To: Newcastle office

Attention: ARTHUR LOVE

From: K. Saflian

Date: 12 March 2004

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 were 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

Coal River Working Party
Fort Scratchley Historic Coal Mines
GPR transect across suspected mine locations

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Geotechnical | Resources | Environmental | Technical | Project Management
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

Area of subsurface material variation as interpreted from GPR

Coal River Working Party
Fort Scratchley Historic Coal Mines
EM31 transect across suspected mine locations