

Subsidence Monitoring For LW416
Springvale Colliery

Total Station Line B

						B Line			B Line			Subsidence Line											
						LW415			LW416			Longwall ID											
									2205.0			Extraction Distance											
						31/07/13			18/11/13			Survey Date											
						35			36			Survey Number											
			Pre-Movement Survey by CEH 14/03/1997 Adjusted CEH to AU Survey Control			Post-Movment Survey by CEH 20/09/2007 Adjusted CEH to AU Survey Control			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Period Movement			Total Movement					
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.				
B-1	233059.152	6302067.448	1119.174																B-1				
B-2	233068.031	6302068.387	1116.658																B-2				
B-3	233081.859	6302069.005	1111.622																B-3				
B-4	233096.847	6302069.219	1110.573																B-4				
B-5	233111.013	6302069.447	1115.555																B-5				
B-6	233125.103	6302069.972	1120.654																B-6				
B-7	233139.562	6302070.149	1124.651																B-7				
B-8	233154.275	6302070.228	1127.803																B-8				
B-9	233169.061	6302070.640	1130.212																B-9				
B-10	233183.843	6302070.191	1132.968																B-10				
B-11	233198.335	6302069.432	1136.555																B-11				
B-12	233213.185	6302068.176	1138.318																B-12				
B-13	233228.238	6302067.743	1136.825																B-13				
B-14	233242.823	6302067.895	1134.419																B-14				
B-15	233257.688	6302068.015	1131.603																B-15				
B-16	233272.226	6302068.256	1127.935																B-16				
B-17	233286.732	6302068.423	1124.483																B-17				
B-18	233301.406	6302069.252	1120.901																B-18				
B-19	233315.842	6302069.727	1116.828																B-19				
B-20	233330.403	6302072.573	1114.982																B-20				
B-21	233344.248	6302075.563	1119.296																B-21				
B-22	233358.836	6302077.026	1123.418																B-22				
B-23	233373.512	6302077.213	1126.659																B-23				
B-24	233388.262	6302077.834	1128.559																B-24				
B-25	233403.253	6302077.787	1128.888																B-25				
B-26	233418.039	6302077.824	1131.723																B-26				
B-27	233432.775	6302077.862	1134.009																B-27				
B-28	233447.600	6302078.529	1136.237																B-28				
B-29	233462.207	6302078.011	1139.482																B-29				
B-30	233476.785	6302078.873	1143.013																B-30				
B-31	233491.400	6302079.093	1145.851																B-31				
B-32	233506.204	6302079.348	1147.512																B-32				
B-33	233521.293	6302079.660	1148.353																B-33				
B-34	233536.192	6302080.105	1148.475																B-34				
B-35	233551.163	6302080.512	1148.475																B-35				
B-36	233566.142	6302080.829	1148.152																B-36				
B-37	233581.130	6302081.390	1147.481																B-37				
B-38	233596.043	6302081.772	1146.518																B-38				
B-39	233611.015	6302082.269	1145.885																B-39				
B-40	233625.943	6302082.808	1145.698																B-40				
B-41	233640.862	6302083.300	1145.554																B-41				
B-42	233655.863	6302083.333	1145.200																B-42				
B-43	233670.769	6302083.659	1145.754																B-43				
B-44	233685.650	6302083.679	1145.978																B-44				
B-45	233700.694	6302083.862	1146.478																B-45				
B-46	233715.575	6302085.089	1147.768																B-46				
B-47	233730.573	6302085.574	1148.804																B-47				
B-48	233745.428	6302086.123	1149.399																B-48				
B-49	233760.525	6302086.620	1149.779																B-49				
B-50	233775.545	6302086.370	1149.784																B-50				
B-51	233790.419	6302088.365	1149.561																B-51				
B-52	233805.361	6302089.310	1149.393																B-52				
B-53	233820.387	6302090.251	1149.282																B-53				
B-54	233835.308	6302091.152	1148.920																B-54				
B-55	233850.302	6302092.116	1148.405																B-55				
B-56	233865.313	6302093.018	1147.972																B-56				
B-57																			B-57				
B-58	233895.237	6302094.850	1147.145																B-58				
B-59	233910.254	6302094.512	1147.157																B-59				
B-60	233925.028	6302096.636	1147.143																B-60				
B-61	233940.010	6302097.518	1146.859																B-61				
B-62	233954.955	6302098.346	1146.546																B-62				
B-63	233969.906	6302099.261	1146.228																B-63				
B-64	233982.022	6302097.024	1146.274																B-64				
B-65	233994.029	6302096.585	1146.288																B-65				
B-66	234008.875	6302094.796	1146.311																B-66				
B-67	234023.793	6302093.024	1146.191																B-67				
B-68	234038.748	6302093.522	1146.097																B-68				
B-69	234053.713	6302094.042	1145.909																B-69				
B-70	234068.686	6302094.536	1145.617																B-70				
B-71	234083.643	6302095.048	1145.276																B-71				
B-72	234098.629	6302095.566	1145.064																B-72				

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						31/07/13			18/11/13			Survey Date								
						35			36			Survey Number								
Pre-Movement Survey by CEH 14/03/1997 Adjusted CEH to AU Survey Control			Post-Movment Survey by CEH 20/09/2007 Adjusted CEH to AU Survey Control			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Period Movement			Total Movement			REF.NO.		
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN		ΔH	
B-73	234113.748	6302096.084	1144.995																	B-73
B-74	234128.688	6302096.512	1144.720																	B-74
B-75	234143.707	6302096.920	1144.278																	B-75
B-76	234158.705	6302097.350	1143.690																B-76	

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REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.
B-77	234173.697	6302097.736	1143.921																B-77
B-78	234188.679	6302098.139	1144.317																B-78
B-79	234203.631	6302098.568	1144.701																B-79
B-80	234218.576	6302098.954	1144.907																B-80
B-81	234233.723	6302099.376	1144.859																B-81
B-82	234248.698	6302099.561	1144.359																B-82
B-83	234263.668	6302099.858	1144.053																B-83
B-84	234278.660	6302100.291	1144.010																B-84
B-85	234293.566	6302100.768	1144.174																B-85
B-86	234308.615	6302100.842	1144.146																B-86
B-87	234323.541	6302101.238	1144.133																B-87
B-88	234338.519	6302101.823	1144.078																B-88
B-89	234353.452	6302102.603	1143.991																B-89
B-90	234368.479	6302103.350	1144.093																B-90
B-91	234383.372	6302104.109	1144.567																B-91
B-92	234398.357	6302104.720	1145.196																B-92
B-93	234413.301	6302105.419	1145.856																B-93
B-94	234428.246	6302106.039	1146.455																B-94
B-95	234443.186	6302106.682	1147.199																B-95
B-96	234458.178	6302107.373	1147.905																B-96
B-97	234473.167	6302107.975	1148.489																B-97
B-98	234488.122	6302108.628	1149.130																B-98
B-99	234502.993	6302109.218	1149.936																B-99
B-100	234517.981	6302109.689	1150.722																B-100
B-101	234532.956	6302109.803	1151.404																B-101
B-102	234547.977	6302109.870	1152.163																B-102
B-103	234562.947	6302109.993	1152.898																B-103
B-104	234577.917	6302110.149	1153.432																B-104
B-105	234592.850	6302110.362	1154.045																Pegs Disturbed in this area
B-106	234607.765	6302110.547	1154.616																B-106
B-107	234622.696	6302110.587	1155.205																B-107
B-108	234637.677	6302110.770	1156.140																Pegs Disturbed in this area
B-109	234652.571	6302110.768	1157.041	236182.361	6303793.803	1134.479													B-109
B-110	234667.579	6302111.137	1158.099	236197.368	6303793.749	1131.156													B-110
B-111	234682.552	6302111.462	1158.910	236212.412	6303793.977	1125.621													B-111
B-112	234697.516	6302111.811	1159.866	236227.407	6303794.339	1120.192													B-112
B-113	234712.539	6302112.158	1161.224	236242.339	6303794.634	1115.707													B-113
B-114	234727.539	6302112.514	1162.743	236257.377	6303794.971	1112.849													B-114
B-115	234742.546	6302112.858	1163.895	236272.223	6303795.307	1110.541													B-115
B-116	234757.532	6302113.578	1165.213	236287.368	6303795.565	1108.096													B-116
B-117	234772.553	6302113.909	1166.102	236302.362	6303795.822	1104.831													B-117
B-118	234787.467	6302114.370	1167.267	236317.414	6303795.765	1103.791													B-118
B-119	234802.453	6302114.896	1167.984	236332.327	6303795.678	1103.824													B-119
B-120	234817.513	6302115.383	1168.580	236347.336	6303796.602	1103.982													B-120
B-121	234832.502	6302115.906	1169.000	236362.331	6303796.821	1103.556													B-121
B-122	234847.476	6302116.505	1169.816	236377.656	6303797.180	1104.929													B-122
B-123	234862.424	6302117.113	1170.496	236390.569	6303797.304	1106.459													B-123
B-124	234877.458	6302117.722	1170.885	236407.392	6303797.595	1108.173													B-124
B-125	234892.409	6302118.311	1171.121	236422.379	6303798.278	1110.355													B-125
B-126	234907.437	6302118.938	1171.365	236437.347	6303798.954	1112.191													B-126
B-127	234922.500	6302119.539	1171.262	236452.228	6303799.652	1114.118													B-127
B-128	234937.501	6302120.093	1171.523	236467.126	6303800.299	1116.382													B-128
B-129	234952.501	6302120.624	1171.638	236482.096	6303801.006	1117.992													B-129
B-130	234967.482	6302121.167	1171.568	236497.233	6303801.638	1121.807													B-130
B-131	234982.447	6302121.611	1171.696	236512.059	6303802.348	1126.095													B-131
B-132	234997.523	6302122.088	1171.710	236527.001	6303802.921	1129.414													B-132
B-133	235012.469	6302122.635	1171.922	236542.080	6303803.581	1133.304									</				

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REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.
B-147	235229.332	6302129.713	1172.651	236751.814	6303808.911	1157.700													B-147
B-148	235244.354	6302130.420	1172.377	236766.846	6303809.289	1158.145													B-148
B-149	235259.347	6302131.070	1172.281	236781.835	6303809.738	1159.035													B-149
B-150	235274.324	6302131.821	1171.980	236796.885	6303810.067	1160.370													B-150
B-151	235289.249	6302132.550	1171.292	236811.876	6303810.533	1161.142													B-151
B-152	235304.260	6302133.326	1170.760	236826.858	6303810.978	1161.926													B-152
B-153	235319.221	6302134.090	1170.334	236841.885	6303811.368	1162.815													B-153
B-154	235334.189	6302134.836	1169.067	236856.811	6303811.806	1163.584													B-154

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REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.
B-155	235348.870	6302135.619	1168.369	236871.897	6303812.223	1164.278													B-155
B-156	235364.228	6302136.393	1167.685	236886.936	6303812.692	1164.978													B-156
B-157	235379.212	6302136.372	1165.306	236901.991	6303813.017	1165.506													B-157
B-158	235394.183	6302136.413	1162.152	236916.929	6303813.557	1166.188													B-158
B-159	235409.228	6302136.466	1158.673	236931.942	6303813.984	1166.579													B-159
B-160	235424.204	6302136.535	1155.351	236946.937	6303814.480	1166.464													B-160
B-161	235439.223	6302136.590	1151.950	236961.965	6303814.937	1166.795													B-161
B-162	235454.350	6302136.727	1148.523	236976.926	6303815.496	1166.616													B-162
B-163	235469.430	6302136.698	1144.882																B-163
B-164	235484.396	6302136.681	1142.918	237006.954	6303816.419	1166.248													B-164
B-165	235500.389	6302136.698	1142.898	237021.938	6303816.956	1166.032													B-165
B-166	235514.424	6302136.690	1142.818	237037.001	6303817.418	1165.950													B-166
B-167	235529.404	6302136.761	1139.271	237051.934	6303817.930	1166.042													B-167
B-168	235544.355	6302136.916	1134.972																B-168
B-169	235559.440	6302136.945	1133.177	237081.844	6303818.897	1166.013													B-169
B-170	235574.377	6302137.059	1133.442	237096.931	6303819.377	1165.982													B-170
B-171	235589.473	6302137.136	1135.178	237111.926	6303819.842	1165.994													B-171
B-172	235604.483	6302137.279	1139.372	237127.001	6303820.290	1166.017													B-172
B-173	235619.493	6302137.390	1144.577	237141.843	6303820.758	1166.013													B-173
B-174	235634.467	6302137.534	1149.548	237157.048	6303821.200	1166.341													B-174
B-175	235649.392	6302137.379	1152.374	237172.001	6303821.568	1166.323													B-175
B-176	235664.397	6302137.938	1155.332	237186.971	6303822.099	1165.986													B-176
B-177	235679.378	6302138.513	1159.110	237201.965	6303822.045	1166.229													B-177
B-178	235694.339	6302139.042	1162.097	237216.970	6303822.078	1166.103													B-178
B-179	235709.374	6302139.625	1164.341	237232.021	6303822.073	1165.724													B-179
B-180	235724.228	6302140.746	1167.078	237247.565	6303822.044	1165.477													B-180
B-181	235739.186	6302141.992	1168.689	237262.035	6303821.986	1164.928													B-181
B-182	235754.166	6302143.193	1169.781	237277.174	6303821.998	1164.393													B-182
B-183	235769.180	6302144.370	1170.430	237292.079	6303822.411	1163.832													B-183
B-184	235784.103	6302145.250	1171.285	237307.097	6303822.891	1163.229													B-184
B-185	235799.119	6302146.165	1171.321	237322.126	6303823.257	1162.415													B-185
B-186	235814.023	6302147.078	1171.678	237337.054	6303823.693	1161.302													B-186
B-187	235829.009	6302147.928	1171.830	237352.125	6303824.245	1160.228													B-187
B-188	235844.011	6302148.848	1171.727	237366.947	6303824.709	1159.150													B-188
B-189	235859.033	6302149.741	1171.926	237382.053	6303825.224	1158.513													B-189
B-190	235873.986	6302150.663	1171.962	237397.036	6303825.796	1158.017													B-190
B-191	235888.968	6302151.516	1172.128	237412.111	6303826.238	1157.301													B-191
B-192	235903.957	6302152.427	1172.363	237427.084	6303826.333	1155.554													B-192
B-193	235918.916	6302153.319	1172.241	237442.173	6303826.530	1153.780													B-193
B-194	235933.883	6302152.915	1173.676	237457.100	6303826.627	1151.802													B-194
B-195	235948.878	6302152.478	1174.856	237472.102	6303826.712	1149.982													B-195
B-196	235963.880	6302152.114	1175.822	237487.073	6303826.850	1147.907													B-196
B-197	235978.895	6302151.657	1176.597	237502.093	6303826.988	1146.351													B-197
B-198	235993.847	6302151.286	1177.435	237517.052	6303827.658	1145.513													B-198
B-199	236008.874	6302150.876	1177.553	237532.106	6303828.277	1144.790													B-199
B-200	236023.880	6302151.254	1178.088	237547.028	6303828.888	1144.451													B-200
B-201	236038.893	6302151.650	1178.142	237562.079	6303829.730	1144.688													B-201
B-202	236053.894	6302152.087	1178.393	237576.919	6303830.257	1145.660													B-202
B-203	236068.864	6302152.505	1178.521	237592.085	6303830.993	1146.267													B-203
B-204	236083.919	6302152.904	1178.379	237607.068	6303831.659	1146.700													B-204
B-205	236098.862	6302153.302	1177.584																B-205
B-206	236113.768	6302153.797	1177.164																B-206
B-207	236128.753	6302154.306	1176.770																B-207
B-208	236143.777	6302154.790	1176.419	237659.513	6303834.491	1145.765													B-208
B-209	236158.771	6302155.329	1176.205																B-209
B-210	236173.782	6302155.869	1175.555																B-210
B-211	236188.744	6302156.366	1175.415																B-211
B-212	236203.925	6302156.911	1174.943																B-212
B-213	236218.786	6302157.408	1174.079	237727.066	6303836.428	1136.842													B-213
B-214	236233.750	6302157.808	1173.264																B-214
B-215	236248.730	6302158.206	1171.669																B-215
B-216	236263.756	6302158.663	1170.177																B-216
B-217	236278.824	6302159.143	1169.419																B-217
B-218	236294.068	6302159.666	1168.156	237802.027	6303836.897	1124.589													B-218
B-219	236308.751	6302159.994	1166.369																B-219
B-220	236323.708	6302160.356	1164.160																B-220
B-221	236338.718	6302160.745	1162.737																B-221
B-222	236353.832	6302161.105	1161.214																B-222
B-223	236368.714	6302161.453	1158.811																B-223
B-224	236384.762	6302161.879	1156.208	237892.081	6303839.603	1129.176													B-224
B-225	236398.744	6302162.012	1153.016																B-225

Subsidence Monitoring For LW416
Springvale Colliery

Total Station Line B

							B Line			B Line			Subsidence Line								
							LW415			LW416			Longwall ID								
										2205.0			Extraction Distance								
							31/07/13			18/11/13			Survey Date								
							35			36			Survey Number								
Pre-Movement Survey by CEH 14/03/1997 Adjusted CEH to AU Survey Control				Post-Movment Survey by CEH 20/09/2007 Adjusted CEH to AU Survey Control			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Period Movement			Total Movement					
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.		
B-226	236413.625	6302162.111	1150.216																B-226		

Subsidence Monitoring For LW416
Springvale Colliery

Total Station Line B

						B Line			B Line			Subsidence Line						REF.NO.	
						LW415			LW416			Longwall ID							
									2205.0			Extraction Distance							
						31/07/13			18/11/13			Survey Date							
						35			36			Survey Number							
Pre-Movement Survey by CEH 14/03/1997 Adjusted CEH to AU Survey Control			Post-Movment Survey by CEH 20/09/2007 Adjusted CEH to AU Survey Control			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Period Movement			Total Movement				
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.
B-227	236428.838	6302162.263	1146.875																B-227
B-228	236443.717	6302162.424	1142.866																B-228
B-229	236458.805	6302162.586	1139.490	237966.900	6303841.809	1138.758													B-229
B-230	236473.721	6302163.152	1136.312																B-230
B-231	236488.729	6302163.635	1132.921																B-231
B-232	236503.683	6302164.121	1128.510																B-232
B-233	236517.651	6302164.663	1123.426																B-233
B-234	236533.718	6302165.265	1126.906																B-234
B-235	236548.666	6302165.007	1130.728				236548.800	6302164.926	1129.938	236548.797	6302164.932	1129.932	-0.003	0.006	-0.006	0.131	-0.075	-0.796	B-235
B-236	236563.735	6302164.747	1133.347				236563.890	6302164.652	1132.551	236563.886	6302164.657	1132.547	-0.004	0.005	-0.005	0.151	-0.090	-0.801	B-236
B-237	236578.654	6302164.539	1136.327				236578.806	6302164.437	1135.512	236578.802	6302164.440	1135.508	-0.004	0.003	-0.004	0.148	-0.099	-0.819	B-237
B-238	236592.228	6302164.342	1138.601				236592.380	6302164.232	1137.780	236592.379	6302164.236	1137.776	-0.001	0.004	-0.005	0.151	-0.106	-0.826	B-238
B-238A	236601.216	6302164.280	1139.505				236601.367	6302164.149	1138.667	236601.364	6302164.151	1138.660	-0.003	0.002	-0.007	0.148	-0.129	-0.845	B-238A
B-239	236608.643	6302163.795	1138.900				236608.804	6302163.679	1138.076	236608.799	6302163.683	1138.066	-0.005	0.004	-0.010	0.156	-0.112	-0.834	B-239
B-240	236623.610	6302162.920	1134.114				236623.781	6302162.790	1133.272	236623.778	6302162.790	1133.263	-0.004	0.000	-0.009	0.168	-0.130	-0.851	B-240
B-241	236638.646	6302162.002	1131.067				236638.758	6302161.883	1130.260	236638.758	6302161.884	1130.243	0.000	0.001	-0.017	0.112	-0.118	-0.824	B-241
B-242	236653.561	6302161.068	1134.635				236653.710	6302160.967	1133.725	236653.708	6302160.967	1133.715	-0.003	0.001	-0.009	0.147	-0.101	-0.920	B-242
B-243	236668.588	6302160.211	1140.044				236668.677	6302160.087	1139.063	236668.676	6302160.086	1139.044	-0.001	-0.001	-0.019	0.088	-0.125	-1.000	B-243
B-244	236683.517	6302161.013	1143.905				236683.650	6302160.898	1142.863	236683.648	6302160.898	1142.848	-0.002	-0.001	-0.015	0.131	-0.116	-1.058	B-244
B-245	236698.489	6302161.849	1147.041				236698.638	6302161.709	1145.870	236698.641	6302161.709	1145.853	0.003	0.000	-0.016	0.152	-0.141	-1.188	B-245
B-246	236713.498	6302162.590	1149.781				236713.558	6302162.411	1148.518	236713.555	6302162.411	1148.502	-0.003	0.000	-0.015	0.057	-0.179	-1.279	B-246
B-247	236728.485	6302163.484	1152.828				236728.538	6302163.292	1151.474	236728.535	6302163.291	1151.458	-0.002	-0.001	-0.015	0.050	-0.193	-1.370	B-247
B-247A	236736.013	6302163.933	1154.199				236736.050	6302163.728	1152.818	236736.049	6302163.727	1152.802	-0.001	-0.001	-0.016	0.036	-0.206	-1.397	B-247A
B-247B	236743.491	6302164.238	1155.189				236743.530	6302164.048	1153.812	236743.531	6302164.049	1153.797	0.002	0.002	-0.015	0.040	-0.189	-1.392	B-247B
B-248	236758.469	6302164.918	1157.576				236758.480	6302164.732	1156.262	236758.480	6302164.733	1156.248	0.000	0.000	-0.014	0.011	-0.185	-1.328	B-248
B-249	236773.437	6302165.620	1159.126				236773.431	6302165.446	1157.904	236773.431	6302165.445	1157.889	0.000	-0.001	-0.015	-0.006	-0.175	-1.237	B-249
B-250	236788.365	6302166.230	1161.061				236788.370	6302166.064	1159.924	236788.370	6302166.063	1159.909	0.000	-0.002	-0.015	0.005	-0.168	-1.153	B-250
B-251	236803.429	6302167.011	1162.439				236803.441	6302166.854	1161.373	236803.441	6302166.854	1161.355	0.000	0.000	-0.018	0.012	-0.157	-1.084	B-251
B-252	236818.421	6302167.587	1162.780				236818.465	6302167.449	1161.768	236818.467	6302167.447	1161.753	0.001	-0.001	-0.015	0.045	-0.140	-1.027	B-252
B-253	236833.472	6302168.192	1162.957				236833.540	6302168.066	1161.982	236833.543	6302168.065	1161.969	0.003	-0.001	-0.012	0.071	-0.127	-0.988	B-253
B-254	236848.387	6302168.829	1162.867				236848.471	6302168.711	1161.920	236848.472	6302168.710	1161.906	0.000	-0.001	-0.015	0.084	-0.119	-0.962	B-254
B-255	236863.458	6302169.395	1161.849				236863.559	6302169.300	1160.913	236863.562	6302169.298	1160.896	0.003	-0.002	-0.017	0.104	-0.097	-0.953	B-255
B-256	236878.423	6302170.291	1158.850				236878.527	6302170.206	1157.931	236878.531	6302170.204	1157.919	0.005	-0.002	-0.012	0.108	-0.087	-0.931	B-256
B-257	236893.422	6302171.143	1156.056				236893.533	6302171.056	1155.147	236893.539	6302171.054	1155.135	0.006	-0.002	-0.012	0.117	-0.089	-0.921	B-257
B-258	236908.364	6302172.045	1153.308				236908.486	6302171.951	1152.406	236908.491	6302171.950	1152.393	0.005	-0.001	-0.012	0.127	-0.095	-0.915	B-258
B-259	236923.612	6302172.965	1150.670				236923.752	6302172.869	1149.775	236923.761	6302172.868	1149.759	0.009	-0.001	-0.016	0.149	-0.097	-0.911	B-259
B-260	236938.287	6302173.787	1149.680				236938.322	6302173.706	1148.843	236938.330	6302173.705	1148.836	0.008	-0.002					

Subsidence Monitoring For LW416
Springvale Colliery

Total Station Line B

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							31/07/13			18/11/13			Extraction Distance								
							35			36			Survey Date								
													Survey Number								
Pre-Movement Survey by CEH 14/03/1997 Adjusted CEH to AU Survey Control				Post-Movment Survey by CEH 20/09/2007 Adjusted CEH to AU Survey Control			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Period Movement			Total Movement					
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.		
B-292							237418.283	6302186.712	1177.275	237418.310	6302186.706	1177.270	0.027	-0.007	-0.005	0.303	-0.204	-1.236	B-292		
B-293							237433.259	6302186.783	1177.590	237433.286	6302186.777	1177.583	0.028	-0.006	-0.007	0.280	-0.220	-1.295	B-293		
B-294							237448.199	6302186.939	1177.521	237448.228	6302186.933	1177.513	0.028	-0.006	-0.009	0.245	-0.212	-1.312	B-294		
B-295							237463.151	6302187.059	1177.496	237463.181	6302187.052	1177.486	0.030	-0.006	-0.010	0.178	-0.193	-1.323	B-295		
B-296	237478.122	6302187.263	1178.877				237478.121	6302187.196	1177.615	237478.150	6302187.190	1177.604	0.029	-0.006	-0.011	0.028	-0.073	-1.273	B-296		
B-297							237493.106	6302188.035	1177.710	237493.136	6302188.030	1177.704	0.030	-0.005	-0.006	0.141	-0.167	-1.133	B-297		
B-298							237508.189	6302188.881	1177.521	237508.224	6302188.877	1177.515	0.034	-0.004	-0.006	0.142	-0.158	-1.048	B-298		
B-299							237523.047	6302189.729	1177.528	237523.080	6302189.722	1177.522	0.034	-0.007	-0.006	0.152	-0.154	-0.990	B-299		

Subsidence Monitoring For LW416
Springvale Colliery

Total Station Line B

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	Pre-Movement Survey by CEH 14/03/1997 Adjusted CEH to AU Survey Control			Post-Movment Survey by CEH 20/09/2007 Adjusted CEH to AU Survey Control			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Period Movement			Total Movement			
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.
B-300							237538.100	6302190.578	1177.559	237538.134	6302190.573	1177.551	0.033	-0.005	-0.008	0.153	-0.149	-0.958	B-300
B-301							237553.043	6302191.385	1177.614	237553.080	6302191.378	1177.606	0.037	-0.007	-0.007	0.155	-0.147	-0.933	B-301
B-302	237568.029	6302192.283	1178.173				237568.048	6302192.228	1177.240	237568.084	6302192.219	1177.225	0.036	-0.009	-0.015	0.055	-0.064	-0.948	B-302
B-303							237583.031	6302191.597	1177.215	237583.070	6302191.588	1177.202	0.039	-0.009	-0.013	0.167	-0.141	-0.908	B-303
B-304							237598.001	6302190.888	1177.043	237598.042	6302190.879	1177.029	0.041	-0.009	-0.015	0.157	-0.137	-0.907	B-304
B-305							237613.004	6302190.250	1177.112	237613.044	6302190.238	1177.095	0.041	-0.012	-0.017	0.147	-0.128	-0.875	B-305
B-306							237627.999	6302189.570	1176.937	237628.042	6302189.561	1176.918	0.043	-0.009	-0.019	0.150	-0.127	-0.896	B-306
B-307							237642.938	6302188.875	1177.032	237642.985	6302188.862	1177.011	0.047	-0.013	-0.021	0.143	-0.116	-0.912	B-307
B-308	237657.964	6302188.294	1177.852				237657.977	6302188.264	1176.936	237658.026	6302188.249	1176.908	0.049	-0.015	-0.028	0.062	-0.045	-0.944	B-308
B-309							237672.977	6302187.659	1177.009	237673.029	6302187.644	1176.989	0.051	-0.015	-0.020	0.141	-0.123	-0.948	B-309
B-310							237687.951	6302187.020	1176.862	237688.006	6302187.002	1176.839	0.055	-0.018	-0.023	0.138	-0.120	-0.969	B-310
B-311							237702.928	6302186.384	1176.786	237702.983	6302186.367	1176.759	0.055	-0.017	-0.028	0.125	-0.119	-0.992	B-311
B-312							237717.925	6302185.797	1176.812	237717.983	6302185.776	1176.782	0.058	-0.020	-0.030	0.106	-0.113	-1.018	B-312
B-313							237732.925	6302185.158	1176.798	237732.984	6302185.135	1176.766	0.059	-0.023	-0.032	0.101	-0.106	-1.041	B-313
B-314							237747.893	6302184.518	1176.901	237747.957	6302184.491	1176.861	0.063	-0.027	-0.040	0.098	-0.111	-1.077	B-314
B-315							237762.862	6302183.887	1176.981	237762.929	6302183.856	1176.936	0.067	-0.032	-0.045	0.090	-0.115	-1.120	B-315
B-316							237777.871	6302183.284	1177.424	237777.940	6302183.248	1177.371	0.069	-0.036	-0.053	0.058	-0.098	-1.159	B-316
B-317	237792.897	6302182.667	1178.440				237792.791	6302182.679	1177.344	237792.860	6302182.634	1177.276	0.069	-0.045	-0.068	-0.037	-0.033	-1.164	B-317
B-318							237807.632	6302184.852	1177.559	237807.704	6302184.804	1177.494	0.072	-0.048	-0.065	0.005	-0.074	-1.178	B-318
B-319							237822.422	6302186.976	1177.413	237822.493	6302186.920	1177.341	0.071	-0.056	-0.072	-0.030	-0.070	-1.170	B-319
B-320							237837.252	6302189.103	1177.520	237837.324	6302189.044	1177.441	0.072	-0.059	-0.079	-0.059	-0.058	-1.115	B-320
B-321																			B-321
B-322							237866.974	6302193.364	1177.357	237867.044	6302193.299	1177.269	0.070	-0.065	-0.088	-0.071	-0.043	-0.976	B-322
B-323							237881.797	6302195.539	1177.255	237881.866	6302195.473	1177.163	0.069	-0.066	-0.092	-0.068	-0.030	-0.912	B-323
B-324	237896.838	6302197.570	1177.689				237896.659	6302197.664	1176.935	237896.728	6302197.591	1176.840	0.069	-0.073	-0.095	-0.110	0.021	-0.849	B-324
B-325							237911.696	6302198.006	1176.865	237911.760	6302197.931	1176.769	0.065	-0.075	-0.096	-0.059	-0.018	-0.824	B-325
B-326							237926.678	6302198.369	1176.225	237926.743	6302198.293	1176.124	0.064	-0.076	-0.101	-0.050	-0.014	-0.801	B-326
B-327							237941.712	6302198.696	1175.463	237941.773	6302198.616	1175.359	0.062	-0.079	-0.104	-0.049	-0.012	-0.782	B-327
B-328							237956.666	6302199.063	1174.403	237956.727	6302198.980	1174.293	0.061	-0.083	-0.111	-0.041	-0.011	-0.769	B-328
B-329							237971.710	6302199.371	1173.227	237971.772	6302199.289	1173.118	0.063	-0.082	-0.110	-0.033	-0.013	-0.758	B-329
B-330	237986.820	6302199.610	1172.646				237986.702	6302199.718	1172.025	237986.760	6302199.633	1171.909	0.058	-0.085	-0.116	-0.060	0.023	-0.737	B-330
B-331							238001.719	6302200.282	1171.031	238001.776	6302200.195	1170.915	0.057	-0.087	-0.116	-0.030	-0.016	-0.750	B-331
B-332							238016.904	6302200.825	1169.630	238016.959	6302200.738	1169.512	0.055	-0.087	-0.118	-0.023	-0.018	-0.752	B-332
B-333							238031.699	6302201.380	1168.538	238031.754	6302201.291	1168.419	0.055	-0.089	-0.120	-0.019	-0.021	-0.757	B-333
B-334							238046.703	6302201.932	1167.433	238046.760	6302201.845	1167.311	0.057	-0.087	-0.122	-0.015	-0.023	-0.768	B-334
B-335							238061.589	6302202.419	1166.540	238061.643	6302202.331	1166.415	0.054	-0.088	-0.125	-0.010	-0.035	-0.778	B-335
B-336	238076.788	6302202.922	1165.517				238076.722	6302203.001	1164.872	238076.770	6302202.913	1164.741	0.048	-0.088	-0.131	-0.018	-0.009	-0.776	B-336
B-337							238091.760	6302203.246	1163.910	238091.808	6302203.161	1163.781	0.049	-0.086	-0.130	0.034	-0.060	-0.785	B-337
B-338							238106.568	6302203.788	1162.510	238106.612	6302203.701	1162.378	0.044	-0.087	-0.132	0			

Subsidence Monitoring For LW416
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						31/07/13			18/11/13			Survey Date							
						35			36			Survey Number							
	Pre-Movement Survey by CEH 14/03/1997 Adjusted CEH to AU Survey Control			Post-Movment Survey by CEH 20/09/2007 Adjusted CEH to AU Survey Control			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Period Movement			Total Movement			
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.
B-369							238571.409	6302216.672	1139.930	238571.393	6302216.665	1139.934	-0.016	-0.007	0.004	-0.118	0.023	-0.033	B-369
B-370							238586.543	6302216.930	1137.156	238586.526	6302216.923	1137.159	-0.018	-0.007	0.004	-0.117	0.022	-0.030	B-370
B-371							238601.437	6302217.204	1133.470	238601.420	6302217.201	1133.472	-0.017	-0.003	0.002	-0.219	0.079	-0.068	B-371
B-372							238616.465	6302216.685	1130.145	238616.450	6302216.681	1130.150	-0.015	-0.004	0.005	-0.111	0.020	-0.024	B-372
B-373							238631.558	6302216.234	1127.856	238631.543	6302216.232	1127.861	-0.015	-0.002	0.005	-0.112	0.018	-0.022	B-373
B-374							238646.500	6302215.679	1125.607	238646.486	6302215.678	1125.612	-0.014	-0.001	0.005	-0.110	0.021	-0.021	B-374
B-375							238661.447	6302215.237	1122.701	238661.433	6302215.235	1122.707	-0.014	-0.002	0.005	-0.110	0.018	-0.017	B-375
B-376							238676.421	6302214.901	1120.369	238676.403	6302214.900	1120.371	-0.018	-0.001	0.002	-0.199	0.083	-0.055	B-376
B-377							238691.450	6302215.328	1118.591	238691.432	6302215.325	1118.598	-0.017	-0.003	0.007	-0.108	0.016	-0.012	B-377
B-378							238706.427	6302216.032	1116.899	238706.411	6302216.031	1116.906	-0.016	-0.001	0.007	-0.104	0.015	-0.010	B-378
B-379							238721.393	6302216.724	1115.195	238721.378	6302216.727	1115.202	-0.015	0.003	0.007	-0.106	0.015	-0.008	B-379
B-380							238736.432	6302217.277	1113.544	238736.415	6302217.279	1113.550	-0.017	0.002	0.006	-0.105	0.015	-0.008	B-380
B-381							238751.464	6302217.964	1112.455	238751.446	6302217.967	1112.461	-0.018	0.003	0.006	-0.106	0.015	-0.007	B-381
B-382							238766.391	6302218.635	1111.030	238766.373	6302218.637	1111.034	-0.018	0.002	0.004	-0.179	0.087	-0.041	B-382
B-383							238781.341	6302219.213	1110.204	238781.324	6302219.216	1110.212	-0.016	0.003	0.008	-0.095	0.012	-0.004	B-383
B-384							238796.414	6302219.870	1109.693	238796.398	6302219.875	1109.702	-0.016	0.005	0.009	-0.092	0.014	0.002	B-384
B-385							238811.485	6302220.346	1109.449	238811.468	6302220.352	1109.458	-0.017	0.005	0.009	-0.093	0.013	0.001	B-385
B-386							238826.365	6302220.884	1108.794	238826.349	6302220.889	1108.803	-0.016	0.005	0.008	-0.094	0.010	0.003	B-386
B-387							238841.354	6302221.464	1108.341	238841.336	6302221.472	1108.349	-0.019	0.008	0.008	-0.094	0.010	0.002	B-387
B-388							238856.293	6302222.041	1107.880	238856.277	6302222.050	1107.888	-0.016	0.009	0.008	-0.092	0.012	0.002	B-388
B-389							238871.352	6302222.512	1107.412	238871.334	6302222.521	1107.415	-0.018	0.009	0.003	-0.087	0.010	-0.001	B-389
B-390							238886.297	6302222.464	1106.786	238886.280	6302222.471	1106.796	-0.016	0.007	0.010	-0.084	0.009	0.004	B-390
B-391							238901.339	6302222.381	1106.342	238901.324	6302222.388	1106.348	-0.015	0.007	0.006	-0.082	0.007	0.005	B-391
B-392							238916.187	6302222.331	1106.322	238916.174	6302222.340	1106.329	-0.013	0.009	0.006	-0.076	0.007	0.003	B-392
B-393							238933.951	6302222.274	1106.365	238933.938	6302222.283	1106.374	-0.013	0.009	0.009	-0.081	0.007	0.005	B-393
B-394							238946.386	6302222.244	1105.977	238946.370	6302222.253	1105.987	-0.015	0.009	0.009	-0.077	0.006	0.006	B-394
B-395							238961.337	6302222.138	1105.849	238961.325	6302222.146	1105.856	-0.011	0.007	0.007	-0.078	0.003	0.006	B-395
B-396							238976.363	6302222.170	1105.852	238976.347	6302222.179	1105.859	-0.015	0.009	0.007	-0.076	0.005	0.010	B-396
B-397							238991.384	6302222.085	1105.895	238991.370	6302222.097	1105.904	-0.014	0.012	0.009	-0.074	0.004	0.009	B-397
B-398							239006.379	6302222.029	1105.472	239006.365	6302222.041	1105.474	-0.014	0.012	0.002	-0.071	0.006	0.006	B-398
B-399							239021.289	6302223.151	1104.457	239021.276	6302223.160	1104.464	-0.013	0.010	0.007	-0.065	0.002	0.011	B-399
B-400							239036.294	6302224.301	1103.918	239036.281	6302224.313	1103.924	-0.014	0.013	0.006	-0.068	0.003	0.010	B-400
B-401							239051.257	6302225.418	1103.853	239051.245	6302225.428	1103.858	-0.012	0.010	0.005	-0.065	-0.001	0.010	B-401
B-402							239066.236	6302226.543	1103.956	239066.223	6302226.554	1103.961	-0.013	0.011	0.005	-0.065	0.002	0.012	B-402
B-403							239081.178	6302227.681	1104.212	239081.164	6302227.692	1104.218	-0.014	0.011	0.005	-0.064	0.002	0.011	B-403
B-404							239096.139	6302228.831	1104.994	239096.126	6302228.842	1104.993	-0.013	0.011	-0.001	-0.063	0.002	0.007	B-404
B-405							239111.091	6302228.636	1106.303	239111.076	6302228.651	1106.310	-0.014	0.015	0.007	-0.061	0.003	0.014	B-405
B-406							239126.119	6302228.433	1107.613	239126.105	6302228.448	1107.619	-0.014	0.014	0.006	-0.062	0.002	0.013	B-406
B-407							239141.149	6302228.282	1109.256	239141.137	6302228.297	1109.263	-0.012	0.015	0.006	-0.059	0.004	0.016	B-407
B-408							239156.136	6302228.060	1111.118	239156.123	6302228.075	1111.124	-0.013	0.015	0.007	-0.05>-			

Subsidence Monitoring For LW416
Springvale Colliery

Total Station Line B

						B Line			B Line			Subsidence Line							
						LW415			LW416			Longwall ID							
									2205.0			Extraction Distance							
						31/07/13			18/11/13			Survey Date							
						35			36			Survey Number							
Pre-Movement Survey by CEH 14/03/1997 Adjusted CEH to AU Survey Control			Post-Movment Survey by CEH 20/09/2007 Adjusted CEH to AU Survey Control			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Period Movement			Total Movement				
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.
B-439							239620.573	6302247.810	1126.573	239620.573	6302247.804	1126.576	0.000	-0.006	0.003	-0.026	-0.009	0.022	B-439 #
B-440							239635.538	6302247.492	1124.263	239635.539	6302247.487	1124.266	0.001	-0.004	0.003	-0.024	-0.009	0.021	B-440 #
B-441							239650.594	6302247.152	1122.551	239650.595	6302247.148	1122.553	0.001	-0.004	0.002	-0.022	-0.009	0.021	B-441 #

Subsidence Monitoring For LW416
Springvale Colliery

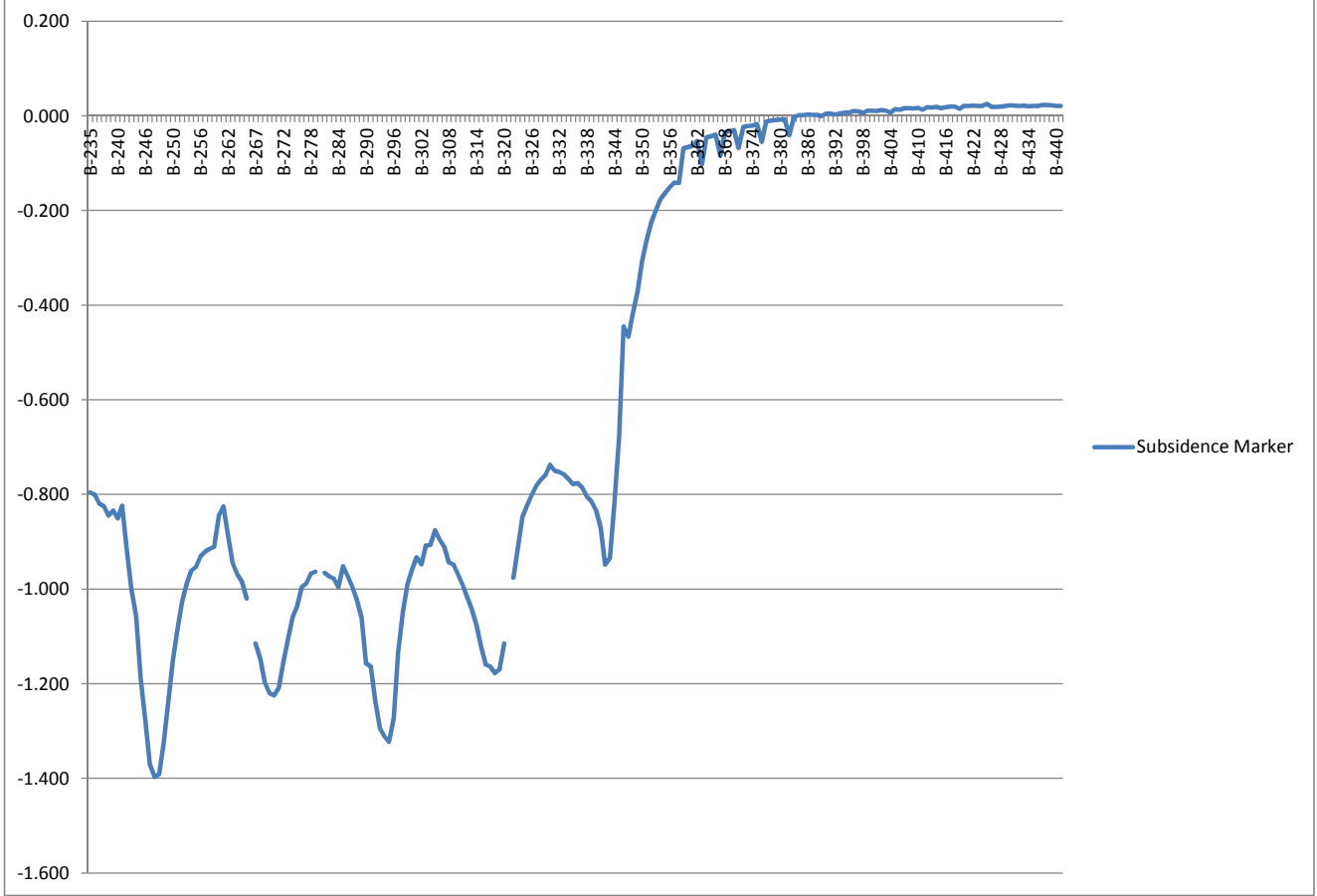
Total Station Line B

							B Line			B Line			Subsidence Line								
							LW415			LW416			Longwall ID								
										2205.0			Extraction Distance								
							31/07/13			18/11/13			Survey Date								
							35			36			Survey Number								
Pre-Movement Survey by CEH 14/03/1997 Adjusted CEH to AU Survey Control			Post-Movment Survey by CEH 20/09/2007 Adjusted CEH to AU Survey Control			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Post-Movement Survey by AURECON - Survey Completed using Leica Total Station			Period Movement			Total Movement						
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN	ΔH	ΔE	ΔN	ΔH	REF.NO.		

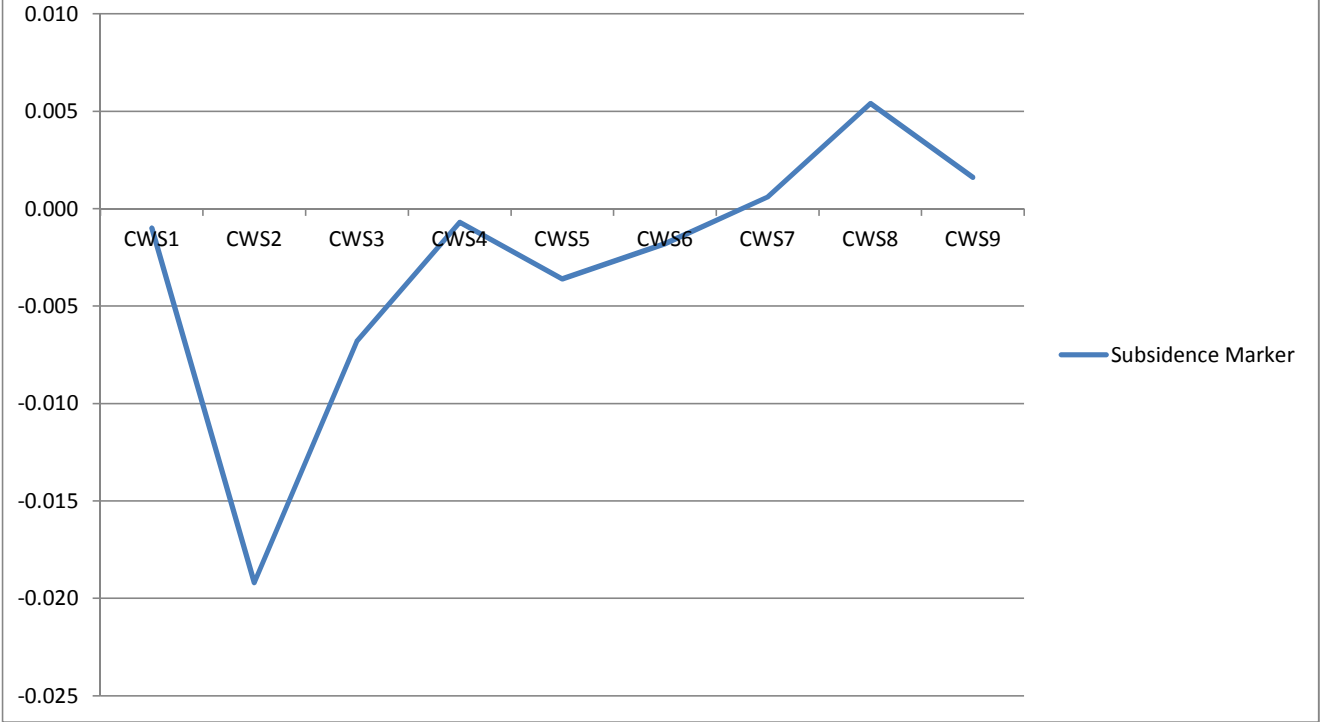
NOTES
This survey is based upon Ausgeoid 98
CEH Coordinates have been transformed to agree to MGA Co-ordinates for Bald (TS 692)
Trig Station as adjusted 5th December 2005 by the Department of Lands.
Co-Ordinates for Bald E 243354.350 N 6295843.521 RL 1180.238.
Adopted as Origin for Aurecon Survey.
New control has been placed at extremities of survey and has been co-ordinated by GPS (2000, 10006, 10007, 10100)
with a traverse adjustment carried out between these extremities
Additional GPS control established at Points 1032, 10005, 159, 270A and 10000
Co-ordinates accuracy of +/- 0.02m for Eastings
Co-ordinates accuracy of +/- 0.02m for Northings
Co-ordinates accuracy of +/- 0.02m for Height
Movement values are subject to spreadsheet rounding off

CEH1997 Coordinates have been translated, scaled and rotated to match common points (B-336 & B-109)
in the AU Survey to allow comparison between the measurement method used by CEH previously
* Indicates Total Movement relative to 19/03/2008
** Indicates Total Movement relative to 01/12/2008
*** Indicates Total Movement relative to 11/02/2009
**** Indicates Total Movement relative to 2/07/2010
Indicates Total Movement relative to 14th-18th/05/2012

B Line Subsidence Results



Carne West Rock Face Monitoring



Subsidence Monitoring For LW415 - Springvale Colliery
Total Station - Carne West Rock Face Monitoring

Subsidence Line		Carne West Rock Face (CWRF)			Carne West Rock Face (CWRF)			Carne West Rock Face (CWRF)			Carne West Rock Face (CWRF)					
Longwall ID		LW415			LW415			LW415			LW416					
Instrument		Total Station - Leica Viva TS15			Total Station - Leica Viva TS15			Total Station - Leica Viva TS15			Total Station - Leica Viva TS15					
Longwall Retreat		704.0			1681.2			2629.5			825.0					
Survey Date		22/08/12			28/02/13			29/08/13			28/01/14					
Survey No.		1			2			3			4					
Comments		Initial Survey - Completed by Total Station. CWS1 and CWS2 are fixpoints for surveys			Survey - Completed by Total Station. CWS1 and CWS2 are fixpoints for surveys			Survey - Completed by Total Station. CWS1 and CWS2 are fixpoints for surveys			Survey - Completed by Total Station. CWS1 and CWS2 are fixpoints for surveys			Period Movement		
CWRF Line	Point	RL	Easting	Northing	RL	Easting	Northing	RL	Easting	Northing	RL	Easting	Northing	RL	Easting	Northing
	CWS1	1037.907	240018.353	6303832.872	1037.907	240018.353	6303832.872	1037.907	240018.353	6303832.872	1037.906	240018.353	6303832.872	-0.001	0.000	0.000
	CWS2	1055.886	239969.405	6303931.739	1055.886	239969.405	6303931.739	1055.886	239969.405	6303931.739	1055.867	239969.406	6303931.735	-0.019	0.001	-0.004
	CWS3	1049.873	239915.495	6303791.158	1049.875	239915.494	6303791.158	1049.870	239915.492	6303791.159	1049.867	239915.490	6303791.161	-0.003	-0.002	0.002
	CWS4	1042.725	239952.400	6303884.882	1042.725	239952.403	6303884.884	1042.721	239952.404	6303884.886	1042.725	239952.403	6303884.884	0.004	-0.001	-0.002
	CWS5	1043.317	239869.836	6303828.851	1043.316	239869.833	6303828.848	1043.311	239869.832	6303828.852	1043.314	239869.830	6303828.856	0.002	-0.003	0.004
	CWS6	1043.255	239876.639	6303827.410	1043.255	239876.637	6303827.408	1043.253	239876.637	6303827.411	1043.253	239876.633	6303827.415	0.000	-0.004	0.004
	CWS7	1047.138	239896.313	6303801.757	1047.137	239896.310	6303801.755	1047.132	239896.305	6303801.767	1047.139	239896.308	6303801.763	0.006	0.002	-0.004
	CWS8	1043.165	239940.974	6303891.152	1043.166	239940.973	6303891.146	1043.162	239940.974	6303891.150	1043.170	239940.978	6303891.151	0.008	0.004	0.001
	CWS9	1037.298	240014.368	6303835.295	1037.298	240014.365	6303835.291	1037.297	240014.368	6303835.295	1037.299	240014.368	6303835.292	0.003	0.000	-0.003

Notes:

- Co-Ordinates and RL's measured are accurate to +/- 0.010m
 - Origin of Co-Ordinates for CWS1 and CWS2 is from GNSS Survey fixed from Mine Baseline (PM55625 and PM55626)
 - Additional Monitoring points may be added to future surveys when weather conditions permit.
- Due to Low winter temperatures and the difficult terrain installation in some areas is hazardous

Total Movement		
RL	Easting	Northing
-0.001	0.000	0.000
-0.019	0.001	-0.004
-0.007	-0.005	0.003
-0.001	0.002	0.002
-0.004	-0.006	0.005
-0.002	-0.006	0.005
0.001	-0.005	0.006
0.005	0.004	-0.001
0.002	0.000	-0.003



Spring Vale Colliery M-Line Subsidence
Project 207576

	Pre-Movement Survey by CEH 13/02/2004 Adjusted CEH to CW Survey Control			Post-Movement Survey by Aurecon 11 July 2013			Post-Movement Survey by Aurecon 1st-3rd October 2013			Post-Movement Survey by Aurecon December 2013			Post-Movement Survey by Aurecon January 2014			Period Move	
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN
M-01	236182.193	6303793.982	1134.670	236182.278	6303794.077	1133.600	236182.268	6303794.064	1133.601	236182.260	6303794.070	1133.583	236182.253	6303794.063	1133.574	-0.015	-0.001
M-02	236197.194	6303793.938	1131.356	236197.301	6303794.031	1130.305	236197.288	6303794.016	1130.307	236197.286	6303794.023	1130.286	236197.277	6303794.018	1130.281	-0.011	0.002
M-03	236212.257	6303794.174	1125.816	236212.351	6303794.264	1124.779	236212.342	6303794.246	1124.784	236212.340	6303794.256	1124.761	236212.328	6303794.250	1124.755	-0.013	0.004
M-04	236227.237	6303794.543	1120.398	236227.365	6303794.609	1119.399	236227.355	6303794.592	1119.404	236227.352	6303794.599	1119.378	236227.341	6303794.594	1119.377	-0.014	0.002
M-05	236242.163	6303794.847	1115.923	236242.263	6303794.923	1114.954	236242.253	6303794.905	1114.960	236242.248	6303794.913	1114.944	236242.240	6303794.910	1114.941	-0.013	0.005
M-06	236257.199	6303795.192	1113.071	236257.298	6303795.285	1112.157	236257.289	6303795.266	1112.162	236257.283	6303795.276	1112.149	236257.277	6303795.270	1112.145	-0.012	0.004
M-07	236272.045	6303795.538	1110.773	236272.150	6303795.630	1109.947	236272.141	6303795.612	1109.951	236272.138	6303795.623	1109.940	236272.129	6303795.617	1109.931	-0.011	0.005
M-08	236287.190	6303795.800	1108.316	236287.306	6303795.883	1107.640	236287.296	6303795.866	1107.645	236287.294	6303795.875	1107.633	236287.288	6303795.873	1107.628	-0.008	0.008
M-09	236302.180	6303796.067	1105.057	236302.334	6303796.127	1104.490	236302.324	6303796.110	1104.493	236302.070	6303796.260	1104.407	236302.315	6303796.116	1104.475	-0.009	0.006
M-10	236317.226	6303796.017	1104.024	236317.355	6303796.075	1103.474	236317.343	6303796.059	1103.478	236317.342	6303796.068	1103.467	236317.331	6303796.067	1103.461	-0.012	0.009
M-11	236332.138	6303795.946	1104.108	236332.265	6303795.982	1103.539	236332.254	6303795.967	1103.543	236332.254	6303795.977	1103.532	236332.243	6303795.974	1103.526	-0.011	0.007
M-12	236347.147	6303796.882	1104.208	236347.285	6303796.902	1103.756	236347.273	6303796.889	1103.761	236347.274	6303796.898	1103.750	236347.264	6303796.896	1103.744	-0.009	0.008
M-13	236362.143	6303797.101	1103.788	236362.291	6303797.115	1103.364	236362.280	6303797.103	1103.368	236362.283	6303797.112	1103.356	236362.271	6303797.113	1103.353	-0.008	0.010
M-14	236377.474	6303797.464	1105.165	236377.633	6303797.478	1104.764	236377.622	6303797.467	1104.769	236377.622	6303797.481	1104.757	236377.615	6303797.477	1104.755	-0.007	0.010
M-15	236390.391	6303797.601	1106.693	236390.564	6303797.560	1106.313	236390.553	6303797.549	1106.317	236390.554	6303797.556	1106.306	236390.543	6303797.562	1106.303	-0.010	0.014
M-16	236407.220	6303797.896	1108.406	236407.412	6303797.853	1108.049	236407.401	6303797.843	1108.054	236407.402	6303797.852	1108.042	236407.394	6303797.853	1108.036	-0.006	0.010
M-17	236422.216	6303798.585	1110.585	236422.424	6303798.540	1110.243	236422.413	6303798.530	1110.247	236422.415	6303798.538	1110.237	236422.405	6303798.541	1110.233	-0.007	0.011
M-18	236437.189	6303799.269	1112.422	236437.406	6303799.223	1112.089	236437.394	6303799.214	1112.094	236437.398	6303799.221	1112.075	236437.390	6303799.223	1112.077	-0.004	0.009
M-19	236452.195	6303799.938	1114.324	236452.294	6303799.934	1114.022	236452.280	6303799.926	1114.028	236452.285	6303799.932	1114.018	236452.277	6303799.934	1114.011	-0.003	0.008
M-20	236467.185	6303800.607	1116.594	236467.197	6303800.585	1116.295	236467.184	6303800.579	1116.300	236467.189	6303800.585	1116.290	236467.181	6303800.587	1116.284	-0.003	0.008
M-21	236482.163	6303801.321	1118.211	236482.182	6303801.297	1117.898	236482.169	6303801.292	1117.901	236482.175	6303801.296	1117.894	236482.166	6303801.300	1117.886	-0.003	0.008
M-22	236497.309	6303801.957	1122.025	236497.339	6303801.935	1121.712	236497.329	6303801.929	1121.717	236497.331	6303801.935	1121.711	236497.321	6303801.937	1121.708	-0.008	0.008
M-23	236512.143	6303802.676	1126.316	236512.177	6303802.650	1125.998	236512.167	6303802.646	1126.001	236512.165	6303802.651	1125.993	236512.158	6303802.653	1125.992	-0.009	0.007
M-24	236527.088	6303803.254	1129.640	236527.117	6303803.238	1129.307	236527.107	6303803.234	1129.311	236527.110	6303803.240	1129.302	236527.099	6303803.243	1129.298	-0.007	0.009
M-25	236542.185	6303803.921	1133.536	236542.234	6303803.893	1133.192	236542.225	6303803.892	1133.195	236542.228	6303803.895	1133.186	236542.214	6303803.897	1133.182	-0.011	0.005
M-26	236557.150	6303804.524	1137.414	236557.110	6303804.483	1137.072	236557.099	6303804.483	1137.073	236557.102	6303804.486	1137.063	236557.095	6303804.492	1137.064	-0.004	0.009
M-27	236572.121	6303804.927	1140.891	236572.090	6303804.881	1140.516	236572.080	6303804.880	1140.519	236572.081	6303804.882	1140.507	236572.073	6303804.891	1140.511	-0.006	0.012
M-28	236587.165	6303805.287	1143.069	236587.156	6303805.239	1142.645	236587.145	6303805.240	1142.649	236587.146	6303805.246	1142.638	236587.140	6303805.251	1142.640	-0.005	0.011
M-29	236602.149	6303805.573	1145.386	236602.171	6303805.525	1144.919	236602.159	6303805.528	1144.922	236602.164	6303805.533	1144.912	236602.157	6303805.536	1144.914	-0.002	0.009
M-30	236617.167	6303805.992	1147.523	236617.213	6303805.939	1146.984	236617.203	6303805.942	1146.987	236617.206	6303805.943	1146.976	236617.201	6303805.950	1146.979	-0.002	0.008
M-31	236632.091	6303806.360	1150.012	236632.222	6303806.307	1149.333	236632.211	6303806.318	1149.340	236632.214	6303806.318	1149.329	236632.210	6303806.326	1149.332	-0.001	0.009
M-32	236647.217	6303806.805	1153.218	236647.332	6303806.746	1152.449	236647.321	6303806.752	1152.448	236647.325	6303806.753	1152.438	236647.319	6303806.760	1152.439	-0.003	0.008
M-33	236662.255	6303807.117	1154.998														
M-34	236677.375	6303807.599	1156.124	236677.498	6303807.217	1155.069	236677.489	6303807.226	1155.071	236677.487	6303807.222	1155.061	236677.482	6303807.233	1155.060	-0.007	0.007
M-35	236692.161	6303807.797	1156.467	236692.219	6303807.750	1155.339	236692.209	6303807.758	1155.340	236692.213	6303807.757	1155.329	236692.207	6303807.765	1155.329	-0.002	0.007
M-36	236707.209	6303808.212	1157.018	236707.213	6303808.149	1155.826	236707.204	6303808.156	1155.826	236707.145	6303808.154	1156.546	236707.199	6303808.164	1155.816	-0.005	0.008
M-36A	236714.710	6303808.381	1157.306	236714.697	6303808.316	1156.118	236714.689	6303808.321	1156.115				236714.684	6303808.328	1156.104	-0.005	0.007
M-37	236722.183	6303808.552	1157.751	236722.156	6303808.487	1156.570	236722.146	6303808.491	1156.573	236722.147	6303808.486	1156.568	236722.141	6303808.499	1156.562	-0.004	0.008
M-38	236737.138	6303808.961	1157.813														
M-39	236752.149	6303809.354	1158.217														
M-40	236767.172	6303809.731	1158.608	236767.130	6303809.669	1157.532	236767.120	6303809.672	1157.534	236767.123	6303809.670	1157.529	236767.118	6303809.677	1157.522	-0.002	0.005
M-41	236782.147	6303810.180	1159.455	236782.116	6303810.120	1158.404	236782.107	6303810.124	1158.407	236782.109	6303810.120	1158.401	236782.105	6303810.129	1158.393	-0.002	0.005
M-42	236797.179	6303810.494	1160.753	236797.211	6303810.494	1159.725	236797.202	6303810.501	1159.726	236797.205	6303810.498	1159.723	236797.201	6303810.506	1159.717	-0.001	0.005
M-43	236812.176	6303810.979	1161.490	236812.163	6303810.920	1160.463	236812.153	6303810.927	1160.463	236812.155	6303810.924	1160.455	236812.150	6303810.931	1160.451	-0.003	0.004



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	Pre-Movement Survey by CEH 13/02/2004 Adjusted CEH to CW Survey Control			Post-Movement Survey by Aurecon 11 July 2013			Post-Movement Survey by Aurecon 1st-3rd October 2013			Post-Movement Survey by Aurecon December 2013			Post-Movement Survey by Aurecon January 2014			Period Move	
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN
M-44	236827.145	6303811.421	1162.241	236827.145	6303811.369	1161.225	236827.135	6303811.375	1161.225	236827.117	6303811.369	1161.219	236827.130	6303811.380	1161.212	-0.005	0.005
M-45	236842.163	6303811.817	1163.105	236842.170	6303811.760	1162.097	236842.159	6303811.766	1162.098	236842.163	6303811.769	1162.094	236842.159	6303811.771	1162.084	0.000	0.005
M-46	236857.084	6303812.256	1163.850	236857.086	6303812.204	1162.850	236857.086	6303812.211	1162.852	236857.089	6303812.210	1162.846	236857.084	6303812.213	1162.837	-0.001	0.002
M-47	236872.165	6303812.679	1164.526	236872.182	6303812.624	1163.526	236872.170	6303812.632	1163.528	236872.172	6303812.629	1163.522	236872.172	6303812.633	1163.513	0.003	0.002
M-48	236887.199	6303813.145	1165.212	236887.219	6303813.098	1164.209	236887.209	6303813.108	1164.210	236887.213	6303813.101	1164.204	236887.209	6303813.107	1164.196	0.000	-0.001
M-49	236902.235	6303813.543	1165.706	236902.259	6303813.509	1164.729	236902.249	6303813.517	1164.729	236902.250	6303813.510	1164.711	236902.243	6303813.513	1164.697	-0.005	-0.004
M-50	236917.173	6303814.016	1166.401	236917.199	6303813.987	1165.396	236917.191	6303813.993	1165.396	236917.193	6303813.988	1165.386	236917.188	6303813.993	1165.379	-0.003	0.000
M-51	236932.181	6303814.449	1166.779	236932.211	6303814.424	1165.752	236932.201	6303814.427	1165.751	236932.201	6303814.423	1165.739	236932.198	6303814.429	1165.737	-0.003	0.002
M-52	236947.173	6303814.948	1166.651	236947.207	6303814.928	1165.610	236947.195	6303814.933	1165.609	236947.198	6303814.927	1165.597	236947.190	6303814.932	1165.593	-0.005	-0.001
M-53	236962.185	6303815.411	1166.973	236962.236	6303815.387	1165.911	236962.225	6303815.394	1165.909	236962.227	6303815.388	1165.898	236962.219	6303815.392	1165.893	-0.006	-0.002
M-54	236977.141	6303815.976	1166.783	236977.197	6303815.951	1165.679	236977.183	6303815.958	1165.676	236977.189	6303815.953	1165.667	236977.185	6303815.957	1165.660	0.002	0.000
M-55	236992.184	6303816.464	1166.391										236991.194	6303816.887	1165.157		
M-56	237007.154	6303816.910	1166.382	237007.217	6303816.878	1165.189	237007.206	6303816.884	1165.186	237007.211	6303816.876	1165.170	237007.205	6303816.879	1165.167	-0.001	-0.005
M-57	237022.127	6303817.453	1166.150													0.000	0.000
M-58	237037.190	6303817.921	1166.057													0.000	0.000
M-59	237052.120	6303818.435	1166.142	237052.134	6303818.409	1164.812	237052.123	6303818.417	1164.809	237052.122	6303818.411	1164.791	237052.121	6303818.410	1164.787	-0.001	-0.007
M-60	237067.078	6303818.934	1166.137													0.000	0.000
M-61	237082.017	6303819.413	1166.094	237081.995	6303819.391	1164.846	237081.984	6303819.396	1164.841	237081.984	6303819.396	1164.841					
M-62	237097.099	6303819.903	1166.071	237097.058	6303819.876	1164.905	237097.047	6303819.882	1164.900	237097.047	6303819.879	1164.880	237097.044	6303819.878	1164.877	-0.003	-0.004
M-63	237112.093	6303820.372	1166.063	237112.048	6303820.355	1164.986	237112.038	6303820.360	1164.984	237112.045	6303820.360	1164.947	237112.033	6303820.356	1164.959	-0.004	-0.004
M-64	237127.164	6303820.821	1166.081	237127.122	6303820.815	1165.086	237127.112	6303820.818	1165.082	237127.104	6303820.820	1165.045	237127.112	6303820.813	1165.058	0.000	-0.004
M-65	237142.008	6303821.306	1166.068	237141.959	6303821.284	1165.149	237141.950	6303821.288	1165.145	237141.961	6303821.276	1165.111	237141.948	6303821.286	1165.122	-0.002	-0.002
M-66	237157.198	6303821.749	1166.399	237157.164	6303821.746	1165.525	237157.153	6303821.748	1165.521	237157.143	6303821.746	1165.488	237157.154	6303821.745	1165.498	0.001	-0.003
M-67	237172.137	6303822.121	1166.373	237172.107	6303822.121	1165.530	237172.097	6303822.124	1165.526	237172.093	6303822.128	1165.491	237172.096	6303822.119	1165.503	-0.001	-0.005
M-68	237187.102	6303822.659	1166.038	237187.071	6303822.662	1165.212	237187.062	6303822.664	1165.206	237187.061	6303822.665	1165.168	237187.061	6303822.660	1165.181	-0.001	-0.004
M-69	237202.093	6303822.612	1166.273													0.000	0.000
M-70	237217.095	6303822.650	1166.141	237217.074	6303822.658	1165.352	237217.063	6303822.661	1165.348	237217.062	6303822.663	1165.297	237217.063	6303822.651	1165.323	0.000	-0.010
M-71	237232.140	6303822.650	1165.758	237232.125	6303822.662	1164.976	237232.115	6303822.666	1164.972	237232.117	6303822.665	1164.921	237232.115	6303822.660	1164.950	0.001	-0.005
M-72	237247.676	6303822.627	1165.505													0.000	0.000
M-73	237262.147	6303822.550	1164.954	237262.133	6303822.564	1164.182	237262.124	6303822.570	1164.178	237262.125	6303822.564	1164.128	237262.125	6303822.566	1164.156	0.001	-0.004
M-74	237277.274	6303822.560	1164.415	237277.271	6303822.603	1163.591	237277.264	6303822.607	1163.585	237277.265	6303822.609	1163.530	237277.264	6303822.607	1163.563	0.000	0.000
M-75	237292.172	6303822.974	1163.850	237292.181	6303822.990	1163.081	237292.173	6303822.997	1163.075	237292.174	6303822.998	1163.008	237292.173	6303822.993	1163.056	0.001	-0.004
M-76	237307.187	6303823.454	1163.237	237307.199	6303823.473	1162.325	237307.196	6303823.478	1162.318	237307.192	6303823.477	1162.253	237307.192	6303823.477	1162.303	-0.004	-0.001
M-77	237322.221	6303823.818	1162.423	237322.257	6303823.814	1161.513	237322.251	6303823.820	1161.506	237322.253	6303823.821	1161.443	237322.252	6303823.817	1161.491	0.002	-0.003
M-78	237337.133	6303824.254	1161.311	237337.152	6303824.263	1160.501	237337.145	6303824.270	1160.494	237337.146	6303824.268	1160.432	237337.146	6303824.265	1160.478	0.001	-0.005
M-79	237352.199	6303824.808	1160.232	237352.226	6303824.811	1159.405	237352.219	6303824.816	1159.399	237352.219	6303824.820	1159.334	237352.219	6303824.815	1159.381	0.001	-0.001
M-80	237367.019	6303825.268	1159.152	237367.037	6303825.267	1158.299	237367.027	6303825.274	1158.292	237367.030	6303825.275	1158.215	237367.032	6303825.274	1158.280	0.005	0.001
M-81	237382.125	6303825.781	1158.514	237382.140	6303825.774	1157.629	237382.131	6303825.782	1157.623	237382.137	6303825.781	1157.545	237382.135	6303825.780	1157.612	0.004	-0.002
M-82	237397.110	6303826.352	1158.012	237397.112	6303826.342	1157.122	237397.105	6303826.351	1157.115	237396.962	6303826.381	1156.833	237397.109	6303826.348	1157.103	0.005	-0.003
M-83	237412.169	6303826.781	1157.300	237412.172	6303826.765	1156.425	237412.165	6303826.774	1156.419	237412.167	6303826.775	1156.338	237412.168	6303826.773	1156.407	0.003	-0.001
M-84	237427.139	6303826.871	1155.556	237427.137	6303826.852	1154.755	237427.130	6303826.861	1154.749	237427.132	6303826.865	1154.655	237427.132	6303826.858	1154.741	0.002	-0.003
M-85	237442.220	6303827.065	1153.779	237442.209	6303827.053	1153.088	237442.200	6303827.061	1153.081	237441.984	6303827.054	1152.992	237442.205	6303827.061	1153.078	0.005	0.000
M-86	237457.157	6303827.155	1151.786	237457.084	6303827.166	1151.185	237457.076	6303827.177	1151.179	237457.077	6303827.172	1151.089	237457.084	6303827.172	1151.174	0.008	-0.005
M-87	237472.155	6303827.235	1149.967	237472.085	6303827.253	1149.445	237472.078	6303827.265	1149.438	237472.078	6303827.262	1149.351	237472.079	6303827.265	1149.439	0.002	0.000



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	Pre-Movement Survey by CEH 13/02/2004 Adjusted CEH to CW Survey Control			Post-Movement Survey by Aurecon 11 July 2013			Post-Movement Survey by Aurecon 1st-3rd October 2013			Post-Movement Survey by Aurecon December 2013			Post-Movement Survey by Aurecon January 2014			Period Move	
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN
M-88	237487.124	6303827.370	1147.897	237487.065	6303827.386	1147.452	237487.060	6303827.399	1147.445	237487.063	6303827.398	1147.357	237487.065	6303827.398	1147.443	0.005	-0.001
M-89	237502.136	6303827.502	1146.347	237502.037	6303827.517	1145.953	237502.030	6303827.527	1145.946	237502.033	6303827.520	1145.855	237502.038	6303827.526	1145.941	0.008	-0.001
M-90	237517.095	6303828.167	1145.514	237517.013	6303828.187	1145.165	237517.005	6303828.197	1145.162	237517.011	6303828.187	1145.057	237517.012	6303828.202	1145.163	0.007	0.005
M-91	237532.142	6303828.780	1144.788	237532.068	6303828.801	1144.477	237532.062	6303828.813	1144.475	237532.065	6303828.800	1144.372	237532.070	6303828.815	1144.475	0.008	0.003
M-92	237547.062	6303829.383	1144.447													0.000	0.000
M-93	237562.109	6303830.222	1144.679	237562.042	6303830.241	1144.427	237562.036	6303830.255	1144.421	237562.044	6303830.245	1144.337	237562.048	6303830.258	1144.421	0.012	0.003
M-94	237576.954	6303830.748	1145.655	237576.888	6303830.766	1145.418	237576.882	6303830.780	1145.414	237576.607	6303830.824	1144.659	237576.892	6303830.779	1145.415	0.011	-0.001
M-95	237592.111	6303831.475	1146.262	237592.052	6303831.498	1146.038	237592.045	6303831.510	1146.033	237592.051	6303831.497	1145.926	237592.058	6303831.507	1146.035	0.013	-0.003
M-96	237607.093	6303832.138	1146.694	237607.033	6303832.160	1146.485	237607.028	6303832.171	1146.482	237607.045	6303832.161	1146.364	237607.039	6303832.168	1146.485	0.011	-0.003
M-97				237622.124	6303832.986	1146.499	237622.118	6303832.998	1146.496	237622.126	6303832.985	1146.378	237622.129	6303832.995	1146.501	0.011	-0.003
M-98																	
M-99																	
M-99A	237659.531	6303834.949	1145.758	237659.482	6303834.973	1145.594	237659.475	6303834.986	1145.588	237659.475	6303834.986	1145.588	237659.491	6303834.985	1145.593	0.016	-0.001
M-100				237666.974	6303835.157	1144.688	237666.968	6303835.170	1144.684	237666.973		1144.553	237666.986	6303835.156	1144.694	0.018	-0.014
M-101				237682.046	6303835.597	1142.913	237682.041	6303835.610	1142.911	237682.055	6303835.593	1142.779	237682.057	6303835.601	1142.919	0.016	-0.009
M-102				237696.990	6303836.049	1141.079	237696.987	6303836.061	1141.076	237696.994	6303836.050	1140.946	237697.004	6303836.057	1141.086	0.018	-0.004
M-103				237712.051	6303836.460	1138.971	237712.045	6303836.472	1138.969	237712.052	6303836.458	1138.838	237712.066	6303836.469	1138.978	0.022	-0.003
M-104	237727.075	6303836.847	1136.830	237727.044	6303836.871	1136.695	237727.039	6303836.882	1136.692	237727.046	6303836.867	1136.556	237727.058	6303836.882	1136.699	0.019	0.000
M-105				237742.026	6303837.277	1134.345	237742.022	6303837.288	1134.341	237742.023	6303837.280	1134.200	237742.044	6303837.288	1134.358	0.022	0.000
M-106				237756.992	6303837.041	1132.046	237756.989	6303837.054	1132.044	237756.991	6303837.037	1131.900	237757.008	6303837.052	1132.056	0.020	-0.002
M-107				237772.066	6303837.154	1129.735	237772.064	6303837.165	1129.734	237772.072	6303837.152	1129.591	237772.086	6303837.161	1129.746	0.022	-0.004
M-108				237787.068	6303837.209	1126.975	237787.065	6303837.220	1126.974	237787.072	6303837.207	1126.829	237787.089	6303837.216	1126.987	0.024	-0.003
M-109	237802.024	6303837.273	1124.572	237801.999	6303837.295	1124.463	237801.996	6303837.305	1124.462	237802.004	6303837.290	1124.314	237802.020	6303837.303	1124.471	0.025	-0.002
M-110				237817.133	6303837.716	1122.069	237817.129	6303837.724	1122.065	237817.141	6303837.708	1121.922	237817.157	6303837.722	1122.080	0.028	-0.002
M-111				237832.062	6303838.105	1120.292	237832.062	6303838.114	1120.292	237832.072	6303838.098	1120.145	237832.088	6303838.109	1120.298	0.027	-0.004
M-112				237846.968	6303838.645	1120.823	237846.963	6303838.652	1120.823	237846.972	6303838.636	1120.656	237846.988	6303838.649	1120.830	0.025	-0.002
M-113				237861.918	6303839.076	1122.022	237861.913	6303839.082	1122.022	237861.928	6303839.066	1121.857	237861.948	6303839.074	1122.031	0.035	-0.007
M-114				237876.950	6303839.503	1125.020	237876.945	6303839.508	1125.020	237876.961	6303839.491	1124.852	237876.982	6303839.496	1125.025	0.037	-0.012
M-115	237892.065	6303839.926	1129.163	237891.959	6303839.936	1129.042	237891.957	6303839.941	1129.040	237891.973	6303839.925	1128.867	237891.996	6303839.930	1129.044	0.039	-0.011
M-116				237906.946	6303840.351	1131.923	237906.943	6303840.355	1131.922	237906.963	6303840.342	1131.737	237906.983	6303840.349	1131.927	0.040	-0.006
M-117				237921.988	6303840.800	1133.780	237921.985	6303840.803	1133.779	237922.002	6303840.792	1133.593	237922.028	6303840.796	1133.782	0.043	-0.007
M-118				237936.902	6303841.241	1135.817	237936.899	6303841.242	1135.820	237936.920	6303841.230	1135.633	237936.941	6303841.232	1135.818	0.042	-0.010
M-119				237951.967	6303841.663	1137.289	237951.964	6303841.666	1137.288	237951.984	6303841.654	1137.098	237952.014	6303841.648	1137.277	0.051	-0.018
M-120	237966.880	6303842.076	1138.749	237966.752	6303842.099	1138.584	237966.752	6303842.101	1138.580	237966.775	6303842.089	1138.388	237966.799	6303842.087	1138.572	0.046	-0.014
M-121				237981.729	6303842.446	1139.737	237981.729	6303842.452	1139.733	237981.757	6303842.439	1139.529	237981.781	6303842.441	1139.726	0.052	-0.011
M-122				237996.684	6303842.787	1141.041	237996.682	6303842.785	1141.041	237996.708	6303842.775	1140.827	237996.738	6303842.767	1141.025	0.056	-0.018
M-123				238011.605	6303843.176	1142.187	238011.603	6303843.177	1142.187	238011.638	6303843.164	1141.954	238011.667	6303843.154	1142.169	0.064	-0.023
M-124				238026.715	6303843.498	1143.125	238026.715	6303843.501	1143.125	238026.751	6303843.491	1142.890	238026.779	6303843.476	1143.104	0.064	-0.024
M-125				238041.460	6303843.821	1144.014	238041.461	6303843.821	1144.013	238041.495	6303843.812	1143.772	238041.530	6303843.794	1143.985	0.069	-0.027
M-126				238056.680	6303844.240	1145.339	238056.677	6303844.235	1145.340	238056.717	6303844.224	1145.096	238056.754	6303844.203	1145.305	0.077	-0.032
M-127				238071.693	6303844.574	1146.157	238071.692	6303844.571	1146.156	238071.739	6303844.555	1145.908	238071.771	6303844.532	1146.111	0.079	-0.039
M-128				238086.674	6303844.924	1146.941	238086.675	6303844.920	1146.939	238086.721	6303844.902	1146.680	238086.759	6303844.877	1146.875	0.084	-0.043
M-129				238101.681	6303845.270	1147.755	238101.680	6303845.268	1147.752	238101.726	6303845.252	1147.482	238101.765	6303845.217	1147.671	0.085	-0.051
M-130				238116.600	6303845.742	1148.558	238116.601	6303845.742	1148.557	238116.652	6303845.717	1148.260	238116.691	6303845.678	1148.443	0.090	-0.064



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Pre-Movement Survey by CEH 13/02/2004 Adjusted CEH to CW Survey Control				Post-Movement Survey by Aurecon 11 July 2013			Post-Movement Survey by Aurecon 1st-3rd October 2013			Post-Movement Survey by Aurecon December 2013			Post-Movement Survey by Aurecon January 2014			Period Mov	
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN
M-131				238131.657	6303845.932	1149.168	238131.655	6303845.930	1149.168	238131.707	6303845.904	1148.833	238131.747	6303845.858	1149.026	0.092	-0.072
M-132				238146.590	6303846.307	1149.345	238146.590	6303846.305	1149.344	238146.640	6303846.273	1148.993	238146.679	6303846.230	1149.178	0.089	-0.075
M-133				238161.556	6303846.750	1149.839	238161.557	6303846.750	1149.837	238161.610	6303846.713	1149.478	238161.645	6303846.668	1149.653	0.088	-0.082
M-134				238176.563	6303847.035	1150.029	238176.564	6303847.034	1150.031	238176.613	6303846.994	1149.661	238176.650	6303846.947	1149.832	0.086	-0.087
M-135				238191.522	6303847.341	1150.531	238191.524	6303847.340	1150.532	238191.571	6303847.301	1150.156	238191.608	6303847.247	1150.322	0.084	-0.093
M-136				238206.540	6303847.649	1151.190	238206.540	6303847.647	1151.193	238206.591	6303847.600	1150.812	238206.623	6303847.548	1150.976	0.083	-0.099
M-137				238221.548	6303847.939	1151.944	238221.549	6303847.937	1151.947	238221.592	6303847.890	1151.559	238221.632	6303847.833	1151.722	0.083	-0.104
M-138				238236.524	6303848.290	1152.811	238236.526	6303848.288	1152.813	238236.570	6303848.238	1152.414	238236.607	6303848.180	1152.573	0.081	-0.108
M-139				238251.559	6303848.523	1153.149	238251.561	6303848.522	1153.150				238251.640	6303848.409	1152.912	0.079	-0.113
M-140				238266.556	6303848.846	1153.638	238266.556	6303848.846	1153.640				238266.633	6303848.738	1153.385	0.077	-0.107
M-141				238281.600	6303849.219	1154.462	238281.601	6303849.217	1154.465	238281.643	6303849.162	1154.056	238281.672	6303849.105	1154.203	0.071	-0.112
M-142				238296.599	6303849.482	1155.019	238296.599	6303849.480	1155.021	238296.636	6303849.421	1154.610	238296.669	6303849.363	1154.756	0.070	-0.117
M-143				238311.570	6303849.892	1155.628	238311.570	6303849.891	1155.630	238311.611	6303849.828	1155.215	238311.638	6303849.764	1155.360	0.068	-0.126
M-144				238326.676	6303850.187	1156.358	238326.679	6303850.184	1156.361	238326.715	6303850.116	1155.942	238326.729	6303850.052	1156.090	0.051	-0.132
M-145				238341.620	6303850.530	1156.718	238341.618	6303850.527	1156.720	238341.651	6303850.452	1156.298	238341.671	6303850.388	1156.445	0.053	-0.138
M-146				238356.581	6303850.879	1157.344	238356.581	6303850.878	1157.342	238356.608	6303850.797	1156.917	238356.626	6303850.732	1157.067	0.045	-0.146
M-147				238377.822	6303851.626	1157.397	238377.819	6303851.623	1157.397	238377.841	6303851.534	1156.981	238377.857	6303851.472	1157.126	0.038	-0.151
M-148				238386.593	6303852.001	1157.486	238386.592	6303852.000	1157.486	238386.617	6303851.917	1157.074	238386.629	6303851.848	1157.215	0.037	-0.152
M-149				238401.277	6303852.483	1157.581	238401.278	6303852.483	1157.582	238401.296	6303852.392	1157.172	238401.236	6303852.339	1157.312	-0.042	-0.144
M-150				238416.574	6303852.971	1157.912	238416.575	6303852.973	1157.913	238416.592	6303852.880	1157.509	238416.600	6303852.819	1157.659	0.025	-0.154
M-151				238431.299	6303853.492	1157.492	238431.299	6303853.492	1157.492	238431.306	6303853.398	1157.095	238431.304	6303853.335	1157.251	0.006	-0.157
M-152				238446.580	6303854.064	1157.167	238446.577	6303854.061	1157.166	238446.579	6303853.968	1156.773	238446.587	6303853.911	1156.934	0.010	-0.150
M-153				238461.616	6303854.626	1156.545	238461.612	6303854.627	1156.543	238461.613	6303854.529	1156.176	238461.613	6303854.485	1156.328	0.002	-0.142
M-154				238476.504	6303855.027	1156.012	238476.500	6303855.024	1156.011	238476.494	6303854.929	1155.653	238476.498	6303854.885	1155.815	-0.002	-0.139
M-155				238491.574	6303855.595	1154.789	238491.571	6303855.592	1154.787	238491.558	6303855.500	1154.446	238491.562	6303855.459	1154.611	-0.009	-0.133
M-156				238506.530	6303856.055	1153.275	238506.525	6303856.051	1153.271	238506.515	6303855.961	1152.937	238506.515	6303855.924	1153.113	-0.010	-0.127
M-157				238521.533	6303856.142	1150.683	238521.526	6303856.137	1150.677	238521.517	6303856.053	1150.360	238521.518	6303856.021	1150.537	-0.008	-0.116
M-158				238536.597	6303853.944	1148.763	238536.590	6303853.943	1148.758	238536.551	6303853.870	1148.450	238536.574	6303853.842	1148.624	-0.016	-0.101
M-159				238551.569	6303856.266	1147.875	238551.558	6303856.259	1147.871	238551.535	6303856.195	1147.575	238551.541	6303856.165	1147.763	-0.017	-0.094
M-160				238566.492	6303856.420	1145.288	238566.485	6303856.414	1145.286	238566.464	6303856.348	1145.015	238566.467	6303856.327	1145.191	-0.018	-0.087
M-161				238581.585	6303856.647	1142.045	238581.576	6303856.643	1142.039	238581.556	6303856.581	1141.775	238581.560	6303856.561	1141.951	-0.016	-0.082
M-162				238596.564	6303857.535	1139.614	238596.554	6303857.531	1139.610	238596.535	6303857.471	1139.368	238596.539	6303857.455	1139.530	-0.015	-0.076
M-163				238611.578	6303858.372	1137.956	238611.569	6303858.368	1137.953	238611.551	6303858.316	1137.718	238611.550	6303858.297	1137.880	-0.019	-0.070
M-164				238626.507	6303859.185	1135.673	238626.497	6303859.177	1135.666	238626.479	6303859.123	1135.433	238626.479	6303859.109	1135.599	-0.018	-0.068
M-165				238641.456	6303860.071	1132.057	238641.447	6303860.064	1132.052	238641.434	6303860.002	1131.835	238641.430	6303859.996	1132.003	-0.017	-0.068
M-166				238656.439	6303860.804	1127.009	238656.433	6303860.796	1127.004	238656.414	6303860.735	1126.790	238656.415	6303860.733	1126.948	-0.017	-0.063
M-167				238671.515	6303861.717	1123.149	238671.503	6303861.709	1123.146	238671.492	6303861.666	1122.936	238671.485	6303861.651	1123.096	-0.018	-0.058
M-168				238686.376	6303862.983	1121.385	238686.365	6303862.975	1121.381	238686.352	6303862.923	1121.175	238686.347	6303862.920	1121.338	-0.018	-0.055
M-169				238701.402	6303863.800	1121.116	238701.390	6303863.793	1121.112	238701.378	6303863.741	1120.910	238701.375	6303863.738	1121.071	-0.015	-0.055
M-170				238716.304	6303864.751	1121.920	238716.292	6303864.739	1121.914	238716.279	6303864.693	1121.710	238716.277	6303864.691	1121.872	-0.015	-0.048
NOTES CEH Coordinates have been shifted by +0.021E and +0.077N				238731.246	6303865.711	1121.593	238731.234	6303865.701	1121.588	238731.220	6303865.656	1121.400	238731.217	6303865.654	1121.553	-0.017	-0.047
				238746.321	6303865.700	1121.008	238746.307	6303865.687	1121.003	238746.299	6303865.643	1120.818	238746.291	6303865.647	1120.973	-0.016	-0.040
				238761.223	6303866.217	1119.793	238761.211	6303866.206	1119.788	238761.199	6303866.168	1119.605	238761.193	6303866.164	1119.758	-0.018	-0.041
				238776.324	6303866.714	1119.795	238776.313	6303866.704	1119.790	238776.299	6303866.663	1119.606	238776.294	6303866.666	1119.760	-0.019	-0.038



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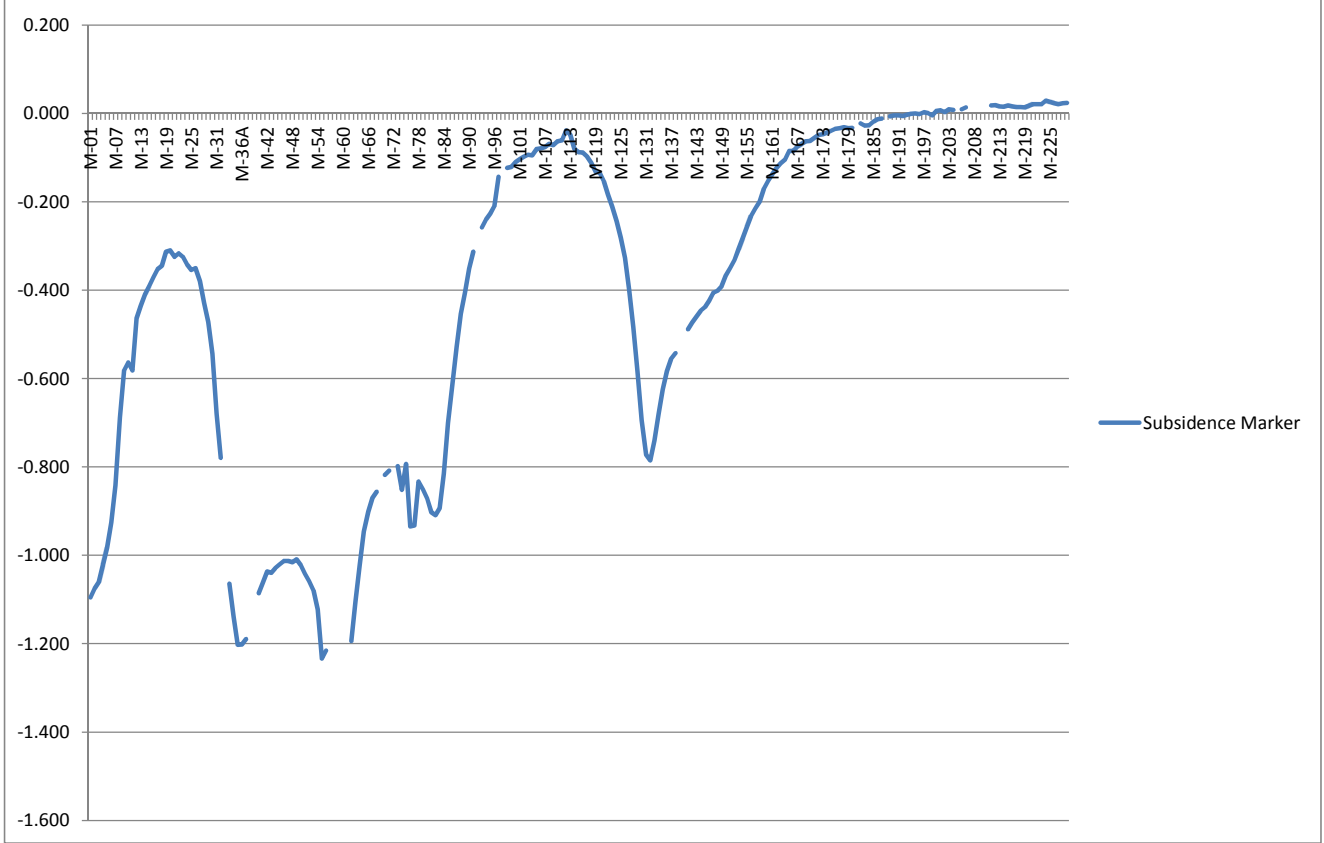
Pre-Movement Survey by CEH 13/02/2004 Adjusted CEH to CW Survey Control				Post-Movement Survey by Aurecon 11 July 2013			Post-Movement Survey by Aurecon 1st-3rd October 2013			Post-Movement Survey by Aurecon December 2013			Post-Movement Survey by Aurecon January 2014			Period Move	
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN
to agree to MGA Co-ords for Bald (TS 692) Trig Station as adjusted 5th December 2005 by the Department of Lands. Co-Ordinates for Bald E 243354.350 N 6295843.521 RL 1180.238. Adopted as Origin for Connell Wagner Survey. As with CEH surveys, Stations ELN78 and GIP1 were co-ordinated by GPS and the traverse adjusted between the extremities Additional GPS control established at Point 61 Co-ordinates accuracy of +/- 0.02m for Eastings Co-ordinates accuracy of +/- 0.04m for Northings Co-ordinates accuracy of +/- 0.02m for Height Movement values are subject to spreadsheet rounding off * Denotes total movement relative to 26/05/08 ** Denotes total movement relative to 22/07/09 *** Denotes total movement relative to 19/07/10 **** Denotes total movement relative to 21/02/12				238789.854	6303867.186	1119.620	238789.843	6303867.174	1119.613	238789.827	6303867.130	1119.443	238789.822	6303867.140	1119.590	-0.021	-0.034
				238806.290	6303867.766	1119.242	238806.279	6303867.750	1119.238	238806.262	6303867.716	1119.067	238806.257	6303867.722	1119.214	-0.021	-0.028
				238821.492	6303868.276	1119.098	238821.480	6303868.261	1119.091				238821.459	6303868.233	1119.071	-0.021	-0.028
				238836.321	6303868.817	1118.482	238836.310	6303868.802	1118.477	238836.294	6303868.770	1118.313	238836.288	6303868.775	1118.457	-0.022	-0.027
				238851.298	6303869.287	1117.263	238851.287	6303869.273	1117.252	238851.272	6303869.242	1117.087	238851.264	6303869.248	1117.232	-0.023	-0.025
				238866.217	6303869.678	1115.049	238866.207	6303869.665	1115.041	238866.192	6303869.636	1114.893	238866.180	6303869.650	1115.021	-0.026	-0.015
				238881.282	6303870.075	1113.361	238881.275	6303870.058	1113.358	238881.261	6303870.029	1113.210					
				238896.763	6303870.374	1111.495	238896.753	6303870.357	1111.489	238896.740	6303870.328	1111.345	238896.733	6303870.337	1111.474	-0.020	-0.020
				238911.478	6303870.824	1109.376	238911.468	6303870.810	1109.370	238911.459	6303870.781	1109.225	238911.450	6303870.792	1109.349	-0.017	-0.017
				238926.199	6303871.262	1107.661	238926.188	6303871.247	1107.655	238926.174	6303871.220	1107.511	238926.168	6303871.237	1107.636	-0.020	-0.010
				238941.268	6303871.666	1105.589	238941.258	6303871.654	1105.582	238941.246	6303871.627	1105.442	238941.237	6303871.641	1105.569	-0.021	-0.013
				238956.296	6303872.010	1103.545	238956.284	6303871.997	1103.539	238956.177	6303872.131	1103.795	238956.269	6303871.985	1103.529	-0.015	-0.012
				238971.199	6303872.401	1101.504	238971.188	6303872.389	1101.496	238971.178	6303872.364	1101.353	238971.172	6303872.376	1101.483	-0.016	-0.013
				238986.216	6303873.208	1098.878	238986.202	6303873.193	1098.869	238986.200	6303873.169	1098.732					
				239001.179	6303874.095	1097.090	239001.168	6303874.082	1097.084	239001.162	6303874.058	1096.958	239001.156	6303874.070	1097.077	-0.011	-0.012
				239016.211	6303874.877	1094.318	239016.204	6303874.866	1094.312	239016.197	6303874.839	1094.188	239016.188	6303874.852	1094.308	-0.016	-0.014
				239031.066	6303875.752	1090.737	239031.055	6303875.742	1090.725	239031.050	6303875.717	1090.599	239031.041	6303875.731	1090.719	-0.014	-0.011
				239046.053	6303876.083	1087.432	239046.044	6303876.071	1087.424	239046.039	6303876.054	1087.313	239046.033	6303876.062	1087.415	-0.011	-0.009
				239061.100	6303876.463	1083.370	239061.090	6303876.451	1083.361	239061.084	6303876.429	1083.251	239061.077	6303876.445	1083.354	-0.013	-0.006
				239076.067	6303876.803	1080.650	239076.058	6303876.793	1080.643	239076.057	6303876.771	1080.533	239076.047	6303876.785	1080.638	-0.010	-0.008
				239091.469	6303877.113	1077.303	239091.457	6303877.103	1077.296	239091.459	6303877.080	1077.188	239091.450	6303877.093	1077.291	-0.007	-0.009
				239106.093	6303877.494	1073.995	239106.082	6303877.482	1073.987	239106.083	6303877.461	1073.870	239106.074	6303877.475	1073.975	-0.008	-0.007
				239120.991	6303877.989	1071.168	239120.980	6303877.975	1071.160	239120.983	6303877.957	1071.060	239120.973	6303877.972	1071.155	-0.007	-0.003
				239136.052	6303878.496	1068.444	239136.043	6303878.485	1068.436	239136.050	6303878.464	1068.337	239136.035	6303878.481	1068.429	-0.008	-0.004
				239151.184	6303878.758	1064.894	239151.177	6303878.752	1064.884	239151.176	6303878.735	1064.786	239151.168	6303878.749	1064.880	-0.009	-0.003
				239166.086	6303879.452	1065.097	239166.078	6303879.444	1065.086	239166.081	6303879.429	1064.988	239166.070	6303879.441	1065.082	-0.007	-0.003
				239181.105	6303879.982	1065.661	239181.097	6303879.965	1065.651	239181.102	6303879.951	1065.551	239181.093	6303879.966	1065.646	-0.005	0.001
				239195.739	6303880.500	1067.041	239195.731	6303880.483	1067.034	239195.735	6303880.470	1066.952	239195.725	6303880.492	1067.032	-0.005	0.009
				239211.052	6303880.953	1068.560	239211.043	6303880.933	1068.552	239211.048	6303880.925	1068.468	239211.040	6303880.943	1068.549	-0.003	0.010
				239225.532	6303881.430	1070.146	239225.522	6303881.412	1070.137	239225.529	6303881.400	1070.053	239225.519	6303881.419	1070.134	-0.002	0.008
				239240.885	6303881.970	1072.197	239240.876	6303881.951	1072.189	239240.883	6303881.941	1072.103					
				239256.197	6303882.478	1072.931	239256.189	6303882.458	1072.922	239256.194	6303882.449	1072.836	239256.186	6303882.465	1072.917	-0.003	0.007
				239271.190	6303883.098	1072.929	239271.182	6303883.076	1072.920	239271.186	6303883.070	1072.853	239271.178	6303883.085	1072.921	-0.003	0.009
				239293.154	6303883.849	1069.388	239293.144	6303883.830	1069.378								
				239286.300	6303883.545	1071.242	239286.291	6303883.523	1071.233								
				239301.361	6303884.191	1066.633	239301.353	6303884.169	1066.625								
				239312.075	6303884.474	1061.715	239312.068	6303884.452	1061.705	239312.076	6303884.441	1061.647	239312.066	6303884.461	1061.705	-0.001	0.009
				DESTROYED	BY FALLEN	TREE	DESTROYED	BY FALLEN	TREE	DESTROYED	BY FALLEN	TREE					
				239331.062	6303885.363	1053.420	239331.053	6303885.344	1053.410	239331.060	6303885.338	1053.355	239331.053	6303885.354	1053.411	0.000	0.011
				239346.166	6303885.541	1052.177	239346.156	6303885.521	1052.167	239346.167	6303885.515	1052.112	239346.158	6303885.531	1052.168	0.002	0.010
				239361.120	6303886.734	1053.810	239361.112	6303886.710	1053.798	239361.123	6303886.707	1053.737	239361.114	6303886.722	1053.796	0.002	0.012
				239376.086	6303887.821	1055.804	239376.079	6303887.797	1055.794				239376.080	6303887.813	1055.794	0.002	0.016
				239391.011	6303888.991	1058.217	239391.004	6303888.972	1058.203	239391.011	6303888.965	1058.163	239391.006	6303888.981	1058.209	0.002	0.009



Spring Vale Colliery M-Line Subsidence
Project 207576

Pre-Movement Survey by CEH 13/02/2004 Adjusted CEH to CW Survey Control				Post-Movement Survey by Aurecon 11 July 2013			Post-Movement Survey by Aurecon 1st-3rd October 2013			Post-Movement Survey by Aurecon December 2013			Post-Movement Survey by Aurecon January 2014			Period Movement	
REF.NO.	E	N	RL	E	N	RL	E	N	RL	E	N	RL	E	N	RL	ΔE	ΔN
	239405.955	6303890.058	1059.779	239405.949	6303890.037	1059.768	239405.959	6303890.036	1059.723	239405.951	6303890.049	1059.769	239405.951	6303890.049	1059.769	0.002	0.013
	239420.908	6303891.127	1061.545	239420.901	6303891.107	1061.532	239420.912	6303891.107	1061.490	239420.903	6303891.119	1061.534	239420.903	6303891.119	1061.534	0.002	0.012
	239435.912	6303892.315	1064.034	239435.904	6303892.295	1064.023	239435.916	6303892.295	1063.977	239435.909	6303892.307	1064.023	239435.909	6303892.307	1064.023	0.005	0.012
	239450.859	6303893.547	1066.928	239450.851	6303893.527	1066.917	239450.860	6303893.527	1066.870	239450.855	6303893.539	1066.916	239450.855	6303893.539	1066.916	0.004	0.012
	239465.860	6303894.545	1069.610	239465.853	6303894.529	1069.598	239465.865	6303894.527	1069.550	239465.859	6303894.537	1069.596	239465.859	6303894.537	1069.596	0.006	0.008
	239480.830	6303895.408	1072.759	239480.821	6303895.392	1072.747	239480.826	6303895.386	1072.716	239480.829	6303895.401	1072.752	239480.829	6303895.401	1072.752	0.008	0.009
	239495.785	6303896.253	1076.158	239495.777	6303896.242	1076.147	239495.785	6303896.242	1076.113	239495.782	6303896.243	1076.151	239495.782	6303896.243	1076.151	0.006	0.002
	239510.779	6303897.131	1079.829	239510.772	6303897.119	1079.817	239510.779	6303897.129	1079.784	239510.776	6303897.124	1079.823	239510.776	6303897.124	1079.823	0.004	0.005
	239525.829	6303897.959	1082.936	239525.823	6303897.945	1082.924	239525.830	6303897.944	1082.888	239525.827	6303897.953	1082.928	239525.827	6303897.953	1082.928	0.003	0.008
	239540.826	6303897.899	1084.830	239540.818	6303897.888	1084.819	239540.823	6303897.887	1084.800	239540.825	6303897.891	1084.827	239540.825	6303897.891	1084.827	0.007	0.003
	239555.852	6303898.104	1087.311	239555.842	6303898.096	1087.300	239555.849	6303898.097	1087.281	239555.850	6303898.095	1087.306	239555.850	6303898.095	1087.306	0.008	-0.001
	239570.854	6303898.333	1089.308	239570.847	6303898.324	1089.296	239570.850	6303898.321	1089.278	239570.854	6303898.326	1089.301	239570.854	6303898.326	1089.301	0.007	0.002
	239585.852	6303898.528	1091.665	239585.844	6303898.522	1091.653	239585.847	6303898.518	1091.635	239585.851	6303898.521	1091.659	239585.851	6303898.521	1091.659	0.007	-0.001
	239600.846	6303898.588	1093.419	239600.839	6303898.581	1093.405	239600.847	6303898.578	1093.381	239600.846	6303898.581	1093.410	239600.846	6303898.581	1093.410	0.007	0.000

M Line Subsidence Results



Date Measured	05/12/06				13/09/07				25/09/08				05/11/09			
Instrument	Steel Band				Steel Band				Steel Band				Steel Band			
Survey No.	Leica NA 2000 Digital Level				Leica NA 2000 Digital Level				Leica NA 2000 Digital Level				Leica NA 2000 Digital Level			
	1				2				3				4			
Comments	Initial Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.			
Point	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.
T400	1154.195	400-401	14.977	14.990	1154.194	400-401	14.976	14.989	1154.189	400-401	14.974	14.987	1154.188	400-401	14.975	14.988
T401	1153.569	401-402	14.970	14.988	1153.567	401-402	14.969	14.987	1153.562	401-402	14.970	14.988	1153.561	401-402	14.970	14.988
T402	1152.841	402-403	14.936	15.026	1152.840	402-403	14.937	15.027	1152.834	402-403	14.938	15.028	1152.833	402-403	14.937	15.027
T403	1151.199	403-404	15.049	15.104	1151.198	403-404	15.051	15.106	1151.192	403-404	15.053	15.108	1151.192	403-404	15.053	15.108
T404	1149.914	404-405	14.956	15.039	1149.912	404-405	14.953	15.036	1149.904	404-405	14.949	15.032	1149.904	404-405	14.949	15.032
T405	1148.332	405-406	15.027	15.139	1148.330	405-406	15.034	15.145	1148.322	405-406	15.033	15.144	1148.322	405-406	15.035	15.146
T406	1146.495	406-407	15.013	15.095	1146.501	406-407	15.019	15.102	1146.493	406-407	15.021	15.104	1146.492	406-407	15.024	15.107
T407	1144.925	407-408	15.026	15.117	1144.921	407-408	15.025	15.116	1144.912	407-408	15.025	15.116	1144.911	407-408	15.025	15.116
T408	1143.273	408-409	14.931	15.043	1143.269	408-409	14.932	15.044	1143.259	408-409	14.933	15.045	1143.259	408-409	14.932	15.044
T409	1141.440	409-410	14.817	15.051	1141.437	409-410	14.821	15.055	1141.426	409-410	14.823	15.057	1141.425	409-410	14.824	15.058
T410	1138.799	410-411	15.122	15.666	1138.795	410-411	15.115	15.659	1138.784	410-411	15.113	15.657	1138.783	410-411	15.112	15.656
T411	1134.706	411-412	14.930	15.679	1134.705	411-412	14.937	15.686	1134.693	411-412	14.937	15.686	1134.692	411-412	14.939	15.688
T412	1129.918	412-413	15.058	15.205	1129.916	412-413	15.063	15.210	1129.903	412-413	15.065	15.212	1129.902	412-413	15.066	15.213
T413	1127.810	413-414	14.942	14.945	1127.804	413-414	14.942	14.945	1127.790	413-414	14.946	14.949	1127.789	413-414	14.946	14.949
T414	1127.514	414-415	14.992	15.073	1127.507	414-415	14.995	15.076	1127.492	414-415	14.998	15.079	1127.490	414-415	14.997	15.078
T415	1129.073	415-416	15.017	15.548	1129.067	415-416	15.019	15.550	1129.051	415-416	15.020	15.551	1129.049	415-416	15.020	15.551
T416	1133.102	416-417	14.963	15.910	1133.096	416-417	14.962	15.910	1133.079	416-417	14.964	15.911	1133.078	416-417	14.967	15.914
T417	1138.510	417-418	15.013	16.003	1138.505	417-418	15.015	16.005	1138.485	417-418	15.017	16.006	1138.485	417-418	15.021	16.010
T418	1144.051	418-419	15.022	15.315	1144.046	418-419	15.025	15.319	1144.024	418-419	15.029	15.323	1144.024	418-419	15.025	15.319
T419	1147.034	419-420	14.984	15.296	1147.034	419-420	14.991	15.302	1147.011	419-420	14.994	15.305	1147.010	419-420	14.997	15.307
T420	1150.107	420-421	14.975	15.179	1150.102	420-421	14.971	15.176	1150.079	420-421	14.975	15.179	1150.077	420-421	14.974	15.178
T421	1152.589	421-422	14.976	15.078	1152.586	421-422	14.978	15.080	1152.561	421-422	14.981	15.083	1152.560	421-422	14.982	15.084
T422	1154.342	422-423	14.997	15.084	1154.337	422-423	15.002	15.089	1154.310	422-423	15.002	15.089	1154.309	422-423	15.002	15.089
T423	1155.961	423-424	15.034	15.082	1155.955	423-424	15.034	15.082	1155.927	423-424	15.034	15.082	1155.926	423-424	15.034	15.082
T424	1157.168	424-425	14.953	14.974	1157.162	424-425	14.953	14.974	1157.132	424-425	14.953	14.974	1157.130	424-425	14.953	14.974
T425	1157.967	425-426	15.084	15.086	1157.962	425-426	15.086	15.088	1157.930	425-426	15.089	15.091	1157.928	425-426	15.087	15.089
T426	1158.220	426-427	14.892	14.902	1158.215	426-427	14.892	14.902	1158.181	426-427	14.893	14.902	1158.180	426-427	14.892	14.901
T427	1158.753	427-428	15.047	15.055	1158.748	427-428	15.051	15.059	1158.712	427-428	15.056	15.064	1158.711	427-428	15.057	15.065
T428	1159.252				1159.247				1159.211				1159.208			

NOTES:

- Slope distances and RL's measured are accurate to +/- 0.005 metres.
- Origin of levels are BM 51 RL 1157.952 and BM 50 RL 1157.236 based on GPS observations adopting the Department of Lands Coordinates for Bald (TS 692) Trig Station of E 243354.359 N 6295843.521 and RL 1180.238.
- Mark number 414 is in the Sunnyside swamp

ce Monitoring For LW415 - Springvale Colliery
Strain Line T

13/03/10				08/04/10				12/05/10				16/11/10				18/05/11		
Steel Band				Steel Band				Steel Band				Steel Band				Steel Band		
Leica NA 2000 Digital Level				Leica NA 2000 Digital Level				Leica NA 2000 Digital Level				Leica NA 2000 Digital Level				Leica NA 2000 Digital Level		
5				6				7				8				9		
Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.		
RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.
1154.180	400-401	14.981	14.994	1154.179	400-401	14.979	14.992	1154.178	400-401	14.979	14.992	1154.178	400-401	14.982	14.995	1154.175	400-401	14.980
1153.553	401-402	14.968	14.986	1153.551	401-402	14.967	14.985	1153.550	401-402	14.967	14.985	1153.550	401-402	14.966	14.984	1153.547	401-402	14.968
1152.824	402-403	14.939	15.029	1152.822	402-403	14.938	15.028	1152.820	402-403	14.937	15.027	1152.821	402-403	14.940	15.030	1152.817	402-403	14.940
1151.181	403-404	15.055	15.110	1151.179	403-404	15.052	15.107	1151.178	403-404	15.052	15.107	1151.178	403-404	15.054	15.109	1151.174	403-404	15.057
1149.893	404-405	14.947	15.031	1149.891	404-405	14.946	15.030	1149.890	404-405	14.948	15.032	1149.890	404-405	14.947	15.031	1149.885	404-405	14.947
1148.310	405-406	15.036	15.147	1148.308	405-406	15.035	15.146	1148.307	405-406	15.037	15.148	1148.307	405-406	15.036	15.147	1148.302	405-406	15.036
1146.480	406-407	15.023	15.106	1146.477	406-407	15.023	15.106	1146.476	406-407	15.023	15.106	1146.476	406-407	15.022	15.105	1146.470	406-407	15.023
1144.898	407-408	15.026	15.117	1144.895	407-408	15.023	15.114	1144.894	407-408	15.024	15.115	1144.894	407-408	15.022	15.113	1144.888	407-408	15.025
1143.244	408-409	14.931	15.043	1143.241	408-409	14.932	15.044	1143.240	408-409	14.932	15.044	1143.240	408-409	14.933	15.045	1143.234	408-409	14.933
1141.410	409-410	14.823	15.057	1141.407	409-410	14.822	15.056	1141.406	409-410	14.823	15.057	1141.406	409-410	14.821	15.055	1141.399	409-410	14.823
1138.767	410-411	15.112	15.656	1138.764	410-411	15.111	15.655	1138.763	410-411	15.111	15.655	1138.763	410-411	15.110	15.654	1138.757	410-411	15.111
1134.675	411-412	14.939	15.689	1134.672	411-412	14.937	15.687	1134.671	411-412	14.939	15.689	1134.671	411-412	14.940	15.690	1134.665	411-412	14.939
1129.883	412-413	15.065	15.213	1129.880	412-413	15.062	15.210	1129.879	412-413	15.064	15.212	1129.879	412-413	15.064	15.212	1129.875	412-413	15.060
1127.769	413-414	14.943	14.946	1127.766	413-414	14.940	14.943	1127.765	413-414	14.942	14.945	1127.765	413-414	14.942	14.945	1127.762	413-414	14.941
1127.469	414-415	14.995	15.076	1127.466	414-415	14.991	15.072	1127.465	414-415	14.994	15.075	1127.466	414-415	14.992	15.073	1127.465	414-415	14.989
1129.027	415-416	15.018	15.549	1129.024	415-416	15.015	15.546	1129.022	415-416	15.017	15.548	1129.023	415-416	15.015	15.546	1129.018	415-416	15.013
1133.054	416-417	14.963	15.910	1133.051	416-417	14.962	15.909	1133.049	416-417	14.963	15.910	1133.050	416-417	14.965	15.912	1133.045	416-417	14.959
1138.460	417-418	15.021	16.010	1138.457	417-418	15.019	16.008	1138.456	417-418	15.020	16.008	1138.457	417-418	15.018	16.007	1138.452	417-418	15.015
1144.000	418-419	15.023	15.317	1143.996	418-419	15.021	15.315	1143.994	418-419	15.024	15.318	1143.996	418-419	15.026	15.319	1143.990	418-419	15.023
1146.985	419-420	14.993	15.303	1146.980	419-420	14.992	15.302	1146.979	419-420	14.995	15.305	1146.980	419-420	14.995	15.305	1146.975	419-420	14.995
1150.051	420-421	14.973	15.177	1150.046	420-421	14.971	15.175	1150.044	420-421	14.971	15.175	1150.046	420-421	14.971	15.175	1150.040	420-421	14.972
1152.532	421-422	14.978	15.080	1152.526	421-422	14.975	15.077	1152.524	421-422	14.978	15.080	1152.525	421-422	14.979	15.080	1152.520	421-422	14.977
1154.281	422-423	15.002	15.089	1154.273	422-423	14.999	15.086	1154.271	422-423	15.000	15.087	1154.271	422-423	15.001	15.088	1154.267	422-423	15.002
1155.897	423-424	15.032	15.080	1155.888	423-424	15.032	15.080	1155.886	423-424	15.032	15.080	1155.886	423-424	15.034	15.082	1155.882	423-424	15.033
1157.100	424-425	14.953	14.974	1157.089	424-425	14.952	14.973	1157.087	424-425	14.954	14.975	1157.087	424-425	14.951	14.972	1157.084	424-425	14.954
1157.897	425-426	15.086	15.088	1157.884	425-426	15.084	15.086	1157.882	425-426	15.088	15.090	1157.881	425-426	15.085	15.087	1157.878	425-426	15.088
1158.147	426-427	14.890	14.899	1158.132	426-427	14.890	14.899	1158.129	426-427	14.891	14.900	1158.129	426-427	14.891	14.900	1158.127	426-427	14.892
1158.677	427-428	15.053	15.061	1158.660	427-428	15.053	15.061	1158.656	427-428	15.052	15.060	1158.656	427-428	15.052	15.060	1158.654	427-428	15.056
1159.173				1159.154				1159.150				1159.149				1159.148		

	29/11/11				11/05/12				12/09/12				03/10/12				22/11/12		
	Steel Band				Steel Band				Steel Band				Steel Band				Steel Band		
	Leica DNA 03 Digital Level				Leica DNA 03 Digital Level				Leica DNA 03 Digital Level				Leica DNA 03 Digital Level				Leica DNA 03 Digital Level		
	10				11				12				13				14		
eir associated Steel Band.	Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.		
	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section
	14.993	1154.175	400-401	14.976	14.989	1154.172	400-401	14.977	14.990	1154.172	400-401	14.977	14.990	1154.125	400-401	14.977	14.990	1154.103	400-401
	14.986	1153.547	401-402	14.965	14.983	1153.545	401-402	14.966	14.984	1153.545	401-402	14.966	14.984	1153.505	401-402	14.967	14.984	1153.487	401-402
	15.030	1152.817	402-403	14.947	15.037	1152.815	402-403	14.939	15.029	1152.815	402-403	14.939	15.029	1152.783	402-403	14.940	15.029	1152.768	402-403
	15.112	1151.174	403-404	15.052	15.107	1151.171	403-404	15.052	15.107	1151.171	403-404	15.051	15.106	1151.146	403-404	15.051	15.106	1151.135	403-404
	15.031	1149.885	404-405	14.945	15.029	1149.882	404-405	14.947	15.031	1149.882	404-405	14.946	15.030	1149.862	404-405	14.946	15.029	1149.854	404-405
	15.147	1148.302	405-406	15.036	15.147	1148.298	405-406	15.036	15.147	1148.297	405-406	15.036	15.147	1148.283	405-406	15.036	15.147	1148.277	405-406
	15.106	1146.471	406-407	15.022	15.105	1146.467	406-407	15.024	15.107	1146.467	406-407	15.023	15.106	1146.455	406-407	15.023	15.106	1146.450	406-407
	15.116	1144.888	407-408	15.023	15.114	1144.884	407-408	15.023	15.114	1144.883	407-408	15.022	15.113	1144.874	407-408	15.023	15.114	1144.870	407-408
	15.045	1143.234	408-409	14.931	15.043	1143.230	408-409	14.931	15.043	1143.228	408-409	14.931	15.043	1143.222	408-409	14.931	15.043	1143.214	408-409
	15.057	1141.399	409-410	14.821	15.055	1141.395	409-410	14.821	15.055	1141.394	409-410	14.821	15.055	1141.389	409-410	14.821	15.055	1141.382	409-410
	15.655	1138.757	410-411	15.106	15.650	1138.752	410-411	15.108	15.652	1138.752	410-411	15.107	15.651	1138.747	410-411	15.107	15.651	1138.740	410-411
	15.688	1134.665	411-412	14.936	15.685	1134.660	411-412	14.936	15.685	1134.660	411-412	14.936	15.685	1134.656	411-412	14.938	15.685	1134.651	411-412
	15.208	1129.877	412-413	15.058	15.205	1129.870	412-413	15.058	15.205	1129.870	412-413	15.057	15.204	1129.874	412-413	15.058	15.204	1129.871	412-413
	14.944	1127.767	413-414	14.934	14.937	1127.760	413-414	14.935	14.938	1127.761	413-414	14.933	14.936	1127.770	413-414	14.934	14.937	1127.768	413-414
	15.069	1127.474	414-415	14.982	15.062	1127.468	414-415	14.982	15.061	1127.467	414-415	14.978	15.057	1127.491	414-415	14.970	15.048	1127.494	414-415
	15.544	1129.020	415-416	15.010	15.541	1129.012	415-416	15.011	15.542	1129.012	415-416	15.011	15.542	1129.017	415-416	15.011	15.542	1129.014	415-416
	15.906	1133.047	416-417	14.961	15.908	1133.041	416-417	14.961	15.909	1133.040	416-417	14.959	15.908	1133.045	416-417	14.960	15.907	1133.041	416-417
	16.004	1138.453	417-418	15.025	16.013	1138.450	417-418	15.019	16.008	1138.451	417-418	15.018	16.007	1138.452	417-418	15.016	16.005	1138.449	417-418
	15.317	1143.991	418-419	15.021	15.315	1143.990	418-419	15.021	15.315	1143.991	418-419	15.021	15.315	1143.990	418-419	15.021	15.315	1143.988	418-419
	15.305	1146.975	419-420	14.993	15.303	1146.976	419-420	14.993	15.303	1146.975	419-420	14.994	15.304	1146.975	419-420	14.994	15.304	1146.973	419-420
	15.176	1150.040	420-421	14.970	15.174	1150.041	420-421	14.969	15.173	1150.041	420-421	14.969	15.173	1150.040	420-421	14.969	15.173	1150.039	420-421
	15.079	1152.520	421-422	14.974	15.075	1152.521	421-422	14.974	15.076	1152.521	421-422	14.975	15.077	1152.520	421-422	14.976	15.078	1152.519	421-422
	15.089	1154.266	422-423	15.000	15.087	1154.269	422-423	15.000	15.087	1154.268	422-423	15.000	15.087	1154.267	422-423	15.000	15.087	1154.267	422-423
	15.081	1155.882	423-424	15.033	15.081	1155.884	423-424	15.033	15.081	1155.883	423-424	15.033	15.081	1155.883	423-424	15.033	15.081	1155.883	423-424
	14.975	1157.083	424-425	14.953	14.974	1157.086	424-425	14.953	14.974	1157.085	424-425	14.952	14.973	1157.085	424-425	14.952	14.973	1157.084	424-425
	15.090	1157.878	425-426	15.086	15.088	1157.881	425-426	15.086	15.088	1157.880	425-426	15.086	15.088	1157.880	425-426	15.086	15.088	1157.880	425-426
	14.901	1158.127	426-427	14.890	14.899	1158.130	426-427	14.890	14.899	1158.129	426-427	14.889	14.898	1158.129	426-427	14.889	14.898	1158.129	426-427
	15.064	1158.654	427-428	15.049	15.057	1158.658	427-428	15.052	15.060	1158.658	427-428	15.052	15.060	1158.657	427-428	15.053	15.061	1158.657	427-428
		1159.148				1159.152				1159.152				1159.151				1159.151	

				Longwall ID		LW415				LW416				LW416			
				Subsidence Line		T Line				T Line				T Line			
				Retreat Distance		1930.0				329.7				694.0			
0/12		19/11/12				01/05/13				24/11/13				13/01/14			
Band		Steel Band				Steel Band				Steel Tape				Steel Tape			
3 Digital Level		Leica DNA 03 Digital Level				Leica DNA 03 Digital Level				Leica DNA 03 Digital Level				Leica DNA 03 Digital Level			
4		15				16				17				18			
400-428 and their associated ital Level and Steel Band.		Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 400-428 and their assoc measured by Digital Level and Steel Ban			
Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	
14.977	14.990	1154.074	400-401	14.976	14.989	1154.045	400-401	14.978	14.990	1154.038	400-401	14.971	14.983	1154.011	400-401	14.978	
14.968	14.985	1153.461	401-402	14.968	14.985	1153.433	401-402	14.969	14.986	1153.428	401-402	14.970	14.987	1153.404	401-402	14.965	
14.941	15.030	1152.744	402-403	14.940	15.029	1152.718	402-403	14.941	15.030	1152.714	402-403	14.936	15.025	1152.692	402-403	14.938	
15.050	15.105	1151.113	403-404	15.053	15.107	1151.089	403-404	15.050	15.104	1151.085	403-404	15.049	15.103	1151.065	403-404	15.126	
14.947	15.030	1149.834	404-405	14.947	15.030	1149.811	404-405	14.945	15.028	1149.808	404-405	14.941	15.024	1149.790	404-405	14.942	
15.037	15.148	1148.259	405-406	15.038	15.148	1148.237	405-406	15.038	15.148	1148.235	405-406	15.032	15.142	1148.219	405-406	15.036	
15.021	15.104	1146.433	406-407	15.020	15.103	1146.414	406-407	15.023	15.106	1146.412	406-407	15.023	15.105	1146.397	406-407	15.023	
15.023	15.114	1144.855	407-408	15.023	15.113	1144.837	407-408	15.022	15.112	1144.836	407-408	15.018	15.108	1144.823	407-408	15.017	
14.931	15.043	1143.205	408-409	14.930	15.042	1143.189	408-409	14.930	15.042	1143.188	408-409	14.929	15.041	1143.175	408-409	14.927	
14.821	15.055	1141.373	409-410	14.821	15.054	1141.359	409-410	14.822	15.055	1141.358	409-410	14.819	15.052	1141.347	409-410	14.818	
15.107	15.651	1138.732	410-411	15.106	15.650	1138.720	410-411	15.107	15.650	1138.719	410-411	15.103	15.646	1138.710	410-411	15.104	
14.937	15.684	1134.644	411-412	14.936	15.682	1134.632	411-412	14.937	15.682	1134.632	411-412	14.935	15.680	1134.622	411-412	14.935	
15.057	15.203	1129.865	412-413	15.057	15.202	1129.856	412-413	15.058	15.202	1129.857	412-413	15.053	15.197	1129.846	412-413	15.054	
14.931	14.934	1127.769	413-414	14.930	14.932	1127.766	413-414	14.929	14.931	1127.767	413-414	14.924	14.926	1127.760	413-414	14.925	
14.966	15.044	1127.501	414-415	14.967	15.043	1127.511	414-415	14.962	15.037	1127.514	414-415	14.954	15.029	1127.506	414-415	14.956	
15.012	15.543	1129.015	415-416	15.012	15.543	1129.011	415-416	15.014	15.544	1129.011	415-416	15.007	15.538	1129.006	415-416	15.012	
14.958	15.905	1133.042	416-417	14.960	15.907	1133.037	416-417	14.960	15.907	1133.038	416-417	14.958	15.905	1133.033	416-417	14.962	
15.015	16.004	1138.448	417-418	15.016	16.005	1138.443	417-418	15.017	16.006	1138.443	417-418	15.016	16.004	1138.438	417-418	15.016	
15.019	15.313	1143.987	418-419	15.020	15.314	1143.981	418-419	15.020	15.314	1143.978	418-419	15.020	15.314	1143.978	418-419	15.016	
14.993	15.303	1146.971	419-420	14.994	15.304	1146.966	419-420	14.993	15.303	1146.963	419-420	14.989	15.300	1146.963	419-420	14.990	
14.969	15.173	1150.037	420-421	14.970	15.174	1150.033	420-421	14.971	15.175	1150.030	420-421	14.966	15.170	1150.030	420-421	14.974	
14.976	15.078	1152.518	421-422	14.977	15.079	1152.514	421-422	14.977	15.079	1152.512	421-422	14.974	15.076	1152.511	421-422	14.973	
14.999	15.086	1154.266	422-423	15.000	15.087	1154.262	422-423	15.000	15.087	1154.262	422-423	14.995	15.082	1154.261	422-423	14.995	
15.033	15.081	1155.882	423-424	15.034	15.082	1155.879	423-424	15.034	15.082	1155.878	423-424	15.036	15.084	1155.878	423-424	15.031	
14.952	14.973	1157.084	424-425	14.953	14.974	1157.082	424-425	14.954	14.975	1157.083	424-425	14.951	14.972	1157.082	424-425	14.949	
15.085	15.087	1157.880	425-426	15.086	15.088	1157.878	425-426	15.086	15.088	1157.877	425-426	15.085	15.087	1157.880	425-426	15.082	
14.889	14.898	1158.128	426-427	14.890	14.899	1158.128	426-427	14.891	14.900	1158.128	426-427	14.887	14.896	1158.130	426-427	14.886	
15.053	15.061	1158.657	427-428	15.055	15.063	1158.657	427-428	15.055	15.063	1158.657	427-428	15.052	15.060	1158.658	427-428	15.051	
		1159.151				1159.152				1159.152				1159.152			

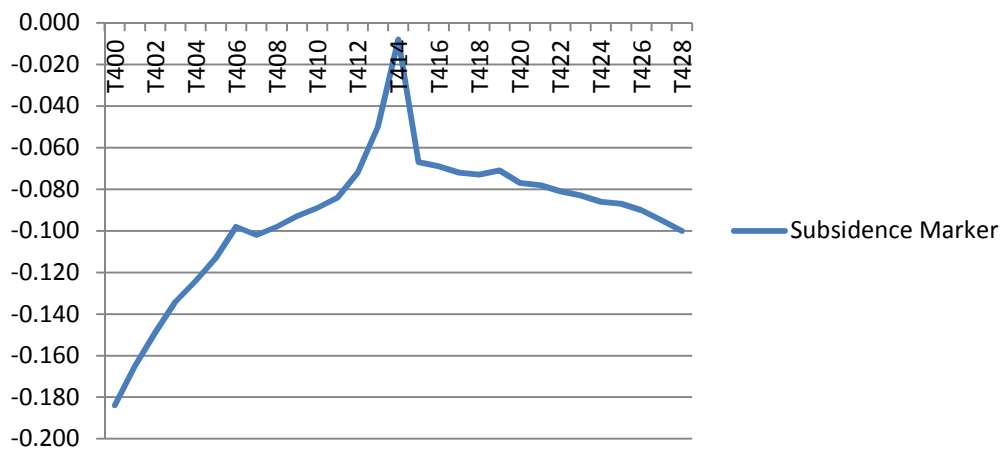
iated sections
d.

Period displacement			Total displacement since commencement of monitoring December 2006							
Slope Dist.	RL	Horiz.Dist.	Slope. Dist.	RL	Horiz.Dist.	Slope. Dist.	Strain	Tilt	Section	Point
14.990	-0.027	0.007	0.007	-0.184	0.001	0.000	0.0	1.3	400-401	T400
14.982	-0.024	-0.005	-0.005	-0.165	-0.005	-0.006	-0.4	1.1	401-402	T401
15.026	-0.022	0.001	0.001	-0.149	0.002	0.000	0.0	1.0	402-403	T402
15.180	-0.020	0.077	0.077	-0.134	0.077	0.076	5.0	0.7	403-404	T403
15.024	-0.018	0.000	0.000	-0.124	-0.014	-0.015	-1.0	0.7	404-405	T404
15.146	-0.016	0.004	0.004	-0.113	0.009	0.007	0.5	1.0	405-406	T405
15.105	-0.015	0.000	0.000	-0.098	0.010	0.010	0.7	0.3	406-407	T406
15.107	-0.013	-0.001	-0.001	-0.102	-0.010	-0.010	-0.7	0.3	407-408	T407
15.039	-0.013	-0.002	-0.002	-0.098	-0.003	-0.004	-0.3	0.3	408-409	T408
15.051	-0.011	-0.001	-0.001	-0.093	0.001	0.000	0.0	0.3	409-410	T409
15.647	-0.009	0.001	0.001	-0.089	-0.018	-0.019	-1.2	0.3	410-411	T410
15.680	-0.010	0.000	0.000	-0.084	0.005	0.001	0.1	0.8	411-412	T411
15.198	-0.011	0.002	0.001	-0.072	-0.004	-0.007	-0.5	1.5	412-413	T412
14.927	-0.007	0.001	0.001	-0.050	-0.017	-0.018	-1.2	2.8	413-414	T413
15.031	-0.008	0.002	0.002	-0.008	-0.036	-0.042	-2.8	3.9	414-415	T414
15.543	-0.005	0.005	0.005	-0.067	-0.005	-0.005	-0.3	0.1	415-416	T415
15.908	-0.005	0.003	0.003	-0.069	-0.001	-0.002	-0.1	0.2	416-417	T416
16.005	-0.005	-0.001	0.001	-0.072	0.003	0.002	0.1	0.1	417-418	T417
15.310	0.000	-0.004	-0.004	-0.073	-0.005	-0.005	-0.3	0.1	418-419	T418
15.301	0.000	0.001	0.001	-0.071	0.006	0.005	0.3	0.4	419-420	T419
15.178	0.000	0.008	0.008	-0.077	-0.001	-0.001	-0.1	0.1	420-421	T420
15.075	-0.001	-0.001	-0.001	-0.078	-0.003	-0.003	-0.2	0.2	421-422	T421
15.082	-0.001	0.000	0.000	-0.081	-0.002	-0.002	-0.1	0.1	422-423	T422
15.079	0.000	-0.005	-0.005	-0.083	-0.003	-0.003	-0.2	0.2	423-424	T423
14.970	-0.001	-0.002	-0.002	-0.086	-0.004	-0.004	-0.3	0.1	424-425	T424
15.084	0.003	-0.003	-0.003	-0.087	-0.002	-0.002	-0.1	0.2	425-426	T425
14.895	0.002	-0.001	-0.001	-0.090	-0.007	-0.007	-0.5	0.3	426-427	T426
15.059	0.001	-0.001	-0.001	-0.095	0.004	0.004	0.3	0.3	427-428	T427
	0.000	0.000	0.000	-0.100	0.000	0.000				T428

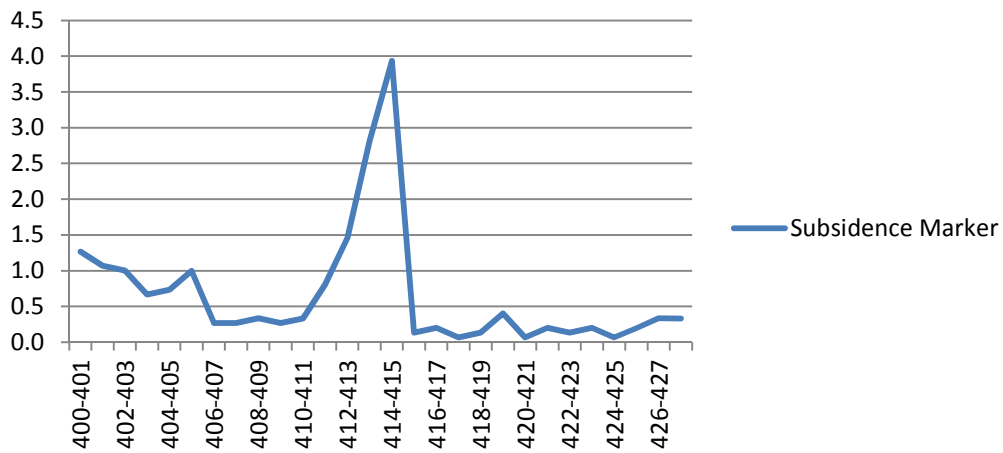
T Line

* See Note

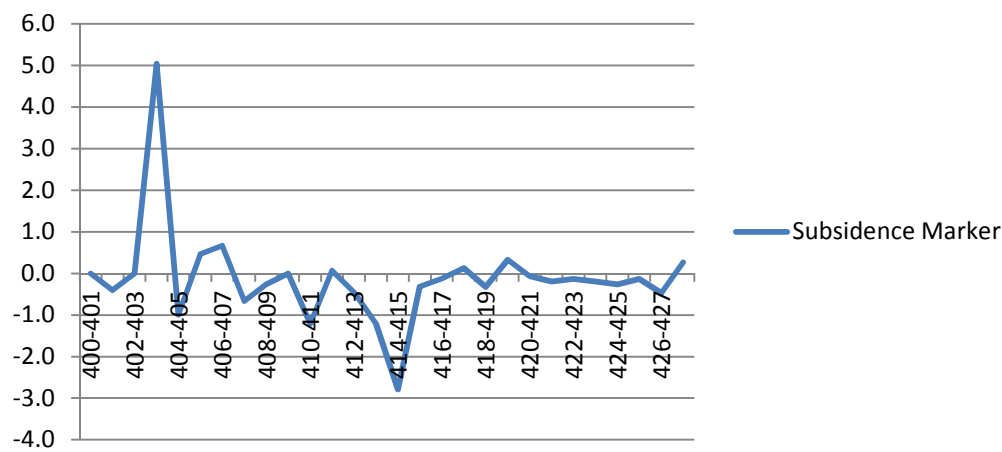
T Line Subsidence Results



T Line Tilt Results



T Line Strain Results

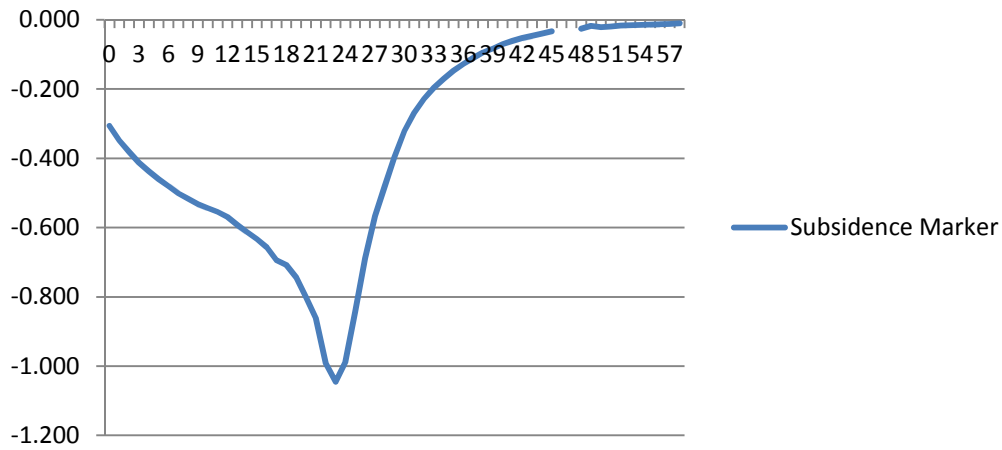




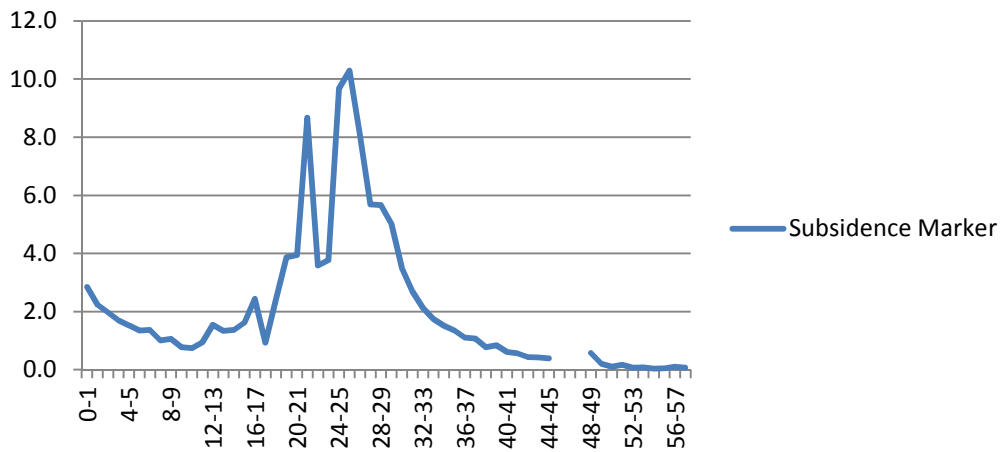
**Subsidence Monitoring For LW416 - Springvale Colliery
Strain Line U**

Subsidence Monitoring For LW416 - Springvale Colliery Strain Line U					LW415				LW416				Longwall ID									
					U Line				U Line				Subsidence Line									
					1930.0				309.3				Retreat Distance									
					01/05/13				22/11/13													
Date Measured	23/06/09																					
Instrument	Steel Band				Steel Band				Steel Band													
Survey No.	Leica NA 2000 Digital Level				Leica DNA 03 Digital Level				Leica DNA 03 Digital Level													
	1				12				13													
Comments	Initial Survey - Points 0 to 58 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 0 to 58 and their associated sections measured by Digital Level and Steel Band.				Subsequent Survey - Points 0 to 58 and their associated sections measured by Digital Level and Steel Band.				Period displacement			Total displacement since commencement of monitoring June 2009						
Point	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Horiz.Dist.	Slope. Dist.	RL	Horiz.Dist.	Slope. Dist.	Strain	Tilt	Section	Point
0	1137.407	0-1	14.983	14.983	1137.103	0-1	14.984	14.984	1137.101	0-1	14.984	14.984	-0.002	0.000	0.000	-0.306	0.001	0.001	0.1	2.8	0-1	0
1	1137.352	1-2	15.044	15.044	1137.005	1-2	15.041	15.041	1137.003	1-2	15.041	15.041	-0.002	0.000	0.000	-0.349	-0.003	-0.003	-0.2	2.2	1-2	1
2	1137.321	2-3	15.008	15.009	1136.941	2-3	15.006	15.006	1136.939	2-3	15.006	15.006	-0.002	0.000	0.000	-0.382	-0.003	-0.003	-0.2	2.0	2-3	2
3	1137.454	3-4	14.991	14.991	1137.043	3-4	14.987	14.987	1137.042	3-4	14.987	14.987	-0.001	0.000	0.000	-0.412	-0.004	-0.004	-0.3	1.7	3-4	3
4	1137.562	4-5	14.994	14.994	1137.126	4-5	14.993	14.993	1137.125	4-5	14.993	14.993	-0.001	0.000	0.000	-0.437	-0.001	-0.001	-0.1	1.5	4-5	4
5	1137.586	5-6	15.000	15.001	1137.127	5-6	14.993	14.994	1137.126	5-6	14.993	14.994	-0.001	0.000	0.000	-0.460	-0.007	-0.007	-0.5	1.4	5-6	5
6	1137.439	6-7	15.011	15.020	1136.960	6-7	15.005	15.015	1136.958	6-7	15.005	15.015	-0.002	0.000	0.000	-0.481	-0.006	-0.005	-0.3	1.4	6-7	6
7	1136.924	7-8	15.014	15.020	1136.425	7-8	15.011	15.017	1136.423	7-8	15.011	15.017	-0.002	0.000	0.000	-0.501	-0.003	-0.003	-0.2	1.0	7-8	7
8	1136.516	8-9	14.991	14.999	1136.001	8-9	14.981	14.990	1136.000	8-9	14.981	14.990	-0.001	0.000	0.000	-0.516	-0.010	-0.009	-0.6	1.1	8-9	8
9	1136.023	9-10	15.016	15.029	1135.492	9-10	15.007	15.021	1135.491	9-10	15.007	15.021	-0.001	0.000	0.000	-0.532	-0.008	-0.008	-0.5	0.8	9-10	9
10	1135.396	10-11	14.961	14.977	1134.854	10-11	14.953	14.969	1134.852	10-11	14.952	14.969	-0.002	0.000	0.000	-0.544	-0.009	-0.008	-0.5	0.7	10-11	10
11	1134.704	11-12	15.007	15.039	1134.152	11-12	15.002	15.035	1134.149	11-12	15.002	15.035	-0.003	0.000	0.000	-0.555	-0.005	-0.004	-0.3	0.9	11-12	11
12	1133.730	12-13	14.995	15.034	1133.162	12-13	14.984	15.025	1133.161	12-13	14.984	15.025	-0.001	0.000	0.000	-0.569	-0.011	-0.009	-0.6	1.6	12-13	12
13	1132.642	13-14	15.050	15.072	1132.050	13-14	15.041	15.064	1132.050	13-14	15.041	15.064	-0.001	0.000	0.000	-0.592	-0.009	-0.008	-0.5	1.3	13-14	13
14	1131.830	14-15	14.963	14.964	1131.218	14-15	14.953	14.954	1131.218	14-15	14.953	14.954	-0.001	0.000	0.000	-0.612	-0.010	-0.010	-0.7	1.4	14-15	14
15	1131.639	15-16	14.994	14.999	1131.007	15-16	14.990	14.994	1131.006	15-16	14.990	14.994	-0.001	0.000	0.000	-0.633	-0.004	-0.005	-0.3	1.6	15-16	15
16	1132.010	16-17	15.036	15.062	1131.359	16-17	15.026	15.050	1131.353	16-17	15.026	15.050	-0.006	0.000	0.000	-0.657	-0.010	-0.012	-0.8	2.4	16-17	16
17	1132.892	17-18	14.977	14.989	1132.210	17-18	14.934	14.945	1132.198	17-18	14.933	14.945	-0.012	0.000	0.000	-0.694	-0.043	-0.044	-2.9	0.9	17-18	17
18	1133.501	18-19	14.993	14.993	1132.794	18-19	14.970	14.970	1132.793	18-19	14.970	14.970	-0.001	0.000	0.000	-0.708	-0.023	-0.023	-1.5	2.4	18-19	18
19	1133.578	19-20	15.015	15.015	1132.834	19-20	15.006	15.006	1132.834	19-20	15.006	15.006	0.000	0.000	0.000	-0.744	-0.009	-0.009	-0.6	3.9	19-20	19
20	1133.567	20-21	14.990	14.990	1132.765	20-21	14.954	14.955	1132.765	20-21	14.954	14.955	0.000	0.000	0.000	-0.802	-0.035	-0.035	-2.3	4.0	20-21	20
21	1133.475	21-22	14.984	14.988	1132.614	21-22	14.960	14.967	1132.614	21-22	14.960	14.968	0.000	0.001	0.001	-0.861	-0.024	-0.020	-1.3	8.7	21-22	21
22	1133.131	22-23	14.996	14.996	1132.141	22-23	14.926	14.926	1132.140	22-23	14.926	14.926	-0.001	0.000	0.000	-0.991	-0.070	-0.070	-4.7	3.6	22-23	22
23	1133.108	23-24	14.971	14.972	1132.063	23-24	14.945	14.945	1132.063	23-24	14.945	14.945	0.000	0.000	0.000	-1.045	-0.027	-0.027	-1.8	3.8	23-24	23
24	1132.960	24-25	15.039	15.043	1131.971	24-25	15.029	15.030	1131.971	24-25	15.028	15.029	0.000	-0.001	-0.001	-0.989	-0.012	-0.014	-0.9	9.7	24-25	24
25	1132.632	25-26	15.025	15.025	1131.789	25-26	15.017	15.017	1131.789	25-26	15.017	15.017	0.000	0.000	0.000	-0.843	-0.008	-0.008	-0.5	10.3	25-26	25
26	1132.572	26-27	14.993	15.009	1131.883	26-27	14.990	15.001	1131.883	26-27	14.990	15.001	0.000	0.000	0.000	-0.689	-0.003	-0.008	-0.5	8.1	26-27	26
27	1131.875	27-28	15.035	15.042	1131.307	27-28	15.022	15.026	1131.308	27-28	15.022	15.026	0.001	0.000	0.000	-0.567	-0.014	-0.016	-1.1	5.7	27-28	27
28	1131.422	28-29	15.009	15.015	1130.941	28-29	15.004	15.008	1130.940	28-29	15.004	15.008	-0.001	0.000	0.000	-0.482	-0.005	-0.007	-0.5	5.7	28-29	28
29	1130.994	29-30	14.990	14.995	1130.598	29-30	14.998	15.002	1130.598	29-30	14.998	15.002	-0.001	0.000	0.000	-0.396	0.009	0.007	0.5	5.0	29-30	29
30	1130.591	30-31	14.989	14.999	1130.270	30-31	14.991	15.000	1130.270	30-31	14.991	15.000	-0.001	0.000	0.000	-0.321	0.003	0.001	0.1	3.5	30-31	30
31	1130.033	31-32	15.014	15.028	1129.764	31-32	15.018	15.030	1129.764	31-32	15.017	15.029	0.000	-0.001	-0.001	-0.269	0.003	0.001	0.1	2.7	31-32	31
32	1129.384	32-33	15.005	15.021	1129.155	32-33	15.007	15.022	1129.155	32-33	15.007	15.022	0.000	0.000	0.000	-0.229	0.002	0.001	0.1	2.1	32-33	32
33	1128.685	33-34	15.009	15.022	1128.488	33-34	15.010	15.022	1128.489	33-34	15.008	15.020	0.000	-0.002	-0.002	-0.196	-0.001	-0.002	-0.1	1.7	33-34	33
34	1128.065	34-35	14.986	14.997	1127.894	34-35	14.988	14.998	1127.895	34-35	14.987	14.997	0.000	-0.001	-0.001	-0.170	0.001	0.000	0.0	1.5	34-35	34
35	1127.503	35-36	14.964	14.978	1127.355	35-36	14.969	14.982	1127.355	35-36	14.969	14.982	0.000	0.000	0.000	-0.148	0.005	0.004	0.3	1.3	35-36	35
36	1126.852	36-37	15.101	15.138	1126.725	36-37	15.103	15.138	1126.725	36-37	15.103	15.138	0.000	0.000	0.000	-0.127	0.001	0.000	0.0	1.1	36-37	36
37	1125.800	37-38	14.920	14.980	1125.689	37-38	14.919	14.978	1125.689	37-38	14.919	14.978	0.000	0.000	0.000	-0.111	-0.001	-0.002	-0.1	1.1	37-38	37
38	1124.461	38-39	15.022	15.115	1124.366	38-39	15.026	15.118	1124.366	38-39	15.027	15.119	0.000	0.001	0.001	-0.095	0.005	0.004	0.3	0.8	38-39	38
39	1122																					

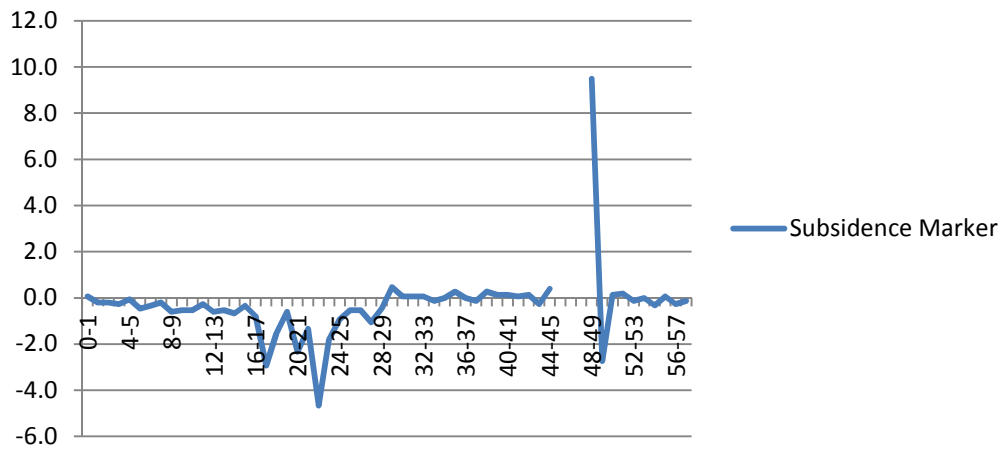
U Line Subsidence Results



U Line Tilt Results



U Line Strain Results

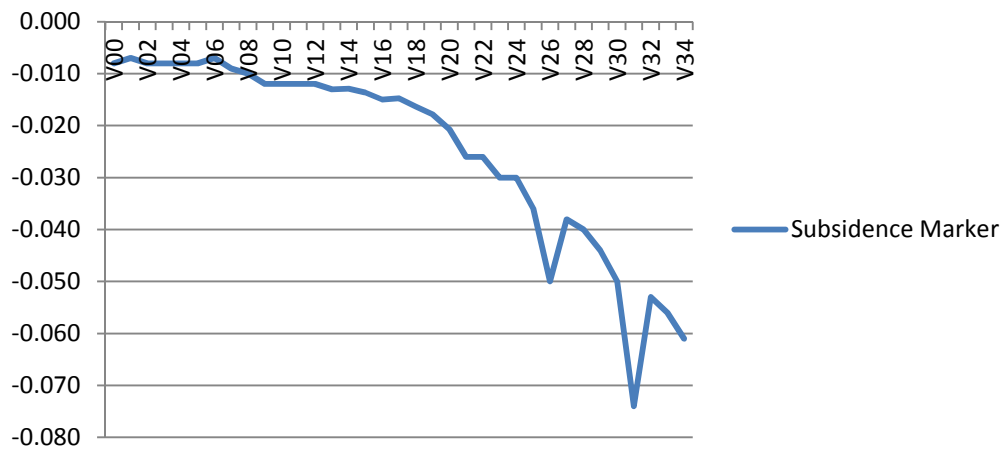


Notes:

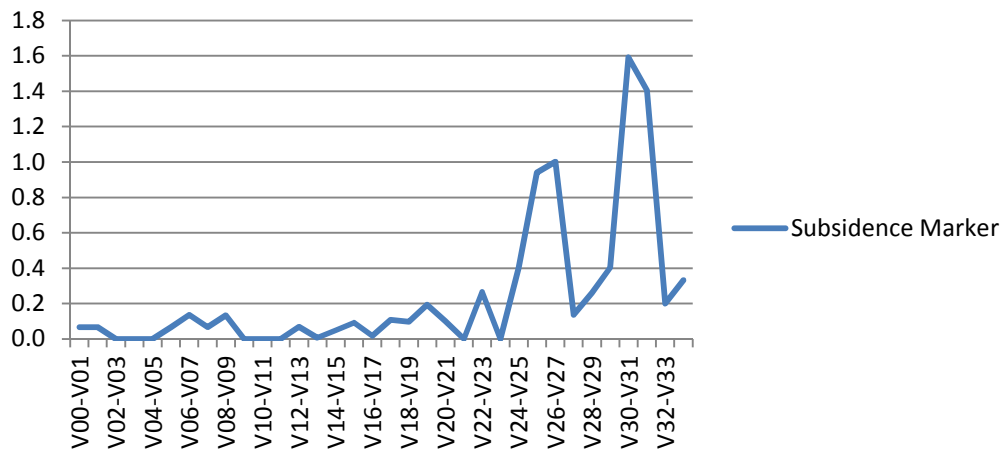
- Slope distances and RL's measured are accurate to $\pm 0.005m$
- Origin of levels are BM M2000 RL 1095.422 BM Pickett RL 1957.371 BM VO RL 1094.856 and BM BS Dupuy RL 1096.742 based on GPS elevations supplied by the Department of Lands Coordinates for Bait (TS 6502) Trig Station of E 243354.359 N 8259543.521 and RL 1180.238.
- Section V20-V21 is measured using a Total Station EDM. Original horizontal distance 52.364

1. Slope distances and RL's measured are accurate to $\pm 0.005\text{m}$
2. Origin of levels are BM M2000 RL 1095.422 BM Pickett RL 1097.371 BM VO RL 1094.658 and BM BS Dumpy RL 1096.742 based on GPS observations adopting the Department of Lands Coordinates for Bald (TS 692) Trig Station of E 243354.359 N 8295843.521 and RL 1180.238.
3. Section V20-V21 is measured using a Total Station EDM. Original horizontal distance 52.364

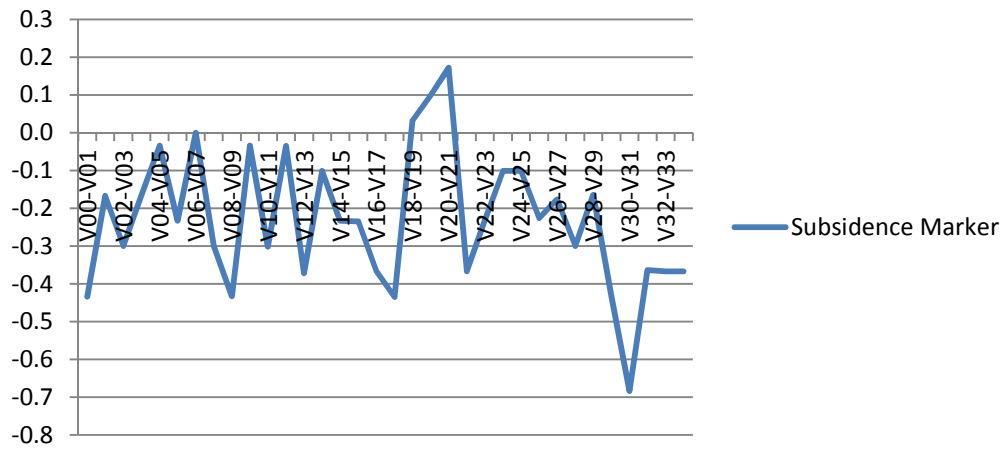
V Line Subsidence Results



V Line Tilt Results



V Line Strain Results





Subsidence Monitoring For LW415 - Springvale Colliery Strain Line W					LW415				LW416				LW416				Longwall Subsidence Retreat Line	
					W Line				W Line				W Line					
					2620.0m								731.0					
					16/02/12				22/08/13				06/12/13					16/01/14
Date Measured																		
Instrument	Steel Band				Steel Band				Steel Tape				Steel Tape					
SurWay No.	Leica DNA03 Digital Level				Leica DNA03 Digital Level				Leica DNA03 Digital Level				Leica DNA03 Digital Level					
	1				7				8				9					
	Initial Survey - Points W00-W34 were measured by Digital Level and Steel band. Swamp Crossing (Section W20-W21) was measured by Total Station EDM				Points W00-W34 were measured by Digital Level and Steel band. Swamp Crossing (Section W20-W21) was measured by Total Station EDM				Points W00-W34 were measured by Digital Level and Steel band. Swamp Crossing (Section W20-W21) was measured by Total Station EDM				Points W00-W34 were measured by Digital Level and Steel band. Swamp Crossing (Section W20-W21) was measured by Total Station EDM					
Comments	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	
W Line	Point	1122.024	W00-W01	14.986	14.988	1122.025	W00-W01	14.987	14.988	1122.026	W00-W01	14.987	14.988	1122.022	W00-W01	14.981	14.982	-0.004
	W00	1121.831	W01-W02	14.968	14.989	1121.831	W01-W02	14.966	14.987	1121.833	W01-W02	14.964	14.985	1121.828	W01-W02	14.961	14.982	-0.005
	W01	1121.036	W02-W03	15.033	15.067	1121.037	W02-W03	15.030	15.064	1121.036	W02-W03	15.029	15.063	1121.032	W02-W03	15.023	15.058	-0.004
	W02	1120.021	W03-W04	15.028	15.063	1120.020	W03-W04	15.027	15.062	1120.020	W03-W04	15.026	15.061	1120.013	W03-W04	15.024	15.059	-0.007
	W03	1118.997	W04-W05	15.075	15.112	1118.995	W04-W05	15.072	15.109	1118.994	W04-W05	15.081	15.118	1118.986	W04-W05	15.068	15.105	-0.008
	W04	1117.941	W05-W06	14.981	15.032	1117.938	W05-W06	14.983	15.034	1117.937	W05-W06	14.979	15.030	1117.928	W05-W06	14.979	15.030	-0.009
	W05	1116.704	W06-W07	14.967	15.001	1116.700	W06-W07	14.966	15.000	1116.700	W06-W07	14.963	14.997	1116.690	W06-W07	14.959	14.993	-0.010
	W06	1115.701	W07-W08	15.072	15.168	1115.696	W07-W08	15.076	15.171	1115.695	W07-W08	15.075	15.170	1115.683	W07-W08	15.070	15.165	-0.012
	W07	1114.004	W08-W09	14.947	15.036	1114.000	W08-W09	14.946	15.035	1113.998	W08-W09	14.946	15.035	1113.986	W08-W09	14.940	15.030	-0.012
	W08	1112.370	W09-W10	15.006	15.091	1112.364	W09-W10	15.007	15.092	1112.360	W09-W10	15.007	15.092	1112.348	W09-W10	15.004	15.089	-0.012
	W09	1110.770	W10-W11	14.882	15.023	1110.763	W10-W11	14.880	15.021	1110.760	W10-W11	14.880	15.021	1110.746	W10-W11	14.874	15.015	-0.014
	W10	1108.721	W11-W12	15.110	15.222	1108.713	W11-W12	15.117	15.229	1108.709	W11-W12	15.116	15.228	1108.695	W11-W12	15.113	15.225	-0.014
	W11	1106.881	W12-W13	14.996	15.115	1106.871	W12-W13	14.995	15.113	1106.866	W12-W13	14.993	15.111	1106.852	W12-W13	14.988	15.106	-0.014
	W12	1104.994	W13-W14	14.972	15.062	1104.984	W13-W14	14.971	15.061	1104.978	W13-W14	14.970	15.060	1104.965	W13-W14	14.968	15.058	-0.013
	W13	1103.355	W14-W15	15.323	15.436	1103.343	W14-W15	15.323	15.436	1103.337	W14-W15	15.322	15.435	1103.323	W14-W15	15.317	15.430	-0.014
	W14	1101.492	W15-W16	14.651	14.706	1101.479	W15-W16	14.650	14.705	1101.473	W15-W16	14.648	14.703	1101.459	W15-W16	14.645	14.700	-0.014
	W15	1100.222	W16-W17	14.978	15.059	1100.208	W16-W17	14.981	15.062	1100.202	W16-W17	14.982	15.063	1100.186	W16-W17	14.978	15.059	-0.016
	W16	1098.663	W17-W18	15.016	15.052	1098.646	W17-W18	15.018	15.054	1098.640	W17-W18	15.017	15.053	1098.623	W17-W18	15.011	15.047	-0.017
	W17	1097.627	W18-W19	15.003	15.095	1097.608	W18-W19	15.002	15.094	1097.601	W18-W19	15.002	15.094	1097.583	W18-W19	14.992	15.084	-0.018
	W18	1095.965	W19-W20	15.039	15.156	1095.945	W19-W20	15.040	15.157	1095.937	W19-W20	15.039	15.156	1095.917	W19-W20	15.031	15.148	-0.020
	W19	1094.090	W20-W21	51.755	51.757	1094.068	W20-W21	51.769	51.771	1094.059	W20-W21	51.769	51.768	1094.038	W20-W21	51.769	51.659	-0.021
	W20	1094.528	W21-W22	14.844	14.914	1094.498	W21-W22	14.846	14.915	1094.490	W21-W22	14.844	14.913	1094.469	W21-W22	14.834	14.903	-0.021
	W21	1095.964	W22-W23	15.102	15.138	1095.931	W22-W23	15.107	15.142	1095.923	W22-W23	15.104	15.139	1095.903	W22-W23	15.096	15.131	-0.020
	W22	1096.996	W23-W24	15.024	15.127	1096.961	W23-W24	15.030	15.132	1096.953	W23-W24	15.027	15.129	1096.933	W23-W24	15.022	15.125	-0.020
	W23	1098.755	W24-W25	14.991	15.168	1098.718	W24-W25	14.990	15.167	1098.710	W24-W25	14.988	15.165	1098.692	W24-W25	14.981	15.158	-0.018
	W24	1101.067	W25-W26	14.979	15.313	1101.028	W25-W26	14.981	15.314	1101.021	W25-W26	14.978	15.310	1101.004	W25-W26	14.975	15.307	-0.017
	W25	1104.244	W26-W27	15.079	15.519	1104.202	W26-W27	15.078	15.517	1104.194	W26-W27	15.068	15.508	1104.177	W26-W27	15.065	15.505	-0.017
	W26	1107.911	W27-W28	14.907	15.247	1107.867	W27-W28	14.906	15.246	1107.860	W27-W28	14.903	15.243	1107.845	W27-W28	14.898	15.238	-0.015
	W27	1111.114	W28-W29	15.028	15.253	1111.068	W28-W29	15.025	15.249	1111.060	W28-W29	15.021	15.245	1111.045	W28-W29	15.017	15.242	-0.015
	W28	1113.722	W29-W30	15.015	15.238	1113.673	W29-W30	15.017	15.239	1113.666	W29-W30	15.013	15.235	1113.652	W29-W30	15.008	15.230	-0.014
	W29	1116.316	W30-W31	14.973	15.030	1116.265	W30-W31	14.970	15.027	1116.259	W30-W31	14.970	15.027	1116.241	W30-W31	14.966	15.023	-0.018
	W30	1117.625	W31-W32	14.971	15.027	1117.570	W31-W32	14.971	15.026	1117.566	W31-W32	14.970	15.025	1117.545	W31-W32	14.963	15.018	-0.021
	W31	1118.912	W32-W33	15.021	15.022	1118.855	W32-W33	15.020	15.020	1118.851	W32-W33	15.017	15.017	1118.825	W32-W33	15.011	15.011	-0.026
	W32	1119.015	W33-W34	15.062	15.072	1118.956	W33-W34	15.061	15.071	1118.950	W33-W34	15.060	15.070	1118.920	W33-W34	15.050	15.060	-0.030
	W33	1118.471				1118.408				1118.408				1118.365				-0.043
	W34																	

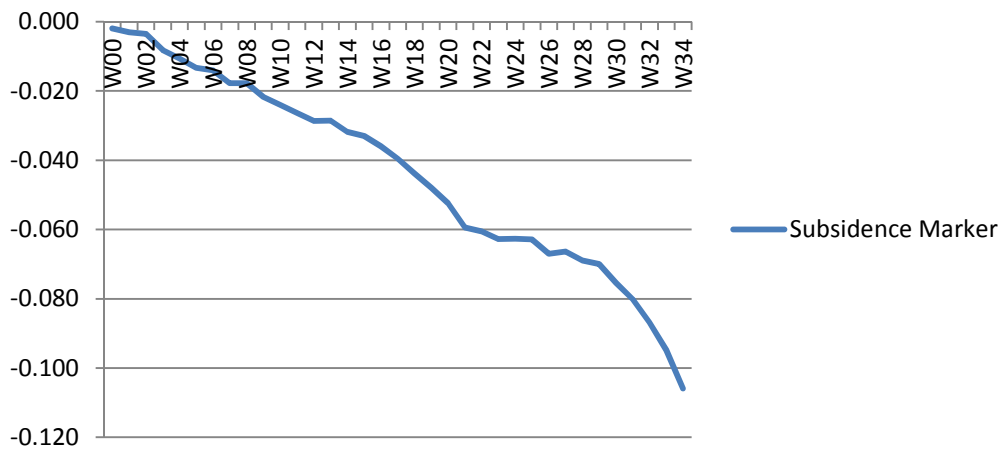
Notes:

1. Slope distances and RL's measured are accurate to +/- 0.005m
2. Origin of levels are BM M2000 RL 1095.422 BM W BS Pickett RL 1117.752 and BM W01 RL 1121.831 based on GPS observations Adopting the Department of Lands Coordinates for Bald (TS 692) Trig Station of E 243354.359 N 6295843.521 and RL 1180.238.
3. Section W20-W21 is measured using a Total Station EDM Original horizontal distance 51.755

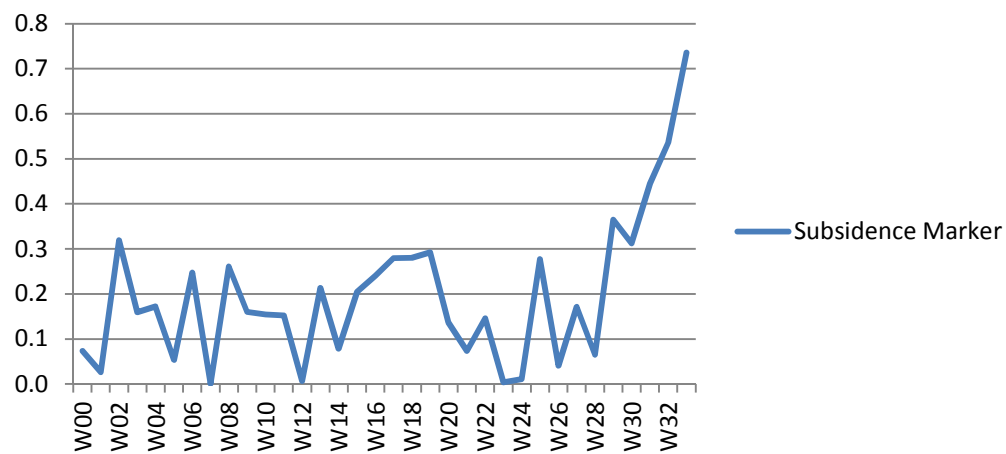
rail ID
 nce Line
 Distance

Period Movement			Total Movement						
Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	Strain	Tilt	Point
W00-W01	-0.006	-0.006	-0.002	W00-W01	-0.006	-0.006	-0.4	0.1	W00
W01-W02	-0.003	-0.003	-0.003	W01-W02	-0.007	-0.007	-0.4	0.0	W01
W02-W03	-0.005	-0.005	-0.003	W02-W03	-0.009	-0.009	-0.6	0.3	W02
W03-W04	-0.002	-0.002	-0.008	W03-W04	-0.004	-0.004	-0.2	0.2	W03
W04-W05	-0.013	-0.013	-0.011	W04-W05	-0.007	-0.007	-0.4	0.2	W04
W05-W06	0.000	0.000	-0.013	W05-W06	-0.002	-0.002	-0.1	0.1	W05
W06-W07	-0.004	-0.004	-0.014	W06-W07	-0.008	-0.008	-0.5	0.2	W06
W07-W08	-0.005	-0.005	-0.018	W07-W08	-0.003	-0.003	-0.2	0.0	W07
W08-W09	-0.005	-0.005	-0.018	W08-W09	-0.006	-0.006	-0.4	0.3	W08
W09-W10	-0.003	-0.003	-0.022	W09-W10	-0.002	-0.002	-0.1	0.2	W09
W10-W11	-0.006	-0.006	-0.024	W10-W11	-0.008	-0.008	-0.5	0.2	W10
W11-W12	-0.003	-0.003	-0.026	W11-W12	0.003	0.003	0.2	0.2	W11
W12-W13	-0.005	-0.005	-0.029	W12-W13	-0.009	-0.009	-0.6	0.0	W12
W13-W14	-0.002	-0.002	-0.029	W13-W14	-0.004	-0.004	-0.2	0.2	W13
W14-W15	-0.005	-0.005	-0.032	W14-W15	-0.006	-0.006	-0.4	0.1	W14
W15-W16	-0.003	-0.003	-0.033	W15-W16	-0.006	-0.006	-0.4	0.2	W15
W16-W17	-0.004	-0.004	-0.036	W16-W17	0.000	0.000	0.0	0.2	W16
W17-W18	-0.006	-0.006	-0.040	W17-W18	-0.005	-0.005	-0.3	0.3	W17
W18-W19	-0.010	-0.010	-0.044	W18-W19	-0.011	-0.011	-0.7	0.3	W18
W19-W20	-0.008	-0.008	-0.048	W19-W20	-0.008	-0.008	-0.5	0.3	W19
W20-W21	0.000	-0.109	-0.052	W20-W21	0.014	-0.098	-1.9	0.1	W20
W21-W22	-0.010	-0.010	-0.059	W21-W22	-0.011	-0.011	-0.7	0.1	W21
W22-W23	-0.008	-0.008	-0.061	W22-W23	-0.007	-0.007	-0.4	0.1	W22
W23-W24	-0.004	-0.004	-0.063	W23-W24	-0.002	-0.002	-0.1	0.0	W23
W24-W25	-0.007	-0.007	-0.063	W24-W25	-0.010	-0.010	-0.7	0.0	W24
W25-W26	-0.003	-0.003	-0.063	W25-W26	-0.005	-0.006	-0.4	0.3	W25
W26-W27	-0.004	-0.003	-0.067	W26-W27	-0.014	-0.014	-0.9	0.0	W26
W27-W28	-0.005	-0.005	-0.066	W27-W28	-0.008	-0.009	-0.6	0.2	W27
W28-W29	-0.003	-0.003	-0.069	W28-W29	-0.011	-0.011	-0.7	0.1	W28
W29-W30	-0.004	-0.005	-0.070	W29-W30	-0.007	-0.008	-0.5	0.4	W29
W30-W31	-0.004	-0.004	-0.075	W30-W31	-0.006	-0.007	-0.4	0.3	W30
W31-W32	-0.007	-0.007	-0.080	W31-W32	-0.008	-0.009	-0.6	0.4	W31
W32-W33	-0.006	-0.006	-0.087	W32-W33	-0.011	-0.011	-0.7	0.5	W32
W33-W34	-0.010	-0.010	-0.095	W33-W34	-0.012	-0.012	-0.8	0.7	W33
			-0.106						W34

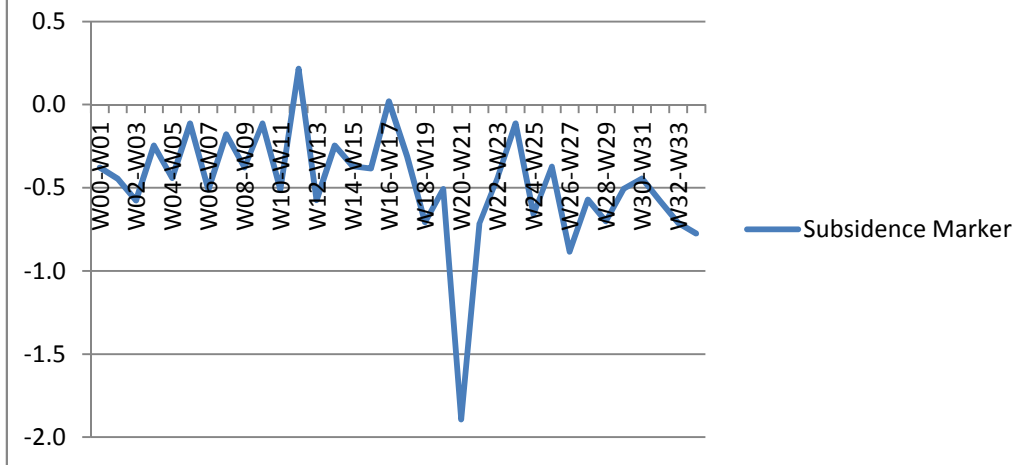
W Line Subsidence Results



W Line Tilt Results



W Line Strain Results





Subsidence Monitoring For LW415 - Springvale Colliery
Strain Line Y

Subsidence Monitoring For LW415 - Springvale Colliery										Longwall ID				LW415			
Strain Line Y										Subsidence Line				Y Line			
										Retreat Distance				1571.6m			
Date Measured	23/02/12				22/08/12				29/10/12				01/02/13				
Instrument	Steel Band				Steel Band				Steel Band				Steel Band				
Survey No.	Leica DNA03 Digital Level				Leica DNA03 Digital Level				Leica DNA03 Digital Level				Leica DNA03 Digital Level				
	Leica TCRA1203 Total Station				Leica TCRA1203 Total Station				Leica TCRA1203 Total Station				Leica TCRA1203 Total Station				
	1				2				3				4				
Comments	Initial Survey - Points Y00-Y30 were measured by Digital Level and Steel band. Swamp Crossing (Section Y12-Y13) was measured by Total Station EDM				Points Y00-Y30 were measured by Digital Level and Steel band. Swamp Crossing (Section Y12-Y13) was measured by Total Station EDM				Points Y00-Y30 were measured by Digital Level and Steel band. Swamp Crossing (Section Y12-Y13) was measured by Total Station EDM				Points Y00-Y30 were measured by Digital Level and Steel band. Swamp Crossing (Section Y12-Y13) was measured by Total Station EDM				
Y Line	Point	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.
	Y00	1125.158	Y00-Y01	14.995	15.305	1125.158	Y00-Y01	14.995	15.305	1125.157	Y00-Y01	14.993	15.304	1125.150	Y00-Y01	14.994	15.305
	Y01	1122.089	Y01-Y02	15.050	15.340	1122.089	Y01-Y02	15.051	15.341	1122.088	Y01-Y02	15.052	15.342	1122.082	Y01-Y02	15.052	15.342
	Y02	1119.121	Y02-Y03	14.937	15.426	1119.121	Y02-Y03	14.937	15.426	1119.120	Y02-Y03	14.938	15.427	1119.115	Y02-Y03	14.938	15.427
	Y03	1115.266	Y03-Y04	14.983	15.417	1115.268	Y03-Y04	14.983	15.417	1115.267	Y03-Y04	14.984	15.418	1115.261	Y03-Y04	14.984	15.418
	Y04	1111.632	Y04-Y05	14.993	15.227	1111.633	Y04-Y05	14.994	15.228	1111.633	Y04-Y05	14.995	15.229	1111.627	Y04-Y05	14.994	15.228
	Y05	1108.973	Y05-Y06	15.082	15.287	1108.974	Y05-Y06	15.082	15.287	1108.974	Y05-Y06	15.082	15.288	1108.969	Y05-Y06	15.082	15.288
	Y06	1106.473	Y06-Y07	14.948	15.268	1106.474	Y06-Y07	14.948	15.268	1106.474	Y06-Y07	14.948	15.268	1106.470	Y06-Y07	14.948	15.268
	Y07	1103.363	Y07-Y08	15.027	15.176	1103.364	Y07-Y08	15.027	15.176	1103.364	Y07-Y08	15.027	15.176	1103.360	Y07-Y08	15.027	15.176
	Y08	1101.241	Y08-Y09	14.963	15.119	1101.241	Y08-Y09	14.963	15.119	1101.242	Y08-Y09	14.964	15.120	1101.240	Y08-Y09	14.963	15.119
	Y09	1099.072	Y09-Y10	15.057	15.177	1099.072	Y09-Y10	15.057	15.177	1099.073	Y09-Y10	15.057	15.177	1099.072	Y09-Y10	15.059	15.179
	Y10	1097.163	Y10-Y11	14.923	14.999	1097.163	Y10-Y11	14.923	14.999	1097.164	Y10-Y11	14.923	14.999	1097.163	Y10-Y11	14.923	14.999
	Y11	1095.656	Y11-Y12	15.105	15.201	1095.656	Y11-Y12	15.105	15.201	1095.657	Y11-Y12	15.106	15.202	1095.656	Y11-Y12	15.106	15.202
	Y12	1093.949	Y12-Y13	105.016	105.127	1093.949	Y12-Y13	105.016	105.127	1093.949	Y12-Y13	105.019	105.130	1093.949	Y12-Y13	105.022	105.133
	Y13	1089.113	Y13-Y14	15.040	15.177	1089.111	Y13-Y14	15.040	15.177	1089.112	Y13-Y14	15.040	15.177	1089.112	Y13-Y14	15.040	15.177
	Y14	1091.148	Y14-Y15	14.964	15.026	1091.147	Y14-Y15	14.964	15.026	1091.147	Y14-Y15	14.964	15.026	1091.146	Y14-Y15	14.964	15.026
	Y15	1092.511	Y15-Y16	15.038	15.122	1092.509	Y15-Y16	15.038	15.122	1092.510	Y15-Y16	15.038	15.122	1092.509	Y15-Y16	15.037	15.122
	Y16	1094.107	Y16-Y17	14.994	15.070	1094.105	Y16-Y17	14.994	15.071	1094.106	Y16-Y17	14.994	15.071	1094.106	Y16-Y17	14.995	15.072
	Y17	1095.625	Y17-Y18	15.016	15.094	1095.623	Y17-Y18	15.014	15.093	1095.624	Y17-Y18	15.013	15.092	1095.624	Y17-Y18	15.013	15.092
	Y18	1097.163	Y18-Y19	14.968	15.016	1097.162	Y18-Y19	14.968	15.016	1097.162	Y18-Y19	14.967	15.016	1097.162	Y18-Y19	14.967	15.016
	Y19	1098.370	Y19-Y20	14.998	15.016	1098.369	Y19-Y20	14.998	15.016	1098.370	Y19-Y20	14.998	15.016	1098.370	Y19-Y20	14.997	15.015
	Y20	1099.112	Y20-Y21	14.987	15.000	1099.111	Y20-Y21	14.987	15.000	1099.112	Y20-Y21	14.985	14.999	1099.113	Y20-Y21	14.985	14.999
	Y21	1099.752	Y21-Y22	14.966	14.971	1099.752	Y21-Y22	14.967	14.972	1099.752	Y21-Y22	14.966	14.971	1099.752	Y21-Y22	14.966	14.971
	Y22	1100.149	Y22-Y23	15.074	15.085	1100.149	Y22-Y23	15.074	15.085	1100.149	Y22-Y23	15.073	15.085	1100.148	Y22-Y23	15.073	15.085
	Y23	1100.739	Y23-Y24	14.958	14.963	1100.739	Y23-Y24	14.956	14.962	1100.739	Y23-Y24	14.956	14.962	1100.739	Y23-Y24	14.956	14.962
	Y24	1101.147	Y24-Y25	15.063	15.077	1101.146	Y24-Y25	15.062	15.076	1101.147	Y24-Y25	15.062	15.076	1101.147	Y24-Y25	15.062	15.076
	Y25	1101.803	Y25-Y26	14.965	14.977	1101.803	Y25-Y26	14.965	14.977	1101.804	Y25-Y26	14.965	14.978	1101.804	Y25-Y26	14.966	14.978
	Y26	1102.414	Y26-Y27	15.047	15.067	1102.415	Y26-Y27	15.047	15.067	1102.416	Y26-Y27	15.048	15.068	1102.415	Y26-Y27	15.048	15.068
	Y27	1103.195	Y27-Y28	14.978	14.987	1103.195	Y27-Y28	14.978	14.987	1103.195	Y27-Y28	14.977	14.986	1103.195	Y27-Y28	14.977	14.986
	Y28	1103.712	Y28-Y29	15.027	15.044	1103.712	Y28-Y29	15.027	15.044	1103.712	Y28-Y29	15.026	15.044	1103.713	Y28-Y29	15.025	15.043
	Y29	1104.443	Y29-Y30	15.043	15.049	1104.444	Y29-Y30	15.044	15.049	1104.443	Y29-Y30	15.043	15.049	1104.444	Y29-Y30	15.043	15.049
	Y30	1104.863				1104.863				1104.863				1104.863			

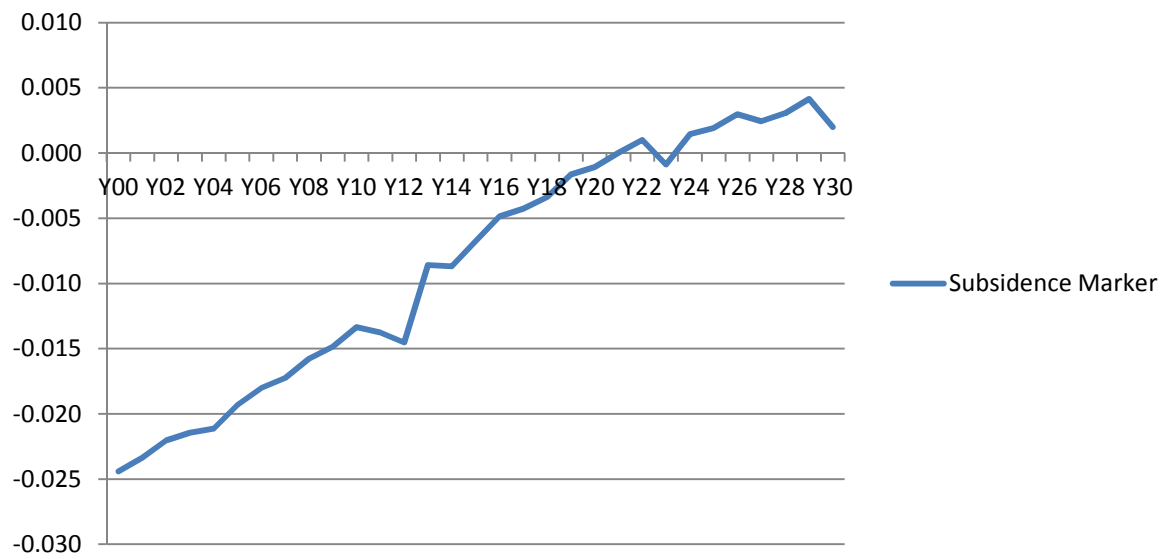
Notes:

- Slope distances and RL's measured are accurate to +/- 0.005m
- Origin of levels are BM M2000 RL 1095.422 BM Y1000 RL 1142.902 and BM Y2000 RL 1142.981 based on GPS observations
Adopting the Department of Lands Coordinates for Bald (TS 692) Trig Station of E 243354.359 N 6295843.521 and RL 1180.238.
- Section Y12-Y13 is measured using a Total Station EDM Original horizontal distance 105.016

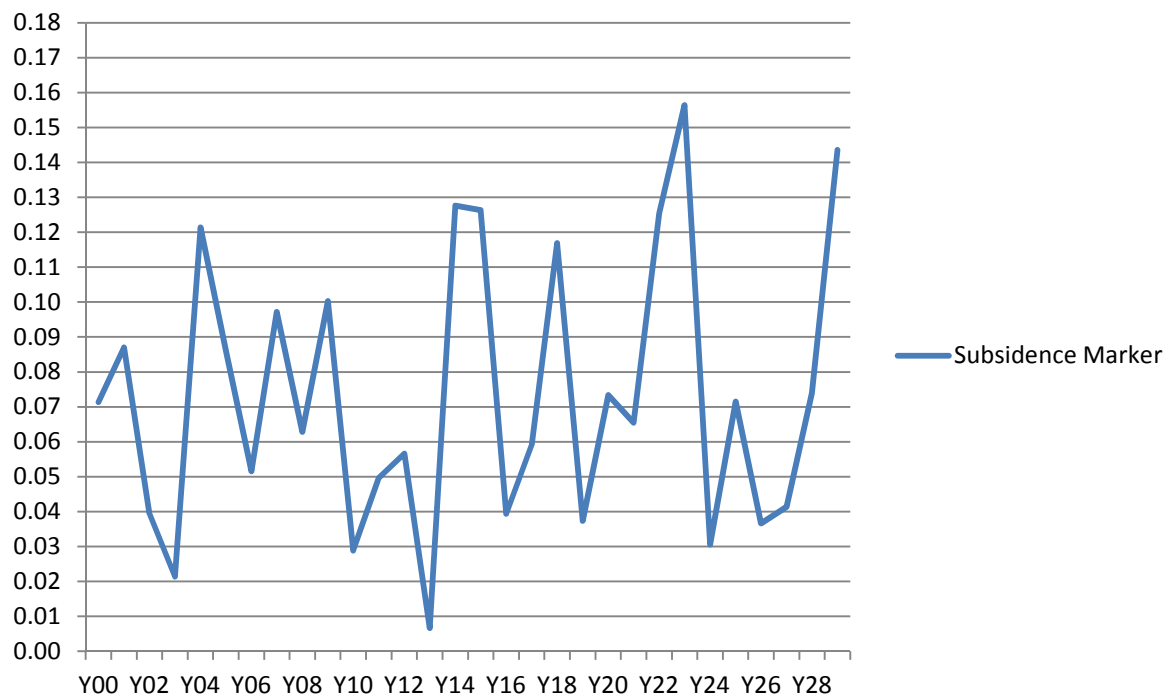
LW415				LW415				LW415				LW416				Longwall ID			
Y Line				Y Line				Y Line				Y Line				Subsidence Line			
2065.4				2157				2617.6m				720				Retreat Distance			
29/05/13				20/06/13				20/08/13				15/01/14							
Steel Band				Steel Band				Steel Band				Steel Band							
Leica DNA03 Digital Level				Leica DNA03 Digital Level				Leica DNA03 Digital Level				Leica DNA03 Digital Level							
Leica TCRA1203 Total Station				Leica TCRA1203 Total Station				Leica TCRA1203 Total Station				Leica TCRA1203 Total Station							
5				6				7				8							
Points Y00-Y30 were measured by Digital Level and Steel band. Swamp Crossing (Section Y12-Y13) was measured by Total Station EDM				Points Y00-Y30 were measured by Digital Level and Steel band. Swamp Crossing (Section Y12-Y13) was measured by Total Station EDM				Points Y00-Y30 were measured by Digital Level and Steel band. Swamp Crossing (Section Y12-Y13) was measured by Total Station EDM				Points Y00-Y30 were measured by Digital Level and Steel band. Swamp Crossing (Section Y12-Y13) was measured by Total Station EDM				Period Movement			
RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.
1125.138	Y00-Y01	14.997	15.308	1125.139	Y00-Y01	14.996	15.307	1125.136	Y00-Y01	14.996	15.307	1125.134	Y00-Y01	14.993	15.304	-0.002	Y00-Y01	-0.003	-0.003
1122.070	Y01-Y02	15.054	15.344	1122.071	Y01-Y02	15.053	15.343	1122.068	Y01-Y02	15.053	15.343	1122.066	Y01-Y02	15.048	15.338	-0.002	Y01-Y02	-0.005	-0.005
1119.103	Y02-Y03	14.938	15.427	1119.103	Y02-Y03	14.936	15.425	1119.101	Y02-Y03	14.937	15.426	1119.099	Y02-Y03	14.931	15.420	-0.002	Y02-Y03	-0.006	-0.006
1115.250	Y03-Y04	14.984	15.418	1115.250	Y03-Y04	14.983	15.417	1115.248	Y03-Y04	14.983	15.417	1115.245	Y03-Y04	14.978	15.413	-0.003	Y03-Y04	-0.004	-0.004
1111.616	Y04-Y05	14.994	15.228	1111.616	Y04-Y05	14.993	15.227	1111.615	Y04-Y05	14.993	15.227	1111.611	Y04-Y05	14.988	15.222	-0.004	Y04-Y05	-0.005	-0.005
1108.959	Y05-Y06	15.084	15.290	1108.958	Y05-Y06	15.083	15.289	1108.957	Y05-Y06	15.083	15.289	1108.954	Y05-Y06	15.079	15.285	-0.003	Y05-Y06	-0.004	-0.004
1106.459	Y06-Y07	14.950	15.270	1106.459	Y06-Y07	14.948	15.268	1106.458	Y06-Y07	14.948	15.268	1106.455	Y06-Y07	14.943	15.263	-0.003	Y06-Y07	-0.005	-0.005
1103.350	Y07-Y08	15.026	15.175	1103.350	Y07-Y08	15.025	15.174	1103.349	Y07-Y08	15.024	15.173	1103.346	Y07-Y08	15.019	15.168	-0.003	Y07-Y08	-0.005	-0.005
1101.229	Y08-Y09	14.963	15.119	1101.229	Y08-Y09	14.963	15.119	1101.228	Y08-Y09	14.962	15.118	1101.225	Y08-Y09	14.958	15.114	-0.003	Y08-Y09	-0.004	-0.004
1099.061	Y09-Y10	15.058	15.178	1099.062	Y09-Y10	15.057	15.177	1099.060	Y09-Y10	15.056	15.176	1099.057	Y09-Y10	15.054	15.174	-0.003	Y09-Y10	-0.002	-0.002
1097.153	Y10-Y11	14.924	15.000	1097.154	Y10-Y11	14.922	14.998	1097.152	Y10-Y11	14.921	14.997	1097.150	Y10-Y11	14.920	14.996	-0.002	Y10-Y11	-0.001	-0.001
1095.646	Y11-Y12	15.105	15.201	1095.647	Y11-Y12	15.105	15.201	1095.646	Y11-Y12	15.105	15.201	1095.642	Y11-Y12	15.094	15.190	-0.004	Y11-Y12	-0.011	-0.011
1093.940	Y12-Y13	105.027	105.138	1093.941	Y12-Y13	105.030	105.141	1093.939	Y12-Y13	105.032	105.143	1093.934	Y12-Y13	105.032	105.142	-0.005	Y12-Y13	0.000	-0.001
1089.107	Y13-Y14	15.040	15.177	1089.107	Y13-Y14	15.039	15.176	1089.105	Y13-Y14	15.040	15.177	1089.104	Y13-Y14	15.037	15.174	-0.001	Y13-Y14	-0.003	-0.003
1091.142	Y14-Y15	14.965	15.027	1091.142	Y14-Y15	14.964	15.026	1091.140	Y14-Y15	14.964	15.026	1091.139	Y14-Y15	14.961	15.023	-0.001	Y14-Y15	-0.003	-0.003
1092.505	Y15-Y16	15.038	15.122	1092.505	Y15-Y16	15.036	15.121	1092.503	Y15-Y16	15.036	15.121	1092.504	Y15-Y16	15.033	15.118	0.001	Y15-Y16	-0.003	-0.003
1094.101	Y16-Y17	14.996	15.073	1094.101	Y16-Y17	14.994	15.071	1094.099	Y16-Y17	14.994	15.071	1094.102	Y16-Y17	14.992	15.069	0.003	Y16-Y17	-0.002	-0.002
1095.620	Y17-Y18	15.013	15.092	1095.620	Y17-Y18	15.013	15.092	1095.618	Y17-Y18	15.012	15.091	1095.621	Y17-Y18	15.008	15.087	0.003	Y17-Y18	-0.004	-0.004
1097.158	Y18-Y19	14.968	15.017	1097.158	Y18-Y19	14.968	15.017	1097.157	Y18-Y19	14.967	15.016	1097.160	Y18-Y19	14.962	15.011	0.003	Y18-Y19	-0.005	-0.005
1098.366	Y19-Y20	14.998	15.016	1098.365	Y19-Y20	14.998	15.016	1098.364	Y19-Y20	14.997	15.015	1098.368	Y19-Y20	14.995	15.013	0.004	Y19-Y20	-0.002	-0.002
1099.109	Y20-Y21	14.984	14.998	1099.108	Y20-Y21	14.985	14.999	1099.107	Y20-Y21	14.985	14.999	1099.111	Y20-Y21	14.981	14.995	0.004	Y20-Y21	-0.004	-0.004
1099.750	Y21-Y22	14.967	14.972	1099.749	Y21-Y22	14.967	14.972	1099.748	Y21-Y22	14.966	14.971	1099.752	Y21-Y22	14.962	14.967	0.004	Y21-Y22	-0.004	-0.004
1100.147	Y22-Y23	15.074	15.086	1100.147	Y22-Y23	15.074	15.086	1100.146	Y22-Y23	15.073	15.085	1100.150	Y22-Y23	15.070	15.081	0.004	Y22-Y23	-0.004	-0.004
1100.737	Y23-Y24	14.956	14.962	1100.737	Y23-Y24	14.955	14.961	1100.736	Y23-Y24	14.955	14.961	1100.738	Y23-Y24	14.950	14.956	0.002	Y23-Y24	-0.005	-0.005
1101.145	Y24-Y25	15.061	15.075	1101.144	Y24-Y25	15.060	15.074	1101.143	Y24-Y25	15.060	15.074	1101.148	Y24-Y25	15.056	15.070	0.005	Y24-Y25	-0.004	-0.004
1101.802	Y25-Y26	14.965	14.978	1101.802	Y25-Y26	14.965	14.977	1101.801	Y25-Y26	14.964	14.977	1101.805	Y25-Y26	14.959	14.972	0.004	Y25-Y26	-0.005	-0.005
1102.414	Y26-Y27	15.047	15.067	1102.414	Y26-Y27	15.047	15.067	1102.413	Y26-Y27	15.047	15.067	1102.417	Y26-Y27	15.045	15.065	0.004	Y26-Y27	-0.002	-0.002
1103.194	Y27-Y28	14.974	14.983	1103.194	Y27-Y28	14.975	14.984	1103.194	Y27-Y28	14.975	14.984	1103.197	Y27-Y28	14.965	14.974	0.003	Y27-Y28	-0.010	-0.010
1103.711	Y28-Y29	15.025	15.043	1103.711	Y28-Y29	15.024	15.042	1103.711	Y28-Y29	15.024	15.042	1103.715	Y28-Y29	15.018	15.036	0.004	Y28-Y29	-0.006	-0.006
1104.443	Y29-Y30	15.042	15.048	1104.443	Y29-Y30	15.043	15.049	1104.443	Y29-Y30	15.043	15.049	1104.447	Y29-Y30	15.039	15.045	0.005	Y29-Y30	-0.004	-0.004
1104.863				1104.863				1104.863				1104.865				0.002			

Total Movement						
RL	Section	Horiz. Dist.	Slope Dist.	Strain	Tilt	Point
-0.024	Y00-Y01	-0.001	-0.001	-0.1	0.1	Y00
-0.023	Y01-Y02	-0.002	-0.002	-0.2	0.1	Y01
-0.022	Y02-Y03	-0.006	-0.006	-0.4	0.0	Y02
-0.021	Y03-Y04	-0.004	-0.004	-0.3	0.0	Y03
-0.021	Y04-Y05	-0.005	-0.005	-0.4	0.1	Y04
-0.019	Y05-Y06	-0.002	-0.002	-0.2	0.1	Y05
-0.018	Y06-Y07	-0.005	-0.005	-0.4	0.1	Y06
-0.017	Y07-Y08	-0.008	-0.008	-0.6	0.1	Y07
-0.016	Y08-Y09	-0.005	-0.005	-0.4	0.1	Y08
-0.015	Y09-Y10	-0.003	-0.003	-0.2	0.1	Y09
-0.013	Y10-Y11	-0.003	-0.003	-0.2	0.0	Y10
-0.014	Y11-Y12	-0.012	-0.011	-0.7	0.0	Y11
-0.015	Y12-Y13	0.016	0.015	0.1	0.1	Y12
-0.009	Y13-Y14	-0.003	-0.003	-0.2	0.0	Y13
-0.009	Y14-Y15	-0.004	-0.003	-0.2	0.1	Y14
-0.007	Y15-Y16	-0.005	-0.004	-0.3	0.1	Y15
-0.005	Y16-Y17	-0.001	-0.001	-0.1	0.0	Y16
-0.004	Y17-Y18	-0.007	-0.007	-0.5	0.1	Y17
-0.003	Y18-Y19	-0.006	-0.005	-0.4	0.1	Y18
-0.002	Y19-Y20	-0.003	-0.003	-0.2	0.0	Y19
-0.001	Y20-Y21	-0.005	-0.005	-0.4	0.1	Y20
0.000	Y21-Y22	-0.004	-0.004	-0.3	0.1	Y21
0.001	Y22-Y23	-0.004	-0.004	-0.3	0.1	Y22
-0.001	Y23-Y24	-0.007	-0.007	-0.5	0.2	Y23
0.001	Y24-Y25	-0.007	-0.007	-0.5	0.0	Y24
0.002	Y25-Y26	-0.005	-0.005	-0.4	0.1	Y25
0.003	Y26-Y27	-0.002	-0.002	-0.2	0.0	Y26
0.002	Y27-Y28	-0.013	-0.013	-0.9	0.0	Y27
0.003	Y28-Y29	-0.008	-0.008	-0.6	0.1	Y28
0.004	Y29-Y30	-0.004	-0.004	-0.3	0.1	Y29
0.002						Y30

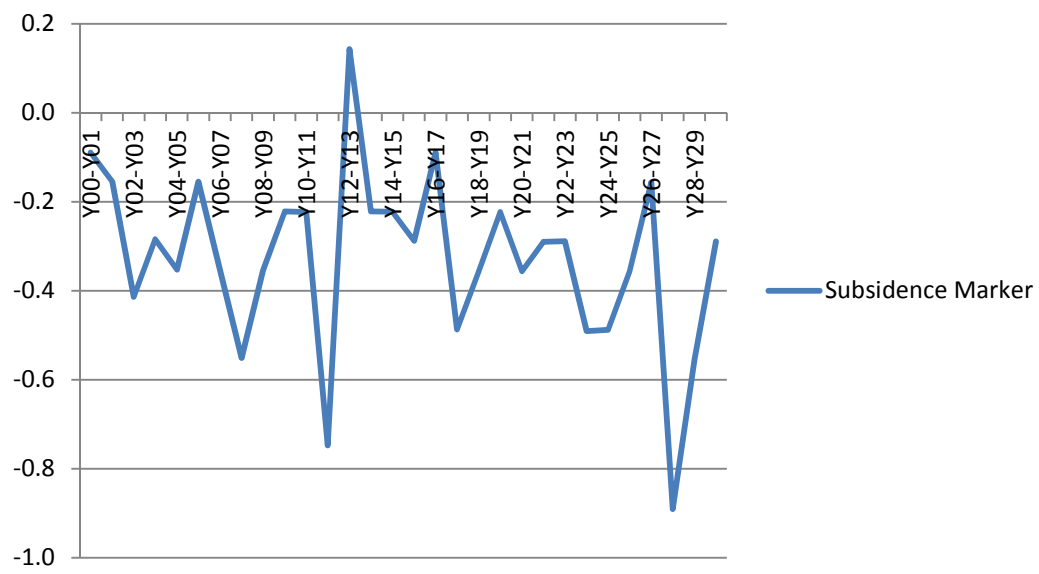
Y Line Subsidence Results



Y Line Tilt Results



Y Line Strains Results



Subsidence Monitoring For LW415 - Springvale Colliery
Line YC2

Longwall ID Subsidence Line Longwall Chainage Date Measured Instrument Survey No. Comments	LW415							LW415				Period Movement			
	YC2 Line							YC2 Line							
	2065.4							2157.0							
	29/05/13							20/06/13							
	Steel Band							Steel Band							
	Leica DNA03 Digital Level and Leica GNSS Equipment							Leica DNA03 Digital Level							
	Leica TCRA1203 Total Station							Leica TCRA1203 Total Station							
	1 - Initial Survey							1a - Strain Survey Only							
	Points 700-710 were measured by Digital Level and Steel band. Swamp Crossing (Section 706-707) was measured by Total Station EDM. All points also traversed with Theodolite with overall Static GPS Control							Points 700-710 were measured by Digital Level and Steel band. Swamp Crossing (Section 706-707) was measured by Total Station EDM.							
Point	Easting	Northing	RL	Section	Horiz. Dist.	Slope Dist.	RL	Section	Horiz. Dist.	Slope Dist.	RL	Horiz. Dist.	Slope Dist.	Point	
YC2 Line	700	239118.916	6302987.911	1095.548	700-701	14.985	15.093	1095.548	700-701	14.985	15.093	0.000	0.000	0.000	700
	701	239119.248	6302972.925	1093.748	701-702	15.068	15.142	1093.748	701-702	15.069	15.143	0.000	0.001	0.001	701
	702	239118.586	6302957.866	1092.251	702-703	14.932	15.074	1092.251	702-703	14.933	15.075	0.000	0.001	0.001	702
	703	239119.160	6302942.939	1090.190	703-704	15.032	15.104	1090.190	703-704	15.031	15.103	0.000	-0.001	-0.001	703
	704	239119.395	6302927.902	1088.719	704-705	14.959	14.966	1088.719	704-705	14.959	14.966	0.000	0.000	0.000	704
	705	239120.214	6302912.958	1089.173	705-706	14.995	14.995	1089.174	705-706	14.995	14.995	0.001	0.000	0.000	705
	706	239120.957	6302897.978	1089.099	706-707	204.414	204.424	1089.100	706-707	204.414	204.424	0.001	0.000	0.000	706
	707	239122.631	6302693.517	1091.071	707-708	14.519	14.575	1091.072	707-708	14.520	14.576	0.000	0.001	0.001	707
	708	239125.096	6302679.204	1092.349	708-709	14.992	15.011	1092.349	708-709	14.990	15.010	0.000	-0.001	-0.001	708
	709	239125.797	6302664.224	1093.114	709-710	14.979	15.014	1093.114	709-710	14.978	15.013	0.000	-0.001	-0.001	709
710	239126.466	6302649.256	1094.142				1094.143				0.000			710	

- Notes:**
- Slope distances and RL's measured are accurate to +/- 0.005m
 - Origin of levels are BM M2000 RL 1095.422 BM Y1000 RL 1142.902 and BM Y2000 RL 1142.981 based on GPS observations
 - Adopting the Department of Lands Coordinates for Bald (TS 692) Trig Station of E 243354.359 N 6295843.521 and RL 1180.238.
 - Section 706-707 is measured using a Total Station EDM. Original horizontal (ground) distance 204.414
 - 4.Cordinates shown (Easting and Northing) are MGA Grid with a scale factor of 1.00026
 5. Survey 1a (20/06/2013) was a strain survey only; No theodolite traverse with GNSS static control was undertaken.