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Tittel
2006 Winter geophysical survey on the Ertelien Project in the Buskerud Fylke, Norway
Med appendix A,B og C

Forfatter	Dato År	Bedrift (Oppdragsgiver og/eller oppdragstaker)
Blair, T	18.12 2006	Sulfidmalm A/S

Kommune	Fylke	Bergdistrikt	1: 50 000 kartblad	1: 250 000 kartblad
Ringerike Sigdal	Buskerud		18153 18154 17153	Hamar

Fagområde	Dokument type	Forekomster (forekomst, gruvefelt, undersøkelsesfelt)
Geofysikk		Ertelien Langedalen Skaug Tyskland Ulleren Sigdal Grågalten
Råstoffgruppe	**Råstofftype**	
Malm/metall	Ni Cu	

Sammendrag, innholdsfortegnelse eller innholdsbeskrivelse
Appendix A List of Field Personell
Appendix B Local Grid Coordinate Conversion Data
Appendix C 2006 In-house UTEM Maxwell Modelling - Ertelien

2006 Winter Geophysical Program

Ertelien Project,
Buskerud Fylke, Norway

T. Blair
Falconbridge Limited

On behalf of
Sulfidmalm A/S

December 18, 2006

m/appendix A, B og C

SUMMARY AND CONCLUSIONS

This report gives the details and results of the 2006 winter geophysical program on the Ertelien project which is located approximately 40 km northwest of Oslo, Norway. The project is an option and joint venture between Sulfidmalm A/S (Norway), wholly-owned subsidiary of Falconbridge Limited, and Blackstone Ventures Inc. (Canada). Exploration programs are carried out by Falconbridge Limited on behalf of Sulfidmalm.

In order to evaluate the potential for nickel sulphide mineralization in the Ertelien area, a 1800 line km helicopter-borne magnetic and frequency domain electromagnetic survey was contracted out to the NGU and flown in the fall of 2005. In early 2006, the airborne EM anomalies were prioritized and a plan was made for a follow-up ground geophysical program.

The 2006 winter ground geophysical program was carried out during the period March 13th to April 10th, 2006 and consisted of 55.4 line km of gridding and UTEM surveying. Grids with line spacings of 50m, 100m or 200m were established by McKeown Exploration Services (of Oshawa, Ontario, Canada) using a differential global positioning system (DGPS) with base station and bamboo pickets / biodegradable flagging tape. The UTEM surveying was carried out by Lamontagne Geophysics Limited of Kingston, Ontario, Canada.

The UTEM survey was successful in detecting and confirming a number of the prospective helicopter EM anomalies on the ground as well as in defining the better conductance targets. Seven conductors were modelled in-house by A. Watts. The modelling indicates that conductances range from approximately 180-7900 siemens for individual UTEM plates.

These results will be used to help select targets for drill testing.

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

Appendix A: List of Field Personnel

Appendix B: Local Grid Coordinate Conversion Data

Appendix C: 2006 In-house UTEM Maxwell Modelling, Ertelien Project, Buskerud Province, Norway. **Anthony Watts**, Falconbridge Ltd for A/S Sulfidmalm.

Appendix D: Logistics Report – 2006 UTEM Survey, Ertelien Project, Norway for Sulfidmalm A/S. Stuart Elson and Geoff Heminsley, **Lamontagne Geophysics Ltd.**

1.0 Location, Topography and Access

The Ertelien project area spans a total distance of ~30km east-west by ~22km north-south. There are two main areas of interest, one located 40 km northwest of Oslo, within the Ringerike kommune. The other area of interest is located approximately 50km northwest of Oslo within the Sigdal kommune. Both project areas are within the Buskerud fylke and are easily accessible by car along highways #35 and #287 (Figure 1).

Figure 1
Ertelien Project – Location

Topography in the project areas is quite rugged with local relief of up to 600m. The project areas are covered by mixed coniferous and deciduous forest which has been locally logged. There are numerous cliffs and ridges, which generally trend north-south, with thicker tree cover in the valleys.

Access to the field areas is generally very good via a well-developed system of secondary gravel roads as well as hiking and skiing trails. The majority of the grounds in the Ertelien Project areas are held by private landowners with isolated blocks held under a "kommunal" designation as well as a state-held designation. Permission to access the field areas with snowmobile is required from both the local kommunes and the landowners.

2.0 Property and Ownership

At the time of the work reported herein, the Ertelien "property" consisted of 286 pre-claims or "mutings" covering an area of 84.60 sq km (Figures 2 and 3). The pre-claims are registered to Sulfidmalm A/S (Norway), a wholly owned subsidiary of Falconbridge Nikkleverk (Norway) which is owned by Falconbridge Limited (Canada). Exploration on the project is carried out under an option and joint venture agreement between Sulfidmalm A/S and Blackstone Ventures Inc. (Canada). Work programs are carried out by Falconbridge Limited on behalf of Sulfidmalm.

3.0 Geological Setting

The Ertelien Project is located proximal to historic nickel mining areas which were active during the mid 1800's to early 1900's. Numerous old nickel workings and showings are hosted within differentiated mafic and ultramafic bodies which have intruded complexly folded sedimentary and granitic gneisses that were deposited between 1700 and 1500 Ma and subsequently metamorphosed and deformed during the later stages of the Svecofenian Orogeny (1600 – 1450 Ma).

These intrusions are dominantly comprised of coarse-grained, plagioclase-rich mesocumulates and orthocumulates. However, the intrusive series in its entirety comprises lithologies ranging from subordinate ultramafites (including pyroxenite, picrite and peridotite) through troctolitic varieties to olivine-free gabbros and norites, and olivine-ferrogabbros. A second phase of metamorphism occurred during the Sveconorwegian Regeneration between 1200 and 1180 Ma. This was essentially a thermal metamorphism with limited structural deformation.

Grab samples have returned nickel values of up to 1.83% and nickel tenors ranging from 1.83% to 3.30%.

The presence of abundant nickel mineralization at surface combined with the paucity of modern exploration was the impetus for renewing exploration activities in this area.

4.0 Previous Work

As mentioned above, a number of the mafic bodies contain known accumulations of nickel sulphides. These sulphides were mined mainly in the late 1800's prior to the discovery of the vast nickel laterite deposits of New Caledonia. This discovery subsequently caused a collapse in the price of nickel, rendering the Ertelien deposits uneconomic except for a brief period during World War 1. The deposits are as follows:

Ertelien Deposit

At the Ertelien deposit proper, a small noritic intrusion hosts a deposit that produced 400,000 tonnes grading 1.04% Ni, 0.69% Cu, 0.17% Co from 1849 to 1920. Mineralization was mainly massive and breccia ore that graded between 2 and 4% Ni. The deposit has only been tested by two holes down to a vertical depth of 60 to 80 m (only weak mineralization at the contact (0.78% Ni, 0.67% Cu, 14.8% S over 1.25 m in DDH1; 0.35% Ni, 1.99% Cu, 7.6% S over 1.60m in DDH 2 –hole may not have hit contact; DDH3 essentially collared in basement)). A detailed ABEM Gun (Slingram) survey conducted over the intrusion detected no anomalies (line spacing 50 m; stations 12.5 m; cable length 50 m). Only one line of the 1963 AEM survey flown by the NGU crossed the deposit but did not detect any anomalies (mean terrain clearance 100 m). A small percussion drilling program (71 samples in 3 profiles) conducted around the old workings in 1971 failed to outline a postulated large low grade resource. The highest values obtained were 0.25% Ni with 3.5% S (2.5% Ni in 100% S). A 60 point gravity survey was completed over a 2 km x 2 km area centered on the host intrusion in 1971 and 1972. Modeling of the results gave a 2.0 mgal anomaly directly over the host intrusion with an extension or possible second 2.0 mgal anomaly approximately 750 m to the north (not exposed on surface). The author also postulates a deeper buried anomaly.

Langdalen, Skaugs and Tyskland Deposits

The Langdalen deposit is the second largest mine in the Ertelien area. Past production was 250, 000 tonnes grading 2.5 – 3.5% Ni. It is a dike-like feature that trends roughly 320^{0} with a near vertical plunge. Little or no intrusion is exposed. Similarly, the Skaugs and Tyskland deposits are also dike-like and are obviously folded with steep vertical plunges. Previous mining has very selectively removed the sulphides and host intrusions.

Little or no previous exploration work has been conducted at Langdalen, Skaugs and Tyskland. The 1963 AEM survey flew directly over the Langdalen deposit and detected an anomaly immediately to the west of it. However, follow-up with the ABEM gun failed to locate the anomaly on the ground. The line spacing (500 m) was such that the other deposits were not covered. No other work has been completed in the area. A test (201 line km) AEM survey flown in 1971 did not cover this (or the Ertelien) area.

Ulleren

At Ulleren, the largest mafic / ultramafic body in the area (2.5 km x 1.0 km) detailed mapping and sampling of showings was completed in 1963. The body contains a fairly large proportion of ultramafic rocks. A reconnaissance EM Gun survey failed to detect any real anomalies although "anomalies could be created by playing with the instrument".

5.0 2006 Winter Ground Geophysics Program

During the period March 13th to April 10th, 2006, a winter program consisting of 55.4 line km of gridding and geophysical surveying was carried out. A list of field personnel involved in the program can be found in Appendix A.

Grid Preparation

Six grids and eight geophysical loops were established by McKeown Exploration Services (with help from Falconbridge and Sulfidmalm personnel) during the period February 22nd to April 4th. The gridding team consisted of two operators and one or two assistants to facilitate grid construction. Grids were established using a real-time differential global positioning system (DGPS) as well as a locally established base station due to thick tree covers in many of the areas. DGPS control was used on both the grids and the geophysical loops in order to provide the location and elevation (x, y & z) accuracy required for detailed geophysical modelling.

The grids consisted of lines spaced at 50m, 100 m or 200m apart with stations set at 25m intervals along each line and marked by thin bamboo pickets or biodegradable flagging tape (Figure 4). Grid orientations were determined based on the regional geological terrains and vary for individual grids (see Appendix B). Bamboo pickets and/or flagging tape were collected upon completion of the surveying in order to return the survey area to its original state.

UTEM Geophysical Surveying

Lamontagne Geophysics Limited carried out 55.4 line km of UTEM surveying between the dates of March 13th to April 10th, 2006 (Figure 5). The UTEM crew consisted of two Lamontagne operators and two Lamontagne helpers.

Surveying was conducted using eight rectangular to square transmitter loops consisting of narrow gauge copper wire (1.70mm diameter) and ranging in size from 600 x 650m to 900 x 1500m (Figures 6 and 7). Data was collected in an "off-loop" configuration on 100m spaced lines at a station interval of 25m at the beginning of the program although problems arose with regional power lines. An "in-loop" configuration was adopted for remaining grids and the signal to noise ratio was highly improved. Line spacing was tightened to 50m as required in areas of anomalous conductivity.

Appendix D consists of a detailed interpretation report by Lamontagne Geophysics on the winter 2006 UTEM surveying. The report contains a description of the survey logistics and methodology, a full listing of the UTEM profiles and the details of the selected UTEM modeling.

Good correlation was observed between the results of the UTEM survey and the 2005 helicopter EM survey. However, the UTEM survey provided enhanced depth penetration and conductance discrimination. Seven anomalies were deemed to represent potential drill targets based on conductance and were modeled in-house by A. Watts (see Appendix C).

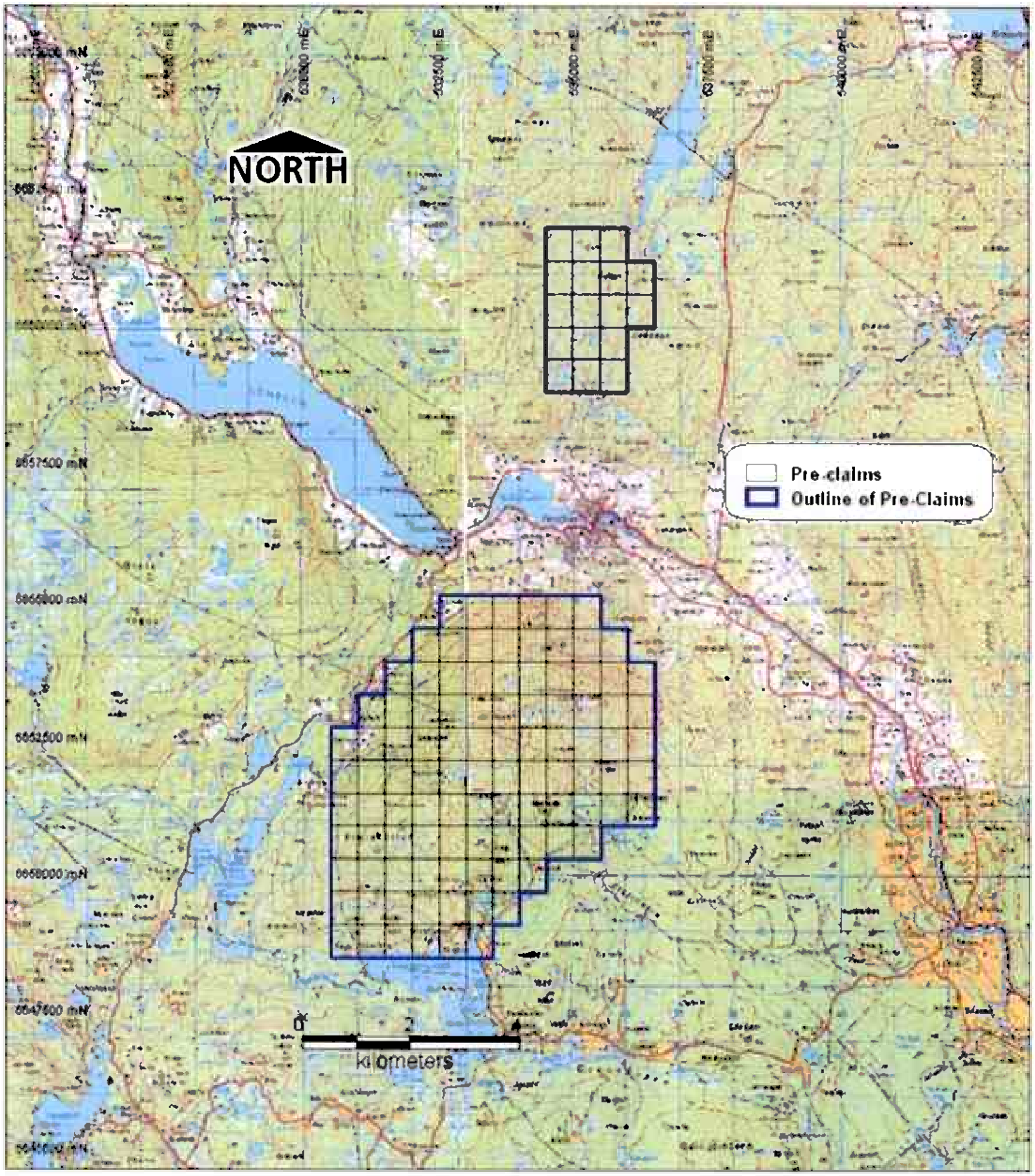
Modeling resulted in the interpretation of one or more conductive plates for each anomaly with the following distribution based on conductance:

- 3 anomalies with conductivities of ≥ 1000 siemens
- 3 anomalies between 400-1000 siemens
- 1 anomaly between 150-399 siemens

Modeled depth to top and/or the /center of the modeled conductors are typically shallow at < 100m.

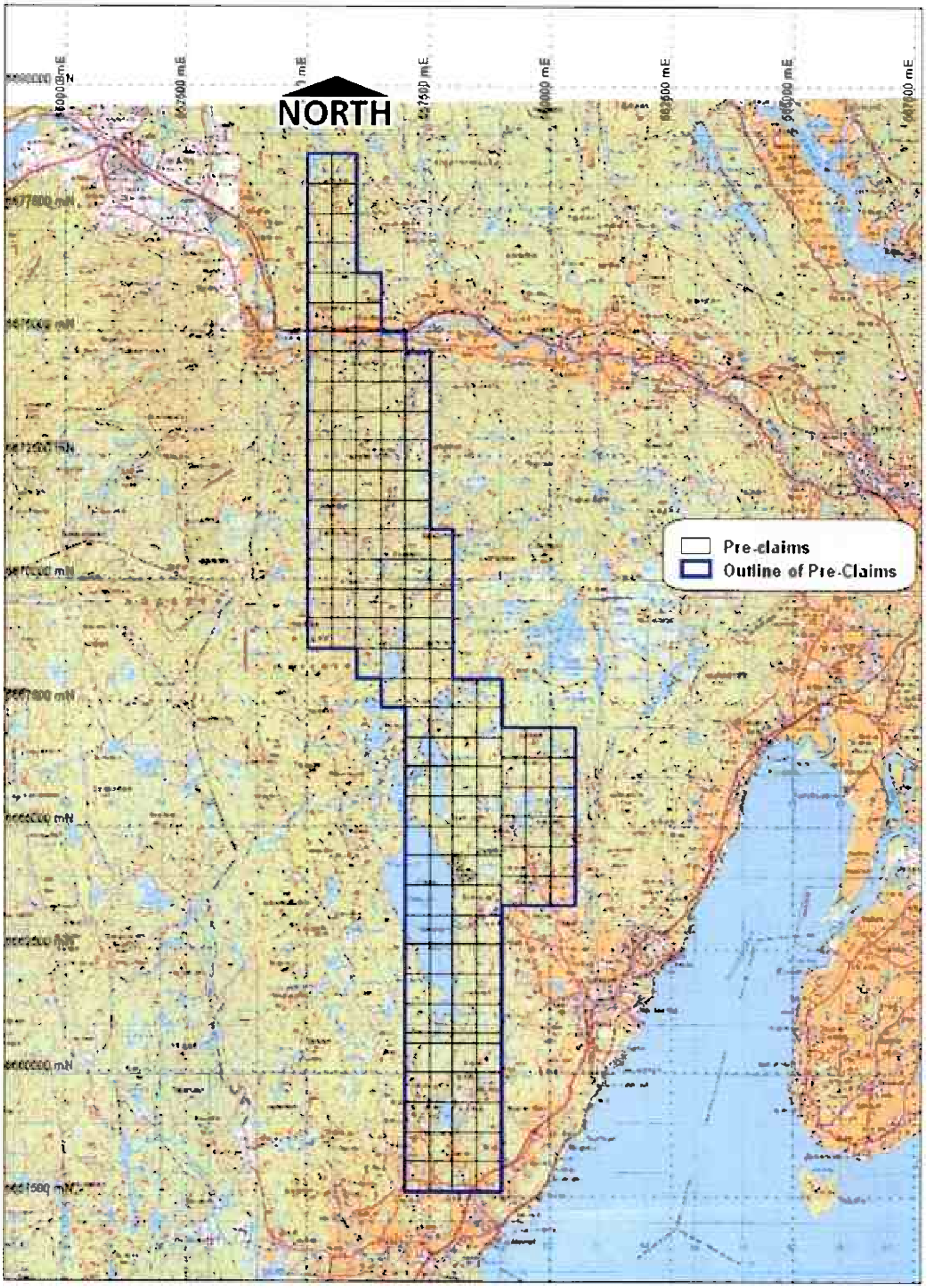
Results of the UTEM modeling will be reviewed and used to help select targets for drill testing.

Figure 2
Ertelien Project – Sigdal Kommune Pre-claims



UTM WGS84 Zone 32N

Figure 3
Ertelien Project –Ringerike Kommune Pre-claims

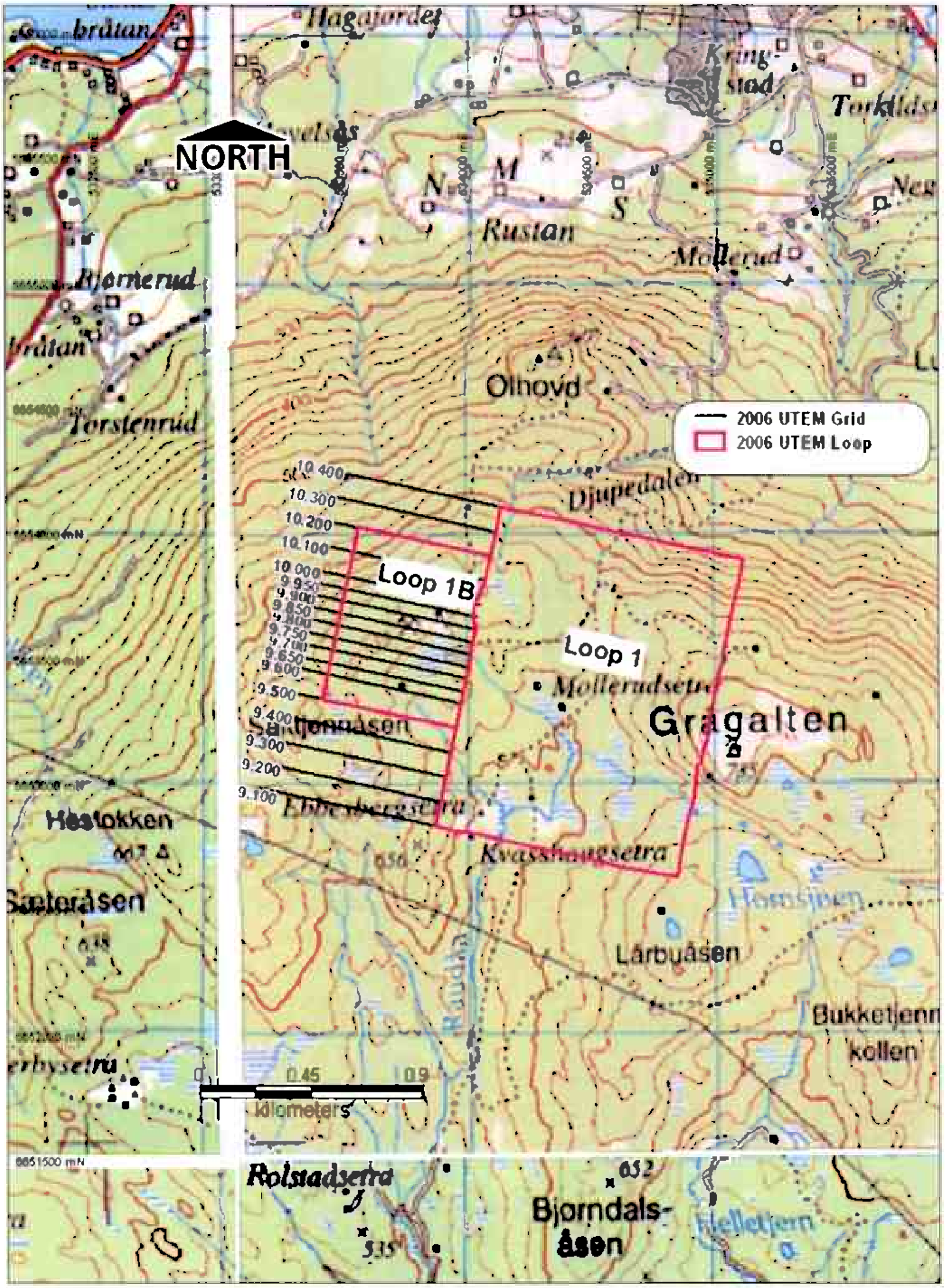


UTM WGS84 Zone 32N

Figure 4: Establishment of DGPS-controlled Grid

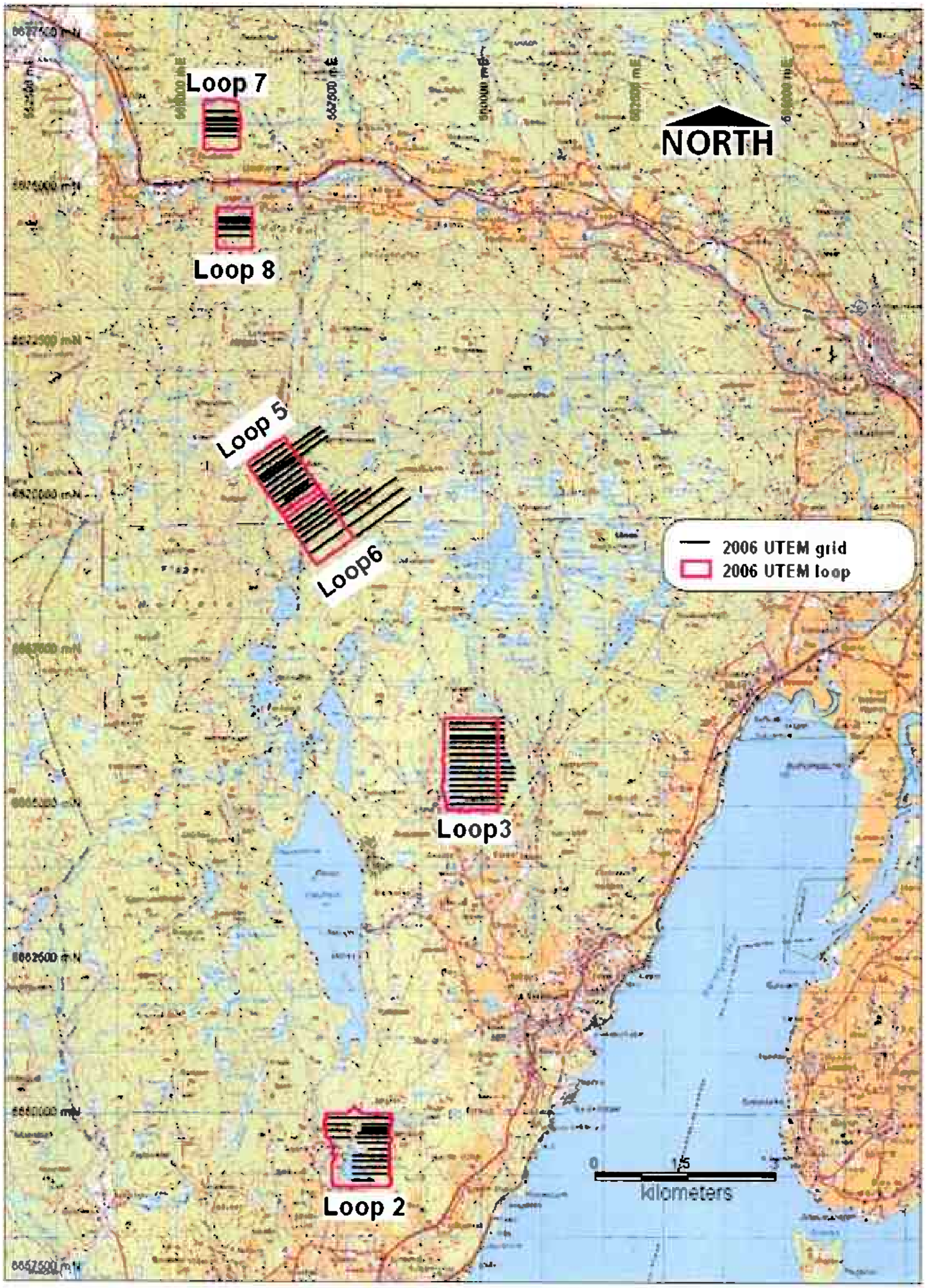
Figure 5: UTEM Surveying

Figure 6
Ertelien Project: Sigdal Kommune – 2006 UTEM Grids and Loops



UTM WGS84 Zone 32N

Figure 7
Ertelien Project: Ringerike Kommune – 2006 UTEM Grids and Loops



UTM WGS84 Zone 32N

6.0 References

Mogaard, J.O., 2006
Data Acquisition and Processing - Helicopter Geophysical Survey, Bamble, Ertelien and Sigdal, 2005, Telemark and Buskerud counties, Norway (for A/S / Sulfidmalm). NGU Report 2006.021,
March 10, 2006, 11p.

APPENDIX A
LIST OF FIELD PERSONNEL

Falconbridge Limited:	Patti Tirschmann	Senior Geologist
	Trevor Blair	Senior Project Geologist
	Robert Jones	Field Geologist
	Doris Fox	Field Geologist
Sulfidmalm A/S:	Finn Hansen	Project Logistics
Lamontagne Geophysics:	Robert Langridge	Senior Geophysicist/UTEM Operator
	Stuart Elson	Chief UTEM Operator
	John Frost	UTEM Operator
	Kevin Arsenault	UTEM Operator
	Tim Pinkerton	Field Assistant
McKeown Exploration Services:	Rob McKeown	Contract DGPS Operator

APPENDIX B
LOCAL GRID COORDINATE CONVERSION DATA

Common Coordinates Between the local Ertelien grids and UTM WGS84 Zone 32N are as follows:

	Easting	Northing
Local Langdalen Grid (Loops 5, 6)	0	0
Rotation	055°	
UTM WGS84 Zone 32N	558132.44	6665094.20
Local Sigdal Grid (Loops 1, 1B)	0	0
Rotation	102°	
UTM WGS84 Zone 32N	527000	6645000

Note: All the Ertelien Project grids are in the same coordinate system.

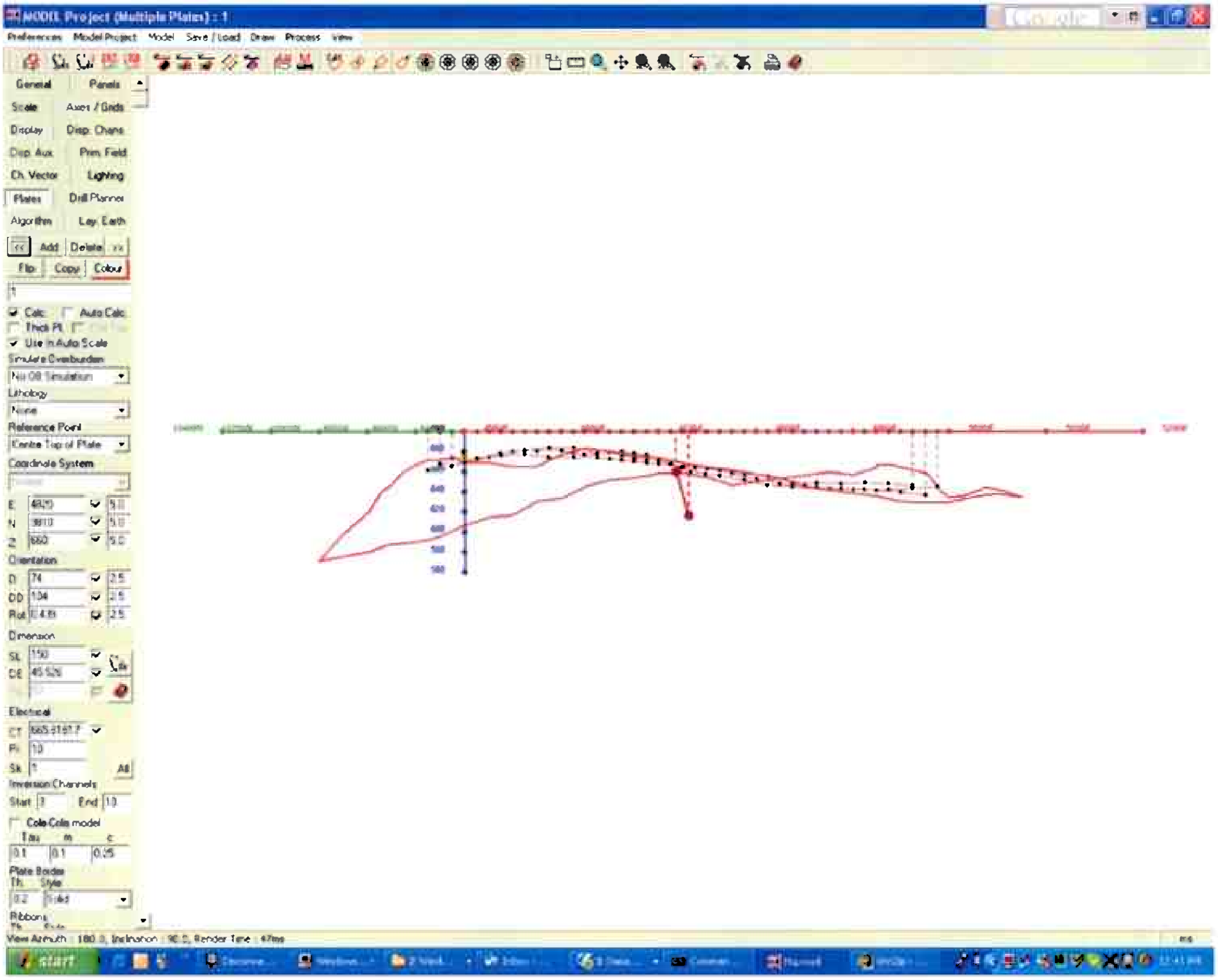
APPENDIX C

2006 In-house UTEM Maxwell Modelling

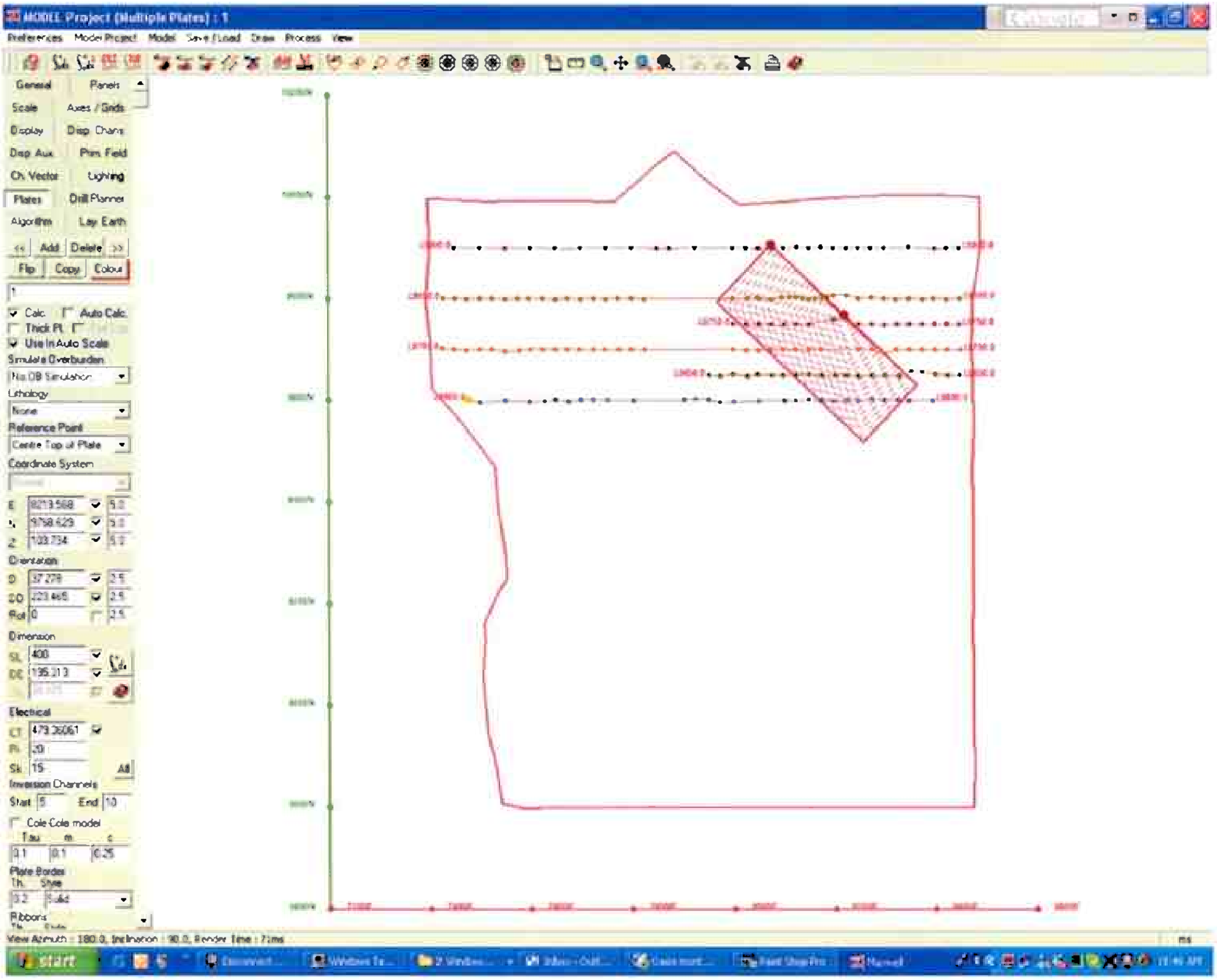
Ertelien Project, Buskerud Province, Norway

Anthony Watts, Falconbridge Ltd for A/S Sulfidmalm.

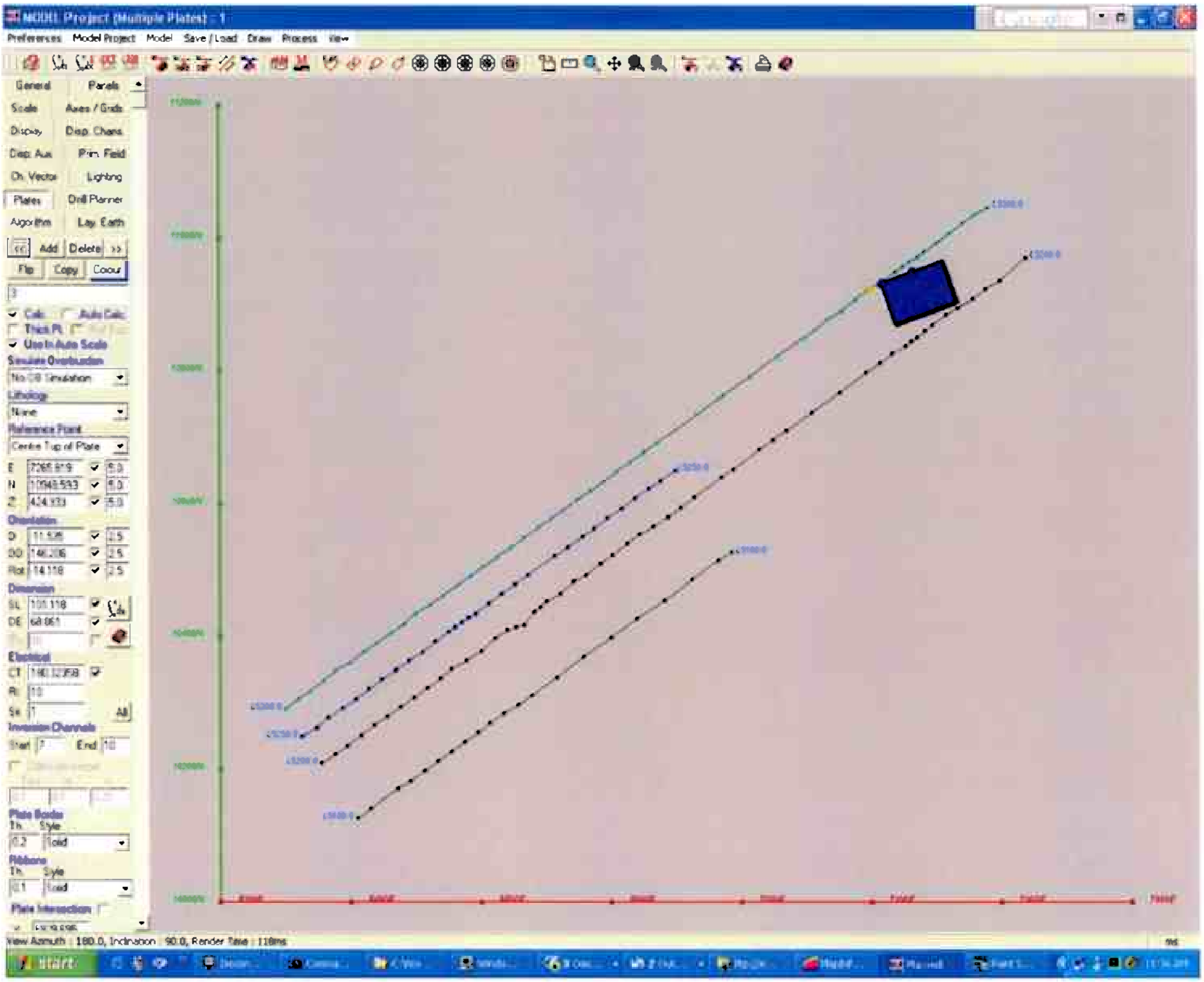
Model 1: Maxwell Model for Loop 1B, Lines 9750N – 9850N (Sigdal)
Model 2: Maxwell Model for Loop 2, Lines 9600N – 9800N (Ertelia)
Model 3: Maxwell Model for Loop 5, Line 5250N (Asktjern)
Model 4: Maxwell Model for Loop 5, Line 5250N (Langdalen)
Model 5: Maxwell Model for Loop 5, Line 5200N (Langdalen)
Model 6: Maxwell Model for Loop 5, Line 4700N (Tyskland)
Model 7: Maxwell Model for Loop 6, Line 3800N (Baksjø)



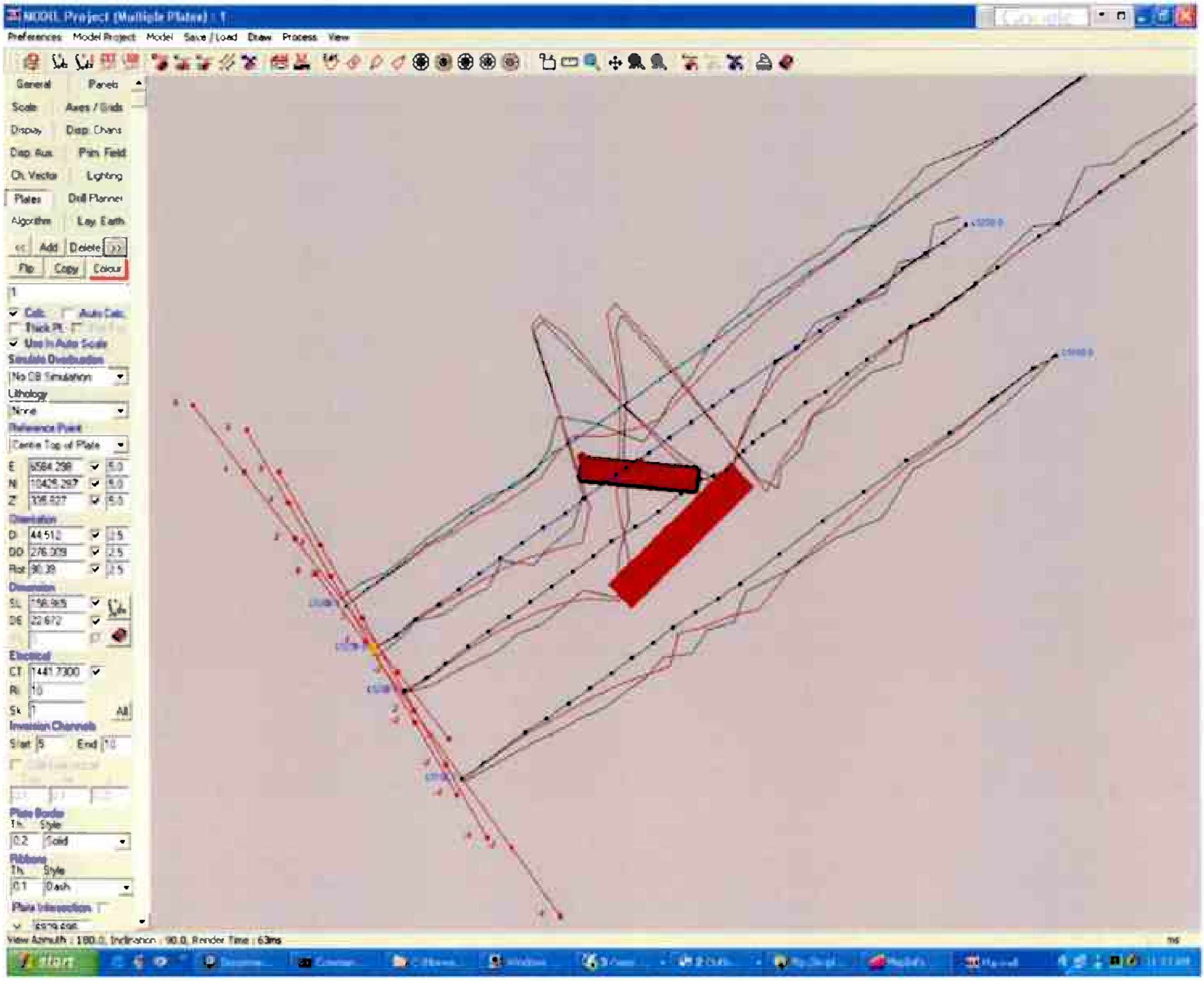
Model 1: Maxwell Model for Loop 1B, Lines 9750N – 9850N (Sigdal)



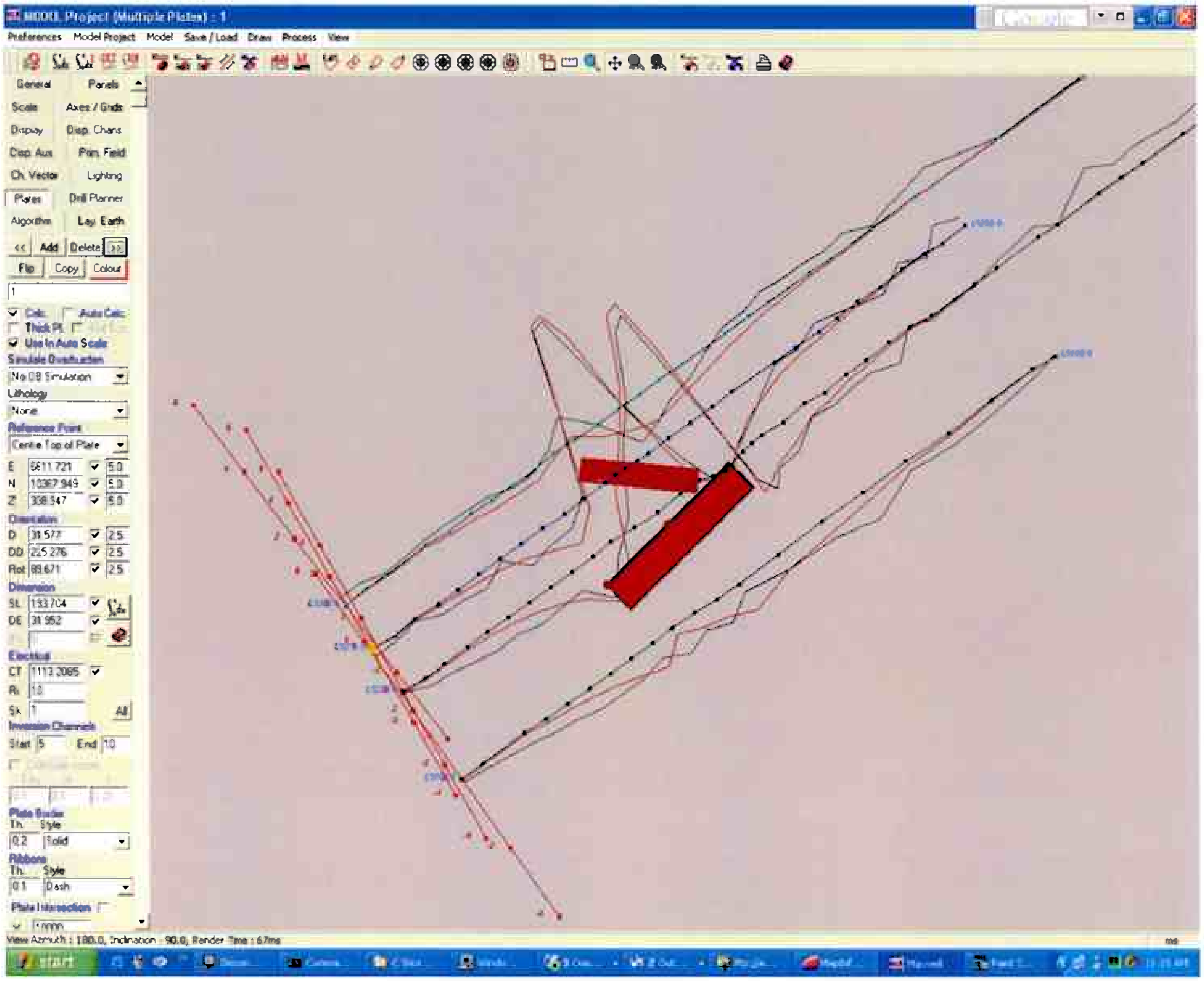
Model 2: Maxwell Model for Loop 2, Lines 9600N – 9800N (Ertelia)



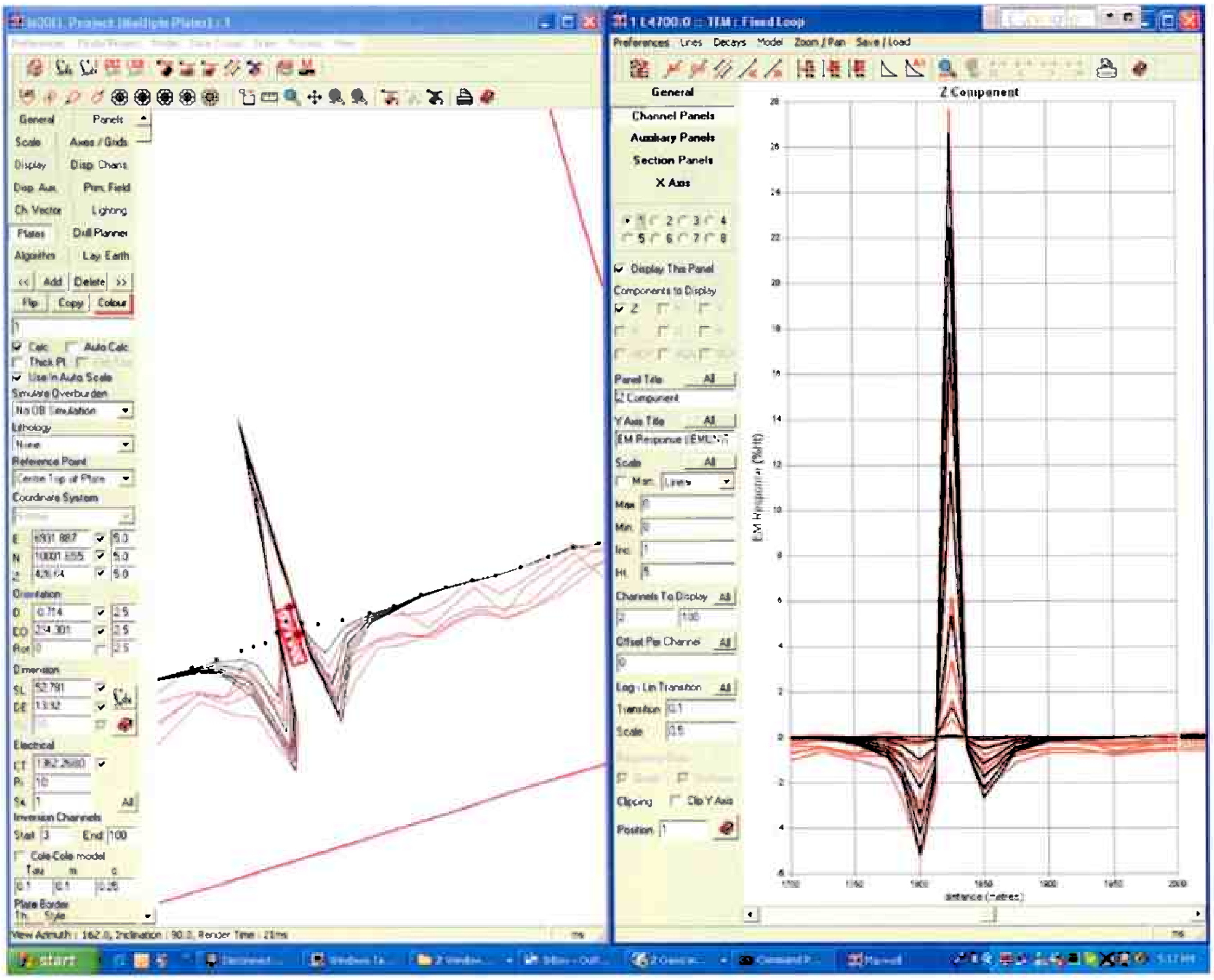
Model 3: Maxwell Model for Loop 5, Line 5250N (Asktjern)



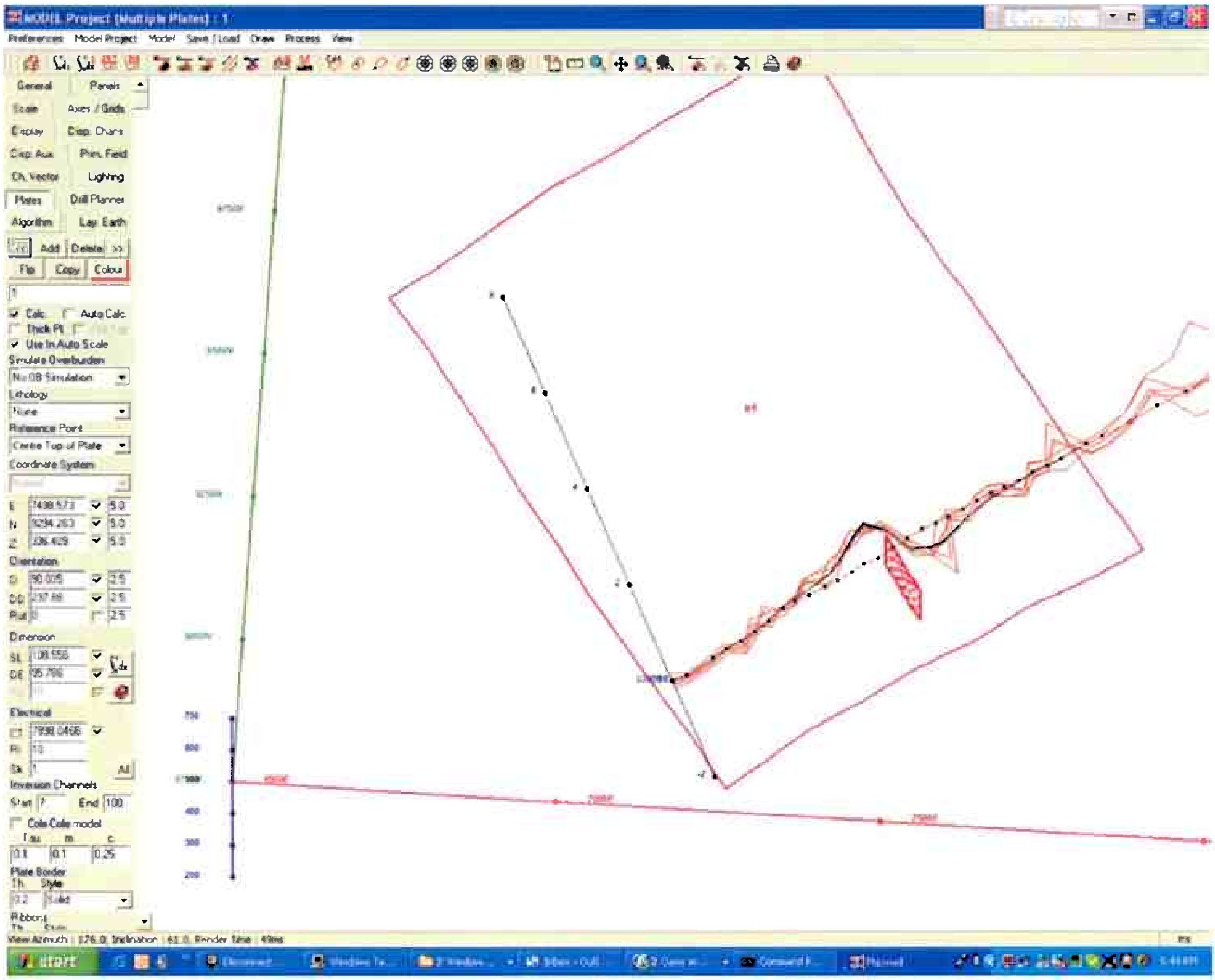
Model 4: Maxwell Model for Loop 5, Line 5250N (Langdalen)



Model 5: Maxwell Model for Loop 5, Line 5200N (Langdalen)



Model 6: Maxwell Model for Loop 5, Line 4700N (Tyskland)



Model 7: Maxwell Model for Loop 6, Line 3800N (Baksjø)