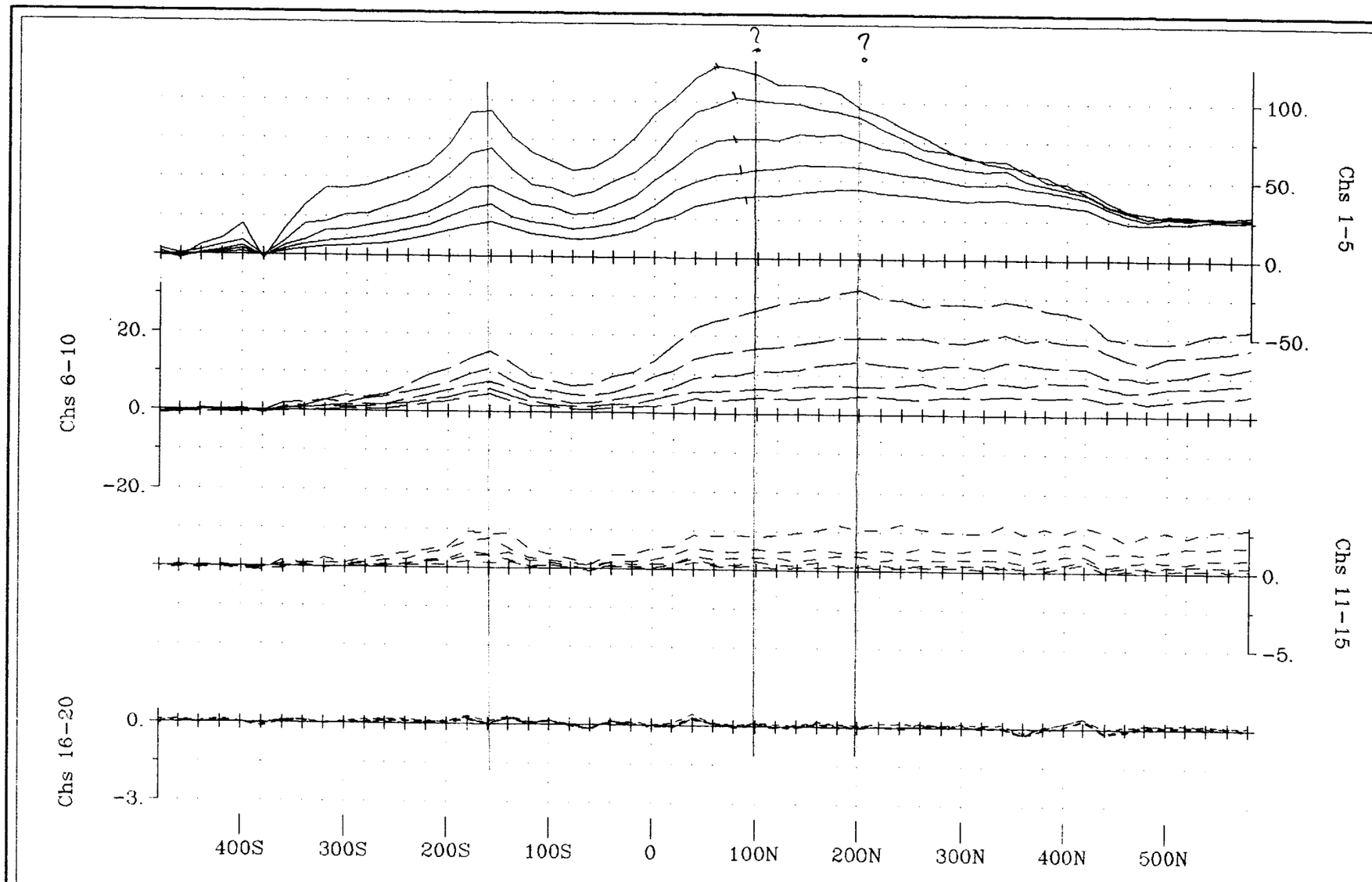
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Z-100W



Line 100W – X Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

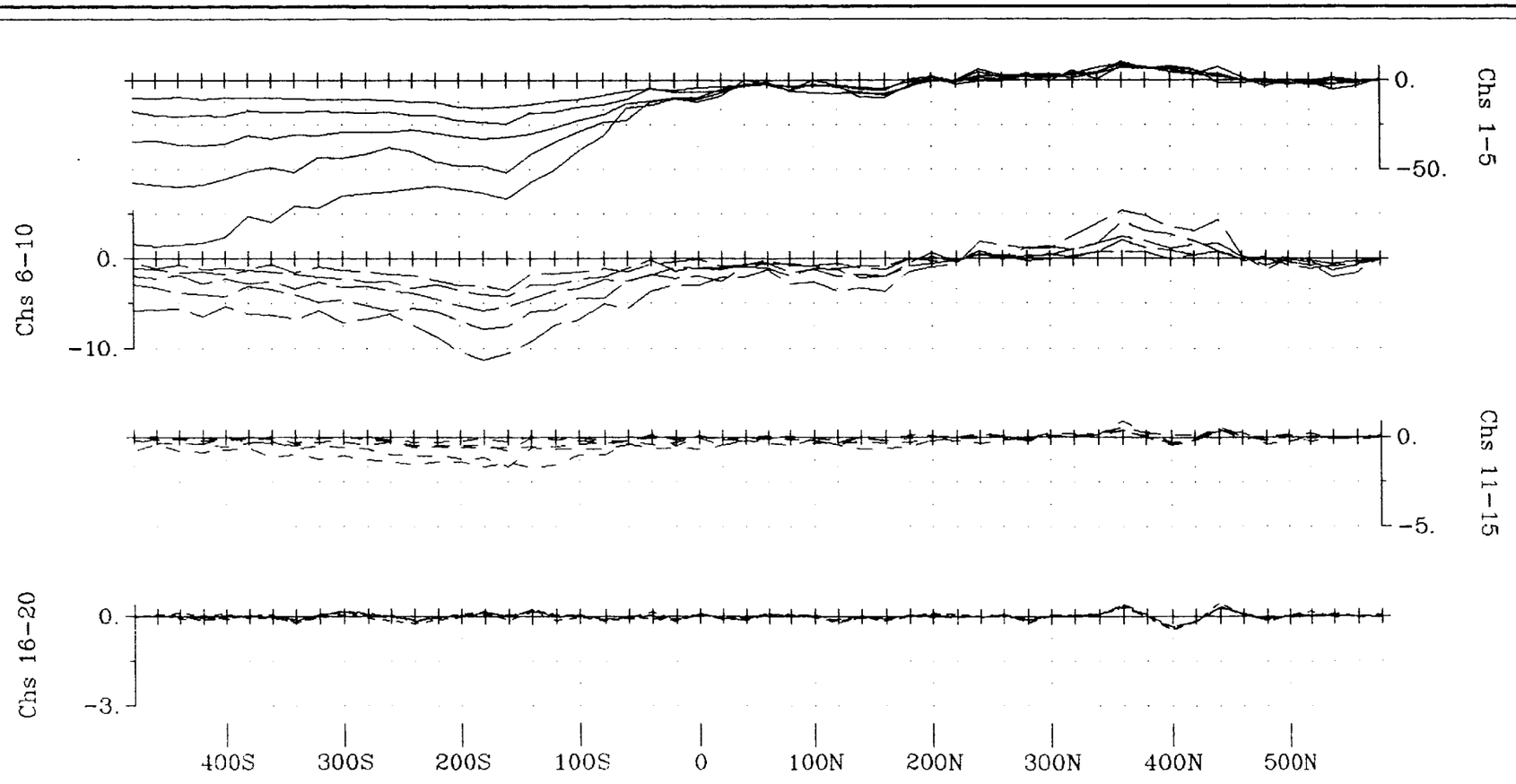
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-X-100W



Line 100W - Y Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

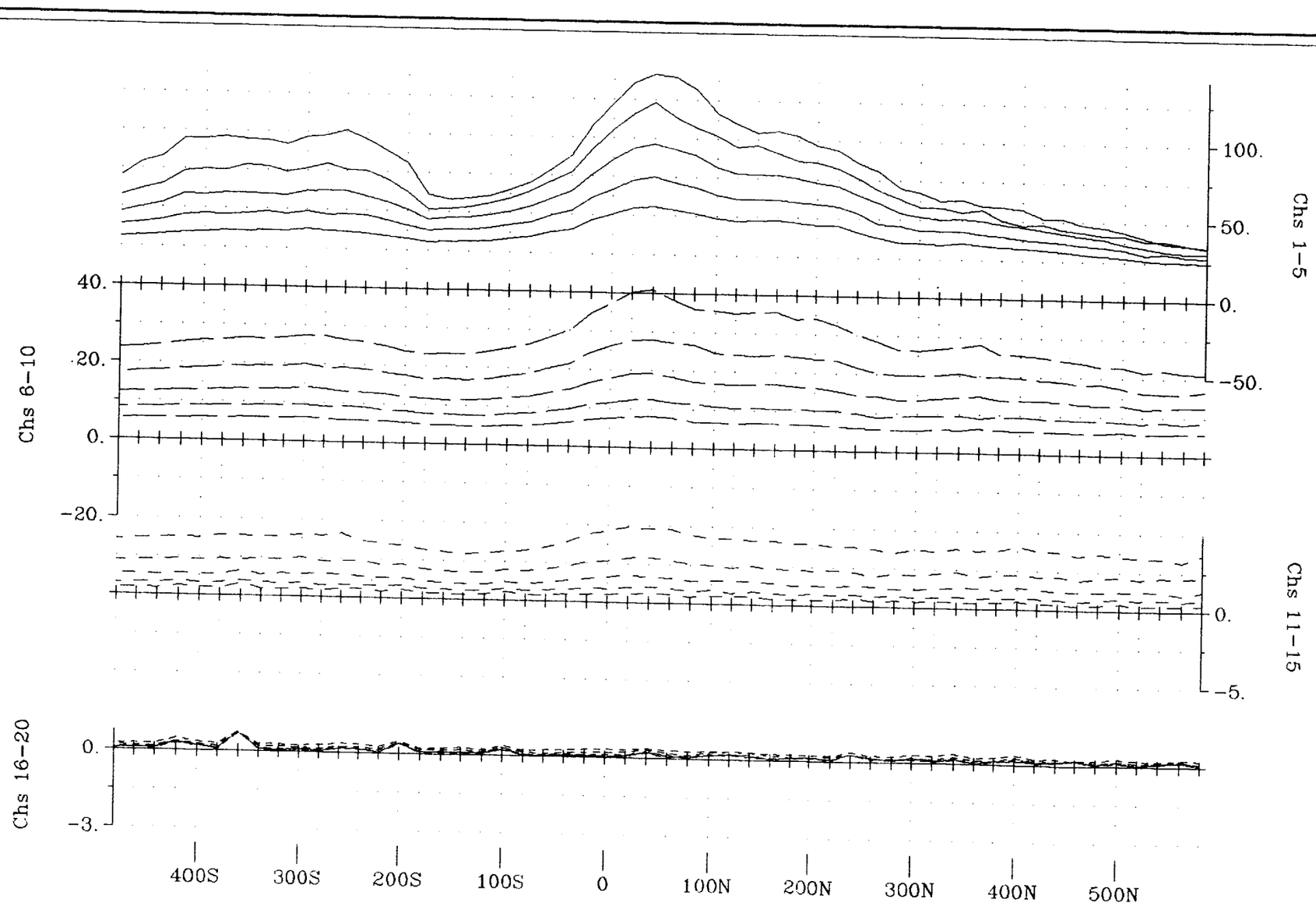
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Y-100W



Line 0E – Total Field

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

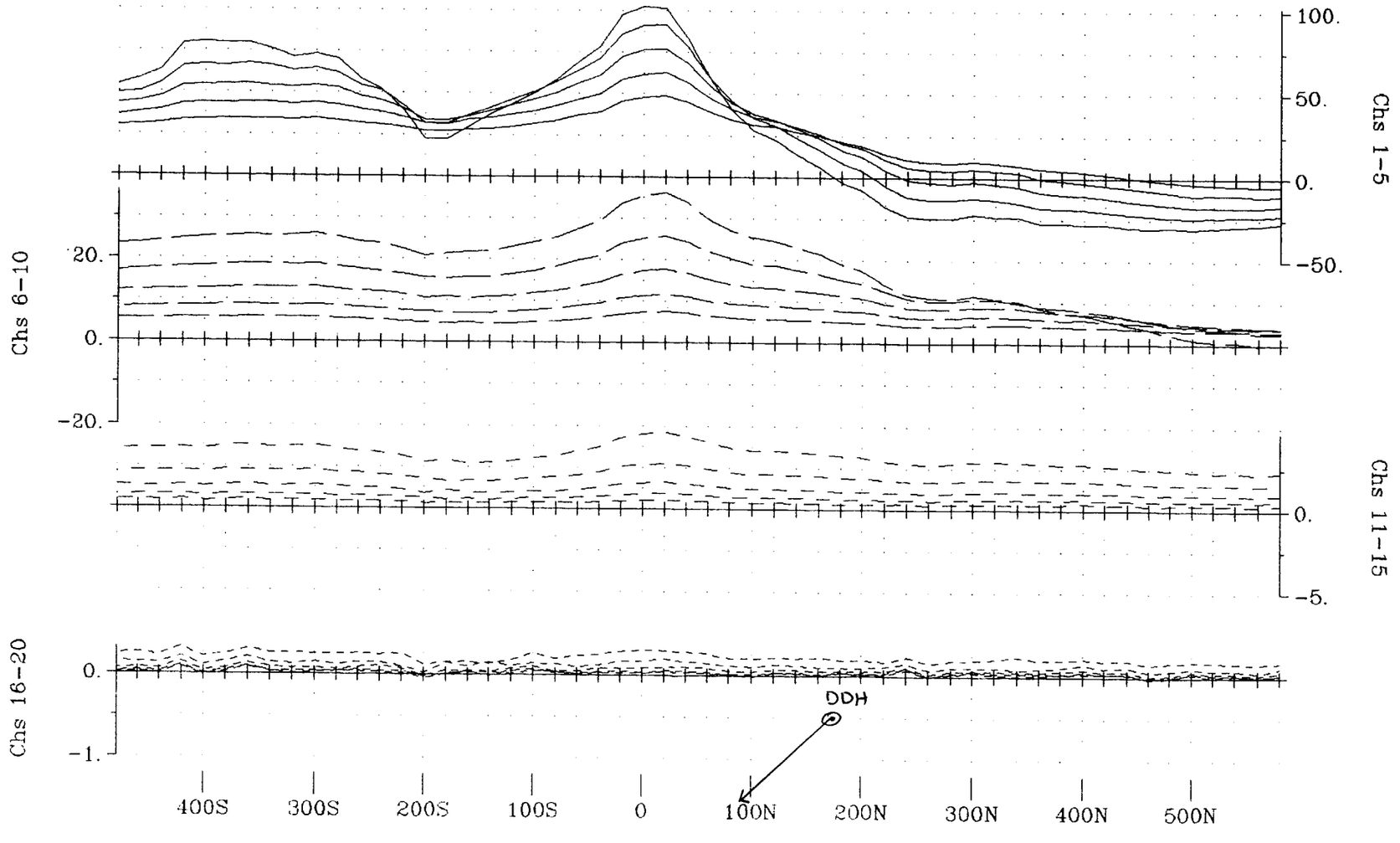
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-TF-0E



Line 0E – Z Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

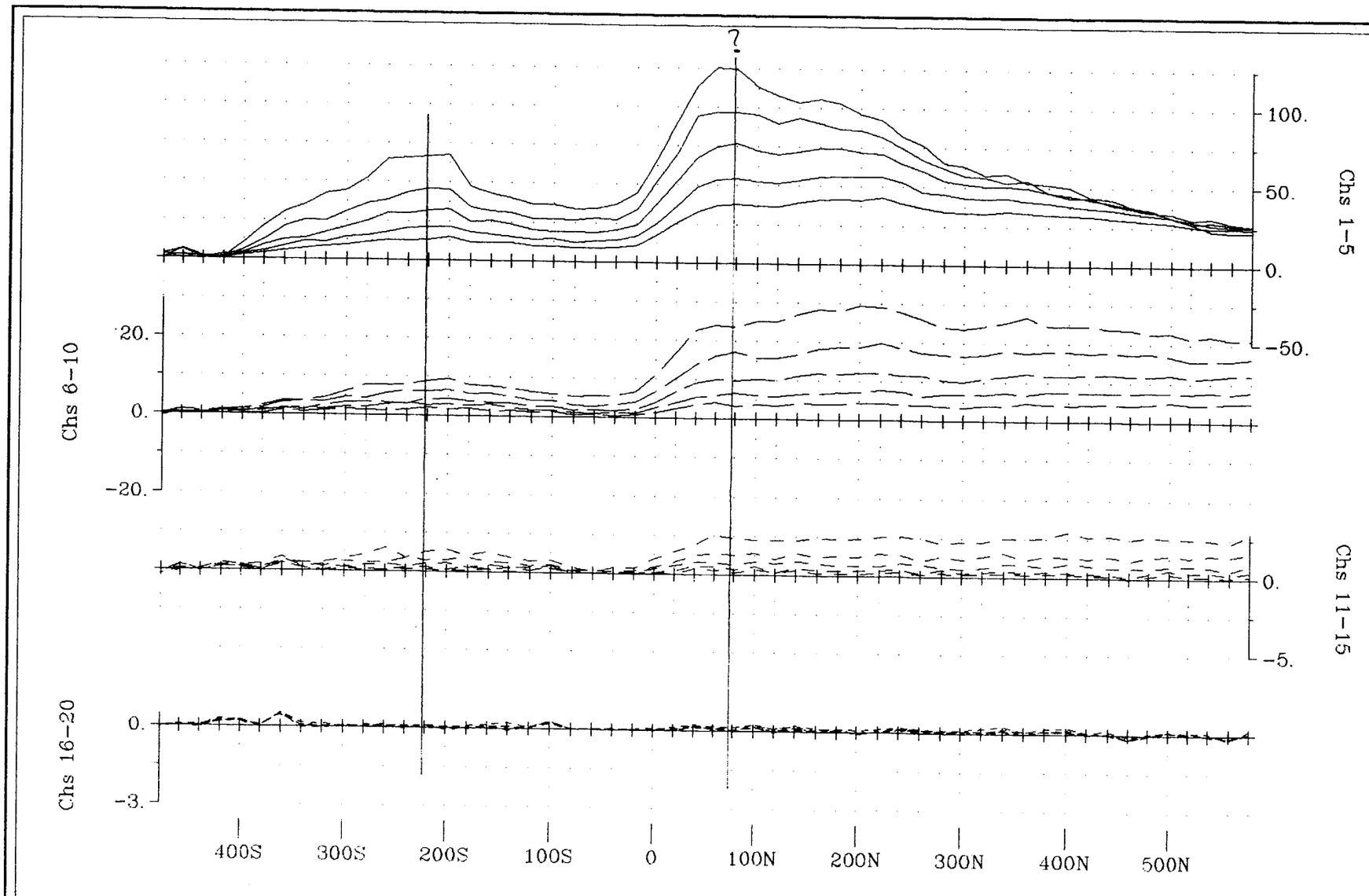
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Z-0E



Line OE – X Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

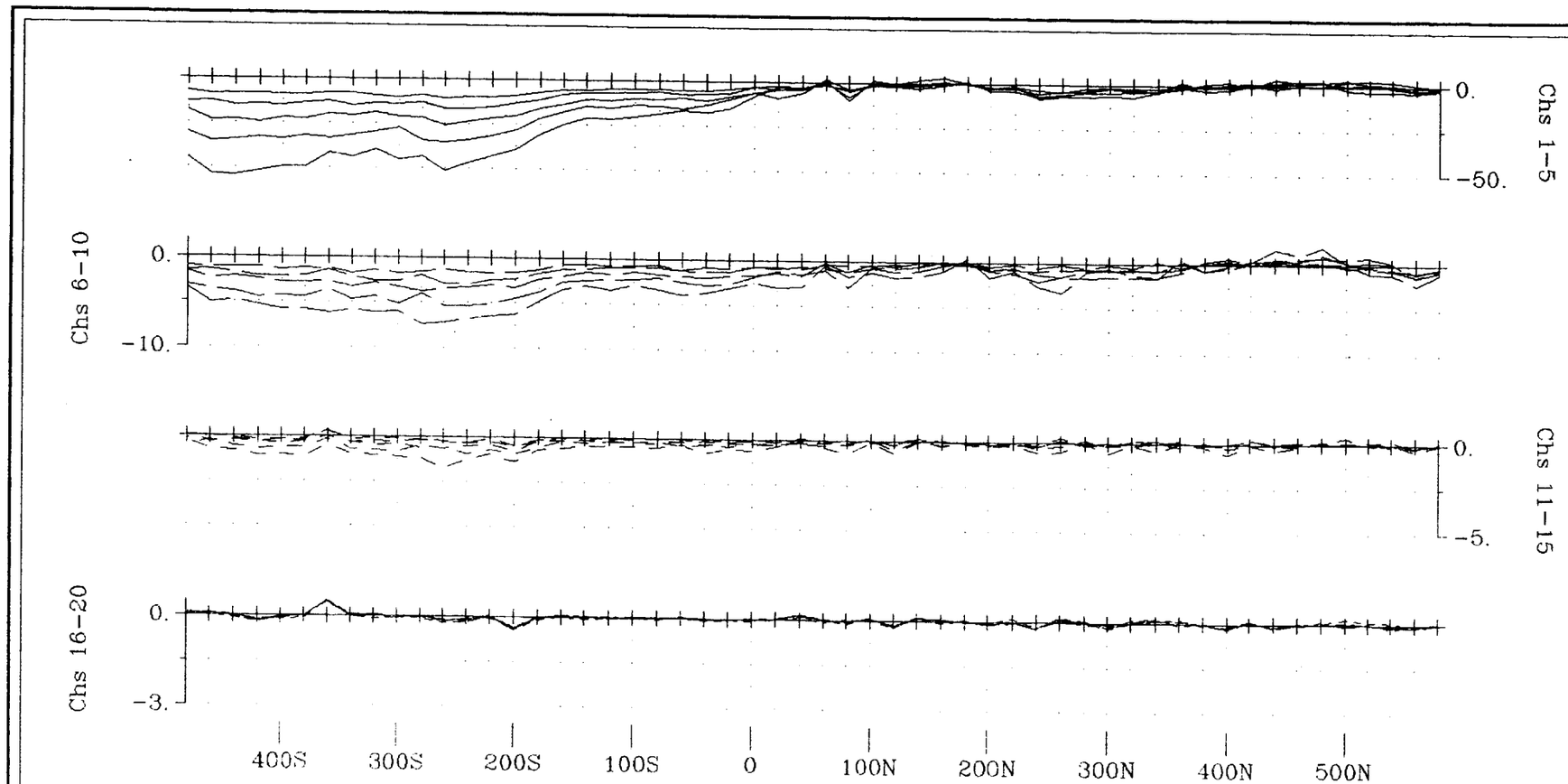
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	OE, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/A*m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-X-OE



Line 0E – Y Component

Scale 1:5000

50 0 50 100 150 200

(metres)

FALCONBRIDGE LIMITED

FOUR CORNERS AREA

GODFREY TWP, ONTARIO

LPTEM FIXED-LOOP PROFILING SURVEY

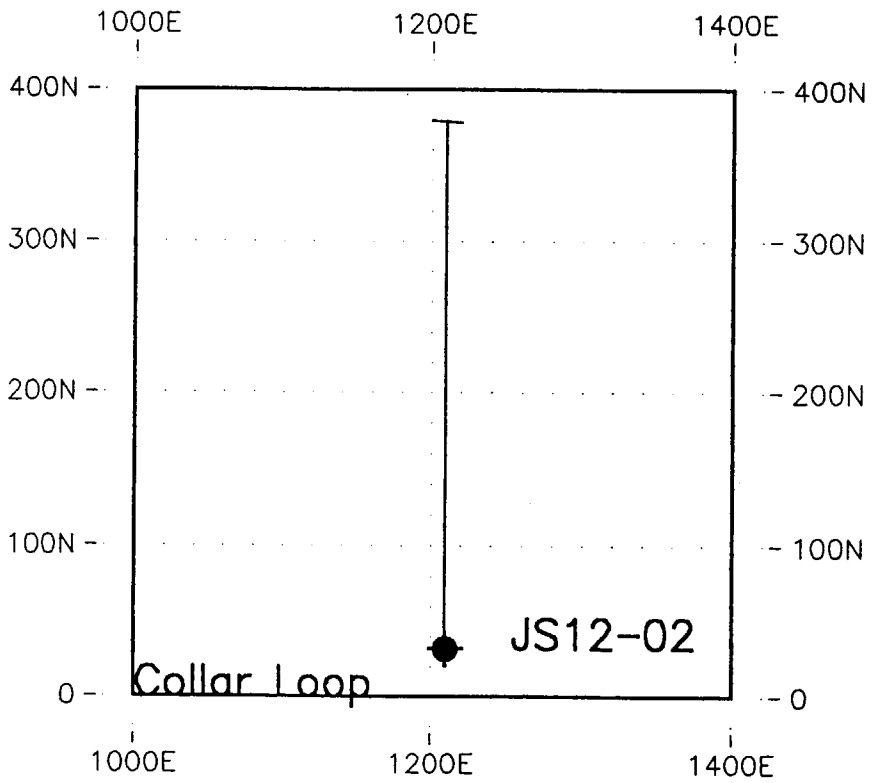
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	800m X 500m
Tx Loop Location:	0E, 800W, 500S, 1000S
Transmitter Current:	16.1 Amps
Transmitter Turn-Off Time:	360 us
Station Interval:	20 meters
Profile Units:	nanoVolt/Am^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	11-09-99
Instrumentation:	Rx = Digital Protem (3x20 Channels) & Geonics 3D Coil (3x200m^2) Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C458-4AXIS-Y-0E



Scale 1:5000

100 0 100 200

(metres)

FALCONBRIDGE LIMITED

JESSOP 12 PROPERTY

JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY

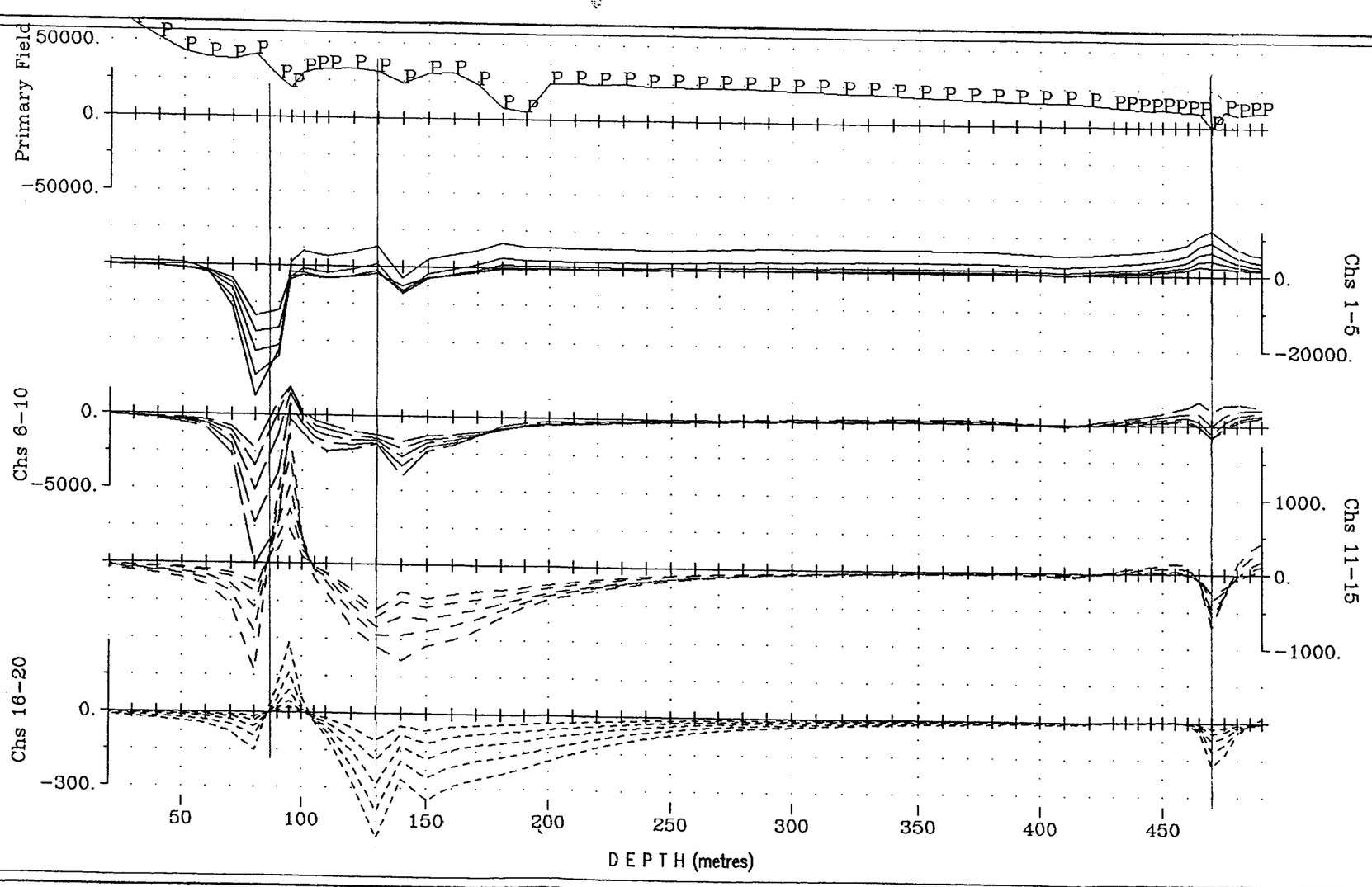
JS12-02 – LOOP LOCATION MAP

Borehole Coordinates:	1210E/32N
Borehole Azimuth, Dip:	5,-45 Degrees
Date:	July, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. #: C-431-LOOP-JS12-02



Borehole JS12-02 – Z Component
Collar Loop

Scale 1:2000

25 0 25 50 75
(metres)

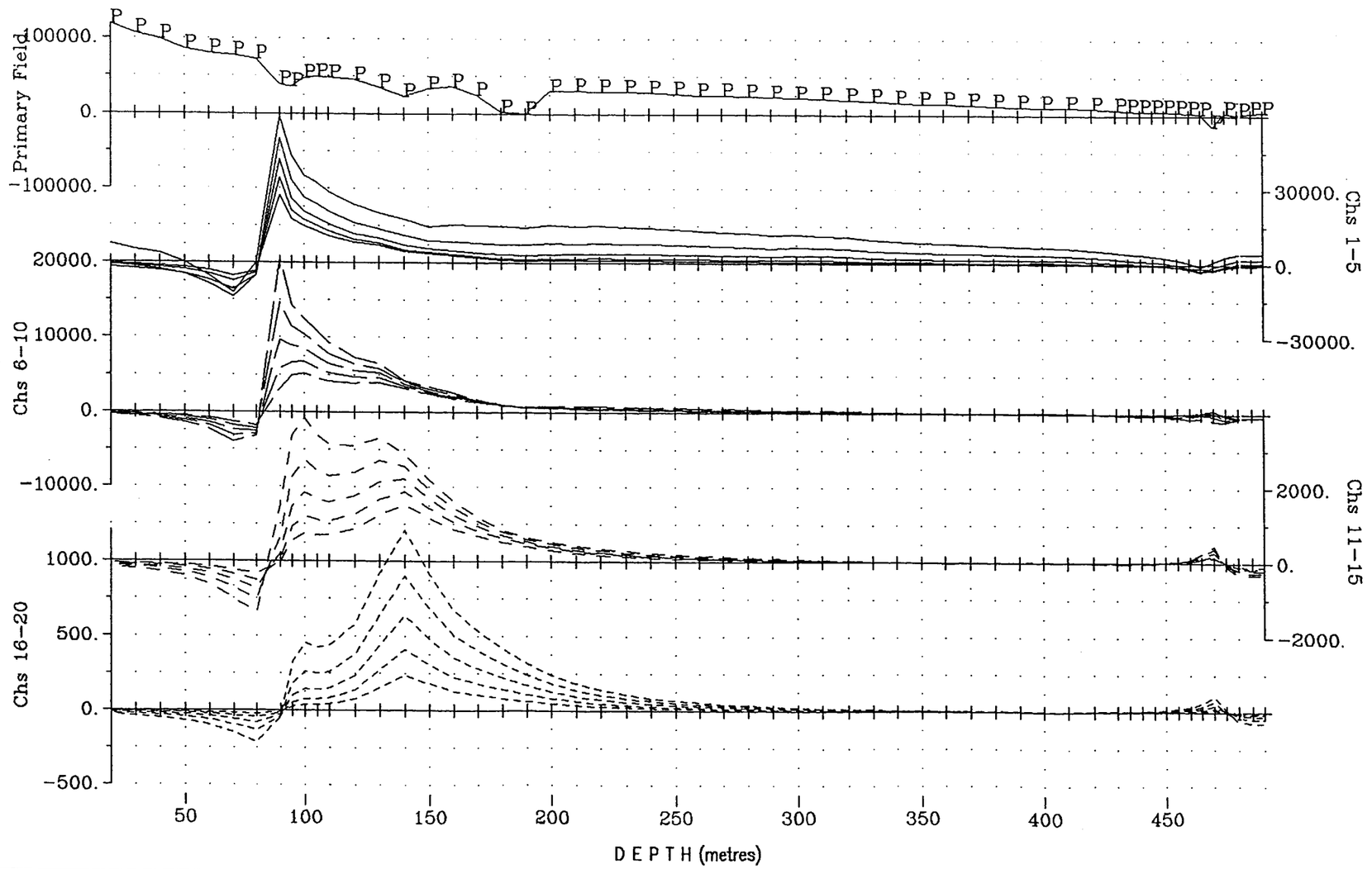
FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	400m x 400m
Tx Loop Location:	0N-1400E;400N-1000E
Transmitter Current:	15 Amps
Transmitter Turn-Off Time:	260 us
Borehole Location:	32N/1210E
Borehole Azimuth, Dip:	5,-45
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive north Hy - positive west
Survey Date:	July 28, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-Z-JS12-02c

Plotted Fri 07-31-1998 @ 3:02:20.99



Borehole JS12-02 – X Component
Collar Loop

Scale 1:2000

25 0 25 50 75
(metres)

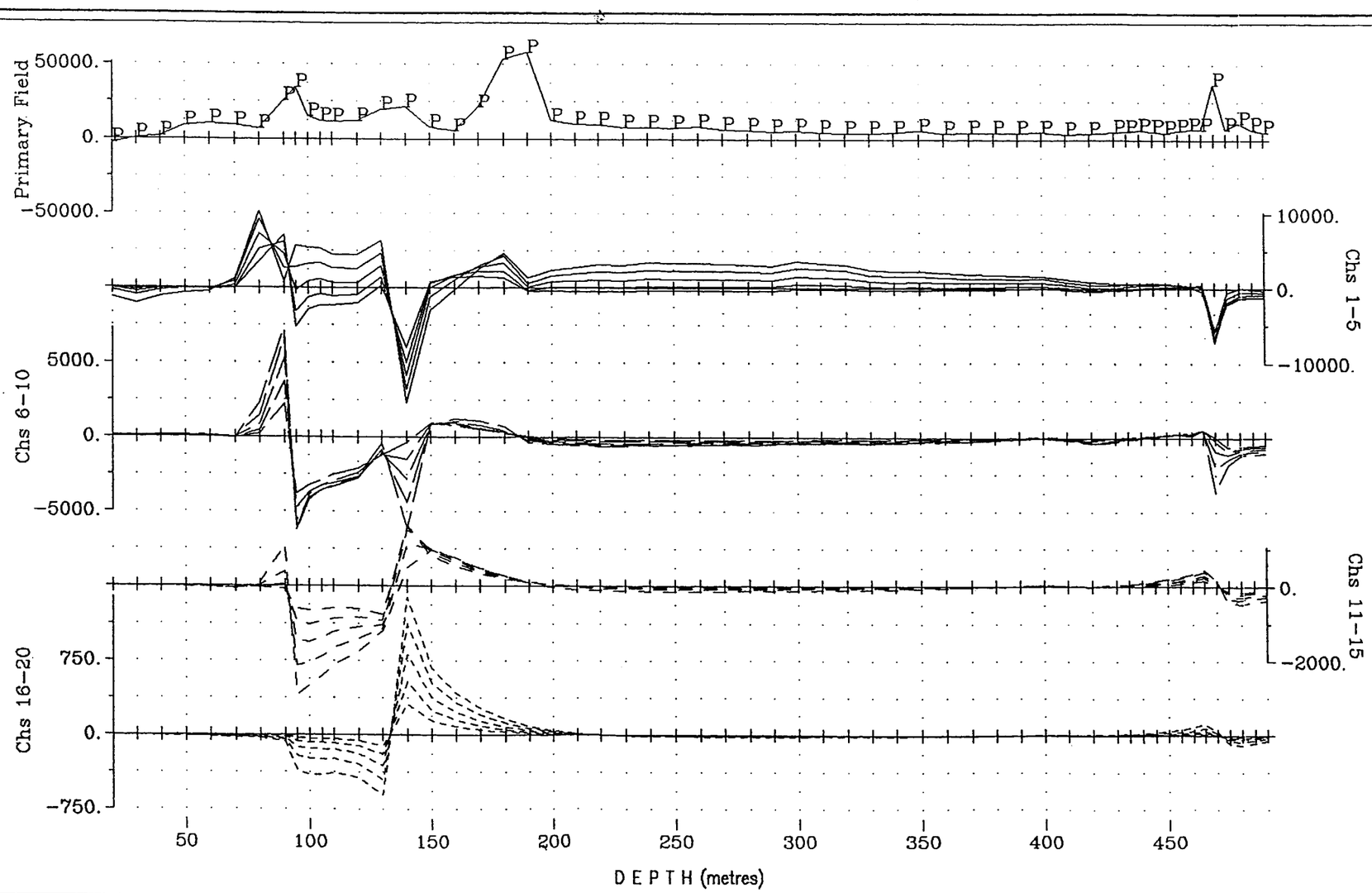
FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	400m x 400m
Tx Loop Location:	0N-1400E;400N-1000E
Transmitter Current:	15 Amps
Transmitter Turn-Off Time:	260 us
Borehole Location:	32N/1210E
Borehole Azimuth, Dip:	5,-45
Station Interval:	10 meters
Profile Units:	nanoVolt/m2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	July 28, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-X-JS12-02c

Plotted Fri 07-31-1998 @ 3:02:20.99



Borehole JS12-02 – Y Component
Collar Loop

Scale 1:2000

25 0 25 50 75
(metres)

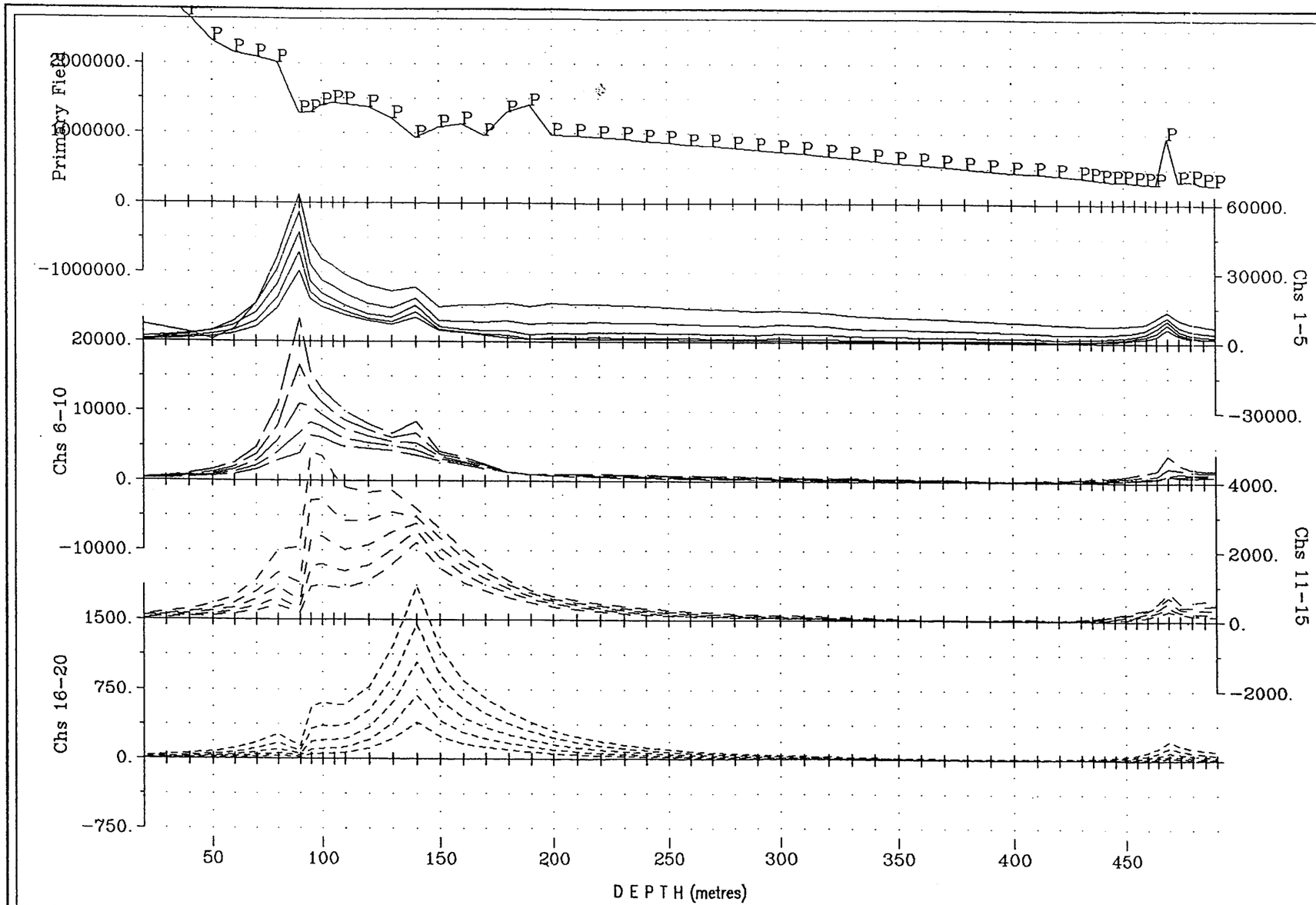
FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	400m x 400m
Tx Loop Location:	0N-1400E;400N-1000E
Transmitter Current:	15 Amps
Transmitter Turn-Off Time:	260 us
Borehole Location:	32N/1210E
Borehole Azimuth, Dip:	5,-45
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	July 28, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-Y-JS12-02c

Plotted Fri 07-31-1998 @ 3:02:20.99



Borehole JS12-02 – Total Field
Collar Loop

Scale 1:2000

25 0 25 50 75
(metres)

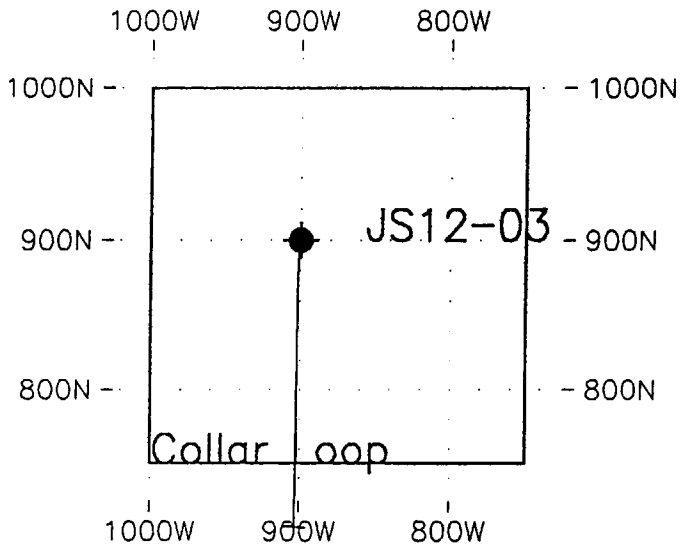
FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	400m x 400m
Tx Loop Location:	0N-1400E;400N-1000E
Transmitter Current:	15 Amps
Transmitter Turn-Off Time:	260 us
Borehole Location:	32N/1210E
Borehole Azimuth, Dip:	5,-45
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive north Hy – positive west
Survey Date:	July 28, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-TF-JS12-02c

Plotted Fri 07-31-1998 @ 3:02:20.99



Scale 1:5000

50 0 50 100 150 200 250

(metres)

FALCONBRIDGE LIMITED

JESSOP 12 PROPERTY

JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY

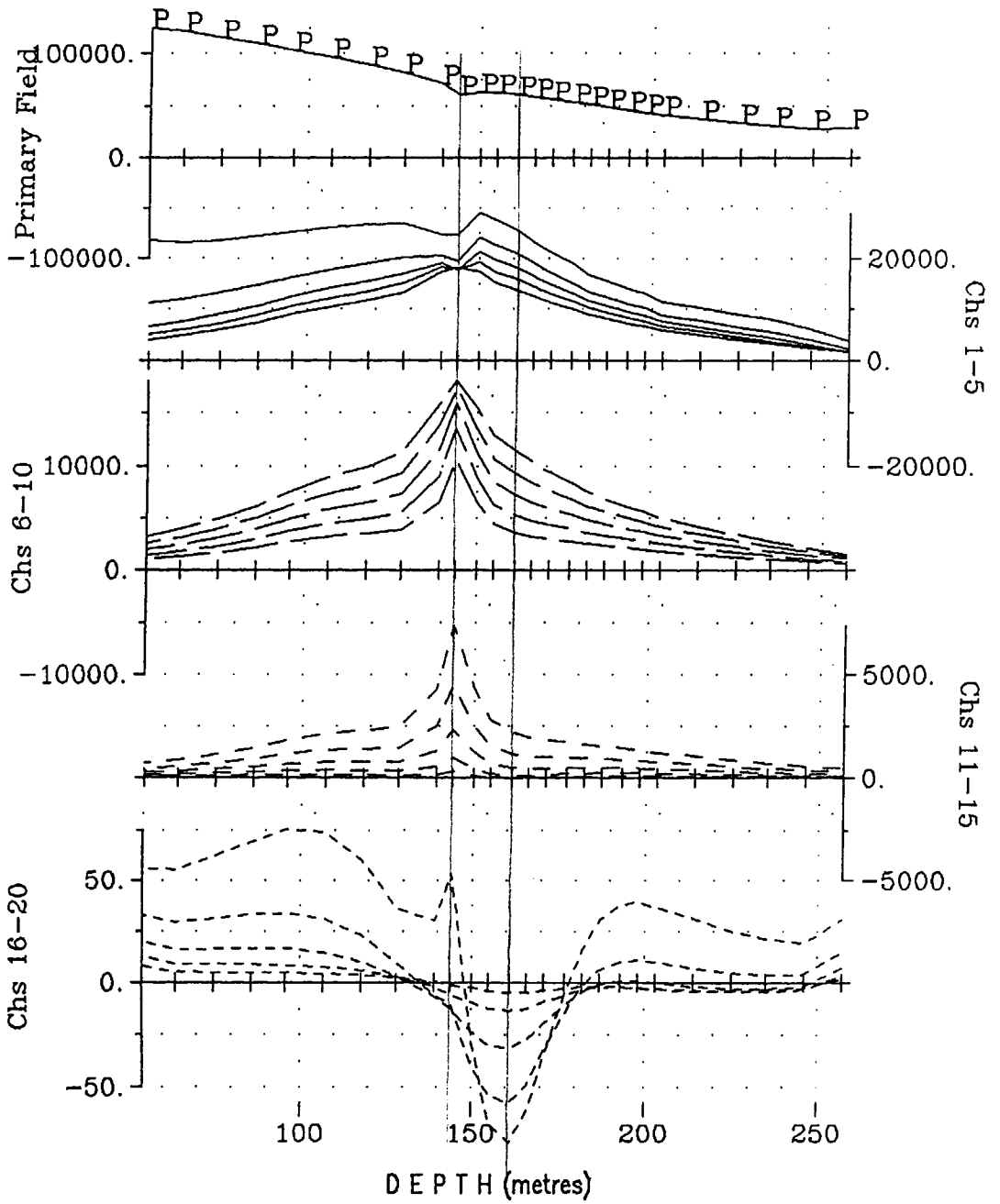
JS12-03 – LOOP LOCATION MAP

Borehole Coordinates:	900W/900N
Borehole Azimuth, Dip:	155,-50 Degrees
Date:	July, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. #: C-431-LOOP-JS12-03



Borehole JS12-03 – Z Component
Collar Loop

Scale 1:2000

25 0 25 50 75

(metres)

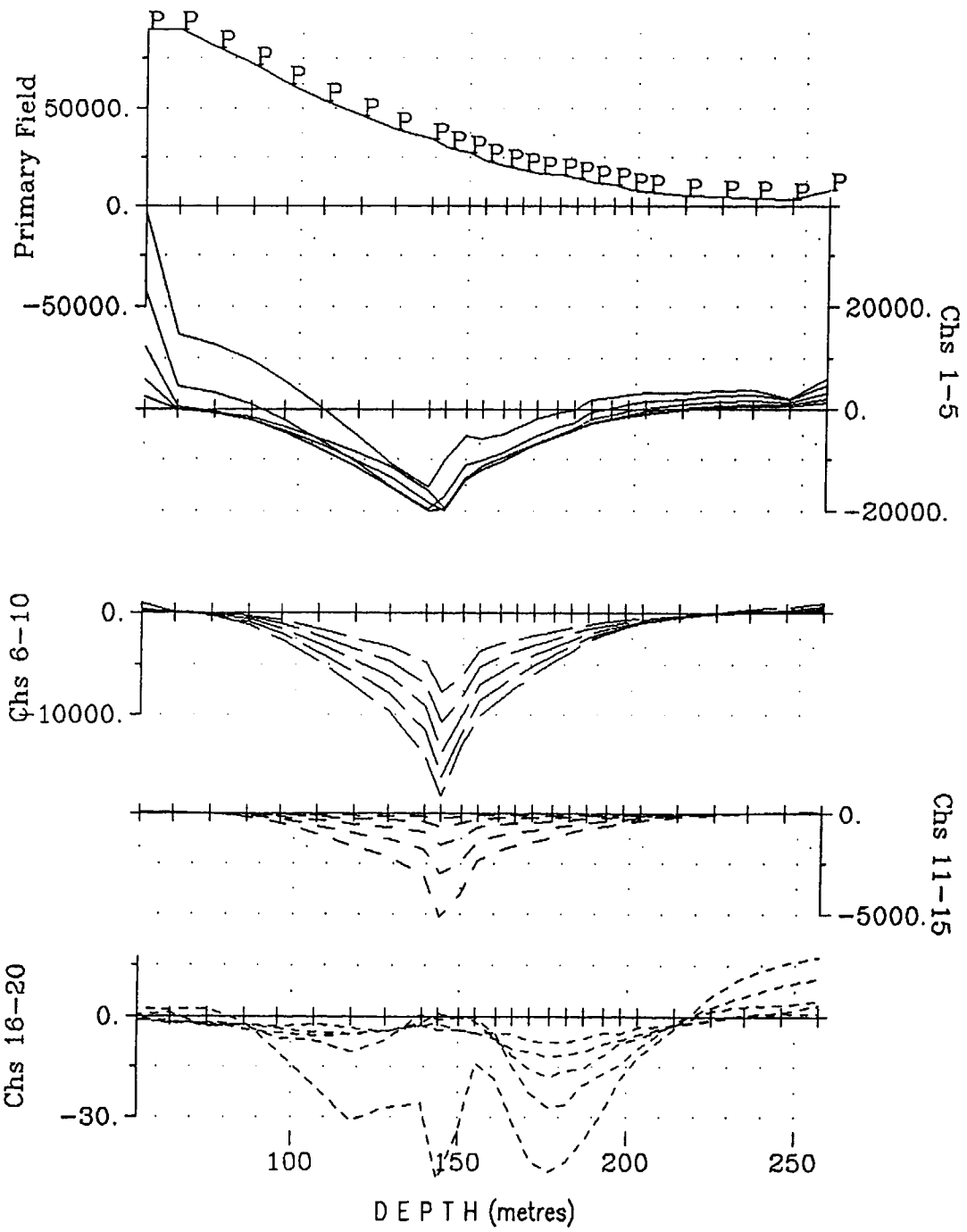
FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;750N-1000N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/900N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz – positive up
	Hx – positive south
	Hy – positive east
Survey Date:	July 22, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels)
	Geonics BH43 probe + 550m cable
	Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-Z-JS12-03c

Plotted Fri 07-24-1998 @ 10:39:50.00



Borehole JS12-03 – X Component
Collar Loop

Scale 1:2000

25 0 25 50 75

(metres)

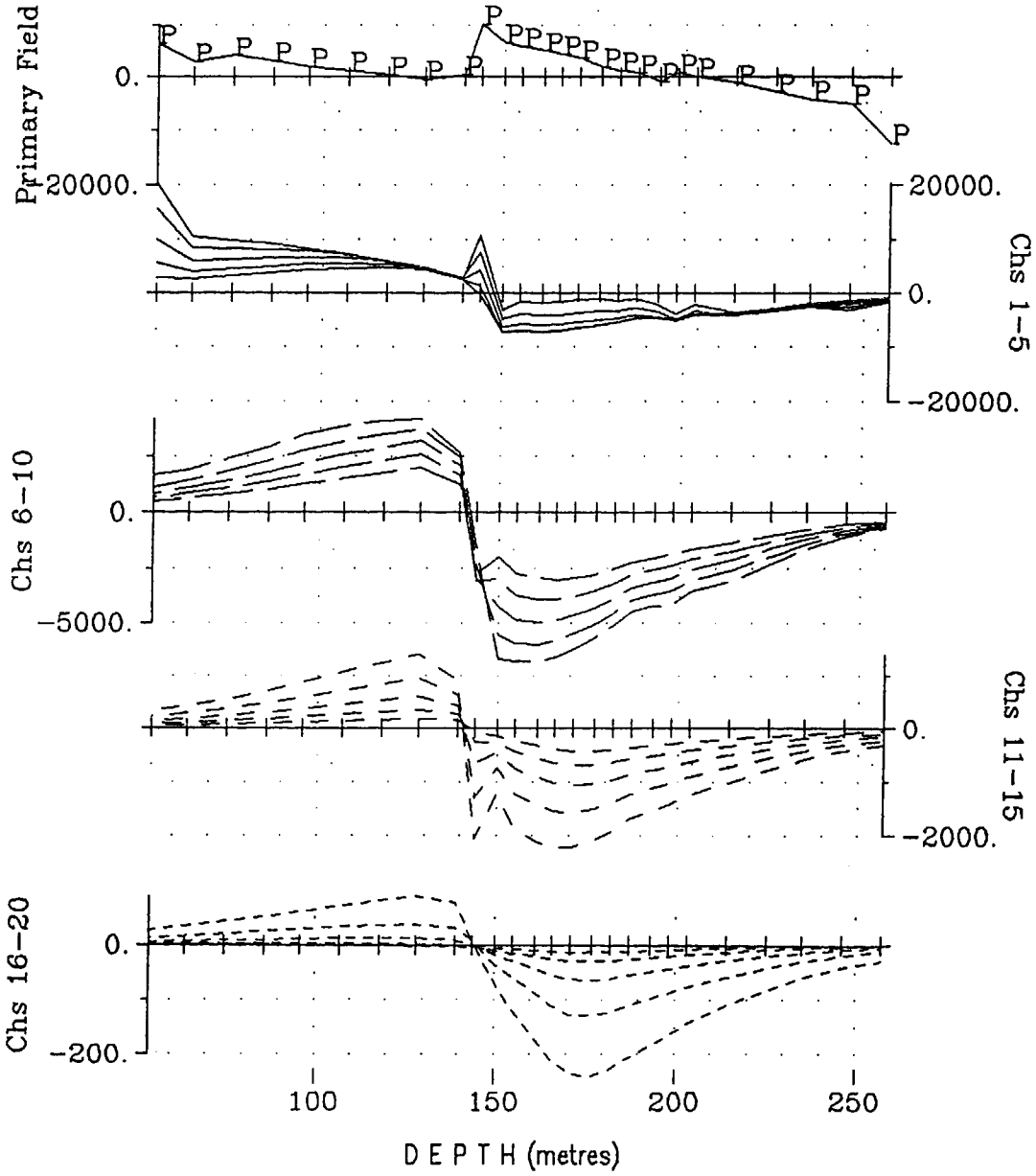
FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;750N-1000N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/900N
Borehole Azimuth, Dip:	156,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive south Hy – positive east
Survey Date:	July 22, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-X-JS12-03c

Plotted Fri 07-24-1998 @ 10:39:50.00



Borehole JS12-03 – Y Component
Collar Loop

Scale 1:2000

25 0 25 50 75

(metres)

FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12

JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

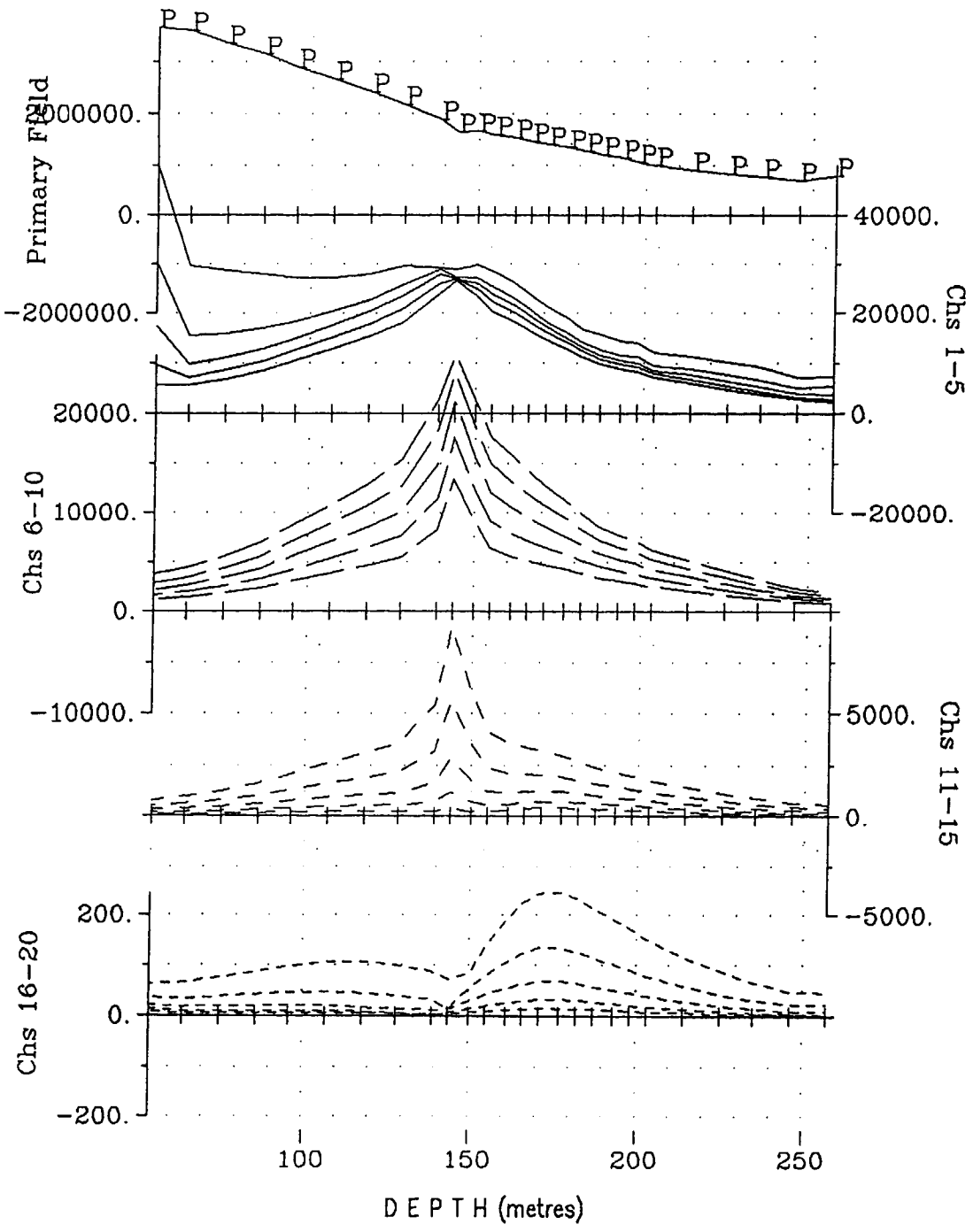
Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;750N-1000N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/900N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive south Hy - positive east

Survey Date:	July 22, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.

DWG. NO. C-431-BH4A-Y-JS12-03c

Plotted Fri 07-24-1998 @ 10:39:50.00



Borehole JS12-03 – Total Field Collar Loop

Scale 1:2000

25 0 25 50 75

(metres)

FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

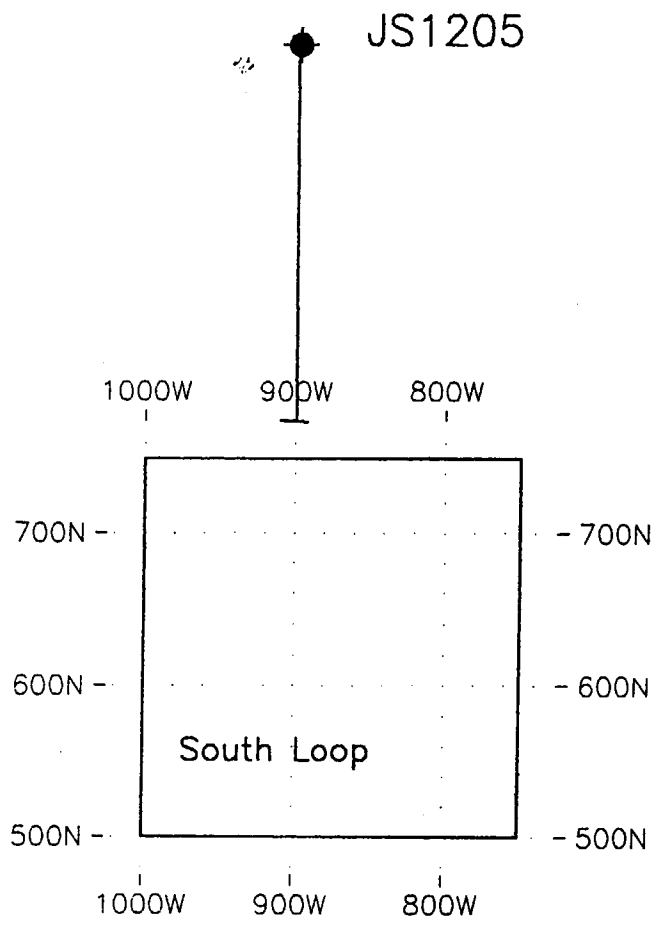
3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;750N-1000N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/900N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive south Hy – positive east

Survey Date:	July 22, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-TF-JS12-03c

Plotted Fri 07-24-1998 @ 10:39:50.00



Scale 1:5000

50 0 50 100 150 200 250

(metres)

FALCONBRIDGE LIMITED

JESSOP 12 PROPERTY

JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY

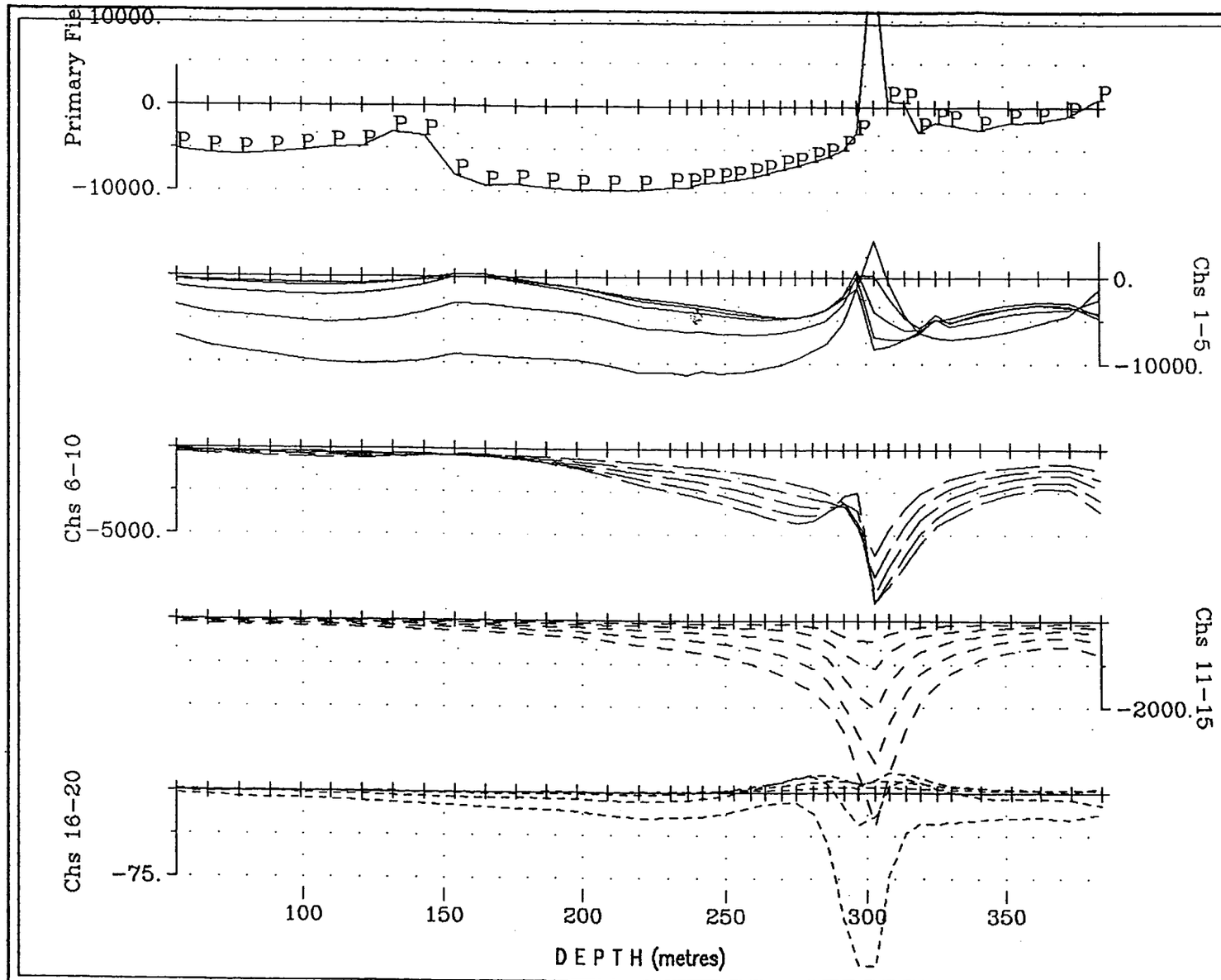
JS1205 – LOOP LOCATION MAP

Borehole Coordinates:	900W/1025N
Borehole Azimuth, Dip:	155,-50 Degrees
Date:	July, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. #: C-431-LOOP-JS1205



Borehole JS12-05 - Z Component
South Loop

Scale 1:2000

25 0 25 50 75
(metres)

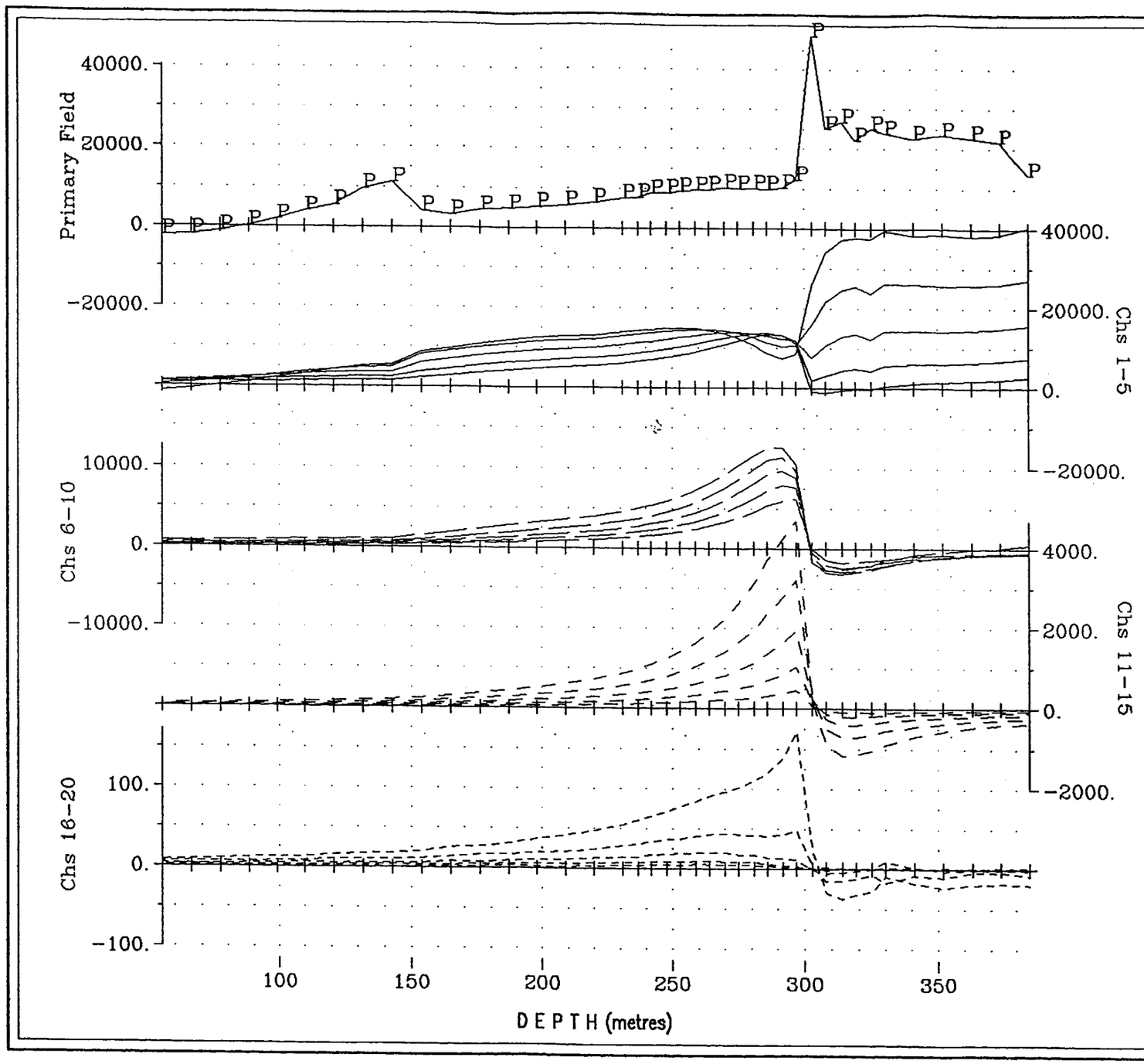
FALCONBRIDGE LIMITED
PROJECT 8036 - JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;500N-750N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/1025N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz - positive up Hx - positive south Hy - positive east
Survey Date:	July 23, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-Z-JS12-05s

Plotted Fri 07-24-1998 @ 10:39:50.00



Borehole JS12-05 – X Component
South Loop

Scale 1:2000

25 0 25 50 75
(metres)

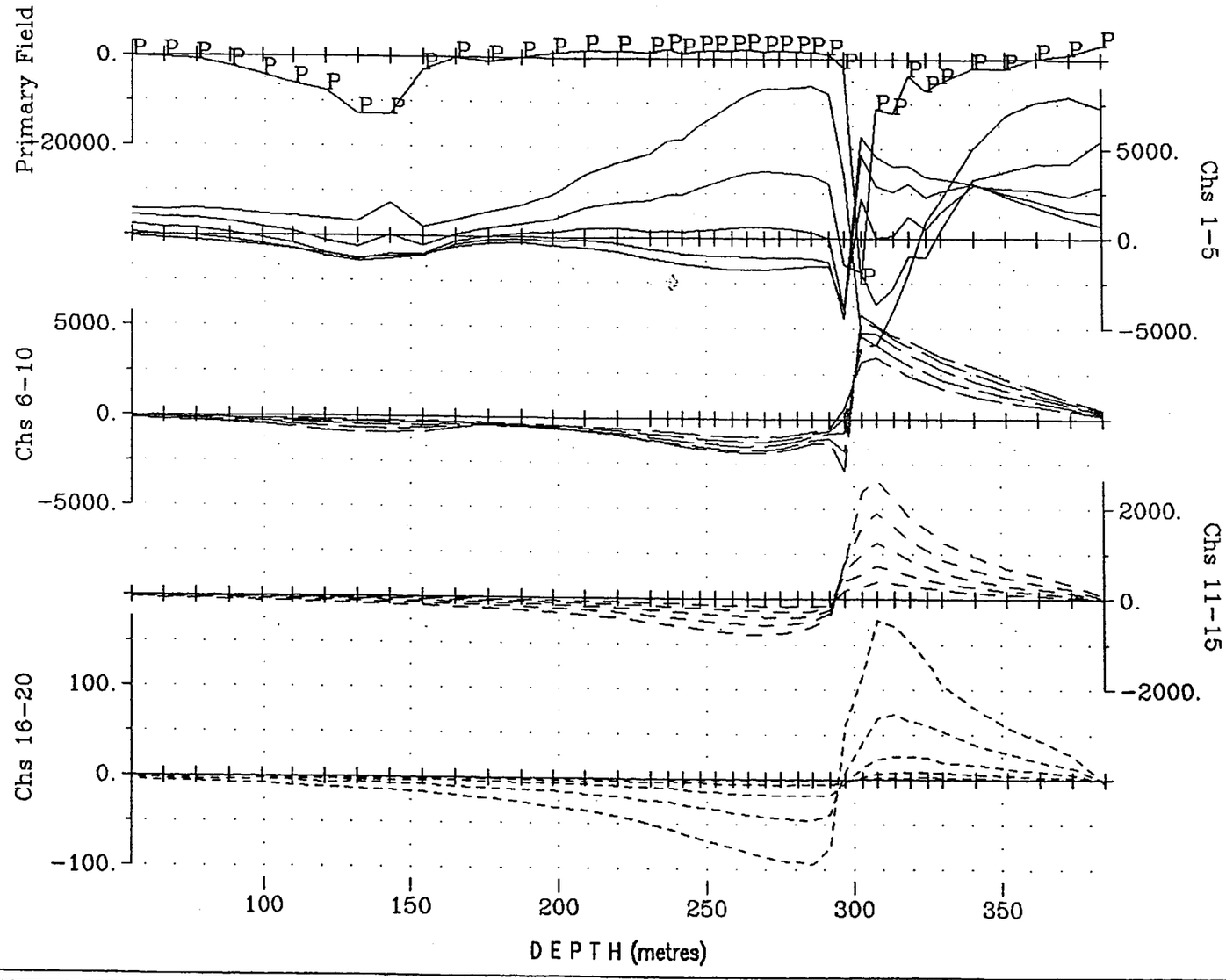
FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;500N-750N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/1025N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive south Hy – positive east
Survey Date:	July 23, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-X-JS12-05s

Plotted Fri 07-24-1998 @ 10:39:50.00



Borehole JS12-05 - Y Component
South Loop

Scale 1:2000

25 0 25 50 75
(metres)

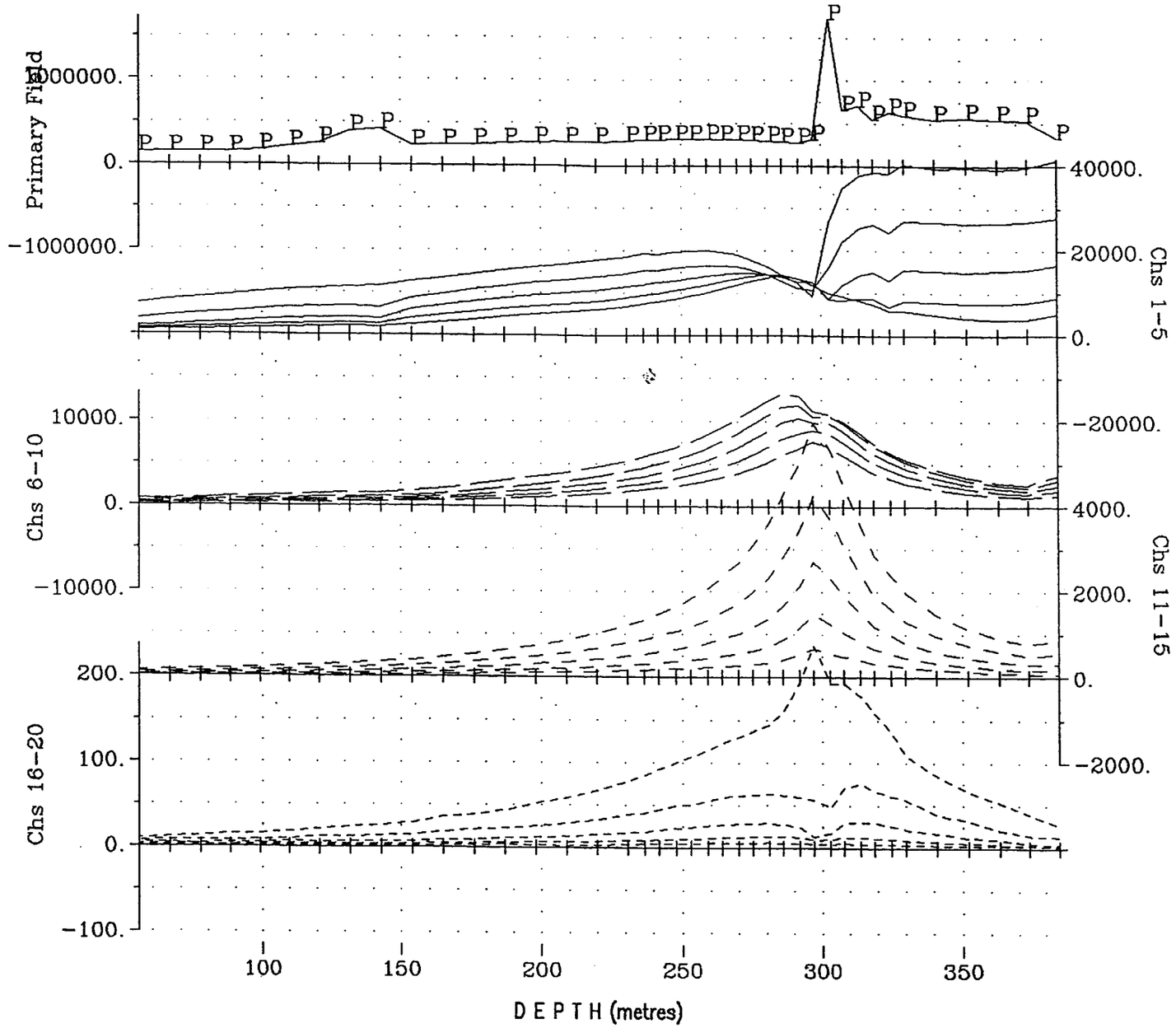
FALCONBRIDGE LIMITED
PROJECT 8036 - JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;500N-750N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/1025N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz - positive up
	Hx - positive south
	Hy - positive east
Survey Date:	July 23, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels)
	Geonics BH43 probe + 550m cable
	Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-Y-JS12-05s

Plotted Fri 07-24-1998 @ 10:39:50.00



Borehole JS12-05 – Total Field
South Loop

Scale 1:2000

25 0 25 50 75
(metres)

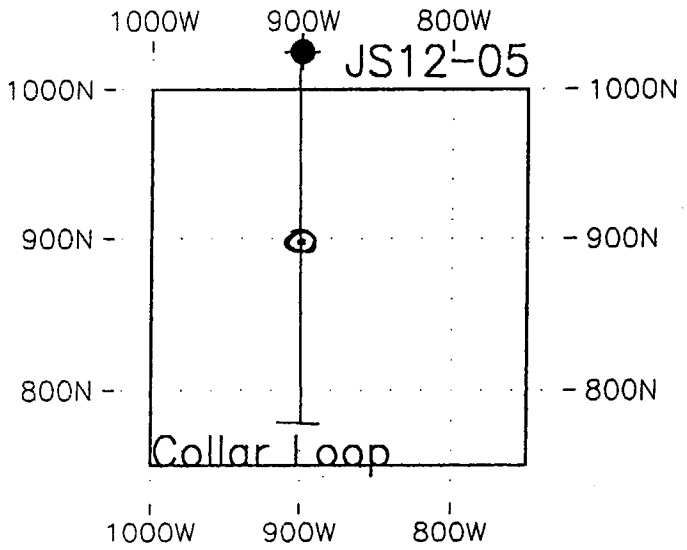
FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;500N-750N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/1025N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive south Hy – positive east
Survey Date:	July 23, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-TF-JS12-05s

Plotted Fri 07-24-1998 @ 10:39:50.00



Scale 1:5000

50 0 50 100 150 200 250

(metres)

FALCONBRIDGE LIMITED

JESSOP 12 PROPERTY

JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY

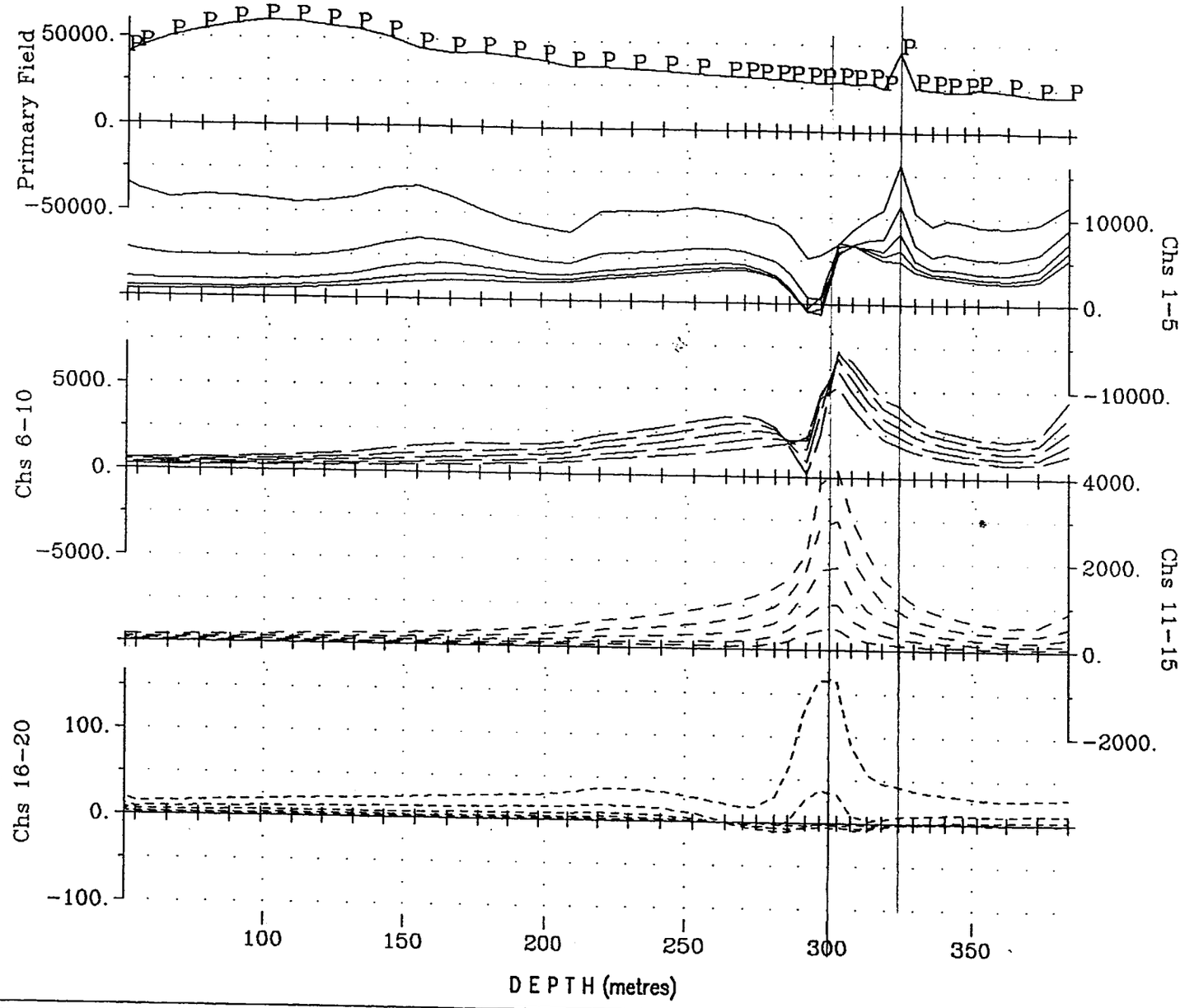
JS12-05 – LOOP LOCATION MAP

Borehole Coordinates:	900W/1025N
Borehole Azimuth, Dip:	155,-50 Degrees
Date:	July, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. #: C-431-LOOP-JS12-05



Borehole JS12--05 – Z Component
Collar Loop

Scale 1:2000

25 0 25 50 75
(metres)

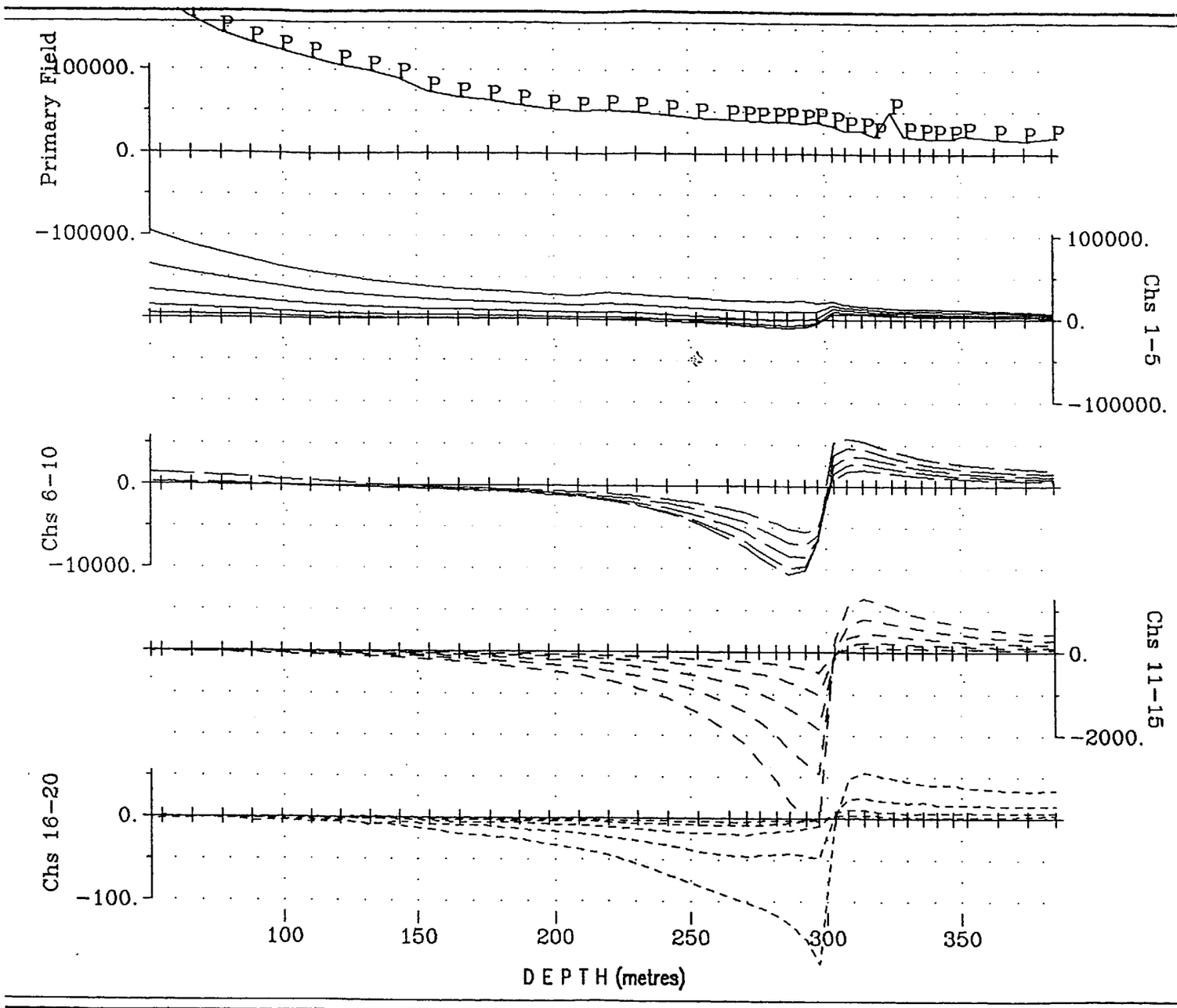
FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;750N-1000N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/1025N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz - positive up
	Hx - positive south
	Hy - positive east
Survey Date:	July 23, 1998
Instrumentation:	Rx: = Digital Protem (3x20 Channels)
	Geonics BH43 probe + 550m cable
	Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-Z-JS12-05c

Plotted Fri 07-24-1998 @ 10:39:50.00



Borehole JS12-05 – X Component
Collar Loop

Scale 1:2000

25 0 25 50 75

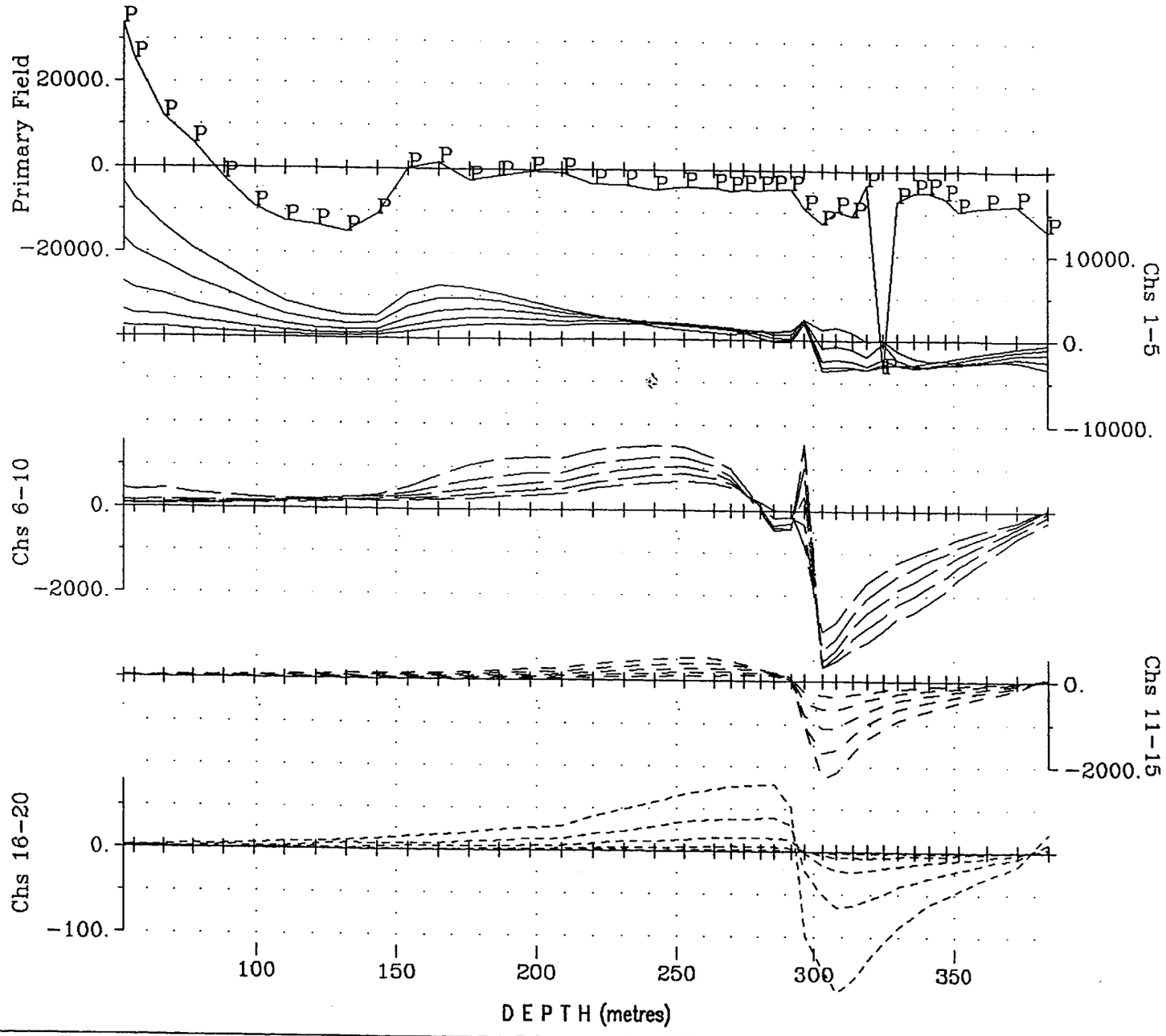
(metres)

FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;750N-1000N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/1025N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz – positive up
	Hx – positive south
	Hy – positive east
Survey Date:	July 23, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels)
	Geonics BH43 probe + 550m cable
	Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-X-JS12-05c



Borehole JS12-05 - Y Component
Collar Loop

Scale 1:2000

25 0 25 50 75
(metres)

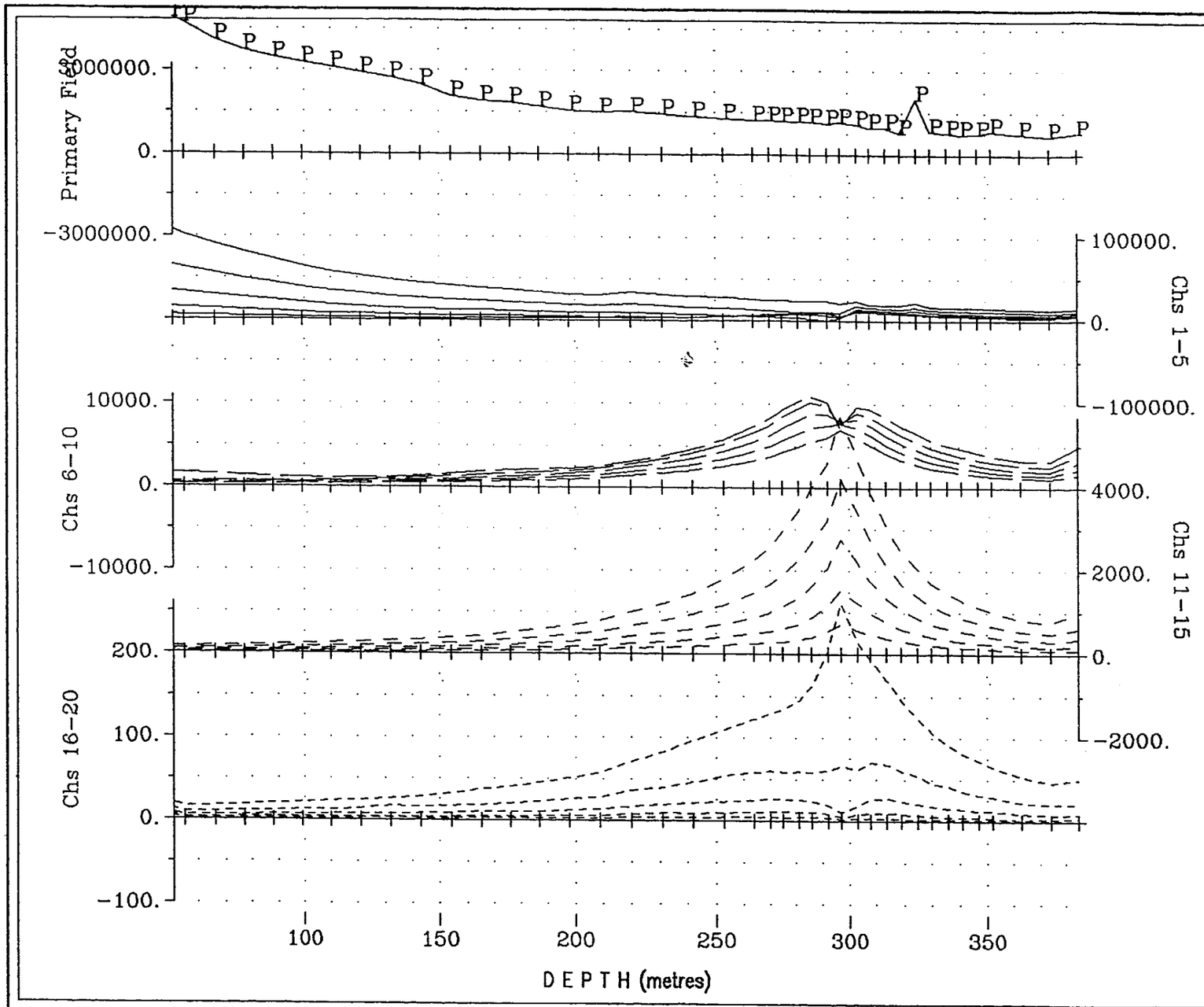
FALCONBRIDGE LIMITED
PROJECT 8036 - JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;750N-1000N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/1025N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m*2
Receiver Coil Orientation:	Hz - positive up
	Hx - positive south
	Hy - positive east
Survey Date:	July 23, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels)
	Geonics BH43 probe + 550m cable
	Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-Y-JS12-05c

Plotted Fri 07-24-1998 @ 10:39:50.00



Borehole JS12-05 – Total Field
Collar Loop

Scale 1:2000

25 0 25 50 75
(metres)

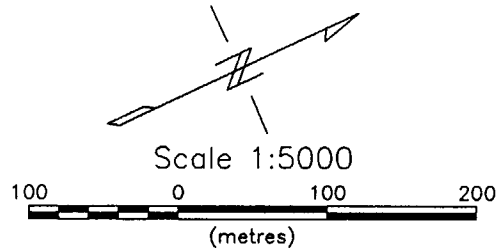
FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

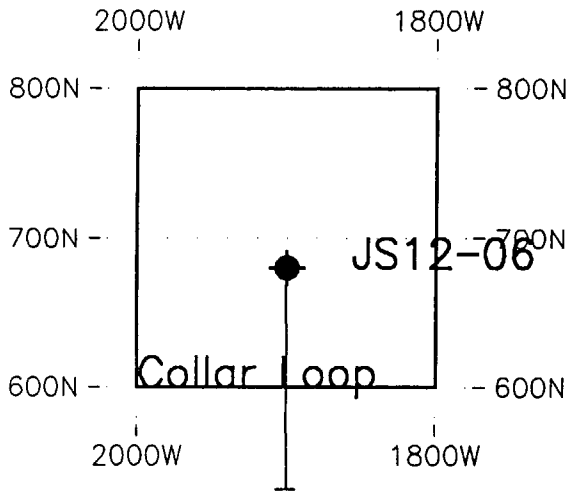
3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	250m x 250m
Tx Loop Location:	750W-1000W;750N-1000N
Transmitter Current:	21 Amps
Transmitter Turn-Off Time:	220 us
Borehole Location:	900W/1025N
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz – positive up Hx – positive south Hy – positive east
Survey Date:	July 23, 1998
Instrumentation:	Rx: = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-TF-JS12-05c

Plotted Fri 07-24-1998 @ 10:39:50.00





FALCONBRIDGE LIMITED

JESSOP 12 PROPERTY

JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY

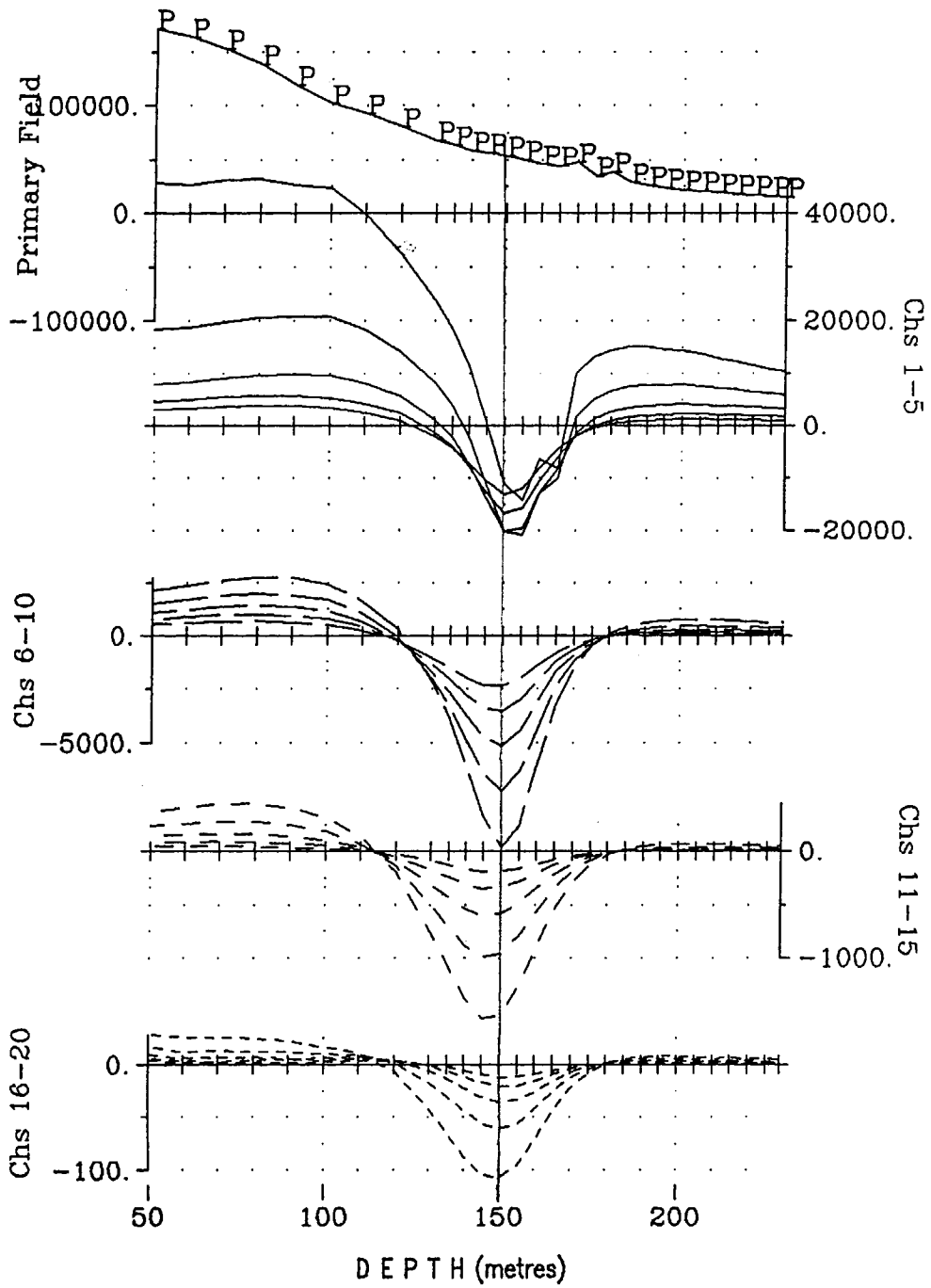
JS12-06 – LOOP LOCATION MAP

Borehole Coordinates:	1900W/680N
Borehole Azimuth, Dip:	155,-50 Degrees
Date:	July, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels) Geonics BH43 probe + 550m cable Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. #: C-431-LOOP-JS12-06



Borehole JS12-06 - Z Component
Collar Loop

Scale 1:2000

25 0 25 50 75

(metres)

FALCONBRIDGE LIMITED
PROJECT 8036 - JESSOP 12
JESSOP TWP., ON

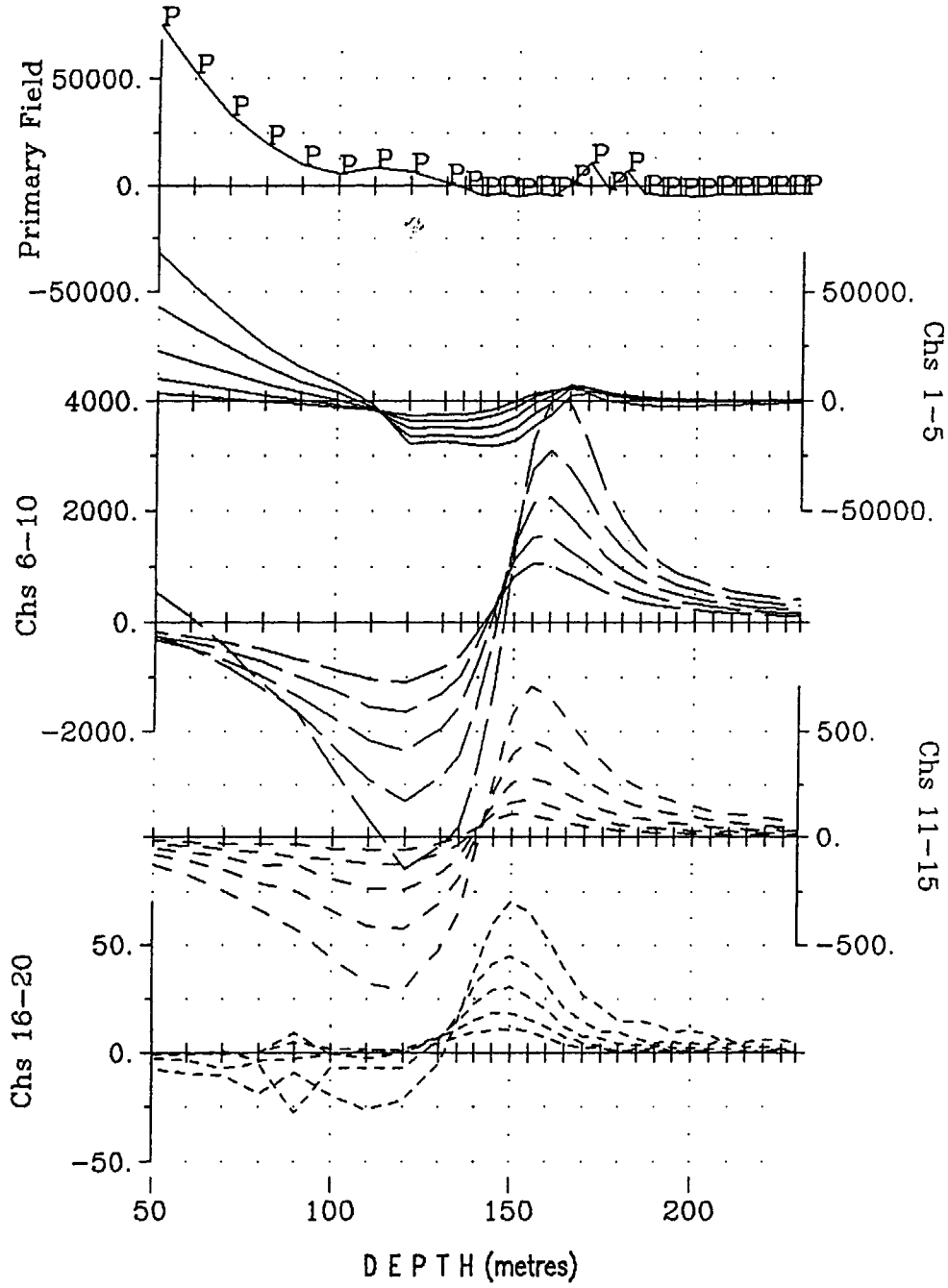
3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	200m x 200m
Tx Loop Location:	600N-2000W;800N-1800W
Transmitter Current:	20 Amps
Transmitter Turn-Off Time:	160 us
Borehole Location:	680N/1900W
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz - positive up
	Hx - positive south
	Hy - positive east

Survey Date:	July 24, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels)
	Geonics BH43 probe + 550m cable
	Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-Z-JS12-06c

Plotted Sat 07-25-1998 @ 4:06:41.54



Borehole JS12-06 – X Component
Collar Loop

Scale 1:2000

25 0 25 50 75

(metres)

FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12

JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

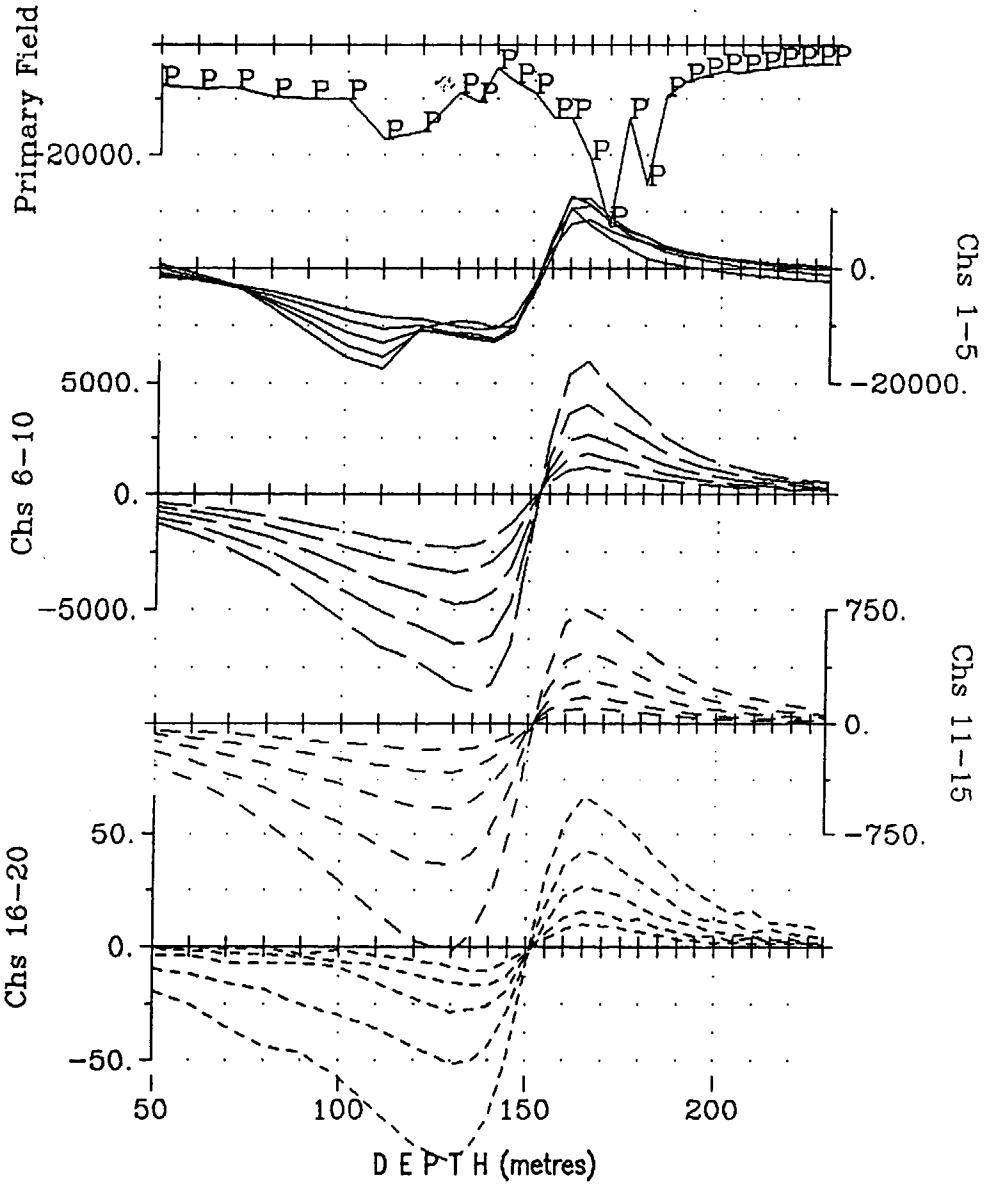
Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	200m x 200m
Tx Loop Location:	600N-2000W;800N-1800W
Transmitter Current:	20 Amps
Transmitter Turn-Off Time:	160 us
Borehole Location:	680N/1900W
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz – positive up
	Hx – positive south
	Hy – positive east
Survey Date:	July 24, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels)
	Geonics BH43 probe + 550m cable
	Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC CONSULTING INC.

DWG. NO. C-431-BH4A-X-JS12-06c

Plotted Sat 07-25-1998 @ 4:06:41.54



Borehole JS12-06 - Y Component
Collar Loop

Scale 1:2000

25 0 25 50 75

(metres)

FALCONBRIDGE LIMITED
PROJECT 8036 - JESSOP 12
JESSOP TWP., ON

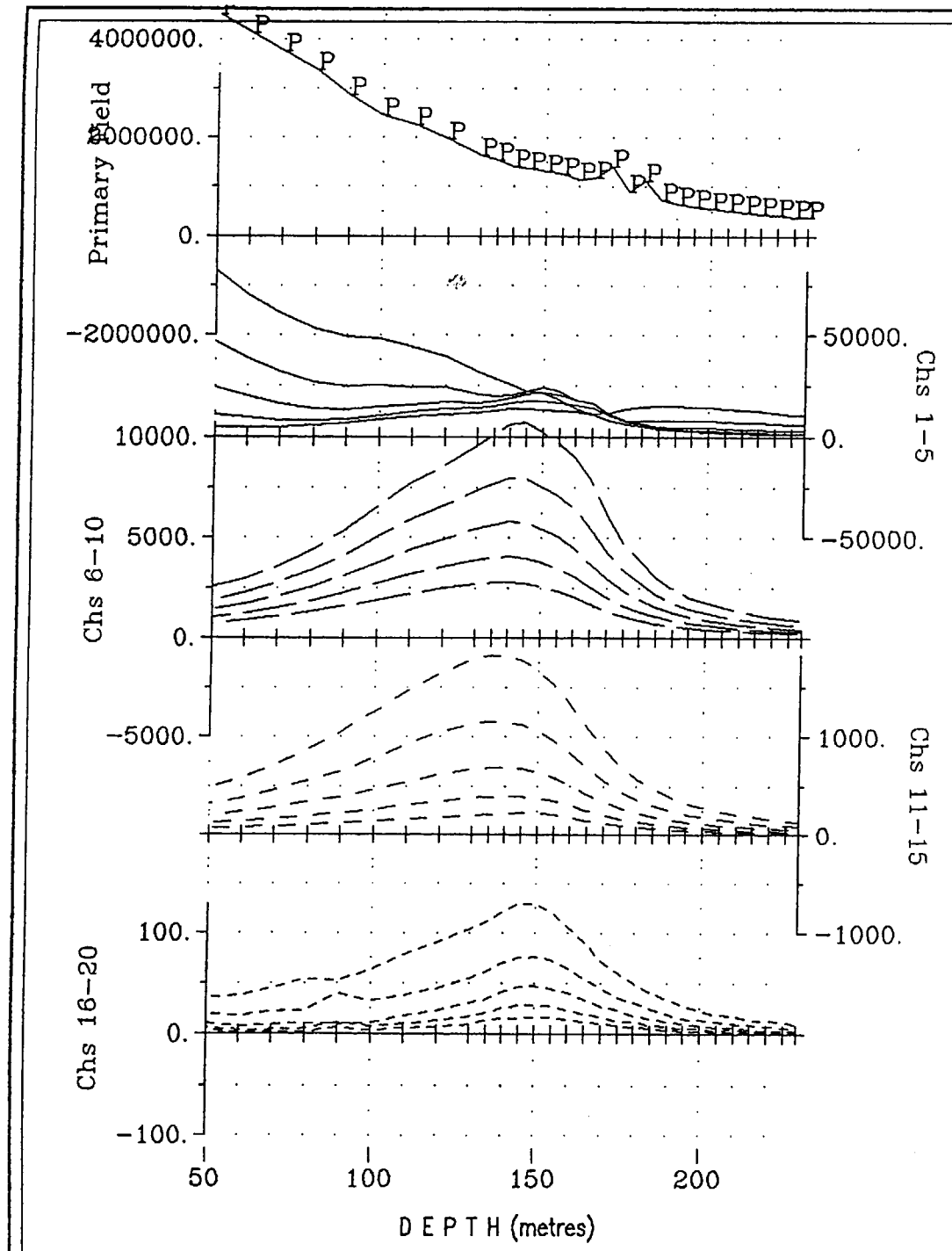
3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	200m x 200m
Tx Loop Location:	600N-2000W;800N-1800W
Transmitter Current:	20 Amps
Transmitter Turn-Off Time:	160 us
Borehole Location:	680N/1900W
Borehole Azimuth, Dip:	155,-50
Station Interval:	10 meters
Profile Units:	nanoVolt/m^2
Receiver Coil Orientation:	Hz - positive up
	Hx - positive south
	Hy - positive east

Survey Date:	July 24, 1998
Instrumentation:	Rx = Digital Protem (3x20 Channels)
	Geonics BH43 probe + 550m cable
	Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-Y-JS12-06c

Plotted Sat 07-25-1998 @ 4:06:41.54



Borehole JS12-06 – Total Field Collar Loop

Scale 1:2000

25 0 25 50 75

(metres)

FALCONBRIDGE LIMITED
PROJECT 8036 – JESSOP 12
JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY
Secondary Electromagnetic Field (dB/dt)

Transmitter Frequency:	30 Hz (50% duty cycle)
Tx Loop Size:	200m x 200m
Tx Loop Location:	600N-2000W;800N-1800W
Transmitter Current:	20 Amps
Transmitter Turn-Off Time:	160 us
Borehole Location:	680N/1900W
Borehole Azimuth, Dip:	155,-50
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Profile Units:	nanoVolt/m^2
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Survey Date:	July 24, 1998
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	Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:
QUANTEC CONSULTING INC.
DWG. NO. C-431-BH4A-TF-JS12-06c

Plotted Sat 07-25-1998 @ 4:06:41.54

4

Ontario Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 65(2) and 66(3), R.S.O. 1990

Transaction Number (office use)
W0060.00178
Assessment Files Research Imaging

See FINAL REVISED

subsection 65(2) and 66(3) of the Mining Act. Under section 8 of the Mining Act, assessment work and correspond with the mining land holder. Questions about this Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury

42A11SW2028 2.20286 JESSOP 900

Instructions: - For work performed on Crown Lands before **recording** a claim, use form 0240.
- Please type or print in ink.

1. Recorded holder(s) (Attach a list if necessary) ***See attached list***

Name FALCONBRIDGE LIMITED	Client Number 130679
Address KIDD CREEK MINE SITE, BOX 1140	Telephone Number (705) 267-1188
TIMMINS ONTARIO, P4N 7H9	Fax Number (705) 264-6080
Name EXPLORERS ALLIANCE CORPORATION	Client Number 303065
Address 8th FLOOR, 350 BAY STREET	Telephone Number (416) 360-5333
TORONTO, ONTARIO M5H 2S6	Fax Number (416)360-4419

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

Geotechnical: prospecting, surveys, assays and work under section 18 (regs) ☒ Physical: drilling stripping, trenching and associated assays ☐ Rehabilitation

Work Type: Linecutting, Ground Mag, HLEM, Diamond Drilling, Borehole PEM, Surface TEM	Office Use Commodity
	Total $ Value of Work Claimed 59,826
Dates Work Performed From Day 24 Month 03 Year 1999 To Day 20 Month 03 Year 2000	NTS Reference
Global Positioning System Data (if available) See UTM's on Logs	Township/Area JESSOP,JAMIESON, GODFREY TWPS Mining Division Porcupine
	M or G-Plan Number G3984, 3986, 3991 Resident Geologist District Timmins

Please remember to: - obtain a work permit from the Ministry of Natural Resources as required;
- provide proper notice to surface rights holders before starting work;
- complete and attach a Statement of Costs, form 0212;
- provide a map showing contiguous mining lands that are linked for assigning work;
- include two copies of your technical report.

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APR 18 2000
GEOSCIENCE ASSESSMENT OFFICE

3. Person or companies who prepared the technical report (Attach a list if necessary)

Name DOUG LONDRY	Telephone Number (705) 523-5479
Address 547 Loach's Road, Sudbury Ont., P3E 2R3	Fax Number (705) 523-5479
Name GREG COLLINS	Telephone Number (705) 264-5200
Address BOX 1140, TIMMINS ON, P4N 7H9	Fax Number (705) 267-8874
Name SHERWOOD COULSON	Telephone Number (705)235-2166
Address BOX 580, 101 KING STREET, PORCUPINE ON	Fax Number (705) 235-2257

RECEIVED
APR 17 2000
9:00 AM
PORCUPINE MINING DIVISION

4. Certification by Recorded Holder or Agent

I, GREG COLLINS (Print Name), do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent Greg Collins		Date Apr. 14 2000
Agent's Address Box 1140, Timmins P4N 7H9	Telephone Number (705) 264-5200 (or 824-5)	Fax Number 267-8874

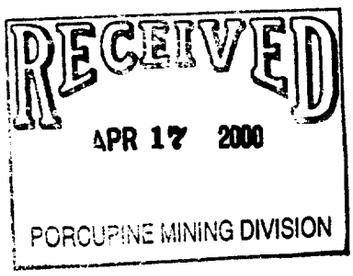
0241 (03/97)

Additional Recorded Holders:

Name 1232448 Ontario Inc.	Client Number 303826
Address 168 Algonquin Timmins, Ontario P4N 1A9	
Telephone Number (705) 267-3511	Fax Number (705) 267-3121

Name John P. Huot	Client Number 146892
Address 36 Maple St. South Timmins, Ontario	
Telephone Number (705) 267-6464	Fax Number (705) 264-3260

See previous records for letter of agency for each Holder.



Ontario Ministry of Northern Development and Mines

Schedule for Declaration of Assessment Work on Mining Land

Transaction Number (office use)

Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work Performed on this claim or other mining land.	Value of work Applied to this Claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
1228121	16	$11,015	$6,400	$4,615	$0
1228133	16	$23,243	$6,400	$16,843	$0
1224040	10	$527	$0	$527	$0
1228132	16	$2,109	$6,400	$0	$0
1190023	4	$2,072	$0	$2,072	
1193145	3	$414	$0	$414	
1204198	1	$828	$0	$828	
1204199	7	$2,559	$0	$2,559	
1189441	3	$420	$0	$420	
1193143	15	$5,015	$0	$5,015	
1228122	16	$0	$6,400		
1228127	16	$0	$6,400		
1228134	4	$0	$4,800		
1228129	12	$0	$1,576		
723295	1	$0	$400		
723296	1	$421	$400	$21	
723297	1	$843	$400	$443	
723298	1	$632	$400	$232	
986663	1	$2,558	$400	$278	$1,880
986664	1	$1,243	$400		$843
986665	1	$0	$400		
986666	1	$903	$400		$503
986667	1	$1,805	$400		$1,405
986668	1	$0	$400		
986669	1	$902	$400		$502
986670	1	$0	$400		
1190018	1	$0	$400		
1190019	6	$0	$2,400		
1190020	6	$0	$2,400		
1190021	1	$0	$400		
1190022	1	$0	$400		
1193668	3	$0	$1,200		
1193670	3	$0	$1,200		
1201107	2	$0	$800		
1189418	2	$210	$0	$210	
Column Totals		$57,719	$52,376	$34,477	$2,816

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APR 17 2000
PORCUPINE MINING DIVISION

0290 (02/96)

Ontario Ministry of Northern Development and Mines

Schedule for Declaration of Assessment Work on Mining Land

Transaction Number (office use)

Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work Performed on this claim or other mining land.	Value of work Applied to this Claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date.
1189440	3	$211	$0		$211
1189417	2	$1,053	$0		$1,053
1189416	2	$212	$0	$200	~~$212~~
732132	1	$421	$0	$400	~~$421~~
732131	1	$210	$0	$200	~~$210~~
1228120	2	0	$900 JC		
Column Totals		$59,826	~~$52,376~~ $53,176	~~$34,267~~ $35,067 JC.	~~$7,450~~ $6,650

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GEOSCIENCE ASSESSMENT OFFICE

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PORCUPINE MINING DIVISION

0290 (02/96)

Ontario Ministry of Northern Development and Mines

Statement of Costs for Assessment Credit

Transaction Number (office use)

Personal information collected on this form is obtained under the authority of subsection 6 (1) of the Assessment Work Regulation 6/96. Under section 8 of the Mining Act, this information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of work Depending on the type of work, list the number of hours/day worked, metres of drilling, kilometres of grid line, number of samples, etc.	Cost Per Unit of work	Total Cost
Linecutting	30.2 km	$304/km	$9,181
HLEM (222,444,1777Hz – 200m)	20.1 km	$176/km	$6,549
Mag (Scintrex IGS-2/MP-4) JS44,JS12	19.0 km	$107/km	$2,033
HLEM/ MAG Reports (JS44,JS12)	2 Reports with copies	$535/ Report	$1,070
Diamond Drilling (holes JS51-02, JS44-01)	400m	$60/m	$24,000
Surface TEM and Bore-hole Surveys	8.5 days	$1,605/day	$13,643
Surface TEM/BHPEM Report	1 Report with copies	$1000/ Report	$1,000
Geological Supervision and Services	10 days	$200/day	$2,000
Associated Costs (e.g. supplies, mobilization and demobilization).			
Transportation Costs			
Truck Rental and Fuel	10 days	$35/day	$350
Food and Lodging Costs			
		Total Value of Assessment Work	$59,826

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APR 17 2000
PORCUPINE MINING DIVISION

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APR 18 2000
GEOSCIENCE ASSESSMENT OFFICE

Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK	x 0.50 =	Total $ value of worked claimed.

Note:
- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

I, Greg Collins (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying Declaration of Work form as Senior Field Geologist (recorded holder, agent, or state company position with signing authority) I am authorized to make this certification.

Signature	Date

0212 (03/97)

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Ontario

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (888) 415-9845
Fax: (877) 670-1555

Visit our website at:
www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

June 1, 2000

FALCONBRIDGE LIMITED
SUITE 1200, 95 WELLINGTON STREET WEST
TORONTO, ONTARIO
M5J-2V4

Dear Sir or Madam:

Submission Number: 2.20286

Subject: Transaction Number(s):		**Status**
	W0060.00178	Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact LUCILLE JEROME by e-mail at lucille.jerome@ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,

Steven B. Beneteau

ORIGINAL SIGNED BY
Steve B. Beneteau
Acting Supervisor, Geoscience Assessment Office
Mining Lands Section

Correspondence ID: 14949
Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.20286

Date Correspondence Sent: June 01, 2000 **Assessor:** LUCILLE JEROME

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W0060.00178	1228121	JESSOP, JAMIESON, GODFREY	Approval	June 01, 2000

Section:
14 Geophysical EM
14 Geophysical MAG
16 Drilling PDRILL
18 Other DHGEO

Correspondence to:

Resident Geologist
South Porcupine, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):

Greg Collins
TIMMINS, ON, CAN

FALCONBRIDGE LIMITED
TORONTO, ONTARIO

EXPLORERS ALLIANCE CORPORATION
TIMMINS, ONTARIO

1232448 ONTARIO INC.
TIMMINS, ON

JOHN PETER HUOT
TIMMINS, ONTARIO

Correspondence ID: 14949

MAP SYMBOLOGY

Aerial Cableway; Boundary; International; Interprovincial; District, Township, Indian Reserve; Approximate; Lot Concession; Approximate; Park Boundary; Bridge; Road Bottomed; Building; Chimney; Cliff, Pit, Pile; Contours; Interpolated; Approximate; Depression; Control Points; Horizontal; Vertical; Culvert; Falls; Double line river; Fence, Hedge, Wall; Feature Outline; Flooded Land; Lock; Marsh or Swamp; Mast; Mine Head Frame; Outcrop

Pipeline; Railroad; Single Track; Double Track; Abandoned; Turntable; Road; Highway, County, Township; Access; Trail, Bush Road; Rapids; Reservoir; River, Stream, Canal; Approximate; Rock; Shoal; Spot Elevation; Tower; Transmission Line; Poles; Pylons; Tunnel; Utility Poles; Wharf, Dock, Pier; Wooded Area

land use permit

AREAS WITHDRAWN FROM DISPOSITION

M R O – MINING RIGHTS ONLY
S R O – SURFACE RIGHTS ONLY
M + S – MINING AND SURFACE RIGHTS

Description	Order No	Date	Disposition	File

(F1) – S R O UNDER APPLICATION FOR AGRICULTURAL PURPOSES

(F2) – CERTIFIED AGRICULTURAL LAND – 26/8/82 SUBJECT TO SEC 41(1) OF THE MINING ACT

(F3) – BONA FIDE APPLICATION

(R0) – Pending S.R. Disposition under PLA

(F) FILED ONLY Nov 15/85 – 835628

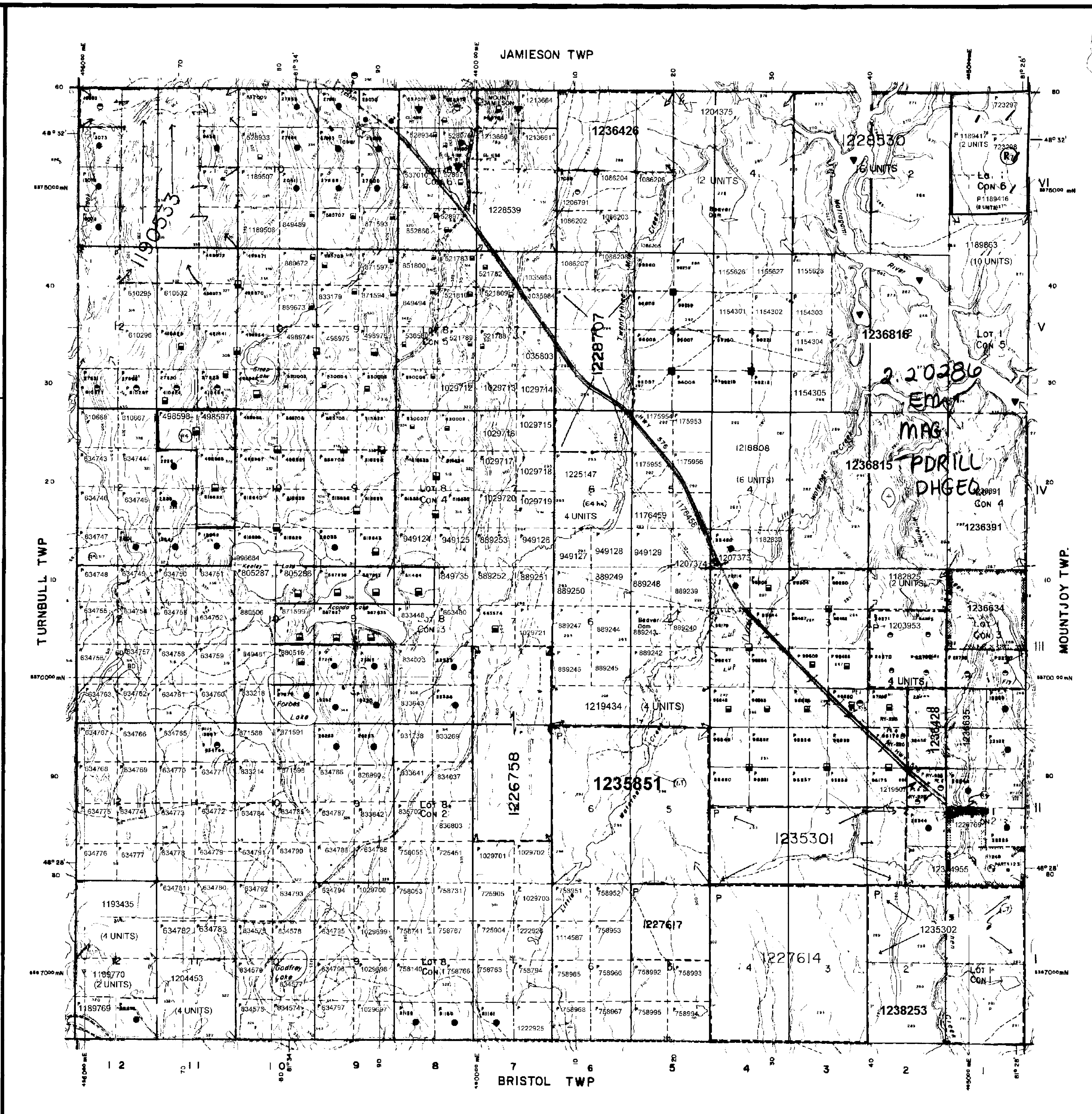
(R7) SEC. 35 W-P-35/99 M+S 1999/12/24 195150

MINING AND SURFACE RIGHTS REOPENED TO PROSPECTING STAKING OUT SALE AND LEASE UNDER SECTION 36 OF THE MINING ACT RSO 1980 EFFECTIVE 91AUG09 AT 11:00 AM -ST ORDER NO. OF 04 91 NR DATED 91AUG09

(R4) PENDING APPLICATION UNDER THE PUBLIC LANDS ACT NOTICE REC'D 91-NOV 22. SEE LAND ROLL FILE FOR DETAILS

(R5) MINING AND SURFACE RIGHTS REOPENED FOR PROSPECTING, STAKING OUT, SALE OR LEASE UNDER SECTION 36 OF THE MINING ACT RSO 1980 EFFECTIVE FEB. 1, 1991, AT 7:00 a.m. E.S.T. ORDER NO. O-P-1/91 NER DATED JAN. 16/91. (P 634747)

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.



LEGEND

HIGHWAY AND ROUTE No.
OTHER ROADS
TRAILS
SURVEYED LINES
TOWNSHIPS, BASE LINES, ETC.
LOTS, MINING CLAIMS, PARCELS, ETC.
UNSURVEYED LINES
LOT LINES
PARCEL BOUNDARY
MINING CLAIMS ETC.
RAILWAY AND RIGHT OF WAY
UTILITY LINES
NON PERENNIAL STREAM
FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKEG
MINES
TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT SURFACE & MINING RIGHTS	●
SURFACE RIGHTS ONLY	
MINING RIGHTS ONLY	
LEASE SURFACE & MINING RIGHTS	■
SURFACE RIGHTS ONLY	
MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	▼
ORDER IN COUNCIL	OC
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913 VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT R.S.O. 1970 CHAP. 380 SEC. 63 SUBSEC. 1

Metres 500 0 1000 Metres
Chains 10 0 10 20 30 40 50 60 70 Chains
Feet 500 0 1000 2000 3000 4000 5000 Feet

SCALE 1:20 000
GRID ZONE : 17

NOTES

FLOODING RIGHTS ON EITHER SIDE OF THE MATTAGAMI RIVER TO H.E.P.C.

LICENCE OF OCCUPATION LOCATED WITHIN LOTS 7 & 8 IN CONCESSION 6, BEING PARTS 1, 2 AND 3 ON A PLAN OF LOCATION CL 4135, ISSUED JUNE 1 1985 FOR SURFACE RIGHTS ONLY TO KAMISKOTIA SKI RESORTS LIMITED. LICENCE DOCUMENT AND PLAN OF SURVEY AVAILABLE ON LAND ROLL FILE

(ST) – PROPOSED SNOWMOBILE TRAIL NOTICE REC'D 93-MAY-20

TOWNSHIP
GODFREY
M.N.R. ADMINISTRATIVE DISTRICT
TIMMINS
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
COCHRANE

Ontario — Ministry of Natural Resources — Land Management Branch

ORIGINAL COMPILATION	JULY 1984	Number
REVISED		G-3991

42A11SW2028 2.20286 JESSOP 200

MAP SYMBOLOGY

Aerial Cableway
Boundary
Intersecting
Intersecting (at)
Disputed, Township Lapsed Boundary
Approximate
Lot, Concession
Approximate
Park Boundary
Bridge
Road, Gutted
Building
Cableway
Cliff, Pit, Pile
Contours
Interpolated
Approximate
Depression
Control Points
Horizontal
Vertical
Culvert
Falls
Double tiered river
Fence, Hedge, Wall
Fishing Outline (Campground, Portages, etc.)
Flooded Land
Lock
Marsh or Swamp
Mast
Mine Head Frame
Outcrop

Pipeline (Above ground)
Railroad
Single Track
Double Track
Abandoned
Turntable
Road
Highway, County, Township
Abandoned road or Supplied with bridge(s), or impassable (Overgrown)
Trail, Bush Road (Passable, jeep)
Rapids
Double tiered river with dead-line rapids
Double tiered river with unnavigable rapids
Reservoir
River, Stream, Canal
Approximate Centreline
Direction of Flow
Rock
Islet
Reef
Spot Elevation (Base above/below)
Tower
Transmission Line
Poles
Pylons
Tunnel
Utility Poles
Wharf, Dock, Pier
Wooded Area

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
(R1) SEC. 35 W-P-35/99 M+S	1999/12/24	195150		

TRAPPER'S CABIN SITE

R8 MINING AND SURFACE RIGHTS WITHDRAWN UNDER SECTION 35 OF THE MINING ACT, R.S.O.1990 ORDER NO. W.P.4/97 NSR DATED APR 28/1997

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON

MACDIARMID TWP. G-

ROBB TWP. G-

JESSOP TWP. G-3984

GODFREY TWP. G-3991

1190088
15 UNITS
1229182
1229183
1190092
4 UNITS
1190091
2 UNITS
1189748
(15 UNITS)
1236015
1224343
Beaver Dam
MATTAGAMI
1224345
1189747
(12 UNITS)
1189746
16 UNITS
1236014
1228120
2 UNITS
1213570
(4 UNITS)
1189750
6 UNITS
1236786
1236785
1207415
(6 UNITS)
1212883
1207492
12 UNITS
1201910
1207488
4 UNITS
1236607
1182111
16 UNITS
1188946
(9 UNITS)
1231482
1182112
4 UNITS
1235937
6 UNITS
1207485
16 UNITS
1188896
(15 UNITS)
1236157
1226531
8 UNITS
1219645
1889418
(2 UNITS)
189440
(3 UNITS)
(4 UNITS)
1236425
MOUNT JAMIESON
Beaver Dam
Kamiskotia River
Lot 11 Con 5
Lot 11 Con 4
Con 3
R8
12 11 10 9 8 7

2.20286
EM
MAG
1236608
PDRILL
DHGEO

LEGEND

HIGHWAY AND ROUTE No.
OTHER ROADS
TRAILS
SURVEYED LINES
TOWNSHIPS, BASE LINES, ETC
LOTS, MINING CLAIMS, PARCELS, ETC
UNSURVEYED LINES
LOT LINES
PARCEL BOUNDARY
MINING CLAIMS ETC
RAILWAY AND RIGHT OF WAY
UTILITY LINES
NON-PERENNIAL STREAM
FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKEG
MINES
TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
ORDER IN COUNCIL	OC
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6 1913, VESTED IN ORIGINAL PATENTEE B THE PUBLIC LANDS ACT R.S.O. 1970 CHAP. 380, SEC 62 SUBSEC 1

SCALE 1:20 000

NOTES

FLOODING RIGHTS TO AREAS ALONG THE MATTAGAMI RIVER TO H.E.P.C.

TOWNSHIP
JAMIESON
M N R ADMINISTRATIVE DISTRICT
TIMMINS
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
COCHRANE

Ministry of Natural Resources — Land Management Branch
Ontario

Date FEBRUARY, 1984
Number G-3986
Received March 1984

42A11SW2028 2.20286 JESSOP 210

MAP SYMBOLOGY

Aerial Cableway, Boundary, Bridge, Building, Chimney, Cliff, Pit, Pile, Contours, Control Points, Culvert, Falls, Fence, Hedge, Wall, Feature Outline, Flooded Land, Lock, Marsh or Swamp, Mast, Mine Head Frame, Outcrop, Pipeline, Railroad, Road, Rapids, Reservoir, River, Stream, Canal, Rock, Shoal, Spot Elevation, Tower, Transmission Line, Tunnel, Utility Poles, Wharf, Dock, Pier, Wooded Area

AREAS WITHDRAWN FROM DISPOSITION

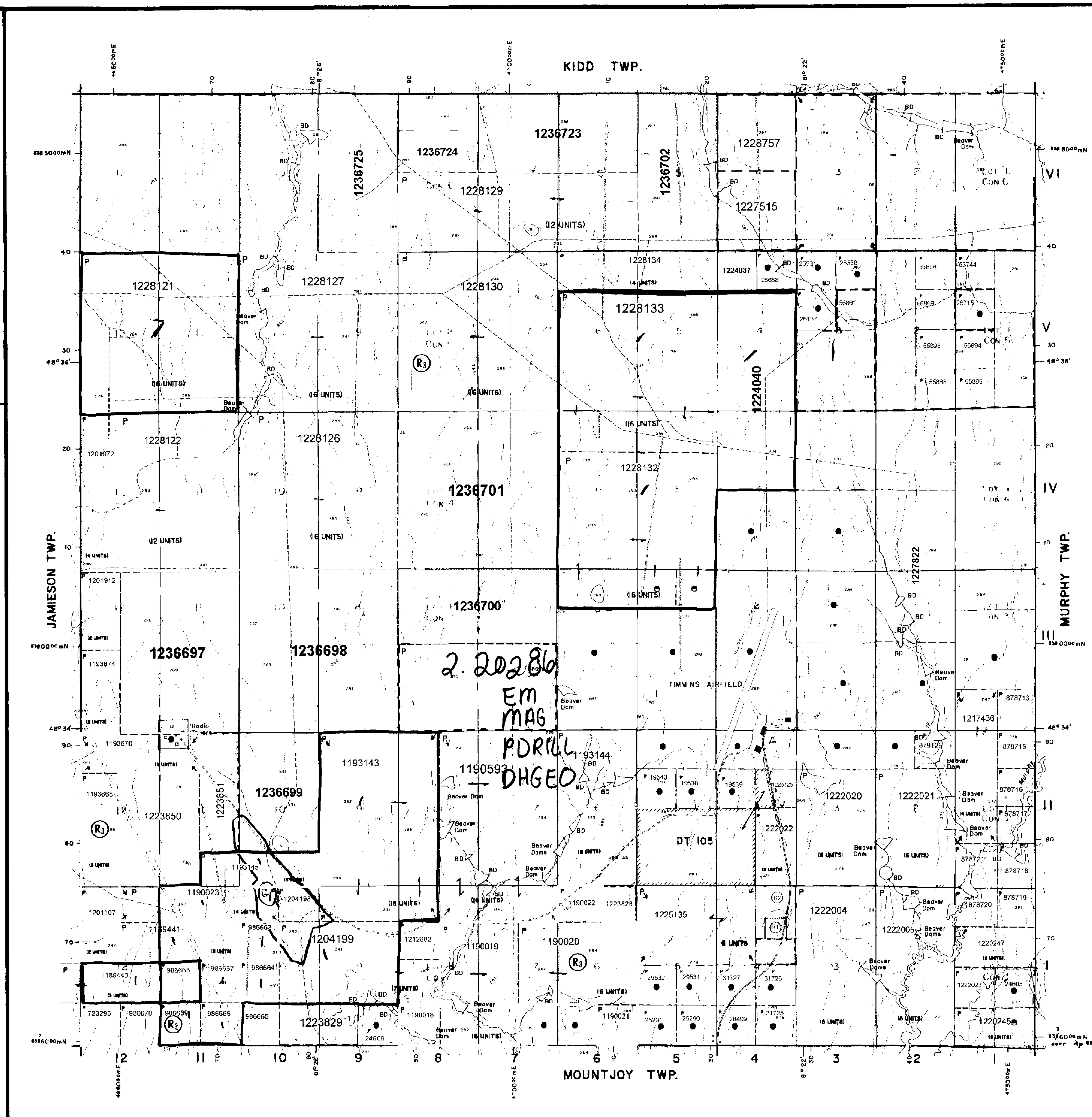
M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
(R1) WITHDRAWN FROM STAKING N.R.W 10/86				
(R2) WITHDRAWN FROM STAKING N.R.W 49/93				
DT 105 WITHDRAWN FROM STAKING W 78/81				
(R3) Sect 35	W-P 35/99	1999/12/24	M+S	195150

SAND AND GRAVEL

(S) APPLICATION PENDING UNDER THE AGGREGATE RESOURCES ACT. NOTICE RECEIVED 91-FEB-7

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.



LEGEND

HIGHWAY AND ROUTE No.
OTHER ROADS
TRAILS
SURVEYED LINES
TOWNSHIPS, BASE LINES, ETC
LOTS, MINING CLAIMS, PARCELS, ETC
UNSURVEYED LINES
LOT LINES
PARCEL BOUNDARY
MINING CLAIMS ETC
RAILWAY AND RIGHT OF WAY
UTILITY LINES
NON PERENNIAL STREAM
FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKEG
MINES
TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	◐
" MINING RIGHTS ONLY	○
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	◧
" MINING RIGHTS ONLY	□
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	®
CANCELLED	⊗
SAND & GRAVEL	Ⓢ

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1

SCALE 1:20 000
GRID ZONE 17

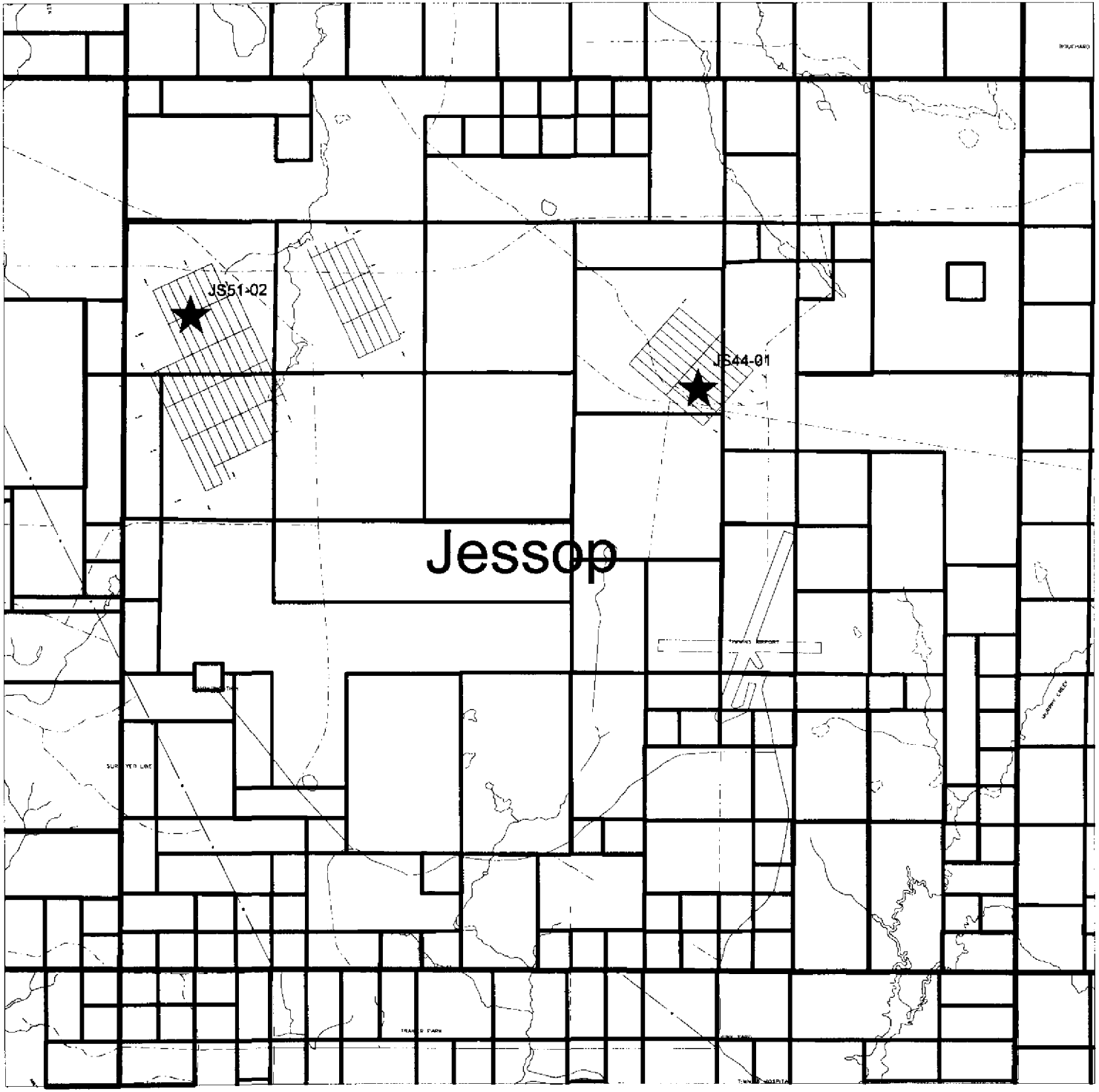
TOWNSHIP
JESSOP
M N R ADMINISTRATIVE DISTRICT
TIMMINS
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
COCHRANE

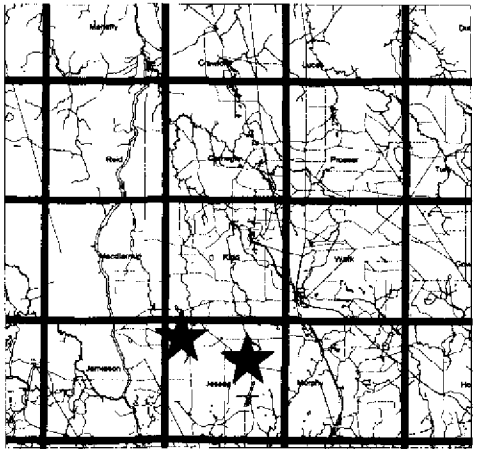
Ministry of Natural Resources — Land Management Branch
Ontario

ORIGINAL COMPILATION JULY 1984
REVISED
ACTIVATED JAN 28, 1997

Number G-3984

42A11SW2028 2.20286 JESSOP 220





230

42A11SW2028 2.20286 JESSOP

ASTRONOMIC

FALCONBRIDGE LIMITED

Exploration Division Timmins, ONTARIO

LOCATION OFASSESSMENT
HOLES JS51-02, JS44-01
JESSOP TWP
PORCUPINE DISTRICT

P 1224040

P 1228133

P 1228132

L 3 E TL 5 N

L 4 E

L 2 E

L 1 E

000 E

BL 000

L 1 W

L 2 W

L 3 W

L 4 W

TL 5 N

TL 5 S

L 4 E

L 3 E

L 2 E

L 1 E

000 E

BL 000

L 1 W

L 2 W

L 3 W

L 4 W

TL 5 S

JS44-01

L 100 W, 140mS (471800mE, 5382270mN)

Az. 135°, Dip -45°

N

FALCONBRIDGE LIMITED

Exploration Division Timmins ONTARIO

JESSOP 44 GRID

JESSOP TOWNSHIP

DIAMOND DRILL PLAN

Js44-01

TRACED:	DATE:	NTS: 42-A/11	PROJECT: 8036
DRAWN: del DRAFTING	DATE: 14/04/2000	MAP No:	FILE: JS441PLN
SUPERVISED: G Collins	DATE: 14/04/2000	SCALE 1:5 000 (metres)	
REVISED:	DATE:	0 40 80 120 160	

42A11SW2028 2.20286 JESSOP 240

ASTRONOMIC

FALCONBRIDGE LIMITED

Exploration Division — Timmins, ONTARIO

Hole JS51-02
Plan View
Jessop TWP
Porcupine District

TRACED : A.D.T.	DATE :04/99	NTS :	PROJECT : 034/36
DRAWN : D.R.	DATE : 04/99	MAP No:	FILE:
SUPERVISED : G.C.	DATE : 04/99	Scale = 1:2500	
REVISED:	DATE:		

L 1500 E

L 1000 E

2.20286

TL 1600 N

P1228120

P1228121

JS51-02

2.0 m @ -90°

2.0 m

2.0 m @ -90°

10.0 m

2.0 m @ -90°

EOH

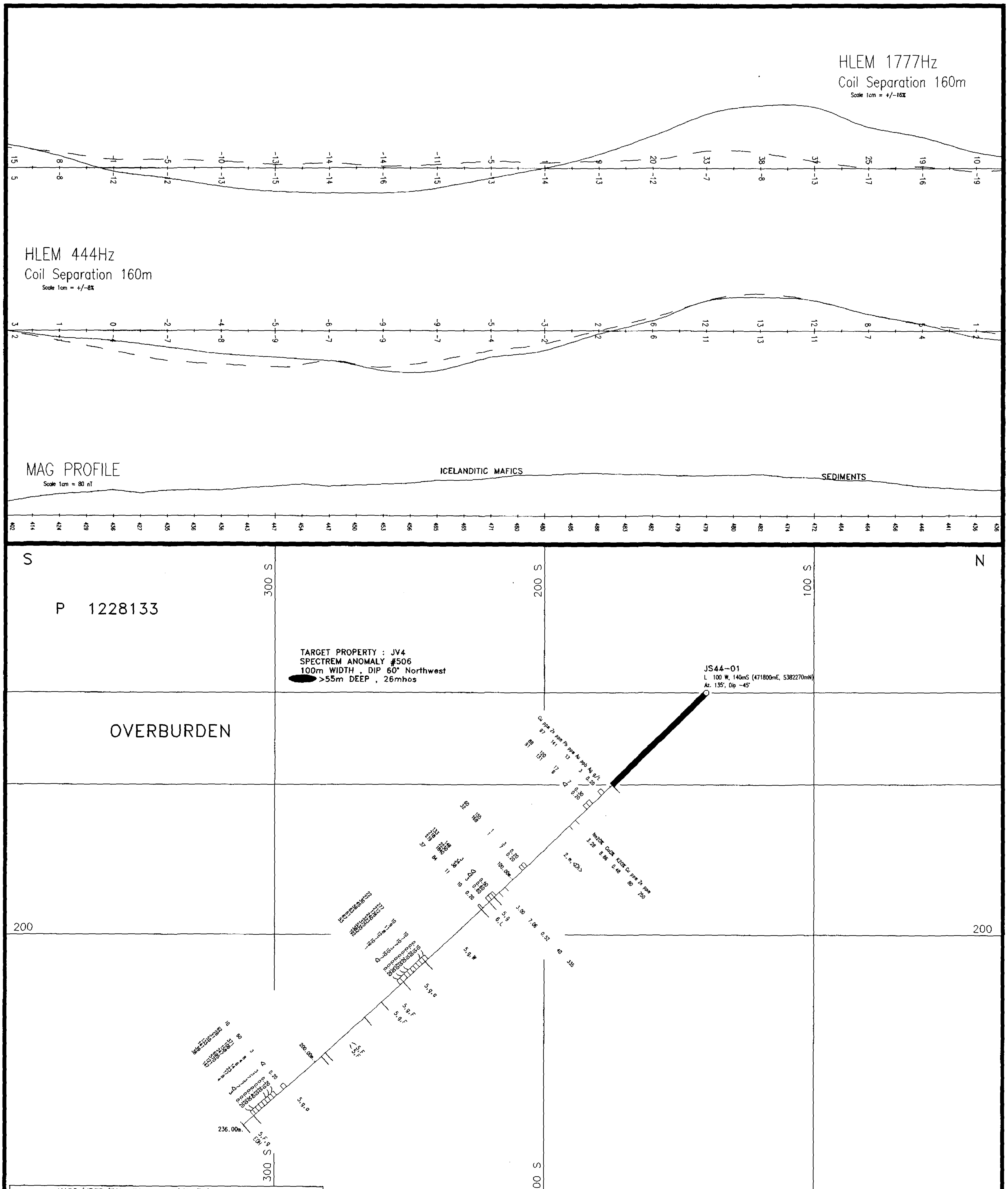
JS51-02

TL 1200 N

0 200 400

meters

42A11SW2028 2.20286 JESSOP 250



KIDD/HBED/EAL JV ASSAY TABLE JS44-01																	
SAMPL. No.	FROM (M)	TO (M)	Int (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Est.Ni %	Est.Po %	Est.Py %	Est.Cp %	Est.Sp %	Est.Gn %	ROCK T
AU07950	53.00	54.50	1.5	97	141	13	35	3	0.2				tr	tr		2, <Ch>
AU08551	59.00	60.50	1.5	88	120	17	41	7	0.3			1-2				2, <Ch>
AU08552	60.50	62.00	1.5	91	131	6	42	<2	0.2			1-2				2, <Ch>
AU08553	92.70	93.85	1.1	60	155	1	40	3	0.2		2-3					2, <Ch>
AU08554	93.85	95.00	1.2	32	168	1	37	7	0.2		2-3					2, <Ch>
AU08555	108.50	109.50	1.0	133	149	3	40	<2	0.5			2-3		tr		2, <Ch>
AU08556	109.50	110.80	1.3	218	2230	34	148	<2	0.6			tr-2				5, g, <A
AU08557	110.80	112.10	1.3	219	1840	38	149	3	0.8			1-50				5, g, <A
AU08558	115.25	116.00	0.8	37	84	11	98	10	0.2			1-2				6, 5, g,
AU08559	143.00	144.50	1.5	22	277	10	14	10	0.1			tr-1				5, g, W,
AU08560	144.50	146.00	1.5	27	212	9	16	7	0.1			tr				5, g, <A
AU08561	146.00	147.50	1.5	30	176	11	13	10	0.2			tr				5, g, <A
AU08562	147.50	149.00	1.5	45	240	8	23	7	0.1			tr-1				5, g, <A
AU08563	149.00	150.50	1.5	59	323	12	30	3	0.2			tr-1				5, g, <A
AU08564	150.50	152.00	1.5	63	375	7	39	10	0.2			tr-2				5, g, <A
AU08565	152.00	153.50	1.5	61	535	10	58	10	0.5			tr-1				5, g, <A
AU08566	153.50	155.58	2.1	67	382	19	44	7	0.3			tr				5, g, <A
AU08567	155.58	157.08	1.5	53	192	1	25	<2	0.2			1-2				5, g, W,
AU08568	214.25	215.75	1.5	10	60	3	6	<2	0.2			tr-1				5, g, <A
AU08569	219.20	220.70	1.5	62	371	8	27	3	0.2			tr-2				5, g, <A
AU08570	220.70	222.20	1.5	28	106	4	10	3	0.1			tr-1				5, g, <A
AU08571	222.20	223.70	1.5	31	158	6	17	7	0.2			tr-2				5, g, <A
AU08572	223.70	225.20	1.5	55	247	14	27	3	0.2		tr	tr				5, g, <A
AU08573	225.20	226.70	1.5	133	695	23	68	7	0.4		tr-1	tr-2				5, g, <A
AU08574	226.70	228.20	1.5	141	570	17	67	7	0.3		tr-1	tr-2				5, g, <A
AU08575	228.20	229.70	1.5	39	121	8	22	<2	0.2		tr-1	tr-2				5, g, <A
AU08576	229.70	230.75	1.1	38	147	4	23	3	0.2		tr	tr-1				5, g, <A

LEGEND

10	DIABASE	5	SEDIMENTARY ROCKS
9	FELSIC INTRUSIVE ROCKS	4	FELSIC VOLCANIC ROCKS
8	INTERMEDIATE INTRUSIVE ROCKS	3	INTERMEDIATE VOLCANIC ROCKS
7	MAFIC INTRUSIVE ROCKS	2	MAFIC VOLCANIC ROCKS
6	ULTRAMAFIC INTRUSIVE ROCKS	1	ULTRAMAFIC VOLCANIC ROCKS

FALCONBRIDGE LIMITED
Exploration Division Timmins ONTARIO

FL / HBED / EAL JOINT VENTURE

GRID Js44

LOOKING Az 225° JESSOP Twp.

DIAMOND DRILL SECTION L 100 W

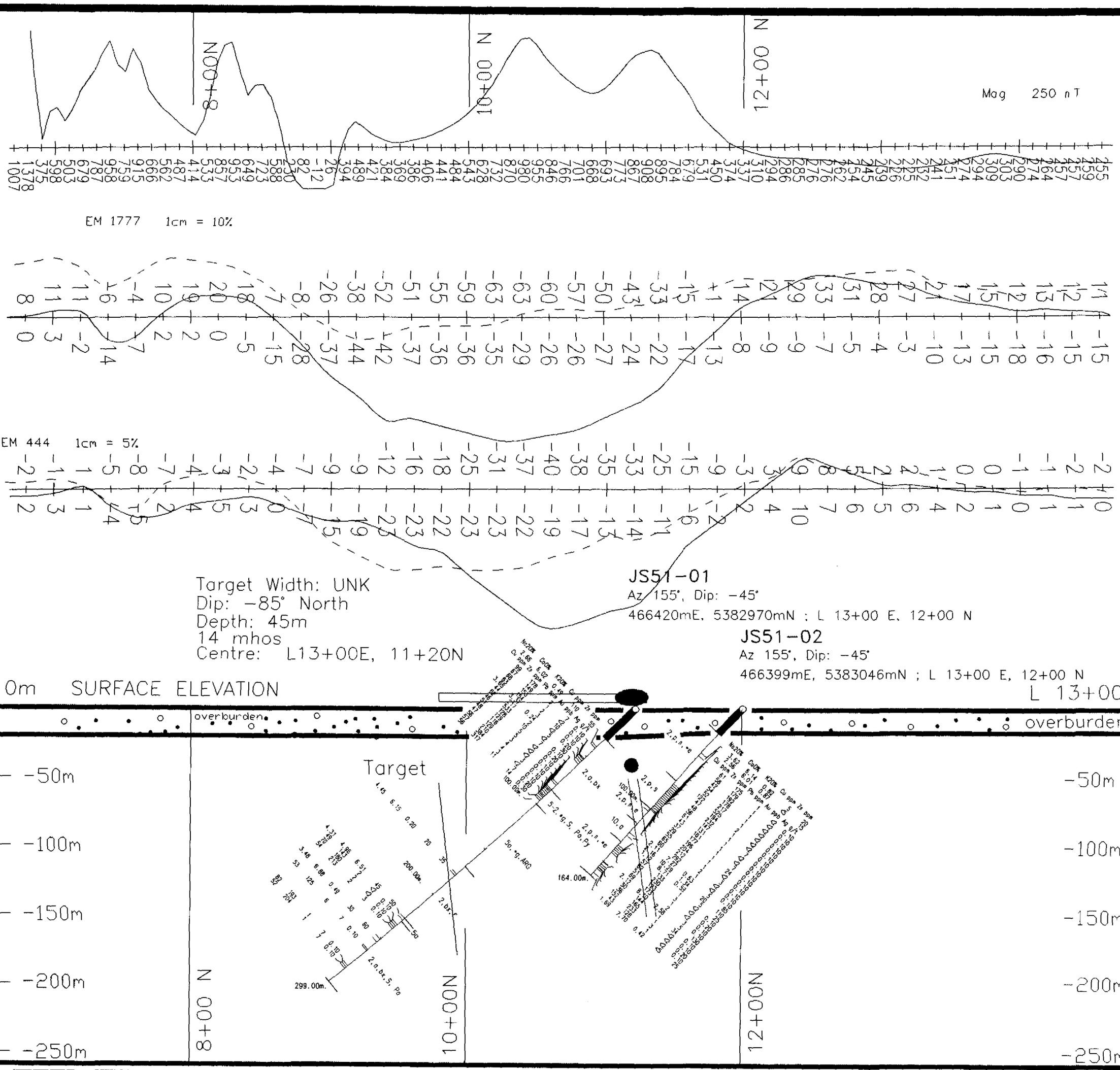
DDH Js44-01

TRACED: PRODES	DATE: 14/04/2000	NTS: 42-A/11	PROJECT: 8036
DRAWN: del DRAFTING	DATE: 14/04/2000	Property # : Jv4	FILE: Js4401
SUPERVISED: G Collins	DATE: 14/04/2000	SCALE 1:1 000 (metres) 0 10 20 30 40	
REVISED:	DATE:		

KIDD/HBED/EAL JV GEOCHEM TABLE JS44-01

SAMPL. No.	FROM (M)	TO (M)	Int (M)	SIO2 %	AL2O3 %	CAO %	MGO %	NA2O %	K2O %	FE2O3 %	TIO2 %	P2O5 %	MNO %	LOI %	SUM %	Y PPM	ZR PPM
KA04478	68.00	71.00	3.0	40.42	11.23	8.86	4.19	3.28	0.48	15.70	2.59	0.42	0.27	11.88	99.32	45	200
KA04479	104.00	107.00	3.0	43.22	12.44	7.06	4.20	3.00	0.52	14.97	2.91	0.47	0.25	10.33	99.37	55	220

SAMPL. No.	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUM	CO PPM	S PPM	V PPM	BE PPM	SC PPM	NB PPM	MGO#	CA/AL	NI/MGO	ISHIKW	ZN/NA2
KA04478	80	250	240	110	2, <Ch>	2(h)yz	89	80	6100	455	20	45	10	0.39	0.79	57	28	76
KA04479	40	335	335	125	2, <Ch>	2(h)yz	118	85	6100	480	20	45	<10	0.40	0.57	80	32	112



KIDD/HBED/EAL JV GEOCHEM TABLE JS51-02

SAMPL. No.	FROM (M)	TO (M)	Int (M)	SIO2 %	AL203 %	CAO %	MGO %	NA20 %	K20 %	FE203 %	TIO2 %	P205 %	MNO %	CR203 %	LOI %	SUM %	Y PPM	ZR PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUN	CO PPM	S PPM	V PPM	BE PPM	SC PPM	NB PPM	MGO/I	CA/AL	NI/MGO	1SHIKW	ZN/NAZ
AU04563	44.00	47.00	3.0	57.05	12.94	6.14	3.12	3.62	0.82	11.79	1.82	0.24	0.18		2.18	99.88	40	170	5	20	<5	10		2.7(h)	122	5	0.87	325	<5	5	10	0.38	0.47	2	29	6
AU04564	74.00	77.00	3.0	56.06	12.42	6.01	2.98	2.56	0.87	13.87	1.74	0.21	0.21		2.73	99.66	40	150	<5	15	<5	10		2.7(h)	132	5	1.69	325	<5	5	20	0.34	0.48	2	31	6
AU04565	98.00	101.00	3.0	56.31	12.89	7.27	2.93	2.11	0.63	12.79	1.80	0.24	0.20		2.67	99.84	40	160	5	85	<5	10		2.7(h)	129	5	0.72	325	<5	5	10	0.35	0.56	2	28	40
AU04566	122.00	125.00	3.0	48.45	14.01	10.29	6.04	2.16	1.34	13.19	1.03	0.11	0.20		2.98	99.78	20	70	20	110	5	15		2.7(h)	102	5	0.16	280	<5	5	<10	0.52	0.73	1	37	51
AU04567	134.00	135.50	1.5	53.78	12.75	8.71	3.28	1.12	0.59	15.84	1.81	0.23	0.24		1.85	99.70	40	170	5	25	<5	10		2.7(h)	122	5	0.99	340	<5	5	10	0.33	0.68	2	28	22
AU04568	150.00	152.50	2.5	49.77	12.68	8.10	3.24	2.12	2.58	15.80	2.02	0.30	0.21		3.11	99.73	45	170	5	130	5	5		2.7(h)	99	5	4.68	335	<5	5	10	0.33	0.64	2	36	61
AU04569	161.00	164.00	3.0	55.87	12.62	7.70	2.98	1.69	0.42	12.72	1.82	0.24	0.22		3.51	99.79	40	170	<5	25	<5	5		2.7(h)	129	5	0.45	325	<5	5	10	0.36	0.61	2	27	15

KIDD/HBED/EAL JV GEOCHEM TABLE JS51-01

SAMPL. No.	FROM (M)	TO (M)	Int (M)	SIO2 %	AL203 %	CAO %	MGO %	NA20 %	K20 %	FE203 %	TIO2 %	P205 %	MNO %	CR203 %	LOI %	SUM %	Y PPM	ZR PPM	CU PPM	ZN PPM	NI PPM	CR PPM	FIELD NAME	CHEM ID	ALUN	CO PPM	S PPM	V PPM	BE PPM	SC PPM	NB PPM	MGO/I	CA/AL	NI/MGO	1SHIKW	ZN/NAZ
AU03421	39.50	41.00	1.5	47.24	13.39	6.02	3.97	2.66	0.49	17.02	3.10	0.48	0.34		4.79	99.50	60	250	110	55	50	80	2bx	2(h)yz	146	50	0.04	400	15	40	<10	0.36	0.45	13	34	21
AU03422	78.50	80.00	1.5	54.99	14.28	3.37	3.43	3.65	0.24	13.39	2.08	0.27	0.27		3.67	99.64	45	200	5	30	20	35	2a	2(h)w	197	45	0.12	325	10	30	<10	0.38	0.24	6	34	8
AU03423	177.50	179.00	1.5	57.19	12.86	6.15	3.06	4.45	0.20	10.71	1.80	0.23	0.19		2.62	99.46	40	170	20	35	25	85	2bx	2(h)	119	35	0.81	300	10	25	<10	0.40	0.48	8	24	8
AU03425	227.10	229.30	2.2	53.61	15.42	4.96	1.42	4.31	6.51	6.82	0.69	0.33	0.17		4.87	99.11	65	560	45	50	15	75	5a, ch	5	98	10	0.32	90	5	5	<10	0.33	0.32	11	46	12
AU03426	251.00	254.00	3.0	55.79	13.03	6.88	2.99	3.48	0.49	9.88	1.94	0.22	0.21		4.85	99.76	40	160	30	80	20	70	2a	2(h)	120	45	0.38	340	10	30	<10	0.42	0.53	7	25	17

KIDD/HBED/EAL JV ASSAY TABLE JS51-02

SAMPL. No.	FROM (M)	TO (M)	Int (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Est.Ni %	Est.Po %	Est.Py %	Est.Cp %	Est.Sp %	Est.Ga %	ROCK T
AU04601	75.50	77.00	1.5	61	175	1	25	<2	0.1							2,p,s
AU04602	77.00	78.50	1.5	58	179	1	22	<2	0.1							2,p,s
AU04603	78.50	80.00	1.5	42	192	1	18	<2	0.1							2,p,s
AU04604	80.00	81.50	1.5	54	178	1	25	<2	0.1							2,p,s
AU04605	81.50	83.00	1.5	52	217	1	23	<2	0.1							2,p,s
AU04606	83.00	84.50	1.5	122	525	2	36	<2	0.1							2,p,s
AU04607	84.50	86.00	1.5	47	194	1	43	<2	0.1							2,p,s
AU04608	86.00	87.50	1.5	48	232	1	40	7	0.1							2,p,s
AU04609	87.50	89.00	1.5	56	147	1	47	<2	0.1							2,p,s
AU04610	89.00	90.50	1.5	61	131	1	48	<2	0.1							2,p,s
AU04611	90.50	92.00	1.5	43	161	1	41	7	0.1							2,p,s
AU04612	92.00	93.50	1.5	37	177	1	42	24	0.1							2,p,s
AU04613	93.50	95.00	1.5	29	196	1	34	<2	0.1							2,p,s
AU04614	95.00	96.50	1.5	55	204	1	23	3	0.1							2,p,s
AU04615	96.50	98.00	1.5	65	212	2	27	<2	0.1							2,p,s
AU04616	98.00	98.90	0.9	60	292	1	38	<2	0.1							2,p,s
AU04617	135.50	137.00	1.5	57	133	1	27	<2	0.1							2,p,s
AU04618	137.00	138.50	1.5	62	230	3	28	<2	0.2							2,p,s
AU04619	138.50	140.00	1.5	51	123	1	25	<2	0.1							2,p,s
AU04620	140.00	141.50	1.5	69	173	2	25	3	0.1							2,p,s
AU04621	152.50	154.00	1.5	30	144	1	43	34	0.1							2,p,s
AU04622	154.00	155.65	1.7	36	165	1	35	<2	0.1							2,p,s
AU04623	155.65	156.10	0.4	152	233	3	93	<2	0.2							5,s,ch
AU04624	156.10	157.10	1.0	43	126	1	28	<2	0.1							2,p,s

KIDD/HBED/EAL JV ASSAY TABLE JS51-01

SAMPL. No.	FROM (M)	TO (M)	Int (M)	Cu ppm	Zn ppm	Pb ppm	Ni ppm	Au ppb	Ag ppm	Est.Ni %	Est.Po %	Est.Py %	Est.Cp %	Est.Sp %	Est.Ga %	ROCK T
AU04364	52.20	53.00	0.8	99	178	2	51	7	0.1							2bx
AU04365	53.00	54.50	1.5	67	149	1	47	<2	0.1							2bx
AU04366	54.50	56.00	1.5	68	153	2	41	10	0.1							2bx
AU04367	56.00	57.70	1.7	63	154	3	43	<2	0.2							2bx
AU04368	85.00	86.00	1.0	44	217	2	20	<2	0.1							Z
AU04369	86.00	87.00	1.0	62	533	10	35	7	0.2							2-5 co
AU04370	87.00	88.50	1.5	46	128	5	36	<2	0.1							5a
AU04371	88.50	90.00	1.5	51	129	5	43	<2	0.1							5a
AU04372	90.00	91.50	1.5	48	118	3	37	<2	0.1							5a
AU04373	91.50	92.50	1.0	47	129	4	37	3	0.1							5a
AU04374	92.50	93.50	1.0	56	210	4	31	<2	0.1							2bx
AU04376	93.50	95.00	1.5	57	384	3	31	7	0.2							2bx
AU04377	95.00	96.30	1.3	56	317	11	37	14	0.3							2bx
AU04378	234.50	236.00	1.5	49	143	2	22	<2	0.1							2a
AU04379	236.00	237.50	1.5	70	180	2	21	<2	0.1							2a
AU04380	237.50	239.00	1.5	54	213	2	18	3	0.1							2a
AU04381	262.40	263.40	1.0	53	125	6	28	7	0.1							LMP?
AU04382	281.00	282.50	1.5	82	193	1	22	7	0.1							2a
AU04383	282.50	284.00	1.5	52	204	1	19	7	0.1							2a

Comments :

Target Property #JV7
SpectrEM target #: 536

FALCONBRIDGE LIMITED

Exploration Division Timmins ONTARIO

DRILL HOLE SECTION L 13+00E
LOOKING SOUTH WEST
DDH JS51-01
NW JESSOP

Looking Az 245° Jessop Twp.

Property #: JV7
Project #: 36

SCALE 1:2,500 (metres)
0 28 56 84 112

Lot 11
Con II

10

9

1193145

1190023

1204198

1189441

986663

986667

986666

986665

1204199

1223829

Lot 9
Con I

11

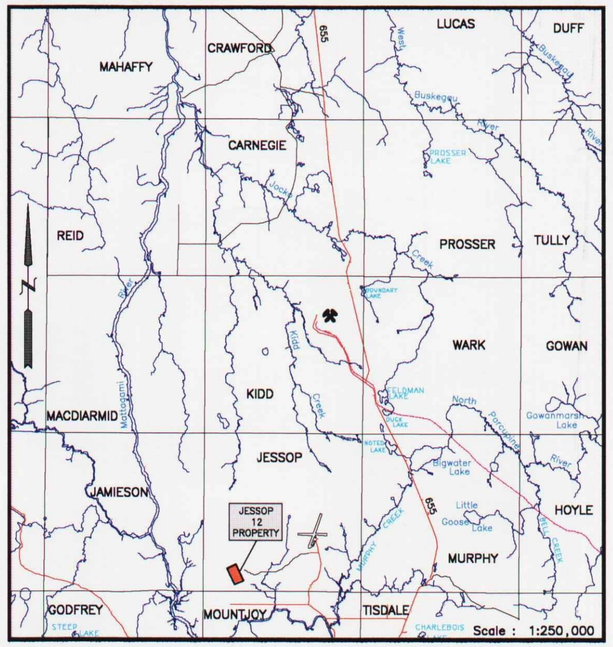
10

Jessop Twp
Mountjoy Twp

PL

L 1600 W
L 1700 W
L 1800 W
L 1900 W
L 2000 W
L 2100 W
L 2200 W

1000 N
800 N
600 N
400 N
200 N



INDEX MAP

N
astro

2 20286

LEGEND

Instrument : Scintrex IGS-2/MP-4
Type : Total Field Proton Precession
Datum Level : 57000 nT
Contour Interval : 50 nT
Gridded By : Geosoft Bigrid
Cell Size : 10.0 metres
Filter : 1 Pass 9 Point Hanning
— — — EM Anomaly, 444 Hertz

0 100 m 200 m 300 m 400 m 500 m
Scale : 1:5000

FALCONBRIDGE LIMITED	
MAGNETIC SURVEY	
JESSOP 12	
JESSOP TOWNSHIP	
File : J12.XYZ	Date : July, 1998
NTS : 42-A/11	Proj # : 8036
WORK BY : Timmins Geophysics Ltd.	

Lot 11
Con II

10

9

1193145

1190023

1204198

1189441

986663

1204199

Lot 9
Con I

11

986667

986664

986666

986665

1223829

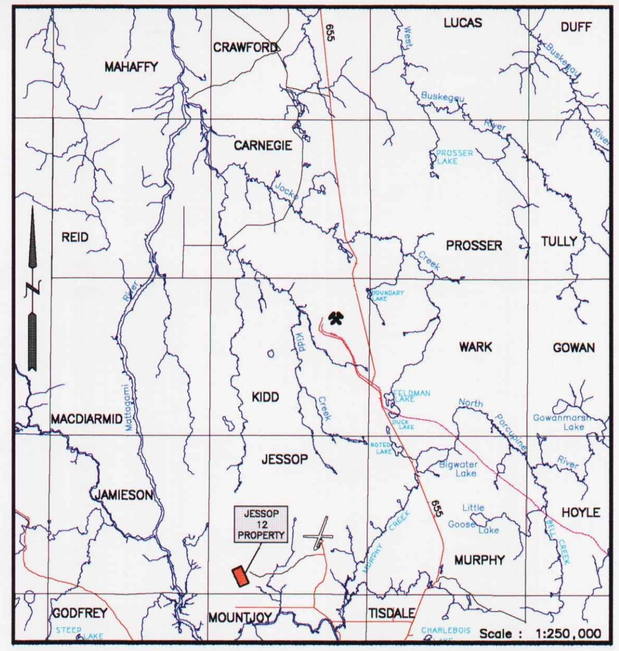
10

PL

L 1600 W
L 1700 W
L 1800 W
L 1900 W
L 2000 W
L 2100 W
L 2200 W

1000 N
800 N
600 N
400 N
200 N

A

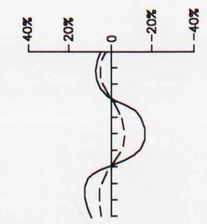


INDEX MAP

astro

LEGEND

Instrument : Apex Parametrics MaxMin I-5
Coil Separation : 160 metres
Frequency : 444 Hertz
Profile Scale : 1cm = 20%



In-phase
Quadrature

0 100 m 200 m 300 m 400 m 500 m
Scale : 1:5000

Jessop Twp
Mountjoy Twp

2.20286

FALCONBRIDGE LIMITED

HLEM SURVEY (444 Hz)

JESSOP 12

JESSOP TOWNSHIP

File : J12HL.XYZ	Date : July, 1998
NTS : 42-A/11	Proj # : 8036
WORK BY : Timmins Geophysics Ltd.	

Lot 11
Con II

10

9

1193145

1190023

1204198

1189441

986663

1204199

986667

986664

Lot 9
Con I

11

986666

986665

1223829

10

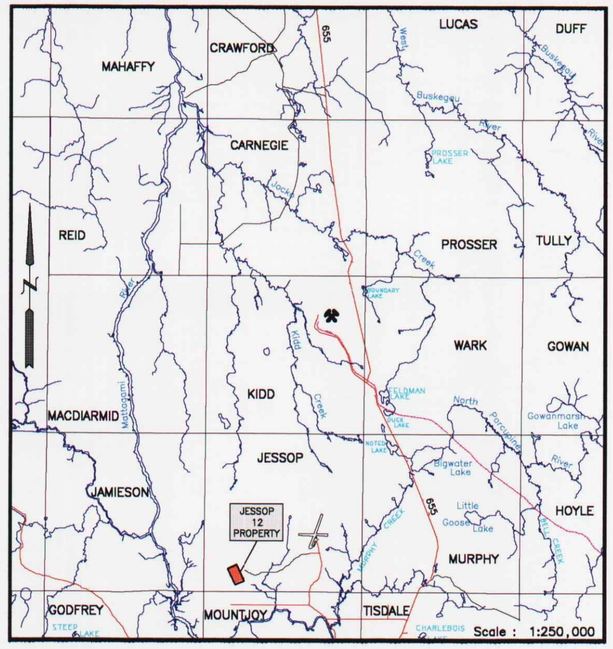
Jessop Twp
Mountjoy Twp

PL

L 1600 W
L 1700 W
L 1800 W
L 1900 W
L 2000 W
L 2100 W
L 2200 W

1000 N
800 N
600 N
400 N
200 N

A



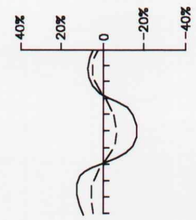
INDEX MAP

N
astro

2.20286

LEGEND

Instrument : Apex Parametrics MaxMin I-5
Coil Separation : 160 metres
Frequency : 1777 Hertz
Profile Scale : 1cm = 20%



In-phase
Quadrature

0 100 m 200 m 300 m 400 m 500 m
Scale : 1:5000

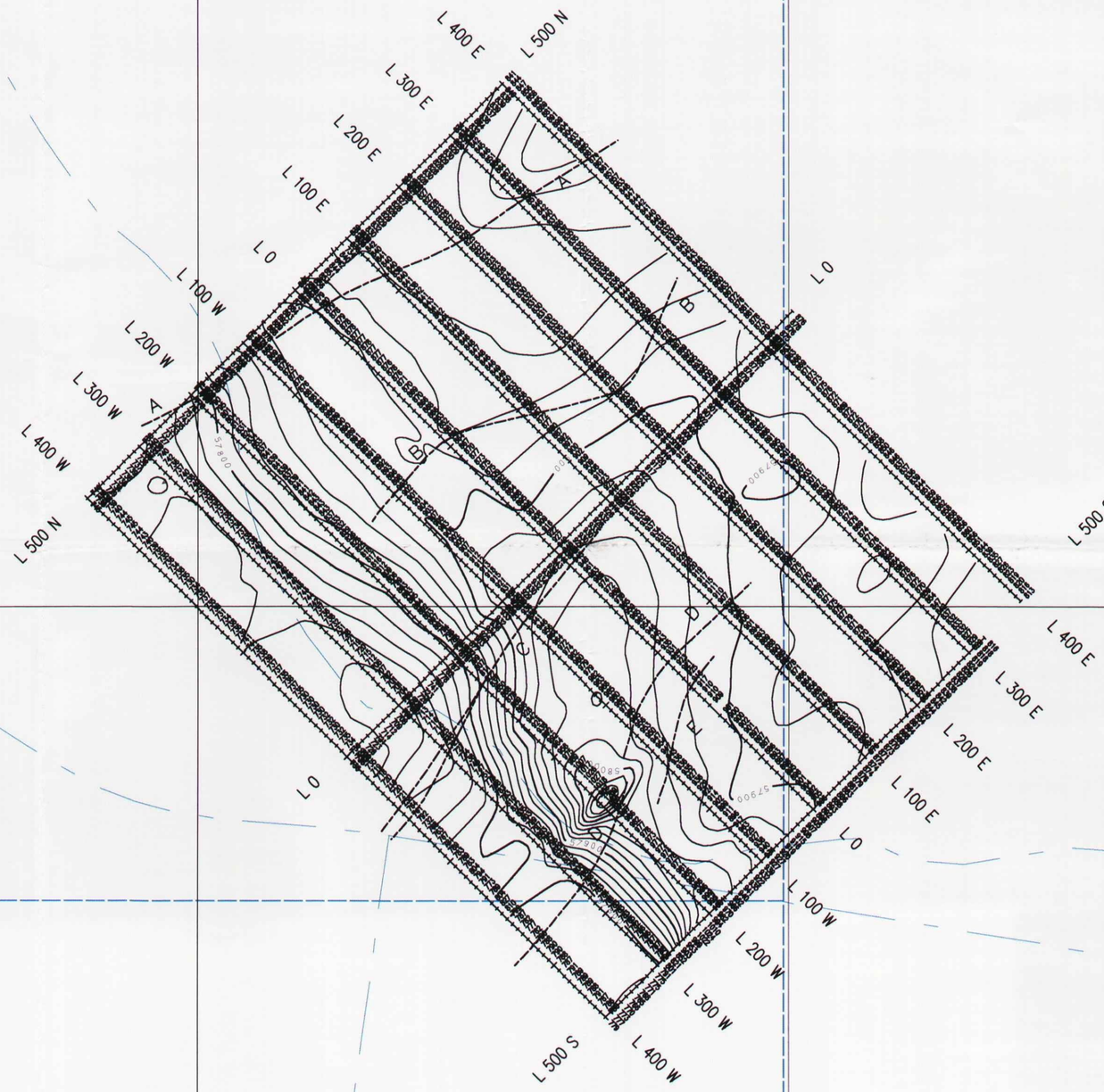
FALCONBRIDGE LIMITED	
HLEM SURVEY (1777 Hz)	
JESSOP 12	
JESSOP TOWNSHIP	
File : J12HL.XYZ	Date : July, 1998
NTS : 42-A/11	Proj # : 8036
WORK BY : Timmins Geophysics Ltd.	

6

LOT 5
CON V

4

1228133



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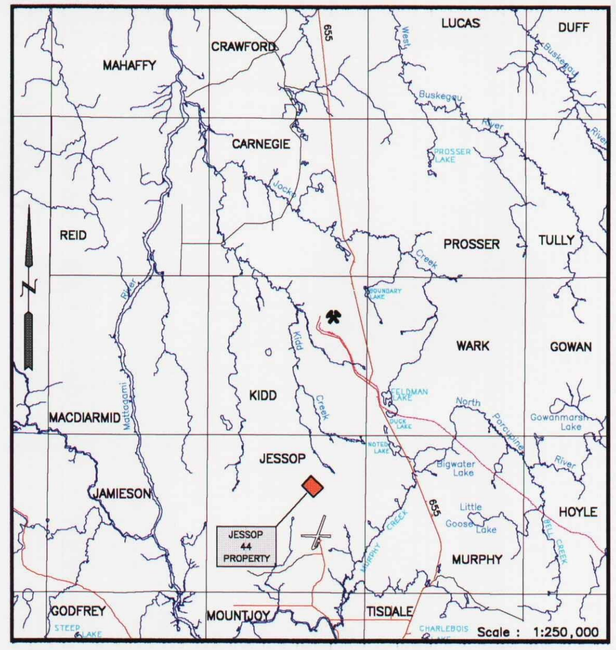
6

LOT 5
CON IV

4

1224040



INDEX MAP

2.20286

LEGEND

Instrument : Scintrex IGS-2/MP-4
Type : Total Field Proton Precession
Datum Level : 57000 nT
Contour Interval : 20 nT
Gridded By : Geosoft Bigrid
Cell Size : 10.0 metres
Filter : 1 Pass 9 Point Hanning

——— EM Anomaly, 444 Hertz

0 100 m 200 m 300 m 400 m 500 m
Scale : 1:5000

FALCONBRIDGE LIMITED

MAGNETIC SURVEY

JESSOP 44

JESSOP TOWNSHIP

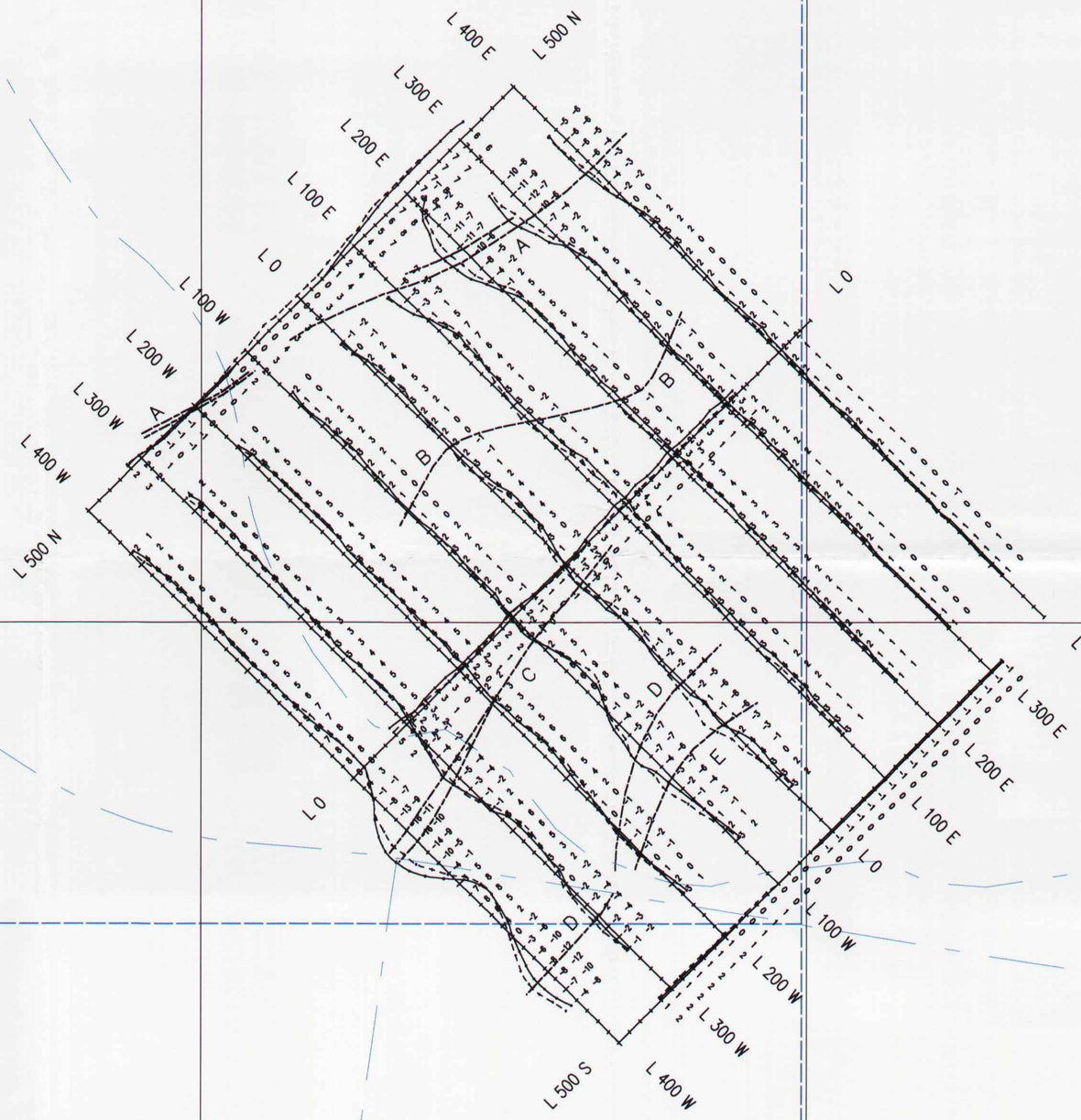
File : J44.XYZ	Date : October, 1999
NTS : 42-A/11	Proj # : 8036
WORK BY : Timmins Geophysics Ltd.	

6

LOT 5
CON V

4

1228133



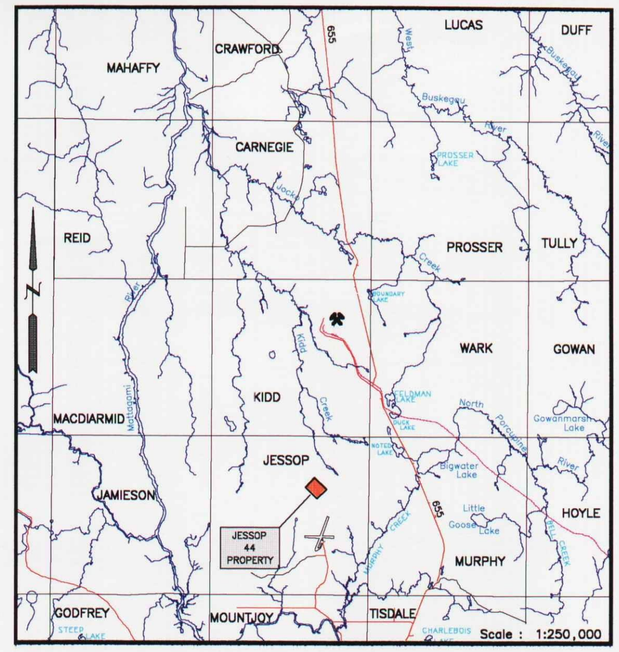
1224040

1228132

6

LOT 5
CON IV

4

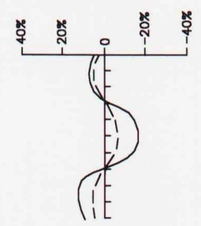


INDEX MAP

2.20286

LEGEND

Instrument : Apex Parametrics MaxMin I-5
Coil Separation : 160 metres
Frequency : 222 Hertz
Profile Scale : 1cm = 20%



In-phase
Quadrature

Scale : 1:5000

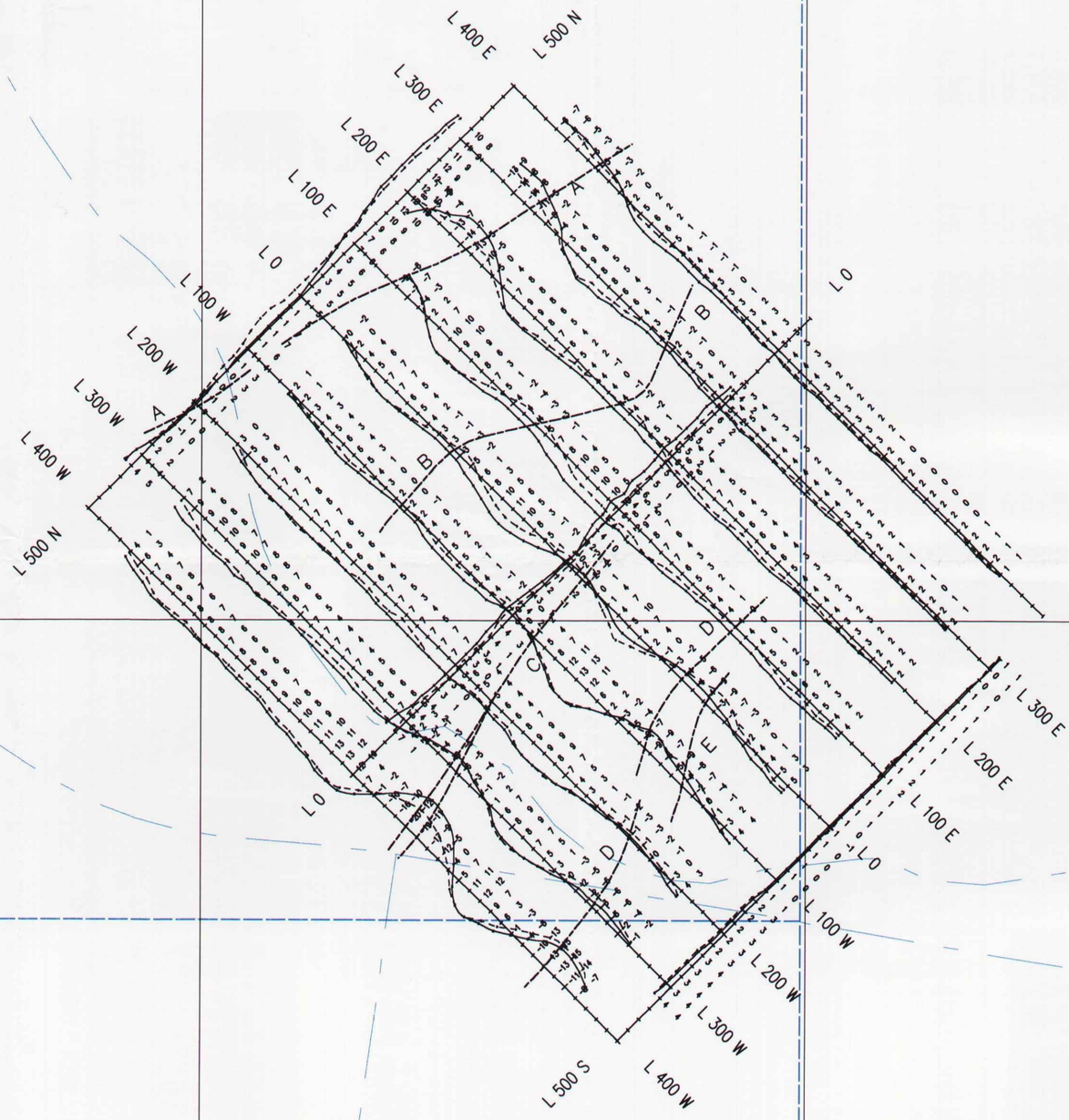
FALCONBRIDGE LIMITED	
HLEM SURVEY (222 Hz)	
JESSOP 44	
JESSOP TOWNSHIP	
File : J44HL.XYZ	Date : October, 1999
NTS : 42-A/11	Proj # : 8036
WORK BY : Timmins Geophysics Ltd.	

6

LOT 5
CON V

4

1228133



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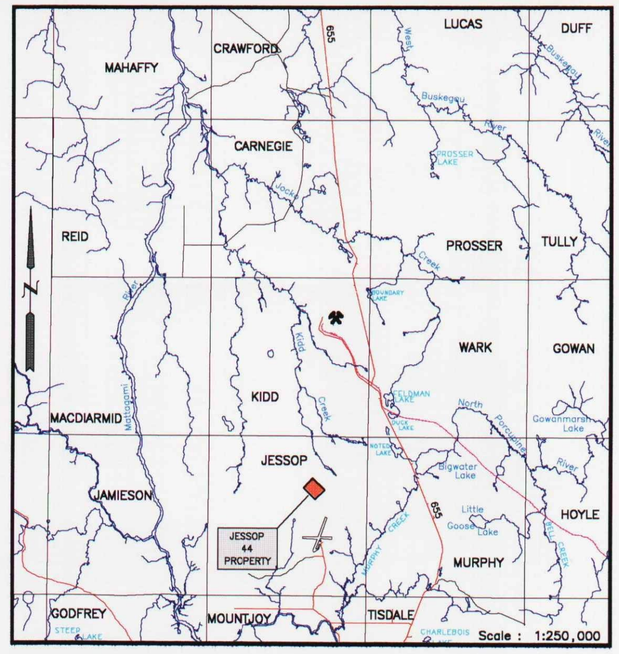
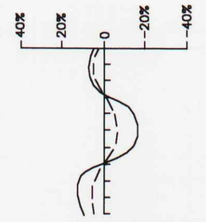


INDEX MAP

2.20286

LEGEND

Instrument : Apex Parametrics MaxMin I-5
Coil Separation : 160 metres
Frequency : 444 Hertz
Profile Scale : 1cm = 20%



In-phase
Quadrature

0 100 m 200 m 300 m 400 m 500 m
Scale : 1:5000

1228132

6

LOT 5
CON IV

4

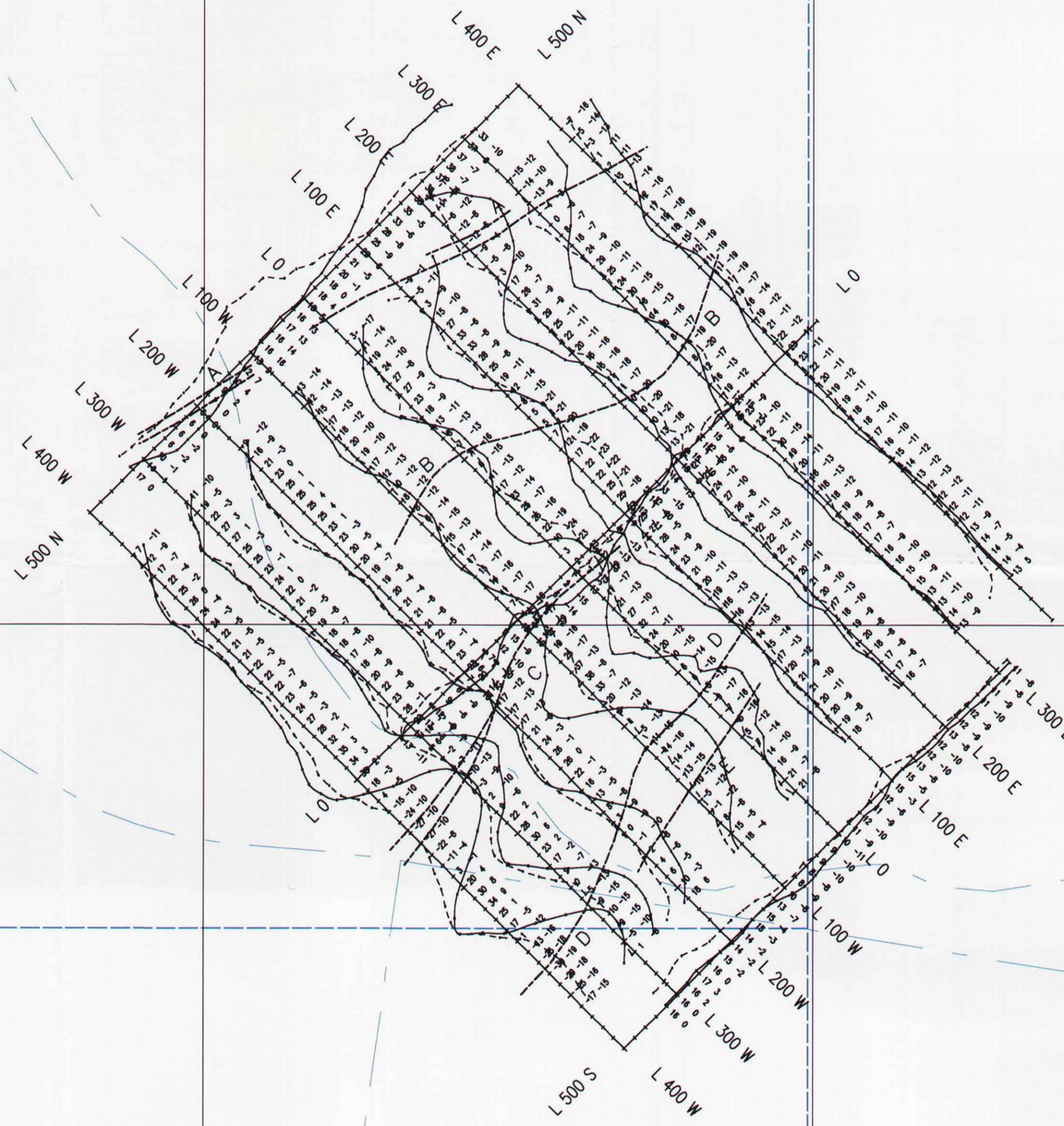
FALCONBRIDGE LIMITED	
HLEM SURVEY (444 Hz)	
JESSOP 44	
JESSOP TOWNSHIP	
File : J44HL.XYZ	Date : October, 1999
NTS : 42-A/11	Proj # : 8036
WORK BY : Timmins Geophysics Ltd.	

6

LOT 5
CON V

4

1228133



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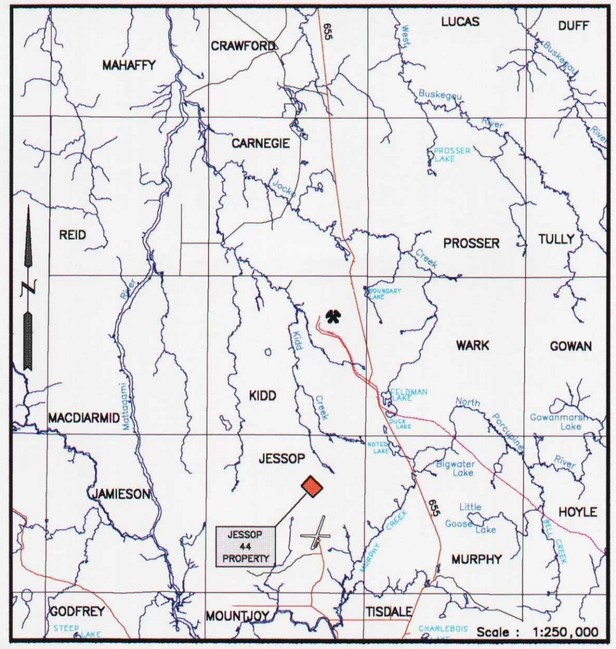
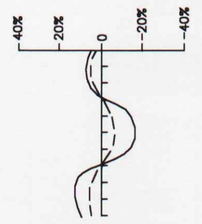
2 20286



INDEX MAP

LEGEND

Instrument : Apex Parametrics MaxMin I-5
Coil Separation : 160 metres
Frequency : 1777 Hertz
Profile Scale : 1cm = 20%



In-phase
Quadrature

Scale : 1:5000

1228132

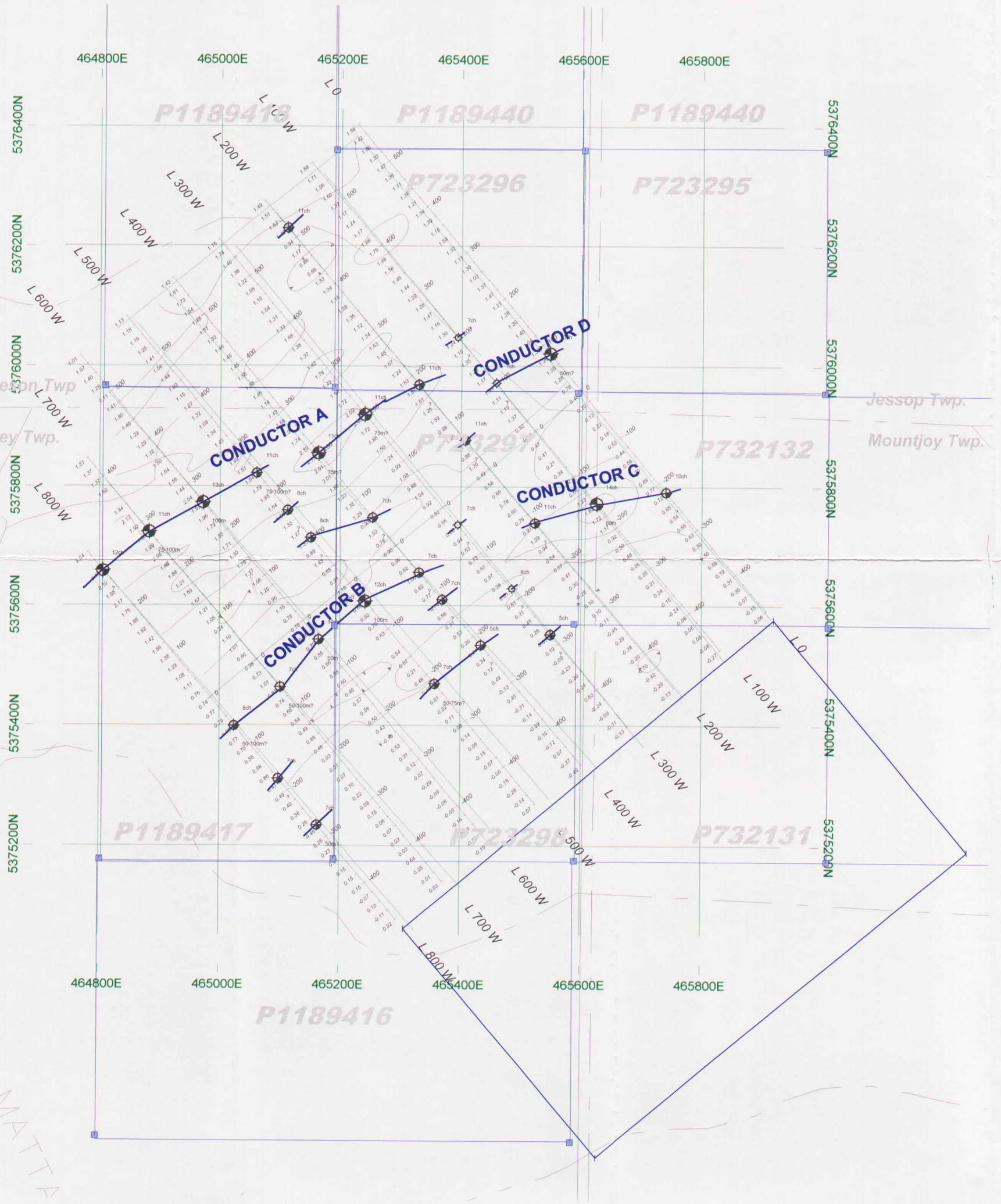
6

LOT 5
CON IV

4

FALCONBRIDGE LIMITED	
HLEM SURVEY (1777 Hz)	
JESSOP 44	
JESSOP TOWNSHIP	
File : J44HL.XYZ	Date : October, 1999
NTS : 42-A/11	Proj # : 8036
WORK BY : Timmins Geophysics Ltd.	

FOUR CORNERS AREA - X COMPONENT - Ch 12 INTERPRETATION



LEGEND

- VERY STRONG CONDUCTOR (Subvertical, Flat-lying)
- STRONG CONDUCTOR (Subvertical, Flat-lying)
- MODERATE CONDUCTOR (Subvertical, Flat-lying)
- WEAK QUALITY CONDUCTOR (Subvertical, Flat-lying)
- QUESTIONABLE CONDUCTOR (Subvertical, Flat-lying)
- 12ch — Number of Anomalous Channels Responding
- 100m — Estimated Target Depth

Interpretation by: Quantec Geoscience - WC (12-04-00)

Scale 1:5000

50 0 50 100 150 200 250
(metres)

FALCONBRIDGE LIMITED
FOUR CORNERS AREA PROPERTY
GODFREY TWP., ON

Secondary Electromagnetic Field (dB/dt)
LPTEM FIXED-LOOP PROFILING SURVEY
INTERPRETATION PLAN MAP

Transmitter Frequency:	30 Hz (50% duty cycle)
Transmitter Loop Size:	800m X 500m
Transmitter Loop Location:	0E,800W,500S,1000S
Transmitter Current:	16 Amps
Turn-Off Time:	360 us
Station Interval:	20 meters
Contour Interval:	.5, 2, 10 nanoVolt/A*m^2
Grid Cell Size:	25m
Postings:	X Comp, Ch 12 TEM Field
Receiver Coil Orientations:	Hz - positive up
	Hx - positive north
	Hy - positive west
Date:	October 1999
Instrumentation:	Rx = Digital Protem (3x20 Channels)
	& Geonics 3D Coil (3x200m^2)
	Tx = Geonics EM-37 (2.8 kW)

DWG. NO. C458D-TEM-INT-ROT-12X

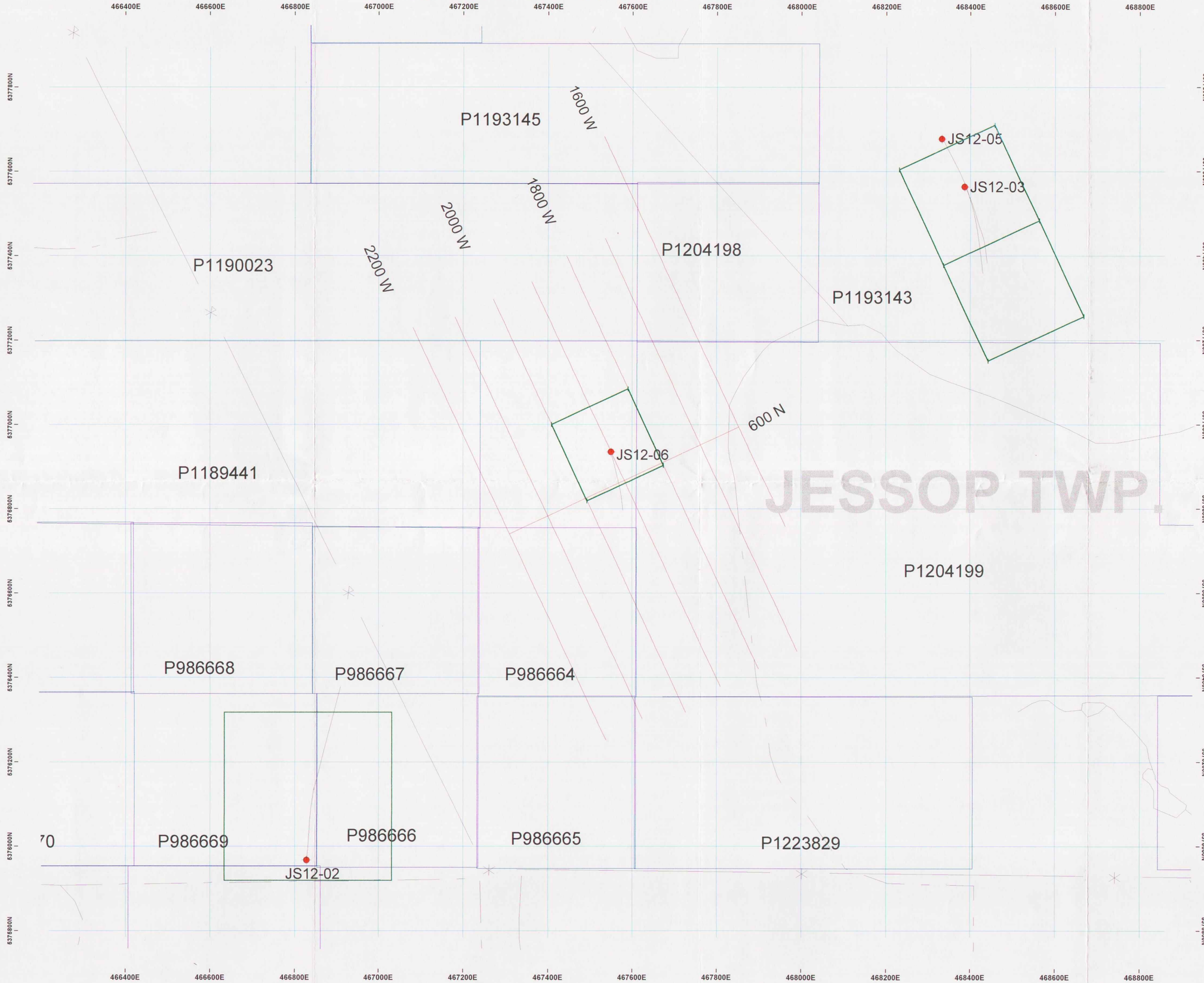
Surveyed & Processed by: Quantec GEOPHYSICS WORLDWIDE

Note: UTM Topographic Base and Claim Locations supplied by Falconbridge (04/2000)

Map Generated by WC (12-04-00)

42A11SW2028 2.20286 JESSOP 350

JESSOP 12 PROPERTY - BOREHOLE LOOP LOCATION MAP



JESSOP TWP.

2.20286

Scale 1:5000

100 0 100 200

(metres)

FALCONBRIDGE LTD.

JESSOP 12 PROPERTY

JESSOP TWP., ON

3D FIXED LOOP BOREHOLE SURVEY

BOREHOLE AND LOOP LOCATION MAP

Borehole Coordinates:
JS-12-02 = 3200N/1210E
JS-12-03 = 900W/900N
JS-12-05 = 900W/1025N
JS-12-06 = 1900W/680N

Date: July 1998

Instrumentation: Rx = Digital Protem (3x20 Channels) & Geonics 3D probe+600m cable
Tx = Geonics EM-37 (2.8 kW)

Surveyed & Processed by:

QUANTEC GEOSCIENCE INC.

DWG. #: C431b-LOOP-JS12-02