SUBMISSION FROM RONALD E. SOKOLOWSKI B.Sc TO THE PLANNING ASSESSMENT COMMISSION

REVIEW AND PUBLIC HEARING

WALLARAH 2 COAL PROJECT

WYONG LOCAL GOVERNMENT AREA

TO BE HELD AT WYONG GOLF COURSE

ON 5TH APRIL, 2017

COMMENCING AT 9.30 A.M.

[redacted]

Commission Secretariat

Planning Assessment Commission

Attention: Jorge Van Den Brande

Dear Sir:

Re: **WALLARAH 2 COAL MINE W2CP – A SLEEPING GIANT**

Scientific evidence condemning this mine proposal was presented to the Labour Government which resulted in the Planning Minister – The Hon. T. Kelly – advising on 4th March 2011 it should not proceed. Unfortunately, Labour lost the election and the Planning Assessment Commission rescinded this decision and advised Kores to resubmit.

This was a very grave mistake as there were too many uncertainties that could not and have not ever been resolved over the last five years. The current demand from the government raises 74 requirements that have to be satisfied pertaining to the W2CP. It is clearly apparent that the ***Precautionary Principle*** and the ***Duty Of Care*** have not been considered. The State's Regulatory Acts and Statutes should be applied by the Natural Resources Commission to maintain public confidence that public water resources and species of national and international significance remain protected.

The DECC and DOP have raised serious doubts about this project in view of projected mining subsidence levels rising from 0.9m – 2.9m. It is evident that fluvial systems are cracked by long wall mining resulting in loss of aquatic dependent biota due to fugitive interconnectivity and destruction of the hydraulic balance. Kores have admitted that at least some 245 homes and rural buildings will be severely impacted by subsidence. It is regrettable that this project has been the subject of repetitive consideration these last 8 years when the evidence clearly indicates that Kores cannot guarantee the absolute protection of public water services.

The aquifers flowing through the mining zone will be destroyed in perpetuity by subsidence arising from the voidance of coal panels creating fugitive pathways for free water flow. There are no alternative sources for a pop. of some 310,000 and foreseen to pass 400,000 in general growth.

The area is rich in species of flora and fauna of both State and international significance which have been clearly detailed in this report.

[redacted]

R. E. Sokolowski B.Sc. (25 yrs. local resident)

WALLARAH 2 COALMINE PROJECT (W2CP) – A SLEEPING GIANT

The Australian Coal Alliance (ACA) advises the following information relating to the construction of this coal mine. There were 249 submissions and all but 9 objected to this proposal. We consider it necessary to advise you of the following.

WYONG WATER CATCHMENT DISTRICT

This Wyong water catchment was proclaimed in 1953 supplying some 53% water resources to the Wyong and Gosford communities. Subsurface and surface aquifers are fed by the Wyong River and Jilliby Creek. There are no alternative water supplies to service the current population of some 300,000 residents with a further plan growth of 100,000 by 2025.

MINING SUBSIDENCE

This underground mine involves long-wall coal methodology over an area of some 37.25 sq. Km.. Mechanised coal cutting of coal panels some 4 metres thick by 250 metres width extend to lengths of some 4.5 kilometres. Massive coal voids below the surface will create subsidence over these coal areas after mining and transient changes and fractures in ground water storage aquifers will occur. An earlier hydrogeological assessment by Department of Mineral Resources NSW Government ascertained levels of subsidence ranging from 0.9 to 2.9 metres of overburden beneath the valleys and aquifers. This collapse would drain current water resources away from fractured aquifers into high permeability alluvial soils destroying established hydrological pressure gradients. A period of some 200 years is envisaged before these aquifers commence to re-establish (if ever).

CATCHMENT

Two consultancies were commissioned by the NSW Government – Aqualinc Research Limited (IPR)and Sinclair Knight Mertz (SKM) - to undertake and assess a water study in preparation of obtaining baseline data set/s representative of the Wyong water supply from these catchment areas. The former company Aqualinc Research Limited (IPR) was commissioned to undertake an International Peer Review of the study presented by Sinclair Knight Mertz (SKM). A number of hydrological deficiencies were identified during compilation and assessment of the current regimes flowing in this proclaimed Wyong Water Catchment District (WWCD). A further 2-year study period was considered critical for the recovery of this data in order to provide essential baseline information before any consideration was given to even allowing mining.

Kores have assured the communities of the "plasticity" of the alluvium in the overburden which will create a "likely" seal of fissures/ cracking arising from subsidence that will protect the catchment water resources, but of course, the operative word is "likely"". This is the only guarantee this company offers in attempting to reassure the communities on the safety of public water resources. This statement is without merit and totally unacceptable. Hydrogeological and/hydrological modelling assessments by 6 consultants have identified very serious deficiencies in this water catchment in the current data and recommend essential works that must be undertaken for at least a minimum of 2 years to enable production of baseline reference set before mining can even be considered. Specific modelling results pertaining to permeability in the *Confined Zone* were discussed by Dr P. Pells Adj. Prof. BSc (Engineering) MSC DSC Engineering STSE, School of Civil Engineering, University Of New South Wales (NSW) who produced previous scientific studies from the catchment and associated reference data in his public presentation to the Planning Assessment Commission (PAC) which completely nullified Kores' modelling.

NSW THREATENED SPECIES CONSERVATION ACT 1995 AND THE COMMONWEALTH ENVIRONMENTAL PROTECTION BIODIVERSITY CONSERVATION ACT 1995

International Australian bird agreements with China (CAMBA), Japan (JAMBA) and the Republic of Korea (ROKAMBA) relate to the protection of 19 species of avian migratory waders of national and international significance protected under the EPBC Act 1995. The valleys also contain some 33 threatened species under the NSW Threatened Species Conservation Act 1995. The environmental attributes in these major riparian valleys are clearly unsustainable if mining proceeds. The DECC states when fluvial systems are cracked from long-wall mining subsidence and surface water is lost there can be no aquatic dependent biota unless the water and connectivity can be restored. This will be the case with Wallarah 2 over 42 years and the restoration period of the natural hydrological balance will exceed some 200 years (if ever).

MATTERS RELEVANT TO THIS REPORT

This proposed mine will flagrantly breach the Commonwealth/States National Initiative Agreement 2004, ANZECC Guidelines, the Water Plan 2050 Wyong Shire/Gosford City Council Joint Water Authority, the States Natural Resources Commission March 2009, Regulatory Acts and Statutes maintaining our public water resources and protecting threatened widelife species of National and International Significance.

LEVEL OF UNCERTAINTY ASSOCIATED WITH PREDICTIVE MODELLING

Assessment of large scale management development proposals, and that the adaptive management approach is an effective tool that is used to refine, mitigate and manage the long term impacts of mining in NSW. However, the Department (DEC) stresses that a reasonable level of confidence around the type and magnitude of likely environmental impacts must be achieved before adaptive management and management plans can be applied. In all cases the Precautionary Principle must be applied.

DAMAGE OCCURRING AS A RESULT OF LONG-WALL MINING

Southern Coal Fields Impacts - 8 rivers have been damaged and/or destroyed, surface cracking of river bed identified, undermining of national roads/bridges, total loss of river flow.

Western Coal Fields Impacts – pollution and cracking of rivers, rising salinity and alkalinity due to mine dewatering, reduced environmental flows.

Hunter Coal Fields Impacts – pollution and salinity, loss of water and/or rivers stop flowing, cracked and drained, subsidence, all listed creeks are damaged and cracked.

MINISTERIAL RESPONSIBILITES AND STATUTES

The National Water Initiative Agreement between COAG and Commonwealth Government, the Water Management Act 2000, National Resources Commission of NSW (NRC) State Wide Standards and Targets for Managing National Resources March 2009, Australian and New Zealand Environment Conservation Council (ANZECC) Guidelines of 2000, NSW Government State Plan – a New Direction for NSW 18/6/09, Lake Macquarie and Tuggerah Lakes NSW. Water Quality and River Flow Objectives 8/4/09, NSW Department of Water and Energy Central Coast Unregulated Water Sources Background Document 2008, Water Plan 2050 Wyong Shire and Gosford City Joint Water Authority, Proclaimed Catchment District NSW Government Gazette 153 of 29/11/1950, Section 401(2b)(2h) and Environmental Planning and Assessment Amendment Act 1997 Part 5 THE EIGHT PART TEST.

Google stygofauna Search Advanced Search Preferences

Search: ◉ the web ○ pages from Australia

Web Show options... Results **1 - 10** of about **11,700** for **stygofauna**. (**0.26** seconds)

Stygofauna - Wikipedia, the free encyclopedia
14 Jul 2009 ... **Stygofauna** are any fauna that live within groundwater systems, such as caves and aquifers, or more specifically small, aquatic groundwater ...
en.wikipedia.org/wiki/**Stygofauna** - Cached - Similar

Department of Environment and Conservation - **Stygofauna** of the Pilbara
Stygofauna live in a range of groundwater habitats - from tiny spaces ... As **stygofauna** have evolved in the dark, they lack eyes and pigmentation but ...
www.dec.wa.gov.au/science.../**stygofauna**-of-the-pilbara.html - Cached - Similar

Department of Environment and Conservation - **Stygofauna** of the Pilbara
Western Australia Department of Environment and Conservation - Information on nature-based recreation and tourism, forest management, sustainability, ...
www.dec.wa.gov.au/.../**stygofauna**.../threats-to-**stygofauna**.html - Cached - Similar

Show more results from www.dec.wa.gov.au

Groundwater fauna
9 Jan 2008 ... Groundwater fauna, or **stygofauna**, comprise the animals that live in underground water. It is made up predominantly of many kinds of ...
www.environment.gov.au/soe/2006/publications/.../index.html - Cached - Similar

Ecologia Environment | **Stygofauna** - Environmental Management in ...
Stygofauna are subterranean aquatic animals that live only in groundwater, perfectly adapted to life in permanent darkness. Mostly invertebrates and rarely ...
www.ecologia.com.au/biological-sciences/.../**stygofauna**/ - Cached - Similar

[PDF] Monitoring **stygofauna** diversity
File Format: PDF/Adobe Acrobat - View
Monitoring **stygofauna** diversity fact sheet. ... conditions for **stygofauna** to help clean low levels of pollutants and maintain water quality by ...
www.ecowise.com.au/assets/documents/ecowise_fs_**stygofauna**.pdf - Similar

Subterranean Ecology Environmental Scientific Services **Stygofauna**
A high proportion of troglofauna and **stygofauna** species are short range endemics ... **Stygofauna** are animals inhabiting groundwater. **Stygofauna** are typically ...
www.subterraneanecology.com.au/**stygofauna**.html - Cached - Similar

Environment Institute | Evolution of **Stygofauna**
The Australian Centre for Evolutionary Biology & Biodiversity (ACEBB) is a University designated research centre that brings together expertise from two key ...
www.adelaide.edu.au/environment/acebb/.../stygo.html - Cached - Similar

Stygofauna biodiversity and endemism in four alluvial aquifers ...
Short-range endemism is common in groundwater fauna (**stygofauna**), ... Our surveys found **stygofauna** in all four aquifers, with most taxa collected from bores ...
www.publish.csiro.au/paper/IS07023.htm - Similar

Google hyporheic zone Search Advanced Search Preferences

Search: ◉ the web ○ pages from Australia

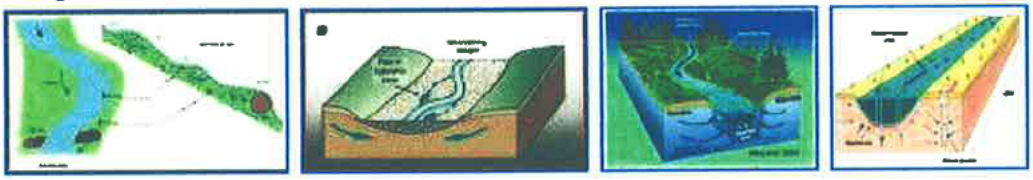
Web Show options... Results 1 - 10 of about 118,000 for hyporheic zone. (0.31 seconds)

Hyporheic zone - Wikipedia, the free encyclopedia
20 Apr 2009 ... The **hyporheic zone** is a region beneath and lateral to a stream bed, where there is mixing of shallow groundwater and surface water. ...
en.wikipedia.org/wiki/**Hyporheic_zone** - Cached - Similar

Stream, Hyporheic Zone of a
The **hyporheic zone** is defined as a subsurface volume of sediment and porous space adjacent to a stream through which stream water readily exchanges. ...
www.waterencyclopedia.com/.../Stream-**Hyporheic-Zone**-of-a.html - Cached - Similar

Riverine Ecosystems - Connected Water Website
The **hyporheic zone** is the transition between aquifer and stream ... The **hyporheic zone** can play a significant role in nutrient cycling and organic matter ...
www.connectedwater.gov.au/.../riverine_ecosystems.html - Cached - Similar

Image results for hyporheic zone - Report images



Hyporheic Network - groundwater-surface water interactions and ...
Welcome to the homepage of the **Hyporheic** Network - a Knowledge Transfer network on groundwater - surface water interactions and **hyporheic zone** processes. ...
www.**hyporheic**.net/ - Cached - Similar

Hyporeic zone and water purification
16 Mar 2006 ... The **hyporheic zone** is the area under or beside a stream channel or floodplain that contributes water to the stream. **Hyporheic** flow ...
www.holon.se/folke/projects/vatpark/hyporeic.shtml - Cached - Similar

[PDF] Groundwater–surface water interactions in the hyporheic zone
File Format: PDF/Adobe Acrobat - View as HTML
groundwater and surface waters, sometimes called the **hyporheic zone**. ... The **hyporheic zone** is a critical interface between groundwater and surface water ...
publications.environment-agency.gov.uk/.../SCHO0605BJCQ-e-e.pdf - Similar

Stream, Hyporheic Zone of a | Article from Water:Science and ...
Stream, **Hyporheic Zone** of a ... find Water:Science and Issues articles. Stream, **Hyporheic Zone** of a The **hyporheic zone** is defined as a subsurface volume of ...
www.highbeam.com/doc/1G2-3409400314.html - Cached - Similar

TRANSPORT PROCESSES WITHIN THE HYPORHEIC ZONE
Interactions between surface water and the **hyporheic zone** are important for the ecosystem of streams. The parameter and processes within this **zone** develop ...
www.iahr.org/membersonly/grazproceedings99/.../329.htm - Cached - Similar
by N Saenger - Related articles

JILLIBY JILLIBY CREEK WATER SOURCE.

MANAGEMENT
Under the Water Management Act 200 and managed by the Gosford- Wyong Council's Joint Water Auhtority.

SITUATION
A high risk to the Sub-Catchment and dependment Ecosystems, high potential stress in the sub –catchment ecosystem. Conservation value merits protection, covers an area of 101sq.km. Is a major tributary of the Wyong River, the main arm of JJC runs South from the Watagan Mountains for appx 22km. where it meets at the confluence with Wyong River. Under the Stressed Rivers Assessment the conservation Value of the water source was acknowledged by NPWS(terrestrial flora & fauna) and is:- 74 % Subcatchment vegetation and significant rainforest areas, 52% State Forest and contains 14 Threatened Species.

WETLANDS
JJC vegetation –controlled floodplain cutting through an alluvial plain. Flooding in normal preciptation periods is normally above the banks. Riparian vegetation and condition of beds and banks are good.

FISH.
21 species recorded.

THREATENED SPECIES.
Some fourteen recorded including:- Adams Emerald Dragon Fly, Platypus, Stuttering Frog, GreenThighed Frog, Green & Golden Bell Frog, Black Knecked Stork.etc.

ABORIGINAL SITES.
Sixteen (16) sites.

OBJECTIVES
Protection of aquatic, riparian and groundwater ecosystems and restoring flow regimes.

RURAL PRODUCTION.
Gross value of production 1996/97 some $19 million over some 7160 ha.

WATER LICENSES.
14 Domestic and Stock and some 990 Unregulated River access licenses

WATER.
The flow over the lower Wyong River Weir is some 15% from JJC which supplies some 7% of the annual Gosford-Wyong annual demand. The extraction at the Weir is some 16188M/yr

TUGGERAH LAKES.
JJC is part of the water source of Tuggerah Lakes.and flows into a "barrier estuary". The Lake Catchment is some 710sq.km. The biological assemblages, terrestrial and some aquatic plant and animal communities are adapted to a harsh way of life. The Lake is considered Mesotrophic-medium nutrient status- to which plants and animals have adapted.

ENVIRONMENTAL FLOWS.
These are important to maintain Natural Stream conditions essential for the death and life of Tuggerah Lake. Water circulation and mixing are the physical processes that play an important role in the ecology of the estuary.

Refs:Tuggerah Lakes Estuary ProcessStudy WSC February 2001 (D.Roberts & K Butler
Draft Water Sharing Plan Jilliby Jilliby Creek. Dept. Land & Water Conservation. Nov.2001.

DAMAGE OCCURRING AS A RESULT OF LONGWALL MINING

SOUTHERN COALFIELDS

Lower Cataract River (Tower Colliery BHP Billiton).	Hundreds of cracks in Lower Cataract River.
Upper Georges River- Appin and West Cliff Colliery (BHP Billiton)	Surface cracking of riverbed announced by Minister for MR The Hon. I Macdonald 1/7/03
Upper Nepean River- Appin Colliery(BHP Billiton).	Mining within 600m of F5 Freeway Bridge at Douglas Part when hinge joints were opening up.
Stokes Creek Appin and West Cliff Colliery (BHP Billiton)	Undermined 1990-99 loss of water and leaching of oxides.
Bargo River-Tahmoor Colliery (Centennial Coal).	Damage to Bargo River in 2002 completely dry for 2km. and large cracks.
Flying Fox Creek Wongawilli Creek & Native Dog Creek Dendrobium Mine and Elouera Mine (BHP)	Subsidence induced cracking. dewatering, swamp drainage and pollution,
Waratah Rivulet- Metropolitan Colliery (Peabody Energy from Excel Coal) pollution.	Rivulet ceased to flow much of length, tilted, sandstone stream bed cracked , iron oxide

WESTERN COALFIELDS IMPACTS.

Goulburn River & Moolarben Creek.- Moolarben Coal Project Felix Resources) Ulan Mine (Xstrata Coal)	24 longwalls proposed. Still under consideration.
Wollangambe River & Farmers Creek Clarence Colliery (Centennial Coal)1999-2005	Cracking, Wollangambe River polluted, iron and managnese being deposited.
Cox's River- Angus Place, Spring Vale & Clarence Collieries (Centennial Coal)	Rising salinity and alkalinity due mine dewatering. Reduced environmental flows.
Kangaroo Creek –Angus Place (Centennial Coal)	Puncturing 2-underground aquifers, Pumps 12m/L saline water daily from mine.

HUNTER COALFIELD IMPACTS.

Hunter River	Pollution & salininty are future concerns
Bowmans Creek	Loss of water , river stopped flowing.
South Wambo Creek- Hunter Coal (Wollemi UGM)	South Wambo Creek cracked and drained.
Diega Creek- West Wallsend Colliery (Xstrata Coal)	Longwall mining cracks 10cms. Water loss.
Glennies Creek, Eui Creek, Fishery Creek, Black Creek & Foy Brook.	Subsidence, all listed creeks are damaged and cracked.

References: IMPACTS OF LONGWALL MINING ON THE ENVIRONMENT IN NSW
Total Environment Centre Sydney South 1235. January 2007.

CONNECTIVITY IN WATER REGIMES JILLIBY JILLIBY CREEK.

A critial understanding of the hydrological feautures of Dooralong Valley refers to the two identified fault zones recorded in this valley in Northern Geoscience report (p.17. Sect 3.8):-

*a)The **conjugate fault zone (joined/connected)** in Little Jilliby Jilliby Creek gully which intercepts Jilliby Jilliby Creek*

b)The flow path of Jilliby Jilliby Creek appx. 1.3km.west of Mount Alison for appx.1.5km which is intercepted by Little Jilliby Creek.

These two fault zones provide "fugitive connectivity transient pathways" to groundwater movement and their discharge into surface stream flows. The ***"connectivity" of the catchment water regimes*** is facilitated by these two major fault lines which occur before the confluence of Jilliby Jilliby Creek with Wyong River. A resident of Jillby actually living over the Little Jilliby Jilliby fault line, and a specialist in the mining industry, reaffirms these determinations.

The Northern Geoscience Report has clearly established "connectivity" between the catchment water regimes, contrary to KORES interpretation, which remains lacking in any form of scientific reference support. Salient Solutions Assessment p.3 Items 7& 8 (Evans.,R.) 28/04/05 indicates concurrence regarding "connectivity" by reference to recharge water mobility and salinity levels recorded.

Ron Sokolowski B.Sc.

References:
Hydrogeological Investigations Dooralong and Yarramalong Valleys, Wyong, Central Coast.
Jones.,T. B.Sc. M.Sc. Principal Hydrogeologist January 2005.
Salient Solutions Assessment.
P3. Items 7&8. Evans.,R. B.Sc. Principal Hydrologist. April 2005

DRAFT WATER SHARING PLAN.(DWSP)
CENTRAL COAST Unregulated Water Sources. Dept.of Water and Energy 2008.

ASSESSMENT:
The Central Coast Water Sharing Plan is based upon the principles and recommendations in the document "Towards a National Framework for Managing impacts of Groundwater & Surface Water Interaction in Australia" (Knight Merz 2006).

The "Central Coast Unregulated water sources" and "Water Sharing Plans" are being progressively developed for rivers and groundwater systems accross the State following the introduction of the Water Management Act 2000 to protect health of our rivers, providing greater certainty for the environment and water users.

APPLICATION. This Plan applies to Wyong River, Jilliby Jilliby Creek, Ourimbah Creek and major tributaries flowing into Tuggerah Lakes and Estuarine Areas.

CATCHMENT SIZE. Wyong River Catchment = Area 355 sq.km. 66km. in length. 9km Estuarine.
Ourimbah Creek Catchment =Area 155sq.km. 40km. in length. 8km Estuarine.

RISK MATRIX: Wyong River. High Risk to Instream values. High Dependence on extraction to meet 50% need for fural and urban communities.(including Gosford) 310,000

VALUE MATRIX: Wyong River. High Instream Values. High hydrologic stress of hydrologic risk.

VISION: To provide sustainable and integrated management of the Central Coast Unregulated Water Sources for the benfit of both present and future generations.

OBJECTIVES:
a)Protect, preserve, maintain or enhance the important river flow dependent ecosystems of these water sources.

b)Protect, preserve, maintain or enhance the Aboriginal ,cultural and heritage values of these water sources.

d)Protect basic landholders rights.

Please note items a)- d) are a fraction of total requirements listed in document **ORDER (DWSP)Nov.08 Page 4&5. Part 2. Vision, Obectives, Strategies and Performance indicators 7-11.**

CONCLUSION:
The Macro Plans for Central Coast in these documents are consistent with **"National Water Initative"**and comply with **"NSW Natural Resources Commission(NRC)"** statewide standards.

All requirements in the present Draft Documentation of the Draft Water Sharing Plans re:" GUIDE", "BACKGROUND" and "ORDER" will become NULL and VOID if KORES Wallarah 2 coalmine proposals are endorsed by NSW State Government. Subsidence damage will destroy the Central Coast unregulated water flow sources in aquifers and from streams, rivers, creeks and floodplain drainage.

Basic landholders water rights for domestic and stock rights, harvestable rights, Native Title rights, and environmental water provisions will be lost due to collapsed/cracked aquifers arising from subsidence.

Central Coast unregulated water sources will not survive KORES Wallarah 2 mining subsidence in these two green riparian corridors - Yarramalong Valley and Dooralong Valley.

Ron Sokolowski B.Sc.
Scientific Officer Australian Coal Alliance.

Legend - Threatened Species - Jilliby Jilliby Creek

Jillibyfauna.shp

- Black Bittern
- Black-necked Stork
- Bush Stone-curlew
- Comb-crested Jacana
- Common Bent-wing Bat
- East Coast Freetail Bat
- Eastern False Pipistrelle
- Giant Barred Frog
- Glossy Black-Cockatoo
- Greater Broad-nosed Bat
- Green Thighed Frog
- Green and Golden Bell Frog
- Grey-headed Flying-fox
- Koala
- Large-footed Myotis
- Masked Owl
- Painted Honeyeater
- Powerful Owl
- Regent Honeyeater
- Sooty Owl
- Spotted-tailed Quoll
- Squirrel Glider
- Superb Fruit-Dove
- Wallum Froglet
- Yellow-bellied Glider
- Yellow-bellied Sheathtail Bat

Jillibyflora.shp

- Caladenia tessellata
- Grevillea parviflora subsp parviflora
- Melaleuca biconvexa
- Tetratheca juncea

View1

08 February 2002

WALLARAH 2 37 Sq.km proposed longwall mining zones.(LWMZ)

Fauna species registered and protected under: -

a)NSW: Threatened Species Conservation Act 1995 -
and
b)Environment Protection and Biodiversity Conservation Act 1999.(Commonwealth)

			Legal Status
Myobatrachidae			
	Mixophyes balbus	Stuttering Frog	E1
	"	Giant Barred Frog	E1
Cacatuldae.	Calyptorhnynchus lathami	Glossy Black-Cockatoo	V
Mellphagidae.	Xanthomyza phrygia	Regent Honeyeater	E1
Tytonidae	Tyto novaehollandiae	Masked Owl	V
Dasyuridae	Dasyurus maculatus	Spotted-tailed Quoll.	V
Petauridae	Petaurus australis	Yellow-bellied Glider	V
Pteropodidae	Pteropus poliocephalus	Grey-headed Flying Fox.	V

Local Government Act,1919 - PROCLAMATION
Wyong Water Supply Catchment District
(L.S.) J. NORTHCOTT, Governor.
Signed and Sealed at Sydney, 20th day of September 1950.
By His Excellency's Command.
J.J. CAHILL, Minister for Public Works.
NSW Govt. Gazette No.153 29th September 1950.
"Catchment district" Wyong Water Supply.

and

THE STATUES of NSW 1919.
Detailed Index Vol.1.
Local Government Act page 533-534.
DIVISION 7- *Catchment districts and ordinances* Sec.401.(2) (b) (e) (h)

As this development is within ***a Proclaimed Water Catchment*** in a ***Scenic Protection Zone 7B*** and ***does not satisfy Section 401.(2)b,e & h, of The Statues (page 534)*** it should not have been approved. This ***development precedent*** is to the severe detriment of the biodiversity and ecological integrity of the water catchment and furthering the destruction of broad acres in these valleys. Such actions are not conducive to protecting essentially recognised "environmentally sensitive" conservation areas.

Yours faithfully

[redacted]

Ron Sokolowski B.Sc..
Conservationist.

c.c. The General Manager, Wyong Shire Council Mr.K Yates.
This decision, which sets a precedent, is eroneous and incompatible with area zoning requirements and environmental needs and is deserving of full Councillor debate.

c.c. All Wyong Shire Councillors. F.Y.I.
The ecological integrity of this proposed development area, within our water Catchment, should be recognised as sacrosanct and should be afforded all necessary protection. The species richness of fauna, flora and particularly avifauna species will will be seriously impacted upon by this residential settlement/s and problems arising from semi captive domesticated pets,human activities and settlement acts.

I request Councillors address this matter with great urgency. This development is too important for the decision of "delegated management authority" but is deserving of full public scrutiny and debate. A serious precedent will occur if this development is progressed and the question should be asked why this development proposal was not brought to the early attention of Councillors?

AUSTRALIAN COAL ALLIANCE Inc.

Typical groundwater analysis of coal seam water in the proposed Wallarah 2 Coal Project. The following water analysis was conducted by the University of New South Wales on behalf of the Dooralong Valley Community during the fight to stop methane gas mining in the Wyong Water Catchment Valleys.

Sample water was taken from the two Methane Gas test wells, situated on the valley floor at Jilliby, and compared with Australian Drinking Water Guidelines and the Powder River Basin in the USA. Mine water from the latter has caused unprecedented environmental destruction. **It should be noted that the analysis of the coal seam water drawn from Jilliby would be of far greater concern than that of the USA, and potentially more destructive to the environment and local riverine systems.**

Table 1. Selected Chemical Analysis of Groundwater

	Australian Drinking Water Guideline	Powder River USA	JILLIBY 1	JILLABY 2A
pH	6.5 - 8.5	7.3	9.1	8.7
Total Dissolved Solids (TDS)	500mg/l	850	**3,976**	**5,452**
Total iron	0.30mg/l	0.8	<0.30	<0.30
Sodium	180 mg/l	300	**1,646**	**2,232**
Magnesium	150 mg/l	16	2.95	4.63
Chloride	250 mg/l	13	**590**	**590**
Barium	0.70 mg/l	0.62	**1.58**	**3.3**
Aluminium	0.20 mg/l	<0.05	**0.218**	0.044
Iodide	0.10 mg/l		**0.689**	**1.27**
Boron	0.30 mg/l		0.242	**0.301**
Calcium	80 mg/l	32	4.91	8.08
Ammonia	0.50 mg/l	2.4	<0.50	<0.50
Nitrate	1.50 mg/l		<5.00	<5.00
Fluoride	1.50 mg/l	0.92	2.98	2.91
Silver	0.10 mg/l		0.002	0.003
Chromium	0.05 mg/l	<0.001	0.005	0.009
Copper	2.0 mg/l	0.0076	0.017	0.084
Lead	0.01 mg/l	<0.0001	0.0005	0.0002
Nickel	0.02 mg/l	0.005	0.001	0.003
Zinc	3.0 mg/l		0.147	0.013
Mercury	0.001 mg/l	<0.0001	0.0003	0.0001
Manganese	0.50 mg/l	0.032	<0.50	<0.50
Arsenic	0.007 mg/l		0.005	0.004
Cadmium	0.002 mg/l	<0.0001	0.0001	0.0002
Selenium	0.01 mg/l	<0.002	0.005	<0.001
Molybdenum	0.05 mg/l		0.009	0.01

Powder River data from Rice *et al.* 2000; Jilliby data from Jones 2005

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Subsidence Arising and Groundwater Withdrawl.

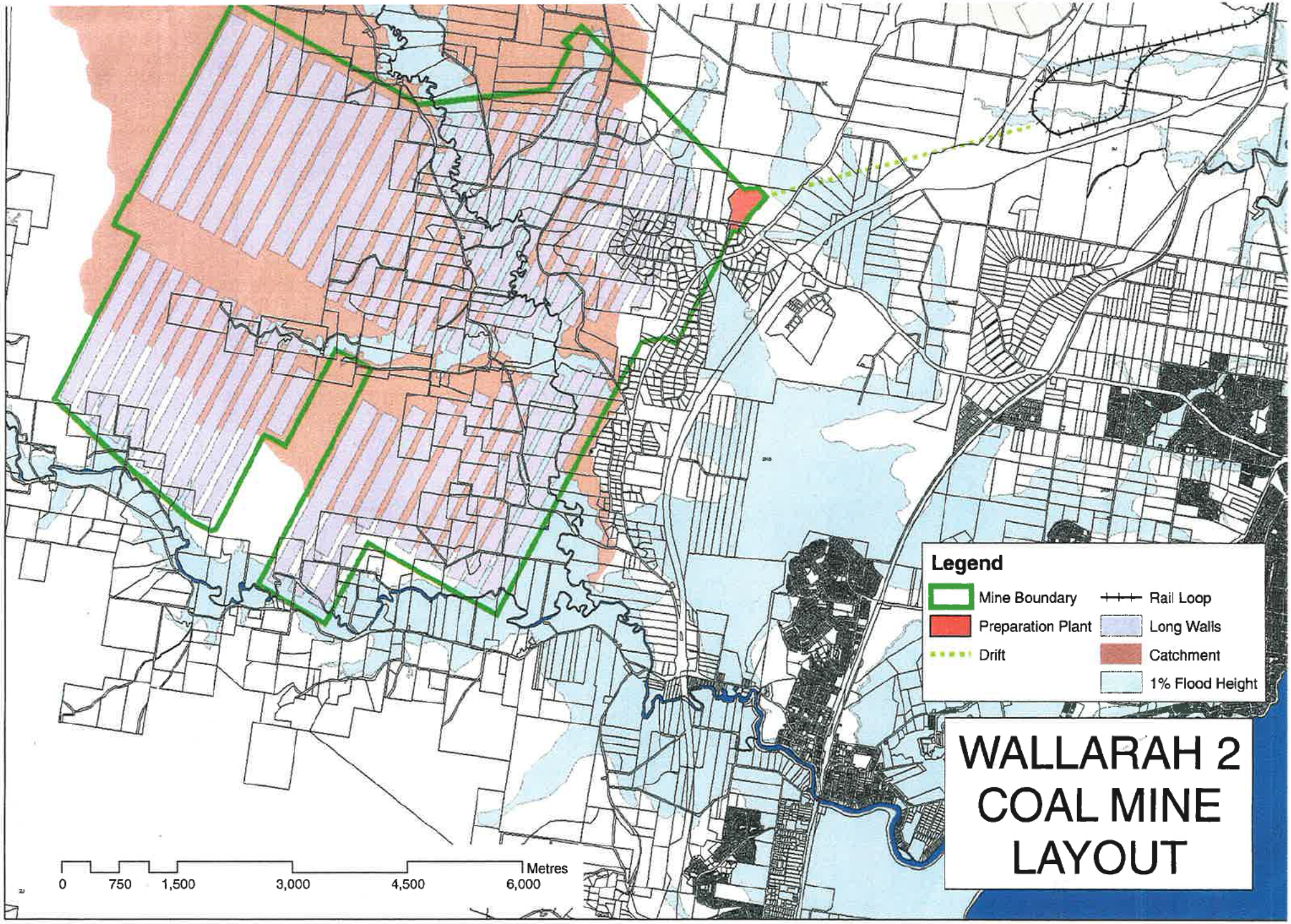
Geological factors influence the stability and instability within soil profiles, is in evidence even in the absence of any mining and longwall mining creates the major stress factor changes within the soil profile. The application of a "sustained constant head drawdown" to a groundwater regime "triggers a subsidence process". The response and permeability of sediment, that forms the subsidence rate, will gradually taper off but this may take many years before stability is re-established. The magnitude of the "drawdown head" influences the resulting duration of subsidence and its limits, which is also is conditioned by the presence of faults –joints, re-activated joints, fractures and mining induced cracking.- in natural fissured rocks which also *determines the strain profiles*. Subsidence processes are not reversible as the water table is lowered or even if restored to its original position The hydrogeological environment is always altered by mining activities mainly due to drainage of the aquifer/s. Lowering of the groundwater table changes groundwater recharge and discharge which results in catchment modifications.

The KORES media release-"*Wyong catchment water resources are secure due to changes in the mine plan to ensure continuity of supply*" - is completely contradictory to published research literature and cannot be substantiated. Subsidence has occurred in the longwall mining areas of the northen and southern coalfields of NSW, of particular reference is Tower Colliery. Longwall panels of some 111m. -204m wide were extracted at depths of 430-515m causing subsidence cracking in the Cataract River (above Hawkesbury Sandstone and Bulgo Sandstone) of 75mm-330mm. Sub-Vertical subsidence cracks have cracked the previously relatively impermeable sandstone in the vertical and horizontal plane and this leakage of water has increased the sandstone's natural permeability and presents a drainage path to the underflow and groundwater table

Dr.L.Holla (dec.) ex..Pincipal Subsidence Mining Engineer DMR and internationally recognised for his work over some 30 year on longwall coal mining subsidence, determined that the geophysical features of Wallarah 2 Coal Project areas were similar to those in the southern coalfields of NSW. This enabled him to produce empirical curve subsidence figures for the Dooralong and Yarramalong Valleys which were further compiled by C.O.A.L. Australia, the previous leaseholder of the mineral leases. The ACA recognises these observations of the late Dr.L.Holla in view of the extensive detailed research he had personally undertaken in this specific methodology which is also used in coal mining areas in Europe.

In a discussion with Dr. Ganglee, Principle Subsidence Mining Engineer DMR, it was clear that empirical curves determined in current mining subsidence calculations, cannot take account of constant unknown factors- the unknown geophysical changes and range of soil types within a mining lease.Irrespective of any new sophisticated assessment technology, this unknown factor will always dominate subsidence methodology–a purely asumptive and/or hypothetical determination methodology which is subjected to unknown and unseen variants which can cause major changes. The ACA is confident that ascertations by DR.L.Holla, regarding mining subsidence and similarity of geophysical areas in NSW, were carefully assessed by him and it would be very presumptious indeed to challenge these observations.

B.N.Whittaker & D.J.Reddish in their publication "***Subsidence Occurrence Predictions Control***" published by the Department of Mining Engineering, University of Nottingham England 1989, discusses these matters in the ***ELSEVIER AMSTERDAM Science Publications, Pergamon Press Ltd. 1989.*** The mining depths in the Wyong valleys, range over a depth of 315-550m.with changing geological factors which will influence stability and instability of these repetitive longwall sites which are situated below the Yarramalong and Dooralong floodplains, Jilliby


Legend
Mine Boundary
Preparation Plant
Drift
Rail Loop
Long Walls
Catchment
1% Flood Height
0
750
1,500
3,000
4,500
6,000
Metres
WALLARAH 2
COAL MINE
LAYOUT