

N08709/01-AB ABL:KLW
30 November 2005

Coal River Working Party
C/- School of Liberal Arts
University of Newcastle
University Drive
CALLAGHAN NSW 2308

Attention: Dr Erik Eklund

Dear Sir

**RE: INVESTIGATION OF CONVICT COAL MINE WORKINGS
BENEATH COLLIERS' POINT, NEWCASTLE EAST
RESULTS OF DRILLING INVESTIGATION**



1. INTRODUCTION

After two years of effort to arrange all necessary permits from the State, Federal and Local Governments, the drilling to confirm the existence of the first coal mine in Australia and probably the Southern Hemisphere was carried out on 26 September 2005.

The position of the boreholes were to coincide with the locations of the three drift entires identified by the surveyors, Monteath & Powys Pty Ltd, from an early plan of Flag Staff Hill Newcastle (1856) Archives Authority Map No. 4604.

The drilling was carried out by Pugsley Blasting Services using an Ingersoll Rand LM690 percussion drilling machine. The drilling rig uses air to flush the cuttings from the hole. This particular drilling rig was chosen due to;

- The rigs ability to drill holes efficiently at any angle;
- The rigs ability to drill through all materials including concrete, soil, rock and coal;
- The rig using air to flush the cuttings from the hole (a highly desirable process to avoid wetting or disturbing the existing condition of these heritage facilities);
- The rigs ability to drill to a depth of up to 25m in a short time (20 minutes);

As a precaution against encountering explosive gases in the mine workings Col Donegan of Coalmine Pty Ltd volunteered to check methane levels during the progress of the drilling. A representative of the Department of Mineral Resources was also present during the drilling. Workforce International provided Traffic Control around the worksite.

Viewing of the boreholes using a CCTV down hole camera was arranged for 30 September 2005. The equipment consisted of a Pierpoint camera, supplied by Coates Hire. The camera's lens is surrounded by LEDs, which can provide sufficient light in a confined space, but supplementary lights are required for large spaces;

Media coverage on both occasions was organised by Gionni Di Gravio.

2. RESULTS OF DRILLING

2.1 Drift 1, Borehole BH1

The first borehole, BH1, was located at the southern most entry, Drift 1, where the coal seam was expected to be below the road level of Fort Drive. BH1 was drilled at a height of 1.35m above road level and up the concrete ramparts angle down at 21° to the horizontal;

The drill penetrated about 0.5m of concrete, then about 2m of weathered Siltstone before encountering **COAL** that continued for a distance of 4.2m from the entry point;

At 4.2m the drill encountered a **VOID** through which the drilling rods could penetrate without the need for the percussion drilling techniques used for drilling through hard material for a total distance of 8.9m from the surface of the rampart;

The methane gas level in the borehole was found to be only 0.1% methane that indicates no significant risk of the presence of explosive gases;

The drill had exposed the coal mine, which had been concealed for 120 year after the entries were sealed in 1885 during construction of the lower ramparts of Fort Scratchley;

The log of the borehole is attached and a section through the boreholes is shown on Figure 1;

The coal seam is essentially horizontal and after correcting for the angle of dip of the BH1 (21°) the void would be about 1.4m high with about 0.6m of coal left in the roof. This agrees with historical and nearby Borehole records that indicate that the coal seam was about 2m high and that only the lower 1.4m was mined. It was reported that the upper 0.6m was inferior coal and was generally not mined;

The borehole was cased for a distance of 3.5m to support the hole and allow access to the void by a down the hole video camera.

2.2 Drift 2, Borehole BH2 and BH3

Flushed with the success of encountering the mine workings in the first hole the rig was moved to the location of Drift 2;

BH2 at Drift 2 was drilled at an angle of 17° from a height of 1.6m above road level;

The drilling encountered about 0.5 of concrete before penetrating about 4m of fill and siltstone. Coal was encountered at about 8m from the face and extended to 8.7m where a void was encountered. The void was less than 2m wide before reaching refusal to push from the drilling rig. The void appeared to be partly full of debris. Again the coal seam was about 2m thick with the elevation of the seam being similar to that of the nearby borehole. This is illustrated of Figure 2 attached;

BH3 was drilled at a steeper angle of 28° in an attempt to intersect the void closer to the face. Again a small void was encountered at a similar elevation as at BH2, but closer to the face of the ramparts;

Casing was inserted into both boreholes to maintain the hole until the video camera was available.

2.3 Drift 3, Borehole BH4 and BH5

BH4 at Drift 3, the most northerly drift near the roundabout was drilled at an angle of 17°. The borehole encountered a small coal seam, but since some doubt remained as to its correct identification the borehole was continued to a total length of 25m without encountering another coal seam. The borehole had apparently passed through the base of the coal seam;

BH5 was designed to be a low angle (8°) borehole drilled from a height of 2.1m to intersect the coal seam over a considerable horizontal distance;

The coal seam was first encountered at a distance of 3.5m and continued to about 10.4m where a void was encountered apparently about 1m wide. The geometry of these two boreholes is illustrated in Figure 3;

Casing was inserted into BH5 but since no void was encountered in BH4 the entry hole was grouted up.

3. VIEWING OF BOREHOLES WITH CCTV CAMERA

The camera was first inserted into BH1, but instead of finding open void the workings appeared to have been filled with soil and rock. The borehole however did encounter some voids. The borehole appears to be aligned adjacent to and parallel with the northern (right) side of the drift where the filling is incomplete or the fill has settled away from the roof and sides. The material in the roof and on the right side of the borehole appears to be intact coal. The edge of the workings do not appear to be vertical, but are undercut possibly in an attempt to extract the better quality lower coal. The camera was able to penetrate for a distance of 8.7m where the drill encountered the coal left in the floor of the seam. The geometry of the drilling findings confirms that the borehole penetrated to the floor of the 2m coal seam at a similar level as that found in the nearby borehole RCA1;

The camera in BH2 also found that the mine workings had been extensively filled with backfill with some voids present adjacent to the edge of the workings. The camera broke into a void that appeared to be a bord or working extending off to the left. Again the borehole appears to indicate that the right side contain some intact material suggesting that the centre of the drift is to the left;

Unfortunately in BH3 the casing was blocked with debris that precluded entry of the camera or light to attempt to better establish the extent of the workings in the area;

In BH5 the void was 10.4m inside the hill at a low angle (8°) and the void was more extensive and again appeared to extend towards the left. Intact coal with clay seams could be viewed directly ahead of the camera with some intact coal in the roof.

4. CONCLUSIONS

The drilling and camera viewing of the boreholes indicates that:

- Extensive workings are present in the coal seam beneath Fort Scratchley (Colliers' Point);
- The coal seam has been identified as the Upper Split of the Dudley (or Dirty) Seam;
- The coal seam is 2m thick and generally the lower 1.4m of the coal seam was mined;
- Workings were encountered at the three identified drift locations;
- The workings have been backfilled with fill brought into the mine from outside, probably as part of the sealing of the workings in 1885, to provide support for the fortifications of Fort Scratchley;
- The filling appears, at least in the Drift 3 location, to extend at least about 10m in from the entry;
- The extent of the filling within the workings is unknown, but complete filling of all the workings

was probably not possible and extensive voids probably remain under the majority of the hill;

- Further investigations consisting of drilling low angle to horizontal holes from Fort Drive could establish the extent of void.

Drilling vertical holes from within Fort Scratchley or in Nobbys Road could also be carried out to assess the extent of the mining and remaining voids.

It is interesting to note that the workings may extend to the west beneath Nobbys Road since it has recently become known that a void was encountered during the drilling of some of the pier holes beneath the units on the western side of Nobbys Road.

Further research and field investigations are required to expand our knowledge of these important workings.

5. ACKNOWLEDGEMENTS

The successful drilling program would not have been possible without the support and enthusiasm of many of our suppliers and supporters including:

- Pugsley Blasting Services – Daniel Broadridge – Supplier of the LM690 percussion drilling rig;
- Coates Hire – Supplier of the CCTV down hole video camera;
- Workforce International – Supply of Traffic Management Plan for the traffic control;
- Coalmine Consulting - Colin Donegan –For carrying out the gas monitoring during the drilling of the boreholes;
- Monteath & Powys Pty Ltd – Research and survey of the drift entries and the boreholes;
- Industrial Heritage – Bob Cook – for video recording the drilling and camera work;
- Newcastle City Council for their cooperation on the day of the drilling;
- Our friends from the media including ABC Radio, NBN Television, Daily Telegraph and Newcastle Herald;
- Department of Mineral Resources – Graham Cowan;
- Members and supporters of the Coal River Working Party particularly:
 - Erik Eklund who determinably drove through the approval process;
 - Gionni Di Gravio who managed the media exposure before, during and after the drilling and camera work allowing us to proceed with the onsite work.
- Staff of Coffey Geosciences Pty Ltd who donated their time to this exciting project.
- Many other supporters too numerous to mention individually

If you have any questions regarding this matter please contact the undersigned.

For and on behalf of
COFFEY GEOSCIENCES PTY LTD



ARTHUR LOVE

APPENDICES

- A Notes on Video Recording
- B Logs of Boreholes
- C Photos – Pages 1 to 3

DRAWINGS

N08709/01-1

Figures 1 to 3

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1 Copy	Coffey Geosciences Pty Ltd Library
3 Copies	Coal River Working Party, C/- University of Newcastle



APPENDIX A

Notes on Video Recording

Coffey 

NOTES ON VIDEO RECORDING

1



TIME	METRES	NOTES ON VIDEO COMMENTS
0.00	DRIFT 1	BH1 Introduction, Gionni Di Gravio, Sam Mackenzie, Arthur Love
0.30	-4.2	First penetration of Camera into pipe gets stuck on join in light probe.
0.41		Looks coaly from end of casing all the way in (fractured by drilling not smeared).
0.45		
1.10	+0.2	At end of pipe with light pole ahead. Pushing through debris in hole (hole is only 110mm diameter).
2.20	2.1	Roof looks like intact, laminated in situ coal.
2.25	2.3	Breaking into larger void with overhang on right. Power cable looped into void. Looks like edge of intact material. Horizontal bedding angled at 30° to viewing direction. Light ahead shows crack/gap between wall and fill material in void.
3.2	2.8	Withdrawing light through crack adjacent to debris filled void.
4.10		Into void with slabs of rock possibly in situ.
6.59		
7.07		Viewing termination of drill hole with coal exposed at end.
7.29	4.0	Close up of end of borehole.
7.48		Slabs of rock at top and right side, could be fill.
8.40		Void on left appears to continue upwards.
8.52		Back in loose void with overhang on right, roof appears intact.
9.17		Overhang on right appears to be intact coal in pillar side. Roof also appears intact.
11.10	DRIFT 2	BH2. Into good void with intact material in roof. Drive appears to go off to left. Withdrawn. Possible intersecting joints in roof.
12.20		Back into void extends to left.
12.35		Look at roof appears intact.
13.04	5.4	Void extends off to right.
15.37	5.5	Point where drill rods refused.
16.10	5.6	Back in void. Void extend to left. Roof appears intact. Maybe some cracks.
18.20	6.5	In void on left. Looks like drill path.
19.07		Out from furthest point of drilling. Fill material loose and clayey.
19.45		Back into void.
20.35		Zero depth indication.

NOTES ON VIDEO RECORDING

2

TIME	METRES	NOTES ON VIDEO COMMENTS
BORE 3	DRIFT 3	
21.25	10.5	End of casing with coal present.
22.39	11.8	Housing in void with intact coal ahead. Clay partings visible in coal. Bright coal. Roof looks intact??
23.39	12.1	Void with coal and clay seams chucks of coal on floor.
24.2		Going back in after clearing lens.
24.34		End of casing.
25.00		Back into void.
25.35		(13.9m loose line).
26.13		Coal falling from roof.
26.42		END

APPENDIX B

Logs of Boreholes



Borehole No. **BH 1**

Engineering Log - Borehole





Sheet 1 of 1
Office Job No.: **N08709/01**Client: **COAL RIVER WORKING PARTY**Date started: **26.9.2005**

Principal:

Date completed: **26.9.2005**Project: **COAL RIVER, MINE WORKING, FORT DRIVE, NEWCASTLE**Logged by: **SJK**Borehole Location: **REFER TO DRAWING**

Checked by:

drill model and mounting: Percussion Drill LM690		Easting:		slope: -21.2°		R.L. Surface: 13.90	
hole diameter: 100 mm		Northing		bearing:		datum: AHD	
drilling information				material substance			
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	material	structure and additional observations
LM690		C				FILL: CONCRETE, grey.	FILL - CONCRETE
					1	FILL: Gravelly Clayey SAND, grey to pale brown.	FILL / RESIDUAL SOIL
					2	Grading into rock?	
				13	3	COAL: black.	RCA1 RL12.7m± WEATHERED COAL
		N	None Observed		4	NO CORE:	VOID
					5		
				12	6		
					7		
					8		
				11	9	Borehole terminated due to end of void. Borehole BH 1 terminated at 8.9m	RCA1 RL10.7m± Some resistance.
					10		

method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit *bit shown by suffix e.g. ADT	support M mud N nil C casing penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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BOREHOLE N08709-01.GPJ COFFEY.GDT 16.01.06

Form GEO 5.3 Issue 3 Rev.2

Borehole No. **BH 2**




Engineering Log - Borehole

Sheet 2 of 2
Office Job No.: **N08709/01**Client: **COAL RIVER WORKING PARTY**Date started: **26.9.2005**

Principal:

Date completed: **26.9.2005**Project: **COAL RIVER, MINE WORKING, FORT DRIVE, NEWCASTLE**Logged by: **SJK**Borehole Location: **REFER TO DRAWING**

Checked by:

drill model and mounting: Percussion Drill LM690		Easting:		slope: -16.8°		R.L. Surface: 13.35			
hole diameter: 100 mm		Northing		bearing:		datum: AHD			
drilling information				material substance					
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	structure and additional observations		
LM690		N				NO CORE: (continued)			
						Borehole terminated dur to end of void. Borehole BH 2 terminated at 10.5m	RCA2 RL10.2m±		
					11				
					10				
					12				
					13				
					14				
					15				
					16				
					17				
					18				
					19				
					20				
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit *bit shown by suffix e.g. ADT				support M mud N nil C casing penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow water outflow		notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal		classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

BOREHOLE N08709-01.GPJ COFFEY.GDT 16.01.06

Form GEO 5.3 Issue 3 Rev.2

Borehole No. **BH 4**

Engineering Log - Borehole

Sheet 1 of 3
Office Job No.: **N08709/01**Client: **COAL RIVER WORKING PARTY**Date started: **26.9.2005**

Principal:

Date completed: **26.9.2005**Project: **COAL RIVER, MINE WORKING, FORT DRIVE, NEWCASTLE**Logged by: **SJK**Borehole Location: **REFER TO DRAWING**

Checked by:

drilling information		material substance			
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres
LM690		N		12	
				1	
				2	
				3	
				4	
				5	
				6	
				7	
				8	
				9	
				10	

method	support	notes, samples, tests	classification symbols and soil description	consistency/density index
AS auger screwing*	M mud N nil	U ₅₀ undisturbed sample 50mm diameter		VS very soft
AD auger drilling*	C casing	U ₆₃ undisturbed sample 63mm diameter		S soft
RR roller/tricone		D disturbed sample		F firm
W washbore		N standard penetration test (SPT)		St stiff
CT cable tool		N* SPT - sample recovered		VSt very stiff
HA hand auger		Nc SPT with solid cone		H hard
DT diatube		V vane shear (kPa)		Fb friable
B blank bit		P pressuremeter		VL very loose
V V bit		Bs bulk sample		L loose
T TC bit		E environmental sample		MD medium dense
*bit shown by suffix e.g. ADT		R refusal		D dense
				VD very dense

BOREHOLE N08709-01.GPJ COFFEY.GDT 16.01.06

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Borehole No. **BH 4**

Engineering Log - Borehole

Sheet 2 of 3
Office Job No.: **N08709/01**Client: **COAL RIVER WORKING PARTY**Date started: **26.9.2005**





Principal:

Date completed: **26.9.2005**Project: **COAL RIVER, MINE WORKING, FORT DRIVE, NEWCASTLE**Logged by: **SJK**Borehole Location: **REFER TO DRAWING**

Checked by:

drill model and mounting: Percussion Drill LM690 Easting: slope: -17° R.L. Surface: 12.10
hole diameter: 100 mm Northing bearing: datum: AHD

drilling information						material substance									
method	penetration			support	water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa	structure and additional observations
	1	2	3												
LM690				N							SANDSTONE: grey. (continued)	D / M		100 200 300 400	
							9	11							
								12							
								13							
							8	14							
								15							
								16							
								17							
							7	18							
								19							
								20							

method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit *bit shown by suffix e.g. ADT	support M mud N nil C casing penetration 1 2 3 4  water  10/1/98 water level on date shown  water inflow  water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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Borehole No. **BH 4**

Engineering Log - Borehole





Sheet 3 of 3
Office Job No.: **N08709/01**Client: **COAL RIVER WORKING PARTY**Date started: **26.9.2005**

Principal:

Date completed: **26.9.2005**Project: **COAL RIVER, MINE WORKING, FORT DRIVE, NEWCASTLE**Logged by: **SJK**Borehole Location: **REFER TO DRAWING**

Checked by:

drill model and mounting: Percussion Drill LM690		Easting:		slope: -17°		R.L. Surface: 12.10	
hole diameter: 100 mm		Northing		bearing:		datum: AHD	
drilling information				material substance			
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	structure and additional observations
LM690		N	None Observed		21	SANDSTONE: grey. (continued)	D / M
					22		
					23		
					24		
					25		
					26	Borehole BH 4 terminated at 25m	
					27		
					28		
					29		
					30		

method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit *bit shown by suffix e.g. ADT	support M mud N nil C casing penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow	notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal	classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit	consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense
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Borehole No. **BH 5**





Engineering Log - Borehole

Sheet 1 of 2
Office Job No.: **N08709/01**Client: **COAL RIVER WORKING PARTY**Date started: **26.9.2005**

Principal:

Date completed: **26.9.2005**Project: **COAL RIVER, MINE WORKING, FORT DRIVE, NEWCASTLE**Logged by: **SJK**Borehole Location: **REFER TO DRAWING**

Checked by:

drill model and mounting: Percussion Drill LM690		Easting:		slope: -8.5°		R.L. Surface: 12.60													
hole diameter: 100 mm		Northing		bearing:		datum: AHD													
drilling information				material substance															
method	penetration 1 2 3	support water	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro- meter kPa 100 200 300 400	structure and additional observations							
LM690		C						FILL: CONCRETE, grey.	D			FILL - CONCRETE							
					1		SC	FILL: Gravelly Clayey SAND,	D / M			FILL							
					2		GP	FILL: GRAVEL, fine to medium grained, angular.				FILL - Imported							
								Clayey SAND: grey.	M			FILL / RESIDUAL SOIL							
					3														
					4			COAL: black.	D / M			WEATHERED COAL							
					5														
					6														
					7														
					8														
					9														
					10														
method AS auger screwing* AD auger drilling* RR roller/tricone W washbore CT cable tool HA hand auger DT diatube B blank bit V V bit T TC bit *bit shown by suffix e.g. ADT				support M mud N nil C casing penetration 1 2 3 4  no resistance ranging to refusal water  10/1/98 water level on date shown  water inflow  water outflow				notes, samples, tests U ₅₀ undisturbed sample 50mm diameter U ₆₃ undisturbed sample 63mm diameter D disturbed sample N standard penetration test (SPT) N* SPT - sample recovered Nc SPT with solid cone V vane shear (kPa) P pressuremeter Bs bulk sample E environmental sample R refusal				classification symbols and soil description based on unified classification system moisture D dry M moist W wet Wp plastic limit WL liquid limit				consistency/density index VS very soft S soft F firm St stiff VSt very stiff H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense			

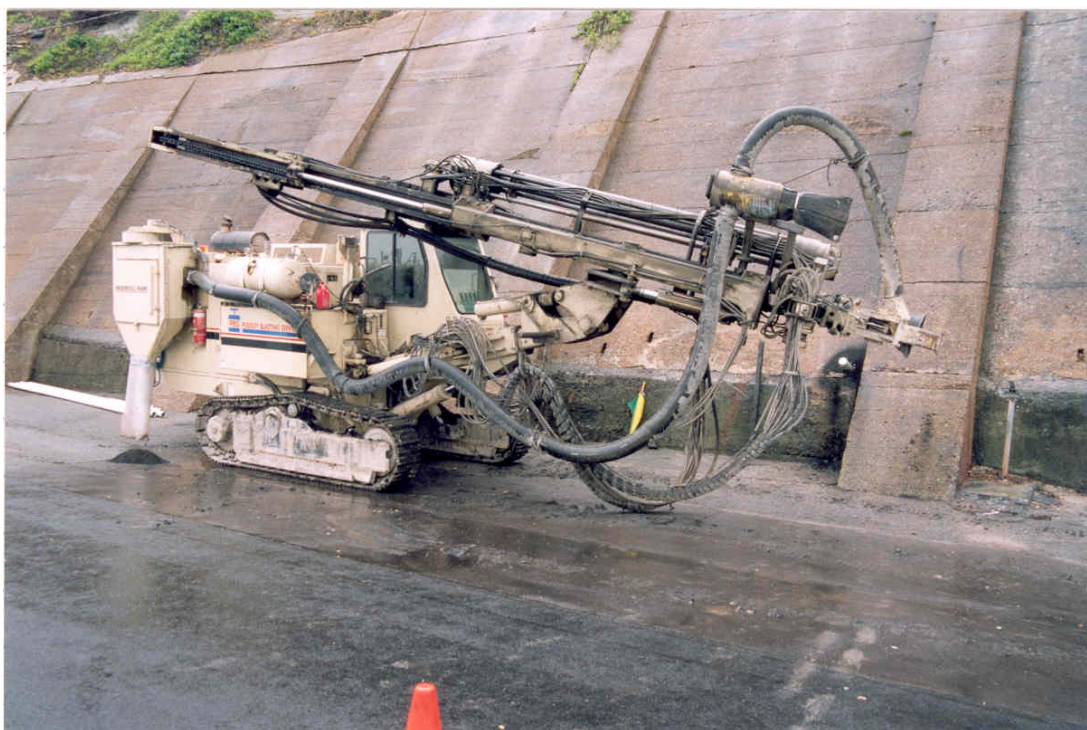
BOREHOLE N08709-01.GPJ COFFEY.GDT 16.01.06

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APPENDIX C

Photos – Pages 1 to 3

Coffey 



DRIFT 1 – After completion of Drilling



DRIFT 2 – Drilling of Second Borehole (BH3)

Coffey Geosciences Pty Ltd ACN 056 335 516		Geotechnical Resources Environmental Technical Project Management	
Drawn	NLS	COAL RIVER WORKING PARTY INVESTIGATION OF CONVICT COAL MINE WORKINGS COAL RIVER PRECINCT – EAST NEWCASTLE PHOTOGRAPHS	Drawing no:
Approved			1 of 3
Date	16-01-06		
Scale	NTS		Job no: N08709/01AB



DRIFT 2 – Testing for Explosive Gas in Borehole



DRIFT 3 – Drilling of Borehole

Coffey Geosciences Pty Ltd ACN 056 335 516		Geotechnical Resources Environmental Technical Project Management	
Drawn	NLS	COAL RIVER WORKING PARTY INVESTIGATION OF CONVICT COAL MINE WORKINGS COAL RIVER PRECINCT – EAST NEWCASTLE PHOTOGRAPHS	Drawing no:
Approved			2 of 3
Date	16-01-06		
Scale	NTS		Job no: N08709/01AB

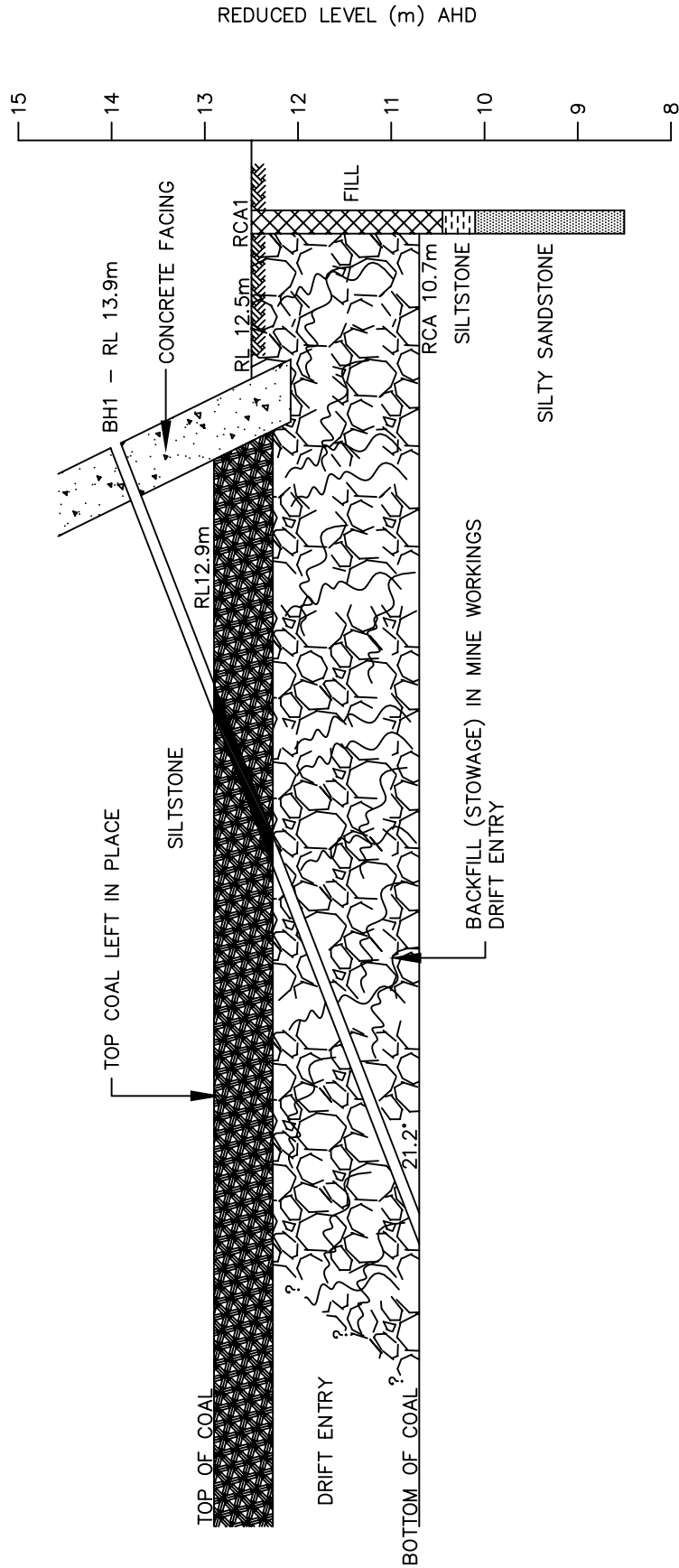


DRIFT 2 – Coal Mine working in BH3 as reviewed with CCT Camera

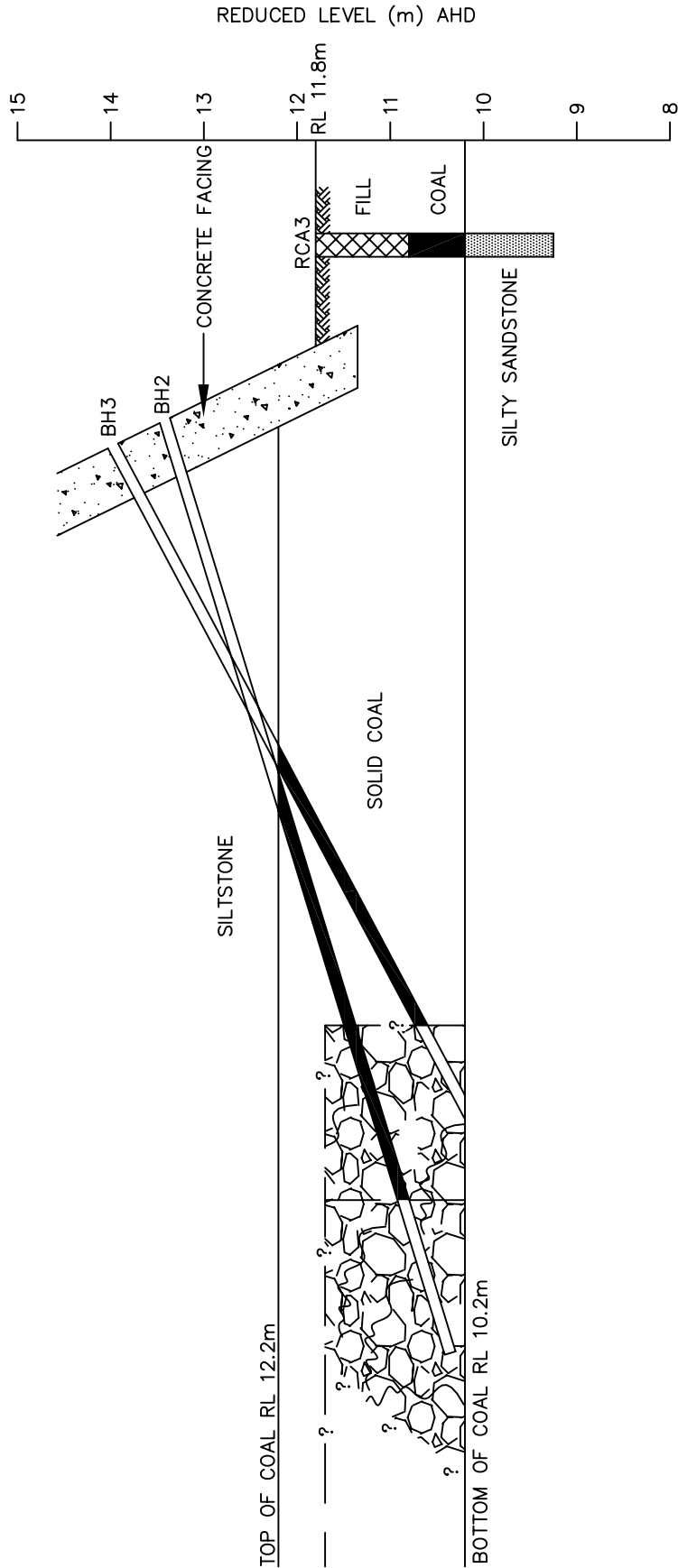


DRIFT 3 – Intact coal in BH 5 as reviewed CCT Camera

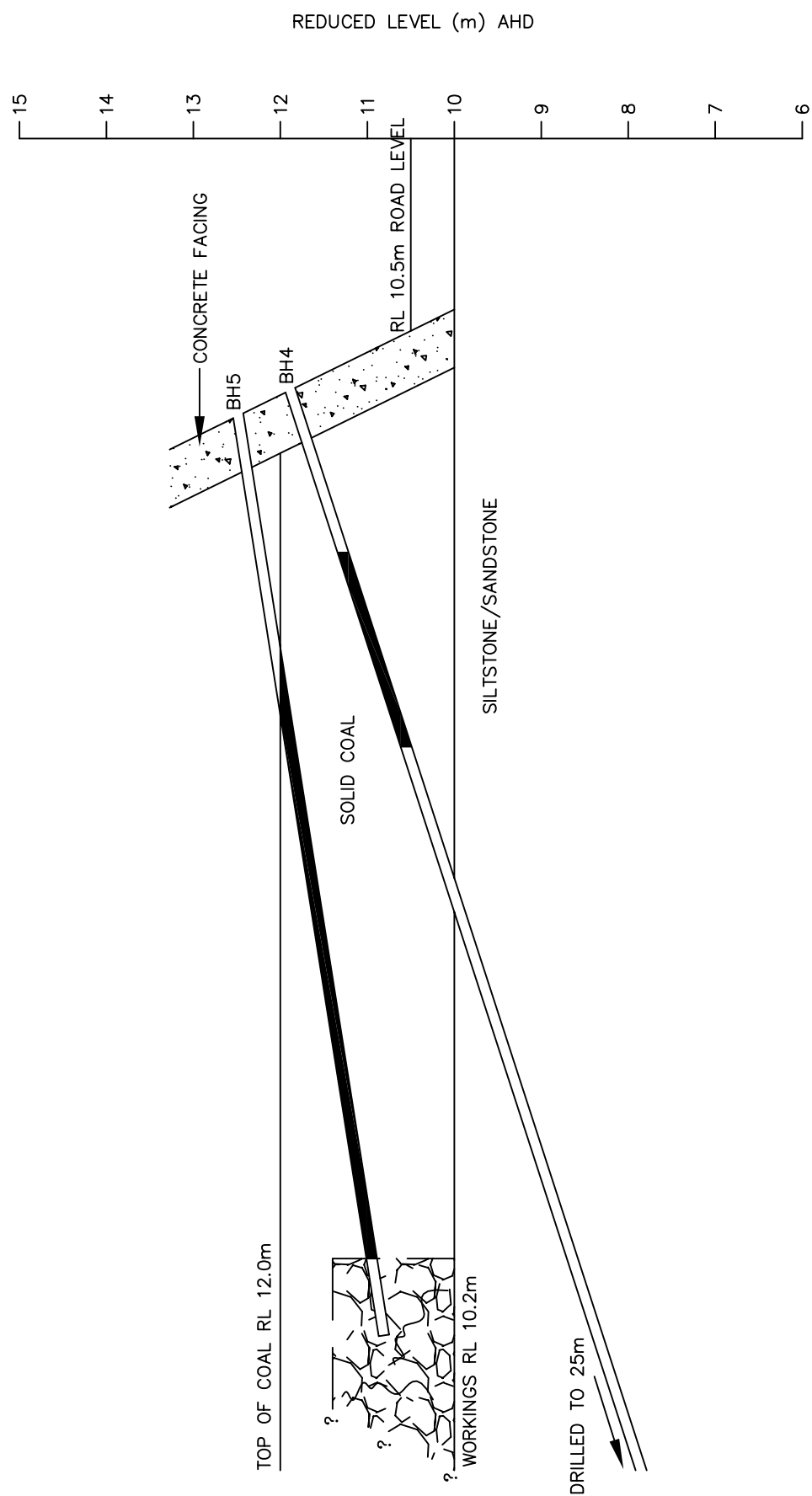
Coffey Geosciences Pty Ltd ACN 056 335 516		Geotechnical Resources Environmental Technical Project Management	
Drawn	NLS	COAL RIVER WORKING PARTY INVESTIGATION OF CONVICT COAL MINE WORKINGS COAL RIVER PRECINCT – EAST NEWCASTLE PHOTOGRAPHS	Drawing no:
Approved			3 of 3
Date	16-01-06		
Scale	NTS		Job no: N08709/01AB



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ACN 058 335 516										Drawing No:	
COAL RIVER WORKING PARTY										FIGURE 1	
INVESTIGATION OF COAL POINT										Job No: N08709/01-AA	
CONVICT COAL MINE WORKING											
DRIFT 1											
Revision	Comments			Drawn	Approved	Date	Drawn	Approved	DMW		
	Drawing modified from plan provided by client										
										30/11/05	
										1: 75	



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<div>Revision</div>										COAL RIVER WORKING PARTY INVESTIGATION OF COAL POINT CONVICT COAL MINE WORKING DRIFT 2										Drawing No: FIGURE 2							
																				DMW		Job no: N08709/01-AA					
																				Drawn				Approved		Date	
Comments										Drawn		Approved		Date		DMW											
Drawing modified from plan provided by client																											
																30/11/05											
																1:75											



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Revision	Comments		Drawn	Approved	Date	Drawn	DWV	COAL RIVER WORKING PARTY INVESTIGATION OF COAL POINT CONVICCT COAL MINE WORKING DRIFT 3 Drawing No: FIGURE 3 Job no: N08709/01-AA				
	Drawing modified from plan provided by client						Approved					
							Date					
							Scale					
							1: 75					

