

DECEMBER 2010 QUARTERLY REPORT

ABOUT ARGO EXPLORATION LTD

Argo Exploration Limited ('Argo') (ASX Code 'AXT') is a junior exploration company searching for iron oxide copper-gold, gold, uranium and base metal deposits in Prospective locations of the Gawler Craton, South Australia. Argo is a focused explorer searching for world-class ore deposits within two key project areas, namely Intercept Hill and Toondulya.

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SUMMARY OF ACTIVITY

KEY POINTS:

Intercept Hill (EL4164)

Argo – Xstrata Copper Joint Venture

- Magnetotelluric (MT) Survey results over Emmie North Prospect received. The survey failed to discriminate any clear targets in the altered basement rocks for drill testing.
- Cultural heritage clearance of proposed drill sites at Oak Dam South, Canegrass South and Winjabbie East Prospects undertaken. The elected survey party cleared several drill sites at both Oak Dam South and Winjabbie East, but rejected proposed sites at Canegrass South prospects.
- Drilling is now expected to commence at Oak Dam South prospect end February, beginning March 2011 and move to Winjabbie East.
- A meeting of key interested persons is being sought in an attempt to negotiate controlled drill access to Canegrass South prospect.
- Regional 3-D geophysical modeling by Xstrata Copper is continuing.
- Semi-quantitative (HyLogger™) mineral analysis of selected core intervals from Emmie North, Winjabbie East and Canegrass North Prospects, is continuing at Primary Industries and Resources South Australia (PIRSA).

Toondulya (EL4284)

- Preparations are underway to commence a planned orientation biogeochemical/soil/lag sampling program in previously defined areas of gold-in-calcrete anomalism and in areas interpreted from geophysical data assessment to be structurally prospective for mineralization.
- 3-D modeling of the prominent circular gravity feature in the north-west sector of EL4284 is planned. The objective is to potentially delineate constrained residual gravity feature worthy of direct drill testing.

INTERCEPT HILL EL4164

Magnetotelluric (MT) Survey

An MT survey was trialed in an attempt to discriminate zones of higher conductivity within the fertile Emmie Bluff-Emmie North iron oxide alteration system. The potential target depths, and depth of highly conductive cover, place them beyond of range of the well-established techniques of Transient Electromagnetics (TEM) and IP-Resistivity. MT is a passive EM technique that has a reputation for being able to measure resistivity to extreme depths, in the order of tens of kilometers. More detailed measurements can be made to shallower depths (2-3km), which is adequate for the target depths of the Emmie Bluff-Emmie North System.

The magnetotelluric survey was trialed over the contiguous, fertile Emmie North-Emmie Bluff iron oxide alteration system. This Survey covered ground in EL4164 (Argo Exploration) and the adjoining EL4187 (Gunson Resources). The design parameters were 500m spaced stations on 1000m spaced SW-NE trending Lines (Table 1; Fig. 1). The EL4164 component of the survey comprises 35 stations for 21.8 line kilometers.

Line No.	Western End	Eastern End	Length (m)
Line 1	700080E: 6557250N	704600E: 6560390N	5500
Line 2	698880E: 6555090N	705390E: 6559750N	8000
Line 3	699630E: 6554260N	706160E: 6558900N	8000
Line 4	700200E: 6553480N	706720E: 6558120N	8000

Table 1: Start and end coordinates for lines covering EL4164. Note line lengths include portions within EL4187.

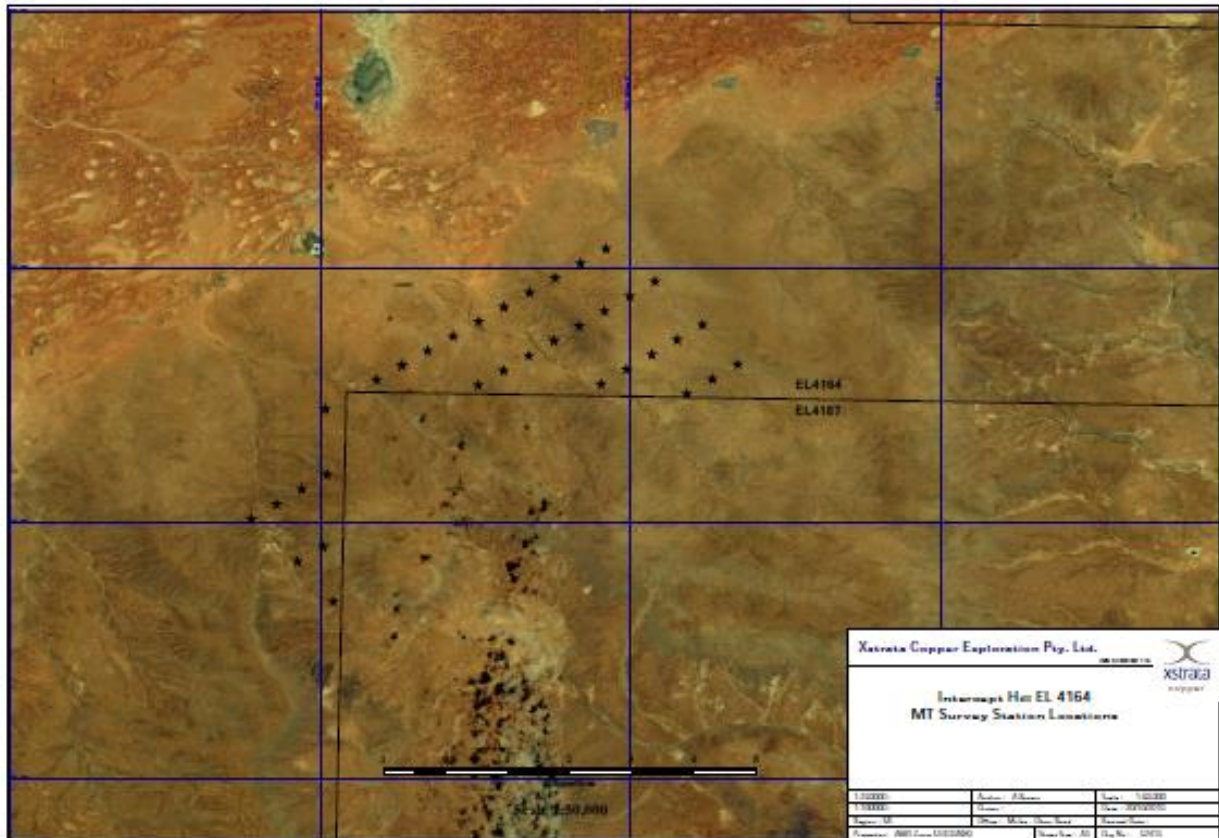


Figure 1: Plan map of the MT station locations for EL4164 on satellite imagery. Line numbered from north-west to south east (Lines 1 to 4)

Quantec Geoscience Pty Ltd. was contracted to carry out the survey.

Results

2D resistivity inversion sections digital data were provided by Quantec Geoscience as part of the final deliverables.

The positions of Argo's drill holes, along with historical WMC holes AD2 and AD8, are illustrated in Figure 2.

On all MT lines, the upper 600-1000m is characterized by largely layered variations in an overall low resistivity package (Figs 3 to 6). It would appear that most of the extremely low resistivities (1 - 2ohm-m) correlate to the Whyalla Sandstone and Tapley Hill Formation. Transition to basement is consistent through all sections, coming in at around 100ohm-m. The basement shows resistivities of 100 - 1000ohm-m, and generally increases with depth.

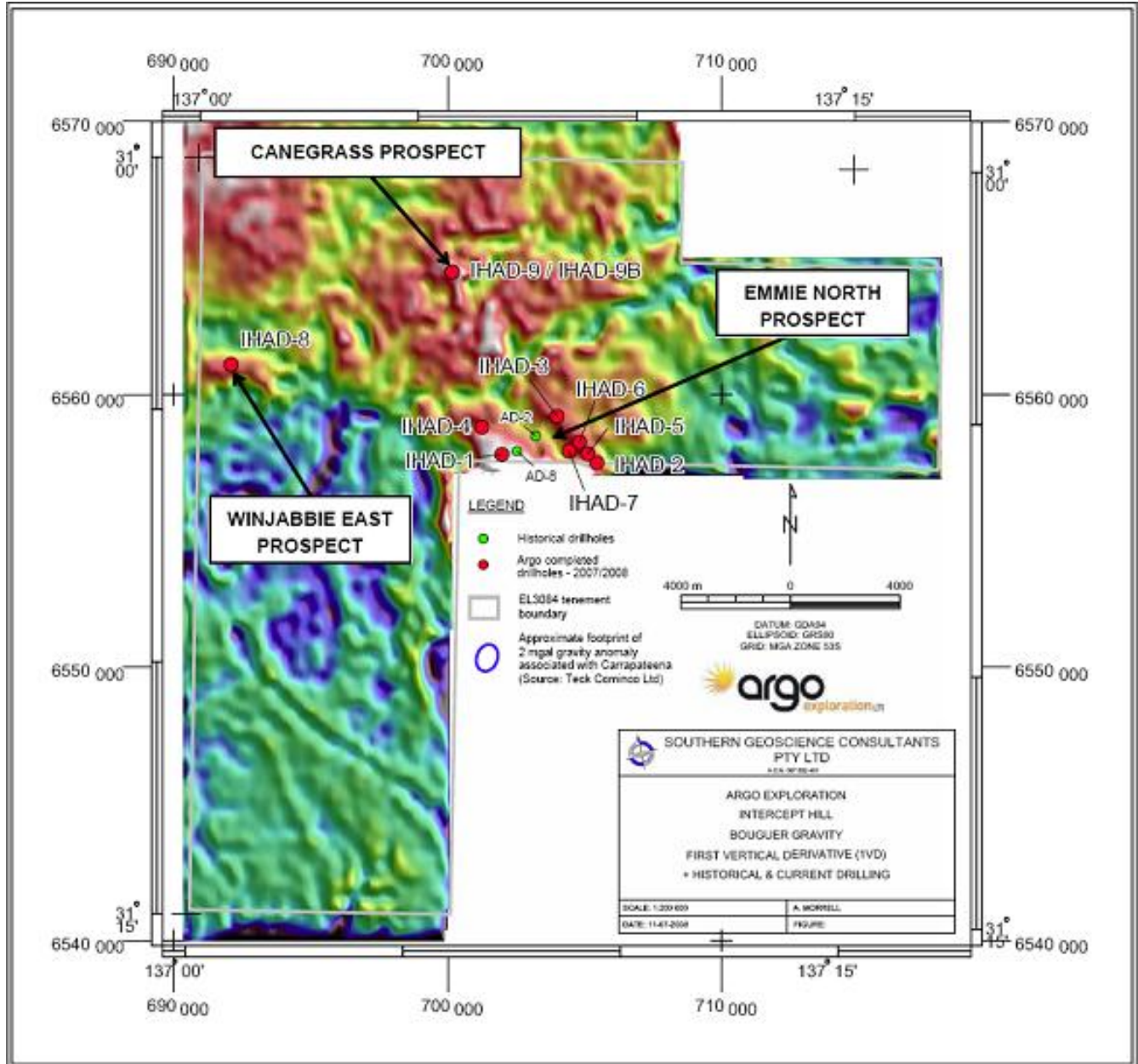


Figure 2: First vertical derivative of Argo's gravity data showing prospect locations and the sites of Argo's diamond drill holes.

Basement features are generally lacking in the EL4164 part of the survey, with most of the undulations around the unconformity potentially being inversion artifacts. There is a depression of low resistivity (<40ohm-m) trending parallel, and to the west of, the main Emmie North drill hole trend (IHAD2, 5, 6, and 3), which is most pronounced on line 2 (Fig. 4; north along strike from IHAD7 not drilled to basement). There is no depression in

resistivity associated with IHAD5 and IHAD2 (best alteration/mineralization); in fact this area actually shows as a spike of resistive material pushing into the cover sequence. This is thought to perhaps be an inversion artifact, as there is a very low resistivity response above this in the Whyalla Sandstone/Tapley Hill Formation. These MT conductive responses (Fig. 8) in the Whyalla Sandstone interval may be compared with similar responses derived from TEM survey data (Fig. 7).

Geophysical Concerns

There are several factors which have limited the efficacy of the MT technique, and argue against over-interpreting the often quite subtle responses.

The presence of a thick, electrically conductive cover sequence overlying the basement would have reduced the detectability of features within the underlying basement.

The MT survey was semi-regional in nature being conducted with a 500m station spacing on 1km spaced lines, and realistically could only be expected to respond to large volumes of conductive material.

The 2D inversions of the MT data were carried out with a routine thought to be the most appropriate. However, past experience has shown that inversion patterns can differ in detail between routines, particularly in this electrically difficult environment. One concern is the ability of the inversion routine to adequately model basement resistivities beneath localized zones of extreme cover sequence conductivity.

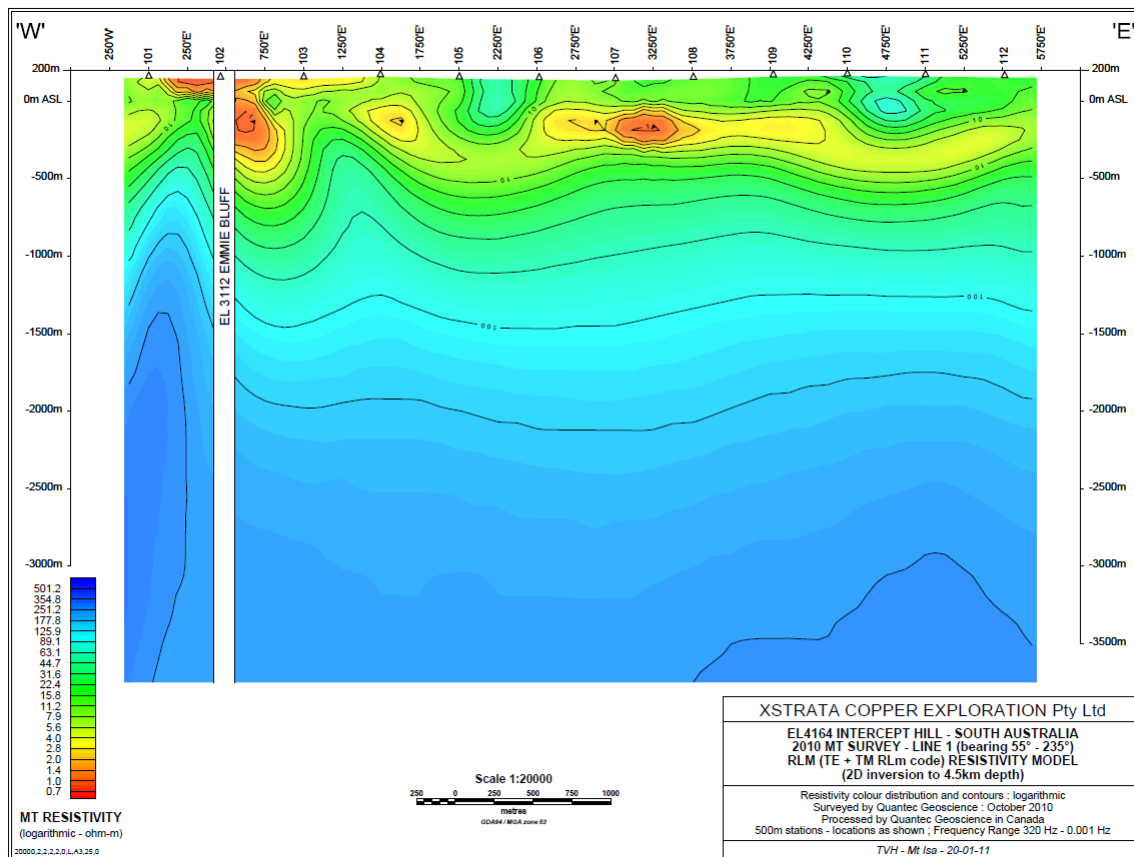


Figure 3: MT Line 1 (Fig. 1; Table 1): 2-D inversion to 4.5km depth.

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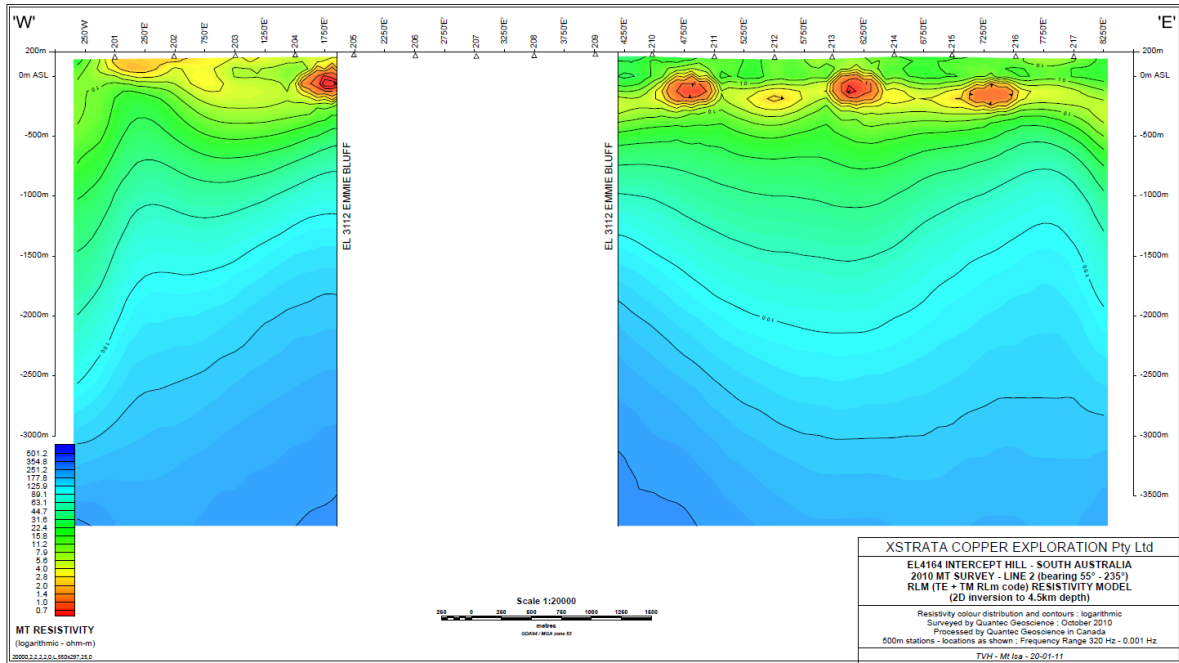


Figure 4: MT Line 2 (Fig. 1; Table 1): 2-D inversion to 4.5km depth.

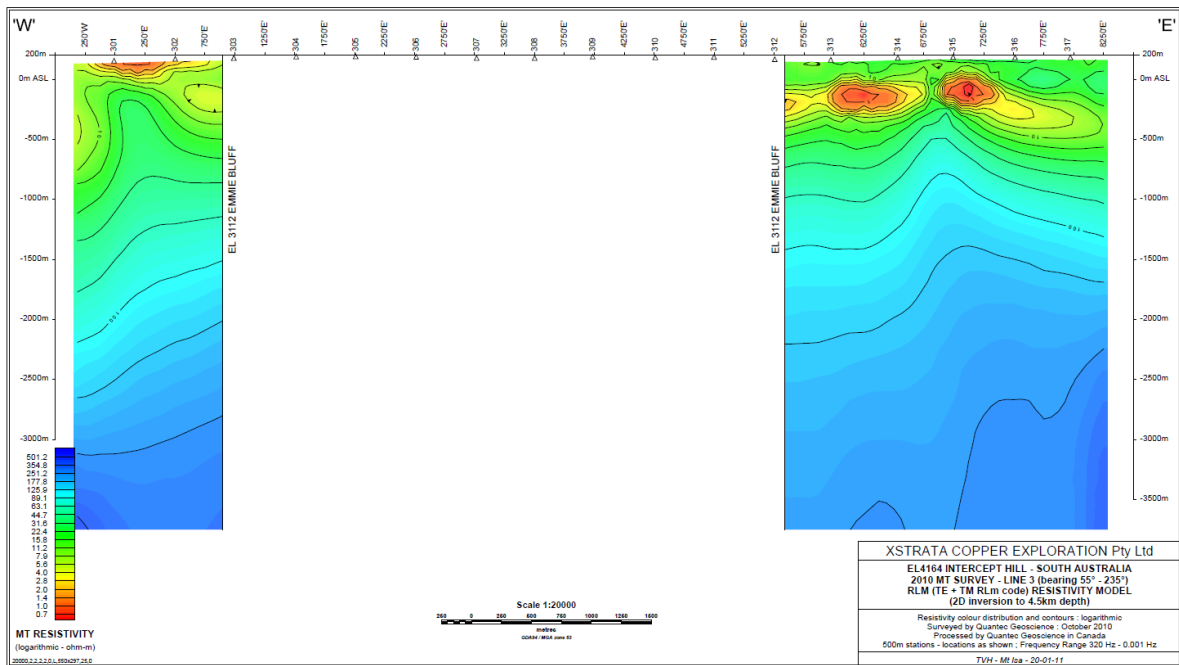


Figure 5: MT Line 3 (Fig. 1; Table 1): 2-D inversion to 4.5km depth.

Conclusions

The MT appears to clearly see the basement conformity, with a very conductive cover sequence on a very resistive basement. Layered variation is apparent within the cover sequence, the particularly conductive zones of which appear to relate to the Whyalla Sandstone and Tapley Hill Formation.

Features within the basement are very subtle and it is debatable whether these are “real” features as opposed to inversion artifacts.

The MT has failed to discriminate any clear targets for drill testing.

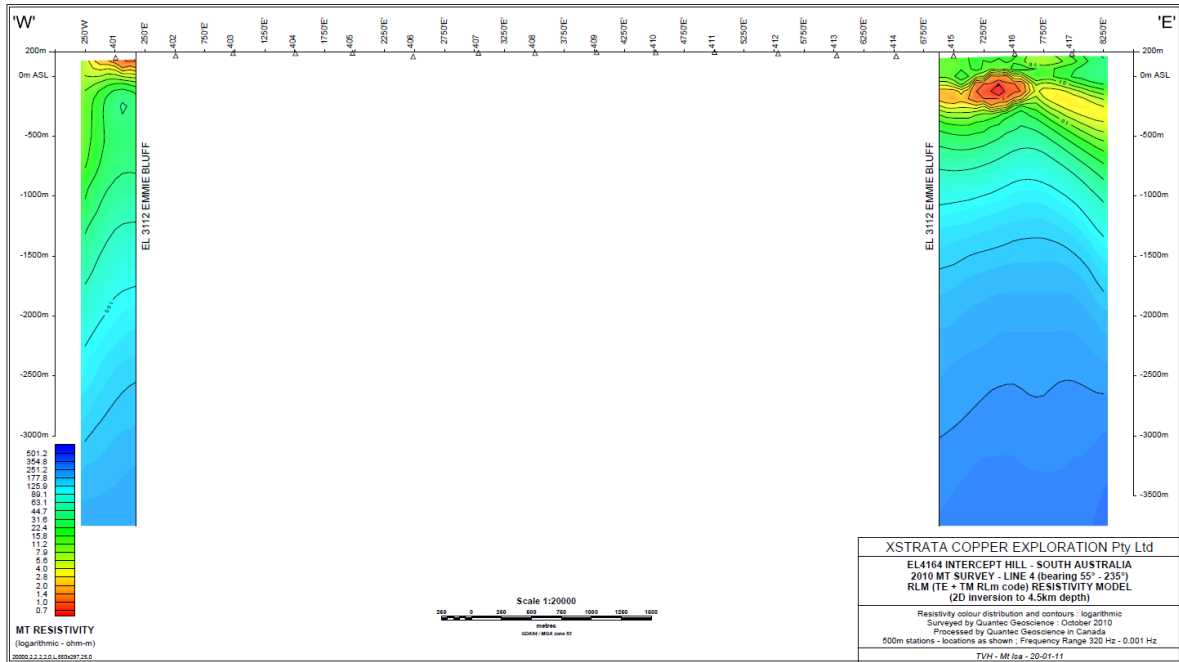


Figure 6: MT Line 4 (Fig. 1; Table 1): 2-D inversion to 4.5km depth.

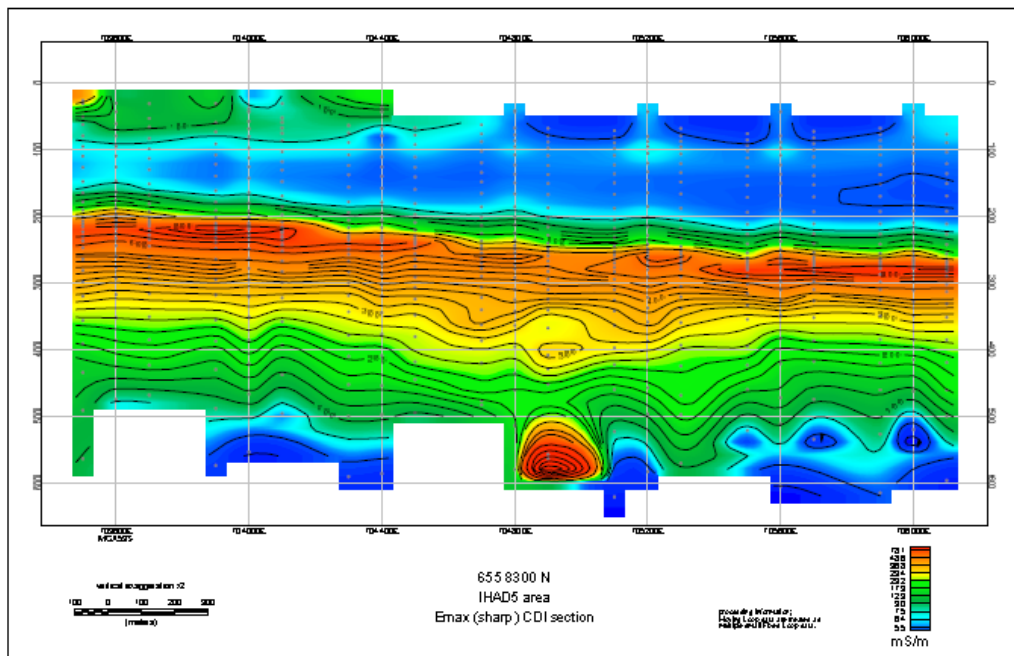


Figure 7: Conductivity Depth Image for Line 6558300N, Emmie North Prospect showing laterally extensive, flat lying conductive zone at about 240 to 280 meters depth corresponding to the Tregolana Shale-Whyalla Sandstone contact and resident within the Whyalla Sandstone. Note also the discrete conductive response at depth.

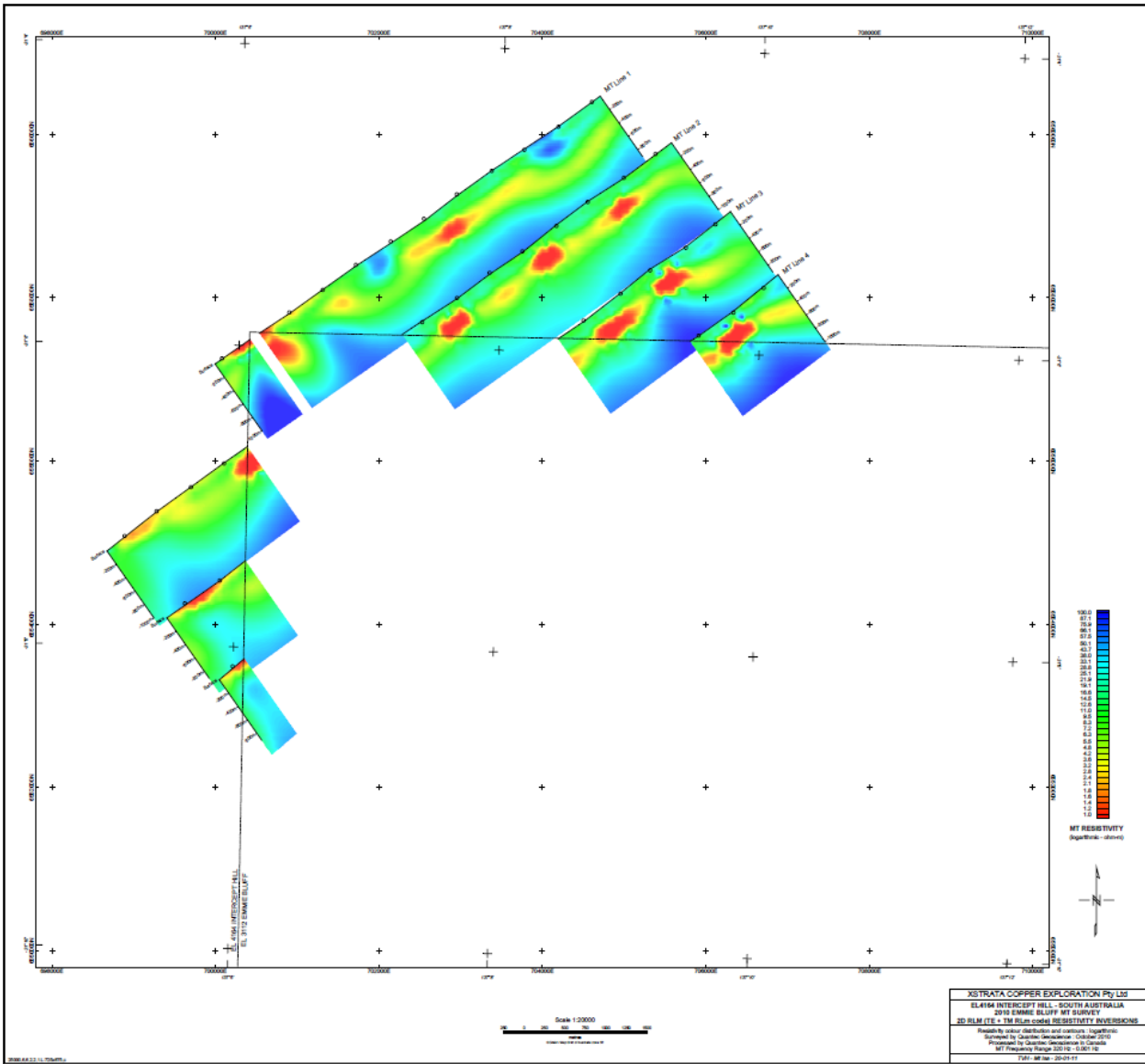


Figure 8: Stacked 2-D resistivity inversions comprising part MT lines 1 to 4 occurring within EL4164.

Cultural Heritage Clearance surveys

A Cultural Heritage clearance survey of proposed drill sites at Oak Dam South, Canegrass South and Winjabbie East Prospects was undertaken. The survey party comprised 8 elected members (4 men and 4 women) of the Kokatha Uwankara Native Title claimant group, an anthropologist and an archaeologist, both from Australian Cultural Heritage Management, 3 representatives from Xstrata Copper Ltd and the Managing Director of Argo Exploration Ltd.

A second cultural heritage clearance, involving 2 elders of the Kuyani People, 3 representatives from Xstrata Copper Ltd and the Managing Director of Argo Exploration Ltd was undertaken. The purpose of the second clearance was to provide the Kuyani the opportunity to establish that their spiritual connection to, and custodianship of, the land was appropriately considered.

The elected survey party approved access to a number of drill sites at Oak Dam South and Winjabbie East prospects that will allow the efficient assessment of these targets. However, the party rejected all proposed drill sites at Canegrass South prospect and Argo is currently seeking a meeting with designated persons in an attempt to negotiate controlled drilling access.

The Kuyani representatives determined that none of the sites proposed impacted areas of spiritual and/or cultural significance to the Kuyani people.

Argo has been advised by Xstrata Copper that they are on track for drill commencement at Oak Dam South prospect end February, beginning March.

3-D Geophysical Modeling

As well as on-going 3-D inversion modeling of specific areas within EL4164, Xstrata Copper has advised that it plans to carry out integrated 3-D modeling of EL4164 and adjoining EL4187 (Gunson, Xstrata 51%) in their entirety. The detailed geophysical data sets for both tenements are of comparable quality and this modeling will allow a 'regional' comparison across both tenements. This regional modeling is expected to be initiated late January.

Semi-quantitative mineralogy of drill cores

HyLogger™ semi-quantitative mineralogical analysis of selected core intervals from Argo's prior drilling campaigns is nearing completion following which the data will be fully processed and integrated into a geological model of alteration and fluid movements. The models will be directed towards vectoring potentially higher sulphide mineral occurrences in altered basement rocks and potential sites of uranium deposition in cover sequence rocks.

TOONDULYA EL4284

Mobilization to the tenement to conduct planned orientation biogeochemical surveying, together with soil and lag sampling, is scheduled for Q1, 2011. The objective of the orientation survey is to evaluate the efficacy of alternative sample media to calcrete for geochemical assessment of dune covered areas comprising the bulk of EL4284 as a prelude to more exhaustive geochemical sampling.

In addition, 3-D modeling of a prominent circular gravity feature in the north-west sector of EL4284 is planned. The objective is to potentially delineate constrained residual gravity features worthy of direct drill testing.

PANTHEON RESOURCES PLC *(Argo principal shareholder)*

The following announcement to the market was made by Pantheon on 28th January 2011:

"The operator of the Tyler County Joint Venture, Vision Gas Resources LLC ("Vision"), has informed Pantheon of further progress at the planned Kara Farms #1H well ("KF#1H"). The Texas Department of Transportation has granted the Joint Venture two permits essential for the final stages both for the completion of the site works for KF#1H and, separately, for a natural gas export pipeline. Rig availability has continued to be tight but there are now signs of this easing to some extent. Vision continues actively to pursue a drilling slot with the intention of spudding the KF#1H well at the earliest opportunity. Once Pantheon is informed by Vision of further developments at KF#1H, it will inform the market."

Mr Jay Cheatham, CEO of Pantheon stated:

"Gaining the approvals necessary to complete final work on the KF#1H drilling location denotes an important step for the Joint Venture and its plans to drill a second well on its exciting Tyler County acreage. Recently, rig utilisation in the Barnett and Haynesville shale plays has witnessed a small decline leading to a modest improvement in rig availability. The outlook for natural gas prices has also improved."

The KF#1H well is designed to test two separate and independent formations, with the Austin Chalk as the main target and an exploration play at a deeper level. According to the JV partners, either of these targets on its own merits would justify drilling a well. The ability, therefore, to test both with a single well, at a modest incremental cost, is considered compelling both from a geological and economic standpoint.

The choice of location of the KF#1H well has been enhanced by the results from the VRU#1 well, which confirmed the existence both of the main Austin Chalk target and the petroleum system. The well location also benefits from the proximity of an existing pre-farm in well. Data obtained from this previous well contributed to the identification of the second, separate high potential target to be investigated by the KF#1H well.

As the major shareholder in Pantheon, Argo shares Pantheon's frustration at continuing delays but notes that success with the KF#1H well may be expected to add significant material value to Argo's shareholders.

CORPORATE

Cash reserves at the end of the December 2010 Quarter stood at \$1,452,359 with no secured debt. The value of the Pantheon Resources Plc investment stood at \$2, 474,715 at an exchange rate of 0.6585.

The Board continues to examine quality commercial opportunities to expand its exploration/development portfolio.

CORPORATE DIRECTORY

Board of Directors

Hugh Herbert Chairman & MD
Meredith Bird Non-Executive Director
Justin Hondris Non-Executive Director

Issued Share Capital

Argo Exploration Ltd has 82,800,000 ordinary shares currently on issue.

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Company Secretary

Melanie Leydin

The information in this report that relates to exploration results, mineral resources and ore reserves is based on information compiled by Dr HK Herbert, who is a Member of the Australasian Institute of Mining and Metallurgy. Dr Herbert has sufficient experience which is relevant to the styles of mineralization and types of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' Dr Herbert consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Quarterly Share Price Activity

	High	Low	Last
Dec 2009	\$0.080	\$0.045	\$0.052
Mar 2010	\$0.115	\$0.040	\$0.065
Jun 2010	\$0.050	\$0.034	\$0.034
Sept 2010	\$0.080	\$0.034	\$0.065
Dec 2010	\$0.135	\$0.064	\$0.125

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Please direct shareholding enquiries to the share registry.