ASHTON LONGWALL 6A – END OF PANEL SUMMARY REPORT

1 INTRODUCTION

This report has been prepared in conjunction with the SCT Operations Pty Ltd (SCT) Longwall 6A – End of Panel Subsidence Report and the Aquaterra Longwall 6A End of Panel Summary Report.
The combination of these reports were prepared to satisfy the requirements of the *Subsidence Management Plan Approval, Ashton Coal Mine Extraction "Longwalls 5-6 & Miniwalls 7-8 only", Clause 17* and the *Ashton Coal Project (ACP) Development Consent No. 309-11-2001MOD4i, Clause 3.24.*

End of Panel Report

SMP Clause 17: Within 4 months of the completion of each longwall panel, an end of panel report must be prepared to the satisfaction of the Director Environmental Sustainability. The end of panel report must:

a) include a summary of the subsidence and environmental monitoring results for the applicable longwall panel;
b) include an analysis of these monitoring results against the relevant;
   - impact assessment criteria;
   - monitoring results from previous panels; and
   - predictions in the SMP and EIS;
c) identify any trends in the monitoring results over the life of the activity; and
d) describe what actions were taken to ensure adequate management of any potential subsidence impacts due to longwall mining.

Development Consent (DC) (MOD4) Clause 3.24: Within 4 months of the completion of each longwall/miniwall panel, or as otherwise permitted by the Director-General of DII, the Applicant shall, to the satisfaction of the Director-General of DII:

a) prepare an end-of-panel report:
   - reporting all subsidence effects (both individual and cumulative) for the panel and comparing subsidence effects with predictions;
   - describing in detail all subsidence impacts (both individual and cumulative) for the panel;
   - discussing the environmental consequences for all man-made and natural features impacted by subsidence; and
   - comparing subsidence impacts and environmental consequences with predictions; and
b) submit the report to DII, and provide copies to the CCC, the Department, DECCW, NoW and any other relevant agency.

2 BACKGROUND

Longwall 6A began extraction on the 6 July 2010 and completed longwall mining on 23 November 2010. Longwall 6A was 1,235m long, 205m wide and was mined without any unexpected impact to the surface environment or infrastructure above it.
The effects of subsidence were monitored in accordance with the document Subsidence Management Plan - Longwall Miniwall Panels 5-9"; this included both regular survey monitoring and visual inspection of both land features and infrastructure.

3 Mine Subsidence

The Pikes Gully Seam section mined along the length of Longwalls 1 to 6A at Ashton Underground Mine. Mining height is nominally in the 2.5m to 2.6m range. The seam dips to the southwest at a grade of up to 1 in 10. Overburden ranges in thickness from 168m at the start of the longwall panel to 132m at the take off end. The final extraction void is nominally 216m. This includes the 5.5m width of development drivage either side of the longwall block. Maingate chain pillars are at a centre to centre width and length of 30m and 150m respectively.

Ashton's longwall mining operation commenced in February 2007. Since then 6 panels have been completed with the 7th currently being mined. Longwall 6A was completed in June 2010. The progress of longwall extraction is shown in **Figure 1**.

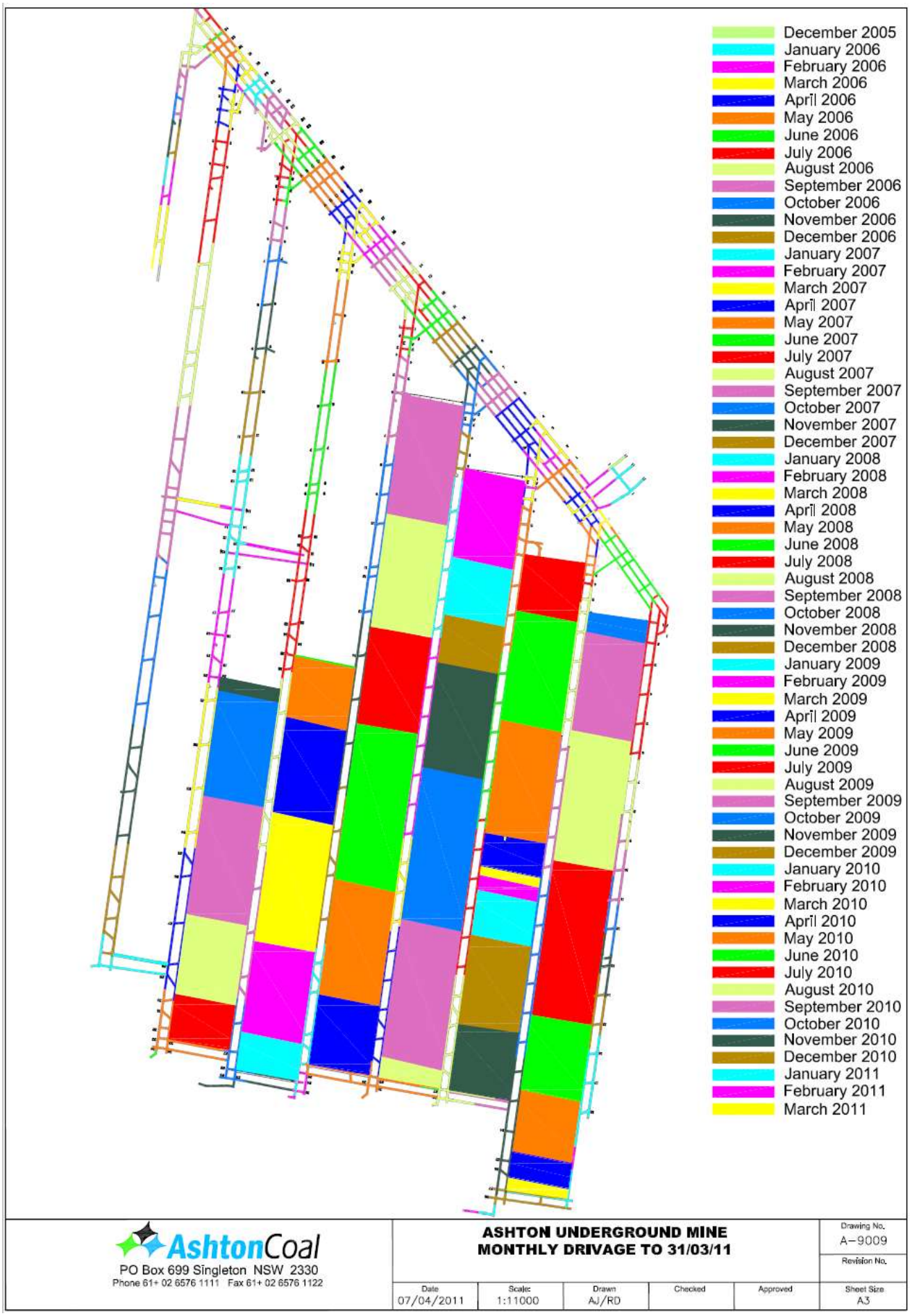

Figure 1: Progression of Longwall Extraction

4 MONITORING

Ashton Coal has monitored the subsidence movement on the surface during the extraction of Longwall's 1-6A using longitudinal subsidence lines. These are located over the start and finish lines of each panel and a main cross line extending over all six panels. All panels have monitoring data for each start and end lines and various cross lines relevant to the panel, surface features or strata features. Several other subsidence lines have been used to monitor the slope leading down to Glennies Creek, closure across the New England Highway, and subsidence across a dyke. These locations can be seen in **Figure 2.**

The following table (**Table 1)** outlines the maximum subsidence parameters predicted and recorded during regular survey of subsidence lines as the longwall passed each location.

Subsidence monitoring over Longwall 6A consisted of regular survey of centreline 1 (CL1), centreline 2 (CL2) and cross line 5 (XL5). The frequency and results of this have been maintained per monitoring document 05/1688 *Ashton Mine Subsidence Monitoring Programme Longwall 5-6.* This information was supplied to the Principal Subsidence Engineer.

Visual and survey monitoring of the existing 2 pole 132kV power structure over Longwall 6A is undertaken regularly. **Appendix 1**, **Figure 4** shows the 2 pole structure post stays being fitted. The survey data was recorded and again supplied to the Principal Subsidence Engineer as per the *Ashton Mine Subsidence Monitoring Programme Longwall 5-6.* The effects of subsidence on this structure can be seen in **Appendix 2**. A maximum of 1.41m of subsidence has been recorded on the power poles to date. Monitoring of this power pole set will continue during the first section of Longwall 7A extraction.

Over Longwall 7A, the existing 2 pole 132kV power structure will be monitored by survey methods. The results of this will be discussed further in the LW7A End of Panel Report.

Table 1: Subsidence of Mined Longwall Panels - Predicted vs. Actual (SCT End of Panel Subsidence Report, 2011)

	Maximum Predicted EIS	Maximum Predicted SMP	Maximum Measured			
North End of LW1			**CL2**	**XL8**		
Subsidence (mm)	1430	1800	1528	1500		
Tilt (mm/m)	122	244	100	103		
Horizontal Movement (mm)	-	>500	476	500		
Tensile Strain (mm/m)	16	73	40	15		
Compressive Strain (mm/m)	25	98	28	27		
Remainder of LW1			**CL1**	**XL5**		
Subsidence (mm)	1690	1700	1318	1436		
Tilt (mm/m)	60	141	60	75		
Horizontal Movement (mm)	-	300-500	480	503		
Tensile Strain (mm/m)	8	42	49	17		
Compressive Strain (mm/m)	12	56	23	24		
Longwall 2			**CL1**	**CL2**	**XL5**	
Subsidence (mm)	1690	1600	1296	1513	1266	
Tilt (mm/m)	91	102	40	82	78	
Horizontal Movement (mm)	-	300-500	440	298	390	
Tensile Strain (mm/m)	12	30	17	16	11	
Compressive Strain (mm/m)	18	41	16	32	28	
Longwall 3			**CL1**	**CL2**	**XL5**	
Subsidence (mm)	1500	1600	1420	1354	1429	
Tilt (mm/m)	65	78	41	48	97	
Horizontal Movement (mm)	-	300-500	463	345	394	
Tensile Strain (mm/m)	9	23	10	17	22	
Compressive Strain (mm/m)	13	31	7	18	24	
Longwall 4			**CL1**	**CL2**	**XL5**	**XL10**
Subsidence (mm)	1430	1600	1397	1194	1546	1263
Tilt (mm/m)	46	78	36	40	53	33
Horizontal Movement (mm)	-	300-500	230	560	360	258[1]
Tensile Strain (mm/m)	6	23	10	18	9	6
Compressive Strain (mm/m)	9	31	9	67	9	10
Longwall 5			**CL1**	**CL2**	**XL5**	
Subsidence (mm)	1430	1600	1266	1326	1376	
Tilt (mm/m)	29	78	23	29	35	
Horizontal Movement (mm)	-	300-500	399	339	360	
Tensile Strain (mm/m)	4	23	21	6	5	
Compressive Strain (mm/m)	5	31	9	8	17	
Longwall 6A			**CL1**	**CL2**	**XL5**	
Subsidence (mm)	1430	1600	1405	1279	1362	
Tilt (mm/m)	30	57	19	25.4	39	
Horizontal Movement (mm)	-	300-500	294	246	260	
Tensile Strain (mm/m)	4	17	7	10	8	
Compressive Strain (mm/m)	6	23	7	10	9	

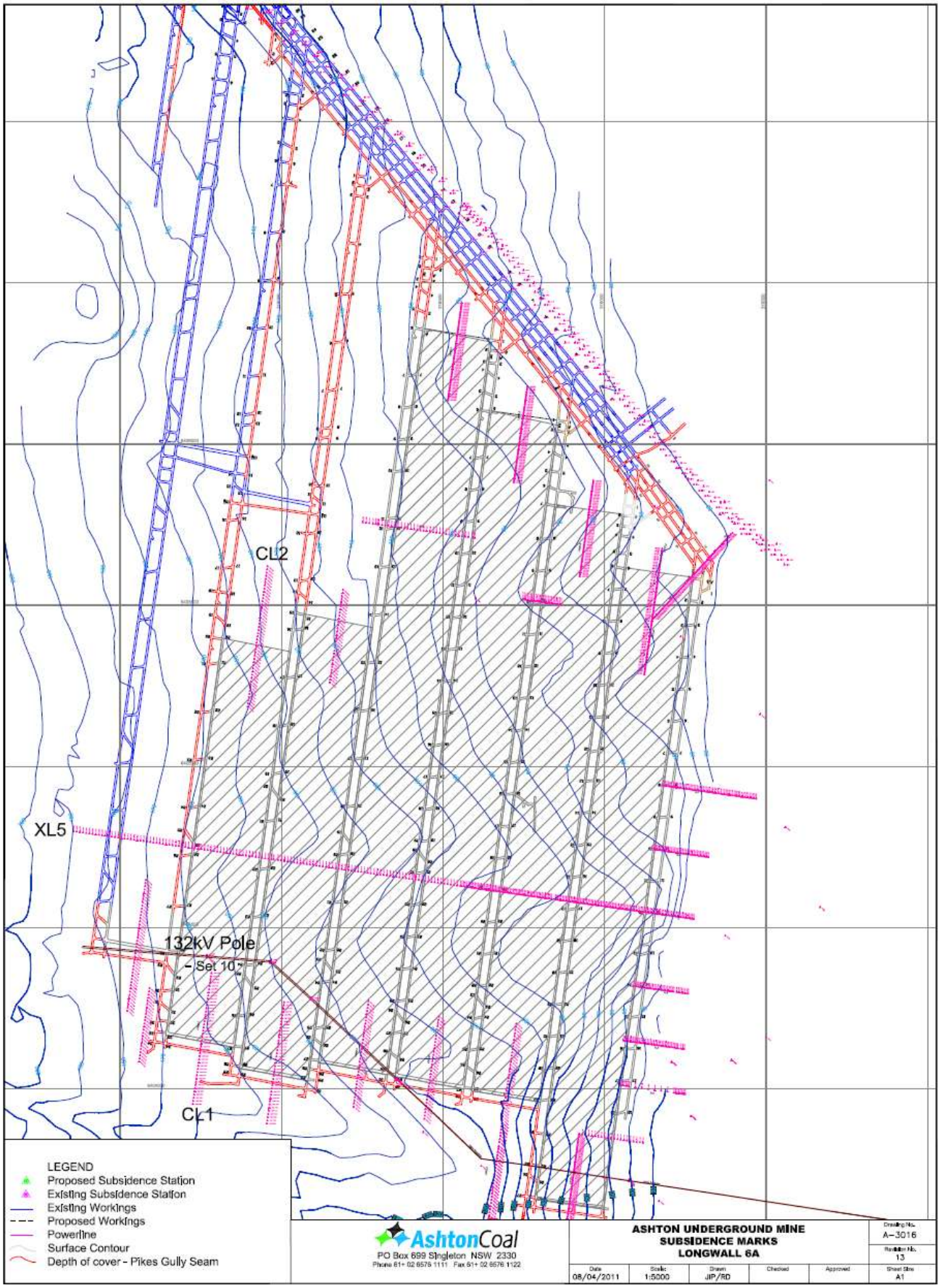

Figure 2: Plan location of Monitoring Cross Lines. Also shown is the 132kV power line monitoring points (pole set 10).

Aboriginal Heritage

Aboriginal Conservation Heritage Management Plan (ACHMP) procedures were followed during mining and prior to and during surface remediation. It is noted that there were no previously recorded AHIMS sites undermined during LW6A extraction. Prior to undertaking subsidence remediation works, pre disturbance inspections were conducted over the area to be disturbed. This ensured all known archaeological sites were pegged and new sites identified during pre-disturbance inspections were pegged, logged and GPS positions recorded. One isolated find and one site with a cluster of objects was identified during this pre-remediation inspection. These were added to the ACOL archaeological register, GPS referenced and pegged and new AHIMS cards completed. During mining the Witter (2002) survey site locations were monitored to ensure no disturbance occurred due to mine subsidence.

The implementation of the ACHMP is considered to have been effective to date. The process of assessing the potential impacts on artefact sites based on predictions of crack locations has been positive. One object has been the moved in accordance with AHIP 2783 during the mining of Longwall 1. No objects were moved during mining of Longwalls 2, 3, 4, 5 or 6A. During mining of LW4 the Oxbow site was undermined. This site is fenced in with authorised access only. Due to the sensitivity of this area and to date no remediation has been carried out. This site has maingate and tailgate associated cracking but is not considered a safety risk due to their size and the limited personnel/stock access to the area. With regard to other sites, ongoing visual monitoring of crack positions has shown no impact to known objects. Due to diligent visual monitoring the need for surface destructive remediation measures has not been required at any known sites post-LW1.

While preservation is the ongoing aim of ACOL, due to the nature of subsidence impacts and the potential for emergency remediation works being required due to safety related issues a submission has been made for a blanket S90 over the entire UG area.

A permit to disturb system operates onsite to take into account a range of issues, including Archaeology, flora and fauna, survey location of boreholes and other surface infrastructure (either buried or otherwise). This has proved successful as it requires systematic investigation of a range of potential issues prior to land disturbance activities. During surface works of LW6A, no remediation occurred in the immediate vicinity of any archaeological site. Each site was demarcated with pegs and 'caution tape' to make operators aware of sites within the working area. Each operator was required to undergo an induction reassessment in the ACHMP and shown the locations of sites within the work area prior to commencing work. This level of education and communication proved invaluable in the non disturbance of any archaeological site.

5 Subsidence Impacts

Surface subsidence cracks have developed along each edge of the Longwall panels. These run along the projected gateroad edge. Cracks are particularly evident on the up-hill side of each panel. Note: Photos of subsidence impacts are documented in **Appendix 1: Photos** (Figures 4-12)

In most places, these cracks have been rehabilitated by ripping the surface using a D7 bulldozer to reduce surface water ingress and reduce the risk of injury to stock. Following ripping the surface was bladed off. For Longwall 6A remediation ACOL chose to trial the effectiveness of a **pad-foot roller** on the ripped areas. The roller re-compacted the ripped areas with numerous environmental, safety and operational benefits. The results of this were positive with the surface being returned to a smooth, hard state. To improve regeneration of grass in the area, the rolled areas were harrowed off. Rolling of ripped areas also has ongoing benefits of allowing secondary cracking to be easily identified. Prior to rolling, identifying such cracks was extremely difficult as the surface was scoured.

Previous remediation works on cracks through the Voluntary Conservation Area above Longwall 1 were rehabilitated using a small excavator and skid steer loader. Cracked areas in open fields were remediated using a D6 dozer with ripping tines. Once the area was ripped, the ground was flattened using the blade. The extent of subsidence remediation at the goaf edge for all longwall's is outlined in **Figure 3.** A typical gateroad crack which developed is shown in **Figure 5.** Remediation of the area after ripping, rolling and horrowing is shown in **Figure 6**. Other remediation works were completed using a motor grader. This was primarily tasked with access road repairs. Where subsidence effects were more than small surface cracks the road was ripped by the grader prior to smoothing with the blade. Road works to repair subsidence damage for LW6A extraction were not required due to the road not being undermined.

Initial caving over the start of Longwall 6A was typical of the caving behaviour observed elsewhere at ACOL and consistent with predicted subsidence behaviour. No crack was observed over the LW6A start line however a trough formed. Remediation of this trough involved ripping, rolling and harrowing. **Figure 7** shows the finished remediation of the start line trough. Post LW5 remediation (as reported in the LW5 End of Panel report) cracking was found over the Longwall 4 take off roadway. This was pegged and marked with 'caution tape'. Remediation of this crack occurred during LW6A remediation. Remediation involved compaction of the crack edges into the crack so that the surface was relatively level again. No ripping occurred in this area due to its proximity to some Archaeological sites. Due to the shallow depth of the crack, this method of remediation has proved positive.

Ponding over Longwall 3 (at chainage 530m) has been left as a water storage area. Because of its size and tendency to fill after rain events repair will not occur. Other areas where ponding has become evident is three zones over Longwall 5 (at Chainage 1,090m, 400m and 80m) and Longwall 6A (at Chainage 2,360m and adjoining Dam 10).Ponding above LW6A above Dam 10 is shown in **Figure 12**. All areas of ponding currently pose no safety or environmental issues however will need to be pumped out or have natural drains re-established to prevent continual filling and holding. This is planned as future remediation.

Longwall 6A undermined an unoccupied ACOL dwelling known as the 'Yellow house'. Visual inspections on this dwelling prior to, during and post undermining were recorded in accordance with standard visual subsidence inspections. The dwelling's condition post undermining has remained relatively unchanged with some doors now 'sticking' and some small cracking evident between the roof and wall cornice as shown in **Figure 8**. No repair work is planned on this dwelling due to it not being re-occupied in the foreseeable future.

Two farm dams were undermined during Longwall 6A extraction. Both dams were drained prior to undermining in accordance with ACOL's Surface Water Dams Subsidence Management Plan. Following undermining both dams refilled to previous water storage levels. Dam 10 (small dam) had no visible subsidence damage. The profile formed by subsidence has increased this dams storage area. Currently this dam is full to capacity. Dam 11 (big dam) was observed to have cracking through the walls and floor as the longwall passed beneath it. Cracking then closed up as the ground settled due to this dam being predominantly located mid panel. Following full subsidence, two holes remained in the top of the dam wall. These remnant gateroad cracks were remediated along with the dam wall being re-profiled. Re-profiling was required to create an over-flow around the side of the dam wall rather than over the centre of the wall. This issue was present prior to undermining as shown in **Figure 9**. Post remediation images are attached in **Figure 10.**

No buried cables or overhead lines were disturbed by undermining or repair work of Longwall 6A subsidence cracks. This infrastructure included an overhead 11kV and 132kV power line and buried Telstra cable. The powerline infrastructure to be undermined had rollers installed to prevent any subsidence induced tension on the lines. Powerlines remained visually stable and relatively straight during and post undermining.

The maximum subsidence movements detected over Longwall 6A were less than those predicted in the SMP. This occurred for all survey monitoring lines. Horizontal and vertical movement was within predictions for XL5, CL1 and CL2. Horizontal movement has occurred in the upslope direction above each of the Longwall panels. This movement has predominantly occurred within the longwall panels with limited displacement detected outside the panel. This result is consistent with previously mined panels. Quantitatively horizontal movement, tilt and strains are less than those predicted in the SMP. The results compared to other panels vary slightly due to depth, strata and surface conditions. Following LW1 mining there has been no indication of any significant lateral movement of the steep slope adjacent Glennies Creek or of the New England Highway cutting.

Whilst machinery was on site to repair the LW6A cracking, some remnant cracking over the Longwall 3 and Longwall 4 end lines was repaired. Rather than ripping the cracks, ACOL trialled a new remediation technique which rolled the edges of the crack into the crack. The cracking repaired by this method were primary cracks and had not been remediated previously. The result of rolling was positive with the final ground surface being flat and smooth in comparison to ripping. Due to this technique increasing the remediation quality, all areas ripped over LW6A were rolled and harrowed. **Figure 11** shows the result of rolling and harrowing the LW3 end line cracks. Post remediation results has shown a visual increase in grass growth and an increase in safety for personnel, stock and native fauna as the surface is relatively flat and not rough to travel over. Rolling of cracks is only suitable for shallow cracks due to the limitations of compaction with the roller. For deeper cracks ACOL plans to continue ripping and again follow up by rolling the ripped areas flat as in Longwall 6A remediation.

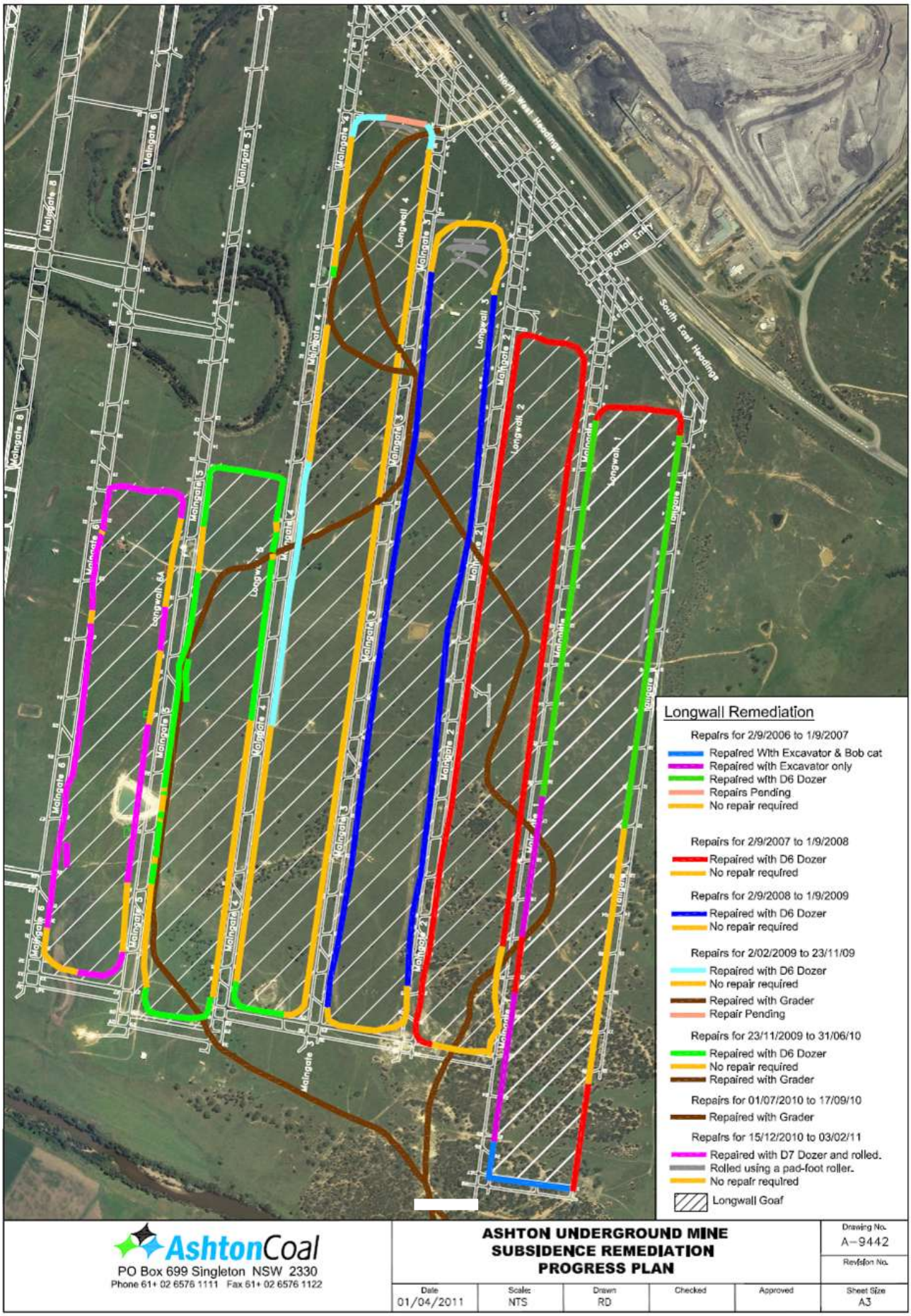

Figure 3: Subsidence remediation progress.

6 APPENDIX 1: PHOTO'S

Figure 4: 2-pole 132kV power line located mid panel in LW6A (Chainage 985m) looking west from 05/04/2011.

Figure 5: Location of gateroad cracking looking north. Gateroad cracking over the Maingate was concealed by heavy grass growth. Slashing occurred prior to remediation to help locate all gateroad cracks in the area.

Figure 6: LW6A gateroad post remediation on 02/02/2011. This view looks north at the flat and compact surface post ripping, rolling and harrowing (Ref: **Figure 5**).

Figure 7: LW6A start line remediation post remediation on 02/02/2011. This photo looks from the tailgate corner to towards the centreline (south-west).

Figure 8: Cracking between the wall and cornice in the 'yellow house'. The shown cracking is the worst observed from within the dwelling post subsidence.

Figure 9: Dam 11 located above the LW6A panel pre undermining on 22/04/2010. The photo was taken looking south west at the centre of the dam wall which is also the lowest point.

Figure 10: Dam 10 post wall re-profiling. The dam wall was re-profiled so that the lowest point of the dam was again the spillway as designed. This was taken on the 02/02/2011 and is looking south-south west (Ref: **Figure 9**).

Figure 11: Longwall 3 end line cracks post remediation on the 02/02/2011. The bare patches are where the crack once existed. This image is looking to the north.

Figure 12: Ponding over LW6A post a rain event on the 16/06/2011. This has filled Dam 10 to capacity with water now occupying a greater area due to subsidence. This image is looking south-south east with the 2-pole 132kV powerline in the background.

7 APPENDIX 2: SURVEY MONITORING RESULTS

Table 2: Ashton Coal Underground Survey Monitoring of 2 pole 132kV Power line.

AshtonCoal — **Ashton Underground - 132kV LW6 SET10 Power Pole Monitoring**

Point	Original East	1:00:00 PM 5/7/2010 North	R.L.
SET10BASE1	317768.3200	6404408.2190	59.8820
SET10BASE2	317768.6430	6404412.4560	60.0690
SET10TOP1	317768.2670	6404408.1080	74.7430
SET10TOP2	317768.8380	6404412.4780	74.7220

LW6 Ch of Poles **2476**

Direction of Longwall Extraction **8.04 16** (hms)

	Test-01	2:00:00 PM 29/7/2010	-110m	Incremental δ						m/day	Total δ						m/day
		LW6 Ch=	2586														
	East	North	R.L.	δEast	δNorth	δR.L.	Hr	Bearing	Distance	Velocity	δEast	δNorth	δR.L.	Hr	Bearing	Distance	Velocity
SET10BASE1	317768.3142	6404408.2041	59.8837	-0.006	-0.015	0.002	#	**201.16 09**	**0.016**	0.001	-0.006	-0.015	0.002	#	**201.16 09**	**0.016**	0.001
SET10BASE2	317768.6362	6404412.4392	60.0736	-0.007	-0.017	0.005	#	**202.02 10**	**0.018**	0.001	-0.007	-0.017	0.005	#	**202.02 10**	**0.018**	0.001
SET10TOP1	317768.2622	6404408.0685	74.7447	-0.005	-0.039	0.002	#	**186.55 43**	**0.040**	0.002	-0.005	-0.039	0.002	#	**186.55 43**	**0.040**	0.002
SET10TOP2	317768.8209	6404412.4397	74.7302	-0.017	-0.038	0.008	#	**204.03 34**	**0.042**	0.002	-0.017	-0.038	0.008	#	**204.03 34**	**0.042**	0.002
	Test-02	4:00:00 PM 5/8/2010	-42m	**Incremental δ**						**m/day**	**Total δ**						**m/day**
		LW6 Ch=	2518														
	East	**North**	**R.L.**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**
SET10BASE1	317768.3174	6404408.2017	59.8670	0.003	-0.002	-0.017	#	**126.52 12**	**0.004**	0.001	-0.003	-0.017	-0.015	#	**188.32 49**	**0.017**	0.001
SET10BASE2	317768.6393	6404412.4353	60.0598	0.003	-0.004	-0.014	#	**141.31 11**	**0.005**	0.001	-0.004	-0.021	-0.009	#	**190.08 03**	**0.021**	0.001
SET10TOP1	317768.2721	6404408.0656	74.7302	0.010	-0.003	-0.014	#	**106.19 37**	**0.010**	0.001	0.005	-0.042	-0.013	#	**173.08 28**	**0.043**	0.001
SET10TOP2	317768.8231	6404412.4335	74.7156	0.002	-0.006	-0.015	#	**160.27 48**	**0.007**	0.001	-0.015	-0.044	-0.006	#	**198.30 44**	**0.047**	0.002
	Test-03	3:00:00 PM 11/8/2010	-3m	**Incremental δ**						**m/day**	**Total δ**						**m/day**
		LW6 Ch=	2479														
	East	**North**	**R.L.**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**
SET10BASE1	317768.3155	6404408.1818	59.8399	-0.002	-0.020	-0.027	#	**185.27 14**	**0.020**	0.003	-0.004	-0.037	-0.042	#	**186.53 51**	**0.037**	0.001
SET10BASE2	317768.6367	6404412.4190	60.0368	-0.003	-0.016	-0.023	#	**189.03 46**	**0.017**	0.003	-0.006	-0.037	-0.032	#	**189.39 47**	**0.038**	0.001
SET10TOP1	317768.1980	6404408.0197	74.7020	-0.074	-0.046	-0.028	#	**238.13 28**	**0.087**	0.015	-0.069	-0.088	-0.041	#	**218.00 18**	**0.112**	0.003
SET10TOP2	317768.7385	6404412.3935	74.6972	-0.085	-0.040	-0.018	#	**244.41 41**	**0.094**	0.016	-0.100	-0.084	-0.025	#	**229.39 38**	**0.131**	0.004
	Test-04	3:00:00 PM 17/8/2010	58m	**Incremental δ**						**m/day**	**Total δ**						**m/day**
		LW6 Ch=	2418														
	East	**North**	**R.L.**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**
SET10BASE1	317768.3550	6404408.0040	59.2750	0.039	-0.178	-0.565	#	**167.28 29**	**0.182**	0.030	0.035	-0.215	-0.607	#	**170.45 14**	**0.218**	0.005
SET10BASE2	317768.6710	6404412.2320	59.5410	0.034	-0.187	-0.496	#	**169.36 22**	**0.190**	0.032	0.028	-0.224	-0.528	#	**172.52 30**	**0.226**	0.005
SET10TOP1	317768.2160	6404407.6070	74.1270	0.018	-0.413	-0.575	#	**177.30 09**	**0.413**	0.069	-0.051	-0.501	-0.616	#	**185.48 45**	**0.504**	0.012
SET10TOP2	317768.7510	6404411.9750	74.1960	0.013	-0.419	-0.501	#	**178.17 21**	**0.419**	0.070	-0.087	-0.503	-0.526	#	**189.48 47**	**0.510**	0.012
	Test-05	2:00:00 PM 23/8/2010	105m	**Incremental δ**						**m/day**	**Total δ**						**m/day**
		LW6 Ch=	2371														
	East	**North**	**R.L.**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**
SET10BASE1	317768.4370	6404408.1850	58.6360	0.082	0.181	-0.639	#	**24.22 21**	**0.199**	0.033	0.117	-0.034	-1.246	#	**106.12 14**	**0.122**	0.002
SET10BASE2	317768.7540	6404412.4060	58.8480	0.083	0.174	-0.693	#	**25.30 06**	**0.193**	0.032	0.111	-0.050	-1.221	#	**114.14 57**	**0.122**	0.002
SET10TOP1	317768.3430	6404407.9740	73.4940	0.127	0.367	-0.633	#	**19.05 17**	**0.388**	0.065	0.076	-0.134	-1.249	#	**150.26 23**	**0.154**	0.003
SET10TOP2	317768.8530	6404412.3470	73.5080	0.102	0.372	-0.688	#	**15.19 60**	**0.386**	0.065	0.015	-0.131	-1.214	#	**173.28 04**	**0.132**	0.003
	Test-06	2:00:00 PM 20/9/2010	416m	**Incremental δ**						**m/day**	**Total δ**						**m/day**
		LW6 Ch=	2061														
	East	**North**	**R.L.**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**
SET10BASE1	317768.4780	6404408.2760	58.4860	0.041	0.091	-0.150	#	**24.15 14**	**0.100**	0.004	0.158	0.057	-1.396	#	**70.09 45**	**0.168**	0.002
SET10BASE2	317768.7970	6404412.5060	58.6780	0.043	0.100	-0.170	#	**23.16 04**	**0.109**	0.004	0.154	0.050	-1.391	#	**72.00 46**	**0.162**	0.002
SET10TOP1	317768.3440	6404408.1380	73.3520	0.001	0.164	-0.142	#	**0.20 58**	**0.164**	0.006	0.077	0.030	-1.391	#	**68.42 49**	**0.083**	0.001
SET10TOP2	317768.8730	6404412.5140	73.3400	0.020	0.167	-0.168	#	**6.49 45**	**0.168**	0.006	0.035	0.036	-1.382	#	**44.11 35**	**0.050**	0.001
	Test-07	3:00:00 PM 25/10/2010	871m	**Incremental δ**						**m/day**	**Total δ**						**m/day**
		LW6 Ch=	1605														
	East	**North**	**R.L.**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**	**δEast**	**δNorth**	**δR.L.**	**Hr**	**Bearing**	**Distance**	**Velocity**
SET10BASE1	317768.4830	6404408.2870	58.4790	0.005	0.011	-0.007	#	**24.26 38**	**0.012**	0.000	0.163	0.068	-1.403	#	**67.21 19**	**0.177**	0.002
SET10BASE2	317768.8040	6404412.5160	58.6730	0.007	0.010	-0.005	#	**34.59 31**	**0.012**	0.000	0.161	0.060	-1.396	#	**69.33 40**	**0.172**	0.002
SET10TOP1	317768.4150	6404408.1380	73.3370	0.071	0.000	-0.015	#	**90.00 00**	**0.071**	0.002	0.148	0.030	-1.406	#	**78.32 28**	**0.151**	0.001
SET10TOP2	317768.9250	6404412.5120	73.3250	0.052	-0.002	-0.015	#	**92.12 09**	**0.052**	0.001	0.087	0.034	-1.397	#	**68.39 15**	**0.093**	0.001