APPENDIX A

Summary of Submissions

Table 1
Summary of Submissions

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
REGULATORY AGENCIES																							
Department of Primary Industries - Agriculture	R1												•										•
Department of Primary Industries - NSW Office of Water	R2								•														•
Lithgow City Council	R3	•		•	•									•	•	•		•		•			•
NSW Environment Protection Authority	R4	•	•	•														•					
NSW Health - Nepean Blue Mountains Local Health District	R5	•		•															•				
Office of Environment and Heritage	R6					•	•	•															
Office of Environment and Heritage - Aboriginal Cultural Heritage	R7							•															
Roads and Maritime Services	R8														•								
Sydney Catchment Management Authority	R9								•														

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Central-West Catchment Management Authority	R10					•	•	•	•														
Department of Sustainability, Environment, Water, Population and Communities Communities	R11					•	•																
Department of Primary Industries - Fisheries NSW	R12								•							•						•	
Department of Primary Industries - Forestry NSW	R13																	•		•			•
Country Rail Infrastructure Authority	R14														•								•
Department of Trade and Investment - Resources & Enregy	R15									•				•			•					•	•
SPECIAL INTEREST GROUPS																							
Blue Mountains Conservation Society	SIG1	•	•	•	•	•	•		•			•		•					•	•	•	•	•
Canberra Bushwalking Club	SIG2				•	•														•			
Colong Foundation for Wilderness	SIG3	•	•		•	•	•		•	•		•		•			•		•	•	•		•
Cumberland Bird Observers Club	SIG4					•	•							•							•		
Delta Electricity	SIG5										•	•			•								•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Greater Blue Mountains World Heritage Advisory Committee	SIG6				•	•														•	•		
Hawkesbury Environment Network Inc	SIG7		•		•	•								•						•	•		
Lithgow Environment Group Inc	SIG8	•	•	•	•	•	•		•	•	•	•		•	•		•		•	•	•	•	•
Nature Conservation Council of NSW	SIG9	•	•	•	•	•			•			•		•					•	•	•		•
Oatley Flora and Fauna Conservation Society	SIG10					•	•										•			•			
Confederation of Bushwalkers	SIG11		•		•	•	•										•			•	•		
Canopy Native Forest Committee	SIG12		•			•															•	•	
The Colo Committee	SIG13	•	•	•	•	•											•				•	•	•
Columban Mission Institute	SIG14	•				•						•		•					•	•	•	•	
Macquarie Explorers Club Inc	SIG15	•				•											•		•	•			
Manildra Group	SIG16										•	•											
Mountain Devils Bushwalking & Social Club	SIG17				•	•				•	•	•								•	•		
The Greens NSW	SIG18	•				•			•	•		•		•					•	•	•		•
Port Kembla Port Corporation	SIG19										•				•								•

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Ryde - Hunter's Hill Flora and Fauna Preservation Society	SIG20				•	•			•			•					•			•	•		
Siteplus	SIG21										•	•											•
Total Environment Centre Inc	SIG22	•	•	•		•	•				•	•							•				•
TRUenergy	SIG23										•	•			•								•
Environmentally Concerned Citizens of Orange	SIG24		•		•	•											•			•	•		
PUBLIC SUBMISSIONS																							
Ramez Alrdini	P1																						•
Grant Medlock	P2											•											•
Name Withheld	P3																						•
Name Withheld	P4																						•
Michael Aughterson	P5																						•
Shawn Marks	P6										•												•
David Lennard	P7										•			•									•
Haydn Washington	P8	•	•	•	•	•	•		•	•	•			•					•	•	•	•	
Michael W Evans	P9	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Name withheld	P10					•			•			•		•						•	•		•
Name withheld	P11		•		•	•	•		•											•	•	•	•
Maryanne Bell	P12																						•
Roman Suwald	P13	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Russell Smith	P14				•	•														•	•		
Name withheld	P15										•	•											•
Name withheld	P16					•	•		•					•						•	•		
Melanie Taylor	P17				•	•			•	•		•		•						•	•		
Yuri Bolotin	P18				•	•			•					•						•	•		
Rae Bolotin	P19					•					•	•		•						•	•	•	
Name withheld	P20					•														•	•		
Rowena Zsidy	P21																						•
Mark Newton	P22										•	•											•
Mark Bolotin	P23				•	•								•						•	•		
Daniel Bolotin	P24					•														•	•		
Malvina Bolotin	P25				•	•								•						•	•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Tony Hanrahan	P26										•	•		•									
Name wihtheld	P27											•											•
Mark Paychers	P28										•	•											
Max Michell	P29										•				•	•							
Andrew Boydell	P30											•											•
Eric Riggle	P31																						•
Name withheld	P32					•					•	•		•						•			
Michael Millar	P32										•												
Josh St Clair	P33										•	•		•									•
Name withheld	P34	•				•			•	•	•	•		•					•	•	•		•
Kathy Hanrahan	P35										•												•
Greg Clutterham	P36											•											
Anthony Newbigging	P37																						•
Scott Elliott	P38											•				•							•
Adam McDonald	P39																						•
Paul O'Loughlin	P40																						•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Name withheld	P41					•														•	•		
Stepehn Imrie	P42		•			•						•		•									•
Name withheld	P43					•														•	•		
Shayn Rodham	P44																						•
Tod Walsh	P45											•											
Name withheld	P46										•												
James Monaghan	P47										•												
Nadene Rodham	P48																						•
Scott Rodham	P49					•					•			•									•
Scott Walker	P50															•							•
Brad Wilson	P51											•											
Stephen Gay	P52											•											•
Keryn Rodham	P53																						•
Name withheld	P54											•			•								
Name withheld	P55																						•
Name withheld	P56					•								•									

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Christopher Rowlandson	P57										•	•											
Dennis Bewsher	P58																						•
Scott Vlores	P59										•	•											
Name withheld	P60										•	•			•								
Name wihtheld	P61													•									
Michael Korsten	P62										•												
Name withheld	P63										•												•
Kenneth Thomas	P64										•												
Laurence Outim	P65					•								•							•		
Kevin Jewell	P66											•	•										
Roger Davies	P67																						•
Wayne Olling	P68				•	•	•	•						•						•	•		
Linda Hurford	P69					•								•							•		
Johan Lombaard	P70																						•
Name withheld	P71										•												•
Peter Koschel	P72										•	•											

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Tracey King	P73										•												
Lewis Dunn	P74										•												
Name withheld	P75																						•
Adrian Wasil	P76										•												
Marl Lill	P77										•												•
Dennis Garside	P78										•	•			•								•
Amanda Evans	P79										•												
Gary Shirt	P80										•	•											•
Gregory Machin	P81										•	•											
Penny Davidson	P82	•			•	•			•	•	•	•	•	•					•	•	•		•
Name withheld	P83										•	•											
Name withheld	P84										•	•											
Chris Pilley	P85										•	•			•								•
Name withheld	P86										•	•											
Michael Minns	P87										•	•											
Michael Byrn	P88										•												

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Ben Chaniago	P89										•	•											
Christine Champkin	P90										•	•		•									•
Craig Haywood	P91											•											•
Darren Banks	P92											•											
Glenn MacDonald	P93																						•
Name withheld	P94	•				•	•		•			•		•					•	•	•		
Peter Stuart	P95					•						•								•	•	•	
Name withheld	P96										•	•											•
Peter Deacon	P97										•	•											
Name withheld	P98										•												
Tim Crowhurst	P99										•	•											
Name withheld	P100										•												
Yvonne Lollback	P101	•	•	•	•	•	•		•		•	•		•					•	•	•	•	•
Catrina Sturmberg	P102	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Name withheld	P104	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Name withheld	P105											•											•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Hilton Goldfinch	P106					•					•				•								•
Brett Gray	P107																						•
Nathan Blanchard	P109										•												
Melanie Hall	P110										•	•											
Name withheld	P111										•	•											•
Name withheld	P112										•	•											•
Dennis Trembath & Vicki Presdee	P113	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Derek Cannon	P114	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Della Libera Family	P115	•			•															•			
Denis Rice	P116	•	•		•	•			•			•		•					•	•	•		•
Birgit Graefner	P117	•	•		•	•	•		•	•		•		•					•	•	•		•
Name withheld	P118										•	•											
Name withheld	P119																						•
Jayne Steele	P120										•	•											
Nathan Hoch	P121										•	•											•
David O'Leary	P122										•	•											

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Scott Foran	P123										•	•											
Phil Gourlay	P124										•												•
Wez Smith	P125																						•
Paul Bestwick	P126																						•
David Hughes	P127																						•
Guy Merrick	P128																						•
Daniel Thompson	P129										•	•											
Jason McInerney	P130										•	•											
Kevin Webster	P131											•											•
Joel Tunbull	P132											•											•
Benjamin Stieger	P133																						•
Brendan Hutchings	P134																						•
Christopher Hann	P135											•											•
Jonathon Rimmer	P136										•												
Brett Gray	P137										•	•											
Brett Gray	P138										•	•											

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Chris Goodman	P139										•	•			•								•
Matt Crowe	P140										•												
Elaine Crowe	P141										•												
Susan Moran	P142					•														•			
Gregory Ryan	P143										•	•											
Name withheld	P144																						•
Anthony Leo	P145					•					•	•		•									
Name withheld	P146	•	•	•	•	•	•			•		•		•					•	•	•	•	
Jennifer Brewer	P147					•			•	•				•						•	•	•	
John Park	P148																						•
Ian Mosley	P149										•												
Denis Rothwell	P150		•			•					•	•								•			
Name withheld	P151										•	•											•
Robert Tisdall	P152										•												
Ben Smedley	P153										•	•		•									•
Name withheld	P154										•	•		•									

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Sally Taylor	P155										•	•											
Name withheld	P156																						•
Name withheld	P157				•	•	•			•										•	•	•	•
Kylie Jewell	P158											•											
Peter Blackband	P159					•	•		•					•						•	•		
David Dash	P160	•				•		•	•	•	•	•	•	•	•				•	•			•
Loretta Greco	P161					•						•		•						•	•		
Name withheld	P162				•	•														•	•	•	
Name withheld	P163																						•
Raymond Pridham	P164					•								•						•	•		
Name withheld	P165				•	•														•	•	•	
Name withheld	P166					•						•								•			
Lauren Greco	P167					•								•						•			
Name withheld	P168		•			•						•		•					•	•			
James Vaughan	P169										•	•								•	•		
Name withheld	P170				•	•						•		•						•	•		

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Name withheld	P171																						•
Daniel Taylor	P172	•				•	•		•			•		•					•	•	•		
Name withheld	P173					•								•						•	•		
Graham Stevens	P174	•				•	•		•			•		•					•	•	•		
Aquillion Venables	P175		•			•	•		•			•		•							•		
Annie Morris Wieland	P176					•								•							•		
Name withheld	P177		•			•	•		•			•		•							•		
Neil Denison	P178					•	•		•											•			
Kirsten Hill	P179	•				•	•		•			•		•					•	•	•		
Geoff Dowsett	P180		•			•	•		•			•		•							•		
Alan Carpenter	P181					•								•						•	•		
Jeanine Gilvear	P182	•				•	•		•			•		•					•	•	•		
Name withheld	P183																						•
Sarah Moles	P184	•			•	•	•		•			•		•					•	•			
Glenda Anthes	P185																						
Peter Blackband	P186		•			•	•		•			•		•							•		
Doreen McGarrigle	P187					•			•					•						•	•		

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Robert Sterry	P188	•				•	•		•			•		•					•	•	•	•	
James McIntyre	P189													•									
Robin Pomfret	P190	•				•	•		•			•		•					•	•	•		
Bob Hill	P191	•	•		•	•			•		•	•							•	•	•	•	
Peter O'Hara	P193					•						•							•	•			
Gavin Imhof	P194	•	•		•	•	•		•	•	•	•		•					•	•	•		•
Nell Schofield	P195	•				•	•		•			•		•					•	•	•		
Stephen Deards	P196					•			•	•	•	•								•			
Kristin Proft	P197					•	•							•						•	•	•	
Name withheld	P198	•				•						•							•	•	•		
Liam Oakwood	P199	•				•	•		•			•							•	•	•		
Name wihtheld	P200				•	•			•	•		•		•						•			
Geoff Brown	P201	•				•	•		•			•		•					•	•	•		
Paolo Cassoni	P202					•			•					•						•	•		
Richard Thew	P203					•									•					•			
Katherine Delaney	P204	•				•	•		•			•		•					•	•	•		
Tanya Sneddon	P205	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•

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Gregoria Tamvakis	P206	•				•			•			•		•					•	•	•		
Rosemary Morrow	P207	•				•	•		•	•		•		•					•	•	•		
Leanne Gundry	P208	•				•	•					•		•					•	•	•		
Name withheld	P209					•								•						•	•		
Ian King	P210	•				•			•			•		•					•	•	•		
Tee Kay	P211	•			•	•			•			•		•					•	•	•		
Julie Marlow	P212	•				•	•		•			•		•					•	•	•		
John Spira	P213	•				•	•		•			•		•					•	•	•		
Bruce Cameron	P214					•					•			•							•		
Name withheld	P215					•	•		•					•						•	•		
Suzzane Barr	P216	•				•	•		•			•		•					•	•	•		
Julie Sheppard	P217								•											•			•
Grant Eyre	P218					•						•	•	•									
R East	P219		•		•	•			•	•	•	•	•	•							•	•	•
Anne Wagstaff	P220																				•		
Carmel Williams	P221	•				•	•		•			•		•					•	•	•		
Tamara Pain	P222					•			•					•						•	•		

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Tamara Pain	P223								•														
Name withheld	P224	•				•	•		•			•		•					•	•	•		
Jorge Gonzalez	P225	•				•	•		•			•		•					•	•	•		
Name withheld	P226					•	•		•					•						•	•		
Judith Tuggle	P227					•						•											
Stewart Ewen	P228																						•
Name withheld	P229					•	•		•					•						•	•		
Dorothy Robinson	P230		•			•	•					•									•		
Caroline Graham	P231				•	•								•						•			
Name withhheld	P232					•						•		•						•	•	•	
Erik Eriksson	P233	•				•	•		•			•		•					•	•	•		
Name withheld	P234	•				•	•		•			•		•					•	•	•		
Haydn Washington	P235	•	•	•	•	•	•		•	•	•			•					•	•	•	•	
Peter Thompson	P236																			•			
Andy Marlow	P237	•				•	•		•					•					•	•	•		
Russell Foster	P238		•		•	•	•		•	•				•							•	•	•
Jeroen Van Kernebeek	P239	•				•	•		•			•		•					•	•	•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Name withheld	P240				•	•	•		•	•				•						•	•	•	
Linda Veska	P241	•				•	•		•			•		•					•	•	•		
Name withheld	P242																						
Kiera Jebb	P243				•	•						•								•			
Robert Gibbon	P244	•				•	•		•			•		•					•	•	•		
Steven Denshire	P245	•				•			•			•		•					•	•	•		
Ken Goodlet	P246																				•		•
Julia Martin	P247	•				•	•		•			•		•					•	•	•		
Name withheld	P248				•	•															•		
Matthew Allison	P249		•			•																	
Shauna-Marie Wilson	P250	•			•	•	•		•			•		•					•	•	•		
Bart Beech	P251	•				•			•			•		•					•	•	•		
Name withheld	P252	•				•	•		•			•		•					•	•	•		
Name withheld	P253	•				•	•		•			•		•					•	•	•		
Kathleen Quinn	P254	•				•	•		•			•		•					•	•	•		
Name withheld	P255					•	•		•					•						•	•		
Name withheld	P256				•	•	•		•	•				•						•	•	•	

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Name withheld	P257				•	•			•					•						•	•		•
Name withheld	P258					•	•		•					•						•	•		
Name withheld	P259	•				•						•	•	•					•	•	•		
Name withheld	P260	•				•	•		•			•		•					•	•	•		
Barbara Liddle	P261	•		•	•	•						•							•		•		
Name withheld	P262					•	•		•					•						•	•		
Su Li Sin	P263					•					•	•		•						•	•	•	
Marcus Marshall	P264	•				•	•		•			•		•					•	•	•		
Erland Howden	P265	•				•	•		•			•		•					•	•	•		
Warren Lynch	P266					•	•		•					•						•	•		
Jacqueline Reid	P267	•			•	•	•		•			•		•					•	•	•		
Christopher Moore	P268		•		•	•	•		•	•	•	•		•						•	•	•	•
Name withheld	P269					•	•		•					•						•	•		
Name withheld	P270					•	•		•	•	•	•								•	•	•	
Name withheld	P271					•	•		•					•						•	•		
Carol Pasenow	P272	•		•		•				•	•	•		•					•		•		
William Allaway	P273					•							•	•									

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Anne Ashford	P274					•	•						•	•									
Name wihtheld	P275					•	•		•					•						•	•		
Name withheld	P276				•	•				•										•	•		
Tom Kristensen	P277	•				•	•		•			•		•					•	•	•		
Joe Wacher	P278	•	•			•			•	•	•	•								•	•		
Name withheld	P279					•								•									
Miriam Osterberg	P280	•				•	•		•			•		•					•	•	•		
Name withheld	P281	•		•		•			•	•		•									•		
Mark Horn	P282					•														•	•		
Danielle Nelson	P283	•	•	•	•	•	•		•	•	•	•		•					•	•	•		•
Rebecca Hilder	P284	•				•	•		•			•		•					•	•	•		
Jim Hyman	P285		•		•	•			•	•	•			•									•
Sandra Warn	P286					•	•						•	•						•	•		
David Olsen	P287																						
Marg Beal	P288				•							•		•						•	•	•	
Nell Scofield	P289		•			•	•		•	•				•						•	•		
Rosemary Morrow	P290		•			•	•		•	•				•					•	•	•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Sean Corrigan	P291	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Chris Yates	P292	•				•			•			•		•					•	•	•		
Matthew Hilder	P293		•			•	•		•	•				•					•	•	•		
Shaun Gilchrist	P294	•				•						•		•					•	•	•		•
David Hogg	P295																						•
Aina Ranke	P296	•	•		•	•	•		•	•		•		•					•	•	•	•	•
Julie Favell	P297	•		•		•	•		•	•	•	•		•		•				•			•
Name withheld	P298	•	•		•	•			•	•	•	•		•					•	•	•		
Andrew Stones	P299					•								•						•	•		
Frank Reid	P300											•											•
Julica Jungehuelsing	P301	•				•	•		•		•	•		•					•	•	•		
Tracie Hendriks	P302	•			•	•	•		•			•		•					•	•			
Name withheld	P303	•	•		•	•					•	•							•		•		
Ann Scully	P304					•	•		•														•
Name withheld	P305					•	•		•					•						•	•		
John Burns	P306	•				•			•			•		•					•	•	•		
Martin O'Reilly	P307	•				•	•		•			•		•					•	•	•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Janet Mayar	P308					•								•						•			
Glen Cullen	P309											•											•
Jan McDonald	P310					•	•		•					•						•	•		
Name withheld	P311					•	•		•					•						•	•		
Ph Bishop	P312	•				•	•		•			•		•					•	•	•		
Catherine Short	P313	•				•	•		•			•		•					•	•	•		
Name withheld	P314					•	•		•					•						•	•		
Name withheld	P315					•	•		•					•						•	•		
Name withheld	P316				•	•			•					•						•	•	•	
Name withheld	P317	•			•	•						•	•	•	•					•	•		
Simon Dormer	P318	•				•	•		•			•		•					•	•	•		
Michelle Beech	P319	•			•	•	•		•			•		•					•	•	•		
Leanne Simpson	P320	•				•	•		•			•		•					•	•	•		
Name withheld	P321					•	•		•					•						•	•		
Name withheld	P322	•				•						•							•				
Zio Ledeux	P323					•						•											
Cecile Van Der Burgh	P324	•	•		•	•	•		•	•	•	•		•					•	•	•		•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Phillip Hammial	P325						•							•						•			
Gaye Wingett	P326		•									•		•									
David Bowskill	P327					•	•		•					•						•	•		
Jocelyn Howden	P328	•				•			•			•		•					•	•	•		
Simone Bowskill	P329	•				•	•		•			•		•					•	•	•		
Denzil Mack	P330	•				•	•		•			•		•					•	•	•		
Ian Brown	P331	•		•	•	•			•	•	•	•		•						•	•		
Marianne Bate	P332					•								•						•			
Name withheld	P333					•			•	•				•						•			
Lisa McCarthy	P334	•				•	•		•			•		•					•	•	•		
Name wihtheld	P335	•				•	•		•			•		•					•	•	•		
Name wihtheld	P336	•				•			•			•		•					•	•	•		
Name wihtheld	P337					•	•		•					•						•	•		
Miriam Robinson	P338	•				•	•		•			•		•					•	•	•		
Anna Hunstead	P339					•		•			•	•							•	•			
Tristan Mercer	P340					•	•		•					•						•	•		
John Sheehy	P341				•						•	•			•						•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Frank Winnternitz	P342				•																		
Name withheld	P343					•			•			•								•			
Jane Anderson	P344		•			•	•							•						•	•		
J Plowman	P345	•										•							•				
J Poulson	P346	•	•		•	•						•		•					•		•		
John Fitzgerald	P347	•		•	•	•					•	•	•		•				•	•	•		
J L Howden	P348	•		•	•	•						•		•	•				•				•
J Llelywn	P349				•	•								•						•	•	•	
Name withheld	P350		•			•														•	•		
Petra Liverani	P351	•			•	•	•		•			•		•					•	•	•		
Emily Crockett	P352								•	•				•						•	•	•	
Gordon Herbert	P353	•				•	•		•			•		•					•	•	•		
Amy Ribaux	P354										•	•											
Bizzi Mason	P355	•				•	•		•			•		•					•	•	•		
Rosslyn Rix	P356		•		•	•					•	•		•									
Name withheld	P357					•	•		•					•						•	•		
Annemieke Van Den Berg	P358	•				•	•		•			•		•					•		•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Phil Kelly	P359	•				•	•		•			•		•					•	•	•		
John Wenban	P360				•	•	•		•	•		•								•	•		
Meret McDonald	P361					•	•		•					•						•	•		
Brian Emmott	P362	•				•						•							•				
Name withheld	P363					•	•		•					•						•	•		
Name withheld	P364					•	•		•					•						•	•		
Name withheld	P365					•	•		•					•						•	•		
Name withheld	P366					•	•		•					•						•	•		
Melissa Lane	P367	•				•	•		•			•		•					•	•	•		
Eric Keidge	P368	•				•	•		•			•		•					•	•	•		
Sarah Kendell	P369	•	•	•		•					•	•		•	•			•	•				
Deidre Olofsson	P370						•				•	•							•	•	•		
Doug Reckord	P371	•				•	•		•			•		•					•	•	•		
Colin Hill	P372	•				•						•							•	•	•	•	
Name withheld	P373					•	•		•					•						•	•		
Name withheld	P374					•	•		•					•						•	•		
Graham Fry	P375					•	•		•					•						•	•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Name withheld	P376					•								•						•	•		
Barbara Harley	P377	•				•			•			•		•					•	•	•		
Jamie Payne	P378					•								•							•		
Jan Dickie	P379	•				•			•	•	•	•							•	•	•	•	
J Peprey	P380				•	•						•								•	•		
Jacinta Shailer	P381				•	•				•										•	•		
James Tulip	P382													•						•	•		
Jamie Moryosef	P383				•	•							•	•									
Name withheld	P384				•	•			•			•	•	•						•	•		
Norman Pain	P385	•				•	•		•			•		•					•	•	•		
Janine Kitson	P386	•				•	•		•			•							•	•	•		
Alan Page	P387	•	•			•	•					•		•							•		
Name withheld	P388	•	•			•						•		•					•	•	•		•
Jill Hogwood	P389					•								•									
Vicki Powys	P390	•	•	•	•	•						•		•					•	•	•		
Name withheld	P391																						
Rhonda Green	P392	•				•			•			•		•					•	•	•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Name withheld	P393														•								
Name withheld	P394																						•
Jan Thornley	P395																						•
Caroline Shepherd	P396	•			•	•	•		•			•		•					•	•	•		
Paul Bourne	P397		•			•								•							•	•	
Name withheld	P398					•			•					•						•	•		
Name withheld	P399	•				•	•		•			•		•					•	•	•		
Name withheld	P400	•	•			•						•		•					•	•	•		
Geoff Dowsett	P401	•				•	•		•			•		•					•	•	•		
Name withheld	P402	•		•		•			•	•		•		•					•	•	•		
Name withheld	P403				•	•								•						•	•	•	
Michael Holt	P404		•			•						•		•									•
Name withheld	P405					•	•		•					•						•	•		
Anne Trezise	P406																						•
Name withheld	P407	•				•	•		•			•		•					•	•	•		
Name withheld	P408										•												

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Erst Carmichael	P409	•			•	•	•		•			•		•					•		•		
Name withheld	P410																						•
Andrew Lear	P411				•	•			•			•							•	•	•		
Name withheld	P412				•	•	•		•			•		•	•					•	•		
Margaret Edwards	P413		•		•	•								•						•	•		•
Name withheld	P414	•		•	•	•			•	•	•	•			•					•	•	•	
Anthony Poutsma	P415					•								•									
Jan Davis	P416					•	•		•	•				•							•		
Name withheld	P417	•				•			•	•	•	•		•						•	•		
Mary Reynolds	P418	•				•	•		•			•		•					•	•	•		
Malcolm Reynolds	P419	•				•	•		•			•		•					•	•	•		
Name withheld	P420					•					•	•								•	•		
Bronwyn Laing	P421																						•
Bronwyn Laing	P422																						•
Name withheld	P423	•			•	•			•		•	•		•					•	•	•	•	
John Handel	P424	•		•	•	•								•							•		
Name withheld	P425	•				•	•		•			•		•					•	•	•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Name withheld	P426					•	•		•					•						•	•		
Name withheld	P427																						•
Name withheld	P428																						•
Name withheld	P429	•				•	•		•			•		•					•	•	•		
Hal Ginges	P430	•	•		•					•	•	•							•				
Name withheld	P431	•				•	•		•			•		•					•	•	•		
Name withheld	P432				•	•								•						•	•	•	
Heather Ginges	P433										•	•		•									
Name withheld	P434					•	•		•					•						•	•		
Pam Campbell	P435	•			•	•			•	•		•								•	•		•
Christine Butler	P437	•				•	•		•			•		•					•	•	•		
Marianne McMillan	P438	•			•	•						•		•					•		•		
Maianne McMillan	P439				•	•								•					•		•		
Chris Jonkers	P440																						•
Lynden Jacobi	P441					•					•	•		•							•		
Naomi Hogan	P442	•	•		•	•	•		•	•		•		•					•	•	•		•
Name withheld	P443	•				•	•		•			•		•					•	•	•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Name withheld	P444					•	•		•					•						•	•		
Joe Murdolo	P445	•				•			•			•								•			
Name withheld	P446					•	•		•	•		•		•	•					•	•		•
David Burgess	P447																						•
Helen Ptolemy	P448																						•
Name withheld	P449		•		•	•	•			•	•	•		•							•		
Troy Saunders	P450										•	•											•
Adrian Davis	P451	•	•	•	•	•	•		•			•		•					•	•	•	•	•
David Springthorpe	P452					•					•	•		•						•	•		
Graham Lalchere	P453	•				•			•			•		•					•	•	•	•	
Name withheld	P454	•				•	•		•			•		•					•	•	•		
James Tremain	P455		•			•						•		•					•	•			
Paul Maynard	P456	•				•	•		•			•								•	•		
Graham Lalchere	P457																						
Michael Jackson	P458					•	•														•		
Hilary Hughes	P459	•			•	•	•		•			•		•					•	•	•		
Name withheld	P460																						•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Name withheld	P461																						•
Name withheld	P462																						•
Matthew Bruers	P463																						•
Rebecca Pearson	P464	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	
Raymond Kennedy	P465								•					•						•			•
Regina Fogarty	P466																						•
Regina Fogarty	P467																						•
Elizabeth Lucy Mark	P468		•		•	•					•	•		•						•	•	•	
Ann-Maree Carruthers	P469																						•
Bradley Williams	P470																						•
Andrew Wright	P471			•		•					•	•		•									
Adam Curry	P472		•		•	•		•			•	•		•						•	•	•	
Adam Wiodarczyk	P473	•		•	•	•	•				•	•			•				•	•			•
Adrian Mascetta	P474														•								
Adrienne Kalmar	P475		•			•			•			•		•						•	•		
Agu Tohuer	P476	•										•							•				
Alan Lane	P477	•		•	•	•	•		•	•		•		•	•				•	•	•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Alex Preema	P478																						•
Alexis McShane	P479	•				•						•		•					•				
Amanda Davies	P480					•		•			•	•								•			
Amanda Hull	P481	•	•			•			•		•	•		•					•	•	•		
Amanda Rice	P482																			•			
Andrew Divan	P483				•	•														•			
Andrew Valja	P484	•				•						•		•					•	•	•		•
Angela de Koster	P485																						•
Anne & David Forbes	P486					•								•						•			•
Ann Russell	P487					•						•								•			
Anna Blaney	P488					•						•		•						•			•
Anne Dillon	P489	•	•		•	•	•		•	•	•	•	•	•	•				•	•	•	•	•
Anne Gallen	P490					•								•	•					•			
Anne Miehs	P491					•								•						•	•		
Anne E Reeves	P492	•	•	•	•	•	•		•	•	•	•	•	•						•	•	•	
Anthony Jack	P493										•	•											
Antoinette Griffiths	P494	•	•		•	•						•		•					•	•	•		•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Antoni Cornado-Cornet	P495	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Rosemary & Arthur Lathouris	P496	•	•			•	•				•	•	•	•					•	•	•	•	•
Ashley D'Souza	P497	•		•	•	•	•				•	•	•	•	•				•	•			•
Barbara Lumley	P498				•	•								•							•		
Barry Thomas	P499					•								•						•			
Ben Dolan	P500	•									•	•							•				•
Ben King	P501	•										•							•				•
Ben Silverstone	P502				•	•								•	•					•			•
Ben Thompson	P503	•		•	•	•	•				•	•	•		•				•	•			•
Bernhard Mitchell	P504	•		•	•						•	•	•		•				•				
Bethany Lalor	P505	•		•		•	•				•	•	•						•	•			•
Betty Bennett	P506	•				•			•	•	•	•							•	•	•	•	
Bob Montgomery	P507											•											•
Bob Taffel	P508	•				•			•	•	•	•							•	•	•	•	
Brett Newey	P509	•		•	•	•	•				•	•	•		•	•			•	•			
Brian Lederer	P510					•								•						•	•	•	
Brone Chichozole	P511				•						•	•									•	•	

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Bronwyn Gahan	P512					•								•							•	•	
Bruce F Diekeman	P513		•		•				•		•	•		•					•	•	•		
Bruce & Bernadette Mulloney	P514	•	•			•			•	•		•		•					•	•	•	•	
C Selmes	P515	•				•			•	•	•	•							•	•	•	•	
Carroll Coutsoudes	P516	•			•	•						•		•					•				
Carol Blackburn	P517	•										•							•				
Caroline I Di Mauro	P518	•			•					•							•		•		•		
Carolyn Britten	P519				•	•	•		•	•				•						•	•	•	
Carolyn Williams	P520	•		•	•	•	•		•	•	•	•		•	•				•	•	•	•	
Catherine Hale	P521	•				•			•	•	•	•							•	•	•	•	
Catherine Higgins	P522				•	•	•				•			•						•	•		
Caitlin Lalu	P523	•		•	•	•	•				•	•	•		•	•			•	•			•
Cerin Loane	P524	•	•	•		•	•			•		•		•					•	•	•		•
Chauwei Xue	P525	•									•	•							•	•			
Chris Downs	P526																						•
Christine Davies	P527				•	•						•		•						•	•		
Christine Perrers	P528					•	•							•						•			

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Alex Jones	P529																						•
Christopher Nestorovski	P530					•								•									
Claire Lonie	P531																			•			•
Clodagh McAllister	P532	•				•								•									•
C Kerins	P533	•			•							•							•				
Cynthia Hyacinthe	P534	•		•							•	•		•					•				
D Josepson	P535	•		•	•	•	•				•	•	•		•	•			•	•			•
Daniel Moryosef	P536																			•			
Adam Russell	P537					•														•			•
Daniel Cox	P538	•		•	•	•	•				•	•	•		•	•			•	•			•
Daniel Zanardo	P539				•	•	•							•						•	•		•
Danny McComm	P540																						•
Darcy William McCann	P541	•		•	•	•			•	•	•	•	•	•					•	•			•
Devina Goundar	P542	•		•	•	•	•				•	•	•		•	•			•	•			•
Darren Adams	P543	•				•			•	•	•	•							•	•	•	•	
Deborah Middleton	P544	•		•		•	•				•	•			•	•			•	•			
Daryl Steven Morris	P545	•			•	•						•		•					•				

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David Bush	P546				•	•	•							•						•	•	•	
David Butler	P547	•		•	•	•	•		•	•	•	•		•	•				•	•	•		•
David Don Turner	P548				•	•								•						•	•	•	
David Freeland	P549					•						•								•	•		
Dawn Willams	P550					•								•						•	•		
David Matheson	P551					•	•				•	•		•					•	•	•		
David Sheumack	P552	•				•			•	•	•	•		•					•	•	•	•	
David Simpson	P553																						•
David Thorneycroft	P554	•		•	•	•	•				•	•			•				•	•			
Dawn Hutley	P555																			•			
David Lattin	P556			•							•	•											•
Diane Latta	P557	•	•	•	•	•			•		•	•	•	•					•	•	•	•	•
Diana Levy	P558		•	•		•					•	•									•		
Diana O'Mara	P559	•	•		•	•	•		•	•	•	•		•					•	•	•	•	
Dianne Conomos	P560																						
Dilshara Hill	P561	•				•						•		•					•		•		•
Damien Pace	P562	•		•	•	•					•	•			•				•				•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Don Fuchs	P563					•								•							•		
Donald Morison	P564	•	•		•	•	•		•	•	•	•	•	•						•	•	•	
Esther Dunn	P565					•		•			•	•									•		
Doug & Jennt Morris	P566					•								•									
Name withheld	P567																						•
DR Baigent	P568	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Leonard Martin	P569					•	•							•						•	•		
Drew Roberts	P570					•								•									
Eva Rizana	P571													•									•
Dylan Reynolds	P572				•	•								•						•	•	•	
Elsie E Saunders	P573	•				•			•	•		•		•					•	•			
Elizabeth Makin	P574	•	•		•							•							•				•
Elsbeth de Ridder	P575	•		•	•	•	•				•	•	•		•	•			•	•			
Elizabeth Sindel	P576																						•
Emanuel Conomos	P577				•									•						•			
Emily Mitchell	P578		•			•								•									
Enrico Macchi	P579																						•

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Erin Howard	P580				•	•						•											
Ernie Kidd	P581	•										•				•			•				
Eva Dall	P582	•		•								•		•									
Fieke Geerls	P583					•								•						•			
Fiona Sonntag	P584	•	•		•	•	•		•	•	•	•		•					•	•	•	•	•	•
Fiona Stewart	P585				•	•								•						•	•	•	
Fred Gilson	P586			•	•	•	•				•	•		•						•			
GR Henson	P587					•								•	•					•	•		
GM Vickery	P588					•						•								•	•		
GW Forsyth	P589											•											•
G Wakeman	P590					•			•	•				•									
Craig Williams	P591																						•
Gae Mulvogue	P592	•			•	•						•		•					•	•	•	•	
Garry Walsh	P593			•		•				•		•								•	•		•
Gary Humble	P594	•	•			•	•		•	•	•	•	•	•					•	•	•	•	•
Gary McAllister	P595				•	•				•		•		•						•	•		
Gayle Dwyer	P596																			•			

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George Yauoub	P597	•				•						•		•					•	•			
Glenda McCann	P598	•		•							•	•							•				•
Glenn Singelman	P599	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Glenn Walsh	P600					•				•		•											•
Goh Lay Song	P601	•		•		•						•		•					•				
Graham Johnson	P602	•				•			•	•	•	•							•	•	•	•	
Graham Mandelson	P603	•		•	•	•	•				•	•	•			•			•	•			
Graham Vanny	P604	•			•	•			•	•	•	•	•	•					•	•	•	•	
Gretchen Aman	P605	•		•		•			•	•	•	•							•	•	•		
Haidee Roper	P606					•								•						•	•	•	
Hajar Torkaman	P607					•			•	•				•						•	•	•	
Hannah Gissane	P608	•	•			•					•	•		•					•	•	•		
Hans Chourismostov	P609	•				•						•		•					•	•			
Harry Hardy	P610																						•
Heather Hull	P611					•	•							•						•	•		
Heather Swan	P612	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Heike Filla	P613	•		•		•	•		•	•	•	•		•	•				•	•	•		

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Helen Patrin	P614	•			•						•	•							•				
Helen Yoxall	P615	•				•	•				•	•		•					•	•	•	•	•
Holly Manwaring	P616	•	•		•	•						•							•	•	•		
Hope Aman-Hickey	P617		•								•	•								•			•
Hubert Habicht	P618				•	•	•		•					•						•	•	•	
Huey Benjamin	P619					•								•						•	•		
Ian Hull	P620		•		•	•				•	•	•								•	•		
Ian Olsen	P621	•	•			•	•	•	•	•		•	•	•					•	•	•	•	
Ilona Renwick	P622				•	•			•		•	•		•					•	•	•		•
Inci Ogist	P623			•																			•
Isobel Ann Coustoudes	P624	•										•							•	•			
Jane Bradshaw	P625					•								•						•	•		
Jane Morton	P626				•						•	•											
Janelle Adams	P627	•				•			•	•	•	•							•	•	•	•	
Janis O'Leary	P628	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Janneane Banks	P629	•				•	•		•	•	•	•		•	•				•	•	•		
Jean Hampsey	P630				•	•			•					•						•	•		

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Jean Lewis	P631					•														•	•		
Jeff Rigby	P632		•			•	•		•	•				•					•		•		
Jeffrey Thomas Fitzsimmons	P633	•			•	•			•		•	•	•	•	•				•	•	•	•	•
Jennifer Hackney	P634	•			•	•						•		•					•	•	•		
Jennifer Hancock	P635	•	•			•	•							•					•	•	•	•	•
Jennifer Hill	P636																						•
Jennifer Ingall	P637	•				•						•		•					•			•	
Jennifer Matthews	P638	•		•	•	•			•	•	•	•		•					•	•	•		
Jennifer Rooke	P639	•	•			•			•			•		•					•	•	•		•
Jenny Hughes	P640					•								•						•	•	•	
Jessie Chen	P641																				•	•	
Jilea Carney	P642					•								•						•	•		
Jim Hackney	P643	•			•	•						•							•	•	•		
Jocelyn Howell	P644																						
Johanna Mitchell	P645					•						•		•						•	•		
John Hancock	P646	•	•			•	•					•				•			•				•
John Sharples	P647	•	•	•	•	•	•		•	•		•		•					•	•	•	•	•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Joseph McAllister	P648		•			•								•									
Joshua Thomas	P649	•			•							•											•
Joy Goldsmith	P650	•	•	•		•	•					•							•	•			
Joy Scott	P651	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Judith Girgis	P652					•			•	•	•	•									•	•	
Judy Hay	P653					•						•								•	•		
Justin Hunter	P654	•				•						•							•	•			
K Girdwood	P655	•		•		•			•	•				•						•	•	•	
KJ Lowe	P656				•	•						•		•						•	•		•
K Taylor	P657		•			•					•	•		•						•	•		•
Karen Hising	P658	•	•		•	•			•		•	•							•	•	•	•	
Karen Jones	P659		•		•	•	•		•	•				•						•	•	•	•
Karen McLaughlin	P660	•		•	•		•				•	•		•					•	•	•	•	
Karen O'Toole	P661					•					•	•	•	•						•	•	•	
Karen Taylor	P662					•						•							•	•	•		
Katarina Jakovljevic	P663			•							•	•											
Kate Hopkins	P664	•		•	•	•	•		•			•		•					•	•	•		

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Kate McShea	P665		•			•								•									
Katherine White	P666	•	•		•	•						•		•					•	•	•		•
Kathryn Edgar	P667					•																	
Katie Winten	P668	•		•	•	•	•				•	•	•		•	•			•	•			
Kay Martin	P669					•	•		•	•		•											
Kaye Preema	P670	•		•	•	•			•	•	•	•		•					•		•		
Keith Vallard	P671		•		•				•	•		•								•			•
Kelly Howard	P672					•								•									
Ken Bunyon	P673	•		•					•	•		•		•	•	•				•	•	•	
Ken Parkhouse	P674	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•	•
Kerry Horne	P675					•						•		•						•	•	•	
Kim Delaney	P676	•				•			•	•	•	•							•	•	•	•	
Kim O'Toole	P677				•	•			•		•	•	•	•						•	•		
Kirsten Mayer	P678		•			•								•						•	•		
Kristy Hart	P679			•		•	•		•	•	•	•	•	•						•	•	•	
Linsi Braith	P680	•		•	•	•	•				•	•	•		•	•			•	•			
L Mattay	P681						•																

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Lynne, John Stephanie, Mark & Zoe Poleson	P682	•				•			•	•	•	•							•	•	•	•	
AJ & JI Dickinson	P683																						•
Alison Smith	P684																						•
Lachlan A Garland	P685	•		•		•	•		•	•	•			•						•			•
Lachlan Leach	P686					•			•	•				•									
Laila Zaatiti	P687	•									•	•			•				•				
Valerie May Taylor	P688					•					•			•							•		
Velma McFadden	P689	•	•	•					•	•	•	•	•	•	•				•				•
Vera Yee	P690					•			•											•			•
Veronic Walsh	P691	•	•	•			•					•							•				•
Vicky Merkouris	P692	•		•	•	•	•				•	•	•		•	•			•	•			•
Virginia King	P693	•		•	•	•	•		•	•	•	•	•	•	•				•	•			
W Anderson	P694	•				•	•					•		•					•				
W Younb	P695			•	•							•								•			
Walid Hossain	P696	•		•	•	•	•				•	•	•		•				•	•			•
Wendy Merriman	P697	•	•		•	•			•		•	•		•					•	•	•		•

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Wendy White	P698	•	•			•			•			•		•					•	•	•		•
William Moon	P699					•					•	•		•						•	•		
Winifred Chevalier	P700					•								•									
Xavier Mayes	P701	•	•			•						•		•					•	•	•		
Zac Zaatiti	P702	•			•	•						•							•				
Zoe Baumgartner	P703	•				•			•	•	•	•							•	•	•	•	
Zoe Hilda	P704																						•
Craig Davis	P705										•	•											•
Edward Booth	P706					•															•	•	
Haydn Washington	P707	•	•	•	•	•	•		•	•	•			•					•	•	•	•	
Keryn Heather Rodham	P708																						
Mark Archer	P709	•	•						•	•		•							•				•
Maryanne Bell	P710	•	•		•	•			•	•	•	•	•	•					•	•	•		
Pepe Clarke	P711	•				•						•		•					•	•			
Naomi Kirk	P712								•	•													
Phillip Edwards	P713					•								•						•			
WF Fitzgerald	P714			•											•				•				

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Scott Frederick Rodham	P715										•	•											•
Shaun Gilchrist	P716																						•
Yvonne A Rozier	P717					•						•									•		
Lesley Hails	P718																						•
Liliane Berceron	P719					•				•					•								
Lisa Francis	P720	•		•	•																		
L Niendak	P721					•						•											
Lois Simpson	P722	•	•			•					•	•		•					•	•	•	•	
Maree Lockwood	P723	•				•													•	•			
Lorna E Cook	P724					•															•		
Lorraine Bunyon	P725	•		•	•						•	•			•				•				
Lucie Chevalier	P726																						•
Lyn Doherty	P727	•				•			•	•	•	•							•	•	•	•	
Lyndal Sullivan	P728		•				•		•	•											•	•	
Lynn Daniel	P729		•					•												•	•		
M Botfield	P730			•	•	•					•			•					•	•	•		
Meesay Nguyen	P731					•														•	•		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
M Ryder	P732					•	•										•			•			
Madi Maclean	P733	•	•	•	•	•	•		•		•	•		•					•	•	•		•
Maira Wilkie	P734	•				•			•	•	•	•							•	•	•	•	
Maire McLaughlin	P735					•														•			
Mal Anderson	P736				•	•	•		•		•	•		•						•	•	•	
Marco Antonio Bensnetto	P737					•					•	•							•				
Margaret Baker	P738				•	•	•							•						•	•	•	
Margaret Esson	P739	•				•			•								•				•		
Margaret Hilder	P740	•				•			•	•	•	•							•	•	•	•	
Margaret Lyle	P741					•		•								•				•			
Margaret Vickery	P742					•														•			
Marian Moor	P743	•	•	•		•										•			•				
Marianna Ebersoll	P744	•				•			•	•	•	•							•	•	•	•	
Marilyn Scott	P745													•						•	•		
Marion Davies	P746				•	•	•		•	•	•									•	•	•	
Mark Baker	P747	•		•	•	•	•				•	•		•						•	•	•	
Mark Furnell	P748					•					•	•											

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Mark Zaatiti	P749																						•
Martin Burke	P750					•											•						
Martin Wieczorek	P751															•							
Mary & Terry Flynn	P752													•						•	•		
Mary E Roberts	P753					•																	•
Maryanne Sweet	P754	•				•			•	•	•	•							•	•	•	•	
Maryanne Zaatiti	P755																						•
Matthew Hilder	P756	•				•	•		•			•		•					•	•	•		
Maureen Keady	P757		•			•																	
Melany Toombs	P758					•													•				
Mercedes Ortega	P759	•		•	•	•	•				•	•	•		•	•			•	•			
Merel Dalebout	P760	•	•			•						•		•					•	•	•		
Michael Moryosef	P761																			•			•
Michael Osborne	P762					•																	
Michael Roache	P763					•								•									
Michael Keats	P764					•					•	•											
Nihba Balamoan	P765																			•			

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Andrew Porter	P766			•																			
Neil Chaney	P767					•	•		•	•	•	•	•	•						•	•	•	•
Neil Thomas Greenway	P768					•			•	•				•						•	•	•	
Neta L Horniman	P769				•	•						•		•						•			•
Nicole Cassim	P770	•		•	•	•	•				•	•	•		•	•			•	•			
Nicole Daley	P771																						•
Nicole Knoepfler	P772																		•				
Noeline Thorne	P773	•	•	•	•										•								
O Henson	P774		•			•						•							•				
Oslan Roberts	P775					•													•				
Oliver Emanuelsson	P776										•	•	•						•				
P Carrol	P777										•	•											•
PD Bonney	P778	•	•	•		•			•	•		•			•				•		•	•	
Pam Montgomery	P779	•	•			•			•	•	•	•		•					•		•		
Pat Levene	P780	•				•			•	•	•	•							•	•	•	•	
Patricia Levene	P781				•	•						•								•	•		•
Patricia Nugent	P782					•								•						•	•		

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Patricia Pullen	P783					•								•						•	•	•	
Paul & Lesley Hulbert	P784	•	•			•	•					•		•					•	•	•	•	
Paul Britten	P785	•				•						•		•					•	•	•	•	
Paul Higgins	P786					•			•	•				•						•	•		
Paul McAllister	P787											•		•									•
Paul Adam Schober	P788	•	•	•	•	•	•		•	•	•	•	•	•					•	•	•	•	•
Paul Vale	P789					•	•							•						•	•		•
Paul Vonwiller	P790	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Pauline Cooney	P791			•	•					•	•	•											
Peggy Goldsmith	P792	•	•						•	•		•			•				•				•
Pete Gower	P793	•		•	•	•	•				•	•	•	•	•	•			•				
Peter Coutsoudes	P794	•				•						•		•					•				
Peter W Green	P795	•				•			•			•		•					•	•	•		•
Peter Hickey	P796	•			•	•			•	•		•		•					•	•			
Peter Hume	P797	•	•			•						•		•					•	•			
Peter J Di Mauro	P798	•		•	•					•		•								•			
Peter Miller	P799																						•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Peter Ridgeway	P800					•								•					•	•			
Peter A Spring	P801					•	•		•					•						•	•		
Phil Erbacher	P802	•		•	•	•	•				•	•	•		•	•			•	•			
Phillip Merriman	P803	•	•		•	•			•		•	•		•					•	•			•
Phillipa Parsons	P804					•																	
Phyllis Setchell	P805					•			•	•				•						•	•		
Brian Daniels	P806											•								•			
Bradley Williams	P807					•	•																•
Rachael Nichol	P808				•	•					•									•			
Rami Moryosef	P809															•			•				
Ray Stanford	P810	•		•	•	•															•		
Rebecca Hilder	P811	•		•	•	•	•				•	•	•		•	•			•	•			•
Rebecca Jonsson	P812	•				•					•	•		•					•	•	•		
Reg Larkin	P813	•		•	•		•			•		•	•	•	•					•	•		
Richard Maneschi	P814					•																	
Rick Taylor	P815	•		•	•	•	•				•	•			•				•	•			•
Rob Fisher	P816				•																		

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Robert Miller	P817					•					•								•	•			
Robert Doyle	P818	•		•	•	•					•				•				•		•		
Robert Meyer	P819		•		•	•					•		•							•			
Roger Clarke	P820	•		•	•	•								•		•			•	•	•		
Roger Grealy	P821					•			•	•			•							•	•	•	
Ron MacDiarmid	P822																		•				
Rosemary McGimes	P823										•								•				
Roy F & Beverley B Thompson	P824					•								•					•		•		
N/A Runchok	P825									•													
Russell Fonston	P826	•		•	•	•	•				•	•	•		•				•	•			•
Shirley Ellis	P827				•						•								•				
S Dulie	P828					•													•				
Salaam Bakhach	P829					•													•				
Sam Dzwinek	P830	•				•			•	•	•	•							•	•	•	•	
Sam Lahoun	P831				•																		
Sami Korbi	P832		•		•	•	•		•			•		•						•	•		
Sarah Bendall	P833	•		•	•	•	•				•	•	•		•	•			•	•			•

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Sarah Hutchison	P834	•				•			•	•	•	•							•	•	•	•	
Scott Horne	P835					•								•						•	•	•	
Sharlene Abeh	P836				•																		
Sharon Jones	P837				•	•					•	•								•	•		
Sharyn Cullis	P838				•	•	•		•	•	•	•		•						•	•		
Sheena Sanders	P839			•	•	•					•												
Shiena Andy	P840	•		•	•	•	•				•	•	•		•	•			•	•			
Shirley Brown	P841					•							•	•						•	•		•
Simon Board	P842										•	•							•				
Sotiris Bakosis	P843				•	•									•	•			•				
Stefan Filla	P844	•			•	•			•			•							•	•	•		
Stephanie Thompson	P845	•		•	•	•	•				•	•			•	•			•	•			•
Stephan McFadden	P846	•		•	•						•				•	•			•		•		
Stephen O'Connell	P847	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Susan Morley	P848				•	•	•		•		•	•					•		•				
Susan Morrison	P849					•			•					•			•			•	•		
Susan Watt	P850				•						•	•			•				•				

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Suzanne Board	P851	•		•	•																		
Tara Cameron	P852					•								•					•		•		
Terese Hutchison	P853	•		•		•			•										•		•		
Thomas Ebersoll	P854	•	•	•	•	•					•	•		•	•					•	•		
Tiffany Ashcroft	P855	•			•	•						•							•	•	•		
Timothy Bidder	P856	•			•	•	•		•	•	•	•	•						•	•	•	•	
Tom Coley	P857							•		•		•								•	•		
Triet Le	P858															•			•				
Trish Lien-Le	P859					•						•											
Robert Chemuel	P860	•													•				•				
Laurel Thomas	P861				•	•					•	•								•	•	•	
Lauren Rose	P862					•																	
Steve Garthwin	P863	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Steve & Chris Jordan	P864	•	•		•	•			•			•							•	•	•		•
Steve Parsons	P865					•								•									
Steve Scott	P866	•		•								•											
Steve Van Der Waut	P867											•								•			

Submissions Received	Submission ID	Air Quality	Greenhouse Gas	Acoustics	Visual and Lighting	Ecology	Biodiversity Offset Strategy	Aboriginal Archaeology & Cultural Heritage	Surface Water	Groundwater	Economics	Social	Soil & Land Use	Rehabilitation and Final Landform	Traffic and Transport	Environmental Monitoring	Geochemistry	Waste Management	Health	Ben Bullen State Forest	Pagodas	Subsidence	General
Stewart Hayes	P868	•	•	•	•	•	•		•	•	•	•		•					•	•	•	•	•
Susan Flynn	P869				•	•																	•
Name withheld	P870																						
Name withheld	P871	•	•		•	•	•		•	•	•	•							•	•			
Valerie J Atkinson	P872				•	•					•									•	•		
Sean Corrigan	P873	•				•	•		•			•		•					•	•	•		
Meredith Brownhill	P874		•			•					•	•							•		•		
Liz Tasker	P875	•			•	•			•	•		•		•					•	•	•		
Laura Fox	P876	•	•	•	•	•	•		•		•	•	•	•					•	•	•	•	•
Richard Stiles	P877	•	•	•		•				•	•	•							•				
Chris Dow	P878	•		•		•	•				•	•	•		•	•			•	•			•
Eva Rizana	P879				•																•		•
Elizabeth Sindel	P880																		•				
Graham Manderson	P881																						•
Justin McKee	P882		•			•								•						•			
Jennifer Hill	P883									•													
Steve Garthwin	P884																						•

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Bronwyn Laing	P885	•		•	•	•			•	•		•			•				•				
G McClintock	P886					•															•		
Name Withheld	P887		•			•	•		•					•						•	•		
Name Withheld	P888					•			•					•						•	•		
Name Withheld	P889	•			•	•	•		•			•			•				•	•	•		
A Williams	P890	•				•			•	•	•	•							•	•	•	•	
G Williams	P891	•				•			•	•	•	•							•	•	•	•	
Kirsten Abrahamse	P892	•		•	•	•	•				•	•	•		•	•			•	•			
L Smith	P893	•				•			•	•	•	•							•	•	•	•	
R Williams	P894	•				•	•		•	•	•	•							•	•	•	•	
The Honourable Luke Foley MLC	P895				•	•	•		•	•	•	•								•	•		
Tom Ferrier	P896	•				•			•	•	•	•		•					•	•	•	•	
Julius Timmerman	P897				•	•	•					•		•					•	•	•		
Ben Scott	P898	•		•							•	•								•	•	•	•
Zoe Hida	P899																				•		
Name Withheld	P900					•								•						•	•		
Name Withheld	P901				•	•			•	•				•						•	•		

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Aliza Carr	P902					•								•						•			
Justyne Kouiiske	P903					•																	

APPENDIX B

Summary of Issues

Appendix B
Summary of Responses and Issues Raised

Category	Submission ID	Issue ID	Issue
Regulatory Agencies			
General	R1	62	The proposed project does not affect commercial agricultural lands, nor does the rehabilitation require reinstatement of lands for agricultural use. Hence no issues are raised.
General	R2	428	I refer to your separate referrals of the Environmental Assessment for the above matter to the NSW Office of Water and to the Office of Sustainable Agriculture and Food Security (both agencies within the Department of Primary Industries). When it was realised that a general referral to the Department of Primary Industries had not also been made, an internal referral to the other agencies that make up the Department was undertaken. Comment from these agencies is now also included in this letter. It is understood that the former legislative provisions under Part 3A of the Environmental Planning and Assessment Act 1979 apply to this proposal. The Office of Water advice is at Attachment A (with an Annexure of conditions). For further information please contact Dr Jodie Dabovic, Planning and Assessment Coordinator within the Office of Water on 4904 2571 (Newcastle office). The Office of Sustainable Agriculture and Food Security advises that the proposed project does not affect commercial agricultural lands, nor does the rehabilitation require reinstatement of lands for agricultural use. Hence no issues are raised. For further information please contact Ms Liz Rogers within the Office of Sustainable Agriculture and Food Security on 6391 3642 or by mailliz.rogers@dpLnsw.gov.au. Advice from Fisheries NSW is at Attachment B. For further information please contact Mr David Ward (Fisheries Conservation Manager-Greater Darling) on 6763 1255 or mobile 0429 908 856. As advised earlier this year direct from NSW Crown Lands in response to the Preliminary Environmental Assessment, the proposed development site (at that time) included Crown Land, including land reserved under the Crown Lands Act 1989 and managed by a community reserve trust. It may be that refinement ofthe proposal may not require this land. However, if this land is still intended to be included, the proponent will need to obtain an appropriate tenure over this land and/or discuss possible acquisition. There is also the possibility that some or all of this land is subject to Aboriginal Land Claim and/or Native Title. Contact should be made in this regard with Mr Terry Childs, Group Leader Natural Resource & Property Services, on 6391 4330 (Orange office). The proposal includes land that is State Forest. Advice from Forests NSW at Attachment C. For further information please contact Mr Jack Cotterill, Acting Stewardship Forester, Forests NSW (Bathurst office) on

Category	Submission ID	Issue ID	Issue
			6330 1025 or by email at: jack.cotterill@sf.nsw.gov.au.
General	R2	429	The NSW Office of Water (Office of Water) has reviewed the EA and provides the following advice on the basis that the former legislative provisions under Part 3A of the Environmental Planning and Assessment Act 1979 apply to this proposal.
Surface Water / Groundwater	R2	430	Water sharing plans (WSPs) are legally enforceable statutory plans under the Water Management Act 2000. WSPs provide rules for the sharing of water between the environment and water users, the granting of access licences to account for the take of water and the protection of high priority groundwater dependent ecosystems. The WSPs applicable to this project are the Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011, the Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011 and Water Sharing Plan for the NSW Murray-Darling Basin Porous Rock Groundwater Sources 2012.
Surface Water / Groundwater	R2	431	The Office of Water notes that the proponent has existing groundwater licences however, the surface water assessment has not provided any detail regarding licensing requirements for the capture and use of surface water. Any take of surface water through capture of rainfall runoff which exceeds the Maximum Harvestable Right Dam Capacity (MHRDC) will require an access licence. Under the new Water Management (General) Regulation 2011 which commenced on 1 September 2011, water taken for dust suppression is now required to be authorised by an access licence.
Surface Water / Groundwater	R2	432	Limited surface water and groundwater baseline data has been collected as part of the EA with some data from adjacent mining operations being presented to characterise the water levels and quality within the project catchment areas. Further baseline monitoring is required to allow for full characterisation of the water sources and the development of trigger criteria. The groundwater assessment has not included any predictive modelling due to the limited data collected for the EA and thus, the amount of ingress into the mine pits has been estimated from the hydraulic conductivity, size of the pit face and evaporation.
Surface Water / Groundwater	R2	433	The site water balance presented in the surface water assessment does not clearly define the groundwater ingress into the pits, amount of groundwater to be pumped from mine voids for operational use and how much water from the storage dams will be placed into the mine voids.
Surface Water / Groundwater	R2	434	Due to the lack of baseline data collected for the EA, the Office of Water recommends the following conditions of approval (Attachment A) for the Coalpac consolidation project to allow for adequate monitoring, development of trigger criteria and the detection of impacts.
General	R3	1	At its ordinary meeting of 14 May 2012 Council resolved not to object to the Coalpac Consolidation Project on

Category	Submission ID	Issue ID	Issue
			the basis that "appropriate controls need to be put in place, particularly in regard to noise, dust, fume ing and a regime of building inspections 'pre' and 'post' blasting. Mining is not to take place within 500 metres of the village, residents residing outside of the village and the cemetery itself."
Economics	R3	2	The Council also requested "That the company be required to lodge a substantial guarantee in a special fund (bond) that will be forfeited in the event that their standards are not met."
Social	R3	3	Council has undertaken confidential negotiations with Coalpac regarding a potential VPA that would be entered into should the proposal gain approval. The parties have agreed in principle that Coalpac will contribute $250,000 per year to Council, $200,000 a year of which would contribute towards sewerage reticulation to the township of Cullen Bullen and $50,000 a year which would contribute towards local projects. It was agreed that consultation would be held with the community on such projects, however the final say would lie with Council. Discussion was also held regarding potential works in kind to be undertaken by Coalpac for the rehabilitation of the Cullen Bullen Waste Disposal facility following its closure, which may replace any Section 94 Contributions required for the development. Such negotiations are yet to be formalised in writing.
Traffic & Transport	R3	4	The EA indicates that a level crossing is proposed for Red Springs Road, which would enable Coalpac to access its Hillcroft Reserve with large mine vehicles. Council has held discussions with Coalpac on the issue, and a number of options were proposed by Coalpac such as a temporary closure of the road or a rail style level crossing. However, Council considers the most appropriate option discussed involved a temporary road realignment into the railway reserve, which would underpass the proposed railway bridge. This would eliminate a conflict of public traffic and mine vehicles, however it would need to be agreed to by the railway authority given that it would be located on their land.
Air Quality	R3	5	It is understood that an Environmental Management Plan will be prepared which will deal specifically with the issue of dust. However, at Council's public meeting it was apparent that there is a perceived impact on the community by way of dust from the current operations. Given that the Environmental Assessment (EA) indicates that there will be an exceedance of the air quality criteria at a number of residences, the project design requires a proactive approach by the Proponent to potentially alter their operations hourly based on real time monitoring. Accordingly, this process needs to be clear, transparent and reportable.
Air Quality	R3	6	It is also considered that the process of constructing the bund walls (which will help mitigate visual and noise impacts) will have the potential to create additional dust impacts that will need to be appropriately mitigated. Further consideration should also be given to sealing the internal haul road to help minimise dust impacts, as

Category	Submission ID	Issue ID	Issue
			the road would be in place for the 21 year period of mine operation.
Noise	R3	7	It is understood that an Environmental Management Plan will be prepared which will deal specifically with the issue of noise. It is also understood that a blanket background noise level of 30dBA has been applied to properties greater than 550m away from the highway based on background measurements taken 550m from the highway and the Industrial Noise Requirements. However, it is considered that a nominal figure of 30dBA may not be reflective of the actual background noise level at many of the properties greater than 550m from the highway, given that night time measurements at a number of places are shown as within the 20-30dBA range. In this context, exceedance of the set 35dBA Adopted Intrusive Noise Criteria will in reality result in an increase of over 10bBA at night time for some residences.
Noise	R3	8	This will mean that regardless of whether Coalpac achieves compliance with the levels set within the EA, there will be a perceived impact which could result in ongoing complaints regarding noise depending on the location of mine works and the regularity of night time rail loading. Also, it may mean that some affected parties would not be afforded a landholder agreement or the compulsory acquisition process as the EA indicates a compliance with the criteria at their property.
Blasting	R3	9	A management plan will be required that deals directly with blasting in proximity to the Cullen Bullen Cemetery as it is proposed not to blast during any funerals. This management plan will need to be prepared in consultation with Council to ensure that a workable notification process is in place.
Blasting	R3	10	Council considers an independent process should be implemented for any community requested dilapidation surveys, whereby residents are able to chose who undertakes the survey of their home from a panel of experts. *Note: Council would like to be consulted prior to the adoption of an Environmental Management Plan for the project that deals with air quality, noise and blast management.*
Stakeholders	R3	11	There are a number of impacts that will result from the proposal, that are to be mitigated through individual agreements with affected land holders. It is understood that some of the content of these agreements may be private between Coalpac and the land holder, however the operational content of these agreements will need to be reportable. It is unclear at this stage as to how these agreements will be administered, and how compliance with the content will be measured and reported upon. Also a process would need to be put in place to deal with a potential breakdown in communication between parties, should it be considered that an agreement is not being upheld or land ownership changes hands. Such a process may need to include mediation.

Category	Submission ID	Issue ID	Issue
Stakeholders	R3	12	At the time of exhibition, Coalpac had not yet entered into agreements with all the affected landowners. The EA does not indicate how the impacts will be mitigated should an affected landowner and Coalpac be unable to reach an agreement.
Stakeholders	R3	13	The EA indicates that some affected land owners would be able to request Coalpac to compulsorily acquire their land even if they have a written agreement. It is considered that the legal process of acquisition should be understood by all parties prior to the project commencing. Council considers that as a minimum, fair compensation should be provided based on the likely value of the land as if it were not impacted upon by mining.
Stakeholders	R3	14	Further, in the context of Council's previous comments regarding noise, there may be land holders that will be affected by the proposal that are not identified within the EA as there is no "predicted exceedance". This may mean there would be affected land owners that have not been identified as being entitled to request compulsory acquisition.
Waste	R3	15	It is considered that in the context of the proposed staff increase and increased hours of operation, an assessment of the current adequacy and capability of the existing on-site effluent disposal systems should be undertaken. This is particularly relevant to the system that involves on-site spray irrigation. Such an assessment should also detail the capability of the systems to handle the additional load, and if any upgrades are required separate approval will need to be obtained from Council.
Traffic & Transport	R3	16	Council would like to acknowledge that Coalpac have committed to not hauling any sand through Lithgow and via the Bells Line of Road, which is considered to be appropriate. However, Council would like to raise the issue of the additional 128 trucks per day hauling sand along the Great Western Highway, particularly between South Bowenfels and Mount Victoria. There is significant uncertainty regarding an upgrade of this section of potentially dangerous highway, and it is considered that a process of reinforcing safe driving and reporting on incidents should be implemented by Coalpac.
Traffic & Transport	R3	17	It is also understood that sand trucks will not be travelling through the township of Cullen Bullen as they will use the internal haul road that will bypass the township. Council considers that this procedure should be backed up with a Statement of Commitment or through any conditions of consent, to ensure that trucking of sand does not commence prior to the completion of the Castlereagh Highway overpass.
Visual / Rehabilitation	R3	18	The EA provides minimal information on the proposed bund walls heights, widths, rehabilitation and construction material. Discussions with Coalpac indicated that in some places "freeway style" fencing may also be proposed to screen the development from the Castlereagh Highway. It is considered that further

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			detail will need to be provided on the final design and location of the bund walls, and that Council would like to be consulted prior to the final approval of the proposed walls. In particular Council would like to be able to assess the visual impact of the proposal from the Castlereagh Highway. Council considers that the timing of the bund wall construction should either be conditioned or included within the Statement of Commitments.
Water	R3	19	The project will at some stage involve a relocation of the Fish River Water Supply. Council considers that this relocation should be undertaken without significantly impacting upon the continuity of the water service.
Subsurface Heating	R3	20	Council acknowledges that a management plan already exists for subsurface heating which will continue to be implemented as part of the project. Council considers that it would be appropriate for such a management plan to include a procedure in the event that old workings are opened up (due to inaccuracies in the old plans showing the existing workings) that may result in subsurface heating elsewhere on site.
Rehabilitation	R3	21	The timing of rehabilitation is shown within the EA, however Council considers that such timing should be backed up with a Statement of Commitment or through any conditions of consent.
Ben Bullen State Forest	R3	22	The project will involve mining within a State Forest and at times this will result in certain access points being unavailable to the general public. Council considers that Coalpac should implement a process that provides alternative access and advisory signage of such alternative access, in consultation with State Forests.
General	R3	23	As previously mentioned, should an approval be imminent, then Council would like the opportunity to provide conditions of consent. Many of the issues covered in this submission could potentially be addressed via conditions. Also, the issue of what type of works would require Construction Certificates and approval under the Local Government Act would be clarified.
General	R4	24	Please note that since the EPA became a separate statutory authority on 29 February 2012, all matters pertaining to native vegetation, biodiversity and Aboriginal cultural heritage will be assessed independently by OEH. DP&I should contact Mr Peter Christie (6883 5347) at the Dubbo Office of OEH to discuss these matters as they relate to this project.
Noise	R4	25	The EPA has *reviewed* the environmental assessment (EA) for this project and is of the opinion that it cannot support the project as is currently proposed for the following reason: 1. The EPA considers that the potential for unacceptable noise impacts upon both rural residents and the residents of Cullen Bullen is too great based on the assumptions in the noise modelling of the proposed 24 hours a day / 7 days a week operations. The EPA has considerable reservations about the ability of the proponent to successfully implement and maintain all the noise mitigation measures outlined in the EA. This matter is of particular significance given that the noise modelling reported in the EA assumes that these

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			measures will achieve the modelled noise levels only once they *have* been fully implemented for each of the scenarios presented.
Noise	R4	26	The EPA has reviewed Section 8.6 of the EA and the Acoustics Impact Assessment (AIA) - Appendix H of the EA - and provides the following comments: • The operational noise source modelling predictions for receiver locations are based on the incorporation of extensive noise mitigation works, including significant reductions in mobile plant sound power levels, significant engineering controls for coal preparation plants, bins and crushers to lower the sound power levels and also the provision of numerous bunds. Section 4.6 of the AIA states that "All noise control and mitigation measures listed in Section 4.3 *(should be Section* 4.4) have been considered in the calculations".
Noise	R4	27	• Section '4.4 of the AIA states *"Figure A* 19 *indicates received noise levels in the absence of the proposed mitigation measures would be clearly unacceptable from* a *socio-economic and environmental perspectives".* In other words, all noise mitigation presented in this section must be put into effect to achieve the predicted noise levels as presented in Section 4.6 of the AIA. Even with all the extensive noise mitigation in place the noise modelling predicts adverse impacts at 9 locations during the day and 36 residential receivers at night.
Noise	R4	28	• The EPA has significant concerns that the noise attenuation nominated as necessary for plant and equipment, and relied on for the predicted levels, is actually achievable in the first instance, and can be maintained into the future.
Noise	R4	29	• The EPA has concerns with the proponent's commitment and ability to fully and effectively implement the required noise mitigation measures based on previous experience at the site. In previous proposals for the Invincible site, the proponent committed to implementing noise attenuation works on the Invincible Coal Preparation Plant (ICPP). The intent was to reduce the sound power level from 120 dBA to 110 dBA. Following project approvals these attenuation works were incorporated in to a Pollution Reduction Program on the company's Environment Protection Licence. The proponent supplied a report to the EPA stating that the works had been completed, however, the EPA's review found that negligible noise reduction had been achieved. The EPA notes that the measured sound power *level* from the ICPP - as reported in the current EA - is now 121 dBA and that attenuation works are required to reduce this to 109 dBA. The proponent also previously committed to replace the high pitch reversing alarms on all mobile equipment with broad-spectrum alarms - the EPA found that this commitment was not fully achieved *even* as late as August 2010.
Noise	R4	30	• As a consequence of the proponent's past delays and difficulties in understanding and achieving its noise objectives, the EPA is not in a position to support the Project based on noise levels with extensive noise

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			mitigation incorporated into the modelled predictions. The cost implications for the presented mitigation (Section 4.4) would be extensive; no cost estimates and no time table have been put forward for mitigation implementation. The implementation of the proposed noise mitigation would need to be in place before noise levels could be assigned to any particular receiver location.
Noise	R4	31	• The EPA is also concerned with the way that the Statement of Commitments (SOC) are presented. In Section 9 of the SOC, under Noise and Blasting, Ref.14 states *"Coalpac will utilise the noise control and management measures listed in Section* 8.6.4 *to achieve the predicted noise levels at private receivers* as *listed in Table* 27 *and Table* 28". Note that Table 27 and Table 28 have been prepared from Table 21 in the AIA. However, the statements under Section 8.6.4 are of concern. Section 8.6.4 is titled "Mitigation and Management" and states under "Feasible and Reasonable Noise Control", *"Numerous noise modelling investigations have been undertaken during the initial planning and mine plan development stages of the Project. These investigations looked at the application of various levels* of *noise management and control to the Project in order to minimise adverse noise impacts on neighbouring receivers. A number* of *additional noise management measures relating to various "management zones" are presented on Figure* 26 *have been adopted for the project. Mitigation and management measures will be implemented by Coalpac to ensure noise levels remain* *consistent with the results presented in Section* 8.6.3 *which are summarised below for each* of *the construction and operation phases".*
Noise	R4	32	• The EPA notes the *above,* however there is no list of mobile equipment, fixed plant, etc with assigned sound power levels. The noise predictions have been solely based on allocated sound power levels, there is no commitment to achieve those sound power levels in the AIA. The AIA modelling is based on those sound power levels .
Noise	R4	33	EPA Requirements before supporting project: 1. That the proponent demonstrates, on the existing plant and equipment, that the modelled sound power *levels have* been achieved. or alternatively:
Noise	R4	34	2. that the proponent obtains manufacturer's guarantee, for all plant and equipment, that states that the sound power levels quoted in the noise assessment modelling are attainable (i.e. that the *various* sound power reductions can be achieved), together with a commitment to implement them to a specific timetable to our satisfaction);

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Noise	R4	35	3. that the proponent commits to providing certification from an acoustic consultant that the sound power *levels* from all plant and equipment on the project site are at or below those *levels* used in the noise assessment modelling.
Air Quality	R4	36	The EPA has reviewed the *Air Quality Impact Assessment - Coalpac Consolidation Project* (prepared by PAEHolmes, 14 December 2011) (the assessment) presented as Appendix G in the EA and *provides* the following comments: 1. Emissions Inventory Particle emissions from project operations were estimated using generic factors from published USEPA AP 42 literature. Emission factors used in the assessment were generally sourced and applied in an appropriate manner. Emissions calculated for the proposed future operations at *Invincible* Colliery are similar in magnitude (total kg emitted per year) to emissions reported in the Dust Stop Pollution Reduction Program (PRP) report titled *"Coalpac Particulate Matter Control Best Practice Pollution Reduction Program -Invincible Colliery"* (PAEHolmes, 2012) and provided to the EPA February 2012. There are two main deficiencies in the emissions inventory presented in the assessment. 1. No site specific parameterisation was provided to quality emission variables; and 2. Wind blown dust emission estimation techniques used are not the most up to date methods.
Air Quality	R4	37	1.1. Site Specific Emission Parameterisation Some emission estimation techniques used in the assessment require material parameterisation such as moisture content, and silt content. To enhance the reliability of the emission estimation techniques, site specific data should be used as input variables for the emission factor equations, The assessment does not include any data to support the values adopted,
Air Quality	R4	38	The EPA recently reviewed the Dust Stop PRP report (paeHolmes, 2012) submitted by Invincible Colliery, The Dust Stop PRP review is equally relevant to the Coalpac Consolidation Project air quality assessment, namely: • There is no evidence that site-specific silt and moisture content of materials and rainfall data, for example, have been used to estimate either baseline uncontrolled or controlled particle emissions,
Air Quality	R4	39	• While some particulate emission control efficiency information from the literature is presented, it critically lacks site-specific data, so the reported particulate emission control efficiencies have not been clearly justified.

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Air Quality	R4	40	1.2, Wind Blown Dust Emission Estimation Techniques The assessment calculated wind blown dust emissions based on the State Pollution Control Commission (SPCC) emission factor of 0.4 kg/ha/hour published in 1983, The EPA advises that this is not the most up to date emission factor available,
Air Quality	R4	41	The Dust Stop PRP - *Particulate Matter Control Best Practice - Site Specific Determination Guideline (OEH August 2011)* - requires that USEPA AP 42 emission estimation techniques be used to calculate TSP, PM10 and PM2,5 emissions from mining activity, To estimate emissions on a shorter time scale (e.g., worst-case day), the correct procedure is presented in US EPA (2006), *AP* 42, *Chapter 13,2,5,* *Industrial wind erosion.*
Air Quality	R4	42	The assessment chose not to use the US EPA methodology on account of no site specific threshold friction velocity information being available, The EPA notes that mining operations are already occurring on the proposed project site, Additionally, Invincible Colliery has submitted a report to the EPA under the requirements of Dust Stop, On this basis, site specific information such as threshold friction velocity should have been available and used in the assessment.
Air Quality	R4	43	The EPA has calculated wind erosion for the, Invincible Colliery component of the project (year 2) via the method presented in USEPA (1998), *AP* 42, *chapter* 11.9, *Western surface coal mining,* and using assumptions included in the assessment. Emissions reported in the assessment (year 2) for Invincible Colliery are 60% (55,440 *kg/y* compared with 92,444 *kg/y)* of those that result from the USEPA calculation method on an annual basis. Wind blown dust emissions from the project as a whole may be significantly under estimated.
Air Quality	R4	44	2. Emission Control Measures Emission control efficiencies are included in tables C,1, C,2, C,3 and C.4 of the assessment. Hauling on unpaved roads and wind erosion are the only two source types that have an emission control efficiency applied to the calculated emission factor.
Air Quality	R4	45	All hauling emissions are assumed to be controlled by 75% through "level 2 watering" (assessment Table 11,1), Predicted project hauling emissions are summarised and compared to total project particulate emissions in Table 1 below, Table1: Summary of Hauling Emissions (TSP).

<table>
<tr><th>Category</th><th>Submission ID</th><th>Issue ID</th><th>Issue</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><th>Emission Quantity</th><th>Controlled Hauling Emissions</th><th>Uncontrolled Hauling Emissions</th><th>Difference Uncontrolled to Controlled Emission</th></tr>
<tr><td>Total hauling emissions (kg/year)</td><td>920,157</td><td>3,680,628</td><td>2,760,471</td></tr>
<tr><td>Total project emissions (kg/year)</td><td>2,867,280</td><td>5,627,751</td><td>2,760,471</td></tr>
<tr><td>Hauling as percent of total project emissions</td><td>32%</td><td>65%</td><td>96%[1]</td></tr>
</table>
1 - Emission difference as a percentage of modelling emissions
</td></tr>
<tr><td>Air Quality</td><td>R4</td><td>46</td><td>Based on the assumed haul road control, Table 1 above shows a 2,760,471 kg/year reduction in particle emissions. The calculated emission reduction from haul road control is equivalent to 96% of total modelled particulate emissions from the consolidation project (year 2). On this basis, it is critical that hauling emission controls assumed in the assessment are achieved in practice.</td></tr>
<tr><td>Air Quality</td><td>R4</td><td>47</td><td>Wind blown emissions from exposed surfaces have an assumed control efficiency of 50%, while wind blown emissions from stock piles are not assigned a control efficiency. Predicted project wind blown emissions are summarised and compared to total project particulate emissions in Table 2 below.
Table 2: Summary of Wind Blown Emissions (TSP)
<table>
<tr><th>Emission Quantity</th><th>Controlled Wind Blown Emissions</th><th>Uncontrolled Wind Blown Emissions</th><th>Difference Uncontrolled to Controlled Emission</th></tr>
<tr><td>Total wind blown emissions (kg/year)</td><td>184,811</td><td>358,522</td><td>173,711</td></tr>
<tr><td>Total project emissions (kg/year)</td><td>2,867,280</td><td>3,040,991</td><td>173,711</td></tr>
<tr><td>Wind blown as percent of total project emissions</td><td>6%</td><td>12%</td><td>6%[1]</td></tr>
</table>
1 - Emission difference as a percentage of modelling emissions
</td></tr>
<tr><td>Air Quality</td><td>R4</td><td>48</td><td>Based on the assessment's assumed wind erosion control, Table 2 above shows a 173,711 kg/year reduction in particle emissions. The calculated emission reduction from wind erosion control is equivalent to 6% of the</td></tr>
</table>

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			total modelled particulate emissions from the project (year 2). As mentioned above, it is likely that total wind blown dust emissions from the project were significantly under estimated. On this basis, it is critical that project wind blown dust emission controls assumed in the assessment are achieved in practice.
Air Quality	R4	49	3. Assessment Results The assessment predicts numerous exceedances of the EPA's air quality impact assessment criteria for TSP and PM_{10}. A revision of the emission inventory to address deficiencies identified in section 1 (above) is unlikely to change the primary findings of the assessment - that exceedances of the EPA's impact assessment criteria will occur at numerous .identified sensitive receptors.
Air Quality	R4	50	Assessment results, as presented in Table 8.12 of the assessment show predicted exceedances of the PM1O, TSP and deposited dust impact assessment criteria at identified sensitive receptor locations on both an annual average and 24-hour average basis.
Air Quality	R4	51	The assessment does not include a scenario where additional control measures have been included to ensure no exceedances occur.
Air Quality	R4	52	Recommendations: The EPA notes that the proponent commits to utilising technologies and initiatives to achieve the air quality outcomes described in the EA (Statement of Commitments - Ref. 9). The EPA supports this commitment. A key aspect of this commitment is the development of an Air Quality Monitoring Program (AQMP). The EPA would require the AQMP to include, as a minimum requirement, the need for performance based outcomes aimed at minimising particulate emissions from the following sources: • *Wheel generated dust;* • *Wind erosion of overburden;* • *Wind erosion of exposed areas;* • *Loading overburden;* • *Dumping overburden; and* • *Bulldozing overburden.* The AQMP should include the following parts: • *Key performance indicators;* • *Monitoring methods;* • *Location, frequency and duration of monitoring;*

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			• *Record keeping;* • *Response mechanisms; and* • *Compliance reporting.*
Air Quality	R4	53	In addition, the EPA recommends that the following matters are incorporated in to the conditions of project approval: 1. Any conveyor must: be fully enclosed; incorporate water sprays at all loading points; and have dust curtains installed and used at all transfer points and 2. All Haul trucks used for project of must be capable of hauling a minimum of 90 tonne per trip
Greenhouse Gas	R4	54	• The EPA is unable to assess the accuracy of the Scope 1 emissions estimates from fugitive gas. The EA estimates that annual fugitive emissions will be approximately 3.1 kt CO2-e. Fugitive emissions from the mine are estimated using site specific measurements (National Greenhouse and Energy Reporting [NGERJ Method 2) however the proponent has not provided sufficient information regarding sampling results and the methodology used to estimate all gas emissions from the coal body. As a consequence, the EPA is unable to assess if the measurements would meet the requirements for NGER Method 2 or Method 3. The proponent should provide either further information and documentation to support the use of mine specific emissions factors or an estimate of fugitive emissions using the default emissions factors from NGER Method 1. If default emissions factors are used then annual fugitive emissions from coal extraction would be approximately 205 kt C02-e per annum;
Greenhouse Gas	R4	55	• The EPA is unable to *verify* the accuracy of the estimated emissions from onsite diesel fuel consumption but notes that the implied fuel use factor of 5 LIt ROM is similar to other open-cut operations;
Greenhouse Gas	R4	56	• The proponent has estimated Scope 2 emissions from electricity use using an appropriate methodology;
Greenhouse Gas	R4	57	• The proponent has estimated Scope 3 emissions from electricity and fuel supply and the transport of product coal to the customer adequately, although the EPA notes that estimates of emissions from product transport by rail appear to not include emissions from the return trip; and
Greenhouse Gas	R4	58	• The proponent has estimated Scope 3 emissions from the combustion of the product coal adequately. This estimate uses specific coal energy content from the mine and assumes that the coal is used for electricity

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			generation. Annual emissions from the use of product coal are approximately 7 Mt CO2-e per annum.
Surface Water	R4	59	The EPA notes that the project will generally be a nil discharge site under typical operating conditions and that the existing licensed surface water discharge points for both Cullen Valley and Invincible Colliery will be retained.
Surface Water	R4	60	The EPA also notes that a sizeable number of small sediment dams will be constructed throughout the life of. the project and it is the proponent plans to design and manage these dams such that there will be minimal water discharged *via* these dams. It would be the EPA's intention, should the project be approved, to require these miscellaneous smaller dams to be consolidated into a single point on the Environment Protection Licence with associated monitoring requirements and discharge limits. The EPA would discuss these requirements with the proponent as part of the preparation of the revised Surface Water Management Plan.
Waste	R4	61	The EPA notes that the proponent will develop and implement an Environmental Management System which shall incorporate a revised Waste Management Plan. The EPA is satisfied that the waste management controls described in the project are consistent with the current operations of the Cullen Valley Mine and the Invincible Colliery and are adequately regulated under their respective Environment Protection Licences.
Air Quality	R5	63	Air quality issues due to mining activities Health impacts from coarse particulate matter emissions associated with mining operations are of concern to NSW Health. As mine impacted populations are generally small compared to populations subject to urban air pollution it has been difficult to conduct robust health studies of mine affected communities. Nevertheless there is a growing body of evidence that populations subjected to elevated coarse particulate matter emissions from mines have an increased risk of adverse health outcomes, particularly on the respiratory system.1.2 Preliminary investigations by NSW Health in the Hunter Valley have also found an indication that mine emission affected communities may also be subject to increased rates of cardiovascular disease, a concern which is undergoing further investigation.
Air Quality	R5	64	The annual average background levels for PM_{10} and dust deposition used in the Air Quality Assessment were derived from monitors that are in close proximity to the township of Cullen Bullen and were established as: - Annual average PM10 = 12.8 µg/m3, and - Annual average dust deposition = 0.9 µg/m2/month

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Air Quality	R5	65	The annual average TSP was estimated from PM10 concentrations to be 31.9 µg/m3. These values include existing mining operations in the area and reflect the generally good level of air quality currently enjoyed by this community.
Air Quality	R5	66	We note that several residences within the boundary of the project (195, 196, 197, 198 and 199) are predicted to be subject to particulate matter impacts from the project that exceed DECCW assessment criteria and are already under Agreement, or under negotiation toward an Agreement. Due to the predicted high level particulate matter impacts from mining these properties should not be leased or otherwise occupied during the period they are subject to mine emissions.
Air Quality	R5	67	Beyond the project boundary there is also concern for long-term cumulative particulate matter exposure on the town of Cullen Bullen. For each of the years modelled (years 2, 8, 14 and 20), there is a predicted incremental annual average PM1Q in Cullen Bullen of 30 - 100%. This represents up to a doubling of the exposure to dust particles in the township and its community and thus an increase in the risk of residents experiencing respiratory problems known to be associated with coarse particulate matter exposure such as asthma. The World Health Organization guidelines indicate that an incremental exposure to PM10 of this magnitude could be associated with an increase mortality risk of 3%.
Air Quality	R5	68	We are concerned that the proposed "real-time management system" to reduce peak particulate matter emissions will have no impact on reducing the overall increase in long-term exposure to particulate matter for local residents. We recommend that Coalpac conduct further evaluation into measures to prevent or minimise dust impact. This may involve a change to the staging of the project so that the intensity of particulate matter impacts on the Cullen Bullen residents is reduced. We note that Coalpac also proposes to discuss with the other mines in the area ways to develop management measures when elevated dust levels are identified. However, there is no evidence or explanation within the proposal of how Coalpac and the other mines will conduct their operations if elevated dust levels are recorded and environmental conditions are unstable.
Air Quality	R5	69	Recommendations: That measures are required to minimise the increment in annual average PM10 in Cullen Bullen as far as feasible; That residences where predicted air quality impacts exceed DECCW criteria are not occupied.
Blasting	R5	70	Air quality issues due to blasting The Environmental Assessment does not include any local evaluation of the impact of blasting on air quality

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			for the township of Cullen Bullen. With the expansion of the mine operations there will be a very significant increase in the number of major blasts (up to 20 per month), and more frequent smaller blasts. Blasting for coal mining in the Hunter Valley is of great concern to that community. Several incidents have occurred where people have reported acute health effects in relation to mine blasts.
Blasting	R5	71	Due to the close proximity of Cullen Bullen including the public school to much of the proposed mining activity we recommend that a thorough site-specific health risk assessment of blast emissions is undertaken and that systems are in place to receive and respond to community concerns in relation to blast emissions.
Blasting	R5	72	Recommendations: That a detailed health risk assessment of the potential impacts of blasting on Cullen Bullen is undertaken; That measures to minimise exposure of local residents to blast emissions are implemented.
Noise	R5	73	Noise and Vibration We are concerned that the predicted mining noise levels as reported in the Acoustics Impact Assessment (Appendix H) will significantly affect the community of Cullen Bullen, especially the local school and the private residences that are predicted to have noise impact above the intrusive criteria. These noise assessments include normal mining activity, coal handling and processing, train loading, idling locomotives and operation of the product conveyor to Mt Piper Power station.
Noise	R5	74	Two residences are expected to experience mild noise impact during the daytime, while this increases to 13 and 14 residences during the day/evening and evening. A higher number of residences are affected when measuring noise impact over 25% of property area. Eighteen properties reportedly may experience moderate noise impact above the intrusive criteria at night, and 4 residences may experience significant noise impact. This increases to 9 residences that may experience significant noise impact when assessing noise impacts over 25% of the property area.
Noise	R5	75	The amenity criteria LAeq in Table 15 Adopted Operational Noise Criteria has been calculated based on the INP for rural residential as the type of receiver. No assessment appears to have been made for the Cullen Bullen Public School (Receiver 272) located within the township of Cullen Bullen. The INP, in Table 2.1 Recommended LAeq Noise Levels from Industrial Noise Sources, suggests that acceptable noise levels in a school classroom (internal) at the noisiest time of day should not exceed 35 dBA LAeq (1hour) with a recommended maximum of 40 dBA LAeq (1hour). These suggested acceptable criteria would be exceeded if the 50 dBA LAeq during the day amenity criteria is adopted (taking into account the reduction in noise level of approximately 10 dBA LAeq for inside the classroom).

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Noise	R5	76	There is increasing evidence internationally that environmental noise exposure may cause risk to public health, and is recognised by international bodies such as World Health Organisation (WHO) and the US Centre for Disease Control (CDC). There is some suggestion of the long-term effects of environmental exposure to noise on annoyance, sleep disturbance, children's performance at school, hypertension and ischemic heart disease.
Noise	R5	77	We recommend further evaluation of the proposed noise control measures and recognition of the importance of short- and long-term monitoring of noise impact at the project boundary and surrounding areas, with a commitment to further mitigate the impact of noise on the community.
Blasting	R5	78	The Acoustics Impact Assessment states that on some occasions up to 40 blast events per week or 10 events per day may be required for limited time periods. The ANZECC Guidelines, Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration (1990), recommends that blasting should only occur from 9am to 5pm, Monday to Saturday, excluding public holidays and that blasting should generally take place no more than once per day. (This requirement would not apply to minor blasts such as for clearing crushers, feed chutes, etc.).
Blasting	R5	79	The proposed Blast Management Plan should take into account the operational hours of the local primary school and avoid multiple blasts during school hours.
Blasting	R5	80	Furthermore with the mine operations increasing to 24-hrs, for 7 days a week, and with the proposal for increasing the number of blasts, Coalpac has not indicated how it plans to mitigate such impacts on community living and quality of life in the township of Cullen Bullen.
Noise and Blasting	R5	81	Recommendations: That noise and blasting impacts on occupied homes and Cullen Bullen Primary School are reduced as far as feasible.
Social	R5	82	The health status of people living in the Lithgow LGA is on many measures worse than in other parts of NSW. Communities such as Cullen Bullen already have high levels of relative disadvantage, making them more susceptible to additional health impacts from environmental stressors such as air and noise pollution.
Ecology	R6	85	OEH retains considerable reservations regarding the merits of the Project. Chief amongst these concerns include the significant encroachment of the proposed Project footprint on a previously relatively undisturbed portion of Ben Bullen State Forest, the whole of which has long been identified by OEH as being of suitably

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			high conservation value for future reservation under the *National Parks and Wildlife Act*. Proposals for future reservation of part of Ben Bullen State Forest also have the support of numerous environment groups including the Colong Foundation for Wilderness and the Blue Mountains Conservation Society. OEH has been working with other agencies to maximise positive reservation outcomes in the Gardens of Stone area, including Ben Bullen State Forest.
Ecology	R6	86	Moreover, OEH consider the Biodiversity Offset Proposal (BOP) to be inadequate in terms of the quantum of offset area. OEH notes that the proponent has acknowledged that shortfall and offers a monetary component in the State of Commitments (No. 24, p. 256); however, OEH does not believe supplementary measures or indirect offsets such as management funding should be considered by DPI unless it can be demonstrated that appropriate offset properties are not available. OEH has supplied details of additional properties that may be appropriate as offsets.
Ecology	R6	87	Enclosure 1. OEH Review of Biodiversity Impacts Unless otherwise stated, citations refer to Appendix J *Ecological Impact Assessment* of the Exhibited EA. ASSESSMENT OF BIODIVERSITY IMPACTS The proponent cites impacts on biodiversity resulting from the Project footprint of 957.98ha (Table 4.1, p. 4.3), which would include the removal of: • 835ha (834.62ha) of native vegetation (p. 4.2); • 18.44ha of *TSC Act* listed Box-Gum EEC (including 16.48ha of *EPBC Act* listed CEEC) (p. 4.14); • 278ha of *Eucalyptus cannonii* habitat (or an estimated 19,219 individuals) (p. 4.24); • 3.28ha of *Persoonia marginata* habitat (or an estimated 321 individuals) (p. 4.25); • 835ha of threatened and protected fauna habitat (pp. 4.26-4.35).
Ecology	R6	88	The proponent states that the remaining 123ha within the disturbance boundary includes Derived Native Grassland (DNG) "in various conditions" (p. S.6) and asserts that "Low Diversity Derived Native Grassland/Exotic provides very little ecological value" (p. S.6) and excludes these areas from the impact assessment; consequently, such areas "will not be offset" (p. 6.3). While the latter statement may be justified, other areas of higher diversity DNG which include Box-Gum EEC may indeed have ecological value. OEH therefore notes the following DNG impact totals, derived from Table 4.1 (pp. 4.2-4.3): • Total DNG (including high and low diversity DNG, and Box-Gum EEC) = 123.35ha • Total higher diversity DNG (including Box-Gum EEC) = 79.78ha

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			• Total non-EEC higher diversity DNG (excluding Box-Gum EEC) = 77.55ha • Total Box-Gum EEC DNG = 2.23ha
Ecology	R6	89	The corresponding impact on native vegetation excluding all DNG is 834.62ha, and excluding only "Low Diversity" is DNG 914.4ha. The proponent has therefore excluded 79.78ha of DNG that is not "Low Diversity" from consideration as an impact, which includes 2.23ha of Box-Gum EEC. OEH again recommends that the proponent provide justification for not including this area of higher diversity DNG in their calculation of impacts, and asserts that as a minimum impacts on native vegetation should include the DNG portion of Box-Gum EEC, which would increase the impact to 836.85ha.
Ecology	R6	90	In Section 6, in the proponent's discussion of offsets, Table 6.2 (p. 6.7) cites different impact totals to those presented in Table 4.1, namely: 818.71ha of "Non-C/EEC (native only)" compared with 818.41ha, respectively; and a total disturbance of 837.15ha compared with 834.62ha. These figures are stated to exclude "areas of low diversity native grassland and exotic grasslands" (p. 6.7), when in fact, elsewhere in the EA, the proponent's figure of 835ha obviously excludes <u>all</u> areas of DNG, including Box-Gum EEC, and not just "low diversity" areas.
Ecology	R6	91	OEH assert that consideration of all impacts and conversely, justification for excluding certain impacts from consideration, is essential, particularly as it relates to determining the adequacy of offsets (see below).
Ecology	R6	92	<u>Broad-headed Snake</u> At the request of OEH, the proponent has included consideration of the impact on the Broad-headed Snake in the EA, given that the species relies in equal measure on both rocky winter habitat and woodland forest areas containing hollow-bearing trees in summer. However, the proponent considers that the Project has "potential to have a significant short-term impact" only (p. I.117). Given the duration required for eucalypts to develop hollows (120-150 years, as cited by the proponent on p. 4.16), OEH consider that the Project would have a long-term impact on this species, particularly so considering: the population's potential isolation (the nearest record is 11km away); the species' propensity for high site fidelity to fixed and exclusive home ranges; and the limited dispersal of juveniles. Further, the proponent states that in "summer the species typically migrates about 200m from the sandstone escarpments to hollows in large trees below" (pp. I 114-115). OEH notes that such movements by the Broad-headed Snake have been measured at up to 780m, with a mean of 318m (Webb and Shine 1997). As a result, impacts 50m from winter habitat may greatly affect the summer movements of these snakes.
Ecology	R6	93	<u>Adequacy of Flora Surveys</u>

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			The EA cites the following threatened flora species that were targeted during surveys: *Derwentia blakelyi*, *Eucalyptus aggregata*, *E. cannonii*, *E. pulverulenta*, *Grevillea evansiana*, *G. obtusiflora*, *Persoonia marginata*, and *Prostanthera cryptandroides* (curiously, two species - *Leionema sympetalum* and *Persoonia hindii* - cited in a previous EA (July 2011) have now been excluded from this list). OEH note that the likelihood of occurrence of different threatened flora species has now been reappraised by the proponent in Appendix E. As a result, species identified by the proponent as having a "low" likelihood of occurrence (c.f. "moderate") have not been targeted for survey, irrespective of the occurrence of suitable habitat within the Project boundary. The following species that were identified in a previous EA (July 2011) as "could potentially occur" but which were not targeted for survey are: *Acacia bynoeana*, *Prostanthera stricta*, *Darwinia peduncularis*, *Persoonia acerosa*, *Thesium australe* and *Euphrasia arguta*. Although for each of these species the proponent states "Not detected during past or current surveys", highly cryptic species that occur at low densities such as *Acacia bynoeana* are extremely unlikely to be detected unless they are targeted for survey.
Ecology	R6	94	<u>Indirect Impacts and Edge Effects</u> In addition to the direct impacts resulting from the removal of native vegetation and habitats, there will be indirect impacts (as conceded by the proponent): "ecological impacts of the open cut could extend beyond the areas to be cleared and into areas of forest and woodland that are being retained" (p. 4.19); "Clearing of vegetation may increase edge effects on the retained portion of Box Gum Woodland" (p. 4.13); "fragmentation and edge effects will have consequences for the integrity of the remaining hollow-bearing forest" (p. 4.16); and "fragmentation and associated edge effects reduce the availability and quality of refugia for native fauna and increase feral access" (p. 4.39) (note that this is at odds with the proponent's assertion that "the Project is not likely to increase the presence of effects of feral species" (p. 4.39)). While the proponent allows a 20m area of influence around the edge of the *P. marginata* habitat to be removed, which increases the impact by 0.19ha, no other such recalculation of impact is presented.
Ecology	R6	95	The proponent states that edge effects will be mitigated by the implementation of "best practise measures to control impacts from erosion, sedimentation and associated weed invasion" (p. 4.19), in addition to the development of a Biodiversity Management Plan that would include feral animal control (p. 4.39). As stated above, however, an accurate estimation of the full impact of the Project remains essential.
Ecology	R6	96	BIODIVERSITY OFFSET PROPOSAL (BOP) <u>Financial Contributions as a Component of the BOP</u> OEH notes that the proponent is willing to contribute management funds for the development, implementation and management of GOS2 at a rate linked to coal production. This offer is different to situations where

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			management funds are paid to manage offset land bought by the proponent and transferred to OEH for reservation under the National Parks and Wildlife Act (that is, the land transfer to OEH is conditional on suitable management funds being provided). OEH's position is that any contribution to general parks management funding, whether or not linked to a land transfer, would need to be paid as an upfront lump sum or paid by instalments. If paid by instalments this must be backed up by a suitable form of security such as a bank guarantee. Moreover, any general parks management funding would need to be calculated on a measure that is not linked to coal production levels; the biocertification credit converter (OEH 2012) is available to calculate potential credit short falls and the amount of compensatory area and funds required to meet such short falls.
Ecology	R6	97	OEH acknowledge that up to 2.5 Million tonnes of coal p.a. of the total 3.5 Million tonnes p.a. of estimated production by the Project is intended for supply to the Mt Piper Power Station (EA Main Report, p. 216). In relation to this specific proposal, however, OEH does not believe supplementary measures or indirect offsets such as management funding should be considered by DoPI until it has been determined that no appropriate offset properties are available. OEH has provided details of potentially suitable properties to the proponent's consultants.
Ecology	R6	98	<u>Interpretation of Offset to Impact Ratios</u> As alluded to previously, OEH considers that there is still considerable uncertainty as to the actual biodiversity impacts of the Project, chiefly: the encroachment of edge effects on adjacent and retained vegetation and habitats; and the removal of DNG not classified as "Low Diversity".
Ecology	R6	99	An absence of data that can accurately and readily be used under the Biobanking Assessment Methodology (BBAM) precludes a quantitative estimate of the credits required to offset biodiversity impacts arising from the Project. OEH has nevertheless calculated offset to impact ratios (offset ratios) using raw area figures under different offset scenarios (Table 1). The following scenarios offer different interpretations of both the amount of impact and the amount of biodiversity proposed to be offset.
Ecology	R6	100	*Scenario 1* Takes into account all areas with vegetation, including DNG at the Project site. • Total offset ratio = 1.8
Ecology	R6	101	*Scenario 2 (best case scenario)* As presented by the Proponent, DNG is excluded from consideration as an impact, but not as an offset; the Proponent includes the future rehabilitation of such areas in the BOP.

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			• Total offset ratio = 2.1 • EEC offset ratio = 13.7
Ecology	R6	102	*Scenario 3* Excludes all DNG from consideration as an impact and an offset; the future rehabilitation of such areas is thus excluded from the offset ratio and only areas with an intact canopy are included. Similar to Scenarios 4 and 5 (below), this compares the current ecological condition of both the Project and Offset sites. • Total offset ratio = 1.3 • EEC offset ratio = 3.0
Ecology	R6	103	*Scenario 4* Only considers native vegetation that retains trees or areas of Box-Gum DNG EEC, and therefore excludes all future rehabilitation of non-EEC areas from the BOP. • Total offset ratio = 1.5 • EEC offset ratio = 12.0
Ecology	R6	104	*Scenario 5* Considers impacts and offsets for all areas that retain trees, areas of Box-Gum EEC, and all areas of DNG that were not typed as "Low Diversity" and which therefore retain tangible ecological value. • Total offset ratio = 1.5 • EEC offset ratio = 12.0
Ecology	R6	105	OEH supports the proponent's intention to rehabilitate previously cleared and disturbed lands that constitute the BOP. However, the BOP currently depends on a high proportion of future rehabilitation (38.4%, 672.11ha), and this is emphasized when under Scenario 3 in the absence of rehabilitation the total offset ratio decreases to only 1.3, and the offset ratio for Box-Gum EEC decreases to only 3.0. OEH considers that the proponent's interpretation of the offset ratio (Scenario 2) is very low and does not account for "time-lag effects, and the uncertainties and risks associated with actions such as revegetation", as cited under Principle 6 in the OEH *Principles for the use of biodiversity offsets in NSW*. To account for such risks and to compensate for the considerable time lag in achieving a net improvement in biodiversity, a higher ratio is required.
Ecology	R6	106	Reservation Considerations <u>Suitability of Proposed Offset Sites for Incorporation in the National Parks and Reserves System</u>

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			OEH sought internal advice from its Parks and Wildlife Group (PWG) regarding the suitability of the four offset properties in the BOP for future reservation in the National Parks and Wildlife Service Estate. PWG advised that at this point in time, none of the four properties would be suitable for this purpose. Consequently, OEH recommend that another form of in perpetuity conservation covenant would be required over all potential offset tenure.
Ecology	R6	107	OEH understand that some confusion has arisen regarding previous discussion around the suitability of one of the four offset blocks "Hyrock-Hartley" for addition to the reserve system. OEH note that in its comments on the July 2011 draft EA (24 August 2011), OEH provided specific advice on only the "Yarran View" property. Further, in OEH's advice on additional potential offset areas (email to Cumberland Ecology, 9 December 2011), in which the "Hyrock-Hartley" site was noted, it was emphasized "that more detailed assessment would of course be required before consideration as reserve additions … [and that] this advice purely concerns the priority of these properties as potential additions to the NPWS estate". Upon further consideration, given current concerns over discontinuity between this block and the existing reserve, PWG advised that this block is not suitable for reservation, at this time.
Ecology	R6	108	OEH acknowledges the proposed east-west link that the Hillcroft property would contribute to once rehabilitated and managed for conservation. OEH notes that the rehabilitated mine site would be needed to complete the link post-mining. OEH acknowledges that the maximum potential conservation gains of this offset vision will be best realised by rehabilitation aiming to maximise conservation outcomes and to have all parcels under one land manager in the future.
Ecology	R6	109	<u>Suitability of Rehabilitated Mine Sites for Incorporation in the National Parks and Reserves System</u> Given the level of biodiversity loss and topographical change as a result of mining, OEH has strong doubts that the proposed rehabilitation of the mine site will contribute to the achievement of a Gardens of Stone Stage 2 reservation proposal. Accordingly, OEH does not support the addition of the rehabilitated areas to the national parks and reserves system at this time (see comment above).
Ecology	R6	110	<u>Extent of Gardens of Stone Stage 2 reservation proposal</u> The environment groups' GoS2 reservation proposal which is referred to in the EA omits an area of Ben Bullen State Forest west of the Castlereagh Highway and north of Cullen Bullen. OEH confirms that its conservation interest is in the entirety of Ben Bullen State Forest, including areas not shown in the environment groups' proposals.
Visual	R6	111	<u>Pagodas</u>

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			The sandstone pagodas around the top of the edges of the plateaus in the area are significant geodiversity features which provide a range of crevice, cave and other refugia habitat types for biodiversity. The pagodas on the boundary of the proposed mining area are good examples of a distinctive landform found only in the "Pagoda country", a 50 kilometre long (600 km^2) belt centred on the western edge of Wollemi National Park, Gardens of Stone National Park and Ben Bullen State Forest. A substantial part of the main Pagoda area is not reserved within parks. The pagodas in the Blue Mountains are recognised as distinctive features (with limited distribution) that are significant on a national level. In recognition of the high scenic values of the plateau edge and pagodas it is important that: mining operations do not degrade the scenic amenity/vistas of the prominent line of dissected sandstone clifflines and pagodas in Ben Bullen State Forest and a sandstone plateau on the western side of the Castlereagh Highway north of Cullen Bullen; and mining operations/blasting will not cause collapse/subsidence cracks to the sandstone plateau edge, clifflines and pagodas. OEH notes that although the open-cut will not extend to within 50 metres of pagodas and escarpment areas, highwall mining will reach up to 300 metres beneath these features.
Ecology	R6	112	OEH notes that the report does not contain a detailed assessment/survey of geological and geodiversity values on the plateau edge and within the proposed mining area. However, mitigation and management measures are outlined in various sections of the report. OEH seeks clarification of the meaning and agreed definitions for pagodas, cliff lines, rock outcrops and other geodiversity elements, as interpreted by the Proponent.
Aboriginal Cultural Heritage	R7	83	The Office of Environment and Heritage (OEH) has reviewed the exhibited Coalpac consolidation Project (10-01178, the project Environmental Assessment (EA). Our comments on biodiversity were supplied on 1 June 2012. This letter covers Aboriginal Cultural Heritage. OEH has found the EA to be adequate in relation to the assessment of Aboriginal Cultural Heritage for this project. OEH would like to provide comments in relation to the proposed Aboriginal Cultural Heritage Management Plan (ACHMP) for this project. An Aboriginal Cultural Heritage Management Plan (ACHMP) directs the implementation of management strategies for Aboriginal cultural heritage in major projects approved under Part 3A of the *Environmental Protection & Assessment Act* (1979). The intent of ACHMPs is to frame the measures and responsibilities to protect Aboriginal cultural heritage for the life of the project and/or duration of the ACHMP. It is to provide clear and relevant, directions and instructions for the day-to-day management of all known and potential Aboriginal cultural heritage issues across the Project area. It should be subject to periodic review and be updated if required. The Office of

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			Environment and Heritage (OEH) has prepared a checklist to assist proponents of Part 3A Major Projects in the development of an ACHMP (see attached). The checklist informs proponents of the processes and procedures outlined within a ACHMP including the statutory requirements of the *National Parks & Wildlife Act* (1974), and accord with OEH's operational polices and guidelines for the protection and management of Aboriginal cultural heritage.
Aboriginal Cultural Heritage	R7	84	The ACHMP including with the Environmental Assessment did not include the following: • Roles and Responsibilities of all parties • Dispute resolution clause • Compliance and Procedural Breaches Clause • Communication protocols • Review Clause • Assignment Clause • Length of Agreement Clause • Variation Clause • Definitions Clause
Traffic & Transport	R8	113	RMS will not object to the proposed development and provides the following requirements: The design and construction of the overpasses of the Castlereagh Highway will be administered through Works Authorisation Deeds entered by the proponent with RMS. The Deeds will provide for the specifications to be met in the design and construction of an overpass following consultation with RMS Project Services Manager.
Traffic & Transport	R8	114	Castlereagh Highway Overpasses The bridge structures over the Castlereagh Highway are to be designed and constructed to RMS requirements, including (but not limited to): • Compliance with *AS 5100 Bridge Design*. • Minimum vertical clearance of 6.5 metres from the highway centreline to the underside of the road bridge structure. • Minimum vertical clearance for the conveyor bridge is to be not less than the existing bridge over the Castlereagh Highway immediately south of Boulder Road. • Minimum horizontal clearance of 14 metres for a two lane highway. This clearance must be increased by

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			the width of any additional lanes and any medians. This clearance applies to both the road and conveyor bridge. • Wire rope safety barrier between the carriageway and a bridge structure will require 1.5 metres back clearance from the barrier to the bridge structure. • The applicant will be responsible for maintenance and subsequent removal of the proposed overpass structures at the completion of the mine operation and will be required to lodge a security deposit/bond adjusted annually for Building Price Index increase as part of the Deed/s to ensure this. • The bridge structures and approaches are to be designed to minimise impacts on maintenance activities required within the road reserve. Maintenance activities required for the bridge structures are to be carried out from within or on the bridge structure. • The RMS concurrence role as provided for by the Section 138 of the *Roads Act 1993* and consent role as provided for by the Works Authorisation Deed includes all works affecting the Castlereagh Highway (HW18).
Traffic & Transport	R8	115	Road Bridge over Castlereagh Highway • Traffic management during construction has not been addressed in the Environmental Assessment. If a sidetrack of the Castlereagh Highway is required, this will need to cater for two−way traffic during construction of the proposed overpass. Sidetrack requirements are to be designed to 90km/h standard with an 80km/h speed zone throughout. The sidetrack is to be a minimum 9m width seal and verge with edge line marking. The pavement is to be minimum 400mm pavement thickness; the pavement design is to be approved by RMS. The sidetrack is also to be designed to cater for oversized loads up to 8m wide that travel the highway.
Traffic & Transport	R8	116	Existing Invincible Colliery Castlereagh Highway Access • RMS notes the Environmental Assessment acknowledges existing concerns with overtaking manoeuvres in proximity to the existing Highway access. RMS suggests that the applicant assess the intersection in conjunction with RMS to determine appropriate treatment to address these concerns.
Traffic & Transport	R8	117	General • Any proposed road facilities and intersection treatments are to be in accordance with the *Austroads Guide to Road Design* and RMS supplements, including the provision of safe intersection sight distance. The RMS supplements to the *Austroads Guide to Road Design* are available online at www.rta.nsw.qov.auldoin.qbusinesswithus/ausroadsquides/road desiqn.html • All non general−access vehicles will need to be approved by RMS and the appropriate gazettal obtained for

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			use of the road network, including local roads. • All arrangements for the control of traffic on a state road shall be in accordance with RMS publication *Traffic Control at Work Sites.* A Road Occupancy Licence is required prior to any works commencing within 3m of the travel lanes of the Castlereagh Highway. This can be obtained by contacting Mr Paul Maloney on 02 6861 1686. Submission of a traffic control plan is required as part of this licence. • Road Safety Audits are to be conducted at the design and pre−opening stages in accordance with *Austroads Guide to Road Safety Part 6: Road Safety Audit (2009).* The developer is responsible for mitigating deficiencies noted within the audit report. This is relevant for works impacting on the Castlereagh Highway. • The applicant is required to obtain permits for any oversized and over−mass loads from the RMS Special Permits Unit in Glen Innes, Ph 1300 656 371. • All works associated with the project including consultation and planning will be at no cost to RMS.
Traffic & Transport	R8	118	RMS WAD Advices Advice to the Developer for inclusion in Notice of Determination under 'Advices' • Conditions of development consent do not guarantee RMS' consent to the specific road works, traffic control signals and /or other structures or works for which it is responsible. The Developer must obtain RMS' authorisation in writing prior to the commencement of any road works on the Castlereagh Highway, including traffic management, temporary or permanent road works associated with the proposed development. • Following development consent, early discussion with the RMS Project Manager is recommended. RMS will initiate the WAD process by sending out a letter and information pack on receipt of the Project Approval, including the name and contact details of the RMS Project Manager. • As the WAD process, including acceptance of design documentation and construction can take considerable time, you should allow sufficient lead time within the project development program to ensure that all documentation and works are completed in advance of operation. RMS will not consider granting concurrence to occupation until it is satisfied all documentation and works under the WAD have been completed. • Authorisation to commence construction will only be granted when RMS is satisfied that all requirements under the WAD have been met by the Developer, including RMS' fees and charges, an unconditional bank guarantee for the full value of the works, detailed design

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			documentation, environmental assessment, road occupancy license, among other matters. RMS will issue a letter to the Developer advising of this authorisation. • Any property acquisition /dedication required to accommodate the State road works associated with the proposed development shall be at full cost to the developer, including all legal and survey costs. This land shall be dedicated by the Developer as public road reserve in favour of the Council, as the owner. • Part of the Developers timeline should make provision for RMS to satisfy its obligations under the *Environmental Planning and Assessment Act 1979* (EP&A Act) to assess the environmental impacts of the works within the road reserve. Further investigation and assessment to that undertaken for the development consent may be required to the satisfaction of RMS, under Part 5 of the EP&A Act. • It is recommended that the developer use design consultants with the experience and knowledge of the RMS' design requirements, in particular the Austroads Guide to Road Design (with RMS supplements) and relevant Australian Standards. • Construction on a State road requires the engagement of an RMS pre−qualified contractor. A list of pre−qualified contractors can be found on the RMS website below. http://www.rta.nsw.qov.auldoinqbusinesswithus/tenderscontracts/preq ualifiedcontractors.html
Traffic & Transport	R8	119	Advice to the Consent Authority • On the Minister's determination a copy of the Project Approval should be forwarded to RMS within the appellant period for advice, consideration and/or action where required.
Surface Water	R9	120	The SCA has reviewed the Environmental Assessment (EA) and notes that most of the Project area is located outside the Sydney drinking water catchment, except for the southern section of the overland conveyor to the Mount Piper power station (MPPS). This part of the overland conveyer is located within the Upper Cox's River sub-catchment, and the SCA's comments relate only to this part of the Project. As the southern section of the overland conveyor that links the Project to MPPS has the potential to adversely impact on water quality, it is important the construction and operation of this section of component is undertaken in a manner that does not adversely affect the quality of surface and ground waters. The SCA Board has endorsed a set of Mining Principles (see Attachment A) that provide a framework, consistent with the SCA's statutory role, for consideration in the assessment and management of any current or proposed mining activity and impacts on the SCA's catchment infrastructure works and its area of

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			operations. The Mining Principle relevant to this Project is the *protection* of *water quality.* The SCA considers that there could be water quality impacts related to construction works for the southern section of the overland conveyor, and coal spillage from the conveyor during the operational stage. These matters have not been specifically considered and addressed in the EA. The SCA requests that the water quality impacts resulting from the construction and operation of the overland conveyor be addressed in Conditions of Approval as part of the Water Management Plan. The SCA would appreciate being involved in any further environmental assessment associated with the application and the opportunity to comment on any draft conditions. The SCA in particular requests that the Water Management Plan and associated drawings be provided to the SCA for review and comment.
General	R10	424	The Central West Catchment Management Authority (CMA) has previously provided comment into the Coalpac Consolidation Project Adequacy Assessment, particularly in the areas of: • Native Vegetation (including biodiversity values); • Water (surface and ground water); • Cultural Heritage and engagement with the Aboriginal community; and • Community engagement in an ongoing capacity. The basis of this response to the Environmental Assessment will be focussed on these areas and how the issues raised by us have been addressed. The Central West CMA acknowledges the engagement that has occurred with NSW State agencies that have a role in natural resource management and will therefore support their comments in their specific areas of expertise. The Central West CMA notes the reference to the Central West Catchment Action Plan (2007) in section 5.6.6 of the Environmental Assessment. The Central West CMA acknowledges the specific assessment of consistency with the Catchment Action Plan (2007) and the targets outlined in the Plan. We would like to inform the proponents that the Catchment Action Plan (2007) has recently undergone a major review and is currently with the Minister for Primary Industries awaiting approval and gazettal. This is noted specifically to ensure that the proponent is aware that the new plan has a focus on resilience in the landscape and seeks to build the adaptive capacity of physical and social systems to the impacts of the change. A copy of the reviewed Catchment Action Plan can be found on our website at www.cw.cma.nsw.gov.au and the Central West CMA suggests the proponent establishes a level of familiarity with the new approach and catchment goals.
Ecology	R10	425	The amount of native vegetation within the endangered ecological community (EEC) for Box Gum Woodland

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			and threatened species that will be impacted by the proposed project, continues to be a concern for the Central West CMA. It is acknowledged that the Biodiversity Offset Strategy outlines an offset for the endangered EEC for Box Gum Woodland. It is stated that this will be achieved through the purchase of properties in the area. To ensure the full benefit of the offset, the Central West CMA reinforces the need for offsetting equivalent quality of EEC and native vegetation, therefore ensuring the need for preserving 'like for like' in terms of state and transition, and the subsequent biodiversity values. The Central West CMA acknowledges the intent of the offset area to build on existing patches of remnant vegetation and wildlife corridors. This is a focus in the reviewed Catchment Action Plan and if the proposal is approved, the Central West CMA would welcome a partnership opportunity with Coalpac to work with neighbouring landholders and further enhance these values.
Aboriginal Cultural Heritage	R10	426	The Central West CMA notes the consultation with the Aboriginal community as outlined in the Environmental Assessment. The staged approach of consultation and the inclusion of local community representatives during the field work component of the assessment is to be commended. It is vital that the consultation with the Aboriginal community remains during any operational phase of the project.
Social	R10	427	The range of approaches for community engagement is noted in the report and it is felt that community engagement has been well demonstrated. The Central West CMA encourages the ongoing measures for community engagement as outlined in the Environmental Assessment.
Ecology	R11	446	The totals in table 46 are inconsistent with other parts of the document.
Ecology	R11	447	Section 4.2.3 of Appendix J does not include an analysis of vegetation condition including the method by which it was determined. Further information on the vegetation communities on the project area is required including: Clear description of the EPBC listed CEEC White Box - Yellow Box - Blakeley's Red Gum and Derived Native Grassland Ecological Community (box gum woodland) ie vs State Listed Endangered Ecological Community. Definition of "Condition C" and "Condition B". Discussion on the direct, indirect, cumulative and facilitative impacts on habitat critical to the survival of box gum woodland Clarification of why impacts of highwall mining on the CEEC are likely to be minimal Area (ha) of Box Gum Woodland within the Project Boundary subject to highwall mining The EPBC referral noted that approximately 40ha of CEEC box gum woodland would be impacted as a result of the project, however the EA states that only 16 ha of the community will be removed – please elaborate.

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Rehabilitation	R11	448	Although the department acknowledges and encourages the intention to undertake re-establishment of the relevant vegetation community's rehabilitation on the offset areas, rehabilitation can be lengthy and successful re-establishment of fully functional vegetation community is high risk. In order for the consideration value of rehabilitation activities to be evaluated, further information about implementation objectives, monitoring and ongoing management is required. For example: • The proposed timeframes for rehabilitation at this site including the anticipated time for the area to have reached the status of a mature, fully functional ecosystem. • Examples where these timeframes have been achieved on other similar rehabilitated sites. Please note the department considers rehabilitation of the mine site to be part of best practice.
Ecology	R11	449	Further clarification of the impact on MNES and proposed offset is required. For example, Page 238 of the EA states that Yarran View contains 223 ha of EPBC listed Box Gum Woodland and Derived Native Grassland, but Table 47 on page 232 of the EA states that it contains 43.01 ha of box Gum Woodland and 143.77 ha of Box Gum Woodland Derived Native Grassland (43.01 + 143.77 = 186.78 ha, not 223 ha). Table 48 on Page 246 of the EA states that 221.7 ha of the CEEC is in the offset areas. Page 4.14 of Appendix J further states that 221.7 ha of Box Gum Woodland and Derived Native Grassland will be conserved within offsets, without stating how much of that is the EPBC listed community. It is important to consistently distinguish information on EPBC-listed species and communities throughout the document
Ecology	R11	450	Please provide a summary offset table clearly stating, at a minimum: a) how much of the EPBC listed ecological community is being impacted as part of the project; b) how much habitat for each EPBC listed threatened species is being impacted ; and, c) how much land is to be set aside for offsets for each ecological community (eg Box Gum Woodland) and threatened species eg Capertee stringybark, swift parrot, regent honeyeater, leek orchid)
Subsidence	R12	435	Fisheries NSW, under the Fisheries Management Act 1994, aims to ensure developments achieve no net loss of aquatic habitat and fisheries resources. To meet this aim the following conditions of approval are sought: (1) Prior to construction commencing, the applicant must prepare a detailed Environmental Monitoring Program as part of a Subsidence Management Plan. This Plan should include the monitoring of surface

Category	Submission ID	Issue ID	Issue
			water drainage lines for subsidence impacts as well as monitoring of impacts on swamps, wetlands, and water dependent ecosystems for subsidence impacts.
Subsidence	R12	436	(2) Fisheries NSW is to be notified if monitoring detects significant impacts on 3rd order surface drainage lines (under the Strahler Ordering System) as a result of subsidence.
Forests	R13	437	Under the Forestry Act 1916, Forests NSW has management responsibilities and control of all lands within dedicated State Forests. Under the Mining Act 1992, Forests NSW is aloes the registered landholder of all lands within State Forests. The following comments are provided on the matters address in the Environmental Assessment dated March 2012: 1. The mine must enter into a compensation agreement with the landholder (Forests NSW) prior to mine operations commencing for the full and final settlement to occur. Any infrastructure or site disturbance which may occur outside of the Mining Leas(s) will require an Occupation Permit with associated terms and conditions.
Forests	R13	438	2. Forests NSW manages Ben Bullen State Forest for values that include timber production and forewood removal: a) Appendix U fo Volume 5 Forestry Assessment provides estimated of timber value by prduct type and harvest regime i.e. salvage vs. sustainable yield as supplied by Hansen Bailey. It must be noted that these figures remain estimates and not final valuations agreed by both parties/. Formal valuations shall be finalised as part of the compensation agreement referenced in point 1 with Forests NSW. Forests NSW welcomes the detail of work which has been undertaken as part of the EA process; work which shall be of use in the final valuation process.
Forests	R13	439	b) Compensation arrangements may be required to cover other costs arising from mine activities impinging on remaining Forests NSW land or operations. The extent or requirement for such compensation shall be discussed in detail during the compensation agreement drafting phase.
Rehabilitation	R13	440	3. Rehabilitation requirements should make refer to the surveyed vegetation types as detailed in Appendix A of the Forestry Assessment and be ground by the sample plots distributed in Appendix C of the same. The establishment and ongoing surveying of reference sites within the surrounding vegetation types can provide a benchmark for final rehabilitation and would assist in ensuring that successful rehabilitation standards are achieved.
Rehabilitation	R13	441	4. All removed vegetation must be handled responsibly and lawfully by the proponents. Removed vegetation must be handled in a way which does not compromise the safety of Forests NSW stakeholders.

Category	Submission ID	Issue ID	Issue
General	R13	442	5. All maps must show proposed developments and include tenure information.
General	R13	443	6. All associated developments/infrastructure (e.g. powerlines, monitoring sites) required outside of the mining lease area on land other than that owned by the Mine should be identified in the EA.
Bushfire	R13	444	7. Appendix S must make reference to the risk of wildfire. Consideration of a bushfire management plan in consultation with adjoining fire management authorities NSW Rural Fire Service and Forests NSW is recommended.
General	R13	445	8. Appendix S must make reference to the risks of general Forests users entering into the mine site. Man proof fencing would be a recommendation, particularly around exposed rock faces and pit edges. Signage on roads and entering any timber felling zones is also imperative.
Traffic & Transport	R14	451	CRIA's review of the Coalpac proposal has highlighted the following issues which may need to be considered when assessing the project: · There does not appear to have been any inclusion of the rail owner or maintainer in stake holder consultations. · The proposal has an option of two rail routes. Both use the corridor from Kandos to Wallerawang, and Wallerawang to Bowenfels. · The primary route will use RailCorp's network from Bowenfels to Port Kembla which would require RailCorp input. · The secondary route will use RailCorp's network from Bowenfels to Macarthur, and ARTC's network from Macarthur to Moss Vale and Moss Vale to Unanderra which would require ARTC input. · If the construction of the Maldon – Dombarton rail line goes ahead this would provide a shorter travel path within the secondary route. CRIA owns the Maldon – Dombarton corridor, but RailCorp is the constructing authority.
Traffic & Transport	R14	452	· The proposal will include the construction and operation of a bridge and haul road across the Wallerawang – Gwabegar Railway. From the report It is not clear if this will be an underbridge or overbridge. It will also include the construction of a rail siding and associated infrastructure. The proposed location and configuration of this infrastructure is not detailed in the assessment. Both of these items of infrastructure should be covered by agreements with the proponent. Designs for both items would need to be submitted to CRIA's Rail Infrastructure Manager (John Holland Rail) for comment and subsequent approval.
Traffic &	R14	453	· No new level crossings would be approved for the project.

Category	Submission ID	Issue ID	Issue
Transport			
Traffic & Transport	R14	454	The proposal has an option of two rail routes. Both use the corridor from Kandos to Wallerawang, and Wallerawang to Bowenfels. The primary route will use RailCorp's network from Bowenfels to Port Kembla which would require RailCorp input. The secondary route will use RailCorp's network from Bowenfels to Macarthur, and ARTC's network from Macarthur to Moss Vale and Moss Vale to Unanderra which would require ARTC input.
Traffic & Transport	R14	455	If the construction of the Maldon – Dombarton rail line goes ahead this would provide a shorter travel path within the secondary route. CRIA owns the Maldon – Dombarton corridor, but RailCorp is the constructing authority.
General	R15	590	I refer to your letter of 23 March 2012 inviting comments and recommended conditions of approval from the Division of Resources and Energy (DRE) of the Department of Trade and Investment, Regional Infrastructure and Services (Department of Trade and Investment), on the proposed Coalpac Consolidation Project. DRE has reviewed the Coalpac Consolidation Project Environmental Assessment (EA) dated March 2012. DRE's review focused on resource utilisation and rehabilitation for which the Department of Trade and Investment has legislative responsibilities. DRE's review was expanded to also include the following issues that have potential consequences with respect to rehabilitation: • Subsidence due to highwall mining (Section 8.1); • Historical subsurface heating (Section 8.4); • Geochemical - potential for acid mine drainage (Section 8.11).
General	R15	591	<u>General</u> The proposal aims to consolidate the infrastructure, resources and expand operations at the company's Invincible and Cullen Valley Collieries. The proponent's proposal to utilise alternative transport methods (such as overland conveyors and rail) rather than relying solely on road transportation deserves merit. The alteration of the original mine plan to avoid open cut mining in areas that have a higher conservation value is also noted. With the amount of native vegetation clearing required as part of the project (835 hectares of native forest and woodland), the successful and progressive rehabilitation of the land disturbed during the project is crucial to ensure that the project is environmentally sustainable and environmental impacts (such as dust and water quality) are minimised.

Category	Submission ID	Issue ID	Issue
Economics	R15	592	Resource Utilisation The Coalpac Consolidation proposal appears to fully utilise the coal resources within the Illawarra Coal Measures and not sterilise any potential underlying coal resources. The use of the highwall mining method should allow for maximum coal recovery within areas previously mined. The proposed open cut mining should also maximise resource recovery and allow for follow up sand quarrying of the Marrangaroo Formation.
Subsidence	R15	593	Subsidence The EA outlines that highwall mining is proposed within areas containing sensitive landscape features such as sandstone pagodas. The proposed remnant highwall from open cut operations will be maintained at a distance of 50 metres from escarpment and pagoda rock formations, with highwall mining continuing beneath these areas to a distance of over 300 metres. Geotechnical assessments (including a peer review) of the highwall mining method, dimensions and pillar widths (incorporating a factor of safety of 1.3) has indicated that subsidence will be less than 20 mm (typically 10-15mm). Based on this information and the observations of the use of highwall (auger) mining used previously at both Cullen Valley and Invincible Collieries, DRE wish to raise the following points: • DRE understands that that auger highwall mining previously used by Coalpac was unsuccessful and abandoned as the alignment of the auger (azimuth and horizontal control) was impacted by the geology. • As the alignment of the highwall mining shafts (and more importantly the resulting pillars) are crucial to ensure subsidence is minimised and the sensitive surface features are not impacted, DRE will recommend that a program of subsidence monitoring be developed by the proponent for approval by the Department's Principal Subsidence Engineer.
Subsurface Heating	R15	594	Historical Subsurface Heating The subsurface heating (combustion) at the Cullen Valley Colliery has been a concern to DRE for some time. Coalpac proposes to leave a 50 metre barrier surrounding the flooded Tyldesley Colliery workings in order to retain groundwater levels in the workings and effectively provide a barrier of flooded mine workings to stop the spread of the underground combustion. DRE believes that uncertainty remains concerning the impact on water levels from the open cut mining. Although modelling has provided some indication of the water balance in this area, various uncertainties (such as faulting, and unrecorded mine workings) may have an impact that cannot be predicted. Taking into consideration the planned expansion, relying on the flooded workings as a barrier to the spread of the underground combustion in the long term is not seen as a viable option by DRE. These considerations provide further justification as to why the management of heating (combustion) should involve the eventual

Category	Submission ID	Issue ID	Issue
			extinguishment. DRE will require Coalpac to expedite the Department's earlier request for the development of a suitable management plan or strategy that comprehensively addresses the main section of subsurface heating with the ultimate aim of extinguishment and carrying out the rehabilitation of impacted areas. DRE is seeking Coalpac's commitment to permanently extinguish the heating area and rehabilitate the area in a timely manner.
Geochemistry	R15	595	Geochemical - potential for acid forming material Acid forming material has historically caused localised issues with acid mine drainage at Invincible Colliery. The EA has identified that coarse rejects from the Lithgow Seam are 'potential acid forming' (PAF - high capacity) and therefore are required to be segregated for special treatment at disposal (Le. deep in-pit burial and 5 metres of cover). DRE believes that the proposed management of the PAF would be difficult as several coal seams are processed through the proposed processing plants, and segregation of the Lithgow Seam rejects may be difficult to achieve from a practical standpoint. In addition to this, the potential for PAF in the Marrangaroo Sandstone and inter-burden requires further scrutiny. DRE will recommend that a comprehensive monitoring and management plan be set up to ensure PAF material is managed correctly, not leading to acid and metalliferous drainage and impacts to rehabilitation. All acid mine drainage issues at Invincible Colliery must also be rectified as part of the expansion project.
Rehabilitation	R15	596	Rehabilitation and Final Landform The rehabilitation strategy presented in the EA, primarily in Section 8.24 is supported by DRE. DRE's main concern is the extent of native vegetation clearing required as part of the project (835 hectares of native forest and woodland). DRE notes that this clearing will occur over a 20 year period and progressive rehabilitation will minimise the active footprint of the mine. The EA states that "final slopes will be predominately formed at 18 degrees or less". This is an ambiguous statement, which is proposed to be clarified by providing performance criteria limiting rehabilitation to final rehabilitated slope to 18 degrees or less. The development of a rehabilitation plan that clearly demonstrates how the progressive rehabilitation will be conducted, managed and monitored is critical in minimising environmental impacts. Mine site rehabilitation is administered by DRE under the *Mining Act 1992* via a Rehabilitation Management Plan prepared in accordance with the Departments rehabilitation guidelines, which are currently the *Guidelines to the Mining, Rehabilitation and Environmental Management Process*. The Rehabilitation Management Plan must also

<table>
<tr><th>Category</th><th>Submission ID</th><th>Issue ID</th><th>Issue</th></tr>
<tr><td></td><td></td><td></td><td>address the subsurface heating and geochemical issues identified above.
Although the rehabilitation section of the EA does not nominate the likely area of disturbance before rehabilitation is conducted (active footprint), calculation of proposed exposed active footprints (active mining and dump area) was undertaken for the "worst case scenarios" during Year 2, Year 8, Year 14 and Year 20 in the Air Quality Impact Assessment (Appendix G). Based on these calculations, the largest
exposed area for active mining and dumps of 176 hectares would occur in Year 14. This maximum level of active mining disturbance (involving the active mining areas and overburden dump areas) is proposed by DRE to be used in developing a performance criterion for progressive rehabilitation.</td></tr>
<tr><td>General</td><td>R15</td><td>597</td><td><u>Recommendations</u>
Based on the review of the EA, the following recommendations are made by DRE:
1. That the proponent develop a program of subsidence monitoring for approval by the Department of Trade and Investment's Principal Subsidence Engineer prior to highwall mining operations being conducted.
2. That performance criteria are stipulated in the development consent conditions in accordance with the following table:
<table>
<tr><th></th><th><u>Item</u></th><th><u>Performance Criteria</u></th></tr>
<tr><td>1</td><td>Final Landform</td><td>All rehabilitated slope angles less than 18 degrees, fre
void</td></tr>
<tr><td>2</td><td>Extinguishment of subsurface heating</td><td>Extinguishment of all subsurface combustion in heatin
emplacements and underground mine working before
within 1 km of these areas.</td></tr>
<tr><td>3</td><td>Management of Acid Generating Material</td><td>All washery rejects to be treated as potential acid gen
managed separately from general overburden emplac
the Rehabilitation Management Plan.
The acid generating material located at the existing In
Drying Area to be remediated within 3 years of the cor
accordance with the Rehabilitation Management Plan.</td></tr>
<tr><td>4</td><td>Progressive Rehabilitation</td><td>Active mining areas and un-rehabilitated dumps to be
area not exceeding 180 hectares.</td></tr>
</table></td></tr>
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Category	Submission ID	Issue ID	Issue
			3. DRE's standard Rehabilitation Management Plan condition be included in any development consent condition that may be granted to ensure that rehabilitation and the above specific issues raised are administered by the Department of Trade & Investment, Division of Resources & Energy. The Rehabilitation Management Plan format and content is to be in accordance with the Department's most recent Mining Operations Plan guideline.
General	R15	598	Summary DRE supports the proposed expansion and consolidation of the Cullen Valley and Invincible Collieries. The proposal will utilise the valuable energy resource within the area and provide certainty of employment for the collieries 90 fulltime employees. The need to provide continuity of coal supply to the Mount Piper Power Station (and potentially Wallerawang Power Station) confirms the need for this project.
Special Interest Groups			
General	SIG1	121	1. Preamble The Society draws attention to the outrageous practice whereby a very substantial document is placed on public exhibition over the Xmas-New Year period. It has taken Coalpac and its various consultants at least 18 months to develop this proposal, yet the public exhibition period and opportunity to assimilate the document, and then make a submission is about 8 working days. This seems extraordinarily unbalanced, irrespective of the statutory requirements. SEWPaC may see the period as adequate, but it should consider the following: (a) The Society has about 900 members and is an entirely volunteer organisation run by a Management Committee. It has no paid consultants to call on and must rely on the very small number (<10) of our members who have sufficient expertise to deal with the issues.
General	SIG1	122	(b) This is not the only massive document put out by State and/or Federal Governments relating to the Western Coalfield and requiring consideration by the Society over this holiday period – in fact, based on previous patterns, there seems to be a 'deliberate' attempt to place such documents on exhibition at a time when a properly considered evaluation is least likely – the author of this submission has two other such documents needing attention. The Society notes that "there is currently no statutory possibility for a period of 'non-acceptance of referrals' over the Christmas/New Year holiday time" (Lucy Butterfield, 21/12/2010). This clearly shows that, as has long been apparent, big-budget companies aim to reduce input from

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			environmental organisations by targeting the period when volunteers are maximally inconvenienced and least able to comply with rigid time-frames.
General	SIG1	123	(c) The Preliminary Environmental Assessment under Part 3A of NSW has not yet been made available for public comment, and in the Coalpac Newsletter for October (received by BMCS on 06/12 from the Colong Foundation - not from the Company), another 7 stages of the process were needed before the DA was to be publicly advertised, and 8 stages before the DoP was to request a public response. There has been NO other chance for a community organisation to consider the proposal.
General	SIG1	124	The Society appreciates that SEWPaC is constrained by statutory matters, but it must surely be clear that the present system is designed to accommodate 'big-ticket' organisations with salaried staff, whereas volunteer organisations with social and/or environmental concerns are substantially disadvantaged.
Greenhouse Gas	SIG1	125	2. General considerations 2.1 Greenhouse gas emissions (GGE) and climate change A price on carbon seems to be inevitable. NSW and Australia will struggle to meet GGE targets. 'Clean coal with geosequestration' continues to be experimentally feasible, but is far from being a practicable solution to coal-fired power production. At best, the technology (when/if finally developed on a commercial basis) will be applied on a limited scale in Queensland, but costs will generally be prohibitive and render it uncompetitive with renewable energy sources. The alternative is even more outrageous government (=taxpayer) subsidisation of the coal-fired power industry, which may attract the attention of the Australian Consumer and Competition Commission (see Brian Robins, Coalmine subsidy will harm competition…, SMH Dec 22 2010, News p6).
General	SIG1	126	Despite the above, Coalpac is aiming to (PEA1 p1) "consolidate the operations and management of the Cullen Valley Mine and Invincible Colliery sites under a single, contemporary planning approval to allow coal mining operations within its current mining tenements to continue for a further period of 21 years." It seeks this on the basis that the company will continue supplying coal (PEA p3) "to the local Mount Piper Power Station (MPPS) and (emergency supply to) Wallerawang Power Station, with flexibility for supply to additional domestic destinations and Port Kembla for export".
Sand / Rehabilitation / Economics	SIG1	127	The Society also notes that Coalpac intends to exploit the Marangaroo Sandstone horizon, immediately below the Lithgow Coal Seam in the northern coal mining area of Cullen Valley Mine. Coalpac proposes crushing on site for rail transport to Sydney (PEA p3). The implications for GGE are relatively minor, as long as rail transport rather than trucking is used. However, depending on the price per m3 delivered in Sydney, it could compromise Sydney's expanding industry based on the highly desirable recycling of construction

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			materials. In addition, it raises many questions about rehabilitation (see below).
General	SIG1	128	2.2 Changing values Partly due to GGE and climate change (section 2.1), but also due to a clearer understanding of the economic and social value of the environment at regional and local scales, it is no longer acceptable for coal mining to be approved regardless of consequences. It was once sufficient to provide (say) 30 jobs with flow-on effects, sponsor local events, mention 'community' benefits and emphasise royalty payments to gain approval, irrespective of the $millions flowing to the company and its shareholders. Now, from society's viewpoint, it would seem that the environmental and social costs may be of similar or even greater magnitude than the coal-profits foregone.
General	SIG1	129	The above is illustrated by three excerpts from the report by the NSW Planning Assessment Commission (PAC) on the Bulli Seam Operations, July 2010, Parts 1 and 52. PAC BSO Part 1 piv: *"The Panel is of the view that it is no longer a viable proposition for mining to cause more than negligible damage to pristine or near-pristine waterways in drinking water catchments or where these waterways are elements of significant conservation areas or significant river systems."* PAC BSO Part 1 pv: *"…the benefits of protecting significant natural features…are likely to be of a similar magnitude to the mining profits that would have to be given up to ensure that protection. So while protection of the significant natural features would involve lower mine profitability, it is likely that society as a whole would gain more from the environmental protection recommended than it would lose in terms of foregone profits."* PAC BSO Part 5 p394: *"Remediation is a frequently proposed strategy in the EA for managing risks of subsidence induced impacts and consequences for significant natural features…remediation cannot be considered at this time to be an alternative to prevention where the functionality of water-dependent natural features is an objective."*
General	SIG1	130	2.3 A different perspective Although not necessarily a matter for SEWPaC's consideration, the following may have bearing on Coalpac's share price and hope for consolidation. Coalpac is looking for consolidation to enable a 21-year coal-based mine-life and a supplementary 'sandstone' operation (Section 2.1). Coalpac would naturally benefit from this if it 'stayed the distance'. However, there are good reasons for believing that CET Resources, which has majority-ownership of Coalpac and is effectively driving the consolidation project, hopes to sell its interest3. In this way, CET

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			Resources would benefit from the export demand for coal and avoid the impact of the impending carbon price on Coalpac's power-station contracts. Should governments sanction the consolidation proposal in the face of environmental, social and heritage considerations, the liquidation of CET Resources' could be significant.
Cumulative	SIG1	131	2.4 Cumulative impacts The histories of the Cullen Valley and Invincible Mines are complex (PEA pp5-6). The Cullen Valley Mine evolved through consolidation of mines (initially underground operations) extending back to the late 1800's. The Invincible Mine commenced as an underground operation in 1901 and evolved via a second underground operation until the late 90's when pen-cut extraction commenced. Both Mines have been intermittent as a function of coal-price fluctuations.
Cumulative	SIG1	132	The salient points are that the region firstly experienced progressive consolidation of underground mines, and then witnessed movement to open-cut and high-wall mining with larger surface areas adversely affected. The region is now threatened by further consolidation and enlargement of the impacted surface areas. This has protracted and cumulative impacts on groundwater, surface water, and fauna and flora through destruction of habitat. Throughout much of this long history, there was little concern for environmental damage and equally little concern for rehabilitation.
Cumulative	SIG1	133	In opposing the expansion of the Invincible Mine, the Society wrote: *"Objection to the proposal is based on: inadequate justification of open cut operations; unacceptable visual impacts and safety issues; contentious water management practices; deceptively simplistic rehabilitation proposals; outrageous transport intentions; impacts on the Gardens of Stone Stage 2 proposal; availability of alternative modes of operation; and consultants' reports disregarding cumulative impacts."*
Cumulative	SIG1	134	In relation to the cumulative impacts, the Society stated[4]: *"Consultants' reports in relation to mining applications apply the reductionist approach. This ensures that, by considering adverse effects in isolation, they are able to say there is 'unlikely to be a significant impact'. This is particularly the case in relation to a particular type of plant or animal. They then sum the apparent lack of significant impacts and conclude that the overall impact will be small or even negligible, particularly when minor remedial aspects are built into the conditions of approval. This approach is wrong. Environment health is intensely interactive such that degradation reflects the geometric product rather than the sum of its component parts. In effect, degradation is cumulatively exponential."*
Cumulative	SIG1	135	And again: *"If the cumulative consequences of environmental and social degradation are considered for the*

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			'postage stamps' of this specific application, the application should clearly be rejected rather than constrained by inadequately enforced conditions. If the consequences are further considered within the context of past and ongoing damage in adjacent areas, rejection becomes irrefutable."
Cumulative	SIG1	136	This was written in a submission (attached hereto as *Appendix A*) dealing with an extension to the Invincible Mine. The current proposal to consolidate and significantly extend operations inevitably increases the capacity for cumulative impacts. The matter will be returned to in section 3 below.
General	SIG1	137	2.5 Comment The Hansen Bailey PEA is certainly 'preliminary'. As a PEA within the Part 3A process, it is a 'wish-list' concept plan which shows why Part 3A inadequately serves environmental interests and should be repealed. Section 3 (Project description) looks at most operational facets and develops a set of mining concepts. Although some detail is provided, it is clear that Coalpac is essentially seeking to consolidate its coal activities and progress them as a function of coal price and available markets. The high levels of uncertainty associated with the timing of the differing types of coal mining and the anticipated markets and transport modes for the product should send a clear warning to government, to the extent that the proposal would seem to be an opportunistic grab for resources. Furthermore, beyond expressing a wish to extract and crush sandstone for the construction materials market, this only receives token consideration.
General	SIG1	138	Section 7 identifies the spectrum of environmental and community issues. Each issue is then examined in terms of a 'background' summary, an identification of potential impacts, and a proposed assessment methodology. It is recognised repeatedly that, as the assessment processes generate more data, environmental and social management plans will necessarily be adjusted. In effect, this is a classical coal industry approach; it assumes that approval will be forthcoming, mining will proceed and all will be resolved through monitoring, 'optimistic' reports by consultants and, if all else fails, by so-called remediation.
General	SIG1	139	Because of the extreme levels of uncertainty embodied in the 'project' and preliminary EA, the Society will await the next version before effecting a detailed analysis. Nevertheless, the Society will mention (below in section 3) a few deficiencies pertinent to the current EPBC referral and, in doing so, hopes that SEWPaC will recognise the project will impact on matters of National Environmental Significance and should be deemed a 'Controlled Action'.
Ecology	SIG1	140	3. Specific considerations 3.1 Discrete and cumulative impacts on ecology

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			PEA Table 6 p44 recognises that the ecology is at high environmental risk. PEA Table 7 pp45-46 recognises that Box Gum Woodland is critically endangered and endangered under Federal and State legislation respectively; it also covers flora and fauna species which are either present or expected to occur. The distribution (as currently 'known') of Matters of National Environmental Significance is shown on PEA Figure 3.
Ecology	SIG1	141	PEA p47 states: *"The Project is located largely within existing mining tenements [in?] the Ben Bullen State Forest, which is characterised by woodland vegetation communities that [sic] have been previously disturbed by forestry, grazing or mining related activities."* BMCS acknowledges some previous disturbance, but insists that previous damage should not be *carte blanche* for additional damage. The concept that a damaged area should be the focus for additional damage pervades too many EAs.
Ecology	SIG1	142	Based on information provided by a member5 and presented as Appendix B, the 1088 ha proposed for clearing includes 40 ha of Box Gum Woodland and occurrences of *inter alia* Eucalyptus cannonii, Derwentia blakelyi and Acacia asparagoides. There is no doubt that damage over this wide region must adversely impact on the whole ecosystem, including components of the flora and fauna, irrespective of their degrees of protection by State and Federal legislation. This in itself should be sufficient to make the project a 'Controlled Action'.
Ecology	SIG1	143	In addition to the discrete damage in the project area, the destruction compounds the vast amount of regional damage caused by clearing for open-cut mining (see Appendix B). Such cumulative damage tends to be disregarded by EAs and by the approach adopted by governments when assessing development applications. In essence, if ecological continuity is to be maintained, rather than be fragmented through piecemeal assessments, ill-conceived conservation offsets and rehabilitation practices, due consideration must be given to the regional picture. Ecosystems can be remarkably resilient, but how many straws are required to break the camels back and over what time-frame should this be determined?
Surface Water	SIG1	144	3.2 Discrete and cumulative impacts on the surface water regime PEA Table 6 p44 recognises that surface water management carries a high environmental risk, while the geochemistry of water discharged from the workings and treatment facilities is deemed a significant risk. Surface water flows are NW and W via the Turon and Macquarie Rivers, and then onto the Darling. Although currently under the influence of La Niña, the impacts of El Niño are not forgotten; and neither should be the anticipated impacts of climate change.
Surface Water	SIG1	145	PEA pp55-58 looks at the potential impacts and the assessment methodology in a discrete context. Form a

Category	Submission ID	Issue ID	Issue
			discrete viewpoint, the Society is mainly concerned with (i) impacts to surface water quality from the saline Coal Measures stratigraphy, (ii) impacts to surface water quality arising form soluble oils, diesel and other chemicals associated with the mining and treatment processes, and (iii) impacts on drainage paths and catchment yields. Very little of this is directly addressed in the PEA's assessment methodology. Assurances are given, but more is required in the context of the overall Murray-Darling Management Plan.
Surface Water	SIG1	146	Reference is made to current practices in accordance with EPLs and (for geochemical issues) the experience gained from the management of existing mining operations at Invincible Colliery and Cullen Valley Mine, but the Society has little confidence in these. In general, companies are required to test for an insufficient number of contaminants, and the testing which is stipulated permits inappropriately high limits and commonly expresses these limits as averages. There is need to re-examine and improve the whole process of ensuring that mine-related waters meet acceptable water quality standards.
Surface Water	SIG1	147	Water pollution from the existing mines and their proposed extensions (within the project area), will compound the cumulative regional damage from mining, irrespective of whether the system flows ultimately to the Darling or to Warragamba.
Surface Water	SIG1	148	In section 3.3 of a recent submission6 to the Department of Planning, the Lithgow Environment Group notes that water discharged from coal mines has a *"…detrimental downstream effects on water chemistry, and aquatic ecosystem integrity, health and diversity."* The principal issues are identified as: (a) Salinity – LEG states that the *"…SCA Water quality monitoring program Trigger Value for Electrical Conductivity in the Sydney drinking water catchment is 300 µS/cm"* and that the *"…ANZECC (2000) Water quality guideline trigger values for Aquatic ecosystems in an Upland river in NSW are 30-350 µS/cm."* (b) Heavy metals – LEG reports that the *"ANZECC (2000) trigger value for Iron is 0.3 mg/L, Manganese 1.9 mg/L, Aluminium 0.055mg/L, Nickel 11.0 µg/L, and Zinc 8.0 µg/L".* These levels are regularly exceeded in mine water discharges. (c) Solcenic oil residues – water-soluble hydraulic oils are a common component of mine water discharges. According to LEG, "…recent tests conducted by the EPA indicate that quite low concentrations of these oils in water may be harmful to some aquatic organisms in creeks and rivers." As insufficient research has been done to determine the toxicity of such oils to all species within aqueous ecosystems, it is critical that the quantity and fate of water-soluble oils be carefully audited. (d) Thermal pollution – this is less critical for open-cut mines, but may become significant if waters are pumped from old workings. The SCA Streamwatch Manual raises several concerns about discharging mine waters into streams where the background temperatures are significantly cooler. LEG cites the Water

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			Quality Guidelines of the WA Department of Minerals & Energy: "*Discharge water should not cause the receiving water temperature to vary by more than 2 degrees C from its seasonal background levels.*" (e) Dissolved oxygen – LEG reports that, although a low dissolved oxygen level (<5–6 mg/L) may not directly kill an organism, it promotes an increased susceptibility to other detrimental factors. Dissolved oxygen should therefore be monitored.
Surface Water	SIG1	149	As implied with item (e), the above factors behave synergistically in that their combined impact on water quality and water-dependent ecosystems exceeds the sum of the parts. Individual monitoring is only effective if the target levels are et with due regard for synergistic behaviour.
Surface Water / Groundwater	SIG1	150	Particularly under El Niño conditions, the Society is concerned that relatively undiluted discharges will impact on riparian ecosystems, bleed into the groundwater regime, and possibly impact on bores and stock dams in the region west of the project. These potential impacts should be considered from discrete and cumulative viewpoints. The Society concurrently notes that the combined mining activities in the region of headwater creeks feeding the west-flowing rivers could, through water harvesting, reduce essential run-off.
Groundwater	SIG1	151	3.3 Discrete and cumulative impacts on the groundwater regime PEA Table 6 p44 recognises that groundwater, including its geochemistry, poses a significant risk. PEA p56 indicates that the old underground workings contain large volumes of groundwater, the sandstone resource beneath the Lithgow Seam is an aquifer, as also to varying degrees are the seven coal seams (PEA pp16-17) which will be exploited.
Groundwater	SIG1	152	The shallow north-eastward dip suggests that undisturbed groundwater flow will be towards the northeast, but where transacted by the open cut and highwall, flow will be laterally (SE and NW) and back (SW) into the workings. Where such groundwater becomes additionally contaminated within the open cut and through recycling within mining and treatment processes, factors (a) to (e) in section 3.2 apply.
Groundwater	SIG1	153	The Society has several concerns from both the discrete and broader cumulative viewpoints: (a) Contamination of the groundwater regime and/or lowering of the watertable to the west of the mining regions could affect riparian ecosystems, impact on stock watering and have adverse social consequences. (b) Depressurising the various aquifers could impact on 'undisturbed' stands of Box Gum Woodland and floristic species listed under State or Federal legislation. Naturally, any impact on flora has potential to affect the viability of fauna within the destabilised ecosystem. (c) Should the need arise (as yet unclear) to supplement operational water supplies by pumping from the old underground mines, the contamination problems envisaged under item (a) and also in section 3.2 will be

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			exacerbated. (d) As a separate issue, pumping from the old workings could lead to instability and collapse.
Ecology	SIG1		3.4 Mining considerations Open-cut mining would seem to extend back to the cliffs (PEA Fig. 5 p21), effectively to the 'not to be disturbed' zones (PEA Fig. 2). Highwall mining is then scheduled for beneath some 'not to be disturbed' zones (PEA Figs. 5 and 2). The Society is extremely concerned about the height of the wall at the back (the east face) of the open cut and the stability of the highwall mining process. The open-cut back could become extremely unstable. Any collapse could propagate in the highwall mining zones with detrimental consequences to cliffs and pagodas, and also to their ecology with its listed species.
Ecology / Visual	SIG1	154	The Society believes that damage to scenic values and the potential impacts of collapses on flora and fauna merit total rejection of this part of the proposal. SEWPaC should certainly deem this risky proposition a 'Controlled Action'. Failure to do so will be another example of placing trust in the 'guesstimates' of experts paid to put the best spin on a risky proposition; or do we believe it is possible to remediate collapsed cliffs and pagodas and re-plant them with appropriate species?
Rehabilitation	SIG1	155	3.5 Future use and rehabilitation PEA pp63-64 state: *"The surrounding land use for the Project is predominantly NSW State Forest. With the cessation of logging in the area, it is now primarily relied upon for recreational uses such as hunting, motorcycling, four wheel driving and bushwalking……adjacent to the Project area are the coal mines of Baal Bone Colliery, Angus Place Colliery, Pinedale Mine, Lamberts Gully Mine and Ivanhoe Colliery, as well as the MPPS to the south." "…the continued operation of Invincible Colliery and Cullen Valley Mine is consistent with the primary land uses in the vicinity of the Project and the wider LGA in general."* This is consistent with the principle that if a region is, in part, environmentally compromised, the only viable option is to trash it completely.
Rehabilitation	SIG1	156	Ben Bullen State Forest has magnificent scenic values and contains a spectrum of listed flora and fauna comprising complex ecosystems. It also has substantial aboriginal heritage. Extensive discussions with DECCW indicate that much of the region merits reservation as a State Conservation Area. This is a true measure of the fact that, although affected by mining and high-impact recreational pursuits, the inherent values are worth protecting through reservation, while the region progressively undergoes natural recovery. This is a far cry from heaping desecration on a partially damaged region.

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Rehabilitation	SIG1	157	PEA p64 makes much of 'progressive rehabilitation' *"…in accordance with conceptual landform design objectives and guidelines so that disturbed areas are returned to a condition that is compatible with the surrounding landscapes of the Ben Bullen State Forest and is sustainable in the long term."* It emphasises that to *"…ensure the establishment of a stable final landform, the majority of final overburden emplacement slopes will continue to be shaped to 14 degrees or less at Invincible Colliery and 18 degrees or less at the Cullen Valley Mine."* The Society contends that rehabilitation which focuses solely on contouring and slope stability is a mockery. Having excavated deeply below the surface, such rehabilitation barely deserves to be called a band-aid solution. The original stratigraphic layering with anisotropic hydraulic conductance is replaced with irregularly jumbled material with unknown hydraulic properties; a different hydraulic regime is thereby created. Furthermore, as all 7 coal seams will be exploited, and the sandstone beneath the Lithgow Seam will be crushed and the separated clay-rich fines pumped into the old underground workings of Tyldesley Colliery (PEA p29), there must be a substantial volume deficiency7. Despite waste being emplaced up to the final rehabilitation level and shaped by bulldozers before being covered by a clay blanket and topsoil (PEA p20), and despite being seeded with native flora to*"…re-establish vegetation communities similar to those of the pre-mining landscape…"* (PEA p64), infiltration will be inhibited and the hydraulic regime will be substantially modified8. 'Rehabilitation' is at best a cosmetic process designed to hide permanent damage.
General	SIG1	158	3.6 Discrete and cumulative other impacts Many matters of environmental and social concern such as: noise and blasting, traffic and transport, visual pollution, and social and economic matters seem not to comprise Matters of National Environmental Significance and are unlikely to be considered in determining whether or not the consolidation project should become a controlled action under the EPBC. All of these matters are of concern to the Society and will most certainly be addressed at a later stage of the Part 3A process when many of the extensive uncertainties in the PEA are better resolved.
General	SIG1	159	4. Conclusions The potential impacts of the consolidation proposal on plant and animal species listed under Federal and/or State legislation should be a more than adequate reason for the consolidation proposal to be deemed a 'Controlled Action'. The potential impacts on the surface water and groundwater regimes, particularly under El Niño conditions, in terms of flow quantities and water quality and their affects on water-dependent ecosystems merit

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			government action. The potential risks from the open-cut and highwall mining of 7coal seams for cliff and pagoda collapses and their consequent impacts on flora and fauna merit government action. The Preliminary Environmental Assessment is largely conceptual and relies heavily on past studies linked to approvals given to Cullen Valley and Invincible Mines. Because of the many uncertainties, the staged nature of the exploitation, and the proposal's major impact on other uses for the Ben Bullen State Forest, the Society opposes the proposal in its entirety. The consolidation proposal would seem to be a grab for resources when coal prices are high and perhaps before the Part 3A process is modified or abandoned. Approval would presumably inflate Coalpac's market value and provide a handsome return to CET Resources should it successfully sell its majority holding.
General	SIG1	568	I strongly object to the Coalpac Consolidation Project (CCP) proposal. The proponent, Coalpac Pty Ltd, seeks to 'consolidate' its existing Cullen Valley Mine and Invincible Colliery coal mining operations, and continue coal mining under a single, contemporary planning approval. It does so with flagrant disregard to environmental and social values. If approved, this proposal would unnecessarily damage a uniquely scenic and biodiverse area and negatively impact the local community. I support the wish of the NSW National Parks and Wildlife Service wish to add the entire BBSF to the conservation reserve system as a matter of priority, as it is an area with outstanding natural values. I also support the objectives of the whole of the Gardens of Stone Stage 2 (GoS2)1 reserve proposal and wish to acknowledge that this proposal was tabled in 2005, five years before this proposal. The rate of review until 2011 was poor. Due to the level of public objection to this proposal from local residents, I request the Planning Assessment Commission conduct a public hearing.
Ecology	SIG1	569	Objections The following items outline in more detail as to why I wish for this proposal to be rejected entirely: <u>Ecological impacts</u> The Preliminary Environmental Assessment (PEA) determined that the ecological risk was high and the rating was moderate but certain. This is downgraded in the current EA to a moderate risk with a moderate but remote rating. Approving the mine would devastate the biodiversity of the area: • The habitat of literally hundreds of native plant species would be destroyed.

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			• The iconic lyrebird uses the sides of pagodas in this are to nest and raise its young. Mining will completely remove its food habitats in the valley below. • The project proposes to kill 19,200 vulnerable Eucalyptus cannonii, trees and this is unacceptable. • This mine would destroy the habitat of 35 mammal species, 15 of which are listed under the EPBC Act. • Habitats for 12 bird species threatened under the EPBC Act, including the Regent Honeyeater and Powerful Owl, will be completely removed. • Some species prefer living in pagoda related habitats; underscoring a need for a larger step-back buffer zone than the proponent proposes. There is no argument from Coalpac that the Proposal Area is abundant with threatened species and vegetation communities. This provides a very strong argument to reject the proposal.
Ecology	SIG1	570	<u>OEH Sweeteners</u> S8.15.5 Management (Long term security) This section should be deleted from the EA. Under the circumstances; what is offered presents zero long-term security for… anyone! Re: *"Further to this, Coalpac will support the progressive establishment of GoS2 and to this end; provide a monetary contribution of $0.015 per tonne of coal sold (approximately $1,000,000), to OEH (or other relevant body) throughout the life of the Project to assist in* *the development, implementation and management of the GoS2."* It is my understanding that there is no framework for the OEH to accept funding for the reserve of GoS2 from Coalpac Pty Ltd under the current circumstances. Re: *"If required by OEH, rehabilitated areas of the Project Disturbance Boundary and biodiversity offset properties will also be progressively released into conservation into GoS2."* The land being offered will be degraded. The OEH will not want it.
Greenhouse Gas	SIG1	571	<u>Greenhouse Gas Emissions & Climate Change</u> For some reason is it necessary to repeat this information with every submission on coal mining application instead of it forming a basis as to why they should be prevented from being lodged at all. If the latter was the case we could save countless tax dollars: Coal mining and the burning of coal contribute significantly to greenhouse gases (GHG's) that are causing climate change, in particular through the emission of CO2. Climate change will inarguable weaken the resilience of the environment, threatening the biological diversity of life on our planet; the quality of water that supports life and increase environmental impacts on human health.

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			• The Coalpac proposal would if approved make a large contribution to Australia's already high carbon footprint. • Coalpac's environmental assessment for this proposal inaccurately dismisses viable alternatives such as renewable energy and energy conservation that could make this project unnecessary.
Greenhouse Gas	SIG1	572	<u>Renewable energy alternatives</u> The EA argues essentially that if they don't mine this coal, then someone else will mine and burn it elsewhere. This seriously misrepresents both the current status and ability of renewable energy to meet energy needs. Note the excerpt below from the forthcoming book 'Human Dependence on Nature' (Washington, 2012)2: *Renewable energy supplied an estimated 16% of global final energy consumption at the end of 2010 (REN21 2011). In regard to electricity, renewables produced 1,320 GW (312 GW excluding hydroelectricity) of electricity in 2010. By early 2011, renewable comprised 25% of electricity capacity from all sources. They accounted for approximately half of the estimated 194 GW of new electric capacity added globally during 2010. ...* *Civilisation can reach a 95% sustainably-sourced energy supply by 2050. There are up front investments required to make this transition in the coming decades (1-2% of global GDP), but they will turn into a positive cash flow after 2035, leading to a positive annual result of 2% of GDP in 2050 (WWF 2011). A large-scale wind, water, and solar energy system can reliably supply all of the world's energy needs, with significant benefit to climate, air quality, water quality, ecological systems, and energy security, at reasonable cost (Delucchi and Jacobson 2011).* The energy and climate change arguments in the Coalpac EA are misleading. This project will be a significant contributor to global warming, and there clearly are alternatives to burning coal to produce electricity.
Ecology	SIG1	573	<u>Native plant species in existence in Ben Bullen State Forest</u> In addition to the objections below regarding flora species, I wish to request you acknowledge the work the Lithgow Environment Group has done. The group has carried out extensive field investigations in relation to the ecology and biodiversity of the local region. A volume of data provided by the Lithgow Environment Group to the Office of Environment and Heritage (OEH) identifies a large number of flora species existing within the BBSF that do not appear in the wildlife atlas. This data provides factual, detailed account of species in terms of initial identification, location and distribution and official recordings of the species. The data highlights the high conservation values of the BBSF and each species is being added to the atlas as time and OEH resources allow.

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Ecology	SIG1	574	Inadequate flora assessments Coalpac has failed yet again to conduct an adequate flora survey. The Lithgow Environment Group has identified an additional 123 species to that which are indicated in the environment assessment (EA), this leaves us with a minimum total number of 590 plant species. This highlights that the Ben Bullen State Forest is inarguably a biodiversity hotspot. Is the state seriously considering destroying part of it? The proponent shows a serious and repeated pattern of omissions and errors with regards to its flora assessments. The proponent has failed to identify flora species in its flora assessments for existing projects and I notified Carl Dumpleton of the Department of Planning & Infrastructure about this matter on July 28, 2011 in my position as Campaigner for the Blue Mountains Conservation Society. I am happy to forward that information again if required. I support the request by conservation groups for an independent flora assessment into the Ben Bullen State Forest.
Subsidence	SIG1	575	The proposed step-back and risk-review buffer zone CCP v1 Exec Summary (pix) emphasises the 50 m step-back as discussed above. It also refers to a 100 m monitoring zone adjacent to sandstone cliffs and pagodas. This is further developed in S8.2.3 p109 and termed a 100 m risk-review buffer zone. Coalpac claims that experience at Cullen Valley mine justifies this risk-review/risk-management approach. Although highwall mining is stepped back 50m, it can still undermine cliffs and pagodas by approximately 250m deeming the buffer tokenistic. With regards to the highwall mining underneath and blasting near the pagodas and cliffs, Coalpac's Community Relations & Compliance Manager commented in discussion with concerned residents "It would be remiss of me to state there could be no cracking or falling of the cliffs". I therefore call for a minimum step-back of 1,000 metres.
Rehabilitation	SIG1	576	Rehabilitation Claims The rehabilitation claims made my mining companies are not justified in general. With regard to this application, it is not possible to dig up a vast quantity of rock, rubble and earth, remove millions of tonnes of coal and related overburden, interfere with the hydrology of the area, fill it all up and claim that all will be fine! The claims are foolish.
General	SIG1	577	Failure to engage all of government Regarding the areas of air quality, noise and blasting; it is alarming to me considering the proximity of the

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			proposal and the poor level of health endemic in the Lithgow area, that the Department of Education, the Principal the of Cullen Bullen Primary School or the Nepean Blue Mountains Local Health District were invited to comment on the proposal. I know this because I first brought it to all of their attention during the period 10th April – 1st June 2012 and asked them all to review the EA and lodge a submission.
Air Quality	SIG1	578	Air Quality Coalpac demonstrates a flagrant disregard to the local community by not properly acknowledge the health and environmental risks associated with PM2.5 particle sizes, even when the data were collected (S2g.4 p7). The impacts of PM2.5 are clearly outlined in this paper which is attached for review: Castleden, WM, et. al. 2011 The mining and burning of coal: effects on health and the environment, Medial Journal of Australia (See Attachment 4). Fine dust will present a larger problem for local residents, miners and the potential for recreational tourism than the proponent suggests. The proximity of Cullen Bullen School to the mining activity is alarming and is way too close. It is within about 1000 m of dust and diesel fume generating activities. This is totally unacceptable considering the West Australian EPA recommends a separation distance of 1000-2000m3 between open-cut coalmines and sensitive land uses such as for schools. Furthermore, I support the NSW Nationals call for a 5 km buffer for future open-cut mines and a 5 km buffer around villages. Without this, the mining industry will continue to affect the closing down of regional schools and the 'wiping off of the map' of targeted regional towns.
Noise	SIG1	579	Noise The combination of the high AC, and the limited appreciation of cumulative impacts [including those arising from blasting which could be up to 40 blasts per week or 10 per day for limited periods (2H p39), despite the statements in S8.7.4 dot-point 3 p131] require that these parts of the EA be re-assessed. Individual perceptions and responses and reactions to noise and blasting will vary from person to person.
Blasting	SIG1	580	Blasting With regard to blasting within 200m of pagodas and cliffs, a specialist geotechnical examination will be implemented; this should acknowledge my request for a minimum of a 1,000m step-back for the highwall. In some instances, blasting is tabled to occur close to previously mined areas. It is not possible to definitely predict how the vibration will travel through these. Anyone claiming they can is talking absolute nonsense.

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Visual	SIG1	581	Visual impacts – disregard for scenic values The report is largely silent in relation to the destructive impacts visible from the high cliff and pagoda country to the east in BBSF. The 'platy pagodas' of the areas are significant by world standards5. Any risk to them should be completely removed (Refer to section on step-back buffer).
Geochemistry	SIG1	582	Impacts on water The project is likely to produce acid mine drainage that will impact on local streams for many decades. It may also produce elevated levels of heavy metals that will also kill aquatic life. This is occurring right now with one of Coalpac's old mines, the Canyon Colliery Mine, which is contaminating streams with unsafe levels of zinc and nickel impacting the Heritage-listed Grose Valley.
Social	SIG1	583	Social matters The coal-mining boom comes at a social cost. When large mining proposals are lodged; communities are at the beginning of a journey to a social divide. Not everyone local is on the same side of the fence as to whether or not it should be approved; and rarely are the locals given a proper voice. The primary adverse social impact is on the amenity of the inhabitants of Cullen Bullen. The community is already divided – and over what? A proposal to access some poor quality coal in an area everyone is keen to see protected excluding the Minister for Energy and Resources and Coalpac Pty Ltd. This doesn't seem fair or to be the majority in my opinion. I have had the privilege of working closely with the Cullen Bullen community. The community is very wary of claims the company is making in the lead up to the approval process due to experiences of promises being dishonoured once approvals have been obtained. The community is very wary of increased health risks mainly because there are locals, including children who attend the local Cullen Bullen Primary School, experiencing health issues as a result of existing activity. Concerns remain with regards to the industry as a whole on its undertaking of being responsible for damage it causes to dwellings. Local residents have been battling for years to have property damage rectified by the mining company operating nearby. It is important to note that consultants repeatedly identify anything other than the local mining activity as the point of blame to explain property damage. It is important to note this serves the best financial interest of any mining company.

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			An example of that in Cullen Bullen is with regards to residents Darcy and Glenda McCann who have gathered and lodged large volumes of data regarding damage to his property for over 13 years. Despite obvious movement in walls being evident and a ceramic toilet bowl cracking; no mining company has taken responsibility for the damage to the property. It was interesting to note that in the meeting held by Lithgow City Council Tuesday 24th April at the Cullen Bullen Progress Association Hall, Cullen Bullen; that Coalpac Pty Ltd answered few questions directly or definitively and could only provide one answer to the vast majority of complaints or requests: "We will be using real-time monitoring". This is not an adequate solution for the many issues the company is already causing the Cullen Bullen community nor those this proposal will create. The company has an interesting perspective on 'accountability'. In addition to the air, noise and blasting issues already outlined, its important to note that Cullen Bullen will become a dusty town. Homes, cars and clothes will be difficult to keep clean. Rainwater tanks will be contaminated. To reiterate, a minimum 5km buffer zone excluding open-cut mining should be established around the town of Cullen Bullen to protect its social values and amenity. This would provide adequate protection for the children and staff of Cullen Bullen Primary School, ensuring the school is not closed down in the future, due to health and other risk from mining activity.
Social / Noise	SIG1	584	It is unreasonable for open-cut coal mining activity to continue 24hrs a day, 7 days per week so close to Cullen Bullen or any town. The mining activity will lower the quality of rural lifestyles in the region forever. These social issues and the level of public objection to this proposal brings me to repeat my request that the Planning Assessment Commission conduct a public hearing. Separately, if approved, recreational activity in a large part of a public forest will not be possible for at least 21 years. The community expects to be able to access public land freely and for State Forests to be protected in perpetuity. The NSW Government would effectively be allowing the privatization and liquidation of public land if it approves this proposal. The long-term economic value of keeping the natural assets of this area is held in high regard by the Chair of the Blue Mountains, Lithgow and Oberon Tourism Board Mr. Randall Walker.
Social	SIG1	585	<u>Lithgow City Council</u> The Cullen Bullen community thought it had the support of the Lithgow City Council regarding the proposal

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			when Councilors voted unanimously against the proposal 22nd August 2011 (See Attachment 1). The reasons included that it did not support open-cut mining in the area; however this was not the case for the long term as explained below. In a meeting held in Cullen Bullen on Friday 3rd February 20126 that position by Council, was reiterated by Cr Howard Fisher who stated that the majority opinion of Cullen Bullen residents would receive Lithgow City Council's support. This comment was in response to the collection of signatures on a petition shows at that meeting that evidenced that majority of local residents objected to the proposal. I wish to draw your attention to the details of the petition evidencing majority opposition to the proposal by Cullen Bullen residents: Petition 551 tabled 2nd May: Mr. Paul Toole - from certain citizens opposing the open-cut mining proposal in Ben Bullen State Forest, and to protect the village of Cullen Bullen and the Ben Bullen State Forest from future open-cut mining proposals.
Social	SIG1	586	The prayer of the petition states: *"Residents object to:* *1. Increased threats to their health from fine and other damaging particles due to the proximity of the proposed open-cut mining activity.* *2. Increased threats to the health of the children attending Cullen Bullen Public School from fine and other damaging particles due to the proximity of the proposed open-cut mining activity.* *3. Increased threats to their property and public amenity from blasting and other high impact, mining activity.* *4. Increased threats to the quality of their lifestyle from any increase in the level of opencut mining activity within hundreds of metres of their village.* *5. Open-cut activity blighting the scenic landscape and impacting local tourism.* *6. The loss of habitat for native plants and animals.* *The undersigned petitioners therefore ask the Legislative Assembly to act to reject the open-cut proposal and take the necessary steps to protect the village of Cullen Bullen and the Ben Bullen State Forest from future open-cut mining proposals."*
Social	SIG1	587	Council staff responded to the petition in two ways: 01. Council staff initially ignored the content of the petition in its recommendation to Councillors to support the CCP proposal. 02. Council staff designed its own survey form for the residents of Cullen Bullen for a meeting it hosted in

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			Cullen Bullen on the 24th of April 2012. The meeting was first declared public 22nd August 2011; then declared private7 and for Cullen Bullen residents only in correspondence to residents dated 3rd April 2012, then declared public again 23rd April 20128 . The change to a private meeting was highly unexpected and never explained, and was declared public again due to public pressure. It is interesting to note that the Mayor specifically identified the Blue Mountains Conservation Society as 'outsiders' he didn't want in attendance. The Chair wrongfully instructed those in attendance at the 24th April meeting that only Cullen Bullen residents were allowed to complete the survey form and complaints were received from the floor that there was no system in place to validate whether or not forms were in fact only being completed by local residents; especially considering it the form collection box was left unstaffed for a further three days in the local shop. It was only noted that anyone attending the meeting could complete the survey form once the report from Council staff was tabled. This report recommended Councilors vote to support the proposal at the 14th May 2012 Council meeting (See Attachment 2). Despite the multitude of Council staff being present in the 24th April meeting, nobody corrected the chair that the survey was in fact able to be completed by anyone, including approximately one third of the audience who had been given forms, did not live in the local are worked for Coalpac Pty Ltd. After I reported the systemic related problems around this survey and, the failings to include the local residents' petition in Council's submission on the proposal to Andrew Muir, Group Manager Environment and Development for Lithgow City Council, the recommendation around the petition to Council changed (See Attachment 3). Similarly, after Coalpac Pty Ltd offered an in-kind donation to Cullen Bullen in the vicinity of $5m over the life of the project should it get approval, Lithgow City Council back-flipped on its 'no open-cut mining' position. It is my opinion that Lithgow City Council's submission and the recommendations by Andrew Muir are not based upon merit but are based upon funding opportunities and instructions from Councillors based upon those funding opportunities. It is also my opinion that the confusion driven by Lithgow City Council around the survey form can be viewed as convenient as it allowed for majority responses to be received that supported its changed position. Survey forms were given to anyone who attended the meeting and over 40 people were not from Cullen Bullen. Regardless, Lithgow City Council sends an unconscionable message that it cares more for its coffers than its does for the health of Cullen Bullen residents or the local environment. Due to the backflip in position by Lithgow City Council on this proposal, I request the PAC be granted opportunity to view all of Lithgow City Council's internal documents on this issue, including its

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			correspondence with Coalpac Pty Ltd. Again, I reiterate that the level of public objection to this proposal from local residents warrants that the PAC invite locals to a public hearing.
General	SIG1	588	Other concerns Poor environmental management record The self-reporting systems around compliance leave communities and the environment vulnerable to impacts from environmental mismanagement. Unfortunately noncompliance is not generally the exception to the rule for any mining company. Coalpac Pty Ltd.'s alone has been fined on at least eleven occasions for pollution incidents. Once receiving a $200,000 fine for virtually doubling its capacity without permission. The $200,000 fine did very little to the company considering the millions of dollars profit it made from the increased volume in revenue from sales. *Other needs for the approval by the proponent* In the same time frame that Coalpac Pty Ltd was preparing to lodge its application for this proposal; it was preparing to market the company to the Australian and overseas market. The owners are reported as stating in The Australian (newspaper) on 28th October 20109: *Coalpac chairman Richard Davies said the mines were being sold off because they didn't fit with the Liberman investment strategy.* *"We more manage a portfolio of companies and liquid investments. We're still comfortable holding it, but we're not the natural long-term owner for something like this," he said* An approval of this application is critical to the value of the sale. Macquarie Bank put out feelers for interest in the company again on 14th May 201210: *New South Wales coal producer and developer Coalpac is reportedly back on the market, engaging Macquarie Bank to field offers of interest for the company, Fairfax Media reports.*
General	SIG1	589	Conclusion The role of the Department of Planning and Infrastructure is to review this proposal based upon merit. If this occurs, for the abovementioned reasons, the recommendation to the PAC would be to reject the application entirely. The threats to the local community are real and imminent. The community must have respite from the pressures of mining companies being able to propose to ring their town with mining activity at any time one chooses to do so. The NSW Coalition Government can achieve this by supporting the call from the National Party to create 5km, no mining, buffer zones around towns and villages. This would in turn would place the health and well-being of all children attending regional schools back at the centre of all decision making

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			regarding mining activity and its proximity to all schools. The value of this uniquely scenic and highly biodiverse and geodiverse area must take precedent over the value of open-cut mining in the proposal area. It is in the State's best long-term interest to protect this pristine area, harnessing the biodiversity as well as building a second industry in recreational tourism, for the local community to enjoy long term prosperity from.
Ecology	SIG2	160	We note that the proponents of the proposal submitted a revised environmental assessment in January 2012, an assessment deemed acceptable by your Department. However, the proposal for the Ben Bullen State Forest remains of significant concern to the Club. I urge you protect of both the old growth forest in the Ben Bullen State Forest and the natural features of the Gardens of Stone by rejecting the proposal. This will ensure that these valuable areas, which provide habits for a range of native flora and fauna, including a range of endangered species, are protected for future generations.
Ecology / Social	SIG3	161	The proposed expansion of open-cut coal mining so as to consolidate two smaller existing opencut coal mining operations should be refused development consent, as it is inappropriately located too close to the village of Cullen Bullen and largely within a public forest of high conservation value.
Rehabilitation / Ecology / Visual	SIG3	162	The proponent, Coalpac, will effectively alienate over 750 hectares of Ben Bullen State Forest for its exclusive occupation under various mining leases for a period of 21 years. During that 21 year period of occupation, a unique and diverse natural landscape will be destroyed. The subsequent rehabilitation measures will not restore the biodiversity, geodiversity and scenic values lost by open-cut mining.
Rehabilitation / Surface Water / Groundwater	SIG3	163	Rehabilitation will instead create a biologically depauperate, fragile and unstable landform; a human artefact, prone to erosion and further degradation. The rehabilitation proposed for the areas mined by open-cut methods cannot restore near-surface groundwater levels and the stream flows dependent upon them. Any remaining surface waters and groundwater that discharge from the project area will be highly contaminated with metal salts, particularly iron and manganese. These discharges may also be acidic.
Rehabilitation	SIG3	164	In addition to the coal extracted, the 422 million cubic metres of rock and earth spoil created by this mining proposal would fill four-fifths of the volume of Sydney Harbour. A *sydharb* is 500 million cubic metres (see - http://en.wikipedia.org/wiki/Port_Jackson#History; 422/500 = 0.844 or 84% of a *sydharb*. *Sydharbs* are an Australian unit for large volumes usually of water but in this case it assists us in conceptualising the amount of the waste rock generated by the Coalpac proposal. This volume is also the equivalent of 168,800 Olympic swimming pools of rock waste, there being 200,000 Olympic swimming pools to the *sydharb*)).

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General	SIG3	165	The Colong Foundation supports the NSW National Parks and Wildlife Service's wish to add the entire Ben Bullen State Forest to the conservation reserve system as a matter of priority, as it is an area with outstanding natural values. This is a destructive coal mining proposal that should be refused development consent in order to prevent inferior, relatively high polluting coal being mined in a manner that would needlessly destroy important natural heritage and damage the health of residents living in Cullen Bullen.
Economics / Social	SIG3	166	The proposed open-cut mining would, if approved, set the precedent of open-cut mining along the western facing slopes of the Great Dividing Range to within 50 metres of the pagoda studded sandstone cliff lines. If this sort of mining were to be proposed in the Capertee Valley, the Hartley Valley or the Wolgan Valley, a spontaneous public protest would arise from the influential middle classes that would see such proposals rejected, and perhaps even prevent development applications being lodged. The only difference between those proposals and this current open-cut proposal is that the protestors from Cullen Bullen are less well connected. There are other superior coal resources that could be mined in preference to these remnant resources. These resources are found in a location distant from settlement areas and can be obtained by underground mining methods. Further, less damaging underground coal mining methods also could be pursued to obtain the last remnants of coal under Ben Bullen State Forest. Underground mining occurs to the north, south and east of the proposal.
General	SIG3	167	Coalpac asserts that lower impact underground mining methods are not viable. The determining authority should keep in mind that these methods that are apparently only not viable in this proposed project area, were paradoxically viable in all the areas previously mined by underground methods both within and adjoining the project. Such underground methods would be compatible with reservation of the Gardens of Stone Stage 2 proposal. The proposed open-cut mining, however, is incompatible with either concurrent or subsequent reservation of the Gardens of Stone proposal under the *National Parks and Wildlife Act, 1974*.
General	SIG3	168	POOR PROJECT: A REMNANT COAL DEPOSIT UNSUITABLE FOR FURTHER DEVELOPMENT The majority of the scenic Ben Bullen State Forest of high conservation value has been subjected to coal mining by underground methods by the former Baal Bone Colliery to the north, the former Wallerawang Colliery to the south, as well as the former Ivanhoe Colliery. In the project proposal area are found the former Invincible, Old Invincible and Tyldesley Collieries. These mines removed by underground mining methods a considerable part of the original coal body within the project area and also in coal deposits to the east of the

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			project area in the case of the Invincible Colliery. The area that is the subject of this proposal is by and large being subjected to an environmental double jeopardy. This coal mine proposal is not then a sequential land use, where heritage values will be protected, but where heritage values previously retained by less intensive mining methods will now be destroyed. This double jeopardy mining is not Ecological Sustainable Development, it is an unethical intensification of mining methods that destroys the natural heritage values of the forest.
Social	SIG3	169	Underground coal mining methods employ many more people and are less destructive that open cut methods. Contrary to Coalpac's assertions of economic gloom and employment doom, any plans to undertake further open-cut mining in the state forests of the Western Coalfield will mark a decline in regional social and environmental welfare. Such mining will be at the expense of less intensive mining methods.
Economics	SIG3	170	The project justification in the environmental assessment favours development of the remnant coal resources by open-cut mining methods, presenting economic and employment arguments. In fact, the cost of NOT developing this coal resource in the manner proposed is nearly zero (and perhaps negative), as substitute coal resources of better quality are located nearby and to the north along the Mudgee railway line. Refusal of this environmentally unsound proposal would increase employment as coal resources would be developed by underground methods with less environmental damage to satisfy the coal needs of the local power stations. This, in fact, was the case until recently.
Economics	SIG3	171	Before Coalpac commenced open-cut operations in 2006, it was the underground mines that provided the coal requirements for the Mt Piper and Wallerawang Power Stations. The continued stability of supply for the operation of the Delta Electricity owned power stations can be and has been ensured by underground coal mines, including those large mines operated by Centennial Coal. Angus Place Colliery production increased from 2.3 to 3.5 million tpa in 2006 and to 4 million tpa in 2010. Springvale Colliery produces 3.5 mtpa of coal. Airly Colliery came into production in 2011 with the production of 0.5 million tpa of coal. These mines can provide good substitute coal resources if this proposal is refused consent. Surely these mines would prefer to provide coal to a local market, than to go to the expense of exporting the resource. There are also other underground mines that could also provide coal to meet this local demand. The mining workforce arising from any increase in underground mining in the region to supply power station needs would increase the supply of goods and services to the community. At the same time environmental impacts would decrease relative to the damage caused by open-cut operations.

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General	SIG3	172	OPEN-CUT MINING METHODS POORLY JUSTIFIED The proposed coal resource is dirty and requires considerable processing to obtain an inferior high ash coal (14 to 30% ash). The resource in the project area is a cumbersome cluster of thin coal seams interspersed between four-fifths of a *sydharb* of waste rock. The 108.5 Mt of raw coal proposed to be produced by the mining produces 71.2 Mt of thermal coal product (Appendix G, page 108, Table 12.7), suggesting the poor quality raw coal will generate double the amount of reject, estimated in the main report as 15.2Mt (Volume 1, Table 9, page 45). An examination of the coal face in the mine pit for the Invincible Colliery suggests that this higher estimate for dirt, rock and ash seems correct. The coal seams are half dirt and rock.
General	SIG3	173	There is a direct relationship between fossil fuel mining intensity and adverse environmental impacts. When coal extraction is maximised through open-cut methods, the environmental impacts of production are also maximised. There are many situations where maximising coal extraction is inappropriate, including in the Ben Bullen State Forest which is a key part of an Office of Environment and Heritage's proposal for a State Conservation Area.
General	SIG3	174	The arbiters for this development proposal should consider whether the adverse consequences of an approval that would maximise coal production are excessive, and if lower intensity mining is not possible, then whether it would be best to refuse consent to stop the potential damage. The claim that this particular coal resource is essential is unfounded, not only because local substitute resources exist, but because half or less of the known coal resources in NSW will ever be developed.
General / Greenhouse Gas	SIG3	175	In addition to local adverse impacts, there are global, cumulative and longer term contexts to this proposal. Without proper consideration of this larger context, the cumulative impact of many similar coal mining approvals around the globe will mean that life on earth will not survive far into the next century.
General	SIG3	176	As the decision-makers for this proposal would appreciate, Australia's fossil energy resources are expected to last for many decades, if not centuries at the projected rates of production. NSW has over 12 billion tonnes of recoverable coal reserves. The proportion of economic demonstrated reserves (EDR) to current production for Australia is estimated at 90 years for black coal, 63 years for conventional gas and 100 years for coal seam methane (Energy in Australia, 2010, pgs 4 and 5). The total reserves of coal and gas are at least an order of magnitude greater than the economically proven resources and recoverable reserves already identified by exploration.
Greenhouse	SIG3	177	Those determining fossil fuel proposals, including this one, should adopt a policy of permanently

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Gas			sequestering the carbon embodied in coal resources. Keeping carbon in the ground is the best way to prevent climate change disaster.
Greenhouse Gas	SIG3	178	Given the very large extent of Australia's coal and gas resources, the arbiters of coal mining proposals should 'sterilise carbon-based energy resources', right now, to provide for the necessary environmental protection and social welfare measures that local communities, like the Cullen Bullen community are demanding. As previously stated, there are more than ample alternative coal deposits to exploit before society must transition to more sustainable energy resources and survive.
Greenhouse Gas	SIG3	179	A gradual transition towards ending fossil fuel use by 'resource sterilisation' is a pragmatic means to overcome mining and energy industry inertia in addressing climate change. It will shorten the time taken to transition to more sustainable resources and reduce the environmental damage caused before the transition is achieved.
Greenhouse Gas	SIG3	180	Society can well afford to be far more particular about where and how its coal resources are developed, omitting those inferior resources and environmentally damaging development proposals. For example, when a remnant inferior coal resource is buried within 4/5 of a sydharb of waste, it is only possible to economically mine such lower-density energy resources because the price for diesel fuel is too low. In the absence of a realistic fuel price, through the removal of subsidies and tax-concessions, development control is the next most logical mechanism to stop such damaging coal mines.
Greenhouse Gas	SIG3	181	Decision-makers should 'ear mark' 50 per cent of the entire coal and gas resource in each NSW coalfield for the protection that farmers and conservationists seek, as doing so will not harm the economy. These 'ear marked' fossil fuels will never be needed in a future society that must survive by taking action to avoid catastrophic climate change. Once the transition is made, the coal left in the ground is irrelevant.
Greenhouse Gas	SIG3	182	Government and decision-makers will be condemning future generations to living with a climate disaster, unless bold decisions are made to permanently sequester coal. As development consents run for a 21 year period, changes to development control policy regarding sequestering coal need to occur now.
General	SIG3	183	The mining industry is opposed to an increase in environmental protection standards (ACIL Tasman, March 2011, for the Minerals Council). The Minerals Council argues that further environment protection (labelled 'restrictive policies') has a significant adverse impact on the NSW economy. In fact, mining companies can well afford much greater environmental protection as mining companies are making huge profits.
General	SIG3	184	In the last twenty years the mining industry has had a high degree of success in convincing regulatory authorities and politicians to take risks in the management of natural resources. The coal industry

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			successfully rebranded risk management as 'taking risks with the environment', inverting the precautionary principle. An entire school of thought has developed that justifies this form of risk taking, the equivalent of economic deregulation. Such deregulation won't cause a GFC, it could instead achieve the ultimate demonstration of its cleverness, the end of life on earth.
General	SIG3	185	Risk taking to maximise profit at the expense of environmental management has also resulted in high impact coal mining proposals being opposed by many local communities across NSW.
Greenhouse Gas	SIG3	186	EXCESSIVE GREENHOUSE GAS EMISSIONS The scale of the greenhouse gas pollution that will be generated by this proposal confirms the opinion that this low density, dirty coal resource variously inter-bedded with rocks and dirt is a highly inferior resource.
Greenhouse Gas	SIG3	187	Dr Haydn Washington in his submission has identified a hundred-fold error in the greenhouse gas assessment. "The Coalpac emissions are 7 million tonnes CO2 a year (rounded off from 6.989 Mt on p. 109 of App G). 7 Mt is 0.007 Gt and this is 0.02% of world emissions not 0.0003 %" (Dr Washington, 20/4/2012).
Greenhouse Gas	SIG3	188	Dr Washington goes on to state that "Australia's carbon footprint is 546.3 Mt C02e (Aust. Nat. Greenhouse Accounts, Dec 2011) so 7 Mt is 1.3% of Australia's total carbon footprint". . The proposed mining requires excessive amounts of energy to extract and clean the coal to a useable condition. These proposed coal resources are inferior. Upon combustion they generate significant amounts of greenhouse gases, as well as consuming large amounts of high-quality energy (diesel and electricity) during the proposed mining operation.
Economics	SIG3	189	PROPOSAL DRIVEN BY A NEED TO MAXIMISE SALE PRICE, NOT MINING PRACTICALITIES *The Australian* reported on the 28th October, 2010 that the Invincible and Cullen Valley mines are for sale. This complex proposal seeks to maximise the sale price. The mining may only be viable under certain market conditions. Diesel fuel and other energy resources may need to be relatively cheap and tax deductible to ensure viability of this proposal. The long-term viability of mining these resources is not a consideration for the seller.
General	SIG3	190	POORLY JUSTIFIED ENVIRONMENTAL AND SOCIAL IMPACTS The proposed high-impact, open-cut coal extraction is not acceptable environmentally or socially. Open-cut coal mining is incompatible with the sustainable use of high conservation value areas, as groundwater, streams, native landforms and their dependent ecosystems, cannot survive once the sedimentary rocks are blasted to smithereens with high explosives and torn apart by huge coal mining machines. To assert otherwise is hypocrisy.

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General	SIG3	191	In an earlier era, improvements in social welfare from coal mining in the project area were achieved by the previous low-intensity mining operations. It will not be the case with this intensive mining proposal. To mine the very last coal from under the west-facing slopes of the Great Dividing Range will set a precedent of open-cut mining in the Gardens of Stone that the local community considers should not be made. There is nothing optimal about the proposed mining. The optimal amount of coal mining in this state forest was exceeded when open-cut mining commenced at the Invincible Colliery in September 2006.
General	SIG3	192	Representations made to NSW Parliament by the Cullen Bullen community are a clear signal that decision-makers must not take risks with community health and the protection of living natural resources in the Ben Bullen State Forest. It is time to restore some balance in resource development and start to prepare for the future by refusing development consent for such an inferior coal mining proposal. For example, the community does not want further scarring of the landscape by the open-cut mining, such as along the Castlereagh Highway.
General	SIG3	193	Coal mining by lower impact, underground methods has taken place in the Ben Bullen State Forest for over 100 years. The forest has already played its fair part in the energy economy of NSW, it's time to retire (sequester) the remaining coal resources in this state forest in order to protect the community and the environment from undue injury.
Forestry	SIG3	194	Open-cut mining is inconsistent with the NSW Forestry Act, 1916 The Ben Bullen State Forest was set aside in perpetuity under the *Forestry Act, 1916* for conservation and sustainable use of all its resources. The clearing and mining proposed is incompatible with the *Forestry Act, 1916*. The proposed clearing and subsequent open-cut mining of this forest will cause the destruction of the recreational, silvicultural and ecological values of this public asset.
Forestry	SIG3	195	The Colong Foundation for Wilderness submits that the proposed Coalpac Consolidation Project is inconsistent with the *Forestry Act, 1916* and that it is specifically incompatible with the objects of the Forestry Commission set down in s8A. That section states that: *(1) The objects of the Commission shall be:* *(a) to conserve and utilise the timber on Crown-timber lands and land owned by the commission or otherwise under its control or management to the best advantage of the State,* *(b) to provide adequate supplies of timber from Crown-timber lands and land owned by the commission or otherwise under its control or management for building, commercial, industrial, agricultural, mining and*

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			domestic purposes, *(c) to preserve and improve, in accordance with good forestry practice, the soil resources and water catchment capabilities of Crown-timber lands and land owned by the commission or otherwise under its control or management,* *(d) to encourage the use of timber derived from trees grown in the State,* *(e) consistent with the use of State forests for the purposes of forestry and of flora reserves for the preservation of the native flora thereon:* *(i) to promote and encourage their use as a recreation, and* *(ii) to conserve birds and animals thereon, and* *(f) to provide natural resource environmental services (whether within or outside of New South Wales).*
Forestry	SIG3	196	The proposal will effectively privatise a public asset for private gain under the assertion that coal development is in the best interests of the people of NSW. The proposal would effectively alienate and destroy a major part of Ben Bullen State Forest without due process. 752 hectares of the Ben Bullen State Forest will be destroyed if this proposal is approved. Legislation to revoke this part of the forest should pass through the NSW Parliament before any part of the forest is destroyed. The *Forestry Act 1916* is clearly intended to protect state forests, and no mining should take place that destroys a state forest. As the proponent does intend to destroy part of the state forest, the environmental assessment is deficient for not proposing forest revocation.
Ecology	SIG3	197	The proposed open-cut mining to may be acceptable in 'indifferent' country, but not in the high conservation value Gardens of Stone reserve proposal. Here, in the 843 hectares to be destroyed by open-cut mining; the 500 or more native plant species that are set within a natural rock garden landscape formed by internationally significant 'pagodas' clustered along this part of the Great Dividing Range and Ben Bullen Range will be lost. Such high species richness and unique geodiversity should not be destroyed to extract a remnant of poor quality, high ash, thermal coal buried within almost a *sydharb* of useless rock.
Social	SIG3	198	Open-cut mining too close to Cullen Bullen Both the Cullen Bullen residents and the National Party of NSW do not consider this proposal to be socially acceptable due to its location beside Cullen Bullen. A petition opposing the mine contains 251 signatures, with 120 signatures from Cullen Bullen (population 198 in 2006); 99 from elsewhere in the Lithgow Local Government area and only 32 from outside the Local Government Area.

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Social	SIG3	199	The Cullen Bullen, village population has declined from 209 persons in 2001 to 198 persons in 2006, whilst being surrounded by six coal mines. This rural community has shrunk while coal mining operations have grown around it, possibly as a response to associated mining and health impacts.
Health	SIG3	200	The evidence from the United States on health impacts indicates that coalmining communities in West Virginia had an increased risk for developing cardiopulmonary disease, chronic obstructive pulmonary disease (COPD), hypertension, other lung diseases and kidney disease. Mortality rates for these diseases were higher in coalmining areas compared with non-mining areas of the region ii. In the case of blasting associated with coal mining, the typical concentrations of NOx in post blast clouds can measure anywhere between 5.6 to 580 parts per million, exceeding the safe limits by around 30 to 3000 times iii. The proposed project may also see further spontaneous combustion of exposed coal waste material and cause greater air pollution for the local community and travellers on the Castlereagh Highway. As the decision-makers for this proposal would be aware, the Central Council Natural Resources and Energy Policy Committee of the National Party of Australia (NSW) in its submission to the NSW Government's draft Strategic Land Use Strategy requested a 5km buffer zone between towns and villages and open-cut coal mining iv. When considered together, the National's policy and the 60% of Cullen Bullen residents who signed the petition make a strong case that the proposed open-cut coal mining activities will not be acceptable when it is so close to a community.
Health	SIG3	201	The proposed Coalpac Integration Project boundary is less than 500 metres from the centre of Cullen Bullen. The village is already being negatively impacted by blasting and dust from Coalpac's open-cut mining activity. Threats to the health of children attending Cullen Bullen Public School due to the open-cut mining are a public health concern. Blasting may damage properties and nitrous oxides could impact on community health in Cullen Bullen. The town's depressed property values would continue indefinitely as the town would become surrounded by degraded land and dust would make it difficult to keep property clean.
Health	SIG3	202	In line with National Party policy, a 5km buffer zone excluding open-cut mining should be established around the town of Cullen Bullen and its Primary School to protect their health, social values and amenity. As this makes the proposal unviable, it should be refused development consent.
Ecology	SIG3	203	OPEN-CUT REHABILITATION MEASURES INADEQUATE FOR AREAS WITH HIGH PLANT DIVERSITY

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			Rehabilitation methods for open-cut coal mines are incapable of restoring the original biodiversity and geodiversity of the Gardens of Stone Reserve Proposal. Appendix J of Appendix J reviews the performance of the existing rehabilitation and is prefaced with the following limitation: "*The native vegetation communities in the surrounding lands has favoured specific geologies and hydrological preferences over very long periods of time (eons), and the preparation of the rehabilitation sites after mining is unlikely to support entirely consistent landforms. As such the complexity derived from native vegetation remnant can only be an indicative target.*" In more direct language, the areas rehabilitated after open-cut mining have no chance of matching the complexity and diversity of the original native ecosystems.
Ecology	SIG3	204	The Colong Foundation draws to the determining authority's attention that Appendix J of Appendix J does not compare the rehabilitation areas with those native ecosystems that were lost when mined. The proponent does not have pre-mining assessments of biological diversity for the mined areas from which to ascertain rehabilitation performance. The benchmarks used do not obtain an accurate measure of lost botanical diversity. Assessment of other communities or sites that were not mined can only give an approximate guide.
Ecology	SIG3	205	The targets for species diversity in Appendix J of Appendix J are based on a baseline generated from the examination of just two undisturbed reference sites located nearby. The very poor sampling of just two reference sites means that pre-mining plant diversity has been grossly underestimated. In any case the restoration does not even restore half the original diversity of these two small reference sites. If properly assessed, the actual biological diversity of the rehabilitated areas is likely to be far less than these estimates.
Ecology	SIG3	206	The Foundation notes that plant species diversity for the rehabilitation sites declines in the oldest age class (year 2002). An alternative explanation to that given for this observed decline may be that the acacia over storey in the oldest age class has begun to die off, with adverse consequences for species diversity. The Colong Foundation is concerned that when the acacia over storey of the rehabilitation areas does die off, aggressive, declared noxious weeds will take over, including St John's Wort and Scotch Broom already present on these rehabilitation areas. Both these weeds have a capacity to invade undisturbed adjoining native ecosystems and replace them. Within the life of the proposed project, both the rehabilitated and surrounding state forest areas will become weed infested, degraded landscapes.
Ecology	SIG3	207	Further, Coalpac does not to use a sterile grass in its rehabilitation program. The use of sterile grasses in rehabilitation is standard practice for mine rehabilitation. The grass used is spreading east into the Ben Bullen State Forest (Gardens of Stone reserve proposal) including the previously pristine pagoda shrubland complex

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			areas.
Visual	SIG3	208	Adverse Aesthetic Impacts The mining activity will devastate the landscape and spectacular scenery of the Ben Bullen State Forest that forms the scenic backdrop to the Castlereagh Highway. The scenic assessment in the environmental assessment did not properly consider the visual impact from the Highway, and is in consequence deficient.
Visual	SIG3	209	The Invincible Colliery Open-cut Mine initial approval of 7th September 2006 came with a Coalpac Pty Ltd's assurance that "*the open cut operations proposed would not be visible from the Castlereagh Highway due to the intervening topography and existing vegetation coverage*" (Refer: 05_0065_proponents_response_to_submissions page 4, para 2, NSW Planning Website). The steep open-cuts into the escarpment of Ben Bullen State Forest are clearly visible along a 2 km section of the Castlereagh Hwy, from the top of the Great Dividing Range west nearly to Cullen Bullen township. Such a history of behaviour does not give a sceptical local community confidence in Coalpac's statement of commitments in this environmental assessment. The proposed level of destruction of the recreational and ecological values in Ben Bullen State Forest fronting both sides of the Castlereagh Highway appears to be little moderated in this current proposal from the damage shown below.
Ecology	SIG3	210	The proposed biodiversity off-set areas are unacceptable The conservation off-set areas on farmland planted out with tube-stock as well as the open cut areas now rehabilitated will have a very small fraction of the species richness of the intact native woodland communities in the Ben Bullen State Forest.
Ecology	SIG3	211	The environmental assessment fails to provide adequate or accurate information on the proposed offsets to enable a genuine assessment of their values to be made. The environmental assessment refers to "*Eucalyptus Cannonii* potential habitat" and these areas in the offset properties are shown as dark green, omitting to clearly indicate these are currently cleared areas of native pasture. The environmental assessment does not provide data on the amount of cleared land within its proposed offset properties. The result of these offset areas will be similar to that shown in the figure below.
Ecology	SIG3	212	The remainder of the Hillcroft, Yarran View and Hillcroft/Billabong properties proposed as biodiversity offsets appear to have been grazed. From the documentation it is impossible to determine how much of the off-set properties are in a poor condition, with erosion and weeds, or poor quality habitat. The existing offset properties are also mostly cleared land, and it is not stated how much of the existing offset is cleared and

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			how much of that cleared land has been replanted. There is to be $23 million spent for funding offset properties. It appears that at least half of these funds could be more or less wasted on replanting cleared lands with native species. Any biodiversity offset strategy that offers revegetation of cleared land is a poor use of proposed offset funds.
Ecology	SIG3	213	The environmental assessment notes "that environmental offsets, as a minimum, [should] be commensurate with the magnitude of the impacts of the development and ideally deliver outcomes that are '*like for like*'" (Hansen Bailey emphasis, page 198). The proposal to replant cleared land with threatened plants does not create habitat that replaces undisturbed native ecosystems.
Ecology	SIG3	214	The Nature Conservation Council of NSW has a policy of opposing the use of offset systems in the management of native vegetation. This policy is also the policy of its over hundred member groups (including the Colong Foundation). Offsets systems are driven by development not the conservation of native vegetation. Offset systems result ultimately in a 'net loss' of biodiversity and extant high quality remnant native vegetation. Further, the NCC policy opposes offsets that facilitate further broad-scale clearing of intact, remnant native vegetation in return for revegetation of other areas.
Ecology	SIG3	215	Conserving or planting low quality vegetation cannot compensate for losses of high quality vegetation. Replanted vegetation in an offset is a poor substitute for the natural complexity of the remnant vegetation that has been cleared, ultimately resulting in net loss of biodiversity and ecosystem services.
Ecology	SIG3	216	All of the area proposed to be cleared for the open-cut coal mine is high quality native remnant vegetation. It sustains an impressive array of life including at least 19 different plant communities; more than 500 native plant species; at least 86 bird species; at least 29 mammal species; at least 14 reptile species; at least 8 frog species; and countless invertebrates.
Ecology	SIG3	217	Rare and threatened biota are also well represented: 2 endangered ecological communities (totalling at least 18.5 hectares to be cleared); critically endangered grassy Box Gum Woodlands; threatened Geebung habitat; 19,200 vulnerable *Eucalyptus cannonii* trees in 278 hectares of native forest; at least 8 bird species; at least 4 mammal species; at least one reptile; more than 30 plants; and many other threatened species potentially occur.
Ecology	SIG3	218	The ancient eucalypt forests and woodlands support many grand specimens of a variety of tree species, including Brittle Gum, Brown Barrel, Ribbon Gum, Broad-leaved Peppermint and Inland Scribbly Gum. These mature forests are rich in tree hollows providing homes for the many species of bats, mammals and birds mentioned above to nest and roost. Such diversity once destroyed cannot be replaced by offsets.

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Ecology	SIG3	219	Native flora and fauna surveys incomplete and deficient Despite undertaking eight field surveys before lodging this Environmental Assessment at least 100 native plants were missed (see the submission by the Lithgow Environment Group for the list of native species omitted by Coalpac consultants). The environmental assessment also omitted the Broad-headed snake (V) that I observed, photographed Tuesday 22nd December, 2010 and reported to the EPBC referrals section. The record was also reported as a threatened species by Mr Ian Brown as follows: Broad-headed snake *Hoplocephalus bungaroides,* date: 21-12-10 and 27-12-10 (species seen at same location on both dates); location: GDA94 Zone 56H 22653.630968 (8931-3N Cullen Bullen); altitude: 1080m; tenure: State Forest (Ben Bullen); habitat: beside small rock hole on flank of large bare sandstone outcrop (pagoda) on edge of plateau. The snake is in the area proposed for highwall mining.
Ecology / Visual	SIG3	220	Adverse impacts on pagoda landscapes This very high biological diversity is further enhanced by being set within a landscape of great geodiversity and scenic value. Washington and Wray in their 2011 paper 'The Geoheritage and Geomorphology of the Sandstone Pagodas of the North-western Blue Mountains Region' report that platy pagodas are an 'uncommon and significant geomorphic landscape feature, and are distinguished by the extent and regularity of their ironstone banding,' (*Proceedings of the Linnean Society of New South Wales 132, 131-143*: Attachment A). The authors are 'not aware of any other rock formations in Australia or overseas that mimic the geomorphology of platy pagodas' that are 'distinct and significant geomorphological features, even by world standards' (Washington and Wray, pg 141).
Ecology / Visual	SIG3	221	Much of the core pagoda area is located outside protected areas, principally on Newnes Plateau and in Ben Bullen State Forest. The authors are concerned that the scenic, cultural and geoheritage values of the pagoda landscapes have not been officially recognised and conclude that the platy pagodas 'deserve full and expanded recognition as a significant part of the geodiversity and geoheritage of the Blue Mountains region' (Washington and Wray, pg 142).
Blasting	SIG3	222	The environmental assessment makes only passing reference to pagodas. The full extent of pagoda formations in the project area is not accurately mapped in the environmental assessment. Pagoda formations will not be protected by the proposed 50 metre set-back from open-cut mining and the 100 metre monitoring zone. There is no adequate control of vibration from blasting, as blasting will occur up to 50 metres from the pagodas and cliff lines. The mine void being so close to the cliffs and pagodas may increase the stresses and

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			vibration movement from blasting due to reduced lateral support.
Subsidence	SIG3	223	The accumulative subsidence from highwall operation in each of the seven coal seams mined may cause far greater subsidence damage, such as pagoda cracking and collapse. Such mining will surely have more than 2cm of subsidence movement attributable to the mining of one seam. More conventional underground mining of any sort would be prohibited along cliff lines, particularly in scenicly prominent pagoda areas where highwall mining is being proposed. Only 3% of the coal resource is proposed to be extracted by highwall mining, less than 1.9 Mt in total. Highwall mining is inherently dangerous to workers, and should not be attempted in such a scenic and geomorphologically unstable area.
Rehabilitation	SIG3	224	Instead of the proposed 50 metre set back and highwall extraction of coal from under pagodas, open-cut operations should not be allowed to intrude into the gullies below the Great Dividing Range and the Ben Bullen Range. Open-cut mining should not occur on any of the Ranges' steep the slopes which are too steep to be effectively rehabilitated.
General	SIG3	225	INTENSIFICATION OF MINING OPERATIONS UPON APPROVAL Coalpac's proposal seeks to wind back the environmental protection embodied in its existing development consent. The proposal seeks to replace areas approved for highwall underground mining with an approval for open cut mining over the same area. The arrangement of highwalls was defined by the Development Consent issued by the then Minister for Planning, The Hon Kristina Keneally, on the 4th of December 2008. The consent also contained a figure defining the proposed final landform and the consent was slightly modified on 12th January 2009 and again on 8th October 2010. In effect the proposal seeks to overturn the previous consent in relation to mining operations and final landform in the following manner. Figure 1 of the development consent of 12 August 2009 (Appendix A) would be replaced by Figure 6 on page 35 of the Environmental Assessment by Hansen Bailey. This variation would see new areas under the pagoda complexes subjected to highwall mining. The Environmental Assessment notes on page 106 that stresses in rock structure have the 'ability to affect stability of pillar sidewalls, roof and floor'. It would appear that these areas should not be subject to highwall mining at all, to preserve the stability of coal pillars in the old workings. Further, the area that was to be subject to highwall mining in the previous development consent is now proposed to be subject to open cut mining instead. This moves the open-cut mining proposal into the steeply sloping land below the Great Dividing Range.

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Rehabilitation	SIG3	226	Mr Bret Leisemann, Chief Development Officer of Coalpac stated at a meeting in the Colong Foundation office on Wednesday 15th December, 2010 that open cuts in this current proposed action would have highwall faces up to "100 metres high" and that all faces would be completely filled during rehabilitation. These highwalls are about four times higher than those currently approved and higher than a twenty storey building. Any rehabilitation that seeks to backfill open-cut highwalls to 100 metres high would prove very difficult to shape to slopes of 14 degrees or less for the Invincible Colliery or 18 degrees or less for the Cullen Valley Colliery. Such steep slopes will not support adequate topsoil cover or revegetation, particularly on the drier west-facing slopes. The proposed fill depth of up to 100 metres will settle over time, with the result of isolating the pagoda areas and their wildlife with surrounding degraded lands. Future mining modifications, however, could remove these retained highwall areas in another round of mining intensification.
Groundwater	SIG3	227	THE WATER MANAGEMENT SYSTEM IS POORLY EXPLAINED AND NOT JUSTIFIED The Colong Foundation for Wilderness is concerned that eco-toxic groundwater effluent will be discharged from the former Invincible underground mines to enable the proposed open-cut mining to extract the coal pillars in the Lithgow Seam from these old mine workings. The Foundation appreciates that Coalpac has given assurances that it will not mine the old mine workings.
Groundwater / Surface Water	SIG3	228	Licensed Discharge Point 001 (LDP001) for Invincible Colliery, however, can discharge eco-toxic mine effluent from the 6,245ML stored in old workings into Long Swamp in the headwaters of the Coxs River. The Colong Foundation requests that LDP 001 be removed from the Environmental Pollution Licence 1095 to prevent further damaging effluent discharges at the 2ML/day rate allowed. Further, the request for a licence for LDP 001 under part 5 of the Water Act should be refused by the Office of Water. This swamp meets the definition of a Temperate Highland Peat Swamp an endangered ecological community under the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1998*. Long Swamp has been degraded in the past by the discharge of highly polluted water being pumped from the abandoned Invincible underground mine workings. The surface waters of the Gardens of Stone are naturally very low in salinity (typically 30 S/cm). At its source near Ben Bullen, the Coxs River salinity rests at 30 S/cm (Jonkers, 2009). The high salinity of mine effluent will significantly impact these aquatic and riparian ecosystems that have evolved naturally under very low nutrient conditions.

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			The discharge from LDP001 was observed in the latter half of 2007 to have a salinity ranging from 1600 – 1750 µS/cm (Jonkers, 2009). The saline effluent water from the underground workings flowed into a western branch of Long Swamp and then into the headwaters of the Coxs River. These discharges would have severely damage the ecology of Long Swamp but have ceased for the time being, however, the licensed discharge point has been retained. The immediate effects of increased salinity on inundated native swamp vegetation include stunted growth, and leaf burn and drop, leading to plant death. In less severe cases, germination is suppressed by salinity, which can be broad scale downstream of the discharge point. Local native plant populations decline and native plant diversity changes as indigenous plants are replaced with more adaptable and salt tolerant plant varieties. Loss of native vegetation compounds the salinity problem by producing soil exposure, known as soil scalding, and erosion. The determining authority should not assume that State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 will guarantee adequate water treatment. The SEPP, being an environmental planning instrument, only operates to regulate mining proposals and not mining operations.
Groundwater	SIG3	229	When consideration of water management and water quality triggers is deferred by the development consent and another approval is required for say a water management plan, the issue of that secondary approval doesn't need to apply the neutral or beneficial test to eco-toxic mine effluent. The SEPP will not apply after development consent. The determining authority should be careful not delegate approval to the EPA of a water management plan to be prepared at a later date unless the consent requires application of the neutral and beneficial test to water discharges. Further, the eco-toxic effluent discharges at a rate of 4.25ML/day still continue from the now decommissioned Baal Bone Colliery. This pumping lowers groundwater levels in the interconnected Invincible and Old Invincible workings that are an unstated part of this open-cut proposal. These discharges damage Jews Creek Swamp and should also cease to be licensed. The groundwater impact assessment and water balance assumes continued discharge via the Baal Bone Colliery (page 46, Appendix O). Without pumping, it will not be possible to access the coal pillars in the abandoned workings of the Old Invincible and Invincible Collieries. The water levels in the old underground workings for the Baal Bone, Invincible and Old Invincible collieries are to be kept low to permit mining of the Lithgow Seam within the proposed open-cut mine. These workings should instead become flooded, so as to reinstate near-surface groundwater levels. None of the Lithgow Seam coal pillars in the old workings should be extracted by this proposal so that eco-toxic

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			discharges into the EEC-quality Temperate Highland Peat Swamps on the Coxs River and Jews Creek can be terminated.
Groundwater	SIG3	230	Much of the analysis on hydraulic connectivity between the old mines and Baal Bone Colliery in Appendix O seems to be a flight of imagination. Figure 39, page 164 of Volume One of the Environmental Assessment clearly indicates that these mines, with the exception of the Tyldesley Colliery, are directly interconnected. The location of Invincible LDP001 in Figure 39 confirms this hydraulic connection. Note also that the Environmental Assessment states that "the elevated water levels within LD001 may represent an area with a higher recharge rate resulting from fracturing above the longwall panels" (page 165). These panels are in the Baal Bone Colliery and establish the hydraulic connection to the north.
Groundwater	SIG3	231	From an examination of Figure 39, the Colong Foundation concludes that analysis of seepage rates in Appendix O is both misleading and incorrect. Coalpac could through a subsequent development application use existing Baal Bone LDs (and perhaps also the Invincible DL001).
Groundwater	SIG3	232	The claim that "dry mining conditions will still mostly prevail for the proposed Project" (page 64, Appendix O) remains true only if Baal Bone Colliery continues to dewater its underground mine workings at a rate of 4.25ML/day. The Environmental Assessment is misleading regarding the need for water licensing and incomplete in relation to water management.
Groundwater	SIG3	233	No consideration of a neutral or beneficial test for these discharges has been considered in relation to LD001. No proposal has been made to treat these discharges.
General	SIG3	234	INSUFFICIENT INFORMATION PROVIDED FOR THE SAND MINE WITHIN A COAL MINE PROPOSAL The proposed sand mining operation is a novel idea that would prevent effective rehabilitation of the northern part of the Cullen Valley open-cut. It is proposed to obtain 5 million cubic metres of sand by crushing the acid-generating Marangaroo Sandstone found underneath the Lithgow Coal Seam.
General	SIG3	235	The amount of water, 4 to 5 thousand litres per cubic metre of sand seems excessive, as does the need to wash the sand twice to obtain a sellable product. This may be due to the fact that the sand will come from a sandstone with considerable capacity to generate acid. Perhaps also this is why the water is proposed to be disposed of down the abandoned Tyldesley Colliery. The sand is being obtained from unweathered sandstone. Like the coal mining proposals, the amount of energy required to mine this sand deposit will be relatively high when compared to other sand mining operations.

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General	SIG3	236	Such an activity is usually the subject of a detailed environmental assessment in its own right, but is given only cursory attention in the five large volumes dedicated almost entirely to the coal mining proposal. The claim that the waste from the sand mining is inert is contradicted by the amount of sulphur found in the Marangaroo Sandstone. This sandstone has 0.82% sulphur and is likely to cause acid mine drainage. Any sand product with residual sulphur will be unusable.
General	SIG3	237	The sand mine proposal is highly speculative, with little information as to the nature of the resource mined, except that it contains sulphur. Usually such proposals have a detailed assessment of the potential sand product, whether it produces well graded sand or not, whether the grains are rounded, the proportion of quartz in the sand, and how much silt and clay factions are present in the sandstone. None of these data are provided about the alleged sand product. Further, the operation of the proposed sand mine would interfere with the normal sequential rehabilitation of the proposed northern section of the Cullen Valley open-cut coal mine.
General	SIG3	238	Sand mining from unweathered sandstone that then requires haulage by truck over the Blue Mountains to the Sydney construction materials market should not be approved. The proposed truck movements, 128 truck movements a day to move 0.64Mtpa of sand, will be through the residential suburbs of the Blue Mountains. The truck transport Appendix Q mentions haulage by B-doubles, which are banned on the Great Western Highway. The economics of the proposal may not be viable with smaller trucks that are allowed to pass through the Blue Mountains.
General	SIG3	239	The ten or so pages dedicated to this sand mining proposal are insufficient to justify it. All the data on sand mining is throughout the body and appendices of the environmental assessment and is so poorly presented as to almost defy the consideration such a proposal deserves. The sand mine proposal appears to be more about increasing the sale price of the Coalpac proposal than any real intention to provide construction sand.
Ecology	SIG3	240	ENVIRONMENTAL RECORD OF THE PROPONENT Cape Broom is spreading in the Coalpac lease areas and non-sterile grasses are being used to stabilise the rehabilitation areas. Use of an invasive grass in rehabilitation repeats a serious mistake made many times in mine rehabilitation.
Groundwater	SIG3	241	On 23 March 2007, Coalpac lodged an application to vary their Protection of Environment Operations (POEO) Licence Number 1095, to recommence discharging up to 4 ML/day of mine water from their borehole in Ben Bullen State Forest (LDP001). The licence variation was approved, and pumping commenced in June

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			2007 for eco-toxic mine effluent with a salinity ranging from 1600–1750 µS/cm. The proponent clearly intends to continue with this arrangement, despite the damage it would cause.
General	SIG3	242	Apart from the fine issued by the Land and Environment Court of $200,000 for exceeding coal production limits, Coalpac's Invincible mine has been fined eleven times in the last ten years for incidents of non-compliance under the Protection of the Environment Operations Act, 1997 (see http://www.environment.nsw.gov.au/prpoeoapp/LicenceDetails.aspx).
General	SIG3	243	RECOMMENDATIONS The proposed Coalpac Consolidation Project (DA 10_1078) be refused development consent: As the proposed open-cut mining is inappropriately located, being too close to the village of Cullen Bullen and largely within a high conservation value public forest. As the extraction and burning of the inferior coal resources found within the project area will generate unacceptably high levels of carbon pollution. To avoid a precedent of establishing open-cut mining along the slopes of the Great Dividing Range and in other prominent escarpment locations such as in the Hartley, Capertee and Wolgan valleys. To prevent winding back the existing level of environmental protection embodied in the Invincible Colliery's development consent by replacing highwall underground mining with an approval for open cut mining over the same area. As open-cut mining of the environmentally sensitive slopes and gullies of the Great Dividing Range and the Ben Bullen Range cannot be adequately rehabilitated. As the highwall mining under cliff lines and pagodas would yield less than three per cent of the coal proposed to be produced from the project - the risks arising from such mining to operators and the environment are unjustified for such a low yield. To terminate discharges of eco-toxic groundwater from the old underground workings, arising from subsequent proposals to mine the coal pillars in the Invincible and Old Invincible collieries. To reinstate natural near-surface groundwater levels under swamps and to prevent further eco-toxic discharges into the EEC-quality Temperate Highland Peat Swamps on the Coxs River and Jews Creek, by allowing the abandoned underground workings to flood. To permit the removal of LDP 001 from Environmental Pollution Licence 1095, preventing further damaging effluent discharges from underground workings.
Groundwater	SIG3	244	No licence for LDP 001 should be issued under part 5 of the *Water Act*.

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Sand	SIG3	245	The proposed sand mine should be refused consent due to: poor specification of the sand resource; known but understated risk of acid mine runoff and poor consideration of that risk; unwarranted interference and deferral of sequential rehabilitation of the proposed open-cut coal mine; assumed use of B-double trucks that cannot be used on the Great Western Highway; and insufficient description and environmental assessment of a relatively large quarrying proposal.
General	SIG3	246	In refusing development consent the determining authority should find that: The proposed project area contains outstanding heritage values suitable for reservation under the *National Parks and Wildlife Act, 1974;* The presence of a remnant coal resource within mining tenements does not give the owner of those tenements any right to mine the resource because all mineral and energy resources are owned by the Crown; In order to help society avoid a climate catastrophe, the intensive open-cut mining proposed for the low quality coal resource within the proposal is best prevented through reservation of Ben Bullen State Forest as a state conservation area in order to set a positive precedent of sterilising such resources; The open-cut mining proposed is incompatible with either concurrent or subsequent reservation of the proposal area under the *National Parks and Wildlife Act, 1974* as heritage values are largely destroyed by such intensive mining; Areas of high conservation value, such as the Ben Bullen State Forest, should not be subjected to an environmental double jeopardy by being mined for a second time using more intensive mining methods that destroy heritage values in order to obtain the last remnants of coal in that area; The destruction of state forest by open-cut mining is inconsistent with the objects of the *Forestry Act, 1916.* Such mining could only be lawful if preceded by lawful revocation of the affected part of the state forest; It is beyond its gift to effectively overturn a reservation of a public state forest set aside by Parliament for permanent conservation and sustainable use by approval of an open-cut mine; Ben Bullen State Forest has for over 100 years already played more than its fair part in the energy economy of NSW, and it's now appropriate to sterilise the remnants of coal resources in this state forest in order to protect the community and the environment from undue injury.
Ecology / Visual	SIG4	247	We understand that in its Consolidation Project, Coalpac is proposing to expand open−cut and highwall coal mining in the western part of Ben Bullen State Forest (SF) and smaller areas of adjacent land. If this project proceeds as planned, it will destroy publicly−owned forest and woodland which is the habitat of several

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			threatened bird and other animal species, as well as endangering magnificent pagoda rock formations in the Gardens of Stone area (a portion of which is within the proposed mining area).
Ecology	SIG4	248	CBOC much prefers that the proposed open−cut mining does not take place at all in Ben Bullen SF. Failing this, we request that you give serious consideration to our suggested modifications to the project, to help protect some of the rarer and more sensitive bird species, and also geological formations. Details are given below. These are based mainly on information from the *Coalpac Consolidated Project Ecological Impact Assessment, Final Report,* March 2012, by Cumberland Ecology (Report 9023RP2).
Ecology	SIG4	249	Impacts on wildlife habitats About 958 ha of vegetation (including derived native grassland) within the project disturbance boundary is likely to be destroyed by open−cut mining and associated works, and 993 ha is proposed to be "retained", although this latter area is mostly planned to be undermined by sub−surface highwall mining.
Ecology	SIG4	250	The portion planned for open−cut mostly contains diverse native forest and woodland types. Much of this vegetation is suitable habitat for a large number of bird species, which reside there or would be likely to visit when food resources such as nectar are present. Resident Vulnerable bird species listed under the NSW TSC Act 1995, recorded during the project Environmental Impact Assessment (EIA) include: Gang−gang Cockatoo Powerful Owl Square−tailed Kite Scarlet Robin Speckled Warbler Brown Treecreeper Varied Sittella Additional Threatened bird species listed under the NSW TSC Act 1995, which are likely to reside in the area or visit it when trees are flowering, are: Masked Owl Barking Owl Swift Parrot (Nationally Endangered) Little Lorikeet Regent Honeyeater (nationally Critically Endangered)

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			Black−chinned Honeyeater Painted Honeyeater Diamond Firetail
Ecology	SIG4	251	The most suitable habitat for the threatened birds listed above is found primarily in the lower altitude parts of the project area, i.e. the section planned to be subjected to open cut−mining. We note that there is about 16.3 ha of listed Critically Endangered woodland vegetation types slated for destruction, while a further 29.9 ha of this vegetation is outside the open−cut area, and so should be retained. While 16.3 ha seems a relatively small area, it is likely to be important habitat for several threatened woodland birds in this district where very little similar woodland vegetation remains. Therefore we request that every effort is made to retain the entire 46 ha of woodland, with all patches connected by intact vegetation corridors of at least 50 m width, if the woodland patches are not contiguous initially. (A patch of woodland kept as an isolated small island surrounded by open−cut mining would obviously have limited ecological value.) This small effort to retain some of the bird and other wildlife biodiversity on the project site would be very worthwhile.
Ecology	SIG4	252	The taller forest types in the project area would have large tree hollows necessary for nesting by Vulnerable large forest owls (Powerful, Masked, Barking) and cockatoos. These include forest communities such as Tableland Gully Ribbon Gum−Blackwood−Apple Box forest (94 ha to be destroyed, 17 ha retained) and Exposed Sydney Peppermint−Silvertop Ash Shrubby Woodland (370 ha to be destroyed, 308 ha retained). We recommend that much larger proportions of both of these two forest types be protected from open−cut mining, particularly of the first type (Ribbon Gum−Blackwood−Apple Box), which has only 112 ha in total on the site. In fact, almost all of this latter type should be protected as far as is logistically possible.
Rehabilitation	SIG4	253	Rehabilitation of open−cut mined areas There is an apparent commitment by Coalpac to rehabilitate the open−cut mined areas progressively to native vegetation, whereby they expect this to "ultimately" be similar to the forest and woodland types destroyed by mining. It is very dubious whether it is possible to re−create these habitats "from scratch", so they will eventually have the species mixes and resources for wildlife, such as tree hollows, found in mature forests. In this project, efforts to set this re−creation in motion are only proposed to be applied for about 20 years at best. From that point onwards it would take at least another 80−100 years before the habitats resembled the original mature ones, assuming no setbacks.
Rehabilitation	SIG4	254	Nevertheless, rehabilitation of the whole open−cut site with native vegetation should be carried out diligently.

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			Photos of previous efforts in the Ben Bullen area (in the EIA document) indicate that native vegetation of some sort can be established within 8−10 years. Whether this will grow to resemble the original forest or woodland after several decades, with all its biodiversity, remains to be seen. This should be the subject of long−term studies. Rehabilitated areas should re−form connections between intact habitat areas and will presumably be utilized by increasing numbers of bird and other animal species over time, if the vegetation matures and increases in structural and species diversity.
Ecology	SIG4	255	Offset properties The proposed Yarran View offset property contains about 43 ha of Endangered Box/Gum woodland (in scattered patches) and 220 ha of shrubby White Box Woodland. These areas may provide suitable habitat for up to nine (9) Vulnerable woodland bird species that were recorded about 5 km away in similar woodland on the edge of Wollemi National Park (EIA report). Extensive areas of derived native grassland (143 ha) might ultimately be revegetated to Box/Gum Woodland, but it would take many decades for this to mature, even assuming a prolonged effort was made to establish the relevant tree and understorey vegetation successfully. This property appears to be worth securing, for its present and possible future habitat values. It would need to be added to Wollemi National Park to guarantee its long−term environmental value.
Ecology	SIG4	256	The Hillview offset property has only 5 ha of Critically Endangered Apple/Red gum/Yellow Box woodland in scattered strips, plus about 29 ha of derived native grassland. This area may have some present value to woodland birds but this value will be very limited until woodland is also well established (after several−many years, if successful) on the grassland areas, to form a sizeable patch. The habitat value of this property also depends on its long−term retention as a conservation area.
Ecology	SIG4	257	Acquisition of Yarran View and Hillview together would protect a small area of existing Endangered woodland communities (total 48 ha), with value for woodland birds. This cannot be considered as "compensation" for the 16.3 ha proposed to be destroyed by open−cut mining. CBOC considers that ALL the existing patches of Endangered Box/Gum woodland vegetation need to be conserved, both in the project area and the offsets. This is especially necessary in a district where there is almost none of it left, as indicated by the apparent difficulty Coalpac has had in finding offset properties with more than small mature patches of this woodland type.
Ecology	SIG4	258	The proposed offset properties appear to contain little or none of the tall Tableland Gully Ribbon Gum−Blackwood−Apple Box forest, which is likely to have large tree hollows and which is mostly proposed

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			for destruction in the project area. However, we note that the Hyrock Hartley offset property contains about 21 ha of Montane Gully Forest and *E. oreades* open forest, as well as a fairly large area (158 ha) of Sydney Peppermint−Silvertop Ash Woodland. These vegetation types may provide large nesting hollows for owls and cockatoos. Hyrock Hartley would be a useful conservation area if added to the nearby National Park for long−term security, as mooted in the EIA report.
Subsidence	SIG4	259	Protection of sandstone pagodas and other surface rock features The mine project area includes some of the famous Blue Mountains 'pagoda' rock formations near the SE boundary. We note that these pagodas are not proposed to be impacted by the open−cut operation, but mining beneath them using highwall underground methods is proposed. Such mining must use techniques that are guaranteed not to cause any subsidence or cracking of the pagoda formations. If there is any risk at all of damaging them, no mining should be permitted under them or close enough to endanger them. The amount of coal under the pagodas is presumably small, since they occupy only a small part of the project area, and it would surely be worth foregoing this coal in order to protect them.
General	SIG4	260	At present only about half of the c 60,000 ha containing Blue Mountains pagoda formations is adequately protected in National Parks. Important unprotected areas with pagodas exist in the rest of Ben Bullen and Newnes State Forests. These State Forest areas should be protected in formal reserves or National Park as a matter of urgency, and not be subjected to any future mining (preferably); or subjected only to the "safest" underground methods guaranteed not to damage surface soil, rock, watercourses, or plant life.
General	SIG4	261	The proposed minimum setback for open−cut mining from cliff faces and escarpments in the current project is only 50 m. We question whether this is an adequate distance to ensure their stability and prevent any rock collapse. To err on the side of caution, a minimum setback of 100 m is suggested as more appropriate.
General	SIG4	262	Conclusions CBOC requests that the area of Ben Bullen State Forest proposed for open−cut mining under this Consolidation Project be protected instead as a Conservation Reserve, permitting very careful underground mining only.
Ecology	SIG4	263	Failing this outcome we request that: • All listed Endangered woodland types (c 48 ha) in the project area will be protected from disturbance by open−cut mining or infrastructure; • All proposed offset properties will be secured for conservation in perpetuity, with diligent attempts to re−establish woodland on derived native grassland areas on two properties (Yarran View and Hillview);

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			• Most or all of the 112 ha of Tableland Gully Ribbon Gum−Blackwood−Apple Box forest in the project area will be protected from open−cut mining; • Diligent, long−term effort will be applied to rehabilitate open−cut areas back to original forest/woodland vegetation; • Sandstone pagodas and escarpments will be strictly protected from any damage by mining, with conservative setbacks applied. CBOC (and I personally) have not made any donations of $10.00 or more to any political party over the past two years.
Economics	SIG5	264	The Invincible mine has supplied coal to the power stations at intervals over many years while the Cullen Valley mine has provided coal continuously since 2000. Since 1 March 2011, as a result of the previous NSW Government's electricity reform project, the output of the two power stations and the responsibility of providing the requisite coal has been contracted to TRUenergy Pty Ltd. Nevertheless, Delta remains committed to the long term viability of the stations. One of the most significant factors in this regard is the presence of a competitive, reliable coal supply. Delta sought approval for the Western Rail Coal Unloader to maximise the coal supply base from which it might draw its future supplies. The rationale was to ensure, as far as possible, that the power stations would have a long term future thereby continuing to support both the state and local economies. However, local supplies remain the preferred alternative. Coal railed in from other districts to meet power station demand may affect local mine employment, produce higher greenhouse emissions given the longer transport distance and require new developments, either in terms of new mines or re-activated railway lines. In contrast, the current proposal from Coalpac for an expansion of its existing operations and for transport to the power station via conveyor would mean continued support for the local economy and a reduced impact on the environment. If Coalpac was forced to cease operations there is no obvious replacement supply available from within the Western Coalfield given that the other domestic coal producers are already contracted to the power stations. Not only can no single producer meet all of the power stations' requirements but virtually all local producers are required to meet that demand. Until the Western Rail Coal Un loader and, possibly, rail upgrade works could be completed, that is likely to lead to significantly reduced generation from the western stations. This would lead to a supply shortfall in the national electricity market and possible market insecurity. The shortfall would have to be met by increased production form older, less efficient or more expensive generators in NSW, or by importing electricity from neighbouring states which are often constrained by

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			inadequate interstate high-voltage transmission links. Both actions would likely cause a rise in the wholesale electricity price with consequent increased upward pressure on retail prices.
Economics	SIG5	265	Locally, a direct loss of full-time and part-time jobs associated with the provision of power station services could be expected plus the indirect loss of jobs in the region associated with the supply of items such as chemicals, fuel oil, lubricants, generic consumables, vehicles, food and accommodation and office equipment.
Economics	SIG5	266	Of course, if Coalpac was forced to cease operations and no alternative coal supply could be found to utilise the Western Rail Coal unloader then there would need to be a shutdown of some of the Western capacity with the further impact of the loss of a significant proportion of the more than 270 people employed by Delta in the region.
General	SIG6	267	The Advisory Committee is concerned that developments, both within and on lands surrounding the GBMWHA, should not impact detrimentally on these World Heritage values. The GBMWHA Advisory Committee thanks the Department of Planning for the opportunity to make comment on the COALPAC Consolidation Project: Application No: 10_0178 (the COALPAC Project) and makes the following comments.
Visual	SIG6	268	1) The Advisory Committee considers that the COALPAC Project is likely to cause deleterious impacts to listed World Heritage values The COALPAC Project is only 2 km from the western edge of the GBMWHA (Gardens of Stone National Park). The Advisory Committee considers that the natural values of areas close to the GBMWHA provide an important part of its physical and visual setting, complementing and enhancing the listed natural values of the World Heritage Area.
Ecology	SIG6	269	The area of the proposed COALPAC Project includes a variety of eucalypt communities, generally in good condition, which currently form part of the buffer of the GBMWHA. Two of the vegetation communities that will be impacted by the proposal have been identified as forms of the White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grasslands which is listed as critically endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This community is not, as stated (p. S.8) in the Ecological Impact Assessment (Cumberland Ecology 2012), "*well represented throughout the Sydney Basin Bioregion"*. If it were, it would not be considered "critically endangered". Examples of this community adjacent to the GBMWHA complement the limited examples protected in the GBMWHA.

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Ecology	SIG6	270	Two threatened plant species listed as vulnerable species under the EPBC Act, *Eucalyptus cannonii* and *Persoonia marginata* will be impacted by the COALPAC Project.
Ecology	SIG6	271	*Persoonia marginata* was previously known to occur in only a small number of disjunct populations in GBMWHA (Gardens of Stone National Park), Turon River National Park and around Clandulla State Forest. The Ecological Impact Assessment (Cumberland Ecology 2012) states that "*very little is known about this species as a result of its restricted distribution*". However, the population in the proposed COALPAC Project open cut site is one of the largest reported for this threatened species. Insects (bees and wasps) appear to be the main pollinators of *Persoonia* species (Bernhardt and Weston 1996). It is likely that pollinators maintain the necessary gene flow between individuals of separate populations including those in the GBMWHA. Retention of this large population is important for the long term conservation of this species and hence the outstanding natural values of the GBMWHA.
Ecology	SIG6	272	*Eucalyptus cannonii* is restricted to an area approximately 100 km x 60 km between Bathurst/Mudgee and east to Lithgow/Bylong. This species is also not well represented in reserves of the Sydney Basin Bioregion or in the GBMWHA. It is likely that gene flow occurs between individuals of these species in the COALPAC Project area and in the GBMWHA.
Ecology	SIG6	273	A number of nationally threatened fauna species and/or their habitats have been recorded in the area of proposed impact. According to the Ecological Impact Assessment (Cumberland Ecology 2012) these include the Regent Honeyeater, Swift Parrot, Broad-headed Snake, Brush-tailed Rock-Wallaby, Large-eared Pied Bat and Spotted-tailed Quoll. Given the proximity of the COALPAC Project to the World Heritage Area, a substantial number of individuals of these threatened species would move between the proposed COALPAC Project area and the GBMWHA. The Advisory Committee is concerned that a substantial loss of fauna habitat in the proposed COALPAC Project area has the potential to impact detrimentally on the listed values of the World Heritage Area.
Ecology	SIG6	274	2) The Advisory Committee has concerns about the adequacy of the Environmental Assessment The Advisory Committee is concerned that a number of flora species identified in the Ecological Impact Assessment (Cumberland Ecology 2012) have been identified to genus level only and that other threatened species that occur in the area may not have been identified. The flora list seems to have been compiled from various surveys that have covered part of the area, without any overall detailed flora assessment.
Ecology	SIG6	275	3) The Advisory Committee considers it is far preferable to incorporate better conservation planning initially,

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			rather than to attempt to offset losses. The Advisory Committee is concerned in regard to the adequacy of the proposed Offsets. The Ecological Impact Assessment (Cumberland Ecology 2012) concludes that the COALPAC Project would have a substantial deleterious impact on the ecology of the local area if no mitigation and compensation measures were proposed, removing 835 ha of native forest and woodland, including 16.48 ha of critically endangered Box Gum Woodland and Derived Native Grassland, 278 ha of potential and known *Eucalyptus cannonii* habitat, and 3.28 ha of *Persoonia marginata* habitat.
Ecology	SIG6	276	The Advisory Committee does not regard the proposed offset program as appropriate. In the case of critically endangered ecological communities and threatened flora and fauna species, it is far preferable to conserve rather than to destroy and then to attempt to 'offset' such losses. The Advisory Committee believes that remaining remnants of these communities and species cannot afford to suffer any further loss and should be protected. Indeed, considerable public resources are directed towards the conservation of such vegetation and species. The EPBC Act Policy Statement for White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grasslands (Department of Environment and Heritage 2006) states that, as of May 2006, more than $3,500,000 of the Australian Government's Natural Heritage Trust had been spent to manage, conserve and rehabilitate patches of this community.
Ecology	SIG6	277	The Advisory Committee is concerned that there do not appear to be guidelines available to regulate and guide the use of offsets. The Committee believes that the proposed offset areas are not providing "like for like" which should be a minimal requirement for any offset. Many species found on the COALPAC Project site are not found in the proposed offset areas. The Advisory Committee has concerns as to the lack of quantification of the ecological values of the proposed offsets. For example, when discussing the proposed offsets, the Ecological Impact Assessment (Cumberland Ecology 2012) says of the Yarran View property (page 6.23) "*The diversity of ground* *covers diminishes on the valley floor where more intense cattle grazing may have occurred. These areas did not qualify as CEEC under the EPBC Act or EEC under the TSC Act, however they may contain enough native species capable of rehabilitation into quality woodland habitat*", and of the Hillview/Billabong property (page 6.29), "*Technically, these area do not conform to the Commonwealth description of Box Gum Woodland due to a shortfall in understorey richness. However, it is highly possible that more survey effort may capture the required number of species. Furthermore, these areas show high resilience and provide adequate foundations to be restored to CEEC*

Category	Submission ID	Issue ID	Issue
			Capertee Rough-barked Apple Red Gum Yellow Box Woodland. For this reason these areas have been classified as CEEC Box Gum Woodland and Derived Native Grassland". Such a lack of quantification makes it difficult, if not impossible, to assess the value of proposed offsets accurately. If offsets are to be considered, then quantification of the values of losses and gains, as for example is routinely undertaken when the NSW Biobanking Scheme is implemented, should be required.
Ecology	SIG6	278	The Advisory Committee is concerned that the implied purchases of proposed offsets currently on private land are not guaranteed and there is no certainty that COALPAC would be able to purchase all these properties for offsets.
Ecology	SIG6	279	Lastly, the Advisory Committee is concerned that there is no guarantee that the proposed offsets will either succeed biologically or be secure in perpetuity. The successful rehabilitation of degraded remnants is not assured nor is the likely time frame of any such rehabilitation assured.
Ecology	SIG6	280	4) The COALPAC Project (in Ben Bullen State Forest) is within part of the proposed Gardens of Stone 2 proposal, which the Advisory Committee considers should be resolved before any public lands within the area of the proposal are alienated Approximately 58% (1442 ha) of the proposed COALPAC Project is within Ben Bullen State Forest, an area identified and currently being considered for future conservation under the 'Gardens of Stone Stage 2' proposal. The Advisory Committee supports the Gardens of Stone Stage 2 proposal. The Advisory Committee believes that if Gardens of Stone Stage 2 were to proceed, it would enhance the GBMWHA's integrity by providing a valuable secure buffer to the existing World Heritage Area and potentially constituting a valuable addition to the World Heritage Area itself. The Advisory Committee therefore believes that the Gardens of Stone Stage 2 proposal should be resolved before any public lands within the area of the proposal are alienated in perpetuity.
Ecology	SIG6	281	Conclusion The GBMWHAC opposes the proposed COALPAC Project. The Committee has concerns about impacts on the outstanding natural values for which the GBMWHA is listed; the adequacy of the Environmental Assessment; the desirability and adequacy of the proposed offsets; and believes that the Gardens of Stone Stage 2 proposal should be resolved before any public lands within the area of the proposed COALPAC project are alienated.
Ecology / Visual	SIG7	282	We wish to lodge our objection to the above proposal which, if approved, will impact significantly on the outstanding natural features of this region.

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Ecology	SIG7	283	The proposal will raze eight hundred and forty three hectares of the Ben Bullen State Forest in the Gardens of Stone Reserve Proposal. The risk to the magnificent Pagoda rock formations in the region from mining operations is very real. Such a proposal would destroy approximately twenty thousand vulnerable *Eucalyptus cannonii* and some considerable area of critically endangered Box Gum Woodland.
Ecology	SIG7	284	The area covered by the proposal has an extensive collection of native plants numbering in the hundreds and is habitat to thirty five recorded mammal species with at least twelve formerly listed as threatened.
Ecology / Visual	SIG7	285	Further, the proposal would have a detrimental impact on the adjacent Greater Blue Mountains World Heritage Area and the Gardens of Stone reserve proposal.
Rehabilitation	SIG7	286	We do not believe that attempts to rehabilitate the natural environment containing such high conservation value following the proposed mining activities could restore the biodiversity to its original status.
Traffic / Greenhouse Gas / Air Quality	SIG7	287	The proposal will considerably add truck and machinery movement as well as increase Australia's carbon emissions and release dust and fine particles into the atmosphere likely affecting the township of Cullen Bullen.
Ecology	SIG7	288	The Hawkesbury Environment Network fully supports the New South Wales Parks and Wildlife Service's proposal to include the Ben Bullen State Forest to the Conservation reserve System.
Ecology	SIG8	289	The Lithgow Environment Group (LEG) unanimously opposes the Coalpac Consolidation project. Members are outraged by this proposal to clear 958 Ha of publicly-owned State Forest, including critically endangered Box Woodland, vulnerable Clandulla Geebung and Capertee Stringybark habitat, and internationally recognised pagoda formations of outstanding scenic value.
Ecology / Air Quality	SIG8	290	Never in the history of mining in the Lithgow region, not even during a war-time emergency, has such an environmentally destructive mining project ever been contemplated. Up until now mining companies have at least tried to minimise the environmental and social impacts of their operations. But this proposal maximises the destruction – every tree, log, rock, blade of grass and watercourse will be totally destroyed, and Cullen Bullen village will be degraded into a dust bowl.
Greenhouse Gas	SIG8	291	The proposed extraction and burning of inferior high-ash content coal found within the project area will generate unacceptably high levels of carbon and fly-ash pollution. And it sets a precedent whereby state-owned Delta Electricity, the only customer for this crap coal, is encouraging suppliers to extract coal by the most environmentally destructive means possible.
General	SIG8	292	And this plan to open-cut mine one of the highest conservation value areas in NSW is being proposed by a

Category	Submission ID	Issue ID	Issue
			company with arguably the poorest environmental record in NSW, having twice been prosecuted in the Land & Environment Court and featuring in the media for causing Zinc and Nickel pollution of the Grose River in the Blue Mountains World Heritage Area.
Ecology	SIG8	293	In 2006 the DECCW identified the conservation values of Ben Bullen State Forest as being so significant that it was prioritised as the next area for reservation as a State Conservation Area within the Gardens of Stone National Park. A mere 5 years on its only value is to turn it into rubble?
General	SIG8	294	LEG members have attended 3 public meetings in Cullen Bullen and have spoken to many local residents, and can say with certainty that Coalpac do not have a social licence to operate. Based on Coalpac's poor past performance and the concerns raised by key environmental groups across NSW, LEG can say with certainty that Coalpac do not have an environmental licence to operate within Ben Bullen State Forest or the Gardens of Stone Stage 2 proposal area.
General	SIG8	295	Lithgow Environment Group (LEG), Blue Mountains Conservation Society (BMCS), and the Colong Foundation are separate organizations and each has ownership of its submission to NSW Planning under letterhead. Nevertheless, there is close cooperation by members of these organizations because each has differing expertise8 and each has one or more representatives on the Gardens of Stone & Western Escarpment Subcommittee of BMCS. Lithgow Environment Group also has links through representation on BMCS's Lithgow Regional Subcommittee.
General	SIG8	296	Because of the huge size of this EA, the 3 groups have had to focus on separate (though complimentary) aspects of this proposal. This is emphasised because each group shares the principal concerns of the other two groups and endorses the contents of their submissions. Based on this commonality, the members of LEG request that the three submissions (BMCS, Colong, and LEG) be treated both collectively and individually. It is further emphasised that because one submission may refer Planning to the content of another, there is some concern that Planning treats the issue as a single item from a statistical viewpoint. This should not and must not happen.
General Opposition	SIG8	297	LEG members totally reject the Coalpac Consolidation Project for the following reasons: 1. ADVERSE IMPACTS ON FLORA AND FAUNA BIODIVERSITY 2. INADEQUATE BIODIVERSITY OFFSETS 3. ADVERSE IMPACTS ON PAGODA LANDSCAPES 4. INADEQUATE REHABILITATION STANDARDS

Category	Submission ID	Issue ID	Issue
			5. ADVERSE IMPACTS ON WORLD HERITAGE VALUES 6. ADVERSE IMPACTS ON INDIGENOUS HERITAGE VALUES 7. UNACCEPTABLE VISUAL IMPACTS 8. UNACCEPTABLE POLLUTION OF WATERWAYS 9. UNCONTROLLABLE WEED INFESTATION 10. INTENSIFICATION OF MINING/WEAKENING CONSENT CONDITIONS AFTER APPROVAL 11. FOREST CLEARING CONTRIBUTES TO GLOBAL WARMING/GREENHOUSE GASES 12. EXCESSIVE GREENHOUSE GAS EMISSIONS 13. INADEQUATE SEPARATION DISTANCES FROM A RESIDENTIAL AREA 15. UNACCEPTABLE DUST LEVELS 16. UNACCEPTABLE NOISE LEVELS 17. UNACCEPTABLE OPERATING HOURS 18. UNACCEPTABLE BLASTING IMPACTS 19. UNACCEPTABLE HEALTH RISKS 20. PROPERTY DEVALUATION 21. PROPONENTS HISTORY OF POOR ENVIRONMENTAL PERFORMANCE 22. NO COAL HAULAGE ON PUBLIC ROADS/UNACCEPTABLE TRAFFIC SAFETY IMPACTS 23. BRIBING THE OEH / BIODIVERSITY IS FOR SALE
Ecology	SIG8	298	1. IMPACTS ON FLORA AND FAUNA BIODIVERSITY On 8 September 2011 the Department of Planning issued the following Media Release – Response to media outlets re Coalpac *Response, first provided on 8 September, to a number of media outlets regarding the Department's adequacy review of Coalpac's environmental assessment for its consolidation project at Cullen Bullen:* Prior to allowing a development proposal to proceed to public exhibition, the Department first reviews the proponent's environmental assessment (EA) to ensure it adequately addresses all the necessary requirements (as outlined in the Director-General's Requirements for the project which can be viewed at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=4332). In the case of Coalpac's consolidation proposal in the Cullen Valley, the Department deemed that the EA did not adequately address a number of issues including the project's potential impacts on:

Category	Submission ID	Issue ID	Issue
			· biodiversity; · natural, historic and Aboriginal cultural heritage; · noise and air quality; and · groundwater. Should the proponent wish to proceed with the project, it will need to revise its EA to address the inadequacies and re-submit it to the Department for consideration. LEG contends that Coalpac's current Environmental Assessment1 is still inadequate because it again fails to adequately address the potential impacts on flora and fauna biodiversity, World Heritage and cultural heritage values, groundwater, air quality, noise, and blasting vibration.
Ecology	SIG8	299	1.1. Failure to report as required under the EPBC Act (1999) and TSC Act 1995 It is a legislative requirement for developers to accurately report the occurrence of threatened species and ecological communities listed under the EPBC Act (1999) and TSC Act (1995). In April 2011 LEG volunteers recorded in over 1500 individual *Persoonia marginata* plants, listed as Vulnerable under the EPBC and TSC Acts, growing on and adjacent the Cullen Valley mine site. Samples collected under LEG's Scientific Licence No. S13241 were positively identified by the NSW Herbarium (BIS Inquiry #16486) on 8 April 2011 as being *P. marginata.*
Ecology	SIG8	300	Neither Coalpac nor the prior owners of Cullen Valley Mine reported *P. marginata* in their: □ EPBC Referral No: 2010 5776 to the Commonwealth Government in December 20109 □ NSW Department of Planning Application No: 10_1078 in 2010 □ Flora Assessments for Exploration Program (Borehole CP113 to CP129) for the Coalpac Consolidation Project Cumberland Ecology, February 2010. □ Cullen Valley Lease Extension Project Flora Survey. Gingra Ecological Surveys (2003). Report prepared for International Environmental Consultants. □ Flora Survey for Feldmast Coal Project. Lembit, R. (1997).
Ecology	SIG8	301	It is inconceivable to LEG that any competent Flora Consultant could possibly have failed to sight at least some of those 1500 plants, as they occur often in great abundance alongside the Wallerawang – Gwabegar Rail Line, Baal Bone Rail Loop, forestry tracks, throughout EL6007, near Exploratory Borehole CP113, and 2 kilometres south adjacent the previously mined ML1488.
Ecology	SIG8	302	This is not the only instance of Flora Consultants failing to identify *P. marginata* in EA's for mining proposals

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			in Ben Bullen SF. LEG volunteers have recorded *P. marginata* in Baal Bone Colliery Long Wall Panels 1, 3, and 25, and along the power line corridors to Licence Discharge Point 3 and the South East Airvent. It is listed on the NPWS Wildlife Atlas as occurring in this very area, and yet *P. marginata* was not identified in any recent EA's for these proposals10.11.
Ecology	SIG8	303	The flora consultant who claims to have 28 years extensive experience conducting flora surveys in Ben Bullen SF11, and responsible for many of the omissions of Persoonia marginata said – *"The Wildlife Atlas record close to the Project Site is within Baal Bone Colliery in a valley along a tributary of Jews Creek. As collection details are not available from the Atlas and no herbarium specimen has been lodged it is not possible to verify the accuracy of the Baal Bone record. Based on the known habitat distribution of Persoonia marginata from herbarium records and field observations, the Baal Bone record must be considered dubious."12* LEG finds it highly disturbing that despite 28 years of flora survey work in this immediate area, a flora consultant made no apparent effort to verify the existence of a threatened plant species that is listed as Vulnerable under both the EPBC Act and TSC Act. How many other threatened flora species/ecological communities have been missed in this EA?
Ecology	SIG8	304	1.2 The Proposals Contribution to Species Extinction The Commonwealth Approved Conservation Advice for *Persoonia marginata13* highlights that the distribution of this species overlaps with the EPBC Act-listed threatened ecological community of "White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland" or Grassy Box Woodland, which also occurs within the proposed mine disturbance area. The main identified threats to *P. marginata,* Box Woodland, and most threatened species and ecological communities include habitat loss, disturbance, modification, fragmentation and degradation; weed infestation; chemicals/other mechanisms used to eradicate weeds; inappropriate fire regimes; diseases, fungi and parasites, and specific to Proteaceae species such as P. marginata - the threat posed by the root-rot disease Phytophthora cinnamomi. LEG would add another major threat - the failure of Flora Consultants to identify ROTAP's in EA's. This proposal involves all of the above threats, and poses a major threat to species extinction.
Ecology	SIG8	305	1.3 Flora Species NOT identified in the EA LEG volunteers have conducted a Flora Survey across the Project Boundary. This data, including GPS coordinates, plant associations, and all other pertinent details were forwarded to the OEH Wildlife Data

Category	Submission ID	Issue ID	Issue
			Unit15 on 23 August 2011, 15 December 2011, and 16 April 2012. The EA states in Appendix J: Ecological Impact Assessment, Section S3.2 Flora, that: *"More than 400 plant species were recorded in the project boundary, with a high percentage being native".* Those plants are listed in *Table A1: Flora Species Recorded in the Project Boundary Quadrats 1 – 20,* and *Table A2: Flora Species Recorded in the Project Boundary Quadrats 21 – 44.*
Ecology	SIG8	306	An actual count of Tables A1 & A2 equates to 467 plant species, 74 of which are exotic weeds. However some of those plants do not occur in the area, some don't exist at all, many are only identified to genera and not species level, and there are numerous misnomers and typos. In addition, LEG has identified 123 plant species within the Project Boundary NOT identified in Appendix J. The potential total number of plant species - including Coalpac's 467 species plus LEG's 123 additional species - is in the order of 590 species! This is a very biodiverse area.
Ecology	SIG8	307	The flora species not identified in the EA are highly relevant, as the EA fails to identify the full range of species that will be lost, and which must be represented in the Biodiversity Offsets. The species below were not identified in the Ecological Impact Assessment - Appendix J, Figure 2.1: Flora Survey Quadrat Locations 1 – 44. Appendix J lists plants in the confusing format of Trees, Shrubs, Herbs – Fern, Herbs - Dicots, Herbs - Monocots. So LEG has had to do the same.
Ecology	SIG8	308	ROTAP LISTED SPECIES MISSED □□Acacia asparagoides - 2R □□Leionema lamprophyllum subsp. orbiculare - RECOMMEND 2R-P3 □□Leucochrysum graminifolium - 2R □□Philotheca obovalis - 3RCa
Ecology	SIG8	309	OTHER SPECIES MISSED Trees CASUARINACEAE □□Allocasuarina distyla □□Allocasuarina nana CUPRESSASCEAE □□Callitris endlicheri MYRTACEAE

Category	Submission ID	Issue ID	Issue
			□□Eucalyptus eugenioides □□Eucalyptus fastigata
Ecology	SIG8	310	Shrubs ARALIACEAE □□Polyscias sambucifolia ASTERACEA □□Cassinia cunninghamii □□Olearia elliptica □□Olearia myrsinoides □□Olearia ramulosa DILLENIACEAE □□Hibbertia monogyna ERICACEAE □□Acrotriche rigida □□Astroloma humifusum □□Dracophyllum secundum □□Epacris microphylla □□Epacris pulchella □□Epacris purpurascens var. onosmiflora FABACEAE □□Acacia asparagoides (2R) □□Acacia hamiltoniana □□Acacia verniciflua □□Bossiaea ensata □□Bossiaea heterophylla □□Daviesia genistifolia □□Daviesia leptophylla □□Gompholobium uncinatum

Category	Submission ID	Issue ID	Issue
			□□Hovea heterophylla
			□□Indigofera australis (White-flowering form)
			□□Phyllota sp.
			□□Sphaerolobium vimineum
			LAMIACEAE
			□□Prostanthera hindii (likely to occur)
			□□Prostanthera cryptandroides subsp. cryptandroides (likely to occur)
			□□Prostanthera howelliae
			□□Prostanthera saxicola var montana
			□□Prostanthera saxicola var saxicola
			MALACEAE
			□□Cotoneaster glaucophyllus*
			□□Crataegus monogyna*
			□□Malus domestica*
			□□Pyracantha angustifolia*
			MYRTACEAE
			□□Callistemon citrinus
			□□Callistemon linearis
			□□Leptospermum arachnoides
			□□Melaleuca ericifolia
			□□Ochrosperma oligomerum
			PITTOSPORACEAE
			□□Bursaria spinosa ssp. lasiophylla (critical habitat for vulnerable Purple Copper Butterfly)
			PROTEACEAE
			□□Hakea microcarpa
			□□Isopogon anemonifolius
			□□Lomatia silaifolia
			□□Petrophile canescens

Category	Submission ID	Issue ID	Issue
			□□Petrophile pulchella RHAMNACEAE □□Pomaderris eriocephala □□Pomaderris lanigera RUBIACEAE □□Coprosma hirtella □□Coprosma quadrifida RUTACEAE □□Boronia rubiginosa (occurs nearby, may occur) □□Leionema lamprophyllum subsp. orbiculare (Recommended ROTAP 2R) □□Phebalium squamulosum subsp. ozothamnoides □□Philotheca obovalis (ROTAP 2R) □□Philotheca salsolifolia subsp. salsolifolia □□Zieria compacta □□Zieria laevigata SALICACEAE □ Salix spp* SAPINDACEAE □ Dodonaea boroniifolia □ Dodonaea sinuolata □ Dodonaea triquetra SCROPHULARIACEAE □□Euphrasia spp (likely to occur, found 1.5 km to east at Pine Dale Mine) SOLANACEAE □□Solanum aviculare
Ecology	SIG8	311	Herbs – Fern BLECHNACEAE □□Blechnum wattsii

Category	Submission ID	Issue ID	Issue
			□□Doodia aspera DRYOPTERIDACEAE □□Polystichum proliferum GLEICHENIACEAE □□Gleichenia dicarpa □□Sticherus lobatus OSMUNDACEAE □□Todea barbara
Ecology	SIG8	312	Herbs – Dicots APIACEAE □□Foeniculum vulgare* □□Trachymene composita ASTERACEAE □□Actinotus helianthi □□Arrhenechthites mixtus □□Chrysocephalum semipapposum □□Coronidium scorpioides □□Helichrysum leucopsideum □□Leucochrysum graminifolium (ROTAP 2R) □□Senecio velleioides □□Xerochrysum viscosum DIPSACACEAE □□Scabiosa atropurpurea* GERANIACEAE □ Geranium neglectum GOODENIACEAE □ Brunonia australis (likely to occur) □ Goodenia ovata

Category	Submission ID	Issue ID	Issue
			LOBELIACEAE □ Lobelia gibbosa PAPAVERACEAE □ Papaver rhoeas* SCROPHULARIACEAE □ Euphrasia spp. (likely to occur, found 1.5 km to east at Pine Dale Mine) SOLANACEAE □□Solanum aviculare VIOLACEAE □ Viola silicestris
Ecology	SIG8	313	Herbs – Monocots ANTHERICACEAE □ Arthropodium milleflorum □ Thysanotus tuberosus ASPHODELACEAE □ Bulbine bulbosa CYPERACEAE □ Caustis flexuosa □ Gahnia sieberiana DROSERACEAE □ Drosera auriculata IRIDACEAE □ Sisyrinchium spp. ORCHIDACEAE □ Caladenia dimorpha □ Caleana major □□Acianthus fornicatus □ Caladenia dimorpha

Category	Submission ID	Issue ID	Issue
			Caleana major Chiloglottis seminuda Chiloglottis spp. Corybas hispidus (W/Atlas, Cullen Bullen) Corybas spp Cryptostylis leptochila Cyrtostylis reniformis Dendrobium striolatum Dipodium roseum Eriochilus cucullatus Prasophyllum/Genoplesium sp Paracaleana minor Pterostylis truncata Thelymitra ixioides PHORMIACEAE Thelionema caespitosum TYPHACEAE Typha orientalis ZAMIACEAE Macrozamia spiralis
Ecology	SIG8	314	1.3.1 Some Obvious Omissions *Allocasuarina torulosa* is listed, but does not occur in area. However the EA fails to list *A. distyla* and *A. nana* which do occur throughout the Proposal Area, and provide a vital food source for the Vulnerable Glossy Black and Gang Gang Cockatoo's. Brown Barrel (*Eucalyptus fastigata*) is not listed – it is the co-dominant tree in fertile old-growth Montane Gully Forest's22, a large area of which will be cleared north of Invincible. Native Blackthorn (*Bursaria spinosa subsp. lasiophylla)* is not listed – it is the sole food plant for the Endangered Purple Copper Butterfly (*Paralucia spinifera*) and has been recorded by LEG at 4 locations

Category	Submission ID	Issue ID	Issue
			within the Proposal Boundary. □ Indian Hawthorn* – a hedge at entry to Cullen Bullen, invading bushland everywhere. □ *Scabiosa atropurpurea* *- the most common invasive weed along roads and tracks □ *Cytisus scoparius** (Scotch Broom) – Williwa Creek, Hillcroft Biodiversity Offset. Invasion and establishment of Scotch Broom is a Key Threatening Process (KTP). Seed remains viable in soil for 30 years. Massive soil disturbance/movement associated with open-cut mining may spread Broom seed contaminated soil into undisturbed bushland in Ben Bullen State Forest, due to edge the effects of such a huge disturbance perimeter.
Ecology	SIG8	315	1.3.2 ROTAP Species Missed The Rare or Threatened Australian Plants (ROTAP) list14 and associated coding system was developed and has been maintained by CSIRO since 1979. It lists taxa that are Presumed Extinct, Endangered, Vulnerable, Rare or Poorly Known at the national level. It is critically important that Flora Assessment's list all ROTAP species in a disturbance area, because these are the very species most likely to become Extinct, Endangered or Vulnerable in the future unless the factors that lead to species extinction are adequately addressed.
Ecology	SIG8	316	In addition to *Eucalyptus cannonii* (2VCi) and *Persoonia marginata* (2v), four other ROTAP species occurring within the Project Boundary were not identified in the EA – □ Acacia asparagoides - 2R – Bell16 reports that it is restricted to sandstone plateaus in heath and open forest in the upper and northern Blue Mountains. □ Leionema lamprophyllum subsp. orbiculare - RECOMMENDED 2R-P3 - Bell16 reports that it is restricted on the western escarpment, and a small population of this subspecies recorded in rocky cliffline habitat in Pokolbin State Forest, over 100 km to the east, is now listed as an Endangered Population in the Hunter Catchment. □ Leucochrysum graminifolium - 2R - Bell16 reports that it occurs in the Gardens of Stone NP on rocky pagodas and rock shelves. This record is the first for a conservation reserve. □ Philotheca obovalis - 3RCa - Bell16 reports that it is restricted to montane rocky heath on Newnes Plateau, Mt Jamison, and Point Cameron in Gardens of Stone NP. The OEH Wildlife Data Unit were provided with location details for all these ROTAP species. None of these four ROTAP species are likely to occur within any of the Biodiversity Offsets.

Category	Submission ID	Issue ID	Issue
Ecology	SIG8	317	1.3.3 Other ROTAP Species likely to have been Missed It has become an habitual oversight for Flora Consultants to omit the above ROTAP species from mining proposal EA's in Ben Bullen SF. Recent EA' for Baal Bone Colliery omitted them from flora assessments (Umwelt10, Gingra11), as did Invincible Colliery and Cullen Valley Mines (Lembit18, Gingra17, Cumberland Ecology19), and Pine Dale Mine (GCNRC20,21).
Ecology	SIG8	318	It is therefore highly likely that other ROTAP species have been missed. The most likely are: □ *Thesium australe* - occurs 2.8 km south at Pine Dale in similar habitat to the proposed Invincible - Mt Piper Coal Conveyor easement, and Fish River pipeline easement behind Cullen Bullen Cemetery. Plants are parasitic, ruling out 'replanting', 'relocation' options. □ *Banksia penicillata - ROTAP 3RCa* - Recorded 5km north-west of Proposal Area, may occur. □ *Diuris aequlis* – E1 – may occur. LEG recorded an unidentified all-yellow Diuris 3.5 km to the south near Pine Dale mine. □ *Euphrasia spp* – a yet to be identified species found 1.8 km SE at Pine Dale Mine. None are currently recorded for Ben Bullen SF15 (Euphrasia species make up a sizeable proportion of threatened taxa listed under the EPBC Act. 14 species are listed as Extinct; Critically Endangered; Endangered; or Vulnerable. A reason given for plants of this genus being rare is their parasitic nature. This rules out 'replanting', 'relocation' and probably 'offsets' □□*Genoplesium superba* – E1 – occurs 7.5 km ESE of proposal. In May 2012 LEG recorded an unidentified Prasophyllum/Genoplesium that had just finished flowering near Invincible. □ *Prostanthera cryptandroides* – Vulnerable – Recorded 5km north-west of Proposal Area. Great variation in leaf shape of Prostanthera spp near Project Area indicate it may occur. □ *Prostanthera hindii* – ROTAP 2RCa – Recorded 4km west of Proposal Area and may occur. □ *Prostanthera stricta* – Vulnerable – Recorded 24km north. Great variation in leaf shape and size of Prostanthera's recorded in and near the Project Area indicate it may occur. □ *Pseudanthus divaricatissimus - ROTAP 3RCa* – recorded 4 km west. Likely to occur. □ *Veronica (syn. Derwentia) blakelyi* - Vulnerable - Recorded 1.3 km SE near Pine Dale Mine, in similar Montane Gully Forest occurring over much of Coalpac Disturbance Area. Few if any of these ROTAP species are likely to occur within any of the Biodiversity Offsets.
Ecology	SIG8	319	1.3.4 Confirmed Identifications

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			Whilst it has not been possible for LEG to send samples of all 400+ plant species occurring in Ben Bullen SF to the NSW Herbarium for identification, samples that have been confirmed are: □ *Acianthus fornicatus* - Dr P Weston by email. Not previously recorded in Ben Bullen SF □ *Boronia rubiginosa* - BIS 16400: Not previously recorded in Ben Bullen SF □ *Chiloglottis seminuda* - Dr P. Weston by email. Not previously recorded in Ben Bullen SF □ *Commersonia* (syn *Rulingia) dasyphylla* – BIS 16400: New recording for Ben Bullen SF □ *Euphrasia spp* – BIS 17283: Not previously recorded in Ben Bullen SF □ *Leionema lamprophyllum subsp. orbiculare* - BIS 16400 □ *Micromyrtus sessilis* - Dr Peter Weston by email. Not previously recorded in Ben Bullen SF □ *Persoonia marginata* – BIS 16486: New record for Ben Bullen SF □ *Prostanthera granitica* – Dr Barry Conn by email □ *Prostanthera hindii* - BIS 16400: Not previously recorded in Ben Bullen SF □ *Prostanthera howelliae* - BIS 15761 □ *Prostanthera saxicola var montana* - BIS 16400: New record for Ben Bullen SF □ *Veronica (syn. Derwentia) blakelyi* - BIS 16400: New record for Ben Bullen □ *Zieria compacta* – BIS 16400: Not previously recorded in Ben Bullen SF Few if any of these species are likely to occur within any of the Biodiversity Offsets.
Ecology	SIG8	320	1.3.5 Unique Vegetation Associations will be lost Ben Bullen SF contains a number of unique vegetation associations which occur nowhere else, and will be destroyed by this proposal. Few if any occur in the proposed Biodiversity Offsets - □ Vegetation in Ben Bullen SF contains of plants at the western limit of the Sydney Bioregion, eastern limit of the Western Bioregion, and rare Capertee Valley species. □□The DECCW (2009)23 Plan of Management for the Gardens of Stone National Park identifies 16 threatened or rare species in the park, six (6) of which are listed under the TSC Act (*Apatophyllum constablei, Haloragodendron lucasii, Eucalyptus cannonii, Prostanthera cryptandroides, Persoonia marginata*, *Grevillea obtusifolia* ssp *fecunda)*. Many are likely to also occur in the adjacent Ben Bullen SF and the Proposal Area. □ The DECCW (2009)23 Plan of Management for the Gardens of Stone National Park identifies that Pagoda communities have the highest conservation significance, and that other significant habitats occur as pocket-like environments such as alluvial gullies, pagoda heaths, and moist forest. Alluvial gullies, moist forest,

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			pagoda heaths are prevalent in the Proposal Area. Only 16 Ha of moist forest is replaced by Offsets. Washington24 identified 440 flora species within the Gardens of Stone National Park, including a number of species at the geographic limits of their known distribution, including *Xanthorrhoea johnsonii, Brachyscome microcarpa, Darwinia fascicularis* ssp. *oligantha*, *Marsdenia viridifolia, Astroloma pinifolium* and *Eremophila deserti*. Many are likely to also occur in the adjacent Ben Bullen State SF and Proposal Area. Bell (2008)16 identified 94 taxa of conservation significance within Wollemi National Park. Ben Bullen SF is contiguous with the Wollemi National Park, and any or all 94 species of conservation significance have potential to occur within the Proposal Area. Critically endangered Box Woodland also containing Vulnerable Capertee Stringybark AND Vulnerable Clandulla Geebung is unlikely to occur anywhere else in the world. Ben Bullen SF has more Lamiacea species than anywhere else in the region, in particular 9 Mint Bushes including *Prostanthera cryptandroides ssp cryptandroides* (V), *P. hindii (2RCi), P. stricta (2V), P. granitica, Prostanthera howelliae, P. saxicola var montana, P. saxicola var saxicola, P. rhombea, and Prostanthera sp. C sensu Conn (1992).* Few if any of these Prostanthera species are likely to occur within any of the Biodiversity Offsets.
Ecology	SIG8	321	2. INADEQUATE BIODIVERSITY OFFSETS The EA states "environmental offsets, should as a minimum be commensurate with the magnitude of the impacts of the development and ideally deliver outcomes that are '*like for like*'". The assessment below clearly shows that the proposed offsets are not representative of the vegetation types and flora biodiversity values that will be lost. They largely involve replanting native vegetation, or assume that natural regeneration will occur on cleared land over time. Some $23 million will reportedly be spent funding the offset properties, over half of which will be wasted trying to replant cleared grasslands with native species. This money could be better spent buying intact bushland containing the relevant threatened plant species in undisturbed natural habitat, or better still, mining an already cleared site and leaving Ben Bullen SF alone.
Ecology	SIG8	322	2.1 EXISTING OFFSETS: Lot 1, DP 180294 "Renown Farm" – 18 Ha of degraded woodland, degraded grassland, degraded waterways, and polluted water storages (ie. The dam downstream of Invincible) Lot 112, DP 877190 – 82 Ha of degraded weed infested grassland with a few scattered trees Lot 113, DP 877190 – 14.5 Ha of degraded weed infested grassland with scattered trees

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			Cullen Valley Mine Habitat Compensation Area – 51.43 Ha including Persoonia marginata in NE cnr of Ben Bullen SF. This is publicly owned State Forest and should not be included Total Existing Offsets: 114.5 Ha of degraded grassland/waterways/polluted water storages
Ecology	SIG8	323	2.2 PROPOSED BIODIVERSITY OFFSET PROPERTIES Hillcroft Offset 1097 Ha, of which 107 Ha will be open-cut mined, and over 455 Ha of which is grassland Williwa Creek is lined with Blackberry, Scotch Broom and a range of other exotic weeds Reportedly contains 5530 individual *Eucalyptus cannonii* and 76,676 individual *Persoonia marginata* – for the latter this is gross exaggeration, LEG has counted just 140 plants! It is noteworthy that Cumberland Ecology also claim that 17,600 individual *P. marginata* occur in the Cullen Valley Mine Habitat Compensation Area. Yet LEG has walked the entire area along 10 m transects and counted no more than 600 plants – a 3000% exaggeration! One Booroolong Frog was allegedly caught and 3 others were heard - it must be a very pollution tolerant frog, because Portland Sewage Treatment Plant dumps into Williwa Ck. The EA says *'…only small sections of Williwa Creek contain suitable habitat, as large areas of the creek were degraded and contained vehicle tracks, steep earthen banks, deep pools and very little cobblestone sites. No frogs were detected in Dulhunty's Ck due to degraded habitat."* The EA does not mention fencing to exclude stock grazing from the creek banks, undisturbed bushland, proposed 'revegetation' areas, or the proposed 'rehabilitation' areas.
Ecology	SIG8	324	Yarran View Offset 450 Ha, over half of which is grazed grassland. The EA says: *'This undulating terrain, on rich basalt soils'*…….Hardly a representative offset for sandstone soil based vegetation?? Page 6.26 of Appendix J says: *"A dominant shrub layer of 40% or more discounts this vegetation unit as being Box Gum Grassy Woodland listed under the EPBC and TSC Act",* …….but the EA then contradicts this by claiming that Yarran View contains 186 Ha of Commonwealth Listed Box Gum Woodland, and 256 Ha of non EEC native vegetation?
Ecology	SIG8	325	Hillview/ Billabong Offset 83 Ha of largely degraded grazing land. They say sheep grazing, but the Munzer's also had Angus Cattle for many years.

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			Riddled with feral Radiata Pine, St Johns Wort, Thistles, Blackberry, Cape Broom. Polluted waterway flowing from Invincible Main Dam. Salinity tested by LEG at 900+ EC. Has coal reserves underneath it, and is next door to Centennial Ivanhoe North open-cut mine. There is no guarantee that Centennial and/or Coalpac won't mine it in future.
Ecology	SIG8	326	Hyrock Hartley Offset 240 Ha of non EEC vegetation (E. sieberi – E. piperita) plus an area of EPBC listed Temperate Highland Peat Swamps on Sandstone, TSC listed Blue Mountains Swamps of the Sydney Bioregion. Does contain 16.16 Ha of Montane Gully Forest, the only replacement 100+ hectares of Montane Gully Forest that will be lost north of Invincible. Total Proposed Offsets: 1000 Ha of apparently intact bushland, and 870 Ha that will either be open-cut mined, or has been grazed to death grassland, drained by polluted waterways.
Ecology	SIG8	327	2.3 NET BIODIVERSITY LOSS No Flora Assessment appears to have been done for these Biodiversity Offsets, however: At best 958 Ha1 of pristine publicly-owned Ben Bullen State Forest will be turned into rubble, and be offset with at best 1000 Ha of apparently intact bushland. Much of that 1000 Ha of intact bushland is non-EEC vegetation, with assumptions made that critically endangered Grassy Box Woodland, and Vulnerable Capertee Stringybark and Clandulla Geebung will naturally regenerate in time – a huge unproven assumption. Only 16.16 Ha is Montane Gully Forest, yet large areas will be cleared North of Invincible. No offset is likely to contain Pagoda Daisy (*Leucochrysum graminifolium*) – ROTAP 2R No offset is likely to contain *Acacia asparagoides* - ROTAP 2R No offset is likely to contain *Philotheca obovalis* – ROTAP 3RCa No offset contains *Lieonema lamprophyllum ssp orbiculare* - RECOMMEND ROTAP 2R-P3 No offset for *Acrotriche rigida*. The only known populations in Ben Bullen SF will be lost. No offset is likely to contain *Astroloma humifusum.* Best populations in Ben Bullen SF lost No offset is likely to contain *Prostanthera cryptandroides* (V), *P. hindii (2RCi), P. stricta (2V), P. granitica, Prostanthera howelliae, P. saxicola var montana, P. saxicola var saxicola, P. rhombea,* or *P. sp. C sensu Conn (1992).* Net loss of rare Mint Bush species. No offset is likely to contain She-oaks to replace *Allocasuarina littorlalis, A. distyla* and *A. nana*. Huge net

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			loss of food sources for Vulnerable Gang Gang's, Glossy Black cockatoo's. No offset (other than maybe Hillcroft) is likely to contain *Bursaria spinosa ssp lasiophylla* to replace 4 populations that will be lost. Net loss of endangered Purple Copper Butterfly No offset for *Coopernookia barbata* - best known populations/habitat in Ben Bullen SF lost. No offset is likely to contain *Coprosma quadrifida* or *C. hirtella* (Montane Gully Forest). No offset is likely to contain *Correa reflexa* (Red flowering form) - the only known populations we know of in Ben Bullen SF and the Lithgow LGA will be lost. No offset for *Daviesia genistifolia* (only known populations in Ben Bullen SF will be lost) No offset is likely to contain *Dodonaea boroniifolia*, *D. multijuga* or *D. sinuolata*. The only known population of *D. sinuolata* in Ben Bullen SF will be lost. No offset is likely to contain *Macrozamia spiralis.* The only known plant in Lithgow LGA lost. No offset is likely to contain *Melichrus erubescens,* rare in Ben Bullen SF and Lithgow LGA. No offset is likely to contain *Ochrosperma oligomerum,* which has a restricted range. No offset is likely to contain *Phebalium squamulosum ssp. ozothamnoides,* restricted range. No offset for *Philotheca myoporoides ssp. myoporoides.* 1 of only 2 known populations lost. No offset is likely to contain *Pomaderris eriocephala* or *P. lanigera.* No offset is likely to contain *Rulingia (syn Commersonia) dasyphylla* - the only known population in Ben Bullen SF may be lost if highwall mining causes cliff falls above Invincible. No *Styphelia triflora* – the best known populations/habitat in Ben Bullen SF will all be lost. The offsets are not likely to contain any of the huge range of 20+ Orchid species that will be lost. The best known orchid populations/habitat in Ben Bullen SF will be lost. No offset for *Thysanotus tuberosus* - the best populations/habitat in Ben Bullen SF lost. No *Zieria aspalathoides* – the best known populations/habitat in Ben Bullen SF will be lost No *Zieria compacta* - 1 of just 2 known populations in Ben Bullen SF may be lost. Probably no Superb Lyrebird's *(Menura novaehollandiae)* or suitable habitat.
Subsidence	SIG8	328	3. ADVERSE IMPACTS ON PAGODA LANDSCAPES Despite hollow reassurances that highwall mining in multiple coal seams beneath cliff lines and pagodas will be strictly controlled by the Subsidence Management Plan process, LEG members are only too familiar with how the Subsidence Management Planning Process has failed before.

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			100's of cliff falls and 1000's of surface cracks were allowed to occur above Baal Bone Colliery Long Wall Panels in Ben Bullen SF. Similarly many cliff falls, cracks, and nationally endangered swamps were allowed to die on Newnes Plateau above Springvale and Angus Place Collieries.
Subsidence	SIG8	329	LEG has recorded numerous cracks above the old Invincible Colliery 'bord & pillar' operations, and are of the view that the Proposal Area is already far too unstable to sustain more mining. The cumulative subsidence already unstable old mine workings, PLUS blasting vibration, PLUS highwall mining in up to 5 coal seams, PLUS dewatering of the old mine workings - may all lead to far greater subsidence damage than has occurred in the past. LEG does not accept the EA's prediction of just 2cm of subsidence movement attributable to mining. Only 3% of the total coal resource or 1.9 MT is proposed to be extracted by highwall mining. This technique is far too dangerous for workers and machinery, and should not be attempted in such a scenic and biologically diverse area, nor in such a geomorphologically unstable area.
Subsidence	SIG8	330	Washington and Wray25 report that 'platy pagodas' are a '*uncommon and significant geomorphic landscape feature, and are distinguished by the extent and regularity of their ironstone banding*.' The authors are 'not aware of any other rock formations in Australia or overseas that mimic the geomorphology of platy pagodas' that are '*distinct and significant geomorphological features, even by world standards'* (Washington and Wray, page 141).
Subsidence	SIG8	331	Much of the core pagoda area occurs outside protected areas, principally on Newnes Plateau and in Ben Bullen SF. The authors are concerned that the scenic, cultural and geoheritage values of the pagoda landscapes have not been officially recognised and conclude that platy pagodas '*deserve full and expanded recognition as a significant part of the geodiversity and geoheritage of the Blue Mountains region' (Washington and Wray, page 142).*
Subsidence	SIG8	332	The EA makes only passing reference to pagodas, and fails to accurately map their full extent in the Proposal Area. LEG does not believe that these pagoda formations will be protected by the proposed 50 metre set-back from open-cut mining and the 100 metre monitoring zone.
Subsidence	SIG8	333	There is no adequate control of vibration from blasting. Blasting is proposed 4 times/week, 20 times/month, 240 times/year, or a total of 5040 blasts over 21 years – all just 50 metres from the pagodas and cliff lines!!! The mine void being so close to the cliffs and pagodas may increase the stresses and vibration movement from blasting due to reduced lateral support.
Subsidence	SIG8	334	Instead of the proposed 50 metre set back and highwall mining under pagodas, open-cut operations should

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			not be allowed to intrude into the gullies below the escarpment as the slopes act as buttresses for these cliff and pagodas. Open-cut mining should not occur on these steep areas in anyway, because the resultant open-cuts are far too steep to effectively rehabilitate.
Rehabilitation	SIG8	335	4. INADEQUATE REHABILITATION STANDARDS Despite hollow reassurances from Colapac in the EA, the company's past record of rehabilitation at Cullen Valley Mine is very poor. Mining commenced in 1998, and 14 years later less than 10% of the 4 kilometre scar along the western side of Tyldsley Hill has any greenery on it whatsoever.
Rehabilitation	SIG8	336	Canyon Colliery has featured in the media on numerous occasions5,6,7. No one can blame Coalpac for avoiding its rehabilitation responsibilities when the DII's has such lax standards of compliance and enforcement. However the community cannot be blamed either for believing that Coalpac and the DII's 'do nothing' approach at Canyon Colliery will apply equally to the current Proposal. In any event, the proposed open-cuts are so steep in places that they are likely to exceed the angle-of-draw, where nothing including soil can be prevented from slipping downslope.
Rehabilitation	SIG8	337	These proposed mining areas can never be rehabilitated to anything that will remotely resemble the original hydrology, biodiversity and geodiversity of the Gardens of Stone Reserve Proposal. Appendix J reviews the existing rehabilitation and actually includes the limitation: "*The native vegetation communities in surrounding lands has favoured specific geologies and hydrological preferences over very long periods of time, and the preparation of the rehabilitation sites after mining is unlikely to support entirely consistent landforms. As such the complexity derived from native vegetation remnant can only be an indicative target.*" In other words, the rehabilitated areas have absolutely no chance of ever matching the complexity and diversity of the original native ecosystems.
Rehabilitation	SIG8	338	Because of the inadequacies of the Flora Assessment previously alluded to, Coalpac actually do not have any reliable pre-mining assessments of biological diversity for previously mined areas upon which to base the quality of the current rehabilitation performance. The benchmarks used do not provide an accurate measure of lost floristic diversity. Assessments of other communities or sites that were not mined can only give an approximate guide.
Rehabilitation	SIG8	339	The targets used for species diversity in Appendix J are based on data generated from surveys of just two undisturbed reference sites nearby. This poor sampling means that pre-mining plant diversity has been grossly underestimated. In any case the restoration does not even restore half the original diversity of these

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			two small reference sites. If properly assessed, the actual biological diversity of the rehabilitated areas is likely to be far less than these estimates.
Rehabilitation	SIG8	340	Plant species diversity for the rehabilitation sites decline in the oldest age class (year 2002). An alternative explanation to that given for this observed decline may be that the Acacia over storey in the oldest age class has begun to die off, with adverse consequences for species diversity. LEG is concerned that when the Acacia over-storey does die-off, aggressive weeds like Genista, Scotch Broom, Blackberry, and St John's Wort will take over the rehabilitation areas.
Rehabilitation	SIG8	341	Lack of rehabilitation is a sore-point for almost everyone LEG has spoken to in Cullen Bullen. A little greenery can work wonders – but no amount of spin will quell community anger about apparent inaction on mine rehabilitation. Quality rehabilitation must be a very high priority.
Visual / Ecology	SIG8	342	5. IMPACT ON WORLD HERITAGE VALUES The Greater Blue Mountains World Heritage Area (GBMWHA) was inscribed on the World Heritage List in 2000 for its "outstanding natural values including the biodiversity of its plant and animal communities, and its vegetation dominated by Australia's unique eucalypts." The GBMWHA Advisory Committee has long recommended that it be renominated to the World Heritage List for the geodiversity, cultural heritage and scenic values for which it was originally nominated, but did not get listed. The Federal Government supports such a proposal and has included the GBMWHA and a number of adjacent reserves, including the Gardens of Stone Stage 2 proposal, on the 'Priority List' for National Heritage List re-assessment.
Visual / Ecology	SIG8	343	Mr Keith Muir of the Colong Foundation for Wilderness has advised that in 2006 the NSW Department of Environment and Conservation considered Ben Bullen State Forest for addition to the national park estate, and that the NSW Office of Environment has since identified this state forest as its first priority for reservation in the region. Protecting the geodiversity, cultural heritage and scenic values of Ben Bullen SF is therefore an important initial step in the World Heritage re-nomination process. The creation of a huge scar from open-cut mine will clearly detract from the scenic value of this gateway to the GBMWHA.
Visual / Ecology	SIG8	344	Open-cut mining in Ben Bullen SF, including the Coalpac Project, is therefore contrary to Commonwealth, State and GBMWHA Advisory Committee long-term plans for this unique area. Recent media exposure regarding Zinc and Nickel pollution of the Grose River within the GBMWHA from Canyon Colliery is highly relevant, because Coalpac are the owners of Canyon Colliery and are responsible

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			for this pollution. The 'Do nothing' approach of Coalpac, the OEH, and the DII at Canyon Colliery is nothing less than gross environmental negligence. If this is how they have treated a World Heritage Area in the past, then it sets a frightening precedent for the western entry to the Gardens of Stone.
Aboriginal Archaeology and Cultural Heritage	SIG8	345	6. IMPACT ON INDIGENOUS HERITAGE VALUES LEG has serious concerns about the accountability of previous Heritage Assessment's for mining proposals in Ben Bullen SF. In January 2010 LEG found an Aboriginal Hand Stencil site in a cave overhang east of Baal Bone Colliery, and decided to check with the then DECCW whether this site had previously been recorded. It was in fact a new find – the site had not previously been registered on the Aboriginal Heritage Information Management System (AHIMS) database.
Aboriginal Archaeology and Cultural Heritage	SIG8	346	This Rock Art site was in the north-east corner of the Baal Bone Colliery mine lease, and within the subsidence zone of Long Wall Panels 20-24. No less than eight (8) archaeological surveys had been undertaken since 1989, the most recent in 2009, four in the NE corner (Brayshaw 1989, Kohen 1995, Kohen 1996, Ozark 2009). Yet this site remained unreported!
Aboriginal Archaeology and Cultural Heritage	SIG8	347	LEG can only conclude that this Cave Art site was detected but not reported, to simplify the approvals process. If subsidence did cause this cave overhang to collapse and the Cave Art to be lost, there would be no record of it ever having existed. This is similar to the trend of submitting erroneous Flora Assessments to Commonwealth and State agencies – if a threatened species is lost, there will be no record of these plants ever having existed.
Aboriginal Archaeology and Cultural Heritage	SIG8	348	LEG has little confidence Coalpac or the current crop of Aboriginal Heritage Consultants. Indigenous heritage is non-renewable. Cave art cannot be rehabilitated, relocated or offset. Aboriginal people have cared for the Gardens of Stone area for at least 12,000 years. The only hope is for the NSW Government to call for a comprehensive independent Heritage assessment before approving the destruction of these cliffs, cave overhangs, and pagodas.
Visual	SIG8	349	7. VISUAL IMPACTS LEG members are sickened by the erroneous claims that this Proposal will have negligible visual impact. Invincible Colliery claimed exactly the same in 2006 (App. No. 05/0065) – yet a huge ugly scar is now visible to all who travel 2km of the Castlereagh Hwy from the top of the Great Dividing Range to Cullen Bullen.

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Visual	SIG8	350	The huge scars at Cullen Valley Mine are visible from as far away as Portland! No doubt the EA for that mine also said there would negligible visual impact, but the fine print probably said *"Not visible to the visually impaired on a pitch black night".*
Visual / Ecology	SIG8	351	The Coalpac Consolidation Project proposes to clear a further 958 Ha of pristine publicly-owned Ben Bullen State Forest, and will scar the landscape for 6 km of the Castlereagh Hwy from the top of the Great Dividing Range west to red Sp[rings Road. No amount spin can alter that.
Surface Water	SIG8	352	8. POLLUTION OF WATERWAYS Below is an extract from LEG's submission on 30 October 2007 opposing the Invincible Colliery Modification for Coal Augering (MP 05_0065 MOD 2). This is once again highly relevant, because once again Coalpac are claiming that this Proposal will have no impact on the Coxs River, but they make no commitment to close the 2 boreholes in Long Swamp, Ben Bullen State Forest. (see SEPP 58 - IMPACT ON SYDNEY DRINKING WATER SUPPLY included in submission)
Surface Water	SIG8	353	LEG has since learned that mining companies in NSW are exempt from SEPP 58, just as they are exempt from almost all legislation designed to protect water quality and the environment. LEG has also since learned that Coalpac re-opened the old Borehole LD1 in Long Swamp at the request of Delta Electricity as they needed the water because of the drought at that time. This again raises questions about the relationship between local coal mines and Government-owned Delta Electricity. Coal mines are being forced by Delta to extract coal using the most environmentally destructive methods possible, and in this case were asked to ignore the dire implications of water pollution on an endangered swamp community and Sydney water users.
Groundwater	SIG8	354	The EA identifies that eco-toxic effluent will continue to discharge at a rate of 4.25ML/day through the now decommissioned Baal Bone Colliery. This will lower groundwater levels in the interconnected Invincible and Old Invincible workings that are an unstated part of this open-cut proposal. These discharges damage Jews Creek Swamp and the Turon River. Coalpac must be required to take over monitoring of Baal Bone Colliery Licence Discharge Points LD3 & LD6.
Groundwater	SIG8	355	The groundwater impact assessment and water balance assumes continued discharge via the Baal Bone Colliery (page 46, Appendix O). Without pumping, it will not be possible to access the coal pillars in abandoned workings of the Old Invincible and Invincible Collieries. The water levels in the old underground workings for the Baal Bone, Invincible and Old Invincible mines are to be kept low to permit mining of the Lithgow Seam within the proposed open-cut mine.

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			These workings must should kept flooded, as greater surface instability is known to occur once underground mines are dewatered, increasing the subsidence damage to cliffs and pagodas.
Groundwater	SIG8	356	LEG also points out that water quality at Baal Bone Colliery's LD3 and LD6 is atrocious, and has worsened since mine closure. Salinity levels at LD3 averaged 1100 µS/cm from 2006 – 2011, but since mine closure the salinity has climbed to 1700 µS/cm. Iron and manganese levels remain high. This adversely impacts on aquatic life in Jews Ck, the Turon River, and Macquarie River.
Groundwater / Surface Water	SIG8	357	LEG once again questions the EA's findings on the likely impacts on water quality. Despite the rhetoric, water quality at Coalpac mines is likely to be similar differ to Baal Bone, Ivanhoe North, Pine Dale, Lamberts Gully and all other local mines operating in the Lithgow Coal Seam. Regardless of whether this minewater is released into the Cox's River or the Turon River, the environmental implications for aquatic life and water consumers is exactly the same. LEG strongly recommends that the Sydney Drinking Water Catchment Audit 2010 be taken into consideration as part of this proposal. http://www.environment.nsw.gov.au/water/sdwc2010.htm
Surface Water / Groundwater	SIG8	358	It provides the most recent comprehensive analysis of the current condition of the Coxs River catchment, and contradicts many of claims made by Coalpac. The most relevant sections are: Chapter 3: Land Use and Human Settlement, pages 30 - 32; Appendix C: Sub-Catchment Summaries, pages 9 - 20; Chapter 7: Audit Recommendations. (see above in submission)
Ecology	SIG8	359	9. UNCONTROLLABLE WEED INFESTATION The EA and LEG record 3 Weeds of National Significance within the Proposal area - Blackberry (*Rubus fruticosus aggregate),* Scotch Broom *(Cytisus scoparius),* and Willows *(Salix spp).* Disturbance by open-cut mining is likely to spread these weeds deep into Ben Bullen State Forest. The occurrence of Weeds of National Significance should be of concern to the DoP.
Ecology	SIG8	360	WEED INVASION AS A KEY THREATENING PROCESS Two (2) Key Threatening Processes relating to weed species affect the proposal area - o *Invasion and establishment of Scotch Broom* – LEG has identified Scotch Broom (*Cytisus scoparius)* in the Hillcroft Biodiversity Offset, and it probably occurs elsewhere. The Cullen Bullen area has a long history of infestation with Scotch Broom, a fact that could easily be checked by contacting the Upper Macquarie County

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			Council (UMCC), the agency responsible for Noxious Weed Control in the Lithgow LGA. Regardless of whether the Proponent claims that Scotch Broom can be controlled, the seed remains viable in soil for 30 years or more, long after mine closure in 21 years. Massive soil disturbance and movement associated with open-cut mining will spread of Broom seed contaminated soil into previously undisturbed bushland of Ben Bullen State Forest. o *Invasion of native plant communities by exotic perennial grasses* – African Lovegrass (*Eragrostis curvula*) occurs within the Proposal area. African Lovegrass is a Declared Noxious Weed in NSW. The DECCW final determination1 for this KTP states that African Lovegrass is *"Invasive in disturbed areas, especially grasslands. Dominates the groundcover on low-nutrient soils. Has invaded heathlands, woodlands and grasslands in Victoria."* Massive soil disturbance by mining over 220 Ha will spread this highly invasive exotic grass into undisturbed areas of Ben Bullen SF.
Ecology	SIG8	361	Other weeds in the Coalpac area include but are not limited to *Crataegus monogyna* (English Hawthorn), *Echium plantagineum (*Patterson's Curse), *Genista monspessulana* (Cape Broom), *Hypericum perforatum (*St Johns Wort*), Ligustrum sinense (Small-leaf Privet), Scabiosa atropurpureum, Cotoneaster franchetti*, *Pyracantha angustifolia*, *Rosa rubiginosa*, *and* feral Pines. Below is an example of the likely management of open-cut mined areas and Biodiversity Offsets. A contractor is blanket-spraying St John's Wort along Angus Place – Mt Piper Haul Road, adjacent endangered *Thesium australe* and Purple Copper Butterfly populations. This occurs annually.
Ecology	SIG8	362	There appears to be no attempt to avoid off-target damage to native plants. Any *Thesium australe, Derwentia blakelyi, or Bursaria spinosa ssp. lasiophylla* occurring along this section of the Haul Road will have been poisoned. The only recorded *Leptosperum rotundifolium* in the Lithgow LGA was killed by this spraying in December 2011. This steep slope has been sprayed so often that all the deep-rooted plants holding the slope together are dead, and a landslip occurred in 2010. All of the above can he avoided by not allowing mining companies to open-cut large tracts of high conservation value State Forests such as Ben Bullen SF, and permanently protecting these priceless natural areas by appropriate reservation!
Greenhouse Gas	SIG8	363	10. FOREST CLEARING AND GREENHOUSE GAS IMPLICATIONS LEG refers to submissions from BMCS and the Colong Foundation and the following article - Forests soak up third of emissions: study http://www.theage.com.au/environment/climate-change/forests-soak-up-third-of-emissions-study-20110715-

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			1hhl2.html#ixzz1SBO1m3Pk The Age, *July 15, 2011 - 5:07PM* Forests play a larger role in the earth's climate system than previously suspected for both the risks from deforestation and the potential gains from regrowth, a benchmark study has shown. The study, published in *Science* on Thursday, provides the most accurate measure so far of the amount of greenhouse gases absorbed from the atmosphere by tropical, temperate and boreal forests.
Greenhouse Gas	SIG8	364	"This is the first complete and global evidence of the overwhelming role of forests in removing anthropogenic carbon dioxide," said co-author Josep Canadell, a scientist at CSIRO, Australia's national climate research centre in Canberra. "If you were to stop deforestation tomorrow, the world's established and regrowing forests would remove half of fossil fuel emissions," he told AFP, describing the findings as both "incredible" and "unexpected". Wooded areas across the planet soak up fully a third of the fossil fuels released into the atmosphere each year, some 2.4 billion tonnes of carbon, the study found. At the same time, the ongoing and barely constrained destruction of forests - mainly in the tropics - for food, fuel and development was shown to emit 2.9 billion tonnes of carbon annually, more than a quarter of all emissions stemming from human activity. Up to now, scientists have estimated that deforestation accounted for 12 to 20 per cent of total greenhouse gas output. The big surprise, said Canadell, was the huge capacity of tropical forests that have regenerated after logging or slash-and-burn land clearance to purge carbon dioxide from the atmosphere. "We estimate that tropical forest regrowth is removing an average of 1.6 billion tonnes of carbon each year," he said in an email exchange. Adding up the new figures reveals that all the world's forests combined are a net "sink" for 1.1 billion tonnes of carbon, the equivalent of 13 per cent of all coal, oil and gas burned across the planet annually. "That's huge. These are 'savings' worth billions of euros a year if that quantity had to be paid out by current mitigation (CO2 reduction) strategies or the price of carbon in the European market," Canadell said. The international team of climate scientists combined data - covering the period 1990 through 2007 - from forests inventories, climate models and satellites to construct a profile of the role global forests have played as regulators of the atmosphere. In terms of climate change policy, the study has two critically important implications, said Canadell.

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			The fact that previous science underestimated both the capacity of woodlands to remove CO2, and the emissions caused by deforestation, means that "forests are even more at the forefront as a strategy to protect our climate", he said. It also follows that forests should play a larger role in emerging carbon markets, he added. "The amount of saving which are up for grabs is very large, certainly larger than what we thought," Canadell said. The UN-backed scheme known as REDD - Reduced Emissions from Deforestation and Degradation - allots credit to tropical countries in Latin America, Asia and Africa that slow rates of forest destruction. It also provides a mechanism for rich countries to offset their own carbon-reduction commitments by investing in that process. Two decades was not enough to discern possible long-term trends due to year-on-year variability due to fluctuations in weather, insect attacks and other factors. But the tropics did show a clear decline in the capacity to soak up CO2 due to a so-called "once-in-a-century" drought in Amazonia in 2005. The region suffered an even worse drought in 2010, beyond the time frame of the study. The breakdown over the last decade for CO2 removal was 1.8 billion tonnes each year for boreal forests at high latitudes, 2.9 billion for temperate forests, and 3.7 billion for tropical forests. Once deforestation and regrowth are taken into account, however, tropical forests have been essentially carbon neutral. The clearfelling of a further 958 Ha1 of pristine publicly-owned Ben Bullen State Forest by Coalpac will add significantly to the already high total greenhouse impacts of this proposal.
Social / Health	SIG8	365	11. INADEQUATE SEPARATION DISTANCES FROM A RESIDENTIAL AREA This Proposal is far too close to sensitive receivers in the township of Cullen Bullen, and to children attending Cullen Bullen Primary School. The adverse environmental, amenity, and human impacts of noise, dust, blasting, and heavy coal truck transport on the residents of Cullen Bullen residents have been poorly managed in the past, and are likely to continue. This is evidenced by a public petition presented to the Bathurst Electorate Local Member Mr Paul Toole opposing the mine, which contains 120 signatures from residents of Cullen Bullen (population 198 in 2006); 99 from elsewhere in the Lithgow Local Government area and only 32 from outside the Local Government Area.
Social / Health	SIG8	366	It is widely accepted that industrial emissions of noise, dust, and odours are less likely to exceed acceptable

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			amenity levels the further they are located away from sensitive receivers – industrial impacts decrease with increasing distance from the source of the emissions.
Social / Health	SIG8	367	The 2005 Western Australia Environment Protection Authority document *"EPA Guidance No 3 - Separation Distances between Industrial and Sensitive Land Uses"* provides detailed advice on the use of generic separation distances (buffers) between industrial and sensitive land uses to avoid conflicts between incompatible land uses. The recommended separation distance between an open-cut mine and a school is a minimum of 1.5 kilometres
Social / Health	SIG8	368	The South Australian EPA *"Guidelines for separation distances"* recommends separation distances between a residential area and coal handling and storage facility of 1 kilometre, and 3 kilometres for extractive industries.
Social / Health	SIG8	369	The Central Council Natural Resources and Energy Policy Committee of the National Party of Australia (NSW) in its submission to the NSW Government's draft Strategic Land Use Strategy requested a 5 kilometre buffer zone between towns and villages and open-cut coal mining. The only way to adequately, fairly and safely manage the adverse impacts of this Proposal is to ensure that adequate separation distances are maintained between sensitive receivers in the Cullen Bullen community and Coalpac's mining activities. Based on the separation distances recommended by the WA EPA, SA EPA, and the National Party of NSW, this should be a minimum of 3 kilometres, but preferably 5 kilometres.
Air Quality	SIG8	370	12. UNACCEPTABLE DUST LEVELS The adverse health and amenity impacts of dust emissions from Cullen Valley and Invincible Mines on the residents of Cullen Bullen have been very poorly managed. Cullen Valley Mine was prosecuted $30,000 plus $15,000 in 2003 for causing dust emissions.
Blasting	SIG8	371	Coalpac are now proposing 4 blasts/week, 20 blasts/month, 240 blasts/year, or 5040 blasts over the 21 year mine life. Each of these blasts results in huge dust plumes which can't be managed by water trucks or other traditional methods. The only safe way to manage this dust is to require adequate separation distances as recommended by the WA EPA, SA EPA, and National Party of NSW, which are a minimum of 3 kilometres, but preferably 5 kilometres.
Noise	SIG8	372	13. UNACCEPTABLE NOISE LEVELS The adverse health and amenity impacts of noise from Cullen Valley Mine, Invincible Colliery, and heavy coal trucks hauling coal along the private haul road and Castlereagh Highway on the residents of Cullen Bullen

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			have been very poorly managed in the past. The only safe way to manage this noise is to require adequate separation distances as recommended by the WA EPA, SA EPA, and National Party of NSW, which are a minimum of 3 kilometres, but preferably 5 kilometres.
Blasting	SIG8	373	14. UNACCEPTABLE BLASTING IMPACTS Coalpac are proposing 4 blasts/week, 20 blasts/month, 240 blasts/year, or 5040 blasts over the 21 year mine life. LEG would like to know whether anyone in the DoP has ever experienced first hand a single blast within a kilometre of their home? Then multiply that by 5040!!! This is an obscene impost on the residents of Cullen Bullen, many of whom have already suffered damage to their homes from previous blasting at Cullen Valley and Invincible Mines. Each of these blasts results in huge dust plumes which can't be managed by water trucks or other traditional dust suppression methods. The only safe way to manage adverse impacts of blasting on the homes and residents of Cullen Bullen is to require adequate separation distances as recommended by the WA EPA, SA EPA, and National Party of NSW, which are a minimum of 3 kilometres, but preferably 5 km.
Health	SIG8	374	15. UNACCEPTABLE HEALTH RISKS The adverse health from coal mining should be well known to the DoP. If not we recommend that you Google the NSW Department of Health website, the Doctors for the Environment website, and numerous public health reports that have emanated from the Hunter Valley. The only safe way to manage adverse health impacts of open-cut coal mining on the residents of Cullen Bullen abd the children of Cullen Bullen Primary School is to require adequate separation distances as recommended by the WA EPA, SA EPA, and National Party of NSW, which are a minimum of 3 kilometres, but preferably 5 kilometres.
Economics	SIG8	375	16. PROPERTY DEVALUATION Australian culture traditionally favours land use that keeps heavy industrial activity out of residential neighbourhoods. The reasons range from safety to aesthetics and property values. A home represents a family's most valuable asset. In legal terms a home title deed equates to certain rights such as the air space above, views, a secure haven to raise kids…. the 'serenity'. Coalpac's residential open-cut mining proposal challenges all of those values. The only way to manage this is to keep Coalpac a minimum of 3 kilometres, but preferably 5 km from homes.

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Noise	SIG8	376	17. UNACCEPTABLE OPERATING HOURS Coalpac's residential open-cut mining proposal is seeking approval to operate 24 hours a day, 7 days a week. This is an obscene and totally unacceptable burden on Cullen Bullen residents. Cullen Bullen is Zoned a Residential Village, not a heavy Industry or Extractive Industry Zone. Open-cut mining activities are incompatible with a Residential Zone. The operating hours must not be extended beyond what they are currently.
General	SIG8	377	18. PROPONENTS HISTORY OF POOR ENVIRONMENTAL PERFORMANCE On 17 May 2012 Coalpac's Canyon Colliery again featured on ABC Lateline for causing toxic levels of Zinc and Nickel to pollute the Grose River and Greater Blue Mountains World Heritage Area. On 20 June 2010 Coalpac featured in The Land with the headline *"One man approves his own project, another man's dream dies"*. In the article part-owner Mr Noel Craven gave a telling account of this company's attitude towards the environment, neighbours, the law, boasting that "you don't even have to be qualified to write an environmental impact statement for an open-cut mine". "Is that a problem?" the Reporter asked. "Well, it's not a problem for me," he said. On 25 September 2008 Coalpac was fined $200,000 plus $55,000 in prosecution costs for producing 80% more coal at Invincible Colliery than their consent approved. On 25 August 2008 Coalpac's Canyon Colliery again featured on ABC Catalyst for causing toxic levels of Zinc and Nickel to pollute the Grose River and Blue Mountains World Heritage Area. On 5 May 2008 Coalpac featured in the Sydney Morning Herald with the 'Headline Disused mine leak is killing life in river', relating Canyon Colliery polluting the Grose River and GBMWHA. In the 2006 Response to Submissions for Invincible Colliery, Coalpac claimed that the open-cut would not be visible from the Castlereagh Highway. Now look at it.
General	SIG8	378	In the 2006 Response to Submissions for Invincible Colliery, Coalpac said a Borehole in Long Swamp had not been used since 1998 and they had no intention of using it. Within 6 months of approval Coalpac applied for an EPL Licence variation and commenced pumping 4 ML/day of the most eco-toxic water LEG has encountered locally into the Coxs River headwaters. In July 2003 Cullen Valley Mine fined $30,000 plus ordered to pay the EPA's $18,000 costs after pleading guilty to allowing fine particle mining dust to be emitted from the Cullen Valley Mine. These are just a few of many items which LEG has documented in the past 10 years. Cullen Bullen residents have many more reports. Our point being that this company appears to have walked a tight line between

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			acceptable and unacceptable behaviour in the past. The abrogation of responsibility in relation to pollution Coalpac was responsible for in the Grose River and a World heritage Area must certainly erodes any confidence that LEG or Cullen Bullen residents have for the rehabilitation plans the company has for Ben Bullen SF. LEG members are unsure that a leopard can change its spots – but too unleash it in one of the highest conservation areas in NSW is a gamble our group cannot support.
Traffic and Transport	SIG8	379	22. NO COAL HAULAGE ON PUBLIC ROADS/UNACCEPTABLE TRAFFIC SAFETY IMPACTS LEG members believe that Cullen Bullen residents will have emphasised this point. The mud and dirt tracked onto the highway from Cullen Valley Mine and Invincible Colliery has been a major source of dust since 1998, yet only now is the company admitting to the problem. No further mining or coal transport should be approved until the Coal Conveyor to Mt Piper Power Station has been constructed.
Ecology	SIG8	380	23. BRIBING THE OEH / BIODIVERSITY IS FOR SALE LEG members are outraged by the statement in the EA – *"Coalpac will support the progressive establishment of the GoS2 by providing a monetary contribution to OEH (or other relevant body) of $0.015 per tonne of coal sold throughout the life of the Project".* Our members regard this as an attempt to bribe a government agency, or to put it another way to sell biodiversity for price. It is not dissimilar to Centennial paying $1.45 million disguised as an 'enforceable undertaking' to knowingly destroy the EPBC listed East Wolgan Swamp. What will be next – pay to BBQ a Tassy Tiger, or auction off Wollemi Pine's to chop down for a price? We sincerely hope that this proposal does not set a precedent, and the OEH rejects it outright.
General	SIG8	381	CONCLUSION The members of Lithgow Environment Group believe we have provided a compelling body of evidence to demonstrate why the Coalpac Consolidation Project must be rejected. Our group has not made any political donations that need to be disclosed.
Visual/Ecology	SIG9	382	The proponent, Coalpac Pty Ltd, seeks to 'consolidate' its existing Cullen Valley Mine and Invincible Colliery coal mining operations, and continue coal mining under a single, contemporary planning approval. It does so with flagrant disregard for the environmental and social values of the area. If approved, this proposal would unnecessarily damage a uniquely scenic and biodiverse area and negatively impact the local community.

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Social/Visual/Ecology	SIG9	383	The proposal is inappropriately located too close to the village of Cullen Bullen and in a public forest of high conservation value. Coalpac proposes to destroy a large part of the Ben Bullen State Forest (BBSF) for its exclusive occupation under various mining leases for a period of 21 years. The scenic and environmental values of this area will be lost forever, as rehabilitation simply cannot restore the existing biodiversity and geodiversity.
Ecology / General	SIG9	384	We support the wish of the NSW National Parks and Wildlife Service (Office of Environment and Heritage) to add the entire BBSF to the conservation reserve system as a matter of priority, as it is an area with outstanding natural values. We strongly support the Gardens of Stone Stage 2 (GoS2)1 reserve proposal and acknowledge that this proposal was tabled in 2005, and that it is being considered through a 'whole of government' review process. Further, less damaging underground coal mining methods than the CCP could be pursued to obtain coal within the BBSF. These methods would be compatible with the GoS2 proposal. Approval of this project by the NSW Government would see it acting against the wishes of the majority of Cullen Bullen residents2, the NSW conservation movement3, and over 2,000 residents who have written to a combination of local Members of Parliament4 and the NSW Premier calling for the proposal to be rejected and for the area to be protected, as well as the wishes of the Office of Environment and Heritage.
Health / Air Quality	SIG9	385	Review process We request that the following documents be considered within the review process: 1. Castleden, WM, et. al. 2011 The mining and burning of coal: effects on health and the environment, Medical Journal of Australia. 2. Christine Ferguson and Mike Blake, Central Council Natural Resources & Energy Policy Committee, The Nationals NSW, Submission to Director, Strategic Regional Policy, NSW DP&I, 24 April 2012, Section 4.0. 3. Petition 551 tabled 2nd May: Mr Paul Toole - from certain citizens opposing the open-cut mining proposal in Ben Bullen State Forest, and to protect the village of Cullen Bullen and the Ben Bullen State Forest from future open-cut mining proposals.5 4. The Lithgow Environment Group has undertaken extensive field investigations in relation to the ecology and biodiversity of the local region. A volume of data provided by the Lithgow Environment Group to the Office of Environment and Heritage (OEH) identifies a large number of flora species existing within the BBSF that do not appear in the wildlife atlas. This data provides factual, detailed account of species in terms of

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			initial identification, location and distribution and official recordings of the species. The data highlights the high conservation values of the BBSF and each species is being added to the atlas as time and OEH resources allow.
Ecology	SIG9	386	Inadequate flora assessments Coalpac Pty Ltd failed to identify a host of flora species existing in the proposal area in its preliminary environmental assessment (EA). We note the proponent states in Appendix J: Ecological Impact Assessment, Section S3.2 Flora: "More than 400 plant species were recorded in the project boundary, with a high percentage being native". The plant species identified are listed in Table A1: Flora Species Recorded in the Project Boundary Quadrats 1 – 20, and Table A2: Flora Species Recorded in the Project Boundary Quadrats 21 – 44. An actual count of Tables A1 and A2 equates to 467 plant species, 74 of which are exotic weeds.
Ecology	SIG9	387	Local botanists from the Lithgow Environment Group (LEG) have identified an additional 123 flora species within the project area that the proponent has failed to report in its second version of the EA. The volume of the discrepancy is high and suggests the proponent's methodology is completely inadequate. By adding Coalpac's 467 listed species and the Lithgow Environment Groups' additional 123 additional species, the total number of plant species is in the order of at least 590. This highlights the common statement that the Ben Bullen State Forest is a biodiversity hotspot.
Ecology	SIG9	388	Specific oversights The key groups involved with the GoS2 campaign argued strongly that the Flora Assessment was totally inadequate, after LEG found Persoonia marginata, a federally-listed threatened species, on the Cullen Valley Mine site.
Ecology	SIG9	389	In addition, we specifically bring attention to these four species missed in version 2 of the EA, all of which are known to occur in this local area, and should have been looked for: · Pagoda Daisy (Leucochrysum graminifolium) – ROTAP 2R · Acacia asparagoides - ROTAP 2R · Philotheca obovalis – ROTAP 3RCa · Leionema lamprohyllum ssp orbiculare - ROTAP 2R-P3.
Ecology	SIG9	390	We also highlight these glaring errors: · There is record of Forest She-oak (Allocasuarina torulosa) which does not occur in this area, but the assessment failed to record Allocasuarina distyla and Allocasuarina nana which are common in the proposal

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			area and are a critical food source for the vulnerable Glossy Black Cockatoo and Gang Gang Cockatoo. · There is no record of the existence of Brown Barrel (Eucalyptus fastigata), the dominant tree of fertile old-growth gully forests, which Coalpac proposes to clear more of than any other vegetation type. · There is no record of the existence Native Blackthorn (Bursaria spinosa subsp. lasiophylla), which is the sole food plant for the endangered Purple Copper Butterfly.
Ecology	SIG9	391	This project shows a serious and repeated pattern of omissions and errors in its Environmental Assessment. The proponent has failed to identify flora species in its flora assessments for existing projects. The Blue Mountains Conservation Society copied Carl Dumpleton of the Department of Planning & Infrastructure into correspondence about this matter on 18 July 28 2011. We therefore request an independent flora assessment be carried out to establish a full and complete assessment of the natural values of the area, as the proponent has demonstrated it is incapable of producing such a report.
Ecology	SIG9	392	Proposed Funding Contributions The proponent's environmental assessment proposes the following arrangement: Further to this, Coalpac will support the progressive establishment of GoS2 and to this end, provide a monetary contribution of $0.015 per tonne of coal sold (approximately $1,000,000), to OEH (or other relevant body) throughout the life of the Project to assist in the development, implementation and management of the GoS2. It is our understanding that there is currently no framework for the OEH to accept funding for this purpose from Coalpac Pty Ltd. It is our view that there is also a significant argument which can be made as to the limited weight which should be given to the offer. The Proponent proposes to support the progressive establishment of GoS2 by providing a monetary contribution of $0.015 per tonne of coal sold (estimated to be approximately $1,000,000) to OEH. This contribution is to be made over the life of the project (i.e. 21 years). In considering the merits of this particular aspect of the proposal, it is suggested that the Minister should consider the present value of the contribution. That is, because the contribution of funds is spread out over a lengthy period of time, it should be discounted to its present value. Assuming the payments by Coalpac to OEH were made evenly over a period of 20 years at $50,000 per year (with payments occurring at the end of each year), and using a conservative discount rate of 7% in nominal

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			terms this would equate to a present value of the commitment in the order of $529,701.
Ecology	SIG9	393	The environmental assessment states further that: "If required by OEH, rehabilitated areas of the Project Disturbance Boundary and biodiversity offset properties will also be progressively released into conservation into GoS2." In our view the offer to donate rehabilitated land is poorly described and thought out. The offer relates to two categories of land, being: (a) rehabilitated areas within the project boundary, and (b) biodiversity offset properties. Two issues arise in relation to this offer. Firstly, whether OEH would be interested in accepting ownership of rehabilitated land. Secondly, the proponent's capacity to give effect to this commitment should the offer be accepted by OEH.
Greenhouse Gas	SIG9	394	Greenhouse Gas Emissions and Climate Change Coal mining contributes significantly to anthropogenic climate change through the emission of large volumes of greenhouse gases (GHG). Climate change will weaken the resilience of the environment, threatening the biological diversity of life on our planet; the quality of water that supports life and increase environmental impacts on human health. · Global carbon emissions are overstated a hundred-fold in the proposal, thus grossly understating how much this proposal would increase CO2 and climate change. · The Coalpac proposal would contribute 0.02 per cent to world emissions and 1.3 per cent of Australia's total carbon footprint, a relatively significant increase for a single project. · The Coalpac proposal would, if approved, make a large contribution to Australia's already high carbon footprint. · Coalpac's environmental assessment for this proposal inaccurately dismisses viable alternatives such as renewable energy and energy conservation that could make this project unnecessary.
Greenhouse Gas	SIG9	395	Misstatements about alternatives, especially renewable energy The EA argues essentially that if the proponent does not mine this coal, then someone else will mine and burn it elsewhere. The EA claims that alternate sources of energy are not viable in the short to middle term. This seriously misrepresents both the current status and ability of renewable energy to meet energy needs. Note the excerpt below from the forthcoming book 'Human Dependence on Nature' (Washington, 2012)6:

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			Renewable energy supplied an estimated 16% of global final energy consumption at the end of 2010 (REN21 2011). In regard to electricity, renewables produced 1,320 GW (312 GW excluding hydroelectricity) of electricity in 2010. By early 2011, renewables comprised 25% of electricity capacity from all sources. They accounted for approximately half of the estimated 194 GW of new electric capacity added globally during 2010. ... Civilisation can reach a 95% sustainably sourced energy supply by 2050. There are up front investments required to make this transition in the coming decades (1-2% of global GDP), but they will turn into a positive cash flow after 2035, leading to a positive annual result of 2% of GDP in 2050 (WWF 2011). A large-scale wind, water, and solar energy system can reliably supply all of the world's energy needs, with significant benefit to climate, air quality, water quality, ecological systems, and energy security, at reasonable cost (Delucchi and Jacobson 2011).
General	SIG9	396	The cost of photovoltaic electricity is due to equal that of mains power by 2014. Wind power is already close to coal-fired power in cost and will improve in cost when carbon pricing comes into effect. An Australian study has shown that we could switch to 100% renewable energy within 10 years for 2-3% of GDP a year (Wright and Hearps, 2010)7. The energy and climate change arguments in the Coalpac EA are thus deliberately misleading. This project will be a significant contributor to global warming, and there clearly are alternatives to burning coal to produce electricity.
Blasting	SIG9	397	The proposed step-back and risk-review buffer zone The Executive Summary (CCP v1) emphasises the 50 m step-back as discussed above. It also refers to a 100 metre monitoring zone adjacent to sandstone cliffs and pagodas. This is further developed in S8.2.3 (p109) and described as a 100 metre risk-review buffer zone. Coalpac claims that experience at Cullen Valley mine justifies this risk-review/risk-management approach. Although highwall mining is stepped back 50m, it can still undermine cliffs and pagodas by approximately 250m. It is our view that there is essentially no buffer. A minimum step-back of 310 metres is essential.
Air Quality	SIG9	398	Air Quality We note that management of air quality problems largely comes down to buying up affected properties, using detailed meteorological data to aid keeping impacts below the stipulated OEH criteria, and numerous statements of intention which conveniently fit with limiting operational costs.
Health	SIG9	399	The proponent has failed to properly acknowledge the health and environmental risks associated with PM 2.5 particle sizes, even when the data were collected (S2g.4 p7).

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			The impacts of PM2.5 are clearly outlined in the first document listed for consideration: Castleden, WM, et. al. 2011 The mining and burning of coal: effects on health and the environment, Medial Journal of Australia. Fine dust will present a larger problem for local residents, miners and the potential for recreational tourism than the proponent suggests. It must also be noted that, according to the publication Mining Australia (September 2011), in an article entitled "Blast Fume Events: Addressing a Noxious Issue", it was stated that: "Current World Health Organisation guidelines for NOx are a one hour level of 200µg m3 (approximately 200 parts per billion), and an annual average of 40µg m3. However, typical concentrations of NOx in post blast clouds can measure anywhere between 5.6 to 580 parts per, exceeding the safe limits by around 30 to 3000 times. This is clearly far too high." The Cullen Bullen School is located within about 1000 m of dust-generating activities and is perfectly located to experience dust-laden winds from the north east. This is totally unacceptable, considering the West Australian EPA recommends a separation distance of 1000-2000m8 between open-cut coal mines and sensitive land uses such as for schools. Further more, we directly support the NSW Nationals call for a 5 km buffer for future open-cut mines and a 5 km buffer around villages.9 Without this, the mining industry will continue to affect the closing down of regional schools and the 'wiping off of the map' of targeted regional towns.
Blasting	SIG9	400	Blasting With regard to blasting within 200m of pagodas and cliffs, a specialist geotechnical examination will be implemented; this should acknowledge the request for a minimum of a 310m step-back for the highwall. In some instances, blasting is proposed close to previously mined areas. It is not possible to predict accurately how the vibration will travel through these.
Visual	SIG9	401	Visual impacts – disregard for scenic values The report is largely silent in relation to the destructive impacts visible from the high cliff and pagoda country to the east in BBSF, yet this is a major concern relative to low-impact recreation and tourism. Recreational tourism opportunities for the area are identified in the 'Seeing the Gardens' report10.
Surface Water	SIG9	402	Surface water impact assessment The water management system (S8.9.4 pp159-160) ensures that substantial amounts of the operational water are recycled, or, if surplus to needs, are sent to the old underground workings. This means that for the

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			duration of mining (21 years) the three main creeks (Cullen, Dulhuntys, and Jews) will have reduced flows. This in turn could influence the local water table, the conservation of aquatic and riparian communities, and the water levels in agricultural or domestic water bores.
Surface Water / Groundwater	SIG9	403	There is need to re-examine and improve the whole process of ensuring that mine-related waters meet acceptable water quality standards which reflect the environmental significance of the region and receiving water courses.
Surface Water	SIG9	404	The project is likely to produce acid mine drainage that will impact on local streams for many decades. It may also produce elevated levels of heavy metals that will also kill aquatic life. This is occurring right now with one of Coalpac's old mines, the Canyon Colliery Mine, which is contaminating streams with unsafe levels of zinc and nickel in the Heritage-listed Grose Valley.
Air Quality	SIG9	405	Social matters The primary adverse social impact is on the amenity of the inhabitants of Cullen Bullen. In addition to the air and blasting issues already outlined, it is important to note that Cullen Bullen will become a dusty town. Homes, cars and clothes will be difficult to keep clean. Rainwater tanks will be contaminated.
Social / Amenity	SIG9	406	To reiterate, a minimum 5km buffer zone excluding open-cut mining should be established around the town of Cullen Bullen to protect its social values and amenity. This would provide adequate protection for the children and staff of Cullen Bullen Primary School, ensuring the school is not closed down in the future, due to health and other risks.
General	SIG9	407	It is unreasonable for open-cut coal mining activity to continue 24hrs a day, 7 days per week so close to Cullen Bullen or any town. We direct your attention to the request for consideration of document three: Petition 551 tabled 2nd May: Mr Paul Toole - from certain citizens opposing the open-cut mining proposal in Ben Bullen State Forest, and to protect the village of Cullen Bullen and the Ben Bullen State Forest from future open-cut mining proposals. The prayer of the petition states "Residents object to: 1. Increased threats to their health from fine and other damaging particles due to the proximity of the proposed open-cut mining activity. 2. Increased threats to the health of the children attending Cullen Bullen Public School from fine and other damaging particles due to the proximity of the proposed open-cut mining activity.

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			3. Increased threats to their property and public amenity from blasting and other high-impact, mining activity. 4. Increased threats to the quality of their lifestyle from any increase in the level of open-cut mining activity within hundreds of metres of their village. 5. Open-cut activity blighting the scenic landscape and impacting local tourism. 6. The loss of habitat for native plants and animals. The undersigned petitioners therefore ask the Legislative Assembly to act to reject the open-cut proposal and take the necessary steps to protect the village of Cullen Bullen and the Ben Bullen State Forest from future open-cut mining proposals." In addition, if the mine is approved, recreational activity in a large part of a public forest will not be possible for at least 21 years. The community expects to be able to access public land freely and for State Forests to be protected in perpetuity. The NSW Government would effectively be allowing the privatization and liquidation of public land if it approves this proposal.
Ecology	SIG9	408	Ecological impacts The Preliminary Environmental Assessment (PEA) determined that the ecological risk was high and the rating was moderate but certain. This is downgraded in the current EA to a moderate risk with a moderate but remote rating.
Ecology	SIG9	409	Approving the mine would devastate the biodiversity of the area: _ The habitat of literally hundreds of native plant species would be destroyed. _ The iconic lyrebird uses the sides of pagodas in this area to nest and raise its young. Mining will completely remove its food habitats in the valley below. _ The project proposes to kill 19,200 vulnerable Eucalyptus cannonii, trees and this is unacceptable. _ This mine would destroy the habitat of 35 mammal species, 15 of which are listed under the EPBC Act. _ Habitats for 12 bird species threatened under the EPBC Act including the Regent Honeyeater and Powerful Owl will be completely removed. _ Some species prefer living in pagoda related habitats; underscoring another need for a larger step-back buffer zone than the proponent proposes.
Ecology	SIG9	410	The threatened species and vegetation communities are fully detailed (S8.14, Tables 43, 44, 45) and we note there is no dispute about their presence and it is inarguable that the OEH should be acting in the interests of its ‘threatened species’ constituency under the TSC Act.

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			Coalpac fully recognises the damaging implications of the CCP in terms of the destruction of significant portions of vegetation communities (S8.14 Table 46).
Rehabilitation	SIG9	411	Rehabilitation Claims Recreating the original ecosystems is not possible. While some fauna may return and ultimately some forms of ecosystem will be established, they will be very different from what was originally there. It is not justified to claim that after a three dimensional body of rock, soil and its contained hydrologic regime or surface and groundwater, is dug out that it can be back-filled and retain the same hydrologic regime as before.
General	SIG9	412	Other concerns Coalpac Pty Ltd's environmental management record leaves a lot to be desired. For example, Coalpac has been fined on at least eleven occasions for pollution incidents. Commitments for management and mitigation in the current EA will only have value to the extent that they are closely monitored and enforced. We question the capacity of government to ensure this will happen considering the findings volunteers have revealed in the past in the area.
General	SIG9	413	Conclusion The role of the Department of Planning and Infrastructure is not to facilitate unrestrained expansion of the mining industry. Based upon merit alone this proposal should be rejected entirely. It is regrettable that Coalpac's EA fails to fully evaluate site specific or regional cumulative impacts. We are of the view that the environmental and social impacts of the CCP are unacceptable, and that the proposed management and mitigation measures are inadequate. Open-cut mining is apparently preferred because it has cost advantages for the proponent. But the applicant's bottom line should not determine Government policy. Extraction should be by relatively low impact underground methods and, where this is not practicable, the coal should remain in the ground as it represents a tiny proportion of the state's coal resources. Due to climate change a large proportion of the state's coal resources should never be mined and can therefore be set aside to address land use conflicts. This scale of open-cut mining in a publicly reserved forest, which has outstanding natural values and is proposed for conservation, is overwhelmingly against the public interest. The effective privatisation and liquidation of a large part of the forest is an outrageous precedent, and is contrary to the state's efforts to reduce deforestation.
Ecology /	SIG10	414	We are deeply concerned by the Coalpac Consolidation Project; open cut mining on a scale that removes

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Rehabilitation			over 400 million m3 will have a disastrous and permanent impact on the rich biodiversity and geological structures of the Ben Bullen area. Rehabilitation of open−cut mines CANNOT restore the original landscape and current diversity of fauna and flora.
Ecology	SIG10	415	We totally reject the biodiversity offset package proposed by Coalpac. A unique_ area of biodiversity cannot be replaced by any other parcel of land. Equivalent areas do not exist.
Surface Water / Groundwater	SIG10	416	The long−term legacy of pollution from coal mines was recently highlighted in the World Heritage−listed Grose Valley, where zinc and nickel at 100 times safe levels were detected downstream of the Canyon Colliery Mine that closed 15 years ago in. The pollution was initially detected through absence of typical aquatic life in the waterways. That mine was run by Coalpac for 10 years.
General	SIG10	417	The haste to excavate coal reserves in NSW for short−term gain is disastrous for the long−term viability of the country. Leaving coal in the ground in environmentally sensitive areas protects biodiversity, water quality and environmental features, and conserves resources that future generations will need.
General	SIG10	418	If the Coalpac Consolidation Proposal is approved by the NSW Government, it will alienate public land and destroy the heritage that belongs to all the citizens, not to a private company for short−term profit.
General	SIG10	419	We strongly support the NSW National Parks & Wildlife Service's wish to add the Ben Bullen State Forest to the conservation reserve system as a matter of urgency. This organisation has not made any donations of $10.00 or more to any political party over the past two years.
Rehabilitation	SIG11	420	Rehabilitation of open-cut coal mines is incapable of restoring the original biodiversity and geodiversity of the Gardens of Stone Reserve Proposal. The 422 million cubic metres of rock and earth proposed to be mined is equivalent to three quarters of the volume of Sydney Harbour.
General	SIG11	421	I support the NSW National Parks and Wildlife Service's wish to add the Ben Bullen State Forest to the conservation reserve system as a matter of priority; it is an area with outstanding natural values.
General	SIG11	422	I therefore object to this destructive mining proposal entirely for this and the following reasons: • This mine would destroy the habitat of over 400 native plant species. • Mining under the internationally significant rock formations known as 'pagodas' by any means, threatens them with partial or total collapse. • The mining activity will devastate the landscape and spectacular scenery of the Ben Bullen State Forest. • There will be a great loss of habitat for the native plants, animals and birds that live in the Ben Bullen State

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			Forest. • The community will be locked out from a very large part of public land for at least 21 years. I expect to be able to access public land freely.
Geochemistry / Greenhouse Gas / Social	SIG11	423	• The project is likely to produce acid mine drainage that will impact on local streams for many decades. It may also produce elevated levels of heavy metals that will also kill aquatic life. • I expect public land to be protected in perpetuity so I can enjoy it; not have it effectively sold off for companies to profit from. • The Coalpac proposal would if approved make a large contribution to Australia's already high carbon footprint. • I am concerned about the proponent's environmental management record. For example, at the Invincible mine, Coalpac was fined $200,000 on one occasion for exceeding the coal production limits and on *eleven other occasions* for pollution incidents.
General	SIG12	456	I am writing on behalf of the Canopy Native Forest Committee of the Total Environment Centre of NSW, a voluntary organisation concerned with the protection of our native forests and wildlife from damaging and inappropriate activities. This Committee wishes to express its strong opposition to the current proposal as it is expected to have substantial adverse environmental impacts.
Ecology	SIG12	457	The project requires the clearing of 843 hectares of publicly owned native forest including the destruction of 19,200 vulnerable *Eucalyptus cannonii* trees and 50 hectares of critically endangered Box Gum Woodland. The area is habitat for 500 plant species and 35 mammal species, 15 of which are threatened. The loss of these significant natural values is an unacceptably high price to pay for a resource that is widely available elsewhere.
Biodiversity	SIG12	458	It is unlikely that the original biodiversity of the site can be fully restored after an impact as dramatic as open cut mining. It is unlikely that the original biodiversity of the site can be fully restored after an impact as dramatic as open cut mining.
Subsidence	SIG12	459	In addition, the proposal to mine sideways into the coal seams under rare pagoda rock formations carries a high risk of damaging these sensitive features for the sake of less than 3 per cent of the resource.
Greenhouse	SIG12	460	The amount of coal extracted by this project has the potential to add to this nation’s already high total carbon

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Gas			emissions by 1.3 per cent.
Air Quality	SIG12	461	Further, the possible impact on nearby residents of the town of Cullen Bullen of fine particles generated by the mine is a matter of grave concern.
Ecology	SIG12	462	For these reasons, Canopy calls on the government to totally reject the proposed Coalpac mine. Instead, the Ben Bullen State Forest should be added to the conservation reserve system as proposed by environmental groups in the Gardens of Stone Stage 2 Reserve Proposal.
Ecology	SIG12	463	At first glance this report seems substantial and appears to represent significant work done for this project. However, *quantity is not quality,* and there are major gaps, factual errors and mistakes in this EA, which is not acceptable for a major proposed development with major environmental impact. P. xvi shows that 958 ha is to be open-cut mined, including destruction of 16.5 ha of endangered box gum woodland, 3.5 ha of threatened Geebung habitat and 278 ha of threatened *E. cannonii habitat*. P. xx shows the project will be removing 7 seams plus 5 metres of sandstone. 422 million cubic metres of overburden is to be removed over 20 years. This is the equivalent of *three quarters the volume of Sydney Harbour,* a huge volume of material.15.2 million cubic metres of reject and tailings will be produced over 20 years (p. 45).
Subsidence / Ecology	SIG12	464	The amount of coal produced is inconsistent within the document, being 71.2 million tonnes (Appendix G, GHG study for burned coal) or possibly 108.5 million tonnes as shown on page vii of the Executive Summary. Only 1.9 million tonnes of this will come from highwalling, despite the dangers this causes (p. 106). Ash content of coal is quite high, from 14-30%. It is claimed that the total value of the coal mined will be $1519 million over its 21 year life (p. xxiv). Of this, based on rate of 1.5 cents per tonne of coal (p. xxii) at 71 million tonnes coal mined, $1.06 million will be paid to OEH, a quite inadequate sum in view of the damage that will be caused. The Colo Committee has been involved in seeking to protect the pagoda country and to control damaging coal developments since the early 1980's. We thus know this area very well and are very aware of the history of coal mining in the Western Coalfields. While the Colo Committee has objected (and continues to object) to certain longwall mining under pagodas or shrub swamps, it is clear that the Coalpac proposal would be by far the most damaging coal project yet proposed in the area. This is demonstrated by the fact that even the Lithgow Council and the local community oppose this huge 900 ha hole that will be gouged out of public land – Ben Bullen State Forest – on the edge of the Greater Blue Mountains World Heritage Area. For these reasons and the reasons below, the Colo Committee completely opposes proposed Coalpac Consolidation Project, and urges the NSW Government to show true leadership and stop what is clearly an inappropriate way of sourcing coal.

Category	Submission ID	Issue ID	Issue
Greenhouse Gas	SIG12	465	Greenhouse gas assessment. There are *major errors and confusion* in the statements made regarding GHG emissions and the comparison of the mine with world emissions. The quoted figure on p. x of the Exec Summary refers to 'estimated current global emissions of 3,000 gigatonnes of carbon dioxide equivalent per annum'. p. 119 repeats this error. In fact, global anthropogenic emissions are 7.7 Gt of C or 7.7 x 3.67 = 28.2 Gt CO2 (see: Globe, http://classic.globe.gov/fsl/html/templ.cgi?carboncycleDia&lang=en) or possibly an upper limit of 35 Gt CO2 (http://co2now.org/Current-CO2/CO2-Now/global-carbon-emissions.html). The statement is thus a hundred-fold out for human-caused carbon emissions. The Coalpac emissions are 7 million tonnes CO2 a year (rounded off from 6.989 Mt on p. 109 of App G). 7 Mt is 0.007 Gt and this is 0.02% of world emissions not 0.0003 % as repeatedly stated in the Coalpac EA. An error of 100 fold clearly demonstrates *total ignorance of this issue*.
Greenhouse Gas	SIG12	466	Australia's carbon footprint is 546.3 Mt C02e (Aust. Nat. Greenhouse Accounts, Dec 2011) so 7 Mt is 1.3% of Australia's total carbon footprint. Checking up on Appendix G (PAE Holmes), p. 110 of this report shows that the consultant actually stated that 'The estimated quantity of carbon dioxide stored in the atmosphere now is 3000 Gt' (my emphasis). They are speaking of the carbon pool in the atmosphere, not annual emissions! The two are totally different. Coalpac has thus deliberately mis-stated what was said in the PAE Holmes report. This either represents incompetence in regard to understanding climate science, or deliberately seeks to play down what is a *major GHG emission* in this project. The PAE Holmes figure of 3,000 Gt atmospheric pool is unreferenced but not far off other figures for the atmospheric pool of CO2, such as 2,752 Gt (Globe Project). The Coalpac Consolidation Project would thus be a *major contributor* to greenhouse gases, adding 1.3% to Australia's carbon footprint. In no way can it be said that 'there will be no increase or measurable impact on climate change' (said on p. x Exec Summary). This is a scientific fallacy and a logical impossibility. The project clearly will contribute to Australia's already high carbon footprint (per capita the highest in the world).
General	SIG12	467	Mis-statements about alternatives, especially renewable energy. The EA argues essentially that if they don't mine this coal, then someone else will mine and burn it elsewhere. P. x claims that alternate sources of energy are not viable in the short to middle term. This seriously misrepresents both the current status and ability of renewable energy to meet energy needs. Note the excerpt below from the forthcoming book 'Human Dependence on Nature' (Washington, 2012): *Renewable energy supplied an estimated 16% of global final energy consumption at the end of 2010 (REN21 2011). In regard to electricity, renewables produced 1,320 GW (312 GW excluding hydroelectricity) of electricity in 2010. By early 2011, renewables comprised 25% of electricity capacity from all sources. They accounted for approximately half of the estimated 194 GW of new electric capacity added globally during*

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			2010. ... Civilisation can reach a 95% sustainably-sourced energy supply by 2050. There are up front investments required to make this transition in the coming decades (1–2% of global GDP), but they will turn into a positive cash flow after 2035, leading to a positive annual result of 2% of GDP in 2050 (WWF 2011). A large-scale wind, water, and solar energy system can reliably supply all of the world's energy needs, with significant benefit to climate, air quality, water quality, ecological systems, and energy security, at reasonable cost (Delucchi and Jacobson 2011).
Greenhouse Gas	SIG12	468	Cost of PV electricity is due to equal that of mains power by 2014. Wind power is already close to coal-fired power in cost and will improve in cost when carbon pricing comes in shortly. An Australian study has shown that we could switch to 100% renewable energy within 10 years for 2-3% of GDP a year (Wright and Hearps, 2010). The energy and climate change arguments in the Coalpac EA are thus deliberately misleading. This project will be a significant contributor to global warming, and there clearly are alternatives to burning coal to produce electricity.
General	SIG12	469	Mis-statements about best practice, 'do nothing' strategy, and ecological sustainability. P. xxi says the project will 'optimise the benefits of environmental and capital costs that have been incurred'. Claims that Coalpac is a leading practice in environmental management. P. xxiv claims 'project rigorously assessed against objects of ESD' and 'the project brings environmental benefits'. p. 271 says the 'project has avoided all serious and irreversible environmental damage'. Then it says the 'Structure of the project will ensure that there is no effect on the environment that would diminish the health, diversity or productivity of the environment for future generations'. P. xxiv states the value of coal in the ground is 'only released by its recovery'.
General	SIG13	470	All these statements are PR spin of the worst sort. This is a huge 1,000 hectare hole being dug in a diverse natural area not far from the World Heritage Area. It will destroy all native vegetation in that area, and cause significant air, visual and noise pollution (which the EA actually notes, but then plays down). It does not bring 'environmental benefits', nor does it stack up well against the idea or principles of ecologically sustainable development. The climate change impact alone of the project clearly will affect future generations, and the project will be a major stress on the environment and social community in the Western Blue Mountains. The Coalpac EA is thus an exercise in denial. It talks about mitigation strategies, best practice, proactive management, but these are just words. The project would have a huge negative impact on the natural environment, on the local community, and on the public using the Castlereagh Highway. The EA seeks to portray the 'do nothing' strategy as a 'sterilisation' of the coal reserve, when in fact the correct ecologically sustainable interpretation of not mining this coal is that the coal should not be mined and burnt for the very good reason that it would exacerbate climate change, to which Australia is highly susceptible. The coal in any

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			case is not 'sterilised', it is still there, and if at some future time it truly was in the national interest to mine it, it would still be there.
Ecology	SIG13	471	Despite being made up to look big and impressive, there remain major questions around the vegetation survey. Clearly a recent detailed flora and fauna study has not been carried out, and the EA just cobbles together bits and pieces from past (inadequate) surveys. The company and its consultants in the past had totally overlooked the existence of one of the largest known populations of the vulnerable species Persoonia marginata. This was discovered by local environmentalist Chris Jonkers (though this is not acknowledged in the EA) and in fact the company sought to convince him that it was another species (P. *oblongata)*. The vegetation survey seems unable to actually *let us know* how many species (native and introduced) are actually found on site. Instead it says merely 'over 400 species'. It is highly unusual for a survey not to state the *actual species number*. Do they know or don't they?
Ecology	SIG13	472	Part of the reason for this vagueness is that the species list in Appendix J contains a large number of species identified only to the Genus level and *not to species level*. This clearly shows that a detailed botanical study was not carried out, or that the proponent was not willing to pay for the Royal Botanic Gardens to confirm the identity of these species not identified to the species level. There are also a large number of mis-spellings of the taxonomic species in the 'Recorded flora species'. Normally a check by any reputable flora consultants would have corrected these. The study found 2 threatened plant species and one rare species (*Gonocarpus longifolius*). This is unusual, as usually one finds some 5 times more rare species in the Blue Mountains area than threatened species. P. 192 notes that the project will kill 19,200 of 37,600 E. cannonii, 321 plants of the threatened P. *marginata* will be killed. These are significant impacts. The final testimony to the inadequacy of the flora survey is the fact that local field botanists have found some 100 native species that the company and its consultants missed.
Ecology	SIG13	473	There is thus very good grounds for doubt if the full flora significance of the site has been adequately assessed. Re fauna, it notes 35 mammals, 15 of which are threatened species. 112 birds present, several are threatened (number not stated). The area thus has quite a high diversity of threatened fauna. The discussion of biodiversity offsets discussion is somewhat misleading in that there is in fact no surety that Coalpac would be able to purchase the properties it states have significant biodiversity value to offset the 900 ha of native bushland that would be completely destroyed and the impact on the surrounding area.
Subsidence	SIG13	474	P. 106 notes that highwall drives will take place in 4 seams, the Irondale, Moorlaben, Lithgow and Katoomba seams. P. 53 says highwall mining will go in up to 305 metres from the face. 167 highwall drives planned for the project. Does not show the width of web or barrier pillars for highwall mining anywhere in the document.

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			The EA claims that they can 'control subsidence from highwalls to 20 mm'. This is wishful thinking and not certain science. If they already understand that subsidence will be worse at the 'southern point of the western highwall' (as they admit) then highwalling should not occur in that area. P. 106 notes that stresses in rock structure 'have ability to affect stability of pillar sidewalls, roof and floor'. This shows clearly that claims that subsidence will be minimal are wistful thinking.
Subsidence	SIG13	475	The whole history of coal mining on the Western coalfields is one of denial of subsidence and underestimation of its impact, and the Colo Committee has been active for almost 30 years pointing out the problems this causes. Given that highwalling produces only 1.9 million tonnes (p. 106) of coal out of 70-100 million tonnes planned to be mined, and given it poses major risks to the escarpment and internationally recognised pagodas, one can validly ask why Coalpac is seeking to push ahead with the highwalling part of its proposal? P. ix of Exec Summary notes that the buffer from the escarpment to the open cut will be only 50 metres.
Subsidence	SIG13	476	However, p. 109 speaks of a 100 metre buffers zone between the open cut and escarpment in current mining. The EA is thus inconsistent as to what the buffer zone will be between the escarpment and the open cut. 50 metres is too small and the currently used 100 metres should be applied if the open cut is approved. Highwalling is described as only producing 1.9 million tonnes of coal out of around 100 million tonnes of coal planned to be mined. Given the extra stress and risk this poses to pagodas, one can only ask why any company that is committed to best practice environmental outcomes would consider such a risk?
Blasting	SIG13	477	The fact that pagodas have been recognised as internationally distinct and significant (Washington and Wray, 2011) has not been recognised by the EA. P. ix of the Exec summary notes 'in the absence of adequate controls, vibration from blasting could impact the escarpment and pagoda formations'. It then speaks of a 100 metre monitoring zone, but this is not an adequate control on blasting, just a record of its adverse affects that are monitored.
Air, noise blasting, visual	SIG13	478	P. ix shows that air quality of PM10 will be exceeded for locals near the open cut. It speaks of a 'proactive plan', but this seems to just be spin. The open cut is huge and locals nearby will be subjected to unacceptable air pollution. P. x shows noise is predicted to cause sleep disturbance from the project. P. x shows that blasting near 4 Aboriginal heritage site overhangs and one non-Aboriginal heritage site will get overpressures above appropriate criteria. P. x visual – shows there will be high visual impact until bunds at north are built. These are all major impacts on the local area.
Geochemistry	SIG13	479	P. xiv states that most reject has less than 0.2% sulphur. However, this demonstrates a poor understanding of acid main drainage production and the role of the bacteria Thiobacillus when sulphur is exposed to the air.

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			This does not mean it is 'safe', especially as it the sulphur can be framboidal pyrite, that strongly produces sulphuric acid. The Wallerawang mine nearby was found by CSIRO in 1980s to have major acid mine drainage problems. Marangaroo sandstone has 0.8% sulphur and thus has serious potential to cause acid mine drainage. Course reject material from Lithgow seam has potential for acid production. Heavy metal problems have also been found, such as zinc pollution from Canyon colliery at the headwaters of the Grose river. High manganese levels have also been found nearby in mine effluent. Heavy metal pollution, along with acid mine drainage thus cannot be dismissed as possible serious issues arising from the project.
Subsurface Heating	SIG13	480	P. ix notes that subsurface heating and spontaneous combustion of carbonaceous material is present, this means it catches on fire and smoulders. Fires in the open cut and adjacent seams are thus a real possibility (given they are exposed to full sunlight and wind), as it is already present from old underground workings (the EA speaks of how Coalpac had to control it with water management). If fire gets into adjacent coal seams it can be almost impossible to put out – as seen at Burning Mountain in the Hunter. This would be a major air and visual pollution impact on the edge of the WHA and the local community.
Ecology	SIG13	481	p. xvi 1755 ha proposed biodiversity offsets. 13 to 1 ratio for Box gum woodland. If the project goes ahead then such offsets are probably useful. However, the company cannot in fact guarantee that all these properties will be sold to them for offsets, nor can it disguise the fact that significant biodiversity is being destroyed on site, while the biodiversity on these other sites should be protected under the TSC Act in any case.
Rehabilitation	SIG13	482	p. 109 states that there is 'rapid weathering of the bedrock'. Talus slopes form a natural batter or buttress against cliff escarpments. Talus slopes can be steeper than the angle of repose (34 degrees) so they may not be able to be returned to their existing form after mining.
Ecology	SIG14	483	We are conscious of the dangers and the risks to the future of NSW biodiversity if the Project is carried out. One of the key concerns of environmental damage in the world today, and in particular Australia, is loss of biodiversity. The rate of loss of species means we will be handing on to future generations, a much diminished world. Other species matter to our health and to the integrity of our environment and we simply cannot continue to deliberately destroy them. The Ben Bullen State Forest therefore needs to be protected from mining.
Ecology	SIG14	484	We entirely support the NSW National Parks and Wildlife Service's proposal to add the Ben Bullen State Forest to the conservation reserve system as a matter of priority. The forest is a state treasure with precious natural flora and fauna consisting of 500 native plant species and 35 mammal species, 15 of which are

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			threatened.
Subsidence	SIG14	485	The very attitude that believes the sandstone pagodas of the area can be separated from their interconnected underlying sedimentary foundations displays an arrogance towards natural systems that is almost beyond belief. It appears to us that mining using destructive practices takes priority over other social and environmental values. This is a short sighted approach.
Ecology, rehabilitation, subsidence	SIG14	486	Therefore, we are asking this body to reject the Coalpac proposal for the following reasons: - Open cut mining destroys in a few years the precious formations and ecosystems that have taken millions, even billions of years to evolve - Rehabilitation of areas mined by open-cut methods is incapable of restoring even a small fraction of the original biodiversity and geodiversity of this important part of the Gardens of Stone Reserve Proposal. - Mining sideways into the coal seams under sensitive pagoda rock formations with highwall machines is an unnecessary risk and yields less than three per cent of the coal proposed to be mined. - It will destroy critically endangered Box Gum Woodland, as well as the wonderful Eucalyptus cannonii endemic to the area - It will contribute to an increase in carbon emissions when we urgently have to decrease them - It will have an impact on the health of the residents of nearby Cullen Bullen - It will commandeer for exclusive use an area that should be set aside for the common good. ie the protection of biodiversity and geodiversity.
Ecology	SIG15	488	The Macquarie Explorers Club Inc. is a Bushwalking Club affiliated with the Confederation of Bushwalking Clubs NSW Inc. We have a membership of approximately 30 members. At a General Meeting of our Club on 20 May 2012, the members present were unanimously in favour of advising the NSW Department of Planning & Infrastructure of our opposition to the above Application. We support the NSW National Parks and Wildlife Service's wish to add the Ben Bullen State Forest to the conservation reserve system as a matter of priority; it is an area with outstanding natural values.
General	SIG15	489	We object to the Coalpac Consolidation Project entirely for the following reasons: · The mining activity would devastate the landscape & spectacular scenery of the Ben Bullen State Forest · There would be a great loss of habitat for the native plants, animals & birds that live in the Ben Bullen State Forest

Category	Submission ID	Issue ID	Issue
			· The community would be locked out from a very large part of public land for 21 years. · The project proposes to kill 19,200 vulnerable Eucalypti cannonii trees and this is unacceptable · The project is likely to produce acid mine drainage that will impact on local streams for many decades · There will be increased threats to the residents of Cullen Bullen due to damaging particles from mining released into the air · It is unreasonable for open-cut coal mining activity to continue 24 hours a day, 7 days a week so close to any town. Please note that we have not made any political donations of $1,000 or more over the past 2 years.
Economics / Socio	SIG16	490	Shoalhaven Starches supports the approval of the Coalpac Project because the plant at Nowra depends on coal from the Invincible Colliery for our coal fired boilers which produce approximately 50% of the steam requirements for the Bomaderry Plant. Shoalhaven Starches employs approximately 300 employees plus contract personnel and manufactures Gluten, Starch, Glucose and Ethanol for the domestic and overseas markets. The above products are used for the production of food products and the ethanol is used in fuel and industrial applications. Shoalhaven Starches has purchased coal from the Invincible Colliery for many years and our boilers require low ash, sized coal with properties similar to the Lithgow seam. Our coal fired boilers are fitted with spreader stokers and chain grates and as a result the ash content, sizing and properties of the coal are critical. As a result we have not been able to source competitively priced coal of a suitable quality from collieries other than from Invincible.
General	SIG16	491	We have been advised that our coal supply from the Coalpac Invincible Colliery site will run out by the end of December 2012, which is only 6 1/2 months from now unless approval is granted to mine additional coal for our requirements.
General	SIG16	492	We note the Environmental Assessment is currently on exhibition and we submit this letter of support to you for consideration in your assessment of the project. However, we stress that coal from Invincible Colliery is absolutely essential for the continued operation of the Shoalhaven Starches facility at Bomaderry.
General	SIG17	493	We object to the proposal on the following grounds: 1. The proposal is unacceptable to us because of the environmental and recreational impacts on the area by mining activity

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			2. Mining activity will devastate the Be Bullen State Forest and could cause irreparable damage to the rock formations known as the Pagodas. All this is in a popular walking area for a members 3. The destruction of the habitats of native plants, animals and birds that live in the Ben Bullen State Forest 4. The effect on water tables and quality by mining activity in this pristine area would be beyond repair. 5. Coalpac could never repair the damage they would do if they were ever allowed to start open cut mining in this unique area 6. On a personal note it would remove a much loved and popular walking area for this club of over fifty members I personally and this club have never made any political donations to any party ever.
Greenhouse Gas	SIG18	494	It is well known that the NSW Greens do not support the expansion of coal mining because of its contribution to the greenhouse gases that are causing dangerous climate change and we would prefer to see the State's economy make the transition across to renewable forms of energy. The Coalpac proposal would, if approved, make a large contribution to Australia's already high carbon footprint. However, irrespective of our position on coal mining, we strongly object to this coal mine specifically because of the irreversible damage that will be done to the significant biodiversity and geodiversity in this particular area.
Ecology	SIG18	495	The NSW Greens support the NSW National Parks and Wildlife Service's wish to add the Ben Bullen State Forest to the conservation reserve system as a matter of priority. It is an area with outstanding natural values including an abundance of biological diversity and outstanding but precarious rock formations. A large open cut coal mine is utterly incompatible with the conservation of these values.
Ecology	SIG18	496	The Blue Mountains Conservation Society is concerned the mine would destroy the habitat of over 400 native plant species and that mining under the internationally significant rock formations known as 'pagodas' threatens them with partial or total collapse. They also object to the devastation the mining activity will wreak on the landscape and spectacular scenery of the Ben Bullen State Forest and the risk to the scenery of the Pagoda Escarpment. The NSW Greens share those serious concerns.
Ecology	SIG18	497	Hundreds of hectares of vegetation in Ben Bullen State Forest will be razed including the removal of approximately 19,200 Eucalyptus cannonii trees which are protected as vulnerable to extinction under both state and federal law. It will also remove 48.4 hectares of critically endangered Box Gum Woodland and 3.5 hectares of threatened Geebung habitat also listed under the Commonwealth Environment Protection and Biodiversity Conservation Act (EPBC Act) 1999. These are unacceptable impacts to protected biodiversity.

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Ecology	SIG18	498	We understand that habitat for 35 mammal species, 15 of which are listed under the EPBC Act, will be lost. Habitats for 12 bird species threatened under the EPBC Act, including the Regent Honeyeater, Tiger Quoll and Powerful Owl, will also be completely removed. Other biodiversity at risk will be the iconic lyrebird which uses the sides of pagodas in this area to nest and raise its young and the mining will remove its food habitats in the valley below.
Ecology	SIG18	499	It is of further concern to the Greens that local botanists have identified over 70 native plant species that exist in the Ben Bullen State Forest that were not identified by Coalpac in the environmental assessments they commissioned. I seek assurances that the impact of the mine on each of these species will be properly assessed and considered.
Groundwater	SIG18	500	The mine should be opposed due to the inevitable impacts it will have on the local hydrology and the detrimental consequences of that for the ecosystems it supports. Mining for the sandstone for construction sand in the proposal area will lower the water table and dry out the landscape. Acid drainage and heavy metal pollution from the mine is likely to impact on local streams and aquatic ecosystems for many decades.
Air Quality	SIG18	501	The NSW Greens are extremely concerned for the social and health risks to the residents of Cullen Bullen. The town is already negatively impacted by Coalpac's open mining activity and this proposal will increase particulate pollution.
Air Quality, Economics	SIG18	502	Cullen Bullen will be blighted by particulate pollution and residents' health will be put at risk. Property values will likely suffer as the town becomes surrounded by degraded land.
General	SIG18	503	Also objectionable is the fact that the mine will deny the public access to a large area of public land for at least two decades.
Rehabilitation	SIG18	504	The Government can have no confidence in the company's ability to rehabilitate the irreplaceable complex of biodiversity and geodiversity of this area following open-cut coal mining. I recently visited the site of ongoing heavy metal pollution into the Grose River in the Blue Mountains World Heritage Area from an earlier Coalpac mine– the Canyon Colliery. The abrogation of responsibility in relation to the pollution they have caused to the Grose River must surely erode any last shred of confidence the Government harbours for the remediation plans the company has for its Ben Bullen operations. Indeed, the company's environmental performance at the Invincible Mine, where it was fined $200,000 on one occasion for exceeding coal production limits and on eleven other occasions for pollution incidents, should also count against them.
Ecology	SIG18	505	Furthermore, the Government should have no confidence in the biodiversity offset package that Coalpac has proposed. We consider it inadequate and uncertain. Rare and unique habitat that has evolved to that particular climate and geology over millions of years cannot be replicated or compensated for elsewhere.

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General	SIG19	506	We note that the Coalpac proposed expansion of mining operations at the Cullen Valley and Invincible coal mines and proposed quarry and associated infrastructure development is currently on exhibition.
General	SIG19	507	Through a Deed of Agreement Port Kembla Port Corporation (PKPC) is working with Coalpac to develop a bulk export terminal on Port Kembla Outer Harbour land to facilitate the export of coal from the' proposed mine development plus accommodate the handling of other bulk cargoes. As you may be aware, we have met with Chris Wilson recently to discuss' a modification to our Outer Harbour Part 3A approval to accommodate the proposed Coalpac development.
Economics	SIG19	508	PKPC is very supportive of the Coalpac coal export proposal as all coal will arrive at the port by rail and will generate regional benefits to the Illawarra region from construction and ultimately generate further employment from operations at the port. Also of importance is that the Coalpac development is the catalyst for development of the first berth in the outer harbour and that it will underpin infrastructure for other potential exports. A number of other potential exporters have already approached PKPC seeking access to these outer harbour facilities.
General	SIG20	509	We write to strenuously object to the Coalpac Consolidation Project 10_0178. We are a local conservation group active in the Ryde Hunters Hill area since 1966. Our Society was formed after a successful resident campaign to stop a land fill in the residential suburbs of East Ryde and Boronia Park. The site is now a Wildlife Refuge and contains an award winning Environmental Education Centre used by over 14,000 students each year.
Ecology	SIG20	510	This consolidation project, if approved, would cause irreparable damage to the very significant natural area called the Gardens of Stone. Coal mining activities in this area would remove this beautiful area from public access. It would result in the destruction of hundreds of plants vital for the habitat for many native fauna species including the lyrebird which nests in the area and a range of fauna species which are protected under the Commonwealth's threatened species legislation including the Tiger Quoll and Regent Honeyeater.
Ecology	SIG20	511	The importance of the State's biodiversity to current and future generations cannot be underestimated. An expanded open-cut mine in an area, which is nearby to the nationally listed Blue Mountains area which attracts many tourist every year, and in a gateway area to the state's central west, will have a major adverse impact on the local area. Not only will restoration of the area's original biodiversity and geodiversity be impossible, there will be major impacts on local waterways and possible heavy metal contamination of the Heritage-listed Grose Valley. The amenity of the town of Cullen Bullen will be particularly affected by the mining activity and the close proximity of the open cut mine will have serious impact on the health and

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			learning ability of local school children.
Ecology	SIG20	512	We urge that this proposal to expand the open coal mine be rejected and that the Ben Bullen State Forest be included in the State's conservation reserve system as a matter of priority.
General	SIG21	513	This letter is written in support of the expansion of mining operations at the Cullen Valley and Invincible coal mines and the establishment of a new quarry and associated infrastructure. Siteplus is a company offering expertise in planning, engineering and landscape architecture. We have recently been working for Port Kembla Port Corporation (PKPC) on various components of the delivery of the Outer Harbour in Port Kembla. The Outer Harbour reclamation project was given approval via MP 08_0249 and when it is finalised will deliver approximately 42ha of port side land and seven (7) berths. The construction of the Outer Harbour infrastructure represents a significant investment and commitment to the development of the Illawarra Region and other areas having access to the port.
Economics	SIG21	514	It is our understanding that Coalpac has been pursuing exporting product through the Outer Harbour and that this product would be delivered by rail. This proposal represents significant opportunities for the Illawarra.
Economics	SIG21	515	Whilst it is recognised that the Cullen Valley and Invincible mine projects are required to comply with relevant legislative requirements, we believe that the project should also be viewed in the context of the broader NSW economy. This proposal has major economic benefits for both the local community at the mine's locality and also has a major economic benefit for the Illawarra region.
General	SIG21	516	We understand from media reports that there has been some community opposition to the development, however it would be our expectation that many of these concerns could be addressed through appropriate regulatory provisions.
General	SIG22	522	Following a conversation with Chris Wilson on 24th May (attached below) it was agreed that TEC would make a full submission by 22nd June. Please consider this our Preliminary Submission as requested by Chris. At this stage our full submission will consist of sections raising: 1. An objection to the basic proposal; 2. Comments on the planning process; 3. Issues with the EA including but not limited to the clearing of native vegetation, greenhouse gas emissions, risk assessment, highwall mining, cumulative impacts and social economic impacts; and

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			4. An independent consultant's assessment of the proposal's adherence to triple bottom line principles.
General	SIG22	523	The Total Environment Centre (TEC) commissioned the Institute for Sustainable Futures (ISF) to undertake an independent review of the Coalpac Environmental Assessment (CEA) for the Coalpac Consolidation Project (CCP). This report provides the findings of that review. The conclusions of the review were that significant issues are evident with the Coalpac Environmental Assessment. Key issues relate to: • The application of triple bottom line and ecological sustainable development principles; • The rationale for the consolidation project; • The setting of physical boundaries for the assessment of the benefits and cost, • specifically the accounting for GHG emissions over the full life-cycle of the coal mine; • The setting of time frames for the assessment of the benefits and costs, especially those that have the potential to be cumulative; and • The valuation of environmental and social costs in the economic assessment.
General	SIG22	524	The application of triple bottom line and ecological sustainable development principles The CEA does not use TBL as a method of assessing the Project's impact but it does make reference to ESD principles and makes claims that the Project is consistent with ESD principles. However, as is demonstrated throughout the report, the CEA treats the social, ecological and economic domains of ESD as items that can be traded off amongst each other to achieve a balance. It is stated in the CEA that the Economic and Social benefits outweigh the Social and Environmental costs (Bailey 2012, p XXIV). The arguments used to establish 'Project need' are heavily weighted on economic factors. The assessment is based on the economic benefits, and very little is based on social and environmental considerations. Rather than pursuing the development of all three domains of ESD, the CEA explains the economic development outcomes the Project would deliver and details the efforts that will be made to avoid and reduce the negative ecological and social impact of the Project. ESD is "not a factor to be balanced against other considerations; ESD is the balance between development and environmental imperatives" (Bates, 2002). Properly applied, ESD recognises that ecological integrity and environmental sustainability are fundamental to social and economic wellbeing, particularly when considering the needs of both present and future generations (NCC et al., 2012). It is therefore imperative that all decisions made under the planning system are underpinned by a genuine application of the concept and principles of ESD. The ultimate role of ESD is to ensure that the needs of future generations are able to be met. The Project poses significant threats to energy security by way of prolonging the use of a depleting, increasingly

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			expensive, and unsustainable energy source, and by delaying a transition to clean energy future for Australia.
General	SIG22	525	The rationale for the consolidation project The CEA's main point for justifying the project is that coal will be needed internationally and locally to provide "low cost, good quality, thermal coal for electricity" to meet "the inevitable increase in demand for electricity" (pp 261, Bailey 2012). In fact the total National Energy Market demand has been trending downwards since its peak in 2008, and specifically in NSW where it declined by 1.9 TWh (2.4%) from 2008 - 2011 (Nunn and Jander, 2012). It has been suggested that this decline is due to the penetration of PV systems and solar water heaters, which have displaced around 1 TWh per year over this period in NSW (ibid). In addition, the Australian Federal Government's "Clean Energy Plan is expected to cut pollution by a minimum of 5% below 2000 levels by 2020 and 80% by 2050, through a proposed transition to renewable and clean energy, energy efficiency and improved demand management (Commonwealth, 2012). This is likely to further decrease the demand for coal in future. While alternative and more expensive coal sources for MPPS were considered for the purpose of establishing 'Project need', alternative sources of renewable energy for NSW were not. No assessment has been made of when renewable energy is likely to become economically competitive, and thereby justifying, or not, further coal expansion to meet the need till then.
Greenhouse Gas	SIG22	526	The setting of physical boundaries for the assessment of the benefits and cost, specifically the accounting for GHG emissions over the full life-cycle of the coal mine The boundaries for assessment are not consistently applied. The benefits and costs are inconstantly accounted for in the CEA across differing spatial and time scales, as well as being selective when comparing the Project with the no scenario or the current operations. As an example, the CEA includes benefits flowing from the coal generated energy from MPPS, in the form of electricity being generated for consumption in NSW, but does not take responsibility for associated costs of MPPS, most importantly the associated GHG's. If Coalpac wish to keep an arm's length from costs associated with MPPS it is only fair that it does so with MPPS 'benefits' as well, including the 'indirect jobs' that it values in its net benefit calculations. There is no information on what the 'indirect jobs' are. If Coalpac wishes to include benefits associated with electricity production it must account for GHG associated with MPPS – this would significantly change the net benefit claim (see Section 5.1). The calculation of the cumulative effect of the GHG emissions should be the same for both the National and Global impact assessment. Section 4 provides an overview of several other inconsistencies in the drawing of spatial and physical boundaries.

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Economics	SIG22	527	The setting of time frames for the assessment of the benefits and costs, especially those that have the potential to be cumulative The time frames for measuring short, medium and long-term benefits need to be identified and used consistently. The Economic Assessment states that the Project would provide "ongoing stimulus to the Lithgow and Bathurst economies", but fails to provide detail on what is meant by "on-going". In contrast, the CEA acknowledges that the coal mining industry cannot provide a sustained stream of jobs and income to Lithgow, the region and NSW, i.e., no long-term or ongoing benefits. An inconsistency in the application of the timeframe for impacts is apparent in the failure to consider the cumulative effect of the GHG emissions, only the impact of GHG emissions for the period of the mine have been valued i.e. 21 years.
Economics / Ecology	SIG22	528	The valuation of environmental and social costs in the economic assessment As acknowledged in the Economic Assessment, costing environmental impacts is complex, "employment benefits and environmental and social costs are non-market values that can potentially be estimated using non-market valuation methods". As required by the D-G a "detailed assessment of the costs and benefits of the Project as a whole, and whether it would result in a net benefit for NSW" is needed. However, a comprehensive assessment of costs and benefits is not made in the CEA, many costs are not valued, and the environmental and social impacts that are valued are significantly underestimated. The Assessment lacks foresight, does not demonstrate an appreciation or fulfillment of the purpose of ESD and lacks robust and transparent costing methodologies. These are identified below and detailed in section 6. • Agricultural land use cost; • Valuing dust and noise impacts; • Opportunity costs of clearing public forest; • Opportunity cost of no mine scenario; and • Unclear boundaries for valuation. Particularly significant concerns include that the risks around irreversibility of damage to biodiversity values have not been 'internalized' into the economic assessment of the project. That is, the significant risk that the Offset Strategy will not be effective in supporting the biodiversity values that the Project will adversely impact on has not been incorporated into the environmental 'costs' of the Project. And that agricultural land has been valued at $1.4 M. This value clearly ignores the future land use potential, the opportunity cost of not being able to use it in the future – a critical issue in Australia today and will only grow in significance as agricultural land decreases and demand for food increases. This is a significant long-term impact of the project. Noting that agriculture is a sustainable industry and an essential industry in a world where food security is becoming

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			an increasingly significant issue.
Economics	SIG22	529	The Total Environment Centre (TEC) commissioned the Institute for Sustainable Futures (ISF) to undertake an independent review of the Coalpac Environmental Assessment (CEA) for the Coalpac Consolidation Project (CCP). This report provides the findings of that review. 1.1 Background Coalpac is an Australian owned coal mining company which owns the Cullen Valley and Invincible Colliery near Cullen Bullen, 25 km northwest of Lithgow in New South Wales (see figure 1). Each mine operates as an individual entity with separate planning approvals under the Environmental Planning and Assessment Act 1979. The CEA report states that the two existing mines, Cullen Valley and Invincible Colliery, will no longer be viable after 2012 when the "approved and accessible resources are extracted in 2012" (pg 264 of Hansen Bailey, 2011). Coalpac have therefore sought Project Approval under Part 3A of the Act to consolidate the operations and management of the two mines under a single, contemporary planning approval, to allow coal mining operations to continue for a further period of 21 years. They have therefore commissioned the preparation of an Environmental Assessment in accordance with the Act. The result of this consolidation will be the expansion of the open cut and high wall mining and clearing of 995 ha of vegetation to yield 83 million tonnes of coal i.e. up to 3.5 million tonnes of product coal per year for international and local use. In addition, 640 000 tons of sand will also be mined. To achieve this, improved road and rail infrastructure will be constructed to relieve the impact on community roads (Bailey, 2012). The Director General of the Department of Planning and Infrastructure (DoPI) set specific requirements for the assessment of the proposed consolidation project (DoPI, 2010), which amongst others required the CEA to include a risk assessment of the potential environmental impacts of the project, identifying the key issues for further assessment, including any cumulative impacts. In addition, supplementary requirements under the Environment Protection and Biodiversity Conservation Act and Regulations relating to the impact on critically listed endangered ecological community have been set (DoPI, 2011a). As stated in Appendix T of the CEA (Gillespie Economics, 2011), the main decision criterion for assessing the economic desirability of this project to society is its net benefit to Australia, i.e. the sum of the discounted benefits to society, less the sum of the discounted costs. Using a simple framework, the CEA concludes that the benefits to Australia of mining coal at this site, i.e. the net production and employment benefits, outweigh the economic costs to society of the negative social and environmental impacts. Further the CEA states that "it is reasonable to conclude that the Project is consistent with the objectives of

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			the Environmental Planning and Assessment Act 1979 and the principles of Ecological Sustainable Development" (Bailey, 2012). As such, the CEA suggests that "the consenting authority approve the Project".
General	SIG22	530	1.2 Scope of the Review The Institute for Sustainable Futures was tasked to review the Coalpac Environmental Assessment (Bailey, 2012) for its adherence to Triple Bottom Line principles. TBL has been suggested by the NSW Coal and Gas Strategy Scoping Paper (DoPI, 2011b), for proposals where mining may have the potential to adversely affect other high value existing land uses. The scope of the review relates specifically to: • Benefits to Lithgow region, NSW and globally • Greenhouse gas emissions • Biodiversity & clearing of public forest • External costs and benefits • Health impacts • Social value of employment • Transparency of calculations

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General	SIG22	531	2. Principles for Environmental Assessments In 2011, the NSW Government issued a Coal and Gas Strategy Scoping Paper (for which the public consultation was due for completion in May 2012), which suggests that "triple bottom line (TBL), cost benefits analysis" be carried out where mining may have the potential to adversely affect other high value existing land uses (DoPI, 2011b). However, no details are provided in the Scoping Paper to decide conflicts between competing land uses (Holding Redlich Lawyers, 2011). TBL is a concept that has become a framework for organisations to report, assess and improve their performance in relation to sustainability, and takes into account three criteria: economic, environmental and social (Potts, 2004). It also enables decisionmakers to quantify trade-offs between different facets of sustainability by expressing benefits or costs as units per dollar earned (Lenzen et al., 2006). While TBL has become an accounting and reporting tool to measure corporate responsibility, is was initially intended as a way of thinking to ensure that all aspects of sustainability were considered when assessing the performance of a business (Vanclay, 2004). The economic performance of a business is the easiest of the three criteria to assess and measure accurately, taking into account the inflow and outflow of resources from the business. The economic criteria can then be used to determine how much an organisation generates in monetary value. Environmental performance is concerned with a business' or activities' total impact on the natural environment and considers more than just obvious environmental issues (like pollution). It should also consider the total lifecycle impact of their products and services (such as waste, GHG emissions, contamination, impacts on biodiversity etc). The social impact of an organisation or activity is somewhat more difficult to define and measure. In general the impact on the employees and community should be considered to ensure that people are not being exploited or endangered by the operation of the business (DTI, 2012). The TBL is a phrase that gives the illusion that a workable compromise is always possible between the three competing interests, namely the environment, society and the economy. However, as Fraser (2005) argues, TBL is effectively being used to allow the economy to control the environment. TBL is an artificial construct that does not relate to the actual world that we live within, since both the economy and society are social constructs and can be asked to compromise if necessary, whereas the environment is a finite entity that can exist apart from us and when subject to compromise, a part of it is lost. A more realistic model of the relationship between the environment, society and the economy (than the conventional triple bottom line), according to Fraser (2005), is to say that the economy is a subset of the society that we live within, which is a subset of the environment and that the environment is bound by

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			physical limits (as shown in Figure 2).
General	SIG22	532	Such a model would envisage the economy as a reflection of the constraint imposed on our activity by the environment and the social aspirations we have, rather than accepting a society and environment that is the

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			result of the economy we strive for (Fraser, 2005). Following this approach, the UK government has viewed the goals of sustainability to be essentially twofold: environmental and social. Efforts to achieve a sustainable economy is not so much a goal in and of itself, but should rather be seen as a means to an end, i.e. one that enables society to live within its environmental limits and to build a strong, healthy and just society (DEFRA, 2005).
General	SIG22	533	Care is needed in the language surrounding TBL assessment methodologies so that stakeholders do not get the impression that such assessment methods are a recipe for sustainable outcomes. TBL is useful for the comparison between options, not as an assessment tool, since the "bottom lines" have not been set for environmental or social impacts. That is, the extent to which an activity can adversely affect the social and environmental states has not been measured against a benchmark. In most cases economic viability is used as the "bottom line", where mitigation costs are offset against economic gains, as has been done in this CEA, to the extent that the Project remains financially viable. TBL assessment methodologies are best used to determine which option, from a set of options, best meets a project's objectives; where these objectives incorporate financial, ecological and social elements. In some cases, these objectives should be clearly aligned with widely accepted objectives and principles for sustainable development. The challenge in developing a TBL report is therefore in choosing a set of indicators that, when put together, provides an adequate picture of the whole. This is so that the TBL assessment system can be used as a broad indicator of the options' relative progress towards the goal of sustainable development (Taylor and Fletcher, 2006). It is incorrect to assume that a well designed TBL assessment process will always identify a good option, since TBL is ideally used for comparative analysis between various company annual reports, or proposed initiatives. For example, a TBL assessment process may highlight one option as being the best of several very bad alternatives (Taylor and Fletcher, 2006). This is the case with the Consolidation Project where the comparison of costs and benefits have been limited to the alternative ways of operating the proposed mine, whilst non-coal sources of energy have not been considered or compared to mining coal at this site.
General	SIG22	534	The CEA states that a range of mining options "were assessed in consideration of the principles of Ecologically Sustainable Development" (ESD) (pp 34 Bailey, 2012). These principles include, for example: • the precautionary principle; • inter-generational equity; • conservation of biological diversity and ecological integrity; and • improved environmental valuation, pricing and incentive mechanisms. However, as discussed above, a situation where TBL is used to trade off pros and cons is not consistent with

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			ESD principles. ESD is "not a factor to be balanced against other considerations; ESD is the balance between development and environmental imperatives" (Bates, 2002). Properly applied, ESD recognises that ecological integrity and environmental sustainability are fundamental to social and economic wellbeing, particularly when considering the needs of both present and future generations (NCC et al., 2012). It is therefore imperative that all decisions made under the planning system are underpinned by the concept and principles of ESD. The notion of inter-generational equity has not been adequately addressed in the CEA, since the issue of GHG emissions has not been assessed for the full life cycle of the coal or the compound effect in contributing to global warming. Contributing to global warming does not meet the principles of ESD and will be an issue for future generations to contend with. It is stated that the objective of the Consolidation Project is to "meet the legal, social, political and environmental expectations of the community and achieve a "social licence to mine", which the CEA claims has been achieved (pp 265 Bailey, 2012). It is stated that the Economic and Social benefits outweigh the Social and Environmental costs (Bailey 2012, p XXIV). It is not clear from the report as to how this "social license" was obtained. All the arguments for the mine are based on economic factors. The assessment is based on the economic benefits, and very little is based on the social and environmental considerations, which cannot be monetized. Whilst employment figures have been cited, attention should be drawn to potential double counting: employment cannot be counted as an economic benefit as well as a social benefit. Employment and knock-on spending are economic considerations. Whilst these considerations do contribute to social wellbeing, factors contributing to social wellbeing extend far beyond economic considerations, e.g. safety, avoiding personal impacts such as noise and dust, enhancement of the social fabric through minimising transit labour, creating public spaces for social gatherings, etc. Using the TBL approach as a 'thinking tool', the Environmental Assessment of the Coalpac Consolidation Project has been reviewed against its assessment of primarily environmental and social considerations, and secondly the economic costs and benefits.

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General	SIG22	535	3. Rationale for the Project According to the Environmental Assessment, there is a sense of urgency because the two existing mines, Cullen Valley and Invincible Colliery, will no longer be viable after 2012 when the "approved and accessible resources are extracted in 2012" (pp 264, Bailey, 2012). However, no details as to why there is a loss viability and operations will cease is provided in the CEA. Further, it states on pages 25 and 27 of the CEA, that Development Consent for Cullen Valley and Project Approval for Invincible Colliery have been granted until 2015 and 2016 respectively (Bailey, 2012). This creates confusion as to why the mines need to be consolidated at this stage and creates the suspicion that it is somewhat confected. The CEA further justifies the project by stating that coal will be needed internationally and locally to provide "low cost, good quality, thermal coal for electricity" to meet "the inevitable increase in demand for electricity" (pp 261, Bailey 2012). As to the national context, in 2007 the NSW Government established an Inquiry into Electricity Supply, chaired by Professor Anthony Owen (the "Owen Inquiry"). This Inquiry was asked in particular to review the need and timing for increased baseload supply. The Inquiry concluded that there was a potential shortfall in baseload supply from 2013/14 (Owen, 2007). Since the Inquiry, the projections for both electricity consumption and electricity generation have been modified significantly (Transgrid, 2008), such that the findings of the Inquiry warrant substantial reconsideration. The projected shortfall now only appears in 2017, and by 2020 reaches only 3,800 GWh1. These changes are essentially because additional renewable generation has been included in the official projection to take account of the new national Renewable Energy Target (RET) for 20% renewable electricity by 2020, and because the projection for energy consumption is lower due to lower projected economic growth. However, even the revised energy shortfall disappears if moderate energy efficiency measures are put in place. Rather than an energy shortfall, there is the possibility of a surplus of electricity generation potential of more than 12,000 GWh by 2019/20 (Rutovitz and Dunstan, 2009). Attention should also be drawn to fact that the total National Energy Market demand has been trending downwards since its peak in 2008, and specifically in NSW where it declined by 1.9 TWh (2.4%) from 2008 - 2011 (Nunn and Jander, 2012). This decline cannot be attributed to changes in the weather, but rather it has been suggested that this decline is due to the penetration of PV systems and solar water heaters, which have displaced around 1 TWh per year over this period in NSW (ibid). In addition, the Australian Federal Government's "Clean Energy Plan is expected to cut pollution by a minimum of 5% below 2000 levels by 2020 and 80% by 2050, through a proposed transition to renewable and clean energy, energy efficiency and improved demand management (Commonwealth, 2012). This is likely to further decrease the demand for

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			coal in future. On top of this, the market share of renewable energy is likely to increase over the 21 year life of the Project. This will be the result of a number of factors.

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General	SIG22	536	Non renewable sources of energy, such as coal and oil, will continue to deplete in quantity and quality and consequently become more difficult to access (as deposits become more spread out and deep over time) and thus more energy intensive and expensive to extract (Mason et al., 2011). The market share of renewable energy will further increase as a result of economies of scale and the increasingly competitive prices of such energy sources (particularly as subsidies to the coal industry are removed or otherwise distributed equally amongst renewable energy sources), The consequence of all these factors is the decreasing demand for non renewable sources of energy over time. Further, the recent Electricity Statement of Opportunities (AEMO, 2012) states that both annual energy and the forecast for peak demand have decreased since their August 2011 publication. Annual energy is down 5% (10TWh) from the previous forecast for the five eastern states2. The reason for this occurrence in the eastern and south-eastern region is given as the changing economic landscape, a more energy aware public, the impact of rooftop photovoltaic installations and the milder weather. Specifically the decrease of 86 MW in NSW has been attributed to the closure of a potline at the Kurri Kurri Aluminum smelter. In addition, off grid technologies such as small co- and trigeneration systems that reduce demand on the grid may in future grow to represent a significant portion of supply (Nunn and Jander, 2012). The CEA also states that the provision of cheaper locally produced coal to the Mount Piper Power Station (MPPS) will increase from 40% to 70%, and argues that therefore cheaper electricity will be provided to customers (Gillespie Economics, 2011). The CEA does not give an indication of the magnitude of the potential reduction in electricity price from MPPS, that is, the percentage reduction in electricity price to the customer is not provided in the report. It should be noted that generation costs are not the key drivers of electricity price rises; infrastructure upgrades are (Langham et al., 2010; Ison and Rutovitz, 2012). In addition, no evidence was provided in the reports of guarantees in place to avoid the coal from the Project being exported for higher returns or that coal from other sources will not be provided to MPPS instead, thereby negating the provision of 'cheaper' electricity. While alternative and more expensive coal sources for MPPS were considered for the purpose of establishing 'Project need', alternative sources of renewable energy for NSW were not. No assessment has been made of when renewable energy is likely to become economically competitive, and thereby justifying, or not, further coal expansion to meet the need till then. The ultimate role of ESD is to ensure that the needs of future generations are able to be met. The Project poses significant threats to both energy security (by way of prolonging the use of a depleting, increasingly unreliable, increasingly expensive, and unsustainable energy source, and delaying a transition to Australia's clean energy future. The CEA acknowledges "there is great uncertainty around both the availability and price

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			of coal from alternative sources for MPPS". While this statement is made to justify the Project (due to the impact on MPPS) it highlights the lack of certainty about its predictions.
Economics	SIG22	537	4 . Benefits and costs: region, state and global It is a requirement of the Director General that the project results is a "net benefit to NSW" (DoPI, 2010). However, the scale of the benefit to NSW is disproportionately lower than the benefits to Coalpac. The Economic Assessment provided in Appendix T (Gillespie Economics, 2011) identifies benefits to NSW through royalties and that these total at least $144M (present value) over the life of the project. Considering that the Project is estimated to have a total net benefit of $1,519M (excluding the benefits of employment and the costs of environmental impacts), the benefit to NSW equates to 9%. The Commonwealth stands to gain at $169M (present value) through taxes, which equates to 11%. This leaves 80% of the total net benefit going to the shareholders of Coalpac (based on net present value). Further, the benefits and costs are inconstantly accounted for in the CEA across differing spatial and time scales, as well as being selective when comparing the Project with the no scenario or the current operations. The boundaries for assessment are not consistently applied, as discussed below.
Economics	SIG22	538	4.1 Spatial Scales The Economic Assessment provided in Appendix T (Gillespie Economics, 2011), suggests that the distribution of economic benefits will be distributed across four spheres. As discussed above, viz: • Coalpac and its shareholders • The Lithgow community through the Voluntary Planning Agreement • NSW Government through royalties, and the NSW community through reduced electricity prices • The Commonwealth of Australia through taxes. However, the Coalpac Environmental Assessment (CEA) is not consistent with the setting of the physical boundary when undertaking the analysis of the benefits and impacts of the Project. It proposes for example, that the benefits for the Project will be realised at a National level. That is, they have set the project boundary at the Australia wide level, and therefore the project's economic benefits to be realised at the National level. However, they do not consider the negative impacts, such as GHG emissions within this same boundary (See section 5.1). It is not clear which community has given the "social license to mine", as is claimed by the CEA (pp 265 Bailey, 2012). Three of these spheres stand to gain economically, while only one has to deal with the direct impact of the mine, viz. the Lithgow community. The direct negative impacts will be experienced at a local level, for example through noise, dust, and clearing of native vegetation. The cost for attempting to mitigate these will

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			be borne by Coalpac and internalized as capital and operational costs through land acquisitions and offset packages. At a national and global level, GHG emissions will be increased. It is argued that these too will be internalized through the carbon tax, which comes into effect in July 2012 (Gillespie Economics, 2011). The CEA does not take into consideration the total lifecycle impact of their products and services, as suggested in Section 2 of this review, and does not include the GHG emissions of the electricity production. It considers the GHG emissions within the boundary of the mining activities only in the net benefit calculation. This is discussed in Section 5.1. A cost benefit analysis should be considered at each community level to determine the net impact for society and the environment, consistent with TBL and ESD principles. This is discussed further in the following sections.
Economics	SIG22	539	<u>Lithgow Region:</u> For the Lithgow region, the economic benefits of the Project are described in terms of 30 new jobs and indirect economic stimulation, together with the fact that the loss of jobs and local economic stimulus will be delayed by 21 years, when the mine closes. However, these benefits are not sustainable, since mining is not a sustainable activity. The jobs and economic stimulation will not be sustained past the 21 years of operation. The proposed coal mine does not build a local economy that can sustain itself after the mine closure. And arguably would be to its detriment, as a direct impact of the Project would be to remove both existing and potential sustainable future land use opportunities, including agricultural and recreational. The Project also proposes to contribute to the local region through the “establishment of a Voluntary Planning Agreement in consultation with Lithgow City Council to fund local community projects”. However, the quantum of this proposed contribution is not stated and therefore the benefit to the region through this initiative cannot be assessed. An ancillary benefit to the local community through the improved mining infrastructure will be reduced impact on the local roads by heavy trucks. However, as is explained in section 5.3 claims around truck movement and associated impacts are based on a comparison to what occurs under existing Coalpac approvals. This comparison is misleading. Truck movement should be compared to a no mine scenario. The stated environmental benefits in the CEA are limited to the offsets, which can at best be described as maintaining the status quo, however, even that is contested (see Section 5.2). The Cullen Valley mine currently does not have any obligation or plan with regard to rehabilitation after its closure. The Project would ensure that both mines when consolidated were rehabilitated under current legislation (Bailey, 2012 p44).

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			The disruption to families and the community through the acquisition of affected land due to noise and dust has not been assessed or accounted for in any way in the CEA.
Economics	SIG22	540	State and Federal: When describing the benefits for NSW and Australia, these are described in economic terms, or more specifically in raised revenue through royalties and taxes respectively. The direct environmental or social impacts at the local level are not borne by the State or Federal levels. Only the production of GHG is considered, and only for the mining operation and not for the life cycle of the product. The CEA also includes benefits flowing from the coal generated energy from MPPS, in the form of electricity being generated for consumption in NSW, but does not take responsibility for associated costs of MPPS, most importantly the associated GHG's. If Coalpac wish to keep an arm's length from costs associated with MPPS it is only fair that it does so with MPPS 'benefits' as well, including the 'indirect jobs' that it values in its net benefit calculations. There is no information on what the 'indirect jobs' are. If Coalpac wishes to include benefits associated with electricity production it must account for GHG associated with MPPS – this would significantly change the net benefit claim (see Section 5.1). The calculation of the cumulative effect of the GHG emissions should be the same for both the National and Global impact assessment. On top of this, is the cumulative impact that mining has on the national economy, which is to drive the value of the Australian dollar up, as international entities buy the dollar for the purpose of buying Australia's minerals. The flow on effect of which is to make it more and more difficult for all other industries, especially manufacturing, in Australia to survive, as it becomes cheaper to import goods than to support local business (Mason et al., 2011; Grudnoff, 2012).
Economics	SIG22	541	Globally: At a global level it is difficult to measure the economic benefits, since most the coal will be used locally and Coalpac is Australian owned (although no shareholder details have been provided to substantiate this claim, which is a significant omission considering a very large and significant proportion of the claimed economic benefit could be flowing offshore). However, the cumulative effect of GHG emissions is likely to make the global proposition less attractive – if the full life cycle GHG emissions were accounted for, regardless of where the energy is produced (see Section 5.1).
Economics	SIG22	542	4.2 Time Scales There is an acknowledgement in the CEA that coal reserves will deplete but this is not taken into account in

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			the 'Economic Assessment'. This acknowledgment is an admission that the coal industry cannot provide a sustained stream of jobs and income to Lithgow, the region and NSW, i.e., no long-term benefit (assuming this is benefit beyond the projects life time). This raises the issue that time frames of measuring short, medium and long-term benefit need to be identified and used consistently. The economic assessment states that the Project would provide "ongoing stimulus to the Lithgow and Bathurst economies" but fails to provide detail on what is meant by "ongoing". Considering the length of the project and the finite amount of coal in the region this could not extend longer than 21years. There is no assessment of impact on economic well being of the local and regional community after this short-time frame. Best practice would involve a transition plan that details its commitment to ensuring genuine ongoing benefits and sustainability of the community. Some form of acknowledgement of this is made when stated "it is not possible to foresee the likely circumstances within which cessation of the Project would occur" for example, "the significance of the impacts of the Project cessation would depend on…if cessation of the mine takes place in a declining economy…or in a growing, diverse economy". Agricultural land has been valued at $1.4 M. This value clearly ignores the future land use potential, the opportunity cost of not being able to use it in the future – a critical issue in Australia today and will only grow in significance as agricultural land decreases and demand for food increases. This is a significant long-term impact of the project. Noting that agriculture is a sustainable industry and an essential industry in a world where food security is becoming an increasingly significant issue.
Economics	SIG22	543	4.3 Comparison Scenarios The consolidation project needs to be viewed either as a new project, or an expansion project. It can't be both for the purposes of the CEA. The Economic Assessment uses the income earned by the 120 employees to determine the annual economic impact of the Project (Gillespie Economics, 2011 p21). However, jobs are said to increase from 90 to 120 FTEs i.e. 30 additional jobs, which is inconsistent with economic impact calculation. If we are to believe that the coal mine will close at the end of 2012, then in comparison with the no mine scenario, jobs will indeed be 120 FTE, or if the Project is an expansion of the existing mining operation, then the economic impact should be based on the additional jobs. Along a similar vein, one of the justifications for the mine is that "the Project would address some issues that have in the past caused concern in the community by substantially removing coal haulage from the road system…thus reducing road use, air quality and noise issues" (Bailey, 2012, pxxi). This methodology is

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			misleading, since the Project should be compared with a no mine scenario, not the current mining operations, which we are told will in any event cease at the end of 2012. For example, the assessment of truck movement and associated impacts should be compared to the no mine scenario and not to what occurs under existing Coalpac approvals.
Greenhouse Gas	SIG22	544	5 Impacts due to the Project 5.1 Consideration of the Greenhouse Gas Emissions There are two main issues with the assessment of the Project's GHG impact: 1. The air quality impact assessment does not accurately reflect the true adverse impacts of the Project in relation to its GHG emissions. 2. The economic assessment does not identify clear boundaries around the Project for the purposes of identifying the appropriate emissions scopes to include in the assessment. The DG requirements that relate to these issues include: • "Qualitative assessment of the potential scope 1, 2 and 3 GHG emissions of the Project"; and • "Qualitative assessment of the potential impacts of these emissions on the environment". Both issues are matters of boundaries. The question of where the boundary should be drawn in consideration of the impact of coal mining has both a legal and an ethical dimension. The legal question is directly addressed in a number of recent Australian cases (McGrath, 2008)4. An overview of key cases is provided in this section.
Greenhouse Gas	SIG22	545	In relation to the first issue: The Air Quality Assessment (PAEHolmes, 2011) fails to provide the level of detail required for the Minister to make an informed decision on the GHG impact of the Project. It contains irrelevant, inconsistent and incorrect information, which has potential to be misleading and does not provide an adequate assessment of cumulative impacts of the Projects GHG's. Some Scope 1 emissions are included while others are left out, for example emissions from the shipping of product coal are not included. The justification for this omission is unreasonable, "emissions from shipping of product coal are not included due to the difficulties in emission estimates, including uncertainty in export markets and destination of product in the future…" (PAEHolmes, 2011). It also does not include Scope 1 emissions from employee travel. Further, the air quality impact assessment incorrectly classifies the scope type of the emission sources, for example, emissions from the transport of coal is identified as a Scope 3 emission, when in fact, it is a Scope

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			1 emission. The correct identification of the scope of this emission source was identified earlier in the GHG assessment, "scope one emissions include…transportation of materials, products…" The assessment of Scope 3 emissions, in particular from the burning of the coal product, is not comprehensive. It does not include a satisfactory "detailed assessment" of the cumulative impact of the Project's GHG's. Rather it estimates the individual impact of the Project's GHG emissions and calculates this as a percentage of total global GHG emissions to argue that "the emissions estimated for this Project will not individually have any significant impact on global warming" (PAEHolmes, 2011, at s12.5). The Court in the case of Gray determined that "the fact there are many contributors globally [to climate change] does not mean the contribution from a single large source...should be ignored in the environmental assessment process"5. Further, the Court determined that viewing impacts in a piecemeal fashion undermines the planning process (Bach and Brown, 2009).
Economics	SIG22	546	In relation to the second issue: Most important is the way in which the GHG impact of the Projects has been accounted for in the economic assessment. The economic assessment factors in a few impacts that the Project would have on GHG concentrations, the effect of which grossly underestimates the adverse impacts of the Project included in the calculations. It includes the direct emissions (Scope 1) in its calculations and identifies these as being emissions from mining operations and transportation of coal and sand, although shipping transportation is not included. The justification for the exclusion of emissions associated with the burning of the product coal is that the Project for which approval is being sought is the mining of coal as opposed to the burning of coal and that the emissions from the burning of coal is not subject to the control or influence of Coalpac. In addition this narrow approach is justified in the Air Quality Impact Assessment on the basis that the NGER Act does not require reporting of Scope 3 emissions and that to include them would lead to double counting. However, the purpose of an CEA is not to create an emissions database and track Australia's GHG budget. The purpose is to enable an informed evaluation of the impact of the proposed project. It is irrelevant and misleading to discuss the NGER Act requirements and the danger of double counting. The case Minister for the Environment and Heritage v Queensland Conservation Council Inc (2004)6 outlined that any EIS and associated planning decision should take into account adverse environmental impacts, including downstream or 'indirect' impacts. Gray v Minister for Planning [2006]7 addresses the relationship between coal mining activities and the combustion of coal. It provides legal precedent for the inclusion of emissions from the combustion and transport of coal. In her ruling Justice Pain cited the need to consider Ecologically Sustainable Development (ESD) principles such as intergenerational equity and the precautionary principles when assessing a similar coal mine. Specifically, the precautionary principle required

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			that the mine's cumulative effects, including downstream emissions, be assessed8 and that the potential climate impacts should be assessed despite any scientific uncertainty about their extent9. There is thus legal precedent for inclusion of the product impacts as well as the production impacts. The implication is that both the planning consent authorities and the mine proponents should include the emissions from associated national and international transport in the air quality assessment and include these emissions and the emissions from the combustion of coal in the economic assessment, which determines the net benefit that the Project offers to society by subtracting "any environmental impacts" from the benefits relating to net production and employment. As it stands the economic assessment grossly underestimates the adverse ecological impacts of the Project.
Greenhouse Gas / Economics	SIG22	547	From an ethical perspective, consideration of the impact of coal mining in the Consolidation Project in isolation from the direct impact of its product is highly questionable. This argument would have the producer (the proponent) only supplying demand that would otherwise be met by alternative suppliers. Recasting this argument with a number of other products which have damaging consequences in use rather than in their production is illustrative, for example, weapons manufacture or tobacco. Most ethical investment funds are specifically committed to disinvesting from their production, because of the effects of the products (EIRIS, 2008). The potential effects from climate change are certainly as damaging10. For example the World Health Organisation estimates that already 150,000 deaths are occurring annually due to climate change (WHO, 2011), while Myers (2005) estimates that by 2050 there will be 250 million displaced people due to climate change. Long-term threats are far more damaging, with threats of irreversible ecological damage. Using a carbon budgeting approach, as advocated by the Australian Government's Climate Commission (2011), indicates that the inclusion of all greenhouse gas emissions from proposed coal mines is also an intergenerational equity issue. If the Earth is to have a chance of staying within 2°C of warming, there is a finite carbon budget over the next forty years. This implies that the total emissions of the proposed Consolidate Project coal mine should be assessed in the light of this budget, and that local emissions cannot be considered in isolation from the end use emissions of the product. The approach taken in the Economic Assessment (Gillespie Economics, 2011) ignores the significant impact the Project would have on prolonging the use of coal as a major energy source in Australia, and consequently its impact on delaying a transition to a clean energy future. Court's have found that on application of the intergenerational equity principle through the EPBC Act Government's have been found responsible to assess indirect impacts of coal industry expansion on the basis of their significant impact on GHG concentrations and their contribution to climate change (Bach and Brown, 2009). In Taralga Landscape Gaurdians Inc v Minister for Planning and RES Southern Cross Pty Ltd11 Preston J explained that

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			intergeneration equity should be a key consideration of planning decisions, "the principles of sustainable development are central to any decision making process concerning the development of new energy resources. One of the key principles underlying the notion of sustainable development is the concept of intergenerational equity"12. GHG emissions from the Project, and their effect on global warming, are such an instance where the intergenerational equity has not been maintained.
Economics	SIG22	548	Further matters that have not been adequately addressed to enable the Minister to appropriately assess the GHG impacts of the Project include: • It is not clear why the Australian damage costs ($0.2Million) are lower than the global damage costs for GHG ($15 Million) (Gillespie Economics, 2011). • The Carbon Tax should be an expense that is included in the net positive benefit calculations when determining its economic viability. The economic assessment states that when the Carbon Tax is implemented then global GHG costs would be internalized into Coalpac's operating costs. This is an important piece of information that could be estimated now, particularly as the Carbon price comes into effect in July this year and its cost is known. This expense is definitely an important factor to be costed to enable an informed decision. There is no reasonable justification not to include it. From the Environmental Risk Assessment (Hansen Bailey, 2011) report there is no way to determine whether an energy or GHG estimate has been done for the construction and/or operational phases. With no such measurements, the impact and scale of the hazard, and how to manage it is not possible.
Ecology	SIG22	549	5.2 Biodiversity and Clearing of Public Forest The Commonwealth Department of the Environment, Water, Heritage and the Arts determined that the proposed development is a "controlled action" under the Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act). The Director- General's supplementary requirements were issued in response to this determination (DoPI, 2011a). The Director-General's requirements and supplementary requirements identify the key issues to be addressed in the Environment Assessment to enable an appropriate level of assessment of the projects impacts on iodiversity, in particular on EPBC Act listed critically endangered and threatened species. The Ecological Impact Assessment (EIA) includes a detailed assessment of many direct and indirect impacts of the project on biodiversity values. However, it appears that some of the Director-General requirements are not sufficiently addressed. These are: • Detailed description of the projects impact on the breeding cycles of EPBC Act • listed species; • Detailed description of the projects impact on availability or quality of habitat for • EPBC Act listed species; and

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			• Statement of whether relevant impacts are likely to be unknown, unpredictable or irreversible.
Ecology	SIG22	550	*Irreversibility Impacts* Risks concerning the irreversibility of impacts are identified, "although extensive impacts will occur on a local scale, not all of these are irreversible". However no detail is included on what specific relevant impacts may be irreversible. The ecological impact assessment provides nothing more than general statements as to irreversible impacts, "if appropriate effort is put into the subsequent rehabilitation of building and infrastructure areas, it is likely to be possible to recreate the communities that previously existed in these areas" (Cumberland Ecology, 2012, s4.11). Not only does this demonstrate a lack of necessary detail, as required by the DG but it also highlights that there is a real risk that the damage caused by the Project to the vegetation, habitats and communities they support will be irreversible. Also supporting the case that there are significant risks concerning Coalpac's capacity to recreate the communities that fulfill rehabilitation intentions is the following statement in the EIS, "rehabilitation and regeneration of forest and woodland is possible on degraded areas and has potential to reduce the impacts of habitat removal on threatened species" (Cumberland Ecology, 2012). 'Possible' and 'potential' are words that encompass a significant level of risk and communicate that the Offset Strategy may not effectively "counterbalance", as it is put in the economic assessment, the significant known and likely damage that the Project would cause to biodiversity values including the removal of significant areas of habitat of EPBC Act listed endangered and threatened species. The CEA also states that the impacts will dissipate when mining stops. This is both incorrect and misleading. There is significant risk that impacts on biodiversity will be irreversible. Impacts on soil conditions are likely to be irreversible, affecting both flora and fauna that rely on healthy soils and the range of potential uses of the land in the future; agricultural purposes being of particular concern.
Economics	SIG22	551	*Failure to internalize environmental costs* A particularly significant concern is that the risks around irreversibility of damage to biodiversity values have not been 'internalized' into the economic assessment of the project. That is, the significant risk that the Offset Strategy will not be effective in supporting the biodiversity values that the Project will adversely impact on has not been incorporated into the environmental 'costs' of the Project. The limited scope of environmental impacts that are internalized in the economic assessment can also be demonstrated through the decision to exclude future contributions that Coalpac would make to the OEH for the future management of the offsets. This is stated in the CEA but not justified, "the cost of implementation of these offsets is $23 Million over the life of the Project, not including any future contributions to OEH for their future management" (Bailey, 2012, p.199). To not include these costs may have a significant impact on

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			the economic net benefit calculation. The costs of cleared vegetation and lost habitat of threatened species are not included in economic assessment as a cost as it is claimed that these impacts will be counterbalanced by the Offset Strategy. The cost of the Offset Strategy however does not reflect the cost of causing serious damage to vulnerable ecosystems.
Ecology	SIG22	552	*"Maintain or improve biodiversity values'* As outlined in the Director-General requirements (DoPI, 2010), the Offsets Strategy must be comprehensive and ensure that the project maintains or improves the biodiversity values of the region. 'Ensure' indicates certainty and 'maintain or improve' requires that biodiversity values are kept at least constant. The language used throughout the EIS, when discussing the mitigation and offset measures to compensate for the adverse impacts on biodiversity values, is focused on reducing the negative impact, i.e minimizing damage, not around maintaining or improving biodiversity values. On the other hand s8.15.4 of the CEA states that the Offset Strategy aims to improve biodiversity values. Despite the uncertainty identified in the EIS around the potential impact that the Offset Strategy may have, the economic assessment takes the Offset Strategy's 'aim' as being a certainty to be achieved. Further the EIS identifies that the Offset Strategy will restore and conserve land with the potential to regenerate. This adds to the case that the certainty expressed in the economic assessment is not appropriate and has led to a significant underestimation of real and significant risks for negative impacts that the Project poses to the environment. There is concern that the Offset Strategy does not enable an informed decision to be made on whether the Strategy will in fact maintain or improve the biodiversity values of the region. The approach of "avoiding, mitigating and compensating is not consistent with a meaningful TBL (one that upholds ESD principles). The approach of minimizing impact not only indicates damage is still occurring but it is essentially about pursuing one part of ESD (economic) at the expense of the others (environmental and social). A TBL assessment that is consistent with State and Commonwealth law is one that assesses it on the basis that it upholds ESD, i.e. the Project must pursue, or at least achieve, development in all three areas. The language of mitigation and compensation makes very clear the pay-off nature of the Project. With foresight it is clear that the cumulative impacts of projects that take the approach of pay-offs has a high risk of leading to the development of some ESD domains at the expense of the others. This Project is undoubtedly pursuing short-term economic benefit at the expense of medium to long-term ecological and social development. In the economic assessment it states "the Project is considered to improve the net benefits to society through a substantial increase in net production benefits while minimizing environmental and social costs through Project design and extensive mitigation measures." (Gillespie Economics, 2011, p3).

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Economics / Ecology	SIG22	553	Claims in the Economic Assessment that the Offset Strategy would lead to "net benefits" for biodiversity values are not sufficiently justified. Information on how this evaluation outcome has been arrived at lacks sufficient detail to enable the Minister, or appropriate other bodies, to make an informed judgment on this claim. The claim of delivering a net positive benefit to the environment is based on the goals and aims of the Offset Strategy - however these are questionable. The CEA identifies that the Biodiversity Offset Strategy has been designed to provide a net benefit to flora and fauna in the locality and the wider region by: 1. Adding to the vegetation that is already permanently protected, so that there is a substantial increase in conserved woodland and open forest in the long-term; 2. Linking large blocks of forest and woodland to Project rehabilitation areas and to substantial blocks of habitat in the locality, including the Wollemi National Park, Ben Bullen State Forest and Sunny Corner State Forest and riparian forests around the Turon River; 3. Providing for the conservation management of vegetation and threatened species for the life of the Project; and 4. Considering the Ben Bullen State Forest and the objectives of the Garden of Stone Stage 2 (GoS2) proposal. Project offsets were therefore assessed in terms of the benefit that these properties may provide in the long term in relation to promoting connectivity of existing reserves to surrounding habitat and in the development of new conservation areas. Interactions between the Projects offset properties and the rehabilitation of land within the Project Disturbance Boundary, Ben Bullen State Forest and GoS2 proposal area were also considered.
Ecology	SIG22	554	Addressing the first point above, no evidence is provided to suggest that the areas identified as potential Offset Sites would otherwise be cleared. If a similar approach is taken to carbon offsets, the 'additionality test' should be applied which would require the proponent to prove that it is reasonably foreseeable that the land, if not purchased and protected, would otherwise be destroyed.
Ecology	SIG22	555	As to the second point it is not clear whether the linkage would not otherwise exist but for this Project. More detail is required around the claim that there is a potential to increase connectivity between areas of remnant vegetation and forested areas within the medium to long-term. What degree of potential? What are the risks if connectivity doesn't increase, or in fact decrease? What management strategies will be in place should this risk eventuate? Additionally, as explained earlier, there is a lack of certainty regarding the effectiveness of the rehabilitation efforts.
Ecology	SIG22	556	As to the third point, there is significant uncertainty around the capacity of Coalpac to conserve biodiversity values, (as explained previously), for fauna in particular. It is relevant to question here whether Coalpac has taken into account the funding that it would provide OEH for managing the conservation of vegetation and threatened species. If this is the case, it is not appropriate to include this as a benefit but not account for the costs of this management as a cost in the economic assessment.

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Ecology	SIG22	557	In response to the fourth point, apart from their being a lack of certainty around securing two major land areas for the Offset Strategy, is the concern that Coalpac have factored in the potential positive impacts of the offset areas being connected to the Project but do not factor in the negative impacts of the project operations on the offset areas, i.e, dust and noise. This is a significant issue that has not been factored into the economic assessment and which poses significant risk that the Offset Strategy will not meet its aims. As acknowledged in the CEA (Cumberland Ecology, 2012, s4.3.1), "specific effects will depend on their [fauna species] mobility and willingness to move through the modified landscape".
Ecology	SIG22	558	*Cumulative impacts* The CEA lacks sufficient detail of the cumulative impacts of the project of removing and destroying habitats of the threatened and endangered species that the project identifies will be significantly affected by its operation. To enable an informed decision to be made on considering this key issue further detail is required on the potential cumulative impacts. The EIA provides some information on the cumulative impacts (see s4.9.1 of the EIA). It states that based on "current information publicly available the surrounding projects are not seeking approval to clear large areas of vegetation". Further the EIA states that "the cumulative impacts of mining and other industrial development on the GOS2 are not expected to increase dramatically" (Cumberland Ecology, 2012, s4.4). No investigation or estimation as to the likelihood of further clearing and damage to the habitats of threatened and endangered species is made. Whilst the risk of cumulative impacts is acknowledged the sentence following suggests it is not considered a significant risk, "all of the mines in the region propose to rehabilitate mined areas and return them to their original forest and woodland state". The generic, limited and over-confident information provided is not enough to make an informed decision as to this key issue.
Ecology	SIG22	559	*The Offset Strategy and Biodiversity Offset Management Plan* The significance of having a robust Offset Strategy is made very clear in the summary of impacts as detailed in 4.12 of the EIA, "the major impact of the Project will be from the clearance of broad areas of forest and woodland, directly removing biodiverse habitats for many species and important habitat resources…without substantial mitigation and compensation measures, the Project would add significantly to ecological impacts within the locality….substantial ameliorative measures, including avoidance, mitigation and compensation, are an integral part of the Project" (Cumberland Ecology, 2012). There is reasonable risk concerning the capacity of Coalpac to deliver on the Offset Strategy, which, as is made clear in the EIA, is integral to this proposed Project. Not only is there a risk that 70% of the land proposed for the Offset Strategy does not become available but

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			there is no Biodiversity Offset Management Plan (BOMP) for the Minister to review. Two of the four sites proposed for the Offsets Strategy are not currently owned by Coalpac. These are the Hillcroft Offset and the Hyrock Hartly Offset, which comprise 989 ha and 235 ha respectively. This equates to 70% of the total land area proposed for the Offsets Strategy. The CEA acknowledges that Coalpac does not currently own these significant areas, - "Coalpac is in negotiations with the landowner to acquire this property upon grant of the Project Approval" (Bailey, 2012, p.199). Not only does the CEA not identify the risk that the sites may not be available for purchase, but no alternative strategy is proposed in the event that the risk eventuates. Further, s8.15.4 of the CEA states that the rehabilitation efforts will provide habitat for threatened species, in accordance with the BOMP to be developed. As the BOMP has not yet been developed no assessment of this is possible by the Minister or stakeholders. A Strategy is not enough to ensure mitigation and compensation of the significant damage that would be caused by the Project. To ensure that appropriate remedial action will be taken, adequate resources must be allocated to managing, monitoring and evaluation of the Strategy, together with resources required in the event that the Strategy fails to deliver on its objectives. The high-level detail of what the BOMP will include does not enable informed decision making. Given the seriousness of the impact on biodiversity, recognized by all parties, greater detail and guarantees of its implication and particular content is important.
Social	SIG22	560	5.3 Health and Safety A significant concern regarding health impacts is that they have not been sufficiently factored in as 'social costs' of the Project for the purposes of determining the net benefit of the Project to the community. The economic assessment identifies dust, noise, GHG and vegetation clearance as the most significant 'social costs'. This section provides a brief review of the impacts of dust and noise.
Air Quality / Noise	SIG22	561	*Noise and Dust* The CEA acknowledges that two private residencies and two other properties are expected to experience a significant noise impact. There is potential that an additional eighteen private residencies and eight other properties will receive moderate noise impacts. The proposed minimization and mitigation strategies have been designed to ensure that impacts do not exceed these predictions. Twenty-two properties are predicted to experience dust impacts that exceed the maximum daily allowable average on more than 25% of their land and nine are predicted to experience the allowable cumulative annual average. These costs have not been transparently valued, as is discussed in Section 6. The impact of dust and noise on Coalpac employees and on the nearby school have not been discussed or evaluated at all in the economic assessment.

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Health	SIG22	562	*Additional health issues (visual and truck movement)* In addition to the above, visual impacts can be considered a health impact as it interferes with people's enjoyment of their land and thus can be related to levels of stress experienced as a result of the Project. The Air Quality Assessment identifies that the Project will result in high visual impacts for some residencies and likely to impact on others. Visual impacts are significant, they include visibility of mining activities, forest and vegetation clearing activities, and lighting from the construction and operation of the mine. These social impacts have not been factored into the economic assessment. Claims around truck movement and associated impacts are based on a comparison to what occurs under existing Coalpac approvals. This comparison is not appropriate and is misleading. Truck movement should be compared to the no mine scenario. Similarly, when justifying the Project the statement is made that "the Project would address some issues that have in the past caused concern in the community by substantially removing coal haulage from the road system…this reducing road use, air quality and noise issues" (Bailey, 2012, pxxi). Again this claim for reducing community concerns is made by comparing the proposed Project to the present mine activities as opposed to a no mine scenario. On top of a questionable methodology is the aim and impact of the Project's strategy toward health impacts. The related strategies aim to minimize health impacts as opposed to the ESD requirement to 'maintain or improve' the environment [which includes social/health].
Economics	SIG22	563	6. Calculations and Valuations As acknowledged in the Economic Assessment, costing environmental impacts is complex, "employment benefits and environmental and social costs are non-market values that can potentially be estimated using non-market valuation methods". As required by the D-G a "detailed assessment of the costs and benefits of the Project as a whole, and whether it would result in a net benefit for NSW" is needed. However, a comprehensive assessment of costs and benefits is not made in the CEA, many costs are not valued, and the environmental and social impacts that are valued are significantly underestimated. The Assessment lacks foresight, does not demonstrate an appreciation or fulfilment of the purpose of ESD and lacks robust and transparent costing methodologies. A number of these are highlighted below: Unclear boundaries for valuation: No clear barrier around the project for what Coalpac is taking responsibility and thus factoring into their costing method. The CEA states that Australian environmental impacts must outweigh the benefits of production and employment to make the Project "questionable". It goes on to identify what the incremental global damage costs would be, valued at $23/t CO2-e. With the total estimated at $15 Million. It goes on to

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			identify that the Australian damage costs from the Projects GHG's are estimated at $0.2Million The methodology for these calculations is not clear. It is important that this difference is explained and that the methodology to arrive at this is transparent.
Economics	SIG22	564	Opportunity cost of no mine scenario: The CEA considers the opportunity cost of the coal if the Project did not go ahead as being $1,519M, 80% of which would go to Coalpac. The loss in potential revenue to NSW would in fact be $144M and $169M to the Commonwealth. The Economic Assessment omitted to identify the opportunity costs/benefits of investments into renewable energy and clean energy jobs that would be created if Australia transitioned off coal and thus avoided GHG from burning of coal. Considering that Coalpac predicts that this project would supply MPPS with 70% of their coal and that MPPS currently accounts for 30% of NSW's electricity requirements this Project would have a significant impact on delaying NSW's transition to a clean energy future.
Economics	SIG22	565	Opportunity costs of clearing public forest A significant omission by the CEA is the failure to include opportunity costs of the lost portion of forest and impact on the viability of the Garden of Stone Stage Two (GoS2) proposal submitted by the Blue Mountains Conservation Society Inc. and Colong Foundation for Wilderness Ltd's (Colong Foundation for Wilderness, 2005). In the CEA, the total forest area is valued at $0.9M. This figure consists of the sum of the opportunity costs of alternative land use including forestry, recreation, conservation and carbon sequestration. Of particular concern is how the amounts were arrived at. The method employed to calculate the lost value associated with recreational use is grossly limited and assumes that no services or support infrastructure would be added to the area to encourage and increase enjoyment of the land. That is, it is valued on the basis that the Ben Bullen State Forest having no recreational infrastructure i.e., walking tracks, 4WD tracks, camping areas etc. This is highly unrealistic considering the 21 year time frame of the Project. On applying this method, no estimate for tourism/recreational value is made as the assessment quickly concludes that the recreational value would be minimal and that no information is available on the level of activity that would be experienced. The figure arrived at for recreational value is $1M and this is an estimation of duck hunting alone. On top of demonstrating an extremely narrow and unrealistic method of valuing, it does not account for any opportunity costs of not having this potential land use value in the future. This is a significant land use value considering it is a land use that has great potential to fulfill ESD principles (environmental, social and economic). The conservational values of the State Forest are calculated to at $0.6M. This figure was arrived at by using

Category	Submission ID	Issue ID	Issue
			the results of a survey that found NSW households would be willing to pay $3.84 per 10,000 ha of remnant native vegetation conservation in the Riverina Region. Not only were no details of the survey provided to enable an assessment of the reliability and validity of the survey but this was the only method used to measure the total conservation value. This method is inappropriate considering the long-term nature of conservational values and the lack of any mechanisms to place a value on this item for future generations. The method for calculating sequestration benefit assumes that the benefit will end after the 21 year life of the Project. However, in reality if the Project goes ahead it removes the value of 21 years of sequested carbon plus many more as it is likely to continue into the future, especially if the GoS2 Proposal succeeds. The likelihood of the success of this Proposal should at least be identified; alongside the other most likely land uses should the Project not occur. The use of the 21 year time frame to calculate lost value does not reflect an application of the intergenerational equity principle; it completely ignores the long-term value that will be lost.
Economics	SIG22	566	Valuing dust and noise impacts The Economic Assessment states that "dust and noise impacts are internalized into the costs of the Project by including the acquisition costs of affected properties and the mitigation measures proposed for the properties in the respective management zones" (Gillespie Economics, 2011, p2). It is not transparent what aspects of the mitigation strategies are factored into the economic assessment as social costs. There is a statement that mitigation measures are included in the costs but it is not clear whether the costs of implementing the measures have been included, which may be substantial. On top of this the economic assessment identifies that "environmental impacts of the Project such as noise and dust…would be initially born by the general community" (Gillespie Economics, 2011, p19). What is meant by this? The method used for valuing dust and noise as social costs ignores significant impacts; it is not robust or thorough. A social cost associated with these impacts, especially dust, that should be included in the valuation are foreseeable and potential medical costs for treating dust and noise related illnesses. Additionally, value should be placed on the impact on the enjoyment and quality of life of surrounding properties and residencies that are predicted to be affected, including the nearby school.
Economics	SIG22	567	Agricultural land use cost: "The Australian net production benefits of the Project are substantially greater than those from Ben Bullen State Forest ($0.9M) or the agricultural land that will be impacted be the Project ($1.4M). The future land use potential, the opportunity cost of not being able to use it in the future – a critical issue in Australia today and will only grow in significance as agricultural land decreases and demand for food increases. This is a

Category	Submission ID	Issue ID	Issue
			significant long-term impact of the project. Further the on-going sustainability of this land use and the social value of it (significant benefits of being able to produce local produce – including wellbeing and avoiding financial costs of not having to import food, are particularly important social opportunity costs.
General	SIG23	517	TRUenergy welcomes the opportunity to provide its views on the importance of the Coalpac Consolidation Project for the ongoing supply of fuel for baseload power generation in New South Wales. TRUenergy is one of Australia's leading integrated energy companies and as part of the NSW government's electricity privatisation program in 2010, TRUenergy acquired the 'Gentrader' rights for the Mount Piper (1,400 MW) and Wallerawang (1,000 MW) coal-fired power stations.
General	SIG23	518	Coalpac's mine is in the western coalfields of New South Wales, close to the Mt Piper and Wallerawang power stations. The supply of coal from Coalpac's operations helps ensure the cost-effective, secure and reliable supply of electricity from the Mt Piper power station to New South Wales customers. Without approval for the consolidation project, Coalpac will exhaust its current mine in the short term with significant consequences for the supply of coal to the Mt Piper power station.
Economics	SIG23	519	Any supply interruptions would require the sourcing of alternative, higher priced coal from other mines located in parts of New South Wales that are more remote to the power station, Sourcing alternative supplies will involve additional road and rail transport and additional development expenditure. Increased costs would need to be reflected in the wholesale prices bid into the National Electricity Market by Mt Piper'
Traffic and Transport	SIG23	520	As part of the project, Coalpac will establish a conveyor from the mine operations to the Mt Piper power station, which will eliminate coal deliveries via public roads, The reduced truck movements will significantly improve amenity for local residents and road safety for broader road users in the area.
General	SIG23	521	Over 90 per cent of New South Wales electricity is currently generated from black coal. As Australia transitions to a lower carbon economy with increased generation from gas, wind and solar, coal-fired electricity generation will remain an important source of baseload energy, As one of the most efficient coal-fired power stations in Australia, low cost coal supplies to Mt Piper are critical to enabling this transition to a lower carbon economy at the lowest possible cost to consumers.
General	SIG24	487	It is impossible to restore the original biodiversity of the environment after an open cut coal mine has been decommissioned. As there will be a disturbance of rock and earth amounting to 422 million cubic metres, it is impossible to argue that the original environment of the Gardens of Stone can be restored to anywhere near its original condition. We therefore object to this destructive mining proposal for this and the following reasons.

Category	Submission ID	Issue ID	Issue
			- The community will be prohibited access to an iconic natural area for at least 21 years. - The mine would destroy the habitat of over 400 plant species. - Mining under the internationally significant rock formations known as the "pagodas" threatens them with partial or total collapse. - Mining will remove the habitat of the lyrebird and other bird and animal species in the area. - If approved the mine will remove all biodiversity from hundreds of hectares of public land within the Ben Bull state forest. - The project proposes to kill nearly 20 000 eucalypts. - The project is likely to produce acid mine drainage that will impact on the local streams for many decades. It may also produce elevated levels of heavy metals that will also kill aquatic life. - Biodiversity offsets are inadequate and cannot bring restore a destroyed unique environment. - The Coalpac proposal would contribute to 0.02 percent to world emissions and 1.3 percent of Australia's total carbon footprint, a relatively significant increase for a single project. - Coalpac's environmental assessment for this proposal inaccurately dismisses viable alternatives such as renewable energy and energy conservation that could make this project unnecessary.
Public Submissions			
Rehabilitation	Petition	599	Rehabilitation of open cut coal mines is incapable of restoring the original biodiversity and geodiversity.
Ecology	Petition, 798, 877	600	I support the NSW National Parks and Wildlife Service's (OEH) wish to add the Ben Bullen State Forest to the conservation reserve system as a matter of priority due to outstanding natural values.
Subsidence	Petition, 8, 10, 14, 20, 34, 43, 65, 68, 69, 95, 147, 161, 164, 169, 176 -177, 108 -110, 186 - 7, 191, 198, 208 - 209, 214, 220, 230, 232, 235, 238, 246, 248, 252, 255, 261, 263, 276, 278, 281 - 2, 284 - 290, 292 - 293, 303, 317, 329, 331, 341, 344, 346, -349 - 50, 352, 360, 370, 372, 380 - 2, 387, 390, 397, 400, 402, 413 -17, 420, 424, 438 - 42, 446, 449, 452, 458, 472, 475, 477, 484, 489, 491 - 92, 496, 498, 511 -	601	Mining under the internationally significant rock formations known as 'pagodas' by may cause instability and threatens them with partial of total collapse.

Category	Submission ID	Issue ID	Issue
	514, 518, 520, 522, 527, 546, 548 - 51, 558, 561 -565, 569 - 572, 587 - 88, 593 - 595, 599, 605 - 608, 613, 615, 619, 621, 625, 629 – 632, 634, 638, 640 – 642, 645, 652 - 655, 662, 670, 673, 678 - 679, 688, 699, 706 – 707, 717, 724, 728 – 733, 739, 745 – 746, 752, 768 – 779, 781 - 783, 786, 801, 810, 813, 818, 820, 821, 824, 838, 841, 844, 846, 849, 852 – 854, 856 – 857, 872, 874, 879, 886, 895, 899 - 901		
Subsidence	Petition, 8, 10, 14, 20, 34, 43, 65, 68, 69, 95, 147, 161, 164, 169, 176 -177, 108 -110, 186 - 7, 191, 198, 208 - 209, 214, 220, 230, 232, 235, 238, 246, 248, 252, 255, 261, 263, 276, 278, 281 - 2, 284 - 290, 292 - 293, 303, 317, 329, 331, 341, 344, 346, -349 - 50, 352, 360, 370, 372, 380 - 2, 387, 390, 397, 400, 402, 413 -17, 420, 424, 438 - 42, 446, 449, 452, 458, 472, 475, 477, 484, 489, 491 - 92, 496, 498, 511 - 514, 518, 520, 522, 527, 546, 548 - 51, 558, 561 -565, 569 - 572, 587 - 88, 593 - 595, 599, 605 - 608, 613, 615, 619, 621, 625, 629 – 632, 634, 638, 640 – 642, 645, 652 - 655, 662, 670, 673, 678 - 679, 688, 699, 706 – 707, 717, 724, 728 – 733, 739,	602	Mining under the pagodas threatens their long term survival (they are unique land formations). Tunnels for mining driven under the ridge and pagoda complexes could cause sufficient instability for the latter to partially or totally collapse.

Category	Submission ID	Issue ID	Issue
	745 – 746, 752, 768 – 779, 781 - 783, 786, 801, 810, 813, 818, 820, 821, 824, 838, 841, 844, 846, 849, 852 – 854, 856 – 857, 872, 874, 879, 886, 895, 899 - 901		
Subsidence	Petition, 8, 14, 68, 115, 191, 200, 220, 231, 235, 328, 243, 248, 261, 276, 285, 288, 303, 317, 331, 341 – 342, 346, 348 – 349, 356, 360, 380, 381, 383, 390, 413 – 414, 417, 424, 430, 438 – 439, 442, 449, 472, 477, 489, 502, 504, 511, 513 – 514, 516, 518, 520, 522, 527, 533, 541, 545, 546, 548, 564, 572, 574, 586, 595, 599, 613 – 614, 626, 630, 634, 638, 649, 670 – 671, 693, 695, 702, 707, 720, 725, 730, 733, 744, 746, 746, 773, 781, 791, 796, 798, 808, 810, 811, 813, 816, 818, 819, 820, 827, 831, 836, 838, 839, 843, 844, 846, 848, 850, 851, 854, 856, 869, 872, 879, 885, 895, 901	603	The beautiful pagoda escarpment along the Great Dividing Range may be irreparably degraded by open cut mining, which approaches to within 50 metres of these iconic and unique rock formations.
Ecology	Petition, P8, 10, 14, 20, 32, 24, 42 – 43, 49, 56, 65, 68 – 69, 95, 106, 145, 147, 150, 160 – 161, 164, 167 – 168, 176 - :177, 180 – 181, 191 – 1993, 196, 198, 200, 203, 208 – 209, 214, 218, 227, 230 – 232, 235, 243, 248 – 249, 252, 255, 261, 263,	604	There will be a great loss of habitat for the native plants, animals and birds that live in the Ben Bullen State Forest. The mine would scalp all biodiversity from hundreds of hectares of public land within the Ben Bullen State Forest.

Category	Submission ID	Issue ID	Issue
	273, 274, 276, 278, 279, 281– 282, 284 – 290, 292 – 293, 297, 303, 317, 322 – 323, 329, 331 – 333, 339, 344, 436, 348 – 350, 356, 360, 362, 380 – 381, 387, 389 – 390, 397, 400, 402, 404, 413, 414 – 417, 410, 424, 438, 442, 445 – 446, 449, 452, 455, 458. 471 – 472, 480, 484 - 492, 496, 498 – 499, 502, 512, 514, 516, 520, 522, 537, 541, 545 – 551, 558, 561, 563 – 566, 578, 580, 583, 586- 588, 590, 593 – 609, 621, 625, 629 – 632, 634, 637 – 638, 640 – 642, 648, 650, 652 – 655, 622, 665, 667, 669, 670, 672, 678, 679, 685 – 690, 693, - 694, 699 702, 706 – 707, 711, 713, 717 719, 721, 723, 724, 730 – 748, 750, 753, 757, 758, 762 – 764, 774 – 775, 778, 779, 781 – 783, 786, 794, 796 – 797, 800 – 801, 804 – 821, 824, 828, 289, 839, 841, 843, 844, 848 – 849, 852 – 854, 856, 859, 862, 869, 872, 874, 877, 882, 885 – 886, 895, 900 – 903		
Ecology	Petition, P8, 10, 14, 20, 32, 24, 42 – 43, 49, 56, 65, 68 – 69, 95, 106, 145, 147, 150, 160 – 161, 164, 167 – 168, 176 - :177, 180 – 181, 191 – 1993, 196, 198, 200, 203, 208 – 209, 214, 218, 227, 230 – 232, 235, 243, 248 – 249, 252, 255, 261, 263, 273, 274, 276, 278, 279, 281– 282,	605	The pagodas in the Ben Bullen State Forest provide a safe haven for many native plants and animals.

Category	Submission ID	Issue ID	Issue
	284 – 290, 292 – 293, 297, 303, 317, 322 – 323, 329, 331 – 333, 339, 344, 436, 348 – 350, 356, 360, 362, 380 – 381, 387, 389 – 390, 397, 400, 402, 404, 413, 414 – 417, 410, 424, 438, 442, 445 – 446, 449, 452, 455, 458. 471 – 472, 480, 484 - 492, 496, 498 – 499, 502, 512, 514, 516, 520, 522, 537, 541, 545 – 551, 558, 561, 563 – 566, 578, 580, 583, 586- 588, 590, 593 – 609, 621, 625, 629 – 632, 634, 637 – 638, 640 – 642, 648, 650, 652 – 655, 622, 665, 667, 669, 670, 672, 678, 679, 685 – 690, 693, - 694, 699 702, 706 – 707, 711, 713, 717 719, 721, 723, 724, 730 – 748, 750, 753, 757, 758, 762 – 764, 774 – 775, 778, 779, 781 – 783, 786, 794, 796 – 797, 800 – 801, 804 – 821, 824, 828, 289, 839, 841, 843, 844, 848 – 849, 852 – 854, 856, 859, 862, 869, 872, 874, 877, 882, 885 – 886, 895, 900 – 903		
Ecology	Petition, P8, 10, 14, 20, 32, 24, 42 – 43, 49, 56, 65, 68 – 69, 95, 106, 145, 147, 150, 160 – 161, 164, 167 – 168, 176 - :177, 180 – 181, 191 – 1993, 196, 198, 200, 203, 208 – 209, 214, 218, 227, 230 – 232, 235, 243, 248 – 249, 252, 255, 261, 263, 273, 274, 276, 278, 279, 281– 282, 284 – 290, 292 – 293, 297, 303, 317,	606	The mine will destroy the habitat of over 400 native plant species, 35 mammal species, 15 of which are listed under the EPBC Act and 12 species listed under the EPBC Act including the Powerful Owl and Regent Honeyeater.

Category	Submission ID	Issue ID	Issue
	322 – 323, 329, 331 – 333, 339, 344, 436, 348 – 350, 356, 360, 362, 380 – 381, 387, 389 – 390, 397, 400, 402, 404, 413, 414 – 417, 410, 424, 438, 442, 445 – 446, 449, 452, 455, 458. 471 – 472, 480, 484 - 492, 496, 498 – 499, 502, 512, 514, 516, 520, 522, 537, 541, 545 – 551, 558, 561, 563 – 566, 578, 580, 583, 586- 588, 590, 593 – 609, 621, 625, 629 – 632, 634, 637 – 638, 640 – 642, 648, 650, 652 – 655, 622, 665, 667, 669, 670, 672, 678, 679, 685 – 690, 693, - 694, 699 702, 706 – 707, 711, 713, 717 719, 721, 723, 724, 730 – 748, 750, 753, 757, 758, 762 – 764, 774 – 775, 778, 779, 781 – 783, 786, 794, 796 – 797, 800 – 801, 804 – 821, 824, 828, 289, 839, 841, 843, 844, 848 – 849, 852 – 854, 856, 859, 862, 869, 872, 874, 877, 882, 885 – 886, 895, 900 – 903		
Ecology	Petition, P8, 10, 14, 20, 32, 24, 42 – 43, 49, 56, 65, 68 – 69, 95, 106, 145, 147, 150, 160 – 161, 164, 167 – 168, 176 - :177, 180 – 181, 191 – 1993, 196, 198, 200, 203, 208 – 209, 214, 218, 227, 230 – 232, 235, 243, 248 – 249, 252, 255, 261, 263, 273, 274, 276, 278, 279, 281– 282, 284 – 290, 292 – 293, 297, 303, 317, 322 – 323, 329, 331 – 333, 339, 344,	607	The proponent must acknowledge within is public communication, documents and all related reporting that it cannot replace the critically endangered ecological communities it will permanently destroy.

Category	Submission ID	Issue ID	Issue
	436, 348 – 350, 356, 360, 362, 380 – 381, 387, 389 – 390, 397, 400, 402, 404, 413, 414 – 417, 410, 424, 438, 442, 445 – 446, 449, 452, 455, 458. 471 – 472, 480, 484 - 492, 496, 498 – 499, 502, 512, 514, 516, 520, 522, 537, 541, 545 – 551, 558, 561, 563 – 566, 578, 580, 583, 586- 588, 590, 593 – 609, 621, 625, 629 – 632, 634, 637 – 638, 640 – 642, 648, 650, 652 – 655, 622, 665, 667, 669, 670, 672, 678, 679, 685 – 690, 693, - 694, 699 702, 706 – 707, 711, 713, 717 719, 721, 723, 724, 730 – 748, 750, 753, 757, 758, 762 – 764, 774 – 775, 778, 779, 781 – 783, 786, 794, 796 – 797, 800 – 801, 804 – 821, 824, 828, 289, 839, 841, 843, 844, 848 – 849, 852 – 854, 856, 859, 862, 869, 872, 874, 877, 882, 885 – 886, 895, 900 – 903		
Ecology	Petition, P8, 10, 14, 20, 32, 24, 42 – 43, 49, 56, 65, 68 – 69, 95, 106, 145, 147, 150, 160 – 161, 164, 167 – 168, 176 - :177, 180 – 181, 191 – 1993, 196, 198, 200, 203, 208 – 209, 214, 218, 227, 230 – 232, 235, 243, 248 – 249, 252, 255, 261, 263, 273, 274, 276, 278, 279, 281– 282, 284 – 290, 292 – 293, 297, 303, 317, 322 – 323, 329, 331 – 333, 339, 344, 436, 348 – 350, 356, 360, 362, 380 –	608	There are over 400 native plant species within the 'Coalpac Consolidation Project' proposal site, demonstrating the very high diversity of this area.

Category	Submission ID	Issue ID	Issue
	381, 387, 389 – 390, 397, 400, 402, 404, 413, 414 – 417, 410, 424, 438, 442, 445 – 446, 449, 452, 455, 458. 471 – 472, 480, 484 - 492, 496, 498 – 499, 502, 512, 514, 516, 520, 522, 537, 541, 545 – 551, 558, 561, 563 – 566, 578, 580, 583, 586- 588, 590, 593 – 609, 621, 625, 629 – 632, 634, 637 – 638, 640 – 642, 648, 650, 652 – 655, 622, 665, 667, 669, 670, 672, 678, 679, 685 – 690, 693, - 694, 699 702, 706 – 707, 711, 713, 717 719, 721, 723, 724, 730 – 748, 750, 753, 757, 758, 762 – 764, 774 – 775, 778, 779, 781 – 783, 786, 794, 796 – 797, 800 – 801, 804 – 821, 824, 828, 289, 839, 841, 843, 844, 848 – 849, 852 – 854, 856, 859, 862, 869, 872, 874, 877, 882, 885 – 886, 895, 900 – 903		
Ecology	Petition, P8, 10, 14, 20, 32, 24, 42 – 43, 49, 56, 65, 68 – 69, 95, 106, 145, 147, 150, 160 – 161, 164, 167 – 168, 176 - :177, 180 – 181, 191 – 1993, 196, 198, 200, 203, 208 – 209, 214, 218, 227, 230 – 232, 235, 243, 248 – 249, 252, 255, 261, 263, 273, 274, 276, 278, 279, 281– 282, 284 – 290, 292 – 293, 297, 303, 317, 322 – 323, 329, 331 – 333, 339, 344, 436, 348 – 350, 356, 360, 362, 380 – 381, 387, 389 – 390, 397, 400, 402,	609	The Project proposes to kill 19,200 vulnerable *Eucalyptus cannonii* trees, which is unacceptable.

Category	Submission ID	Issue ID	Issue
	404, 413, 414 – 417, 410, 424, 438, 442, 445 – 446, 449, 452, 455, 458. 471 – 472, 480, 484 - 492, 496, 498 – 499, 502, 512, 514, 516, 520, 522, 537, 541, 545 – 551, 558, 561, 563 – 566, 578, 580, 583, 586- 588, 590, 593 – 609, 621, 625, 629 – 632, 634, 637 – 638, 640 – 642, 648, 650, 652 – 655, 622, 665, 667, 669, 670, 672, 678, 679, 685 – 690, 693, - 694, 699 702, 706 – 707, 711, 713, 717 719, 721, 723, 724, 730 – 748, 750, 753, 757, 758, 762 – 764, 774 – 775, 778, 779, 781 – 783, 786, 794, 796 – 797, 800 – 801, 804 – 821, 824, 828, 289, 839, 841, 843, 844, 848 – 849, 852 – 854, 856, 859, 862, 869, 872, 874, 877, 882, 885 – 886, 895, 900 – 903		
Ecology	Petition, P8, 10, 14, 20, 32, 24, 42 – 43, 49, 56, 65, 68 – 69, 95, 106, 145, 147, 150, 160 – 161, 164, 167 – 168, 176 - :177, 180 – 181, 191 – 1993, 196, 198, 200, 203, 208 – 209, 214, 218, 227, 230 – 232, 235, 243, 248 – 249, 252, 255, 261, 263, 273, 274, 276, 278, 279, 281– 282, 284 – 290, 292 – 293, 297, 303, 317, 322 – 323, 329, 331 – 333, 339, 344, 436, 348 – 350, 356, 360, 362, 380 – 381, 387, 389 – 390, 397, 400, 402, 404, 413, 414 – 417, 410, 424, 438,	610	Our iconic lyrebird uses the sides of pagodas in this area to nest and raise its young. Mining will completely remove its food habitats in the valley below.

Category	Submission ID	Issue ID	Issue
	442, 445 – 446, 449, 452, 455, 458. 471 – 472, 480, 484 - 492, 496, 498 – 499, 502, 512, 514, 516, 520, 522, 537, 541, 545 – 551, 558, 561, 563 – 566, 578, 580, 583, 586- 588, 590, 593 – 609, 621, 625, 629 – 632, 634, 637 – 638, 640 – 642, 648, 650, 652 – 655, 622, 665, 667, 669, 670, 672, 678, 679, 685 – 690, 693, - 694, 699 702, 706 – 707, 711, 713, 717 719, 721, 723, 724, 730 – 748, 750, 753, 757, 758, 762 – 764, 774 – 775, 778, 779, 781 – 783, 786, 794, 796 – 797, 800 – 801, 804 – 821, 824, 828, 289, 839, 841, 843, 844, 848 – 849, 852 – 854, 856, 859, 862, 869, 872, 874, 877, 882, 885 – 886, 895, 900 – 903		
Ecology	Petition, P8, 10, 14, 20, 32, 24, 42 – 43, 49, 56, 65, 68 – 69, 95, 106, 145, 147, 150, 160 – 161, 164, 167 – 168, 176 - :177, 180 – 181, 191 – 1993, 196, 198, 200, 203, 208 – 209, 214, 218, 227, 230 – 232, 235, 243, 248 – 249, 252, 255, 261, 263, 273, 274, 276, 278, 279, 281– 282, 284 – 290, 292 – 293, 297, 303, 317, 322 – 323, 329, 331 – 333, 339, 344, 436, 348 – 350, 356, 360, 362, 380 – 381, 387, 389 – 390, 397, 400, 402, 404, 413, 414 – 417, 410, 424, 438, 442, 445 – 446, 449, 452, 455, 458.	611	Local botanists have identified over 70 native plant species that exist in the Ben Bullen State Forest not identified by Coalpac. With the help of the Office of Environment and Heritage, these are being added to the area's Australian Wildlife Atlas. I ask that these additional plants be taken into consideration when assessing the environmental values of the area.

Category	Submission ID	Issue ID	Issue
	471 – 472, 480, 484 - 492, 496, 498 – 499, 502, 512, 514, 516, 520, 522, 537, 541, 545 – 551, 558, 561, 563 – 566, 578, 580, 583, 586- 588, 590, 593 – 609, 621, 625, 629 – 632, 634, 637 – 638, 640 – 642, 648, 650, 652 – 655, 622, 665, 667, 669, 670, 672, 678, 679, 685 – 690, 693, - 694, 699 702, 706 – 707, 711, 713, 717 719, 721, 723, 724, 730 – 748, 750, 753, 757, 758, 762 – 764, 774 – 775, 778, 779, 781 – 783, 786, 794, 796 – 797, 800 – 801, 804 – 821, 824, 828, 289, 839, 841, 843, 844, 848 – 849, 852 – 854, 856, 859, 862, 869, 872, 874, 877, 882, 885 – 886, 895, 900 – 903		
Ecology	Petition, 613, 844	612	An independent flora assessment should be carried out by the DP&I prior to such an approval.
Ecology	Petition, P8, 14, 68, 115, 191, 200, 220, 231, 235, 328, 243, 248, 261, 276, 285, 288, 303, 317, 331, 341 – 342, 346, 348 – 349, 356, 360, 380, 381, 383, 390, 413 – 414, 417, 424, 430, 438 – 439, 442, 449, 472, 477, 489, 502, 504, 511, 513 – 514, 516, 518, 520, 522, 527, 533, 541, 545, 546, 548, 564, 572, 574, 586, 595, 599, 613 – 614, 626, 630, 634, 638, 649, 670 – 671, 693, 695, 702, 707, 720, 725, 730, 733, 744, 746,	613	The Project will devastate the landscape and spectacular scenery of the Ben Bullen State Forest.

Category	Submission ID	Issue ID	Issue
	746, 773, 781, 791, 796, 798, 808, 810, 811, 813, 816, 818, 819, 820, 827, 831, 836, 838, 839, 843, 844, 846, 848, 850, 851, 854, 856, 869, 872, 879, 885, 895, 901		
Visual / Economics	Petition, 8, 14, 68, 115, 191, 200, 220, 231, 235, 328, 243, 248, 261, 276, 285, 288, 303, 317, 331, 341 – 342, 346, 348 – 349, 356, 360, 380, 381, 383, 390, 413 – 414, 417, 424, 430, 438 – 439, 442, 449, 472, 477, 489, 502, 504, 511, 513 – 514, 516, 518, 520, 522, 527, 533, 541, 545, 546, 548, 564, 572, 574, 586, 595, 599, 613 – 614, 626, 630, 634, 638, 649, 670 – 671, 693, 695, 702, 707, 720, 725, 730, 733, 744, 746, 746, 773, 781, 791, 796, 798, 808, 810, 811, 813, 816, 818, 819, 820, 827, 831, 836, 838, 839, 843, 844, 846, 848, 850, 851, 854, 856, 869, 872, 879, 885, 895, 901	614	Permitting the Coalpac proposal will impact the stability of the pagodas and their unparalleled scenic values, and compromise the region's tourism.
Visual	Petition, 744, 798	615	The western gateway to the Capertee Valley and Greater Blue Mountains World Heritage Area will become a corridor of degraded land if the Coalpac open-cut mine is approved.
Rehabilitation	Petition	616	Coalpac will not be able to return the landscape in the Ben Bullen State Forest to what it was. The so-called rehabilitated area won't be useful as a state forest or as a park. The public forest will be degraded forever.
Subsidence / Ecology	Petition, P813	617	The geodiversity of the area to be mined will be turned into piles of waste rock.

Category	Submission ID	Issue ID	Issue
Ecology	Petition	618	The Ben Bullen State Forest is a biodiversity hotspot. Approving this application would destroy the natural values of the area mined and impact surrounding areas. This mine would destroy the habitat of 35 mammal species, 15 of which are listed under the EPBC Act. Habitats for the Regent Honeyeater, Tiger Quoll and Powerful Owl and at least 15 mammal species threatened under the EPBC Act, will be completely removed.
Ecology	Petition	619	The area to be clear-felled is known habitat for 35 mammal species. This habitat should be completely retained.
Surface Water / Groundwater	Petition, P442	620	The open-cut mine poses risks to the quality and quantity of westward-flowing surface water, and the quality of north-eastern flowing groundwater.
Ecology	Petition	621	There are 278 hectares of forest containing Eucalyptus cannonii, listed as 'vulnerable', 48.4 hectares of Box Gum Woodland, listed as 'critically endangered' and 3.5 hectares of threatened Geebung habitat listed under the EPBC Act, which should not be bulldozed for this proposed open-cut mine.
General	Petition, P3, 798, 913, 838, 877	622	The community will be locked out of a very large part of public land for at least 21 years. I expect to be able to access public land freely.
General	Petition, P3, 798, 913, 838, 877	623	I expect public land to be protected in perpetuity so I can enjoy it; not have it effectively sold off for companies to profit from.
General	Petition, P3, 798, 913, 838, 877	624	The NSW Government would effectively be allowing the privatisation and liquidation of public land if it approves this proposal.
Geochemistry	Petition, P388, 518, 547, 732, 739, 750, 848, 849	625	The Project is likely to produce acid mine drainage that will impact on local streams for many decades. It may also produce elevated levels of heavy metals that will also kill aquatic life.
Geochemistry	Petition, 442, 877	626	Acid mine drainage is occurring right now at one of Coalpac's old mines, the Canyon Colliery Mine, which is contaminating streams within safe levels of zinc and nickel impacting the Heritage-listed Grose Valley.
Groundwater	Petition	627	Mining for the sandstone for construction sand in the proposal area will lower the water table and dry out the landscape.
Traffic & Transport	Petition	628	There should be no transport of coal by public roads under any circumstances.
Biodiversity Offsets	Petition, P8, 660, 846, 689, 877	629	Coalpac has put forward a biodiversity offset package that is inadequate. Coalpac cannot replace critically endangered habitat and open cut mining should avoid these rare environments.
Biodiversity	Petition	203	There is no guarantee that Coalpac can purchase all the land it needs to purchase its biodiversity offset

Category	Submission ID	Issue ID	Issue
Offsets			package.
Visual	Petition, P8, 14, 68, 115, 191, 200, 220, 231, 235, 328, 243, 248, 261, 276, 285, 288, 303, 317, 331, 341 – 342, 346, 348 – 349, 356, 360, 380, 381, 383, 390, 413 – 414, 417, 424, 430, 438 – 439, 442, 449, 472, 477, 489, 502, 504, 511, 513 – 514, 516, 518, 520, 522, 527, 533, 541, 545, 546, 548, 564, 572, 574, 586, 595, 599, 613 – 614, 626, 630, 634, 638, 649, 670 – 671, 693, 695, 702, 707, 720, 725, 730, 733, 744, 746, 746, 773, 781, 791, 796, 798, 808, 810, 811, 813, 816, 818, 819, 820, 827, 831, 836, 838, 839, 843, 844, 846, 848, 850, 851, 854, 856, 869, 872, 879, 885, 895, 901	631	Highwall scarps around parts of the perimeter will abut strata below the 'pagoda' rock formations, for which the Gardens of Stone Reserve Proposal is famous, and detract from their scenic value.
Greenhouse Gas	Petition, 8	632	The global carbon emissions are overstated a hundred-fold in the proposal, thus grossly understating how much this proposal would increase CO2 and climate change. The Coalpac proposal would contribute 0.02 per cent to world emissions and 1.3 per cent of Australia's total carbon footprint, a relatively significant increase for a single project.
Greenhouse Gas	Petition, 8	633	The Coalpac proposal would if approved make a large contribution to Australia's already high carbon footprint.
General	Petition, P8, 671	634	Coalpac's environmental assessment for this proposal inaccurately dismisses viable alternatives such as renewable energy and energy conservation that could make this project unnecessary.
Health / Air quality	Petition, P8, 34, 115, 160, 191, 198, 208, 235, 252, 261, 278, 281, 284, 292, 297, 303, 317, 332, 329, 331.	635	The town of Cullen Bullen is already being negatively impacted by Coalpac's open-cut mining activity. Residents of Cullen Bullen will be exposed to increased health risks because more open-cut mining means more damaging particles released into the air.

Category	Submission ID	Issue ID	Issue
	345 – 346, 348, 362, 369, 372, 387, 390, 400, 402, 414, 417, 424, 430, 438, 442, 445, 476, 477, 484, 489, 492, 496, 500 – 501, 504, 514, 516 - 518, 520, 5252, 532 – 534, 541, 545, 561, 564, 573 – 574, 594, 597 – 601, 605 – 609, 613 – 615, 621, 624, 629, 634, 637 – 638, 685, 687, 689, 691, 693 – 694, 702, 707, 709, 711, 720, 723, 725, 733, 739, 743, 773, 778, 779, 792, 794, 797 - 798, 810 – 811, 813, 818, 820, 844, 846, 851, 853 – 854, 656, 860, 866, 877, 885		
Health / Air quality	Petition, P8, 34, 115, 160, 191, 198, 208, 235, 252, 261, 278, 281, 284, 292, 297, 303, 317, 332, 329, 331. 345 – 346, 348, 362, 369, 372, 387, 390, 400, 402, 414, 417, 424, 430, 438, 442, 445, 476, 477, 484, 489, 492, 496, 500 – 501, 504, 514, 516 - 518, 520, 5252, 532 – 534, 541, 545, 561, 564, 573 – 574, 594, 597 – 601, 605 – 609, 613 – 615, 621, 624, 629, 634, 637 – 638, 685, 687, 689, 691, 693 – 694, 702, 707, 709, 711, 720, 723, 725, 733, 739, 743, 773, 778, 779, 792, 794, 797 - 798, 810 – 811, 813, 818, 820, 844, 846, 851, 853 – 854, 656, 860, 866, 877, 885	636	There will be increased threats to the health of children attending Cullen Bullen Public School because of the open-cut mining nearby.
Blasting	Petition, P8, 34, 115, 160, 191, 198, 208, 235, 252, 261, 278, 281, 284,	637	Blasting in the open-cut pit close to Cullen Bullen may damage homes and community health in Cullen Bullen.

Category	Submission ID	Issue ID	Issue
	292, 297, 303, 317, 332, 329, 331. 345 – 346, 348, 362, 369, 372, 387, 390, 400, 402, 414, 417, 424, 430, 438, 442, 445, 476, 477, 484, 489, 492, 496, 500 – 501, 504, 514, 516 - 518, 520, 5252, 532 – 534, 541, 545, 561, 564, 573 – 574, 594, 597 – 601, 605 – 609, 613 – 615, 621, 624, 629, 634, 637 – 638, 685, 687, 689, 691, 693 – 694, 702, 707, 709, 711, 720, 723, 725, 733, 739, 743, 773, 778, 779, 792, 794, 797 - 798, 810 – 811, 813, 818, 820, 844, 846, 851, 853 – 854, 656, 860, 866, 877, 885		
Health	Petition	638	A cumulative health impact study is conducted of the area within a 30 km radius of the proposed area
Health	Petition	639	The proponent must create a plan for ongoing monitoring and community health education projects.
Economics	Petition, P3, 8, 160, 303, 414, 417, 613, 689, 725, 746, 779, 844, 846, 877	640	Cullen Bullen would be surrounded by degraded land in every direction, lowering property values.
Air quality	Petition, 877	641	Cullen Bullen will become a dusty town. Homes, cars and clothes will be difficult to keep clean. Rainwater tanks will be contaminated.
Social / Health	Petition	642	A minimum 5 km buffer zone excluding open-cut mining should be established around the town of Cullen Bullen to protect its social values and amenity.
Social / Health	Petition	643	I expect at least a 5 km buffer zone around Cullen Bullen Primary School to protect children and to ensure the school is not closed down in the future, due to health impacts.
General	Petition, P813	644	It is unreasonable for open-cut coal mining activity to continue 24 hrs a day, 7 days per week so close to Cullen Bullen or any town. The mining activity will lower the quality of rural lifestyles in the region forever.
Visual / Air quality / noise	Petition, P3, 8, 160, 303, 414, 417, 613, 689, 725, 746, 779, 844, 846,	645	The mining activity will lower the quality of rural lifestyles in the region forever.

Category	Submission ID	Issue ID	Issue
	877		
General	Petition, 442, 877	646	I am concerned about Coalpac's environmental management record. For example, at the Invincible mine, Coalpac was fined $200,000 on one occasion for exceeding the coal production limits and on eleven other occasions for pollution incidents.
General	Petition	647	All reporting of breaches to the environmental conditions must be made public.
Blasting	Petition, 3, 586, 613, 660, 844	648	Property inspections of land within a 2 km radius of the open cut mine pit at a landholders request before mining commences occurs to establish the baseline condition of buildings and structures.
Air Quality / Noise	Petition	649	Conditions are set requiring that the mining company purchase an eligible landholders property at the request of the landholder at any time at market, not industrial rates.
Pagodas / Visual	Petition	650	The area due to its unique rock formations, endangered flora and fauna, and biodiversity should be made a conservation area.
General	P482	651	It is not acceptable to destroy the natural environment such as this one, which is part of the Blue Mountains beauty and should be included in World Heritage.
General	P339	652	The project is purely commercial in purpose and disregards the existing natural environment, ongoing health of the community of Cullen Bullen and Indigenous lands.
Economics	P492	653	The relatively brief life span of the proposed mining venture, and any short term financial gain that it may achieve, can in no way compensate for the unacceptable long lasting legacy of this unsustainable venture.
Pagodas	P220	654	Any mining that threatens their (pagodas) very existence should not be allowed.
Blasting	P3	655	The effects are already evident from the current mining operations. Four and a half years ago when we bought our house we got a building report which confirmed all to be in good order. At the present time we have piers subsiding from we believe blasting operations at Invincible mine and we know of several other homes suffering from damage from blasting in our area. We have made previous complaints to Coalpac and feel they just don't care.
Visual / General	P3	656	We and a lot of our friends use the Ben Bullen State Forest and Garden of Stone National Park for recreational activities such as camping and four wheel driving. The area is too beautiful to be allowed to be destroyed by mining. We however don't have an objection if the area was to be mined underground.
Social	P3	657	I can also say that if the Consolidation project gets the go ahead that we will be moving out of Cullen Bullen. If we can sell our house that is, as I think the approval will greatly devalue the area. No one wants to buy a house in the middle of an open cut mine.

Category	Submission ID	Issue ID	Issue
Groundwater / geochemistry	P547	658	There would almost certainly be hydrological implications for the project. Its likely that acid mine drainage will occur along with elevated levels of heavy metals. Westward flowing groundwater is likely to pollute the headwaters of the Turon River [a significant water source for the Murray Darling Basin] and north-east flowing groundwater.
General / Rehabilitation	P160	659	Open cut mining is even worse than underground mining and the dust bowl that will be created together with existing approvals at Baal Bone Gap and Angus Place and other local mines will resemble the moonscape in the Singleton-Denman-Muswellbrook triangle where the haze and pollution from lack of revegetation of existing open cut mining and power stations emissions have combined to put the health of the whole community of Singleton at risk. Now open cut mining has extended to Mangoola, west of Muswellbrook and similar results will follow without addressing the existing loss of vegetation. The Upper Cox's River and general Cullen Bullen area were rich sources of food for early aboriginal tribes, with eels and fish being a major source. European settlement occurred immediately following crossing of the Blue Mountains and none of the several cycles of development in the Lithgow area, such as railways, coal mining, steel making, small arms factory, power stations and prison have caused the impact of open cut mining. It is death by a thousand cuts and should be considered as a whole rather than just a single proposal. There is an established record of mine extensions without revegetation- just look at Rix's Ck west of Singleton which was protested about at the time of development and promises made to mine only one side of the New England Highway but now it is widespread devastation on the upwind side immediately west of the town. Similarly what is going on at Ulan has to be seen to be believed.
Health	P160	660	Lithgow already has a seriously polluted water supply and higher incidences of asthma and related respiratory diseases to the extent that it is understood that medical practitioners are moving their children out of town. Irritation of the lungs, while it may not in itself be carcinogenic, is likely to have long term cancer results. Council has been remiss in not safeguarding the health of its ratepayers.
General	P160	661	The first thing Coalpac is likely to do if granted the lease will be to close all access roads they can on OHS grounds, similar to Baal Bone and Ulan where access to long frequented locations such as Baal Bone Gap and Drip Rock which are featured in National Parks literature has become much more difficult.
Social	P160	662	Another outcome of unsustainable development will be submissions regarding lack of a skilled local workforce, notwithstanding the possibility of sustainable local growth of a community. Fly in- fly out, special visas or long distance commuting are favoured mining ploys that destroy social cohesion and local

Category	Submission ID	Issue ID	Issue
			communities for short term profit. Australia has had a mining boom across several States where there is indigenous unemployment but mining towns, with associated housing, education and health facilities such as Broken Hill, Cobar, Mt Isa and Kalgoorlie, have not been developed.
Economics	P150	663	Loss of the landscape will have a major effect on tourism.
General	P230	664	The world needs to reduce its dependence on coal. Within 10 years, concentrated solar power will be a much cheaper and more environmentally friendly option. It is in the interests of the people of NSW to combined this with energy efficiency measures to reduce demand.
General	P342	665	This area concerned is of iconic beauty and will be sacrificed for the convenience of the mining company which could well continue with underground extraction.
Groundwater	P430	666	I'm concerned about the long-term effects on the water table.
Visual / Pagodas	P430	667	This is an area of outstanding natural beauty.
Economics	P430	668	More employment and economic benefits could be generated through well-managed tourism for the area than through mining.
General	P430	669	We should be developing the infrastructure for alternative sources of energy rather than extending coal mining.
Blasting / Health	P660	670	Blasting in the open cut pit close to town may damage properties and community health in Cullen Bullen.
Ecology	P660	671	Coalpac has put forward a biodiversity offset package that is inadequate. I personally think that offering OEH.15 cents per ton is abhorrent. Firstly because it is a bribe and secondly because it is such a small amount of money compared to the profit this company will take away after destroying our forest.
Visual / Social	P746	672	I value the contribution of the three and in this case support the conservation case. I oppose Application No:1O 0178. What makes the areas so special for me are; 1. The Sandstone Pagodas- Smooth and Iron banded, the latter a rare feature in the world 2. The Canyons- These are already of interest to international travellers 3. They are area accessible from Sydney- a day excursion.
Subsidence	P746	673	I have already noted damage caused by underground mining – cracks down the pagodas; mine subsidence cracks in the ground 15 cm wide – hanging swamps are dry even after the rains of 2011-12.

Category	Submission ID	Issue ID	Issue
Surface water	P746	674	I have noted polluted water [heavy metals] still draining into domestic water supplies.
Surface water / Groundwater	P442	675	The impacts on the water balance and potential to pollute vast downstream areas of World Heritage significance from this mine must be assessed far more thoroughly before the risks could be known to provide enough certainly to government that this mine should go ahead. The open-cut mine poses risks to the quality and quantity of westward-flowing surface water, and the quality of north-eastern flowing groundwater.
Greenhouse Gas	P442	676	Further to Coalpac's poor accounting record, the global carbon emissions are overstated a hundred-fold in their proposals documentation, thus grossly understating how much this proposal would increase CO_2 and its contribution to climate change.
General	P786	677	Coal extraction should be by relatively low impact underground methods and where this is not practical by underground coal gasification, providing that this can be done without adverse effects.
Ecology / Visual	P838	678	From the point of view of aesthetics, biodiversity conservation and a visitors experience of nature, I believe that Ben Bullen State Forest has the values that it demand it be declared a National Park, without depth restriction. It is disgraceful that this coal mining project has been proposed for this area.
Subsidence	P838	679	There is a need for this development assessment process to very specifically address and apply the precedents of the Planning Assessment Commission in regard to the determination of the Bulli Seam Operation, (July 2010) a longwall coalmining project in the Southern Coalfields in NSW.
Traffic & Transport	P447	680	Using public roads for transporting coal will cause dangerous driving conditions for other road users (mud, dust, slow moving large trucks, etc)
Health	P447	681	Likely huge increases in air-borne dust particles (2.5 micron) will cause long-term health problems for the community, especially children.
Groundwater	P447	682	Mining of sandstone underlying the coal seams will inevitably alter the hydrology if the area, very likely lowering the water table, drying out and irreversibly degrading the landscape and its flora and fauna.
Economics	P744	683	Lithgow Councils Economic Strategy 2010-14 has identified tourism as an alternative to coal and power generation for the towns sustainable economic development. The Strategy's SWOT Analysis (p 82) identifies "key issues and opportunities as follows: • The "strong dependence on carbon industries" is listed under 'Threats' recognizing that Lithgow needs to diversity in terms of industry and employment. . • The coal and energy industry is not considered a 'Strength' recognizing global warming and the necessity to gradually move away from dependence on coal mining and coal powered energy generation. . • "Green energies" are listed under 'Opportunities' recognizing that this is the future, not only for Lithgow

Category	Submission ID	Issue ID	Issue
			but for our planet as a whole. The Coalpac development is a step in the wrong direction.
Visual	P744	684	As a member of Council's Tourism Advisory Committee I have taken part in many discussions of how we could improve the gateways leading into Lithgow. The Coalpac development will welcome travellers from the north east with a gaping, dusty hole of destruction. No hastily planted 'green screening' will hide that.
Economics	P744	685	This general area has been getting a lot of international attention because of the world heritage values and because of the Emirates Wolgan Valley Spa Resort. Such an expansion of mining could undermine the tourism value of such places in the eyes of the international community.
General	P8	686	The amount of coal produced is inconsistent within the document, being 71.2 million tonnes (Appendix G, GHG study for burned coal) or possibly 108.5 million tonnes as shown on page vii of the Executive Summary. Only 1.9 million tonnes of this will come from highwalling, despite the dangers this causes (p. 106). Ash content of coal is quite high, from 14-30%. It is claimed that the total value of the coal mined will be $1519 million over its 21 year life (p. xxiv). Of this, based on rate of 1.5 cents per tonne of coal (p. xxii) at 71 million tonnes coal mined, $1.06 million will be paid to OEH, a quite inadequate sum in view of the damage that will be caused.
Greenhouse Gas	P8	687	Greenhouse gas assessment. There are *major errors and confusion* in the statements made regarding GHG emissions and the comparison of the mine with world emissions. The quoted figure on p. x of the Exec Summary refers to 'estimated current global emissions of 3,000 gigatonnes of carbon dioxide equivalent per annum'. p. 119 repeats this error. In fact, global anthropogenic emissions are 7.7 Gt of C or 7.7 x 3.67 = 28.2 Gt CO2 (see: Globe, http://classic.globe.gov/fsl/html/templ.cgi?carboncycleDia&lang=en) or possibly an upper limit of 35 Gt CO2 (http://co2now.org/Current-CO2/CO2-Now/global-carbon-emissions.html). The statement is thus a *hundred-fold out* for human-caused carbon emissions. The Coalpac emissions are 7 million tonnes CO2 a year (rounded off from 6.989 Mt on p. 109 of App G). 7 Mt is 0.007 Gt and this is 0.02% of world emissions not 0.0003 % as repeatedly stated in the Coalpac EA. An error of 100 fold clearly demonstrates *total ignorance of this issue*. Australia's carbon footprint is 546.3 Mt C02e (Aust. Nat. Greenhouse Accounts, Dec 2011) so 7 Mt is 1.3% of Australia's total carbon footprint. Checking up on Appendix G (PAE Holmes), p. 110 of this report shows that the consultant actually stated that 'The estimated quantity of carbon dioxide *stored in the atmosphere* now is 3000 Gt' (my emphasis). They are speaking of the carbon pool in the atmosphere, *not* annual emissions! The two are totally different. Coalpac has thus deliberately mis-stated what was said in the PAE Holmes report. This either represents incompetence in regard to understanding climate science, or deliberately seeks to play down what is a *major GHG emission* in this project. The PAE Holmes figure of 3,000 Gt atmospheric pool is unreferenced but not far off other figures for the atmospheric pool of CO2, such as 2,752 Gt (Globe Project).

Category	Submission ID	Issue ID	Issue
			The Coalpac Consolidation Project would thus be a *major contributor* to greenhouse gases, adding 1.3% to Australia's carbon footprint. In no way can it be said that 'there will be no increase or measurable impact on climate change' (said on p. x Exec Summary). This is a scientific fallacy and a logical impossibility. The project clearly will contribute to Australia's already high carbon footprint (per capita the highest in the world).
Greenhouse Gas	P8	688	Mis-statements about alternatives, especially renewable energy. The EA argues essentially that if they don't mine this coal, then someone else will mine and burn it elsewhere. P. x claims that alternate sources of energy are not viable in the short to middle term. This seriously misrepresents both the current status and ability of renewable energy to meet energy needs. Note the excerpt below from the forthcoming book 'Human Dependence on Nature' (Washington, 2012): *Renewable energy supplied an estimated 16% of global final energy consumption at the end of 2010 (REN21 2011). In regard to electricity, renewables produced 1,320 GW (312 GW excluding hydroelectricity) of electricity in 2010. By early 2011, renewables comprised 25% of electricity capacity from all sources. They accounted for approximately half of the estimated 194 GW of new electric capacity added globally during 2010. ... Civilisation can reach a 95% sustainably-sourced energy supply by 2050. There are up front investments required to make this transition in the coming decades (1–2% of global GDP), but they will turn into a positive cash flow after 2035, leading to a positive annual result of 2% of GDP in 2050 (WWF 2011). A large-scale wind, water, and solar energy system can reliably supply all of the world's energy needs, with significant benefit to climate, air quality, water quality, ecological systems, and energy security, at reasonable cost (Delucchi and Jacobson 2011).* Cost of PV electricity is due to equal that of mains power by 2014. Wind power is already close to coal-fired power in cost and will improve in cost when carbon pricing comes in shortly. An Australian study has shown that we could switch to 100% renewable energy within 10 years for 2-3% of GDP a year (Wright and Hearps, 2010). The energy and climate change arguments in the Coalpac EA are thus deliberately misleading. This project will be a significant contributor to global warming, and there clearly *are* alternatives to burning coal to produce electricity.
General	P8	689	Mis-statements about best practice, 'do nothing' strategy, and ecological sustainability. P. xxi says the project will 'optimise the benefits of environmental and capital costs that have been incurred'. Claims that Coalpac is a leading practice in environmental management. P. xxiv claims 'project rigorously assessed against objects of ESD' and 'the project brings environmental benefits'. p. 271 says the 'project has avoided all serious and irreversible environmental damage'. Then it says the 'Structure of the project will ensure that there is no effect on the environment that would diminish the health, diversity or productivity of the environment for future generations'. P. xxiv states the value of coal in the ground is 'only released by its recovery'. All these statements are *PR spin* of the worst sort. This is a huge 1,000 hectare hole being dug in a diverse natural area not far from the World Heritage Area. It will destroy all native vegetation in that area, and cause significant air, visual and noise pollution (which the EA actually notes, but then plays down). It does not bring 'environmental benefits', nor does it stack up well against the idea or principles of ecologically sustainable development. The climate change impact alone of the project clearly will affect future generations, and the

Category	Submission ID	Issue ID	Issue
			project will be a major stress on the environment and social community in the Western Blue Mountains. The Coalpac EA is thus an *exercise in denial*. It talks about mitigation strategies, best practice, proactive management, but these are just words. The project would have a huge negative impact on the natural environment, on the local community, and on the public using the Castlereagh Highway. The EA seeks to portray the 'do nothing' strategy as a 'sterilisation' of the coal reserve, when in fact the correct ecologically sustainable interpretation of not mining this coal is that the coal should not be mined and burnt for the very good reason that it would exacerbate climate change, to which Australia is highly susceptible. The coal in any case is not 'sterilised', it is still there, and if at some future time it truly was in the national interest to mine it, it would still be there.
Subsidence	P8	690	Subsidence and highwalling. P. 106 notes that highwall drives will take place in 4 seams, the Irondale, Moorlaben, Lithgow and Katoomba seams. P. 53 says highwall mining will go in up to 305 metres from the face. 167 highwall drives planned for the project. Does not show the width of web or barrier pillars for highwall mining anywhere in the document. The EA claims that they can 'control subsidence from highwalls to 20 mm'. This is wishful thinking and not certain science. If they already understand that subsidence will be worse at the 'southern point of the western highwall' (as they admit) then highwalling should not occur in that area. P. 106 notes that stresses in rock structure 'have ability to affect stability of pillar sidewalls, roof and floor'. This shows clearly that claims that subsidence will be minimal are wistful thinking. The whole history of coal mining on the Western coalfields is one of denial of subsidence and underestimation of its impact. Given that highwalling produces only 1.9 million tonnes (p. 106) of coal out of 70-100 million tonnes planned to be mined, and given it poses major risks to the escarpment and internationally recognised pagodas, one can validly ask *why* Coalpac is seeking to push ahead with the highwalling part of its proposal? P. ix of Exec Summary notes that the buffer from the escarpment to the open cut will be only 50 metres. However, p. 109 speaks of a 100 metre buffers zone between the open cut and escarpment in current mining. The EA is thus inconsistent as to what the buffer zone will be between the escarpment and the open cut. 50 metres is too small and the currently used 100 metres should be applied if the open cut is approved. Highwalling is described as only producing 1.9 million tonnes of coal out of around 100 million tonnes of coal planned to be mined. Given the extra stress and risk this poses to pagodas, one can only ask why any company that is committed to best practice environmental outcomes would consider such a risk?
Subsurface Heating	P8	691	Fires in coal seams. P. ix notes that subsurface heating and spontaneous combustion of carbonaceous material is present, this means it catches on fire and smoulders. Fires in the open cut and adjacent seams are thus a real possibility (given they are exposed to full sunlight and wind), as it is already present from old underground workings (the EA speaks of how Coalpac had to control it with water management). If fire gets

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			into adjacent coal seams it can be almost impossible to put out – as seen at Burning Mountain in the Hunter. This would be a major air and visual pollution impact on the edge of the WHA and the local community.
Groundwater	P8	692	Minor issues p. xiii 6.2 megalitres water in old underground mine workings. Seepage per 1 km of coal seam will be up to 10 ML/yr. 50 metre barrier proposed from flooded pits to open cut – this could fail and cause flooding. P. xiv Cox's ck swamps and Jews ck swamps are not 'safe' just because they are 2 and 3.5 km from project boundary. They are groundwater dependent ecosystems, so change in this could affect their ecological integrity.
General	P61	693	I was quite disgusted with the risk assessment. Most risks seemed to have been mitigated by little more than additional monitoring. They don't seem to be taking the problems seriously. How is it that every risk seems to have miraculously been transformed into anything but high without any serious measures to address the risks. I think the department should insist on alot more substance to the mitigation proposals before it allows this to go ahead.
Social / Economics	P303	694	The community is looking at a financially unstable future due to the rapid drop in property value following this project. In most cases stress and mental issues are known to be caused by financial stress. And the chances are high that many people will leave the area in search of a better lifestyle.
General	Petition, P328, P504	695	In the event of approval, I request that the following conditions are placed on the mine: • Operations to occur 5 days per week between 7:00 am and 4/5:00 pm; • Blasting between 11:00 am and 1/2:00 pm; • Blasting be limited to 2/3 times per month; • No mining activity occur within 5/7 km of the town of Cullen Bullen; • No truck haulage of coal or sand by public road; • Several particulate matter 2.5 monitoring stations be located within a 2 km radius of the open cut and the highwall activity at all times; • There be a stand off zone created 5/800 metres from any of the pagoda formations; • A cumulative health impact study is conducted within a radius of 30 km from the proposed mining area; • Lower noise and dust monitoring levels; and • Stop production when breaches of lease agreement are broken.
Social / Economics	P414	696	Mining is important to the NSW and Australian economy and represents jobs and income for many people. However, in some areas the negative impacts of mining - on the local community, the environment, on the surrounding industry –outweigh the positive economic benefits of mining.
Social / Visual /	P417	697	I find it unacceptable that an area of such incredible natural beauty be exploited for short term financial gain

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Air Quality			when it will permanently destroy amazing natural features (pagodas) habitat of flora and fauna ... and impact the health of local communities via contaminating local streams (possibly permanently) and air quality while in operation.
General	P420	698	Alternative mine sites outside our protected areas should be sought.
Surface water / Groundwater	P388	699	I object to the project on the grounds that it will affect the groundwater and surface water hydrology and water quality of adjacent areas, with consequent adverse affects on the rich biodiversity. This will arise from such processes as drainage into the pits and highwall excavations, from opening up of aquicludes by cracking, and from acidification processes. Drainage from a former Coalpac mine in the Grose Valley is still discharging water polluted with unacceptable levels of zinc and nickel, with no apparent hope of rectification.
Economics	P449, P489, P671	700	I can't see how this proposal is in the public interest. Short term employment opportunities cannot match long term scientific and sociological effects.
Economics	P480	701	Tourist and hospitality will create many more long term jobs then any mega mine.
General	P490	702	The project sets a precedent for other areas to also be used for a similar purpose.
General	P513	703	I believe coal resources found within the project area are 'inferior' and that their extraction and burning will generate unacceptably high levels of carbon pollution.
Subsidence	P513	704	Equally ludicrous is the Coalpac proposal to restore the unique rock formations known as 'pagodas'.
Subsidence	P514	705	We have seen cracking of pagodas above underground mining leases.
Economics	P558	706	When the carbon tax is taken into applied to the local power stations, for which coal is destined, the economics of the project will not be viable.
Aboriginal Cultural Heritage	P565	707	There are aboriginal artefacts and sites in various parts of the area, all of which should be acknowledged as part of a fading native culture.
Health	P581	708	The proponent must create a plan for ongoing monitoring and community health education projects.
General	P586	709	There is no public entrance available into the State Forest at Cullen Bullen township now, we are hemmed in by signs 'keep out, mining, blasting'.
Blasting	P586	710	The damage to private homes has not been recognised or compensated. This will increase two-fold if they are to move closer to the township.

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Groundwater	P593, P600	711	The open cut project will create a large hole in the ground as a result of its operation. This hole will be several hundred of metres wide and up to two hundred metres deep. This will create a sump for groundwater to the detriment of the area surrounding the site.
Groundwater	P593, P600	712	The company's plans to mine the sandstone will lower the water table and have a sustained effect on the local environment by severely lowering the water table.
Social / Noise / Air Quality	P613, P844	713	That they must buy my property, (No. 8 Pine Tree Ave Cullen Bullen NSW 2790) which runs the full length of the mine, at full market value plus relocation costs. They have done this for Garry Munzzer and others in Cullen Bullen. As I will be suffering 21 years of blasting, dust, bulldozer & truck movements, and insufferable on going noise and vibrations which I already endure from existing mining activity.
Social	P613, P844	714	Conditions are set requiring that the mining company purchase eligible landholders property at the request of the landholder at any time ay market, not industrial, rates.
Pagodas / Subsidence	P613, P844	715	There be a 500 m standoff zone from all pagodas and white washed caves at the rear of my property.
General	P613, P844	716	An independent flora assessment be carried out by the Department of Planning & Infrastructure prior to such an approval.
General	P629	717	Underground mining is too costly but the health risks are too high.
Social	P629	718	The Coalpac bribes called compensation. To our town in the way of offering to pay for sewage sytem is not enough. Who pays for ongoing maintenance – chemicals and electricity well into the future – not the ratepayers.
Social	P629	719	The cemetery should be untouched. The hills behind should not be disturbed just for rubbished coal to add to the tonnage.
Visual	P629	720	The open cut operations should not destroy the escarpment of our bushland or made visible from the highway.
Groundwater	P671	721	Lowering of the water table would be expected.
General	P671	722	There are viable renewable energy alternatives.
Air quality	P673	723	Keeping dust from Cullen Bullen will be unachievable
Noise	P673	724	Trains can be heard from a distance of 2.3 km away, the ETCPP would be impossible to screen out noise at a distance of 1 km.

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Surface Water	P673	725	As shown on topographic map 8931-3-N as a watercourse it has always been known as a creek by the locals, and in the 40 year I have lived here it has always flowed as either a trickle or a torrent after rain. At present, it is a nice gentle flowing creek. The creek starts North East of Cullen Bullen fed by springs and old underground workings. This is on an area that Coalpac class as the East Tyldesley lease; Coalpac intends to build a bund wall across the creek and open cut it at its source as told to me at the Coalpac open day, which willstop the flow of water. I have included a photo (1A) which shows this area. The creek flows through private properties before flowing into Cullen Creek as shown on photo 2A, the photos were taken after heavy rain to highlight their course. The creek must be preserved as it is part of Cullen Bullen's heritage.
Subsidence	P673	726	As the mine management have already stated they will not guarantee that subsidence will not cause surface damage and cracking. Directly above the houses on the eastern side of the Highway in Cullen Bullen is a very large and steep hill. On top of this is a very large rock formation called the Whitewash Caave, with subsidence possible on top of the hill then it is also possible that the rock formation can be dislodged and roll down onto the houses below. See photos 4A and 4B.
Ecology	P689, P846	727	Coalpac has put forward a biodiversity offset package that is inadequate. You can not replace Critically Endangered Habitat and what if they decide to sell or mine the offset in future. This should not be allowed.
Air quality	P689, P846	728	The dust created from blasting will contaminate waterways, the grasses and soil in my paddocks, my garden as well as creating pollution in my home.
Visual	P689, P846	729	Instead of looking at the rural scene which I now enjoy I will in the future be looking at mountains disappearing due to overburden emplacement areas.
Social	P689, P846	730	There is now doubt in my mind that land prices will drop in the area if this open cut mine goes ahead. This will adversely affect and devalue my property.
Noise	P689, P846	731	All my windows be double glazed at Coalpac's expense to minimise noise pollution and an acceptable noise barrier of trees be planted around my property.
Air quality	P689, P846	732	Overburden emplacement areas be watered regularly to minimise dust pollution.
Traffic and Transport	P725	733	Danger from increased truck activity and coal dust on roads, especially on rainy days. Errant truck drivers trying to make deadlines on deliveries.
Blasting	P725	734	Intimidation of older residents (being asked to leave their homes when a blast is due)

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Social	P725	735	Fear of reprisals if complaints are made and false hopes from job promises for locals.
General	P725	736	An independent authority needs to check the dust levels continually and to report to the EPA and the community/residents – especially after blasting.
Health	P725	737	Medical checkups for locals to be provided by Coalpac.
Traffic and Transport	P773	738	Safety on the Castlereagh Highway is paramount. More trucks on the highway make it more of a 'danger zone'.
Social	P779	739	We need to start considering long-term effects and benefits over and above the short term profits (for a few wealthy people).
Air quality	P518, P798	740	Excessive dust causing ill-health and loss of amenity to myself, and possible pollination damage to our trees as hazelnut trees are wind pollinated.
Groundwater	P798	741	Heavy blasting or removal of excessive top material can cause lowering of the natural water table or can fracture the rock below, which can lead to a loss of bore water of which our orchards are dependent on. We have a 10 ML. irrigation bore licence issued under part V of the water act, 1912, from NSW Office of Water. Our records show that the standing water level in May of 2000 when the bore was established was 42.67m from the top of the bore. Today it stands much higher in the bore indicating there has been an increase in pressure since the bore was done. This precious water source is the lifeblood of our orchards, and we look after it by using best practices dripper type irrigation. We do not want this water course polluted or changed in pressure by the mine operations which can lower the natural water table or fracture the rock below, by blasting.
Social / Economics	P798	742	In addition I do not want the gateway to the Gardens Of Stone National Park turned into a dust bowl as tourism will play a big part in helping Australia progress after the mining boom. Particularly if manufacturing and other industries continue their downward spiral, and thus is why I strongly support the NSW National Parks and Wildlife Service push to add Ben Bullen State Forrest to the conservation reserve areas of NSW and should not be mined using open cut methods. Further I believe the town of Cullen Bullen should not be allowed to be swallowed up by such a big project as it stands as a pit stop with its own proud heritage for tourist wishing to axis the Gardens of Stone national park or to view the many wonders of the Wolgan Valley or indeed go to the fine Wine region of Mudgee, and it is absurd in the extreme, that the Castlereagh highway (The only direct axis road from Lithgow to Mudgee) ,has to be closed 15minutes at a time to allow blasting to

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			take place.
General	P813	743	When the Cullen Valley Mine (Feldmast) was approved Company stated mine would go underground.
Ecology / general	P813	744	Coalpac will destroy a large area of native bush mainly in the Ben Bullen State Forest for production of mainly poor quality coal. I believe that the Power Station has to blend with Coal from other mines to enable it to burn.
Visual / Rehabilitation	P813	745	The Invincible Colliery open cut operations visible from Castlereagh Highway is a disgrace which will be subject to erosion before and after rehabilitation.
Groundwater	P813	746	Sandstone rock is directly below the Lithgow Coal seam and is the water table. Removal of the sandstone will lower the water table and will have an adverse effect.
Traffic & Transport	P813	747	Forest Lodge relies on Red Springs Road (west of railway) for direct access to Portland, Bathurst and Oberon for contractors i.e. Shearers, fencing contractors top dressing equipment, stockfloats and own personal use and therefore require the road to remain open at all times. The proposed bridge and haul road across Wallerawang− Gwabegar Railway line to permit access to Kirby's Hill (Hillcroft) area should be extended to go across Red Springs Road should be high enough to allow double deck cattle floats and other large vehicles to travel the road.
Blasting	P813	748	Page 132 (Executive summary) states "Blasting will not occur within 500M of private land unless adeq uate controls are implemented to minimize the risk of flying rock. I would expect blasting not to happen within 500m of Forest Lodge as livestock are always in these paddocks.
Rehabilitation	P813	749	The Kirby's Hill (107HA) workings should be well capped with topsoil. A plan of re−vegetation and conservation management should be established that if necessary would extend beyond the term of the mine lease until the ecology is rehabilitated to the satisfaction of the relevant authority.
Traffic & Transport	P813	750	<u>Road Closures – Blasting Castlereagh Highway</u> Adequate notice be placed on the road at the following areas; 1) Great Western and Castlereagh Highway Junction. 2) Mudgee (Castlereagh Highway) 3) Ilford (Castlereagh Highway and Bathurst Road Junction) 4) Ben Bullen and entrance at Invincible Colliery 5) Portland (Cullen Bullen Portland Road)

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			Newspapers advertising and radio announcements at Mudgee and Lithgow should be made several days prior to road closure.
Noise	P813	751	Noise contour figures show that the Forest Lodge property (after 1~tyear) will be affected by mainly the Rail Siding up to 45DBA all the time. A better solution ffe the mine, myself and railways would be that a condition of the approval be that the Baal Bone Mine Rail loop be used by Coalpac. This would reduce a lot of double handling as their proposed East Tydesley, Coal preparation plant would be very close to the rail loop. It would also cut out the need for two rail junctions within 2kms.
Ecology	P813	752	Hillcroft Offset area Hillcroft and Forest Lodge have a common boundary on the top side of the Hillcroft property. The boundary on the Forest Lodge side is cleared of trees and would like Coalpac to leave a tree free zone on their side, large enough to avoid trees falling on the fence in years to come. As the property will be destocked there will be a lot of pressure on Forest Lodge by feral native animals due to its highly improved status and would like Coalpac to erect a suitable electric fence for these animals on the boundary.
Air quality	P813	753	The amount of dust in the atmosphere, produced by the present mining, is excessive. This dust covers everything and, unless cleaned every day, outside furniture, cars, windows and other articles left outside deteriorated rapidly. With the advent of greater mining activity this dust pollution will only become a greater problem. It has been clearly documented in an April 2011 Fact Sheet put out by NSW Health(titled "Mine Dust and You") that people are more susceptible to health risks from the fine dust which comes from open−cut mining. The arrogance of Coalpac to this problem and to the effect it will have on the school children of the area as the local school will be less than 1.2 km from the mining, is alarming and shows their lack of concern.
Noise	P813	754	The mine is proposed to work 24 hours a day and seven days per week. This will mean that the noise will become constant and unbearable to those residents in the proximity of the mining activity. The sound of machinery working at all hours will have the potential to disturb the quiet ambience of the village as well as having the added potential of disturbing the sleep patterns of children and adults alike. The quiet times of the day, when people wish to relax, will be essentially destroyed.
Health	P877	755	1. Health Implications a) Local Health Considerations The Lithgow Local Government Area has health statistics that are shared by many coal communities. These

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			include above state average rates of respiratory diseases (e.g. asthma, chronic obstructive pulmonary disease), cardiovascular diseases (e.g. myocardial infarctions and cerebrovascular accidents), metabolic diseases (e.g. diabetes), renal disease and slightly higher cancer rates. Significantly, the Lithgow LGA has a premature mortality rate that is 30% above the NSW state average and an all cause mortality rate that is well above the state average. Mental health figures are also relevant but I have not seen any specifically collated for the Lithgow region. Studies (e.g. Castleden et al) relating to other coal communities find higher prevalence of mental health diseases in coal communities and there is no reason to expect that these would not apply to the Lithgow region. The following is derived from the SWAHS Healthcare Services Plan, 2006. This, to date, offers the most current overview of the population health statistics in the Lithgow region: "Lithgow The health improvement issues for Lithgow residents are of particular concern. Four of the six health risk factors are above NSW rates. The hospital SSR for all conditions are above state levels, and also significantly above total Sydney West Area Health Service ratios. Of particular note are the separation rate ratios for diabetes (202.8) and asthma (180.1). The overall mortality rate ratio (131.8) is also significantly above NSW and Sydney West levels 6 NSW Health: *Report of the NSW Chief Health Officer,* 2004 7 Sources: NSW Health Surveys 2002 and 2003 (HOIST). LGA was based on the respondent self-reported; NSW ISC data (HOIST); ABS mortality data (HOIST). *SWAHS Healthcare Services Plan:* Draft April 06 - Chapter 4 Page 46 of 245 Lithgow Health Risk Factors (rates) Lithgow SWAHS NSW Smoking 28.2 22.9 21.9 Adequate physical activity 39.7 40.0 45.8 Overweight & obesity 52.9 49.9 47.3 Any risk alcohol consumption 38.7 29.6 35.0 Morbidity (SSR) Diabetes 202.8 115.1 100 Asthma 180.1 120.9 100 Acute myocardial infarction 149.4 106.9 100 Injury 143.0 107.8 100 Cerebrovascular disease 135.7 95.6 100 All causes hospital separations 126.0 101.7 100 Ischaemic heart disease 123.2 104.4 100 Cancer 120.7 90.2 100 *SWAHS Healthcare Services Plan:* Draft April 06 - Chapter 4 Page 47 of 245"

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Health	P877	756	Attention is also warranted to the outlying all cause mortality statistics for Lithgow, as evidence on page 11 of the attached SWAHS Healthcare Services Booklet. A detailed analysis of the sub-factorial causes of these disparities remains to be done. This would need to be a large-scale population health study. However numerous studies strongly suggest that coal communities' proximity to coal mining (especially open cut) and coal burning activities are a significant co-contributor to these adverse health profiles. 234 5 6. These are but a few relevant medical literature references. A more comprehensive list can be found through the work of Dr Dick van Steenis, who is an authority on industrial, and especially mining, effects on health: http://www.countrydoctor.co,uk/ précis/*precis%2*0-%20References%20-%20van%20Steenis.htm. A further helpful analysis has been done for a coal community in Britain, Douglasdale - the Coal Health Study. The following is some of the literature review related to this: http://coalhealthstudy.org/2009/08/15/coalhealth-study-literature-review/#comments Importantly, in terms of the political debate, lifestyle analyses do not seem to account for all the observed disparities. Teasing out these sub-factors is a complicated business (it took over 20 years of research to definitely prove that smoking causes lung cancer and other respiratory disorders) - and relatively little of it has been done. The studies that have been done looking at controlling for these issues are not unanimous in their findings, as one might expect in a complex environmental health area. However there have been some large studies that have factored out lifestyle risks in coal communities and have still found excess health burdens. 7 In Lithgow's case, at first glance it would seem problematic, for example, that a smoking rate 25% above the state average would translate into an asthma rate that was 8O% above the state average. At minimum, such a difference would prompt the need for further analysis. It was for these health related concerns that SWAS Population Health Unit in a 2009 submission to the NSW government recommended that any expansion of the Mt Piper Power Station (MPPS) should be gas, rather than coal, fired. That is, their modelling predicted that more coal related emissions from MPPS would likely adversely cumulatively impact on the already sub-optimal health of the residents of the Lithgow LGA. Similar concerns arise when considering a large-scale expansion of open cut mining on the western flank of Lithgow. While the CCP is significant in itself, its approval is also likely to generate further impetus to expand Enhance Place Pty Ltd.'s Pine Dale mine (Stage 2 is already under consideration by the Department of Sustainability, Environment, Water, Population and Communities as a controlled action. Pine Dale's Stage 2 seeks to further annex approx. SOOha of Ben Bullen State Forest for open cut mining). Centennial Pty Ltd also has an interest in potentially developing its Neubeck's Creek mine as an open cut mine in the adjacent land. That is, approval of this project is likely to augment the intensity of open cut mining in the Lithgow region over and above this isolated project. It would be poor planning if such a trend was not considered. Considering CCP alone, and especially in it's co-relation to other proposed and potential open cut mines in the vicinity, this represents a significant shift in mining focus in the Lithgow region. Traditionally most of the mining has been underground. The latter form of mining reduces the surface impacts and minimises surface pollution flowing from mining processes. Thus an expanded zone of open cut mining on the western flank of Lithgow represents a significant new threat in terms of health risks. Again the cumulative health risks of intensification of the coal industry in the Lithgow region need to be considered - especially with the climatic temperature inversions that tend to concentrate air pollution closer to the ground than otherwise would happen, especially in winter. It needs to be recognised that the MPPS sits approximately Skm south of Cullen Bullen. Figures from the National Pollution Inventory show that as a single

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			site, it has some of the most significant air pollution discharges in the state: http://www.npi.gov.au/ . The following is a recent report on the level of emissions relating to the MPPS: http://www.smh.com.au/environment/pollution-index-reveals-the-hidden-costs-of-electricity-20100402-riyO.html The main point here is that this region is already exposed to numerous adverse industrial air pollutants. These may well be playing a significant role in the region's adverse health statistics. A major expansion of open cut mining in this region is likely to only add fuel to this fire.
Air quality	P877	757	Specific Comments on the CCP EA report: Air Quality Impact Assessment Firstly, analytical modelling is only as good as the quality of the input data. The environmental consultancy firm, PEA Holmes, uses historical data from the air quality monitors at the Invincible and Cullen Valley mines as raw inputs for their modelling. Significant questions arise as to the quality of this data. Under the current EA, Coalpac commits to real-time monitoring. However this has not applied to date. Coalpac has not had the best record in terms of its monitoring standards to date and has been subject to a number of non-compliance penalties, including relating to its monitoring practices. It is quite possible, given the noncomprehensive nature of the monitoring to date (only on lout of every 6 days has monitoring been completed), that selective monitoring practices may have occurred - such as non-recording on blast/high dust days. Such questions raise concerns about the nature of the input data, which in turn could lead to resultant modelling errors. It should be noted that, while mentioned in the Executive Summary and the Acoustics Impact Assessment, I could find no mention in the Air Quality Impact Assessment of the temperature inversions that mark a relevant aspect of this region's climate. This would seem highly relevant to air pollution considerations with this mining proposal and it is a concern, in terms of quality, that this report should fail to mention it. Putting these input quality issues to the side, the analysis offered does suggest that a number of residences (up to 25% in some of the data sets) are likely to experience air quality conditions that do not meet recommended guidelines. Many of these residences have no contractual arrangements with Coalpac. It would appear that the health risks, at least the respiratory disease risks, are not in dispute with Coal pac. PAE Holmes states in its Air Quality Impact Assessment, "There are potential risks to human health associated with exposure of blast fume. Acute and short term risks may include; coughing, shortness of breath, irritations of the mucous membranes of the eyes, nose and throat and pulmonary oedema. Medium and long term effects may include Reactive Airways Dysfunction Syndrome (RADS), in rare cases bronchiolitis obliterans and chronic respiratory insufficiency (AEISG,2011)." What they do not specifically mention in their report is that blast fumes represent only one of a number of adverse health impacts that an open cut mining project can have on the local community. Fumes and dust related to operational machines and transport vehicles, health aspects of the noise and vibration associated with blasting and transportation and industrial accidents also need consideration. The Department of the Environment, Climate Change and Water currently only requires analyses for Total Suspended Particles (TSP) and airborne particles above PM10. This is unfortunate, to say the least, given the body of research that now suggests that smaller particulate sizes, such as those less than PM2.5, may be more hazardous to human health. Smaller particles are less easily filtered away by the body's airway

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			defences from reaching the deeper aspects of the lungs. Once present at an alveolar level the smaller particles are then thought to be able to cross into the blood stream. Many of these particles are toxic to human biology. This may represent one of the principal modalities whereby the extra-pulmonary disease manifestations that are seen in coal communities are mediated - hence facilitating the cardiovascular, renal, and cognitive health disparities that are observed in these communities. Thus it is possible that the most Significant public health risks derived from the open cut mining process have not been accounted for in the EA. Cullen Bullen Public School will sit in the centre of the encompassing proposed mine, at some points at only just over 1 km from mining activities. This poses a particular health concern as children, with their smaller airways, are more prone to asthma and related respiratory dysfunction when exposed to environmental triggers. As has occurred with other communities adjacent to open cut mines in Australia, most notably in the Hunter Valley, it is quite foreseeable that as the mining progresses and parents see their children developing asthma, they and health authorities will start to raise augmented health concerns about the school's proximity to the mine. In time this may well result in the closure of this school, as has occurred in similar circumstances elsewhere, as is outlined below. The government will no doubt be aware that the Central Council Natural Resources and Energy Policy Committee of the National Party of Australia has suggested a 5km buffer zone between towns and villages and open-cut coal mining. There are both health and social reasons to endorse this policy. Almost the entire CCP lies within a 5km radius of the Cullen Bullen township.
Noise	P877	758	<u>Acoustics Impact Assessment</u> As with the Air Quality Impact Assessment report, the consultancy firm Bridges Acoustics notes from their modeling that a number of residences, many again with no contractual agreements with Coal pac, are likely to be adversely affected by noise levels from the mine that exceed recommended guidelines. I would be interested to know by what standards such public intrusions are weighed? What proportion of local residences is considered OK to adversely impact on? Though unfortunately in these assessments it does not always seem to occur, it is relevant to consider cumulative impacts here. We have reports of adverse local impacts in terms of air, noise and local transportation issues, not to mention the loss of local bush land. Cumulative impacts are synergistic in terms of local quality of life. It would seem blindingly obvious that it would be difficult (read likely impossible) to open cut mine circumferentially around a town without this having a tangible adverse impact on the local public amenity. We should not lose sight of the woods for the trees.
Health	P877	598	b) Global Health Considerations The job of selling the mining of coal as a climate friendly practice is tough one! If one reads the ENs greenhouse gas (GHG) emissions sections, the dominant theme is that this coalmine will represent a negligible, and thus non-relevant, addition to greenhouse gases. The executive summary states: "The emissions estimated for the Project will not individually have any significant impact on global warming. Applying the principles of Ecologically Sustainable Development, it is considered that there will be no increase or measurable impact on climate change as a result of the Project, since the supply of coal to the Mount Piper Power Station by the Project will be supplied either from this or another project."

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			The summary conveniently omits the caveat that concludes PEA Holmes' GHG assessment; "In practice, of course, the effects of global warming and associated climate change are the cumulative effect of many thousands of such sources." In this light, the 146,713,030 tonnes of C02 that are projected to be released into the atmosphere as a result of this mining operation are hard to justify as of no significance. Ecologically Sustainable Development principles are presumably those derived from the relevant Australian government department, The Department of Sustainability, Environment, Water, Population and Communities. On their website, ESD is defined as such: "Australia's *National Strategy for Ecologically Sustainable Development (1992)* defines ecologically sustainable development as: 'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased." It is problematic, to say the least, as to how an open cut mine that will destroy a biodiverse overlying forest and increase health and social stability risks for a local community satisfies such a definition. It may produce coal that can be burnt for electricity but again it is highly disputable as to whether this augments "the total quality of life, now and in the future". As such the statement should be read as an inappropriate misnomer, inserted perhaps for the sake to trying to tick some regulatory box. This project is in no wayan ecologically sustainable development. If it can be held that humans need to minimize our C02 emissions, then the ethics of the GHG assessment in this report is akin to a heroin dealer arguing that their local contribution to the global heroin trade is negligible and thus not relevant! It is comforting, in the best black humour sense, that the company commits to looking into the feasibility (only if the economics are favourable) of powering their transport vehicles with "alternate" fuels - as they move their coal about! In the report's effort to make the C02 implications of the mine diminishingly irrelevant, it has misallocated the current global annual C02 emissions (-3SGt of C02) for the total volume of atmospheric C02 (- 3000Gt). In doing so, its figures of percentage contribution of this project to C02 levels are out by a factor of one hundred! The EA states that Coal pac will be the closest coal supplier for the MPPS. This is technically incorrect as there are other coalmine suppliers that lie closer to the MPPS than the proposed CCP. It would also appear a way that Coalpac is trying to shore up its future contracts with the MPPS. There is no guarantee that the MPPS will wish to derive the stated volumes of coal from the CCP. There has been much discussion in the Lithgow region about the competitive threat that some of the coal mines further west represent, in terms of supplying the MPPS. The MPPS is trying to not be beholden to local coalmines in its capacity to get the best price for its coal. Thus there may be less security around these supply issues than the EA suggests. If these local contracts fail then the C02 advantage that Coalpac claims for its transportation needs will be lost. In 2009 the Lancet stated, "Climate change is the biggest health threat of the 21st century". Currently we have no effective way of sequestering atmospheric C02 emissions. The burning of coal is the world's largest GHG amplifying agent. It is not possible to coherently make a case that one can mine for coal for use in thermal power stations and that this has no relevance to GHG emissions. The attempt of this report to do so greatly undermines its quality. Unfortunately, currently humans can't make coal clean - and this report's attempt to argue that black can be white is an insult to intelligence.

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Social	P877	599	2. Social Implications a) Cullen Bullen If approved, the CCP will mine approximately 270 degrees around the township of Cullen Bullen. This is a small but still functioning town. The mine will extend to 1 km from the town's public school at its centre. According to the EA's figures, the township of Cullen Bullen has progressively declined over the period when mining activities have been occurring. This would tend to raise questions about the company's statements that the mining project has been of major employment/community benefit for the town. If we look at the Hunter region we can see that where mines have encroached close to townships that ultimately many of the towns decline. The following is a list of school closures impacted by nearby mining operations: In the Hunter region - Ravensworth, Warkworth, Hebden, Oak Park In the Mudgee region - Wollar and Ulan schools have been severely impacted and probably won't last for too much longer. Such closures represent the loss of basic community supports. They represent steps in the decline of such towns - and this is far from over-dramatisation, as these historical examples attest. The EA states that the CCP will augment employment in the region. This may be selectively true, though many of the jobs will go to people living further afield (who will not have to live day-to-day surrounded by these mines). What is not mentioned are the employment and social costs of this project. Already property prices have fallen in this region - with resultant economic loss for the owners. If basic infrastructures, such as schools etc, start to close - as could well occur - then the town will be on a pathway of decline. That is, this mine could represent the longer-term death of this town, rather than its economic saviour. The scales of the surrounding agricultural economy are downplayed in the report compared to the economic returns of mining the region's coal. What is not mentioned, and what the National Party and farmers have consistently reminded the miners, is that agricultural practices can continue long term, whereas the gains from mining are short lived. Thus, over time, the disparities of economic benefits from mining compared to agriculture become progressively less - and do not result in the major social disruptions that opening and closing mining operations generally entail. The company states that it wishes to re-invest some of profits for the benefit of the local community. To date this has meant a total of $10289 donations towards community infrastructure and $138 752 donated to Lithgow City Council, supposedly earmarked for the Cullen Bullen community. Discussions with Cullen Bullen residents and acknowledged by the Coal pac management team have suggested that almost none of the donations to Lithgow City Council have returned back to the Cullen Bullen community to date. Given the size and duration of this project to date, these sums of money would seem rather paltry compared to the derived earnings from the mining of coal in this region - a public asset. This would seem to not auger well in terms of the company's stated interest in assistance for the local community. Though there has been some controversy about sampling procedures by the survey performed by Lithgow City Council, an independent petition against the CCP received the support of 120 named local Cullen Bullen residents. In a town of 200 people, this suggests that a majority of the town's residents are opposed to the mine- and this could be an under-estimate. It is interesting to read that mining operations will be suspended during burial ceremonies at the local

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			cemetery. Anomalously the dead appear to gain more deference than the living; or are they due a final moment of solitude after living through a lifetime of blasting?
Social / Economics	P877	600	b) Lithgow and its Economy As is noted in the EA's analysis of the Lithgow LGA's demography, the Lithgow region is failing to match the growth achieved (in population or average income terms) of its neighboring towns. This is the subject of much discussion in the Lithgow region. One of the consistent themes that is voiced from a variety of positions, from the General Manager of the Lithgow City Council and extending across various sectors of community opinion, is that Lithgow has a real (if not survival) need to diversify its economic base. While mining has been the traditional base of the Lithgow economy, it is now no longer the majority employer. Indeed many community leaders now see that Lithgow urgently needs to move away from its traditional vision of perceiving itself as a 'mining town'. Such a stigma repels many other potential businesses - that have chosen in recent history to establish themselves in the towns further west, despite the larger distance from Sydney that this entails. That is, on a broader economic and social analysis, mining may well be holding Lithgow back. Focusing on mining and burning coal as *the* economic priority of the Lithgow region risk undermining the future prospects of this region. This focus, and their reluctance to shift from this perspective, by the traditional Labor Party majority of Lithgow City Council may well be a significant factor in what is predicted to be a generational shake up in the composition of council at the upcoming local council elections. In this context the behaviour of Lithgow City Council has been somewhat perplexing. Last year they voted unanimously against the proposal, citing concerns about its effect on the local community. More recently they have reversed this position (though not in a unanimous vote), stating that the mine should be no closer than 500m to the township! Thus they have shifted from advocating on behalf of the community of Cullen Bullen to a recommendation that the mine can undertake Australian *worse* practice in its zones of exclusion - truly a remarkable transition. Such an anomalous transition can only make one wonder about what is going on in the local politics of Lithgow. Lithgow is actually situated adjacent to a beautiful and biologically rich hinterland. It lies adjacent to biodiverse forests and unique geological topography. Tourism has great potential as another strong arm in Lithgow's economy - as has been recently demonstrated by the Emirates group establishing a six-star eco-resort in the Wolgan Valley - just to the east of the proposed CCP. To date most of the industrial impacts of coal mining have been kept underground. While still having surface impacts, in terms of subsidence and resultant land and water effects, these are of a category difference compared to the surface effects of open cut mining. So would approving the development of the expansion of open-cut mine along the western edge of Lithgow represent sound economic management? I would argue quite likely not. Lithgow needs to progressively move away from coal mining in order to flourish. The CCP would move the town in the opposite direction – offering every new visitor a large scar of mined earth - a great tourist welcome.
Ecology	P877	601	3. Environment While not being an area of technical expertise for me, it would be inappropriate not to mention the environmental losses that would result from this project. Most of the mining will occur in the Ben Bullen State Forest (BBSF). This forms part of the Gardens of Stone

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			Stage 2 Proposal that aims to conserve the remaining high conservation value native landscapes in the Lithgow region. BBSF comprises forests of high biodiversity and unique geological features such as the pagoda landforms!. A major land disturbance on the western edge of this with the CCP, and other open cut mining applications that will more than likely follow suit, obviously would be a conservation loss. The OEH and the NPWS have recommended reserving the Ben Bullen State Forest as a State Conservation Area. From a conservation viewpoint it would be highly undesirable to excise a part of this for mining purposes.
General	P877	602	4. General Considerations It should be noted that the CCP represents lower return, what might be termed 'scavenger' mining. Most of the area has had the larger seams underground mined. The remaining coal seams are relatively thin, compared to other mines in the region, and the amount of over-burden needed to be removed to access them is significant. The coal has a higher ash content (-40%) and is thus less effectively burnt. Up until recent years the MPPS only accepted coal with ash contents in the order of 22-26%. Thus this is not high quality coal- that is being extracted at a high ecological and social price. Such economic considerations are evidently only feasible when the price of coal is high and larger scale land removal technologies have been developed. Moreover, despite its assurances of best practice, Coal pac does not have a glowing corporate record. In its undertakings in 2006, when it sought an extension of the Invincible Colliery, it offered to progress towards underground mining. This never occurred. It then said its open cut operations would not be visible by the public, specifically not from the Castlereagh Highway. I would suggest anyone not familiar with the project to go for a drive along the highway now to see the extent to which this has been complied with. The only public citizens that this project is not currently visible to when driving down the Castlereagh Highway would be those who are blind. The judge at the N5W Land and Environment court made this remark in his concluding judgment remarks about a license breech where the company continued to sell coal in excess of its license limits for a period of a year: "I am somewhat troubled by the conduct of the defendant (Coalpac) particularly after June 2007. Nevertheless, I will take into account the company's contrition and its insight into the commission of this offence."11 (After June 2007 the company knew that it would breech its licence limits but continued to do so) There have been a variety of non-compliance issues over the years - in terms of its monitoring standards and its maintaining coal outputs within agreed limits. The longer-term effects of its inadequate rehabilitation of Canyon Colliery (that was also under this company's management) are only now becoming more appreciated with the excess zinc and nickel contamination that is now occurring from the water discharge from this mine into the Grose River. These issues do not offer great corporate assurance that if this project – deficient over a variety of environmental, health and social grounds - were to go ahead that the level of rigour held out in the EA would actually eventuate. Presumably the consenting authority for such projects attempts to weigh up the pros and cons of the proposal in coming to their decision. This makes me wonder how such value deliberations are made. The report's consultants have noted that the project will have from mild to significant adverse impacts for a number of people living near the project - over a range of issues: air quality, noise impacts, transportation

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			inconveniences and risks etc - in a community that already suffers from excess disease and mortality burdens. It will also have an uncontestable adverse impact on the forest that will be irrevocably altered as a result of the mine. I have argued that it may be another impediment to Lithgow's efforts to diversity its economy - which may underpin Lithgow's longer-term success or failure. It will be another step in adding to our GHG burden - with all its medium to longer-term implications for health and social stability. To counter this is the estimated $1.5 billion in harvestable coal that is projected to be extracted. The profits from this will fall into the pockets of Coalpac. Approximately 90 local jobs will be maintained for the life of the project (again with other local jobs lost/devalued). So the value of the money gained from this coal is contestable, as to how it should influence this weighing up process. In terms of people affected, it is quite likely that more people will be adversely affected than gain benefit (the, currently limited, shareholders of Coalpac). In terms of environment there is no question as to whether the state of the land will be better of worse off as a result of the mine. I hope the dollar value of the CCP is not being used as a form of influence, in terms of the royalties that the state government could derive from such a project.
General	P877	603	So we are left with the end users of the coal- those that gain benefit from the supply of electricity. How do we weigh up their needs? They benefit from access to electricity, yes. Do we, however, have choices to make in terms of where we access this power? It is said the Iron Age didn't end when the iron ran out. Similarly the coal age is unlikely to end when coal runs out. We still have numerous reserves of coal. With the remaining reserves that we intend to use as we (hopefully) re-engineer our energy needs to cleaner sources, we should focus on using the better coal reserves -in terms of quality of coal, and those that can be accessed while minimising impacts on our environment and social amenities. I would suggest that the CCP meets none of these criteria.
Social / General	P877	604	5. Summary The proposed Coalpac Consolidation Project represents a further step by Coalpac Pty Ltd to up-escalate the intensity of its mining operations by which it hopes to extract residual low-grade coal deposits under the area of its mining lease. In particular, the project proposes to almost circumferentially ring mine in close vicinity around the township of Cullen Bullen. Being an expanded open cut mine proposal it would stand as the most destructive mining project in the Lithgow region to date, in terms of its surface impacts. It would also open the gate to further open cut mining in the adjacent mining leases held by other mining companies - further compounding this effect. The compounding of risks from these mines and the coal burning in the Lithgow region, though highly relevant, is not addressed in the report. Such a shift in type and intensity of mining practice in the Lithgow region will be or has a high risk of being deleterious for the following reasons: It will - Further increase the health risks for the people living in the vicinity. This community is already disadvantaged, in terms of its health and social profiles. - Risk undercutting the longer-term viability of the township of Cullen Bullen. - Create an industrial impact that will adversely impact on other means of economic development in the Lithgow region - most notably tourism, agriculture, and the capacity of the town to recruit non-mining

<table>
<tr><th>Category</th><th>Submission ID</th><th>Issue ID</th><th>Issue</th></tr>
<tr><td></td><td></td><td></td><td>business. Lithgow has a pressing need to broaden its economic base away from a narrow focus on mining.
- Majorly degrade an area of the Ben Bullen State Forest - that has been recognized by various governmental and non-governmental bodies as a region of high conservation value.
These represent a broad and significant cohort of reasons that the Coalpac Consolidation Project should not be supported. It is the wrong form of mining, in the wrong place, at the wrong time.</td></tr>
<tr><td>General</td><td>P394</td><td>605</td><td>I refer to the Coalpac Consolidation Project (the Project) currently on exhibition at the Department of Planning & Infrastructure – Major Projects website. The Project as presented includes a proposal to construct an overland conveyor between Invincible Colliery and Mount
Piper Power Station. The route of the proposed conveyor is shown on the attached Plan No. PC4164.
It can be seen on Plan PC4164 that the proposed route takes the overland conveyor across mining authorities that are held by Ivanhoe Coal Pty Limited (Ivanhoe) and Boulder Mining Pty Limited (Boulder) both subsidiaries of Centennial Coal Company Limited (Centennial).
Details of the mining authorities affected are set out in table 1 below. Note for the purposes of this letter Centennial can also be taken to mean Ivanhoe and Boulder.

Table 1: Details of Mining Authorities Affected by Proposal
<table>
<tr><td>Lease</td><td>Holder</td><td>Depth Restrictions</td></tr>
<tr><td>CCL712</td><td>Ivanhoe Coal Pty Limited</td><td>Excludes the surface to a depth of 15.24m</td></tr>
<tr><td>ML1301</td><td>Ivanhoe Coal Pty Limited</td><td>Excludes the surface to a depth of 15.24m</td></tr>
<tr><td>EL5899</td><td>Boulder Mining Pty Limited</td><td>Embraces the surface to a depth of 900m below the surfa</td></tr>
<tr><td>A359</td><td>Ivanhoe Coal Pty Limited</td><td>Embraces the surface to a depth of 900m below the surfa</td></tr>
</table>
Of particular concern, the proposed corridor for the overland conveyor traverses ML 1301 and EL5899, both of which form part of Centennial's Proposed Neubecks Open Cut Project (Neubecks Project). The feasibility study for the Neubecks Project is nearly completed and base line environmental studies have commenced.
The Neubecks Project feasibility study has identified a significant recoverable resource of saleable product at low ash that would be sterilised by the conveyor corridor. This high quality resource has a low strip ratio and would be a major profit contributor to the overall project.
Centennial does not oppose the idea of an overland conveyor but strongly objects to the:
• Significant commercial impact on the Proposed Neubecks Project, and
• Sterilisation of coal resources and reserves, by the current proposal.

Centennial has also expressed these concerns to the Department of TIRIS - Resources & Energy.

Also, it should be noted that the proposed route of the conveyor appears to cross land that is part of the Coal Link Coal Haul Road (Haul Road) from Angus Place Colliery to Mount Piper Power Station. Centennial now leases and operates this Haul Road and have not been consulted on the interaction of proposed overland conveyor and the Haul Road.</td></tr>
<tr><td>General</td><td>P123</td><td>606</td><td>I consider mining to be a crucial part of our community as far as employment and all of our life styles is</td></tr>
</table>

Category	Submission ID	Issue ID	Issue
			concerned. Mining has come along way in the last 20 years, one of which the biggest things being rehabilation, the landscape is returned to its natural shape (as close as possible). We do not simply rape the earth of its minerals. Earnings of those working in this industry is spread far and wide, personally I put alot into my children in ways of private schooling and supporting thier chosen sports. In this way i believe I am working to build a better future for all of us.
General/ Ecology	P32	607	I support this as i believe it is valuable to our local community. To work along side the community Coalpac has been engaging with the local community about the Consolidation Project and have already made several key modifications to the Project plan to address some of the concerns of the local community. The company are committed to the rehabilitation of its mining areas and strive to achieve a high standard in environmental management, this ensure that the environment is being sustained.
General / Social / Economic	P46	608	I am a contractor to Coalpac which requires me to travel to their sites for safety audits 3-4 times a year. When working at their sites I am spending money at local motels (approx 3 nights each visit) and eateries as well as fuel for my vehicle.
General / Economic	P47	609	PJL Group is currently a service provider for Coalpac in the Engineering Industry. We provide Fabrication, Installation, Mechanical, machining and Metallurgical services and consider Coalpac to be an important client. We have recenty submitted tenders for proposed upcoming works. These projects would include in house fabrication and on site installation which would require the use of various local businesses for crane, EWP, supporting structure hire and transport. It would have a negative bearing on PJL and other local suppliers should these and future projects not proceed.
General / Economic	P59	610	only good can come of this project going ahead ,as a long time resident of this area and a contract worker to this company i see a great need for this project to go ahead to further prosper the community with the financial flow on effect from this and other projects and to see that employment in the area stays strong
General	P50	611	I support the proposal on the proviso that environmental monitoring contineues to take place as required. Our business depends on this proposal being being granted so we can continue to provide environmental monitoring service for Coalpac
General / Social	P98	612	Macquarie Geotech is a proud employer of local people, we not only employ locally we also live local. If Coalpac was not to receive this Project Approval it would result in the closure of our Lidsdale Laboratory.
General	P39	613	the will keep me and my 2 kids hear and give me a beter life stilly
General / Social	P76	614	coalpac is a valued customer and has supported us for many years. to see them go could cost jobs in our

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			small business.
General	P84	615	I support employment and further development for the town of Cullen Bullen and its surrounds, which I think Coalpac will offer with it's expansion. I know I would not be living in this area if I did not have current employment. The majority of the protestors in the town are pensioners or are people on governement benefits whom do not have to work for a living. Some of the people in the town are too frightened to speak out in support of the project because they are scared of the ramifications from the protestors. Also the protestors are deliberately telling lies (as published in media, etc) to get the residents scared.
General	P79	616	I support their application as I believe that the mine will support the local community and provide beneficial employment opportunities in the area.
General / Social	P354	617	As a full time employee of Macquarie Geotech at Lidsdale NSW, my work relies upon Coalpac providing samples for us. As our main client and >90% of our profits each month; if they were to close due to not receiving approval for new development, it would have such a large impact on our site that my Job would be made obsolete immediately. I am responsible for a mortgage, car loan, insurance on the house car and health, as well as the upkeep of a household including electricity and gas bills, phone bills and rates to mention a mere few, along with raising our 7yr old daughter. If my job was lost I would not be able to help support my household and partner would not be able to afford to cover everything on his own and we could inevitably lose our house and cars, not to mention trying to pay our bills and raise our daughter. Additional to my Job, there is another full time staff member and 2 casual staff members that would also be left unemployed and find themselves in severe financial hardship.
General	P30	618	I fully support the expansion of the Cullen Valley and Invincible mining operations. After being in the mining industry for some years, I seized the opportunity to move back to this region (being home) and work for Coalpac. I enjoy working for this company and truly believe in the potential that lies ahead. The company is open and honest in its proposed consolidation project and the project itself will significantly continue to benefit the community as the company does now. I look forward to continue moving forward, living and working in the region for Coalpac.
General	P145	619	Big Rim has been providing mining equipment and manpower services to Coalpac since 2006. We're a NSW based company, with an employee base recruited from nearby Cullen Bullen, Portland, Lithgow and Bathurst. For our company, a decision to allow the consolidation project to proceed will mean the possibility for us to hopefully renew our contract, and enable the current 60 employees working at Cullen Valley and Invincible to continue to work in the local area, along with the opportunities for new employees. We're a small company,

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			who employs locally, works with the local communities, and uses local service providers and suppliers. The consolidation project means a lot to us in being able to continue to employ people and operate as a business in the region. I'd also like to say some words about Coalpac. We've had a very close relationship with Coalpac over the years and I can attest to the professionalism, honesty and dedication of Ian Follington and everyone who works for him. They are good, hardworking people, who treat everyone affiliated with their projects as part of their team. I think they have demonstrated that their attention to biodiversity management and rehabilitation is real, and I know that they will be able to deliver upon their environmental management plan within the new mining areas. I believe it would be a shame to see this Australian company close now, after weathering the GFC, and to witness the ramifications it would have downstream on all of their contractors, suppliers and on the economies of the local communities if the consolidation project does not go ahead. I would be happy to talk to anyone about the project if contacted.
General	P37	620	On Behalf of Absolute Earthmoving Repairs P/L we are behind the requested expansion to aid in job growth and therefore benefit the community.
General	P89	621	SMW Drilling Services is a rapidly growing blasthole drilling business. We have serviced the Coalpac operations since 2009. Coalpac has provide for SMW the ability to establish a long sustainable growth period, as Coalpac was one of the initial operations to give a new supplier an opportunity. From this initial first step with Coalpac, SMW has been able to triple it's size to now employing and supporting over 12 local employees/families. Without Coalpac, SMW would not have had the opportunities that it can currently create today. I view our long term contract as a critical contributor to our success both now and for the future. The management of Coalpac has always been extremely professional and have always instilled the idea of controlled mining for minimal impact and sustainability on all levels. What Coalpac brings to the Lithgow area cannot be solely measured in dollars and cents but can be measured in opportunities, sustainability and growth. In closing these 3 critical factors that Coalpac provides effect not only it's direct employees but the the associated family's, the small business and area in whole. The flow on effect of no growth will than be measured in loss of dollars and cents.
General	P153	622	The existing Invincible and Cullen Valley mine sites operate in areas that demonstrate a long history of coal mining extraction using underground and open cut mining methods. The proposed Open cut operations are by in large targeting areas previously extracted via underground methods and are capturing what is effectively sterilized coal no longer economically accessible by underground methods. The upper series of seams (Moolarben, Middle River, Katoomba, Upper Irondale etc) are unlikely to be ever extracted using conventional underground mining methods. The recovery of the Upper series resource utilizing Highwall

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			mining methods creates a unique opportunity to recover sections of the seams and utilize coal which would otherwise be ignored. The challenges of blending and including these coals in the Mt Piper power station product is an area Coalpac's owners have worked hard to develop and understand. Mining activities within the Cullen Valley and Invincible areas have necessitated the operators working closely with the local community, particularly in the consultation and information sessions they have provided on the company's development aspirations for the area. Difficult mining conditions and sensitive local ecosystems have required Coalpac to develop and implement industry best practice rehabilitation programs. Coalpac have taken action to rehabilitate legacy mining spoils left by previous companies and have undertaken extensive mitigation measures to control the East Tyldesley UG fire, which they inherited. Rock structures and water run off mitigation practices in the Cullen Valley area would be considered benchmark examples of the mine site rehabilitation and closure practice. Coalpac have consistently demonstrated a commitment to maximize the usage of coal within the resource areas whilst demonstrating environmental best practice and for these reasons I sincerely hope the Coalpac Consolidation project receives project approval in a timely manner.
General	P133	623	i support this due to i work in this industry and it is my way of providing for my family
General	P134	624	I am employed by the major contractor of Coalpac I have just relocated to the area for work
General	P137	625	This project currently and into the future supports my business through providing opportunities which otherwise do not exist. The closure of the mine due to the proposal being canned would result in the closure of my business and the loss of 3 permanent jobs in our company.
General/ Social	P139	626	I support the mining of Invincible, and Cullen Valley coalmines as it employs me and allows me to continue living in the district. which allows me to give back to the local cummunity, subsequent closure of the sites would force me and many others employed here to seek employment elswhere most probably away from the district.

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General	P85	627	y family and I would support and welcome the Director General's approval of the project extension within the proposed scope of changes outlined by Coalpac. Given the present reserves held in the existing tenements, the proximity of necessary infrastructure to process and transport coal to the nearby Mount Piper Power Station, it seems completely logical to allow continued production. The ability to offset the production costs of domestic coal by exporting a proportion of product under existing contracts will derive an end benefit of providing reduced costs to households for the providion of energy throughout the supply area. By closing operations at the site, a number of negative impacts will be felt by the surrounding community, including a rise in the unemployment rate, a reduction in the amount of localised spending, and many families may be forced to relocate from the community they love and enjoy in order to obtain work. Not only is this a direct effect on the employees of the site, but also on the many contractors, suppliers and support businesses in the surrounding area, and the families that derive a major proportion of their income from these enterprises. another huge benefit of the proposed infrastructure development is the removal of the need to transport coal by road to Mount Piper Power Station; by utilising a fully enclosed coal conveyor, the derived benefits of reducing the number of heavy vehicle movements (reduced risk of accidents, pollution, noise etc), reduction in the amount of wear and tear on the road network; not to mention the enhanced efficiency of the conveyor vs a fleet of trucks. With the approval being granted under current planning and approval guidelines, the site will obviously be managed with a firm focus on the preservation and reinstatement of the site for the enjoyment of future generations. As we all know, electricity is a commodity which is paramount in the productivity and comfort of society, and it must be sourced from somewhere. Until such time as technology evolves to replace coal-fired energy generation, we are best to use existing developed sites, rather than go in search of "greenfield" sites, as the cost of development is far less than a new development, and the process of reinstatement can follow much sooner on a developed site.
Social	P90	628	I wish to declare my support of the Coalpac project. In my capacity of dealing with the unemployed in this area for the last 8 years, Coalpac has given local unemployed opportunity for work. There is extremely high unemployment in this town and should Coalpac be denied their project the affects in this town will be enourmous. Coalpac has also undertaken to commit to further employment opportunities for locals here. I encourage approval for this project without hesitation. Coalpac make numerous donations to local charities who would suffer greatly should they be forced to close. Coalpac is also planning to undertake to support the Australian Indigenous Education Foundation . Not only is the previous stated extremely important to our local area, but Coalpac has undertaken rejuvination and rehabilitation of the sites previous mined. They do not go near the water table which is also important. There can be no vailidated argument. I strongly support any

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			industry that will encourage growth and employment in this town and region.
General	P135	629	employed by contractor worked here for 4 yrs would like to stay here for alot more
General	P57	630	I rely on this mine for my job as do many other people and there families. Wallerawang and Mt Piper power stations also use our coal at a cheaper price then it would cost them to have it brought in from other places witch helps to keep the power bills down.
General	P91	631	I fully support Coalpac in their application due to their commitment to the local area through employment, business growth, local charity work and general high involvement in the community.
General / Social	P129	632	we supplie mount pipper and wang power staion with coal for a go price if we dont our power bills will go up by tripple in the area and i will be left jobless and may others
General	P92	633	need to keep my job to support my family so they can contine to live in the local area
General	P127	634	as i am employed by a contractor of coal pac, i am very keen for thurther extension for mining
General	P15	635	I support the Coalpac Consolidation Project. Natural resources are the backbone of Australia's economy and there is no good argument for failing to support the mining industry as long as it is monitored and managed in a responsible manner. I have been thoroughly briefed on the Project and Coalpac's historical operational performance. I am objectively convinced that the company operates responsibly and sustainably. It has proven itself as a good neighbour and of substantial economic benefit to the community in which it resides. My understanding is that this company will close its doors in the event this Project is not approved. My family is one of hundreds that directly relies on this business remaining viable. In addition, it is one of a dwindling number of small Australian owned businesses in an industry of large overseas conglomerates. Let's ensure Australians keep benefitting directly from Australian resources. The government should continue to demand best practice from the mining companies but don't shut them down, it's short-sighted and self defeating. Energy demand is growing and a viable alternative solution that can power our nation into the future has yet to be developed.
General, Transport	P7	636	Coalpac is an Australian coal mining company that has been operating the Cullen Valley and Invincible pits for several years. The coal produced is supplied to the Mt Piper power station. The Coalpac Consolidation Project ensures coal supply to the power station and allows for conveyor transport; significantly reducing road transport on the Castlereagh Highway. Coalpac have consistently demonstrated a commitment to timely and high quality rehabilitation of mined out areas, and minimisation of environmental impacts on the community.

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			I fully support the Coalpac Consolidation project as it will provide surety of energy supply, support the community and local business, and provide an overall benefit to the state and community.
General	P122	637	I rely on this application to be approved to continue to provide for my family. I am a fitter at the invincible site.
General	P287	638	I support this proposal as a logical development of the coal resources of the area. Coalpac have demonstrated a sound ability to manage their operations and the development represents an extension of a worthwhile activity in the area. With the current level of Government direction and control of this type of project it is possible to undertake mining activity in accord with the requirements of the community and the company.
General	P58	639	I feel there has been sufficient effort put in to satisfy reasonable requirements for community acceptance
General	P78	640	It is our belief that the project should be approved due to the following benifits: 1. Coalpac is an Australian owned company. 2. The project will ensure a continuous and cost effective supply and security of coal to Mt Piper Power Station . 3. Has the capacity for export dollars. 4. An important factor in keeping coal off our roads and highways. 5. Coalpac has a proven record for community involvement,local employment opportunities and support for the Australian Indigenous education.
General	P141	641	Supplier to Coalpac
General	P31	642	I have moved to the area from Wollongong with the expectation that this mine would be able to support me. I have found Coalpac and the surrounding area to be an excellent area to live and work
General	P80	643	Dear sir/madam iam pleading for positive outcome on this approval. Iam a local resident i know a lot of residents of Cullen Bullen and most have no issue with the new appoval, there seems to be six or seven people against this and are intimadating the rest of the people, they are being fed a lot of missimformation from activists from the lower blue mountains. i have worked in the coal industry for the last thirty years with a lot of different companys. I find Coalpac take more care than most companies with their envioment concerns, i have strong views on the enviroment myself. every job that will be lost if this does not go ahead is a family that has lost their in come. i myself cannot afford to loose my job as im at an age where ill find it very difficult to find new employment and im not ready for the scrap heap yet
General	P309	644	we need this employment in this area

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General	P185	645	This would be a major bonus to the Lithgow Government Area. The company has indicated that it intends to employ as many people as possible from the LGA, as well as sourcing as much of their supplies/requirements as possible from the area. This would provide a major boost to the businesses directly concerned, as well as indirect flow-on effects to other businesses. The local economy can only benefit from this venture. They appear to be very environmentally conscious, regenerating as they move on. This is also a plus. I would stongly ask that approval be given to the proposal.
General	P93	646	I totally support this project
General	P2	647	I have reviewed this document, and have a first hand knowledge of the business and its activitites and plans, and I fully support the project. The preparations and committments made by Coalpac moving forward will provide for a safe, environmentally and community friendly development. The committed monitoring gives me belief that the community will be well informed and minimally impacted.
General	P36	648	I need this job to keep a roof over my familys heads.
General / Social	P81	649	Our company, employee's and associated families support Coalpac's submission for mining at Invincible and Cullen Valley Mine's. The ongoing mining will support not only our company and employee's but our local community in general. The revegitation and rehabilitation projects are always ongoing to keep the impact of the enviroment minimal. Finally this project will keep several hundred people employed in the district with a flow on effect to many more in the district which is stuggling to even keep their businesses open.
General / Economic	P143	650	The Coalpac operation is a relatively low cost, low environmental impact mining operation. The operation provides numerous jobs both locally in terms of mining operations and remotely in terms of service providers. Upcoming projects will seek to increase the overall value of the operation in an environmentally conscious manner, further increasing the contribution to the local and larger scale economy.
General	P128	651	Im a young male who has goals and a house to pay off. I work for the major contractor to coalpac.
General/ Economic / Ecology	P106	652	* The Invincible Colliery and Cullen Valley Mine provide valuable employment opportunities and support hundreds of locally based contractors and service providers in the Lithgow Shire and surrounding area. * Coalpac's existing operations and its Consolidation Project carefully take into consideration the management of impacts on flora and fauna. * The Project will help ensure the continuous, cost effective, supply of coal to Mt Piper Power Station. * Export sales of around 1 Mtpa will support the capital costs of the project, helping to guarantee the supply of lower-cost coal to the domestic energy market and contain retail energy costs over the long term.

Category	Submission ID	Issue ID	Issue
			* Over its 21 year life, the Project is expected to deliver $439 million in royalties to the NSW Government and is associated with local capital investment in the greater Lithgow area of around $122 million. * The calculated State economic contributions were found to include $275 Million in annual direct and indirect regional output or business turnover, $133 Million in annual direct and indirect regional value added, $48 Million in annual household income and 519 direct and indirect jobs. * The Project will deliver important community benefits, including taking 1.5 Mtpa of coal off of public roads and highways through the construction of a fully-enclosed coal conveyor linking the mine to MPPS.
General	P149	653	As an employer of local people and a supplier of equipment and services to Coalpac we are fully behind the consolidation project.
General	P130	654	I am employed by a major contractor to Coalpac. This job means support for my wife and 3 children. It is also vitally important for ny financial security. I am the only income earner in the family. Losing the contract will place extreme pressure on the family unit.
General	P120	655	I have provided legal services to the applicant Coalpac Pty Ltd since its acquisiton of the Invincible Colliery and subsequent acquisiton of the Cullen Valley Mine. I have observed the considerable effort and expense in modernising these mines and converting them to best practice operations with a focus on corproate social responsibility to all relevant stakeholders. In addition to the obvious employment opportunities at the mine, these operations provide an affordable coal supply to the local power stations. I understand from my role in negotiating those coal supply contracts, this coal can not be readily replaced by alternative supplies without a significantly greater cost to the community, and greater transport distances and thus greater envirnmental footprint. Maximum resource extraction (minimum resource waste) from the existing brown fields site would seem to be in the best interests or the community and consistent with policy.
General	P132	656	the company i work for has a major contract with coalpac.this job supports me and my family as well as many others
General	P70	657	I am an operations manager for Lend Lease and we have operations in the Lithgow area. I support the development of this mine.
General	P136	658	Keeps food on my table for my family and a roof over our heads
General	P33	659	I am writing this submission in 100% support of the Coalpac Consolidation Project.

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			The Coalpac Invincible Colliery and Cullen Valley Mine provide a significant amount of resources to the local Power Stations. Without this resource far greater impacts would be experienced. Examples of these impacts at a local scale include obvious loss of jobs, rural-urban sprawl (people moving away from rural areas) and impacts to consumers in respect of greater electricity prices (where else would the coal be sourced). It is these social, economic and environmental impacts that emphasis the need for this project. Bringing coal in from underground mines or import coal would triple and in some cases quadrouple the cost of current coal supply and act as a catalyst for increased electricity costs. The mine rehabilitation should be a focus and current practice suggests positive and successful rehabilitation. The project in my mind and the people behind it are committed and operate with utmost integrity. The people of the mine are important facets to the operation, and as a Coal Region, it would be a loss to have to retrench 120 odd staff, as most jobs in this area are out of their skill and experience level (mostly underground mines, whereby most operators only have open-cut mining experience). The contentious issues of noise, air quality, water that are prevalent in todays communication medium and the local communities voice are infact not informed scientificallyand it is not based on fact. Looking at published AEMRs on the Coalpac website shows that Coalpac has a proven track record of performance in managing these issues in compliance with the relevant approvals and licence conditions. I would suggest alot more would be at stake, if this project was to be approved and that current and improved practice would only sail on into the future. The project makes sense, alot of sense. Not because i work with Coalpac but because of the advantages and contribution to the local, state and federal economies.
General	P35	660	To give security of employment to the many employees involved both in the industry as well as the many outside contractors that rely on the industry and suppliers that support the industry. Coalpac currently have a good rehabilitation program for the environment on their present sites. It would be expected that this would continue.
General	P64	661	To whom it may concern I/we supply labour and materials to Coal pac across the two organisations and are a major contributor towards our company success in this region we support three employees of which Coalpac is a significant contributor the loss of this mining operation would have a devastating effect on the long term operational affordability of our regional representation in this area and could mean job losses as a result

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			thankyou andwe ask you please approve the application
General	P66	662	I live local. I love my job and i would like to keep my local job.
General	P131	663	i supoort this as it concerns my families future and at my age employment is harder to find
General	P158	664	Without the mine, Cullen Bullen would become a ghost town.They need this mine to continue, and it will open further new job oppportunities for people within the community.
General	P74	665	I am in support of Coalpac, and their expansion of Invincible and Cullen Valley. We are a small business located in Bathurst. We currently rent materials handling equipment into Coalpac to both their sites, and their continuation is important to our business as if they cease operation we will adversly affected.
General	P77	666	I support this proposal, it will provide long term jobs and oppurtunities to local and surrounding business
General	P28	667	I strongly support the project as I rely on it for a living and supporting a young family in the local area. It will also see new employment for young local residents and a future for the local community.
General / Economic	P22	668	Australia cannot live on the memory of past glories and borrowing against its assets. It needs real industries selling real products to willing buyers. In the middle term we should re-invigorate our metals industry and convert our minerals into metals in a clean and environmentally friendly manner. However, until the penny drops with our politicians that this is a path we should pursue we need to maintain our export cash flows and our "real" employment (meaning jobs which are market driven not artificially created using public funds). I am familiar with the history of the Cullen Bullen mining industry and with Coalpac's plans for the future. The 120 direct jobs they create is only a fraction of the total jobs. Railway and port jobs will also be created as well as construction jobs. we are not so rich as a State or as a country that we can afford to allow job creation opportunities like this to be ignored . the progressive clearing of 900 Ha of logged regrowth forest, for later re-vegetation, is unlikely to have any major negative impacts upon Blue Mountains state forests of over 2 Million Ha. the benefits far outweigh any perceived negative impacts and I strongly urge that common sense prevail and this economically essential development be allowed to proceed.
General	P140	669	WMS are a supplier to Coalpac & would have to asses the structure of our business should the project not go ahead
General	P29	670	It seems to me that the proposals do not significantly change thinsg (there already is a major open cut in the

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			area), but will add to the value of the output and therefore bring greater wealth to the regions (and almost certainly the village). Part of this wealth will come from greater employment in and around the mine. Another major benefit will be that much of the coal output will be railed out (one or two trains per day) rather than being roaded as is the case now - the stream of trucks through the village will not grow any more and may contract as a result of railing. Another benefit is that the proposed export coal will strengthen the Port Kembla port as the third NSW port and could provide more of the critical mass for the Maldon - Dombarton railway regardless of who pays for its completion - in fact the higher the potential task over that line the greater the interest of investors will be.
General	P110	671	Coalpac have revitalised these Mines and provided an income for previously struggling families. Coalpac gave me the opportunity to start my own business and allowed me to be apart of their community. It is a tragedy to see that they are in this position, this late in the game. We can appreciate the concerns of the local community but considering the positive nature of there environmental impact report we believe that the project should be approved. We provide our support in whatever way we can to this progressive organisation.
General	P5	672	I relocated from Queensland to get into mining. I work for Big Rim, a contractor for Coalpac. This job supports and feeds my family.
General	P88	673	Anittel has provided IT support to both Coalpac operations for a number of months now and are looking forward to developing this relationship in the future. The mine has the potential to be a large client for Anittel in the Bathurst/Lithgow area and their departure would affect the bottom line of the Bathurst Office and put in jeopardy the staff who work there.
General	P62	674	The current project has created business for our company, and hopefully the expansion of the mine will create more business for our company.
General	P32	675	The development is supported due to support the company offers local business
General	P87	676	The CoalPac proposal is simply an extension of their existing operations and should be granted. They have bee good corporate ctizens I can remember the old days, in the mid sixties, when the closure of coal mines in the area had a devastating effect on the families of Lithgow and the surrounding area. They were uprooted and moved out. Children's school learning was disrupted and businesses in town went broke. We don't want to revisit that situation. Allow the proposal to proceed, monitor and police the development with new and more stringent compliance requirements.

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			There are a number of coal developments in NSW that if not permitted will have a devistating effect on my power bill, up to 45% increase and I can't afford it
General	P48	677	Supports this Project
General	P109	678	Working for a contractor with a family and mortgage to pay off
General / Economic	P121	679	I fully support the new mining plans for the Cullen Bullen area due to the positives it has in the local economy not just for all the workers at the mines but also small business within 100km radius, the income people recieve from mining keeps familys in the local area instead of moving to the big smoke for full time employment. I have worked on a coalpac site for a year now and in that time i have found coalpac to excel in enviromental standards and rehab etc and the new mining plans wont be going close to houses in the cullen bullen area so they wont find it any different than what it is now.
General	P126	680	I work for contractors for Coalpac @ Invincible & Cullen Valley mine sites
General	P40	681	I agree with the expansion
General / Social / Economic	P97	682	The Invincible Colliery and Cullen Valley Mine provide valuable employment opportunities and support hundreds of locally based contractors and service providers in the Lithgow Shire and surrounding area. These work opportunities indirectly support local schools and keeps the smaller communities like Cullen Bullen viable. I am confident that Coalpac does and will operate within the environmental guidelines and laws to minimise any environmental impact this project will have.
General / Social / Economic	P72	683	This project is extremely important to our company and our people. The Invincible Colliery and Cullen Valley Mine provide valuable employment opportunities to local personnel and we and support locally based businesses within the Lithgow Shire and surrounding area. As a valuable service provider to Coalpac and business within the wider community we support the project.
General	P124	684	full time work livelyhood. income to support family
General	P1	685	I support the project
General	P152	686	Coalpac have been a client of icemedia and have been a good company to work for. The coal mining operations are essential to there operations which supports a web of companies such as ours.
General	P67	687	On behalf of the Members, 1193 in total and the Board of the Australian Coal Preparation Society Limited, I

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			write in support of Coalpac in its effort to secure 'the Coalpac Consolidation Project'.
General	P21	688	I support the project.
General	P155	689	I think that this will be a great assest to our towns with Jobs and expendutiure from this project. I hope that Coalpac can work with the Community and also Businessess in securing this long term project.
General / Social	P38	690	We need local mining to support the local businesses and their families. Work is far too hard to find, please support our area by supporting the mining industry that supplies jobs for us and our future.
General / Social	P6	691	I am currently employed by a major contracting company, to the area n mine itself. My concern about these approvals not being approved will mean not only myself, but my co-workers will need to seek employment in other areas or districts, as most of the staff are trained in specalised feilds of heavy plant machinery. I have currently been employed by the company for 18months & my life style & personal life is greatly influianced by my employment to the company & the greater lithgow area
General	P44	692	I work for Coalpac and have moved to this area from the Hunter Valley to work in the coal industry. My family resides and works in the Bathurst area and wish to stay here. If the coal mine shuts down I will have to return to the Hunter Valley. My family is established in Bathurst and we don't want to have to move. I enjoy working for Coalpac and can see the future benefit to the community with the progression of this application.
General / Social	P99	693	With out this type of employment small towns around the area will die. It brings great job opportunities for our youth.
General	P45	694	To whom it may concern, I am fully supportive of the consolidation project being approved and offering our wider community stability for the future.
General	P26	695	I support the project in its entirety as it will provide not only much needed jobs in the general area but also longer term career opportunities. Cullen Bullen, like most smal towns needs ongoing employment so it can survive - without the Coalpac Consiolidation Project it will surely suffer the fate of many other rural communites and lose its population as they pursue job opportunities elsewhere
General	P73	696	Dunbar Scaffold Hire has been in opperation since 1994. We are a local company employing 23 peolpe. We provide a very professional service in supplying, erecting and dismantling scaffold as well as roof rail and temporary fence. Coalpac has been a customer for the past two years and we look forward to working for Coalpac in the future.
General /	P450	697	Coalpac is a privately owned, Australian coal mining company that operates the existing Invincible Colliery

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Economic			and Cullen Valley Mine. The Coalpac project is a technically and economically positive endeavour which will provide much needed coal to power New South Wales' ever growing electricity needs. Moreover the loss of such a project will have unwanted consequences on electricity supply and price for New South Wales. The social and economic benefits, resulting from the project, are exceptionally well presented in the consolidation document and demonstrate a strong case for approval. Also presented in fine detail are management plans, to ensure the environment is disturbed as little as possible. Coalpac's record of environmental diligence is exemplary. With the obvious social and economic benefits the Coalpac consolidation project offers, I sincerely hope the approval is granted in a timely manner.
General	P125	698	i support this progect as it is my lively hood and will effect many familys
General	P567	699	Supports the Project
General / Economic	P49	700	Comments in support of the Coalpac Project Application As an Australian coal mining company, Coalpac provides employment for not only 110 employees but requires services from local providers. Mt Piper Power Station needs the coal mined by Invincible Colliery and Cullen Valley Mine to maintain its production of electricity to the grid. Without this input, coal would need to be railed in from other districts to meet power station demand. This would reduce local employment opportunities, increase costs, produce higher greenhouse gas emissions (given longer transport distances), and require new developments in terms of upgraded railway lines. With the Project Approval, Coalpac could launch into exporting coal. Export sales would provide long-term financial security to the operation, enabling the company to be a low cost producer for the power station, because export coal attracts higher prices than coal sold domestically. $439 million in royalties is expected to be delivered to the NSW Government over the 21 years of the Project and is associated with local capital investment in the greater Lithgow area of around $122 million according to a company document. Contrary to a recent documentary on ABC1 TV, the open cut and high-wall mining, which involves horizontal development to create tunnels in the coal seam but leaves pillars in place to support the surface, will not affect the appearance or interfere with the structural integrity of the rock formations known as `pagodas' that form part of the Ben Bullen State Forest in the planned mining areas. Coalpac is proud of its long-standing commitment to managing the environmental impact of mining operations and to its track record of successful rehabilitation of mined areas. Its Consolidation Project carefully takes into

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			consideration the management of impacts on flora and fauna based on independent expert advice. I encourage the NSW Department of Planning to approve Coalpac's Project for the reasons given above.
General	P52	701	waiting on approval and have been made redundent (lost my job) will regain employment when approval is in
General	P53	702	Supports this Project
General / Economic	P54	703	I have worked with Coalpac for many years and have always found its community engagement to be transparent, and upfront. Coalpac is clear in what it can and cannot do, and is always determined provide community benefits that will make a practical and useful difference to the community. It is clear that this project will provide economic benefit to both NSW and the local community, and that rehabiliation to the environment will ensure minimal impact. I support this Project.
General / Social	P55	704	I would like to see the project go ahead as it will bring beneift to the Cullen Bullen Community
General / Economic	P60	705	* The Project will help ensure the continuous, cost effective, supply of coal to MPPS. * Export sales of around 1 Mtpa will support the capital costs of the project, helping to guarantee the supply of lower-cost coal to the domestic energy market and contain retail energy costs over the long term. * Over its 21 year life, the Project is expected to deliver $439 million in royalties to the NSW Government and is associated with local capital investment in the greater Lithgow area of around $122 million. * The calculated State economic contributions were found to include $275 Million in annual direct and indirect regional output or business turnover, $133 Million in annual direct and indirect regional value added, $48 Million in annual household income and 519 direct and indirect jobs. * The Project will deliver important community benefits, including taking 1.5 Mtpa of coal off of public roads and highways through the construction of a fully-enclosed coal conveyor linking the mine to MPPS.
General	P63	706	This project will provide vital employment opportunities to the region
General	P71	707	If the approvals that Coalpac are requesting is refused then the unemployed rate will increase, thus affecting other small businesses and the local community. I feel that without the approvals sought by Coalpac, the NSW long term energy security will be put in jeopardy because at this stage they are producing sufficient supplies (90%) to Mount Piper Power Station to meet the States needs at the right price.
General	P75	708	i fully support the Cullen Valley projec
General	P83	709	This approval is important to ensure that jobs are secured in a small community where there is a reliance on this mining operation for local employment.

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General	P4	710	I fully support this project as I see first hand the way coal is mined in a responsible manner. I also support the employment opportunities that will be created from this project.
General	P86	711	We need to supportindustry to provide jobs for our community
General	P96	712	The Proposal should allowed to go ahead. Mining in the Lithgow area is part of the fabric of the district. It brings about employment and wealth and growth for the district not to mention the cheap coal needed by the power stations. We are facing massive increases in electricity costs over the next few years and moving the source of coal further away from the location of the generators will bring on higher prices plus the social disruption caused by the longer haulage costs. So please allow the development for the general sake of the people who live in Lithgow and the rest of NSW
General	P94	713	I totally support this projects and the benefits it provides to the local community with employment and other community support that goes with a mining operation
General		714	This will provide great job oppertunies for the next 2 decades and I feel it would be a waste to not let this project be undertaken
General / Social	P100	715	if the expansion does not go ahead a lot of jobs will be lost
General	P105	716	I agree 100% with the expansion proposal as I think it will benefit the community financially by providing employment security to workers and their families whilst also keeping the best possible environmental factors in place.
General	P111	717	Coalpac have revitalised these mines and provided an income for previously struggling families, Coalpac gave us the opportunity to start our business and allowed us to be a part of their community, it is a tragedy to see that they are in this position at this late stage of the game. We can appreciate the concerns of the local community but considering the positive nature of their environmental impact report we believe that the project should be approved. We provide our support in whatever way we can to this progressive organisation.
General	P112	718	Coalpac have revitalised these mines and provided an income for previously struggling families, Coalpac gave us the opportunity to start our business and allowed us to be a part of their community, it is a tragedy to see that they are in this position at this late stage of the game. We can appreciate the concerns of the local community but considering the positive nature of there environmental impact report we believe that the project should be approved. We provide our support in whatever way we can to this progressive organisation
General / Social	P118	719	I believe the extra jobs and thus the extra money coming into the local economy can only be of benefit to the

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/ Economic			whole community. The affected residents are right to be concerned however providing the mining operations follow the strict standards applied to all mining operations I think this will be minimal. The effect on the local power stations must also be considered; closure of the mine will happen is the consolidation does not go ahead which will mean the power stations will have to source more expensive coal from the other local mines. People are already struggling we need these jobs and we need this coal.
General	P119	720	I support this submission in it's entirety
General	P151	721	Support the expansion
General	P154	722	Coalpac - Exsiting mine Establish track record in enviroment & rehabilitation Local supply for power stations,keeping cost down(reduced transport cost) for community Local Jobs Funds through royalties to NSW goverment & investment in Lithgow area Export opptunity,which will assist in keeping cost down for local power stations,inturn reducing power cost to the community
General	P156	723	Supports this Project
General	P163	724	I believe this project should go ahead This country is one of the most rrescource rich places on the planet. We should have access to the cheapest utilities in the region and be developing our manufacturing and mining sectors to be the best in the worls eyes
General	P171	725	I believe that this should go ahead.
General	P295	726	Supports this project
General	P315	727	The main concerns and opposition to the project relate to mining practices of many, many years ago and also relate to other mining companies - not Coalpac Pty Ltd as it is run and managed today. I am extremely grateful that new mining practices and regeneration is of such a high standard. The township of Cullen Bullen has been a mining town for over one hundred years. Surely if you were that opposed to mining and worried about the effects on your health you would not choose to live in the area. The townsfolk of Cullen Bullen were surveyed (prior to the Lithgow council meeting earlier in May 2012). The majority voted for any monies (available as a result of the project) be spent on roads and other infrastructure. Environmental or health concerning issues such as regeneration, more advanced dust control etc. barely rated a mention. Could it be that opposition to the mine is merely seen as a "financial" opportunity for the

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			majority of those opposed to the project? The mine provides employment within the town, through the mine itself and from a "flow on" effect to local shops, schools and surrounding areas. What would happen to the jobs of those employed by the mine should the project not go ahead? Mining is a fact of life in Australia and until there are alternate, cost effective energy sources in Australia mining is here to stay. Why not make mining a positive experience and support a project where the companies such as Coalpac are committed to using the best practices possible, given the geographical constraints of the area. Support a project where Coalpac is committed to using the best possible regeneration techniques. Support a project where Coalpac has shown initiative and demonstrated commitment in supporting the community of Cullen Bullen, clearly in need of such support. Support a project where employees are committed to the project and who hold relevant tertiary qualifications in their chosen fields. Support the employees who are able to become part of the community where they work. Support the employees who are willing to work locally, supporting the local community ensuring better outcomes both for the community and the company.
General	P529	728	Supports this project
General	P567	729	Supports this Project