Appendix A

Register of submitters

Santos
We have the energy.

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Agency	Australian Rail Track Corporation	207422																												✓				
Agency	Siding Spring Observatory	210269																							✓									
Agency	NSW Department of Primary Industries	210263				✓		✓				✓	✓	✓		✓		✓	✓											✓				
Agency	NSW Division of Resources and Geoscience	210295			✓			✓		✓							✓												✓					
Agency	NSW Environment Protection Authority	211398						✓	✓				✓	✓		✓				✓	✓									✓		✓		
Agency	Forestry Corporation of NSW	211030		✓		✓		✓	✓		✓	✓				✓	✓	✓	✓			✓	✓	✓			✓			✓		✓		
Agency	Heritage Council of NSW	210265																					✓											
Agency	NSW Local Land Services	209599				✓		✓	✓	✓			✓	✓			✓	✓	✓								✓	✓						
Agency	NSW Health	210994												✓						✓														
Agency	NSW Office of Environment and Heritage	210273													✓		✓					✓												
Agency	NSW Rural Fire Service	210261						✓									✓										✓							
Agency	NSW Roads and Maritime Services	210036				✓																		✓										
Agency	Transport for NSW	213437																						✓										
Agency	Gilgandra Shire Council	210257											✓												✓			✓				✓		
Agency	Gunnedah Shire Council	210259																										✓				✓		
Agency	Narrabri Shire Council	207133						✓	✓			✓							✓	✓				✓	✓		✓	✓	✓	✓		✓		
Agency	Warrumbungle Shire Council	208722				✓											✓													✓				
Special interest group	Armidale Action on Coal Seam Gas and Mining	207253						✓					✓															✓						
Special interest group	Armidale National Parks Association	209533				✓		✓					✓			✓	✓					✓			✓	✓	✓	✓		✓				
Special interest group	Artesian Bore Water Users Association	208371			✓	✓		✓	✓				✓	✓				✓																✓
Special interest group	Artesian Bore Water Users Association of NSW Inc	208353			✓	✓		✓	✓				✓					✓												✓				
Special interest group	Australian Air Quality Group	209151			✓																													
Special interest group	Australian Beef Group	203216																											✓					
Special interest group	Australian Plants Society Northern Beaches	208806												✓			✓									✓								
Special interest group	Bayside Climate Change Action Group	208680			✓																													
Special interest group	Birding NSW	195523												✓	✓		✓									✓	✓		✓					
Special interest group	BirdLife Australia	209257			✓	✓											✓										✓							
Special interest group	Birdlife Northern NSW	204384											✓	✓		✓	✓										✓							
Special interest group	Blacktown and District Environment Group	206382			✓								✓				✓					✓				✓								
Special interest group	Blue Mountains Bird Observers	209067			✓	✓		✓					✓				✓			✓		✓			✓	✓		✓		✓				
Special interest group	Clarence Environment Centre	207606			✓						✓		✓	✓			✓		✓	✓	✓			✓	✓	✓		✓		✓				
Special interest group	Clarence Valley Astronomical Society	199464																							✓									
Special interest group	Clarence Valley Conservation Coalition	209093			✓	✓			✓		✓		✓			✓	✓		✓						✓	✓	✓	✓		✓		✓		
Special interest group	Climate Change Action Network	209207																								✓								
Special interest group	Climate Rights Newcastle and Hunter	207288																								✓		✓						
Special interest group	Coal and CSG Free Mirboo North	193246						✓					✓	✓			✓		✓		✓	✓				✓	✓	✓						
Special interest group	Collectif Causse Méjean	207194			✓									✓			✓			✓	✓	✓			✓	✓		✓		✓				
Special interest group	Concerned Communities of Falkirk	208185				✓							✓													✓		✓		✓				✓
Special interest group	Coonabarabran Residents Against CSG	208067			✓	✓		✓	✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓		
Special interest group	Cotton Australia	209053											✓																					

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Special interest group	Country Women's Association of NSW	207074			✓	✓			✓		✓	✓	✓	✓					✓									✓	✓					
Special interest group	CountryMinded	203682				✓							✓						✓															✓
Special interest group	CSG Free Shoalhaven	208800			✓						✓															✓			✓					✓
Special interest group	Cumberland Bird Observers Club	208099										✓	✓	✓		✓	✓																	
Special interest group	Dharriwaa Elders Group	208630									✓		✓	✓			✓					✓				✓		✓						✓
Special interest group	Doctors for the Environment Australia	209183						✓	✓				✓	✓	✓	✓		✓		✓				✓		✓		✓		✓				
Special interest group	Dubbo Field Naturalist and Conservation Society Inc	207482			✓				✓	✓	✓		✓				✓								✓			✓						
Special interest group	Dubbo Knitting Nannas	208273			✓			✓					✓	✓	✓	✓			✓						✓	✓	✓	✓	✓	✓				
Special interest group	Environmentally Concerned Citizens of Orange	197252											✓			✓	✓									✓	✓							
Special interest group	Evans Head Residents for Sustainable Development	209649						✓					✓				✓								✓									✓
Special interest group	Farmers for Climate Action	209473			✓								✓						✓							✓								
Special interest group	Friends of Siding Spring Observatory	208077									✓														✓				✓					
Special interest group	Friends of the Earth Sydney	208476									✓		✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Special interest group	Friends of the Koalas	208047															✓																	
Special interest group	Friends of the Pilliga	208896						✓			✓		✓	✓		✓	✓	✓	✓			✓			✓	✓	✓	✓						
Special interest group	GasFieldFreeDubboRegion	208874			✓			✓					✓	✓	✓		✓		✓	✓					✓	✓	✓	✓	✓	✓				
Special interest group	Gloucester Knitting Nannas	207416			✓								✓				✓								✓	✓		✓		✓				✓
Special interest group	Gomeroi Traditional Custodians	208792									✓											✓												✓
Special interest group	Grafton Knitting Nannas	209111			✓			✓			✓		✓				✓									✓		✓		✓				
Special interest group	Great Artesian Basin Protection Group	208402						✓					✓													✓		✓						
Special interest group	Groundswell Gloucester	204937			✓	✓							✓				✓					✓			✓	✓		✓	✓	✓				
Special interest group	Hastings Birdwatchers	203523											✓	✓		✓	✓										✓							
Special interest group	Hornsby Ku-ring-gai Greens	208922																																
Special interest group	Institute for Energy Economics and Financial Analysis	208195			✓																								✓					
Special interest group	Kalang Progress Assosiation	209024											✓				✓		✓															
Special interest group	Koala Action	189316											✓	✓			✓									✓								
Special interest group	Kyogle Group Against Gas	208123			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Special interest group	Lismore Community Sustainability Forum	200950			✓								✓				✓									✓	✓	✓		✓				
Special interest group	Llsmore Environment Centre	208093			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Special interest group	Lock The Gate Alliance	208992			✓	✓		✓	✓			✓	✓	✓					✓	✓		✓				✓		✓		✓	✓	✓		✓
Special interest group	Maules Creek Branch of the Country Women's Association of NSW	207426			✓	✓							✓															✓		✓				✓
Special interest group	Maules Creek Community Council	208646			✓	✓						✓	✓						✓												✓			
Special interest group	Mulgoa Valley Landcare Group	188899			✓																													
Special interest group	Mullaley Gas and Pipeline Accord	209541		✓	✓		✓	✓					✓				✓	✓				✓			✓			✓			✓			✓
Special interest group	Namoi Water	210285			✓	✓		✓	✓			✓	✓	✓		✓			✓										✓	✓				
Special interest group	Narrabri and District Chamber of Commerce	209741						✓																										
Special interest group	Narrabri Cycle and Triathlon Club	209509																										✓						
Special interest group	Narrabri Local Aboriginal Land Council	209275																				✓												
Special interest group	National Parks Association NSW Southern Sydney Branch	208692			✓	✓										✓	✓	✓							✓					✓		✓		
Special interest group	National Toxics Network	197487						✓	✓				✓							✓								✓		✓				

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Special interest group	Nature Conservation Council of NSW	209145			✓			✓			✓		✓				✓									✓	✓	✓	✓	✓				✓
Special interest group	New England Greens	204581				✓						✓	✓	✓			✓			✓		✓			✓	✓	✓	✓		✓				✓
Special interest group	New England Greens Armidale Tamworth	207307			✓			✓				✓	✓	✓			✓	✓		✓		✓			✓	✓	✓	✓	✓	✓				
Special interest group	New England North West Knitting Nannas	207259											✓				✓																	
Special interest group	No CSG Gilgandra District	207129			✓			✓	✓				✓	✓		✓												✓	✓	✓				✓
Special interest group	North Coast Environment Council	208838						✓					✓				✓					✓												✓
Special interest group	North West Alliance	209243			✓	✓		✓	✓		✓		✓	✓		✓	✓	✓		✓		✓			✓	✓	✓	✓	✓	✓				✓
Special interest group	North West Plains Sustainability Group	107			✓				✓				✓	✓																✓				✓
Special interest group	Northern Beaches Greens	208139			✓												✓		✓			✓			✓			✓	✓	✓				
Special interest group	Northern Inland Council For The Environment	208347			✓	✓		✓			✓		✓	✓			✓	✓		✓		✓			✓	✓	✓	✓	✓	✓				✓
Special interest group	NSW Bush Carers	195519															✓																	
Special interest group	NSW Business Chamber	208866			✓						✓																		✓					
Special interest group	NSW Nurses and Midwives Association	210287						✓	✓				✓	✓		✓			✓	✓		✓				✓	✓	✓						
Special interest group	Orange and Region Water Security Alliance	209853			✓								✓				✓												✓	✓				✓
Special interest group	People for the Plains	209373			✓	✓		✓	✓		✓	✓	✓	✓		✓			✓		✓			✓	✓	✓	✓	✓		✓	✓			
Special interest group	Pets and Wildlife of Pottsville Beach	185782																																
Special interest group	Protect our Water, Environment and Rights (POWER)	209431			✓			✓					✓					✓	✓			✓								✓		✓		
Special interest group	Regional Development Australia Northern Inland NSW	208664																											✓					
Special interest group	Regional Development Australia NSW	208474			✓																								✓					
Special interest group	Residents for Environment and Character Conservation	189232						✓			✓																							
Special interest group	Rivers SOS	207999											✓				✓																	
Special interest group	Running Stream Water Users Association	190751											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Special interest group	Ryde Gladesville Climate Change Action Group	197274			✓								✓																	✓				
Special interest group	Ryde Hunters Hill Flora and Fauna Preservation Society	206232			✓	✓							✓				✓					✓			✓	✓		✓		✓				✓
Special interest group	Securing Australia's Future For Our Kids (SAFFOK)	208878						✓					✓				✓								✓									
Special interest group	Sifters Group	208714			✓																													✓
Special interest group	SOS Liverpool Plains	209457			✓			✓					✓						✓							✓					✓			
Special interest group	Stop Coal Seam Gas Blue Mountains	199162			✓	✓		✓				✓	✓			✓	✓					✓				✓		✓		✓				✓
Special interest group	Stop CSG Sydney	208950			✓	✓			✓				✓	✓		✓	✓		✓	✓		✓			✓	✓	✓	✓		✓				
Special interest group	Sustainable Living Armidale	209711			✓								✓			✓	✓									✓		✓	✓					
Special interest group	The Colong Foundation for Wilderness	207484			✓	✓		✓					✓			✓	✓								✓						✓			
Special interest group	The Mullum Trust	201224											✓													✓								
Special interest group	The Norwood Resource	209307		✓	✓														✓															
Special interest group	The Wilderness Society	209491			✓	✓		✓	✓	✓			✓			✓	✓	✓				✓				✓	✓	✓		✓	✓	✓		✓
Special interest group	Think Brick Australia	204594			✓																													
Special interest group	Upper Mooki Landcare	209171															✓																	
Special interest group	Wando Conservation and Cultural Centre	207006				✓							✓					✓																✓
Special interest group	Yarrie Lake Flora and Fauna Trust	208211																																
Special interest group	Yes2Gas	209515																										✓						
Organisation	A & T Painting	192196		✓																														

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Organisation	Alana Fairchild	203662											✓																					
Organisation	Anderton & Fleck	209677											✓																					
Organisation	Andy Gheorghiu Consulting	207152											✓				✓					✓			✓	✓		✓		✓				
Organisation	Antony Christian & Associates	203049											✓																					
Organisation	Art Box Workshops	195971						✓			✓		✓			✓	✓					✓			✓		✓			✓				
Organisation	BG and LM Hawke	209483											✓						✓											✓				
Organisation	Black Knight Marketing Group	192142									✓		✓			✓	✓					✓			✓		✓			✓				
Organisation	Busfox	187262		✓																														
Organisation	Crop & Nursery Services	196166			✓								✓			✓																		
Organisation	Divaland Lights	205085			✓																													
Organisation	Ecocern	205509			✓																													
Organisation	EnergyQuest	210279		✓																														
Organisation	Festeroo	206849											✓																					
Organisation	HealthyLife	194186			✓								✓																					
Organisation	Hunter Gas Pipeline	210281			✓	✓				✓																								
Organisation	Kingfisher Law	209834			✓				✓				✓																		✓			
Organisation	Ledline	185518			✓																													
Organisation	Marylou Potts	207022											✓																					
Organisation	Marylou Potts	209267			✓	✓		✓					✓		✓	✓													✓					
Organisation	Medical Device Research Australia	190832											✓																	✓				
Organisation	Mulbury	189029		✓																														
Organisation	Netcom IT	194119											✓				✓													✓				✓
Organisation	NU4YU Whole Body Health	203814																																
Organisation	OzEnvironmental	207692				✓		✓			✓		✓						✓			✓				✓		✓	✓					✓
Organisation	Polygon Heritage	192132																				✓												
Organisation	Power Beyond Hydraulics	205336			✓	✓		✓	✓		✓		✓					✓	✓			✓						✓	✓	✓		✓		
Organisation	Rimshot Music	206256			✓								✓				✓		✓			✓			✓			✓		✓				
Organisation	Remapak	204673			✓																													
Organisation	Return To Light	196406		✓																														
Organisation	Weston Aluminium Pty Limited	197627			✓																													
Organisation	Whitehaven Coal	204427											✓																		✓			
Organisation	Winangali Infusion	186146																				✓												
Individual — Form	1A	1–5365			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Form	1B	1–1204			✓		✓	✓				✓	✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓				
Individual — Form	2A	1–4349			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Form	2B	1–1731			✓	✓		✓	✓		✓		✓	✓		✓	✓		✓	✓		✓			✓	✓	✓	✓	✓	✓				✓
Individual — Form	2C	1–58, 1173			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Form	2D	1–3			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Form	3A	1–3288			✓								✓				✓					✓			✓			✓	✓	✓				
Individual — Form	3B	1–152			✓								✓	✓		✓	✓			✓		✓			✓	✓	✓	✓	✓	✓				

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Individual — Form	3D	1–123			✓								✓				✓					✓			✓			✓	✓	✓				
Individual — Form	3E	1–21			✓								✓				✓					✓			✓			✓	✓	✓				
Individual — Form	4A	1–50						✓												✓					✓						✓			
Individual — Form	5A	1–68			✓			✓		✓			✓				✓					✓						✓	✓	✓				
Individual — Form	6A	1–107											✓				✓										✓	✓		✓				
Individual — Form	6B	1–22											✓				✓										✓	✓		✓				
Individual — Form	6C	1–57											✓				✓										✓	✓		✓				
Individual — Form	6D	1–6											✓				✓										✓	✓	✓	✓				
Individual — Form	7A	1–7				✓						✓																						
Individual — Form	7B	1–3				✓						✓																						
Individual — Form	7C	1–4				✓						✓																						
Individual — Form	8A	1–11			✓	✓																				✓								
Individual — Form	8C	1–15			✓	✓																				✓								
Individual — Unique	Individual 1–9	1											✓				✓										✓	✓		✓				
Individual — Unique	Individual 1–9	2																										✓						
Individual — Unique	Individual 1–9	3											✓	✓			✓									✓			✓	✓				
Individual — Unique	Individual 1–9	4											✓				✓			✓		✓			✓	✓		✓	✓	✓				✓
Individual — Unique	Individual 1–9	5											✓																					
Individual — Unique	Individual 1–9	6				✓						✓	✓				✓									✓		✓						
Individual — Unique	Individual 1–9	7											✓				✓																	
Individual — Unique	Individual 1–9	9			✓								✓			✓				✓						✓	✓	✓	✓	✓				
Individual — Unique	Individual 1–9	10											✓				✓		✓			✓				✓		✓		✓				
Individual — Unique	Individual 1–59	1											✓						✓						✓				✓					
Individual — Unique	Individual 1–59	2											✓														✓			✓				
Individual — Unique	Individual 1–59	3			✓								✓				✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	Individual 1–59	4			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	Individual 1–59	5											✓				✓											✓						
Individual — Unique	Individual 1–59	6											✓				✓					✓						✓						
Individual — Unique	Individual 1–59	7											✓							✓								✓	✓					
Individual — Unique	Individual 1–59	8											✓				✓					✓						✓		✓				
Individual — Unique	Individual 1–59	9											✓	✓		✓	✓											✓						
Individual — Unique	Individual 1–59	10											✓									✓						✓						
Individual — Unique	Individual 1–59	11											✓									✓						✓						
Individual — Unique	Individual 1–59	12											✓									✓						✓		✓				
Individual — Unique	Individual 1–59	13											✓									✓												
Individual — Unique	Individual 1–59	14											✓				✓		✓			✓				✓		✓						
Individual — Unique	Individual 1–59	15											✓									✓						✓						
Individual — Unique	Individual 1–59	16											✓				✓			✓				✓	✓			✓	✓					
Individual — Unique	Individual 1–59	17											✓																					
Individual — Unique	Individual 1–59	18											✓						✓									✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	Individual 1–59	19											✓																					
Individual — Unique	Individual 1–59	20											✓			✓																		
Individual — Unique	Individual 1–59	21											✓						✓															
Individual — Unique	Individual 1–59	22											✓																					
Individual — Unique	Individual 1–59	23																	✓									✓						
Individual — Unique	Individual 1–59	24											✓																					
Individual — Unique	Individual 1–59	25						✓					✓			✓	✓		✓	✓		✓				✓	✓	✓		✓				
Individual — Unique	Individual 1–59	26											✓						✓									✓						
Individual — Unique	Individual 1–59	27											✓						✓															
Individual — Unique	Individual 1–59	28											✓																					
Individual — Unique	Individual 1–59	29											✓															✓						
Individual — Unique	Individual 1–59	30											✓			✓												✓						
Individual — Unique	Individual 1–59	31											✓																					
Individual — Unique	Individual 1–59	32											✓									✓												
Individual — Unique	Individual 1–59	33											✓									✓												
Individual — Unique	Individual 1–59	34											✓																					
Individual — Unique	Individual 1–59	35											✓																					
Individual — Unique	Individual 1–59	36											✓																					
Individual — Unique	Individual 1–59	37											✓						✓															
Individual — Unique	Individual 1–59	38											✓															✓						
Individual — Unique	Individual 1–59	39											✓							✓						✓		✓						
Individual — Unique	Individual 1–59	40											✓						✓															
Individual — Unique	Individual 1–59	41											✓															✓						
Individual — Unique	Individual 1–59	42											✓						✓									✓						
Individual — Unique	Individual 1–59	43											✓																					
Individual — Unique	Individual 1–59	44											✓																					
Individual — Unique	Individual 1–59	45			✓			✓					✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–59	46			✓			✓					✓						✓									✓						
Individual — Unique	Individual 1–59	47											✓						✓															
Individual — Unique	Individual 1–59	48											✓												✓	✓								
Individual — Unique	Individual 1–59	49											✓						✓			✓												
Individual — Unique	Individual 1–59	50											✓						✓															
Individual — Unique	Individual 1–59	51			✓								✓				✓																	
Individual — Unique	Individual 1–59	52											✓				✓		✓									✓						
Individual — Unique	Individual 1–59	53			✓								✓												✓					✓				
Individual — Unique	Individual 1–59	54			✓								✓																					
Individual — Unique	Individual 1–59	55											✓																					
Individual — Unique	Individual 1–59	56											✓																					
Individual — Unique	Individual 1–59	57											✓						✓															
Individual — Unique	Individual 1–59	58											✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	Individual 1–59	59											✓																					
Individual — Unique	Individual 1–179	1											✓			✓	✓			✓									✓						
Individual — Unique	Individual 1–179	2						✓					✓						✓															
Individual — Unique	Individual 1–179	3			✓								✓				✓					✓				✓				✓				
Individual — Unique	Individual 1–179	4			✓								✓				✓																	
Individual — Unique	Individual 1–179	5						✓					✓															✓						
Individual — Unique	Individual 1–179	6											✓						✓									✓						✓
Individual — Unique	Individual 1–179	7											✓																					
Individual — Unique	Individual 1–179	8											✓																					
Individual — Unique	Individual 1–179	9											✓				✓					✓				✓								
Individual — Unique	Individual 1–179	10																				✓												
Individual — Unique	Individual 1–179	11			✓								✓																					
Individual — Unique	Individual 1–179	12			✓								✓																	✓				
Individual — Unique	Individual 1–179	13											✓				✓																	
Individual — Unique	Individual 1–179	14											✓						✓															
Individual — Unique	Individual 1–179	15											✓																					
Individual — Unique	Individual 1–179	16																																
Individual — Unique	Individual 1–179	17			✓								✓				✓			✓		✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	18				✓							✓													✓								
Individual — Unique	Individual 1–179	19			✓								✓				✓					✓				✓		✓		✓				
Individual — Unique	Individual 1–179	20			✓	✓		✓					✓	✓		✓	✓											✓	✓	✓				
Individual — Unique	Individual 1–179	21			✓								✓				✓		✓						✓					✓				
Individual — Unique	Individual 1–179	22			✓			✓					✓				✓									✓	✓			✓				
Individual — Unique	Individual 1–179	23			✓			✓					✓				✓									✓	✓		✓			✓		
Individual — Unique	Individual 1–179	24																																
Individual — Unique	Individual 1–179	25			✓								✓																					
Individual — Unique	Individual 1–179	26											✓																	✓				
Individual — Unique	Individual 1–179	27			✓														✓							✓								
Individual — Unique	Individual 1–179	28																										✓	✓					
Individual — Unique	Individual 1–179	29											✓																					
Individual — Unique	Individual 1–179	30											✓			✓	✓					✓												
Individual — Unique	Individual 1–179	31			✓								✓																					
Individual — Unique	Individual 1–179	32											✓				✓																	
Individual — Unique	Individual 1–179	33											✓																					
Individual — Unique	Individual 1–179	34											✓															✓						
Individual — Unique	Individual 1–179	35			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	36																																
Individual — Unique	Individual 1–179	37			✓								✓				✓					✓				✓		✓						
Individual — Unique	Individual 1–179	38											✓												✓	✓		✓		✓				
Individual — Unique	Individual 1–179	39																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	Individual 1–179	40			✓								✓			✓				✓									✓					
Individual — Unique	Individual 1–179	41											✓				✓											✓						
Individual — Unique	Individual 1–179	42											✓				✓			✓	✓				✓	✓		✓		✓				✓
Individual — Unique	Individual 1–179	43											✓																					
Individual — Unique	Individual 1–179	44											✓				✓									✓								
Individual — Unique	Individual 1–179	45											✓															✓						
Individual — Unique	Individual 1–179	46																											✓					
Individual — Unique	Individual 1–179	47			✓								✓				✓					✓				✓		✓		✓				
Individual — Unique	Individual 1–179	48						✓																										
Individual — Unique	Individual 1–179	49			✓								✓				✓					✓												
Individual — Unique	Individual 1–179	50																				✓												
Individual — Unique	Individual 1–179	51											✓															✓	✓					
Individual — Unique	Individual 1–179	52															✓					✓				✓								
Individual — Unique	Individual 1–179	53											✓				✓					✓			✓				✓	✓				
Individual — Unique	Individual 1–179	54			✓								✓	✓			✓											✓		✓				
Individual — Unique	Individual 1–179	55			✓	✓							✓	✓			✓	✓				✓				✓	✓	✓	✓	✓				
Individual — Unique	Individual 1–179	56			✓								✓				✓		✓			✓				✓				✓				
Individual — Unique	Individual 1–179	57																																
Individual — Unique	Individual 1–179	58			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	59			✓								✓													✓		✓						
Individual — Unique	Individual 1–179	60			✓								✓												✓			✓	✓					
Individual — Unique	Individual 1–179	61			✓			✓					✓	✓			✓				✓	✓			✓	✓		✓		✓				
Individual — Unique	Individual 1–179	62			✓								✓									✓						✓	✓					
Individual — Unique	Individual 1–179	63						✓					✓																					
Individual — Unique	Individual 1–179	64			✓	✓			✓				✓			✓	✓		✓	✓		✓				✓		✓						
Individual — Unique	Individual 1–179	65			✓								✓											✓		✓		✓		✓				
Individual — Unique	Individual 1–179	66											✓																	✓				
Individual — Unique	Individual 1–179	67			✓																													
Individual — Unique	Individual 1–179	68			✓								✓				✓					✓			✓					✓				
Individual — Unique	Individual 1–179	69			✓			✓					✓			✓									✓	✓		✓		✓				
Individual — Unique	Individual 1–179	70																																
Individual — Unique	Individual 1–179	71											✓			✓			✓															
Individual — Unique	Individual 1–179	72											✓																					
Individual — Unique	Individual 1–179	73																																
Individual — Unique	Individual 1–179	74			✓								✓																					
Individual — Unique	Individual 1–179	75											✓																					
Individual — Unique	Individual 1–179	76			✓								✓				✓					✓				✓		✓	✓	✓				
Individual — Unique	Individual 1–179	77											✓																					
Individual — Unique	Individual 1–179	78			✓								✓						✓															
Individual — Unique	Individual 1–179	79			✓								✓						✓															

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	Individual 1–179	80			✓								✓				✓		✓									✓	✓					
Individual — Unique	Individual 1–179	81			✓								✓				✓		✓						✓			✓		✓				
Individual — Unique	Individual 1–179	82																																
Individual — Unique	Individual 1–179	83			✓								✓				✓									✓		✓	✓	✓				
Individual — Unique	Individual 1–179	84											✓															✓						
Individual — Unique	Individual 1–179	85			✓								✓	✓					✓						✓			✓	✓	✓				
Individual — Unique	Individual 1–179	86											✓						✓															
Individual — Unique	Individual 1–179	87											✓						✓	✓								✓						
Individual — Unique	Individual 1–179	88											✓						✓															
Individual — Unique	Individual 1–179	89											✓			✓									✓					✓				
Individual — Unique	Individual 1–179	90			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	Individual 1–179	91			✓								✓				✓					✓			✓	✓		✓	✓					
Individual — Unique	Individual 1–179	92																																
Individual — Unique	Individual 1–179	93																								✓								
Individual — Unique	Individual 1–179	94											✓				✓																	
Individual — Unique	Individual 1–179	95			✓												✓					✓								✓				
Individual — Unique	Individual 1–179	96			✓								✓				✓		✓			✓						✓						
Individual — Unique	Individual 1–179	97			✓			✓					✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	98			✓																	✓						✓	✓					
Individual — Unique	Individual 1–179	99																								✓		✓						
Individual — Unique	Individual 1–179	100																																
Individual — Unique	Individual 1–179	101											✓				✓									✓		✓	✓	✓				
Individual — Unique	Individual 1–179	102			✓								✓				✓					✓				✓		✓	✓					
Individual — Unique	Individual 1–179	103			✓								✓													✓								
Individual — Unique	Individual 1–179	104											✓						✓															
Individual — Unique	Individual 1–179	105				✓		✓				✓	✓				✓		✓			✓				✓		✓						
Individual — Unique	Individual 1–179	106			✓								✓				✓					✓				✓		✓	✓	✓				
Individual — Unique	Individual 1–179	108											✓				✓									✓								
Individual — Unique	Individual 1–179	109											✓				✓			✓		✓				✓		✓	✓	✓				
Individual — Unique	Individual 1–179	110											✓																					
Individual — Unique	Individual 1–179	111											✓									✓						✓						
Individual — Unique	Individual 1–179	112			✓								✓									✓			✓	✓		✓	✓					
Individual — Unique	Individual 1–179	113																																
Individual — Unique	Individual 1–179	114			✓								✓				✓		✓			✓						✓		✓				
Individual — Unique	Individual 1–179	115			✓								✓				✓					✓				✓		✓	✓	✓				
Individual — Unique	Individual 1–179	116															✓									✓			✓	✓				
Individual — Unique	Individual 1–179	117			✓								✓				✓									✓		✓	✓					
Individual — Unique	Individual 1–179	118			✓								✓																					
Individual — Unique	Individual 1–179	119			✓	✓							✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	Individual 1–179	120			✓			✓					✓				✓									✓								✓

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	Individual 1–179	121			✓								✓																					
Individual — Unique	Individual 1–179	122			✓												✓									✓								
Individual — Unique	Individual 1–179	123											✓																				
Individual — Unique	Individual 1–179	124											✓				✓		✓			✓			✓			✓	✓	✓				
Individual — Unique	Individual 1–179	125			✓																							✓						
Individual — Unique	Individual 1–179	126											✓																					
Individual — Unique	Individual 1–179	127																																
Individual — Unique	Individual 1–179	128																																
Individual — Unique	Individual 1–179	129			✓								✓				✓					✓												
Individual — Unique	Individual 1–179	130											✓																					
Individual — Unique	Individual 1–179	131											✓																					
Individual — Unique	Individual 1–179	132			✓			✓					✓			✓	✓					✓			✓	✓				✓				
Individual — Unique	Individual 1–179	133																																
Individual — Unique	Individual 1–179	134											✓						✓									✓						
Individual — Unique	Individual 1–179	135			✓								✓				✓									✓								
Individual — Unique	Individual 1–179	136											✓													✓		✓						
Individual — Unique	Individual 1–179	137			✓								✓												✓			✓	✓					
Individual — Unique	Individual 1–179	138			✓								✓															✓		✓				
Individual — Unique	Individual 1–179	139			✓								✓													✓								
Individual — Unique	Individual 1–179	140			✓								✓									✓			✓	✓		✓	✓					
Individual — Unique	Individual 1–179	141																										✓						
Individual — Unique	Individual 1–179	142			✓																													
Individual — Unique	Individual 1–179	143			✓								✓			✓	✓	✓				✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	144											✓																					
Individual — Unique	Individual 1–179	145			✓																													
Individual — Unique	Individual 1–179	146			✓								✓						✓									✓	✓					
Individual — Unique	Individual 1–179	147			✓								✓				✓					✓			✓	✓		✓	✓	✓				✓
Individual — Unique	Individual 1–179	148											✓				✓									✓								
Individual — Unique	Individual 1–179	149			✓								✓																					
Individual — Unique	Individual 1–179	150			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	151			✓								✓				✓		✓			✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	152											✓				✓									✓								
Individual — Unique	Individual 1–179	153											✓									✓				✓				✓				
Individual — Unique	Individual 1–179	154											✓	✓			✓			✓		✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	155			✓								✓				✓								✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	156			✓			✓					✓			✓	✓		✓							✓	✓	✓		✓				
Individual — Unique	Individual 1–179	157			✓								✓									✓				✓		✓	✓	✓				
Individual — Unique	Individual 1–179	158			✓								✓				✓					✓				✓		✓						
Individual — Unique	Individual 1–179	159			✓								✓			✓										✓				✓				
Individual — Unique	Individual 1–179	160						✓					✓						✓									✓	✓					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	Individual 1–179	161			✓												✓		✓							✓				✓				
Individual — Unique	Individual 1–179	162			✓								✓			✓	✓					✓				✓		✓	✓	✓				
Individual — Unique	Individual 1–179	163			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	164															✓					✓			✓	✓		✓	✓					
Individual — Unique	Individual 1–179	165			✓								✓				✓					✓				✓		✓	✓	✓				
Individual — Unique	Individual 1–179	166			✓								✓			✓	✓					✓				✓		✓	✓	✓				
Individual — Unique	Individual 1–179	167			✓			✓					✓				✓								✓			✓	✓					
Individual — Unique	Individual 1–179	168							✓				✓	✓			✓									✓				✓				
Individual — Unique	Individual 1–179	169			✓	✓		✓				✓	✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	170			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	171						✓					✓			✓						✓				✓								✓
Individual — Unique	Individual 1–179	172						✓					✓	✓			✓					✓			✓	✓		✓						
Individual — Unique	Individual 1–179	173			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	Individual 1–179	174																							✓			✓	✓					
Individual — Unique	Individual 1–179	175											✓				✓								✓			✓	✓	✓				
Individual — Unique	Individual 1–179	176			✓																													
Individual — Unique	Individual 1–179	177			✓	✓		✓									✓											✓	✓	✓				
Individual — Unique	Individual 1–179	178			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	Individual 1–179	179																	✓															
Individual — Unique	—	184588						✓			✓																		✓						
Individual — Unique	—	184863																									✓							
Individual — Unique	—	184905			✓												✓									✓				✓				
Individual — Unique	—	184907			✓								✓	✓				✓								✓		✓						
Individual — Unique	—	184951			✓								✓																					
Individual — Unique	—	184954										✓																						
Individual — Unique	—	184958			✓			✓									✓											✓	✓					
Individual — Unique	—	184986			✓																								✓					
Individual — Unique	—	185007											✓			✓			✓									✓						
Individual — Unique	—	185045			✓	✓		✓						✓					✓									✓	✓					
Individual — Unique	—	185069											✓	✓		✓									✓	✓	✓	✓						
Individual — Unique	—	185184			✓	✓		✓					✓	✓					✓															
Individual — Unique	—	185283			✓												✓									✓								
Individual — Unique	—	185287								✓																								
Individual — Unique	—	185289															✓																	
Individual — Unique	—	185293											✓				✓																	
Individual — Unique	—	185299															✓						✓											
Individual — Unique	—	185305											✓				✓																	
Individual — Unique	—	185307			✓								✓				✓																	
Individual — Unique	—	185317																																
Individual — Unique	—	185319			✓												✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	185321			✓								✓				✓																	
Individual — Unique	—	185323											✓				✓					✓												
Individual — Unique	—	185325											✓	✓																				
Individual — Unique	—	185327						✓																										
Individual — Unique	—	185332																																
Individual — Unique	—	185349							✓				✓		✓		✓					✓												
Individual — Unique	—	185353							✓				✓			✓										✓	✓	✓						
Individual — Unique	—	185355								✓			✓						✓									✓						
Individual — Unique	—	185357																											✓					
Individual — Unique	—	185359											✓			✓	✓					✓					✓	✓	✓					
Individual — Unique	—	185361			✓												✓																
Individual — Unique	—	185365											✓									✓												
Individual — Unique	—	185367			✓								✓																					
Individual — Unique	—	185369											✓			✓	✓										✓			✓				
Individual — Unique	—	185375											✓				✓																	
Individual — Unique	—	185379								✓																								
Individual — Unique	—	185381															✓																	
Individual — Unique	—	185385																																
Individual — Unique	—	185397											✓			✓																		
Individual — Unique	—	185405															✓																	
Individual — Unique	—	185409																																
Individual — Unique	—	185411																																
Individual — Unique	—	185413														✓	✓																	
Individual — Unique	—	185418						✓																										
Individual — Unique	—	185423											✓				✓																	
Individual — Unique	—	185427							✓							✓	✓											✓						
Individual — Unique	—	185429											✓																					
Individual — Unique	—	185440			✓																													
Individual — Unique	—	185442							✓				✓			✓	✓					✓						✓						
Individual — Unique	—	185444			✓											✓										✓			✓					
Individual — Unique	—	185446											✓				✓																	
Individual — Unique	—	185448											✓				✓																	
Individual — Unique	—	185450						✓					✓																					
Individual — Unique	—	185452			✓								✓																					
Individual — Unique	—	185454															✓																	
Individual — Unique	—	185458														✓	✓										✓							
Individual — Unique	—	185462											✓	✓	✓																			
Individual — Unique	—	185464			✓								✓				✓																	
Individual — Unique	—	185466						✓					✓			✓	✓									✓		✓						
Individual — Unique	—	185468											✓				✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	185470											✓																					
Individual — Unique	—	185472															✓																	
Individual — Unique	—	185474											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	185476																																
Individual — Unique	—	185480																																
Individual — Unique	—	185482																																
Individual — Unique	—	185486																																
Individual — Unique	—	185488																																
Individual — Unique	—	185490			✓								✓																					
Individual — Unique	—	185498																																
Individual — Unique	—	185502																																
Individual — Unique	—	185504											✓																					
Individual — Unique	—	185506																																
Individual — Unique	—	185508											✓																					
Individual — Unique	—	185510																																
Individual — Unique	—	185512															✓																	
Individual — Unique	—	185514			✓																													
Individual — Unique	—	185516											✓																					
Individual — Unique	—	185520																																
Individual — Unique	—	185522						✓																										
Individual — Unique	—	185524			✓			✓					✓	✓		✓	✓								✓			✓						
Individual — Unique	—	185526			✓																													
Individual — Unique	—	185530											✓	✓			✓					✓				✓								
Individual — Unique	—	185532			✓																													
Individual — Unique	—	185534																																
Individual — Unique	—	185536						✓					✓																					
Individual — Unique	—	185538			✓														✓															
Individual — Unique	—	185540						✓																										
Individual — Unique	—	185542			✓																													
Individual — Unique	—	185544			✓									✓			✓			✓														
Individual — Unique	—	185546											✓																					
Individual — Unique	—	185548			✓								✓				✓											✓						
Individual — Unique	—	185550											✓				✓											✓		✓				
Individual — Unique	—	185552														✓																		
Individual — Unique	—	185554											✓									✓						✓						
Individual — Unique	—	185556											✓	✓														✓						
Individual — Unique	—	185558											✓									✓												
Individual — Unique	—	185560		✓									✓				✓																	
Individual — Unique	—	185564											✓	✓																✓				
Individual — Unique	—	185568			✓												✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	185570											✓																					
Individual — Unique	—	185572											✓	✓			✓					✓			✓	✓	✓		✓					
Individual — Unique	—	185574																																
Individual — Unique	—	185576			✓												✓																	
Individual — Unique	—	185578																																
Individual — Unique	—	185580			✓																													
Individual — Unique	—	185582																																
Individual — Unique	—	185586																																
Individual — Unique	—	185588																																
Individual — Unique	—	185590																																
Individual — Unique	—	185594																																
Individual — Unique	—	185596			✓																								✓					
Individual — Unique	—	185598			✓																													
Individual — Unique	—	185600			✓																													
Individual — Unique	—	185602																																
Individual — Unique	—	185604																																
Individual — Unique	—	185606											✓		✓	✓	✓		✓			✓			✓	✓		✓						
Individual — Unique	—	185608																																
Individual — Unique	—	185610						✓					✓																					
Individual — Unique	—	185612																																
Individual — Unique	—	185614											✓			✓			✓									✓	✓					
Individual — Unique	—	185616											✓	✓																				
Individual — Unique	—	185618											✓	✓			✓					✓												
Individual — Unique	—	185620															✓									✓		✓						
Individual — Unique	—	185624																																
Individual — Unique	—	185628									✓																							
Individual — Unique	—	185630																																
Individual — Unique	—	185636											✓																					
Individual — Unique	—	185638																																
Individual — Unique	—	185640																																
Individual — Unique	—	185642											✓				✓																	
Individual — Unique	—	185644																																
Individual — Unique	—	185646						✓																										
Individual — Unique	—	185648							✓				✓	✓	✓	✓	✓		✓			✓			✓	✓	✓	✓						
Individual — Unique	—	185650											✓			✓	✓																	
Individual — Unique	—	185652							✓				✓	✓	✓	✓	✓		✓			✓			✓	✓	✓	✓						
Individual — Unique	—	185654											✓																					
Individual — Unique	—	185656																																
Individual — Unique	—	185658			✓																													
Individual — Unique	—	185660			✓																													

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	185662																																
Individual — Unique	—	185664											✓	✓			✓																	
Individual — Unique	—	185666															✓																	
Individual — Unique	—	185668																																
Individual — Unique	—	185670			✓																													
Individual — Unique	—	185672																																
Individual — Unique	—	185676											✓			✓	✓																	
Individual — Unique	—	185678																																
Individual — Unique	—	185680											✓	✓		✓				✓														
Individual — Unique	—	185682																																
Individual — Unique	—	185684							✓				✓	✓	✓	✓	✓		✓			✓			✓	✓	✓	✓						
Individual — Unique	—	185686			✓								✓	✓																				
Individual — Unique	—	185688							✓				✓			✓	✓		✓			✓			✓	✓	✓	✓						
Individual — Unique	—	185690																																
Individual — Unique	—	185692											✓																					
Individual — Unique	—	185694											✓																					
Individual — Unique	—	185696																																
Individual — Unique	—	185698																																
Individual — Unique	—	185700			✓								✓																					
Individual — Unique	—	185702			✓																													
Individual — Unique	—	185704			✓																													
Individual — Unique	—	185706											✓																					
Individual — Unique	—	185708											✓																					
Individual — Unique	—	185710																																
Individual — Unique	—	185712																																
Individual — Unique	—	185714			✓			✓					✓	✓		✓	✓			✓								✓		✓				
Individual — Unique	—	185718																																
Individual — Unique	—	185720											✓																					
Individual — Unique	—	185722																																
Individual — Unique	—	185724						✓																										
Individual — Unique	—	185726			✓								✓									✓												
Individual — Unique	—	185728			✓														✓															
Individual — Unique	—	185730			✓																													
Individual — Unique	—	185732			✓																													
Individual — Unique	—	185734							✓				✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	185736			✓												✓																	
Individual — Unique	—	185738																																
Individual — Unique	—	185740						✓					✓																					
Individual — Unique	—	185742																																
Individual — Unique	—	185744																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	185746											✓				✓									✓								
Individual — Unique	—	185748											✓																					
Individual — Unique	—	185750																																
Individual — Unique	—	185752																																
Individual — Unique	—	185754																																
Individual — Unique	—	185756			✓																													
Individual — Unique	—	185760											✓							✓														
Individual — Unique	—	185762			✓								✓						✓															
Individual — Unique	—	185766			✓																													
Individual — Unique	—	185768																																
Individual — Unique	—	185770																																
Individual — Unique	—	185772			✓																													
Individual — Unique	—	185774																																
Individual — Unique	—	185776											✓																					
Individual — Unique	—	185778																																
Individual — Unique	—	185780			✓								✓				✓													✓				
Individual — Unique	—	185784			✓																													
Individual — Unique	—	185786																																
Individual — Unique	—	185788											✓			✓	✓					✓				✓	✓							
Individual — Unique	—	185790						✓	✓				✓	✓	✓	✓	✓		✓			✓			✓	✓	✓	✓						
Individual — Unique	—	185792						✓					✓				✓									✓								
Individual — Unique	—	185794																																
Individual — Unique	—	185796																																
Individual — Unique	—	185808											✓	✓		✓	✓		✓			✓				✓	✓	✓						
Individual — Unique	—	185816											✓	✓			✓																	
Individual — Unique	—	185820																																
Individual — Unique	—	185824																																
Individual — Unique	—	185826																																
Individual — Unique	—	185834											✓	✓					✓															
Individual — Unique	—	185842																																
Individual — Unique	—	185844							✓				✓			✓	✓		✓			✓			✓	✓		✓						
Individual — Unique	—	185846											✓																					
Individual — Unique	—	185848																																
Individual — Unique	—	185850			✓																													
Individual — Unique	—	185852																																
Individual — Unique	—	185854																																
Individual — Unique	—	185856											✓																					
Individual — Unique	—	185860											✓				✓																	
Individual — Unique	—	185862			✓																													
Individual — Unique	—	185864																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	185866																																
Individual — Unique	—	185870																																
Individual — Unique	—	185874			✓								✓	✓			✓										✓		✓					
Individual — Unique	—	185876											✓														✓	✓						
Individual — Unique	—	185878											✓	✓																				
Individual — Unique	—	185880			✓																													
Individual — Unique	—	185882						✓					✓															✓						
Individual — Unique	—	185892																																
Individual — Unique	—	185894																																
Individual — Unique	—	185898			✓								✓			✓	✓										✓							
Individual — Unique	—	185916			✓																													
Individual — Unique	—	185922																																
Individual — Unique	—	185924											✓														✓		✓			✓		
Individual — Unique	—	185926																																
Individual — Unique	—	185928																																
Individual — Unique	—	185930			✓																													
Individual — Unique	—	185934																																
Individual — Unique	—	185936			✓																													
Individual — Unique	—	185938			✓																													
Individual — Unique	—	185940																																
Individual — Unique	—	185942							✓				✓																					
Individual — Unique	—	185944																																
Individual — Unique	—	185946							✓				✓	✓	✓	✓	✓		✓			✓			✓	✓	✓	✓						
Individual — Unique	—	185952											✓				✓																	
Individual — Unique	—	185956											✓			✓																		
Individual — Unique	—	185958			✓																													
Individual — Unique	—	185964											✓			✓	✓					✓				✓	✓			✓				
Individual — Unique	—	185968											✓	✓			✓		✓									✓						
Individual — Unique	—	185970																																
Individual — Unique	—	185972											✓				✓			✓														
Individual — Unique	—	185978						✓																										
Individual — Unique	—	185982																																
Individual — Unique	—	185984						✓																					✓					
Individual — Unique	—	185986																																
Individual — Unique	—	185988			✓																													
Individual — Unique	—	185994						✓					✓	✓		✓	✓																	
Individual — Unique	—	185996															✓																	
Individual — Unique	—	186000																																
Individual — Unique	—	186004			✓																													
Individual — Unique	—	186006																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	186012							✓				✓			✓			✓			✓				✓		✓						
Individual — Unique	—	186016											✓			✓																		
Individual — Unique	—	186020															✓					✓	✓											
Individual — Unique	—	186024											✓				✓					✓												
Individual — Unique	—	186026			✓			✓																		✓								
Individual — Unique	—	186030															✓																	
Individual — Unique	—	186032			✓												✓											✓						
Individual — Unique	—	186042											✓																					
Individual — Unique	—	186046			✓								✓																					
Individual — Unique	—	186048			✓			✓																										
Individual — Unique	—	186050											✓																					
Individual — Unique	—	186052																																
Individual — Unique	—	186054											✓	✓			✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186058											✓				✓									✓		✓		✓				
Individual — Unique	—	186060																																
Individual — Unique	—	186066																																
Individual — Unique	—	186068											✓																					
Individual — Unique	—	186070															✓																	
Individual — Unique	—	186082															✓																	
Individual — Unique	—	186086			✓																													
Individual — Unique	—	186088											✓																					
Individual — Unique	—	186092																																
Individual — Unique	—	186094			✓								✓	✓			✓										✓							
Individual — Unique	—	186096											✓														✓							
Individual — Unique	—	186100											✓			✓											✓							
Individual — Unique	—	186104																																
Individual — Unique	—	186106			✓								✓			✓										✓	✓							
Individual — Unique	—	186108											✓						✓															
Individual — Unique	—	186110											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186112																																✓
Individual — Unique	—	186114											✓																					✓
Individual — Unique	—	186116											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186120											✓				✓		✓			✓												
Individual — Unique	—	186124											✓				✓																	✓
Individual — Unique	—	186126											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186128											✓																					✓
Individual — Unique	—	186134			✓			✓																				✓	✓					
Individual — Unique	—	186142						✓					✓																					
Individual — Unique	—	186150																																
Individual — Unique	—	186154											✓			✓	✓					✓								✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	186156											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186158											✓				✓										✓							
Individual — Unique	—	186160											✓																					
Individual — Unique	—	186164											✓																					
Individual — Unique	—	186170																																
Individual — Unique	—	186202																																
Individual — Unique	—	186212																																
Individual — Unique	—	186216																																
Individual — Unique	—	186224						✓					✓																					
Individual — Unique	—	186256											✓																					
Individual — Unique	—	186264																																
Individual — Unique	—	186274																																
Individual — Unique	—	186276																																
Individual — Unique	—	186278																																
Individual — Unique	—	186286											✓				✓								✓									
Individual — Unique	—	186288																																
Individual — Unique	—	186292			✓																													
Individual — Unique	—	186294																																
Individual — Unique	—	186296			✓																													
Individual — Unique	—	186300																																
Individual — Unique	—	186302											✓	✓		✓										✓		✓						
Individual — Unique	—	186304			✓																													
Individual — Unique	—	186312											✓	✓		✓						✓					✓			✓				
Individual — Unique	—	186322																																
Individual — Unique	—	186324											✓						✓									✓						
Individual — Unique	—	186336																																
Individual — Unique	—	186338																																
Individual — Unique	—	186342																																
Individual — Unique	—	186348																																
Individual — Unique	—	186350																																
Individual — Unique	—	186354																																
Individual — Unique	—	186368																																
Individual — Unique	—	186372											✓																					
Individual — Unique	—	186376											✓																					
Individual — Unique	—	186378																																
Individual — Unique	—	186380			✓																													
Individual — Unique	—	186382															✓									✓								
Individual — Unique	—	186384																																
Individual — Unique	—	186386			✓								✓	✓		✓	✓		✓						✓	✓	✓	✓		✓				
Individual — Unique	—	186388			✓								✓				✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	186390																																
Individual — Unique	—	186396											✓	✓		✓	✓		✓																
Individual — Unique	—	186398											✓				✓									✓								
Individual — Unique	—	186400											✓	✓			✓																	
Individual — Unique	—	186402						✓																										
Individual — Unique	—	186408											✓	✓			✓					✓												
Individual — Unique	—	186412											✓	✓	✓	✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186418											✓																					
Individual — Unique	—	186424											✓																					
Individual — Unique	—	186428											✓																					
Individual — Unique	—	186430																																
Individual — Unique	—	186434																																
Individual — Unique	—	186438			✓																													
Individual — Unique	—	186440																																
Individual — Unique	—	186442											✓																					
Individual — Unique	—	186446			✓								✓	✓			✓											✓						
Individual — Unique	—	186448											✓																					
Individual — Unique	—	186456											✓				✓																	
Individual — Unique	—	186460															✓																	
Individual — Unique	—	186462																																
Individual — Unique	—	186464											✓									✓												
Individual — Unique	—	186466						✓					✓	✓		✓	✓									✓	✓	✓						
Individual — Unique	—	186470			✓								✓				✓																	
Individual — Unique	—	186472																																
Individual — Unique	—	186474			✓								✓													✓								
Individual — Unique	—	186478			✓								✓													✓								
Individual — Unique	—	186484																																
Individual — Unique	—	186488											✓	✓			✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186498												✓													✓							
Individual — Unique	—	186500																																
Individual — Unique	—	186508											✓																					
Individual — Unique	—	186510											✓									✓	✓											
Individual — Unique	—	186512																																
Individual — Unique	—	186516											✓	✓			✓					✓			✓	✓	✓			✓				
Individual — Unique	—	186522											✓			✓	✓		✓								✓							
Individual — Unique	—	186530																											✓					
Individual — Unique	—	186538											✓	✓			✓																	
Individual — Unique	—	186542											✓	✓		✓	✓					✓						✓						
Individual — Unique	—	186544			✓																													
Individual — Unique	—	186550											✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	186554											✓																					
Individual — Unique	—	186564			✓																	✓												
Individual — Unique	—	186580														✓										✓								
Individual — Unique	—	186584											✓						✓						✓									
Individual — Unique	—	186588																											✓					
Individual — Unique	—	186590															✓		✓															
Individual — Unique	—	186594																																
Individual — Unique	—	186598											✓			✓											✓	✓						
Individual — Unique	—	186604																																
Individual — Unique	—	186612																																
Individual — Unique	—	186616																																
Individual — Unique	—	186618											✓																					
Individual — Unique	—	186620																																
Individual — Unique	—	186622						✓																										
Individual — Unique	—	186628																				✓												
Individual — Unique	—	186634											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186636																																
Individual — Unique	—	186638			✓			✓																										
Individual — Unique	—	186642																																
Individual — Unique	—	186644																																
Individual — Unique	—	186648			✓								✓																	✓				
Individual — Unique	—	186650						✓					✓			✓	✓												✓						
Individual — Unique	—	186652											✓																					
Individual — Unique	—	186654																																
Individual — Unique	—	186656																																
Individual — Unique	—	186660											✓																					
Individual — Unique	—	186662			✓																													
Individual — Unique	—	186664			✓								✓				✓																	
Individual — Unique	—	186666											✓		✓	✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186668																																
Individual — Unique	—	186670																										✓						
Individual — Unique	—	186672											✓			✓																		
Individual — Unique	—	186674																																
Individual — Unique	—	186678											✓		✓	✓	✓					✓												
Individual — Unique	—	186686											✓																					
Individual — Unique	—	186690															✓											✓						
Individual — Unique	—	186696											✓				✓			✓														
Individual — Unique	—	186700			✓																													
Individual — Unique	—	186702																																
Individual — Unique	—	186704											✓			✓	✓											✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	186706																																
Individual — Unique	—	186710																																
Individual — Unique	—	186718						✓																										
Individual — Unique	—	186722			✓								✓				✓																	
Individual — Unique	—	186724			✓																	✓												
Individual — Unique	—	186726											✓				✓																	
Individual — Unique	—	186730																																
Individual — Unique	—	186732											✓				✓											✓						
Individual — Unique	—	186734																																
Individual — Unique	—	186736			✓																													
Individual — Unique	—	186740			✓																													
Individual — Unique	—	186744																																
Individual — Unique	—	186748			✓																													
Individual — Unique	—	186752																																
Individual — Unique	—	186754											✓			✓																		
Individual — Unique	—	186756																																
Individual — Unique	—	186758																																
Individual — Unique	—	186762						✓																										
Individual — Unique	—	186764																																
Individual — Unique	—	186766			✓												✓		✓															
Individual — Unique	—	186768																																
Individual — Unique	—	186770																																
Individual — Unique	—	186772															✓																	
Individual — Unique	—	186774																																
Individual — Unique	—	186776			✓																													
Individual — Unique	—	186778		✓	✓								✓																					
Individual — Unique	—	186780											✓	✓			✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186786			✓												✓								✓									
Individual — Unique	—	186788															✓								✓	✓		✓						
Individual — Unique	—	186792																																
Individual — Unique	—	186794																																
Individual — Unique	—	186800											✓				✓																	
Individual — Unique	—	186804																										✓						
Individual — Unique	—	186808																																
Individual — Unique	—	186810																					✓											
Individual — Unique	—	186814															✓					✓					✓							
Individual — Unique	—	186816											✓																					
Individual — Unique	—	186818											✓		✓	✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186820						✓								✓																		
Individual — Unique	—	186826																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	186830											✓		✓	✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186854															✓																	
Individual — Unique	—	186856						✓					✓																					
Individual — Unique	—	186858																																
Individual — Unique	—	186860																																
Individual — Unique	—	186866																								✓								
Individual — Unique	—	186870			✓												✓																	
Individual — Unique	—	186872											✓																					
Individual — Unique	—	186876																																
Individual — Unique	—	186880											✓						✓															
Individual — Unique	—	186882			✓								✓	✓			✓																	
Individual — Unique	—	186884																										✓						
Individual — Unique	—	186886																											✓					
Individual — Unique	—	186888																																
Individual — Unique	—	186890																																
Individual — Unique	—	186892																				✓												
Individual — Unique	—	186896											✓				✓																	
Individual — Unique	—	186898											✓				✓								✓			✓		✓				
Individual — Unique	—	186900											✓						✓															
Individual — Unique	—	186902																																
Individual — Unique	—	186904											✓						✓															
Individual — Unique	—	186906											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186908										✓							✓															
Individual — Unique	—	186910			✓																													
Individual — Unique	—	186924											✓																					
Individual — Unique	—	186930			✓																					✓								
Individual — Unique	—	186936											✓	✓		✓	✓					✓								✓				
Individual — Unique	—	186938											✓																					
Individual — Unique	—	186940			✓																													
Individual — Unique	—	186946			✓								✓																					
Individual — Unique	—	186948											✓			✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	186950											✓			✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	186960											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186964			✓																													
Individual — Unique	—	186966																																
Individual — Unique	—	186968											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186970																																
Individual — Unique	—	186972						✓					✓												✓									
Individual — Unique	—	186974																										✓						
Individual — Unique	—	186976											✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	186978			✓																													
Individual — Unique	—	186982														✓	✓									✓								
Individual — Unique	—	186984											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	186986															✓										✓							
Individual — Unique	—	186988														✓	✓																	
Individual — Unique	—	186992			✓			✓					✓	✓																				
Individual — Unique	—	186994						✓									✓									✓		✓						
Individual — Unique	—	186998															✓																	
Individual — Unique	—	187000																									✓							
Individual — Unique	—	187002			✓												✓																	
Individual — Unique	—	187004											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187008											✓			✓		✓		✓								✓						
Individual — Unique	—	187012			✓																													
Individual — Unique	—	187014															✓											✓						
Individual — Unique	—	187018											✓				✓																	
Individual — Unique	—	187020																																
Individual — Unique	—	187022											✓																					
Individual — Unique	—	187024											✓			✓																		
Individual — Unique	—	187028															✓																	
Individual — Unique	—	187030											✓	✓																				
Individual — Unique	—	187032											✓				✓			✓	✓							✓						
Individual — Unique	—	187038																																
Individual — Unique	—	187040																																
Individual — Unique	—	187042																																
Individual — Unique	—	187046											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187050			✓								✓	✓		✓	✓		✓			✓			✓	✓								
Individual — Unique	—	187052																																
Individual — Unique	—	187056											✓			✓	✓		✓	✓						✓								
Individual — Unique	—	187058						✓					✓								✓					✓								
Individual — Unique	—	187060											✓				✓																	
Individual — Unique	—	187062			✓								✓						✓								✓			✓				
Individual — Unique	—	187064																																
Individual — Unique	—	187066			✓								✓																✓					
Individual — Unique	—	187068											✓	✓		✓	✓					✓				✓	✓	✓		✓				
Individual — Unique	—	187070																																
Individual — Unique	—	187078																																
Individual — Unique	—	187084																																
Individual — Unique	—	187088																																
Individual — Unique	—	187090																																
Individual — Unique	—	187092																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	187094											✓			✓											✓			✓				
Individual — Unique	—	187102																																
Individual — Unique	—	187106											✓																					
Individual — Unique	—	187108											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187110																																
Individual — Unique	—	187112											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187114																																
Individual — Unique	—	187116											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187118																																
Individual — Unique	—	187120						✓					✓																					
Individual — Unique	—	187122											✓			✓														✓				
Individual — Unique	—	187124											✓			✓										✓				✓				
Individual — Unique	—	187126																		✓								✓						
Individual — Unique	—	187132																																
Individual — Unique	—	187134			✓																													
Individual — Unique	—	187136																																
Individual — Unique	—	187140											✓						✓									✓						
Individual — Unique	—	187142											✓																					
Individual — Unique	—	187146											✓				✓					✓				✓								
Individual — Unique	—	187150																																
Individual — Unique	—	187154																																
Individual — Unique	—	187156			✓																							✓						
Individual — Unique	—	187158						✓																										
Individual — Unique	—	187162																																
Individual — Unique	—	187168			✓								✓																					
Individual — Unique	—	187172																																
Individual — Unique	—	187174											✓																					
Individual — Unique	—	187176			✓																													
Individual — Unique	—	187178			✓														✓															
Individual — Unique	—	187180																																
Individual — Unique	—	187182			✓								✓	✓		✓	✓					✓			✓	✓	✓			✓				
Individual — Unique	—	187192											✓					✓								✓								
Individual — Unique	—	187194																																
Individual — Unique	—	187196																																
Individual — Unique	—	187198			✓																													
Individual — Unique	—	187200				✓														✓						✓					✓	✓		
Individual — Unique	—	187202																																
Individual — Unique	—	187204																																
Individual — Unique	—	187206			✓								✓													✓	✓							
Individual — Unique	—	187210																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	187214															✓																	
Individual — Unique	—	187216											✓				✓	✓	✓																
Individual — Unique	—	187218															✓																	
Individual — Unique	—	187220											✓																					
Individual — Unique	—	187222			✓								✓				✓					✓				✓	✓	✓		✓				
Individual — Unique	—	187226																																
Individual — Unique	—	187230											✓				✓					✓						✓						
Individual — Unique	—	187232			✓																													
Individual — Unique	—	187235			✓								✓				✓					✓												
Individual — Unique	—	187237																																
Individual — Unique	—	187239																																
Individual — Unique	—	187241															✓																	
Individual — Unique	—	187243																																
Individual — Unique	—	187247																																
Individual — Unique	—	187249																																
Individual — Unique	—	187253																																
Individual — Unique	—	187256			✓																													
Individual — Unique	—	187258											✓			✓										✓								
Individual — Unique	—	187260			✓																					✓								
Individual — Unique	—	187264																																
Individual — Unique	—	187266			✓																													
Individual — Unique	—	187270											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187274			✓																													
Individual — Unique	—	187276																																
Individual — Unique	—	187278			✓												✓									✓								✓
Individual — Unique	—	187280											✓																					
Individual — Unique	—	187282																																
Individual — Unique	—	187284																																
Individual — Unique	—	187286											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187288																																
Individual — Unique	—	187290			✓								✓				✓									✓								
Individual — Unique	—	187294			✓																										✓			
Individual — Unique	—	187296																																
Individual — Unique	—	187298			✓									✓			✓											✓						
Individual — Unique	—	187300			✓																													
Individual — Unique	—	187302																																
Individual — Unique	—	187304											✓																					
Individual — Unique	—	187306											✓																					
Individual — Unique	—	187308			✓																													
Individual — Unique	—	187310			✓																													

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	187312			✓								✓	✓			✓									✓	✓							
Individual — Unique	—	187314																																
Individual — Unique	—	187316			✓								✓			✓	✓																	
Individual — Unique	—	187318																																
Individual — Unique	—	187320																																
Individual — Unique	—	187322											✓				✓																	
Individual — Unique	—	187328			✓			✓					✓			✓			✓															
Individual — Unique	—	187330											✓																					
Individual — Unique	—	187332																																
Individual — Unique	—	187334			✓																													
Individual — Unique	—	187338											✓				✓																	
Individual — Unique	—	187340																																
Individual — Unique	—	187342																																
Individual — Unique	—	187346											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187350			✓								✓			✓										✓								
Individual — Unique	—	187354											✓				✓									✓								
Individual — Unique	—	187356																																
Individual — Unique	—	187358																																
Individual — Unique	—	187360											✓	✓			✓					✓				✓	✓	✓		✓				
Individual — Unique	—	187368																																
Individual — Unique	—	187370															✓																	✓
Individual — Unique	—	187374						✓																										
Individual — Unique	—	187376																																
Individual — Unique	—	187378											✓																					
Individual — Unique	—	187380																																
Individual — Unique	—	187382											✓																					
Individual — Unique	—	187386			✓								✓													✓								
Individual — Unique	—	187388						✓					✓																					
Individual — Unique	—	187390																																
Individual — Unique	—	187392																																
Individual — Unique	—	187400																																
Individual — Unique	—	187404																																
Individual — Unique	—	187406											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187408			✓																													
Individual — Unique	—	187410			✓																													
Individual — Unique	—	187412														✓	✓										✓							
Individual — Unique	—	187414			✓								✓																					
Individual — Unique	—	187418											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187422											✓									✓												
Individual — Unique	—	187424			✓								✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	187426																																
Individual — Unique	—	187428											✓	✓															✓					
Individual — Unique	—	187430																							✓									
Individual — Unique	—	187432																																
Individual — Unique	—	187436			✓								✓			✓	✓		✓										✓	✓				
Individual — Unique	—	187442															✓																	
Individual — Unique	—	187444			✓								✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187448																																
Individual — Unique	—	187452																																
Individual — Unique	—	187454											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187456			✓								✓				✓		✓															
Individual — Unique	—	187458											✓				✓																	
Individual — Unique	—	187460						✓					✓																					
Individual — Unique	—	187462			✓																					✓								
Individual — Unique	—	187470			✓				✓				✓	✓								✓				✓				✓				
Individual — Unique	—	187472											✓																					
Individual — Unique	—	187474											✓																					
Individual — Unique	—	187476							✓				✓				✓					✓			✓	✓	✓			✓				
Individual — Unique	—	187480											✓																					
Individual — Unique	—	187482																										✓						
Individual — Unique	—	187484											✓																					
Individual — Unique	—	187486																																
Individual — Unique	—	187492																																
Individual — Unique	—	187494																																
Individual — Unique	—	187496											✓																					
Individual — Unique	—	187498			✓								✓				✓																	
Individual — Unique	—	187504																																
Individual — Unique	—	187506											✓				✓																	
Individual — Unique	—	187508											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187514											✓				✓	✓																
Individual — Unique	—	187516											✓									✓												
Individual — Unique	—	187518											✓																					
Individual — Unique	—	187520											✓																					
Individual — Unique	—	187530			✓																													
Individual — Unique	—	187534																																
Individual — Unique	—	187536			✓																													
Individual — Unique	—	187538																																
Individual — Unique	—	187540			✓								✓									✓				✓	✓			✓				
Individual — Unique	—	187542											✓																					✓
Individual — Unique	—	187546																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	187548																																
Individual — Unique	—	187550			✓								✓						✓																
Individual — Unique	—	187552											✓													✓									
Individual — Unique	—	187556						✓																											
Individual — Unique	—	187558																																	
Individual — Unique	—	187566											✓				✓																		
Individual — Unique	—	187570			✓								✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	187572											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	187578																																	
Individual — Unique	—	187580											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	187582											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	187586			✓																														
Individual — Unique	—	187588			✓																														✓
Individual — Unique	—	187592											✓				✓																		
Individual — Unique	—	187594			✓																														
Individual — Unique	—	187596			✓								✓				✓									✓									
Individual — Unique	—	187598			✓								✓				✓										✓			✓					
Individual — Unique	—	187602											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	187604											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	187606											✓	✓		✓		✓										✓						✓	
Individual — Unique	—	187628																																	
Individual — Unique	—	187654											✓																					✓	
Individual — Unique	—	187664																																	
Individual — Unique	—	187666											✓			✓																			
Individual — Unique	—	187668						✓					✓															✓							
Individual — Unique	—	187672			✓												✓																		
Individual — Unique	—	187682																																	
Individual — Unique	—	187688																																	
Individual — Unique	—	187692											✓				✓																		
Individual — Unique	—	187694																																	
Individual — Unique	—	187696											✓			✓																			
Individual — Unique	—	187700											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	187702											✓																						
Individual — Unique	—	187708			✓																					✓		✓							
Individual — Unique	—	187710			✓								✓	✓		✓	✓		✓			✓			✓		✓	✓		✓					
Individual — Unique	—	187712																																	
Individual — Unique	—	187714																																	
Individual — Unique	—	187720											✓				✓					✓													
Individual — Unique	—	187722						✓																				✓							
Individual — Unique	—	187728											✓	✓			✓					✓						✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	187736																																
Individual — Unique	—	187742											✓													✓		✓							
Individual — Unique	—	187744											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	187750											✓	✓												✓									
Individual — Unique	—	187756							✓					✓			✓			✓		✓				✓	✓	✓		✓					
Individual — Unique	—	187758															✓																		
Individual — Unique	—	187760															✓											✓							
Individual — Unique	—	187762											✓				✓																		
Individual — Unique	—	187764																																	
Individual — Unique	—	187768			✓			✓					✓																						
Individual — Unique	—	187770											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	187772																																	
Individual — Unique	—	187776																																	
Individual — Unique	—	187780																																	
Individual — Unique	—	187782			✓																														
Individual — Unique	—	187784			✓								✓																						
Individual — Unique	—	187786											✓			✓													✓						
Individual — Unique	—	187788						✓																											
Individual — Unique	—	187790															✓								✓										
Individual — Unique	—	187792			✓																														
Individual — Unique	—	187795			✓																														
Individual — Unique	—	187801											✓			✓	✓										✓								
Individual — Unique	—	187803			✓																														
Individual — Unique	—	187807																																	
Individual — Unique	—	187809											✓																						
Individual — Unique	—	187811																																	
Individual — Unique	—	187815			✓															✓															
Individual — Unique	—	187817											✓																						
Individual — Unique	—	187819											✓													✓									
Individual — Unique	—	187823																																	
Individual — Unique	—	187825																																	
Individual — Unique	—	187831											✓														✓								
Individual — Unique	—	187833											✓				✓		✓		✓							✓							
Individual — Unique	—	187835																																	
Individual — Unique	—	187839																																	
Individual — Unique	—	187841																																	
Individual — Unique	—	187845											✓																						
Individual — Unique	—	187847											✓				✓																		
Individual — Unique	—	187853											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	187865			✓								✓				✓									✓		✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	187882																																
Individual — Unique	—	187884																																
Individual — Unique	—	187886											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187888											✓				✓											✓						
Individual — Unique	—	187890																																
Individual — Unique	—	187898																										✓						
Individual — Unique	—	187904											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	187907																																
Individual — Unique	—	187916																				✓												
Individual — Unique	—	187948						✓					✓															✓						
Individual — Unique	—	187951																																
Individual — Unique	—	187957																																
Individual — Unique	—	187970			✓																													
Individual — Unique	—	187972											✓													✓								
Individual — Unique	—	187985											✓															✓						
Individual — Unique	—	187993											✓				✓																	
Individual — Unique	—	188001											✓									✓						✓						
Individual — Unique	—	188014						✓																										
Individual — Unique	—	188017											✓															✓						
Individual — Unique	—	188021																																
Individual — Unique	—	188032			✓																													
Individual — Unique	—	188041											✓				✓											✓						
Individual — Unique	—	188049																																
Individual — Unique	—	188053						✓					✓				✓																	
Individual — Unique	—	188057											✓			✓	✓					✓					✓	✓						
Individual — Unique	—	188075															✓																	
Individual — Unique	—	188081																																
Individual — Unique	—	188085											✓																					
Individual — Unique	—	188087											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188089											✓																					
Individual — Unique	—	188099											✓						✓									✓						
Individual — Unique	—	188108											✓				✓											✓						
Individual — Unique	—	188110			✓								✓																					
Individual — Unique	—	188121											✓				✓																	
Individual — Unique	—	188125																																
Individual — Unique	—	188137											✓	✓		✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	188151																																
Individual — Unique	—	188153											✓																					
Individual — Unique	—	188161															✓																	
Individual — Unique	—	188163											✓	✓																				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	188167			✓								✓																					
Individual — Unique	—	188175			✓												✓									✓								
Individual — Unique	—	188181																																
Individual — Unique	—	188195														✓																		
Individual — Unique	—	188198														✓	✓				✓						✓							
Individual — Unique	—	188216			✓								✓	✓																				
Individual — Unique	—	188220															✓		✓															
Individual — Unique	—	188224																																
Individual — Unique	—	188236																																
Individual — Unique	—	188246											✓			✓																		
Individual — Unique	—	188248											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188252											✓																					
Individual — Unique	—	188272											✓																	✓				
Individual — Unique	—	188276											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188284																																
Individual — Unique	—	188309			✓																													
Individual — Unique	—	188322											✓				✓																	
Individual — Unique	—	188324																																
Individual — Unique	—	188329											✓																					
Individual — Unique	—	188350											✓																					
Individual — Unique	—	188358																																
Individual — Unique	—	188360			✓			✓					✓			✓																		
Individual — Unique	—	188370											✓																					
Individual — Unique	—	188372											✓																					
Individual — Unique	—	188374																																✓
Individual — Unique	—	188378			✓																													
Individual — Unique	—	188384																																
Individual — Unique	—	188386											✓																					
Individual — Unique	—	188390			✓																													
Individual — Unique	—	188412											✓	✓																✓				
Individual — Unique	—	188414											✓													✓								
Individual — Unique	—	188434																																
Individual — Unique	—	188438			✓								✓																					
Individual — Unique	—	188448																																
Individual — Unique	—	188452																																
Individual — Unique	—	188454																																
Individual — Unique	—	188462																																
Individual — Unique	—	188466											✓																					
Individual — Unique	—	188472																																
Individual — Unique	—	188480											✓				✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	188482											✓																					
Individual — Unique	—	188484											✓				✓											✓						
Individual — Unique	—	188490			✓			✓					✓																					
Individual — Unique	—	188506																																
Individual — Unique	—	188510															✓																	
Individual — Unique	—	188512			✓																													
Individual — Unique	—	188514																																
Individual — Unique	—	188530			✓																													
Individual — Unique	—	188536											✓																					
Individual — Unique	—	188570											✓																					
Individual — Unique	—	188582																																
Individual — Unique	—	188588																																
Individual — Unique	—	188594			✓								✓	✓																				
Individual — Unique	—	188606																																
Individual — Unique	—	188610											✓	✓																				
Individual — Unique	—	188612											✓				✓																	
Individual — Unique	—	188622											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188624						✓					✓																					
Individual — Unique	—	188630																																
Individual — Unique	—	188632																																
Individual — Unique	—	188634																																
Individual — Unique	—	188648																																
Individual — Unique	—	188652			✓											✓						✓											
Individual — Unique	—	188654											✓			✓	✓					✓											
Individual — Unique	—	188656						✓					✓				✓																	
Individual — Unique	—	188667											✓				✓																	
Individual — Unique	—	188669			✓												✓											✓						
Individual — Unique	—	188671											✓				✓																	
Individual — Unique	—	188675											✓																					
Individual — Unique	—	188677																																
Individual — Unique	—	188679						✓																										
Individual — Unique	—	188685																																
Individual — Unique	—	188687																																
Individual — Unique	—	188691			✓																													
Individual — Unique	—	188695															✓																	
Individual — Unique	—	188697																																
Individual — Unique	—	188706											✓			✓	✓					✓				✓								
Individual — Unique	—	188708											✓				✓			✓														
Individual — Unique	—	188710																																
Individual — Unique	—	188714																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	188716												✓																				
Individual — Unique	—	188734											✓			✓						✓					✓								
Individual — Unique	—	188739			✓								✓																						
Individual — Unique	—	188741																																	
Individual — Unique	—	188747																																	
Individual — Unique	—	188749											✓				✓																		
Individual — Unique	—	188751											✓																						
Individual — Unique	—	188757											✓				✓					✓					✓			✓		✓			
Individual — Unique	—	188759											✓																						
Individual — Unique	—	188763											✓																						
Individual — Unique	—	188765											✓							✓															
Individual — Unique	—	188767			✓			✓															✓												
Individual — Unique	—	188787											✓													✓									
Individual — Unique	—	188797																										✓	✓						
Individual — Unique	—	188799											✓																						
Individual — Unique	—	188801																																	
Individual — Unique	—	188803			✓											✓																			
Individual — Unique	—	188805			✓																														
Individual — Unique	—	188807															✓																		
Individual — Unique	—	188809																																	
Individual — Unique	—	188811											✓																						
Individual — Unique	—	188813											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	188815											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	188817											✓																						
Individual — Unique	—	188819			✓																														
Individual — Unique	—	188821											✓	✓		✓	✓					✓			✓		✓	✓		✓					
Individual — Unique	—	188823											✓	✓		✓	✓													✓					
Individual — Unique	—	188825			✓	✓														✓															
Individual — Unique	—	188827						✓																											
Individual — Unique	—	188829			✓																														
Individual — Unique	—	188831											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	188833			✓																														
Individual — Unique	—	188835											✓				✓											✓							
Individual — Unique	—	188837											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	188839																																	
Individual — Unique	—	188841			✓												✓																		
Individual — Unique	—	188843			✓																							✓							
Individual — Unique	—	188845											✓			✓	✓					✓				✓									
Individual — Unique	—	188849															✓					✓													
Individual — Unique	—	188851											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	188853																																
Individual — Unique	—	188855																	✓							✓		✓						
Individual — Unique	—	188857											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188859																																
Individual — Unique	—	188861											✓				✓		✓							✓	✓			✓				
Individual — Unique	—	188865			✓																					✓								
Individual — Unique	—	188869			✓																													
Individual — Unique	—	188873			✓			✓					✓																					
Individual — Unique	—	188875											✓															✓						
Individual — Unique	—	188877															✓																	
Individual — Unique	—	188879																																
Individual — Unique	—	188881											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188883																																
Individual — Unique	—	188885			✓																					✓								
Individual — Unique	—	188887											✓									✓												
Individual — Unique	—	188889											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188891			✓																							✓						
Individual — Unique	—	188893											✓				✓																	
Individual — Unique	—	188897															✓																	
Individual — Unique	—	188901																																
Individual — Unique	—	188903											✓															✓						
Individual — Unique	—	188905																																
Individual — Unique	—	188907											✓			✓	✓					✓			✓					✓				
Individual — Unique	—	188911			✓																													
Individual — Unique	—	188915											✓				✓																	
Individual — Unique	—	188917			✓																											✓		
Individual — Unique	—	188919											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188927																																
Individual — Unique	—	188931																																
Individual — Unique	—	188935											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188941											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188949			✓																													
Individual — Unique	—	188957											✓				✓																	
Individual — Unique	—	188961			✓																													
Individual — Unique	—	188965																																
Individual — Unique	—	188967			✓																													
Individual — Unique	—	188969											✓	✓																				
Individual — Unique	—	188973			✓								✓																					
Individual — Unique	—	188975											✓				✓		✓															
Individual — Unique	—	188977																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	188979											✓																					
Individual — Unique	—	188983																																
Individual — Unique	—	188987											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188993											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	188997			✓												✓									✓								
Individual — Unique	—	188999																								✓								
Individual — Unique	—	189005																																
Individual — Unique	—	189007															✓																	
Individual — Unique	—	189009											✓				✓		✓							✓								
Individual — Unique	—	189011											✓									✓												
Individual — Unique	—	189015											✓				✓									✓								
Individual — Unique	—	189017											✓	✓			✓											✓						
Individual — Unique	—	189019											✓						✓	✓										✓				
Individual — Unique	—	189033			✓																					✓								
Individual — Unique	—	189035											✓	✓		✓	✓					✓					✓			✓				
Individual — Unique	—	189037															✓																	
Individual — Unique	—	189039															✓											✓						
Individual — Unique	—	189041			✓								✓	✓			✓		✓	✓														
Individual — Unique	—	189043											✓	✓												✓								
Individual — Unique	—	189047											✓																					
Individual — Unique	—	189049			✓								✓			✓	✓									✓		✓						
Individual — Unique	—	189051			✓												✓											✓						
Individual — Unique	—	189053																																
Individual — Unique	—	189057											✓													✓								
Individual — Unique	—	189059																																
Individual — Unique	—	189061						✓					✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189065											✓				✓					✓												
Individual — Unique	—	189067			✓								✓			✓				✓														
Individual — Unique	—	189069			✓																													
Individual — Unique	—	189071			✓																													
Individual — Unique	—	189073															✓											✓						
Individual — Unique	—	189075											✓																					
Individual — Unique	—	189077											✓																					
Individual — Unique	—	189079			✓											✓	✓									✓								
Individual — Unique	—	189081																																
Individual — Unique	—	189083																								✓								
Individual — Unique	—	189085																																
Individual — Unique	—	189087																																
Individual — Unique	—	189089											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189091						✓									✓										✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	189093						✓					✓	✓			✓		✓			✓												
Individual — Unique	—	189095			✓								✓	✓											✓			✓		✓				
Individual — Unique	—	189097			✓								✓												✓	✓	✓							
Individual — Unique	—	189101			✓											✓			✓															
Individual — Unique	—	189103			✓																													
Individual — Unique	—	189105																																
Individual — Unique	—	189109			✓												✓		✓															
Individual — Unique	—	189111						✓																										
Individual — Unique	—	189113			✓								✓							✓						✓								
Individual — Unique	—	189115			✓			✓					✓	✓																				
Individual — Unique	—	189117											✓																					
Individual — Unique	—	189121											✓																					
Individual — Unique	—	189127											✓	✓			✓																	
Individual — Unique	—	189129																																
Individual — Unique	—	189131											✓																					
Individual — Unique	—	189133											✓																					
Individual — Unique	—	189135			✓								✓													✓								
Individual — Unique	—	189137																																
Individual — Unique	—	189139																																
Individual — Unique	—	189141											✓																					
Individual — Unique	—	189143																																
Individual — Unique	—	189145																																
Individual — Unique	—	189149			✓								✓																					
Individual — Unique	—	189151																																
Individual — Unique	—	189159			✓								✓				✓		✓			✓				✓		✓						
Individual — Unique	—	189161											✓						✓															
Individual — Unique	—	189163																																
Individual — Unique	—	189167											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189169											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189173																										✓						
Individual — Unique	—	189175			✓								✓				✓																	
Individual — Unique	—	189177											✓																					
Individual — Unique	—	189179											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189181											✓																					
Individual — Unique	—	189183											✓						✓															
Individual — Unique	—	189185															✓																	
Individual — Unique	—	189187																																
Individual — Unique	—	189189																																
Individual — Unique	—	189191																																
Individual — Unique	—	189193			✓								✓				✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	189195											✓				✓																	
Individual — Unique	—	189199			✓								✓																					
Individual — Unique	—	189201											✓	✓			✓										✓	✓		✓				
Individual — Unique	—	189203												✓		✓			✓									✓						
Individual — Unique	—	189205			✓												✓																	
Individual — Unique	—	189215																																
Individual — Unique	—	189217			✓			✓					✓													✓								
Individual — Unique	—	189220											✓			✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189224						✓																										
Individual — Unique	—	189226			✓								✓			✓																		
Individual — Unique	—	189228											✓			✓			✓															
Individual — Unique	—	189234																																
Individual — Unique	—	189236						✓					✓				✓					✓				✓				✓				
Individual — Unique	—	189240											✓	✓		✓	✓					✓						✓						
Individual — Unique	—	189242											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189244											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189246																																
Individual — Unique	—	189252			✓								✓				✓		✓							✓								
Individual — Unique	—	189254															✓										✓	✓						
Individual — Unique	—	189258			✓																													
Individual — Unique	—	189260											✓	✓		✓	✓					✓			✓	✓	✓			✓				
Individual — Unique	—	189262							✓				✓	✓																				
Individual — Unique	—	189264																																
Individual — Unique	—	189268			✓																													
Individual — Unique	—	189270						✓									✓		✓															
Individual — Unique	—	189272			✓																													
Individual — Unique	—	189274						✓									✓		✓	✓														
Individual — Unique	—	189276			✓																													
Individual — Unique	—	189278																																
Individual — Unique	—	189282																																
Individual — Unique	—	189284											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189286			✓					✓																			✓					
Individual — Unique	—	189290																																
Individual — Unique	—	189292											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189298																																
Individual — Unique	—	189300																																
Individual — Unique	—	189304															✓																	
Individual — Unique	—	189308											✓															✓						
Individual — Unique	—	189310																																
Individual — Unique	—	189312															✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	189314															✓																	✓
Individual — Unique	—	189318			✓												✓																	✓
Individual — Unique	—	189320											✓	✓			✓													✓				
Individual — Unique	—	189322						✓					✓				✓										✓							
Individual — Unique	—	189324			✓								✓			✓	✓											✓						
Individual — Unique	—	189326																																
Individual — Unique	—	189332																																✓
Individual — Unique	—	189342											✓				✓											✓						
Individual — Unique	—	189346											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189352			✓																													✓
Individual — Unique	—	189354			✓								✓																✓					
Individual — Unique	—	189356						✓					✓	✓		✓	✓			✓						✓		✓						
Individual — Unique	—	189358																								✓								
Individual — Unique	—	189360											✓			✓	✓									✓	✓	✓		✓				
Individual — Unique	—	189362			✓			✓					✓	✓		✓	✓			✓		✓				✓		✓		✓				
Individual — Unique	—	189366																																
Individual — Unique	—	189368			✓			✓																										
Individual — Unique	—	189370											✓	✓												✓								
Individual — Unique	—	189372											✓			✓	✓					✓												
Individual — Unique	—	189376			✓			✓					✓							✓														
Individual — Unique	—	189382																																
Individual — Unique	—	189386																																
Individual — Unique	—	189390			✓			✓			✓		✓	✓			✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189392											✓			✓	✓																	
Individual — Unique	—	189396																																
Individual — Unique	—	189398			✓								✓													✓		✓						
Individual — Unique	—	189402															✓			✓						✓								
Individual — Unique	—	189407																																
Individual — Unique	—	189413											✓	✓		✓	✓					✓			✓	✓	✓	✓						
Individual — Unique	—	189419											✓																					
Individual — Unique	—	189425			✓																													
Individual — Unique	—	189431			✓																													
Individual — Unique	—	189439											✓	✓			✓					✓				✓								
Individual — Unique	—	189441											✓			✓																		
Individual — Unique	—	189445			✓												✓																	
Individual — Unique	—	189449																																
Individual — Unique	—	189451																																
Individual — Unique	—	189455											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189463															✓																	
Individual — Unique	—	189468														✓	✓								✓					✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	189472															✓																	
Individual — Unique	—	189484							✓				✓	✓		✓	✓									✓		✓							
Individual — Unique	—	189486																																	
Individual — Unique	—	189488											✓			✓	✓								✓	✓								
Individual — Unique	—	189496											✓				✓												✓					
Individual — Unique	—	189502											✓	✓			✓		✓			✓					✓							
Individual — Unique	—	189508																																	
Individual — Unique	—	189510															✓																	
Individual — Unique	—	189512											✓			✓	✓									✓			✓					
Individual — Unique	—	189524				✓											✓																	
Individual — Unique	—	189528											✓			✓														✓				
Individual — Unique	—	189532			✓														✓															
Individual — Unique	—	189538						✓					✓	✓			✓								✓	✓								
Individual — Unique	—	189544											✓	✓		✓	✓									✓		✓						
Individual — Unique	—	189551											✓				✓		✓			✓				✓	✓			✓				
Individual — Unique	—	189553			✓								✓													✓								
Individual — Unique	—	189557											✓																					
Individual — Unique	—	189562															✓					✓												
Individual — Unique	—	189568											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189570											✓				✓		✓									✓		✓				
Individual — Unique	—	189579																																	
Individual — Unique	—	189587																																	
Individual — Unique	—	189589														✓														✓				
Individual — Unique	—	189591			✓																					✓								
Individual — Unique	—	189593																																	
Individual — Unique	—	189597											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189599			✓			✓					✓				✓																	
Individual — Unique	—	189603											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189612											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189614																																	
Individual — Unique	—	189616			✓																														
Individual — Unique	—	189618																																	
Individual — Unique	—	189622											✓	✓		✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	189624											✓	✓			✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189630																																	
Individual — Unique	—	189635											✓	✓			✓									✓								
Individual — Unique	—	189641			✓			✓											✓															
Individual — Unique	—	189645			✓												✓																	
Individual — Unique	—	189653											✓				✓																	
Individual — Unique	—	189665			✓																														

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	189685			✓											✓																		
Individual — Unique	—	189687			✓																	✓												
Individual — Unique	—	189697											✓																					
Individual — Unique	—	189713			✓						✓																							
Individual — Unique	—	189715			✓								✓			✓	✓											✓						
Individual — Unique	—	189728						✓									✓		✓															
Individual — Unique	—	189730											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189733			✓								✓	✓			✓																	
Individual — Unique	—	189739											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189741			✓			✓					✓																					
Individual — Unique	—	189749						✓					✓																					
Individual — Unique	—	189761											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189765											✓																					
Individual — Unique	—	189773							✓				✓			✓	✓	✓				✓												
Individual — Unique	—	189775			✓								✓			✓	✓			✓														
Individual — Unique	—	189777											✓				✓																	
Individual — Unique	—	189781														✓																		✓
Individual — Unique	—	189789											✓							✓					✓	✓								
Individual — Unique	—	189791																																
Individual — Unique	—	189793											✓	✓																✓				
Individual — Unique	—	189807											✓			✓	✓	✓				✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189815			✓																													
Individual — Unique	—	189817			✓																													
Individual — Unique	—	189841											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	189847			✓								✓			✓										✓		✓						✓
Individual — Unique	—	189859			✓	✓																												
Individual — Unique	—	189867			✓			✓					✓				✓																	
Individual — Unique	—	189871			✓																													
Individual — Unique	—	189877						✓					✓																					✓
Individual — Unique	—	189881											✓			✓	✓				✓						✓							
Individual — Unique	—	189889			✓														✓															
Individual — Unique	—	189893			✓																													
Individual — Unique	—	189903											✓				✓								✓									
Individual — Unique	—	189915			✓								✓				✓		✓															
Individual — Unique	—	189933			✓								✓			✓																		
Individual — Unique	—	189935															✓					✓												
Individual — Unique	—	189941																																
Individual — Unique	—	189945											✓	✓			✓										✓							
Individual — Unique	—	189959															✓																	
Individual — Unique	—	189963											✓	✓			✓									✓								

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	189965											✓																✓					
Individual — Unique	—	189967											✓			✓	✓					✓								✓					
Individual — Unique	—	189979														✓	✓																		
Individual — Unique	—	189989											✓				✓					✓	✓												
Individual — Unique	—	189991															✓																		
Individual — Unique	—	189993			✓																								✓						
Individual — Unique	—	190001											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	190003			✓																														
Individual — Unique	—	190009											✓				✓		✓									✓							
Individual — Unique	—	190011															✓																		
Individual — Unique	—	190015											✓						✓																
Individual — Unique	—	190021											✓																						
Individual — Unique	—	190027															✓																		
Individual — Unique	—	190031						✓					✓																						
Individual — Unique	—	190033			✓																														
Individual — Unique	—	190035											✓	✓		✓																			
Individual — Unique	—	190037																																	
Individual — Unique	—	190041																																	
Individual — Unique	—	190043			✓																														
Individual — Unique	—	190045											✓																						
Individual — Unique	—	190051																																	
Individual — Unique	—	190055															✓																		
Individual — Unique	—	190077			✓								✓					✓																		
Individual — Unique	—	190085											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	190091											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	190097											✓					✓																	
Individual — Unique	—	190105			✓								✓				✓					✓				✓	✓	✓							
Individual — Unique	—	190107															✓																		
Individual — Unique	—	190139											✓			✓	✓					✓				✓				✓				✓	
Individual — Unique	—	190141						✓						✓			✓		✓							✓	✓								
Individual — Unique	—	190143																	✓																
Individual — Unique	—	190147			✓																													✓	
Individual — Unique	—	190149						✓					✓			✓	✓									✓									
Individual — Unique	—	190153											✓															✓							
Individual — Unique	—	190159																																	
Individual — Unique	—	190185											✓			✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	190189			✓												✓					✓												✓	
Individual — Unique	—	190193			✓								✓				✓	✓									✓			✓					
Individual — Unique	—	190195											✓			✓	✓													✓					
Individual — Unique	—	190203																																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	190207											✓																					✓
Individual — Unique	—	190215											✓				✓					✓	✓	✓											
Individual — Unique	—	190219																																	
Individual — Unique	—	190221											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	190227											✓	✓		✓	✓								✓	✓	✓	✓		✓					
Individual — Unique	—	190235																																	
Individual — Unique	—	190241											✓	✓		✓	✓								✓	✓	✓	✓		✓					
Individual — Unique	—	190245			✓																					✓									
Individual — Unique	—	190251			✓																														
Individual — Unique	—	190263											✓	✓		✓						✓													
Individual — Unique	—	190265											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	190269			✓								✓				✓								✓	✓									
Individual — Unique	—	190273																																	
Individual — Unique	—	190275						✓																											
Individual — Unique	—	190295																																	
Individual — Unique	—	190297			✓												✓		✓																
Individual — Unique	—	190315			✓																					✓									
Individual — Unique	—	190319						✓					✓	✓																					
Individual — Unique	—	190321											✓	✓		✓	✓								✓	✓	✓	✓		✓					
Individual — Unique	—	190331						✓																											
Individual — Unique	—	190337											✓	✓			✓																		
Individual — Unique	—	190339			✓								✓																						
Individual — Unique	—	190341											✓				✓										✓								
Individual — Unique	—	190357			✓																														
Individual — Unique	—	190363																																	
Individual — Unique	—	190365																																	
Individual — Unique	—	190377											✓																						
Individual — Unique	—	190379			✓																														
Individual — Unique	—	190381											✓																						
Individual — Unique	—	190385																																	
Individual — Unique	—	190393			✓								✓				✓																		
Individual — Unique	—	190405														✓																			
Individual — Unique	—	190409											✓																						
Individual — Unique	—	190413																																	
Individual — Unique	—	190417											✓	✓																					
Individual — Unique	—	190423															✓																		
Individual — Unique	—	190431											✓	✓								✓								✓					
Individual — Unique	—	190433			✓			✓					✓				✓																		
Individual — Unique	—	190437			✓								✓	✓			✓									✓									
Individual — Unique	—	190439											✓			✓																			

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	190445											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	190459											✓			✓	✓					✓						✓						
Individual — Unique	—	190461			✓																													
Individual — Unique	—	190465															✓																	
Individual — Unique	—	190467			✓			✓								✓	✓										✓							
Individual — Unique	—	190471			✓																													
Individual — Unique	—	190475															✓											✓						
Individual — Unique	—	190483											✓																					
Individual — Unique	—	190493															✓									✓								
Individual — Unique	—	190495																																
Individual — Unique	—	190509											✓	✓								✓												
Individual — Unique	—	190511											✓				✓																	
Individual — Unique	—	190515			✓												✓																	
Individual — Unique	—	190519											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	190521			✓												✓																	
Individual — Unique	—	190525																								✓								
Individual — Unique	—	190535												✓		✓	✓					✓								✓				
Individual — Unique	—	190537															✓																	
Individual — Unique	—	190541											✓	✓			✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	190547			✓																	✓				✓								
Individual — Unique	—	190551																																
Individual — Unique	—	190559																																
Individual — Unique	—	190561																																
Individual — Unique	—	190563																																✓
Individual — Unique	—	190569			✓																													
Individual — Unique	—	190571											✓																					
Individual — Unique	—	190587																																
Individual — Unique	—	190591			✓																													
Individual — Unique	—	190595																																
Individual — Unique	—	190605											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	190611											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	190615											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	190617																	✓															
Individual — Unique	—	190627																																✓
Individual — Unique	—	190629			✓								✓			✓				✓		✓			✓		✓							
Individual — Unique	—	190633			✓								✓	✓		✓	✓			✓		✓						✓						✓
Individual — Unique	—	190637																																
Individual — Unique	—	190639																																
Individual — Unique	—	190641											✓			✓	✓					✓				✓	✓	✓		✓				✓
Individual — Unique	—	190649			✓																													✓

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	190651																																
Individual — Unique	—	190653											✓	✓		✓	✓			✓		✓				✓	✓	✓		✓				
Individual — Unique	—	190655											✓																					
Individual — Unique	—	190659						✓																										✓
Individual — Unique	—	190661			✓																													
Individual — Unique	—	190663																																
Individual — Unique	—	190665																																
Individual — Unique	—	190667											✓																					
Individual — Unique	—	190671																																
Individual — Unique	—	190673						✓																										
Individual — Unique	—	190675											✓	✓		✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	190677															✓									✓								
Individual — Unique	—	190687											✓				✓																	
Individual — Unique	—	190693																																
Individual — Unique	—	190699											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	190701																																
Individual — Unique	—	190709			✓								✓			✓				✓														
Individual — Unique	—	190711															✓																	
Individual — Unique	—	190715																																
Individual — Unique	—	190717											✓	✓		✓	✓		✓			✓				✓	✓	✓		✓				
Individual — Unique	—	190719																																
Individual — Unique	—	190721											✓				✓		✓			✓								✓				
Individual — Unique	—	190725															✓		✓						✓	✓		✓						
Individual — Unique	—	190731			✓			✓					✓				✓			✓								✓						
Individual — Unique	—	190733			✓								✓			✓																		
Individual — Unique	—	190735											✓	✓		✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	190737			✓								✓				✓		✓							✓	✓	✓						
Individual — Unique	—	190739												✓						✓						✓								
Individual — Unique	—	190745											✓				✓					✓				✓								
Individual — Unique	—	190747											✓	✓		✓														✓				
Individual — Unique	—	190757			✓																													
Individual — Unique	—	190763																																
Individual — Unique	—	190769			✓																													
Individual — Unique	—	190771											✓				✓								✓									
Individual — Unique	—	190773											✓						✓						✓									
Individual — Unique	—	190775												✓												✓	✓							
Individual — Unique	—	190777															✓																	
Individual — Unique	—	190779			✓			✓																	✓	✓								
Individual — Unique	—	190796											✓																					
Individual — Unique	—	190798											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	190800											✓				✓					✓						✓							
Individual — Unique	—	190802						✓					✓	✓			✓		✓	✓								✓							
Individual — Unique	—	190804			✓									✓																				
Individual — Unique	—	190808																		✓								✓	✓						
Individual — Unique	—	190818											✓															✓							✓
Individual — Unique	—	190820			✓																														
Individual — Unique	—	190824											✓																						✓
Individual — Unique	—	190830											✓				✓											✓							
Individual — Unique	—	190834																																	
Individual — Unique	—	190836																																	
Individual — Unique	—	190838											✓				✓																		
Individual — Unique	—	190862																																	
Individual — Unique	—	190872																																	
Individual — Unique	—	190880											✓				✓					✓			✓										
Individual — Unique	—	190882											✓			✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	190884			✓								✓																						
Individual — Unique	—	190888			✓																														✓
Individual — Unique	—	190892			✓			✓					✓													✓									
Individual — Unique	—	190896											✓				✓																		
Individual — Unique	—	190900																																	
Individual — Unique	—	190904			✓								✓				✓	✓																	
Individual — Unique	—	190908			✓												✓											✓							✓
Individual — Unique	—	190951																																	✓
Individual — Unique	—	190971																																	
Individual — Unique	—	190973											✓			✓										✓									
Individual — Unique	—	190975											✓							✓															
Individual — Unique	—	190979			✓								✓															✓							
Individual — Unique	—	190991						✓					✓																	✓					
Individual — Unique	—	190995																																	
Individual — Unique	—	191007											✓																						
Individual — Unique	—	191009																								✓									
Individual — Unique	—	191013											✓																						
Individual — Unique	—	191025																																	
Individual — Unique	—	191029											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	191053											✓																						
Individual — Unique	—	191055											✓				✓																		
Individual — Unique	—	191063																																	
Individual — Unique	—	191067											✓				✓					✓					✓								
Individual — Unique	—	191075											✓			✓	✓																		
Individual — Unique	—	191081											✓																						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	191089			✓								✓									✓			✓			✓		✓				
Individual — Unique	—	191093																																
Individual — Unique	—	191095																																
Individual — Unique	—	191097																																
Individual — Unique	—	191103																																
Individual — Unique	—	191105											✓				✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	191107			✓			✓					✓															✓						
Individual — Unique	—	191113			✓																													
Individual — Unique	—	191115											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191117											✓																					
Individual — Unique	—	191121											✓			✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	191123																										✓						
Individual — Unique	—	191125			✓								✓			✓						✓												
Individual — Unique	—	191127			✓																													
Individual — Unique	—	191129																																
Individual — Unique	—	191133											✓				✓	✓				✓												
Individual — Unique	—	191137																																
Individual — Unique	—	191139			✓																													
Individual — Unique	—	191141																																
Individual — Unique	—	191143											✓	✓		✓	✓					✓				✓	✓			✓				
Individual — Unique	—	191145											✓			✓									✓									
Individual — Unique	—	191147											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191149																																
Individual — Unique	—	191151			✓																													
Individual — Unique	—	191155																																
Individual — Unique	—	191163																																
Individual — Unique	—	191165											✓			✓																		
Individual — Unique	—	191169			✓								✓			✓	✓																	
Individual — Unique	—	191175											✓			✓																		
Individual — Unique	—	191181			✓																													
Individual — Unique	—	191185											✓				✓																	
Individual — Unique	—	191187											✓	✓		✓	✓													✓				
Individual — Unique	—	191193														✓																		
Individual — Unique	—	191199											✓			✓																		
Individual — Unique	—	191209						✓																										
Individual — Unique	—	191218																																
Individual — Unique	—	191232			✓												✓			✓		✓					✓	✓		✓				
Individual — Unique	—	191234																																
Individual — Unique	—	191242			✓								✓												✓									
Individual — Unique	—	191248																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	191336			✓								✓				✓		✓							✓								
Individual — Unique	—	191356											✓				✓											✓						
Individual — Unique	—	191418											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191420																																
Individual — Unique	—	191484																																
Individual — Unique	—	191508											✓													✓								
Individual — Unique	—	191532											✓	✓																				
Individual — Unique	—	191534																								✓								
Individual — Unique	—	191538																																
Individual — Unique	—	191542			✓			✓					✓																					
Individual — Unique	—	191546											✓																					
Individual — Unique	—	191548											✓	✓		✓	✓					✓			✓			✓						
Individual — Unique	—	191552											✓	✓																				
Individual — Unique	—	191554																																
Individual — Unique	—	191556																																
Individual — Unique	—	191560															✓								✓	✓		✓						
Individual — Unique	—	191564											✓	✓								✓												
Individual — Unique	—	191566						✓																										
Individual — Unique	—	191568																																
Individual — Unique	—	191574											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191576			✓																													
Individual — Unique	—	191578			✓																													
Individual — Unique	—	191582											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191590			✓			✓					✓	✓		✓	✓		✓			✓				✓		✓						
Individual — Unique	—	191592																																
Individual — Unique	—	191596											✓				✓									✓	✓							
Individual — Unique	—	191598											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191604																																
Individual — Unique	—	191608											✓				✓					✓								✓				
Individual — Unique	—	191610											✓				✓		✓															
Individual — Unique	—	191612																																
Individual — Unique	—	191614											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191616																																
Individual — Unique	—	191620											✓																					
Individual — Unique	—	191630											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191638																																
Individual — Unique	—	191640											✓			✓	✓																	
Individual — Unique	—	191644																																
Individual — Unique	—	191646															✓																	
Individual — Unique	—	191648						✓					✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	191650																																
Individual — Unique	—	191654											✓									✓												
Individual — Unique	—	191656														✓										✓								
Individual — Unique	—	191658						✓					✓				✓		✓							✓								
Individual — Unique	—	191662																																
Individual — Unique	—	191664			✓								✓													✓								
Individual — Unique	—	191666																												✓				
Individual — Unique	—	191670			✓																													
Individual — Unique	—	191672																																
Individual — Unique	—	191674																																
Individual — Unique	—	191676																																
Individual — Unique	—	191678																																
Individual — Unique	—	191680																																
Individual — Unique	—	191684											✓	✓																				
Individual — Unique	—	191688											✓													✓								
Individual — Unique	—	191690																																
Individual — Unique	—	191694											✓																					
Individual — Unique	—	191698											✓																					
Individual — Unique	—	191704																																
Individual — Unique	—	191706																																
Individual — Unique	—	191712			✓			✓					✓				✓		✓						✓	✓		✓		✓				
Individual — Unique	—	191714			✓																													
Individual — Unique	—	191716											✓				✓																	
Individual — Unique	—	191722																																
Individual — Unique	—	191732											✓				✓																	
Individual — Unique	—	191744																																
Individual — Unique	—	191752																																
Individual — Unique	—	191758																																
Individual — Unique	—	191780											✓																					
Individual — Unique	—	191782			✓																													
Individual — Unique	—	191784																																
Individual — Unique	—	191786			✓																													
Individual — Unique	—	191791																																
Individual — Unique	—	191795			✓								✓																					
Individual — Unique	—	191797											✓																					
Individual — Unique	—	191799			✓																													
Individual — Unique	—	191801			✓																													
Individual — Unique	—	191803						✓									✓																	
Individual — Unique	—	191805																																
Individual — Unique	—	191809						✓																										

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	191811											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191813											✓																					
Individual — Unique	—	191815						✓					✓						✓											✓				
Individual — Unique	—	191817																																
Individual — Unique	—	191819																																
Individual — Unique	—	191821																																
Individual — Unique	—	191823																																
Individual — Unique	—	191825																																
Individual — Unique	—	191827																																
Individual — Unique	—	191829																																
Individual — Unique	—	191831																																
Individual — Unique	—	191833																																
Individual — Unique	—	191835						✓																										
Individual — Unique	—	191841											✓	✓																				
Individual — Unique	—	191843											✓				✓																	
Individual — Unique	—	191845											✓				✓																	
Individual — Unique	—	191847																																
Individual — Unique	—	191849											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191851											✓																					
Individual — Unique	—	191853																																
Individual — Unique	—	191855																																
Individual — Unique	—	191857											✓				✓									✓								
Individual — Unique	—	191859																																
Individual — Unique	—	191861															✓									✓								
Individual — Unique	—	191863											✓	✓		✓	✓					✓			✓	✓	✓			✓				
Individual — Unique	—	191865											✓																					
Individual — Unique	—	191869																	✓															
Individual — Unique	—	191875											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	191878			✓			✓					✓																					
Individual — Unique	—	191880																																
Individual — Unique	—	191882			✓												✓																	
Individual — Unique	—	191889																												✓				
Individual — Unique	—	191891						✓					✓																					
Individual — Unique	—	191902			✓																					✓		✓	✓					
Individual — Unique	—	191904																																
Individual — Unique	—	191906											✓			✓	✓																	
Individual — Unique	—	191908																																
Individual — Unique	—	191910																																
Individual — Unique	—	191916																																
Individual — Unique	—	191920														✓	✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	191922			✓																													
Individual — Unique	—	191926																																
Individual — Unique	—	191934			✓								✓															✓						
Individual — Unique	—	191997			✓												✓									✓								
Individual — Unique	—	192030			✓								✓													✓								
Individual — Unique	—	192086											✓																					
Individual — Unique	—	192134																																
Individual — Unique	—	192138											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	192140																																
Individual — Unique	—	192146																																
Individual — Unique	—	192148																																
Individual — Unique	—	192156																																
Individual — Unique	—	192158																																
Individual — Unique	—	192160											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	192162																																
Individual — Unique	—	192165											✓																					
Individual — Unique	—	192167																										✓						
Individual — Unique	—	192169																																
Individual — Unique	—	192176			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	192180			✓								✓			✓																		
Individual — Unique	—	192182											✓																					
Individual — Unique	—	192184						✓					✓																					
Individual — Unique	—	192186											✓				✓									✓								
Individual — Unique	—	192190											✓																					
Individual — Unique	—	192198											✓			✓	✓																	
Individual — Unique	—	192200											✓			✓									✓		✓							
Individual — Unique	—	192205												✓			✓													✓				
Individual — Unique	—	192208						✓					✓	✓																				
Individual — Unique	—	192212											✓			✓												✓						
Individual — Unique	—	192216											✓	✓		✓	✓									✓								
Individual — Unique	—	192218															✓									✓		✓						
Individual — Unique	—	192220			✓			✓					✓			✓	✓	✓								✓								
Individual — Unique	—	192222																																
Individual — Unique	—	192224			✓																													
Individual — Unique	—	192226																																
Individual — Unique	—	192230			✓																													
Individual — Unique	—	192234											✓																					
Individual — Unique	—	192236																																
Individual — Unique	—	192240			✓																					✓								
Individual — Unique	—	192242																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	192244											✓				✓																	
Individual — Unique	—	192248			✓												✓																	
Individual — Unique	—	192250																																
Individual — Unique	—	192252																																
Individual — Unique	—	192254																																
Individual — Unique	—	192256																																
Individual — Unique	—	192258																																
Individual — Unique	—	192265																																
Individual — Unique	—	192267																																
Individual — Unique	—	192271																																
Individual — Unique	—	192279																																
Individual — Unique	—	192281			✓								✓																					
Individual — Unique	—	192292			✓																													
Individual — Unique	—	192294											✓				✓																	
Individual — Unique	—	192304				✓																												
Individual — Unique	—	192315											✓				✓					✓				✓								
Individual — Unique	—	192317			✓														✓															
Individual — Unique	—	192321											✓																					
Individual — Unique	—	192323			✓								✓				✓																	
Individual — Unique	—	192328															✓																	
Individual — Unique	—	192330			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	192335																																
Individual — Unique	—	192337											✓			✓																		
Individual — Unique	—	192341											✓	✓					✓															
Individual — Unique	—	192359						✓					✓							✓														
Individual — Unique	—	192371											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	192381																								✓								
Individual — Unique	—	192395											✓			✓						✓												
Individual — Unique	—	192405			✓								✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	192415											✓				✓					✓					✓			✓				
Individual — Unique	—	192419											✓	✓		✓	✓								✓									
Individual — Unique	—	192427																																
Individual — Unique	—	192437			✓												✓					✓				✓								
Individual — Unique	—	192443											✓									✓				✓								
Individual — Unique	—	192445																																
Individual — Unique	—	192455											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	192461																														✓		
Individual — Unique	—	192465			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	192473															✓																	
Individual — Unique	—	192475																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	192479											✓																					
Individual — Unique	—	192481															✓											✓							
Individual — Unique	—	192486											✓																					
Individual — Unique	—	192488																																
Individual — Unique	—	192490											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	192492			✓																													
Individual — Unique	—	192494											✓																					
Individual — Unique	—	192496																																
Individual — Unique	—	192508											✓				✓																	
Individual — Unique	—	192510			✓								✓																					
Individual — Unique	—	192514											✓																					
Individual — Unique	—	192516											✓	✓		✓	✓			✓										✓				
Individual — Unique	—	192518																																
Individual — Unique	—	192520			✓								✓				✓									✓								
Individual — Unique	—	192522			✓								✓				✓					✓			✓	✓				✓				
Individual — Unique	—	192524											✓																					
Individual — Unique	—	192532																																
Individual — Unique	—	192534																																
Individual — Unique	—	192536						✓					✓				✓																	
Individual — Unique	—	192538						✓																										
Individual — Unique	—	192541																																
Individual — Unique	—	192547											✓				✓																	
Individual — Unique	—	192551											✓				✓					✓				✓				✓				
Individual — Unique	—	192555			✓	✓							✓	✓		✓	✓			✓						✓		✓						
Individual — Unique	—	192557															✓											✓	✓					
Individual — Unique	—	192561						✓					✓				✓											✓						
Individual — Unique	—	192565						✓					✓	✓			✓																	
Individual — Unique	—	192569											✓	✓		✓	✓									✓								
Individual — Unique	—	192575															✓			✓		✓				✓								
Individual — Unique	—	192577											✓	✓																				
Individual — Unique	—	192587											✓	✓			✓									✓		✓						
Individual — Unique	—	192599			✓																													
Individual — Unique	—	192601						✓					✓				✓					✓						✓						
Individual — Unique	—	192605											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	192607											✓				✓											✓						
Individual — Unique	—	192611											✓	✓			✓			✓		✓				✓		✓		✓				
Individual — Unique	—	192614											✓				✓											✓	✓					
Individual — Unique	—	192616											✓				✓																	
Individual — Unique	—	192626											✓	✓			✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	192628															✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	192651						✓					✓													✓		✓							
Individual — Unique	—	192659												✓						✓						✓									
Individual — Unique	—	192677																																	
Individual — Unique	—	192679						✓					✓	✓					✓																
Individual — Unique	—	192693											✓	✓						✓								✓							
Individual — Unique	—	192705														✓																			
Individual — Unique	—	192715											✓																						
Individual — Unique	—	192719																								✓		✓							
Individual — Unique	—	192730															✓																		
Individual — Unique	—	192759			✓																														
Individual — Unique	—	192763																							✓	✓									
Individual — Unique	—	192767											✓																	✓					
Individual — Unique	—	192769			✓																					✓									
Individual — Unique	—	192771			✓								✓															✓							
Individual — Unique	—	192774																																	
Individual — Unique	—	192779											✓				✓					✓			✓	✓	✓								
Individual — Unique	—	192781																		✓					✓										
Individual — Unique	—	192785						✓					✓			✓																			
Individual — Unique	—	192812														✓	✓											✓							
Individual — Unique	—	192816											✓	✓			✓					✓						✓							
Individual — Unique	—	192830						✓					✓																						
Individual — Unique	—	192832			✓								✓			✓	✓		✓											✓					
Individual — Unique	—	192834			✓								✓				✓					✓			✓	✓		✓		✓					
Individual — Unique	—	192836			✓								✓				✓					✓			✓	✓		✓		✓					
Individual — Unique	—	192838																																	
Individual — Unique	—	192845											✓	✓			✓											✓							
Individual — Unique	—	192867											✓							✓		✓				✓		✓		✓					
Individual — Unique	—	192870											✓	✓		✓			✓							✓		✓		✓					
Individual — Unique	—	192892									✓			✓					✓		✓		✓				✓								
Individual — Unique	—	192894															✓					✓						✓							
Individual — Unique	—	192903															✓																		
Individual — Unique	—	192910											✓				✓									✓		✓	✓						
Individual — Unique	—	192912														✓												✓							
Individual — Unique	—	192919											✓						✓							✓		✓		✓					
Individual — Unique	—	192921			✓																														
Individual — Unique	—	192926											✓				✓					✓				✓	✓								
Individual — Unique	—	192928											✓				✓					✓				✓	✓								
Individual — Unique	—	192930											✓	✓			✓		✓			✓				✓	✓								
Individual — Unique	—	192932											✓	✓																					
Individual — Unique	—	192934											✓	✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	192936																								✓								
Individual — Unique	—	192938											✓	✓		✓	✓	✓											✓						
Individual — Unique	—	192940											✓			✓	✓									✓								
Individual — Unique	—	192942											✓	✓		✓	✓					✓				✓	✓							
Individual — Unique	—	192944											✓	✓			✓																	
Individual — Unique	—	192946											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	192948																																
Individual — Unique	—	192950						✓					✓													✓	✓		✓					
Individual — Unique	—	192952			✓	✓		✓				✓	✓				✓			✓		✓			✓	✓	✓	✓	✓	✓				
Individual — Unique	—	192954																	✓															
Individual — Unique	—	192956											✓				✓									✓								
Individual — Unique	—	192958			✓			✓					✓													✓								
Individual — Unique	—	192960											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	192962											✓	✓			✓		✓		✓				✓		✓							
Individual — Unique	—	192964			✓																													
Individual — Unique	—	192966											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	192968																																
Individual — Unique	—	192970			✓	✓																												
Individual — Unique	—	192972																																
Individual — Unique	—	192974												✓			✓																	
Individual — Unique	—	192976							✓								✓		✓															
Individual — Unique	—	192978											✓																					
Individual — Unique	—	192980											✓	✓		✓	✓					✓				✓	✓							
Individual — Unique	—	192984											✓			✓																		
Individual — Unique	—	192986											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	192988															✓					✓				✓	✓							
Individual — Unique	—	192990											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	192992			✓	✓		✓				✓	✓				✓			✓		✓			✓	✓	✓	✓	✓	✓				
Individual — Unique	—	192994															✓																	
Individual — Unique	—	192996																				✓												
Individual — Unique	—	192998											✓				✓					✓				✓								
Individual — Unique	—	193000											✓																					
Individual — Unique	—	193002											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193004																		✓						✓	✓							
Individual — Unique	—	193006											✓				✓					✓				✓	✓							
Individual — Unique	—	193008			✓								✓				✓		✓			✓												
Individual — Unique	—	193010			✓								✓			✓	✓			✓							✓							
Individual — Unique	—	193012											✓				✓					✓				✓	✓							
Individual — Unique	—	193014											✓							✓						✓	✓							
Individual — Unique	—	193016											✓														✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	193018											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193020											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193022			✓																													
Individual — Unique	—	193024												✓		✓																		
Individual — Unique	—	193026						✓									✓					✓							✓					
Individual — Unique	—	193028											✓				✓					✓												
Individual — Unique	—	193030			✓								✓				✓									✓								
Individual — Unique	—	193032			✓								✓			✓	✓					✓				✓	✓							
Individual — Unique	—	193034			✓								✓	✓			✓			✓		✓				✓		✓	✓	✓				
Individual — Unique	—	193036											✓	✓																				
Individual — Unique	—	193038											✓															✓						
Individual — Unique	—	193040			✓								✓	✓			✓					✓				✓								
Individual — Unique	—	193042											✓				✓																	
Individual — Unique	—	193044			✓																					✓		✓						
Individual — Unique	—	193046											✓	✓												✓	✓							
Individual — Unique	—	193048															✓																	
Individual — Unique	—	193050											✓				✓					✓				✓	✓							
Individual — Unique	—	193052											✓				✓									✓	✓							
Individual — Unique	—	193054			✓																													
Individual — Unique	—	193056											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193058											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193060											✓				✓					✓												
Individual — Unique	—	193062											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193064			✓								✓				✓			✓					✓	✓			✓	✓				
Individual — Unique	—	193066											✓	✓																				
Individual — Unique	—	193068											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193070			✓												✓									✓								
Individual — Unique	—	193072											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193074											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193076			✓								✓																					✓
Individual — Unique	—	193078																																
Individual — Unique	—	193080											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193082											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193086											✓	✓												✓	✓							
Individual — Unique	—	193088											✓																					
Individual — Unique	—	193090											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193092			✓																													
Individual — Unique	—	193094											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193096											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193098											✓	✓			✓					✓				✓	✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	193100											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193102																																
Individual — Unique	—	193104											✓	✓												✓								
Individual — Unique	—	193106											✓	✓			✓						✓			✓	✓							
Individual — Unique	—	193108											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193110											✓	✓			✓					✓					✓							
Individual — Unique	—	193112																				✓												
Individual — Unique	—	193114			✓								✓																					
Individual — Unique	—	193116			✓								✓	✓			✓									✓	✓							
Individual — Unique	—	193118											✓	✓			✓																	
Individual — Unique	—	193120															✓											✓						
Individual — Unique	—	193122			✓								✓	✓								✓				✓	✓							
Individual — Unique	—	193124											✓	✓			✓					✓				✓								
Individual — Unique	—	193126											✓				✓									✓		✓						
Individual — Unique	—	193130											✓													✓	✓							
Individual — Unique	—	193132						✓																		✓								
Individual — Unique	—	193134											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193136			✓								✓			✓	✓					✓				✓	✓							
Individual — Unique	—	193138											✓			✓	✓																	
Individual — Unique	—	193140											✓	✓			✓										✓							
Individual — Unique	—	193142															✓																	
Individual — Unique	—	193144											✓	✓			✓					✓												
Individual — Unique	—	193146														✓	✓									✓								
Individual — Unique	—	193148											✓				✓									✓								
Individual — Unique	—	193150			✓	✓		✓																					✓					
Individual — Unique	—	193152											✓				✓									✓	✓		✓					
Individual — Unique	—	193154															✓											✓	✓					
Individual — Unique	—	193156			✓												✓												✓					
Individual — Unique	—	193158															✓											✓	✓					
Individual — Unique	—	193160			✓								✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193162														✓	✓			✓		✓				✓								
Individual — Unique	—	193164															✓			✓		✓				✓	✓							
Individual — Unique	—	193166			✓				✓										✓							✓	✓							
Individual — Unique	—	193168			✓								✓	✓			✓																	
Individual — Unique	—	193170											✓				✓					✓				✓								
Individual — Unique	—	193172											✓			✓	✓																	
Individual — Unique	—	193174											✓				✓					✓												
Individual — Unique	—	193176						✓								✓										✓								
Individual — Unique	—	193178											✓				✓									✓	✓							
Individual — Unique	—	193180			✓								✓			✓	✓									✓	✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	193182											✓	✓		✓	✓			✓		✓				✓	✓							
Individual — Unique	—	193184			✓								✓	✓		✓	✓									✓		✓						
Individual — Unique	—	193186						✓								✓										✓								
Individual — Unique	—	193188						✓					✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193190			✓								✓				✓		✓							✓								
Individual — Unique	—	193194											✓				✓									✓								
Individual — Unique	—	193198											✓			✓	✓					✓				✓	✓							
Individual — Unique	—	193200											✓				✓					✓				✓	✓							
Individual — Unique	—	193202								✓							✓											✓						
Individual — Unique	—	193204												✓				✓								✓								
Individual — Unique	—	193208											✓				✓					✓				✓	✓							
Individual — Unique	—	193210											✓				✓					✓				✓	✓							
Individual — Unique	—	193212											✓				✓					✓				✓	✓							
Individual — Unique	—	193214			✓								✓	✓			✓		✓			✓				✓	✓	✓						
Individual — Unique	—	193216																								✓								
Individual — Unique	—	193218															✓					✓					✓							
Individual — Unique	—	193220			✓			✓	✓	✓			✓			✓										✓			✓					
Individual — Unique	—	193222																																
Individual — Unique	—	193224			✓																													
Individual — Unique	—	193226											✓				✓																	
Individual — Unique	—	193228											✓				✓					✓				✓	✓							
Individual — Unique	—	193230																								✓								
Individual — Unique	—	193232											✓				✓																	
Individual — Unique	—	193234						✓					✓	✓													✓							
Individual — Unique	—	193236			✓								✓				✓								✓	✓	✓	✓						
Individual — Unique	—	193238																																
Individual — Unique	—	193240																																
Individual — Unique	—	193242											✓							✓								✓						
Individual — Unique	—	193244											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193248											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193250											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193252											✓																					
Individual — Unique	—	193254			✓								✓									✓					✓							
Individual — Unique	—	193256											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193258											✓						✓															
Individual — Unique	—	193260											✓	✓																				
Individual — Unique	—	193262																								✓								
Individual — Unique	—	193264																																
Individual — Unique	—	193266											✓				✓					✓				✓	✓							
Individual — Unique	—	193268											✓	✓			✓					✓				✓	✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	193270											✓													✓								
Individual — Unique	—	193272																																
Individual — Unique	—	193274																																
Individual — Unique	—	193276			✓			✓					✓			✓	✓									✓	✓	✓	✓					
Individual — Unique	—	193278			✓																													
Individual — Unique	—	193280											✓				✓					✓				✓	✓							
Individual — Unique	—	193284																								✓								
Individual — Unique	—	193286											✓	✓																				
Individual — Unique	—	193288																																
Individual — Unique	—	193290											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193292			✓								✓	✓								✓												
Individual — Unique	—	193294											✓	✓			✓																	
Individual — Unique	—	193296											✓				✓		✓						✓	✓								
Individual — Unique	—	193298															✓										✓							
Individual — Unique	—	193300															✓											✓						
Individual — Unique	—	193302			✓								✓													✓		✓						
Individual — Unique	—	193304															✓																	
Individual — Unique	—	193306			✓														✓															
Individual — Unique	—	193308															✓									✓		✓		✓				
Individual — Unique	—	193310											✓	✓						✓														
Individual — Unique	—	193312											✓						✓							✓								
Individual — Unique	—	193314															✓																	
Individual — Unique	—	193316			✓								✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193318															✓																	
Individual — Unique	—	193320																								✓								
Individual — Unique	—	193322											✓				✓					✓				✓	✓							
Individual — Unique	—	193324											✓				✓					✓				✓	✓							
Individual — Unique	—	193326											✓			✓										✓								
Individual — Unique	—	193328															✓									✓		✓						
Individual — Unique	—	193330											✓				✓					✓				✓	✓							
Individual — Unique	—	193332																																
Individual — Unique	—	193334																																
Individual — Unique	—	193336											✓				✓					✓				✓	✓							
Individual — Unique	—	193338															✓																	
Individual — Unique	—	193340											✓				✓					✓				✓	✓							
Individual — Unique	—	193342											✓				✓					✓				✓	✓							
Individual — Unique	—	193344											✓													✓								
Individual — Unique	—	193346															✓									✓								
Individual — Unique	—	193348						✓																		✓								
Individual — Unique	—	193350			✓																													

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	193352											✓				✓					✓				✓	✓							
Individual — Unique	—	193354																																
Individual — Unique	—	193356											✓			✓	✓					✓				✓	✓							
Individual — Unique	—	193358							✓								✓										✓							
Individual — Unique	—	193360											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193362											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193364						✓																										
Individual — Unique	—	193366											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193368											✓	✓												✓								
Individual — Unique	—	193370																																
Individual — Unique	—	193372											✓	✓			✓					✓												
Individual — Unique	—	193374											✓				✓					✓				✓	✓							
Individual — Unique	—	193376											✓	✓			✓									✓								
Individual — Unique	—	193378											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193380											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193382				✓							✓	✓			✓			✓		✓				✓	✓							
Individual — Unique	—	193384											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193386											✓				✓					✓				✓	✓							
Individual — Unique	—	193388											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193390																																
Individual — Unique	—	193392											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193394											✓													✓	✓							
Individual — Unique	—	193396											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193398											✓				✓					✓				✓	✓							
Individual — Unique	—	193400															✓		✓															
Individual — Unique	—	193407											✓	✓		✓	✓		✓								✓	✓						
Individual — Unique	—	193409																																
Individual — Unique	—	193411															✓											✓						
Individual — Unique	—	193413											✓			✓	✓					✓				✓	✓							
Individual — Unique	—	193415											✓									✓				✓								
Individual — Unique	—	193417											✓				✓					✓												
Individual — Unique	—	193419											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193421											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193423											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193425											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193427																																
Individual — Unique	—	193429															✓																	
Individual — Unique	—	193431											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193433			✓																													
Individual — Unique	—	193435																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	193439															✓									✓								
Individual — Unique	—	193443																										✓						
Individual — Unique	—	193445											✓	✓			✓		✓							✓	✓							
Individual — Unique	—	193447			✓								✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193449							✓								✓					✓				✓								
Individual — Unique	—	193451							✓								✓					✓				✓	✓							
Individual — Unique	—	193453			✓																													
Individual — Unique	—	193455			✓								✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193457											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193459			✓				✓								✓					✓				✓	✓							
Individual — Unique	—	193461											✓				✓									✓								
Individual — Unique	—	193463								✓			✓				✓					✓				✓	✓							
Individual — Unique	—	193468											✓			✓	✓			✓		✓				✓		✓						
Individual — Unique	—	193470											✓				✓		✓	✓						✓		✓						
Individual — Unique	—	193472			✓								✓							✓		✓				✓								
Individual — Unique	—	193476											✓				✓					✓				✓	✓							
Individual — Unique	—	193480						✓																										
Individual — Unique	—	193485																																
Individual — Unique	—	193487																																
Individual — Unique	—	193489											✓				✓					✓				✓	✓							
Individual — Unique	—	193493							✓				✓													✓				✓				
Individual — Unique	—	193496											✓				✓									✓	✓							
Individual — Unique	—	193498			✓								✓									✓				✓								
Individual — Unique	—	193503							✓																									
Individual — Unique	—	193510															✓																	
Individual — Unique	—	193514											✓				✓					✓					✓							
Individual — Unique	—	193523											✓				✓					✓				✓	✓							
Individual — Unique	—	193527											✓				✓																	
Individual — Unique	—	193529															✓									✓								
Individual — Unique	—	193531											✓				✓					✓												
Individual — Unique	—	193533															✓									✓	✓							
Individual — Unique	—	193545			✓												✓																	
Individual — Unique	—	193547						✓											✓							✓		✓						
Individual — Unique	—	193551																								✓								
Individual — Unique	—	193561											✓				✓									✓	✓							
Individual — Unique	—	193567											✓				✓		✓															
Individual — Unique	—	193569			✓																													
Individual — Unique	—	193575											✓																					
Individual — Unique	—	193577											✓																					
Individual — Unique	—	193579																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	193581											✓				✓					✓					✓								
Individual — Unique	—	193583																																	
Individual — Unique	—	193585											✓				✓					✓				✓	✓								
Individual — Unique	—	193598																																	
Individual — Unique	—	193602			✓											✓																			
Individual — Unique	—	193608			✓																					✓									
Individual — Unique	—	193610																																	
Individual — Unique	—	193612			✓								✓	✓			✓					✓				✓	✓								
Individual — Unique	—	193614											✓	✓			✓					✓				✓	✓								
Individual — Unique	—	193616																																	
Individual — Unique	—	193620											✓				✓		✓							✓									
Individual — Unique	—	193624			✓								✓													✓									
Individual — Unique	—	193626											✓				✓									✓	✓								
Individual — Unique	—	193628											✓	✓			✓					✓				✓	✓								
Individual — Unique	—	193632											✓																						
Individual — Unique	—	193634											✓				✓		✓			✓				✓	✓								
Individual — Unique	—	193636											✓	✓			✓					✓				✓	✓								
Individual — Unique	—	193638															✓										✓								
Individual — Unique	—	193640											✓				✓			✓						✓									
Individual — Unique	—	193646											✓	✓			✓					✓				✓	✓								
Individual — Unique	—	193650			✓																														
Individual — Unique	—	193654											✓				✓					✓				✓	✓								
Individual — Unique	—	193656			✓																														
Individual — Unique	—	193658											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	193662															✓																		
Individual — Unique	—	193664																																	
Individual — Unique	—	193679											✓	✓			✓																		
Individual — Unique	—	193683			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	193686			✓								✓	✓								✓				✓		✓							
Individual — Unique	—	193692																																	
Individual — Unique	—	193696																																	
Individual — Unique	—	193700											✓	✓			✓					✓				✓	✓								
Individual — Unique	—	193704											✓	✓			✓		✓			✓				✓	✓	✓							
Individual — Unique	—	193708											✓				✓									✓	✓								
Individual — Unique	—	193726											✓	✓			✓										✓	✓							
Individual — Unique	—	193734																																	
Individual — Unique	—	193770											✓																						
Individual — Unique	—	193783			✓								✓													✓									
Individual — Unique	—	193793			✓			✓					✓	✓			✓					✓				✓	✓			✓					
Individual — Unique	—	193795			✓				✓				✓	✓			✓									✓		✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	193803											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193813											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193823			✓																								✓					
Individual — Unique	—	193833											✓	✓												✓			✓					
Individual — Unique	—	193838											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193840			✓			✓	✓				✓																					
Individual — Unique	—	193842											✓				✓					✓				✓	✓							
Individual — Unique	—	193851			✓								✓							✓														
Individual — Unique	—	193853											✓				✓					✓				✓	✓							
Individual — Unique	—	193855																							✓									
Individual — Unique	—	193857											✓	✓								✓					✓							
Individual — Unique	—	193859											✓																					
Individual — Unique	—	193861											✓				✓			✓					✓	✓	✓							
Individual — Unique	—	193863											✓				✓					✓					✓							
Individual — Unique	—	193865																																
Individual — Unique	—	193867			✓								✓	✓			✓																	
Individual — Unique	—	193869											✓	✓												✓								
Individual — Unique	—	193875											✓				✓									✓								
Individual — Unique	—	193879															✓									✓	✓							
Individual — Unique	—	193881											✓			✓												✓						
Individual — Unique	—	193883											✓													✓								
Individual — Unique	—	193885			✓	✓		✓				✓	✓	✓			✓			✓		✓			✓	✓		✓	✓	✓				
Individual — Unique	—	193887																																
Individual — Unique	—	193891											✓																					
Individual — Unique	—	193893																																
Individual — Unique	—	193895											✓				✓					✓												
Individual — Unique	—	193897											✓																					
Individual — Unique	—	193901											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	193904											✓				✓					✓				✓	✓							
Individual — Unique	—	193906			✓								✓	✓																				
Individual — Unique	—	193908											✓																					
Individual — Unique	—	193910											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193912			✓								✓				✓					✓												
Individual — Unique	—	193914											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	193921											✓														✓	✓		✓				
Individual — Unique	—	193923											✓	✓			✓					✓				✓								
Individual — Unique	—	193927											✓	✓												✓	✓							
Individual — Unique	—	193929											✓				✓													✓				
Individual — Unique	—	193935											✓						✓															
Individual — Unique	—	193937											✓							✓						✓								

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	193939																																
Individual — Unique	—	193941											✓				✓																		
Individual — Unique	—	193943											✓				✓													✓					
Individual — Unique	—	193947			✓																									✓					
Individual — Unique	—	193949						✓					✓				✓													✓					
Individual — Unique	—	193951																																	
Individual — Unique	—	193953			✓			✓					✓																✓						
Individual — Unique	—	193955											✓																						
Individual — Unique	—	193959																																	
Individual — Unique	—	193961											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	193963			✓																														
Individual — Unique	—	193965			✓																														
Individual — Unique	—	193967																																	
Individual — Unique	—	193971						✓					✓																	✓					
Individual — Unique	—	193973											✓																						
Individual — Unique	—	193975																																	
Individual — Unique	—	193977											✓	✓			✓					✓				✓	✓								
Individual — Unique	—	193979			✓																														
Individual — Unique	—	193981											✓																						
Individual — Unique	—	193985																																	
Individual — Unique	—	193987							✓				✓				✓											✓		✓					
Individual — Unique	—	193989																																	
Individual — Unique	—	193991							✓				✓																						
Individual — Unique	—	193995											✓																						
Individual — Unique	—	193997			✓								✓														✓								
Individual — Unique	—	193999																																	
Individual — Unique	—	194001															✓		✓																
Individual — Unique	—	194003											✓												✓					✓					
Individual — Unique	—	194005			✓																					✓				✓					
Individual — Unique	—	194007											✓				✓					✓				✓	✓								
Individual — Unique	—	194009											✓				✓																		
Individual — Unique	—	194011			✓																														
Individual — Unique	—	194013			✓								✓																						
Individual — Unique	—	194015			✓								✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓					
Individual — Unique	—	194017											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	194019											✓																	✓					
Individual — Unique	—	194021											✓																	✓					
Individual — Unique	—	194023											✓				✓		✓							✓		✓		✓					
Individual — Unique	—	194025			✓																														
Individual — Unique	—	194027											✓	✓			✓									✓									

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	194029											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194031			✓								✓																					
Individual — Unique	—	194033																																
Individual — Unique	—	194035											✓			✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194037			✓								✓			✓																		
Individual — Unique	—	194039																																
Individual — Unique	—	194041											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194043																																
Individual — Unique	—	194045											✓				✓																	
Individual — Unique	—	194047											✓																					
Individual — Unique	—	194049																																
Individual — Unique	—	194051			✓								✓				✓																	
Individual — Unique	—	194053											✓				✓			✓							✓							
Individual — Unique	—	194055						✓					✓				✓					✓				✓								
Individual — Unique	—	194057											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194059											✓																	✓				
Individual — Unique	—	194061															✓					✓				✓		✓		✓				
Individual — Unique	—	194063											✓				✓											✓		✓				
Individual — Unique	—	194065																																
Individual — Unique	—	194067											✓	✓		✓																		
Individual — Unique	—	194069											✓													✓								
Individual — Unique	—	194071																																
Individual — Unique	—	194073			✓			✓					✓			✓	✓										✓				✓			
Individual — Unique	—	194075			✓																													
Individual — Unique	—	194077							✓				✓	✓		✓	✓									✓	✓	✓		✓				
Individual — Unique	—	194079											✓																					
Individual — Unique	—	194081																																
Individual — Unique	—	194083																																
Individual — Unique	—	194085											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194087																																
Individual — Unique	—	194089																							✓									
Individual — Unique	—	194091											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	194093											✓																					
Individual — Unique	—	194095											✓																	✓				
Individual — Unique	—	194097											✓	✓		✓																		
Individual — Unique	—	194099			✓																	✓												
Individual — Unique	—	194101			✓								✓													✓								
Individual — Unique	—	194103			✓								✓				✓		✓															
Individual — Unique	—	194105			✓				✓				✓	✓			✓		✓	✓		✓			✓		✓	✓						
Individual — Unique	—	194107			✓								✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	194109											✓													✓				✓				
Individual — Unique	—	194111											✓																	✓				
Individual — Unique	—	194113							✓				✓																	✓				
Individual — Unique	—	194115							✓				✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194121																																
Individual — Unique	—	194123																																
Individual — Unique	—	194125											✓																					
Individual — Unique	—	194127																																
Individual — Unique	—	194140											✓																					
Individual — Unique	—	194142											✓																	✓				
Individual — Unique	—	194144																																
Individual — Unique	—	194149											✓				✓																	
Individual — Unique	—	194151											✓				✓		✓															
Individual — Unique	—	194153											✓				✓		✓			✓					✓	✓						
Individual — Unique	—	194155															✓																	
Individual — Unique	—	194157																																
Individual — Unique	—	194159			✓								✓																					
Individual — Unique	—	194161			✓								✓				✓		✓			✓			✓		✓	✓		✓				
Individual — Unique	—	194165											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194170																																
Individual — Unique	—	194172																																
Individual — Unique	—	194176											✓				✓													✓				
Individual — Unique	—	194178																																
Individual — Unique	—	194180											✓													✓								
Individual — Unique	—	194182																																
Individual — Unique	—	194184			✓																							✓						
Individual — Unique	—	194190											✓																					
Individual — Unique	—	194192											✓	✓								✓					✓							
Individual — Unique	—	194194																																
Individual — Unique	—	194196			✓																													
Individual — Unique	—	194198											✓				✓									✓								
Individual — Unique	—	194200											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	194207						✓																										
Individual — Unique	—	194209			✓								✓	✓		✓	✓			✓		✓				✓	✓	✓		✓				
Individual — Unique	—	194213																																
Individual — Unique	—	194215											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194220											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194222																																
Individual — Unique	—	194224											✓				✓					✓				✓	✓							
Individual — Unique	—	194228			✓								✓				✓									✓								

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	194232																																
Individual — Unique	—	194234																																
Individual — Unique	—	194239																																
Individual — Unique	—	194244											✓																					
Individual — Unique	—	194246			✓			✓					✓				✓									✓		✓		✓					
Individual — Unique	—	194251						✓																										
Individual — Unique	—	194254											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194256			✓								✓									✓			✓					✓				
Individual — Unique	—	194258																																
Individual — Unique	—	194260																																
Individual — Unique	—	194264																																
Individual — Unique	—	194268											✓				✓									✓								
Individual — Unique	—	194270											✓	✓																				
Individual — Unique	—	194272																																
Individual — Unique	—	194276						✓					✓			✓	✓					✓			✓		✓			✓				
Individual — Unique	—	194278						✓					✓													✓				✓				
Individual — Unique	—	194280											✓																					
Individual — Unique	—	194282						✓					✓																	✓				
Individual — Unique	—	194284			✓																													
Individual — Unique	—	194286											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194288																																
Individual — Unique	—	194294						✓					✓																					
Individual — Unique	—	194296						✓					✓																					
Individual — Unique	—	194302						✓					✓																	✓				
Individual — Unique	—	194305											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194309																																
Individual — Unique	—	194313						✓					✓	✓		✓	✓		✓			✓			✓									
Individual — Unique	—	194315			✓																													
Individual — Unique	—	194317						✓					✓			✓																		
Individual — Unique	—	194319						✓	✓				✓																					
Individual — Unique	—	194321			✓																													
Individual — Unique	—	194323											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194327												✓																				
Individual — Unique	—	194329															✓									✓								
Individual — Unique	—	194331											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194333											✓	✓		✓																		
Individual — Unique	—	194335																																
Individual — Unique	—	194337																																
Individual — Unique	—	194341																																
Individual — Unique	—	194343											✓			✓	✓								✓		✓			✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	194345											✓																					
Individual — Unique	—	194347											✓	✓		✓	✓		✓	✓		✓			✓	✓		✓		✓					
Individual — Unique	—	194349											✓																	✓					
Individual — Unique	—	194351											✓	✓			✓					✓													
Individual — Unique	—	194353											✓													✓									
Individual — Unique	—	194355			✓								✓				✓					✓				✓	✓								
Individual — Unique	—	194357															✓																		
Individual — Unique	—	194359																																	
Individual — Unique	—	194361											✓	✓																					
Individual — Unique	—	194363											✓																	✓					
Individual — Unique	—	194365			✓								✓																						
Individual — Unique	—	194373			✓																														
Individual — Unique	—	194375											✓				✓									✓									
Individual — Unique	—	194377											✓																						
Individual — Unique	—	194379																																	
Individual — Unique	—	194381			✓																														
Individual — Unique	—	194383											✓													✓									
Individual — Unique	—	194385											✓				✓													✓					
Individual — Unique	—	194390											✓																						
Individual — Unique	—	194392																																	
Individual — Unique	—	194394											✓	✓		✓						✓				✓	✓			✓					
Individual — Unique	—	194396											✓	✓			✓									✓		✓							
Individual — Unique	—	194398			✓								✓																						
Individual — Unique	—	194400																																	
Individual — Unique	—	194402											✓											✓						✓					
Individual — Unique	—	194404											✓																						✓
Individual — Unique	—	194406			✓	✓		✓					✓													✓				✓					
Individual — Unique	—	194408			✓																														
Individual — Unique	—	194410						✓					✓																✓	✓					
Individual — Unique	—	194412																																	
Individual — Unique	—	194414			✓								✓	✓		✓																			
Individual — Unique	—	194416																																	
Individual — Unique	—	194418			✓																					✓									
Individual — Unique	—	194420																																	
Individual — Unique	—	194422																	✓									✓							
Individual — Unique	—	194424																																	
Individual — Unique	—	194426			✓																														
Individual — Unique	—	194428											✓	✓			✓					✓				✓	✓								
Individual — Unique	—	194430			✓																														
Individual — Unique	—	194432																																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	194434											✓																					
Individual — Unique	—	194436							✓							✓																		
Individual — Unique	—	194438																																
Individual — Unique	—	194440																																
Individual — Unique	—	194442						✓									✓																	
Individual — Unique	—	194444							✓				✓				✓													✓				
Individual — Unique	—	194446						✓					✓				✓										✓							
Individual — Unique	—	194448						✓	✓				✓	✓			✓									✓								
Individual — Unique	—	194450			✓																													
Individual — Unique	—	194452																																
Individual — Unique	—	194454											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194456						✓					✓																	✓				
Individual — Unique	—	194458						✓					✓	✓			✓					✓				✓	✓	✓						
Individual — Unique	—	194460																							✓	✓	✓							
Individual — Unique	—	194462											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194464											✓	✓								✓				✓		✓						
Individual — Unique	—	194466											✓				✓										✓	✓						
Individual — Unique	—	194468			✓								✓	✓			✓		✓			✓			✓	✓				✓				
Individual — Unique	—	194472											✓	✓		✓																		
Individual — Unique	—	194474											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194476											✓																	✓				
Individual — Unique	—	194478											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194480											✓																	✓				
Individual — Unique	—	194482											✓	✓		✓	✓		✓						✓	✓	✓	✓		✓				
Individual — Unique	—	194484																																
Individual — Unique	—	194486																																
Individual — Unique	—	194488																																
Individual — Unique	—	194490																																
Individual — Unique	—	194492																																
Individual — Unique	—	194494																																
Individual — Unique	—	194496											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194498			✓								✓			✓	✓									✓								
Individual — Unique	—	194500											✓				✓																	
Individual — Unique	—	194502																																
Individual — Unique	—	194504															✓																	
Individual — Unique	—	194506											✓	✓																				
Individual — Unique	—	194508											✓																					
Individual — Unique	—	194510			✓								✓				✓					✓				✓		✓	✓	✓				
Individual — Unique	—	194512											✓				✓													✓				
Individual — Unique	—	194514											✓	✓			✓					✓						✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	194516											✓																					
Individual — Unique	—	194518			✓												✓					✓				✓				✓				
Individual — Unique	—	194520											✓						✓															
Individual — Unique	—	194522											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	194524											✓																					
Individual — Unique	—	194526																																
Individual — Unique	—	194528			✓																													
Individual — Unique	—	194530																																
Individual — Unique	—	194532											✓	✓			✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194534												✓			✓		✓						✓		✓							
Individual — Unique	—	194536											✓				✓		✓									✓							
Individual — Unique	—	194540												✓																				
Individual — Unique	—	194542			✓								✓	✓			✓																	
Individual — Unique	—	194544											✓	✓			✓										✓							
Individual — Unique	—	194546																																
Individual — Unique	—	194548						✓					✓				✓									✓	✓	✓						
Individual — Unique	—	194550			✓																													
Individual — Unique	—	194552											✓				✓									✓	✓							
Individual — Unique	—	194554															✓																	
Individual — Unique	—	194556											✓																					
Individual — Unique	—	194558											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	194560			✓								✓	✓		✓						✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194562									✓		✓																					
Individual — Unique	—	194564																										✓						
Individual — Unique	—	194566											✓			✓			✓									✓						
Individual — Unique	—	194568						✓	✓							✓			✓									✓						
Individual — Unique	—	194570																							✓	✓								
Individual — Unique	—	194572																							✓	✓								
Individual — Unique	—	194574															✓																	
Individual — Unique	—	194576															✓																	
Individual — Unique	—	194578											✓	✓			✓									✓								
Individual — Unique	—	194580											✓	✓			✓									✓								
Individual — Unique	—	194582											✓				✓		✓										✓					
Individual — Unique	—	194584															✓																	
Individual — Unique	—	194586																																
Individual — Unique	—	194588																																
Individual — Unique	—	194590						✓					✓	✓																				
Individual — Unique	—	194593																								✓								
Individual — Unique	—	194599																																
Individual — Unique	—	194601											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	194603											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	194605											✓													✓	✓							
Individual — Unique	—	194619			✓																													
Individual — Unique	—	194621											✓			✓				✓														
Individual — Unique	—	194623																							✓									
Individual — Unique	—	194625																																
Individual — Unique	—	194629			✓								✓	✓			✓					✓				✓	✓							
Individual — Unique	—	194635							✓				✓	✓		✓	✓					✓				✓	✓			✓				
Individual — Unique	—	194637											✓	✓			✓					✓				✓								
Individual — Unique	—	194641											✓				✓									✓								
Individual — Unique	—	194643																																
Individual — Unique	—	194645											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	194647																																
Individual — Unique	—	194652			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	194654																							✓	✓								
Individual — Unique	—	194656																							✓									
Individual — Unique	—	194662											✓				✓											✓						
Individual — Unique	—	194664												✓					✓							✓								
Individual — Unique	—	194666						✓																	✓									
Individual — Unique	—	194671															✓											✓						
Individual — Unique	—	194673			✓												✓											✓						
Individual — Unique	—	194675											✓	✓			✓		✓			✓				✓	✓	✓		✓				
Individual — Unique	—	194682																																
Individual — Unique	—	194685							✓				✓	✓			✓																	
Individual — Unique	—	194687							✓				✓	✓			✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	194709															✓									✓								
Individual — Unique	—	194711							✓				✓	✓			✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194713							✓				✓	✓			✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194720							✓				✓	✓					✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194739																							✓									
Individual — Unique	—	194743												✓			✓					✓				✓	✓							
Individual — Unique	—	194750											✓																					
Individual — Unique	—	194756							✓				✓																					
Individual — Unique	—	194762											✓				✓													✓				
Individual — Unique	—	194764											✓	✓												✓								
Individual — Unique	—	194766											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	194768																																
Individual — Unique	—	194770																																
Individual — Unique	—	194772											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	194774											✓	✓			✓					✓				✓	✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	194776											✓	✓															✓					
Individual — Unique	—	194778																							✓									
Individual — Unique	—	194780											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	194784																																
Individual — Unique	—	194786						✓					✓	✓												✓	✓			✓				
Individual — Unique	—	194788																																
Individual — Unique	—	194790			✓																													
Individual — Unique	—	194793											✓																					
Individual — Unique	—	194795																																
Individual — Unique	—	194809			✓								✓				✓									✓								
Individual — Unique	—	194812			✓												✓									✓	✓							
Individual — Unique	—	194822											✓						✓									✓						
Individual — Unique	—	194825																																
Individual — Unique	—	194829																																
Individual — Unique	—	194833																																
Individual — Unique	—	194835			✓			✓					✓	✓			✓									✓		✓		✓				
Individual — Unique	—	194837			✓								✓				✓					✓			✓	✓		✓						
Individual — Unique	—	194839			✓																													
Individual — Unique	—	194846								✓						✓										✓								
Individual — Unique	—	194858											✓			✓						✓								✓				
Individual — Unique	—	194864																																
Individual — Unique	—	194868											✓				✓													✓				
Individual — Unique	—	194873			✓																													
Individual — Unique	—	194875											✓				✓					✓				✓	✓							
Individual — Unique	—	194877			✓									✓												✓								
Individual — Unique	—	194879											✓				✓					✓			✓	✓				✓				
Individual — Unique	—	194882																										✓						
Individual — Unique	—	194894			✓																										✓			
Individual — Unique	—	194898															✓																	
Individual — Unique	—	194906											✓				✓					✓				✓	✓							
Individual — Unique	—	194908																																
Individual — Unique	—	194910											✓				✓																	
Individual — Unique	—	194912			✓								✓									✓			✓			✓						
Individual — Unique	—	194916																					✓		✓									
Individual — Unique	—	194918															✓																	
Individual — Unique	—	194920			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	194922						✓																				✓						
Individual — Unique	—	194924											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	194929			✓				✓				✓				✓		✓			✓				✓				✓				
Individual — Unique	—	194933							✓					✓											✓									

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	194936											✓				✓					✓					✓							
Individual — Unique	—	194942											✓													✓				✓				
Individual — Unique	—	194944			✓								✓																					
Individual — Unique	—	194948																																
Individual — Unique	—	194955			✓																													
Individual — Unique	—	194968																		✓					✓	✓		✓						
Individual — Unique	—	194978											✓				✓																	
Individual — Unique	—	195005											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	195007											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	195009															✓											✓						
Individual — Unique	—	195011											✓	✓								✓					✓							
Individual — Unique	—	195013																																
Individual — Unique	—	195015																							✓	✓								
Individual — Unique	—	195017																																
Individual — Unique	—	195019															✓																	
Individual — Unique	—	195021																																
Individual — Unique	—	195025			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	195027			✓																													
Individual — Unique	—	195029																																
Individual — Unique	—	195031														✓														✓				
Individual — Unique	—	195036			✓			✓					✓				✓													✓				
Individual — Unique	—	195038			✓								✓															✓	✓					
Individual — Unique	—	195042											✓	✓		✓												✓						
Individual — Unique	—	195046																																
Individual — Unique	—	195048																																
Individual — Unique	—	195056											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	195058																																
Individual — Unique	—	195062																																
Individual — Unique	—	195068																																
Individual — Unique	—	195070			✓								✓	✓			✓									✓								
Individual — Unique	—	195072																																
Individual — Unique	—	195080											✓				✓										✓	✓		✓				
Individual — Unique	—	195094											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	195096			✓			✓					✓				✓					✓				✓				✓				
Individual — Unique	—	195098											✓			✓	✓					✓					✓	✓						
Individual — Unique	—	195123			✓			✓					✓				✓									✓								
Individual — Unique	—	195129																																
Individual — Unique	—	195133																																
Individual — Unique	—	195135						✓																										
Individual — Unique	—	195165						✓					✓				✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	195167																																
Individual — Unique	—	195169			✓			✓																										
Individual — Unique	—	195171											✓															✓						
Individual — Unique	—	195173																																
Individual — Unique	—	195175																																
Individual — Unique	—	195177											✓				✓					✓							✓					
Individual — Unique	—	195180																								✓								
Individual — Unique	—	195182						✓					✓	✓		✓	✓					✓				✓	✓	✓		✓				
Individual — Unique	—	195184															✓					✓												
Individual — Unique	—	195194											✓																					
Individual — Unique	—	195196			✓								✓																					
Individual — Unique	—	195198											✓			✓																		
Individual — Unique	—	195211																																
Individual — Unique	—	195263														✓																		
Individual — Unique	—	195274																																
Individual — Unique	—	195278			✓								✓																					
Individual — Unique	—	195284			✓			✓					✓				✓									✓				✓				
Individual — Unique	—	195312						✓					✓	✓		✓										✓								
Individual — Unique	—	195331											✓			✓						✓						✓						
Individual — Unique	—	195348																																
Individual — Unique	—	195352			✓								✓				✓					✓			✓					✓				
Individual — Unique	—	195356																																
Individual — Unique	—	195384															✓																	
Individual — Unique	—	195396			✓	✓		✓					✓			✓	✓																	
Individual — Unique	—	195414																																
Individual — Unique	—	195422											✓																					
Individual — Unique	—	195432																																
Individual — Unique	—	195442						✓					✓																					
Individual — Unique	—	195444																																
Individual — Unique	—	195475											✓				✓									✓								
Individual — Unique	—	195483																																
Individual — Unique	—	195487			✓																													
Individual — Unique	—	195489																																
Individual — Unique	—	195491											✓																					
Individual — Unique	—	195497								✓			✓				✓					✓				✓	✓							
Individual — Unique	—	195507						✓								✓	✓													✓				
Individual — Unique	—	195511																																
Individual — Unique	—	195517											✓				✓		✓							✓	✓							
Individual — Unique	—	195521																																
Individual — Unique	—	195525																				✓						✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	195531																																
Individual — Unique	—	195533			✓								✓				✓					✓				✓	✓							
Individual — Unique	—	195541															✓																	
Individual — Unique	—	195553											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	195557																																
Individual — Unique	—	195559																																
Individual — Unique	—	195563																																
Individual — Unique	—	195565											✓																					
Individual — Unique	—	195571																																
Individual — Unique	—	195575																																
Individual — Unique	—	195581																																
Individual — Unique	—	195583											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	195585											✓	✓								✓					✓							
Individual — Unique	—	195589											✓				✓					✓												
Individual — Unique	—	195591															✓					✓				✓	✓							
Individual — Unique	—	195593																																
Individual — Unique	—	195595																																
Individual — Unique	—	195597																																
Individual — Unique	—	195599																																
Individual — Unique	—	195601											✓				✓									✓								
Individual — Unique	—	195605											✓				✓																	
Individual — Unique	—	195609											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	195613														✓						✓												
Individual — Unique	—	195615											✓	✓			✓									✓	✓							
Individual — Unique	—	195617						✓					✓	✓		✓	✓					✓				✓	✓							
Individual — Unique	—	195627																																
Individual — Unique	—	195639			✓																													
Individual — Unique	—	195646																																
Individual — Unique	—	195655											✓			✓										✓		✓						
Individual — Unique	—	195677																																
Individual — Unique	—	195681																																
Individual — Unique	—	195703																				✓												
Individual — Unique	—	195711																																
Individual — Unique	—	195713																																
Individual — Unique	—	195717																																
Individual — Unique	—	195719											✓				✓										✓							
Individual — Unique	—	195721			✓								✓	✓		✓	✓								✓		✓			✓				
Individual — Unique	—	195725																																
Individual — Unique	—	195732																																
Individual — Unique	—	195771			✓																													

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	195779																																
Individual — Unique	—	195781																				✓				✓	✓							
Individual — Unique	—	195803																																
Individual — Unique	—	195820			✓																													
Individual — Unique	—	195826											✓						✓															
Individual — Unique	—	195828											✓						✓															
Individual — Unique	—	195830			✓											✓										✓								
Individual — Unique	—	195859											✓	✓			✓					✓				✓								
Individual — Unique	—	195876											✓	✓			✓					✓				✓	✓							
Individual — Unique	—	195880																																
Individual — Unique	—	195882											✓				✓					✓			✓	✓								
Individual — Unique	—	195884																																
Individual — Unique	—	195886			✓								✓																					
Individual — Unique	—	195891											✓																					
Individual — Unique	—	195893						✓					✓															✓						
Individual — Unique	—	195895																																
Individual — Unique	—	195897											✓																					
Individual — Unique	—	195901																																
Individual — Unique	—	195903			✓	✓		✓	✓			✓	✓				✓			✓		✓			✓	✓		✓	✓	✓				
Individual — Unique	—	195905			✓			✓					✓				✓					✓			✓			✓		✓				
Individual — Unique	—	195907											✓																					
Individual — Unique	—	195909			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	195911																																
Individual — Unique	—	195913																																
Individual — Unique	—	195919											✓																					
Individual — Unique	—	195923			✓			✓					✓			✓																		
Individual — Unique	—	195927																																
Individual — Unique	—	195933																																
Individual — Unique	—	195935											✓	✓																				
Individual — Unique	—	195937																																
Individual — Unique	—	195939			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	195943																																
Individual — Unique	—	195945			✓																													
Individual — Unique	—	195947			✓			✓																										
Individual — Unique	—	195949																																
Individual — Unique	—	195953						✓					✓																					
Individual — Unique	—	195955											✓																					
Individual — Unique	—	195961																																
Individual — Unique	—	195963																								✓								
Individual — Unique	—	195975			✓								✓				✓					✓			✓	✓		✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	195983																																
Individual — Unique	—	195985																																
Individual — Unique	—	195989						✓																										
Individual — Unique	—	195998																																
Individual — Unique	—	196002																																
Individual — Unique	—	196004											✓																					
Individual — Unique	—	196008																																
Individual — Unique	—	196010						✓					✓	✓																				
Individual — Unique	—	196015											✓						✓															
Individual — Unique	—	196025											✓			✓				✓														
Individual — Unique	—	196033			✓				✓				✓				✓											✓		✓				
Individual — Unique	—	196041						✓					✓						✓															
Individual — Unique	—	196048			✓				✓				✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	196056			✓				✓				✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	196060			✓	✓																												
Individual — Unique	—	196085			✓			✓					✓			✓	✓									✓		✓						
Individual — Unique	—	196104											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196106																																
Individual — Unique	—	196108											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196110																																
Individual — Unique	—	196112			✓																													
Individual — Unique	—	196114			✓								✓																					
Individual — Unique	—	196116																																
Individual — Unique	—	196118																																
Individual — Unique	—	196120						✓																										
Individual — Unique	—	196122			✓								✓			✓														✓				
Individual — Unique	—	196124											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196126											✓	✓		✓														✓				
Individual — Unique	—	196128			✓								✓			✓														✓				
Individual — Unique	—	196130														✓																		
Individual — Unique	—	196132											✓	✓																				
Individual — Unique	—	196134															✓					✓												
Individual — Unique	—	196136																																
Individual — Unique	—	196138															✓																	
Individual — Unique	—	196140											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196142																																
Individual — Unique	—	196144																																
Individual — Unique	—	196146											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196148											✓																					
Individual — Unique	—	196150											✓			✓						✓				✓				✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	196152											✓																					
Individual — Unique	—	196154																																
Individual — Unique	—	196156																																
Individual — Unique	—	196158											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196160			✓								✓			✓														✓				
Individual — Unique	—	196162											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196164																																
Individual — Unique	—	196168																																
Individual — Unique	—	196170											✓	✓		✓														✓				
Individual — Unique	—	196172											✓																					
Individual — Unique	—	196174											✓																					
Individual — Unique	—	196176											✓																					
Individual — Unique	—	196178											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196180						✓																										
Individual — Unique	—	196182						✓					✓																					
Individual — Unique	—	196184			✓								✓						✓							✓								✓
Individual — Unique	—	196186											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196188			✓																													
Individual — Unique	—	196190																																
Individual — Unique	—	196192																																
Individual — Unique	—	196194											✓				✓								✓									
Individual — Unique	—	196196											✓						✓															
Individual — Unique	—	196198											✓																	✓				
Individual — Unique	—	196202											✓			✓										✓								
Individual — Unique	—	196204						✓					✓			✓									✓					✓				
Individual — Unique	—	196206			✓																						✓							
Individual — Unique	—	196209											✓				✓		✓									✓						
Individual — Unique	—	196211			✓			✓																										
Individual — Unique	—	196213																	✓							✓								
Individual — Unique	—	196217			✓								✓			✓			✓							✓				✓				
Individual — Unique	—	196219																																
Individual — Unique	—	196223											✓																					
Individual — Unique	—	196225											✓						✓											✓				
Individual — Unique	—	196227			✓			✓	✓				✓	✓			✓																	
Individual — Unique	—	196229											✓																	✓				
Individual — Unique	—	196231			✓								✓																					
Individual — Unique	—	196233																																
Individual — Unique	—	196235																																
Individual — Unique	—	196237											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196243											✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	196245																																
Individual — Unique	—	196247						✓					✓															✓							
Individual — Unique	—	196249											✓												✓	✓	✓								
Individual — Unique	—	196251											✓				✓					✓				✓									
Individual — Unique	—	196253						✓	✓																										
Individual — Unique	—	196257											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	196259																																	
Individual — Unique	—	196261											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	196263											✓				✓					✓					✓	✓							
Individual — Unique	—	196265			✓								✓																						
Individual — Unique	—	196267											✓																						
Individual — Unique	—	196269											✓			✓									✓					✓					
Individual — Unique	—	196271											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	196273											✓				✓					✓						✓							
Individual — Unique	—	196275						✓					✓																						
Individual — Unique	—	196277															✓																		
Individual — Unique	—	196281																																	
Individual — Unique	—	196285			✓								✓				✓									✓									
Individual — Unique	—	196287			✓			✓																											
Individual — Unique	—	196289			✓								✓				✓											✓							
Individual — Unique	—	196291											✓			✓																			
Individual — Unique	—	196293			✓								✓																						
Individual — Unique	—	196295																																	
Individual — Unique	—	196297											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	196299			✓								✓																						
Individual — Unique	—	196301											✓			✓						✓													
Individual — Unique	—	196303											✓																						
Individual — Unique	—	196305											✓													✓	✓			✓					
Individual — Unique	—	196307											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓					
Individual — Unique	—	196309																																	
Individual — Unique	—	196311																																	
Individual — Unique	—	196313											✓			✓																			
Individual — Unique	—	196315											✓																						
Individual — Unique	—	196317			✓			✓					✓																						
Individual — Unique	—	196319																																	
Individual — Unique	—	196321															✓																		
Individual — Unique	—	196328											✓	✓		✓	✓		✓			✓			✓	✓		✓		✓					
Individual — Unique	—	196330			✓												✓					✓													
Individual — Unique	—	196332															✓																		
Individual — Unique	—	196334																																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	196336											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196338											✓																					
Individual — Unique	—	196340											✓																					
Individual — Unique	—	196342																																
Individual — Unique	—	196344						✓									✓											✓						
Individual — Unique	—	196349																																
Individual — Unique	—	196351						✓					✓				✓											✓						
Individual — Unique	—	196355											✓																					
Individual — Unique	—	196357											✓			✓	✓					✓				✓	✓	✓		✓				
Individual — Unique	—	196360											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196364			✓			✓									✓																	
Individual — Unique	—	196366																																
Individual — Unique	—	196368											✓			✓	✓					✓						✓						
Individual — Unique	—	196370																																
Individual — Unique	—	196374			✓								✓																					
Individual — Unique	—	196376											✓															✓						
Individual — Unique	—	196378																																
Individual — Unique	—	196380											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196382			✓																							✓						
Individual — Unique	—	196384			✓								✓																					
Individual — Unique	—	196386											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196388											✓			✓										✓								
Individual — Unique	—	196390			✓								✓				✓													✓				
Individual — Unique	—	196392																																
Individual — Unique	—	196394						✓					✓																					
Individual — Unique	—	196396																									✓							
Individual — Unique	—	196398			✓																													
Individual — Unique	—	196400																																
Individual — Unique	—	196402			✓								✓	✓																				
Individual — Unique	—	196404						✓					✓			✓																		
Individual — Unique	—	196408			✓								✓						✓															
Individual — Unique	—	196410			✓																													
Individual — Unique	—	196412											✓	✓													✓			✓				
Individual — Unique	—	196414							✓				✓	✓		✓				✓						✓	✓	✓		✓				✓
Individual — Unique	—	196416			✓																													
Individual — Unique	—	196418											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196420																																
Individual — Unique	—	196422			✓								✓																					
Individual — Unique	—	196424											✓																					
Individual — Unique	—	196426											✓	✓			✓					✓								✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	196428			✓														✓															
Individual — Unique	—	196430			✓								✓																					
Individual — Unique	—	196432											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196436											✓												✓		✓	✓		✓				
Individual — Unique	—	196438			✓								✓			✓														✓				
Individual — Unique	—	196440											✓																					
Individual — Unique	—	196442											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196446			✓								✓			✓	✓									✓		✓		✓				
Individual — Unique	—	196448							✓				✓				✓													✓				
Individual — Unique	—	196450											✓																					
Individual — Unique	—	196452											✓	✓																				
Individual — Unique	—	196454											✓																					
Individual — Unique	—	196456			✓								✓																					
Individual — Unique	—	196458			✓			✓					✓			✓	✓		✓											✓				
Individual — Unique	—	196460			✓								✓			✓				✓														
Individual — Unique	—	196462																								✓								
Individual — Unique	—	196464																																
Individual — Unique	—	196466											✓																					
Individual — Unique	—	196468											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196470																																
Individual — Unique	—	196472			✓								✓				✓									✓								
Individual — Unique	—	196474											✓				✓																	
Individual — Unique	—	196478											✓																					
Individual — Unique	—	196482											✓																					
Individual — Unique	—	196484											✓			✓						✓				✓		✓						
Individual — Unique	—	196488			✓								✓													✓								
Individual — Unique	—	196490											✓																					
Individual — Unique	—	196492											✓			✓										✓				✓				
Individual — Unique	—	196494															✓																	
Individual — Unique	—	196500			✓								✓																					
Individual — Unique	—	196504											✓	✓		✓														✓				
Individual — Unique	—	196506											✓				✓																	
Individual — Unique	—	196508			✓																													
Individual — Unique	—	196510																																
Individual — Unique	—	196512						✓																										
Individual — Unique	—	196514											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196516																																
Individual — Unique	—	196518			✓																													
Individual — Unique	—	196520											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196522											✓																	✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	196524											✓			✓	✓												✓					
Individual — Unique	—	196526			✓			✓					✓						✓							✓	✓							
Individual — Unique	—	196528			✓								✓													✓								
Individual — Unique	—	196530						✓								✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196532			✓								✓				✓											✓						
Individual — Unique	—	196534											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196536			✓								✓																					
Individual — Unique	—	196538														✓																		
Individual — Unique	—	196540			✓								✓																					
Individual — Unique	—	196542			✓																													
Individual — Unique	—	196544											✓																					
Individual — Unique	—	196546																																
Individual — Unique	—	196548											✓	✓			✓					✓			✓	✓	✓			✓				
Individual — Unique	—	196552																																
Individual — Unique	—	196554											✓																					
Individual — Unique	—	196558											✓			✓																		
Individual — Unique	—	196560																								✓								
Individual — Unique	—	196562											✓															✓		✓				
Individual — Unique	—	196564																																
Individual — Unique	—	196566											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196568																																
Individual — Unique	—	196570			✓																													
Individual — Unique	—	196572			✓																													
Individual — Unique	—	196574			✓																					✓								
Individual — Unique	—	196576																																
Individual — Unique	—	196578											✓													✓				✓				
Individual — Unique	—	196580											✓																					
Individual — Unique	—	196582			✓																													
Individual — Unique	—	196586											✓			✓	✓																	
Individual — Unique	—	196588											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196590											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196592											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196594			✓																					✓								
Individual — Unique	—	196596											✓				✓																	
Individual — Unique	—	196600																										✓						
Individual — Unique	—	196602											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196604											✓	✓			✓		✓			✓				✓		✓		✓				
Individual — Unique	—	196606											✓																					
Individual — Unique	—	196608			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	196610			✓																													

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	196612											✓	✓		✓	✓					✓				✓	✓			✓				
Individual — Unique	—	196614											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196616																																
Individual — Unique	—	196618															✓					✓												
Individual — Unique	—	196620											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196622			✓								✓			✓	✓													✓				
Individual — Unique	—	196624											✓	✓		✓	✓					✓												
Individual — Unique	—	196628											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196630																																
Individual — Unique	—	196632			✓								✓																					
Individual — Unique	—	196634																																
Individual — Unique	—	196637																																
Individual — Unique	—	196639			✓			✓					✓			✓			✓							✓			✓	✓				
Individual — Unique	—	196643			✓																													
Individual — Unique	—	196645																																
Individual — Unique	—	196647											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196649			✓			✓					✓			✓														✓				
Individual — Unique	—	196651			✓																							✓						
Individual — Unique	—	196653											✓																					
Individual — Unique	—	196655																																
Individual — Unique	—	196657			✓								✓																	✓				
Individual — Unique	—	196659											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196661											✓																					
Individual — Unique	—	196663			✓																													
Individual — Unique	—	196665																																
Individual — Unique	—	196667											✓			✓				✓								✓						
Individual — Unique	—	196669			✓								✓																					
Individual — Unique	—	196672			✓			✓					✓																					
Individual — Unique	—	196676			✓			✓					✓																					
Individual — Unique	—	196678						✓																										
Individual — Unique	—	196680																																
Individual — Unique	—	196684			✓			✓					✓																					
Individual — Unique	—	196686											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196688																																
Individual — Unique	—	196690											✓			✓	✓									✓	✓			✓				
Individual — Unique	—	196692																																
Individual — Unique	—	196694											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196696											✓																					
Individual — Unique	—	196698			✓																					✓								
Individual — Unique	—	196706											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	196708											✓									✓			✓			✓						
Individual — Unique	—	196710						✓																										
Individual — Unique	—	196712											✓																					
Individual — Unique	—	196714											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196720			✓	✓		✓	✓			✓	✓				✓					✓			✓	✓				✓				
Individual — Unique	—	196724											✓																					
Individual — Unique	—	196726											✓			✓																		
Individual — Unique	—	196728			✓																													
Individual — Unique	—	196730											✓																					
Individual — Unique	—	196733											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196735																																
Individual — Unique	—	196737			✓								✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196739			✓																													
Individual — Unique	—	196741			✓																													
Individual — Unique	—	196746											✓	✓			✓		✓			✓				✓		✓						
Individual — Unique	—	196748																																
Individual — Unique	—	196750						✓					✓																					
Individual — Unique	—	196752			✓								✓	✓			✓									✓								
Individual — Unique	—	196754											✓																					
Individual — Unique	—	196756																																
Individual — Unique	—	196758											✓												✓			✓						
Individual — Unique	—	196760											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196764						✓					✓	✓		✓						✓					✓	✓		✓				
Individual — Unique	—	196768			✓								✓	✓		✓	✓					✓					✓	✓		✓				
Individual — Unique	—	196778			✓			✓					✓																					
Individual — Unique	—	196780			✓								✓				✓					✓			✓	✓				✓				
Individual — Unique	—	196784						✓					✓			✓														✓				
Individual — Unique	—	196786											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196788			✓																													
Individual — Unique	—	196792											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196796											✓	✓			✓									✓								
Individual — Unique	—	196800											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196802			✓			✓					✓			✓														✓				
Individual — Unique	—	196804																																
Individual — Unique	—	196810																																
Individual — Unique	—	196815			✓								✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196820			✓								✓			✓																		
Individual — Unique	—	196824			✓								✓																					
Individual — Unique	—	196833																																
Individual — Unique	—	196836			✓								✓				✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	196838											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196841											✓	✓			✓			✓										✓				
Individual — Unique	—	196846											✓																	✓				
Individual — Unique	—	196848											✓																					
Individual — Unique	—	196855											✓																					
Individual — Unique	—	196857											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196866											✓				✓									✓	✓							
Individual — Unique	—	196870											✓																					
Individual — Unique	—	196874			✓								✓			✓														✓				
Individual — Unique	—	196876																								✓		✓						
Individual — Unique	—	196879																																
Individual — Unique	—	196884											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196891											✓			✓																		✓
Individual — Unique	—	196893											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196901			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	196903											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196905			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	196907											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196909			✓								✓				✓					✓			✓			✓						
Individual — Unique	—	196911											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196913			✓			✓					✓				✓		✓															
Individual — Unique	—	196917			✓			✓																										
Individual — Unique	—	196919			✓																													
Individual — Unique	—	196921			✓								✓															✓						
Individual — Unique	—	196923			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	196925			✓								✓													✓			✓					
Individual — Unique	—	196927											✓			✓																		
Individual — Unique	—	196931			✓								✓													✓								
Individual — Unique	—	196933			✓			✓					✓																					
Individual — Unique	—	196935						✓					✓																					
Individual — Unique	—	196939											✓				✓											✓		✓				
Individual — Unique	—	196941			✓								✓						✓											✓				
Individual — Unique	—	196943			✓								✓															✓						
Individual — Unique	—	196945											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196947			✓												✓											✓						
Individual — Unique	—	196949																																
Individual — Unique	—	196951			✓			✓					✓			✓	✓			✓		✓						✓		✓				
Individual — Unique	—	196953											✓									✓				✓	✓	✓		✓				
Individual — Unique	—	196965			✓	✓																												
Individual — Unique	—	196967											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	196969											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196973											✓						✓											✓				
Individual — Unique	—	196979																																
Individual — Unique	—	196981											✓									✓				✓								
Individual — Unique	—	196985																																
Individual — Unique	—	196987			✓								✓			✓	✓					✓				✓				✓				
Individual — Unique	—	196989											✓																					
Individual — Unique	—	196991											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	196993			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	196997			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	197001																																
Individual — Unique	—	197009											✓																	✓				
Individual — Unique	—	197011											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	197013											✓																					
Individual — Unique	—	197015															✓																	
Individual — Unique	—	197021																												✓				
Individual — Unique	—	197031																		✓														
Individual — Unique	—	197035			✓								✓																					
Individual — Unique	—	197037											✓																					
Individual — Unique	—	197039																																
Individual — Unique	—	197041			✓								✓			✓	✓									✓		✓		✓				
Individual — Unique	—	197043											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	197045						✓					✓				✓									✓								
Individual — Unique	—	197047			✓								✓																					
Individual — Unique	—	197051											✓	✓																				
Individual — Unique	—	197053									✓		✓									✓				✓	✓	✓						
Individual — Unique	—	197059			✓								✓																	✓				
Individual — Unique	—	197061																																
Individual — Unique	—	197063																																
Individual — Unique	—	197065																																
Individual — Unique	—	197071			✓			✓																										
Individual — Unique	—	197073																																
Individual — Unique	—	197085											✓				✓									✓								
Individual — Unique	—	197088																																
Individual — Unique	—	197090																																
Individual — Unique	—	197117																																
Individual — Unique	—	197161						✓	✓				✓	✓		✓	✓		✓							✓	✓	✓						
Individual — Unique	—	197182											✓				✓					✓				✓	✓							
Individual — Unique	—	197193																																
Individual — Unique	—	197195											✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	197205			✓																													
Individual — Unique	—	197223																																
Individual — Unique	—	197227																																
Individual — Unique	—	197229																																
Individual — Unique	—	197233						✓					✓				✓									✓								
Individual — Unique	—	197237						✓																										
Individual — Unique	—	197239																																
Individual — Unique	—	197241											✓	✓			✓													✓				
Individual — Unique	—	197243											✓			✓			✓							✓								
Individual — Unique	—	197248						✓					✓																					
Individual — Unique	—	197259																							✓									
Individual — Unique	—	197272											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	197276			✓								✓			✓														✓				
Individual — Unique	—	197280											✓	✓		✓																		
Individual — Unique	—	197282																																
Individual — Unique	—	197284											✓			✓																		
Individual — Unique	—	197287											✓				✓																	
Individual — Unique	—	197289											✓																					
Individual — Unique	—	197291											✓	✓			✓																	
Individual — Unique	—	197297																																
Individual — Unique	—	197302																								✓		✓						
Individual — Unique	—	197308																																
Individual — Unique	—	197312															✓																	
Individual — Unique	—	197314											✓						✓								✓	✓		✓				
Individual — Unique	—	197317											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	197333											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	197335																																
Individual — Unique	—	197337			✓								✓				✓	✓				✓				✓		✓						
Individual — Unique	—	197340																																
Individual — Unique	—	197342											✓	✓			✓	✓								✓								
Individual — Unique	—	197344															✓																	
Individual — Unique	—	197348			✓								✓																					
Individual — Unique	—	197356																																
Individual — Unique	—	197358																																
Individual — Unique	—	197360															✓					✓												
Individual — Unique	—	197362																																
Individual — Unique	—	197364			✓								✓	✓			✓					✓				✓	✓			✓				
Individual — Unique	—	197366																																
Individual — Unique	—	197374											✓																					
Individual — Unique	—	197378																								✓								

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	197391											✓															✓						
Individual — Unique	—	197439			✓								✓			✓	✓		✓			✓				✓	✓		✓	✓				
Individual — Unique	—	197441			✓																													
Individual — Unique	—	197445											✓	✓					✓															
Individual — Unique	—	197447																																
Individual — Unique	—	197453																	✓															
Individual — Unique	—	197455																	✓															
Individual — Unique	—	197457			✓								✓				✓		✓	✓		✓			✓	✓	✓	✓		✓				
Individual — Unique	—	197465																																
Individual — Unique	—	197467			✓																													
Individual — Unique	—	197477			✓								✓																					
Individual — Unique	—	197481			✓								✓																					
Individual — Unique	—	197483			✓								✓																✓					
Individual — Unique	—	197485			✓								✓				✓									✓								
Individual — Unique	—	197521			✓																													
Individual — Unique	—	197525											✓			✓	✓																	
Individual — Unique	—	197584			✓								✓																✓					
Individual — Unique	—	197592			✓								✓	✓		✓	✓									✓	✓	✓		✓				
Individual — Unique	—	197605			✓	✓		✓					✓				✓			✓		✓				✓		✓	✓					
Individual — Unique	—	197633			✓			✓					✓			✓	✓		✓			✓				✓	✓	✓		✓				
Individual — Unique	—	197645																																
Individual — Unique	—	197689			✓																													
Individual — Unique	—	197691						✓					✓	✓		✓	✓									✓	✓			✓				
Individual — Unique	—	197697						✓					✓				✓			✓					✓		✓							
Individual — Unique	—	197702											✓			✓	✓			✓					✓					✓				
Individual — Unique	—	197708						✓					✓	✓		✓	✓					✓				✓	✓	✓						
Individual — Unique	—	197714																																
Individual — Unique	—	197722															✓						✓											
Individual — Unique	—	197750			✓								✓																					
Individual — Unique	—	197843																																
Individual — Unique	—	197847															✓								✓	✓		✓		✓				
Individual — Unique	—	197863																																
Individual — Unique	—	197881			✓							✓	✓				✓			✓		✓			✓			✓		✓				
Individual — Unique	—	197883											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	197885						✓					✓	✓		✓	✓					✓				✓	✓							
Individual — Unique	—	197889				✓							✓				✓			✓					✓			✓		✓				
Individual — Unique	—	197893			✓								✓				✓		✓							✓				✓				
Individual — Unique	—	197901			✓	✓							✓				✓								✓			✓						
Individual — Unique	—	197903											✓																					
Individual — Unique	—	197905			✓	✓						✓	✓				✓			✓		✓			✓	✓		✓	✓	✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	197909											✓				✓																	
Individual — Unique	—	197916			✓								✓						✓				✓							✓				
Individual — Unique	—	198019						✓	✓				✓						✓							✓								
Individual — Unique	—	198021			✓								✓				✓								✓	✓				✓				
Individual — Unique	—	198100																																
Individual — Unique	—	198276																																
Individual — Unique	—	198280																																
Individual — Unique	—	198289								✓			✓				✓					✓				✓	✓							
Individual — Unique	—	198291						✓					✓																					
Individual — Unique	—	198297								✓			✓			✓	✓			✓		✓					✓							
Individual — Unique	—	198325											✓				✓													✓				
Individual — Unique	—	199036			✓								✓				✓																	
Individual — Unique	—	199071											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	199083																																
Individual — Unique	—	199128															✓					✓				✓								
Individual — Unique	—	199203											✓				✓																	
Individual — Unique	—	199242											✓	✓		✓	✓					✓			✓			✓						✓
Individual — Unique	—	199316																																
Individual — Unique	—	199389																							✓									
Individual — Unique	—	199395																																
Individual — Unique	—	199430												✓																				
Individual — Unique	—	199460											✓				✓																	
Individual — Unique	—	199478								✓			✓																					
Individual — Unique	—	199494																																
Individual — Unique	—	199496			✓								✓				✓																	
Individual — Unique	—	199504																							✓	✓								
Individual — Unique	—	199510											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	199524			✓																													
Individual — Unique	—	199532											✓																					
Individual — Unique	—	199534																							✓	✓								
Individual — Unique	—	199536											✓				✓																	
Individual — Unique	—	199563											✓																					
Individual — Unique	—	199582											✓	✓			✓		✓	✓								✓						
Individual — Unique	—	199635											✓			✓																		
Individual — Unique	—	199650			✓				✓					✓																✓				
Individual — Unique	—	199655																																
Individual — Unique	—	199686																							✓	✓								
Individual — Unique	—	199720											✓			✓													✓					
Individual — Unique	—	199737											✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	199754																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	199772															✓																	
Individual — Unique	—	199789																																
Individual — Unique	—	199839																		✓					✓									
Individual — Unique	—	199843			✓								✓				✓			✓		✓						✓		✓				
Individual — Unique	—	199876											✓																					
Individual — Unique	—	199932																							✓									
Individual — Unique	—	199942																							✓	✓								
Individual — Unique	—	199969																							✓									
Individual — Unique	—	199971											✓																					
Individual — Unique	—	199977			✓																													
Individual — Unique	—	200003						✓	✓				✓	✓		✓	✓		✓	✓				✓	✓	✓	✓	✓	✓	✓	✓				
Individual — Unique	—	200017											✓			✓																		
Individual — Unique	—	200043											✓			✓	✓		✓						✓	✓		✓		✓				
Individual — Unique	—	200061																																
Individual — Unique	—	200068																																
Individual — Unique	—	200094											✓	✓																				
Individual — Unique	—	200158											✓																					
Individual — Unique	—	200358															✓																	
Individual — Unique	—	200420			✓								✓			✓	✓									✓	✓			✓				
Individual — Unique	—	200429																								✓		✓						
Individual — Unique	—	200450			✓																													
Individual — Unique	—	200466																																
Individual — Unique	—	200484																																
Individual — Unique	—	200488											✓																					
Individual — Unique	—	200490																																
Individual — Unique	—	200498			✓																													
Individual — Unique	—	200502											✓																					
Individual — Unique	—	200522			✓								✓	✓		✓	✓					✓				✓		✓						
Individual — Unique	—	200535			✓																													
Individual — Unique	—	200537											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	200541																																
Individual — Unique	—	200547			✓																													
Individual — Unique	—	200553																																
Individual — Unique	—	200575											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	200678																																
Individual — Unique	—	200718			✓																													
Individual — Unique	—	200795			✓								✓									✓			✓	✓		✓		✓				
Individual — Unique	—	200797			✓																													
Individual — Unique	—	200874											✓				✓																	
Individual — Unique	—	200934											✓	✓		✓	✓					✓						✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	200966			✓																					✓								
Individual — Unique	—	200973																																
Individual — Unique	—	200977																																
Individual — Unique	—	201055																																
Individual — Unique	—	201092			✓																					✓								
Individual — Unique	—	201096																											✓					
Individual — Unique	—	201146												✓					✓	✓				✓				✓						
Individual — Unique	—	201182															✓									✓								
Individual — Unique	—	201184										✓	✓	✓	✓					✓							✓							
Individual — Unique	—	201188			✓																													
Individual — Unique	—	201192											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201194			✓												✓									✓								
Individual — Unique	—	201196											✓				✓																	
Individual — Unique	—	201198		✓									✓																					
Individual — Unique	—	201200			✓								✓				✓																	
Individual — Unique	—	201202			✓								✓															✓						
Individual — Unique	—	201206			✓																													
Individual — Unique	—	201210			✓								✓				✓																	
Individual — Unique	—	201212			✓																													
Individual — Unique	—	201214																																
Individual — Unique	—	201216							✓																				✓					
Individual — Unique	—	201218											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201220								✓			✓				✓									✓								
Individual — Unique	—	201222											✓				✓																	
Individual — Unique	—	201226																																
Individual — Unique	—	201230											✓				✓																	
Individual — Unique	—	201232																																
Individual — Unique	—	201234																																
Individual — Unique	—	201236																																
Individual — Unique	—	201238			✓																													
Individual — Unique	—	201240														✓																		
Individual — Unique	—	201242											✓																					
Individual — Unique	—	201244						✓									✓																	
Individual — Unique	—	201246															✓																	
Individual — Unique	—	201248						✓					✓													✓								
Individual — Unique	—	201255			✓			✓									✓																	
Individual — Unique	—	201268																																
Individual — Unique	—	201272																																
Individual — Unique	—	201276			✓								✓	✓			✓								✓	✓			✓					
Individual — Unique	—	201278																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	201280											✓																					
Individual — Unique	—	201282																																
Individual — Unique	—	201284			✓								✓				✓																	
Individual — Unique	—	201286																																
Individual — Unique	—	201292											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201294											✓	✓		✓										✓								
Individual — Unique	—	201296											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201298											✓																					
Individual — Unique	—	201300																																
Individual — Unique	—	201302																								✓								
Individual — Unique	—	201304											✓				✓									✓								
Individual — Unique	—	201306			✓								✓				✓																	
Individual — Unique	—	201308																																
Individual — Unique	—	201310											✓	✓		✓	✓					✓				✓	✓	✓		✓				
Individual — Unique	—	201314																																
Individual — Unique	—	201316			✓								✓				✓																	
Individual — Unique	—	201318			✓								✓															✓						
Individual — Unique	—	201322																																
Individual — Unique	—	201330																																
Individual — Unique	—	201332																																
Individual — Unique	—	201334														✓						✓												
Individual — Unique	—	201338																																
Individual — Unique	—	201340			✓								✓													✓								
Individual — Unique	—	201344															✓																	
Individual — Unique	—	201346			✓																													
Individual — Unique	—	201348											✓	✓			✓								✓									
Individual — Unique	—	201350																																
Individual — Unique	—	201352																																
Individual — Unique	—	201354				✓																			✓									
Individual — Unique	—	201358											✓						✓															
Individual — Unique	—	201370											✓				✓		✓															
Individual — Unique	—	201376			✓												✓																	
Individual — Unique	—	201378			✓								✓				✓									✓								
Individual — Unique	—	201380			✓								✓	✓			✓		✓			✓				✓		✓		✓				
Individual — Unique	—	201382											✓						✓															
Individual — Unique	—	201384											✓	✓		✓	✓		✓			✓												
Individual — Unique	—	201388											✓				✓																	
Individual — Unique	—	201392											✓				✓		✓															
Individual — Unique	—	201394			✓								✓			✓	✓		✓			✓			✓	✓	✓			✓				
Individual — Unique	—	201398			✓								✓				✓		✓							✓								

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	201400			✓								✓				✓		✓															
Individual — Unique	—	201402											✓				✓		✓															
Individual — Unique	—	201404																																
Individual — Unique	—	201406											✓												✓	✓								
Individual — Unique	—	201412																																
Individual — Unique	—	201416			✓																													
Individual — Unique	—	201418											✓													✓								
Individual — Unique	—	201420											✓																					
Individual — Unique	—	201432																								✓								
Individual — Unique	—	201434			✓								✓			✓														✓				
Individual — Unique	—	201436											✓	✓			✓											✓						
Individual — Unique	—	201438			✓																													
Individual — Unique	—	201440			✓																													
Individual — Unique	—	201446											✓									✓						✓						
Individual — Unique	—	201462											✓																					
Individual — Unique	—	201467																																
Individual — Unique	—	201469																																
Individual — Unique	—	201473											✓	✓		✓	✓					✓					✓	✓		✓				
Individual — Unique	—	201475			✓																													
Individual — Unique	—	201477											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201479			✓																					✓								
Individual — Unique	—	201481											✓																					
Individual — Unique	—	201487											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201495																																
Individual — Unique	—	201501			✓								✓				✓		✓			✓												
Individual — Unique	—	201508											✓																					
Individual — Unique	—	201521															✓																	
Individual — Unique	—	201531				✓									✓					✓							✓							
Individual — Unique	—	201535																																
Individual — Unique	—	201561			✓				✓										✓							✓								
Individual — Unique	—	201563			✓																													
Individual — Unique	—	201579			✓			✓					✓	✓		✓						✓				✓	✓			✓				
Individual — Unique	—	201596											✓						✓			✓												
Individual — Unique	—	201609											✓																					
Individual — Unique	—	201618						✓																										
Individual — Unique	—	201627						✓					✓														✓	✓						
Individual — Unique	—	201629																									✓							
Individual — Unique	—	201648						✓					✓				✓																	
Individual — Unique	—	201653			✓																													
Individual — Unique	—	201657											✓				✓					✓				✓	✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	201665																																
Individual — Unique	—	201677						✓								✓																			
Individual — Unique	—	201699											✓	✓		✓	✓					✓				✓		✓							
Individual — Unique	—	201713																																
Individual — Unique	—	201746											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201748											✓																					
Individual — Unique	—	201752											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201754																																
Individual — Unique	—	201756						✓					✓																					
Individual — Unique	—	201758							✓				✓	✓		✓	✓					✓			✓	✓	✓							
Individual — Unique	—	201760						✓					✓				✓																	
Individual — Unique	—	201762			✓																							✓						
Individual — Unique	—	201768											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201773																																
Individual — Unique	—	201779																																
Individual — Unique	—	201785											✓	✓		✓																		
Individual — Unique	—	201787			✓								✓	✓			✓					✓			✓	✓		✓		✓				
Individual — Unique	—	201789																																
Individual — Unique	—	201795																																
Individual — Unique	—	201802											✓	✓																				
Individual — Unique	—	201804										✓					✓																	
Individual — Unique	—	201806															✓																	
Individual — Unique	—	201810																																
Individual — Unique	—	201812																																
Individual — Unique	—	201814				✓											✓																	
Individual — Unique	—	201816			✓																													
Individual — Unique	—	201818																																
Individual — Unique	—	201826											✓														✓							
Individual — Unique	—	201828			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201832			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201834			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201838			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201840			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201842			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201844			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201846																	✓															
Individual — Unique	—	201848			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201850			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201852			✓			✓					✓				✓																	
Individual — Unique	—	201854			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	201856			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201858			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201860																																
Individual — Unique	—	201862			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201864			✓																													
Individual — Unique	—	201866			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201868			✓								✓														✓							
Individual — Unique	—	201870			✓								✓	✓					✓									✓		✓				
Individual — Unique	—	201872																																
Individual — Unique	—	201874																																
Individual — Unique	—	201876			✓	✓		✓					✓	✓			✓			✓		✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201878			✓																													
Individual — Unique	—	201880			✓			✓						✓		✓	✓																	
Individual — Unique	—	201882			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201884											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201886											✓				✓					✓				✓								
Individual — Unique	—	201888			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201890				✓							✓				✓											✓						
Individual — Unique	—	201894											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	201896			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	201901											✓	✓		✓	✓		✓			✓				✓	✓	✓		✓				
Individual — Unique	—	201917			✓								✓				✓		✓			✓			✓			✓		✓				
Individual — Unique	—	201921			✓								✓			✓	✓									✓		✓		✓				
Individual — Unique	—	201927			✓			✓					✓				✓																	
Individual — Unique	—	201953			✓												✓			✓														
Individual — Unique	—	201967															✓																	
Individual — Unique	—	201986			✓																													
Individual — Unique	—	201988															✓																	
Individual — Unique	—	201990																																
Individual — Unique	—	201992																																
Individual — Unique	—	201994											✓	✓			✓								✓									
Individual — Unique	—	201997			✓	✓							✓				✓			✓		✓			✓	✓		✓		✓				
Individual — Unique	—	202000			✓								✓									✓			✓			✓		✓				
Individual — Unique	—	202011																																
Individual — Unique	—	202017				✓														✓					✓									
Individual — Unique	—	202021																		✓					✓									
Individual — Unique	—	202023			✓								✓			✓	✓												✓					
Individual — Unique	—	202025				✓														✓					✓									
Individual — Unique	—	202032											✓																					
Individual — Unique	—	202042											✓				✓					✓				✓	✓							

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	202044											✓									✓										✓		
Individual — Unique	—	202046				✓														✓					✓									
Individual — Unique	—	202048			✓								✓				✓											✓		✓				
Individual — Unique	—	202050				✓							✓				✓		✓									✓						
Individual — Unique	—	202054			✓								✓						✓									✓						
Individual — Unique	—	202058			✓								✓				✓		✓			✓					✓	✓						
Individual — Unique	—	202060						✓					✓						✓								✓							
Individual — Unique	—	202064				✓																			✓								
Individual — Unique	—	202066				✓																			✓								
Individual — Unique	—	202068				✓																			✓								
Individual — Unique	—	202077			✓			✓											✓														
Individual — Unique	—	202079																															
Individual — Unique	—	202085				✓																			✓								
Individual — Unique	—	202089			✓								✓			✓										✓	✓						
Individual — Unique	—	202091			✓			✓					✓			✓	✓										✓	✓	✓	✓				
Individual — Unique	—	202095											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	202097				✓																			✓								
Individual — Unique	—	202123											✓													✓								
Individual — Unique	—	202125			✓			✓					✓																				
Individual — Unique	—	202139											✓	✓													✓	✓					
Individual — Unique	—	202149			✓	✓		✓					✓			✓	✓	✓	✓							✓	✓						
Individual — Unique	—	202184																															
Individual — Unique	—	202188											✓																				
Individual — Unique	—	202222			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	202235											✓				✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	202246						✓																									
Individual — Unique	—	202253				✓						✓	✓															✓						
Individual — Unique	—	202261																															
Individual — Unique	—	202273						✓					✓	✓			✓								✓	✓		✓						
Individual — Unique	—	202277																															
Individual — Unique	—	202282																															
Individual — Unique	—	202284			✓				✓				✓				✓								✓	✓		✓		✓				
Individual — Unique	—	202286			✓				✓				✓	✓								✓			✓	✓		✓		✓				
Individual — Unique	—	202291			✓			✓					✓						✓			✓			✓	✓		✓		✓				
Individual — Unique	—	202293																															
Individual — Unique	—	202303			✓								✓																				
Individual — Unique	—	202319																															
Individual — Unique	—	202327						✓																									
Individual — Unique	—	202331																															
Individual — Unique	—	202333																															

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	202335																																
Individual — Unique	—	202337						✓					✓																						
Individual — Unique	—	202341			✓				✓				✓				✓					✓			✓	✓		✓		✓					
Individual — Unique	—	202345											✓			✓														✓					
Individual — Unique	—	202347			✓				✓				✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	202349			✓								✓			✓	✓																		
Individual — Unique	—	202353																									✓								
Individual — Unique	—	202355			✓																														
Individual — Unique	—	202357						✓	✓				✓	✓			✓								✓	✓		✓							
Individual — Unique	—	202359			✓								✓													✓									
Individual — Unique	—	202361											✓																						
Individual — Unique	—	202363											✓						✓	✓															
Individual — Unique	—	202365			✓								✓				✓		✓			✓				✓		✓	✓	✓					
Individual — Unique	—	202367						✓					✓	✓			✓	✓		✓					✓	✓		✓							
Individual — Unique	—	202369						✓					✓	✓			✓	✓		✓					✓	✓		✓							
Individual — Unique	—	202371											✓																						
Individual — Unique	—	202375											✓			✓	✓								✓	✓	✓	✓		✓					
Individual — Unique	—	202377						✓	✓				✓	✓			✓								✓	✓		✓							
Individual — Unique	—	202379											✓													✓									
Individual — Unique	—	202389			✓								✓				✓					✓													
Individual — Unique	—	202391											✓																						
Individual — Unique	—	202401			✓	✓		✓				✓	✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	202405											✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	202407											✓	✓																					
Individual — Unique	—	202423			✓								✓				✓								✓	✓		✓	✓	✓					
Individual — Unique	—	202427			✓			✓					✓				✓					✓							✓	✓					
Individual — Unique	—	202429																							✓	✓									
Individual — Unique	—	202431																																	
Individual — Unique	—	202433											✓						✓																
Individual — Unique	—	202439			✓								✓				✓		✓			✓			✓	✓		✓	✓	✓					
Individual — Unique	—	202443						✓	✓				✓				✓								✓	✓		✓							
Individual — Unique	—	202445															✓		✓			✓			✓	✓		✓		✓					
Individual — Unique	—	202449			✓								✓			✓										✓									
Individual — Unique	—	202451			✓								✓				✓		✓							✓				✓					
Individual — Unique	—	202454			✓			✓					✓																✓						
Individual — Unique	—	202471																																	
Individual — Unique	—	202493			✓														✓																
Individual — Unique	—	202495			✓																														
Individual — Unique	—	202497											✓																						
Individual — Unique	—	202500																																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	202502			✓	✓		✓				✓				✓				✓		✓			✓	✓		✓	✓	✓				
Individual — Unique	—	202508																																
Individual — Unique	—	202517																																
Individual — Unique	—	202521			✓																					✓								
Individual — Unique	—	202547						✓					✓																						
Individual — Unique	—	202574			✓								✓				✓		✓			✓			✓			✓	✓					
Individual — Unique	—	202582			✓																													
Individual — Unique	—	202585											✓																	✓				
Individual — Unique	—	202589														✓	✓					✓												
Individual — Unique	—	202592														✓	✓					✓												
Individual — Unique	—	202596																								✓								
Individual — Unique	—	202598			✓												✓																	
Individual — Unique	—	202604											✓									✓												
Individual — Unique	—	202606																																
Individual — Unique	—	202608							✓			✓																		✓				
Individual — Unique	—	202612			✓								✓				✓					✓			✓	✓				✓				
Individual — Unique	—	202614											✓																	✓				
Individual — Unique	—	202616																																
Individual — Unique	—	202620			✓								✓				✓					✓			✓	✓				✓				
Individual — Unique	—	202632											✓			✓	✓									✓	✓	✓						
Individual — Unique	—	202638						✓					✓				✓		✓	✓		✓								✓				
Individual — Unique	—	202642											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	202650											✓				✓													✓				
Individual — Unique	—	202658																																
Individual — Unique	—	202668																																
Individual — Unique	—	202672																																
Individual — Unique	—	202678								✓																								
Individual — Unique	—	202684																																
Individual — Unique	—	202686											✓	✓																				
Individual — Unique	—	202688											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	202690											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	202692											✓	✓		✓						✓				✓								
Individual — Unique	—	202694											✓												✓	✓		✓		✓				
Individual — Unique	—	202696																																
Individual — Unique	—	202698											✓	✓			✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	202700											✓	✓					✓			✓				✓				✓				
Individual — Unique	—	202704			✓																					✓								
Individual — Unique	—	202706											✓				✓																		
Individual — Unique	—	202708															✓																		
Individual — Unique	—	202710															✓																		

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	202716																																
Individual — Unique	—	202718											✓	✓			✓																		
Individual — Unique	—	202720																																
Individual — Unique	—	202722											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	202724											✓	✓		✓										✓		✓						
Individual — Unique	—	202726											✓			✓	✓					✓				✓								
Individual — Unique	—	202728																																
Individual — Unique	—	202730																																
Individual — Unique	—	202732											✓						✓															
Individual — Unique	—	202734																																
Individual — Unique	—	202736																																
Individual — Unique	—	202740											✓																					
Individual — Unique	—	202742			✓																													
Individual — Unique	—	202748														✓										✓								
Individual — Unique	—	202750																																
Individual — Unique	—	202752			✓																													
Individual — Unique	—	202754							✓				✓																					
Individual — Unique	—	202756																																
Individual — Unique	—	202766																																
Individual — Unique	—	202768						✓																										
Individual — Unique	—	202770																																
Individual — Unique	—	202772														✓						✓			✓			✓		✓				
Individual — Unique	—	202775																																
Individual — Unique	—	202777											✓			✓																		
Individual — Unique	—	202779			✓			✓					✓									✓												
Individual — Unique	—	202797			✓				✓				✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	202811											✓						✓	✓														
Individual — Unique	—	202819																																
Individual — Unique	—	202853											✓						✓															
Individual — Unique	—	202860																																
Individual — Unique	—	202864											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	202870			✓																													
Individual — Unique	—	202876											✓																					
Individual — Unique	—	202878																																
Individual — Unique	—	202880			✓								✓			✓										✓								
Individual — Unique	—	202882			✓																							✓						
Individual — Unique	—	202885											✓																	✓				
Individual — Unique	—	202887			✓								✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	202889			✓																													
Individual — Unique	—	202892																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	202894			✓			✓					✓			✓	✓					✓						✓							
Individual — Unique	—	202898																	✓			✓						✓							
Individual — Unique	—	202902			✓																														
Individual — Unique	—	202905			✓								✓			✓	✓		✓			✓			✓		✓	✓		✓					
Individual — Unique	—	202907																	✓																
Individual — Unique	—	202909			✓								✓			✓														✓					
Individual — Unique	—	202913			✓								✓			✓			✓			✓				✓									
Individual — Unique	—	202919			✓								✓			✓			✓			✓				✓									
Individual — Unique	—	202922											✓													✓									
Individual — Unique	—	202924						✓					✓				✓								✓										
Individual — Unique	—	202926			✓																					✓									
Individual — Unique	—	202930											✓	✓		✓	✓					✓			✓	✓	✓			✓					
Individual — Unique	—	202932											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	202934											✓			✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	202936											✓			✓						✓													
Individual — Unique	—	202938											✓	✓		✓	✓								✓										
Individual — Unique	—	202940											✓	✓		✓	✓					✓				✓									
Individual — Unique	—	202942											✓									✓			✓	✓									✓
Individual — Unique	—	202944			✓								✓	✓												✓									
Individual — Unique	—	202946											✓			✓	✓		✓			✓			✓	✓	✓	✓		✓					
Individual — Unique	—	202948											✓			✓														✓					
Individual — Unique	—	202950											✓				✓									✓				✓					
Individual — Unique	—	202952			✓								✓													✓	✓	✓							
Individual — Unique	—	202954																				✓													
Individual — Unique	—	202958											✓	✓			✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	202960											✓	✓		✓	✓					✓			✓	✓	✓			✓					
Individual — Unique	—	202962																			✓		✓							✓					
Individual — Unique	—	202964							✓				✓													✓	✓	✓		✓					
Individual — Unique	—	202968											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	202970																																	
Individual — Unique	—	202972											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	202974																																	
Individual — Unique	—	202976											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	202978											✓	✓																					
Individual — Unique	—	202980											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	202984											✓																						
Individual — Unique	—	202986											✓	✓												✓									
Individual — Unique	—	202988																							✓	✓									
Individual — Unique	—	202992											✓	✓								✓													
Individual — Unique	—	202994											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	202996																																
Individual — Unique	—	203000											✓																					
Individual — Unique	—	203002											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203004											✓				✓																	
Individual — Unique	—	203006											✓				✓																	
Individual — Unique	—	203008											✓	✓												✓								
Individual — Unique	—	203010			✓																													
Individual — Unique	—	203012						✓					✓				✓											✓						
Individual — Unique	—	203014																																
Individual — Unique	—	203016																																
Individual — Unique	—	203018			✓																													
Individual — Unique	—	203020											✓			✓	✓					✓				✓		✓						
Individual — Unique	—	203022																																
Individual — Unique	—	203026			✓																													
Individual — Unique	—	203028											✓	✓			✓					✓												
Individual — Unique	—	203030											✓	✓																				
Individual — Unique	—	203032											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203034																								✓								
Individual — Unique	—	203036																																
Individual — Unique	—	203039											✓			✓						✓				✓	✓			✓				
Individual — Unique	—	203041											✓																					
Individual — Unique	—	203043			✓								✓	✓																				
Individual — Unique	—	203045											✓	✓		✓	✓					✓			✓	✓		✓		✓				
Individual — Unique	—	203047											✓	✓																✓				
Individual — Unique	—	203051											✓												✓		✓	✓		✓				
Individual — Unique	—	203053			✓	✓		✓	✓			✓	✓				✓			✓		✓			✓	✓		✓	✓	✓				
Individual — Unique	—	203055																																
Individual — Unique	—	203057											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203059											✓	✓			✓					✓			✓	✓		✓		✓				
Individual — Unique	—	203061											✓	✓		✓	✓					✓			✓	✓	✓			✓				
Individual — Unique	—	203063											✓	✓		✓	✓													✓				
Individual — Unique	—	203067											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203069			✓								✓																					
Individual — Unique	—	203071											✓			✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	203075						✓	✓				✓																					
Individual — Unique	—	203085						✓	✓				✓	✓		✓	✓					✓			✓	✓		✓		✓				
Individual — Unique	—	203089			✓			✓					✓	✓			✓					✓				✓	✓	✓		✓				
Individual — Unique	—	203091											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203093																																
Individual — Unique	—	203097			✓			✓					✓	✓												✓		✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	203101			✓								✓			✓	✓									✓								
Individual — Unique	—	203103																																
Individual — Unique	—	203107											✓	✓		✓			✓											✓				
Individual — Unique	—	203111											✓																					
Individual — Unique	—	203115											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203119											✓																					
Individual — Unique	—	203121											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203123			✓								✓				✓					✓				✓	✓							
Individual — Unique	—	203125			✓												✓		✓							✓	✓							
Individual — Unique	—	203129																																
Individual — Unique	—	203131						✓					✓																					
Individual — Unique	—	203133											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203135											✓			✓									✓	✓	✓			✓				
Individual — Unique	—	203137																																
Individual — Unique	—	203141											✓	✓			✓					✓				✓	✓	✓		✓				
Individual — Unique	—	203143																																
Individual — Unique	—	203145											✓																					
Individual — Unique	—	203147											✓																	✓				
Individual — Unique	—	203149											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203151																																
Individual — Unique	—	203156											✓			✓																		
Individual — Unique	—	203158																																
Individual — Unique	—	203160															✓					✓												
Individual — Unique	—	203162											✓	✓			✓									✓		✓		✓				
Individual — Unique	—	203164							✓													✓												
Individual — Unique	—	203166						✓	✓				✓	✓					✓																
Individual — Unique	—	203170											✓				✓								✓	✓								
Individual — Unique	—	203174											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203176											✓				✓					✓				✓		✓						
Individual — Unique	—	203178																																
Individual — Unique	—	203180											✓									✓				✓								
Individual — Unique	—	203182							✓											✓														
Individual — Unique	—	203184								✓			✓													✓				✓				
Individual — Unique	—	203186			✓											✓	✓																	
Individual — Unique	—	203192											✓				✓					✓			✓	✓	✓			✓				
Individual — Unique	—	203194											✓				✓													✓				
Individual — Unique	—	203196																																
Individual — Unique	—	203198											✓			✓						✓												
Individual — Unique	—	203202											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203204											✓			✓	✓					✓								✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	203206			✓																													
Individual — Unique	—	203208											✓									✓								✓					
Individual — Unique	—	203210											✓									✓				✓									
Individual — Unique	—	203214								✓			✓				✓					✓			✓	✓	✓			✓				
Individual — Unique	—	203218																																
Individual — Unique	—	203220																																
Individual — Unique	—	203222															✓					✓				✓								
Individual — Unique	—	203224											✓			✓	✓					✓			✓	✓		✓		✓				
Individual — Unique	—	203226											✓																					
Individual — Unique	—	203228						✓					✓	✓		✓	✓																	
Individual — Unique	—	203230											✓																					
Individual — Unique	—	203232											✓													✓								
Individual — Unique	—	203234			✓																													
Individual — Unique	—	203236											✓																					
Individual — Unique	—	203238															✓																	
Individual — Unique	—	203240											✓													✓								
Individual — Unique	—	203242											✓				✓					✓				✓			✓					
Individual — Unique	—	203244											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203246											✓												✓					✓				
Individual — Unique	—	203248						✓					✓																					
Individual — Unique	—	203250															✓								✓	✓	✓	✓						
Individual — Unique	—	203256																																
Individual — Unique	—	203258											✓																					
Individual — Unique	—	203260			✓								✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203263											✓				✓													✓				
Individual — Unique	—	203265											✓			✓	✓									✓		✓		✓				
Individual — Unique	—	203267											✓			✓	✓										✓	✓						
Individual — Unique	—	203269						✓					✓																					
Individual — Unique	—	203271																																
Individual — Unique	—	203273															✓											✓		✓				
Individual — Unique	—	203275																				✓				✓								
Individual — Unique	—	203277			✓					✓			✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	203279			✓			✓																										
Individual — Unique	—	203281											✓																					
Individual — Unique	—	203283											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203285																								✓								
Individual — Unique	—	203287			✓			✓		✓			✓																					
Individual — Unique	—	203289											✓				✓					✓												
Individual — Unique	—	203294											✓																					
Individual — Unique	—	203296											✓				✓								✓									

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	203298											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203300														✓	✓									✓		✓						
Individual — Unique	—	203304											✓	✓																				
Individual — Unique	—	203306											✓																					
Individual — Unique	—	203308						✓					✓																					
Individual — Unique	—	203310											✓	✓								✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203314														✓	✓									✓		✓						
Individual — Unique	—	203316						✓					✓	✓		✓										✓		✓		✓				
Individual — Unique	—	203319																																
Individual — Unique	—	203321						✓					✓						✓														✓	
Individual — Unique	—	203323																																
Individual — Unique	—	203325																																
Individual — Unique	—	203328			✓								✓			✓	✓			✓						✓	✓			✓				
Individual — Unique	—	203330											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203332						✓					✓	✓		✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	203334															✓																	
Individual — Unique	—	203336											✓			✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	203342																																
Individual — Unique	—	203344											✓	✓																				
Individual — Unique	—	203346															✓																	
Individual — Unique	—	203348											✓																					
Individual — Unique	—	203352														✓						✓			✓									
Individual — Unique	—	203354											✓				✓											✓						
Individual — Unique	—	203356			✓															✓						✓								
Individual — Unique	—	203358														✓																		
Individual — Unique	—	203360												✓												✓				✓				
Individual — Unique	—	203364			✓								✓				✓								✓	✓		✓		✓				
Individual — Unique	—	203366			✓																													
Individual — Unique	—	203369											✓													✓				✓				
Individual — Unique	—	203374																																
Individual — Unique	—	203379											✓																					
Individual — Unique	—	203390											✓				✓											✓						
Individual — Unique	—	203392											✓			✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	203394											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203396											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203398											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203400											✓	✓					✓	✓						✓		✓						
Individual — Unique	—	203402																																
Individual — Unique	—	203404											✓	✓		✓	✓													✓				
Individual — Unique	—	203406											✓				✓	✓	✓	✓	✓				✓	✓		✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	203408											✓				✓					✓				✓								
Individual — Unique	—	203410			✓				✓				✓	✓			✓										✓			✓				
Individual — Unique	—	203414											✓	✓		✓														✓				
Individual — Unique	—	203416						✓					✓	✓		✓	✓					✓				✓	✓	✓		✓				
Individual — Unique	—	203418						✓					✓																					
Individual — Unique	—	203426											✓	✓		✓	✓					✓				✓	✓			✓				
Individual — Unique	—	203428																																
Individual — Unique	—	203432																																
Individual — Unique	—	203434																												✓				
Individual — Unique	—	203442			✓																													
Individual — Unique	—	203444											✓															✓						
Individual — Unique	—	203446											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203448																				✓												
Individual — Unique	—	203455											✓																					
Individual — Unique	—	203476											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203478																																
Individual — Unique	—	203480						✓					✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203482											✓	✓		✓	✓								✓	✓								
Individual — Unique	—	203486																																
Individual — Unique	—	203493																																
Individual — Unique	—	203499															✓									✓	✓							
Individual — Unique	—	203503												✓		✓	✓													✓				
Individual — Unique	—	203515											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203533						✓					✓																					
Individual — Unique	—	203542											✓				✓											✓						
Individual — Unique	—	203544																																
Individual — Unique	—	203546																																
Individual — Unique	—	203555			✓			✓					✓	✓		✓														✓				
Individual — Unique	—	203559				✓		✓	✓				✓				✓		✓			✓				✓		✓		✓				
Individual — Unique	—	203577											✓						✓									✓						
Individual — Unique	—	203582																																
Individual — Unique	—	203594							✓				✓	✓		✓	✓		✓			✓				✓	✓	✓		✓				
Individual — Unique	—	203597			✓								✓	✓		✓																		
Individual — Unique	—	203599			✓								✓														✓							
Individual — Unique	—	203601											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203603											✓			✓	✓			✓														
Individual — Unique	—	203605											✓	✓			✓					✓			✓		✓							
Individual — Unique	—	203607											✓	✓																				
Individual — Unique	—	203609											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203615			✓								✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	203617			✓												✓																	
Individual — Unique	—	203619											✓																					
Individual — Unique	—	203621											✓													✓								
Individual — Unique	—	203623											✓			✓	✓					✓				✓								
Individual — Unique	—	203625																																
Individual — Unique	—	203627			✓																													
Individual — Unique	—	203629			✓																													
Individual — Unique	—	203631			✓			✓																										
Individual — Unique	—	203633			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	203635											✓				✓	✓				✓					✓	✓		✓				
Individual — Unique	—	203637																										✓						
Individual — Unique	—	203639																																
Individual — Unique	—	203641			✓												✓		✓															
Individual — Unique	—	203645			✓							✓	✓			✓												✓	✓	✓				
Individual — Unique	—	203647			✓							✓	✓	✓		✓												✓	✓	✓				
Individual — Unique	—	203649			✓							✓	✓	✓		✓												✓	✓	✓				
Individual — Unique	—	203651			✓							✓	✓	✓		✓												✓	✓	✓				
Individual — Unique	—	203653			✓							✓	✓	✓		✓												✓	✓	✓				
Individual — Unique	—	203658											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203660			✓																					✓		✓						
Individual — Unique	—	203664											✓				✓																	
Individual — Unique	—	203666						✓																										
Individual — Unique	—	203668																																
Individual — Unique	—	203670										✓	✓																					
Individual — Unique	—	203674			✓								✓				✓																	
Individual — Unique	—	203676											✓									✓			✓									
Individual — Unique	—	203678							✓				✓	✓					✓							✓		✓						
Individual — Unique	—	203680																																
Individual — Unique	—	203684											✓				✓									✓								
Individual — Unique	—	203686											✓	✓		✓	✓					✓			✓		✓	✓		✓				
Individual — Unique	—	203692			✓																													✓
Individual — Unique	—	203694											✓			✓														✓				
Individual — Unique	—	203698																																
Individual — Unique	—	203700											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203702			✓							✓																						
Individual — Unique	—	203706			✓								✓			✓						✓								✓				
Individual — Unique	—	203708			✓								✓	✓		✓	✓					✓			✓	✓	✓	✓	✓	✓				✓
Individual — Unique	—	203710											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	203712																											✓					✓
Individual — Unique	—	203714														✓																		

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	203716			✓								✓	✓					✓							✓		✓						
Individual — Unique	—	203718											✓				✓					✓						✓							
Individual — Unique	—	203733																	✓															
Individual — Unique	—	203912																																✓
Individual — Unique	—	203935											✓							✓									✓					
Individual — Unique	—	203941											✓				✓										✓							
Individual — Unique	—	203957											✓				✓																	
Individual — Unique	—	203982															✓		✓															
Individual — Unique	—	204028																																
Individual — Unique	—	204040											✓				✓																	
Individual — Unique	—	204044											✓	✓								✓				✓		✓						
Individual — Unique	—	204050			✓				✓				✓				✓					✓			✓	✓				✓				
Individual — Unique	—	204052			✓								✓				✓													✓				
Individual — Unique	—	204060											✓									✓												
Individual — Unique	—	204062											✓																					
Individual — Unique	—	204113																																
Individual — Unique	—	204123											✓	✓																				
Individual — Unique	—	204141																																
Individual — Unique	—	204168																																
Individual — Unique	—	204171											✓				✓					✓				✓								
Individual — Unique	—	204180																																
Individual — Unique	—	204182			✓				✓				✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	204187											✓																					
Individual — Unique	—	204199											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	204218											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	204224			✓			✓					✓			✓	✓			✓														
Individual — Unique	—	204227			✓				✓				✓												✓			✓		✓				
Individual — Unique	—	204231			✓					✓			✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	204233											✓				✓		✓			✓			✓	✓		✓	✓	✓				
Individual — Unique	—	204235			✓					✓			✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	204237			✓					✓			✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	204239			✓					✓			✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	204241						✓					✓				✓					✓			✓	✓				✓				
Individual — Unique	—	204243			✓												✓																	
Individual — Unique	—	204245			✓												✓			✓	✓	✓				✓		✓		✓				
Individual — Unique	—	204247			✓					✓			✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	204249			✓					✓			✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	204251															✓		✓									✓						
Individual — Unique	—	204254			✓								✓	✓			✓											✓	✓					
Individual — Unique	—	204256						✓					✓												✓			✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	204260			✓					✓			✓				✓					✓			✓	✓		✓	✓						
Individual — Unique	—	204262															✓																		
Individual — Unique	—	204264			✓					✓			✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204266											✓				✓										✓	✓		✓					
Individual — Unique	—	204268											✓				✓										✓	✓		✓					
Individual — Unique	—	204270											✓				✓										✓	✓		✓					
Individual — Unique	—	204272			✓								✓				✓		✓			✓			✓			✓		✓					
Individual — Unique	—	204275			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204281			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204283			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204285			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204287															✓											✓		✓					
Individual — Unique	—	204289				✓							✓	✓			✓			✓		✓			✓	✓		✓	✓	✓					✓
Individual — Unique	—	204291			✓	✓		✓					✓				✓			✓		✓			✓	✓		✓		✓					
Individual — Unique	—	204293			✓	✓		✓					✓				✓			✓		✓			✓	✓		✓		✓					
Individual — Unique	—	204295			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204297			✓	✓					✓						✓	✓				✓				✓		✓		✓					✓
Individual — Unique	—	204299			✓								✓			✓	✓	✓				✓			✓	✓		✓		✓					
Individual — Unique	—	204301			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204305				✓							✓									✓						✓		✓					
Individual — Unique	—	204307			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204311			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204313			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204315			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204317			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204319			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204321			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204325			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204327											✓				✓									✓									
Individual — Unique	—	204329			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204331			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204333				✓							✓				✓			✓						✓									
Individual — Unique	—	204335			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204337															✓																		
Individual — Unique	—	204339			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204341			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204343			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204347			✓	✓		✓					✓				✓			✓		✓			✓			✓		✓					
Individual — Unique	—	204350						✓					✓																						
Individual — Unique	—	204354			✓								✓				✓					✓			✓	✓				✓					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	204356			✓								✓				✓					✓			✓	✓				✓				
Individual — Unique	—	204358															✓																	
Individual — Unique	—	204360											✓																					
Individual — Unique	—	204362						✓					✓	✓		✓																		
Individual — Unique	—	204364																																
Individual — Unique	—	204366																																
Individual — Unique	—	204368											✓				✓									✓								
Individual — Unique	—	204370																								✓								
Individual — Unique	—	204372			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	204374											✓																					
Individual — Unique	—	204376			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	204378											✓																					
Individual — Unique	—	204380			✓						✓		✓						✓															
Individual — Unique	—	204395			✓								✓			✓	✓																	
Individual — Unique	—	204402			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	204404											✓													✓								
Individual — Unique	—	204407											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	204409											✓				✓		✓							✓		✓						✓
Individual — Unique	—	204411			✓	✓							✓							✓					✓	✓	✓	✓						
Individual — Unique	—	204415						✓					✓			✓	✓					✓				✓		✓		✓				
Individual — Unique	—	204417			✓														✓			✓			✓	✓		✓		✓				
Individual — Unique	—	204419			✓								✓						✓			✓				✓		✓						
Individual — Unique	—	204421																																
Individual — Unique	—	204429						✓					✓																					
Individual — Unique	—	204435			✓								✓				✓		✓			✓				✓	✓	✓						
Individual — Unique	—	204437			✓												✓											✓						
Individual — Unique	—	204439			✓																							✓	✓					
Individual — Unique	—	204451			✓				✓					✓															✓	✓				
Individual — Unique	—	204469			✓																								✓					
Individual — Unique	—	204473																																
Individual — Unique	—	204479			✓								✓			✓			✓							✓		✓						
Individual — Unique	—	204522																																
Individual — Unique	—	204524														✓	✓								✓	✓		✓		✓				
Individual — Unique	—	204533																																
Individual — Unique	—	204536																																
Individual — Unique	—	204540			✓																													
Individual — Unique	—	204542			✓														✓															
Individual — Unique	—	204544						✓					✓	✓			✓		✓															
Individual — Unique	—	204548			✓																													
Individual — Unique	—	204554			✓	✓		✓				✓	✓				✓			✓		✓			✓	✓		✓	✓	✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	204558			✓			✓					✓	✓												✓		✓	✓						
Individual — Unique	—	204560			✓																													
Individual — Unique	—	204571						✓						✓													✓								
Individual — Unique	—	204573						✓									✓			✓	✓														
Individual — Unique	—	204575			✓								✓	✓																					
Individual — Unique	—	204585			✓			✓	✓				✓	✓		✓	✓		✓	✓						✓	✓	✓		✓					
Individual — Unique	—	204590											✓	✓		✓	✓		✓						✓		✓	✓		✓					
Individual — Unique	—	204603			✓				✓				✓	✓			✓		✓								✓	✓		✓					
Individual — Unique	—	204626																																	
Individual — Unique	—	204636			✓			✓					✓									✓			✓	✓		✓		✓					
Individual — Unique	—	204638			✓																														
Individual — Unique	—	204640			✓								✓				✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	204645			✓																														
Individual — Unique	—	204650											✓	✓		✓	✓					✓				✓	✓	✓		✓					
Individual — Unique	—	204671			✓			✓					✓				✓					✓			✓	✓		✓		✓					
Individual — Unique	—	204696																																	
Individual — Unique	—	204706																																	
Individual — Unique	—	204708			✓			✓					✓				✓					✓			✓	✓		✓		✓					
Individual — Unique	—	204715																																	
Individual — Unique	—	204725			✓			✓					✓				✓					✓			✓	✓		✓		✓					
Individual — Unique	—	204727						✓					✓																						
Individual — Unique	—	204729											✓				✓									✓									
Individual — Unique	—	204731			✓																														
Individual — Unique	—	204733																																	
Individual — Unique	—	204747																																	
Individual — Unique	—	204751											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	204757			✓																														
Individual — Unique	—	204759			✓																														
Individual — Unique	—	204765																							✓										
Individual — Unique	—	204767																																	
Individual — Unique	—	204769											✓	✓			✓									✓									
Individual — Unique	—	204773											✓															✓							
Individual — Unique	—	204775																																	
Individual — Unique	—	204777			✓		✓		✓				✓	✓		✓			✓							✓				✓					✓
Individual — Unique	—	204779											✓													✓									
Individual — Unique	—	204781			✓								✓			✓	✓					✓			✓	✓		✓							
Individual — Unique	—	204783			✓																														
Individual — Unique	—	204807																																	
Individual — Unique	—	204809			✓			✓	✓			✓	✓				✓		✓	✓		✓			✓	✓		✓	✓	✓					
Individual — Unique	—	204811			✓								✓													✓									

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	204815			✓							✓														✓								
Individual — Unique	—	204817											✓																					
Individual — Unique	—	204819											✓	✓												✓								
Individual — Unique	—	204821						✓					✓			✓			✓	✓										✓				
Individual — Unique	—	204823															✓																	
Individual — Unique	—	204825															✓										✓							
Individual — Unique	—	204827			✓								✓			✓						✓								✓				
Individual — Unique	—	204836																																
Individual — Unique	—	204838											✓																					
Individual — Unique	—	204840			✓								✓				✓									✓								
Individual — Unique	—	204842			✓	✓		✓		✓			✓				✓		✓	✓		✓			✓	✓		✓	✓	✓				
Individual — Unique	—	204844											✓			✓										✓								
Individual — Unique	—	204846			✓			✓					✓	✓					✓							✓		✓						
Individual — Unique	—	204848						✓	✓				✓			✓	✓	✓	✓			✓			✓	✓	✓							
Individual — Unique	—	204859									✓		✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	204880						✓	✓				✓												✓	✓	✓			✓				
Individual — Unique	—	204886			✓																							✓	✓					
Individual — Unique	—	204888			✓																					✓								
Individual — Unique	—	204890			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	204897															✓					✓												
Individual — Unique	—	204899											✓																					
Individual — Unique	—	204917											✓						✓															
Individual — Unique	—	204939			✓																													
Individual — Unique	—	204941			✓								✓									✓				✓								
Individual — Unique	—	204956																																
Individual — Unique	—	204959											✓				✓					✓												
Individual — Unique	—	204961			✓	✓			✓				✓				✓											✓						
Individual — Unique	—	204963											✓																					
Individual — Unique	—	204965																																
Individual — Unique	—	204967											✓	✓			✓	✓	✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	204973			✓								✓				✓									✓		✓						
Individual — Unique	—	204977											✓																					
Individual — Unique	—	204979																								✓	✓		✓				✓	
Individual — Unique	—	204998			✓																							✓						
Individual — Unique	—	205001				✓							✓			✓						✓			✓		✓	✓		✓				
Individual — Unique	—	205006																																
Individual — Unique	—	205012											✓														✓							
Individual — Unique	—	205016											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205018												✓		✓	✓					✓			✓			✓						
Individual — Unique	—	205026									✓															✓		✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	205028											✓	✓		✓	✓	✓				✓				✓	✓	✓		✓				
Individual — Unique	—	205030																																
Individual — Unique	—	205032																																
Individual — Unique	—	205034			✓																													
Individual — Unique	—	205038																																
Individual — Unique	—	205042			✓			✓					✓	✓				✓	✓						✓	✓		✓			✓			
Individual — Unique	—	205053						✓					✓													✓								
Individual — Unique	—	205055																				✓												
Individual — Unique	—	205061			✓					✓			✓			✓				✓					✓	✓		✓	✓	✓				
Individual — Unique	—	205065			✓												✓											✓						
Individual — Unique	—	205067															✓																	
Individual — Unique	—	205069																																
Individual — Unique	—	205071														✓																		
Individual — Unique	—	205075						✓					✓												✓			✓		✓				
Individual — Unique	—	205077											✓				✓								✓			✓						
Individual — Unique	—	205081																																
Individual — Unique	—	205083																																
Individual — Unique	—	205087								✓							✓					✓								✓				
Individual — Unique	—	205091															✓					✓												
Individual — Unique	—	205093											✓																					
Individual — Unique	—	205113			✓			✓																										
Individual — Unique	—	205115											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205119																																
Individual — Unique	—	205127			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205129											✓				✓										✓	✓		✓				
Individual — Unique	—	205133			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205137			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205139			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205141			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205143			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205145			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205147			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205149			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205151			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205153			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	205155			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205159			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205161			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205163																																
Individual — Unique	—	205165			✓								✓				✓					✓			✓	✓		✓	✓	✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	205169			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205171																																
Individual — Unique	—	205173			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205175						✓	✓				✓	✓		✓	✓	✓	✓	✓		✓			✓	✓	✓		✓	✓				
Individual — Unique	—	205177			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205179			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205181			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205183			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205185			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205187			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205191			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205195											✓				✓										✓	✓		✓				
Individual — Unique	—	205199			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205201			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205203			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205205			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205207			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205211			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205213			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205215			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205217			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205219			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205221			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205223			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205225											✓				✓					✓				✓	✓							
Individual — Unique	—	205227											✓			✓	✓		✓									✓						
Individual — Unique	—	205229			✓											✓	✓			✓		✓					✓	✓						
Individual — Unique	—	205231																										✓						
Individual — Unique	—	205233			✓																													
Individual — Unique	—	205235											✓				✓					✓				✓	✓							
Individual — Unique	—	205238			✓			✓					✓									✓				✓								
Individual — Unique	—	205240			✓												✓		✓									✓						
Individual — Unique	—	205242																																
Individual — Unique	—	205244																										✓	✓					
Individual — Unique	—	205248											✓				✓		✓			✓												
Individual — Unique	—	205250			✓																					✓		✓						
Individual — Unique	—	205252																																
Individual — Unique	—	205254			✓														✓							✓								
Individual — Unique	—	205256											✓			✓																		
Individual — Unique	—	205258																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	205260											✓																					
Individual — Unique	—	205264			✓																													
Individual — Unique	—	205268			✓																	✓												
Individual — Unique	—	205270											✓				✓					✓						✓						
Individual — Unique	—	205272																																
Individual — Unique	—	205279			✓				✓				✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205290																																
Individual — Unique	—	205310			✓								✓			✓				✓								✓						
Individual — Unique	—	205312											✓	✓					✓			✓												
Individual — Unique	—	205318											✓				✓																	
Individual — Unique	—	205320											✓				✓									✓	✓							
Individual — Unique	—	205322																										✓	✓					
Individual — Unique	—	205330											✓																					
Individual — Unique	—	205334														✓																		
Individual — Unique	—	205338			✓			✓					✓				✓																	
Individual — Unique	—	205341											✓				✓											✓						✓
Individual — Unique	—	205355											✓													✓								
Individual — Unique	—	205361															✓		✓															
Individual — Unique	—	205363															✓		✓															
Individual — Unique	—	205365															✓		✓															
Individual — Unique	—	205367											✓			✓	✓					✓			✓	✓	✓	✓						
Individual — Unique	—	205369			✓								✓	✓			✓		✓															
Individual — Unique	—	205373																																
Individual — Unique	—	205375																																
Individual — Unique	—	205377																																
Individual — Unique	—	205379																																
Individual — Unique	—	205381																																
Individual — Unique	—	205383																																
Individual — Unique	—	205387											✓																					
Individual — Unique	—	205389																																
Individual — Unique	—	205396																																
Individual — Unique	—	205398											✓																					
Individual — Unique	—	205400											✓																					
Individual — Unique	—	205402			✓								✓				✓																	
Individual — Unique	—	205404											✓																					
Individual — Unique	—	205406																																
Individual — Unique	—	205410			✓								✓	✓																				
Individual — Unique	—	205412																																
Individual — Unique	—	205414														✓	✓																	
Individual — Unique	—	205416																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	205420																																
Individual — Unique	—	205422											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	205424																																
Individual — Unique	—	205426			✓																					✓								
Individual — Unique	—	205428											✓			✓	✓					✓			✓	✓	✓			✓				
Individual — Unique	—	205430			✓												✓					✓				✓								
Individual — Unique	—	205432											✓																					
Individual — Unique	—	205436											✓																	✓				
Individual — Unique	—	205438											✓				✓									✓	✓							
Individual — Unique	—	205440																																
Individual — Unique	—	205442																																
Individual — Unique	—	205446			✓																													
Individual — Unique	—	205448																										✓						
Individual — Unique	—	205450											✓																	✓				
Individual — Unique	—	205455											✓	✓			✓																	
Individual — Unique	—	205458			✓																													
Individual — Unique	—	205460																																
Individual — Unique	—	205464																																
Individual — Unique	—	205466																																
Individual — Unique	—	205468											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205473																																
Individual — Unique	—	205478																																
Individual — Unique	—	205480																																
Individual — Unique	—	205482																																
Individual — Unique	—	205484											✓				✓																	
Individual — Unique	—	205488			✓								✓																					
Individual — Unique	—	205490											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205493						✓					✓			✓	✓									✓								
Individual — Unique	—	205495			✓								✓																					
Individual — Unique	—	205502								✓																								
Individual — Unique	—	205507																																
Individual — Unique	—	205511											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205517						✓					✓			✓	✓					✓				✓		✓		✓				
Individual — Unique	—	205522						✓					✓				✓									✓								
Individual — Unique	—	205528											✓				✓					✓				✓				✓				
Individual — Unique	—	205530											✓				✓																	
Individual — Unique	—	205534																																
Individual — Unique	—	205538			✓			✓	✓				✓	✓			✓	✓	✓				✓				✓	✓		✓				
Individual — Unique	—	205544											✓																					
Individual — Unique	—	205550			✓											✓										✓								

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	205552			✓												✓											✓	✓						
Individual — Unique	—	205554																																	
Individual — Unique	—	205556																				✓													
Individual — Unique	—	205558			✓																														
Individual — Unique	—	205560																																	
Individual — Unique	—	205562															✓											✓							
Individual — Unique	—	205564			✓																														
Individual — Unique	—	205566											✓																						
Individual — Unique	—	205568			✓											✓												✓							
Individual — Unique	—	205570			✓								✓				✓									✓		✓	✓	✓					
Individual — Unique	—	205572			✓												✓		✓																
Individual — Unique	—	205574			✓								✓				✓		✓			✓			✓	✓		✓		✓					
Individual — Unique	—	205576																																	
Individual — Unique	—	205578											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	205582			✓														✓																
Individual — Unique	—	205586			✓								✓						✓																
Individual — Unique	—	205588																																	
Individual — Unique	—	205590			✓																	✓												
Individual — Unique	—	205592			✓																														
Individual — Unique	—	205594														✓			✓											✓					
Individual — Unique	—	205596											✓			✓	✓					✓				✓		✓							
Individual — Unique	—	205598						✓																			✓	✓	✓						
Individual — Unique	—	205600						✓														✓													
Individual — Unique	—	205602						✓																				✓	✓						
Individual — Unique	—	205604															✓		✓																
Individual — Unique	—	205606			✓								✓													✓									
Individual — Unique	—	205608			✓																														
Individual — Unique	—	205610			✓												✓										✓								
Individual — Unique	—	205612			✓								✓						✓									✓							
Individual — Unique	—	205614																																	
Individual — Unique	—	205616											✓				✓																		
Individual — Unique	—	205618			✓	✓		✓		✓			✓	✓		✓						✓						✓	✓	✓					
Individual — Unique	—	205620											✓			✓	✓		✓			✓			✓	✓	✓	✓		✓					
Individual — Unique	—	205624																																	
Individual — Unique	—	205626			✓								✓				✓					✓				✓		✓							
Individual — Unique	—	205628						✓									✓										✓								
Individual — Unique	—	205630						✓																				✓	✓						
Individual — Unique	—	205632			✓								✓				✓																		
Individual — Unique	—	205634											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	205636											✓			✓									✓		✓	✓		✓					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	205638			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	205640																								✓								
Individual — Unique	—	205642											✓	✓		✓	✓									✓				✓				
Individual — Unique	—	205644			✓																													
Individual — Unique	—	205646															✓																	
Individual — Unique	—	205648			✓			✓					✓			✓	✓		✓						✓	✓		✓		✓				
Individual — Unique	—	205650			✓																													
Individual — Unique	—	205652											✓				✓																	
Individual — Unique	—	205654			✓																													
Individual — Unique	—	205656														✓																		
Individual — Unique	—	205658			✓																													
Individual — Unique	—	205660			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	205662															✓																	
Individual — Unique	—	205664											✓				✓									✓								
Individual — Unique	—	205666											✓			✓																		
Individual — Unique	—	205669																																
Individual — Unique	—	205671																								✓								
Individual — Unique	—	205673			✓								✓				✓											✓		✓				
Individual — Unique	—	205675																																
Individual — Unique	—	205677																																
Individual — Unique	—	205679			✓								✓																					
Individual — Unique	—	205681			✓																													
Individual — Unique	—	205683																				✓												
Individual — Unique	—	205685			✓								✓				✓		✓			✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205687																	✓															
Individual — Unique	—	205689																																
Individual — Unique	—	205691																																
Individual — Unique	—	205693			✓																													
Individual — Unique	—	205697																				✓												
Individual — Unique	—	205699			✓								✓				✓					✓				✓								
Individual — Unique	—	205701																																
Individual — Unique	—	205703											✓			✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205705			✓				✓				✓				✓		✓						✓	✓		✓		✓				
Individual — Unique	—	205707											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205709											✓																					
Individual — Unique	—	205711			✓																													
Individual — Unique	—	205713						✓																										
Individual — Unique	—	205715																	✓															
Individual — Unique	—	205717											✓			✓										✓								
Individual — Unique	—	205719																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	205721																																
Individual — Unique	—	205723			✓			✓									✓					✓												
Individual — Unique	—	205725						✓	✓				✓			✓						✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205727																																
Individual — Unique	—	205729																																
Individual — Unique	—	205731																				✓												
Individual — Unique	—	205733																																
Individual — Unique	—	205735											✓	✓		✓														✓				
Individual — Unique	—	205737																																
Individual — Unique	—	205741			✓																													
Individual — Unique	—	205743											✓	✓		✓	✓								✓	✓	✓			✓				
Individual — Unique	—	205745																																
Individual — Unique	—	205747			✓								✓	✓																✓				
Individual — Unique	—	205749			✓																													
Individual — Unique	—	205751																																
Individual — Unique	—	205753															✓					✓												
Individual — Unique	—	205757			✓								✓																					
Individual — Unique	—	205759																																
Individual — Unique	—	205761																																
Individual — Unique	—	205763			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	205765															✓																	
Individual — Unique	—	205767											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205777						✓		✓			✓			✓	✓					✓				✓		✓		✓				
Individual — Unique	—	205781			✓																													
Individual — Unique	—	205783																																
Individual — Unique	—	205791											✓			✓						✓								✓				
Individual — Unique	—	205795																																
Individual — Unique	—	205797			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	205804																																
Individual — Unique	—	205806			✓								✓				✓					✓			✓	✓				✓				
Individual — Unique	—	205810											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205812			✓																					✓		✓	✓					
Individual — Unique	—	205821																																
Individual — Unique	—	205824																																
Individual — Unique	—	205829																																
Individual — Unique	—	205832			✓			✓	✓				✓			✓			✓	✓						✓		✓		✓				
Individual — Unique	—	205835						✓					✓			✓										✓				✓				
Individual — Unique	—	205842			✓																					✓								
Individual — Unique	—	205844																				✓												
Individual — Unique	—	205846											✓			✓	✓					✓			✓	✓	✓	✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	205848						✓					✓				✓					✓						✓							
Individual — Unique	—	205854											✓				✓					✓			✓	✓	✓								
Individual — Unique	—	205861			✓			✓					✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓					
Individual — Unique	—	205865															✓					✓				✓	✓	✓		✓					
Individual — Unique	—	205869			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205871			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205873			✓								✓				✓		✓			✓			✓	✓		✓		✓					
Individual — Unique	—	205875			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205877			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205879			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205881			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205883			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205885			✓																														
Individual — Unique	—	205887			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205889			✓								✓				✓		✓			✓			✓	✓		✓		✓					
Individual — Unique	—	205893			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205895			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205897			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205899											✓						✓							✓									
Individual — Unique	—	205901			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205903			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205905			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205907			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205909			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205911			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205913											✓				✓										✓	✓		✓					
Individual — Unique	—	205915			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205918			✓								✓				✓		✓			✓			✓	✓		✓		✓					
Individual — Unique	—	205920			✓								✓				✓		✓			✓			✓	✓		✓		✓					
Individual — Unique	—	205922											✓				✓										✓			✓					
Individual — Unique	—	205924			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205926			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205928			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205930			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205932			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205934			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205936			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205938											✓																						
Individual — Unique	—	205940			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	205942			✓								✓				✓					✓			✓	✓		✓	✓	✓					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	205944			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205946				✓		✓					✓	✓		✓	✓		✓							✓		✓							
Individual — Unique	—	205948			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205950			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205952			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205954			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205956			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205958			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205960			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205962			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205964			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205966											✓				✓										✓	✓		✓				
Individual — Unique	—	205968			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205970			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205972											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205974			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205976											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205978			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205980			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205984			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205986			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205988			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205990			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	205992											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	205994						✓					✓																					
Individual — Unique	—	205996			✓		✓						✓				✓		✓	✓					✓	✓		✓		✓				✓
Individual — Unique	—	205998											✓	✓																				
Individual — Unique	—	206000											✓																					
Individual — Unique	—	206002																																
Individual — Unique	—	206004											✓	✓			✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206006																																
Individual — Unique	—	206008											✓																					
Individual — Unique	—	206010																																
Individual — Unique	—	206012											✓	✓			✓													✓				
Individual — Unique	—	206014																																
Individual — Unique	—	206016							✓				✓	✓					✓															
Individual — Unique	—	206018																																
Individual — Unique	—	206020															✓									✓		✓						
Individual — Unique	—	206022																																
Individual — Unique	—	206024			✓								✓				✓					✓			✓	✓		✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	206026																																
Individual — Unique	—	206028											✓																					
Individual — Unique	—	206030											✓	✓			✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206032											✓			✓						✓												
Individual — Unique	—	206034											✓			✓																		
Individual — Unique	—	206036			✓												✓					✓				✓		✓		✓				
Individual — Unique	—	206038											✓																					
Individual — Unique	—	206040											✓																					
Individual — Unique	—	206042								✓			✓				✓					✓								✓				
Individual — Unique	—	206044											✓																					
Individual — Unique	—	206046															✓									✓								
Individual — Unique	—	206048						✓									✓																	
Individual — Unique	—	206050											✓				✓											✓						
Individual — Unique	—	206052											✓				✓									✓								
Individual — Unique	—	206054			✓								✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206056											✓				✓																	
Individual — Unique	—	206058											✓																					
Individual — Unique	—	206060											✓			✓	✓									✓		✓						
Individual — Unique	—	206062																																
Individual — Unique	—	206064											✓					✓																
Individual — Unique	—	206066																																
Individual — Unique	—	206068															✓																	
Individual — Unique	—	206070								✓																								
Individual — Unique	—	206072																																
Individual — Unique	—	206074																																
Individual — Unique	—	206076			✓					✓			✓			✓	✓									✓	✓	✓						
Individual — Unique	—	206078																																
Individual — Unique	—	206080																																
Individual — Unique	—	206082											✓				✓					✓												
Individual — Unique	—	206084																																
Individual — Unique	—	206086								✓			✓																					
Individual — Unique	—	206088															✓																	
Individual — Unique	—	206090																																
Individual — Unique	—	206092											✓														✓							
Individual — Unique	—	206094																																
Individual — Unique	—	206096											✓																					
Individual — Unique	—	206098																																
Individual — Unique	—	206102			✓												✓					✓												
Individual — Unique	—	206104												✓		✓	✓					✓					✓			✓				
Individual — Unique	—	206106			✓																													

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	206108																																
Individual — Unique	—	206112															✓																	
Individual — Unique	—	206114			✓																													
Individual — Unique	—	206116			✓											✓	✓										✓		✓					
Individual — Unique	—	206118											✓																					
Individual — Unique	—	206120			✓																					✓								
Individual — Unique	—	206122			✓								✓																					
Individual — Unique	—	206124											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206126			✓																													
Individual — Unique	—	206128																																
Individual — Unique	—	206130											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206132			✓																													
Individual — Unique	—	206134											✓																					
Individual — Unique	—	206136											✓	✓			✓									✓								
Individual — Unique	—	206138											✓													✓								
Individual — Unique	—	206140																																
Individual — Unique	—	206142											✓				✓																	
Individual — Unique	—	206144											✓	✓			✓																	
Individual — Unique	—	206146																																
Individual — Unique	—	206148											✓																					
Individual — Unique	—	206150																																
Individual — Unique	—	206152											✓	✓																				
Individual — Unique	—	206154																																
Individual — Unique	—	206156															✓																	
Individual — Unique	—	206158											✓									✓												
Individual — Unique	—	206160																																
Individual — Unique	—	206162			✓								✓				✓									✓								
Individual — Unique	—	206164											✓			✓																		
Individual — Unique	—	206166			✓												✓																	
Individual — Unique	—	206168											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206170											✓	✓		✓	✓								✓	✓	✓	✓		✓				
Individual — Unique	—	206172																																
Individual — Unique	—	206174														✓						✓												
Individual — Unique	—	206176											✓																					
Individual — Unique	—	206178																																
Individual — Unique	—	206180											✓				✓																	
Individual — Unique	—	206182											✓				✓																	
Individual — Unique	—	206184																																
Individual — Unique	—	206186											✓																					
Individual — Unique	—	206188											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	206190											✓				✓					✓					✓							
Individual — Unique	—	206192											✓																✓					
Individual — Unique	—	206194																																
Individual — Unique	—	206196											✓	✓		✓						✓				✓				✓				
Individual — Unique	—	206198			✓																													
Individual — Unique	—	206200											✓																					
Individual — Unique	—	206202											✓																					
Individual — Unique	—	206204																																
Individual — Unique	—	206206											✓																					
Individual — Unique	—	206208											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206210											✓																					
Individual — Unique	—	206212																																
Individual — Unique	—	206214																																
Individual — Unique	—	206216			✓								✓	✓								✓												
Individual — Unique	—	206218																																
Individual — Unique	—	206220											✓																					
Individual — Unique	—	206222																																
Individual — Unique	—	206224											✓									✓												
Individual — Unique	—	206226																																
Individual — Unique	—	206230			✓																													
Individual — Unique	—	206234											✓																	✓				
Individual — Unique	—	206236											✓																					
Individual — Unique	—	206238			✓			✓					✓			✓	✓									✓	✓			✓				
Individual — Unique	—	206240											✓	✓		✓						✓				✓								
Individual — Unique	—	206242			✓												✓								✓									
Individual — Unique	—	206244															✓					✓						✓						
Individual — Unique	—	206246			✓																													
Individual — Unique	—	206248															✓									✓								
Individual — Unique	—	206250			✓											✓	✓								✓	✓		✓						
Individual — Unique	—	206252																																
Individual — Unique	—	206254											✓			✓	✓					✓				✓		✓						
Individual — Unique	—	206258											✓																					
Individual — Unique	—	206260																																
Individual — Unique	—	206262			✓																													
Individual — Unique	—	206264														✓																		
Individual — Unique	—	206266																																
Individual — Unique	—	206268														✓																		
Individual — Unique	—	206270											✓																					
Individual — Unique	—	206272																																
Individual — Unique	—	206274															✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	206276														✓																		
Individual — Unique	—	206278											✓	✓		✓													✓					
Individual — Unique	—	206280																								✓								
Individual — Unique	—	206282											✓			✓	✓									✓		✓		✓				
Individual — Unique	—	206284			✓								✓	✓		✓										✓			✓	✓				
Individual — Unique	—	206286																																
Individual — Unique	—	206288											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206290																																
Individual — Unique	—	206294			✓																													
Individual — Unique	—	206296											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206298											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206300											✓																					
Individual — Unique	—	206302			✓			✓					✓				✓								✓	✓	✓	✓						
Individual — Unique	—	206304						✓					✓				✓									✓		✓						
Individual — Unique	—	206306						✓					✓																					
Individual — Unique	—	206308																				✓												
Individual — Unique	—	206310																																
Individual — Unique	—	206312																																
Individual — Unique	—	206314			✓												✓																	
Individual — Unique	—	206316											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206320			✓								✓				✓									✓								
Individual — Unique	—	206322											✓			✓	✓					✓				✓		✓						
Individual — Unique	—	206324																																
Individual — Unique	—	206326											✓																					
Individual — Unique	—	206328											✓				✓																	
Individual — Unique	—	206330															✓																	
Individual — Unique	—	206332																				✓												
Individual — Unique	—	206334											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206336											✓				✓											✓						
Individual — Unique	—	206338																																
Individual — Unique	—	206340			✓								✓				✓																	
Individual — Unique	—	206344																																
Individual — Unique	—	206346											✓				✓													✓				
Individual — Unique	—	206348															✓																	
Individual — Unique	—	206350			✓																													
Individual — Unique	—	206352															✓																	
Individual — Unique	—	206354			✓																													
Individual — Unique	—	206356																																
Individual — Unique	—	206358			✓			✓											✓															
Individual — Unique	—	206360											✓			✓	✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	206362										✓																						
Individual — Unique	—	206364			✓								✓																						
Individual — Unique	—	206366															✓																		
Individual — Unique	—	206368																																	
Individual — Unique	—	206370																																	
Individual — Unique	—	206374			✓																														
Individual — Unique	—	206376											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	206378											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	206380																																	
Individual — Unique	—	206384											✓				✓																		
Individual — Unique	—	206386			✓								✓				✓					✓			✓	✓				✓					
Individual — Unique	—	206388																				✓													
Individual — Unique	—	206390															✓									✓									
Individual — Unique	—	206392											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	206396															✓																		
Individual — Unique	—	206398																																	
Individual — Unique	—	206400											✓			✓	✓								✓	✓	✓								
Individual — Unique	—	206402											✓																						
Individual — Unique	—	206404			✓																														
Individual — Unique	—	206406											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	206409															✓																		
Individual — Unique	—	206411																																	
Individual — Unique	—	206413																																	
Individual — Unique	—	206415											✓																						
Individual — Unique	—	206417			✓			✓									✓																		
Individual — Unique	—	206419			✓											✓	✓									✓		✓							
Individual — Unique	—	206422			✓			✓	✓				✓	✓			✓											✓							
Individual — Unique	—	206424											✓	✓			✓											✓							
Individual — Unique	—	206426											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	206428			✓								✓																						
Individual — Unique	—	206430																				✓				✓									
Individual — Unique	—	206434			✓																														
Individual — Unique	—	206438											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	206440											✓																						
Individual — Unique	—	206442											✓				✓			✓					✓		✓			✓					
Individual — Unique	—	206444																								✓									
Individual — Unique	—	206446				✓		✓				✓																	✓						
Individual — Unique	—	206448											✓				✓											✓							
Individual — Unique	—	206450																																	
Individual — Unique	—	206452			✓																								✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	206454											✓				✓																	
Individual — Unique	—	206456											✓			✓	✓					✓								✓				
Individual — Unique	—	206458											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206460											✓			✓																		
Individual — Unique	—	206462																								✓								
Individual — Unique	—	206464			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	206466														✓	✓								✓									
Individual — Unique	—	206470				✓		✓	✓				✓			✓	✓		✓	✓		✓			✓		✓	✓		✓				
Individual — Unique	—	206472											✓				✓																	
Individual — Unique	—	206474											✓																					
Individual — Unique	—	206476																																
Individual — Unique	—	206478											✓				✓									✓								
Individual — Unique	—	206480			✓								✓									✓				✓				✓				
Individual — Unique	—	206482																												✓				
Individual — Unique	—	206484																										✓						
Individual — Unique	—	206486											✓	✓								✓			✓	✓	✓			✓				
Individual — Unique	—	206489			✓								✓													✓								
Individual — Unique	—	206491											✓	✓			✓									✓								
Individual — Unique	—	206493											✓													✓								
Individual — Unique	—	206495			✓															✓								✓						
Individual — Unique	—	206509																																
Individual — Unique	—	206512																																
Individual — Unique	—	206516																																
Individual — Unique	—	206518																																
Individual — Unique	—	206520											✓													✓								
Individual — Unique	—	206522																																
Individual — Unique	—	206526											✓						✓															
Individual — Unique	—	206528																																
Individual — Unique	—	206530																																
Individual — Unique	—	206532											✓			✓	✓			✓		✓				✓	✓			✓				
Individual — Unique	—	206534											✓			✓	✓			✓					✓	✓	✓	✓		✓				
Individual — Unique	—	206536			✓																													
Individual — Unique	—	206538											✓																					
Individual — Unique	—	206540																																
Individual — Unique	—	206557			✓																													
Individual — Unique	—	206566			✓				✓								✓																	
Individual — Unique	—	206568															✓		✓															
Individual — Unique	—	206570			✓			✓																										
Individual — Unique	—	206574						✓	✓								✓			✓		✓								✓				
Individual — Unique	—	206580																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	206582						✓																										
Individual — Unique	—	206584																							✓									
Individual — Unique	—	206586																																
Individual — Unique	—	206590			✓																													
Individual — Unique	—	206592			✓								✓				✓																	
Individual — Unique	—	206594																				✓			✓									
Individual — Unique	—	206596			✓				✓				✓			✓	✓		✓							✓				✓				
Individual — Unique	—	206598											✓																					
Individual — Unique	—	206600			✓																													
Individual — Unique	—	206602											✓																					
Individual — Unique	—	206604			✓								✓			✓	✓																	
Individual — Unique	—	206608			✓																													
Individual — Unique	—	206610			✓																													
Individual — Unique	—	206612			✓												✓											✓						
Individual — Unique	—	206614																				✓												
Individual — Unique	—	206616			✓			✓									✓		✓	✓					✓									
Individual — Unique	—	206618			✓								✓			✓																		
Individual — Unique	—	206620			✓								✓			✓	✓		✓															
Individual — Unique	—	206622																							✓									
Individual — Unique	—	206624																																
Individual — Unique	—	206626						✓					✓																					
Individual — Unique	—	206628						✓																										
Individual — Unique	—	206630											✓			✓	✓								✓									
Individual — Unique	—	206632			✓																													
Individual — Unique	—	206634			✓								✓	✓		✓	✓			✓														
Individual — Unique	—	206636			✓																				✓									
Individual — Unique	—	206640			✓																				✓	✓								
Individual — Unique	—	206642			✓						✓		✓	✓			✓		✓			✓				✓	✓							
Individual — Unique	—	206644											✓				✓			✓														
Individual — Unique	—	206646																																
Individual — Unique	—	206648																																✓
Individual — Unique	—	206650											✓																					
Individual — Unique	—	206652											✓																					
Individual — Unique	—	206654																																
Individual — Unique	—	206656											✓																					
Individual — Unique	—	206659			✓								✓																					
Individual — Unique	—	206668											✓																					
Individual — Unique	—	206670						✓					✓	✓		✓	✓		✓			✓			✓	✓	✓	✓			✓			
Individual — Unique	—	206674			✓				✓				✓				✓					✓				✓		✓		✓				
Individual — Unique	—	206676																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	206678											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206680																																
Individual — Unique	—	206689											✓			✓												✓						
Individual — Unique	—	206691											✓																					
Individual — Unique	—	206693																																
Individual — Unique	—	206697																																
Individual — Unique	—	206699																																
Individual — Unique	—	206701																				✓												
Individual — Unique	—	206703																																
Individual — Unique	—	206712											✓				✓								✓									
Individual — Unique	—	206716			✓			✓									✓					✓				✓			✓			✓		✓
Individual — Unique	—	206718											✓					✓																
Individual — Unique	—	206724																																
Individual — Unique	—	206728											✓				✓																	
Individual — Unique	—	206738			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	206743											✓	✓		✓																		
Individual — Unique	—	206752		✓	✓				✓		✓																							
Individual — Unique	—	206777																																
Individual — Unique	—	206780			✓								✓									✓			✓	✓		✓		✓				
Individual — Unique	—	206789											✓																					
Individual — Unique	—	206832							✓								✓									✓		✓		✓				
Individual — Unique	—	206844																																
Individual — Unique	—	206851											✓				✓					✓				✓								
Individual — Unique	—	206860											✓																					
Individual — Unique	—	206862																																
Individual — Unique	—	206864																																
Individual — Unique	—	206874																																
Individual — Unique	—	206880			✓								✓			✓						✓				✓		✓		✓				
Individual — Unique	—	206897																																
Individual — Unique	—	206899																																
Individual — Unique	—	206901			✓								✓				✓									✓				✓				
Individual — Unique	—	206903						✓	✓				✓				✓					✓			✓	✓								
Individual — Unique	—	206905			✓								✓				✓									✓				✓				
Individual — Unique	—	206907			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	206909											✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	206911			✓								✓									✓												
Individual — Unique	—	206913			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	206915											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206917			✓			✓																					✓			✓		
Individual — Unique	—	206925			✓																													

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	206929											✓			✓	✓													✓				
Individual — Unique	—	206931			✓			✓	✓		✓	✓	✓	✓		✓	✓		✓	✓		✓			✓	✓	✓	✓	✓	✓				
Individual — Unique	—	206935						✓					✓																					
Individual — Unique	—	206937				✓																												
Individual — Unique	—	206939			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	206941			✓																													
Individual — Unique	—	206943			✓	✓																												
Individual — Unique	—	206945																																
Individual — Unique	—	206947											✓	✓			✓																	
Individual — Unique	—	206951											✓				✓																	
Individual — Unique	—	206953																																
Individual — Unique	—	206955															✓																	
Individual — Unique	—	206959											✓																					
Individual — Unique	—	206963			✓			✓									✓											✓						
Individual — Unique	—	206965			✓				✓				✓															✓		✓				
Individual — Unique	—	206967			✓																													
Individual — Unique	—	206969											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206971											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206973																									✓							
Individual — Unique	—	206975																																
Individual — Unique	—	206977											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	206979																																
Individual — Unique	—	206981											✓																					
Individual — Unique	—	206983											✓													✓								
Individual — Unique	—	206985															✓					✓			✓	✓								✓
Individual — Unique	—	206987											✓	✓			✓																	
Individual — Unique	—	206996											✓																					
Individual — Unique	—	206998																																
Individual — Unique	—	207000			✓								✓			✓	✓					✓			✓	✓		✓		✓				
Individual — Unique	—	207002			✓								✓						✓						✓	✓			✓	✓				
Individual — Unique	—	207004			✓																													
Individual — Unique	—	207008															✓													✓				
Individual — Unique	—	207012			✓	✓			✓			✓	✓				✓		✓	✓		✓			✓	✓		✓		✓				
Individual — Unique	—	207014			✓	✓			✓			✓	✓				✓		✓	✓		✓			✓	✓		✓		✓				
Individual — Unique	—	207024			✓	✓			✓			✓	✓				✓		✓	✓		✓			✓	✓		✓		✓				
Individual — Unique	—	207026			✓												✓																	
Individual — Unique	—	207028															✓		✓									✓	✓						
Individual — Unique	—	207030											✓				✓		✓									✓	✓						
Individual — Unique	—	207036			✓	✓			✓			✓	✓				✓		✓	✓		✓			✓	✓		✓		✓				
Individual — Unique	—	207038			✓	✓			✓			✓	✓				✓		✓	✓		✓			✓	✓		✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	207040			✓	✓			✓			✓	✓				✓		✓	✓		✓			✓	✓		✓		✓				
Individual — Unique	—	207043											✓				✓					✓								✓				
Individual — Unique	—	207047												✓				✓		✓														
Individual — Unique	—	207049											✓																	✓				
Individual — Unique	—	207051															✓																	
Individual — Unique	—	207056														✓	✓									✓	✓	✓		✓				
Individual — Unique	—	207061																																
Individual — Unique	—	207063											✓				✓									✓		✓						
Individual — Unique	—	207065			✓			✓											✓									✓	✓				✓	
Individual — Unique	—	207068			✓																					✓								
Individual — Unique	—	207070				✓		✓								✓			✓	✓					✓			✓	✓					
Individual — Unique	—	207077											✓															✓						
Individual — Unique	—	207082			✓								✓						✓															
Individual — Unique	—	207099			✓								✓													✓								
Individual — Unique	—	207104																																
Individual — Unique	—	207114			✓																	✓						✓						
Individual — Unique	—	207116											✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	207118			✓				✓				✓	✓			✓					✓			✓	✓		✓		✓				
Individual — Unique	—	207123						✓					✓																					
Individual — Unique	—	207125						✓					✓																					
Individual — Unique	—	207127											✓															✓						
Individual — Unique	—	207131				✓		✓					✓				✓			✓					✓		✓	✓						
Individual — Unique	—	207136			✓																													
Individual — Unique	—	207138							✓				✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	207142																																
Individual — Unique	—	207144		✓	✓			✓											✓			✓							✓					
Individual — Unique	—	207146			✓																					✓								
Individual — Unique	—	207148			✓			✓	✓		✓		✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓	✓			
Individual — Unique	—	207150											✓									✓				✓								
Individual — Unique	—	207154															✓																	
Individual — Unique	—	207156			✓																													
Individual — Unique	—	207160											✓				✓																	
Individual — Unique	—	207162			✓			✓	✓				✓						✓											✓				
Individual — Unique	—	207170			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	207174																								✓								
Individual — Unique	—	207180											✓	✓		✓	✓					✓												
Individual — Unique	—	207182											✓	✓		✓	✓					✓								✓				
Individual — Unique	—	207184											✓	✓								✓												
Individual — Unique	—	207192			✓				✓				✓	✓			✓	✓	✓							✓		✓						
Individual — Unique	—	207196											✓				✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	207198			✓				✓				✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	207202																																
Individual — Unique	—	207208					✓	✓	✓				✓	✓		✓		✓								✓								
Individual — Unique	—	207210			✓																													
Individual — Unique	—	207213			✓								✓																					
Individual — Unique	—	207217			✓								✓									✓												
Individual — Unique	—	207219											✓			✓	✓					✓												
Individual — Unique	—	207223											✓	✓		✓	✓					✓			✓	✓		✓		✓				
Individual — Unique	—	207225																																
Individual — Unique	—	207227											✓				✓																	
Individual — Unique	—	207229						✓																										
Individual — Unique	—	207231											✓				✓																	
Individual — Unique	—	207233						✓																				✓						
Individual — Unique	—	207235											✓			✓	✓					✓						✓		✓				
Individual — Unique	—	207239																				✓												
Individual — Unique	—	207241															✓																	
Individual — Unique	—	207243			✓												✓		✓										✓					
Individual — Unique	—	207245			✓								✓				✓																	
Individual — Unique	—	207247			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	207251											✓																					
Individual — Unique	—	207255			✓																													
Individual — Unique	—	207257			✓								✓																					
Individual — Unique	—	207263											✓				✓					✓												
Individual — Unique	—	207267			✓												✓																	
Individual — Unique	—	207269																																
Individual — Unique	—	207271			✓																													
Individual — Unique	—	207275			✓								✓			✓	✓					✓				✓								
Individual — Unique	—	207277			✓				✓				✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	207279											✓				✓																	
Individual — Unique	—	207281											✓			✓														✓				
Individual — Unique	—	207286			✓								✓				✓										✓							
Individual — Unique	—	207290											✓	✓		✓	✓					✓				✓				✓				
Individual — Unique	—	207293			✓								✓																					
Individual — Unique	—	207295			✓								✓																					
Individual — Unique	—	207297											✓																					
Individual — Unique	—	207299			✓				✓				✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	207301			✓								✓				✓					✓				✓		✓		✓				
Individual — Unique	—	207303											✓																					
Individual — Unique	—	207305											✓																					
Individual — Unique	—	207309															✓											✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	207311											✓				✓																	
Individual — Unique	—	207313																																
Individual — Unique	—	207317			✓												✓									✓								
Individual — Unique	—	207319		✓	✓																													
Individual — Unique	—	207321						✓					✓			✓											✓			✓				
Individual — Unique	—	207323																										✓	✓					
Individual — Unique	—	207325			✓																								✓					
Individual — Unique	—	207331																	✓										✓					
Individual — Unique	—	207337				✓		✓	✓		✓		✓	✓	✓	✓	✓	✓	✓					✓		✓		✓				✓		
Individual — Unique	—	207340			✓			✓																										
Individual — Unique	—	207342											✓			✓																		
Individual — Unique	—	207344											✓				✓											✓						
Individual — Unique	—	207346			✓								✓	✓			✓					✓			✓	✓	✓		✓					
Individual — Unique	—	207352			✓																													
Individual — Unique	—	207354											✓				✓																	
Individual — Unique	—	207358			✓								✓				✓			✓					✓	✓								
Individual — Unique	—	207362			✓								✓				✓					✓			✓	✓	✓	✓						
Individual — Unique	—	207372											✓	✓			✓																	
Individual — Unique	—	207378																																
Individual — Unique	—	207380											✓	✓			✓																	
Individual — Unique	—	207382											✓	✓		✓	✓					✓								✓				
Individual — Unique	—	207386			✓																													
Individual — Unique	—	207388											✓	✓			✓			✓						✓								
Individual — Unique	—	207395											✓			✓	✓																	
Individual — Unique	—	207400			✓	✓						✓				✓			✓										✓					
Individual — Unique	—	207404																										✓						
Individual — Unique	—	207410				✓		✓	✓				✓			✓	✓										✓			✓				✓
Individual — Unique	—	207412											✓													✓								
Individual — Unique	—	207418			✓												✓																	
Individual — Unique	—	207424			✓	✓		✓					✓				✓			✓		✓			✓	✓	✓	✓		✓				
Individual — Unique	—	207439			✓												✓					✓			✓	✓		✓		✓				
Individual — Unique	—	207441											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	207443				✓						✓	✓									✓			✓	✓		✓	✓					
Individual — Unique	—	207445			✓																					✓								
Individual — Unique	—	207449															✓																	
Individual — Unique	—	207461											✓						✓							✓		✓						
Individual — Unique	—	207471																																
Individual — Unique	—	207475																											✓					
Individual — Unique	—	207479			✓			✓					✓	✓																				
Individual — Unique	—	207491			✓								✓				✓					✓			✓	✓		✓	✓	✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	207493											✓				✓																	
Individual — Unique	—	207497			✓			✓	✓				✓	✓			✓								✓			✓						
Individual — Unique	—	207499																	✓															
Individual — Unique	—	207501											✓	✓		✓	✓					✓												
Individual — Unique	—	207503			✓			✓	✓		✓		✓			✓			✓											✓				
Individual — Unique	—	207505																																
Individual — Unique	—	207507											✓													✓								
Individual — Unique	—	207509						✓					✓																					
Individual — Unique	—	207511											✓														✓		✓					
Individual — Unique	—	207515			✓																													
Individual — Unique	—	207517			✓			✓					✓																					
Individual — Unique	—	207519																																
Individual — Unique	—	207521																																
Individual — Unique	—	207523											✓			✓	✓																	
Individual — Unique	—	207525																																
Individual — Unique	—	207527																																
Individual — Unique	—	207529														✓																		
Individual — Unique	—	207531			✓																													
Individual — Unique	—	207533			✓																													
Individual — Unique	—	207535																																
Individual — Unique	—	207537															✓																	
Individual — Unique	—	207539																																
Individual — Unique	—	207541						✓					✓	✓			✓					✓				✓		✓	✓	✓				
Individual — Unique	—	207543			✓			✓					✓			✓	✓	✓	✓		✓	✓			✓	✓	✓		✓					
Individual — Unique	—	207545											✓															✓						
Individual — Unique	—	207547																																
Individual — Unique	—	207549			✓																													
Individual — Unique	—	207551																																
Individual — Unique	—	207553						✓					✓				✓									✓								
Individual — Unique	—	207555																																
Individual — Unique	—	207557			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	207559																																
Individual — Unique	—	207561											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	207563			✓																													
Individual — Unique	—	207565											✓				✓								✓	✓				✓				
Individual — Unique	—	207567			✓								✓				✓					✓			✓	✓				✓				
Individual — Unique	—	207572			✓								✓													✓								
Individual — Unique	—	207574			✓																					✓								
Individual — Unique	—	207576											✓				✓									✓	✓							
Individual — Unique	—	207578																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	207582											✓				✓					✓				✓								
Individual — Unique	—	207584			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	207586																										✓						
Individual — Unique	—	207588											✓																					
Individual — Unique	—	207590																							✓			✓						
Individual — Unique	—	207592			✓																					✓								
Individual — Unique	—	207594											✓															✓						
Individual — Unique	—	207596											✓																					
Individual — Unique	—	207598			✓	✓		✓					✓	✓			✓			✓		✓			✓		✓	✓		✓				
Individual — Unique	—	207600			✓																								✓					✓
Individual — Unique	—	207602															✓					✓												
Individual — Unique	—	207604			✓																													
Individual — Unique	—	207608			✓																													
Individual — Unique	—	207610											✓									✓												
Individual — Unique	—	207612																																
Individual — Unique	—	207614																																
Individual — Unique	—	207616																																
Individual — Unique	—	207618			✓																													
Individual — Unique	—	207620			✓																													
Individual — Unique	—	207622											✓																					
Individual — Unique	—	207624															✓																	
Individual — Unique	—	207628																																
Individual — Unique	—	207630																																
Individual — Unique	—	207636											✓				✓					✓				✓		✓						
Individual — Unique	—	207638																																
Individual — Unique	—	207640											✓			✓	✓					✓			✓	✓	✓	✓						
Individual — Unique	—	207642																																
Individual — Unique	—	207644			✓																													
Individual — Unique	—	207646											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	207648											✓				✓		✓															
Individual — Unique	—	207650																																
Individual — Unique	—	207652											✓	✓			✓																	
Individual — Unique	—	207654			✓			✓																										
Individual — Unique	—	207656																																
Individual — Unique	—	207658																																
Individual — Unique	—	207660															✓																	
Individual — Unique	—	207662											✓																					
Individual — Unique	—	207664											✓	✓		✓														✓				
Individual — Unique	—	207666															✓																	
Individual — Unique	—	207670											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	207672						✓	✓		✓	✓	✓	✓			✓	✓	✓	✓	✓	✓			✓	✓		✓	✓	✓				✓
Individual — Unique	—	207676																				✓				✓								
Individual — Unique	—	207682			✓			✓																										
Individual — Unique	—	207684											✓			✓	✓					✓												
Individual — Unique	—	207686											✓	✓		✓	✓					✓					✓	✓		✓				
Individual — Unique	—	207688											✓																					
Individual — Unique	—	207690											✓				✓																	
Individual — Unique	—	207694						✓																										
Individual — Unique	—	207696						✓																										
Individual — Unique	—	207698			✓																													
Individual — Unique	—	207700																										✓						
Individual — Unique	—	207702						✓									✓																	
Individual — Unique	—	207704																																
Individual — Unique	—	207706																																
Individual — Unique	—	207708																																
Individual — Unique	—	207710																																
Individual — Unique	—	207712																																
Individual — Unique	—	207714																																
Individual — Unique	—	207716																																
Individual — Unique	—	207720																																
Individual — Unique	—	207722																																
Individual — Unique	—	207724																																
Individual — Unique	—	207726																																
Individual — Unique	—	207728											✓																					
Individual — Unique	—	207730			✓								✓				✓					✓												
Individual — Unique	—	207732																																
Individual — Unique	—	207734																																
Individual — Unique	—	207736											✓	✓		✓	✓					✓					✓	✓		✓				
Individual — Unique	—	207740											✓														✓							
Individual — Unique	—	207742																																
Individual — Unique	—	207744																																
Individual — Unique	—	207746																																
Individual — Unique	—	207748			✓																													
Individual — Unique	—	207750																																
Individual — Unique	—	207752																																
Individual — Unique	—	207754																																
Individual — Unique	—	207756																																
Individual — Unique	—	207758																								✓								
Individual — Unique	—	207760																																
Individual — Unique	—	207762																										✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	207764																																
Individual — Unique	—	207766																																
Individual — Unique	—	207768																																
Individual — Unique	—	207770																																
Individual — Unique	—	207772											✓				✓									✓								
Individual — Unique	—	207774																																
Individual — Unique	—	207776																																
Individual — Unique	—	207778																																
Individual — Unique	—	207780																																
Individual — Unique	—	207782											✓																					
Individual — Unique	—	207784																																
Individual — Unique	—	207786																																
Individual — Unique	—	207788																																
Individual — Unique	—	207790			✓												✓																	
Individual — Unique	—	207792																																
Individual — Unique	—	207794																																
Individual — Unique	—	207796			✓				✓				✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	207798						✓																										
Individual — Unique	—	207800																																
Individual — Unique	—	207802						✓																										
Individual — Unique	—	207804																																
Individual — Unique	—	207806											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	207808						✓																										
Individual — Unique	—	207812						✓																										
Individual — Unique	—	207814											✓				✓					✓				✓			✓					
Individual — Unique	—	207816						✓					✓																					
Individual — Unique	—	207818											✓	✓			✓					✓								✓				
Individual — Unique	—	207820																																
Individual — Unique	—	207822																																
Individual — Unique	—	207824											✓				✓									✓								
Individual — Unique	—	207826																				✓												
Individual — Unique	—	207828											✓																					
Individual — Unique	—	207830																																
Individual — Unique	—	207832			✓								✓																					
Individual — Unique	—	207834											✓	✓		✓	✓					✓								✓				
Individual — Unique	—	207836											✓																					
Individual — Unique	—	207838																																
Individual — Unique	—	207844			✓																													
Individual — Unique	—	207846			✓				✓				✓				✓								✓	✓		✓	✓	✓				
Individual — Unique	—	207848			✓			✓					✓				✓			✓					✓		✓			✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	207850						✓					✓	✓		✓			✓	✓	✓						✓	✓	✓						✓
Individual — Unique	—	207852																				✓						✓							
Individual — Unique	—	207854			✓								✓			✓																			✓
Individual — Unique	—	207856																											✓						
Individual — Unique	—	207858			✓								✓			✓			✓							✓			✓	✓					
Individual — Unique	—	207860						✓																											
Individual — Unique	—	207862			✓																								✓						
Individual — Unique	—	207864						✓																											
Individual — Unique	—	207866						✓																				✓	✓						
Individual — Unique	—	207868						✓																					✓						
Individual — Unique	—	207870			✓			✓					✓	✓		✓	✓									✓				✓					
Individual — Unique	—	207872						✓																					✓						
Individual — Unique	—	207874			✓			✓																											
Individual — Unique	—	207876			✓			✓																					✓						
Individual — Unique	—	207878																											✓						
Individual — Unique	—	207880							✓				✓																						
Individual — Unique	—	207882						✓																					✓						
Individual — Unique	—	207884																											✓						
Individual — Unique	—	207886																																	✓
Individual — Unique	—	207888											✓						✓																
Individual — Unique	—	207890			✓			✓			✓						✓		✓	✓						✓		✓	✓						
Individual — Unique	—	207892			✓	✓		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓					✓
Individual — Unique	—	207898											✓				✓		✓			✓						✓							
Individual — Unique	—	207900			✓			✓					✓				✓									✓									
Individual — Unique	—	207902																																	
Individual — Unique	—	207904																																	
Individual — Unique	—	207906			✓				✓				✓		✓		✓			✓					✓	✓	✓	✓		✓					
Individual — Unique	—	207908																																	
Individual — Unique	—	207910																																	
Individual — Unique	—	207912											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	207914			✓	✓		✓					✓	✓			✓		✓			✓				✓		✓	✓	✓					
Individual — Unique	—	207918																																	
Individual — Unique	—	207920											✓	✓			✓																		
Individual — Unique	—	207922																																	
Individual — Unique	—	207924																																	
Individual — Unique	—	207926			✓								✓	✓			✓		✓			✓				✓				✓					
Individual — Unique	—	207929			✓								✓				✓					✓			✓	✓		✓		✓					
Individual — Unique	—	207931			✓								✓												✓	✓				✓					
Individual — Unique	—	207933																																	
Individual — Unique	—	207935											✓				✓								✓										

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	207937											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	207939																																
Individual — Unique	—	207941			✓								✓													✓								
Individual — Unique	—	207943																																
Individual — Unique	—	207945											✓																					
Individual — Unique	—	207949			✓																													
Individual — Unique	—	207951																																
Individual — Unique	—	207953											✓																					
Individual — Unique	—	207955															✓																	
Individual — Unique	—	207957			✓		✓		✓				✓	✓					✓							✓				✓	✓			
Individual — Unique	—	207959															✓																	
Individual — Unique	—	207961			✓																													
Individual — Unique	—	207963																																
Individual — Unique	—	207965											✓																					
Individual — Unique	—	207967																																
Individual — Unique	—	207969																																
Individual — Unique	—	207971											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	207973																																
Individual — Unique	—	207975																																
Individual — Unique	—	207977											✓																					
Individual — Unique	—	207979																																
Individual — Unique	—	207981			✓																													
Individual — Unique	—	207983											✓				✓																	
Individual — Unique	—	207985																								✓		✓						
Individual — Unique	—	207987											✓																	✓				
Individual — Unique	—	207991															✓											✓						
Individual — Unique	—	207993																																
Individual — Unique	—	207995			✓											✓			✓	✓	✓			✓		✓		✓					
Individual — Unique	—	207997			✓								✓									✓												
Individual — Unique	—	208001																																
Individual — Unique	—	208003			✓			✓					✓	✓				✓	✓	✓						✓		✓		✓		✓		
Individual — Unique	—	208005			✓	✓		✓	✓		✓		✓	✓		✓		✓	✓						✓		✓	✓	✓	✓	✓			
Individual — Unique	—	208007																																
Individual — Unique	—	208009																																
Individual — Unique	—	208011														✓										✓								
Individual — Unique	—	208013			✓																													
Individual — Unique	—	208015																																
Individual — Unique	—	208017			✓																													
Individual — Unique	—	208019																																
Individual — Unique	—	208021						✓					✓				✓			✓		✓			✓	✓		✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	208023																																
Individual — Unique	—	208025																																
Individual — Unique	—	208027																																
Individual — Unique	—	208029			✓								✓																					
Individual — Unique	—	208031			✓								✓				✓								✓			✓		✓				
Individual — Unique	—	208033						✓					✓				✓			✓	✓	✓			✓	✓		✓		✓				
Individual — Unique	—	208035			✓				✓				✓													✓								
Individual — Unique	—	208037			✓								✓	✓		✓																		
Individual — Unique	—	208039											✓																	✓				
Individual — Unique	—	208041											✓				✓			✓	✓	✓			✓	✓		✓		✓				
Individual — Unique	—	208043											✓													✓	✓							
Individual — Unique	—	208045											✓																					
Individual — Unique	—	208051																																
Individual — Unique	—	208053																																
Individual — Unique	—	208055											✓			✓																		
Individual — Unique	—	208057											✓																					
Individual — Unique	—	208059			✓	✓		✓					✓												✓	✓		✓		✓	✓	✓		
Individual — Unique	—	208061											✓			✓												✓		✓				
Individual — Unique	—	208063																																
Individual — Unique	—	208065			✓								✓			✓	✓			✓						✓				✓				
Individual — Unique	—	208069			✓												✓					✓				✓		✓						
Individual — Unique	—	208071			✓								✓				✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208073															✓					✓								✓				
Individual — Unique	—	208075																																
Individual — Unique	—	208079											✓			✓	✓					✓			✓	✓		✓						
Individual — Unique	—	208081																																
Individual — Unique	—	208083											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208085											✓																					
Individual — Unique	—	208087			✓								✓																					
Individual — Unique	—	208089			✓								✓																					
Individual — Unique	—	208091																																
Individual — Unique	—	208095			✓																													
Individual — Unique	—	208097															✓									✓								
Individual — Unique	—	208101				✓		✓					✓	✓		✓	✓			✓	✓	✓			✓	✓	✓	✓	✓	✓				
Individual — Unique	—	208103			✓	✓		✓	✓				✓	✓			✓	✓		✓		✓			✓	✓	✓	✓		✓	✓	✓		
Individual — Unique	—	208105																																
Individual — Unique	—	208107			✓			✓					✓				✓													✓				
Individual — Unique	—	208109																																
Individual — Unique	—	208111																																
Individual — Unique	—	208113			✓								✓				✓					✓			✓	✓		✓	✓	✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	208115																										✓						
Individual — Unique	—	208117																	✓															
Individual — Unique	—	208119			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	208121																																
Individual — Unique	—	208125			✓																													
Individual — Unique	—	208127															✓																	
Individual — Unique	—	208129																																
Individual — Unique	—	208131			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	208133																																
Individual — Unique	—	208135																																
Individual — Unique	—	208137			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	208141																											✓					
Individual — Unique	—	208143																																
Individual — Unique	—	208145																																
Individual — Unique	—	208147																																
Individual — Unique	—	208149				✓																												
Individual — Unique	—	208151																																
Individual — Unique	—	208153						✓																										
Individual — Unique	—	208155						✓					✓				✓																	
Individual — Unique	—	208157																																
Individual — Unique	—	208159																																
Individual — Unique	—	208161											✓	✓			✓																	
Individual — Unique	—	208163											✓																					
Individual — Unique	—	208165						✓																										
Individual — Unique	—	208167																																
Individual — Unique	—	208169						✓																										
Individual — Unique	—	208171						✓																				✓						
Individual — Unique	—	208173																																
Individual — Unique	—	208175			✓												✓																	
Individual — Unique	—	208177						✓											✓															
Individual — Unique	—	208179											✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	208181						✓																										
Individual — Unique	—	208183						✓																										
Individual — Unique	—	208187																											✓					
Individual — Unique	—	208189						✓					✓													✓			✓					
Individual — Unique	—	208191						✓																										
Individual — Unique	—	208193																																
Individual — Unique	—	208197																																
Individual — Unique	—	208199																																
Individual — Unique	—	208201																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	208203			✓			✓																										
Individual — Unique	—	208205						✓					✓																					
Individual — Unique	—	208207						✓																										
Individual — Unique	—	208209						✓																										
Individual — Unique	—	208213																																
Individual — Unique	—	208215			✓	✓							✓				✓		✓			✓			✓	✓		✓						✓
Individual — Unique	—	208217											✓															✓						
Individual — Unique	—	208219						✓																										
Individual — Unique	—	208221						✓																										
Individual — Unique	—	208223																																
Individual — Unique	—	208225											✓				✓					✓			✓			✓		✓				
Individual — Unique	—	208227																																
Individual — Unique	—	208229																																
Individual — Unique	—	208231						✓																										
Individual — Unique	—	208233			✓																													
Individual — Unique	—	208235						✓																										
Individual — Unique	—	208237																																
Individual — Unique	—	208239																																
Individual — Unique	—	208241						✓																										
Individual — Unique	—	208243			✓	✓							✓				✓		✓			✓			✓	✓		✓						✓
Individual — Unique	—	208245											✓															✓						
Individual — Unique	—	208247			✓																							✓						
Individual — Unique	—	208249			✓																													
Individual — Unique	—	208251																										✓						
Individual — Unique	—	208253																	✓									✓						
Individual — Unique	—	208255																																
Individual — Unique	—	208257																											✓					
Individual — Unique	—	208259			✓			✓																										
Individual — Unique	—	208261						✓																					✓					
Individual — Unique	—	208263			✓			✓																				✓						
Individual — Unique	—	208265																																
Individual — Unique	—	208267						✓																										
Individual — Unique	—	208269						✓																										
Individual — Unique	—	208271			✓		✓	✓					✓			✓	✓		✓			✓			✓	✓	✓	✓			✓			
Individual — Unique	—	208275						✓																										
Individual — Unique	—	208277											✓			✓	✓		✓								✓	✓		✓				
Individual — Unique	—	208279						✓					✓						✓										✓					
Individual — Unique	—	208281						✓																					✓					
Individual — Unique	—	208283						✓																										
Individual — Unique	—	208285																																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	208287						✓																										
Individual — Unique	—	208289																									✓	✓						
Individual — Unique	—	208291			✓	✓		✓					✓	✓	✓		✓	✓	✓	✓		✓			✓	✓		✓		✓				
Individual — Unique	—	208293											✓			✓	✓											✓		✓				
Individual — Unique	—	208295			✓			✓					✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓						✓
Individual — Unique	—	208297						✓																					✓					
Individual — Unique	—	208299																																
Individual — Unique	—	208301																																
Individual — Unique	—	208303						✓																					✓					
Individual — Unique	—	208305						✓																										
Individual — Unique	—	208307				✓					✓		✓						✓								✓							
Individual — Unique	—	208309			✓								✓			✓	✓											✓						
Individual — Unique	—	208311											✓													✓	✓							
Individual — Unique	—	208313																																
Individual — Unique	—	208315											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208317																																
Individual — Unique	—	208319											✓	✓		✓	✓					✓			✓			✓		✓				
Individual — Unique	—	208321			✓			✓					✓	✓			✓											✓	✓					
Individual — Unique	—	208323											✓			✓									✓		✓			✓				
Individual — Unique	—	208325			✓			✓																				✓	✓					
Individual — Unique	—	208327																																
Individual — Unique	—	208329											✓			✓	✓				✓													
Individual — Unique	—	208331						✓					✓			✓	✓								✓	✓		✓						
Individual — Unique	—	208333			✓								✓						✓							✓		✓						
Individual — Unique	—	208335			✓								✓								✓													
Individual — Unique	—	208337						✓																				✓	✓					
Individual — Unique	—	208339			✓	✓		✓	✓				✓	✓		✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓	✓				✓
Individual — Unique	—	208341											✓																✓					
Individual — Unique	—	208343			✓								✓		✓	✓	✓	✓	✓	✓						✓	✓			✓				
Individual — Unique	—	208345											✓				✓											✓						
Individual — Unique	—	208349						✓	✓				✓	✓	✓	✓	✓	✓		✓	✓			✓	✓	✓	✓			✓				
Individual — Unique	—	208351			✓			✓					✓			✓	✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	208355			✓			✓					✓			✓	✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	208357			✓								✓				✓																	
Individual — Unique	—	208359																																
Individual — Unique	—	208361											✓						✓									✓						
Individual — Unique	—	208363						✓					✓															✓	✓			✓		
Individual — Unique	—	208365											✓				✓																	
Individual — Unique	—	208367			✓	✓		✓	✓				✓				✓									✓	✓	✓		✓	✓			✓
Individual — Unique	—	208369			✓			✓					✓			✓			✓							✓		✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	208375											✓				✓										✓							
Individual — Unique	—	208377			✓								✓																					
Individual — Unique	—	208379			✓								✓						✓								✓							
Individual — Unique	—	208381															✓		✓									✓						
Individual — Unique	—	208383						✓					✓																					
Individual — Unique	—	208387			✓			✓	✓				✓	✓		✓			✓						✓	✓	✓	✓	✓	✓	✓			
Individual — Unique	—	208389			✓			✓					✓						✓						✓	✓		✓		✓				
Individual — Unique	—	208391											✓				✓			✓		✓				✓		✓		✓				
Individual — Unique	—	208393			✓								✓	✓		✓	✓									✓								
Individual — Unique	—	208395			✓								✓						✓									✓						
Individual — Unique	—	208397											✓			✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208404			✓	✓		✓				✓	✓	✓		✓	✓		✓	✓					✓	✓		✓	✓	✓				
Individual — Unique	—	208406			✓			✓																										
Individual — Unique	—	208408			✓			✓					✓	✓	✓	✓	✓		✓						✓	✓	✓	✓	✓	✓				
Individual — Unique	—	208410			✓			✓					✓	✓	✓	✓	✓		✓						✓	✓	✓	✓	✓	✓				
Individual — Unique	—	208412											✓				✓											✓						
Individual — Unique	—	208414											✓				✓																	
Individual — Unique	—	208416																									✓							
Individual — Unique	—	208418						✓					✓													✓				✓				
Individual — Unique	—	208420			✓								✓			✓																		
Individual — Unique	—	208422											✓	✓	✓																✓			
Individual — Unique	—	208424																									✓							
Individual — Unique	—	208426															✓																	
Individual — Unique	—	208431															✓								✓									
Individual — Unique	—	208433						✓																										
Individual — Unique	—	208435			✓								✓																					
Individual — Unique	—	208437																																
Individual — Unique	—	208441			✓			✓					✓	✓						✓		✓				✓		✓	✓	✓				
Individual — Unique	—	208443											✓				✓					✓			✓	✓								
Individual — Unique	—	208448											✓																					
Individual — Unique	—	208450			✓			✓											✓							✓		✓	✓				✓	
Individual — Unique	—	208452																											✓					
Individual — Unique	—	208456											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208458											✓																					
Individual — Unique	—	208469						✓		✓												✓												
Individual — Unique	—	208480															✓					✓				✓		✓						
Individual — Unique	—	208482				✓							✓																	✓				
Individual — Unique	—	208484			✓			✓					✓			✓	✓		✓	✓					✓	✓		✓		✓				
Individual — Unique	—	208486						✓																										
Individual — Unique	—	208490			✓								✓			✓	✓									✓								

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	208492			✓							✓	✓			✓	✓			✓							✓			✓				
Individual — Unique	—	208494											✓																					
Individual — Unique	—	208496						✓					✓	✓		✓						✓			✓			✓						
Individual — Unique	—	208498						✓					✓						✓															
Individual — Unique	—	208504											✓				✓																	
Individual — Unique	—	208506											✓						✓											✓				
Individual — Unique	—	208510					✓	✓	✓		✓		✓				✓	✓		✓		✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208514															✓					✓												
Individual — Unique	—	208516											✓							✓														
Individual — Unique	—	208518																	✓				✓				✓	✓		✓				
Individual — Unique	—	208522											✓															✓		✓				
Individual — Unique	—	208524											✓									✓												
Individual — Unique	—	208526											✓													✓								
Individual — Unique	—	208528												✓								✓												
Individual — Unique	—	208532											✓				✓	✓	✓			✓												
Individual — Unique	—	208534											✓	✓																				
Individual — Unique	—	208536			✓								✓	✓		✓									✓					✓				
Individual — Unique	—	208540			✓																													
Individual — Unique	—	208544																												✓				
Individual — Unique	—	208546				✓		✓			✓		✓			✓	✓		✓			✓			✓			✓		✓				
Individual — Unique	—	208548			✓								✓			✓	✓																	
Individual — Unique	—	208550						✓		✓			✓	✓														✓						
Individual — Unique	—	208556																																
Individual — Unique	—	208566																	✓															
Individual — Unique	—	208570			✓			✓									✓																	
Individual — Unique	—	208572											✓				✓									✓		✓						
Individual — Unique	—	208574						✓																			✓							
Individual — Unique	—	208578						✓					✓													✓				✓				
Individual — Unique	—	208580																																
Individual — Unique	—	208582			✓																							✓					
Individual — Unique	—	208586			✓								✓						✓									✓						
Individual — Unique	—	208590			✓								✓				✓		✓			✓			✓	✓		✓	✓	✓				
Individual — Unique	—	208592									✓		✓															✓						
Individual — Unique	—	208595			✓								✓						✓			✓						✓		✓	✓			
Individual — Unique	—	208597											✓			✓	✓									✓				✓				
Individual — Unique	—	208599			✓																					✓			✓					
Individual — Unique	—	208601											✓			✓																		
Individual — Unique	—	208607											✓			✓	✓									✓		✓						
Individual — Unique	—	208611			✓	✓							✓				✓			✓								✓		✓				
Individual — Unique	—	208615						✓			✓		✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	208617						✓											✓															
Individual — Unique	—	208619			✓								✓				✓		✓	✓		✓						✓							
Individual — Unique	—	208621			✓			✓								✓	✓									✓				✓				
Individual — Unique	—	208625			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	208632			✓												✓		✓							✓	✓		✓	✓		✓		
Individual — Unique	—	208634			✓	✓							✓												✓	✓		✓		✓				
Individual — Unique	—	208638			✓			✓	✓		✓					✓	✓	✓	✓	✓		✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208644			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	208648											✓				✓			✓		✓					✓	✓		✓				
Individual — Unique	—	208650						✓																				✓						
Individual — Unique	—	208652											✓				✓																	
Individual — Unique	—	208658											✓				✓		✓			✓			✓				✓	✓				
Individual — Unique	—	208662																										✓						
Individual — Unique	—	208666			✓			✓					✓																					
Individual — Unique	—	208670											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208674											✓			✓						✓						✓						
Individual — Unique	—	208676			✓								✓			✓	✓		✓			✓				✓	✓	✓		✓				
Individual — Unique	—	208682			✓												✓																	
Individual — Unique	—	208684			✓																					✓								
Individual — Unique	—	208688			✓	✓		✓			✓		✓			✓										✓		✓	✓	✓				
Individual — Unique	—	208690											✓							✓		✓				✓		✓						
Individual — Unique	—	208694											✓																					
Individual — Unique	—	208696			✓			✓					✓	✓		✓		✓		✓		✓				✓		✓	✓	✓				
Individual — Unique	—	208698						✓					✓																					
Individual — Unique	—	208700											✓			✓	✓					✓			✓									
Individual — Unique	—	208704																																
Individual — Unique	—	208706			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	208710											✓				✓																	
Individual — Unique	—	208718																																
Individual — Unique	—	208728											✓	✓		✓										✓			✓					
Individual — Unique	—	208730											✓																					
Individual — Unique	—	208732																																
Individual — Unique	—	208736											✓																					
Individual — Unique	—	208742																										✓	✓					
Individual — Unique	—	208744											✓																					
Individual — Unique	—	208748			✓	✓							✓				✓			✓		✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208750																										✓						
Individual — Unique	—	208752																	✓															
Individual — Unique	—	208754			✓																													
Individual — Unique	—	208756						✓	✓				✓														✓			✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	208758			✓								✓	✓		✓	✓			✓		✓					✓			✓				
Individual — Unique	—	208760			✓	✓											✓		✓															
Individual — Unique	—	208762																																
Individual — Unique	—	208764											✓																					
Individual — Unique	—	208766			✓								✓	✓		✓						✓			✓	✓		✓		✓				
Individual — Unique	—	208768											✓																					
Individual — Unique	—	208770			✓								✓				✓		✓	✓		✓				✓		✓		✓				
Individual — Unique	—	208772										✓	✓				✓									✓	✓			✓				
Individual — Unique	—	208774			✓			✓								✓	✓					✓				✓		✓						
Individual — Unique	—	208776			✓	✓		✓			✓		✓			✓	✓		✓	✓	✓	✓			✓	✓	✓	✓	✓					
Individual — Unique	—	208778			✓											✓									✓						✓			
Individual — Unique	—	208780											✓				✓		✓	✓						✓		✓	✓					
Individual — Unique	—	208782											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208784											✓																					
Individual — Unique	—	208786						✓					✓																					
Individual — Unique	—	208788			✓			✓					✓				✓		✓							✓		✓						
Individual — Unique	—	208790															✓											✓						
Individual — Unique	—	208794			✓																					✓								
Individual — Unique	—	208796							✓				✓			✓																		
Individual — Unique	—	208798				✓							✓			✓	✓			✓		✓				✓		✓		✓				
Individual — Unique	—	208802											✓			✓	✓																	
Individual — Unique	—	208804											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208810						✓									✓																	
Individual — Unique	—	208812			✓																													
Individual — Unique	—	208814							✓				✓				✓					✓				✓				✓				
Individual — Unique	—	208817											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208821																																
Individual — Unique	—	208823			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	208823			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	208823			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	208823			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	208825						✓	✓				✓				✓								✓									
Individual — Unique	—	208827						✓					✓	✓		✓	✓					✓			✓		✓	✓		✓				
Individual — Unique	—	208829			✓				✓				✓				✓					✓				✓		✓	✓	✓				
Individual — Unique	—	208831																																
Individual — Unique	—	208836											✓	✓																✓				
Individual — Unique	—	208840			✓								✓												✓			✓	✓					
Individual — Unique	—	208842			✓																													
Individual — Unique	—	208844											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208846						✓																										

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	208848											✓				✓																	
Individual — Unique	—	208850			✓								✓																					
Individual — Unique	—	208852							✓							✓	✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	208858															✓																	
Individual — Unique	—	208860						✓	✓				✓	✓		✓	✓									✓	✓			✓				
Individual — Unique	—	208864			✓				✓				✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	208868											✓				✓																	
Individual — Unique	—	208870			✓								✓				✓					✓			✓			✓	✓	✓				
Individual — Unique	—	208876			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	208880						✓					✓	✓																				
Individual — Unique	—	208882			✓								✓	✓		✓	✓		✓			✓				✓		✓						
Individual — Unique	—	208884						✓					✓				✓								✓				✓					
Individual — Unique	—	208886											✓				✓								✓									
Individual — Unique	—	208888																																
Individual — Unique	—	208890															✓																	
Individual — Unique	—	208892						✓					✓				✓												✓					
Individual — Unique	—	208894																																
Individual — Unique	—	208898						✓					✓				✓								✓				✓					
Individual — Unique	—	208900											✓	✓			✓												✓					
Individual — Unique	—	208904			✓																													
Individual — Unique	—	208908											✓			✓	✓		✓			✓			✓	✓	✓	✓		✓				
Individual — Unique	—	208910											✓				✓																	
Individual — Unique	—	208912						✓					✓	✓			✓								✓									
Individual — Unique	—	208914			✓							✓	✓			✓	✓			✓							✓			✓				
Individual — Unique	—	208916						✓					✓						✓															✓
Individual — Unique	—	208918											✓	✓			✓					✓												
Individual — Unique	—	208924											✓	✓												✓								
Individual — Unique	—	208928			✓								✓																					
Individual — Unique	—	208934															✓																	
Individual — Unique	—	208938						✓					✓				✓								✓				✓					
Individual — Unique	—	208946			✓	✓																												
Individual — Unique	—	208954															✓																	
Individual — Unique	—	208956						✓					✓				✓								✓									
Individual — Unique	—	208960			✓								✓			✓	✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	208964								✓				✓			✓											✓						
Individual — Unique	—	208966												✓		✓				✓						✓								
Individual — Unique	—	208970																										✓						
Individual — Unique	—	208972						✓					✓				✓								✓				✓					
Individual — Unique	—	208974											✓							✓										✓				
Individual — Unique	—	208976											✓				✓																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	208978											✓															✓	✓					
Individual — Unique	—	208982											✓	✓		✓	✓		✓																
Individual — Unique	—	208984											✓																✓						
Individual — Unique	—	208988											✓				✓									✓				✓					
Individual — Unique	—	208996											✓				✓																		
Individual — Unique	—	208998			✓								✓									✓			✓			✓	✓	✓					
Individual — Unique	—	209002						✓					✓																						
Individual — Unique	—	209006											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	209008												✓			✓																		
Individual — Unique	—	209010																							✓					✓					
Individual — Unique	—	209016											✓	✓												✓		✓							
Individual — Unique	—	209018			✓		✓						✓				✓		✓			✓			✓	✓		✓		✓					
Individual — Unique	—	209028						✓					✓	✓		✓				✓	✓	✓						✓							
Individual — Unique	—	209030																																	
Individual — Unique	—	209032			✓																														
Individual — Unique	—	209034											✓																						
Individual — Unique	—	209036			✓	✓		✓					✓	✓			✓			✓	✓	✓			✓	✓		✓	✓					✓
Individual — Unique	—	209049			✓								✓				✓					✓				✓								
Individual — Unique	—	209057						✓					✓						✓										✓	✓					
Individual — Unique	—	209061						✓					✓				✓		✓						✓										
Individual — Unique	—	209069			✓																														
Individual — Unique	—	209073																																	
Individual — Unique	—	209078																																	
Individual — Unique	—	209082			✓												✓					✓												
Individual — Unique	—	209084																																	
Individual — Unique	—	209089			✓			✓					✓	✓		✓	✓		✓			✓				✓	✓	✓							
Individual — Unique	—	209097											✓														✓		✓						
Individual — Unique	—	209099											✓																						
Individual — Unique	—	209103			✓								✓				✓	✓	✓							✓		✓		✓					
Individual — Unique	—	209105			✓	✓			✓			✓	✓		✓		✓		✓	✓	✓	✓			✓	✓	✓	✓	✓	✓					
Individual — Unique	—	209107						✓					✓				✓	✓	✓						✓										
Individual — Unique	—	209109						✓					✓				✓		✓						✓										
Individual — Unique	—	209113										✓	✓														✓	✓							
Individual — Unique	—	209115			✓			✓					✓			✓	✓		✓	✓					✓	✓	✓	✓	✓					✓	
Individual — Unique	—	209117																																	
Individual — Unique	—	209119			✓																													✓	
Individual — Unique	—	209121			✓			✓	✓				✓	✓		✓	✓		✓							✓	✓		✓	✓		✓			
Individual — Unique	—	209123						✓	✓				✓				✓	✓							✓										
Individual — Unique	—	209125			✓				✓				✓		✓		✓		✓			✓						✓	✓	✓					
Individual — Unique	—	209127			✓								✓						✓																

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	209129						✓					✓				✓	✓							✓				✓						
Individual — Unique	—	209131			✓				✓			✓	✓		✓		✓		✓	✓		✓			✓			✓	✓	✓					
Individual — Unique	—	209133			✓				✓				✓				✓									✓				✓					
Individual — Unique	—	209135				✓		✓					✓			✓	✓		✓	✓		✓			✓	✓	✓	✓		✓					
Individual — Unique	—	209137			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209139			✓				✓				✓		✓		✓		✓			✓						✓	✓	✓					
Individual — Unique	—	209141																																	
Individual — Unique	—	209143			✓			✓					✓				✓		✓			✓			✓	✓		✓		✓					
Individual — Unique	—	209147			✓			✓					✓				✓									✓		✓							
Individual — Unique	—	209149						✓			✓		✓	✓					✓									✓	✓						
Individual — Unique	—	209153											✓													✓			✓	✓					
Individual — Unique	—	209155			✓				✓				✓			✓	✓		✓			✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209157			✓								✓												✓										
Individual — Unique	—	209159			✓				✓				✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209161											✓				✓										✓	✓	✓					✓	
Individual — Unique	—	209165			✓	✓		✓					✓			✓	✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209169											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	209173											✓						✓																
Individual — Unique	—	209175															✓								✓		✓								
Individual — Unique	—	209179						✓					✓			✓	✓									✓				✓					
Individual — Unique	—	209181			✓								✓				✓		✓						✓	✓		✓		✓					
Individual — Unique	—	209185											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	209187																																	
Individual — Unique	—	209189			✓			✓	✓				✓			✓	✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209193			✓								✓				✓		✓						✓	✓			✓						
Individual — Unique	—	209195			✓								✓			✓	✓					✓								✓					
Individual — Unique	—	209199														✓	✓		✓			✓			✓	✓		✓		✓					✓
Individual — Unique	—	209201			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209201			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209201			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209201			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209201			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209201			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209201			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209201			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209201			✓								✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209203											✓	✓		✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	209205			✓								✓			✓	✓		✓							✓		✓		✓					
Individual — Unique	—	209209											✓				✓					✓			✓										
Individual — Unique	—	209211																																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	209213																																
Individual — Unique	—	209215																																
Individual — Unique	—	209217											✓				✓																	
Individual — Unique	—	209219																																
Individual — Unique	—	209221											✓				✓													✓				
Individual — Unique	—	209223			✓								✓				✓			✓					✓	✓		✓		✓				
Individual — Unique	—	209225											✓				✓																	
Individual — Unique	—	209227																																
Individual — Unique	—	209229																																
Individual — Unique	—	209231			✓								✓									✓				✓								
Individual — Unique	—	209233																																
Individual — Unique	—	209235											✓			✓	✓		✓			✓			✓	✓								
Individual — Unique	—	209237			✓								✓												✓	✓		✓		✓				
Individual — Unique	—	209239						✓																										
Individual — Unique	—	209241											✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	209245						✓					✓															✓						
Individual — Unique	—	209247			✓								✓				✓					✓				✓								
Individual — Unique	—	209249											✓																					
Individual — Unique	—	209253			✓	✓							✓				✓			✓		✓			✓			✓		✓				
Individual — Unique	—	209255			✓															✓						✓		✓						
Individual — Unique	—	209259											✓																					
Individual — Unique	—	209263			✓																													
Individual — Unique	—	209269																																
Individual — Unique	—	209271																										✓						
Individual — Unique	—	209273											✓												✓					✓				
Individual — Unique	—	209277			✓	✓							✓				✓			✓		✓			✓	✓				✓				
Individual — Unique	—	209279											✓	✓		✓	✓			✓		✓			✓	✓	✓	✓		✓				
Individual — Unique	—	209281											✓				✓								✓									
Individual — Unique	—	209283						✓																										
Individual — Unique	—	209287			✓																													
Individual — Unique	—	209289											✓																					
Individual — Unique	—	209295											✓															✓						
Individual — Unique	—	209297															✓																	
Individual — Unique	—	209299			✓			✓					✓				✓		✓			✓				✓		✓		✓				
Individual — Unique	—	209301				✓						✓				✓	✓		✓	✓	✓	✓		✓	✓		✓			✓				
Individual — Unique	—	209305			✓								✓				✓					✓				✓		✓		✓				
Individual — Unique	—	209309																																
Individual — Unique	—	209311			✓			✓					✓				✓					✓						✓						
Individual — Unique	—	209313			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	209315			✓																													

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	209317											✓						✓			✓						✓							
Individual — Unique	—	209319											✓				✓									✓	✓	✓							
Individual — Unique	—	209321																																	
Individual — Unique	—	209323			✓																					✓									
Individual — Unique	—	209327											✓			✓												✓		✓					
Individual — Unique	—	209331				✓																													
Individual — Unique	—	209335			✓								✓			✓	✓		✓						✓		✓								
Individual — Unique	—	209337											✓			✓											✓								
Individual — Unique	—	209339																								✓									
Individual — Unique	—	209341			✓								✓									✓			✓	✓				✓					
Individual — Unique	—	209343						✓					✓				✓	✓							✓										
Individual — Unique	—	209345															✓									✓		✓							
Individual — Unique	—	209347																																	
Individual — Unique	—	209349																	✓																
Individual — Unique	—	209351											✓									✓			✓										
Individual — Unique	—	209353															✓																		
Individual — Unique	—	209355														✓	✓								✓			✓		✓					
Individual — Unique	—	209357																																	
Individual — Unique	—	209359											✓			✓	✓									✓	✓	✓							
Individual — Unique	—	209361															✓					✓				✓	✓	✓							
Individual — Unique	—	209363											✓			✓	✓					✓				✓	✓	✓							
Individual — Unique	—	209365						✓																											
Individual — Unique	—	209367			✓				✓				✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209369			✓	✓		✓				✓	✓	✓		✓	✓			✓		✓			✓	✓		✓							
Individual — Unique	—	209371											✓	✓		✓																			
Individual — Unique	—	209375											✓				✓																		
Individual — Unique	—	209379											✓				✓																		
Individual — Unique	—	209381											✓				✓					✓				✓	✓		✓						
Individual — Unique	—	209383											✓				✓					✓				✓	✓		✓						
Individual — Unique	—	209385			✓	✓		✓					✓	✓		✓	✓	✓	✓	✓		✓			✓	✓	✓	✓		✓	✓	✓			
Individual — Unique	—	209387			✓	✓			✓			✓	✓	✓			✓			✓					✓	✓		✓	✓	✓					
Individual — Unique	—	209389											✓				✓					✓				✓	✓		✓						
Individual — Unique	—	209391																								✓			✓						
Individual — Unique	—	209393						✓																				✓							
Individual — Unique	—	209395						✓																					✓						
Individual — Unique	—	209397			✓								✓	✓		✓	✓			✓					✓	✓	✓	✓	✓						
Individual — Unique	—	209399																	✓																
Individual — Unique	—	209401			✓			✓				✓														✓			✓						
Individual — Unique	—	209403						✓																											
Individual — Unique	—	209405						✓																											

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	209407											✓			✓																		
Individual — Unique	—	209409											✓				✓	✓				✓				✓									
Individual — Unique	—	209411											✓									✓				✓	✓	✓							
Individual — Unique	—	209413																									✓		✓					
Individual — Unique	—	209415			✓								✓	✓																				
Individual — Unique	—	209417											✓												✓									
Individual — Unique	—	209419											✓	✓		✓	✓		✓			✓			✓	✓	✓	✓						
Individual — Unique	—	209421											✓				✓	✓	✓			✓				✓	✓	✓						
Individual — Unique	—	209423			✓												✓											✓						✓
Individual — Unique	—	209425																											✓					
Individual — Unique	—	209427																																
Individual — Unique	—	209429											✓			✓	✓	✓	✓			✓				✓	✓	✓						✓
Individual — Unique	—	209433																																
Individual — Unique	—	209435											✓			✓	✓					✓						✓		✓				
Individual — Unique	—	209437											✓						✓															
Individual — Unique	—	209439						✓					✓				✓		✓						✓									
Individual — Unique	—	209441											✓				✓		✓			✓												
Individual — Unique	—	209443																																
Individual — Unique	—	209445						✓																										
Individual — Unique	—	209447															✓																	
Individual — Unique	—	209449						✓																				✓						
Individual — Unique	—	209451																																
Individual — Unique	—	209453			✓	✓		✓	✓			✓	✓	✓		✓	✓			✓		✓			✓	✓		✓	✓	✓				
Individual — Unique	—	209455											✓				✓																	
Individual — Unique	—	209459			✓	✓		✓	✓			✓	✓	✓			✓			✓					✓	✓		✓	✓	✓				
Individual — Unique	—	209461																																
Individual — Unique	—	209463											✓				✓																	
Individual — Unique	—	209465																																
Individual — Unique	—	209467			✓								✓													✓								
Individual — Unique	—	209469											✓				✓					✓				✓								
Individual — Unique	—	209471																				✓						✓						
Individual — Unique	—	209475																																
Individual — Unique	—	209477																																
Individual — Unique	—	209479											✓																					
Individual — Unique	—	209481			✓	✓	✓						✓				✓		✓	✓		✓			✓	✓	✓	✓	✓	✓				
Individual — Unique	—	209485			✓								✓			✓				✓														
Individual — Unique	—	209487											✓	✓			✓					✓						✓						
Individual — Unique	—	209489			✓																													
Individual — Unique	—	209493																										✓						
Individual — Unique	—	209495																											✓					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	209497						✓																				✓	✓					✓
Individual — Unique	—	209499											✓				✓		✓																
Individual — Unique	—	209501			✓	✓		✓					✓	✓		✓	✓		✓			✓				✓	✓		✓	✓					
Individual — Unique	—	209503			✓								✓				✓		✓			✓			✓	✓		✓	✓	✓				
Individual — Unique	—	209505			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	209511											✓																					
Individual — Unique	—	209513											✓															✓						
Individual — Unique	—	209517						✓																					✓					
Individual — Unique	—	209521																																
Individual — Unique	—	209523											✓															✓						
Individual — Unique	—	209525																										✓	✓					
Individual — Unique	—	209529			✓			✓																					✓					
Individual — Unique	—	209531			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	209535			✓																													
Individual — Unique	—	209537											✓				✓					✓				✓		✓						
Individual — Unique	—	209539			✓																					✓								
Individual — Unique	—	209543						✓																										
Individual — Unique	—	209545											✓				✓											✓		✓				
Individual — Unique	—	209547											✓																	✓				
Individual — Unique	—	209549						✓					✓																					
Individual — Unique	—	209551			✓								✓																					
Individual — Unique	—	209553											✓				✓	✓				✓					✓	✓						
Individual — Unique	—	209555																																
Individual — Unique	—	209557																																
Individual — Unique	—	209559			✓								✓																					
Individual — Unique	—	209561			✓																													
Individual — Unique	—	209563			✓								✓																					✓
Individual — Unique	—	209565			✓								✓				✓													✓				
Individual — Unique	—	209567			✓			✓					✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓						✓
Individual — Unique	—	209569																																
Individual — Unique	—	209571											✓	✓																				
Individual — Unique	—	209573																																
Individual — Unique	—	209575											✓									✓												
Individual — Unique	—	209577			✓																													
Individual — Unique	—	209579			✓																								✓					
Individual — Unique	—	209581											✓				✓					✓				✓		✓						
Individual — Unique	—	209583			✓	✓							✓				✓			✓		✓			✓	✓		✓		✓				
Individual — Unique	—	209585			✓											✓										✓								
Individual — Unique	—	209587															✓																	
Individual — Unique	—	209589				✓							✓																	✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	209591			✓	✓		✓					✓													✓									✓
Individual — Unique	—	209593															✓					✓						✓	✓						
Individual — Unique	—	209595											✓				✓																		
Individual — Unique	—	209597			✓																														
Individual — Unique	—	209601											✓				✓									✓			✓	✓					
Individual — Unique	—	209603															✓																		
Individual — Unique	—	209605																																	
Individual — Unique	—	209607											✓			✓	✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	209609																																	
Individual — Unique	—	209611											✓																✓						
Individual — Unique	—	209613			✓	✓							✓							✓		✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209615			✓			✓								✓																			
Individual — Unique	—	209617									✓		✓	✓		✓						✓								✓					
Individual — Unique	—	209619								✓			✓	✓		✓	✓								✓	✓		✓		✓					
Individual — Unique	—	209621																																	
Individual — Unique	—	209623											✓																						
Individual — Unique	—	209625															✓					✓													
Individual — Unique	—	209627								✓																									
Individual — Unique	—	209629											✓			✓	✓	✓								✓									
Individual — Unique	—	209631											✓													✓									
Individual — Unique	—	209633						✓					✓				✓									✓									
Individual — Unique	—	209635																																	
Individual — Unique	—	209637			✓								✓	✓			✓					✓			✓	✓		✓						
Individual — Unique	—	209639											✓				✓					✓				✓	✓	✓						
Individual — Unique	—	209641											✓															✓							
Individual — Unique	—	209643												✓														✓							
Individual — Unique	—	209645											✓				✓																		
Individual — Unique	—	209647											✓				✓										✓	✓		✓					
Individual — Unique	—	209651																											✓						
Individual — Unique	—	209653											✓	✓			✓					✓			✓	✓	✓	✓		✓					
Individual — Unique	—	209655														✓	✓									✓									
Individual — Unique	—	209657											✓				✓					✓				✓	✓	✓							
Individual — Unique	—	209659			✓												✓																		
Individual — Unique	—	209661											✓																✓						
Individual — Unique	—	209663			✓			✓																					✓						
Individual — Unique	—	209665											✓																						
Individual — Unique	—	209667			✓				✓				✓				✓					✓			✓	✓		✓	✓	✓					
Individual — Unique	—	209669																																	
Individual — Unique	—	209671			✓								✓																						
Individual — Unique	—	209673																																	

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	209675							✓				✓									✓				✓				✓				
Individual — Unique	—	209679																																
Individual — Unique	—	209681											✓	✓			✓	✓				✓				✓		✓						
Individual — Unique	—	209683						✓																										
Individual — Unique	—	209685																																
Individual — Unique	—	209687							✓				✓													✓				✓				
Individual — Unique	—	209689											✓																					
Individual — Unique	—	209691											✓																					
Individual — Unique	—	209693																																
Individual — Unique	—	209695			✓								✓																					✓
Individual — Unique	—	209697											✓	✓			✓					✓				✓								
Individual — Unique	—	209699																																
Individual — Unique	—	209701			✓			✓	✓				✓	✓		✓	✓		✓	✓	✓					✓	✓	✓	✓	✓				✓
Individual — Unique	—	209703																																
Individual — Unique	—	209705																																
Individual — Unique	—	209707																																
Individual — Unique	—	209709																																
Individual — Unique	—	209713											✓									✓				✓								
Individual — Unique	—	209715											✓				✓																	
Individual — Unique	—	209717																																
Individual — Unique	—	209719			✓			✓					✓	✓		✓						✓								✓				
Individual — Unique	—	209721											✓			✓	✓					✓												
Individual — Unique	—	209723																																
Individual — Unique	—	209726						✓					✓				✓								✓									
Individual — Unique	—	209728															✓									✓			✓					
Individual — Unique	—	209737			✓	✓		✓			✓		✓			✓	✓			✓		✓			✓	✓		✓		✓				
Individual — Unique	—	209752			✓								✓												✓									
Individual — Unique	—	209760											✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	209788																	✓															
Individual — Unique	—	209790			✓			✓					✓						✓							✓		✓		✓				
Individual — Unique	—	209803											✓				✓		✓									✓						
Individual — Unique	—	209805			✓						✓		✓	✓		✓										✓		✓		✓				
Individual — Unique	—	209807			✓			✓	✓				✓				✓					✓			✓	✓								
Individual — Unique	—	209809			✓	✓							✓	✓			✓									✓				✓				✓
Individual — Unique	—	209811											✓																					
Individual — Unique	—	209813																																
Individual — Unique	—	209815			✓								✓													✓				✓				
Individual — Unique	—	209817			✓				✓				✓				✓					✓			✓	✓		✓						
Individual — Unique	—	209819			✓								✓				✓		✓			✓				✓		✓		✓				
Individual — Unique	—	209821						✓					✓						✓										✓					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	209823			✓								✓							✓	✓			✓	✓			✓							
Individual — Unique	—	209825						✓					✓						✓									✓							
Individual — Unique	—	209830			✓	✓							✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	209837			✓								✓				✓					✓												
Individual — Unique	—	209839						✓									✓			✓						✓		✓							
Individual — Unique	—	209856			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	209858			✓				✓				✓				✓					✓			✓	✓		✓	✓	✓				✓
Individual — Unique	—	209860							✓				✓				✓		✓											✓				
Individual — Unique	—	209862			✓	✓							✓				✓									✓				✓				
Individual — Unique	—	209864			✓			✓					✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	209866			✓			✓	✓				✓				✓					✓			✓	✓								
Individual — Unique	—	209907		✓	✓			✓																										
Individual — Unique	—	209909			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209911		✓	✓			✓																										
Individual — Unique	—	209915			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209919			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209921			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209923			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209925		✓	✓			✓																										
Individual — Unique	—	209927			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209929			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209931			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209933			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209935		✓	✓			✓																										
Individual — Unique	—	209937			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209939			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209941			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209943			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209945			✓	✓		✓				✓	✓				✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209947			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209949		✓	✓			✓																										
Individual — Unique	—	209951			✓			✓				✓					✓		✓			✓				✓						✓	✓		
Individual — Unique	—	209953										✓																						
Individual — Unique	—	209955			✓			✓				✓	✓				✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209957			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209959			✓							✓																	✓						
Individual — Unique	—	209961			✓							✓	✓																						
Individual — Unique	—	209963			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓		
Individual — Unique	—	209965			✓	✓							✓				✓									✓				✓				
Individual — Unique	—	209967			✓							✓																✓						

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	209969			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	209971			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	209973			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	209975			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	209977			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	209981			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	209985			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	209989		✓	✓			✓																										
Individual — Unique	—	209991			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	209993			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	209995		✓	✓			✓																										
Individual — Unique	—	209997			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	209999			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	210001			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	210003			✓							✓																✓	✓					
Individual — Unique	—	210008			✓									✓					✓			✓												
Individual — Unique	—	210010			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	210012			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	210014		✓	✓			✓																										
Individual — Unique	—	210016			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	210018			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	210020			✓									✓								✓						✓						
Individual — Unique	—	210022			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	210024			✓			✓				✓					✓		✓			✓				✓		✓				✓	✓	
Individual — Unique	—	210050																		✓					✓								
Individual — Unique	—	210056			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210058			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210062											✓				✓										✓	✓		✓				
Individual — Unique	—	210064											✓				✓										✓	✓		✓				
Individual — Unique	—	210066			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210068			✓								✓									✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210070			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210073			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210075			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210084			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210086			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210088											✓				✓										✓	✓		✓				
Individual — Unique	—	210090											✓	✓			✓										✓	✓		✓				
Individual — Unique	—	210092											✓				✓										✓	✓		✓				
Individual — Unique	—	210094											✓				✓										✓	✓		✓				

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	210096			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210098											✓	✓			✓										✓	✓		✓				
Individual — Unique	—	210100											✓	✓			✓										✓	✓		✓				
Individual — Unique	—	210102																				✓												
Individual — Unique	—	210104											✓				✓										✓	✓		✓				
Individual — Unique	—	210106											✓				✓										✓	✓		✓				
Individual — Unique	—	210110			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210112											✓				✓										✓	✓		✓				
Individual — Unique	—	210114											✓	✓			✓										✓	✓		✓				
Individual — Unique	—	210118											✓															✓		✓				
Individual — Unique	—	210120			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210122			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210124			✓	✓										✓	✓		✓	✓					✓	✓		✓		✓				
Individual — Unique	—	210126				✓							✓				✓					✓				✓		✓		✓				
Individual — Unique	—	210128			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210132			✓								✓				✓					✓			✓	✓		✓		✓				
Individual — Unique	—	210134			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210177															✓																	
Individual — Unique	—	210181															✓																	
Individual — Unique	—	210192			✓															✓					✓									
Individual — Unique	—	210194			✓															✓					✓									
Individual — Unique	—	210196			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	210198											✓				✓																	
Individual — Unique	—	210200			✓			✓					✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	210202			✓								✓				✓		✓					✓	✓		✓							
Individual — Unique	—	210204			✓								✓				✓																	
Individual — Unique	—	210206																				✓												
Individual — Unique	—	210208											✓						✓									✓						
Individual — Unique	—	210210											✓				✓								✓	✓		✓						
Individual — Unique	—	210212			✓				✓				✓			✓										✓		✓	✓	✓				
Individual — Unique	—	210214											✓				✓																	
Individual — Unique	—	210216											✓				✓																	
Individual — Unique	—	210218																										✓						
Individual — Unique	—	210222											✓			✓						✓			✓			✓		✓				
Individual — Unique	—	210224			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210229			✓																	✓						✓		✓				
Individual — Unique	—	210235											✓				✓												✓	✓				
Individual — Unique	—	210241											✓									✓												
Individual — Unique	—	210243			✓																							✓	✓					
Individual — Unique	—	210245				✓		✓					✓																					

Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
Individual — Unique	—	210247			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	210249											✓				✓					✓				✓		✓		✓				
Individual — Unique	—	210251											✓				✓																	
Individual — Unique	—	210255			✓																					✓								
Individual — Unique	—	210267			✓						✓														✓									
Individual — Unique	—	210277						✓					✓						✓															
Individual — Unique	—	210283			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210289			✓								✓				✓		✓			✓			✓	✓		✓		✓				
Individual — Unique	—	210325											✓				✓										✓	✓		✓				
Individual — Unique	—	210327											✓				✓										✓	✓		✓				
Individual — Unique	—	210329			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210331											✓	✓													✓	✓		✓				
Individual — Unique	—	210333											✓	✓													✓	✓		✓				
Individual — Unique	—	210353											✓	✓													✓	✓		✓				
Individual — Unique	—	210355			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210357																		✓					✓									
Individual — Unique	—	210368				✓							✓				✓					✓				✓		✓		✓				
Individual — Unique	—	210370			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210372			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210374			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210376											✓				✓										✓	✓		✓				
Individual — Unique	—	210378											✓				✓										✓	✓		✓				
Individual — Unique	—	210380											✓				✓										✓	✓		✓				
Individual — Unique	—	210382											✓				✓										✓	✓		✓				
Individual — Unique	—	210384											✓				✓										✓	✓		✓				
Individual — Unique	—	210386			✓								✓				✓					✓			✓	✓		✓	✓	✓				
Individual — Unique	—	210388			✓								✓				✓					✓			✓	✓		✓	✓	✓				
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Type	Submitter	DPE assigned identification number	6.1 Introduction	6.2 Location and setting	6.3 Strategic context and need	6.4 State legislation and approvals	6.5 Commonwealth requirements	6.6 Project description	6.7 Produced water management	6.8 Assessment of alternatives	6.9 Community and stakeholder consultation	6.1 Approach to the impact assessment	6.11 Groundwater and geology	6.12 Surface water quality	6.13 Hydrology and geomorphology	6.14 Soil and land contamination	6.15 Terrestrial ecology	6.16 Aquatic ecology	6.17 Property and land use	6.18 Air quality	6.19 Noise and vibration	6.2 Aboriginal heritage	6.21 Historic heritage	6.22 Traffic and transport	6.23 Landscape and visual	6.24 Greenhouse gas	6.25 Hazard and risk	6.26 Social and health impacts	6.27 Economics	6.28 Waste management	6.29 Cumulative impacts	6.3 Environmental management and monitoring	6.31 Project commitments	6.32 Justification and conclusion
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Appendix B

Project commitments

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Project commitments

The proponent commits to implementing the measures outlined in Table B-1 upon a final investment decision being made to proceed with the project. The commitments listed in this table include the development of the plans outlined in Chapter 30 (Environmental management and monitoring) of the EIS (the first commitment), and the additional mitigation measures recommended by the individual impact assessment chapters in Part C of the EIS.

All project commitments relate to impacts associated with project activities during construction, operation and decommissioning of the project. In the event that further exploration and appraisal is proposed to be carried out prior to a final investment decision being made to proceed with the project, the proponent commits to implementing the measures outlined in Table B-1 commensurate with the nature and scale of the activities and in accordance with the relevant laws, regulations and *Codes of Practice*.

Table B-1 includes the proponent's commitment to one new, and one amended management and mitigation strategy to further lower residual risk, being:

- The proponent will prepare and implement a Social Impact Management Plan (a new number 17.8, below); and
- The exclusion of surface infrastructure from Yarrie Lake Reserve (plus a buffer of at least 50 m) (replacing number 17.7, below).

Table B-1 Project commitments

Number	Mitigation/management
1.1	Infrastructure will be sited in accordance with the Field Development Protocol to avoid or minimise potential impacts.
1.2	A project wide Environmental Management Strategy, comprising a number of sub-plans to be used throughout the planning and design, construction, operation and decommissioning and rehabilitation stages of the project are described in Chapter 30. The sub-plans are: • Erosion and sediment control • Soil Management Plan • Air Quality Management Plan • Noise and Vibration Management Plan • Cultural Heritage Management Plan • Biodiversity Management Plan • Pest, Plant and Animal Control Plan • Historic Heritage Management Plan • Traffic Management Plan • Waste Management Plan • Bushfire Management Plan • Produced Water Management Plan • Water Monitoring Plan • Decommissioning Management Plan • Rehabilitation Strategy and Plans.
1.3	A complaints management procedure will be implemented. This procedure will include investigation, reporting and reducing impacts as required.

Number	Mitigation/management
Groundwater and geology	
2.1	Drilling, completion and rehabilitation of wells in compliance with the *NSW Code of Practice for Coal Seam Gas - Well Integrity*.
2.2	Extraction (take) of groundwater in compliance with the NSW *Water Management Act 2000*, specifically the procurement of sufficient Water Access Licence (WAL) allocations.
2.3	The Water Monitoring Plan (Appendix G3) will be implemented.
2.4	Groundwater monitoring bores will be installed in accordance with the *Minimum Construction Requirements for Water Bores in Australia*.
2.5	Implementation of make good protocols in accordance with the requirements of the NSW *Aquifer Interference Policy*.
2.6	Compliance with NSW and / or Commonwealth policies relating to drilling fluids.
2.7	Lined pits will be utilised during drilling. Drilling fluids and drill cuttings that are not appropriate for beneficial reuse will be removed after the completion of drilling.
Surface water quality	
3.1	Irrigation of treated water during production will be undertaken in accordance with an irrigation framework, included under the Produced Water Management Plan.
3.2	Only treated, amended or bore water will be used for dust suppression and rehabilitation.
3.3	Treated water will be released to Bohena Creek at the managed release point only during periods when the flow in Bohena Creek is equal to, or greater than, 100 ML/day as measured at the Newell Highway gauging station.
3.4	The managed release to Bohena Creek will utilise a diffuser designed to promote mixing of water at the release point.
3.5	The managed release activity will be undertaken in a manner that minimises erosion of the bed and banks at the release point and the build-up of sediment at that location.
3.6	The Water Monitoring Plan (Appendix G3) will be implemented.
Hydrology and geomorphology	
4.1	Crossings within the one in 100-year flood zone will be designed for negligible modification of flood flows.
4.2	Infrastructure within the one in 100 year flood zone in the vicinity of residential dwellings will be designed for negligible modification of flood flows.
4.3	Selection of watercourse crossing points will, where practical: • use existing vehicular crossings • be located on straight sections of channel • maximise avoidance of steep, unstable banks, permanent pools and waterholes.
4.4	Erosion and sediment control measures will be implemented during construction of watercourse crossings.
4.5	Construction of watercourse crossings would occur during periods of no flow in the watercourse.
4.6	Vehicular crossings will be designed and constructed to include appropriate stabilisation.

Number	Mitigation/management
4.7	The managed release activity will be undertaken in a manner that minimises erosion of the bed and banks at the release point and the build-up of sediment at that location.
4.8	The Water Monitoring Plan (Appendix G3) will be implemented.
Soils and land contamination	
5.1	Erosion and sediment controls for the project will be implemented based on *Managing Urban Stormwater – Soils and Construction Vol. 1* (Blue Book – Landcom 2004).
5.2	If previously unidentified land contamination or sources of potential land contamination are encountered the landholder will be notified and the contamination will be avoided as far as practicable.
5.3	Chemicals will be stored and handled in accordance with relevant Australian Standards, including *AS 1940-2004 The storage and handling of flammable and combustible liquids*.
5.4	Refuelling will occur with suitable containment when volumes greater than 50 litres are involved and not within 40 metres of a watercourse.
5.5	Rehabilitation of impacted areas will occur in accordance with the Rehabilitation Strategy (refer to Appendix V).
5.6	Irrigation of treated water will be undertaken in accordance with an irrigation framework, included under the Produced Water Management Plan.
5.7	Only treated, amended or bore water will be used for dust suppression and rehabilitation.
Terrestrial Ecology	
6.1	A Biodiversity Management Plan will be implemented and will include a Significant Species Management Plan.
6.2	Vegetation clearance and threatened flora removal would be recorded to ensure it is within the approved limits.
6.3	Vegetation will be cleared in accordance with the clearing procedure provided in Appendix H of Appendix J1 to minimise impacts to fauna during vegetation removal.
6.4	The removal of hollow-bearing trees with a hollow of greater than 300 mm in diameter will be offset by a 1:1 replacement.
6.5	Open trenches will be inspected each morning and where fauna is found it will be removed by a suitably qualified fauna handler. Data would be collected on the species captured, the number of individuals captured and capture locations.
6.6	The disturbance limit for direct impact on native vegetation is 988.8 ha. To minimise clearing during sensitive periods, less than 50 per cent (494 ha.) of the disturbance will be outside the most preferred period from March to June, and less than 20 per cent (197 ha.) of this disturbance will be during the least preferred period from September to January.
6.7	Rehabilitation of impacted areas will occur in accordance with the Rehabilitation Strategy (refer to Appendix V).
6.8	Driving from dusk through to dawn will be minimised, due to high faunal activity.
6.9	'Fauna friendly' exclusion fencing (without barbed wire) will be installed around well sites during operation unless determined otherwise under a Land Access Agreement.
6.10	Lighting will be designed to meet Australian Standard AS 4282-1997 *Control of the obtrusive effects of outdoor lighting* and the Australian / New Zealand Standard AS/NZS 1158-2010 *Lighting for roads and public spaces for roadways and plant,* as applicable. The design and

Number	Mitigation/management
	operation of night lighting would also consider the good lighting design principles documented in *Dark Sky Planning Guideline: Protecting the observing conditions at Siding Spring* (NSW Department of Planning and Environment 2016).
6.11	Prior to earthworks, weeds listed as noxious under the NSW *Noxious Weeds Act 1993* that are present on the site will be removed or treated with herbicide to prevent or reduce their spread.
6.12	Feral animals will be managed in accordance with a Pest, Plant and Animal Control Plan.
6.13	A biodiversity offset strategy will be finalised and implemented.
Aquatic Ecology	
7.1	Treated water will be released to Bohena Creek at the managed release point only during periods when the flow in Bohena Creek is equal to, or greater than, 100 ML/day as measured at the Newell Highway gauging station.
7.2	The Water Monitoring Plan (Appendix G3) will be implemented.
Property and land use	
8.1	Land Access Agreements and Farm Management Plans will be developed in consultation with affected landholders.
8.2	The Forestry Corporation of NSW will be consulted in accordance with the agreed Occupation Permit.
8.3	Unless a written agreement is in place with the relevant landholder, no project infrastructure will be located within 200 m of an occupied residence on that property.
Air quality	
9.1	All reasonable and feasible measures will be implemented to ensure that air emissions from the activity will be within the relevant air quality criteria at occupied residences on privately owned land.
9.2	Plant and equipment will be operated in accordance with relevant NSW emission standards.
9.3	An Air Quality Management Plan will be implemented.
Noise and vibration	
10.1	Noise from the activity will meet the relevant noise criteria at occupied residences unless a written agreement is in place with the landholder.
10.2	A Noise Management Plan will be implemented.
10.3	If vibration-generating activities are to be undertaken in the vicinity of occupied residences or buildings, a Vibration Management Plan will be developed and implemented.
10.4	If blasting is required, the *Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration* (ANZEC 1990) will be implemented.
Aboriginal heritage	
11.1	Complete pre-clearance surveys with the involvement of the Aboriginal community in accordance with the Cultural Heritage Management Plan prior to land disturbance occurring in that area.
11.2	All currently known sites and the most sensitive site types (as detailed in the Cultural Heritage Management Plan) will be completely avoided by the project.

Number	Mitigation/management
11.3	The Cultural Heritage Management Plan will be reviewed every five years.
11.4	Project employees and contractors will be made aware of their statutory obligations to protect Aboriginal cultural heritage objects under the NPW Act.
11.5	All currently known Aboriginal cultural sites within the project area will be validated within 12 months of project sanction.
11.6	A research program targeting places and values of particular traditional, anthropological, historical and contemporary significance to Aboriginal people will be developed and completed within 12 months of project sanction.
11.7	Integration of Aboriginal cultural heritage into the project's offset strategy.
Historic heritage	
12.1	A Historic Heritage Management Plan will be implemented.
12.2	To preserve the assessed heritage significance of the Pilliga East Logging Cultural Landscape the following sites are surface development exclusion areas: • Cowallah Parish Plan Sawmill; • Logging Camp 7; • Cowallah Sites Complex; and • Hardy's Hut. Due to the similarities of the timber extraction areas and logging ramps across the project area, if impacts are unavoidable at a site listed below, another site of the same type may be substituted as a surface development exclusion area without impacting the heritage significance: • Timber extraction areas 1, 2, 3, 4, 6, 10, 12, 18, 19 and 21; and • Timber loading ramp 1, 5, 6, 9 and ramp associated with timber extraction area 19. The following sites will also will be surface development exclusion areas based on their heritage significance: • Pilliga 1 Oil Well; and • Two SUGAR pits – one located at the Leewood site and one located on the intersection of Plumb Road and No Name Road.
Traffic and transport	
13.1	A Traffic Management Plan will be implemented.
13.2	Driving from dusk through to dawn will be minimised, due to high faunal activity.
13.3	The intersections of Old Mill Road and X-Line Road with the Newell Highway will be upgraded.
Landscape and visual	
14.1	Land Access Agreements and Farm Management Plans will be developed in consultation with affected landholders.
14.2	Existing roads, tracks and disturbance corridors for construction and operational access and the placement of linear infrastructure, will be utilised where practicable.
14.3	Lighting will be designed to meet Australian Standard *AS 4282-1997 Control of the obtrusive effects of outdoor lighting* and the Australian / New Zealand Standard *AS/NZS 1158-2010 Lighting for roads and public spaces for roadways and plant,* as applicable. The design and operation of night lighting will consider the good lighting design principles documented in

Number	Mitigation/management
	Dark Sky Planning Guideline: Protecting the observing conditions at Siding Spring (NSW Department of Planning and Environment 2016).
14.4	Lighting will be focused on work sites during construction and on project infrastructure during operation to minimise light spill into adjoining areas.
14.5	Reasonable and feasible measures will be adopted to minimise light impacts from flaring.
14.6	A Rehabilitation Plan and a Decommissioning Plan which build on the Rehabilitation Strategy (Appendix V) and Decommissioning Strategy (Appendix W) will be developed and implemented over the life of the project.
Greenhouse gas	
15.1	The design of infrastructure and selection of plant, vehicles, equipment and fuels will be reviewed for energy efficiency.
15.2	Measurement systems will be incorporated into the design to comply with *National Greenhouse and Energy Reporting Act 2007* requirements.
15.3	Transport logistics will be planned to minimise energy use, and the most fuel-efficient vehicles and equipment will be used where economically viable.
15.4	Energy use will be considered when procuring plant, vehicles and equipment.
15.5	Plant, vehicles and equipment will be maintained in good operating condition to maintain fuel use efficiency.
15.6	Energy efficiency opportunities will be monitored and periodically reviewed.
15.7	Greenhouse gas emissions will be reported and independently assured on an annual basis in accordance with the *National Greenhouse and Energy Reporting Act 2007*.
15.8	A leak detection and repair program approved by the NSW Environment Protection Authority will be implemented to identify and minimise fugitive emissions.
Hazard and risk	
16.1	A Bushfire Management Plan will be implemented.
16.2	Signage will be installed in accordance with Australian standards to alert of underground infrastructure.
16.3	All facilities will be designed and operated under the applicable Australian safety standards and protocols.
16.4	Dangerous goods will be stored and transported in accordance with the *Australian Dangerous Goods Code.*
16.5	Chemicals will be stored and handled in accordance with relevant Australian Standards, including *AS 1940-2004 The storage and handling of flammable and combustible liquids*.
16.6	Refuelling will occur with suitable containment when volumes greater than 50 litres are involved and not within 40 metres of a watercourse.
16.7	Class 3 Packing Group III Flammable Liquids will be stored appropriate distances from site boundaries.
Social and health	
17.1	A procurement and logistics strategy will be implemented.

Number	Mitigation/management
17.2	An Aboriginal engagement strategy will be implemented to maximise Aboriginal employment including for contractors.
17.3	A complaints and dispute resolution process will be implemented.
17.4	Land Access Agreements and Farm Management Plans will be developed in consultation with affected landholders.
17.5	Construction workforce housing and accommodation strategies will be implemented.
17.6	The proponent will contribute to a Gas Community Benefit Fund in accordance with the NSW Gas Plan.
17.7	The exclusion of surface infrastructure from Yarrie Lake Reserve (plus a buffer of at least 50 m).
17.8	The proponent will prepare and implement a Social Impact Management Plan.
Economics	
18.1	A procurement and logistics strategy will be implemented.
18.2	The proponent will contribute to a Gas Community Benefit Fund in accordance with the NSW Gas Plan.
Waste management	
19.1	A Waste Management Plan will be implemented.
19.2	Solid salt product will be disposed of at an appropriately licensed facility in accordance with regulatory requirements.

Appendix C

Field Development Protocol

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Narrabri Gas Project

Environmental Impact Statement

February 2018

Appendix C

Field Development Protocol

(Environmental Protocol for Constraints Planning and Field Development)

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1. Introduction

1.1 Protocol overview

Santos NSW (Eastern) Pty Ltd (Santos) is proposing to develop the Narrabri Gas Project (the project) which includes the construction of up to 850 new wells on a maximum of 425 well pads. The planning and development of project infrastructure is an iterative or phased process, where the location of infrastructure is determined by the resource, proximity to existing infrastructure, landholder agreements and environmental constraints as described in this document.

The Protocol sets out the locational criteria for the infrastructure and the procedures Santos will implement to ensure that the infrastructure is sited in accordance with the criteria. The locational criteria for the infrastructure is set out in Sections 7 to 10 inclusive of this document and summarised in Table 11-1.

The Field Development Protocol (the Protocol) provides a framework for the siting of gas wells and associated infrastructure to be installed within the project area. The Protocol seeks to systematically avoid, minimise and manage the environmental impacts of the project in accordance with legislation, environmental, social and cultural constraints, management plans and proposed conditions if approved. The Protocol specifies the locational criteria for the infrastructure and the procedures Santos will implement to ensure compliance with criteria.

The Protocol does not apply to the water and gas treatment facilities on the Leewood Property as the location of those facilities is finalised at the time of lodgement of the EIS.

The Protocol will ensure that the development of the project, particularly the siting of in field infrastructure, minimises the impact of the project on the environment and takes place in accordance with:

- The project commitments;
- Relevant State and Commonwealth legislation;
- The environmental impacts identified in the relevant impact assessment reports that accompany the EIS;
- Environmental constraints/limits identified in the impact assessment reports;
- Environmental management plans or procedures; and
- Proposed conditions of approval.

The Protocol applies for the life of the project, including each stage of development, infrastructure planning and design, construction, operation, decommissioning and rehabilitation. The Protocol takes into account the following environmental, social and cultural constraints:

- Maximum ecological disturbance limits by vegetation community and for individual threatened flora;
- Cultural heritage including Aboriginal cultural heritage and non-indigenous heritage;
- Watercourses and buffer width as determined by Strahler stream order;
- Flooding and geomorphology;
- Noise; and
- Identified sites (e.g. Yarrie Lake reserve).

If development consent and approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the NSW *Environmental Planning and Assessment Act 1979* is granted, the Protocol (currently draft) will be revised to capture conditions of approval related to the siting of infrastructure.

A Plan of Operations will fully detail site and asset specific information for planned infrastructure, as well as the direct impacts on vegetation communities. A Plan of Operations will be prepared for each stage of development and provided to the Department of Planning and Environment prior to implementation. A Plan of Operations will be provided to the Department of Planning and Environment and Commonwealth Department of Environment and Energy no less frequently than at two yearly intervals.

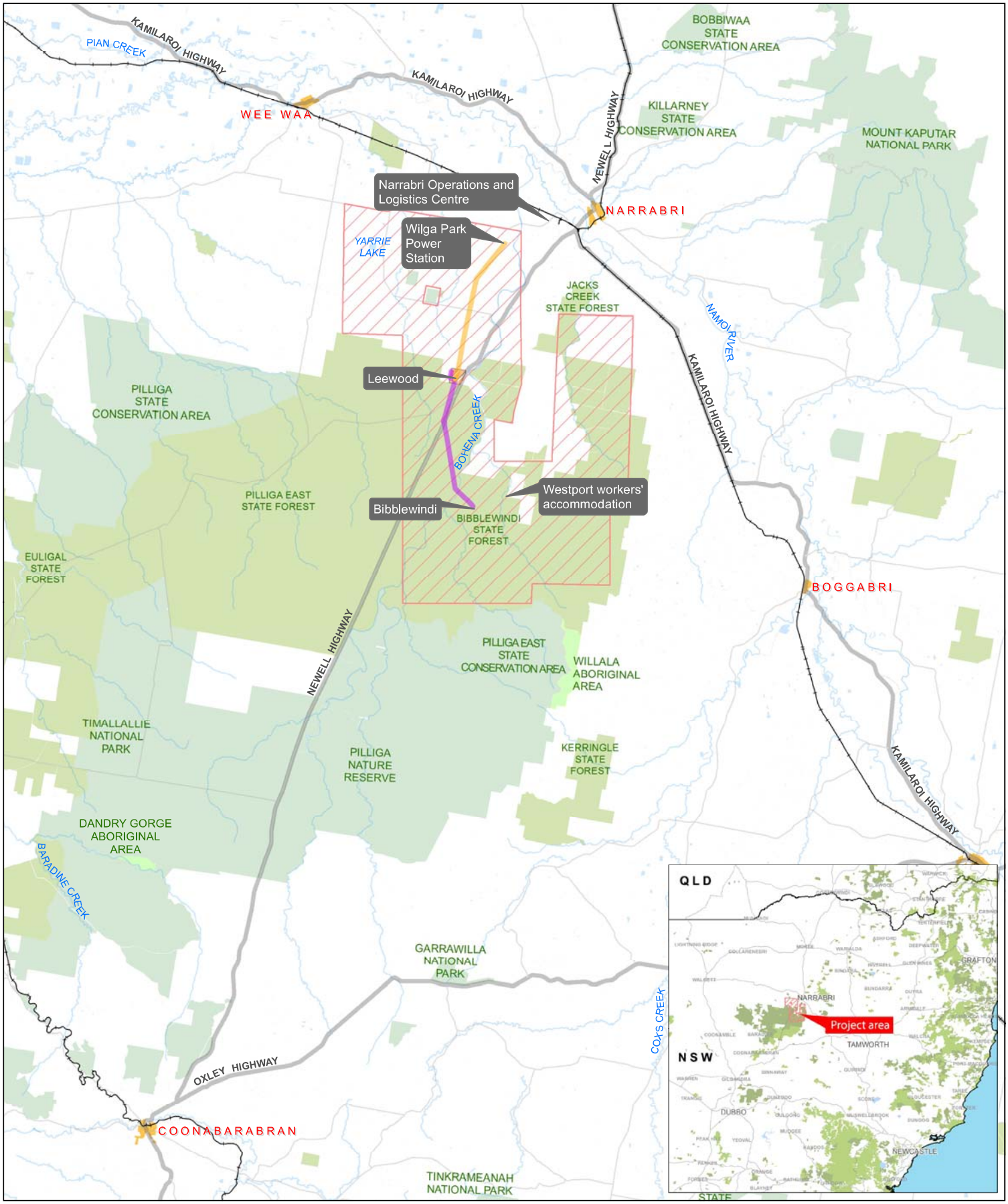
The development of the project will be subject to a combination of annual compliance review and third party audits (every three years) to assess performance relative to the requirements of the Protocol including the constraints.

1.2 Description of the Project

Santos is proposing to develop natural gas in the Gunnedah Basin in New South Wales (NSW), southwest of Narrabri (refer to Figure 1-1)

The Narrabri Gas Project seeks to develop and operate a gas production field, requiring the installation of up to 850 new wells on a maximum of 425 well pads. Well types would include all new exploration, appraisal and production wells. The natural gas produced would be treated at a central gas processing facility on a local rural property (Leewood), to the north of the Pilliga. The gas would then be piped via a high-pressure gas transmission pipeline to market. This pipeline would be part of a separate approvals process and is therefore not part of this development proposal.

The project area covers about 950 square kilometres (95,000 hectares) in size, and the project footprint would directly impact about one per cent of that area.



LEGEND

- Project area
- Leewood
- Urban
- State forest
- Parks and reserves
- Aboriginal areas
- Lakes and dams
- Watercourses
- Highways
- Major Roads
- Train line
- Leewood to Wilga Park infrastructure corridor
- Bibblewindi to Leewood infrastructure corridor

0 5 10 20
Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Narrabri Gas Project
EIS Technical Appendix

Regional context and location of key infrastructure

Job Number 21-22463
Revision A
Date 12 Mar 2015

Figure 1-1

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2. Purpose and scope

2.1 Purpose

The Protocol sets out the locational criteria for the infrastructure and the procedures Santos will implement to ensure that the infrastructure is sited in accordance with the criteria.

The Protocol provides a framework for the siting of gas wells and associated infrastructure to be installed within the project area. The Protocol seeks to systematically avoid, minimise and manage the environmental impacts of the project in accordance with legislation, environmental, social and cultural constraints, management plans and proposed conditions if approved.

The Protocol aims to ensure that the development of the project, particularly the siting of infrastructure, minimises the impact of the project on the environment in accordance with the environmental management measures and limits outlined in the EIS. The Protocol will be revised post determination to ensure consistency with relevant approval conditions that act as a constraint for the siting of infrastructure. The Protocol takes into account impacts to Matters of National Environmental Significance listed under the EPBC Act.

The Protocol has been designed to avoid certain attributes within the project area and maximise avoidance of the most sensitive ecological features. The Protocol applies for the life of the project (refer Figure 2-1), including each stage of infrastructure planning and design, construction and operation.

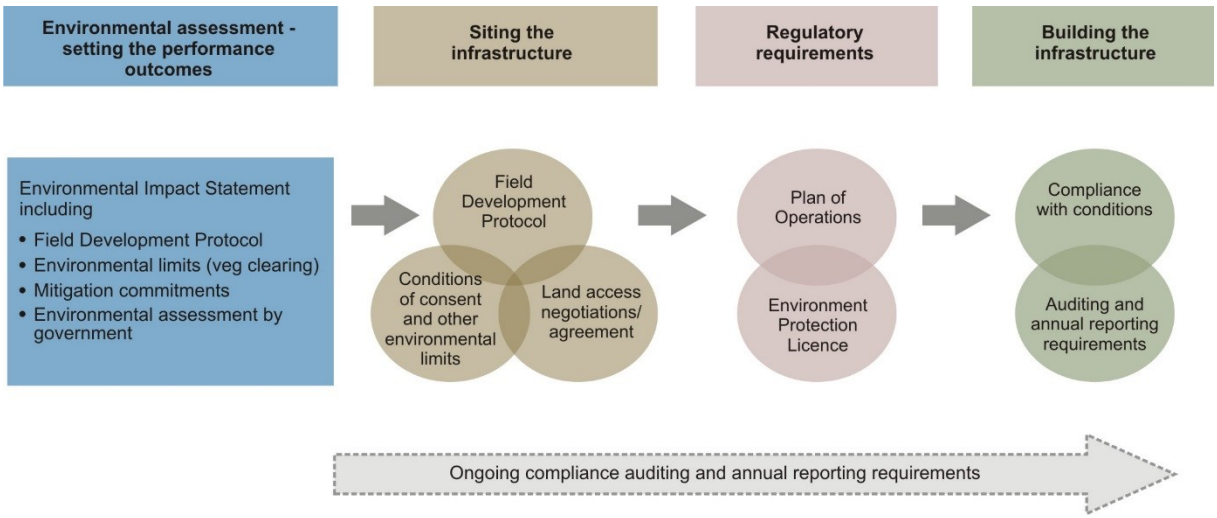


Figure 2-1 The Protocol within the overall project framework

2.2 Scope

The Protocol relates to the activities required for the development of natural gas from the Gunnedah Basin proposed to be undertaken under the existing tenure, being PEL 238, PAL 2 and PPL 3, or undertaken under the petroleum production leases, if granted, in respect of PPLA 13, PPLA 14, PPLA 15 and PPLA 16. The Protocol does not apply to the major facilities at the Leewood property. These have been fully described and assessed in the EIS. The Protocol aims to manage environmental constraints relevant to the Commonwealth and State Governments under a single framework.

The Protocol is to be applied over the life of the project in four phases, as shown in Figure 2-2. Specifically, the Protocol will ensure the project is consistent with:

- All relevant State and Commonwealth legislation;
- The environmental impacts identified in the relevant impact assessment reports that accompany the EIS;
- Environmental constraints/limits identified in the impacts assessment reports;
- Environmental management plans or procedures; and
- Proposed conditions of approval.

Figure 2-2 Phases of the constraints planning process

3. Compliance and audit

3.1 Compliance

3.1.1 Legal compliance

The siting of infrastructure must comply with relevant Commonwealth and New South Wales legislation and approvals including but not limited to relevant sections of:

- *Environment Protection and Biodiversity Conservation Act 1999* (Cth);
- *Petroleum (Onshore) Act 1991* (NSW);
- *Environmental Planning and Assessment Act 1979* (NSW);
- *Protection of the Environment Operations Act 1997* (NSW);
- *National Parks and Wildlife Act 1974* (NSW); and
- *Threatened Species Conservation Act 1995 (*NSW) / *Biodiversity Conservation Act 2017* (NSW)

3.1.2 Santos Environment, Health and Safety Management System

Santos will use its company-wide Santos Management System (SMS), which provides a structured framework for effective environmental and safety practice across all Santos activities and operations. The implementation of the SMS will assist in compliance with the Protocol, Plan of Operations and the minimisation of environmental impacts.

The framework is consistent with Australian Standard 4801:2000 *Occupational Health and Safety Management Systems – Specification with guidance for use*, and AS/NZS ISO 14001:1996 *Environmental Management Systems – Specification with guidance for use*. The SMS documents are maintained in electronic form on Santos' central server that is accessible to all employees and contractors.

Management standards have been developed as part of the SMS and define the requirements necessary to systematically manage environmental, cultural heritage, health and safety risk.

3.1.3 Management plans and procedures

Following approval management plans will be developed to incorporate Commonwealth and State regulatory requirements. These plans also incorporate the Santos corporate values, policies and SMS into project-level documents that set out measures and commitments to manage the risk of adverse impacts to environmental values.

Table 6-1 details the key management plans to be used for the project.

3.1.4 Plan of Operations

A Plan of Operations detailing the location of proposed infrastructure will be prepared and submitted to the NSW Department of Planning and Environment and the Commonwealth Department of Environment and Energy prior to implementation. Government departments will have 28 days to review compliance with the approval conditions, and then implementation can commence.

3.2 Annual review and third-party audit

3.2.1 Annual review

On each anniversary of the approval, Santos will review implementation to ensure it is consistent with:

- The Protocol, management plans and procedures and Plan of Operations; and
- Conditions of the Commonwealth and State Government approvals.

Santos will identify potential non-compliances, analyse the causes of these potential non-compliances and describe the measures that will be implemented to ensure compliance in the future.

3.2.2 Third-party audit

Within three years of the first Plan of Operations, and every three years thereafter, Santos will facilitate a third-party environmental audit to ensure compliance with the following:

- implementation consistent with the Protocol and Plan of Operations;
- conditions of the Commonwealth and State Government approvals and relevant licences and plans;
- relevant State and Commonwealth legislation;
- management plans; and
- the annual compliance review obligations for the period.

In accordance with the Cultural Heritage Management Plan (CHMP), an Annual Report will be compiled, and the third-party auditor will periodically compile a CHMP Auditor's Report in consultation with the Aboriginal community and State Government. Therefore, the Cultural Heritage Management Plan will be excluded from this environmental audit.

The third-party auditor will be suitably qualified to conduct the audit.

The auditor will provide a report to the NSW Department of Planning and Environment and the Commonwealth Department of the Environment and Energy, identifying non-compliances and recommendations to improve planning or implementation processes.

4. Landholder engagement

Landholder engagement and consultation is an important component of all stages of development.

Gas wells will only be drilled on a landholder's property where there is a land access agreement in place negotiated in accordance with the *Agreed Principles of Land Access*.

A Land Access Agreement will be required with each landowner before infrastructure may be located on the landholder's property. Due to the specific nature of the activities that may be proposed on each landholder's property and the localised issues that may be identified during the landholder consultation process, landholder consultation and land access agreements do not form part of this Protocol. A Farm Management Plan will be developed in liaison with landholders to document planned activities and indicative timing of these for both the landholder and Santos to enable coexistence of activities to be managed effectively.

5. Field development – desktop review to final design

The infrastructure for the project will be sited in accordance with the locational criteria set out in Sections 7 to 10 inclusive of this document and summarised in Table 11-1.

The Protocol applies for the life of the project, for each stage of development throughout infrastructure planning and design, construction, operation, decommissioning and rehabilitation, and takes into account the following environmental, social and cultural constraints:

- Maximum ecological disturbance limits by vegetation community and for individual threatened flora;
- Cultural heritage including Aboriginal cultural heritage and non-indigenous heritage;
- Unless a written agreement is in place with the relevant landholder, no project infrastructure will be located within 200 m of an occupied residence on that property;
- Watercourses and buffer width as determined by Strahler stream order;
- Flooding and geomorphology;
- Noise; and
- Identified sites (e.g. Yarrie Lake reserve, Brigalow State Conservation Area).

Avoidance and minimisation of impacts are prioritised throughout the field development process, in the first instance through exclusions, and then by siting of the infrastructure in accordance with the locational criteria set out in Sections 7 to 10 of the Protocol; summarised in Table 11-1. Field development is summarised in Figure 5-1 below and commences with a desktop review, then micro-siting in the field, finalising design and provision of the Plan of Operations to Government for review of compliance with consent conditions. The final phase is implementation including management controls, and ongoing monitoring and auditing.

The Plan of Operations will be prepared for each stage of development and provided to Government prior to implementation. The Plan of Operations will further detail site-specific information for planned infrastructure, compliance with various constraints including direct impacts on vegetation communities, and include management and monitoring methods that will be implemented.

5.1 Overview of field development

5.1.1 Exclusion areas and maximising avoidance

The design and location of infrastructure for the project excludes certain sensitive areas, and to minimise overall disturbance, maximises the use of areas within or adjacent to existing disturbance where practicable.

This strategy includes but is not limited to:

- Exclusion of Brigalow Park Nature Reserve from the project area;
- Exclusion of surface infrastructure from the Brigalow State Conservation Area (and a 50 m buffer from the State Conservation Area);
- Exclusion of surface infrastructure from Yarrie Lake reserve (plus a buffer of at least 50 m from Yarrie Lake reserve);
- Avoidance of all currently known Aboriginal sites;
- Placement of large ponds (for brine and produced water) and large dams in areas of low ecological sensitivity;
- The exclusion of non-linear infrastructure from riparian corridors;

- Disturbance to the high ecological sensitivity class is limited to 0.5 % of total class area; and
- Where practicable development planning will maximise the use of existing roads, tracks and disturbance corridors for construction, operational access and the placement of linear infrastructure (for example gas and water gathering systems).

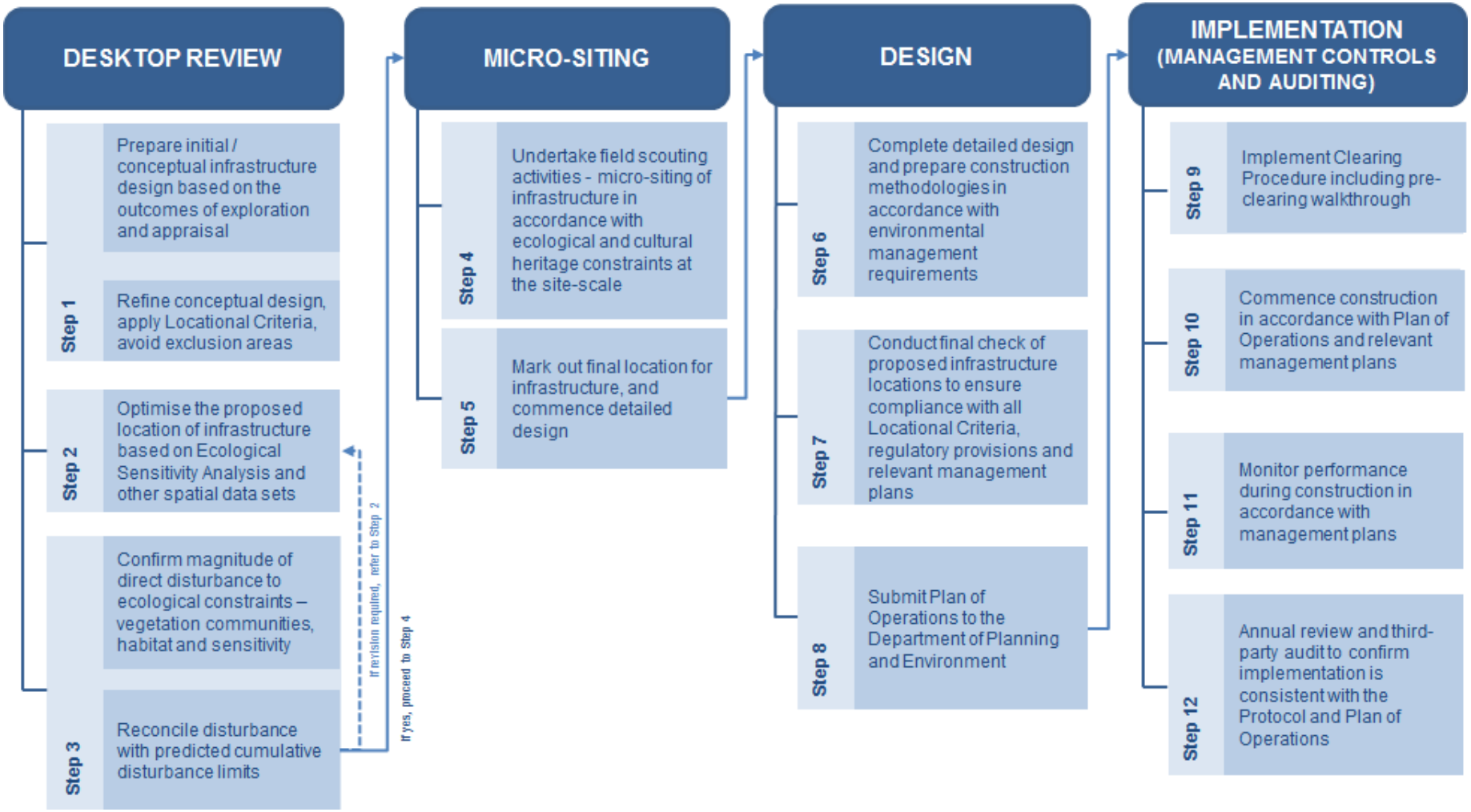


Figure 5-1 Constraints planning process flow

5.1.2 Desktop review (Steps 1 through 3)

The desktop review process optimises the location of infrastructure and environmental outcomes, and identifies likely suitable development areas. The GIS database that is utilised during desktop review includes:

- Geologic features and knowledge of gas resources;
- Ecological sensitivity mapping (see section 7.1), as well as other ecological data;
- The location of known Aboriginal cultural heritage sites as mapped in Figure 9-1 and historic heritage (Figure 9-2);
- Existing access tracks and roads that can be used for the project development, minimising development scope and disturbance through co-location;
- Existing infrastructure including gas and water gathering and transmission pipelines, ponds, dams, electrical infrastructure and compression infrastructure;
- The location of surface water resources, riparian corridors and one per cent Annual Exceedance Probability flood event levels; and
- Sensitive receptors, which could potentially be impacted by noise or air emissions.

Step 1 – Define the next stage of development relative to exclusion areas (conceptual design)

This process involves the development of the initial conceptual infrastructure design and takes into account the gas resource, Locational Criteria, exclusion areas, existing infrastructure and other relevant information.

The conceptual design of infrastructure also informs the land access negotiations.

Steps 1 and 2 are not mutually exclusive and will be undertaken in parallel as an iterative process to ensure the infrastructure locations are optimised.

Step 2 – Review of the proposed infrastructure against Ecological and other spatial constraints

This step utilises the conceptual design (developed above) and seeks to optimise the placement of infrastructure using the ecological sensitivity class hierarchy described in Section 7.1 and the potential for impacts on other constraint classes. Initially this process involves reviewing the proposed infrastructure locations relative to the ecological sensitivity maps. Through this process, infrastructure locations will be directed (where practicable) to less sensitive ecological classes in accordance with the general rules and specifications provided in Section 7.1.

As detailed in the constraint matrix (Table 7-1), this will result in the majority of the well pads being located outside of high and moderate high ecological sensitivity classes (disturbance to the high ecological sensitivity class is limited to 0.5% of total class area). Linear infrastructure will be less constrained, development will be directed firstly to areas adjacent to existing linear infrastructure where practicable and/or the shortest feasible routes to minimise the total clearing required.

Where the total extent of clearing is similar between two potential options, linear infrastructure will be directed to the areas with the lowest aggregate disturbance of higher order ecological sensitivity classes.

Following optimisation for ecological sensitivity, consideration is given to the remaining constraints. Where necessary, the placement of infrastructure will be modified.

Step 3 – Review of cumulative disturbance against probabilistic estimates of disturbance

Step 3 involves reconciliation of the potential disturbance of each development stage against the predicted cumulative disturbance calculations for development.

The reconciliation of potential disturbance provides a critical component of the framework for tracking of performance, as well as ensuring the conceptual design and optimisation described in Steps 1 and 2 above are maintained within the approved ecological disturbance limits over the life of the project.

5.1.3 Micro-siting

Step 4 – In-field micro-siting

Micro-siting involves, amongst other things, ensuring compliance with all of the relevant avoidance measures and constraints at the site-scale. Micro-siting seeks to further direct the development away from sensitive ecological and cultural features.

The micro-siting process involves field scouting of ecological features (such as threatened flora and hollow-bearing trees) and pre clearance surveys for Aboriginal cultural heritage within the proposed area of the development. The micro-siting process will be conducted as follows:

Step 4a – Mark-out of the proposed layout of infrastructure within the development area.

Step 4b – Ecological site scouting of the marked out area and buffer areas to survey for the presence of the high value ecological features (including threatened flora and hollow-bearing trees). For the purposes of the site scouting, the survey buffers will comprise of an area approximately 50 m beyond the boundary on the one-hectare well pad site and 6 m on either side of the 12 m linear infrastructure easements.

A hierarchical structure will be applied to the relocation of infrastructure to avoid or minimise impacts on key features and attributes identified during micro-siting. If an endangered ecological community is identified that was not mapped at that particular location, the proponent would seek to avoid the community. If avoidance is not possible, then the impact would count toward the upper disturbance limit for that endangered ecological community. For all other impacts, the upper clearing limits would be assessed as per the mapped plant community type.

Step 4c – The data collected during site scouting will be used to recommend refined infrastructure locations to maximise avoidance whilst remaining within engineering limits for construction and operation. The data collected during site scouting will also be used to inform future desktop reviews (Steps 1 through 3).

Table 5-1 Avoidance hierarchy (in order of priority)

Priority	Ecological Feature or Attribute	
1	Endangered Ecological Communities by listing status:	
	Ranking (highest to lowest)	**Status**
	1	EPBC Act Endangered
	2	TSC Act Endangered
2	Threatened flora species prioritised by listing status:	
	Ranking (highest to lowest)	**Status**
	1	EPBC Act Critically Endangered
	2	TSC Act Critically Endangered
	3	EPBC Act Endangered
	4	TSC Act Endangered
	5	EPBC Act Vulnerable
	6	TSC Act Vulnerable
3	Hollow-bearing trees prioritised by size class:	
	Ranking (highest to lowest)	**Size Class**
	1	> 300 mm
	2	>200 mm < 300 mm
	3	<200 mm
4	Significant fauna habitat (e.g. Pilliga Mouse habitat, nests, mistletoe)	

An example of the process of micro-siting and the outcomes of the process are shown below in Figure 5-2.

Step 4d – Following completion of the ecological micro-siting component, a cultural heritage pre-clearance survey will be conducted within the refined infrastructure alignment:

- This survey will be undertaken in accordance with the Cultural Heritage Management Plan (CHMP) and confirm the presence/absence of Aboriginal cultural heritage sites;
- All currently known sites will be avoided (refer Figure 9-1); and
- If Aboriginal cultural heritage sites are encountered in the recommended area then the procedures outlined in the CHMP will be implemented, including the avoidance commitments by Aboriginal site type. Where a re-positioning of infrastructure to avoid cultural heritage features can be conducted without causing additional impact to ecological features and attributes, the alignment will be modified immediately. Otherwise, an iterative approach will be followed to ensure overall ecological impact is minimised when complying with avoidance commitments by Aboriginal site type.

The cumulative ecological disturbance limits will then be verified.

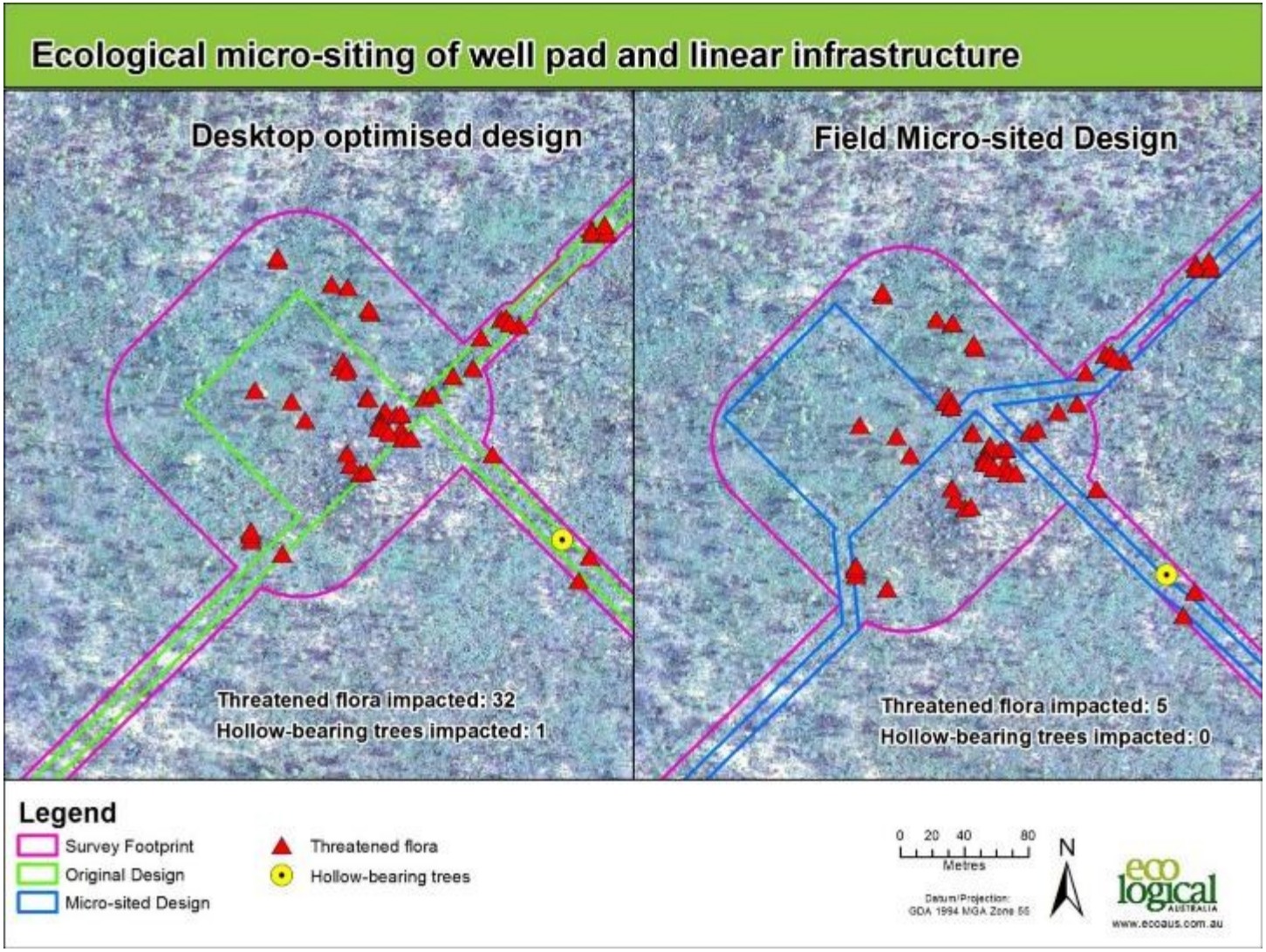


Figure 5-2 Micro-siting - ecology

Step 5 – Complete final mark-out and survey of the development area.

The final location of the infrastructure will be surveyed and marked in the field.

5.1.4 Design

Step 6 – Detailed design and management control planning

Detailed designs and management practices for the proposed development are finalised after considering:

- Constructability; and
- Environmental and construction hazards and risks; and Management controls (to mitigate potential impacts) and management practices (for example erosion and sediment controls).

Step 7 – Final check to verify compliance with all project conditions and management plans

A final check for the proposed infrastructure locations to ensure compliance with Locational Criteria, regulatory conditions and management plans.

Step 8 – Prepare and Submit of Plan of Operations

A Plan of Operations details the proposed infrastructure located in accordance with the constraints and processes in the Protocol. The Plan of Operations would be submitted to the NSW Department of Planning and Environment and the Commonwealth Department of Environment and Energy prior to implementation. Digital spatial data sets of existing and proposed infrastructure will also be provided. Government departments review compliance with the Protocol and approval conditions. The Plan of Operations will then be published on a web site.

6. Implementation management controls

The key strategies for management and mitigation of impacts, which will be documented within the Plan of Operations, include:

- Implementation of **pre-clearance protocols for fauna management** to minimise and mitigate disturbance to fauna within the proposed development area.
- **Construction Management** techniques that minimise the extent and nature of disturbance. A broad range of management controls have been established to manage and mitigate the impacts of construction and operational activities these are described further in Section 6.2.
- Ongoing **rehabilitation, including partial rehabilitation**, to facilitate revegetation of disturbed areas and the return of ecological functions, or resume agricultural activities in developed areas
- **Monitoring of the performance** of the management methods and key environmental indicators (for example indirect impacts on biodiversity, noise etc.)
- **Review and Auditing** to assess the performance of the Protocol and facilitate modification.

General discussion on each of these components is provided below.

The key strategies for management and mitigation of project activities are provided in the sections below.

6.1 Implement pre-clearance protocols for fauna management

A clearing procedure including a pre-clearing walkthrough was developed to minimise potential impacts or risk to fauna during vegetation removal (included in NGP Ecological Impact Assessment, Appendix J of the EIS). The purpose of the clearing procedure is to identify fauna occurrence in the development area, and encourage fauna to relocate outside of the development area prior to habitat clearing and move fauna during clearing.

A pre-clearing walkthrough undertaken by an appropriately qualified ecologist involves marking and recording the location of hollow-bearing trees or other significant fauna habitat features (nests, hollow-bearing logs, stags) within the proposed development area. Attributes of each hollow-bearing tree (species, diameter at breast height, hollow sizes) will be recorded.

Clearing operations are to be supervised by an appropriately qualified ecologist in accordance with the clearing procedure.

6.2 Implementation of management and construction controls

The general management and mitigation measures that will be utilised for the project are summarised in Section 6.2.1.

In conjunction with the Plan of Operations, all activities will be undertaken in accordance with the Environmental Management Strategy and relevant management plans.

6.2.1 General management and mitigation measures

Relevant provisions of management plans will be implemented as appropriate throughout the constraints planning process (Figure 5-1) and construction. Relevant management plans include, but are not limited to, those listed in Table 6-1.

Table 6-1 Management plan summary

Management Plan	Management Strategies and Approaches
Erosion and Sediment Control Plan (ESCP)	The purpose of the erosion and sediment control plan is to minimise sedimentation to surface watercourse as a result of construction activities.
Cultural Heritage Management Plan (CHMP)	Provides the framework for the management of Aboriginal cultural heritage during the implementation of the project.
Biodiversity Management Plan	Applies in all project stages and would include a significant species management plan and management measures to minimise impacts on terrestrial flora and fauna. Also includes the pre-clearing and clearing procedure to minimise potential impacts or risk to fauna during vegetation removal.
Noise and Vibration Management Plan	Methods used to minimise construction noise and vibration such that noise constraints are met during construction, operation and rehabilitation.
Pest, Plant and Animal Control Plan	An inventory of weeds, diseases present, and management measures to be implemented in design, construction and post construction to control weeds.
Historic Heritage Management Plan (HHMP)	Measures to guide the management and protection of identified heritage items within the project area across the construction phase of the project
Rehabilitation Strategy	Ensure an overarching and consistent approach to rehabilitation management, with specific rehabilitation requirements to populate other plans as required (such as farm management plans, and sediment and erosion control plans).
Decommissioning Management Plan	The decommissioning of wells in accordance with the NSW *Code of Practice for Coal Seam Gas Well Integrity,* in addition to the decommissioning of major infrastructure and other field infrastructure.
Bushfire Management Plan	Description of the bushfire risks, formal preparedness procedures, procedures during bushfire and maintenance requirements for emergency access and egress routes. To be prepared in consultation with landholders and the NSW Rural Fire Service.

6.2.2 Management strategies for mitigation of impacts on terrestrial ecology

Actions to mitigate the potential impacts of each development stage on ecological values have been detailed in the EIS (included in NGP Ecological Impact Assessment, Appendix J of the EIS). Management strategies include: site inductions, clear demarcation of work areas, restricting access to designated access roads and corridors, inspection of trenches, observations of illegal hunting or collection, installation of fauna friendly fencing, speed limitations, minimising driving during high fauna activity periods (i.e. from dusk through to dawn), dust suppression, prohibition of domestic pets, minimising light spill, progressive rehabilitation, adequate storage and bunding of liquids, spill management procedures and rubbish collection.

6.2.3 Rehabilitation strategy

A Rehabilitation Strategy has been prepared for the project, Appendix V of the EIS. Partial rehabilitation of the disturbed areas will occur as soon as practicable. Partial rehabilitation of well pads can commence after an assessment of the operational performance of the well. Following the decommissioning of infrastructure rehabilitation of sites will be completed.

6.3 Annual monitoring of performance

On each anniversary of the approval, Santos will conduct an annual compliance review to ensure it is compliant with:

- The Protocol, management plans and procedures and Plan of Operations; and
- Conditions of the Commonwealth and State Government approvals.

Santos will identify potential non-compliances, analyse the causes of these non-compliances and describe the measures that will be implemented to ensure compliance in the future.

6.4 Third party audits

Within three years of the first Plan of Operations, and every three years thereafter, Santos will facilitate a third-party environmental audit to ensure compliance with the following:

- implementation consistent with the Protocol and Plan of Operations;
- conditions of the Commonwealth and State Government approvals and relevant licences and plans;
- relevant State and Commonwealth legislation;
- management plans; and
- the annual compliance review obligations for the period.

In accordance with the Cultural Heritage Management Plan (CHMP) an Annual Report will be compiled, and a the third-party auditor will periodically compile a CHMP Auditor's Report in consultation with the Aboriginal community and State Government. Therefore, the Cultural Heritage Management Plan will be excluded from this environmental audit.

The third-party auditor will be suitably qualified to conduct the audit.

The auditor will provide a report to the NSW Department of Planning and Environment and the Commonwealth Department of the Environment and Energy, identifying potential non-compliances and recommendations to improve planning or implementation processes.

7. Ecological constraint categories

The potential constraints of the project area from an ecological perspective are complex including threatened flora, threatened fauna habitat, Endangered Ecological Communities, high quality vegetation, regionally significant vegetation and large patch size. To present these constraints in a meaningful manner, an Ecological Sensitivity Analysis (ESA) was developed to identify the degree of ecological sensitivity and hence constraint to development.

The primary purpose of the ESA is to inform the selection of locations for well pads and associated infrastructure (such as access tracks, gas and water gathering systems, water balance tanks and telecommunications equipment) to maximise avoidance of areas of higher ecological sensitivity.

The ecological sensitivity analysis used available spatial data as well as new spatial data collected through field investigations and developed specifically for the project to identify areas of sensitivity. Ecological criteria were identified and assigned rankings and weightings. The sensitivity analysis then combined scores for the data, applied weightings, and modelled sensitivity indices. The following five relative sensitivity classes based on identified trends (clustering) in the sensitivity index were modelled (refer Figure 7-1):

- **Low** – Areas that include a high degree of previous disturbance which impact on long term viability. Disturbance should be directed to these areas wherever possible.
- **Low - Moderate** – Areas that exhibit effects of previous disturbance, or habitat values, which are of lower sensitivity in the regional context. Disturbance of these areas should be minimised at the site scale.
- **Moderate** – Areas that exhibit some effects of previous disturbance, or habitat values which are or moderate sensitivity in the regional context. Disturbance of these areas should be minimised at the site scale.
- **Moderate - High** – Areas that include a range of ecological values, including those listed under State or Federal legislation. Maximise avoidance on these areas whenever practicable.
- **High** – Areas which contain a combination of significant ecological values, including those listed under State or Federal legislation. Maximise avoidance on these areas whenever practicable. (Note: disturbance limited to 0.5% of area).

7.1 Ecological sensitivity and constraint categories

The key ecological sensitivity constraints for the project are summarised below in Table 7-1. Definitions for the relevant activities in discussed in Table 7-1 is provided below:

- **Support for planning** - Monitoring including air quality, noise, ecological surveys, pests and weeds and cultural heritage surveys.
- **Non-linear infrastructure** - Infrastructure including (but not limited to) exploration and production wells, field compressor stations, dams, ponds, communications towers, water tanks/balance tanks, flares, irrigation areas (and associated infrastructure) and maintenance facilities.
- **Linear infrastructure** - Infrastructure including (but not limited to) gas and water gathering lines, low and medium pressure gas and water pipelines/water trunk lines, access tracks, power lines, communication lines and other service lines.
- **Large ponds and dams** – Ponds and dams greater than 100 megalitres capacity.

Table 7-1 Ecological constraints matrix

Constraint category	Prohibited activities	Permitted activities	Ecological Sensitivity / Constraints Class
No-go area	Petroleum activities are prohibited in this area.	NIL	Nature Reserves, National Parks, Aboriginal Areas
Surface development exclusion area	Linear infrastructure Non-linear infrastructure Large ponds and dams	Support for planning	State Conservation Areas Yarrie Lake reserve
High constraint area	Large ponds and dams	Support for planning Linear infrastructure Non-Linear Infrastructure	High Moderate-High Note: ecological disturbance limits and siting of infrastructure process apply. Disturbance to high ecological sensitivity class limited to 0.5% of total class area.
Moderate constraint area	Large ponds and dams	Support for planning Linear infrastructure Non-linear infrastructure	Low-moderate Moderate Note: ecological disturbance limits and 'siting of infrastructure' process apply
Low constraint area	No prohibited activities.	Support for planning Linear infrastructure Non-linear infrastructure Large ponds and dams	Low ecological sensitivity Note: ecological disturbance limits apply where relevant

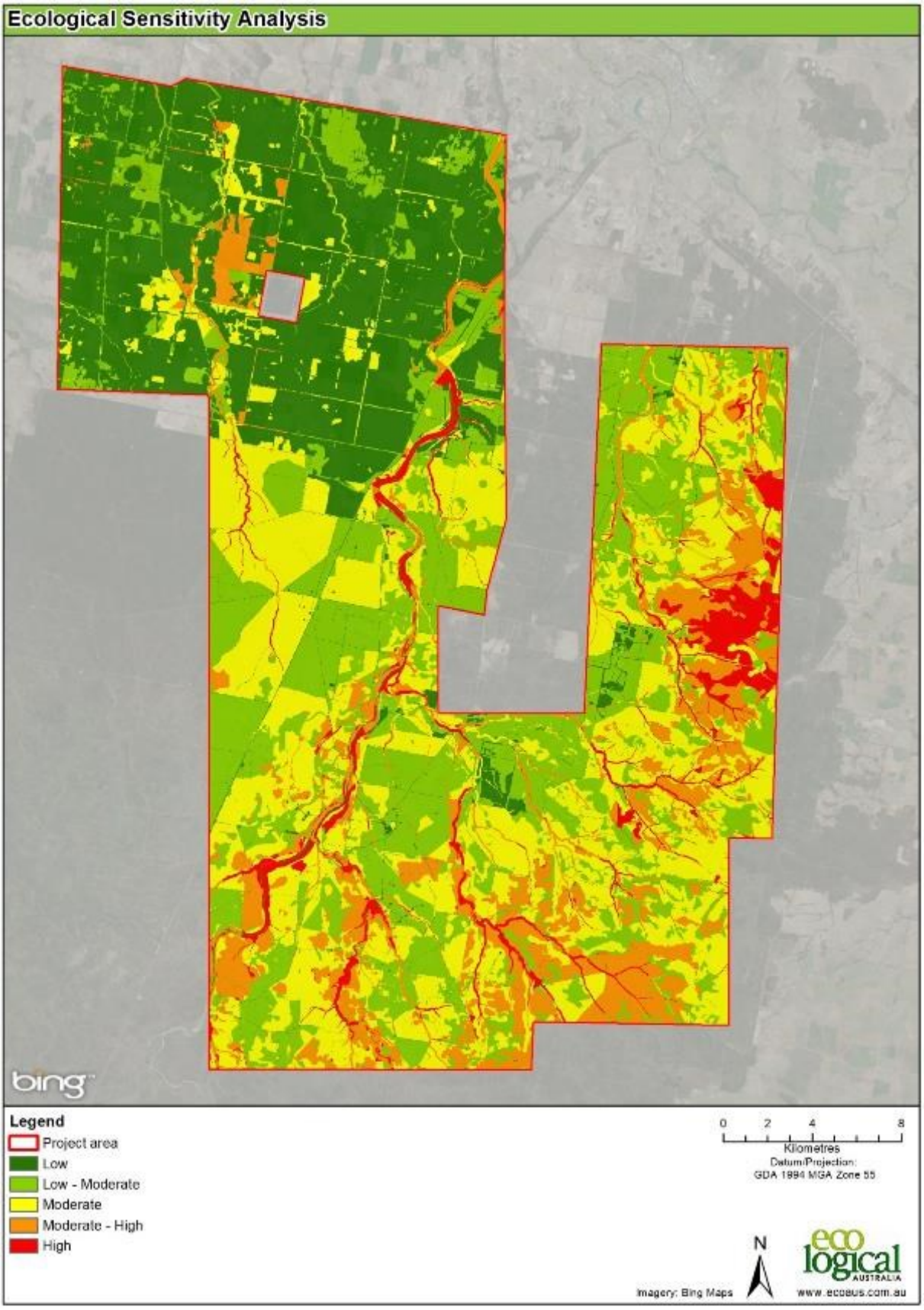


Figure 7-1 Ecological sensitivity class

8. Ecological constraints - disturbance limits

The project application seeks approval for the estimated total maximum disturbance on vegetation communities and habitat. The development planning and execution, in accordance with the Protocol, maintains the project under these defined limits.

Discussion of the calculation methodologies employed, calculated disturbances and accounting for these limits are described in the sections below. This calculation has been achieved through two key methodologies:

1. A probabilistic methodology for defined ecological communities using a range of development scenarios; and
2. Association modelling for specific flora and fauna species.

8.1 Probabilistic calculation of disturbance

A probabilistic calculation of disturbance was completed. The methodology involved the use of a theoretical framework and probabilistic methodology to estimate the maximum vegetation community and habitat disturbance associated with the project. The calculations provided a robust, clear and repeatable methodology for the assessment carried out in the EIS. Maximising avoidance of the high ecological class was incorporated in the calculations.

A detailed discussion of the probabilistic calculation methodology is provided in the document Probabilistic Estimation Methodology for Calculation of Land Disturbance (EHS Support, 2015).

8.2 Disturbance limits

The disturbance limits, direct impacts, are the maximum amount of each native vegetation community or threatened flora that is proposed to be cleared for the project. Direct impacts considered for this assessment are vegetation removal, habitat removal and removal of threatened flora individuals.

The impact assessment took a conservative approach and assumes the disturbance limit for each vegetation community will be reached, representing a ‘worst case’ impact.

Approval is being sought for a maximum of 988.8 hectares of new disturbance of native vegetation including derived native grassland. This represents the total clearance determined in accordance with the probabilistic calculation of disturbance discussed in Section 8.1.

The maximum disturbance of each vegetation community has been assessed by plant community types (refer to Table 8-1). The maximum disturbance is displayed as both hectares removed, and also a percentage of the plant community type to be removed in the study area.

8.3 Ecological impact assessment

A comprehensive impact assessment, which considered the terrestrial ecological values of the project area, was undertaken as part of the EIS.

The impact assessment used multiple data sources including existing mapping layers and Light Detection and Ranging datasets, which were supported by extensive targeted field surveys and mapping to develop a robust baseline dataset.

A series of technical reports were produced as part of the terrestrial ecological assessment, which provide a detailed description of the assessment methodologies and findings, including:

- *NGP - Vegetation Mapping*. Eco Logical Australia, 2015
- *NGP - Pilliga Mouse Survey*. Eco Logical Australia, 2015
- *NGP - Pilliga Mouse Habitat Assessment*. Eco Logical Australia 2015
- *Koala Refuges in the Pilliga Forests*. Niche Environment and Heritage, 2014
- *NGP - Ecological Sensitivity Analysis*. Eco Logical Australia, 2015
- *NGP - Ecological Impact Assessment*. Eco Logical Australia, 2015
- *North-east Pilliga Forest - Threatened Flora Modelling*. Eco Logical Australia, 2015
- *Supplementary Targeted Surveys for Spiny Peppercress and Winged Peppercress and Revision of Upper Disturbance Limits*. Eco Logical Australia, 2018
- *Probabilistic Estimation Methodology for Calculation of Land Disturbance*. EHS Support, 2015.

Table 8-1 Disturbance limits vegetation communities and habitat

Plant Community Type	Fauna habitat type	Condition class	Total in project area (ha)	Estimated disturbance (ha)	Percent impact
27 - Weeping Myall open woodland of the Darling Riverine Plains and Brigalow Belt South Bioregions	Grassy woodland	Native Vegetation	36.0	0.1	0.28%
27 - Weeping Myall open woodland of the Darling Riverine Plains and Brigalow Belt South Bioregions	Grassland	DNG	173.3	0.5	0.29%
35 - Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion	Grassland	DNG	4,228.5	37.2	0.88%
35 - Brigalow - Belah open forest / woodland on alluvial often gilgaied clay from Pilliga Scrub to Goondiwindi, Brigalow Belt South Bioregion	Closed forest	Native Vegetation	2,468.0	19.3	0.78%
55 - Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions	Grassland	DNG	322.9	1.7	0.53%
55 - Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions	Closed forest	Native Vegetation	362.5	3.9	1.08%
78 - River Red Gum riparian tall woodland / open forest wetland in the Nandewar and Brigalow Belt South Bioregions	Riparian woodland	Native Vegetation	10.5	0.0	0.00%
88 - Pilliga Box - White Cypress Pine - Buloke shrubby woodland in the Brigalow Belt South Bioregion	Grassland	DNG	1,526.9	8.8	0.58%
88 - Pilliga Box - White Cypress Pine - Buloke shrubby woodland in the Brigalow Belt South Bioregion	Shrub grass woodland	Native Vegetation	4,456.4	40.8	0.92%
141 - Broombush - wattle very tall shrubland of the Pilliga to Goonoo regions, Brigalow Belt South Bioregion	Heath	Native Vegetation	1,035.6	19.5	1.88%
202 - Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South-western Slopes Bioregion	Grassland	DNG	1.4	0.0	0.00%
202 - Fuzzy Box Woodland on alluvial brown loam soils mainly in the NSW South-western Slopes Bioregion	Grassy woodland	Native Vegetation	588.9	5.9	1.00%
256 - Green Mallee tall mallee woodland rises in the Pilliga - Goonoo regions, southern BBS Bioregion	Shrubby woodland	Native Vegetation	20.3	0.3	1.48%
379 - Inland Scribbly Gum - White Bloodwood - Red Stringybark - Black Cypress Pine shrubby sandstone woodland mainly of the Warrumbungle NP - Pilliga region in the BBS Bioregion	Heathy woodland	Native Vegetation	103.6	2.7	2.61%
397 - Poplar Box - White Cypress Pine shrub grass tall woodland of the Pilliga - Warialda region, BBS Bioregion	Grassland	DNG	446.3	1.3	0.29%

Plant Community Type	Fauna habitat type	Condition class	Total in project area (ha)	Estimated disturbance (ha)	Percent impact
397 - Poplar Box - White Cypress Pine shrub grass tall woodland of the Pilliga - Warialda region, BBS Bioregion	Shrub grass woodland	Native Vegetation	326.7	1.0	0.31%
398 - Narrow-leaved Ironbark - White Cypress Pine - Buloke tall open forest on lower slopes and flats in the Pilliga Scrub and surrounding forests in the central north BBS Bioregion	Grassland	DNG	494.9	3.9	0.79%
398 - Narrow-leaved Ironbark - White Cypress Pine - Buloke tall open forest on lower slopes and flats in the Pilliga Scrub and surrounding forests in the central north BBS Bioregion	Shrub grass woodland	Native Vegetation	23,492.0	323.4	1.38%
399 - Red gum - Rough-barked Apple +/- tea tree sandy creek woodland (wetland) in the Pilliga - Goonoo sandstone forests, BBS Bioregion	Grassland	DNG	47.1	0.2	0.42%
399 - Red gum - Rough-barked Apple +/- tea tree sandy creek woodland (wetland) in the Pilliga - Goonoo sandstone forests, BBS Bioregion	Riparian woodland	Native Vegetation	1,048.0	3.4	0.32%
401 - Rough-barked Apple - red gum - cypress pine woodland on sandy flats, mainly in the Pilliga Scrub region	Grassland	DNG	1,641.2	18.1	1.10%
401 - Rough-barked Apple - red gum - cypress pine woodland on sandy flats, mainly in the Pilliga Scrub region	Riparian woodland	Native Vegetation	5,954.9	46.4	0.78%
402 - Mugga Ironbark - White Cypress Pine - gum tall woodland on flats in the Pilliga forests and surrounding regions, BBS Bioregion	Grassy woodland	Native Vegetation	177.7	1.6	0.90%
402 - Mugga Ironbark - White Cypress Pine - gum tall woodland on flats in the Pilliga forests and surrounding regions, BBS Bioregion	Grassland	DNG	189.7	1.6	0.84%
404 - Red Ironbark - White Bloodwood -/+ Burrows Wattle heathy woodland on sandy soil in the Pilliga forests	Shrubby woodland	Native Vegetation	9,993.9	86.6	0.87%
405 - White Bloodwood - Red Ironbark - cypress pine shrubby sandstone woodland of the Pilliga Scrub and surrounding regions	Heathy woodland	Native Vegetation	6,652.1	108.7	1.63%
406 - White Bloodwood - Motherumbah - Red Ironbark shrubby sandstone hill woodland/open forest mainly in east Pilliga forests	Heathy woodland	Native Vegetation	3,239.2	69.0	2.13%
408 - Dirty Gum (Baradine Gum) - Black Cypress Pine - White Bloodwood shrubby woodland of the Pilliga forests and surrounding region	Grassland	DNG	103.5	0.4	0.39%
408 - Dirty Gum (Baradine Gum) - Black Cypress Pine - White Bloodwood shrubby woodland of the Pilliga forests and surrounding region	Heathy woodland	Native Vegetation	3,084.8	33.3	1.08%
418 - White Cypress Pine - Silver-leaved Ironbark - Wilga shrub grass woodland of the Narrabri-Yetman region, BBS Bioregion	Shrub grass woodland	Native Vegetation	66.2	0.2	0.30%
418 - White Cypress Pine - Silver-leaved Ironbark - Wilga shrub grass woodland of the Narrabri-Yetman region, BBS Bioregion	Grassland	DNG	69.6	0.3	0.43%

Plant Community Type	Fauna habitat type	Condition class	Total in project area (ha)	Estimated disturbance (ha)	Percent impact
425 - Spur-wing Wattle heath on sandstone substrates in the Goonoo - Pilliga forests, Brigalow Belt South Bioregion	Heath	Native Vegetation	366.7	8.4	2.29%
428 - Carbeen - White Cypress Pine - Curracabah - White Box tall woodland on sand in the Narrabri - Warialda region of the Brigalow Belt South Bioregion	Riparian woodland	Native Vegetation	15.0	0.0	0.00%
40X - White Bloodwood – Dirty Gum – Rough Barked Apple heathy open woodland on deep sand in the Pilliga forests	Grassland	DNG	239.5	1.9	0.79%
40X - White Bloodwood – Dirty Gum – Rough Barked Apple heathy open woodland on deep sand in the Pilliga forests	Heathy woodland	Native Vegetation	7,534.9	138.4	1.84%
			80,518.6	**988.8**	**1.23%**

Table 8-2 Disturbance limits Pilliga mouse habitat

Pilliga Mouse Habitat Type	Total in project area (ha)	Estimated direct impact (ha)	Percent impact
Primary	9,082	135	1.49%
Secondary	15,172	182	1.20%
Dispersal	68,147	889	1.30%

Table 8-3 Disturbance limits threatened flora

Species	Study area			Direct and indirect impact			Proportion		
	Estimated mean abundance	Lower 95% CI	Upper 95% CI	Impact (number of individuals)	Lower 95% CI	Upper 95% CI	Impact (%)	Lower 95% CI	Upper 95% CI
Bertya opponens	956,861	861,791	1,051,932	10,309	N/A	N/A	1.08%	N/A	N/A
Diuris tricolor	3,353	1,743	6,444	52	27	100	1.55%	1.55%	1.55%
Lepidium aschersonii	8,264,623	4,920,221	11,609,025	77,691	46,252	109,130	0.94%	0.94%	0.94%
Lepidium monoplocoides	218,265	24,696	411,835	1,116	126	2,107	0.51%	0.51%	0.51%
Myriophyllum implicatum	1	N/A	N/A	0	N/A	N/A	0	N/A	N/A
Polygala linariifolia	16,317	8,187	28,095	252	127	435	1.54%	1.55%	1.55%
Pomaderris queenslandica	45,518	44,124	46,913	467	N/A	N/A	1.03%	N/A	N/A
Pterostylis cobarensis	431,718	338,850	549,833	6,658	5,220	8,477	1.54%	1.54%	1.54%
Commersonia procumbens (syn. Rulingia procumbens)	240,274	90,799	857,601	3,716	1,404	13,265	1.55%	1.55%	1.55%
Tylophora linearis	33,154	25,739	43,712	513	398	676	1.55%	1.55%	1.55%

9. Cultural heritage constraints

9.1 Aboriginal cultural heritage

In accordance with the Aboriginal Cultural Heritage Assessment Report, Narrabri Gas Project (CQCHM 2015) Appendix N1 of the EIS, and the CHMP Appendix N2, Santos has committed to avoiding all currently known Aboriginal sites and objects, as detailed in Figure 9-1. Sites known at the time of EIS submission will be a surface development exclusion zone. Santos has also committed to avoidance strategies by site type as detailed in the CHMP.

In advance of petroleum activities as part of the field micro-siting process, cultural heritage pre-clearance surveys will be undertaken with representatives of the Aboriginal community accordance with the CHMP.

REMOVED FOLLOWING REQUEST MADE DURING CONSULTATION PROCESS WITH REGISTERED ABORIGINAL PARTIES

Figure 9-1 Aboriginal cultural heritage sites

9.2 Historic heritage

Within the project area, 53 potential historic heritage sites have been identified, primarily associated with past logging activities. The locations of the 53 potential historic heritage sites are shown in Figure 9-2.

The majority of sites were found to be of local significance as part of a collection, referred to as the Pilliga East Logging Cultural Landscape, that can demonstrate the pattern and course of the development of logging in the forests. In addition, a number of other sites of heritage significance were identified. These sites have been classified as surface development exclusion areas in order to preserve their heritage significance and are listed in Table 9-1.

Support for planning activities (e.g. monitoring air, noise, water, ecology etc.) that do not result in disturbance to the surface of the site may be undertaken without impacting the heritage significance.

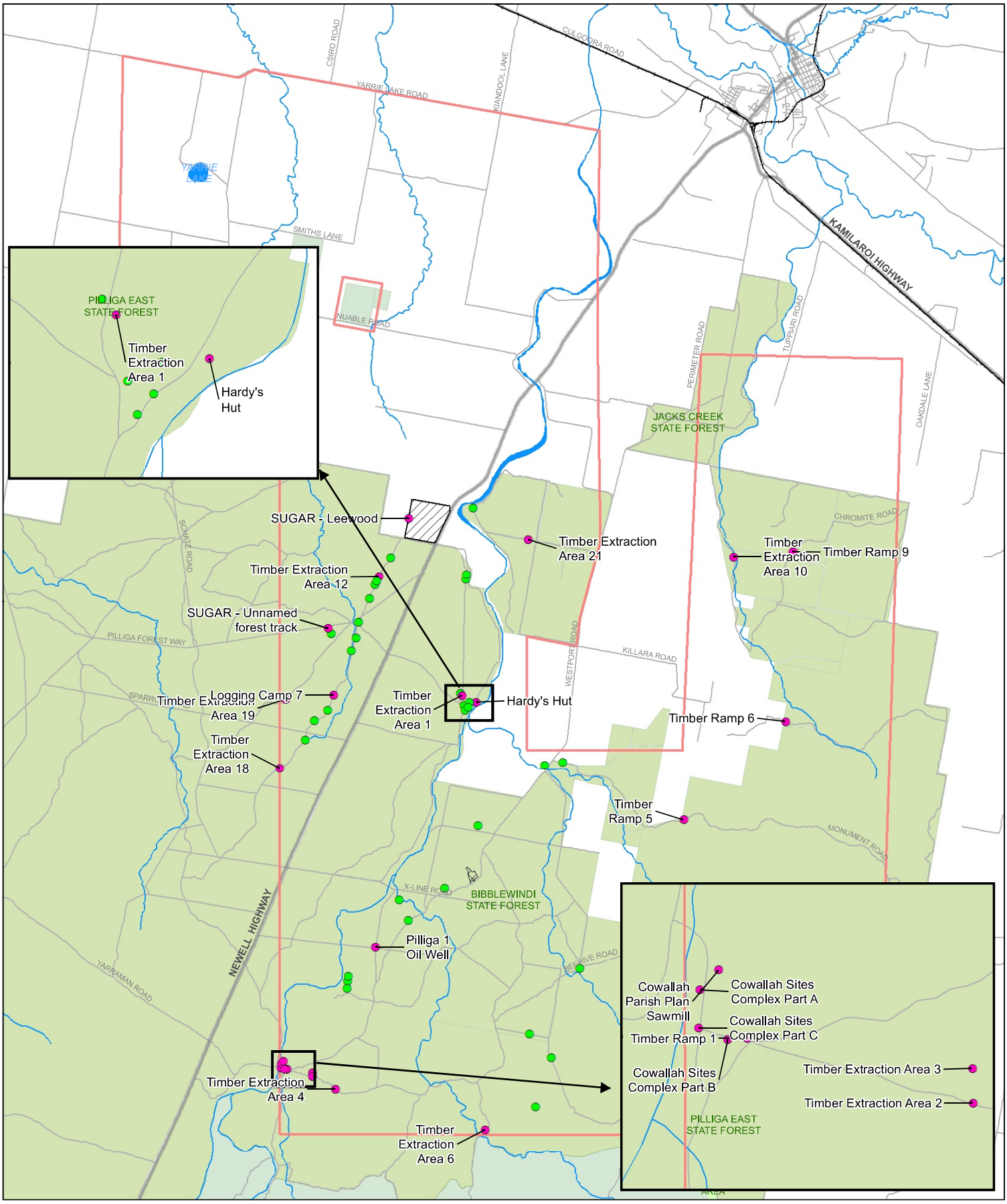
Potential historic heritage sites that are identified during site surveying or micro-siting will be managed in accordance with an unexpected finds procedure provided in the Historic Heritage Management Plan. This will include adding the location of the site to the GIS layers, creation of an inventory sheet recording the features and components of the site and protocols and criteria for determining mitigation measures required.

Further information on each of the sites can be found in Historic Heritage Impact Assessment Appendix O of the EIS.

Table 9-1 Historic heritage surface development exclusion areas

No.	Heritage item	Non-Linear Infrastructure	Linear Infrastructure	Large Ponds and Dams	Support for Planning
1	Cowallah Parish Plan Sawmill	Surface: Prohibited Sub-surface: Permitted	Prohibited	Prohibited	Permitted
2	Logging Camp 7	Surface: Prohibited Sub-surface: Permitted	Prohibited	Prohibited	Permitted
3	Cowallah Sites Complex	Surface: Prohibited Sub-surface: Permitted	Prohibited	Prohibited	Permitted
4	Hardy's Hut	Surface: Prohibited Sub-surface: Permitted	Prohibited	Prohibited	Permitted
5	Pilliga 1 Oil Well	Surface: Prohibited Sub-surface: Permitted	Prohibited	Prohibited	Permitted
6	SUGAR pits (2) – (Leewood and Plumb Rd/No Name Road intersection	Surface: Prohibited Sub-surface: Permitted	Prohibited	Prohibited	Permitted
7	Timber extraction areas 1, 2, 3, 4, 6, 10, 12, 18, 19 and 21	Surface: Prohibited. Same site type may be substituted if unavoidable[1] Subsurface: Permitted	Prohibited. Same site type may be substituted if unavoidable[1]	Prohibited. Same site type may be substituted if unavoidable[1]	Permitted
8	Timber loading ramp 1, 5, 6, 9 and ramp associated with timber extraction area 19	Surface: Prohibited. Same site type may be substituted if unavoidable[1] Subsurface: Permitted	Prohibited. Same site type may be substituted if unavoidable[1]	Prohibited. Same site type may be substituted if unavoidable[1]	Permitted

1: Due to the similarities of timber extraction areas (1, 2, 3, 4, 6, 10, 12, 18, 19 and 21) and loading ramps (1, 5, 6, 9 and ramp associated with timber extraction area 19) with others across the project area, if impacts are unavoidable at the listed sites, another site of the same type may be substituted as a surface development exclusion area without impacting the heritage significance.



LEGEND

- Project area
- Leewood
- Bibblewindi
- Parks and reserves
- State forest
- Aboriginal areas
- Lakes and dams
- Watercourses
- Roads
- Train line
- Historic heritage site
- Historic heritage site (surface development exclusion zone)

0 1 2 4 6
Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Narrabri Gas Project
Environmental Impact Statement

Job Number 21-22463
Revision A
Date 27 Jul 2016

Historic heritage constraints

Figure 9-2

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NSW Department of Lands: DTDB and DCDB - 2012-13. Santos: Operational and Base Data - 2013.

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10. Additional Constraints

10.1 Nature reserves, national parks and Aboriginal areas

Petroleum activities are not permissible within the following *National Parks and Wildlife Act 1974* reserve categories, Nature Reserves, National Parks and Aboriginal Areas.

Brigalow Park Nature Reserve has been excluded from the project area and no petroleum activities will occur in this area.

10.2 State Conservation Areas

The Brigalow State Conservation Area is located within the project area. The Brigalow State Conservation Area is gazetted to a depth of 100 m.

It is a designated surface development exclusion zone (including a buffer of at least 50 m) for the project. No surface infrastructure will be located within the State Conservation Area. Wells drilled under Brigalow State Conservation Area from outside of the buffer must be at least 110 m deep under the State Conservation Area.

10.3 Occupied residences

Unless a written agreement is in place with the relevant landholder, no project infrastructure will be located within 200 m of an occupied residence on that property.

10.4 Yarrie Lake reserve

Yarrie Lake reserve is located within the project area. Yarrie Lake reserve is defined as the following land: Lot 51, DP 43308; Lot 52, DP 43308 and Lot 53, DP 43308. It is a designated surface development exclusion zone (plus a buffer of at least 50 m) for the project. No surface infrastructure will be located within the Yarrie Lake reserve, or the 50 m buffer area.

10.5 Constraints for noise

Noise impacts during construction and operation are considered a constraint for the project.

The noise constraints associated with the construction and operational periods of the project are summarised in Figure 10-1 and will apply at occupied residences unless a written agreement is in place with the landholder. These levels will be measured in accordance with the *Industrial Noise Policy* (2000). Santos will manage noise through a range of avoidance, mitigation and management methods as outlined in the EIS.

Table 10-1 Project related noise constraints at occupied residence

	Time period	Construction noise (where written agreement is not in place)	Operational noise (where written agreement is not in place)
Day	7 a.m. to 6 p.m. Monday to Friday and 8 a.m. to 1 p.m. Saturday	see Note 1	35 dB(A) LAeq(15min)
	7 a.m. to 8 a.m. and 1 p.m. to 6 p.m. Saturday and 8 a.m. to 6 p.m. Sunday and public holidays	35 dB(A) LAeq(15min)	35 dB(A) LAeq(15min)
Evening	6 p.m. to 10 p.m.	35 dB(A) LAeq(15min)	35 dB(A) LAeq(15min)
Night	10 p.m. to 7 a.m. Monday to Saturday and 10 p.m. to 8 a.m. Sunday and public holidays	35 dB(A) LAeq(15min) 45 dB(A) LAmax	35 dB(A) LAeq(15min) 45 dB(A) LAmax

Note 1: For construction between the hours of 7 a.m. and 6 p.m. Monday to Friday and 8 am to 1 pm Saturday, 40 dB(A) (or background plus 10 dB(A)) is the noise management level where feasible and reasonable work practices would be implemented. Potentially impacted occupied residences will be informed of the nature of the works, duration of works and a method of contact to raise any complaints.

10.6 Nuisance constraints for air emissions

Based on the size and specifications for construction and operational infrastructure (including but not limited to generators at well pads), the potential air emissions from these sources are insufficient to exceed applicable air emission limits. Details of potential air emission sources are described in Appendix L of the EIS. On this basis, no constraints are proposed for air emissions.

10.7 Biophysical strategic agricultural land

No biophysical strategic agricultural land is located within the project area. A site verification certificate acknowledging the absence of biophysical strategic agricultural land in the project area was issued by the NSW Department of Planning and the Environment on 1 December 2015 (refer to Appendix I2). On this basis, no constraints are proposed.

10.8 Watercourses

Watercourses in the project area have been mapped at a scale of 1:15,000. Stream order was assigned to each watercourse in accordance with the Strahler (1952) system. To account for the need to include channel widths as part of the total riparian corridor width, top of bank was digitized for watercourses with larger channels that could be identified at a scale of 1:15 000 (including all 5th and 6th order watercourses). For all other watercourses, an average channel width was applied based on their stream order. Average channel widths for 1st to 4th order streams were determined by identifying the average channel width for 10% of the watercourses within each of these classes. The average channel width was identified by measuring (in the GIS) the width of the top of bank (where visible in the high-resolution contour data) at a few locations along each reach. The average widths for 10% of each stream order class were then combined and a mean determined for each class.

Riparian corridors were determined in accordance with the riparian corridor widths detailed in Table 10-2, and shown in Figure 10-1, consistent with the *NSW Guidelines for riparian corridors on waterfront land* (NSW Office of Water 2012). Non-linear infrastructure and large ponds and dams will be excluded from these buffers.

Table 10-2 Riparian corridor widths

Strahler Order	Riparian corridor width
1st order	20 m plus channel width
2nd order	40 m plus channel width
3rd order	60 m plus channel width
4th order and greater	80 m plus channel width

10.9 Flooding and geomorphology

Flood analysis over the project area has been carried out for a one per cent Annual Exceedance Probability (AEP), Figure 10-2 shows the maximum flood levels for a one percent AEP flood event in the project area. A detailed discussion of the hydrology and flood assessments is contained within Appendix H of the EIS.

Large ponds and dams will be located outside of the one percent AEP to ensure long term protection of these assets and to minimise impact from the project on surface flow during large flood events.

All other infrastructure and activities located in accordance with the Protocol will be designed and installed to ensure that where they occur within the one percent AEP, there will be negligible modification of flows and necessary sediment and erosion controls will be implemented, and no ongoing impacts to geomorphology. Activities within the one percent AEP will be planned and constructed in accordance with the commitments and mitigations in Appendix H of the EIS, and the Erosion and Sediment Control Plan.

10.10 Production well pads spaced at least 750 m apart

Production well pads would be spaced at least 750 metres apart. They would be sited based on surface geography, coal physical and chemical properties, environmental constraints, land access arrangements and subsurface characteristics.

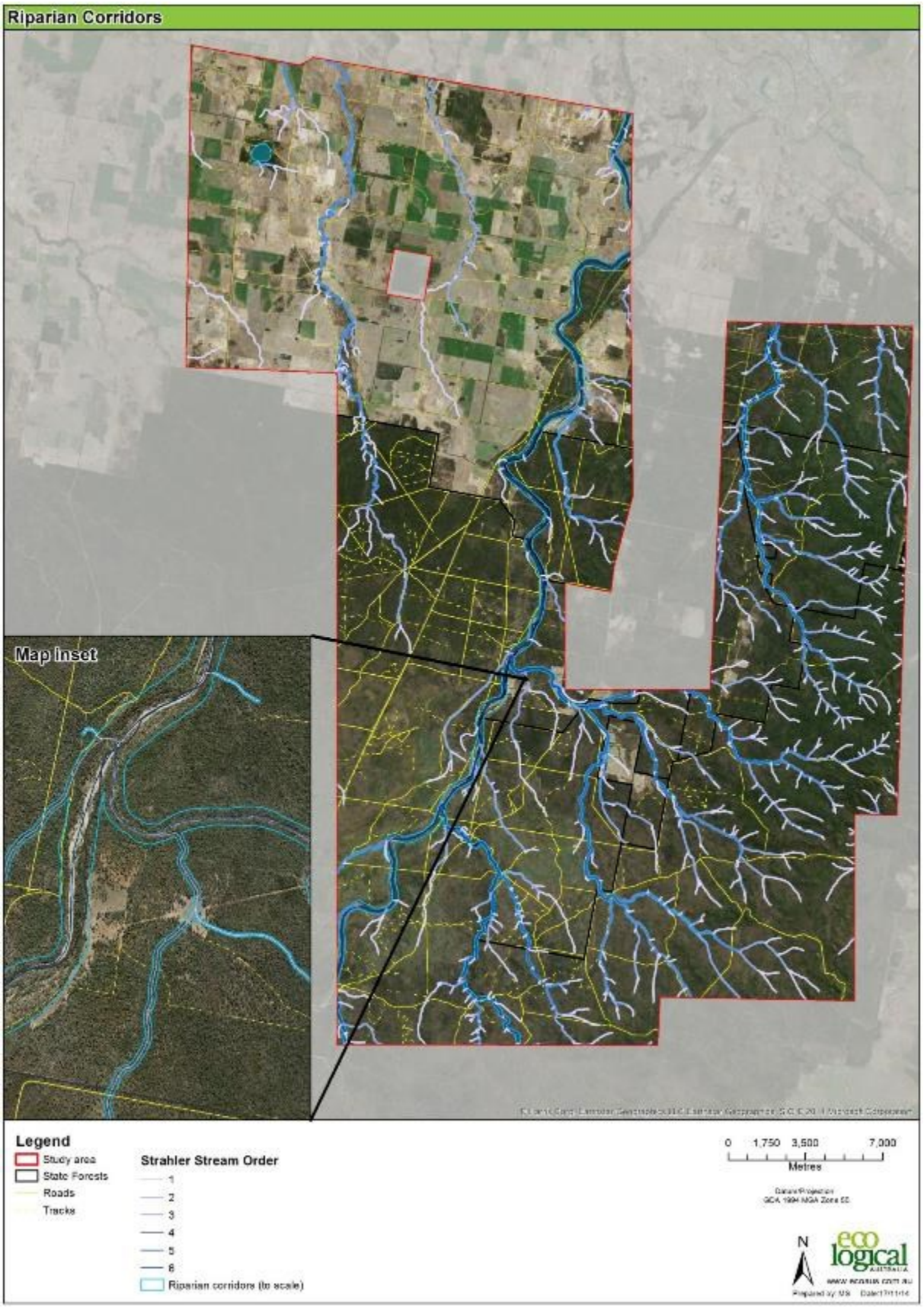
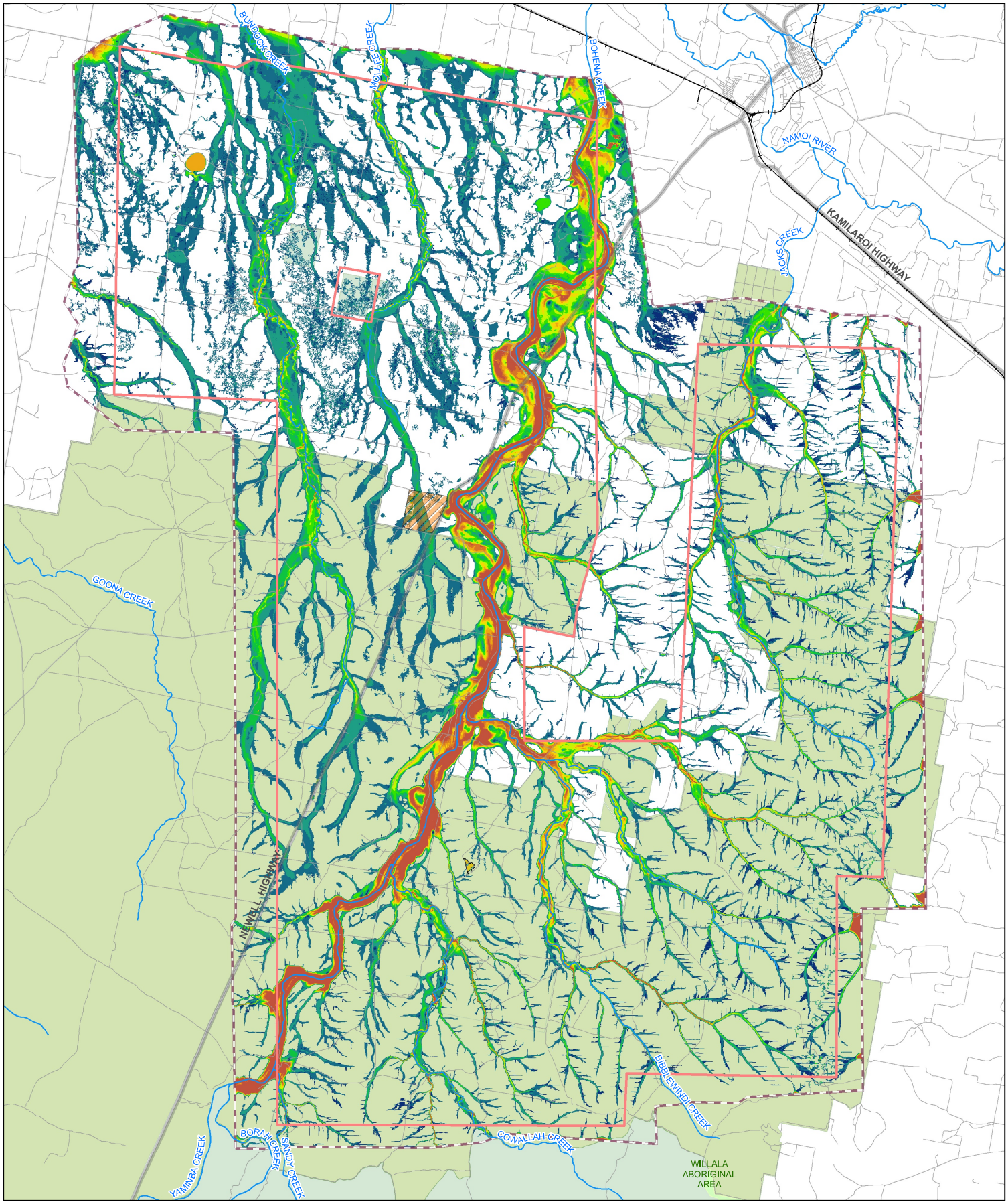


Figure 10-1 Mapped riparian corridors



LEGEND

- Project area
- Leewood
- Bibblewindi
- Parks and reserves
- State forest
- Aboriginal areas
- Lakes and dams
- Watercourses
- Roads
- Train line
- TUFLOW Model Extent

Maximum flood depth (m)

- 0.00 - 0.10
- 0.10 - 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.25
- 1.25 - 1.50
- 1.50 - 1.75
- 1.75 - 2.00
- >2.00

0 1.75 3.5 7
Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Narrabri Gas Project
EIS Technical Appendix Hydrology and Geomorphology

Job Number 21-22463
Revision A
Date 26 Jul 2016

Maximum Flood Depth, 1% AEP

Figure 10-2

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Level 15, 133 Castlereagh Street Sydney NSW 2000 T 61 2 9239 7100 F 61 2 9239 7199 E sydmail@ghd.com.au W www.ghd.com.au

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10.11 Approval of the Field Development Protocol

The Protocol will be submitted for the approval of the Minister for Planning and Environment, as part of the approval framework under State Significant Development application SSD 14-6456.

During the 25 years of the project, the Protocol will be reviewed following completion of third party audits. If changes to the Protocol are proposed, it will be submitted to the Secretary of the NSW Department of Planning and Environment for approval.

10.12 Publication and notification

The Protocol and associated plans approved by the Commonwealth and State Government will be published on a website within 30 days of approval.

11. Summary of Project Infrastructure - Locational Criteria

The Protocol sets out the locational criteria for the infrastructure and the procedures Santos will implement to ensure that the infrastructure is sited in accordance with the criteria. The Locational Criteria for project infrastructure are shown in Table 11-1, and further described in each relevant section of the Protocol.

Table 11-1 Summary of Project Infrastructure – Locational Criteria

No.	Constraint	Non-Linear Infrastructure	Linear Infrastructure	Large Ponds and Dams	Support for Planning	Section in Protocol
1.	Nature Reserve	Prohibited	Prohibited	Prohibited	Prohibited	Section 10.1
2.	National Park	Prohibited	Prohibited	Prohibited	Prohibited	Section 10.1
3.	Aboriginal Areas	Prohibited	Prohibited	Prohibited	Prohibited	Section 10.1
4.	Yarrie Lake reserve (plus 50m buffer)	Surface – Prohibited Sub-surface – permitted	Prohibited	Prohibited	Prohibited	Section 10.4
5.	State Conservation Area (plus 50m buffer)	Surface – Prohibited Sub-Surface – at least 110 metres depth	Prohibited	Prohibited	Surface – Prohibited Sub-Surface – at least 110 metres depth	Section 10.2
6.	High ecological constraint area	Permitted subject to: • Total area of disturbance for all infrastructure not to exceed the ecological disturbance limits • Total area of disturbance to high ecological sensitivity class limited to 0.5% of total class area, otherwise prohibited.	Permitted subject to: • Total area of disturbance for all infrastructure not to exceed the ecological disturbance limits • Total area of disturbance to high ecological sensitivity class limited to 0.5% of total class area, otherwise prohibited.	Prohibited.	Permitted.	Sections 7 and 8. Ecological disturbance limits set out in section 8.

No.	Constraint	Non-Linear Infrastructure	Linear Infrastructure	Large Ponds and Dams	Support for Planning	Section in Protocol
7.	Moderate ecological constraint area	Permitted subject to: • Total area of disturbance for all infrastructure not to exceed the ecological disturbance limits	Permitted subject to: • Total area of disturbance for all infrastructure not to exceed the ecological disturbance limits	Prohibited.	Permitted.	Sections 7 and 8. Ecological disturbance limits set out in section 8.
8.	Low ecological constraint area	Permitted subject to: • Total area of disturbance not to exceed the ecological disturbance limits.	Permitted subject to: • Total area of disturbance not to exceed the ecological disturbance limits	Permitted subject to: • Total area of disturbance not to exceed the ecological disturbance limits	Permitted.	Sections 7 and 8. Ecological disturbance limits set out in section 8.
9.	Area of currently known Aboriginal sites and objects	Surface - Prohibited. Sub-surface - Permitted	Prohibited.	Prohibited.	Permitted.	Section 9.1
10.	Area of further identified Aboriginal sites and objects.	Surface - Prohibited except for site types specified in CHMP. Sub-surface - Permitted	Prohibited except for site types specified in CHMP.	Prohibited except for site types specified in CHMP.		Section 9.1
11.	Area of historic heritage site	Prohibited for surface development exclusion areas otherwise permitted.	Prohibited for surface development exclusion areas otherwise permitted.	Prohibited for surface development exclusion areas otherwise permitted.	Permitted.	Section 9.2. Surface development exclusion areas specified in section 9.2.
12.	Area within 200 metres of an occupied residence on that property.	Prohibited unless with written agreement of relevant landholder.	Prohibited unless with written agreement of relevant landholder.	Prohibited unless with written agreement of relevant landholder.	Permitted	Section 10.3

No.	Constraint	Non-Linear Infrastructure	Linear Infrastructure	Large Ponds and Dams	Support for Planning	Section in Protocol
13.	Area within Riparian Corridor	Surface – Prohibited Sub-surface – permitted	Permitted	Prohibited.	Permitted	Section 10.8. Riparian Corridor width for each Strahler Order stream is identified in Table 10-2.
14.	Area of 1% Annual Exceedance Probability (AEP) (Flooding)	Permitted	Permitted	Prohibited	Permitted	Section 10.9
15.	Proximity to other well pads	Production well pads to be spaced at least 750 metres apart.	Not applicable	Not applicable	Not applicable	Section 10.10
16.	Private property	Permitted only in accordance with land access agreement.	Permitted only in accordance with land access agreement.	Permitted only in accordance with land access agreement.	Permitted only in accordance with land access agreement.	Section 4

12. Acronyms

Acronym	Definition
AEP	Annual Exceedance Probability
CHMP	Cultural Heritage Management Plan
dB(A)	decibel
SMS	Santos Management System
EIS	Narrabri Gas Project Environmental Impact Statement (GHD 2016a)
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
ESA	Ecological Sensitivity Analysis
ESCP	Erosion and Sediment Control Plan
ha	Hectares
HHMP	Historic Heritage Management Plan
NGP	Narrabri Gas Project
NSW	New South Wales
SSD	State Significant Development
The Protocol	The Narrabri Gas Project Field Development Protocol

13. Definitions

Item	Definition
Associated infrastructure	Including but not limited to access roads, waste management areas, laydown and storage areas, etc.
Conditions	These conditions attached to the approval of the project
Dam	Used to store treated water or bore water
Disturbance of native vegetation	The area directly impacted by the clearing, cutting down or felling of native vegetation, not including areas that have been partially rehabilitated by the project.
Environmental Impact Statement (EIS)	The process used to assess the predicted benefits and impacts of the project, and identify appropriate management and mitigation measures.
Environmental Management Plan (EMP)	Site or project specific plan that sets out a management framework for environmental issue management, monitoring programs and preparing statutory reports.
Irrigation area	Where produced water is applied for beneficial reuse, including but not limited to the use of centre pivots.
Linear infrastructure	Infrastructure including (but not limited to) gas and water gathering lines, low and medium pressure gas and water pipelines/water trunk lines, access tracks, power lines, communication lines and other service lines
Listed	Those species, ecological communities or other identified matters of environmental significance listed for protection under Part 3 of the EPBC Act or relevant State legislation
Large ponds and dams	Ponds and large dams greater than 100 megalitres capacity
MNES	Matters of national environmental significance, being the relevant matters protected under Part 3 of the EPBC Act
Non-linear infrastructure	Infrastructure including (but not limited to) exploration and production wells, field compressor stations, dams, ponds, communications towers, water tanks/balance tanks, flares, camps and construction/maintenance yards (if needed), irrigation areas (and associated infrastructure) and maintenance facilities
Petroleum Activities	All activities in the project other than support for planning (monitoring)
Ponds/balance tanks	Designed for produced water and brine, as well as treated water. Ponds will include double liners and leak detection and leak return systems.
Stakeholders	Individuals and organisations with an interest in or adversely effected by proposed projects and activities including relevant governments (local, state and national), NGOs (conservation, catchment management groups) Aboriginal peoples and representative groups, landholders and other interested parties.
Support for planning	Monitoring including air quality, noise, water including groundwater, ecological surveys, pests and weeds and cultural heritage surveys
Gathering lines	Pipelines used to transfer gas and water from well sites.
Water trunklines	Pipelines used to transfer water between any or all of the following: storage ponds, balance tanks and water treatment plants or to transfer water to a discharge point or an irrigation area.

14. References

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Appendix D

Water Baseline Report

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Narrabri Gas Project
Water Baseline Report

Updated and revised
December 2017

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Narrabri Gas Project
Water Baseline Report

December 2017

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Executive Summary

This Water Baseline Report (WBR) has been prepared to support the Water Monitoring Plan (WMP) for the Narrabri Gas Project (NGP). The WBR forms part of the Environmental Impact Statement (EIS) for the NGP.

The WBR provides a statement of the groundwater, surface, produced and treated water datasets that constitute the baseline monitoring for the NGP. General contextual information on the water resources in the NGP area can be found elsewhere in the Groundwater Impact Assessment (GIA) for the NGP.

The area of baseline monitoring contains eight water sources that are defined in six NSW Water Sharing Plans (WSPs). The baseline data in the WBR are grouped by water source, and the groundwater baseline is sub-grouped by hydrostratigraphic unit.

The baseline monitoring comprises 52 monitoring bores with records of groundwater head, 41 monitoring bores with records of groundwater quality, six streamflow gauging stations, 12 sampling locations for surface water quality, and treated and amended water quality sampling from the Leewood Water Treatment Plant.

The baseline data are presented in selected graphs and as summary tables that include statistical summaries of the spread and central tendency of the data.

Section 1 Introduction

1.1 Overview

The proponent is proposing to develop natural gas in the Gunnedah Basin in New South Wales (NSW), southwest of Narrabri (Figure 1-1). The Narrabri Gas Project (the project, NGP) seeks to develop and operate a gas production field sourcing gas from deeply buried coal seams of the Gunnedah-Oxley Basin, which requires the installation of gas wells, gas and water gathering systems, and supporting infrastructure. The natural gas produced will be treated at a central gas processing facility located on Leewood, a local rural property situated approximately 25 km southwest of Narrabri (Figure 1-1).

The project is considered a State Significant Development assessable under Division 4.1 of Part 4 of the *NSW Environmental, Planning and Assessment Act 1979*.

1.2 Project Location

The project is located in northern NSW, approximately 20 kilometres (km) southwest of Narrabri, within the Narrabri local government area (LGA; Figure 1-1). The project area covers about 950 square kilometres (95,000 hectares), and the project infrastructure footprint will encompass about one per cent of that area.

The project area contains a portion of the region known as 'the Pilliga'; which is an agglomeration of forested area covering more than 500,000 hectares in northern NSW between Coonabarabran, Baradine and Narrabri. Nearly half of the Pilliga is allocated to conservation, managed under the *NSW National Parks and Wildlife Act 1974*. The Pilliga has spiritual meaning and cultural significance for the Aboriginal people of the region.

Other parts of the Pilliga were dedicated as State forest, and set aside for the purpose of 'forestry, recreation and mineral extraction, with a strategic aim to "provide for exploration, mining, petroleum production and extractive industry" under the *Brigalow and Nandewar Community Conservation Area Act 2005*. The parts of the project area on state land are located within this section of the Pilliga.

1.3 This Report

This Water Baseline Report (WBR) is a statement of the groundwater and surface water datasets that constitute the baseline monitoring for the Narrabri Gas Project (NGP). The WBR has been prepared to support the Water Monitoring Plan (WMP) for the NGP Environmental Impact Statement (EIS), as well as to satisfy the Secretary's Environmental Assessment Requirements for the EIS, requiring "a description of the existing environment likely to be affected by the development, using sufficient baseline data".

The WBR has the following structure:

- **Section 1, Introduction** – briefly describes the proposed NGP development, proponent, and project area;
- **Section 2, Definition of Water Sources** - describes the Water Sharing Plans covering the NGP area and the water sources defined in those plans;

- **Section 3, Sources of Hydrological Data** – describes the sources of data that are used in this Water Baseline Report;
- **Section 4, Groundwater Baseline Data** – describes the groundwater data that constitute groundwater baseline; and
- **Section 5, Surface Water Baseline Data** – describes the surface water data that constitute the surface water baseline.
- **Section 6, Produced Water Quality Data –** describes the produced water quality from the holding ponds
- **Section 7, Treated Water Baseline Data** – describes water quality of treated water from the Leewood Facility, including analysis of amended water and the produced brine.

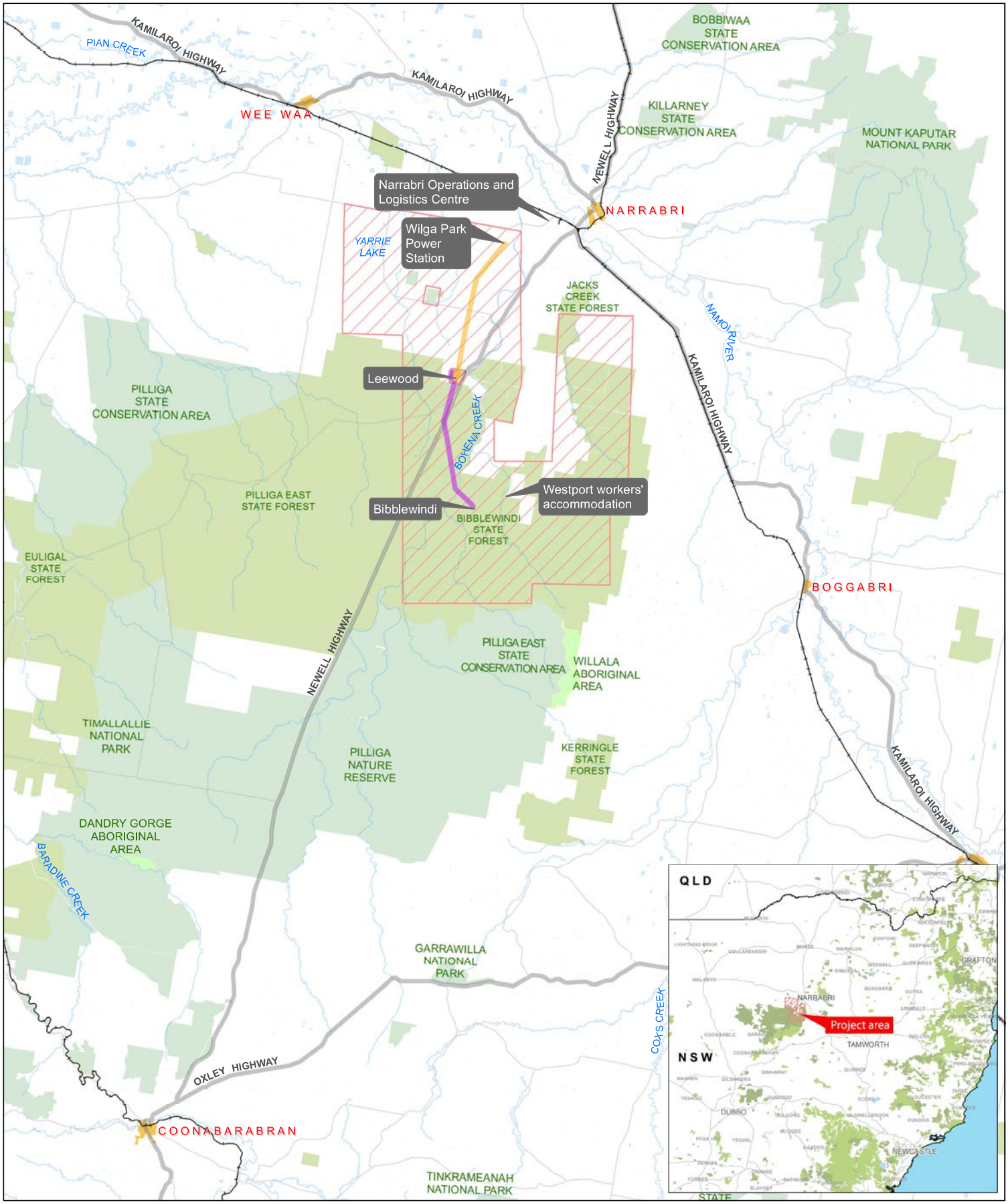
Table 1-1 Project water-related infrastructure components

Component	Infrastructure or Activity
Leewood	▪ A central water management facility including storage and treatment of produced water and brine ▪ Treated water management infrastructure to facilitate the transfer of treated water for irrigation, dust suppression, construction and drilling activities ▪ Continued use of existing facilities such as the brine and produced water ponds
Bibblewindi	▪ Supporting infrastructure including storage and utility areas, treated water holding tank, and a communications tower ▪ Produced water, brine and construction water storage, including recommissioning of two existing ponds ▪ Continued use of existing facilities such as the 5ML water balance tank
Gas exploration, appraisal and production infrastructure	▪ Installation of up to 850 new wells on a maximum of 425 well pads ○ New well types would include exploration, appraisal and production wells ○ Includes well pad surface infrastructure ▪ Water balance tanks
Ancillary	▪ A treated water pipeline and diffuser from Leewood to Bohena Creek ▪ Treated water irrigation infrastructure including: ○ pipeline(s) from Leewood to the irrigation area(s) ○ treated water storage dam(s) offsite from Leewood ○ operation of the irrigation scheme

1.4 Contextual Information on Water Sources

This Water Baseline Report (WBR) has been prepared to support Water Monitoring Plan (WMP) for the Narrabri Gas Project (NGP) and EIS. Within this context, the WBR has not been prepared as a source of contextual information on the water resources of the NGP area. This WBR does not present any interpretation of the data, other than clarification of data issues.

Contextual information and data on the regional water resources, and hydrogeological conceptualisation and modelling of groundwater sources within the NGP area are reported in detail within the Groundwater Impact Assessment (GIA) for the NGP and its associated appendix reports.



LEGEND

- Project area
- Leewood
- Urban
- State forest
- Parks and reserves
- Aboriginal areas
- Lakes and dams
- Watercourses
- Highways
- Major Roads
- Train line
- Leewood to Wilga Park infrastructure corridor
- Bibblewindi to Leewood infrastructure corridor

0 5 10 20
Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

Narrabri Gas Project
EIS Technical Appendix

Regional context and location of key infrastructure

Job Number 21-22463
Revision A
Date 12 Mar 2015

Figure 1-1

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Section 2 Definition of Water Sources

2.1 Water Sharing Plans

Water sources in New South Wales are defined and managed using statutory documents called Water Sharing Plans (WSPs). Each WSP defines the water sources covered by that plan and establishes the rules for sharing water between different water users, including the environment.

The area of baseline monitoring in this WBR contains eight distinct water sources that are defined in six separate but overlapping WSPs. The water sources and WSPs are listed in Table 2-1, and Figure 2-1 shows the relationships between stratigraphic units, WSPs and defined water sources, which are depicted in a schematic cross section through the Bohena Trough (Gunnedah Basin) and the on-lapping portion of the GAB and the Namoi alluvium.

Table 2-1 Water sources within the area of baseline monitoring

Water Source	Water Sharing Plan (WSP)
Gunnedah–Oxley Basin MDB Groundwater Source	Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011
Southern Recharge Groundwater Source, and Surat Groundwater Source	Water Sharing Plan for the NSW Great Artesian Basin Groundwater Sources 2008
Upper and Lower Namoi Groundwater Sources	Water Sharing Plan for the Upper and Lower Namoi Groundwater Sources 2003
Bohena Creek Water Source	Water Sharing Plan for the Namoi Unregulated and Alluvial Water Sources 2012
Liverpool Ranges Basalt MDB Groundwater Source, and Warrumbungle Basalt Groundwater Source	Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011
Lower Namoi Regulated River Water Source	Water Sharing Plan for the Upper and Lower Namoi Regulated River Water Sources 2003

2.2 Gunnedah-Oxley Basin MDB Groundwater Source

The Gunnedah–Oxley Basin MDB Groundwater Source is defined in the *Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011*. The Plan includes all water contained in all rocks of Permian, Triassic, Jurassic, Cretaceous and Tertiary age within outcropped and buried areas, and all water contained in all alluvial sediments within the outcropped areas, and within the boundary of the Gunnedah–Oxley Basin defined in the Plan map. It excludes groundwater sources otherwise defined in the Water Sharing Plans for the Upper and Lower Namoi Groundwater Sources 2003 and the NSW Great Artesian Basin Groundwater Sources 2008.

2.3 Southern Recharge and Surat Groundwater Sources

The GAB Surat and Southern Recharge Groundwater Sources are defined within the *Water Sharing Plan for the NSW Great Artesian Basin Groundwater Sources 2008*. The Southern Recharge Groundwater Source includes all water contained in all rocks of Cretaceous, Jurassic and Tertiary age, and all alluvial sediments within the boundary defined in the plan map. The Surat Groundwater Source includes water contained in all rocks of Cretaceous and Jurassic age at a depth of more than 60 metres below ground surface within the boundary of the Surat Groundwater Source defined in the plan.

The Southern Recharge and Surat Groundwater Sources exclude groundwater sources otherwise defined in the Water Sharing Plans for the Upper and Lower Namoi Groundwater Sources 2003, and the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011.

2.4 Upper and Lower Namoi Groundwater Sources

The Upper and Lower Namoi Groundwater Sources are defined in the *Water Sharing Plan for the Upper and Lower Namoi Groundwater Sources 2003*. They include all water contained in the unconsolidated alluvial sediment aquifers associated with the Namoi River and its tributaries and lying within the Namoi and Gwydir Water Management Areas.

2.5 Bohena Creek Water Source

The Bohena Creek Water Source is defined in the *Water Sharing Plan for the Namoi Unregulated and Alluvial Water Sources 2012*. Within the subsurface, the Bohena Creek Water Source includes all water below the surface of the ground and within the boundary defined in the plan. Above ground it includes all water occurring naturally on the surface of the ground, and all water in rivers, lakes and wetlands.

2.6 Liverpool Ranges Basalt MDB Groundwater Source

The Liverpool Ranges Basalt MDB Groundwater Source is defined in the *Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011*. It includes all water contained in all basalt and sediments of Tertiary age, and all water in all alluvial sediments within the boundary of the Liverpool Ranges Basalt MDB Groundwater Source defined in the plan. It excludes groundwater sources otherwise defined in the Water Sharing Plans for the Upper and Lower Namoi Groundwater Sources 2003, NSW Great Artesian Basin Groundwater Sources 2008, NSW Murray Darling Basin Porous Rock Groundwater Sources 2011, and Namoi Unregulated and Alluvial Water Sources 2012.

2.7 Warrumbungle Basalt Groundwater Source

The Warrumbungle Basalt Groundwater Source is defined in the *Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011*. It includes all water contained in all basalt and sediments of Tertiary age, and all water in all alluvial sediments within the boundary of the Warrumbungle Basalt Groundwater Source defined in the plan map. It excludes groundwater sources otherwise defined in the Water Sharing Plans for the Upper and Lower Namoi Groundwater Sources 2003, NSW Great Artesian Basin Groundwater Sources 2008, NSW Murray Darling Basin Porous Rock Groundwater Sources 2011, and Namoi Unregulated and Alluvial Water Sources 2012.

2.8 Lower Namoi Regulated Rivers Water Source

The Lower Namoi Regulated River Water Source is defined in the *Water Sharing Plan for the Upper Namoi and Lower Namoi Regulated River Water Sources 2003*. It incorporates all water, between the banks of all rivers, from Keepit Dam downstream to the junction of the Namoi River with the Barwon River at Walgett.

2.9 Hydrostratigraphic Units

Groundwater sources are typically classified with reference to the stratigraphic layer, or sequence of strata that contain the water.

The stratigraphic units that are present within the area of baseline monitoring have been grouped into hydrostratigraphic units according to the capacities of the strata to transmit or inhibit the movement of groundwater. Table 2-2 includes:

- Significant transmissive units (STU);
- Less significant transmissive units (LSTU);
- Probable negligibly transmissive units (PNTU); and
- Negligibly transmissive units (NTU).

These definitions identify the relative significance of each stratigraphic unit with respect to the expected hydrogeological response of the subsurface to coal seam gas development. Thus, a very conductive and high-yielding stratum is considered to be a STU, a low-yielding stratum is considered to be a LSTU, and leaky strata and aquitards are considered to be PNTUs and NTUs.

The purpose of Table 2-2 in this WBR is to provide a key to the names of specific stratigraphic and hydrostratigraphic units used elsewhere in the report.

Table 2-2 Hydrostratigraphic unit classification

Province	Period/ Epoch	Division	Group	Sub-group	Formation	Lithology and Hydrogeological Classification
Namoi Alluvium Volcanics	Pleistocene				Narrabri Fm	Clay and silt with sand lenses
	Pliocene				Gunnedah Fm	Gravel and sand with clay lenses
	Miocene				Cubbaroo Fm	Gravel and sand with clay lenses
					Warrumbungle Vol	Basalt, dolerite
	Eocene				Liverpool Range Vol	Basalt, dolerite
Surat Basin	Cretaceous	Middle	Blythesdale Pg. (Keelindi Beds)		Bungil Fm Mooga Ss Orallo Fm	Clayey to Quartzose sandstone, subordinate siltstone and conglomerate
		Early			Pilliga Ss	Fluvial, medium to very coarse grained, quartzose sandstone and conglomerate. Minor interbeds of mudstone, siltstone and fine-grained sandstone and coal.
	Jurassic	Late				
		Middle			Purlawaugh Fm	Fine to medium grained sandstone thinly interbedded with siltstone, mudstone and thin coal seams
		Early	Garrawilla Volcanics			Dolerite, basalt, trachyte, tuff, breccia
Gunnedah Basin	Triassic	Late				
		Middle			Deriah Fm	Sandstone
					Napperby Fm	Interbedded fine sandstone, claystone and siltstone
						Basal Napperby Shale
		Early			Digby Fm	Quartzose sandstone (Ulinda Ss)
						Lithic sandstone
						Lithic conglomerate (Bomera Conglomerate)
	Permian	Late	Black Jack	Nea	Trinkey Fm	Coal measures - siltstone, fine sandstone, tuffs, stony coal
					Wallala Fm	Conglomerate, sandstone, siltstone, minor coal bands
				Coogal	Breeza Coal	Coal and claystone
					Clare Ss	Medium to coarse-grained quartzose sandstone; quartzose conglomerate
					Hows Hill Coal	Coal
					Benelabri	Claystone, siltstone and sandstone; fining up cycles; more sandy towards top
					Hoskissons Coal	Potential target coal seam
				Brothers	Brigalow Fm	Fining-up sequence of medium to coarse-grained quartzose sandstone and siltstone
					Arkarula Fm	Sandstone and siltstone
					Melvilles Coal Mb	Coal
					Pamboola Fm	Sandstone, siltstone, minor claystone & coal
		Middle	Millie		Watermark Fm	Marine siltstone, shales and sandstone
					Porcupine Fm	Fining upward sequence of conglomerate and sandstone to mudstone
		Early	Bellata		Upper Maules Creek Fm	Sandstone and conglomerate, siltstone, mudstone and coal
					Rutley seam	Potential target coal seam
					Interburden	Sandstone and conglomerate, siltstone, mudstone
					Namoi seam	Potential target coal seam
					Interburden	Sandstone and conglomerate, siltstone, mudstone
					Parkes seam	Potential target coal seam
					Interburden	Sandstone and conglomerate, siltstone, mudstone
					Bohena seam	Potential target coal seam
					Lower Maules Creek Fm	Sandstone and conglomerate, siltstone, mudstone and coal
					Goonbri Fm	Siltstone, sandstone and coal
					Leard Fm	Flinty claystone
Basement			Werrie Basalt and Boggabri Volcanics (Basement)			Rhyolitic to dacitic lavas and ashflow
						Tuffs with interbedded shale. Rare trachyte and andesite. Weathered basic lavas
Colour code key:		**STU** – Significantly Transmissive Unit				
		LSTU – Less Significantly Transmissive Unit				
		PNTU – Probable Negligibly Transmissive Unit				
		NTU – Negligibly Transmissive Unit				

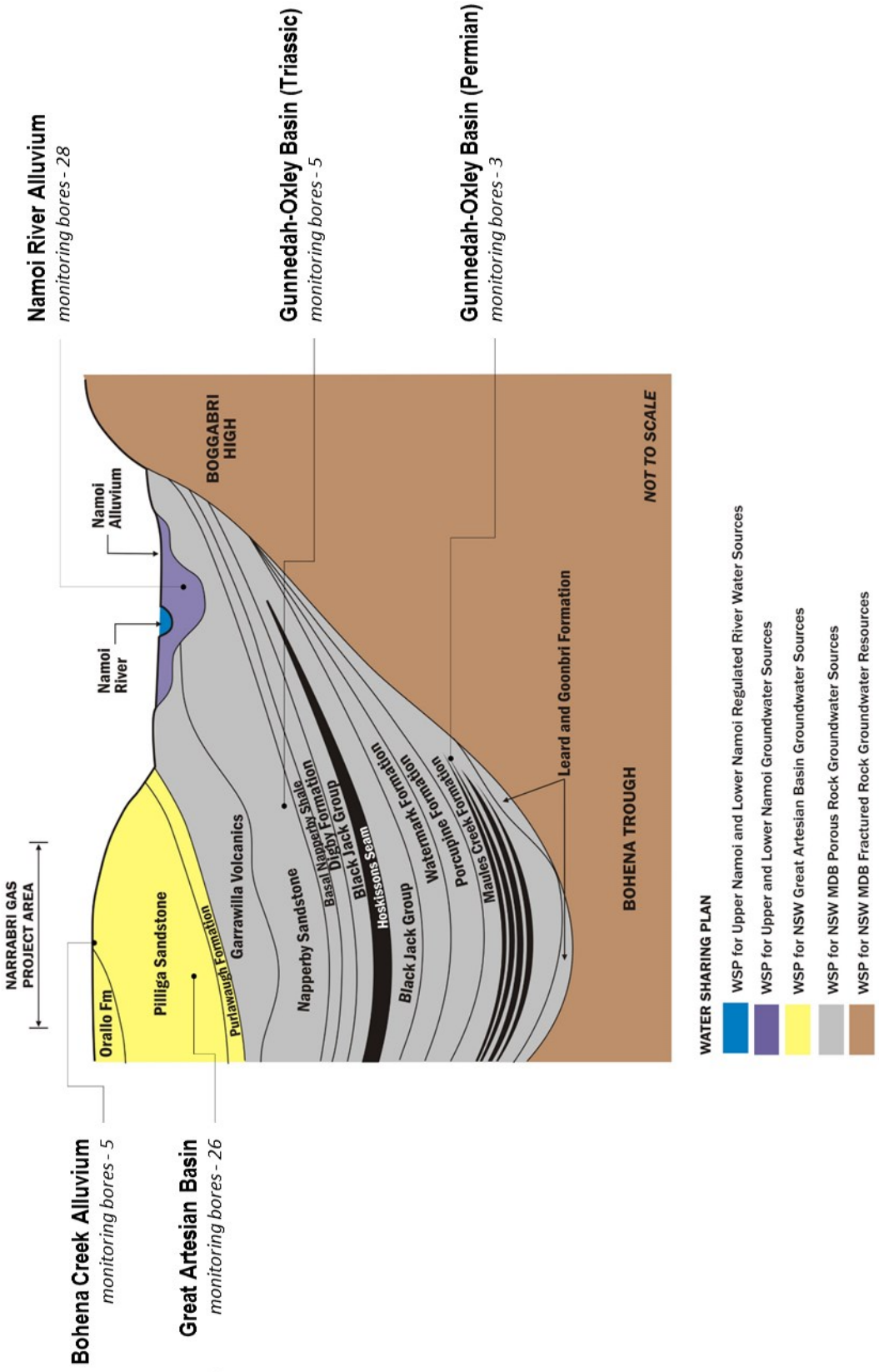

Figure 2-1 Schematic of water sources in the area of baseline monitoring

Section 3 Sources of Hydrological Data

3.1 Overview

Santos NSW (Eastern) Pty Ltd (Santos) has been monitoring hydrological conditions in the project area since 2011. Hydrological measurements were initially collected to support Santos' exploration and appraisal activities, and more recently have been broadened to support the hydrological baseline for the Narrabri Gas Project. The groundwater data consist of observations in bores that are owned and maintained by Santos and in a number of private landholder bores that are sampled by Santos.

In addition to hydrological data held by Santos, the New South Wales Department of Primary Industries (DPI) Water (formerly NSW Office of Water) maintains an extensive network of groundwater monitoring bores and surface water monitoring sites within the area of the baseline monitoring. These data are available through DPI Water's PINNEENA[1] database and online data services.

3.2 Groundwater Datasets

The groundwater baseline is compiled from hydrological data collected by Santos and DPI Water. Overviews of the baseline data sites for hydraulic head and groundwater quality are shown in Table 3-1 and Table 3-2, respectively.

Table 3-1 Overview of baseline data for groundwater hydraulic head

Stratigraphic Unit	Water Source	Number of Monitoring Bores		
		Santos	DPI	Total
Maules Creek Formation	GOB	1	0	1
Porcupine Formation	GOB	2	0	2
Black Jack Group	GOB	0	0	0
Digby Formation	GOB	2	1*	3
Napperby Formation	GOB	0	2	2
Deriah Formation	GOB	0	1*	1
Purlawaugh Formation	GAB	2	0	2
Pilliga Sandstone	GAB	12	4*	16
Orallo Formation	GAB	2	0	2
Mooga Sandstone	GAB	0	1	1
Namoi alluvium	ULNA	0	25	25
TOTAL		**21**	**34**	**55**

GOB - Gunnedah–Oxley Basin MDB Groundwater Source; GAB – Great Artesian Basin Surat and Southern Recharge Groundwater Sources; ULNA - Upper and Lower Namoi Groundwater Sources

* Includes new nested DPI bore

[1] http://waterinfo.nsw.gov.au/pinneena/

Table 3-2 Overview of baseline data for groundwater quality

Stratigraphic Unit	Water Source	Number of Monitoring Bores		
		Santos or Private	DPI	Total
Digby Formation	GOB	1	0	1
Napperby Formation	GOB	1	0	1
Purlawaugh Formation	GAB	1	0	1
Pilliga Sandstone	GAB	12	0	12
Orallo Formation	GAB	5	0	5
Namoi alluvium	ULNA	0	16	16
Bohena Creek alluvium	BC	5	0	5
TOTAL		**25**	**16**	**41**

GOB - Gunnedah–Oxley Basin MDB Groundwater Source; GAB - Great Artesian Basin Surat and Southern Recharge Groundwater Sources; ULNA - Upper and Lower Namoi Groundwater Sources; BC - Bohena Creek Water Source

Locations of groundwater monitoring bores are shown in Figure 3-1 for the Gunnedah-Oxley Basin, in Figure 3-2 for the Great Artesian Basin, and in Figure 3-3 for alluvial water sources. When viewed from above in 2D plan, as is the case in these maps, there is an apparent overlap between the distributions of monitoring bores within each of the water sources; for example, it can be seen that the NGP area contains monitoring bores within the Gunnedah-Oxley Groundwater Source, and within the GAB and alluvial groundwater sources. This apparent overlap in the distributions of the monitoring bores might be incorrectly interpreted to mean that the water sources themselves intersect, but this is not the case. In three-dimensions, the water sources are in fact separated vertically, such that monitoring bores at the same or similar locations can be screened at different depths and within different groundwater sources.

Notwithstanding, the co-location of bores sampling different formations at different depths (i.e. nested bores) provides insights into any vertical a, as well as horizontal, connectivity between formations.

The baseline for hydraulic head is compiled from observations in 50 groundwater monitoring bores, including 9 bores in the Gunnedah-Oxley Basin, 25 bores in the Great Artesian Basin and 16 bores in the Namoi alluvium.

The baseline for groundwater quality is compiled from water quality observations in 40 groundwater monitoring bores, including 2 bores in the Gunnedah-Oxley Basin, 21 bores in the Great Artesian Basin, 13 bores in the Namoi alluvium and 4 bores in the Bohena Creek alluvium.

3.2.1 Private Landholder Bores

In addition to sampling of the above baseline groundwater bores, since 2011 Santos has sampled numerous private landholder bores on behalf of the landholders. While these data do not form part of the formal groundwater baseline, they nonetheless provide information that would help to assess potential impacts on landholder bores from the project should changes in groundwater head or water quality become apparent at those locations. Santos will continue to offer a service to sample landholder bores over the life of the project, particularly in situations where there is concern about potential impacts from the project.

A map of private landholder bores that have been sampled by Santos is shown in Figure 3-4. Most private bores were constructed as water supply bores and groundwater head in these bores can be affected by the pumping.

3.3 Surface Water Datasets

The surface water baseline is compiled from streamflow data collected by DPI Water and surface water quality data collected by Santos. Overviews of these datasets are given in Table 3-3 and Table 3-4 below.

The baseline for surface water flows consists of data from six streamflow gauging stations. The baseline for surface water quality consists of water quality measurements from six sampling locations on Bohena Creek and six sampling location on the Namoi River.

The locations of surface water monitoring sites are shown in Figure 3-5 and Figure 3-6.

Table 3-3 Overview of baseline data for streamflow gauging

Station Name	Owner	Station Number	Location
Bohena Ck at Newell Highway	DPI	419905	Newell Highway crossing of Bohena Creek
Namoi River at Boggabri	DPI	419012	Boggabri-Manilla Road crossing
Namoi River at Turrawan (Wallah)	DPI	419023	Namoi River near Turrawan
Narrabri Creek at Narrabri	DPI	419003	Newell Highway crossing of Namoi River at Namoi
Namoi River at Mollee	DPI	419039	Namoi River between Narrabri and Wee Waa
Namoi at D/S Gunidgera Weir	DPI	419059	Namoi River near Wee Waa

Table 3-4 Overview of baseline data for surface water quality

Site ID	Owner	Water Course	Location Description
7505	Santos	Bohena Creek	Downstream of the confluence of Yaminba Creek and Borah Creek
7506	Santos	Bohena Creek	Downstream of the release point for potential managed release scheme
7510	Santos	Bohena Creek	Bohena Creek at crossing of Newell Highway
7511	Santos	Bohena Creek	Road culvert at Yarrie Lake
7512	Santos	Bohena Creek	Bohena Creek upstream of its confluence with Namoi River
7103	Santos	Bohena Creek	Upstream of the release point for potential managed release scheme
7504	Santos	Namoi River	Namoi River at Narrabri township
7513	Santos	Namoi River	Namoi River near the proposed irrigation areas
7517	Santos	Namoi River	Namoi River at Tarriaro Cultural Reserve
7529	Santos	Namoi River	Namoi River upstream of its confluence with Bohena Creek
7533	Santos	Namoi River	Namoi River downstream of its confluence with Bohena Creek
7538	Santos	Namoi River	Namoi River at Kamilaroi Highway Crossing

3.4 Data Management and Quality Control

Santos uses EQuIS[2] (Environmental Quality Information System) to manage the quality and integrity of hydrological data collected for the Narrabri Gas Project. EQuIS is recognised as the world's most widely used software for environmental data management.

An overview of Santos' data management system is shown in Appendix B in the form of a data-management flow chart. The data management system covers all stages of data management from planning to archiving and including: setting of objectives for data collection; planning and scheduling of sampling activities; definition of field and laboratory protocols; data entry and automated completeness checking; data verification, validation and corrective action procedures; and data storage, backup and retrieval.

[2] http://earthsoft.com/

Additional information about specific aspects of Santos' data management system is available upon request.

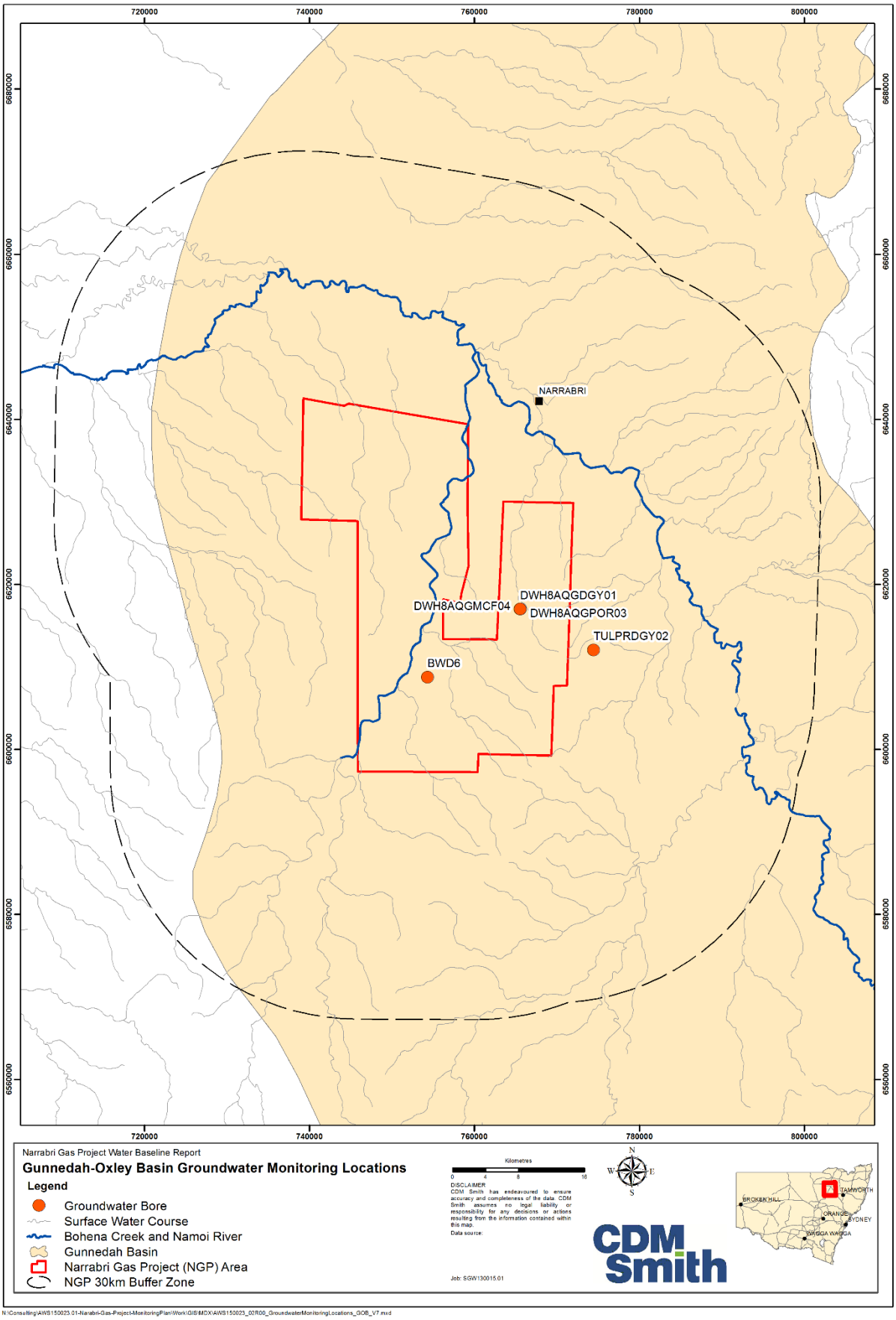

Figure 3-1 Groundwater monitoring locations in the Gunnedah-Oxley Basin Water Sources

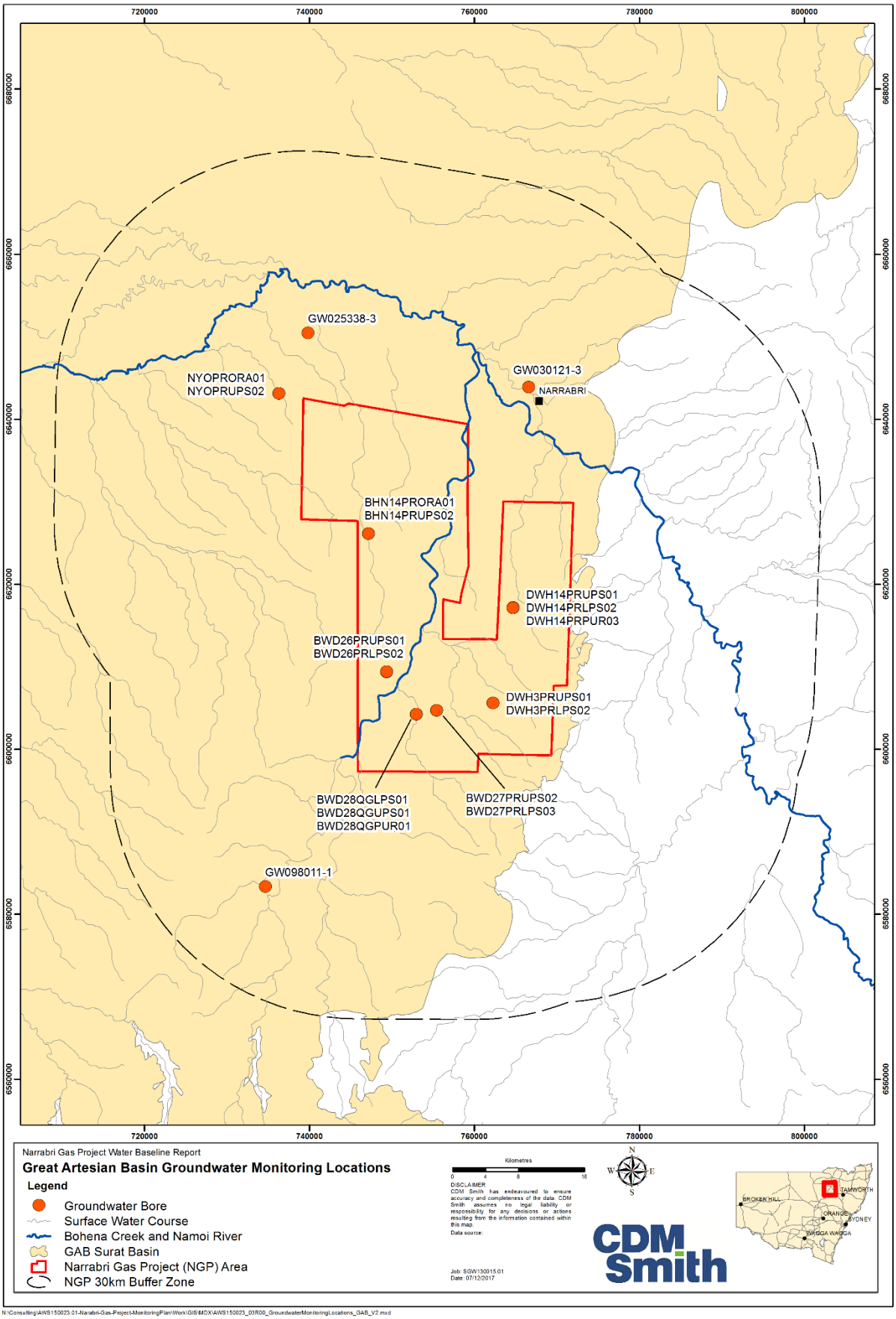

Figure 3-2 Groundwater monitoring locations in the Great Artesian Basin Water Sources

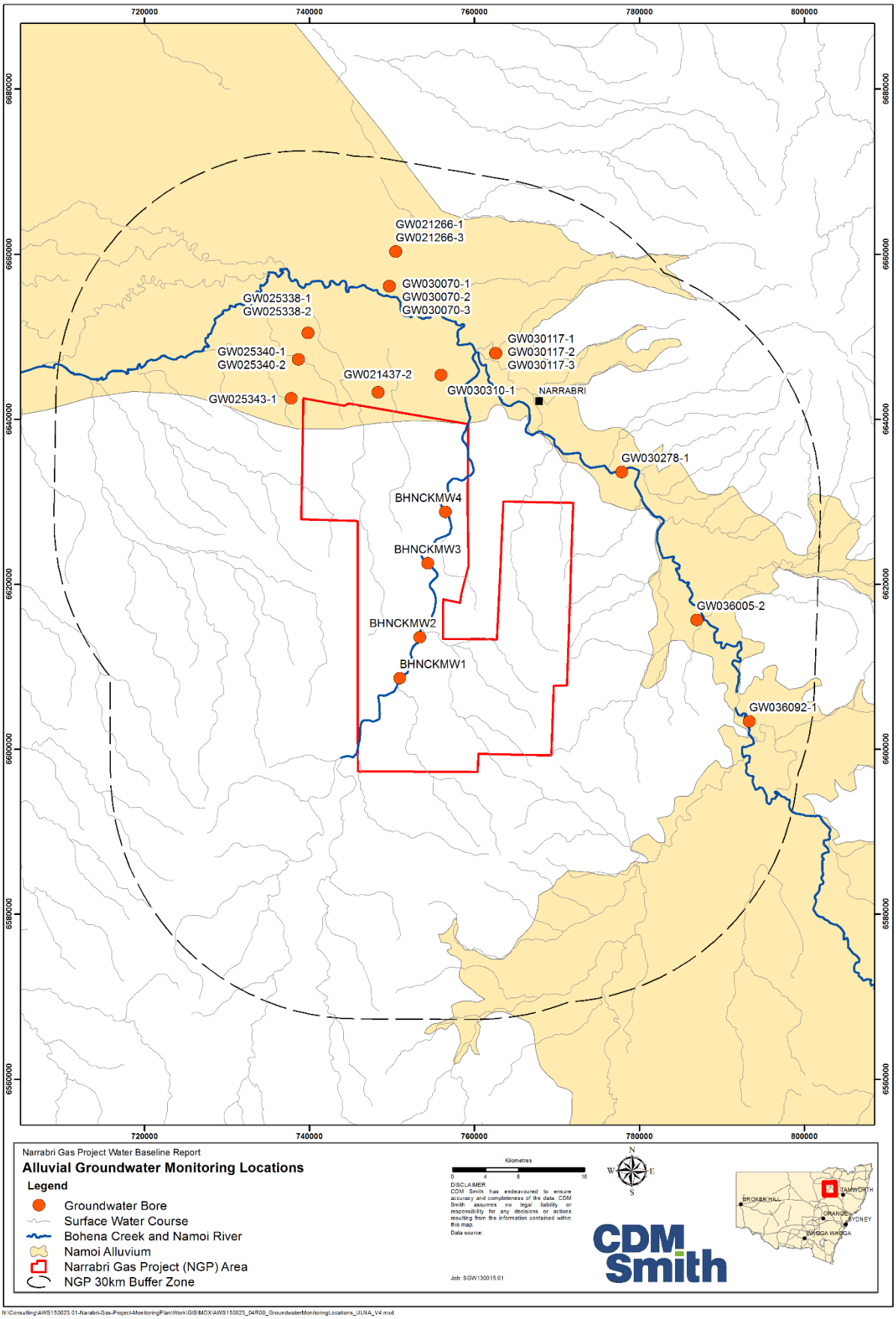

Figure 3-3 Groundwater monitoring locations in alluvial water sources

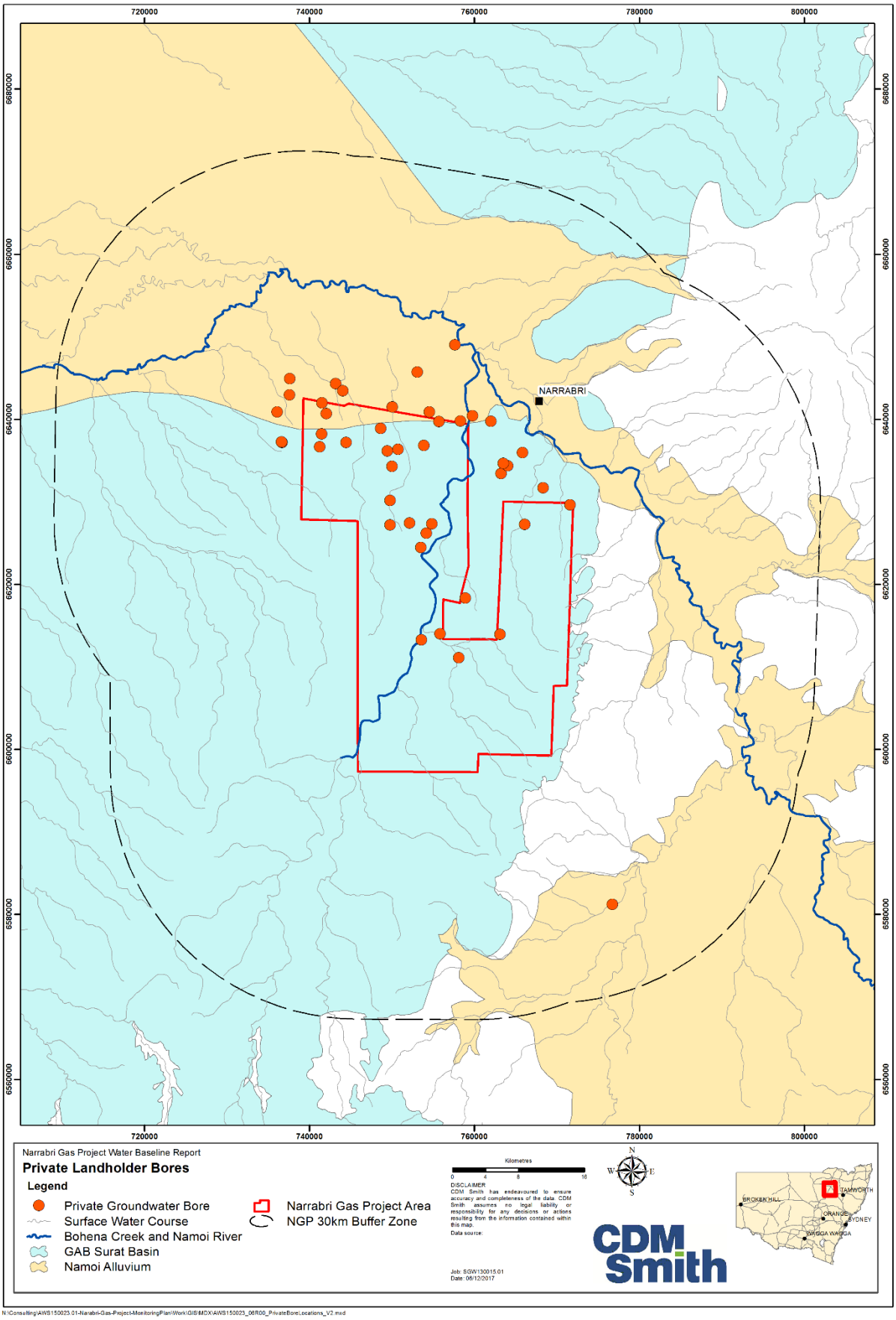

Figure 3-4 Locations of private landholder bores and alluvial and Great Artesian Basin Water Sources

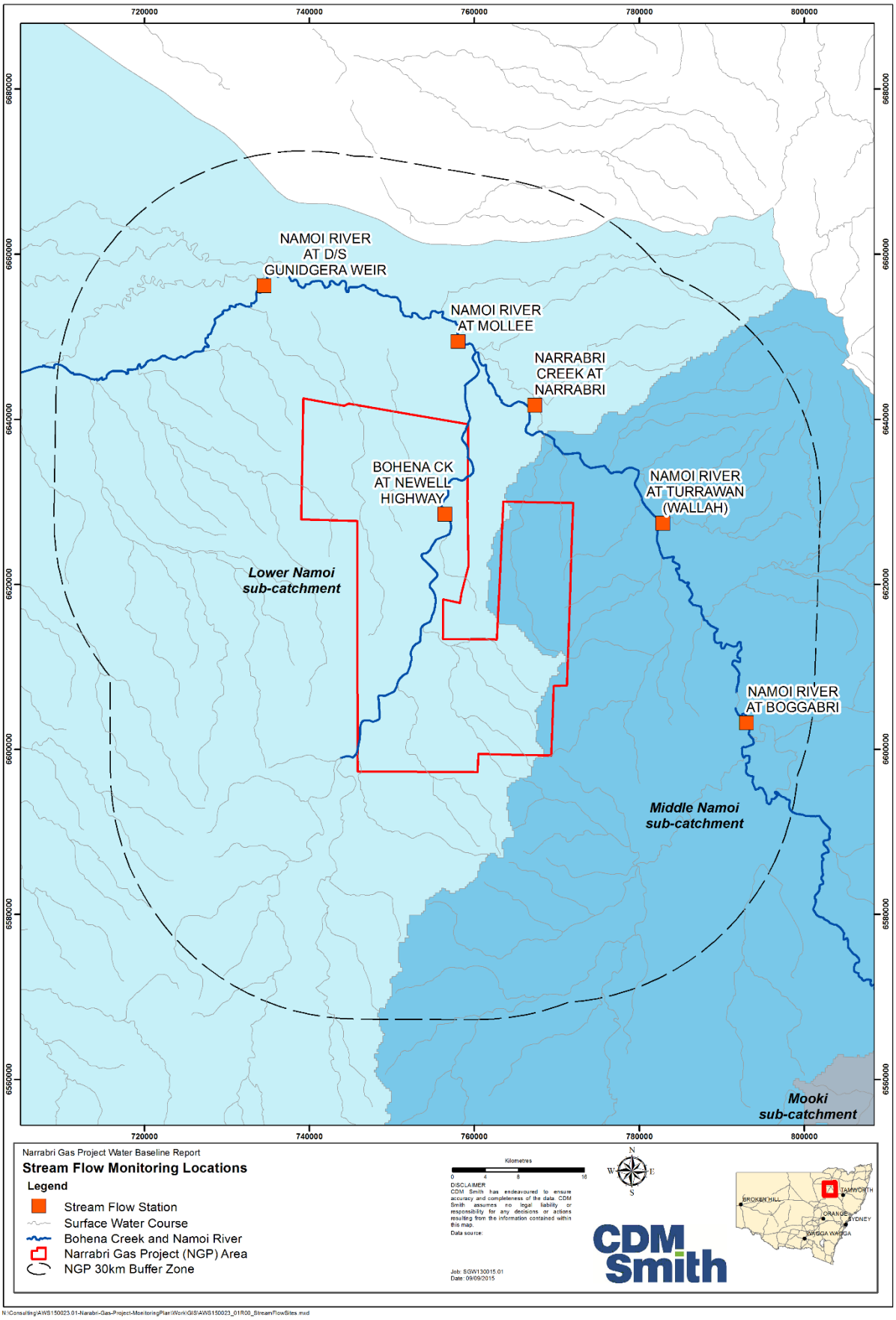

Figure 3-5 Monitoring locations for streamflow

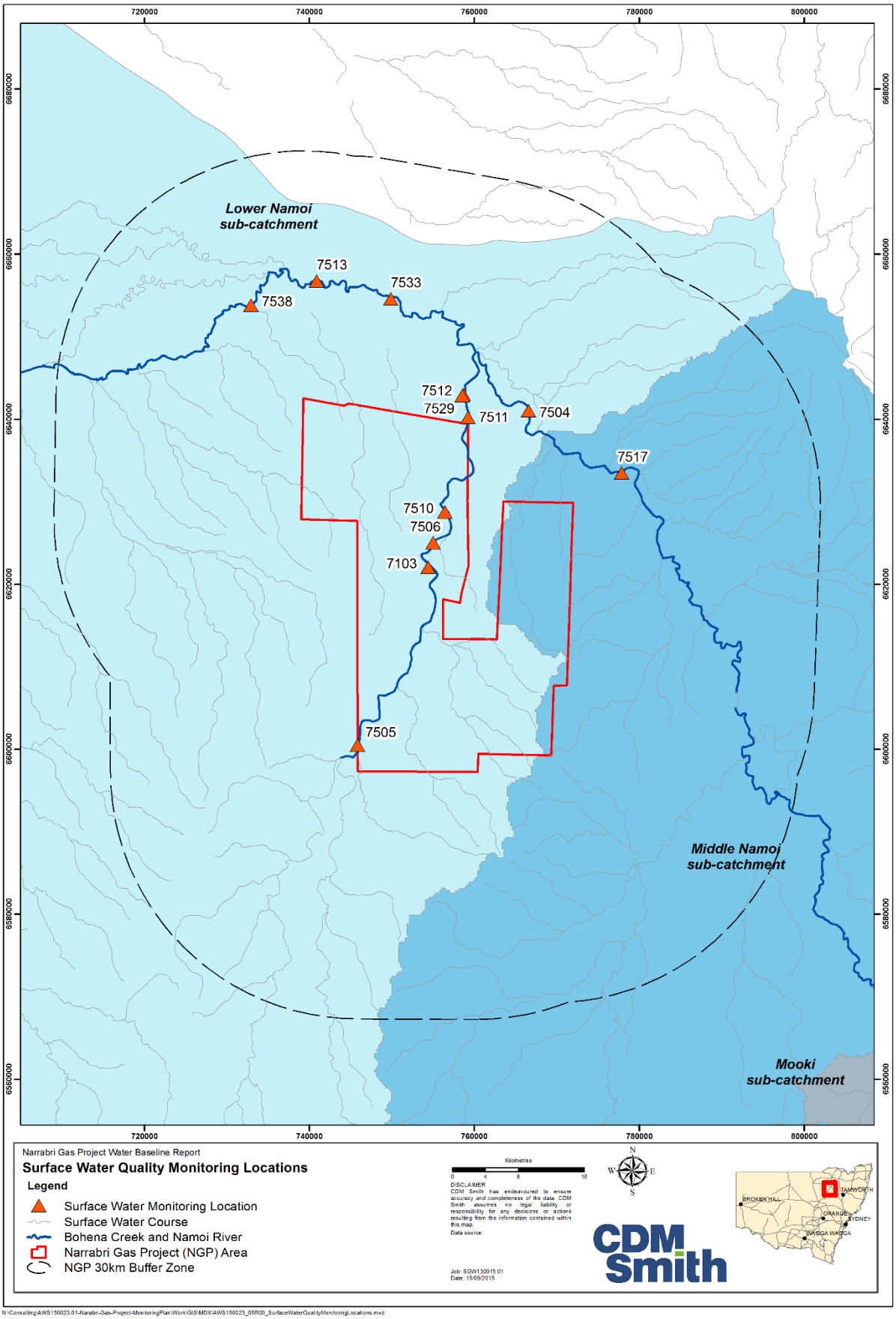

Figure 3-6 Monitoring locations for surface water quality

Section 4 Groundwater Baseline Data

4.1 Hydraulic Head and Pressure

Table 4-1 lists the 50 groundwater monitoring bores that constitute the baseline monitoring locations for groundwater hydraulic head. The table contains a simple statistical summary of the spread (minimum and maximum values) and central tendency (mean and median values) of measurements of hydraulic head in each bore. Additional information on the screened intervals of the bores is contained in Appendix C.

Hydrographs for individual monitoring bores listed in Table 4-1 are presented below in sections 0 to 0, and the locations of the bores are shown in Figure 3-1 to Figure 3-3.

Table 4-1 Summary of baseline data for groundwater head

Bore	Owner	Unit	Water Source	Hydraulic Head, m AHD						
				No. of Records	Start Date	End Date	Min.	Max.	Mean	Median
DWH8AQGMCF04	Santos	Maules Creek Fm	GOB	800	6/15	8/17	379.4	1283.3	518.6	390.2
DWH8AQGPOR03	Santos	Porcupine Fm	GOB	825	6/15	9/17	348.9	521.4	354.2	353.4
BWD6	Santos	Porcupine Fm	GOB	427	5/15	6/16	354.2	369.7	362.3	362.6
DWH8AQGDGY01	Santos	Digby Fm	GOB	800	6/15	8/17	328.8	741.6	330.8	329.8
TULPRDGY02*	Santos	Digby Fm	GOB	1211	4/14	8/17	228.9	248.9	242.3	240.3
BWD28QGPUR01	Santos	Purlawaugh Fm	GAB	1199	3/14	8/17	278.5	280.0	279.0	279.1
DWH14PRPUR03*	Santos	Purlawaugh Fm	GAB	392	3/14	6/15	236.3	237.2	236.8	236.9
BHN14PRUPS02*	Santos	Pilliga Ss	GAB	1122	3/14	6/17	214.4	233.8	220.5	216.0
BWD26PRLPS02*	Santos	Pilliga Ss	GAB	939	3/14	8/17	246.8	248.3	248.1	248.0
BWD26PRUPS01*	Santos	Pilliga Ss	GAB	1279	12/13	8/17	238.2	250.1	246.7	247.2
BWD27PRLPS03*	Santos	Pilliga Ss	GAB	1029	3/14	2/17	244.5	264.5	255.2	254.0
BWD27PRUPS02*	Santos	Pilliga Ss	GAB	1004	3/14	2/17	243.9	262.2	253.1	253.4
BWD28QGLPS01	Santos	Pilliga Ss	GAB	1239	3/14	8/17	284.6	290.2	287.5	288.9
BWD28QGUPS01	Santos	Pilliga Ss	GAB	1249	3/14	8/17	270.1	283.2	282.0	282.2
DWH14PRLPS02*	Santos	Pilliga Ss	GAB	1193	3/14	8/17	225.9	245.9	232.4	234.9
DWH14PRUPS01*	Santos	Pilliga Ss	GAB	1260	12/13	8/17	42.3	62.3	57.0	53.6
DWH3PRLPS02*	Santos	Pilliga Ss	GAB	1246	3/14	8/17	240.7	260.7	251.3	249.6
DWH3PRUPS01*	Santos	Pilliga Ss	GAB	1237	12/13	8/17	241.6	261.6	252.7	249.9
NYOPRUPS02*	Santos	Pilliga Ss	GAB	1111	3/14	8/17	204.0	222.6	210.7	209.6
GW030121-3	DPI	Pilliga Ss	GAB	334	4/71	8/14	193.9	208.2	203.8	204.4
GW098011-1	DPI	Pilliga Ss	GAB	3374	12/12	10/17	305.1	306.5	305.3	305.3
BHN14PRORA01*	Santos	Orallo Fm	GAB	1176	2/14	6/17	205.8	224.1	215.9	216.3
NYOPRORA01*	Santos	Orallo Fm	GAB	912	1/15	8/17	222.6	212.1	211.0	206.2
GW025338-3	DPI	Mooga Ss	GAB	1071	12/69	8/14	168.1	181.5	174.9	174.6
GW021266-3	DPI	Namoi alluvium	ULNA	3622	6/73	10/17	131.0	185.8	166.1	172.5
GW021437-2*	DPI	Namoi alluvium	ULNA	1116	5/68	8/14	178.3	185.2	181.9	182.1
GW025338-1*	DPI	Namoi alluvium	ULNA	1071	12/69	8/14	170.9	181.8	175.5	174.9
GW025338-2	DPI	Namoi alluvium	ULNA	1071	12/69	8/14	162.3	181.6	174.4	174.2
GW025340-1	DPI	Namoi alluvium	ULNA	1068	4/70	8/14	169.7	180.5	173.7	172.9
GW025340-2	DPI	Namoi alluvium	ULNA	2203	4/70	10/17	169.5	180.5	172.0	170.8
GW025343-1*	DPI	Namoi alluvium	ULNA	1059	4/70	8/14	171.8	179.7	175.2	174.8
GW030070-1*	DPI	Namoi alluvium	ULNA	343	8/70	8/14	182.9	192.7	188.7	189.3
GW030070-2*	DPI	Namoi alluvium	ULNA	354	8/70	8/14	172.3	190.2	185.4	187.1
GW030070-3*	DPI	Namoi alluvium	ULNA	354	8/70	8/14	171.6	190.1	185.3	186.9
GW030310-1*	DPI	Namoi alluvium	ULNA	323	3/74	8/14	183.1	195.9	192.5	193.3

Bore	Owner	Unit	Water Source	Hydraulic Head, m AHD						
				No. of Records	Start Date	End Date	Min.	Max.	Mean	Median
GW030117-1*	DPI	Namoi alluvium	ULNA	320	6/72	8/14	199.6	204.2	202.7	202.7
GW030117-2*	DPI	Namoi alluvium	ULNA	285	6/72	8/14	201.7	204.6	202.8	202.8
GW030278-1*	DPI	Namoi alluvium	ULNA	390	4/72	1/15	213.0	222.0	216.7	216.8
GW036005-2*	DPI	Namoi alluvium	ULNA	309	9/74	8/14	211.8	227.2	223.7	225.2
GW036092-1	DPI	Namoi alluvium	ULNA	334	12/74	10/17	230.9	234.4	232.3	232.4
GW036546-3	DPI	Namoi alluvium	ULNA	152	5/86	7/14	230.9	240.4	237.2	237.0
GW036546-1	DPI	Namoi alluvium	ULNA	151	5/86	7/14	233.6	240.4	238.4	238.3
GW036546-2	DPI	Namoi alluvium	ULNA	152	5/86	7/14	231.0	240.4	237.2	237.0
GW036497-1	DPI	Namoi alluvium	ULNA	164	6/84	2/15	254.3	257.3	255.8	255.8
GW030310-2	DPI	Namoi alluvium	ULNA	325	3/74	8/14	179.8	199.1	194.4	195.9
GW030400-1*	DPI	Namoi alluvium	ULNA	321	11/73	9/17	179.8	199.1	193.9	195.2
GW021266-4	DPI	Namoi alluvium	ULNA	1011	6/73	8/14	128.0	186.7	171.2	177.1
GW025343-2	DPI	Namoi alluvium	ULNA	1059	1/70	8/14	171.9	179.8	175.2	174.9
GW025340-3	DPI	Namoi alluvium	ULNA	1068	4/70	8/14	169.8	179.8	173.9	173.3

GOB – Gunnedah–Oxley Basin MDB Groundwater Source; GAB - Great Artesian Basin Surat and Southern Recharge Groundwater Sources; ULNA – Upper and Lower Namoi Alluvium Source

Note: screened intervals of bores are listed in Appendix C

* Bores sampled for water quality analysis

4.1.1 Gunnedah-Oxley Basin Monitoring Bores

The figures below show hydrographs for the baseline groundwater monitoring bores located within the Gunnedah-Oxley Basin. The locations of these bores are shown in Figure 3-1. Pressure heads have been corrected for barometric changes, but have not been smoothed to remove technical aberrations. This provides an indication of the competency of the respective probes and allows consideration of data variability that may reasonably be expected at each location.

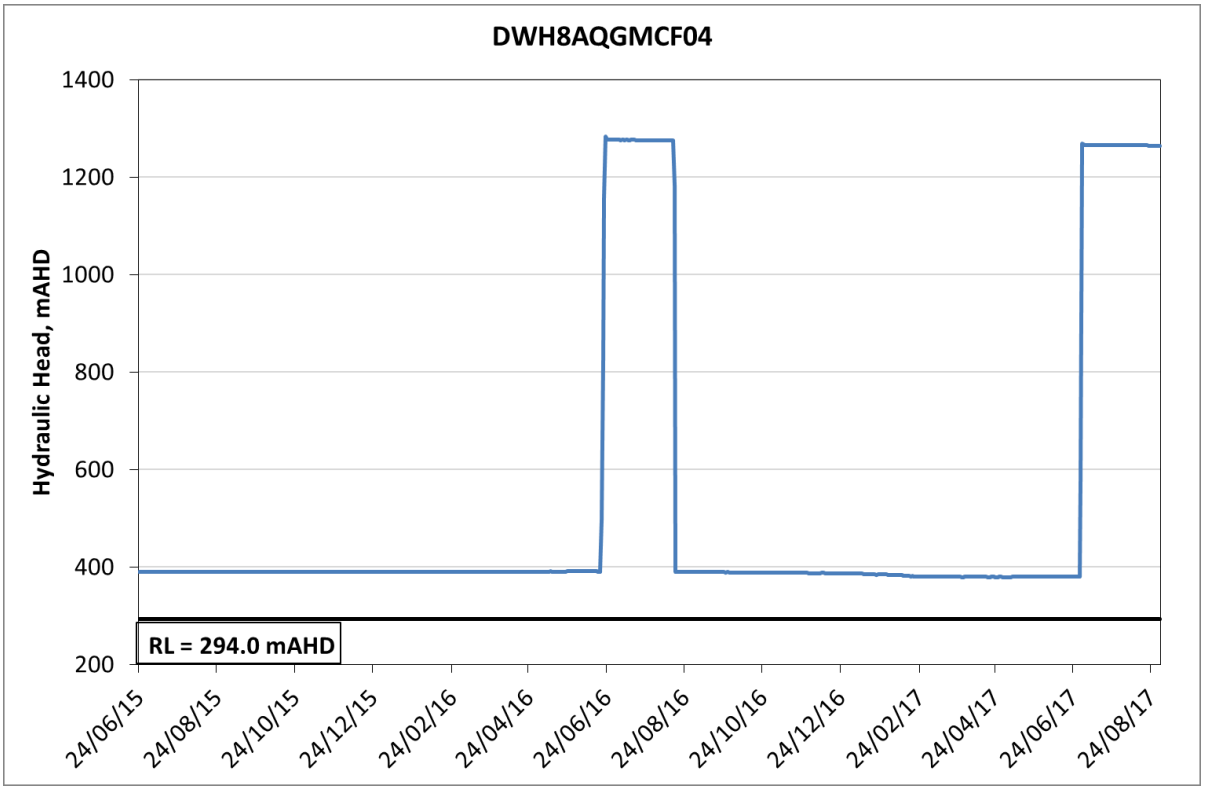

Figure 4-1 Hydrograph for monitoring bore DWH8AQGMCF04 (Maules Creek Formation)

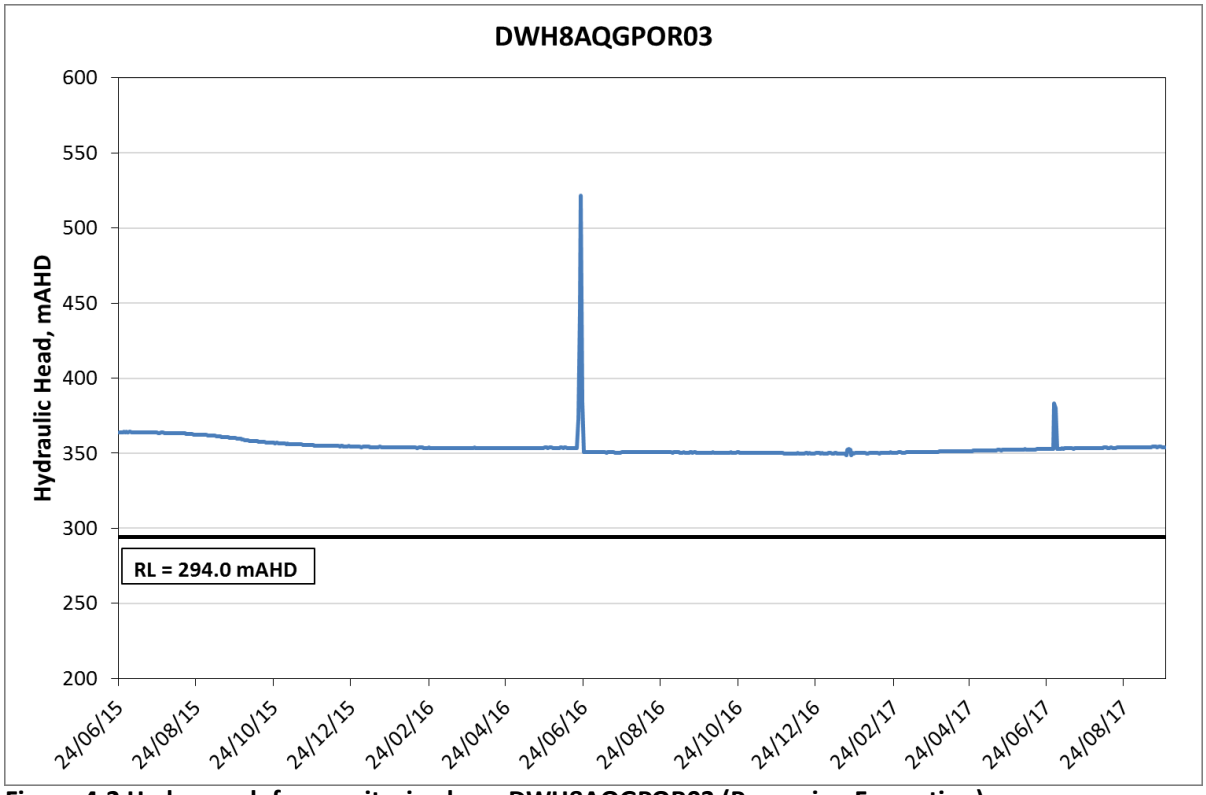

Figure 4-2 Hydrograph for monitoring bore DWH8AQGPOR03 (Porcupine Formation)

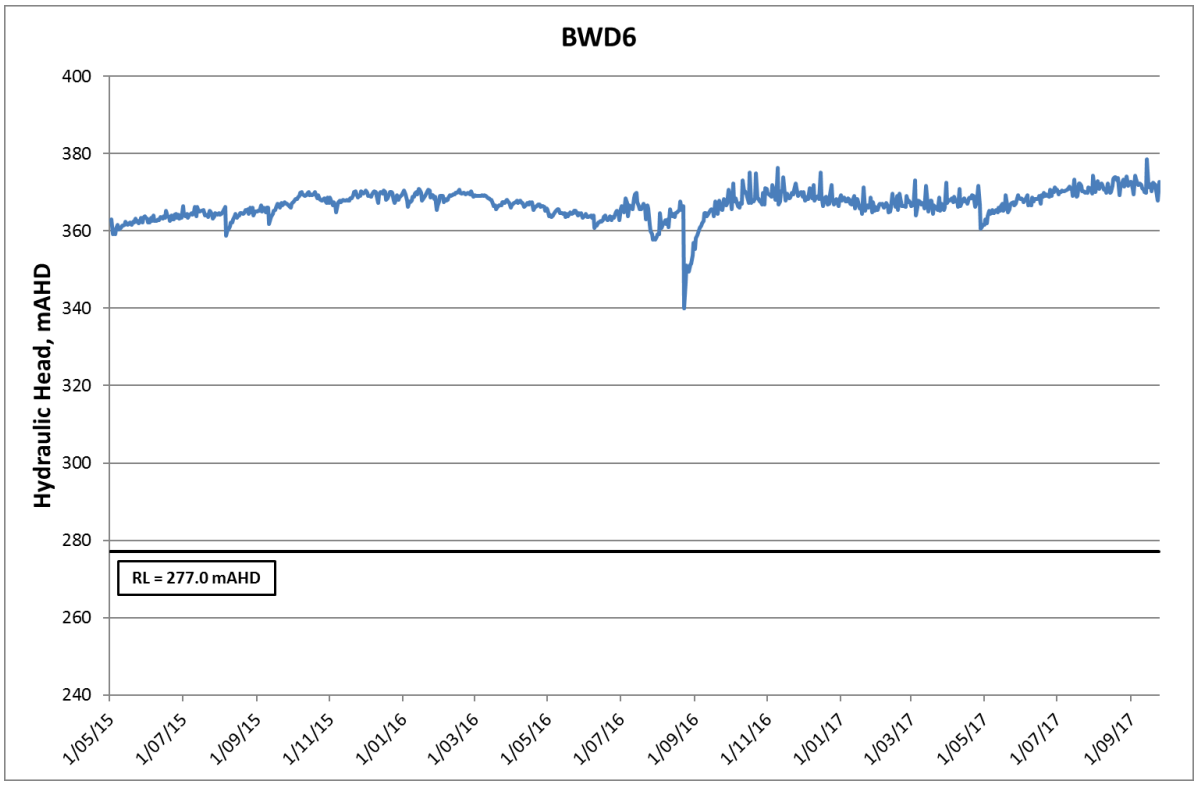

Figure 4-3 Hydrograph for monitoring bore BWD6 (Porcupine Formation)

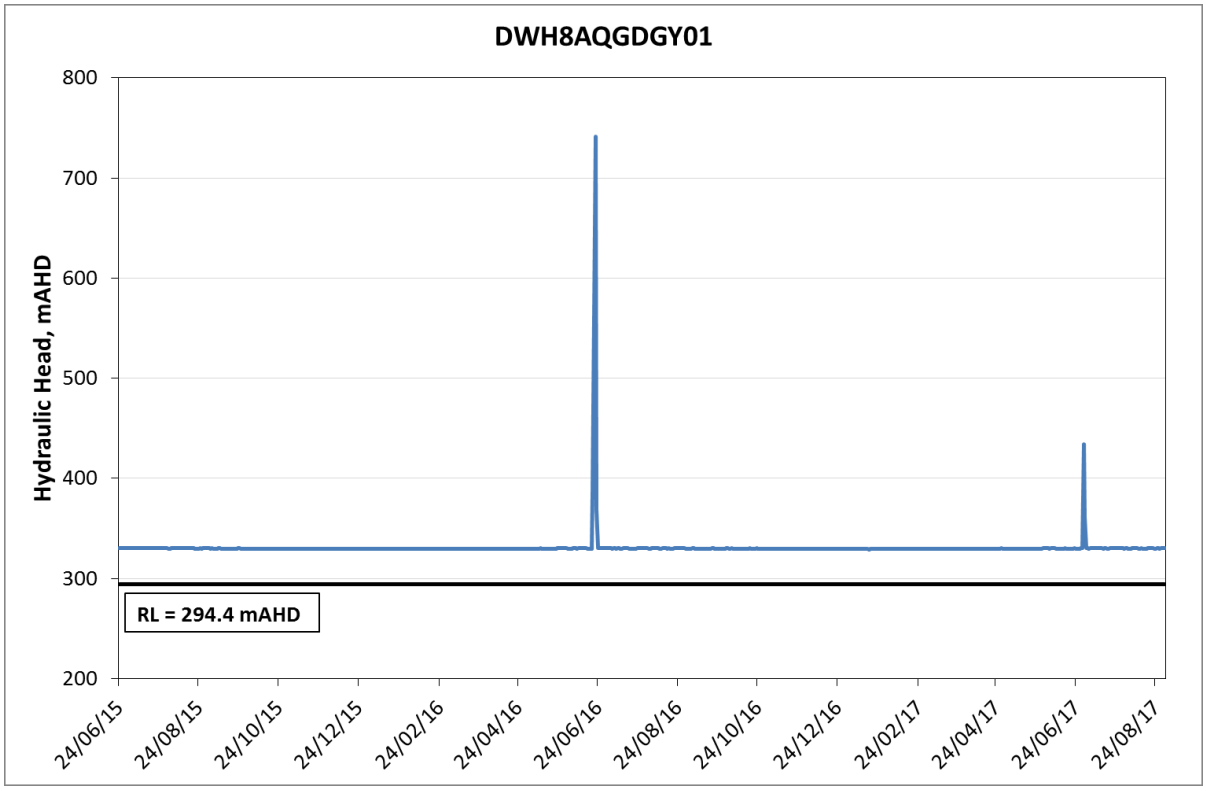

Figure 4-4 Hydrograph for monitoring bore DWH8AQGDGY01 (Digby Formation)

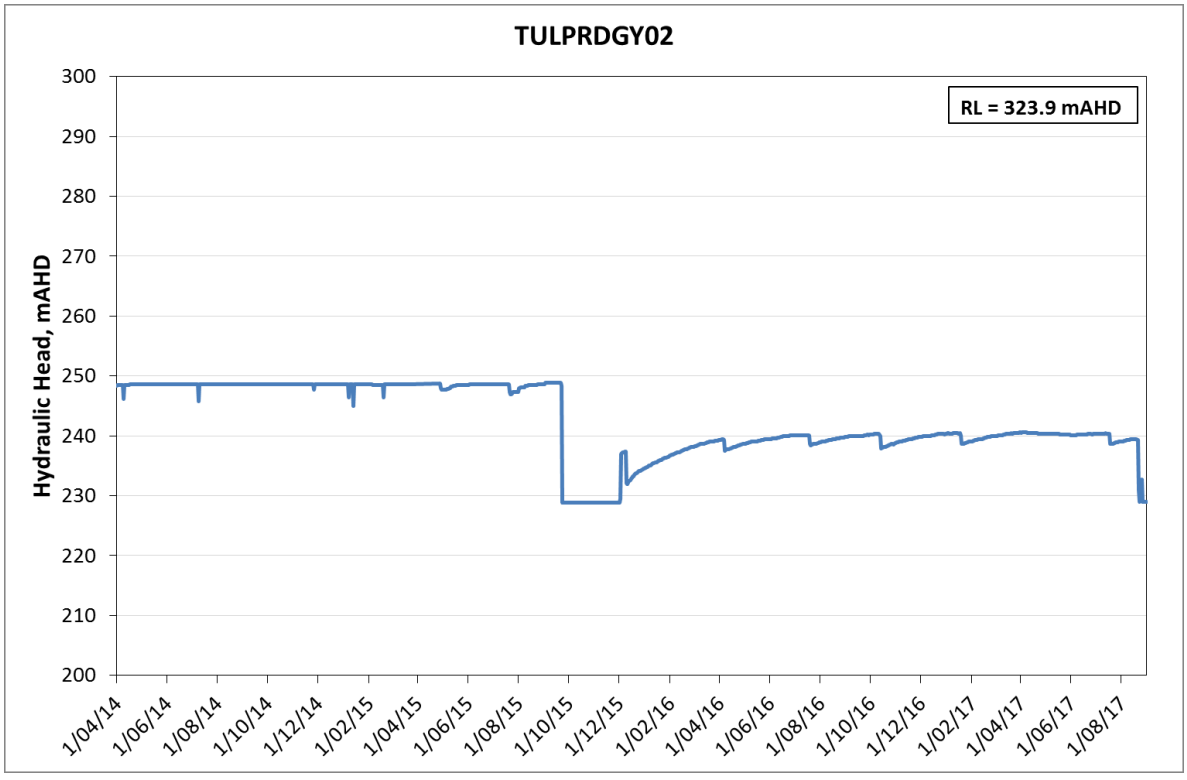

Figure 4-5 Hydrograph for monitoring bore TULPRDGY02 (Digby Formation)

4.1.2 Great Artesian Basin Monitoring Bores

The figures below show hydrographs for the baseline groundwater monitoring bores located within the Great Artesian Basin. The locations of these bores are shown in Figure 3-2. Pressure heads have been corrected for barometric changes, but have not been smoothed to remove technical aberrations. This provides an indication of the competency of the respective probes and allows consideration of data variability that may reasonably be expected at each location.

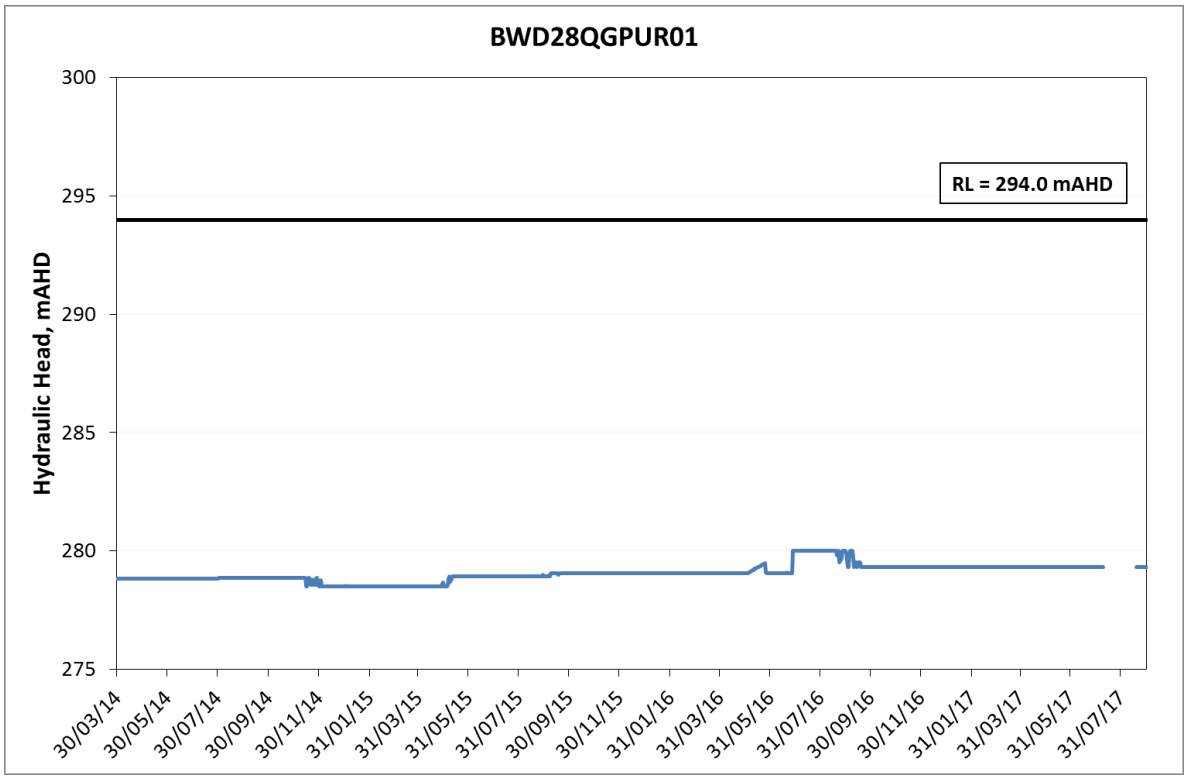

Figure 4-6 Hydrograph for monitoring bore BWD28QGPUR01 (Purlawaugh Formation)

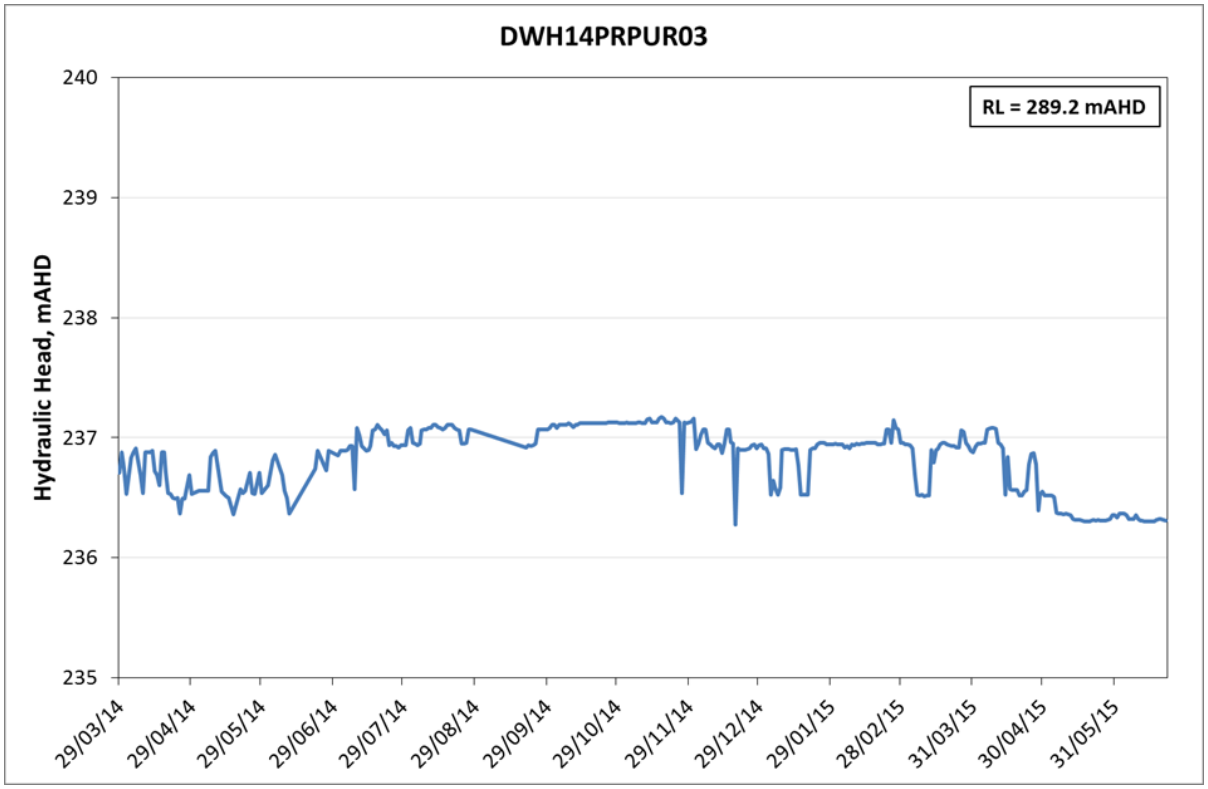

Figure 4-7 Hydrograph for monitoring bore DWH14PRPUR03 (Purlawaugh Formation)

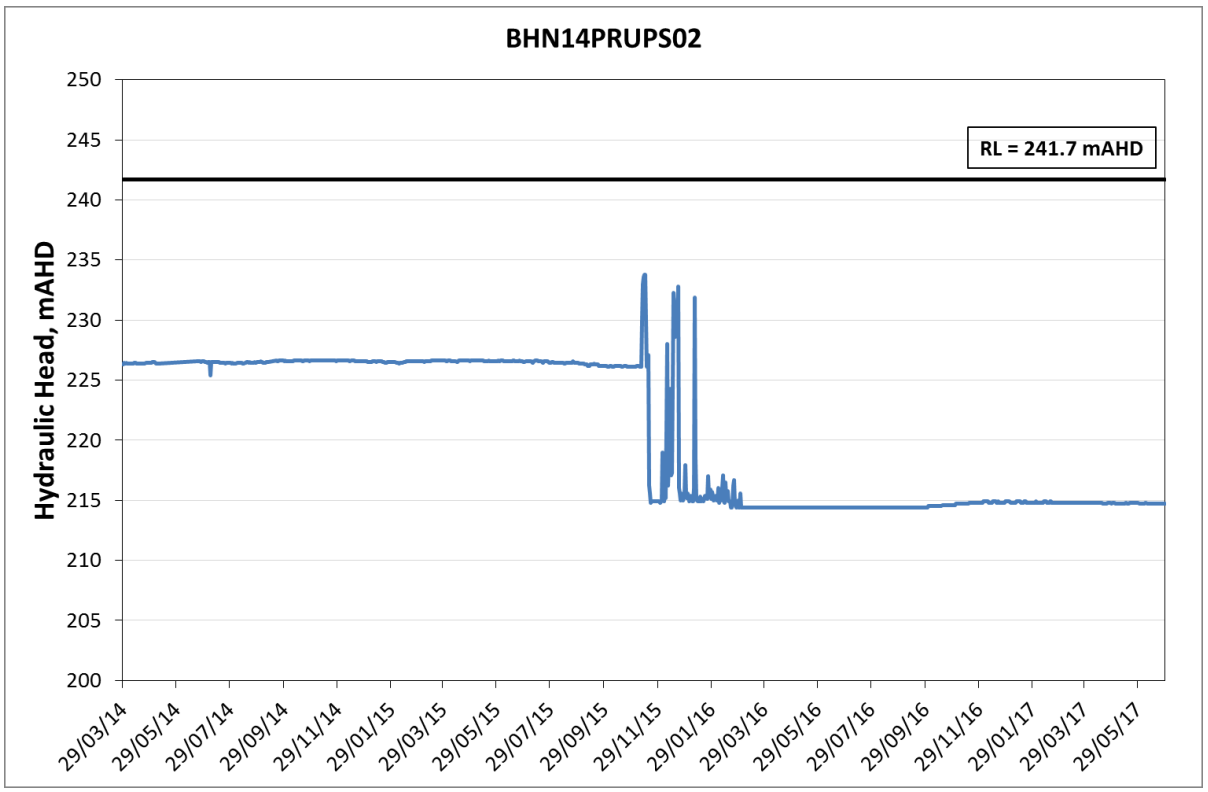

Figure 4-8 Hydrograph for monitoring bore BHN14PRUPS02 (Pilliga Sandstone)

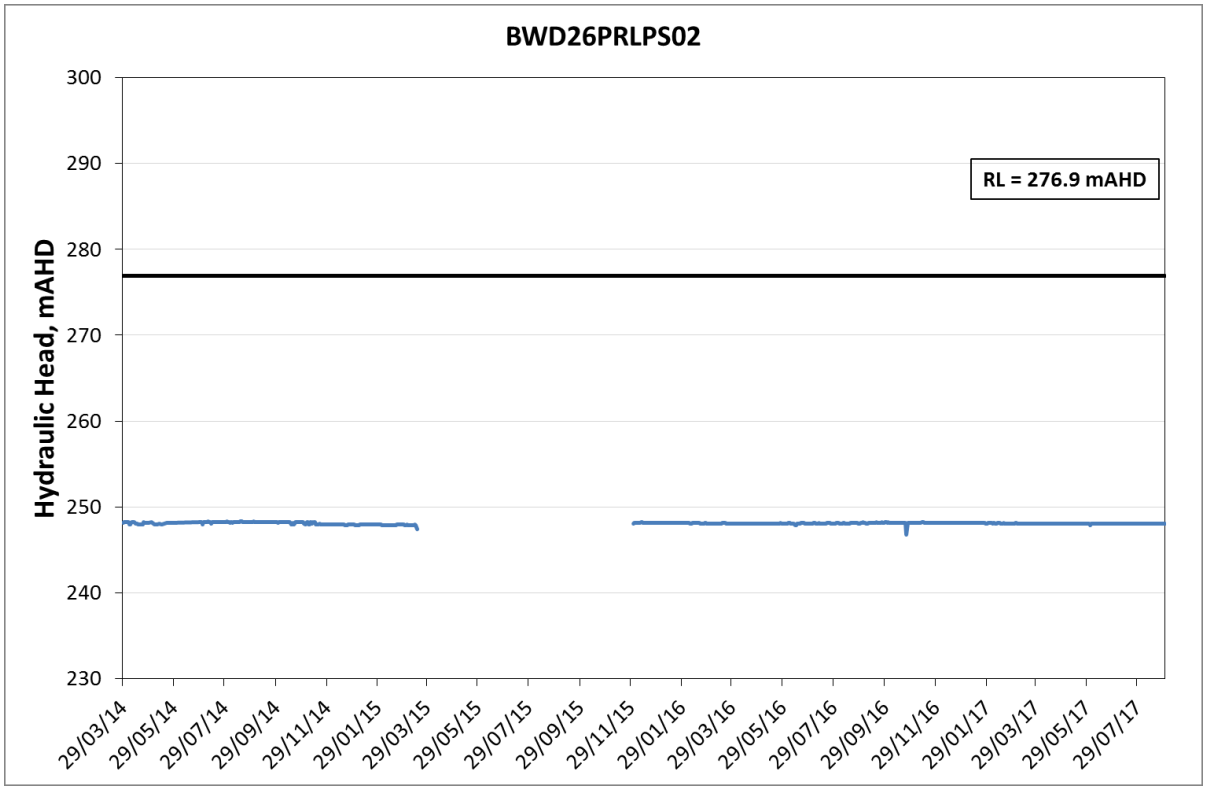

Figure 4-9 Hydrograph for monitoring bore BWD26PRLPS02 (Pilliga Sandstone)

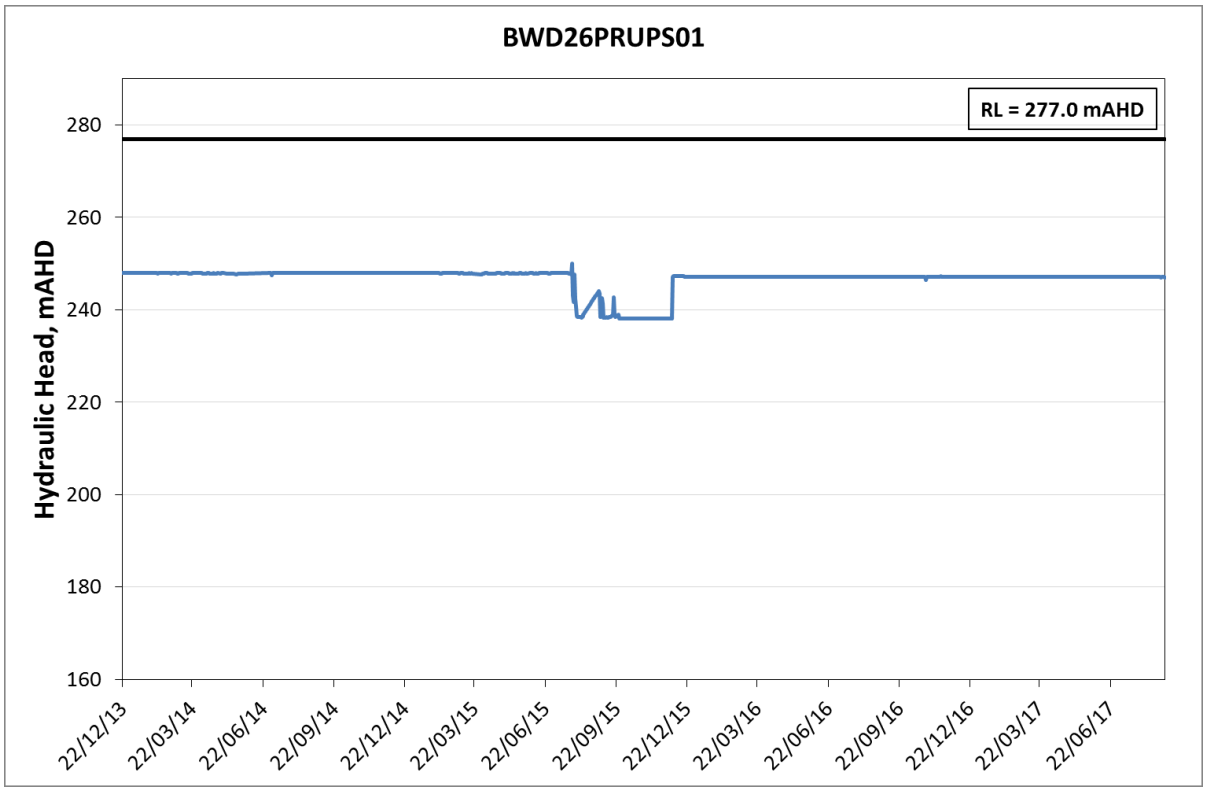

Figure 4-10 Hydrograph for monitoring bore BWD26PRUPS01 (Pilliga Sandstone)

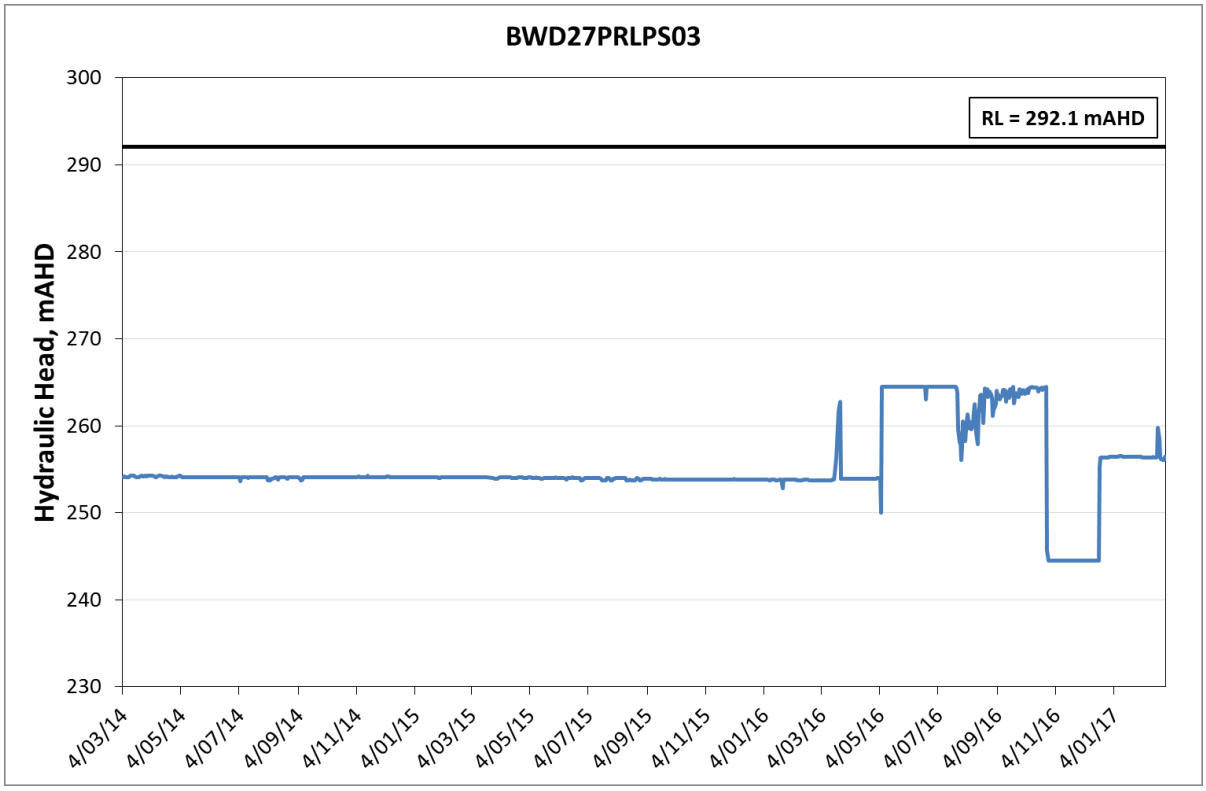

Figure 4-11 Hydrograph for monitoring bore BWD27PRLPS03 (Pilliga Sandstone)

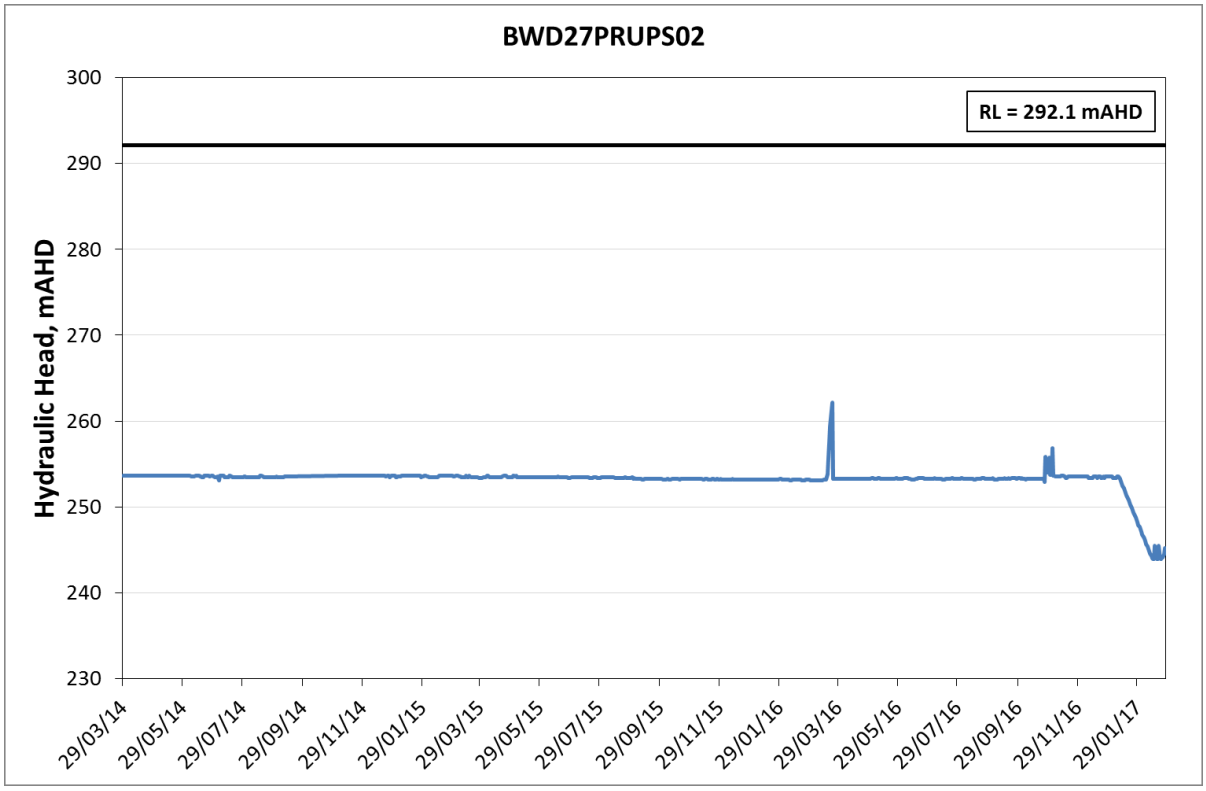

Figure 4-12 Hydrograph for monitoring bore BWD27PRUPS02 (Pilliga Sandstone)

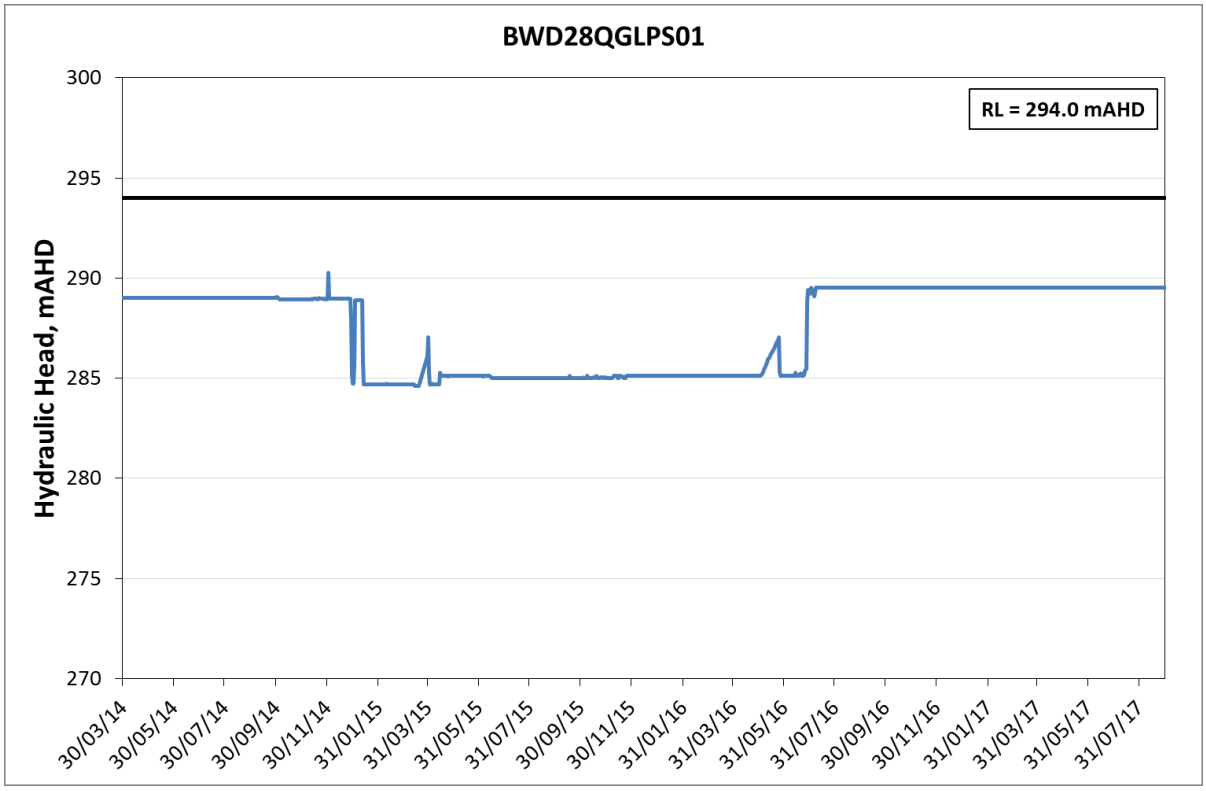

Figure 4-13 Hydrograph for monitoring bore BWD28QGLPS01 (Pilliga Sandstone)

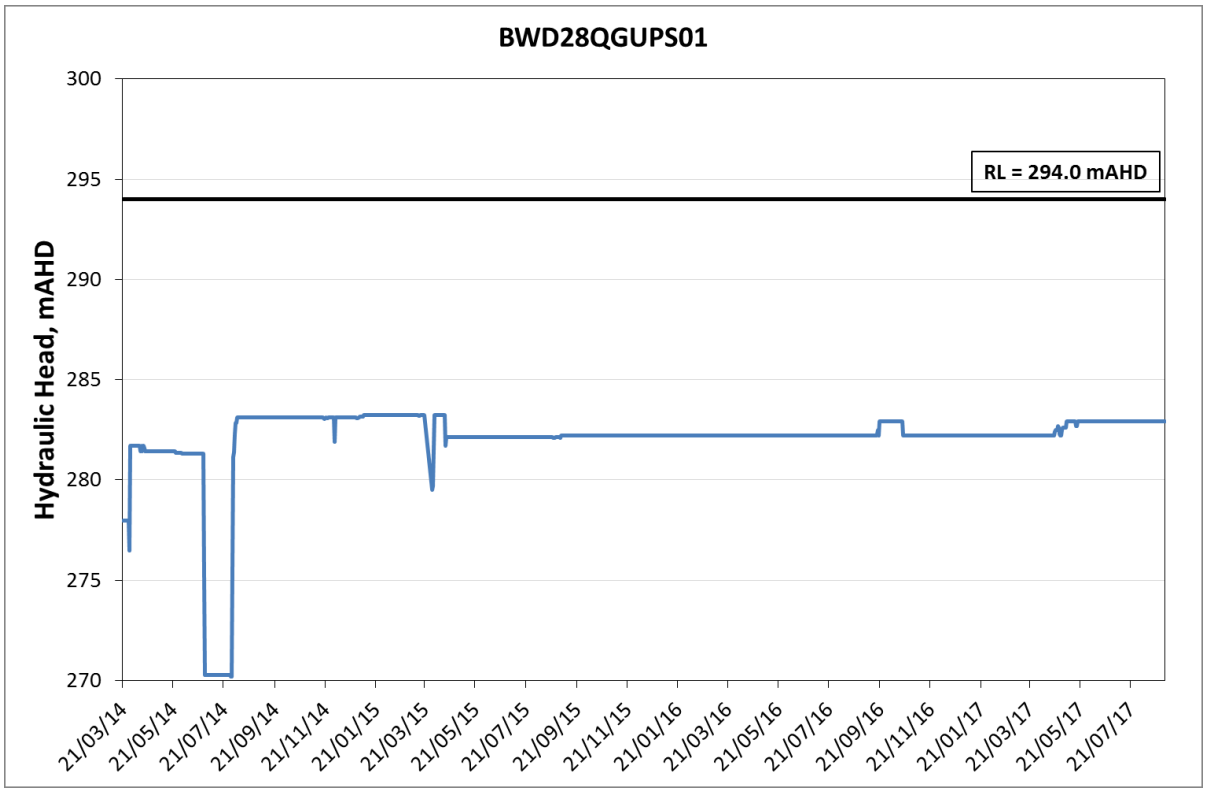

Figure 4-14 Hydrograph for monitoring bore BWD28QGUPS01 (Pilliga Sandstone)

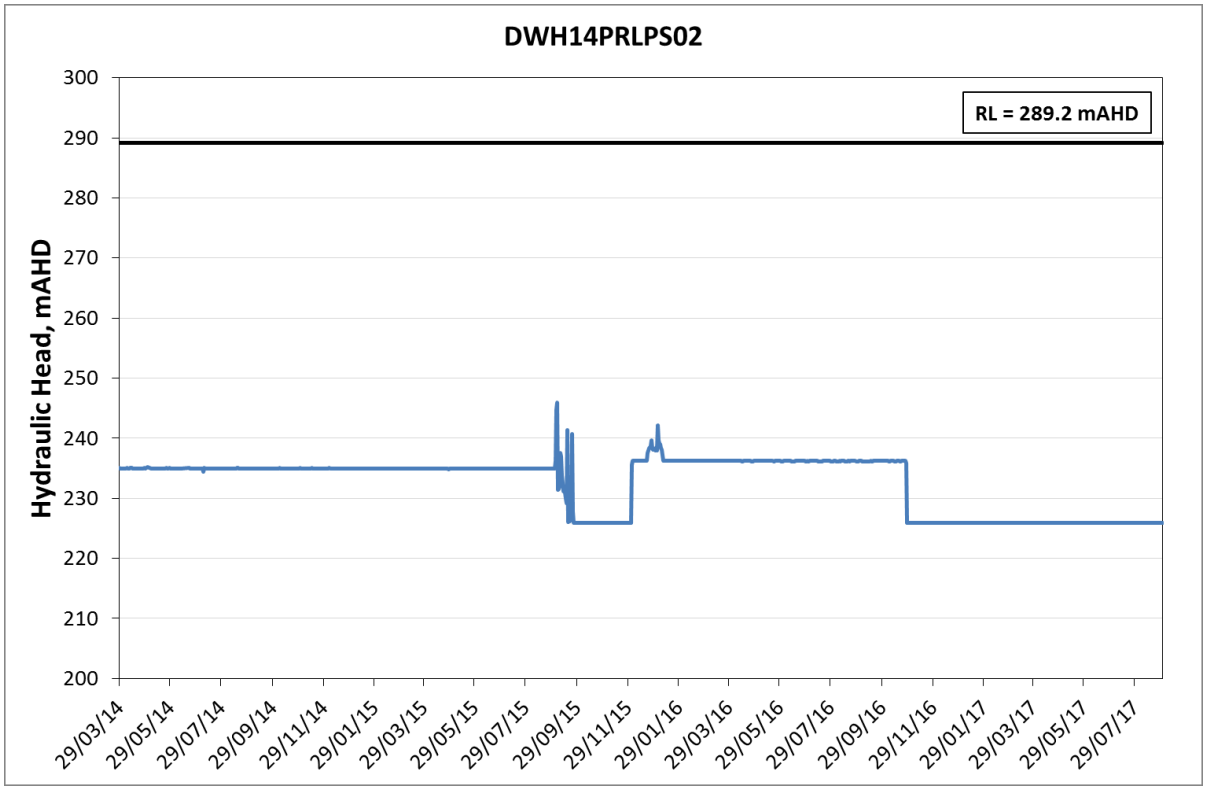

Figure 4-15 Hydrograph for monitoring bore DWH14PRLPS02 (Pilliga Sandstone)

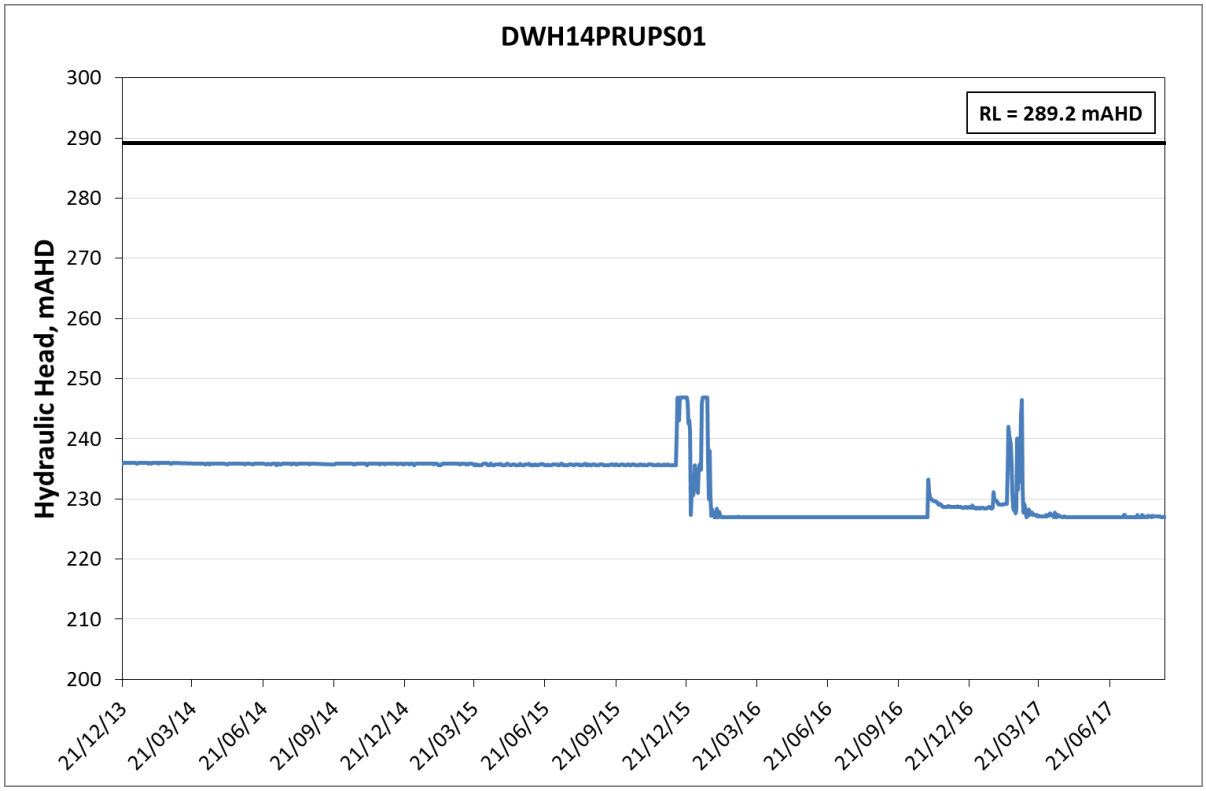

Figure 4-16 Hydrograph for monitoring bore DWH14PRUPS01 (Pilliga Sandstone)

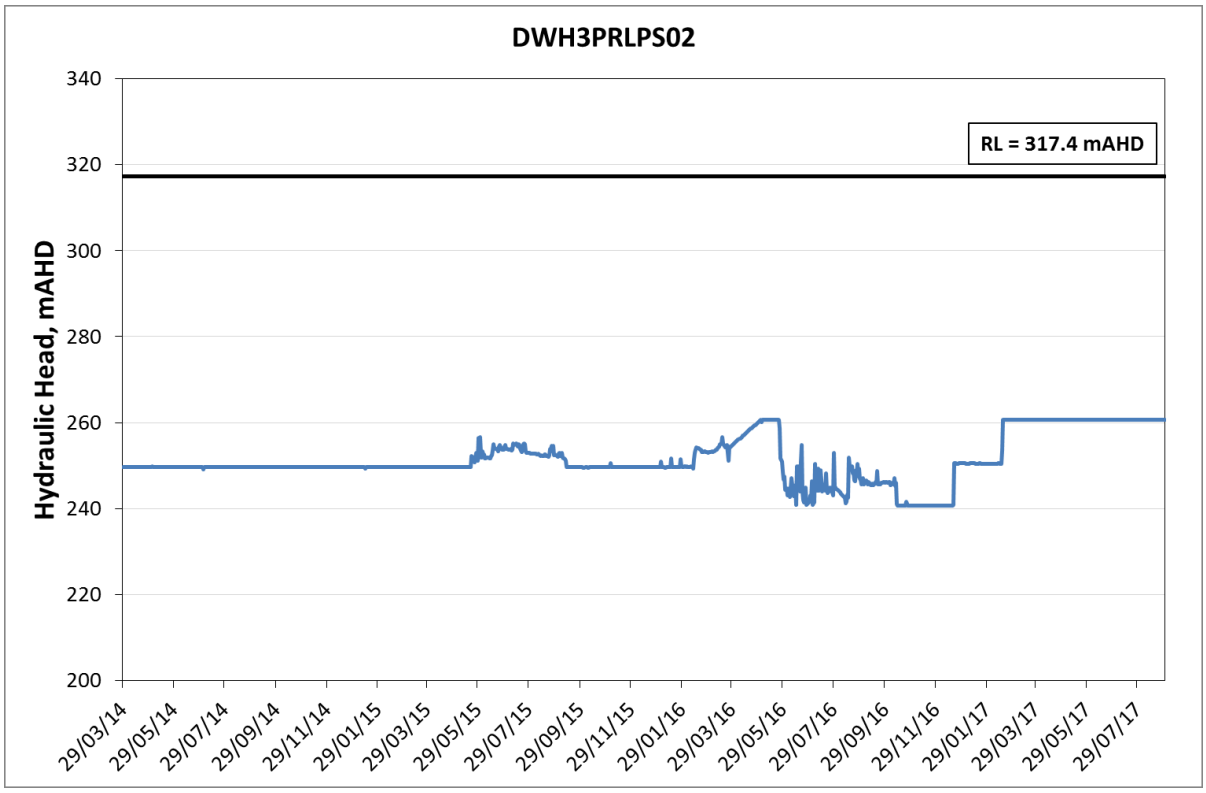

Figure 4-17 Hydrograph for monitoring bore DWH3PRLPS02 (Pilliga Sandstone)

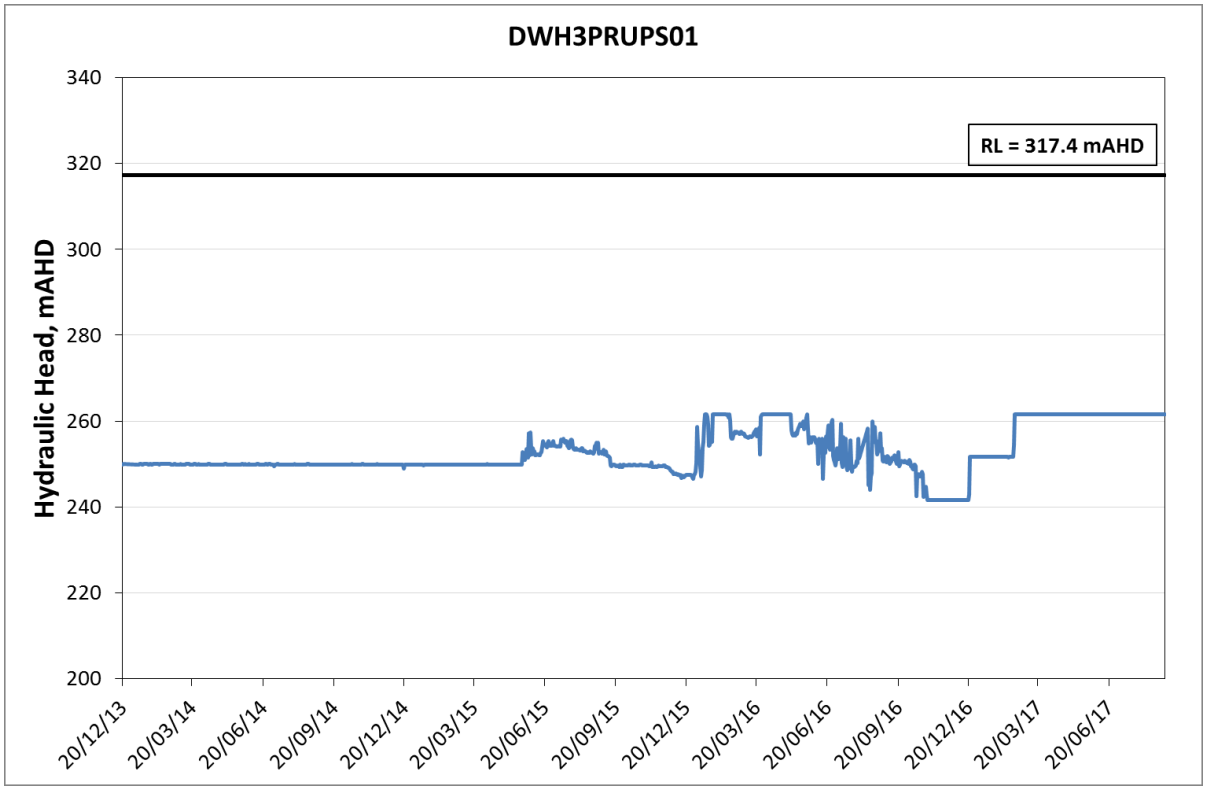

Figure 4-18 Hydrograph for monitoring bore DWH3PRUPS01 (Pilliga Sandstone)

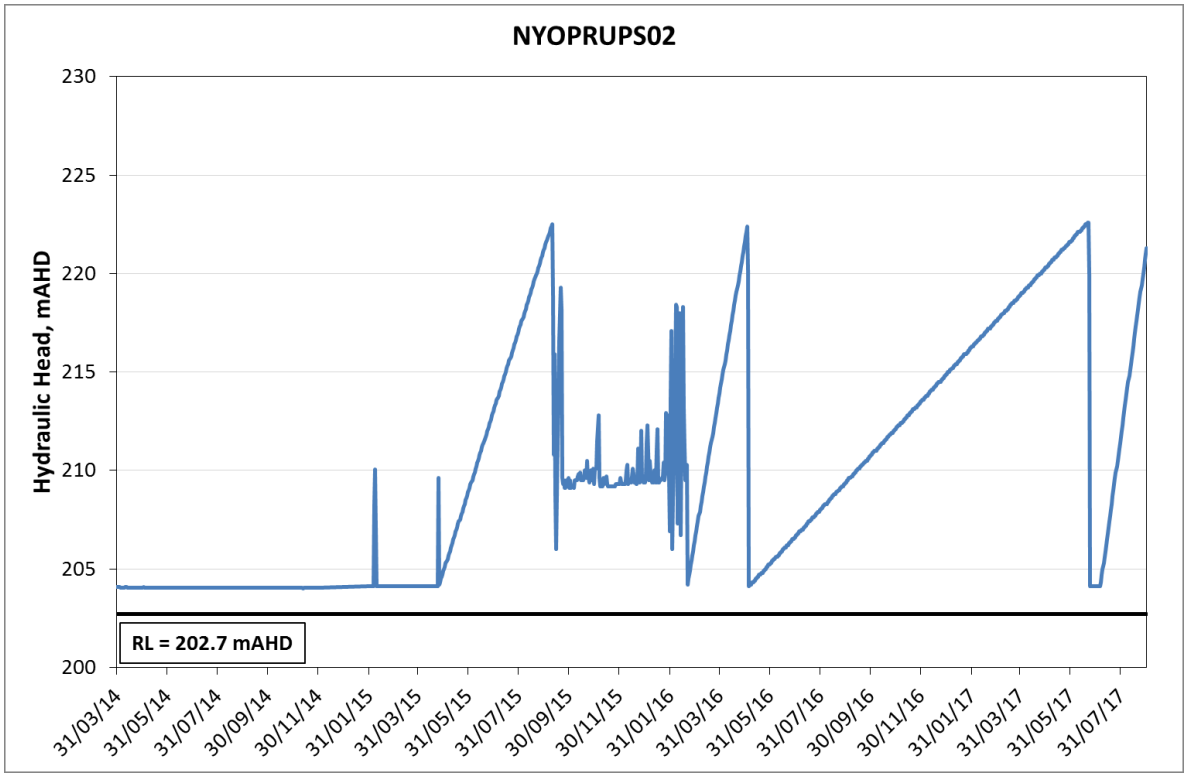

Figure 4-19 Hydrograph for monitoring bore NYOPRUPS02 (Pilliga Sandstone)

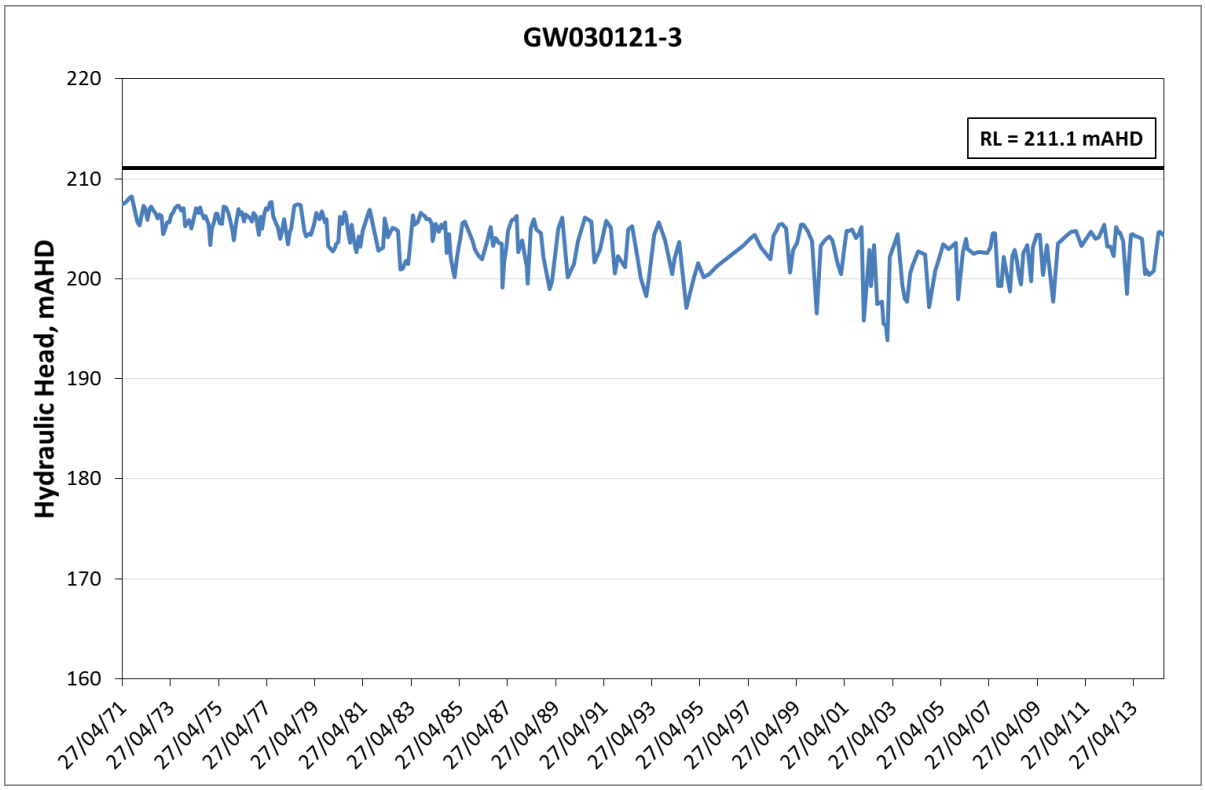

Figure 4-20 Hydrograph for monitoring bore GW030121-3 (Pilliga Sandstone)

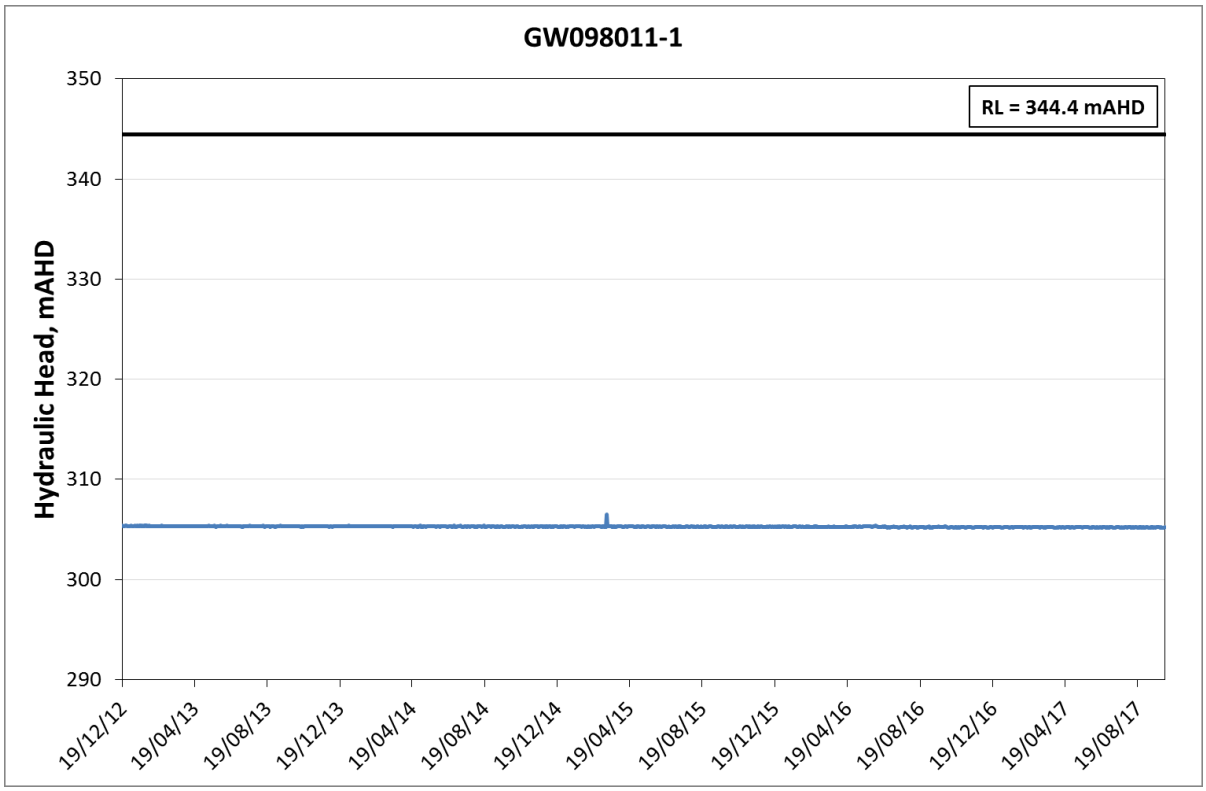

Figure 4-21 Hydrograph for monitoring bore GW098011-1 (Pilliga Sandstone)

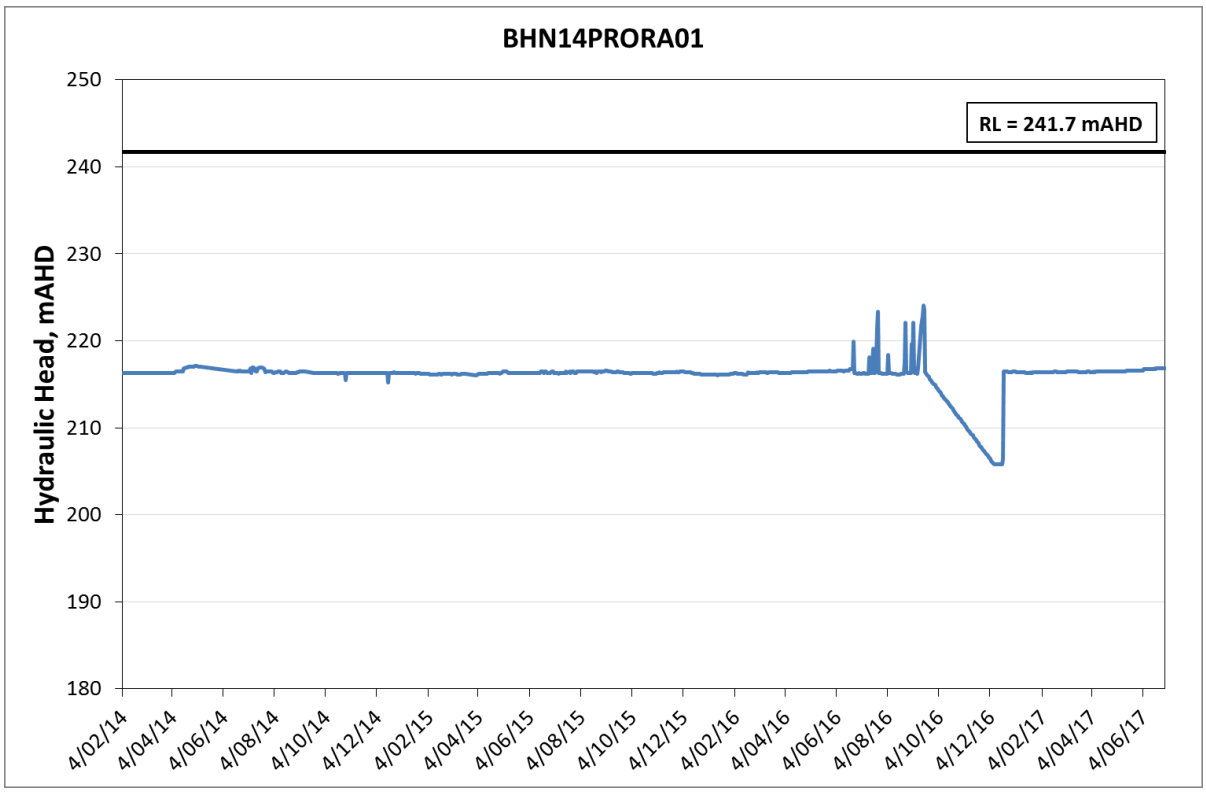

Figure 4-22 Hydrograph for monitoring bore BHN14PRORA01 (Orallo Formation)

Figure 4-23 Hydrograph from monitoring bore NYOPRORA01 (Orallo Formation)

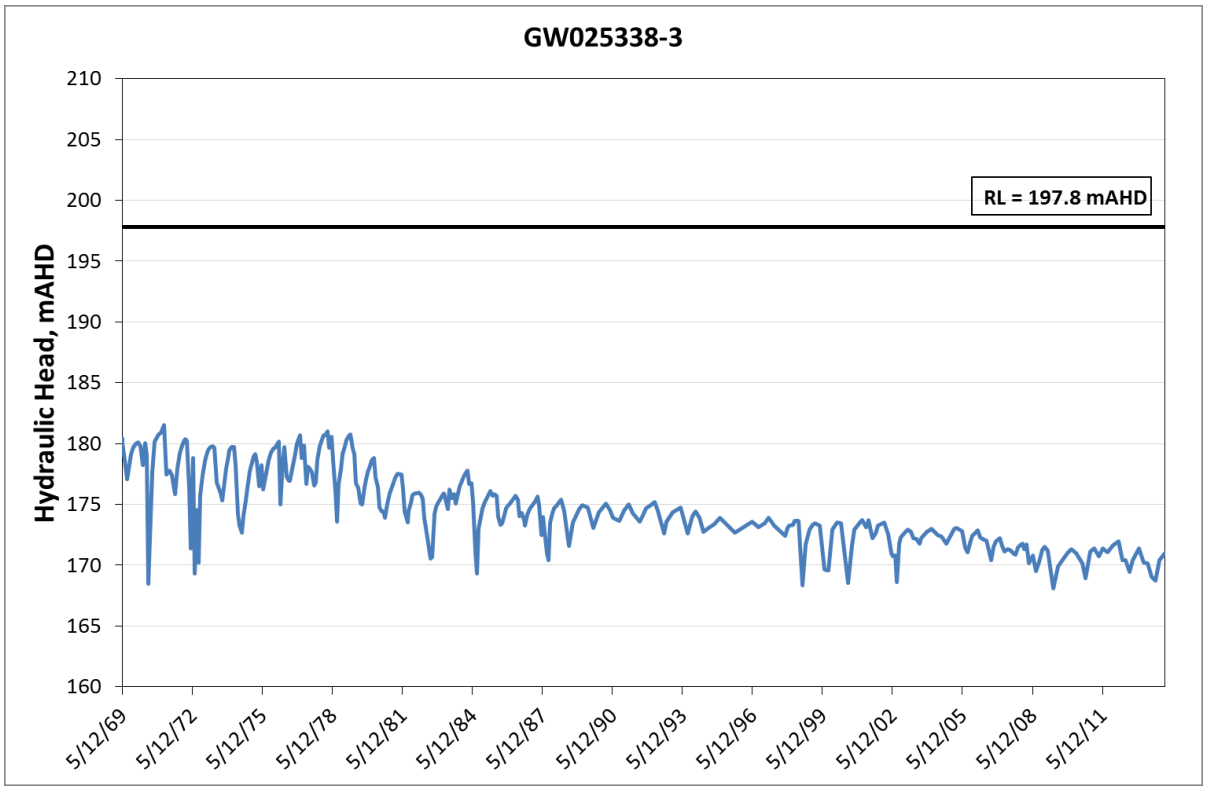

Figure 4-24 Hydrograph for monitoring bore GW025338-3 (Mooga Sandstone)

4.1.3 Namoi Alluvium Monitoring Bores

The figures below show hydrographs for the baseline groundwater monitoring bores located within the alluvial water sources. The locations of these bores are shown in Figure 3-3. Significant departures from the general trends generally represent the response to local extractions for irrigation.

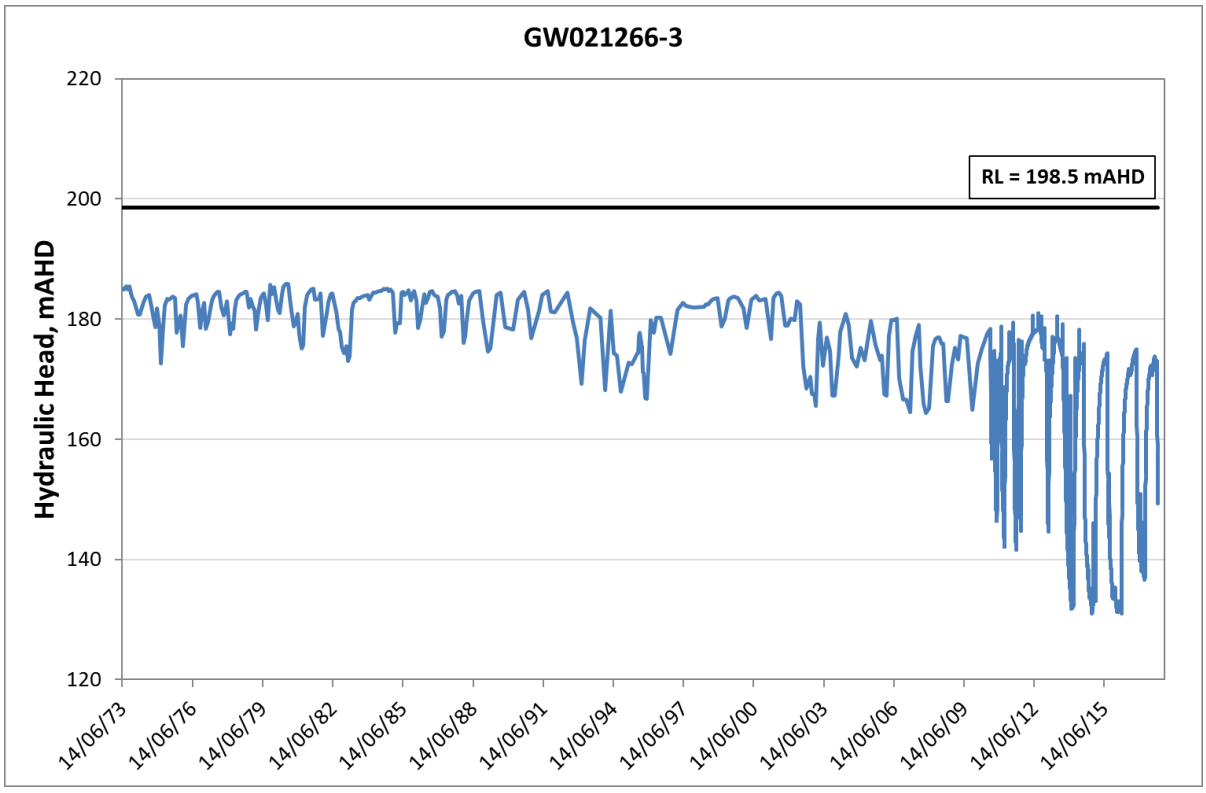

Figure 4-25 Hydrograph for monitoring bore GW021266-3 (Namoi alluvium)

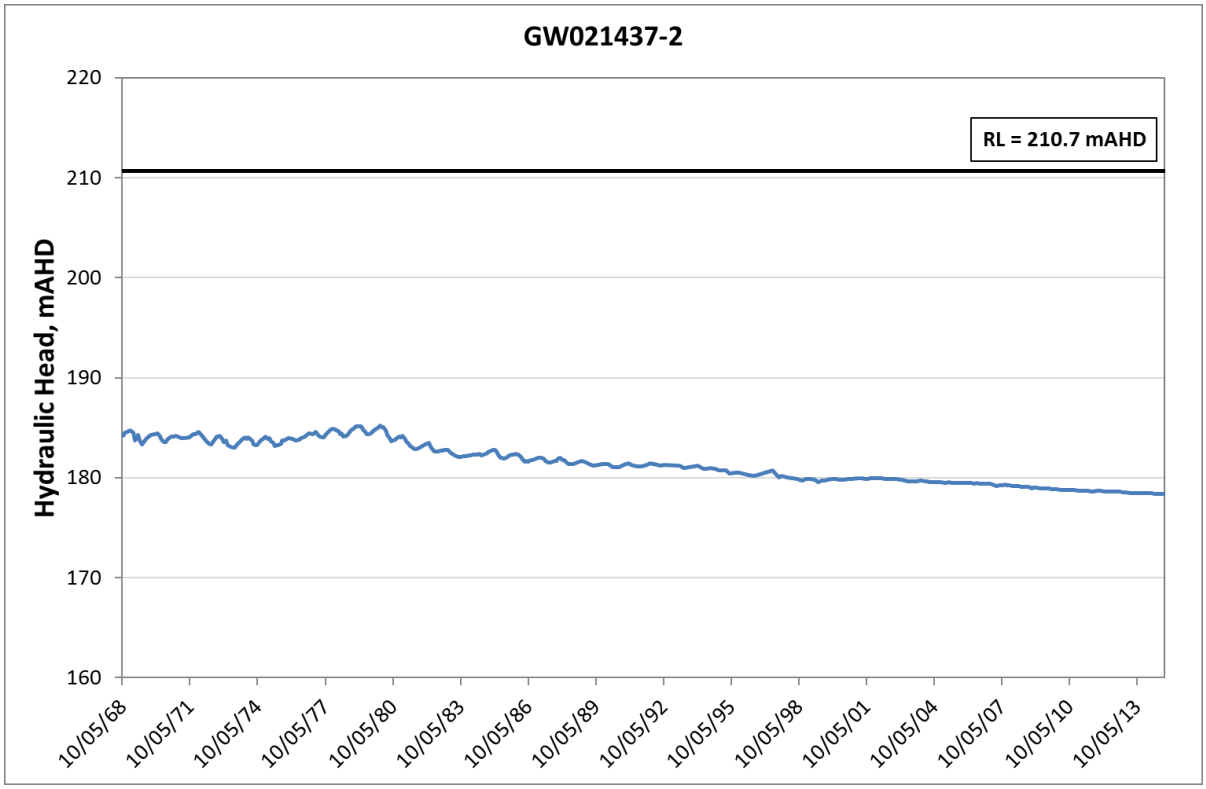

Figure 4-26 Hydrograph for monitoring bore GW021437-2 (Namoi alluvium)

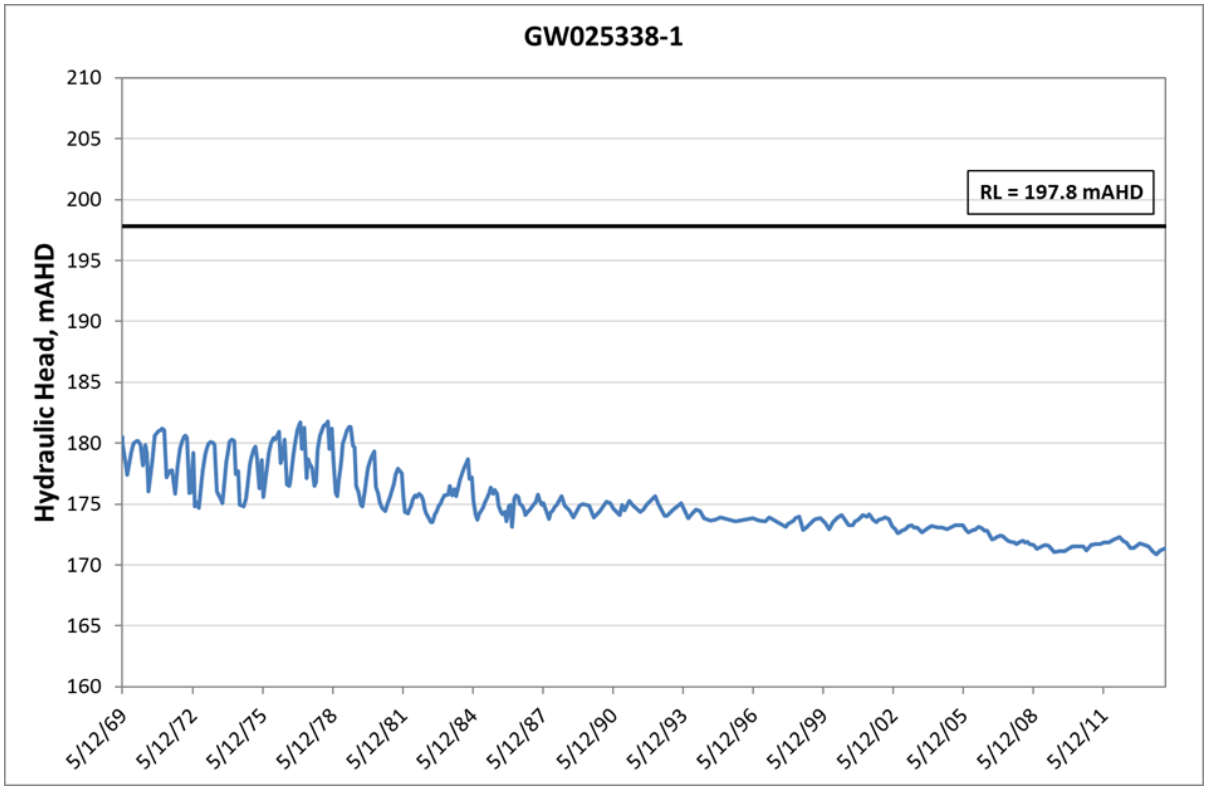

Figure 4-27 Hydrograph for monitoring bore GW025338-1 (Namoi alluvium)

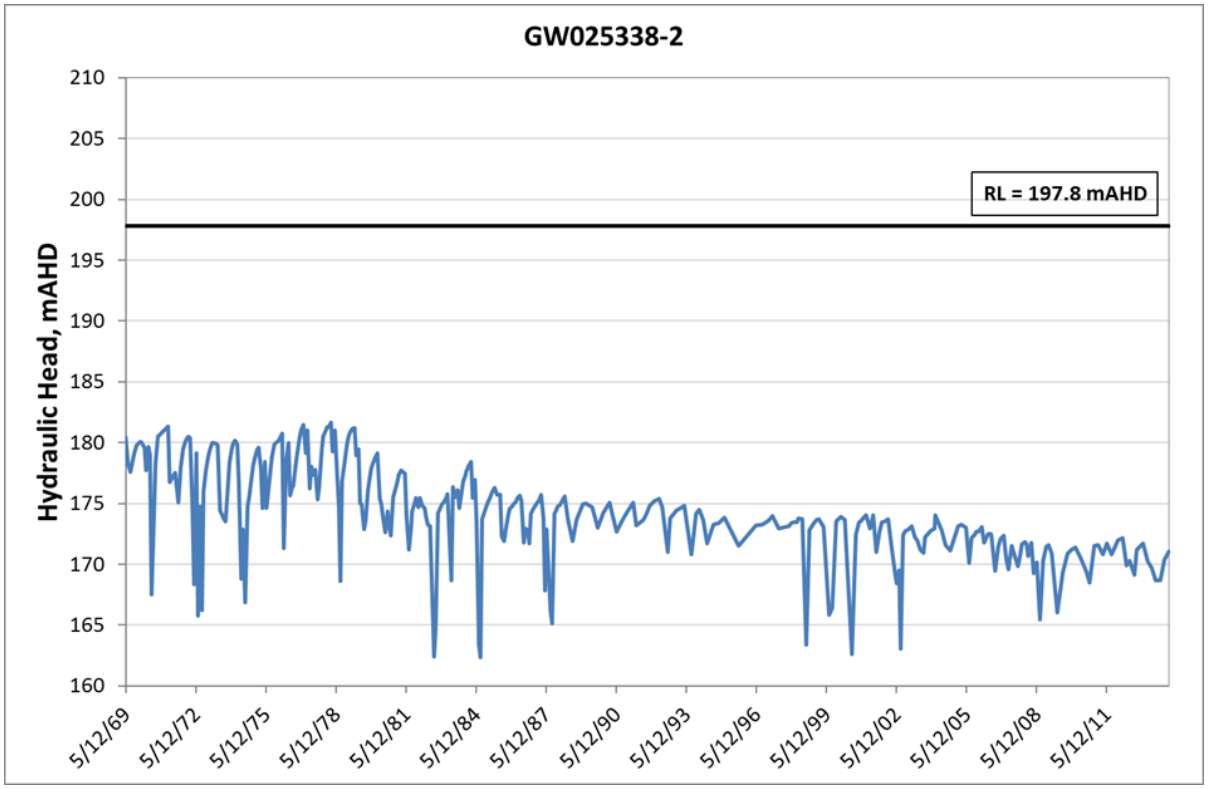

Figure 4-28 Hydrograph for monitoring bore GW025338-2 (Namoi alluvium)

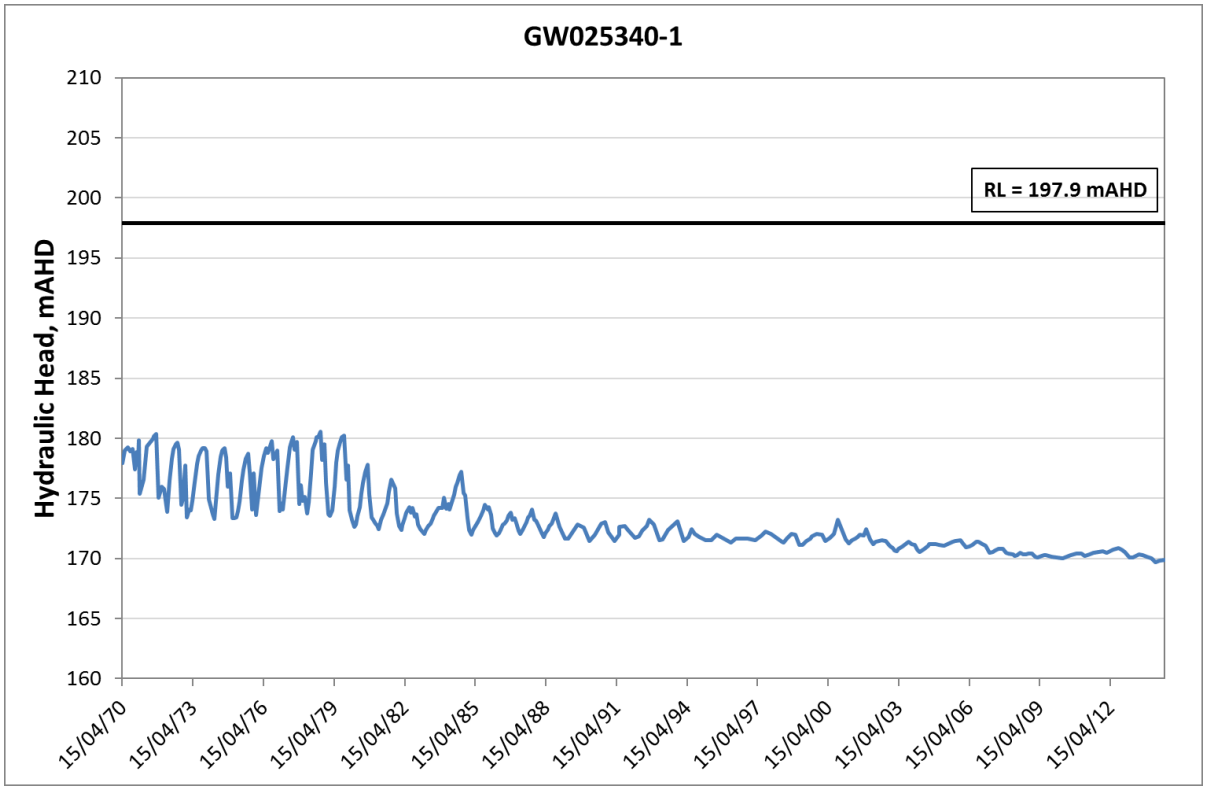

Figure 4-29 Hydrograph for monitoring bore GW025340-1 (Namoi alluvium)

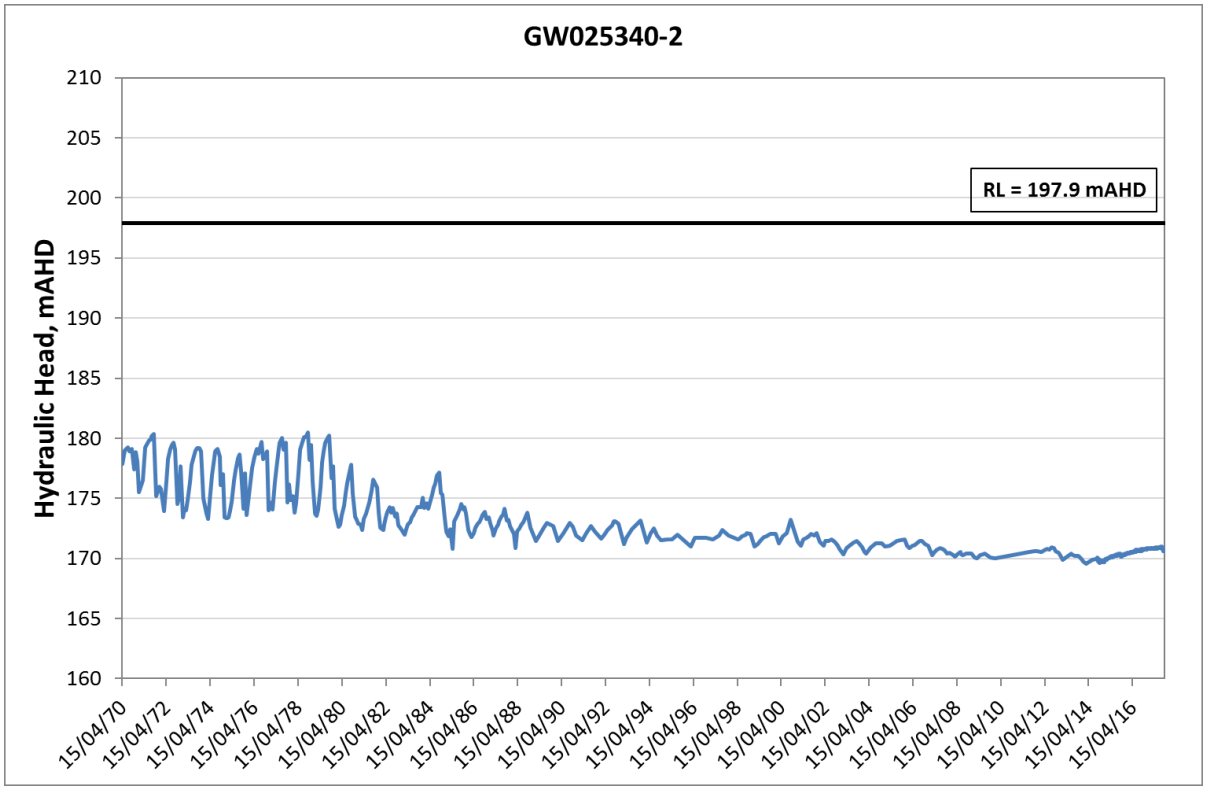

Figure 4-30 Hydrograph for monitoring bore GW025340-2 (Namoi alluvium)

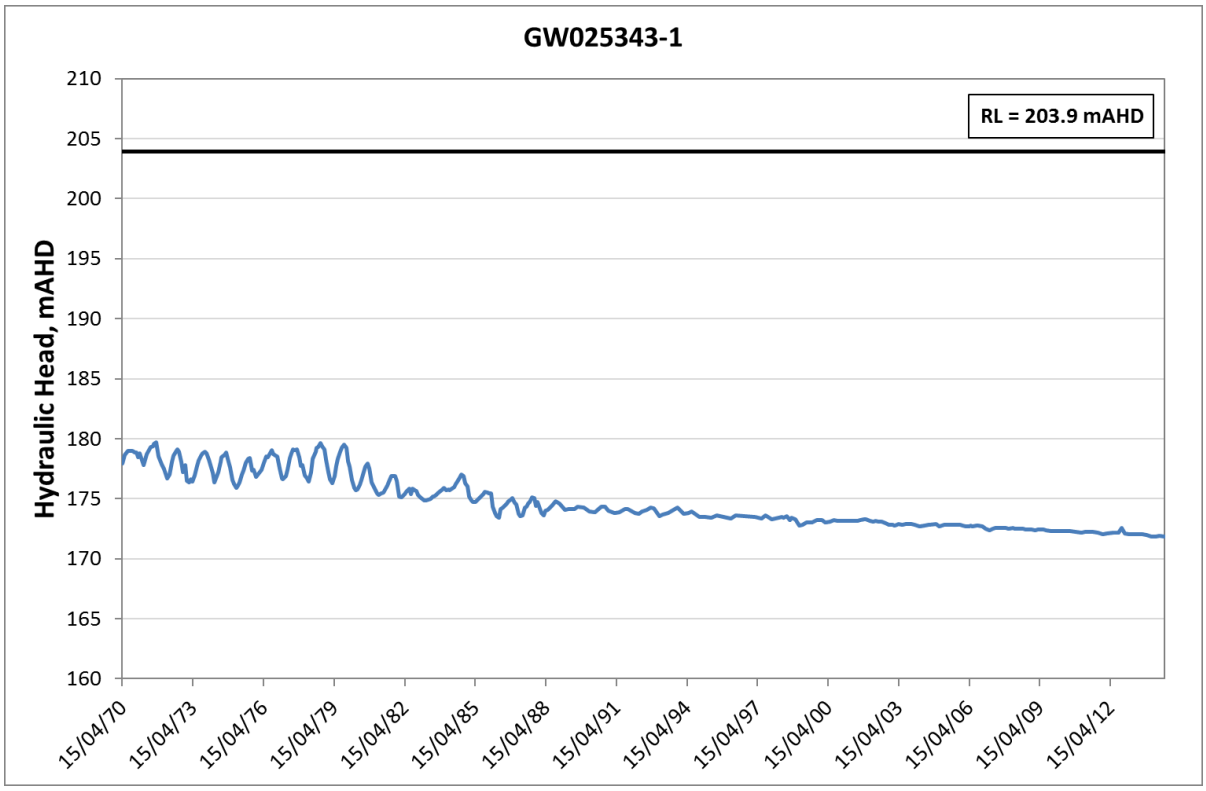

Figure 4-31 Hydrograph for monitoring bore GW025343-1 (Namoi alluvium)

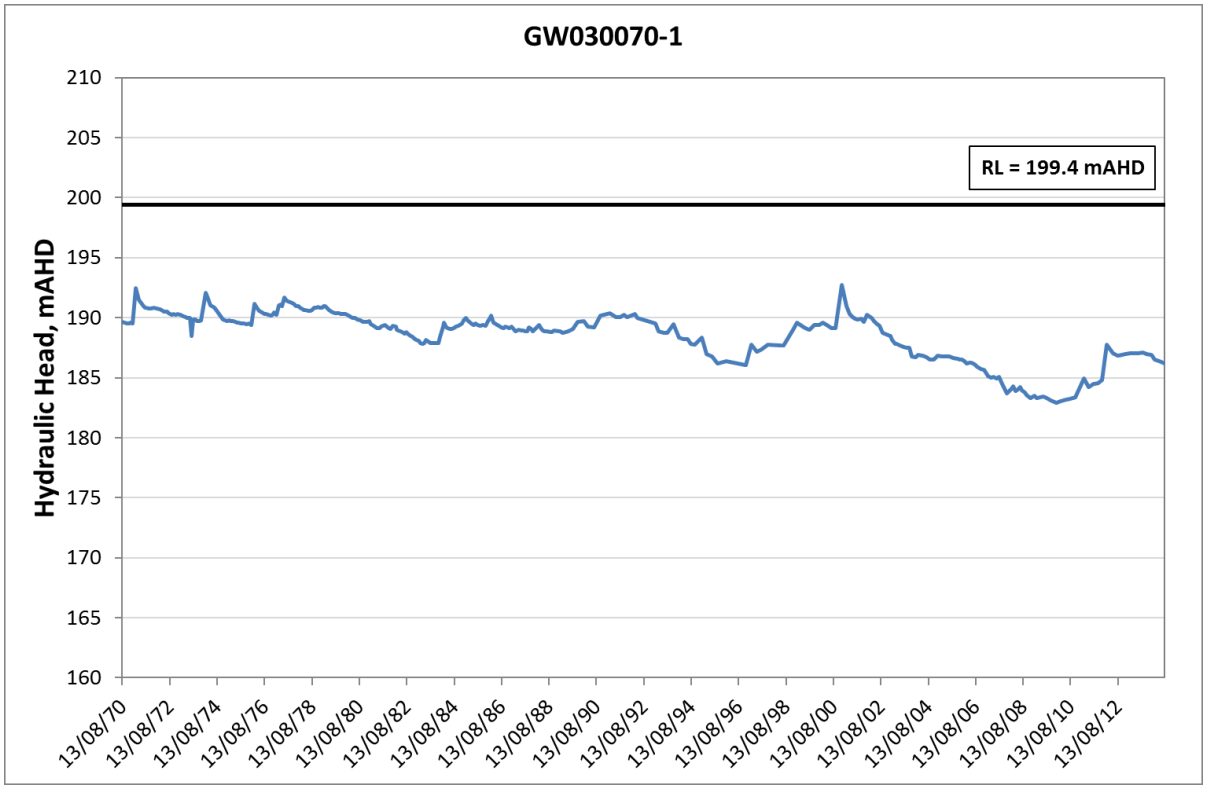

Figure 4-32 Hydrograph for monitoring bore GW030070-1 (Namoi alluvium)

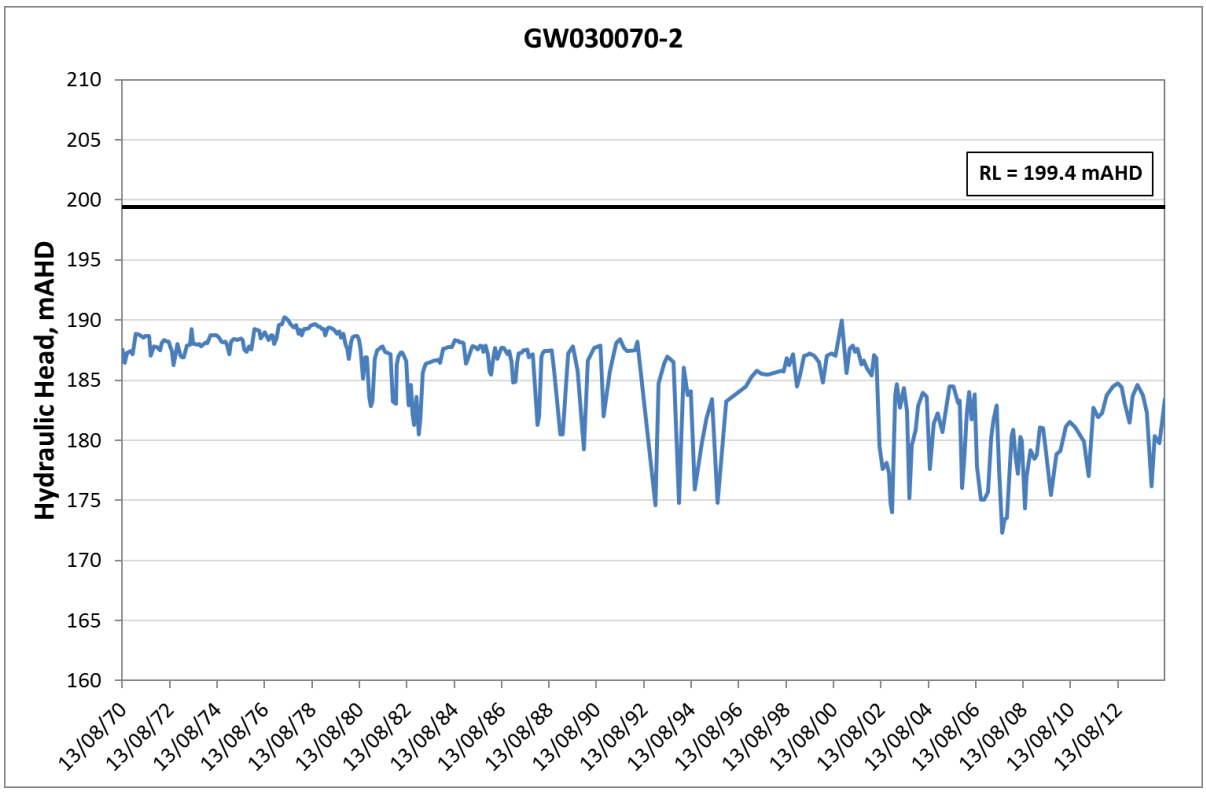

Figure 4-33 Hydrograph for monitoring bore GW030070-2 (Namoi alluvium)

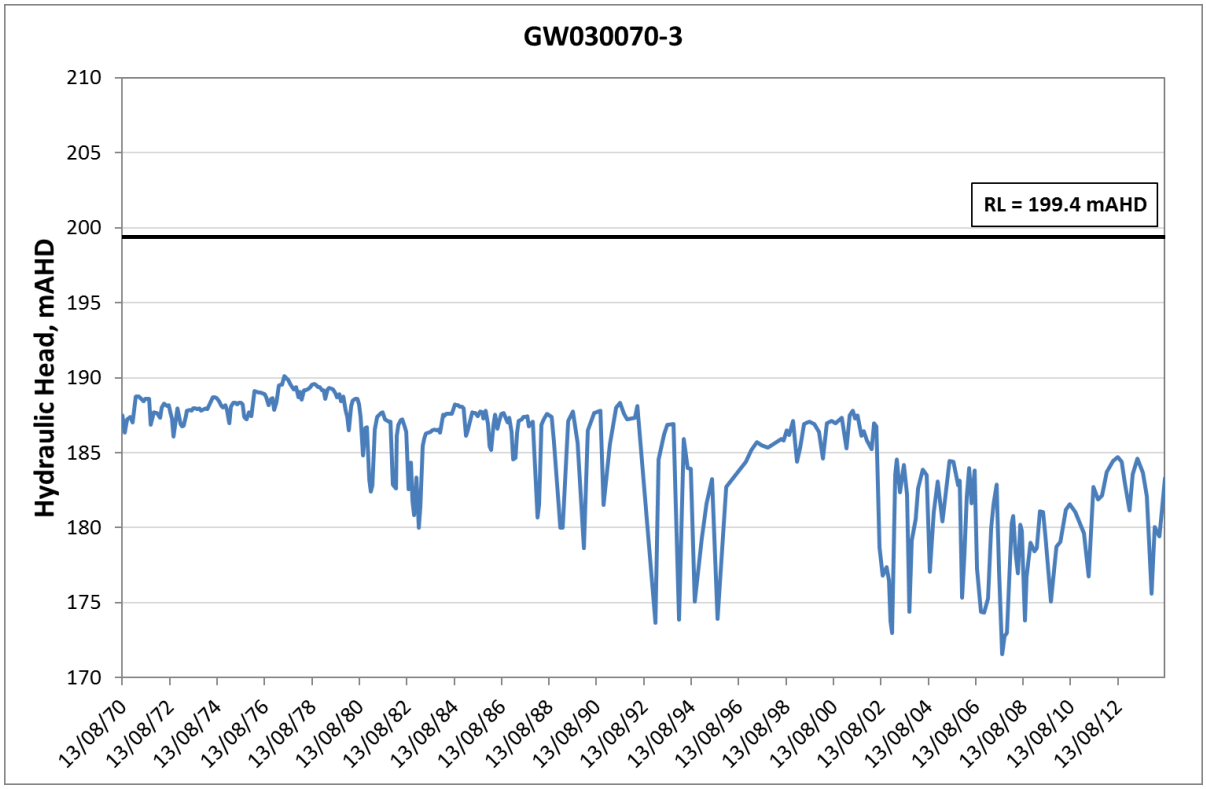

Figure 4-34 Hydrograph for monitoring bore GW030070-3 (Namoi alluvium)

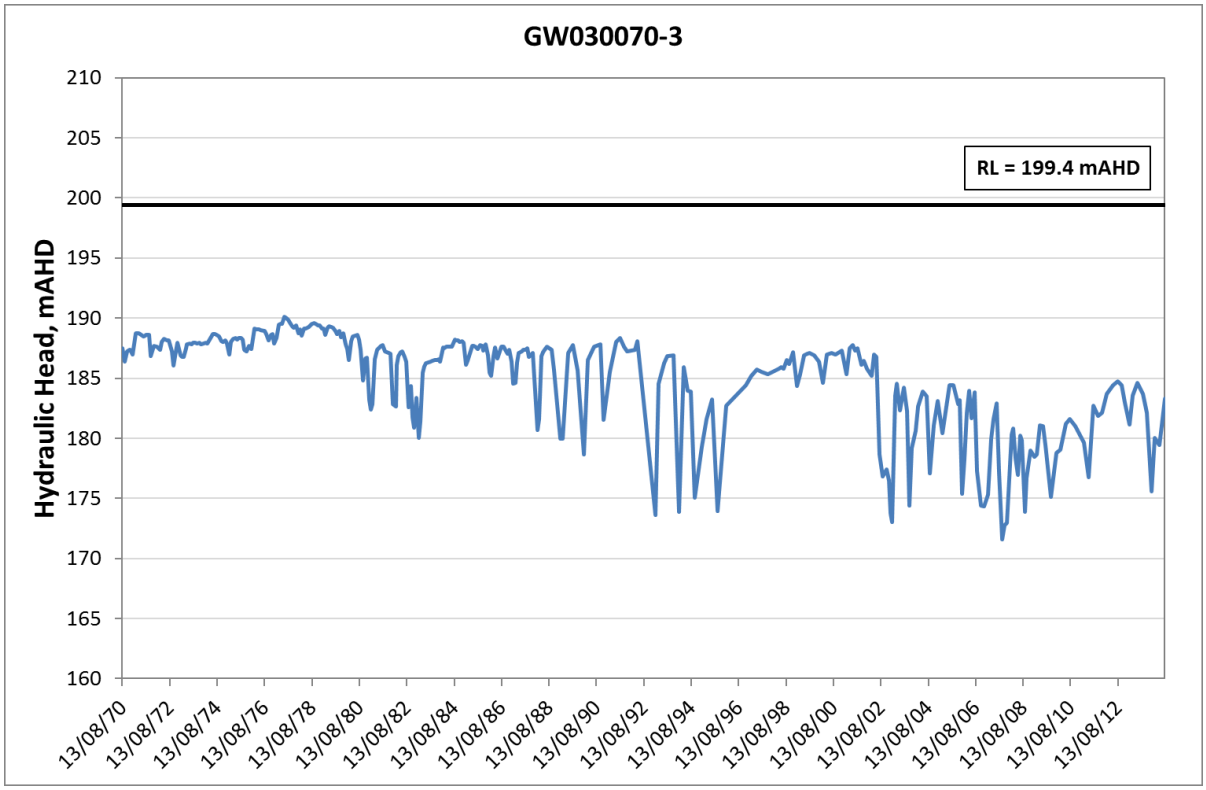

Figure 4-35 Hydrograph for monitoring bore GW030310-1 (Namoi alluvium)

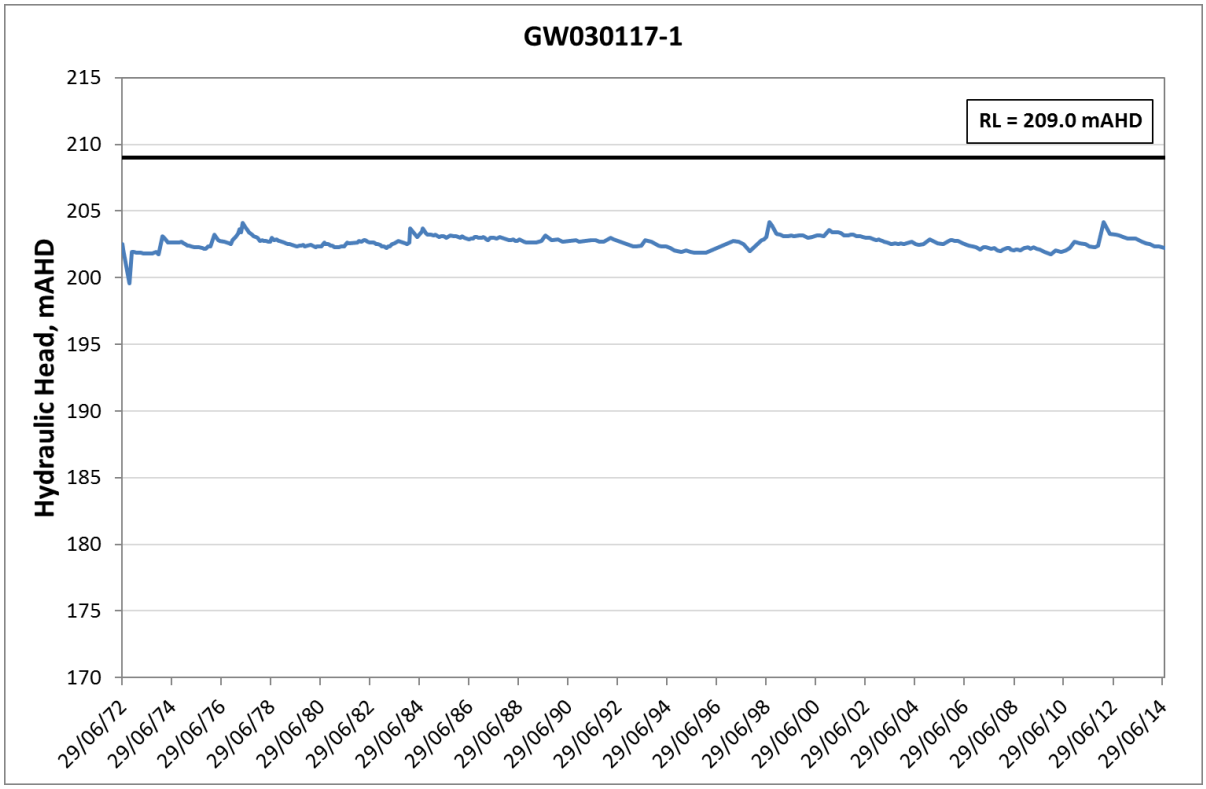

Figure 4-36 Hydrograph for monitoring bore GW030117-1 (Namoi alluvium)

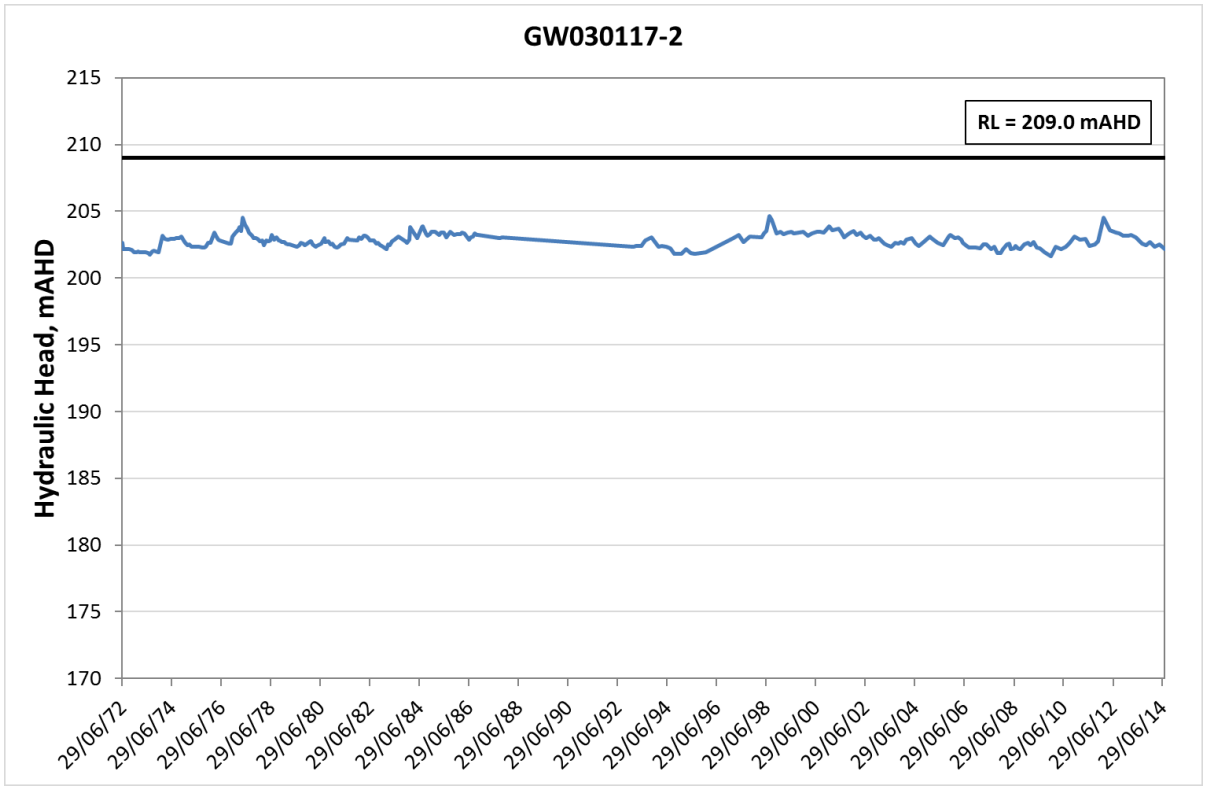

Figure 4-37 Hydrograph for monitoring bore GW030117-2 (Namoi alluvium)

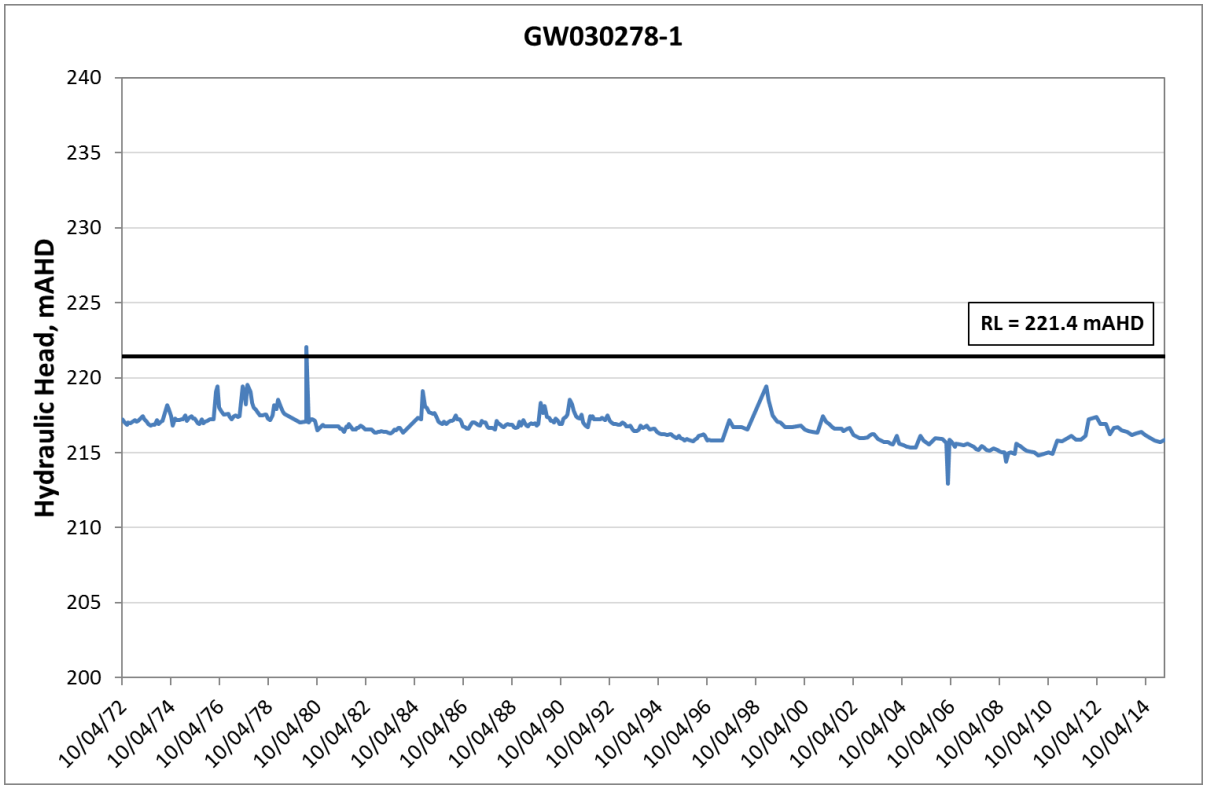

Figure 4-38 Hydrograph for monitoring bore GW030278-1 (Namoi alluvium)

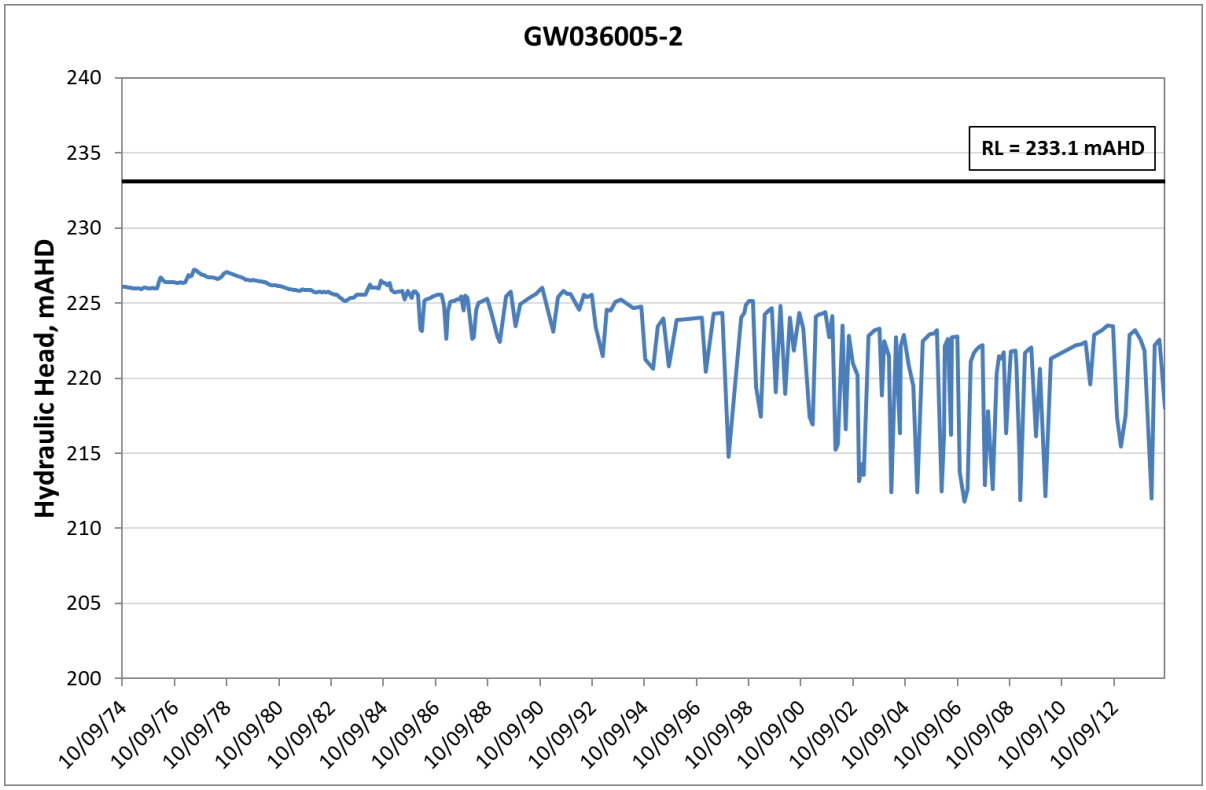

Figure 4-39 Hydrograph for monitoring bore GW036005-2 (Namoi alluvium)

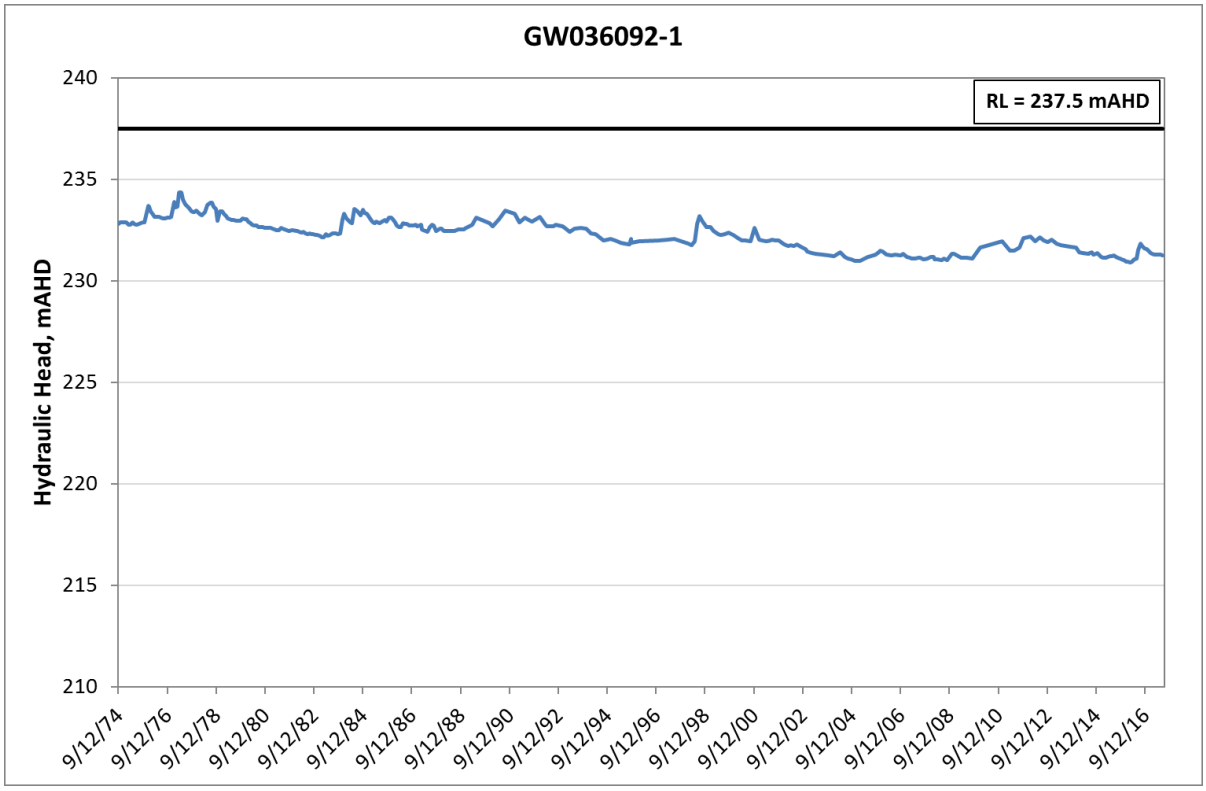

Figure 4-40 Hydrograph for monitoring bore GW036092-1 (Namoi alluvium)

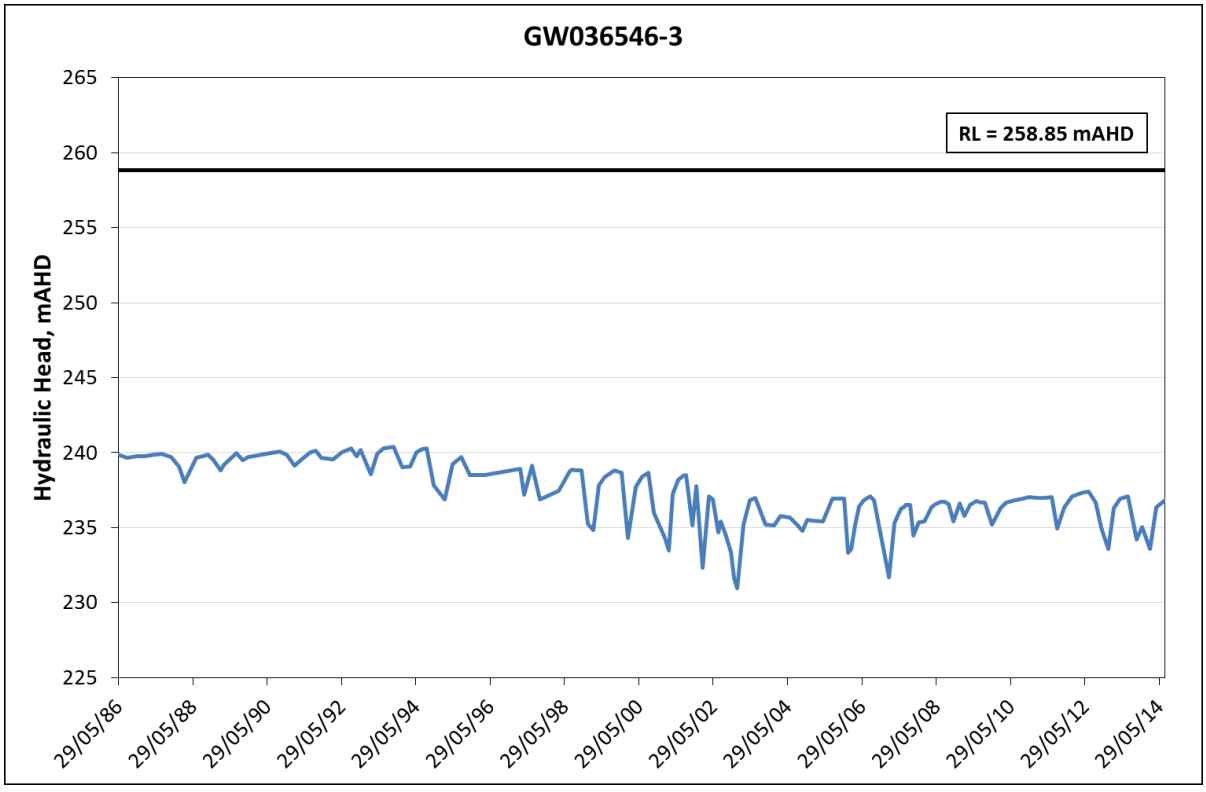

Figure 4-41 Hydrograph for monitoring bore GW036546-3 (Namoi alluvium)

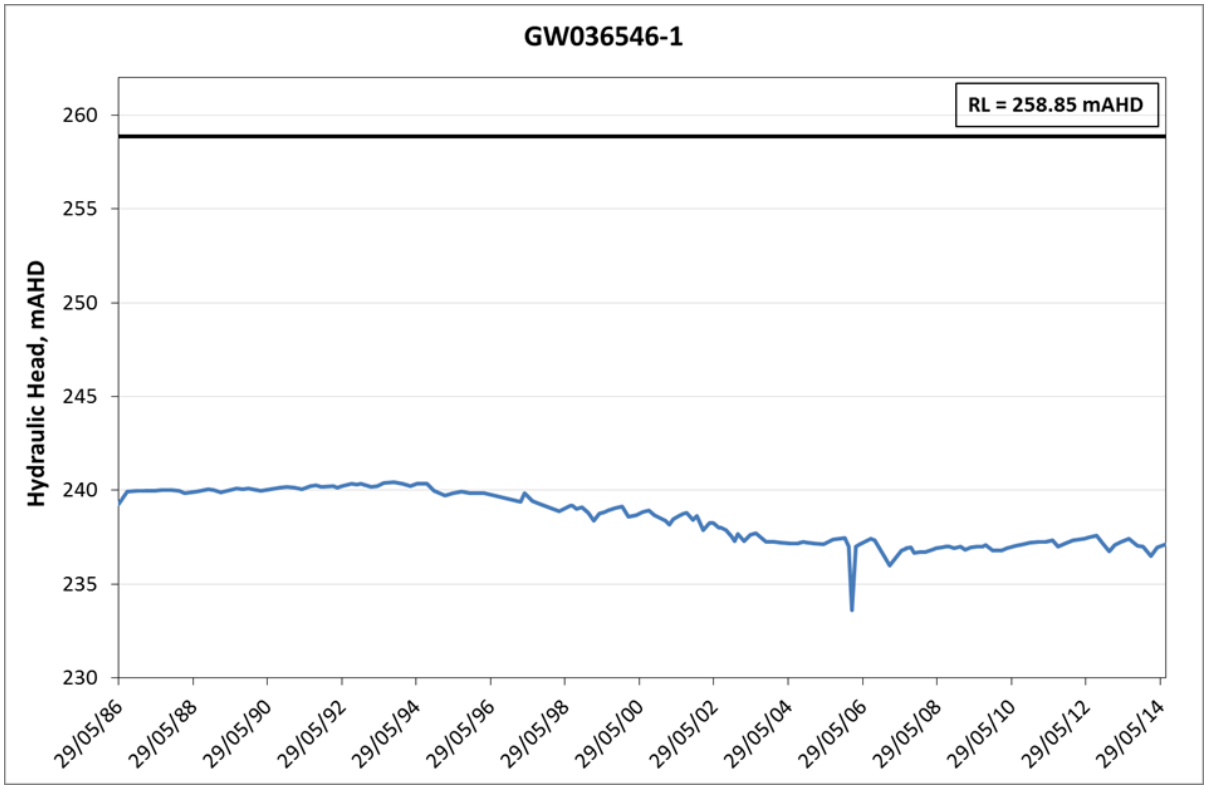

Figure 4-42 Hydrograph for monitoring bore GW036546-1 (Namoi alluvium)

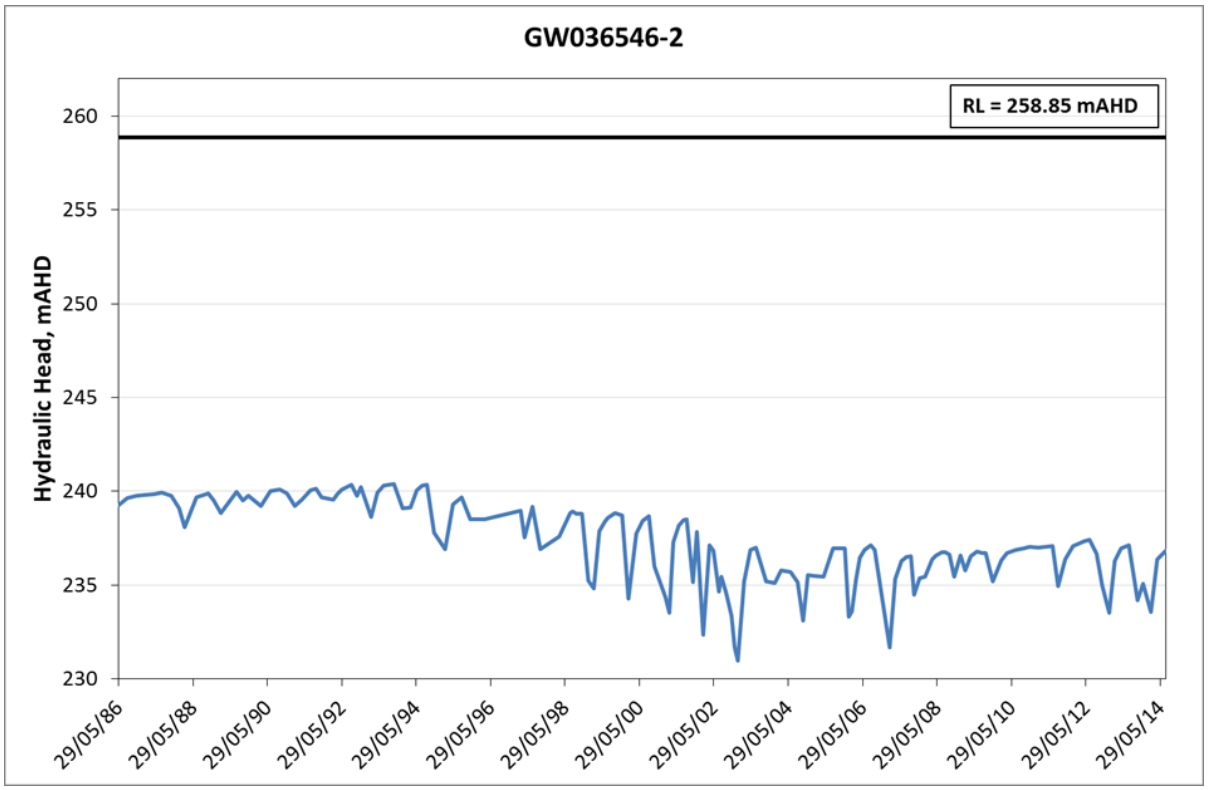

Figure 4-43 Hydrograph for monitoring bore GW036546-2 (Namoi alluvium)

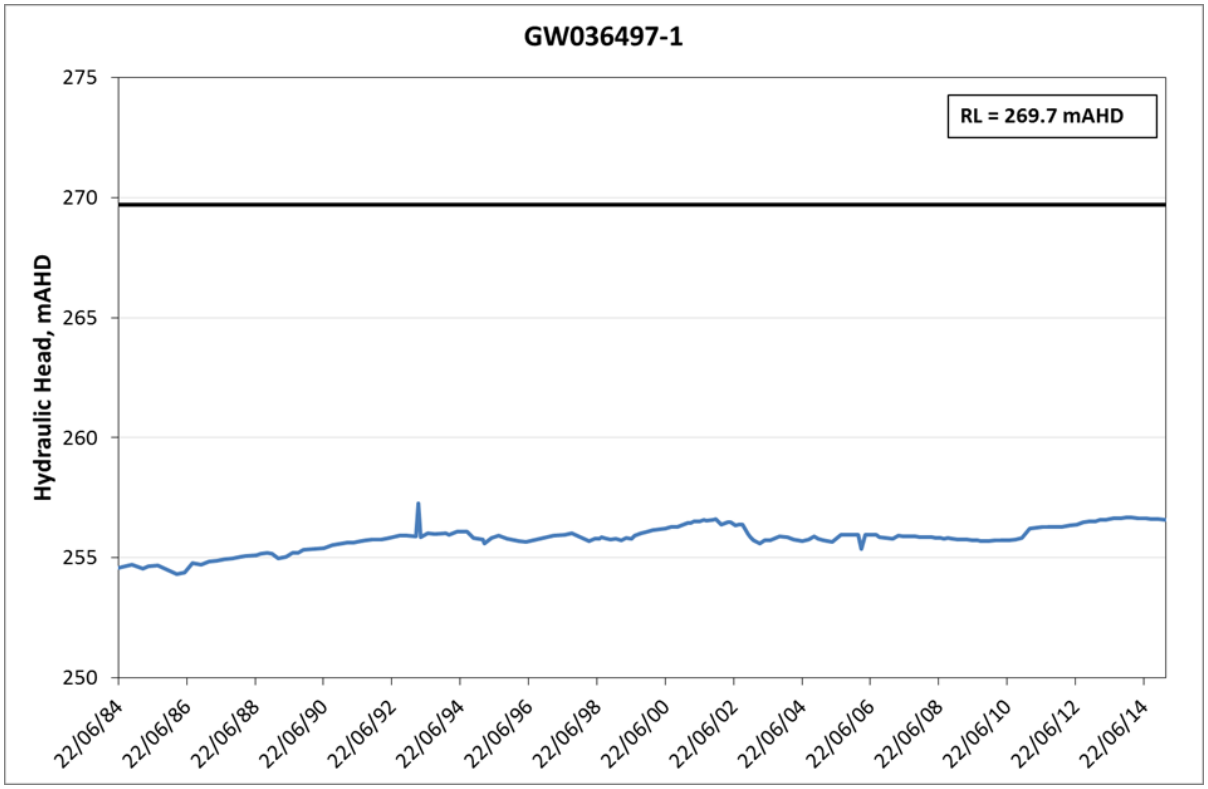

Figure 4-44 Hydrograph for monitoring bore GW036497-1 (Namoi alluvium)

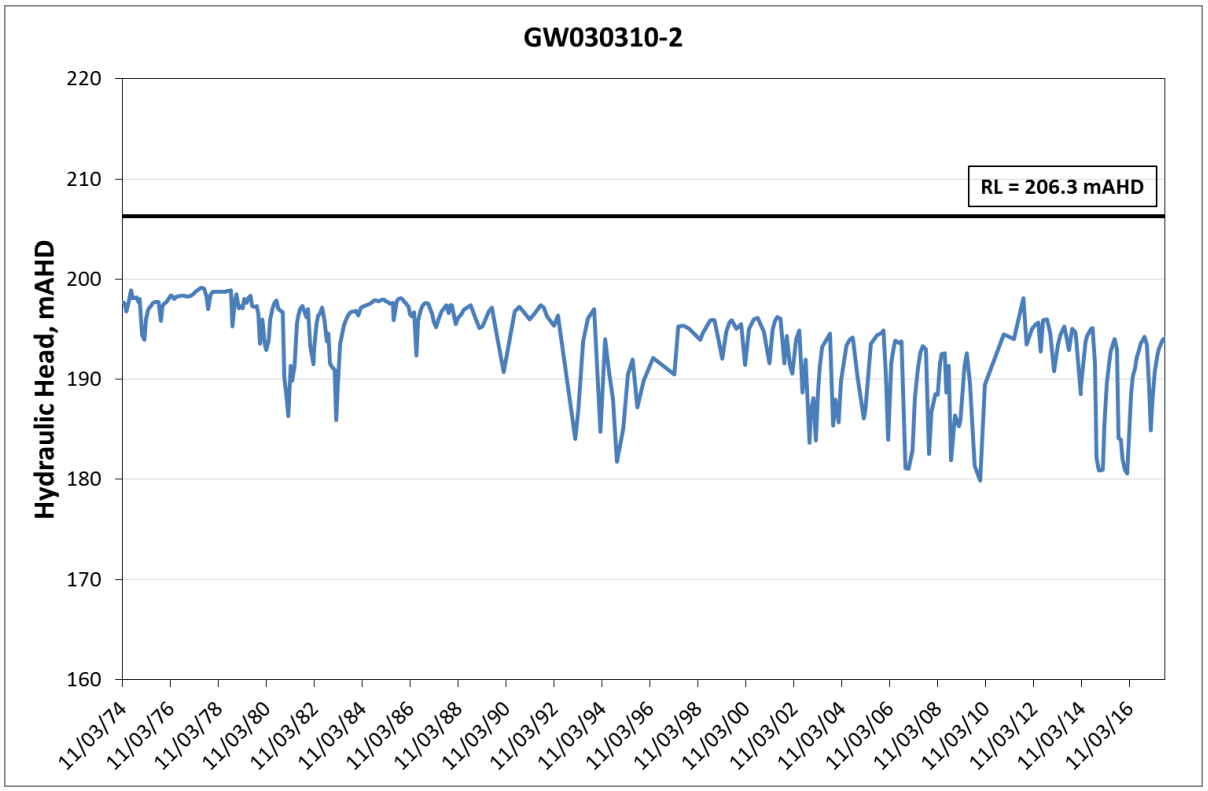

Figure 4-45 Hydrograph for monitoring bore GW030310-2 (Namoi alluvium)

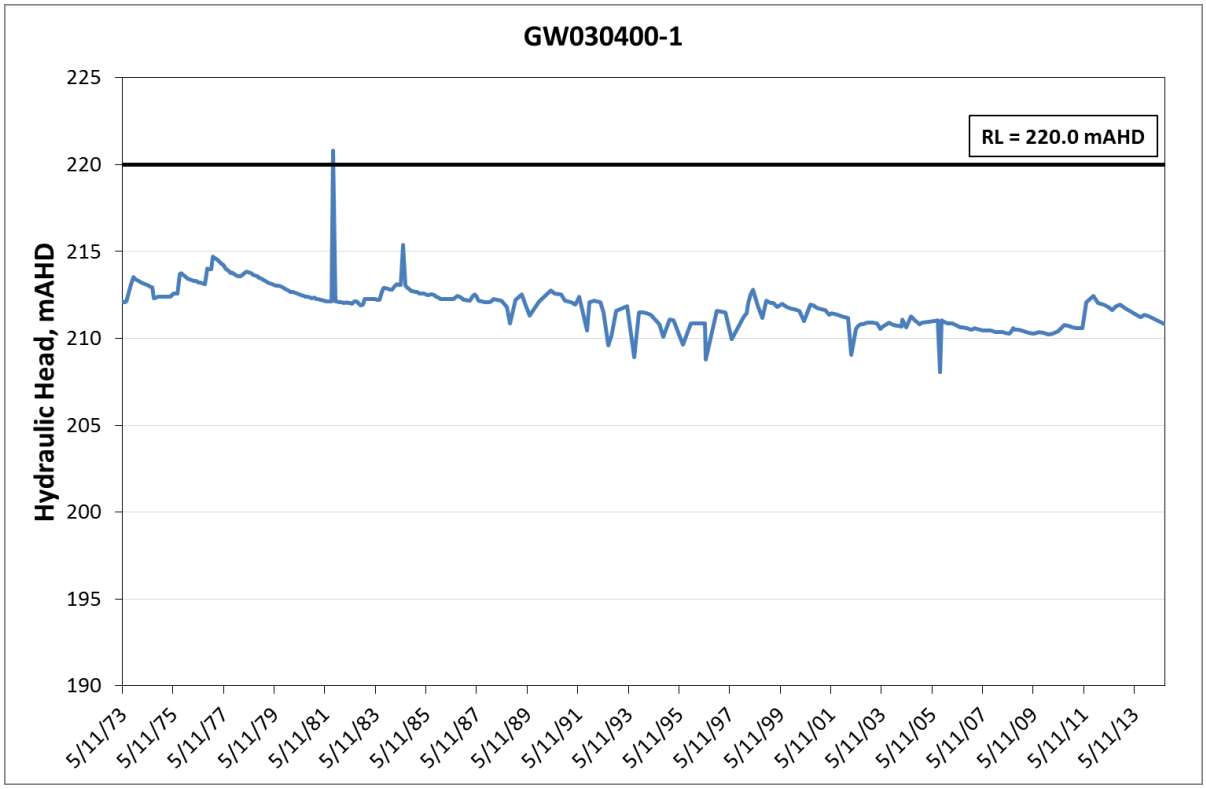

Figure 4-46 Hydrograph for monitoring bore GW030400-1 (Namoi alluvium)

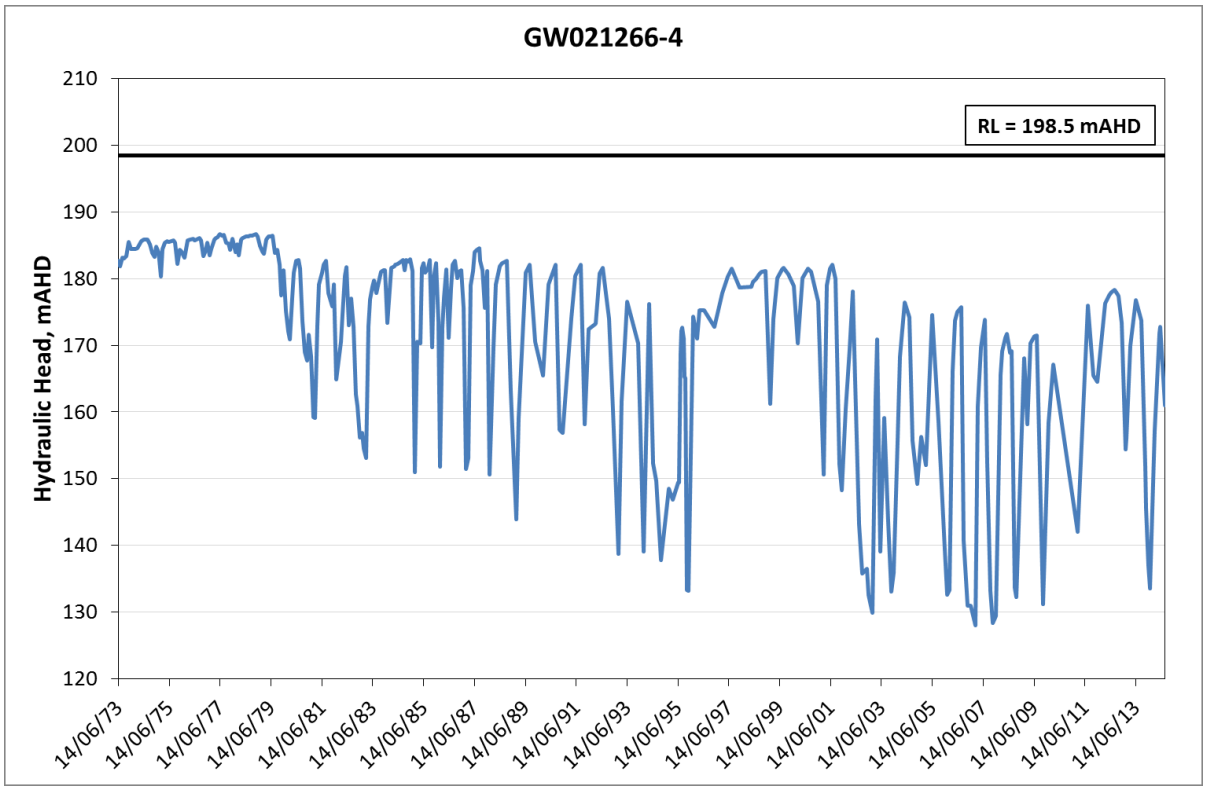

Figure 4-47 Hydrograph for monitoring bore GW021266-4 (Namoi alluvium)

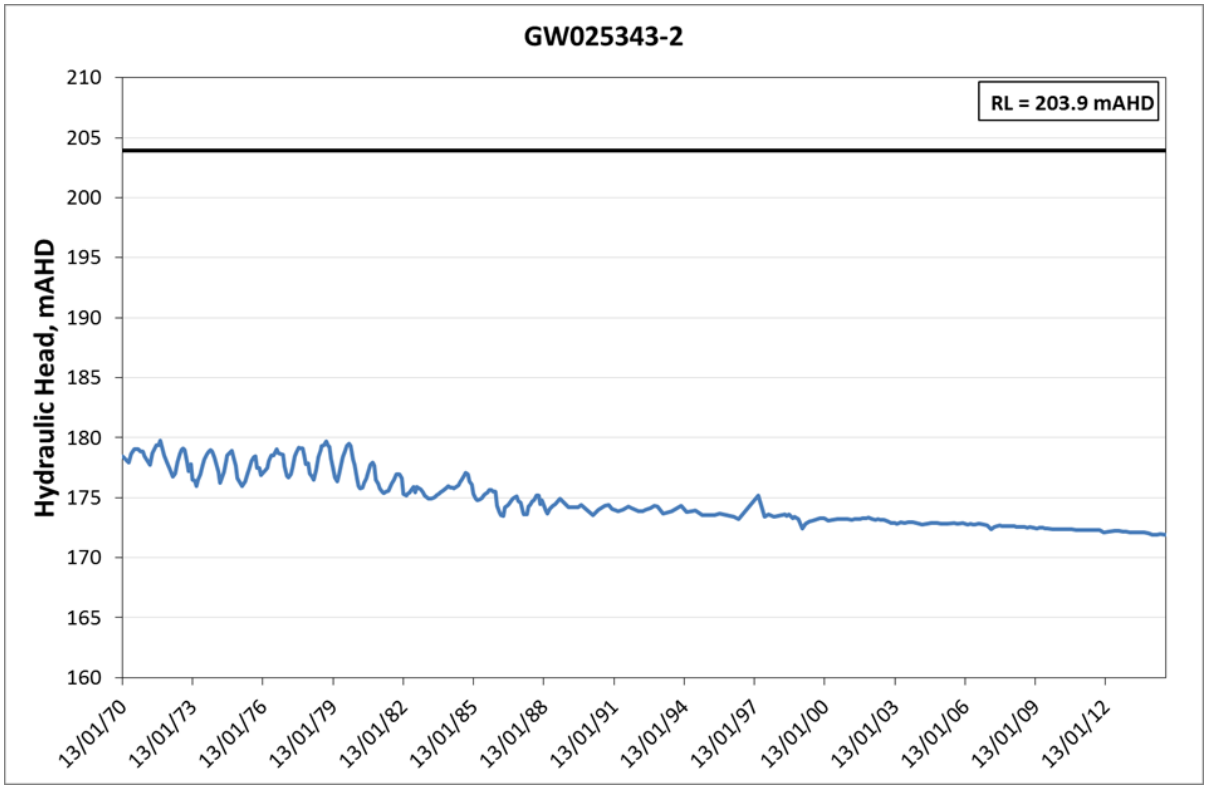

Figure 4-48 Hydrograph for monitoring bore GW025343-2 (Namoi alluvium)

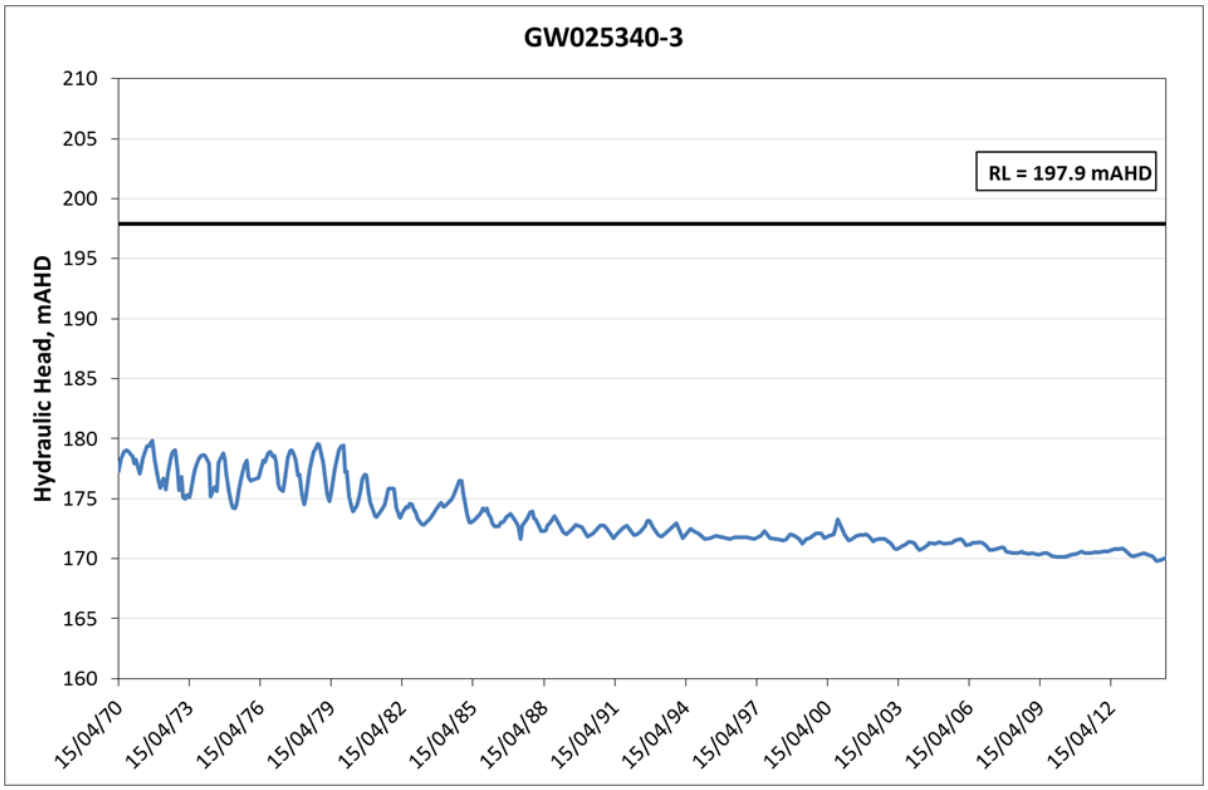

Figure 4-49 Hydrograph for monitoring bore GW025340-3 (Namoi alluvium)

4.2 Groundwater Quality

Table 4-2 lists the 42 groundwater monitoring bores that constitute the baseline monitoring locations for groundwater quality. These bore locations are shown in Figure 3-1 to Figure 3-3 in Section 3. Additional information on the screened intervals of the bores is contained in Appendix C

Figure 4-50 and Table 4-3 to Table 4-7 are summaries of the baseline data for the monitoring locations in Table 4-2. The groundwater monitoring bores are grouped by stratigraphic unit; including Permo-Triassic strata (Napperby and Digby Formations), Jurassic units Purlawaugh Formation, Pilliga Sandstone, Orallo Formation, Namoi alluvium and Bohena Creek alluvium. The tables contain statistical measures of the spread (minimum, maximum and percentiles values) and central tendency (mean values) of these data. For large sample populations that follow a Normal distribution, the 16th and 84th percentiles are equivalent to -1 and +1 standard deviations from the mean (50th percentile). As non-detect samples can result in biased results when reported in large proportions, samples with non-detect more than 15% of results have been excluded from percentile calculations.

Approximately 68 percent of a data population lies within the 16th and 84th percentile, and approximately 32 percent of the data lies outside of this range. A sample size greater than or equal to six is needed to identify the 16th and 84th percentiles.

Additional tables in sections 4.2.1 to 4.2.4 contain statistical summaries of the water quality data for the individual monitoring bores listed in Table 4-2.

The Durov diagram in Figure 4-50 is based on average values of water quality within each stratigraphic group. Overall, the water quality of groundwater in each stratigraphic unit is similar with respect to the major cation compositions (sodium-potassium dominant) and anion compositions (bicarbonate dominant).

Groundwater in the Permo-Triassic strata of the Gunnedah Basin is distinguishable by larger salinity (EC) and acidity (pH) compared to groundwater in the Great Artesian Basin and alluvial groundwater sources.

Table 4-2 Summary of baseline data for groundwater quality

Bore	Owner	Stratigraphic Unit	Water Source	Date Range	
				Start Date	End Date
TULPRDGY02*	Santos	Digby Fm	GOB	13/01/15	17/07/17
TULPRNAP01	Santos	Napperby	GOB	09/07/14	18/07/17
DWH14PRPUR03*	Santos	Purlawaugh Fm	GAB	29/10/13	20/07/17
BHN14PRUPS02*	Santos	Pilliga Ss	GAB	12/12/13	18/07/17
BWD26PRLPS02*	Santos	Pilliga Ss	GAB	19/09/13	18/07/17
BWD1WB	Santos	Pilliga Ss	GAB	17/10/12	23/10/13
BWD26PRUPS01*	Santos	Pilliga Ss	GAB	27/07/14	18/07/17
BWD27PRLPS03*	Santos	Pilliga Ss	GAB	15/11/13	18/07/17
BWD27PRUPS02*	Santos	Pilliga Ss	GAB	29/07/13	18/07/17
DWH14PRLPS02*	Santos	Pilliga Ss	GAB	27/10/13	20/07/17
DWH14PRUPS01*	Santos	Pilliga Ss	GAB	07/11/13	20/07/17
DWH3PRLPS02*	Santos	Pilliga Ss	GAB	30/09/13	24/07/17
DWH3PRUPS01*	Santos	Pilliga Ss	GAB	02/10/13	24/07/17
NYOPRUPS02*	Santos	Pilliga Ss	GAB	01/12/13	17/07/17
BWD5WB	Santos	Pilliga Ss	GAB	18/10/12	18/10/12
BHN14PRORA01*	Santos	Orallo Fm	GAB	14/12/13	18/07/17
NYOPRORA01*	Santos	Orallo Fm	GAB	30/11/13	17/07/17
7703	Private	Orallo Fm	GAB	25/05/12	07/05/14
7705	Private	Orallo Fm	GAB	25/05/12	07/05/14

Bore	Owner	Stratigraphic Unit	Water Source	Date Range	
				Start Date	End Date
7706	Private	Orallo Fm	GAB	25/05/12	25/06/14
GW021266-1	DPI	Namoi alluvium	ULNA	01/04/66	21/09/99
GW021437-2*	DPI	Namoi alluvium	ULNA	09/06/67	22/03/85
GW025338-1*	DPI	Namoi alluvium	ULNA	14/11/69	11/11/99
GW025343-1*	DPI	Namoi alluvium	ULNA	15/12/69	04/12/86
GW030070-1*	DPI	Namoi alluvium	ULNA	22/05/70	02/06/99
GW030070-2*	DPI	Namoi alluvium	ULNA	02/06/99	02/06/99
GW030070-3*	DPI	Namoi alluvium	ULNA	02/06/99	02/06/99
GW030117-1*	DPI	Namoi alluvium	ULNA	07/03/72	28/05/99
GW030117-2*	DPI	Namoi alluvium	ULNA	28/05/99	28/05/99
GW030117-3	DPI	Namoi alluvium	ULNA	28/05/99	28/05/99
GW030278-1*	DPI	Namoi alluvium	ULNA	21/11/78	21/11/78
GW030310-1*	DPI	Namoi alluvium	ULNA	16/08/76	31/05/99
GW036005-2*	DPI	Namoi alluvium	ULNA	04/06/74	06/09/84
GW030121-1	DPI	Namoi alluvium	ULNA	20/04/71	27/05/99
GW030310-2*	DPI	Namoi alluvium	ULNA	27/02/85	30/05/99
GW030400-1*	DPI	Namoi alluvium	ULNA	15/08/73	23/01/85
BHNCKMW1	Santos	BC alluvium	BC	17/07/13	25/10/13
BHNCKMW2	Santos	BC alluvium	BC	17/07/13	25/10/13
BHNCKMW3	Santos	BC alluvium	BC	17/07/13	25/10/13
BHNCKMW4	Santos	BC alluvium	BC	17/07/13	22/10/13
7707	Private	BC alluvium	BC	28/05/2012	24/06/14

* Bores also monitored for water levels/pressure

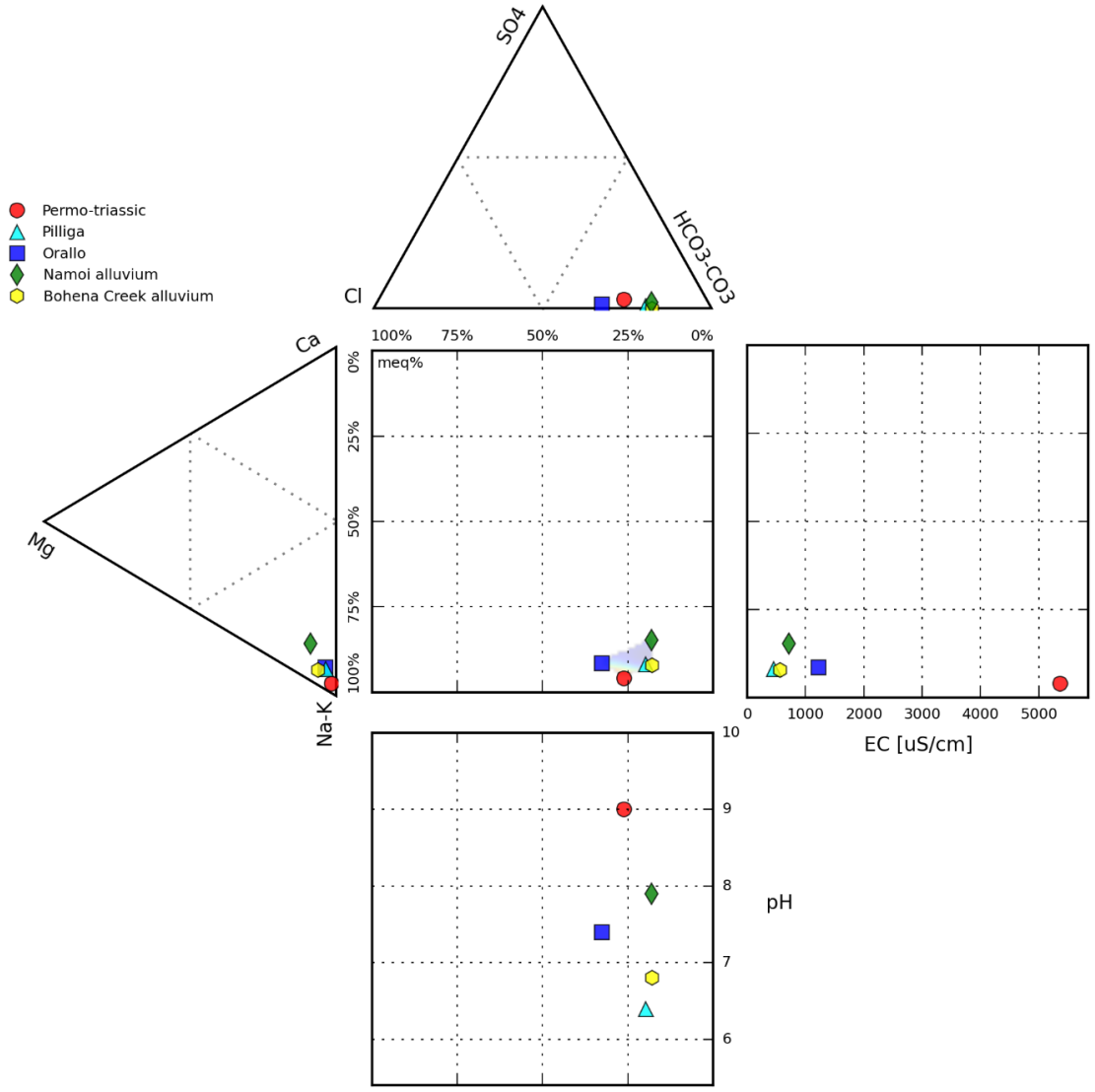

Figure 4-50 Durov diagram of average groundwater quality for monitoring locations in Table 4-2

Table 4-3 Summary of baseline data for groundwater quality in Permo-Triassic strata

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	13	13	0.013	3.3	1.7	0.49	3.2
HCO_3 alkalinity as $CaCO_3$ (mg/L)	13	10	1380	5200	2910	NA	NA
B (mg/L)	13	12	0.1	1	0.6	0.2	0.9
Ca (mg/L)	13	12	2	79	40	15	59
CO_3 alkalinity as $CaCO_3$ (mg/L)	13	3	292	427	348	NA	NA
Cl (mg/L)	13	13	33	866	425	40.5	854
EC (field) (µS/cm)	24	24	3126	10773	7282	6265	9499
EC @ 25C (lab) (µS/cm)	12	12	3640	10300	7732	7013	9410
F (mg/L)	13	13	0.5	1.6	1.1	0.68	1.4
Li (mg/L)	2	2	0.09	1	0.6	ISS	ISS
Mg (mg/L)	13	9	1	39	27	NA	NA
Mn (mg/L)	13	10	0.001	0.5	0.1	NA	NA
pH (field)	24	24	5.8	13.0	8.0	6.7	12
pH (lab)	12	12	6.9	12.0	8.5	6.9	12
K (mg/L)	13	12	2	305	103	34.6	288
Na (mg/L)	13	13	815	2260	1467	870	1766
SAR	2	2	34	50	42	ISS	ISS
Sr (mg/L)	13	13	0.007	5.2	2.6	1.5	3.7
Sulfate as SO_4^{2-}	13	7	2	239	54.6	NA	NA
Methane (µg/L)	13	13	1100	20000	6300	1900	11000

Stratigraphic units: Digby and Napperby Formations
Date range: 29/10/2013 to 18/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-4 Summary of baseline data for groundwater quality in Pilliga Sandstone

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	92	91	0.02	1	0.3	0.06	0.5
HCO_3 alkalinity as $CaCO_3$ (mg/L)	97	95	6	637	92.7	11	197
B (mg/L)	92	24	0.05	0.2	0.1	NA	NA
Ca (mg/L)	97	63	1	45	7.9	NA	NA
CO_3 alkalinity as $CaCO_3$ (mg/L)	97	10	2	43	25	NA	NA
Cl (mg/L)	97	97	5	61	30	19	42
EC (field) (µS/cm)	138	138	67.9	1390	302	121	479
EC @ 25C (lab) (µS/cm)	97	97	64	1520	306.8	124	464.2
F (mg/L)	96	37	0.1	1	0.35	NA	NA
Li (mg/L)	35	34	0.001	2	0.1	0.002	0.02
Mg (mg/L)	96	77	1	10	2.5	NA	NA
Mn (mg/L)	91	90	0.001	0.4	0.08	0.01	0.1
pH (field)	138	138	4.1	8.5	5.9	5.1	7
pH (lab)	97	97	4.1	9.5	6.6	5.8	7.5
K (mg/L)	96	96	2	14	5.4	2	7
Na (mg/L)	96	96	6	352	51.9	17	42
SAR	28	28	0.03	86	7.8	2.2	5
Sr (mg/L)	96	96	0.008	0.6	0.08	0.02	0.1
Sulfate as SO_4^{2-}	97	41	0.5	35	3.2	NA	NA
Methane (µg/L)	96	25	12	4600	850	NA	NA

Stratigraphic unit: Pilliga Sandstone
Date range: 20/4/1971 to 24/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-5 Summary of baseline data for groundwater quality in Orallo Formation

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	24	24	0.08	0.9	0.3	0.1	0.6
HCO_3 alkalinity as $CaCO_3$ (mg/L)	25	25	178	684	395	201	574
B (mg/L)	24	19	0.06	0.3	0.2	NA	NA
Ca (mg/L)	25	25	1	39	17	4	34
CO_3 alkalinity as $CaCO_3$ (mg/L)	25	11	3	89	25	NA	NA
Cl (mg/L)	25	25	25	721	108	32	81
EC (field) (µS/cm)	31	31	470	3079	1038	505	1343
EC @ 25C (lab) (µS/cm)	24	24	471	3280	1131	496	1360
F (mg/L)	24	21	0.2	1	0.7	0.2	1
Li (mg/L)	14	10	0.005	0.9	0.1	NA	NA
Mg (mg/L)	25	20	1	17	7.2	NA	NA
Mn (mg/L)	24	24	0.003	0.7	0.09	0.007	0.2
pH (field)	31	31	6.4	8.9	7.5	6.9	8.2
pH (lab)	24	24	7.3	8.9	8.0	7.5	8.5
K (mg/L)	25	25	1	13	5	2	8.2
Na (mg/L)	25	25	53	638	231	61	336
SAR	13	13	2.1	85	23	2.9	34
Sr (mg/L)	24	24	0.1	0.6	0.3	0.1	0.5
Sulfate as SO_4^{2-}	25	12	1	57	17	NA	NA
Methane (µg/L)	25	20	12	4200	1100	NA	NA

Stratigraphic unit: Orallo Formation
Date range: 25/5/2012 to 18/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-6 Summary of baseline data for groundwater quality in Namoi alluvium

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	9	8	0.02	0.2	0.07	0.02	0.1
HCO_3 alkalinity as $CaCO_3$ (mg/L)	78	78	125	1190	436	181	797
B (mg/L)	9	9	0.03	0.2	0.1	0.04	0.2
Ca (mg/L)	9	9	1.7	55	19	3	48
CO_3 alkalinity as $CaCO_3$ (mg/L)	54	24	0.3	130	24	NA	NA
Cl (mg/L)	78	78	7.8	242	61.7	13	123
EC (field) (µS/cm)	47	47	248	2170	1006	376	1745
EC @ 25C (lab) (µS/cm)	32	32	318	2390	697	332	1082
F (mg/L)	10	10	0.05	2	0.9	0.3	1
Li (mg/L)	9	4	0.01	0.02	0.01	NA	NA
Mg (mg/L)	9	9	0.3	40	10	0.7	20
Mn (mg/L)	9	5	0.007	0.2	0.04	NA	NA
pH (field)	79	79	6.3	9.6	7.9	7.5	8.4
pH (lab)	-	-	-	-	-	-	-
K (mg/L)	77	75	0.08	23	3.2	1.2	6.2
Na (mg/L)	77	77	14.9	520	165	45	343
SAR	-	-	-	-	-	-	-
Sr (mg/L)	9	9	0.06	0.7	0.3	0.07	0.5
Sulfate as SO_4^{2-}	73	67	0.48	75	15	4.1	22
Methane (µg/L)	-	-	-	-	-	-	-

Stratigraphic unit: Namoi alluvium
Date range: 1/4/1966 to 11/11/1999
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-7 Summary of baseline data for groundwater quality in Bohena Creek alluvium

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	10	10	0.04	0.1	0.08	0.06	0.1
HCO_3 alkalinity as $CaCO_3$ (mg/L)	10	10	40	596	160	41.4	364
B (mg/L)	10	2	0.2	0.2	0.2	NA	NA
Ca (mg/L)	10	10	3	8	5.2	3	7
CO_3 alkalinity as $CaCO_3$ (mg/L)	10	1	19	19	19	NA	NA
Cl (mg/L)	10	10	18	58	32	20	46
EC (field) (µS/cm)	6	6	173	1388	576.2	174.6	1246
EC @ 25C (lab) (µS/cm)	10	10	137	1320	413.3	157	822
F (mg/L)	10	5	0.1	1.1	0.48	NA	NA
Li (mg/L)	10	2	0.03	0.03	0.03	NA	NA
Mg (mg/L)	10	9	2	9	5.7	3.3	7.7
Mn (mg/L)	10	9	0.002	0.8	0.5	0.3	0.6
pH (field)	10	10	6.2	7.9	6.8	6.4	7.4
pH (lab)	6	6	6.3	8.4	7.2	6.6	8.3
K (mg/L)	10	10	1	3	2.2	2	3
Na (mg/L)	10	10	12	321	77.2	14.9	179
SAR	10	10	0.9	47	8.7	1.1	17
Sr (mg/L)	10	10	0.07	0.2	0.1	0.08	0.1
Sulfate as SO_4^{2-}	10	1	2	2	2	NA	NA
Methane (µg/L)	10	10	550	1600	1100	680	1500

Stratigraphic unit: Bohena Creek alluvium
Date range: 24/5/2012 to 24/6/2014
ISS – insufficient sample size
NA – LOR > 15% sample size

4.2.1 Gunnedah-Oxley Basin Monitoring Bores

Table 4-8 and Table 4-9 are statistical summaries of the baseline data for groundwater quality at monitoring locations within the Gunnedah-Oxley Basin. Statistical measures of the spread and central tendency of the data are calculated for monitoring locations with more than two samples; however, these measures may not be statistically significant if the number of samples is small. For large and normally-distributed data populations, the 16th and 84th percentiles represent -1 and +1 standard deviations from the mean, respectively. Approximately 68% of a data population lies within the 16th and 84th percentiles. A sample size greater than or equal to six is needed to identify the 16th and 84th percentiles.

The locations of monitoring bores are shown in Figure 3-1.

Table 4-8 Baseline data for groundwater quality monitoring at location TULPRDGY02

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	6	6	0.013	3.2	1.3	0.34	3.2
HCO_3 alkalinity as $CaCO_3$ (mg/L)	6	3	1	5200	2640	NA	NA
B (mg/L)	6	5	0.21	1.1	0.53	NA	NA
Ca (mg/L)	6	5	12	79	41.6	NA	NA
CO_3 alkalinity as $CaCO_3$ (mg/L)	6	3	292	427	348	NA	NA
Cl (mg/L)	6	6	33	166	97.7	34.6	160
EC (field) (µS/cm)	11	11	6714	10773	8496	6947	10280
EC @ 25C (lab) (µS/cm)	6	6	7220	10300	8820	7236	9996
F (mg/L)	6	6	0.5	1.6	1	0.5	1.5
Li (mg/L)	1	1	1.2	1.2	1.2	ISS	ISS
Mg (mg/L)	6	2	1	40	20	NA	NA
Mn (mg/L)	6	3	0.001	0.05	0.03	NA	NA
pH (field)	11	11	6.5	13.0	9.41	6.67	12.8
pH (lab)	6	6	6.88	12.4	9.68	6.95	12.4
K (mg/L)	6	5	60	305	201	NA	NA
Na (mg/L)	6	6	815	2260	1410	860	1920
SAR	1	1	50.2	50.2	50.2	ISS	ISS
Sr (mg/L)	6	6	0.007	2.5	2	1.9	2.5
Sulfate as SO_4^{2-}	6	2	1	33	12	NA	NA
Methane (µg/L)	6	6	1130	6830	3060	1770	3940

Stratigraphic unit: Digby Formation
Date range: 13/1/2015 to 17/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-9 Baseline data for groundwater quality monitoring at location TULPRNAP01

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	7	7	0.67	3.3	2	0.81	3
HCO_3 alkalinity as $CaCO_3$ (mg/L)	7	7	1380	2640	2271	2081	2592
B (mg/L)	7	7	0.14	1.2	0.64	0.27	0.91
Ca (mg/L)	7	7	2	53	39.1	28.9	52
CO_3 alkalinity as $CaCO_3$ (mg/L)	7	0	-	-	-	-	-
Cl (mg/L)	7	7	300	866	705	573	865
EC (field) (µS/cm)	13	13	3126	7488	6255	5294	7264
EC @ 25C (lab) (µS/cm)	6	6	3640	7820	6645	6120	7484
F (mg/L)	7	7	1	1.2	1.1	1.1	1.1
Li (mg/L)	1	1	0.09	0.09	0.09	ISS	ISS
Mg (mg/L)	7	7	1	34	24	12	33
Mn (mg/L)	7	7	0.008	0.54	0.16	0.024	0.41
pH (field)	13	13	5.8	7.0	6.7	6.7	6.9
pH (lab)	6	6	6.9	7.7	7.3	7	7.4
K (mg/L)	7	7	2	42	32.4	26	41
Na (mg/L)	7	7	866	1750	1518	1331	1712
SAR	1	1	33.8	33.8	33.8	ISS	ISS
Sr (mg/L)	7	7	1.2	5.2	3	1.5	4
Sulfate as SO_4^{2-}	7	5	5	239	69.4	NA	NA
Methane (µg/L)	7	7	1680	19900	9020	3410	13600

Stratigraphic unit: Napperby
Date range: 9/7/2014 to 18/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

4.2.2 Great Artesian Basin Monitoring Bores

Table 4-23 to Table 4-27 are statistical summaries of the baseline data for groundwater quality at monitoring locations within the Great Artesian Basin. Statistical measures of the spread and central tendency of the data are calculated for monitoring locations with more than two samples; however, these measures may not be statistically significant if the number of samples is small. For large and normally-distributed data populations, the 16th and 84th percentiles represent -1 and +1 standard deviations from the mean, respectively. Approximately 68% of a data population lies within the 16th and 84th percentiles. A sample size greater than or equal to six is needed to identify the 16th and 84th percentiles.

The locations of monitoring bores are shown in Figure 3-2.

Table 4-10 Baseline data for groundwater quality monitoring at location DWH14PRPUR03

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	7	7	0.088	0.13	0.11	0.11	0.12
HCO_3 alkalinity as $CaCO_3$ (mg/L)	7	7	7	159	62.1	8.92	120
B (mg/L)	7	3	0.05	0.11	0.08	NA	NA
Ca (mg/L)	7	7	1	7	3.29	1.96	4.12
CO_3 alkalinity as $CaCO_3$ (mg/L)	7	7	91	176	126	93.9	146
Cl (mg/L)	7	7	28	37	33.7	31.8	36
EC (field) (µS/cm)	10	10	407	778	651	549	752
EC @ 25C (lab) (µS/cm)	7	7	456	700	595	520	676
F (mg/L)	7	7	0.3	0.6	0.44	0.4	0.5
Li (mg/L)	1	1	0.03	0.03	0.03	ISS	ISS
Mg (mg/L)	7	0	-	-	-	-	-
Mn (mg/L)	7	5	0.002	0.01	0.004	NA	NA
pH (field)	10	10	9.01	11.0	10.1	9.58	10.5
pH (lab)	7	7	9.44	10.4	9.93	9.56	10.2
K (mg/L)	7	7	12	39	29.1	19.7	38
Na (mg/L)	7	7	78	120	100	79.9	115
SAR	1	1	27	27	27	ISS	ISS
Sr (mg/L)	7	7	0.075	0.26	0.21	0.2	0.24
Sulfate as SO42-	7	7	20	43	37.1	32.5	43
Methane (µg/L)	7	6	1390	4630	2620	NA	NA

Stratigraphic unit: Purlawaugh Formation
Date range: 29/10/2013 to 5/7/2016
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-11 Baseline data for groundwater quality monitoring at location BHN14PRUPS02

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	7	7	0.4	0.9	0.6	0.5	0.6
HCO_3 alkalinity as $CaCO_3$ (mg/L)	8	8	190	252	217	198	233
B (mg/L)	7	2	0.06	0.08	0.07	NA	NA
Ca (mg/L)	8	8	35	45	41	39	43
CO_3 alkalinity as $CaCO_3$ (mg/L)	8	1	2	2	2	2	2
Cl (mg/L)	8	8	16	23	20	18	22
EC (field) (µS/cm)	13	13	446	599	504	470	535
EC @ 25C (lab) (µS/cm)	8	8	456	565	495	459	542
F (mg/L)	7	6	0.2	0.3	0.2	0.2	0.2
Li (mg/L)	3	3	0.01	0.2	0.08	ISS	ISS
Mg (mg/L)	8	8	7	10	8.5	8	9
Mn (mg/L)	7	7	0.009	0.3	0.1	0.09	0.2
pH (field)	13	13	6.6	7.4	7.0	6.9	7.2
pH (lab)	8	8	7.3	8.3	7.6	7.3	8.1
K (mg/L)	8	8	5	7	6.1	6	6.9
Na (mg/L)	8	8	42	61	48	42	52
SAR	2	2	1.8	2.1	1.9	ISS	ISS
Sr (mg/L)	8	8	0.4	0.6	0.5	0.4	0.6
Sulfate as SO_4^{2-}	8	2	0.5	5	2.8	NA	NA
Methane (µg/L)	8	7	1680	4640	2300	1800	2460

Stratigraphic unit: Pilliga Sandstone
Date range: 12/12/2013 to 18/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-12 Baseline data for groundwater quality monitoring at location BWD26PRLPS02

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	8	8	0.2	0.6	0.5	0.3	0.6
HCO_3 alkalinity as $CaCO_3$ (mg/L)	9	9	31	39	35	32	38
B (mg/L)	8	2	0.07	0.2	0.1	NA	NA
Ca (mg/L)	9	9	1	3	1.7	1	2
CO_3 alkalinity as $CaCO_3$ (mg/L)	9	0	-	-	-	-	-
Cl (mg/L)	9	9	7	27	19	18	22
EC (field) (µS/cm)	15	15	131	293	168	141	190
EC @ 25C (lab) (µS/cm)	9	9	101	169	148	138	158
F (mg/L)	9	9	0.1	0.2	0.17	0.1	0.2
Li (mg/L)	2	2	0.001	0.003	0.002	ISS	ISS
Mg (mg/L)	9	9	1	2	1.7	1	2
Mn (mg/L)	8	8	0.008	0.2	0.1	0.05	0.1
pH (field)	15	15	5.3	7.7	6.1	5.8	6.3
pH (lab)	9	9	6.5	7.5	6.8	6.5	6.9
K (mg/L)	9	9	6	14	12	11	13
Na (mg/L)	9	9	12	21	15	13	17
SAR	2	2	1.4	3.6	2.5	1.8	3.2
Sr (mg/L)	9	9	0.04	0.05	0.05	0.04	0.05
Sulfate as SO_4^{2-}	9	5	1	10	3	NA	NA
Methane (µg/L)	9	5	42	269	148	NA	NA

Stratigraphic unit: Pilliga Sandstone
Date range: 19/9/2013 to 18/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-13 Baseline data for groundwater quality monitoring at location BWD26PRUPS01

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	7	7	0.2	0.5	0.2	0.2	0.2
HCO_3 alkalinity as $CaCO_3$ (mg/L)	8	8	23	58	30	23	35
B (mg/L)	7	5	0.05	0.2	0.08	NA	NA
Ca (mg/L)	8	5	1	3	1.8	NA	NA
CO_3 alkalinity as $CaCO_3$ (mg/L)	8	0	-	-	-	-	-
Cl (mg/L)	8	8	5	19	7.3	5	6
EC (field) (µS/cm)	14	14	67.9	254	99.7	70.2	128
EC @ 25C (lab) (µS/cm)	8	8	64	181	90.6	76	89.2
F (mg/L)	8	2	0.1	0.3	0.2	NA	NA
Li (mg/L)	1	1	0.004	0.004	0.004	ISS	ISS
Mg (mg/L)	8	7	1	2	1.7	1	2
Mn (mg/L)	7	7	0.02	0.4	0.08	0.02	0.05
pH (field)	14	14	4.9	6.4	5.7	5.4	5.9
pH (lab)	8	8	6.2	6.9	6.5	6.2	6.8
K (mg/L)	8	8	6	12	6.9	6	6.9
Na (mg/L)	8	8	6	23	10	7	11
SAR	1	1	2.5	2.5	2.5	ISS	ISS
Sr (mg/L)	8	8	0.02	0.07	0.03	0.02	0.04
Sulfate as SO_4^{2-}	8	1	2	2	2	NA	NA
Methane (µg/L)	8	1	409	409	409	NA	NA

Stratigraphic unit: Pilliga Sandstone
Date range: 27/7/2014 to 18/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-14 Baseline data for groundwater quality monitoring at location BWD27PRLPS03

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	8	8	0.05	0.1	0.09	0.08	0.09
HCO_3 alkalinity as $CaCO_3$ (mg/L)	9	8	10	41	29	14	36
B (mg/L)	8	1	0.06	0.06	0.06	NA	NA
Ca (mg/L)	9	5	1	2	1.2	NA	NA
CO_3 alkalinity as $CaCO_3$ (mg/L)	9	0	-	-	-	-	-
Cl (mg/L)	9	9	35	46	40	37	45
EC (field) (µS/cm)	13	13	175	360	223	191	251
EC @ 25C (lab) (µS/cm)	9	9	182	239	207	192	215
F (mg/L)	9	2	0.1	0.1	0.1	NA	NA
Li (mg/L)	4	4	0.001	2	0.5	0.001	1
Mg (mg/L)	9	7	2	3	2.1	NA	NA
Mn (mg/L)	8	8	0.02	0.07	0.04	0.02	0.07
pH (field)	13	13	5.1	6.1	5.5	5.2	5.8
pH (lab)	9	9	4.1	6.4	5.9	5.8	6.3
K (mg/L)	9	9	3	5	4	4	4
Na (mg/L)	9	9	27	36	32	31	33
SAR	2	2	0.03	5.2	2.6	ISS	ISS
Sr (mg/L)	9	9	0.02	0.03	0.03	0.02	0.03
Sulfate as SO_4^{2-}	9	5	1	35	8	NA	NA
Methane (µg/L)	9	3	12	25	18	NA	NA

Stratigraphic unit: Pilliga Sandstone
Date range: 15/11/2013 to 18/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-15 Baseline data for groundwater quality monitoring at location BWD27PRUPS02

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	9	9	0.1	0.2	0.1	0.1	0.2
HCO_3 alkalinity as $CaCO_3$ (mg/L)	10	10	8	18	13	9.3	16
B (mg/L)	9	0	-	-	-	-	-
Ca (mg/L)	10	0	-	-	-	-	-
CO_3 alkalinity as $CaCO_3$ (mg/L)	10	0	-	-	-	-	-
Cl (mg/L)	10	10	23	33	29	28	32
EC (field) (µS/cm)	13	13	126	300	159	135	193
EC @ 25C (lab) (µS/cm)	11	11	129	864	203	131	146
F (mg/L)	10	1	0.1	0.1	0.1	NA	NA
Li (mg/L)	4	4	0.002	0.002	0.002	ISS	ISS
Mg (mg/L)	10	8	1	2	1.6	NA	NA
Mn (mg/L)	9	9	0.004	0.1	0.06	0.008	0.09
pH (field)	13	13	4.5	5.6	5.2	4.9	5.5
pH (lab)	11	11	5.8	8.8	6.4	5.8	6.7
K (mg/L)	10	10	6	7	6.2	6	6.6
Na (mg/L)	10	10	15	19	17	17	18
SAR	2	2	3.9	4.1	4	ISS	ISS
Sr (mg/L)	10	10	0.02	0.03	0.02	0.02	0.03
Sulfate as SO_4^{2-}	10	2	1	1	1	NA	NA
Methane (µg/L)	10	1	27	27	27	NA	NA

Stratigraphic unit: Pilliga Sandstone
Date range: 29/7/2013 to 18/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-16 Baseline data for groundwater quality monitoring at location DWH14PRLPS02

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	11	11	0.06	0.1	0.08	0.06	0.1
HCO_3 alkalinity as $CaCO_3$ (mg/L)	11	11	14	79	37	27	46
B (mg/L)	11	0	-	-	-	-	-
Ca (mg/L)	11	10	2	16	5.9	3	9.4
CO_3 alkalinity as $CaCO_3$ (mg/L)	11	0	-	-	-	-	-
Cl (mg/L)	11	11	31	43	37	33	42
EC (field) (µS/cm)	13	13	189	617	245	195	248
EC @ 25C (lab) (µS/cm)	10	10	181	299	205	187	209
F (mg/L)	11	3	0.1	0.1	0.1	NA	NA
Li (mg/L)	6	6	0.003	2	0.3	0.004	0.4
Mg (mg/L)	11	11	1	3	1.7	1	2
Mn (mg/L)	11	11	0.01	0.3	0.1	0.03	0.2
pH (field)	13	13	5.0	7.3	5.7	5.3	5.8
pH (lab)	10	10	6.0	7.5	6.5	6.1	7.3
K (mg/L)	11	11	4	6	4.5	4	5.4
Na (mg/L)	11	11	25	38	31	27	36
SAR	6	6	0.03	5.8	3.6	1.8	4.8
Sr (mg/L)	11	11	0.02	0.07	0.04	0.03	0.05
Sulfate as SO_4^{2-}	11	5	1	2	1.2	NA	NA
Methane (µg/L)	11	1	25	25	25	NA	NA

Stratigraphic unit: Pilliga Sandstone
Date range: 27/10/2013 to 20/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-17 Baseline data for groundwater quality monitoring at location DWH14PRUPS01

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	11	11	0.1	0.3	0.2	0.1	0.2
HCO_3 alkalinity as $CaCO_3$ (mg/L)	11	11	10	47	28	11	41
B (mg/L)	11	0	-	-	-	-	-
Ca (mg/L)	11	7	1	4	2.6	NA	NA
CO_3 alkalinity as $CaCO_3$ (mg/L)	11	1	32	32	32	NA	NA
Cl (mg/L)	11	11	32	42	38	35	40
EC (field) (µS/cm)	13	13	196	450	235	205	258
EC @ 25C (lab) (µS/cm)	11	11	192	721	256	193	231
F (mg/L)	11	0	-	-	-	-	-
Li (mg/L)	5	5	0.005	0.009	0.006	ISS	ISS
Mg (mg/L)	11	11	2	4	3.2	2	4
Mn (mg/L)	11	11	0.007	0.4	0.2	0.01	0.3
pH (field)	13	13	5.0	6.8	5.7	5.2	6
pH (lab)	11	11	5.6	9.5	6.7	5.7	7.8
K (mg/L)	11	11	6	8	7.2	7	8
Na (mg/L)	11	11	23	34	27	25	30
SAR	5	5	2.5	5.2	3.8	ISS	ISS
Sr (mg/L)	11	11	0.02	0.1	0.05	0.03	0.08
Sulfate as SO_4^{2-}	11	0	-	-	-	-	-
Methane (µg/L)	11	0	-	-	-	-	-

Stratigraphic unit: Pilliga Sandstone
Date range: 26/10/2013 to 5/7/2016
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-18 Baseline data for groundwater quality monitoring at location DWH3PRLPS02

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	9	9	0.02	0.1	0.06	0.05	0.06
HCO_3 alkalinity as $CaCO_3$ (mg/L)	9	9	1	64	25	16	32
B (mg/L)	9	7	0.05	0.1	0.07	NA	NA
Ca (mg/L)	9	9	1	8	2.6	1	3.4
CO_3 alkalinity as $CaCO_3$ (mg/L)	9	4	1	1	1	NA	NA
Cl (mg/L)	9	9	22	32	25	23	27
EC (field) (µS/cm)	14	14	122	301	164	135	188
EC @ 25C (lab) (µS/cm)	9	9	122	215	151	133	167
F (mg/L)	9	5	0.1	1	0.3	NA	NA
Li (mg/L)	2	2	0.002	0.01	0.007	ISS	ISS
Mg (mg/L)	9	7	1	1	1	NA	NA
Mn (mg/L)	9	9	0.01	0.4	0.1	0.04	0.1
pH (field)	14	14	4.1	5.9	5.2	4.9	5.6
pH (lab)	9	9	4.2	7.1	6.0	5.9	6.4
K (mg/L)	9	9	2	6	3.2	2.3	3.7
Na (mg/L)	9	9	20	29	23	20	27
SAR	1	1	2.6	2.6	-	ISS	ISS
Sr (mg/L)	9	9	0.01	0.1	0.03	0.01	0.03
Sulfate as SO_4^{2-}	9	9	1	20	3.7	1	2
Methane (µg/L)	9	2	23	42	33	NA	NA

Stratigraphic unit: Pilliga Sandstone
Date range: 30/9/2013 to 24/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-19 Baseline data for groundwater quality monitoring at location DWH3PRUPS01

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	9	9	0.03	0.09	0.04	0.03	0.05
HCO_3 alkalinity as $CaCO_3$ (mg/L)	9	9	9	33	15	10	17
B (mg/L)	9	1	0.09	0.09	0.09	0.09	0.09
Ca (mg/L)	9	2	2	5	3.5	NA	NA
CO_3 alkalinity as $CaCO_3$ (mg/L)	9	0	-	-	-	-	-
Cl (mg/L)	9	9	22	33	25	22	25
EC (field) (µS/cm)	14	14	112	293	139	119	160
EC @ 25C (lab) (µS/cm)	9	9	117	164	126	118	126
F (mg/L)	9	2	0.1	0.1	0.1	0.1	0.1
Li (mg/L)	2	2	0.002	0.002	0.002	ISS	ISS
Mg (mg/L)	9	8	1	2	1.1	1	1
Mn (mg/L)	9	9	0.008	0.2	0.05	0.02	0.05
pH (field)	14	14	4.1	6.5	5.0	4.6	5.4
pH (lab)	9	9	5.4	7.3	6.1	5.7	6.5
K (mg/L)	9	9	2	4	2.2	2	2
Na (mg/L)	9	9	18	25	21	18	24
SAR	1	1	3.5	3.5	-	ISS	ISS
Sr (mg/L)	9	9	0.008	0.06	0.02	0.01	0.02
Sulfate as SO_4^{2-}	9	9	2	3	2.2	2	2.7
Methane (µg/L)	9	0	-	-	-	NA	NA

Stratigraphic unit: Pilliga Sandstone
Date range: 2/10/2013 to 24/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-20 Baseline data for groundwater quality monitoring at location NYOPRUPS02

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	8	8	0.3	1	1	0.4	1
HCO_3 alkalinity as $CaCO_3$ (mg/L)	9	9	500	637	564	513	620
B (mg/L)	8	8	0.2	0.2	0.2	0.2	0.2
Ca (mg/L)	9	9	1	13	3.9	1	4
CO_3 alkalinity as $CaCO_3$ (mg/L)	9	8	12	43	27	14	40
Cl (mg/L)	9	9	47	61	55	52	59
EC (field) (µS/cm)	12	12	1127	1389	1266	1227	1307
EC @ 25C (lab) (µS/cm)	8	8	1270	1520	1324	1280	1319
F (mg/L)	9	9	0.9	1	0.97	0.9	1
Li (mg/L)	2	2	0.03	0.03	0.03	ISS	ISS
Mg (mg/L)	9	0	-	-	-	-	-
Mn (mg/L)	8	8	0.001	0.04	0.02	0.003	0.03
pH (field)	12	12	7.8	8.5	8.2	8.1	8.4
pH (lab)	8	8	8.3	8.7	8.5	8.4	8.6
K (mg/L)	9	9	2	2	2	2	2
Na (mg/L)	9	9	291	352	316	298	331
SAR	2	2	48	86	67	54	80
Sr (mg/L)	8	8	0.06	0.1	0.1	0.1	0.1
Sulfate as SO_4^{2-}	9	2	1	5	3	NA	NA
Methane (µg/L)	9	4	734	1180	989	NA	NA

Stratigraphic unit: Pilliga Sandstone
Date range: 1/12/2013 to 17/7/2017
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-21 Baseline data for groundwater quality monitoring at location BWD1WB

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	2	2	0.08	0.09	-	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	2	2	6	6	-	ISS	ISS
B (mg/L)	2	0	-	-	-	ISS	ISS
Ca (mg/L)	2	0	-	-	-	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	2	0	-	-	-	ISS	ISS
Cl (mg/L)	2	2	27	31	-	ISS	ISS
EC (field) (µS/cm)	3	3	115	145	-	ISS	ISS
EC @ 25C (lab) (µS/cm)	2	2	124	128	-	ISS	ISS
F (mg/L)	2	0	-	-	-	ISS	ISS
Li (mg/L)	2	2	0.002	0.003	-	ISS	ISS
Mg (mg/L)	2	1	2	2	-	ISS	ISS
Mn (mg/L)	1	1	0.006	0.006	-	ISS	ISS
pH (field)	3	3	5.0	6.9	-	ISS	ISS
pH (lab)	2	2	5.8	5.9	-	ISS	ISS
K (mg/L)	2	2	5	5	-	ISS	ISS
Na (mg/L)	2	2	17	17	-	ISS	ISS
SAR	2	2	2.7	3.6	-	ISS	ISS
Sr (mg/L)	2	2	0.01	0.02	-	ISS	ISS
Sulfate as SO_4^{2-}	2	0	-	-	-	ISS	ISS
Methane (µg/L)	2	1	16	16	-	ISS	ISS

Stratigraphic unit: Pilliga Sandstone
Date range: 17/10/2012 to 5/7/2017
ISS – insufficient sample size

Table 4-22 Baseline data for groundwater quality monitoring at location BWD5WB

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	2	2	0.1	0.1	-	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	2	2	6	7	-	ISS	ISS
B (mg/L)	2	0	-	-	-	ISS	ISS
Ca (mg/L)	2	0	-	-	-	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	2	0	-	-	-	ISS	ISS
Cl (mg/L)	2	2	30	33	-	ISS	ISS
EC (field) (µS/cm)	3	3	113	206	-	ISS	ISS
EC @ 25C (lab) (µS/cm)	2	2	124	129	-	ISS	ISS
F (mg/L)	2	0	-	-	-	ISS	ISS
Li (mg/L)	2	2	0.003	0.004	-	ISS	ISS
Mg (mg/L)	1	1	2	2	-	ISS	ISS
Mn (mg/L)	2	2	0.003	0.02	-	ISS	ISS
pH (field)	3	3	5.3	7.6	-	ISS	ISS
pH (lab)	2	2	5.6	6.0	-	ISS	ISS
K (mg/L)	1	1	5	5	-	ISS	ISS
Na (mg/L)	1	1	14	14	-	ISS	ISS
SAR	2	2	2.3	3.4	-	ISS	ISS
Sr (mg/L)	2	2	0.02	0.02	-	ISS	ISS
Sulfate as SO_4^{2-}	2	1	2	2	-	ISS	ISS
Methane (µg/L)	1	0	-	-	-	ISS	ISS

Stratigraphic unit: Pilliga Sandstone
Date range: 8/10/2012 to 18/10/2012
ISS – insufficient sample size

Table 4-23 Baseline data for groundwater quality monitoring at location BHN14PRORA01

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	7	7	0.6	0.9	0.6	0.6	0.6
HCO_3 alkalinity as $CaCO_3$ (mg/L)	8	8	178	262	207	182	220
B (mg/L)	7	6	0.07	0.2	0.1	0.08	0.1
Ca (mg/L)	8	8	21	36	31	25	34
CO_3 alkalinity as $CaCO_3$ (mg/L)	8	0	-	-	-	-	-
Cl (mg/L)	8	8	30	39	33	31	35
EC (field) (µS/cm)	13	13	480	930	552	493	585
EC @ 25C (lab) (µS/cm)	8	8	474	600	526	496	572
F (mg/L)	8	7	0.2	0.3	0.2	0.2	0.3
Li (mg/L)	2	2	0.005	0.02	0.01	ISS	ISS
Mg (mg/L)	8	8	7	11	8.6	8	9.9
Mn (mg/L)	7	7	0.05	0.7	0.3	0.2	0.2
pH (field)	13	13	6.7	7.4	7.1	6.9	7.2
pH (lab)	8	8	7.3	8.3	7.7	7.5	8
K (mg/L)	8	8	3	5	4.1	4	4.9
Na (mg/L)	8	8	53	89	66	61	72
SAR	2	2	3	3.3	3.2	ISS	ISS
Sr (mg/L)	8	8	0.4	0.6	0.5	0.5	0.5
Sulfate as SO_4^{2-}	8	7	2	11	5.4	3	9.1
Methane (µg/L)	8	7	170	649	350	217	421

Stratigraphic unit: Orallo Formation
Date range: 14/12/2013 to 18/7/2017
ISS – insufficient sample size

Table 4-24 Baseline data for groundwater quality monitoring at location NYOPRORA01

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	11	11	0.09	0.4	0.2	0.1	0.2
HCO_3 alkalinity as $CaCO_3$ (mg/L)	11	11	420	684	567	536	614
B (mg/L)	11	11	0.2	0.3	0.3	0.2	0.3
Ca (mg/L)	11	11	1	9	4.5	2.6	6
CO_3 alkalinity as $CaCO_3$ (mg/L)	11	11	3	89	25	7.6	37
Cl (mg/L)	11	11	48	63	56	52	60
EC (field) (µS/cm)	11	11	1194	1468	1327	1274	1385
EC @ 25C (lab) (µS/cm)	10	10	1090	1560	1336	1310	1360
F (mg/L)	10	10	0.9	1	1	1	1
Li (mg/L)	6	6	0.02	0.9	0.2	0.03	0.2
Mg (mg/L)	11	6	1	4	1.5	NA	NA
Mn (mg/L)	11	11	0.003	0.06	0.02	0.006	0.05
pH (field)	11	11	7.5	8.3	8.0	7.9	8.2
pH (lab)	10	10	8.3	8.9	8.5	8.3	8.6
K (mg/L)	11	11	1	12	3.3	2	4.2
Na (mg/L)	11	11	266	343	315	294	338
SAR	5	5	19	85	42	26	56
Sr (mg/L)	10	10	0.1	0.2	0.1	0.1	0.2
Sulfate as SO_4^{2-}	11	1	1	1	1	NA	NA
Methane (µg/L)	11	10	300	4180	1860	859	3150

Stratigraphic unit: Orallo Formation
Date range: 30/11/2013 to 17/7/2017
ISS – insufficient sample size

Table 4-25 Baseline data for groundwater quality monitoring at location 7703

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	2	2	0.08	0.08	-	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	2	2	432	439	-	ISS	ISS
B (mg/L)	2	2	0.06	0.08	-	ISS	ISS
Ca (mg/L)	2	2	15	20	-	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	2	0	-	-	-	ISS	ISS
Cl (mg/L)	2	2	698	721	-	ISS	ISS
EC (field) (µS/cm)	2	2	2991	3079	-	ISS	ISS
EC @ 25C (lab) (µS/cm)	2	2	2980	3280	-	ISS	ISS
F (mg/L)	2	2	0.6	0.6	-	ISS	ISS
Li (mg/L)	2	0	-	-	-	ISS	ISS
Mg (mg/L)	2	2	14	17	-	ISS	ISS
Mn (mg/L)	2	2	0.03	0.04	-	ISS	ISS
pH (field)	2	2	6.9	8.9	-	ISS	ISS
pH (lab)	2	2	7.7	7.8	-	ISS	ISS
K (mg/L)	2	2	12	13	-	ISS	ISS
Na (mg/L)	2	2	586	638	-	ISS	ISS
SAR	2	2	23	29	-	ISS	ISS
Sr (mg/L)	2	2	0.5	0.5	-	ISS	ISS
Sulfate as SO_4^{2-}	2	2	37	57	-	ISS	ISS
Methane (µg/L)	2	2	24	104	-	ISS	ISS

Stratigraphic unit: Orallo Formation
Date range: 25/5/2012 to 7/5/2014
ISS – insufficient sample size

Table 4-26 Baseline data for groundwater quality monitoring at location 7705

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	2	2	0.1	0.1	0.1	ISS	ISS
HCO3 alkalinity as CaCO3 (mg/L)	2	2	327	343	335	ISS	ISS
B (mg/L)	2	0	-	-	-	ISS	ISS
Ca (mg/L)	2	2	9	12	11	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	2	0	-	-	-	ISS	ISS
Cl (mg/L)	2	2	175	180	178	ISS	ISS
EC (field) (µS/cm)	2	2	1141	1163	1152	ISS	ISS
EC @ 25C (lab) (µS/cm)	2	2	1140	1220	1180	ISS	ISS
F (mg/L)	2	2	0.4	0.4	0.4	ISS	ISS
Li (mg/L)	2	0	-	-	-	ISS	ISS
Mg (mg/L)	2	2	8	10	9	ISS	ISS
Mn (mg/L)	2	2	0.004	0.01	0.009	ISS	ISS
pH (field)	2	2	6.4	8.3	7.4	ISS	ISS
pH (lab)	2	2	7.4	7.6	7.5	ISS	ISS
K (mg/L)	2	2	8	9	8.5	ISS	ISS
Na (mg/L)	2	2	220	236	228	ISS	ISS
SAR	2	2	11	14	13	ISS	ISS
Sr (mg/L)	2	2	0.2	0.2	0.2	ISS	ISS
Sulfate as SO_4^{2-}	2	2	30	37	34	ISS	ISS
Methane (µg/L)	2	0	-	-	-	ISS	ISS

Stratigraphic unit: Orallo Formation
Date range: 25/5/2012 to 7/5/2014
ISS – insufficient sample size

Table 4-27 Baseline data for groundwater quality monitoring at location 7706

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	2	2	0.2	0.2	0.2	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	2	2	222	226	224	ISS	ISS
B (mg/L)	2	0	-	-	-	-	-
Ca (mg/L)	2	2	37	39	38	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	2	0	-	-	-	-	-
Cl (mg/L)	2	2	25	27	26	ISS	ISS
EC (field) (µS/cm)	2	2	470	531	501	ISS	ISS
EC @ 25C (lab) (µS/cm)	2	2	471	486	479	ISS	ISS
F (mg/L)	2	0	-	-	-	ISS	ISS
Li (mg/L)	2	2	0.03	0.03	0.03	ISS	ISS
Mg (mg/L)	2	2	8	8	8	ISS	ISS
Mn (mg/L)	2	2	0.04	0.05	0.04	ISS	ISS
pH (field)	2	2	6.8	7.4	7.1	ISS	ISS
pH (lab)	2	2	7.9	8.0	7.9	ISS	ISS
K (mg/L)	2	2	6	8	7	ISS	ISS
Na (mg/L)	2	2	53	54	54	ISS	ISS
SAR	2	2	2.1	2.1	2.1	ISS	ISS
Sr (mg/L)	2	2	0.3	0.3	0.3	ISS	ISS
Sulfate as SO_4^{2-}	2	0	-	-	-	ISS	ISS
Methane (µg/L)	2	1	12	12	-	ISS	ISS

Stratigraphic unit: Orallo Formation
Date range: 25/5/2012 to 25/6/2014
ISS – insufficient sample size

4.2.3 Namoi Alluvium Monitoring Bores

Table 4-28 to Table 4-40 are statistical summaries of the baseline data for groundwater quality at monitoring locations within the Namoi alluvium. Statistical measures of the spread and central tendency of the data are calculated for monitoring locations with more than two samples; however, these measures may not be statistically significant if the number of samples is small. For large and normally-distributed data populations, the 16th and 84th percentiles represent -1 and +1 standard deviations from the mean, respectively. Approximately 68% of a data population lies within the 16th and 84th percentiles. A sample size greater than or equal to six is needed to identify the 16th and 84th percentiles. Note that all Namoi Alluvium bores are State monitoring bores. No trace gases have been reported for any of the GW-series bores. Local landholder bores accessing groundwater from the Namoi Alluvium were sampled by Santos. Variable levels of methane were detected in these bores. Some recorded no methane and others reported methane up to 0.6 mg/L. Stable isotopes indicate a thermogenic source for this gas.

The locations of monitoring bores are shown in Figure 3-3.

Table 4-28 Baseline data for groundwater quality monitoring at location GW021266-1

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	0	0	-	-	-	-	-
HCO_3 alkalinity as $CaCO_3$ (mg/L)	19	19	164	1190	347	177	582
B (mg/L)	0	0	-	-	-	-	-
Ca (mg/L)	0	0	-	-	-	-	-
CO_3 alkalinity as $CaCO_3$ (mg/L)	17	10	4.2	36	17	NA	NA
Cl (mg/L)	19	19	9.9	52	31	11	50
EC (field) (µS/cm)	0	0	-	-	-	-	-
EC @ 25C (lab) (µS/cm)	20	20	318	2390	661.4	329	1078
F (mg/L)	0	0	-	-	-	-	-
Li (mg/L)	0	0	-	-	-	-	-
Mg (mg/L)	0	0	-	-	-	-	-
Mn (mg/L)	0	0	-	-	-	-	-
pH (field)	19	19	7.5	8.9	8.1	7.8	8.4
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	19	19	0.78	23	2.8	1.2	2
Na (mg/L)	19	19	36.1	244	93.7	47.9	206
SAR	0	0	-	-	-	-	-
Sr (mg/L)	0	0	-	-	-	-	-
Sulfate as SO_4^{2-}	18	18	0.96	23	9.9	3.4	17

Stratigraphic unit: Namoi alluvium
Date range: 1/4/1966 to 21/9/1999
NA – LOR > 15% sample size

Table 4-29 Baseline data for groundwater quality monitoring at location GW021437-2

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	0	0	-	-	-	-	-
HCO_3 alkalinity as $CaCO_3$ (mg/L)	6	6	171	801	408	183	616
B (mg/L)	0	0	-	-	-	-	-
Ca (mg/L)	0	0	-	-	-	-	-
CO_3 alkalinity as $CaCO_3$ (mg/L)	2	2	33.9	126	-	ISS	ISS
Cl (mg/L)	6	6	25.5	158	104	51.6	140
EC (field) (µS/cm)	0	0	-	-	-	-	-
EC @ 25C (lab) (µS/cm)	6	6	387	1370	1041	693.4	1370
F (mg/L)	0	0	-	-	-	-	-
Li (mg/L)	0	0	-	-	-	-	-
Mg (mg/L)	0	0	-	-	-	-	-
Mn (mg/L)	0	0	-	-	-	-	-
pH (field)	6	6	7.0	9.6	8.2	7.8	8.5
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	6	6	1.6	5.5	3.6	1.9	5.2
Na (mg/L)	6	6	35.9	312	220	137	308
SAR	0	0	-	-	-	-	-
Sr (mg/L)	0	0	-	-	-	-	-
Sulfate as SO_4^{2-}	6	4	2.4	61	27	NA	NA

Stratigraphic unit: Namoi alluvium
Date range: 9/6/1967 to 22/3/1985
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-30 Baseline data for groundwater quality monitoring at location GW025338-1

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	1	1	0.1	0.1	-	ISS	ISS
HCO3 alkalinity as CaCO3 (mg/L)	7	7	209	289	248	211	289
B (mg/L)	1	1	0.07	0.07	-	ISS	ISS
Ca (mg/L)	1	1	54	54	-	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	6	2	2.1	9.6	5.9	NA	NA
Cl (mg/L)	7	7	13	146	39.8	13.8	44.3
EC (field) (µS/cm)	2	2	990	997	-	ISS	ISS
EC @ 25C (lab) (µS/cm)	6	6	367	580	470	397	548
F (mg/L)	1	1	0.4	0.4	-	ISS	ISS
Li (mg/L)	1	0	-	-	-	ISS	ISS
Mg (mg/L)	1	1	36	36	-	ISS	ISS
Mn (mg/L)	1	0	-	-	-	ISS	ISS
pH (field)	8	8	6.3	8.6	7.7	6.8	8.3
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	7	7	0.78	3.5	2	1.5	2.4
Na (mg/L)	7	7	68.1	123	94.4	69.8	113
SAR	0	0	-	-	-	-	-
Sr (mg/L)	1	1	0.7	0.7	-	ISS	ISS
Sulfate as SO_4^{2-}	6	6	4.1	75	20	4.1	29

Stratigraphic unit: Namoi alluvium
Date range: 14/11/1969 to 11/11/1999
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-31 Baseline data for groundwater quality monitoring at location GW025343-1

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	0	0	-	-	-	-	-
HCO_3 alkalinity as $CaCO_3$ (mg/L)	10	10	794	1010	916	830	970
B (mg/L)	0	0	-	-	-	-	-
Ca (mg/L)	0	0	-	-	-	-	-
CO_3 alkalinity as $CaCO_3$ (mg/L)	10	8	1	47	20	NA	NA
Cl (mg/L)	10	10	115	242	150	119	192
EC (field) (µS/cm)	10	10	1556	2170	1827	1701	2040
EC @ 25C (lab) (µS/cm)	0	0	-	-	-	-	-
F (mg/L)	1	1	1	1	-	-	-
Li (mg/L)	0	0	-	-	-	-	-
Mg (mg/L)	0	0	-	-	-	-	-
Mn (mg/L)	0	0	-	-	-	-	-
pH (field)	10	10	7.6	8.8	8.3	8.2	8.6
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	10	10	6.3	9.8	7.5	6.6	8.5
Na (mg/L)	10	10	366	520	426	390	450
SAR	0	0	-	-	-	-	-
Sr (mg/L)	0	0	-	-	-	-	-
Sulfate as SO_4^{2-}	10	10	3.7	60	12	4.8	9.6

Stratigraphic unit: Namoi alluvium
Date range: 15/12/1969 to 4/12/1986
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-32 Baseline data for groundwater quality monitoring at location GW030070-1

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	1	0	-	-	-	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	14	14	125	671	221	138	255
B (mg/L)	1	1	0.03	0.03	-	ISS	ISS
Ca (mg/L)	1	1	34	34	-	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	8	2	0.3	3.6	2	NA	NA
Cl (mg/L)	14	14	7.8	96	39	9.6	66
EC (field) (µS/cm)	13	13	248	1190	518.2	285	729.1
EC @ 25C (lab) (µS/cm)	0	0	-	-	-	-	-
F (mg/L)	3	3	0.05	0.5	0.3	0.1	0.5
Li (mg/L)	1	0	-	-	-	ISS	ISS
Mg (mg/L)	1	1	17	17	-	ISS	ISS
Mn (mg/L)	1	0	-	-	-	ISS	ISS
pH (field)	14	14	6.3	8.3	7.7	7.1	8.2
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	14	13	0.78	3.1	1.8	1.2	2.4
Na (mg/L)	14	14	15	240	56	23	64
SAR	0	0	-	-	-	-	-
Sr (mg/L)	1	1	0.4	0.4	-	ISS	ISS
Sulfate as SO_4^{2-}	13	13	6.2	41	18	8.5	29

Stratigraphic unit: Namoi alluvium
Date range: 22/5/1970 to 2/6/1999
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-33 Baseline data for groundwater quality monitoring at location GW030070-2

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	1	1	0.1	0.1	ISS	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	1	1	261	261	ISS	ISS	ISS
B (mg/L)	1	1	0.05	0.05	ISS	ISS	ISS
Ca (mg/L)	1	1	55	55	ISS	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	0	0	-	-	-	-	-
Cl (mg/L)	1	1	55	55	ISS	ISS	ISS
EC (field) (µS/cm)	1	1	356	356	ISS	ISS	ISS
EC @ 25C (lab) (µS/cm)	0	0	-	-	-	-	-
F (mg/L)	0	0	-	-	-	-	-
Li (mg/L)	1	0	-	-	ISS	ISS	ISS
Mg (mg/L)	1	1	21	21	ISS	ISS	ISS
Mn (mg/L)	1	0	-	-	ISS	ISS	ISS
pH (field)	1	1	6.3	6.3	ISS	ISS	ISS
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	1	1	1.9	1.9	ISS	ISS	ISS
Na (mg/L)	1	1	68	68	ISS	ISS	ISS
SAR	0	0	-	-	-	-	-
Sr (mg/L)	1	1	0.5	0.5	ISS	ISS	ISS
Sulfate as SO_4^{2-}	1	1	48	48	ISS	ISS	ISS

Stratigraphic unit: Namoi alluvium
Date range: 2/6/1999 to 2/6/1999
ISS – insufficient sample size

Table 4-34 Baseline data for groundwater quality monitoring at location GW030070-3

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	1	1	0.03	0.03	ISS	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	1	1	178	178	ISS	ISS	ISS
B (mg/L)	1	1	0.04	0.04	ISS	ISS	ISS
Ca (mg/L)	1	1	7.1	7.1	ISS	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	0	0	-	-	-	-	-
Cl (mg/L)	1	1	13	13	ISS	ISS	ISS
EC (field) (µS/cm)	1	1	308	308	ISS	ISS	ISS
EC @ 25C (lab) (µS/cm)	0	0	-	-	-	-	-
F (mg/L)	0	0	-	-	-	-	-
Li (mg/L)	1	0	0.001	0.001	ISS	ISS	ISS
Mg (mg/L)	1	1	-	-	ISS	ISS	ISS
Mn (mg/L)	1	1	0.01	0.01	ISS	ISS	ISS
pH (field)	1	1	6.4	6.4	ISS	ISS	ISS
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	1	1	0.66	0.66	ISS	ISS	ISS
Na (mg/L)	1	1	65	65	ISS	ISS	ISS
SAR	0	0	-	-	-	-	-
Sr (mg/L)	1	1	0.1	0.1	ISS	ISS	ISS
Sulfate as SO_4^{2-}	1	0	8.3	8.3	ISS	ISS	ISS

Stratigraphic unit: Namoi alluvium
Date range: 2/6/1999 to 2/6/1999
ISS – insufficient sample size

Table 4-35 Baseline data for groundwater quality monitoring at location GW030117-1

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	1	1	0.02	0.02	ISS	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	5	5	319	583	479	ISS	ISS
B (mg/L)	1	1	0.1	0.1	ISS	ISS	ISS
Ca (mg/L)	1	1	1.7	1.7	ISS	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	3	1	24	24	24	ISS	ISS
Cl (mg/L)	5	5	44.3	167	72.4	ISS	ISS
EC (field) (µS/cm)	5	5	880	987	949	ISS	ISS
EC @ 25C (lab) (µS/cm)	0	0	-	-	-	-	-
F (mg/L)	2	2	0.76	1.1	0.95	ISS	ISS
Li (mg/L)	1	1	0.01	0.01	ISS	ISS	ISS
Mg (mg/L)	1	1	0.3	0.3	ISS	ISS	ISS
Mn (mg/L)	1	1	0.007	0.007	ISS	ISS	ISS
pH (field)	5	5	7.6	8.5	8.0	ISS	ISS
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	4	4	0.08	7.8	3.1	ISS	ISS
Na (mg/L)	4	4	202	248	222	ISS	ISS
SAR	0	0	-	-	-	-	-
Sr (mg/L)	1	1	0.06	0.06	ISS	ISS	ISS
Sulfate as SO_4^{2-}	4	3	2.4	9.6	5.4	ISS	ISS

Stratigraphic unit: Namoi alluvium
Date range: 7/3/1972 to 28/5/1999
ISS – insufficient sample size

Table 4-36 Baseline data for groundwater quality monitoring at location GW030117-2

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	1	1	0.02	0.02	ISS	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	1	1	578	578	ISS	ISS	ISS
B (mg/L)	1	1	0.1	0.1	ISS	ISS	ISS
Ca (mg/L)	1	1	4	4	ISS	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	0	0	-	-	-	-	-
Cl (mg/L)	1	1	54	54	ISS	ISS	ISS
EC (field) (µS/cm)	1	1	986	986	ISS	ISS	ISS
EC @ 25C (lab) (µS/cm)	0	0	-	-	-	-	-
F (mg/L)	0	0	-	-	-	-	-
Li (mg/L)	1	1	0.01	0.01	ISS	ISS	ISS
Mg (mg/L)	1	1	0.9	0.9	ISS	ISS	ISS
Mn (mg/L)	1	1	0.01	0.01	ISS	ISS	ISS
pH (field)	1	1	7.9	7.9	ISS	ISS	ISS
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	1	1	1	1	ISS	ISS	ISS
Na (mg/L)	1	1	273	273	ISS	ISS	ISS
SAR	0	0	-	-	-	-	-
Sr (mg/L)	1	1	0.06	0.06	ISS	ISS	ISS
Sulfate as SO_4^{2-}	1	0	-	-	ISS	ISS	ISS

Stratigraphic unit: Namoi alluvium
Date range: 28/5/1999 to 28/5/1999
ISS – insufficient sample size

Table 4-37 Baseline data for groundwater quality monitoring at location GW030117-3

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	1	1	0.03	0.03	ISS	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	1	1	486	486	ISS	ISS	ISS
B (mg/L)	1	1	0.1	0.1	ISS	ISS	ISS
Ca (mg/L)	1	1	2.7	2.7	ISS	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	0	0	-	-	-	-	-
Cl (mg/L)	1	1	37	37	ISS	ISS	ISS
EC (field) (µS/cm)	1	1	815	815	ISS	ISS	ISS
EC @ 25C (lab) (µS/cm)	0	0	-	-	-	-	-
F (mg/L)	0	0	-	-	-	-	-
Li (mg/L)	1	1	0.01	0.01	ISS	ISS	ISS
Mg (mg/L)	1	1	0.7	0.7	ISS	ISS	ISS
Mn (mg/L)	1	1	0.02	0.02	ISS	ISS	ISS
pH (field)	1	1	7.9	7.9	ISS	ISS	ISS
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	1	1	0.39	0.39	ISS	ISS	ISS
Na (mg/L)	1	1	196	196	ISS	ISS	ISS
SAR	0	0	-	-	-	-	-
Sr (mg/L)	1	1	0.08	0.08	ISS	ISS	ISS
Sulfate as SO_4^{2-}	1	0	-	-	ISS	ISS	ISS

Stratigraphic unit: Namoi alluvium
Date range: 28/5/1999 to 28/5/1999
ISS – insufficient sample size

Table 4-38 Baseline data for groundwater quality monitoring at location GW030278-1

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	0	0	-	-	-	-	-
HCO_3 alkalinity as $CaCO_3$ (mg/L)	1	1	235	235	ISS	ISS	ISS
B (mg/L)	0	0	-	-	-	-	-
Ca (mg/L)	0	0	-	-	-	-	-
CO_3 alkalinity as $CaCO_3$ (mg/L)	0	0	-	-	-	-	-
Cl (mg/L)	1	1	43	43	ISS	ISS	ISS
EC (field) (µS/cm)	1	1	520	520	ISS	ISS	ISS
EC @ 25C (lab) (µS/cm)	0	0	-	-	-	-	-
F (mg/L)	0	0	-	-	-	-	-
Li (mg/L)	0	0	-	-	-	-	-
Mg (mg/L)	0	0	-	-	-	-	-
Mn (mg/L)	0	0	-	-	-	-	-
pH (field)	1	1	7.9	7.9	ISS	ISS	ISS
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	1	1	2.3	2.3	ISS	ISS	ISS
Na (mg/L)	1	1	37	37	ISS	ISS	ISS
SAR	0	0	-	-	-	-	-
Sr (mg/L)	0	0	-	-	-	-	-
Sulfate as SO_4^{2-}	1	1	2.4	2.4	ISS	ISS	ISS

Stratigraphic unit: Namoi alluvium
Date range: 21/11/1978 to 21/11/1978
ISS – insufficient sample size

Table 4-39 Baseline data for groundwater quality monitoring at location GW030310-1

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	1	1	0.2	0.2	ISS	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	5	5	711	907	767	ISS	ISS
B (mg/L)	1	1	0.2	0.2	ISS	ISS	ISS
Ca (mg/L)	1	1	8.5	8.5	ISS	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	4	1	60	60	60	ISS	ISS
Cl (mg/L)	5	5	53	96	64	ISS	ISS
EC (field) (µS/cm)	5	5	1227	1450	1340	ISS	ISS
EC @ 25C (lab) (µS/cm)	0	0	-	-	-	-	-
F (mg/L)	3	3	1	2	2	ISS	ISS
Li (mg/L)	1	1	0.02	0.02	ISS	ISS	ISS
Mg (mg/L)	1	1	2.7	2.7	ISS	ISS	ISS
Mn (mg/L)	1	1	0.2	0.2	ISS	ISS	ISS
pH (field)	5	5	7.2	8.8	8.1	ISS	ISS
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	5	5	1.6	5.3	3.6	ISS	ISS
Na (mg/L)	5	5	268	375	323	ISS	ISS
SAR	0	0	-	-	-	-	-
Sr (mg/L)	1	1	0.2	0.2	ISS	ISS	ISS
Sulfate as SO_4^{2-}	4	3	0.48	7.2	3.7	ISS	ISS

Stratigraphic unit: Namoi alluvium
Date range: 16/8/1976 to 31/5/1999
ISS – insufficient sample size

Table 4-40 Baseline data for groundwater quality monitoring at location GW036005-2

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	0	0	-	-	-	-	-
HCO_3 alkalinity as $CaCO_3$ (mg/L)	6	6	327	379	339	329	344
B (mg/L)	0	0	-	-	-	-	-
Ca (mg/L)	0	0	-	-	-	-	-
CO_3 alkalinity as $CaCO_3$ (mg/L)	4	0	-	-	-	ISS	ISS
Cl (mg/L)	6	6	32	60	42	34	51
EC (field) (µS/cm)	6	6	620	795	674	625	728
EC @ 25C (lab) (µS/cm)	0	0	-	-	-	-	-
F (mg/L)	0	0	-	-	-	-	-
Li (mg/L)	0	0	-	-	-	-	-
Mg (mg/L)	0	0	-	-	-	-	-
Mn (mg/L)	0	0	-	-	-	-	-
pH (field)	6	6	7.4	8.1	7.8	7.6	8
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	6	5	1.2	3.5	2.1	NA	NA
Na (mg/L)	6	6	42	81	68	49	79
SAR	0	0	-	-	-	-	-
Sr (mg/L)	0	0	-	-	-	-	-
Sulfate as SO_4^{2-}	6	6	13	28	19	14	23

Stratigraphic unit: Namoi alluvium
Date range: 4/6/1974 to 6/9/1984
ISS – insufficient sample size
NA – LOR > 15% sample size

Table 4-41 Baseline data for groundwater quality monitoring at location GW030121-1

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	0	0	-	-	-	-	-
HCO_3 alkalinity as $CaCO_3$ (mg/L)	8	8	658	839	743	668	793
B (mg/L)	0	0	-	-	-	-	-
Ca (mg/L)	0	0	-	-	-	-	-
CO_3 alkalinity as $CaCO_3$ (mg/L)	5	3	4.2	46	25	ISS	ISS
Cl (mg/L)	8	8	53	63	56	53	58
EC (field) (µS/cm)	0	0	-	-	-	-	-
EC @ 25C (lab) (µS/cm)	8	8	1200	1400	1273	1205	1326
F (mg/L)	0	0	-	-	-	-	-
Li (mg/L)	0	0	-	-	-	-	-
Mg (mg/L)	0	0	-	-	-	-	-
Mn (mg/L)	0	0	-	-	-	-	-
pH (field)	8	8	6.2	8.7	7.9	7.9	8.3
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	8	8	4.7	7.4	5.8	5	6.9
Na (mg/L)	8	8	271	345	305	281	329
SAR	0	0	-	-	-	-	-
Sr (mg/L)	0	0	-	-	-	-	-
Sulfate as SO_4^{2-}	2	2	2.4	8.2	-	ISS	ISS
Methane (mg/L)							

Stratigraphic unit: Namoi alluvium
Date range: 20/4/1971 to 27/5/1999
ISS – insufficient sample size

Table 4-42 Baseline data for groundwater quality monitoring at location GW030310-2

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	1	1	0.08	0.08	0.08	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	2	2	711	760	736	ISS	ISS
B (mg/L)	1	1	0.2	0.2	0.2	ISS	ISS
Ca (mg/L)	1	1	8.6	8.6	8.6	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	0	0	-	-	-	-	-
Cl (mg/L)	2	2	54	55	54	ISS	ISS
EC (field) (µS/cm)	0	0	-	-	-	-	-
EC @ 25C (lab) (µS/cm)	2	2	760.3	1250	1005	ISS	ISS
F (mg/L)	0	0	-	-	-	-	-
Li (mg/L)	1	1	0.03	0.03	0.03	ISS	ISS
Mg (mg/L)	1	1	1.5	1.5	1.5	ISS	ISS
Mn (mg/L)	1	1	0.005	0.005	0.005	ISS	ISS
pH (field)	2	2	7.4	8.3	7.8	ISS	ISS
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	2	2	2.3	2.4	2.4	ISS	ISS
Na (mg/L)	2	2	279	343	311	ISS	ISS
SAR	0	0	-	-	-	-	-
Sr (mg/L)	1	1	0.2	0.2	0.2	ISS	ISS
Sulfate as SO_4^{2-}	2	1	0.48	0.48	0.48	ISS	ISS
Methane (mg/L)							

Stratigraphic unit: Namoi alluvium
Date range: 27/2/1985 to 30/5/1999
ISS – insufficient sample size

Table 4-43 Baseline data for groundwater quality monitoring at location GW030400-1

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	0	0	-	-	-	-	-
HCO_3 alkalinity as $CaCO_3$ (mg/L)	7	7	212	232	221	219	224
B (mg/L)	0	0	-	-	-	-	-
Ca (mg/L)	0	0	-	-	-	-	-
CO_3 alkalinity as $CaCO_3$ (mg/L)	4	1	0.3	0.3	0.3	ISS	ISS
Cl (mg/L)	7	7	8.9	12	11	9.5	12
EC (field) (µS/cm)	0	0	-	-	-	-	-
EC @ 25C (lab) (µS/cm)	7	7	355	390	367	360	372
F (mg/L)	1	1	0.23	0.23	-	-	-
Li (mg/L)	0	0	-	-	-	-	-
Mg (mg/L)	0	0	-	-	-	-	-
Mn (mg/L)	0	0	-	-	-	-	-
pH (field)	7	7	7.2	8.2	8.0	7.9	8.2
pH (lab)	0	0	-	-	-	-	-
K (mg/L)	6	6	2	6.3	2.9	2	3.4
Na (mg/L)	6	6	24	34	27	25	28
SAR	0	0	-	-	-	-	-
Sr (mg/L)	0	0	-	-	-	-	-
Sulfate as SO_4^{2-}	6	6	3.8	14	8.3	4.6	12
Methane (mg/L)							

Stratigraphic unit: Namoi alluvium
Date range: 15/8/1973 to 23/1/1985
ISS – insufficient sample size

4.2.4 Bohena Creek Alluvium Monitoring Bores

Table 4-44 to Table 4-47 are statistical summaries of the baseline data for groundwater quality at monitoring locations within the Bohena Creek alluvium. Statistical measures of the spread and central tendency of the data are calculated for monitoring locations with more than two samples; however, these measures may not be statistically significant if the number of samples is small. For large and normally-distributed data populations, the 16th and 84th percentiles represent -1 and +1 standard deviations from the mean, respectively. Approximately 68% of a data population lies within the 16th and 84th percentiles. A sample size greater than or equal to six is needed to identify the 16th and 84th percentiles.

The locations of monitoring bores are shown in Figure 3-3.

Table 4-44 Baseline data for groundwater quality monitoring at location BHNCKMW1

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	2	2	0.06	0.06	ISS	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	2	2	42	50	ISS	ISS	ISS
B (mg/L)	2	0	-	-	-	-	-
Ca (mg/L)	2	2	7	7	ISS	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	2	0	-	-	-	-	-
Cl (mg/L)	2	2	28	34	ISS	ISS	ISS
EC (field) (µS/cm)	1	1	240	240	ISS	ISS	ISS
EC @ 25C (lab) (µS/cm)	2	2	200	207	ISS	ISS	ISS
F (mg/L)	2	2	0.1	0.1	ISS	ISS	ISS
Li (mg/L)	2	0	-	-	-	-	-
Mg (mg/L)	2	2	7	7	ISS	ISS	ISS
Mn (mg/L)	2	2	0.48	0.54	ISS	ISS	ISS
pH (field)	2	2	6.6	6.7	ISS	ISS	ISS
pH (lab)	1	1	6.9	6.9	ISS	ISS	ISS
K (mg/L)	2	2	2	2	ISS	ISS	ISS
Na (mg/L)	2	2	14	16	ISS	ISS	ISS
SAR	2	2	0.9	1.02	ISS	ISS	ISS
Sr (mg/L)	2	2	0.14	0.16	ISS	ISS	ISS
Sulfate as SO_4^{2-}	2	0	-	-	-	-	-
Methane (mg/L)	2	2	0.55	1.1	ISS	ISS	ISS

Stratigraphic unit: Bohena Creek alluvium
Date range: 17/7/2013 to 25/10/2013
ISS – insufficient sample size

Table 4-45 Baseline data for groundwater quality monitoring at location BHNCKMW2

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	2	2	0.09	0.1	ISS	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	2	2	40	52	ISS	ISS	ISS
B (mg/L)	2	0	-	-	-	-	-
Ca (mg/L)	2	2	3	5	ISS	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	2	0	-	-	-	-	-
Cl (mg/L)	2	2	18	20	ISS	ISS	ISS
EC (field) (µS/cm)	1	1	175	175	ISS	ISS	ISS
EC @ 25C (lab) (µS/cm)	2	2	137	171	ISS	ISS	ISS
F (mg/L)	2	0	-	-	-	-	-
Li (mg/L)	2	0	-	-	-	-	-
Mg (mg/L)	2	2	3	5	ISS	ISS	ISS
Mn (mg/L)	2	2	0.5	0.6	ISS	ISS	ISS
pH (field)	2	2	6.4	6.6	ISS	ISS	ISS
pH (lab)	1	1	6.7	6.7	ISS	ISS	ISS
K (mg/L)	2	2	2	3	ISS	ISS	ISS
Na (mg/L)	2	2	12	18	ISS	ISS	ISS
SAR	2	2	1.2	1.4	ISS	ISS	ISS
Sr (mg/L)	2	2	0.09	0.1	ISS	ISS	ISS
Sulfate as SO_4^{2-}	2	1	2	2	ISS	ISS	ISS
Methane (mg/L)	2	2	0.79	1.0	ISS	ISS	ISS

Stratigraphic unit: Bohena Creek alluvium
Date range: 17/7/2013 to 25/10/2013
ISS – insufficient sample size

Table 4-46 Baseline data for groundwater quality monitoring at location BHNCKMW3

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	2	2	0.08	0.1	ISS	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	2	2	41	54	ISS	ISS	ISS
B (mg/L)	2	0	-	-	-	-	-
Ca (mg/L)	2	2	3	4	ISS	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	2	0	-	-	-	-	-
Cl (mg/L)	2	2	20	20	ISS	ISS	ISS
EC (field) (µS/cm)	1	1	173	173	ISS	ISS	ISS
EC @ 25C (lab) (µS/cm)	2	2	146	186	ISS	ISS	ISS
F (mg/L)	2	1	0.1	0.1	ISS	ISS	ISS
Li (mg/L)	2	0	-	-	-	-	-
Mg (mg/L)	2	2	4	6	ISS	ISS	ISS
Mn (mg/L)	2	2	0.2	0.5	ISS	ISS	ISS
pH (field)	2	2	6.2	6.4	ISS	ISS	ISS
pH (lab)	1	1	6.3	6.3	ISS	ISS	ISS
K (mg/L)	2	2	1	2	ISS	ISS	ISS
Na (mg/L)	2	2	16	22	ISS	ISS	ISS
SAR	2	2	1.4	1.6	ISS	ISS	ISS
Sr (mg/L)	2	2	0.07	0.09	ISS	ISS	ISS
Sulfate as SO_4^{2-}	2	0	-	-	-	-	-
Methane (mg/L)	2	2	1.4	1.6	ISS	ISS	ISS

Stratigraphic unit: Bohena Creek alluvium
Date range: 17/10/2013 to 25/10/2013
ISS – insufficient sample size

Table 4-47 Baseline data for groundwater quality monitoring at location BHNCKMW4

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
Ba (mg/L)	2	2	0.04	0.08	ISS	ISS	ISS
HCO_3 alkalinity as $CaCO_3$ (mg/L)	2	2	56	88	ISS	ISS	ISS
B (mg/L)	2	0	-	-	-	-	-
Ca (mg/L)	2	2	6	8	ISS	ISS	ISS
CO_3 alkalinity as $CaCO_3$ (mg/L)	2	0	-	-	-	-	-
Cl (mg/L)	2	2	32	35	ISS	ISS	ISS
EC (field) (µS/cm)	1	1	270	270	ISS	ISS	ISS
EC @ 25C (lab) (µS/cm)	2	2	236	290	ISS	ISS	ISS
F (mg/L)	2	0	-	-	-	-	-
Li (mg/L)	2	0	-	-	-	-	-
Mg (mg/L)	2	2	8	9	ISS	ISS	ISS
Mn (mg/L)	2	2	0.6	0.8	ISS	ISS	ISS
pH (field)	2	2	6.7	6.7	ISS	ISS	ISS
pH (lab)	1	1	6.8	6.8	ISS	ISS	ISS
K (mg/L)	2	2	3	3	ISS	ISS	ISS
Na (mg/L)	2	2	27	31	ISS	ISS	ISS
SAR	2	2	1.6	2	ISS	ISS	ISS
Sr (mg/L)	2	2	0.11	0.13	ISS	ISS	ISS
Sulfate as SO_4^{2-}	2	0	-	-	-	-	-
Methane (mg/L)	2	2	1.1	1.5	ISS	ISS	ISS

Stratigraphic unit: Bohena Creek alluvium
Date range: 17/7/2013 to 22/10/2013
ISS – insufficient sample size

Section 5 Surface Water Baseline Data

5.1 Streamflow Data

The baseline for surface water flow consists of data from six streamflow gauging station that are owned and operated by DPI Water. A summary of these data is given in Table 5-1, including the number of days within the period of record that have flow readings recorded, the start and end dates for the period of record, and the area of catchment contributing to flow at the gauging location.

The locations of the streamflow gauging station are shown in Figure 3-5 in in Section 3.

Table 5-1 Overview of baseline data for streamflow

Station Name	Station Number	No. of Days with Readings	Period of Record		Catchment Area (km²)
			Start Date	End Date	
Bohena Ck at Newell Highway	419905	3583	02/09/1995	12/12/2010	2,180
Namoi River at Boggabri	419012	13392	22/09/1979	01/09/2015	22,600
Namoi River at Turrawan	419023	7322	21/05/1995	01/09/2015	24,500
Narrabri Creek at Narrabri	419003	30042	01/02/1913	01/09/2015	25,400
Namoi River at Mollee	419039	15495	13/10/1972	01/09/2015	27,800
Namoi at D/S Gunidgera Weir	419059	14257	08/04/1976	01/09/2015	28,400

5.1.1 Namoi River

Table 5-2 is a summary of the daily streamflow records that form the baseline surface water flow in the Namoi River. Flow in the Namoi River is perennial, with all six gauging stations having records of zero flow.

Near Narrabri, the Namoi drainage has two branches, the Namoi River to the south and Narrabri Creek to the north (gauging station 419003). Narrabri Creek extends roughly 15 km, from around 4 km upstream of Narrabri to around 3 km upstream of Mollee Weir and carries most of the low to moderate flow events. The Namoi River at Narrabri is only activated during high flow events.

Graphs of the historical daily flows at the baseline gauging stations are shown in Figure 5-1, and flow duration curves for the gauging stations are shown in Figure 5-2.

Table 5-2 Baseline data for streamflow in the Namoi River

Station Name	Station Number	Flow, ML/d					
		Start Date	End Date	Min.	Max.	Mean	Median
Namoi River at Boggabri	419012	22/9/1979	1/9/2015	0	323,352	1,859	400
Namoi River at Turrawan	419023	21/5/1995	1/9/2015	0	165,903	1,427	231
Narrabri Creek at Narrabri	419003	1/2/1913	1/9/2015	0	179,312	1,544	436
Namoi River at Mollee	419039	13/10/1972	1/9/2015	0	187,920	2,017	552
Namoi at D/S Gunidgera Weir	419059	8/4/1976	1/9/2015	0	141,008	1,314	218

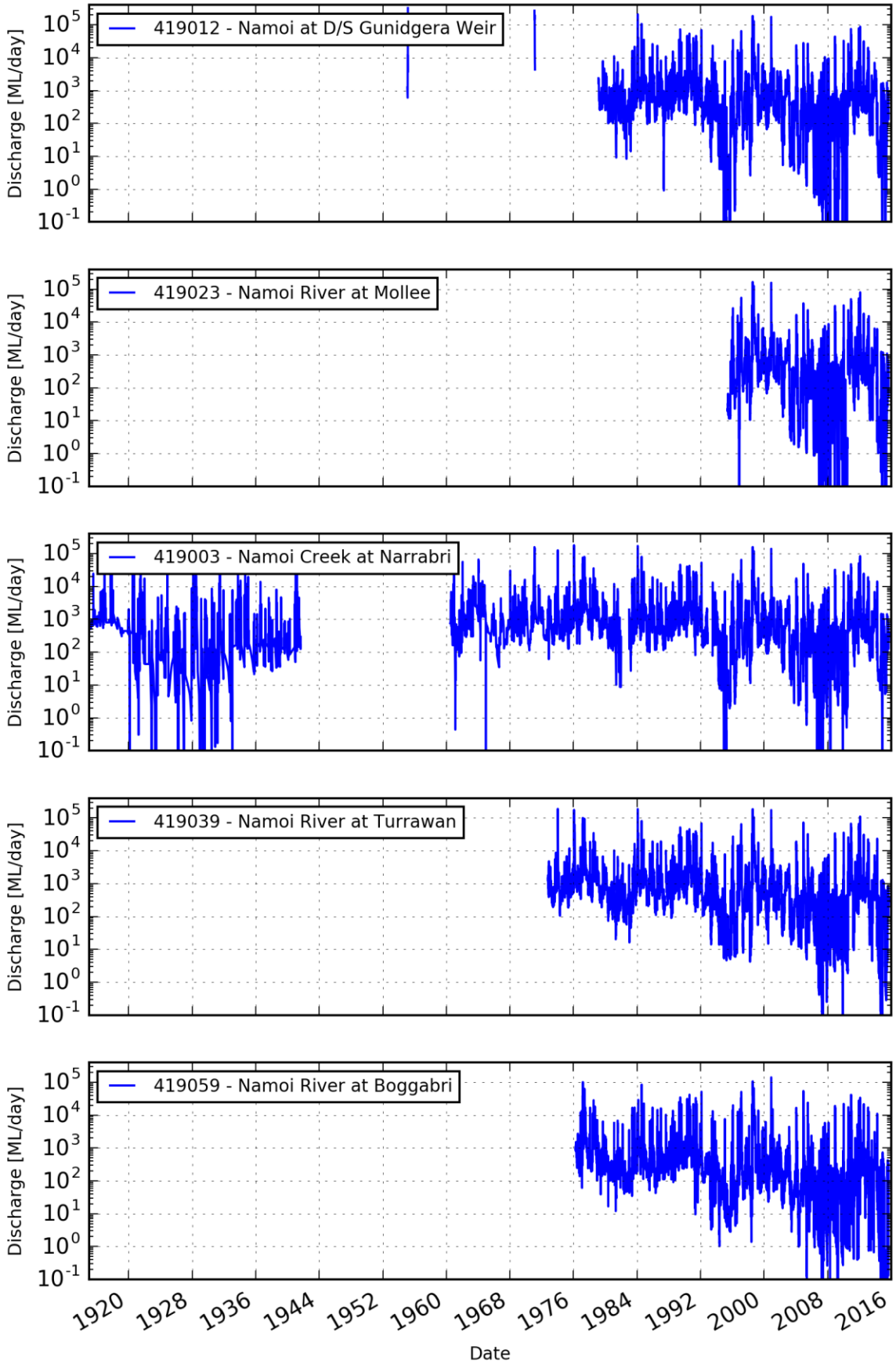

Figure 5-1 Historical daily flow at the baseline gauging stations on the Namoi River

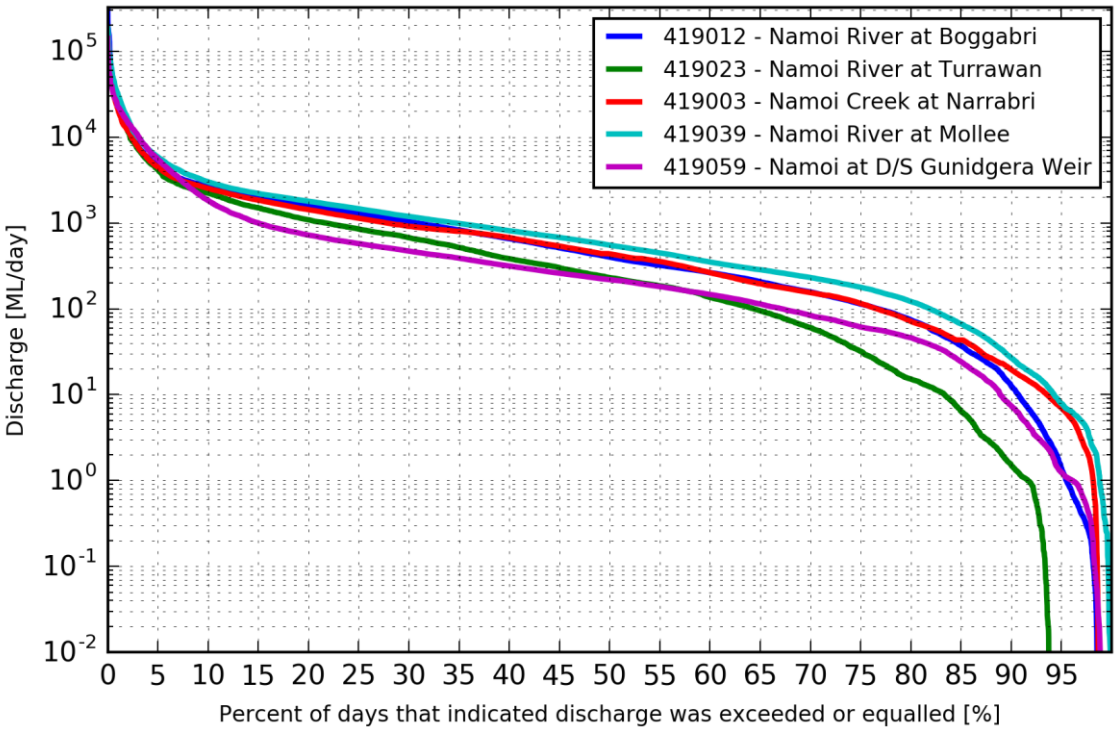

Figure 5-2 Flow duration curves at the baseline gauging stations on the Namoi River

5.1.2 Bohena Creek

Table 5-3 is a summary of the daily streamflow data that forms the baseline for surface flow in Bohena Creek at Newell Highway. Flow records (Figure 5-3) end in 2010. Water level has been recorded since then, but not converted to flows.

A graph of the historical daily streamflow and a flow duration curve are shown in Figure 5-3 and Figure 5-4, respectively. Records of streamflow are sparse. Flows were recorded on only 15 percent of days between September 1995 and June 2005.

Table 5-3 Baseline data for streamflow in Bohena Creek

Station Name	Station Number	Flow, ML/d					
		Start Date	End Date	Min.	Max.	Mean	Median
Bohena Ck at Newell Highway	419905	2/9/1995	12/12/2010	0	20,820	128	0

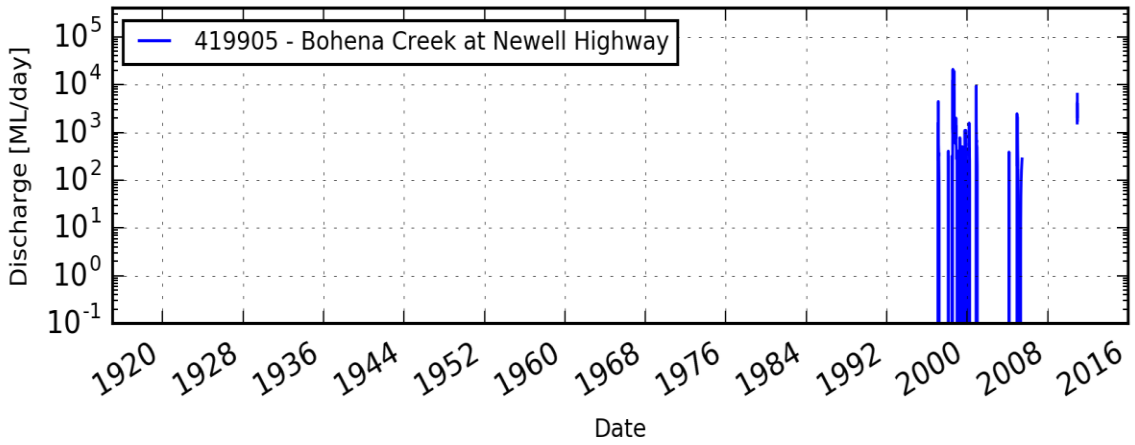

Figure 5-3 Historical daily flow in Bohena Creek at Newell Highway

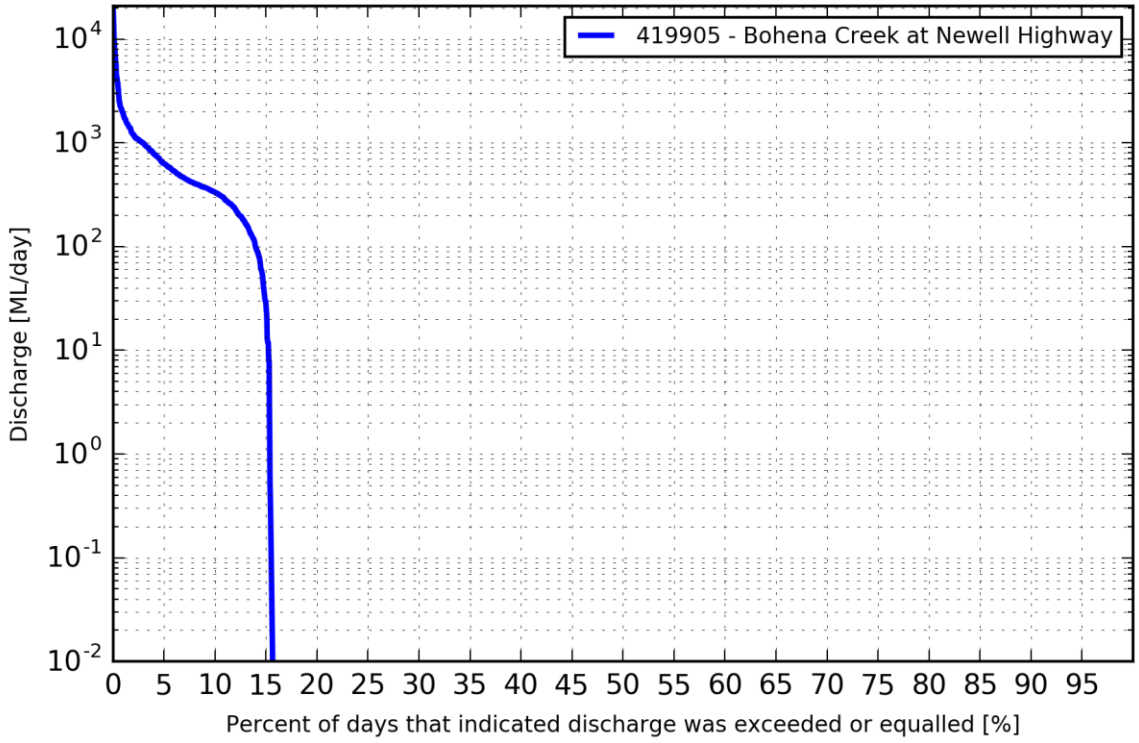

Figure 5-4 Flow duration curve for Bohena Creek

5.2 Surface Water Quality

The surface water monitoring stations that constitute the baseline for groundwater quality are listed in Table 3-4 in Section 3, and the locations are shown in Figure 3-6. Summary tables for the individual monitoring stations are presented below in sections 5.2.1 and 5.2.2.

5.2.1 Namoi River

Table 5-4 to Table 5-9 are summaries of the baseline data for surface water quality at monitoring stations along the Namoi River. Statistical measures of the spread and central tendency of the data are calculated for stations with more than two samples. For large and normally-distributed data populations, the 16th and 84th percentiles represent -1 and +1 standard deviations from the mean, respectively. Approximately 68% of a data population lies within the 16th and 84th percentiles. A sample size greater than or equal to six is needed to identify the 16th and 84th percentiles.

The locations of monitoring stations are shown in Figure 3-6.

Table 5-4 Baseline water quality data for surface water monitoring location 7504

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	17	14	82.2	596	357	300	467
TDS @180°C (lab)	17	15	81	328	200	126	264
Cl (mg/L)	17	15	6	39	22	12	30
F (mg/L)	17	14	0.1	0.4	0.2	0.1	0.2
Ca (mg/L)	17	15	3	42	23	10	31
Na (mg/L)	17	15	7	44	27	16	40
K (mg/L)	17	15	5	11	7.4	6	9.8
SAR	17	15	0.77	1.9	1.1	0.97	1.5
Ba (mg/L)	17	15	0.012	0.042	0.026	0.019	0.033
B (mg/L)	17	11	0.05	0.06	0.05	0.05	0.05
Li (mg/L)	17	11	0.001	0.001	0.001	0.001	0.001
Mn (mg/L)	17	15	0.005	0.7	0.2	0.08	0.4
Sr (mg/L)	17	15	0.05	0.4	0.3	0.1	0.3
Mg (mg/L)	16	15	2	23	12	6.2	17
SO4 (mg/L)	16	12	1	14	4.4	1	11
pH (lab)	16	15	5.7	8.2	7.5	7.1	8.0

Water course: Namoi River
Date range: 24/2/2012 to 10/4/2014

Table 5-5 Baseline water quality data for surface water monitoring location 7513

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	14	14	243	693	467	311	577
TDS @180°C (lab)	16	16	120	373	272	196	333
Cl (mg/L)	16	16	12	53	34	16	51
F (mg/L)	16	13	0.2	0.3	0.2	0.2	0.2
Ca (mg/L)	16	16	18	46	31	21	41
Na (mg/L)	16	16	16	52	34	22	46
K (mg/L)	16	16	3	7	4	3	4.6
SAR	16	16	0.7	1.6	1.2	0.95	1.4
Ba (mg/L)	16	16	0.02	0.05	0.03	0.02	0.04
B (mg/L)	16	2	0.06	0.06	0.06	0.06	0.06
Li (mg/L)	16	6	0.001	0.003	0.002	0.001	0.002
Mn (mg/L)	16	12	0.002	0.02	0.004	0.002	0.003
Sr (mg/L)	16	16	0.2	0.5	0.3	0.2	0.5
Mg (mg/L)	16	16	10	29	19	11	26
SO4 (mg/L)	15	15	15	42	27	17	33
pH (lab)	15	15	6.8	8.5	7.8	7.2	8.5

Water course: Namoi River
Date range: 15/3/2012 to 18/11/2014

Table 5-6 Baseline water quality data for surface water monitoring location 7517

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	16	16	261	733	430	302	527
TDS @180°C (lab)	17	17	131	425	247	166	309
Cl (mg/L)	17	17	12	69	32	21	43
F (mg/L)	17	13	0.2	0.3	0.2	0.2	0.2
Ca (mg/L)	17	17	18	49	29	21	36
Na (mg/L)	17	17	16	58	32	22	42
K (mg/L)	17	17	3	5	3.5	3	4
SAR	17	16	0.7	1.6	1.1	0.93	1.3
Ba (mg/L)	17	16	0.02	0.05	0.03	0.02	0.04
B (mg/L)	17	1	0.4	0.4	0.4	0.4	0.4
Li (mg/L)	17	8	0.001	0.004	0.002	0.001	0.002
Mn (mg/L)	17	15	0.002	0.04	0.007	0.002	0.008
Sr (mg/L)	17	17	0.001	0.6	0.3	0.2	0.4
Mg (mg/L)	17	17	11	30	18	12	23
SO4 (mg/L)	16	15	15	47	27	18	34
pH (lab)	17	17	5.8	8.7	7.7	7.0	8.2

Water course: Namoi River
Date range: 15/3/2012 to 18/11/2014

Table 5-7 Baseline water quality data for surface water monitoring location 7529

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	15	15	255	734	433	305	590
TDS @180°C (lab)	16	16	148	486	268	185	338
Cl (mg/L)	16	16	11	86	38	22	59
F (mg/L)	16	15	0.1	0.5	0.2	0.2	0.2
Ca (mg/L)	16	16	18	48	30	20	41
Na (mg/L)	16	16	15	120	39	22	51
K (mg/L)	16	16	3	6	3.9	3	5
SAR	16	16	0.68	3.8	1.3	0.95	1.4
Ba (mg/L)	16	16	0.02	0.05	0.03	0.02	0.05
B (mg/L)	16	1	0.08	0.08	0.08	0.08	0.08
Li (mg/L)	16	11	0.001	0.005	0.002	0.001	0.002
Mn (mg/L)	16	14	0.001	0.02	0.005	0.001	0.009
Sr (mg/L)	16	16	0.2	0.5	0.3	0.2	0.5
Mg (mg/L)	16	16	10	31	19	11	26
SO4 (mg/L)	15	15	13	37	26	18	34
pH (lab)	16	16	6.7	8.7	7.9	7.0	8.34

Water course: Namoi River
Date range: 17/4/2012 to 18/11/2014

Table 5-8 Baseline water quality data for surface water monitoring location 7533

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	11	11	238	690	448	285	593
TDS @180°C (lab)	13	13	134	354	263	177	335
Cl (mg/L)	13	13	12	62	33	12	50
F (mg/L)	13	10	0.2	0.3	0.2	0.2	0.2
Ca (mg/L)	13	13	18	48	29	20	40
Na (mg/L)	13	13	16	58	34	21	46
K (mg/L)	13	13	3	6	3.8	3	5
SAR	13	13	0.75	2	1.2	0.93	1.4
Ba (mg/L)	13	13	0.02	0.04	0.03	0.02	0.04
B (mg/L)	13	2	0.06	0.06	0.06	0.06	0.06
Li (mg/L)	13	2	0.001	0.002	0.002	0.001	0.002
Mn (mg/L)	13	10	0.001	0.005	0.003	0.001	0.004
Sr (mg/L)	13	13	0.2	0.5	0.3	0.2	0.4
Mg (mg/L)	13	13	10	29	18	11	25
SO4 (mg/L)	12	12	14	36	25	17	31
pH (lab)	14	14	6.2	8.6	7.9	7.5	8.1

Water course: Namoi River
Date range: 17/5/2012 to 18/11/2014

Table 5-9 Baseline water quality data for surface water monitoring location 7538

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	10	10	249	651	478	335	617
TDS @180°C (lab)	12	12	120	404	271	174	360
Cl (mg/L)	12	12	9	69	36	19	55
F (mg/L)	11	9	0.2	0.3	0.2	0.2	0.2
Ca (mg/L)	12	12	16	54	32	21	46
Na (mg/L)	12	12	16	52	35	22	46
K (mg/L)	12	12	2	7	4.4	3	6
SAR	12	12	0.79	1.6	1.2	1.1	1.4
Ba (mg/L)	12	12	0.02	0.06	0.04	0.03	0.05
B (mg/L)	12	0	-	-	-	-	-
Li (mg/L)	12	8	0.001	0.003	0.001	0.001	0.001
Mn (mg/L)	12	12	0.002	0.005	0.003	0.002	0.004
Sr (mg/L)	12	12	0.2	0.5	0.3	0.2	0.5
Mg (mg/L)	12	12	8	34	20	12	27
SO4 (mg/L)	11	11	2	40	24	15	34
pH (lab)	13	13	7.3	9.3	8.0	7.4	8.6

Water course: Namoi River
Date range: 24/5/2012 to 18/11/2014

5.2.2 Bohena Creek

Table 5-10 to Table 5-15 are summaries of the baseline data for surface water quality at monitoring stations along Bohena Creek. Statistical measures of the spread and central tendency of the data are calculated for stations with more than two samples; however, these measures may not be statistically significant if the number of samples is small. For large and normally-distributed data populations, the 16th and 84th percentiles represent -1 and +1 standard deviations from the mean, respectively. Approximately 68% of a data population lies within the 16th and 84th percentiles. A sample size greater than or equal to six is needed to identify the 16th and 84th percentiles.

The locations of monitoring stations are shown in Figure 3-6.

Table 5-10 Baseline water quality data for surface water monitoring location 7505

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	2	2	147	512	330	ISS	ISS
TDS @180°C (lab)	2	2	86	586	336	ISS	ISS
Cl (mg/L)	2	2	25	100	64	ISS	ISS
F (mg/L)	2	1	0.1	0.1	-	ISS	ISS
Ca (mg/L)	2	2	2	21	12	ISS	ISS
Na (mg/L)	2	2	21	37	29	ISS	ISS
K (mg/L)	2	2	2	5	3.5	ISS	ISS
SAR	2	2	1.3	2.2	1.8	ISS	ISS
Ba (mg/L)	2	2	0.02	0.07	0.05	ISS	ISS
B (mg/L)	2	0	-	-	-	-	-
Li (mg/L)	2	0	-	-	-	-	-
Mn (mg/L)	2	2	0.007	0.07	0.04	ISS	ISS
Sr (mg/L)	2	2	0.03	0.3	0.2	ISS	ISS
Mg (mg/L)	2	2	3	23	13	ISS	ISS
SO4 (mg/L)	2	2	1	10	5.5	ISS	ISS
pH (lab)	2	2	7.0	8.1	7.5	ISS	ISS

Water course: Bohena Creek
Date range: 27/2/2012 to 16/7/2012
ISS – insufficient sample size

Table 5-11 Baseline water quality data for surface water monitoring location 7506

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	12	12	118	212	173	149	198
TDS @180°C (lab)	12	12	87	220	139	102	180
Cl (mg/L)	12	12	17	32	26	23	29
F (mg/L)	12	0	-	`	-	-	-
Ca (mg/L)	12	12	3	7	5.7	4.6	7
Na (mg/L)	12	12	14	19	16	15	17
K (mg/L)	12	12	1	4	2.3	2	2.8
SAR	12	12	0.94	1.3	1.1	1.1	1.2
Ba (mg/L)	12	12	0.02	0.05	0.03	0.02	0.04
B (mg/L)	12	0	-	-	-	-	-
Li (mg/L)	12	0	-	-	-	-	-
Mn (mg/L)	12	12	0.02	0.4	0.1	0.05	0.3
Sr (mg/L)	12	12	0.04	0.1	0.08	0.07	0.1
Mg (mg/L)	12	12	4	10	6.5	5.6	7.4
SO4 (mg/L)	10	0	-	-	-	-	-
pH (lab)	8	8	5.6	7.7	6.8	6.0	7.2

Water course: Bohena Creek
Date range: 16/4/2012 to 15/09/2016
ISS – insufficient sample size

Table 5-12 Baseline water quality data for surface water monitoring location 7510

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	8	8	117	301	200	127	270
TDS @180°C (lab)	8	8	132	210	164	135	206
Cl (mg/L)	8	8	20	38	29	22	35
F (mg/L)	8	0	-	-	-	-	-
Ca (mg/L)	8	8	4	14	8	5.1	11
Na (mg/L)	8	8	12	28	20	16	25
K (mg/L)	8	8	2	5	3	2.1	3
SAR	8	8	1	1.5	1.2	1	1.2
Ba (mg/L)	8	8	0.03	0.05	0.04	0.03	0.05
B (mg/L)	8	0	-	-	-	-	-
Li (mg/L)	8	2	0.001	0.002	0.002	0.001	0.002
Mn (mg/L)	8	8	0.02	1	0.2	0.04	0.2
Sr (mg/L)	8	8	0.05	0.2	0.1	0.06	0.2
Mg (mg/L)	8	8	4	16	9.6	5.4	15
SO4 (mg/L)	8	1	45	45	45	45	45
pH (lab)	4	4	6.3	7.6	7.2	ISS	ISS

Water course: Bohena Creek
Date range: 16/4/2012 to 6/5/2013
ISS – insufficient sample size

Table 5-13 Baseline water quality data for surface water monitoring location 7511

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	11	11	260	361	311	282	340
TDS @180°C (lab)	12	12	178	397	231	187	247
Cl (mg/L)	12	12	33	59	49	39	57
F (mg/L)	12	3	0.1	0.1	0.1	0.1	0.1
Ca (mg/L)	12	12	4	12	8.3	6.5	10
Na (mg/L)	12	12	29	47	39	33	44
K (mg/L)	12	12	3	9	4.6	3.8	6
SAR	12	12	1.7	3	2.3	2	2.5
Ba (mg/L)	12	12	0.03	0.2	0.06	0.04	0.1
B (mg/L)	12	0	-	-	-	-	-
Li (mg/L)	12	3	0.001	0.002	0.001	0.001	0.002
Mn (mg/L)	12	12	0.005	2	0.5	0.006	1
Sr (mg/L)	12	12	0.05	0.2	0.1	0.09	0.2
Mg (mg/L)	12	12	4	14	9.1	6.8	11
SO4 (mg/L)	12	0	-	-	-	-	-
pH (field)	11	11	7.0	7.4	7.2	7.0	7.4

Water course: Bohena Creek
Date range: 20/3/2012 to 8/4/2014

Table 5-14 Baseline water quality data for surface water monitoring location 7512

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	5	5	222	362	287	ISS	ISS
TDS @180°C (lab)	5	5	170	292	223	ISS	ISS
Cl (mg/L)	5	5	11	56	38	ISS	ISS
F (mg/L)	5	1	0.1	0.1	0.1	ISS	ISS
Ca (mg/L)	5	5	4	11	7.8	ISS	ISS
Na (mg/L)	5	5	28	37	33	ISS	ISS
K (mg/L)	5	5	3	6	4.2	ISS	ISS
SAR	5	5	1.7	2.3	2	ISS	ISS
Ba (mg/L)	5	5	0.02	0.1	0.07	ISS	ISS
B (mg/L)	5	0	-	-	-	-	-
Li (mg/L)	5	2	0.001	0.001	0.001	ISS	ISS
Mn (mg/L)	5	5	0.004	3	0.8	ISS	ISS
Sr (mg/L)	5	5	0.06	0.2	0.1	ISS	ISS
Mg (mg/L)	5	5	4	11	8.2	ISS	ISS
SO4 (mg/L)	5	0	-	-	-	-	-
pH (lab)	5	5	7.1	7.5	7.3	ISS	ISS

Water course: Bohena Creek
Date range: 20/3/2012 to 12/3/2013
ISS – insufficient sample size

Table 5-15 Baseline water quality data for surface water monitoring location 7103

Water Quality Measure	No. of Samples	No. of Samples >LOR	Min.	Max.	Mean	Percentile 16%	Percentile 84%
EC @25°C (lab) (µS/cm)	2	2	115	117	116	ISS	ISS
TDS @180°C (lab)	2	2	160	202	181	ISS	ISS
Cl (mg/L)	2	2	16	16	16	ISS	ISS
F (mg/L)	2	0	-	-	-	-	-
Ca (mg/L)	2	2	4	4	4	ISS	ISS
Na (mg/L)	2	2	9	10	9.5	ISS	ISS
K (mg/L)	2	2	2	2	2	ISS	ISS
SAR	2	2	0.71	0.79	0.75	ISS	ISS
Ba (mg/L)	2	2	0.02	0.03	0.03	ISS	ISS
B (mg/L)	2	0	-	-	-	-	-
Li (mg/L)	2	0	-	-	-	-	-
Mn (mg/L)	2	2	0.01	0.08	0.05	ISS	ISS
Sr (mg/L)	2	2	0.05	0.06	0.06	ISS	ISS
Mg (mg/L)	2	2	5	5	5	ISS	ISS
SO4 (mg/L)	2	0	-	-	-	-	-
pH (lab)	2	2	7.0	7.3	7.1	ISS	ISS

Water course: Bohena Creek
Date range: 12/3/2013 to 12/3/2013
ISS – insufficient sample size

Section 6 Produced Water Quality

Produced water is collected in ponds at the Leewood Water Treatment Facility prior to treatment through the reverse osmosis plant. Water is routinely (monthly) sampled from the ponds and the results of analyses to date (February 2014 – November 2017) are presented in Table 6-1. Additional samples are also taken after events, such as transfer from one pond to another, or following significant rainfall events.

Table 6-1 Leewood pond chemistry

Analyte	Unit	LOR	No of individual records	No of samples > LOR	Min	Max	Mean	16th Percentile	84th Percentile
Physico-Chemical Properties									
pH - Field	pH Unit	-	267	267	8.6	9.8	9.4	9.2	9.6
pH - Lab	pH Unit	0.01	55	55	8.8	9.7	9.4	9.2	9.6
Redox - Field	mg/L	-	261	261	-152.9	266	86.04	31.7	143.8
Total Dissolved Solids - Field	mg/L	-	245	245	2749.5	24371	14668	13261	16971
Total Dissolved Solids @180°C	mg/L	10	69	69	3030	39400	16392	12704	20112
Water Temperature	°C	-	162	162	11.7	33.2	22.6	16.2	27.8
Biochemical Oxygen Demand	mg/L	2	10	3	5	7	5.67	5	6.36
Chemical Oxygen Demand	mg/L	10	10	10	15	82	44.1	17	71.6
Dissolved Oxygen - Field	mg/L	-	258	258	0.24	11	6	4.4	7.7
Electrical Conductivity - Field	µS/cm	-	267	267	4223	28399	22613	20401	25961
Field Ambient Temperature	°C	-	97	97	9.8	34.4	20.6	14.8	26.8
Suspended Solids	mg/L	5	15	4	5	19	10	5	15.2
Turbidity	NTU	0.1	13	13	1	4.3	2.5	1.2	4
Turbidity - Field	NTU	-	168	168	-	56	4.1	1.2	6.3
pH - Field	pH Unit	-	267	267	8.6	9.8	9.4	9.2	9.6
pH - Lab	pH Unit	0.01	55	55	8.8	9.7	9.4	9.2	9.6
Redox - Field	mg/L	-	261	261	-152.9	266	86.04	31.7	143.8
Metals									
Aluminium	mg/L	0.01	74	16	0.02	0.43	0.13	NA	NA
Antimony	mg/L	0.001	7	5	0.002	0.004	0.003	0.002	0.003
Arsenic	mg/L	0.01	70	11	0.001	1	0.1	NA	NA
Barium	mg/L	0.001	74	74	0.27	14.5	3.35	0.943	5.54
Beryllium	mg/L	0.01	65	1	0.631	0.631	0.631	NA	NA

Analyte	Unit	LOR	No of individual records	No of samples > LOR	Min	Max	Mean	16th Percentile	84th Percentile
Boron	mg/L	0.05	69	66	0.16	2.5	0.95	0.44	1.2
Bromide	mg/L	0.01	66	65	0.8	8.4	3.9	3	4.7
Cadmium	mg/L	0.001	70	7	0.0001	0.14	0.02	NA	NA
Chromium	mg/L	0.01	70	3	0.001	0.842	0.282	NA	NA
Cobalt	mg/L	0.01	65	1	0.77	0.77	0.77	NA	NA
Copper	mg/L	0.001	69	7	0.001	0.015	0.00371	NA	NA
Iron	mg/L	0.05	64	13	0.06	0.57	0.19	0.098	0.33
Lead	mg/L	0.01	70	1	0.48	0.48	0.48	NA	NA
Lithium	mg/L	0.001	2	2	1.8	2.5	2.1	ISS	ISS
Manganese	mg/L	0.001	70	20	0.001	0.03	0.01	0.003	0.02
Mercury	mg/L	0.0001	70	4	0.0001	0.0002	0.00013	NA	NA
Molybdenum	mg/L	0.001	70	8	0.001	0.073	0.02	NA	NA
Nickel	mg/L	0.01	69	5	0.011	0.79	0.17	NA	NA
Rubidium	mg/L	0.01	63	63	0.033	0.28	0.19	0.16	0.23
Selenium	mg/L	0.1	70	3	0.01	0.1	0.0433	NA	NA
Strontium	mg/L	0.01	72	72	0.13	3	0.98	0.46	1.4
Vanadium	mg/L	0.1	65	1	0.97	0.97	0.97	NA	NA
Zinc	mg/L	0.005	70	15	0.007	0.69	0.099	0.01	0.075
Aluminium	mg/L	0.01	74	16	0.02	0.43	0.13	NA	NA
Nutrients & Inorganics									
Ammonia as N	mg/L	0.01	69	57	0.02	3.9	0.79	0.088	1.6
Dissolved Organic Carbon	mg/L	1	12	12	7	1330	196	7.76	229
Nitrate as N	mg/L	0.01	66	30	0.01	0.99	0.26	0.03	0.51
Nitrite + Nitrate as N	mg/L	0.01	67	35	0.01	1.7	0.4	0.059	0.75
Nitrite as N	mg/L	0.01	69	23	0.03	0.55	0.18	0.06	0.37
Silicon as SiO2	mg/L	0.5	13	13	11.6	57.3	29.6	17.9	46.1
Sodium Adsorption Ratio	-	0.1	61	59	105	5860	663.8	331.7	585.6
Total Alkalinity as CaCO3	mg/L	1	71	71	2260	18000	12993.8	11160	15400

Analyte	Unit	LOR	No of individual records	No of samples > LOR	Min	Max	Mean	16th Percentile	84th Percentile
Reactive Phosphorus as P	mg/L	0.1	9	6	0.02	0.08	0.053	0.036	0.08
Reactive Silica	mg/L	0.05	2	2	1.15	24.7	12.9	4.92	20.9
Total Hardness as CaCO3	mg/L	1	4	4	22	49	38.5	27.8	49
Total Kjeldahl Nitrogen as N	mg/L	0.1	6	6	1.2	3.7	2.28	1.52	3.3
Total Nitrogen as N	mg/L	0.1	6	6	1.2	4.3	2.73	1.52	4.06
Total Organic Carbon	mg/L	1	56	52	1	2870	284	10	183
Total Phosphorus as P	mg/L	0.01	69	57	0.01	0.17	0.068	0.03	0.1
Ammonia as N	mg/L	0.01	69	57	0.02	3.9	0.79	0.088	1.6
Anions and Cations									
Calcium	mg/L	1	72	61	2	23	7.46	3	11
Chloride	mg/L	1	71	71	325	2340	1457.3	1222	1718
Total (Ferrous+Ferric) Iron	mg/L	0.05	1	1	0.09	0.09	0.09	ISS	ISS
Fluoride	mg/L	0.1	63	63	1.2	11.8	7.64	6.98	9
Magnesium	mg/L	1	72	66	2	21	9.35	5	13
Potassium	mg/L	1	73	73	13	180	80.4	68.5	96.4
Sodium	mg/L	1	73	73	1220	9710	7059	6010	8605
Sulfate as SO4 2-	mg/L	50	71	26	2	213	42.7	3	66
Carbonate Alkalinity as CaCO3	mg/L	1	71	71	776	9930	5195.4	3004	7214
Bicarbonate Alkalinity as CaCO3	mg/L	1	71	71	766	10700	7797.3	6438	9244
TPH & TRH									
Methane	µg/L	10	62	42	11	98	35.5	14.6	55.4
Microbiology									
Anabaenopsis spp. (cylinder)	cell/mL	5	6	6	1250	43200	13090	2850	22000
Aphanocapsa spp. < 2µm	cell/mL	5	3	3	950	4500	2476.7	ISS	ISS
Aphanothece spp. <2 µm	cell/mL	5	1	1	2500	2500	2500	ISS	ISS
Arthrospira spp.	cell/mL	5	7	7	75	478000	75144	1683	35248
Chaetoceros spp.	cell/mL	5	2	2	3000	8000	5500	ISS	ISS
Chlamydomonas spp.	cell/mL	5	7	7	25	500	185.71	49	260

Analyte	Unit	LOR	No of individual records	No of samples > LOR	Min	Max	Mean	16th Percentile	84th Percentile
Chroococcus spp.	cell/mL	5	4	4	20	2750	1030	ISS	ISS
Cyanocatena spp.	cell/mL	5	1	1	675	675	675	ISS	ISS
Cyanodictyon spp.	cell/mL	5	2	2	300	6250	3275	ISS	ISS
Cyclotella spp.	cell/mL	5	9	9	75	31000	4297.22	209	2664
Dictyosphaerium spp.	cell/mL	5	2	2	50	75	62.5	ISS	ISS
Heterotrophic Plate Count (22°C)	cfu/mL	1	1	1	370	370	370	ISS	ISS
Heterotrophic Plate Count (36°C)	cfu/mL	1	1	1	150	150	150	ISS	ISS
Kirchneriella spp.	cell/mL	5	11	11	250	28000	6376.36	310	12770
Microcystis spp.	cell/mL	5	11	11	400	45000	6827.18	615	10910
Microcystis aeruginosa (PTP)	cell/mL	5	1	1	12700	12700	12700	ISS	ISS
Microcystis cf. aeruginosa (PTP)	cell/mL	5	5	5	65	7330	2583	ISS	ISS
Navicula spp.	cell/mL	5	2	2	25	150	87.5	ISS	ISS
Nitzschia spp.	cell/mL	5	5	5	5	450	171	ISS	ISS
Oocystis spp.	cell/mL	5	11	11	75	11200	2066.55	200	3400
Pseudanabaena spp.	cell/mL	5	10	10	600	208000	34180	2104	45152
Rhabdoderma spp.	cell/mL	5	1	1	99200	99200	99200	ISS	ISS
Rhabdogloea spp.	cell/mL	5	1	1	150	150	150	ISS	ISS
Romeria spp.	cell/mL	5	1	1	500	500	500	ISS	ISS
Scenedesmus spp.	cell/mL	5	6	6	50	1250	337.5	50	650
Sphaerocystis spp.	cell/mL	5	1	1	25	25	25	ISS	ISS
Spirulina spp.	cell/mL	5	4	4	150	140000	36875	ISS	ISS
Synedra spp.	cell/mL	5	4	4	25	150	62.5	ISS	ISS
Total Algae Count	cell/mL	5	12	12	6710	589000	123578	15611.2	269600
Total Bacillariophytes	cell/mL	5	9	9	130	31000	5658.89	390	7612
Total Chroococcales	cell/mL	5	12	12	600	106000	18431.6	720	28196
Total Cyanophytes	cell/mL	5	12	12	6310	589000	109719	12232.8	244880
Total Chlorophytes	cell/mL	5	11	11	400	53800	10572.7	1068	18340
Total Nostocales	cell/mL	5	6	6	1250	43200	13090	2850	22000

Analyte	Unit	LOR	No of individual records	No of samples > LOR	Min	Max	Mean	16th Percentile	84th Percentile
Total Oscillatoriales	cell/mL	5	12	12	600	482000	84647.5	3872	192520
Total Potentailly Toxic Cyanophytes	cell/mL	5	8	4	85	12700	6348.75	ISS	ISS
Unidentified Green algae	cell/mL	5	3	3	175	19300	6633.33	ISS	ISS

Section 7 Treated Water Baseline Data

The Leewood Water and Brine Treatment Plant (WBTP) commenced operations in mid-2017 after the submission of the EIS. The Leewood WBTP is treating water and brine from the Narrabri exploration and appraisal activities and the results of water quality generated in the process are presented below.

Water exiting the treatment plant following reverse osmosis is analysed and reported as Treated water. If this water is to be used for irrigation, this permeate is transferred to a holding tank and amended with calcium chloride to lower the sodium adsorption ratio (SAR) to a level suitable for application to the local soils. This is termed Treated & Amended water.

The by-product of the RO plant is a brine that in future will undergo further concentration and crystallisation to produce a solid waste for disposal or re-processing for beneficial salts. This is termed the RO brine.

Table 7-1 presents the analyses of the treated water, treated & amended water and RO brine.

Table 7-1 also presents the target compositions for treated and amended water as assessed and presented in the EIS. The commissioned RO plant generates higher quality water than these assessed levels.

Table 7-1 Treated and Treated and Amended water quality for the Leewood Water and Brine Treatment Plant against guidelines and typical brine concentrate levels

Parameter	Australian Drinking Water and Recreational Guidelines (NHMRC, NRMMC 2008; 2011, 2017)	ANZECC / ARMCANZ (2000) Irrigation Guidelines (Long Term > 20 years)	ANZECC / ARMCANZ (2000) Stock watering	Treated water[a]	Treated and Amended water[b]	Treated water[c] (Leewood WBTP)	Treated and Amended water[d] (Leewood WBTP)	RO brine[e] (Leewood WBTP)
	(mg/L)			Target (mg/L)		Actual (mg/L)		
pH (pH units)	6.5 – 8.5	6.0 -9.0	Not referenced	7.1	7.1	7.9	7.1	(Lab) 9.3
Electrical conductivity (laboratory) (µS/cm)	Not referenced	Crop specific – Lucerne (2,700 in loamy soils)	Not referenced	357	566	n/a	107	76000
Total dissolved solids	Health: Not referenced Aesthetic as follows: <600 Good quality 600-900 Fair quality 900-1,200 Poor quality >1,200 Unacceptable	Crop specific – Lucerne: 1,273 – 3,015	No adverse effects to: Beef cattle, pigs and horses: 4,000 Sheep: 5,000	232	368	56	71	n/a
Sodium Adsorption Ratio	Not referenced	<1 Excellent 1-2 Good 2-4 Fair 4-8 Poor 8-15 Very poor >15 Unacceptable	Not referenced	130	3.3	29	3.7	1046
Sodium (filtered)	Health: Not referenced Aesthetic: 180	Crop specific – Lucerne (230 - 460)	Not referenced	77	77	17	18	41600
Magnesium (filtered)	Not referenced	Not referenced	Not referenced	<0.01	<0.01	<1	<1	55
Aluminium	Health: Not referenced Aesthetics: 0.2	5	5	<0.001	<0.001	<0.01	<0.01	<0.05
Silica (SiO_2) (µg/L)	80	Not referenced	Not referenced	23	0.15	<0.1	<0.1	135
Potassium (filtered)	Not referenced	Not referenced	Not referenced	0.8	0.8	<1	<1	387
Calcium (filtered)	Health: Not referenced Aesthetic as follows:	Not referenced	1,000	0.01	40.01	<1	6	28

Parameter	Australian Drinking Water and Recreational Guidelines (NHMRC, NRMMC 2008; 2011, 2017)	ANZECC / ARMCANZ (2000) Irrigation Guidelines (Long Term > 20 years)	ANZECC / ARMCANZ (2000) Stock watering	Treated water[a]	Treated and Amended water[b]	Treated water[c] (Leewood WBTP)	Treated and Amended water[d] (Leewood WBTP)	RO brine[e] (Leewood WBTP)
	(mg/L)			Target (mg/L)		Actual (mg/L)		
	<60 Soft 60-200 Good quality >200 Increased scaling							
Chromium (III+VI)	0.05	0.1 (Cr^{VI})	1	<0.001	<0.001	<0.001 (Cr^{VI})	<0.001 (Cr^{VI})	<0.01
Manganese	0.5 Aesthetic: 0.1	0.2	Not sufficiently toxic	<0.001	<0.001	<0.001	<0.001	0.014
Iron	<1 Aesthetic: 0.3	0.2	Not sufficiently toxic	<0.001	<0.001	<0.05	<0.05	0.27
Boron	4	Crop specific: 0.5 (sensitive) to 15 (very tolerant)	5	0.12	0.12	0.11	0.09	5.57
Cobalt	Not referenced	0.05	1	<0.001	<0.001	<0.001	<0.001	<0.005
Nickel	0.02	0.2	1	<0.001	<0.001	<0.001	<0.001	<0.005
Copper	2 Aesthetic: 1	0.2	0.4 (sheep) 1 (cattle) 5 (pigs)	<0.001	<0.001	<0.001	<0.001	<0.005
Zinc	Health: Not referenced Aesthetic: 3	2	20	<0.001	<0.001	<0.005	<0.005	<0.025
Arsenic	0.01	0.1	0.5 – 5	<0.001	<0.001	<0.001	<0.001	0.018
Selenium	0.01	0.02	0.02	<0.001	<0.001	<0.01	<0.01	<0.05
Molybdenum	0.05	0.01	0.15	<0.001	<0.001	<0.001	<0.001	0.006
Cadmium	0.002	0.01	0.01	<0.001	<0.001	<0.0001	<0.0001	0.0012
Barium	2	Not referenced	Not referenced	<0.001	<0.001	<0.001	<0.001	12.3
Mercury	0.001	0.002	0.002	0.0000067	<0.001	<0.0001	<0.0001	<0.0005
Lead	0.017	2	0.1	<0.001	<0.001	<0.001	<0.001	<0.005
Uranium	0.017	0.01	0.2	<0.0028	<0.0028	<0.001	<0.001	<0.005
Alkalinity (total as $CaCO_3$)	Not referenced	Not referenced	Not referenced	139	139	34	28	73500
Ammonia (as N)	Health: Not referenced Aesthetic: 0.5	Crop specific: 25 – 125 (as N)	Not referenced	0.005	0.005	0.25	0.24	n/a

Parameter	Australian Drinking Water and Recreational Guidelines (NHMRC, NRMMC 2008; 2011, 2017)	ANZECC / ARMCANZ (2000) Irrigation Guidelines (Long Term > 20 years)	ANZECC / ARMCANZ (2000) Stock watering	Treated water[a]	Treated and Amended water[b]	Treated water[c] (Leewood WBTP)	Treated and Amended water[d] (Leewood WBTP)	RO brine[e] (Leewood WBTP)
	(mg/L)			Target (mg/L)		Actual (mg/L)		
Nitrate (as N)	11	Crop specific: 25 – 125	400	0.005	0.005	0.04	0.06	n/a
Total N	Not referenced	25 - 125	Not referenced	0.005	0.005	0.3	0.3	n/a
Sulfate	500	Not referenced	1,000	0.003	95.9	<1	<1	58
Chloride	Health: Not referenced Aesthetics: 250	Crop specific: Lucerne (350 – 700)	Not referenced	15	15	10	19	7030
Fluoride	1.5	2	Not referenced	0.08	0.08	<0.1	<0.1	47
Total phosphorous	Not referenced	Crop specific: (0.8 – 12)	Not referenced	0.01	0.01	<0.01	<0.01	n/a

n/a not analysed

[a] theoretical composition based on manufacturers specifications

[b] calculated composition based on theoretical treated water and amendment with 1 mol gypsum

[c] all values reported as maximum recorded values, except pH reported as average

[d] treated water amended with calcium chloride

[e] laboratory limits raised due to high salinity

Appendix A - Disclaimer and Limitations

This report has been prepared by CDM Smith Australia Pty Ltd (CDM Smith) and Eco Logical Australia Pty Ltd (ELA) for the sole benefit of Santos NSW (Eastern) Pty Ltd (Santos) for the sole purpose of the Narrabri Gas Project.

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If further information becomes available, or additional assumptions need to be made, CDM Smith reserves its right to amend this report.

Appendix B - Santos Data Management Process

Appendix C – Screened Intervals of Bores

Bore	Owner	Unit	Water Source	Screened Interval, m BGL	
				Top	Bottom
DWH8AQGMCF04	Santos	Maules Creek Fm	GOB	Sensor depth	855.4
DWH8AQGPOR03	Santos	Porcupine Fm	GOB	Sensor depth	779.7
BWD6	Santos	Porcupine Fm	GOB	Sensor depth	647.7
GW036546-3	DPI	Namoi alluvium	ULNA	87	91
DWH8AQGDGY01	Santos	Digby Fm	GOB	Sensor depth	505.0
TULPRDGY02	Santos	Digby Fm	GOB	214	217
GW036546-1	Santos	Namoi alluvium	ULNA	80	82.5
TULPRNAP01	Santos	Napperby Fm	GOB	124	130
GW036546-2	DPI	Namoi alluvium	ULNA	27	29
GW036497-1	DPI	Namoi alluvium	ULNA	18	20
BWD28QGPUR01	Santos	Purlawaugh Fm	GAB	Sensor depth	292.8
DWH14PRPUR03	Santos	Purlawaugh Fm	GAB	263	269
BHN14PRUPS02	Santos	Pilliga Ss	GAB	212	218
BWD26PRLPS02	Santos	Pilliga Ss	GAB	140	146
BWD26PRUPS01	Santos	Pilliga Ss	GAB	95	101
BWD27PRLPS03	Santos	Pilliga Ss	GAB	198	204
BWD27PRUPS02	Santos	Pilliga Ss	GAB	94	100
BWD28QGLPS01	Santos	Pilliga Ss	GAB	Sensor depth	246.8
BWD28QGUPS01	Santos	Pilliga Ss	GAB	Sensor depth	80.9
DWH14PRLPS02	Santos	Pilliga Ss	GAB	213	219
DWH14PRUPS01	Santos	Pilliga Ss	GAB	63	69
DWH3PRLPS02	Santos	Pilliga Ss	GAB	150	156
DWH3PRUPS01	Santos	Pilliga Ss	GAB	77	83
NYOPRUPS02	Santos	Pilliga Ss	GAB	207	213
GW030310-2	DPI	Namoi alluvium	ULNA	100.5	106.6
GW030121-3	DPI	Pilliga Ss	GAB	106.7	112.8
GW030400-1	DPI	Namoi alluvium	ULNA	60.6	61.8
GW098011-1	DPI	Pilliga Ss	GAB	50.0	56.0
GW021266-4	DPI	Namoi alluvium	ULNA	107.3	113.4
BHN14PRORA01	Santos	Orallo Fm	GAB	109	115
NYOPRORA01	Santos	Orallo Fm	GAB	147	153
GW025343-2	DPI	Namoi alluvium	ULNA	45.1	50
GW025338-3	DPI	Mooga Ss	GAB	65.5	70.1
GW025340-3	DPI	Namoi alluvium	ULNA	62.2	65.9
GW021266-3	DPI	Namoi alluvium	ULNA	60	70.1
GW021437-2	DPI	Namoi alluvium	ULNA	47.9	49.4
GW025338-1	DPI	Namoi alluvium	ULNA	25.9	30.5
GW025338-2	DPI	Namoi alluvium	ULNA	46.9	50.6
GW025340-1	DPI	Namoi alluvium	ULNA	25.6	31.7
GW025340-2	DPI	Namoi alluvium	ULNA	35.4	41.5
GW025343-1	DPI	Namoi alluvium	ULNA	35.1	38.1
GW030070-1	DPI	Namoi alluvium	ULNA	12.2	18.3
GW030070-2	DPI	Namoi alluvium	ULNA	38.1	44.2
GW030070-3	DPI	Namoi alluvium	ULNA	57.9	64
GW030310-1	DPI	Namoi alluvium	ULNA	34.1	40.2
GW030117-1	DPI	Namoi alluvium	ULNA	15.2	21.3
GW030117-2	DPI	Namoi alluvium	ULNA	36.6	39.3
GW030278-1	DPI	Namoi alluvium	ULNA	24.7	27.7
GW036005-2	DPI	Namoi alluvium	ULNA	76	78
GW036092-1	DPI	Namoi alluvium	ULNA	19.8	22.8
GW021266-1	DPI	Namoi alluvium	ULNA	21.0	21.9
GW030117-3	DPI	Namoi alluvium	ULNA	57.9	64.0

Bore	Owner	Unit	Water Source	Screened Interval, m BGL	
				Top	Bottom
BHNCKMW1	Santos	BC alluvium	BC	1.8	2.3
BHNCKMW2	Santos	BC alluvium	BC	1.8	2.3
BHNCKMW3	Santos	BC alluvium	BC	1.5	2.0
BHNCKMW4	Santos	BC alluvium	BC	1.5	1.7