

142 Wicks Road North Ryde
NSW 2113 Australia
PO Box 125 North Ryde
NSW 1670 Australia
Telephone +61 2 **9888 7444**
Facsimile +61 2 9888 9977
Email sydney@coffey.com.au



Memorandum

To	Newcastle office	From	K. Saflian
Attention	ARTHUR LOVE	Date	12 March 2004
cc		Our Reference	COAL RIVER
		Number of pages including this page	4
Subject:	COAL RIVER WORKING PARTY, GEOPHYSICAL TESTING FOR DRILLING TARGETS.		

Arthur,

Just a few short notes to explain the outcomes from the geophysical testing conducted on Tuesday 9 March 2004. I understand that the drift markers have been moved in the days since the work was carried out, and are now situated 6m north. Chainages in the report refer to the original drift positions.

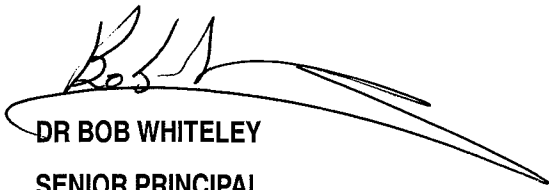
- EM31 and ground penetrating radar data were collected over the road where drift locations had been marked by surveyors.
- EM31 data were collected at 1m intervals, in a straight line between the two powerpoles on site. Chainage 0m is positioned in line with the southern drift marker, chainages increase in a northerly direction.
- GPR data were collected over the same alignment.
- EM31 data identified 4 features.
- Features A1 and A2 are the most prominent and considered the most likely to be associated with a major feature such as a coal mine entrance.
- Feature A1 has a higher than average ground conductivity and is thought to be a result of either high conductive fill materials emplaced as a result of subsidence from the coal mine entrance, or metal objects possibly associated with mining activity, or a metal barrier positioned to block the entrance to the mine workings.
- Feature A2 has a lower than average ground conductivity and is thought to be the result of loose fill or voiding associated with the mine entrance.
- Features B1 and B2 both display slightly higher than average ground conductivity. It is thought that this may be a result of conductive fill being placed as a result of road subsidence, which may possibly be associated with mining activity.
- GPR data shows a change in ground material properties between chainages 6 and 9m
- We would recommend that proving (either by drilling or test pit excavation) be conducted over chainages 6 – 9m and 12-14m, as these are areas where the mine entrance is suspected from the GPR and EM31 data, Care should



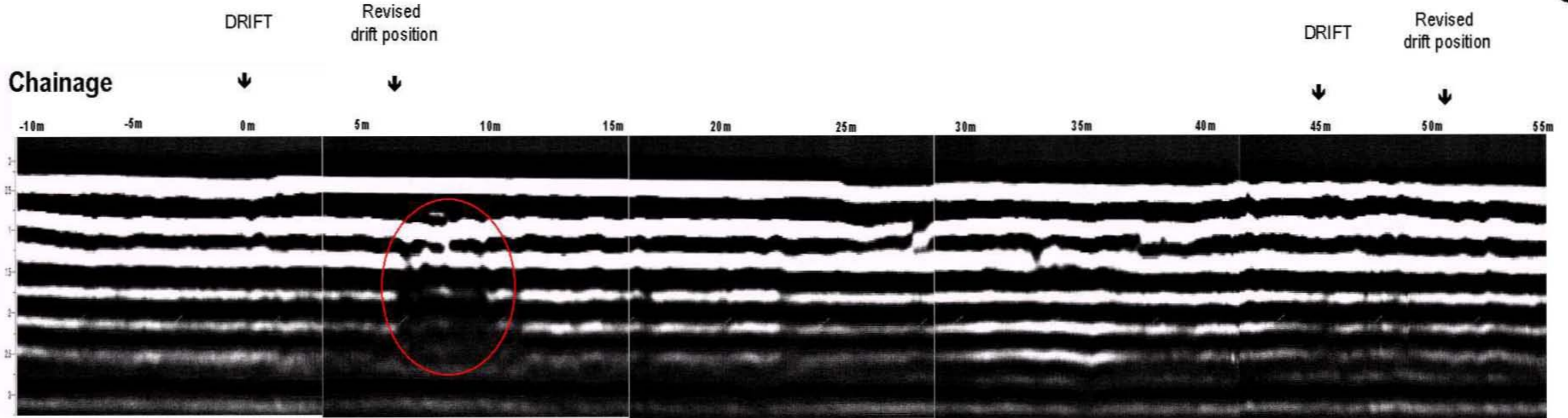
be taken when drilling or excavating in chainages 6 – 9m as there is a likelihood of encountering metal objects or slag fill.

For and on behalf of

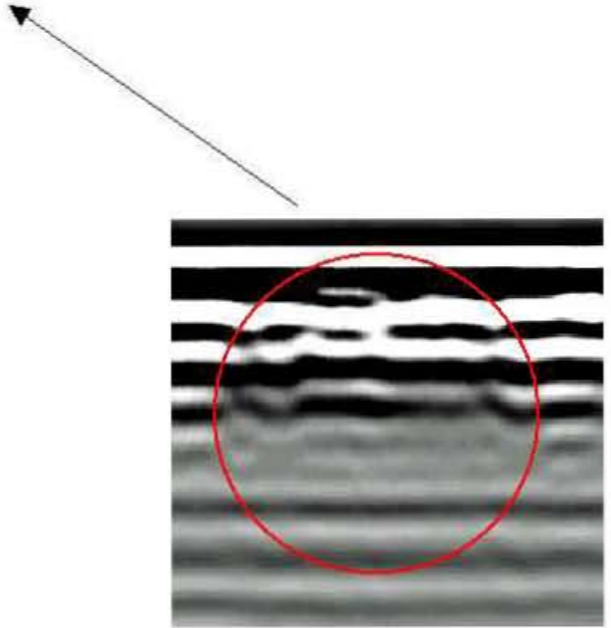
COFFEY GEOSCIENCES PTY LTD



DR BOB WHITELEY
SENIOR PRINCIPAL

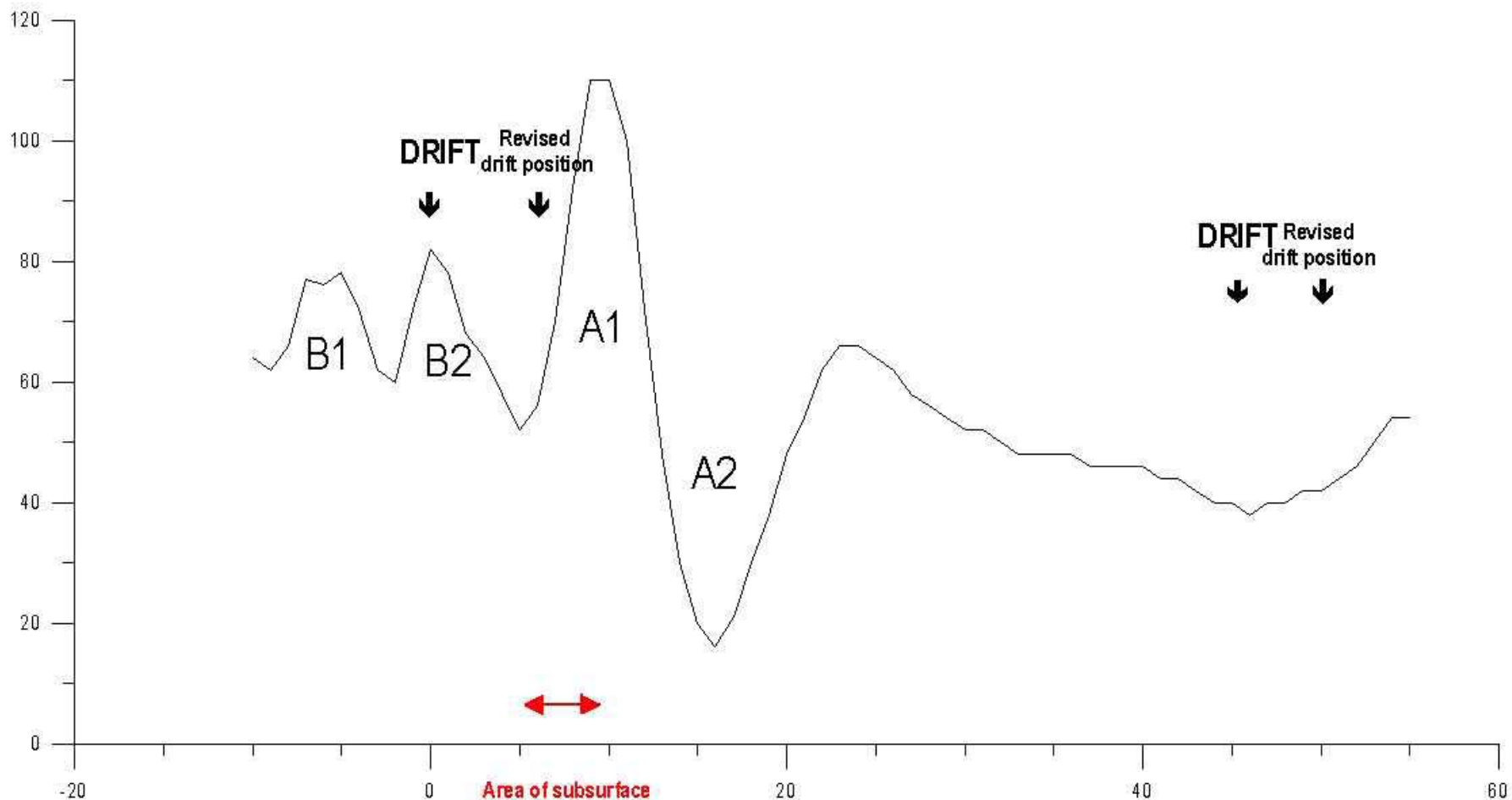


Area of subsurface material variation



Detail of GPR feature

Coffey Geosciences Pty Ltd		ABN 57 056 335 516 ACN 056 335 516	Geotechnical Resources Environmental Technical Project Management
Drawn	KJS	Coal River Working Party Fort Scratchley Historic Coal Mines GPR transect across suspected mine locations	
Approved			
Date	12/03/2004		
Scale	As Shown		



- A1 Metal or possible slag fill
- A2 Loose soil fill, possible air voids
- B1 Conductive soils or possible slag fill associated with road maintenance
- B2

Coffey Geosciences Pty Ltd		ABN 57 056 335 516 ACN 056 335 516	Geotechnical Resources Environmental Technical Project Management
Drawn	KJS	Coal River Working Party Fort Scratchley Historic Coal Mines EM31 transect across suspected mine locations	
Approved			
Date	16/09/2003		
Scale	AS SHOWN		
			S21620/1