

## Instrument of Renewal

I, **Jamie Tripodi, Executive Director Assessments & Systems, Mining, Exploration and Geoscience**, as delegate for the Minister administering the *Mining Act 1992* for the State of New South Wales, and pursuant to section 114 of the *Mining Act 1992*, determine to renew **Exploration Licence 5831 (Act 1992)** held by **Whitehaven Coal Mining Limited, ACN 086 426 253**.

In respect of **Group 9 (Coal) minerals**;

- (a) For the further term ending on **5 April 2026**; and
- (b) Over the exploration area described in Schedule 1;
- (c) Subject to the conditions prescribed in the *Mining Act 1992* and the Mining Regulation 2016;
- (d) Subject to the conditions set out in Schedule 2 and 3;
- (e) In compliance with any Activity Approvals in Schedule 4; and
- (f) In accordance with the approved work program referenced in Schedule 5.

Signed this 6<sup>th</sup> day of September 2023.



**Jamie Tripodi**  
**Executive Director Assessments & Systems**  
**Mining, Exploration and Geoscience**  
**Department of Regional NSW**  
**As delegate for the Minister administering the *Mining Act 1992***  
**Delegation dated: 28 February 2023**

# EXPLORATION LICENCE

Issued under the *Mining Act 1992*

<b>EXPLORATION LICENCE NUMBER:</b>	<b>5831 (Act 1992)</b>
<b>RENEWAL DATE:</b>	<b>6 September 2023</b>
<b>EXPIRY DATE:</b>	<b>5 April 2026</b>
<b>LICENCE HOLDER:</b>	<b>Whitehaven Coal Mining Limited ACN 086 426 253</b>
<b>EXPLORATION AREA:</b>	<b>See Schedule 1</b>
<b>MINERAL(S):</b>	<b>Group 9 (Coal) minerals</b>

## Information about this licence

This exploration licence is issued under the *Mining Act 1992*. The licence holder may:

- Apply for the renewal of this exploration licence; or
- Apply for the transfer of this exploration licence to another person.

Renewal applications are to be submitted within the period of three months prior up to midnight on the expiry date of the licence consistent with the *Mining Act 1992*.

The following fees are payable in connection with this licence:

- An annual rental fee; and
- An annual administrative levy.

Additional rights and responsibilities of licence holders are set out in the *Mining Act 1992* and the Mining Regulation 2016.

Please note that licence holders may also be required to obtain approvals and comply with requirements of other legislation when carrying out exploration activities, including (but not limited to):

- The *Environmental Planning and Assessment Act 1979*;
- The *Protection of the Environment Operations Act 1997*; and
- The *Water Act 1912* and the *Water Management Act 2000*.

## Rights of the licence holder under this licence

This licence gives the licence holder an exclusive right to prospect for the mineral(s) or group(s) of minerals on the land to which this licence relates.

However, in accordance with section 45 of the *Aboriginal Land Rights Act 1983*, this licence does not give the licence holder the right to prospect for any minerals except coal, on land vested in an Aboriginal Land Council or Local Land Council at the original date of grant of this licence.

## Restrictions on the exercise of rights under this licence

It is the responsibility of the licence holder to apprise themselves of the restrictions on the exercise of rights under this licence that exist under NSW and Commonwealth legislation.

## Exploration Area (Schedule 1)

The land to which this licence applies is set out at Schedule 1 of this licence.

## Licence Conditions (Schedules 2 and 3)

This licence is subject to the conditions in Schedule 2 and Schedule 3. The licence holder must conduct prospecting operations in accordance with these conditions, as well as any conditions imposed by the *Mining Act 1992* and Mining Regulation 2016. In particular:

- The conditions set out in Schedule 2 are general conditions; and
- The conditions (if any) set out in Schedule 3 are special conditions.

Contravention of licence conditions is an offence under the *Mining Act 1992*.

## Further Approvals under this licence (Schedule 4)

The licence holder may need to obtain further approvals or Ministerial consent before carrying out prospecting operations on the land subject to this licence (see in particular the activity approval requirements for assessable prospecting operations section 23A of the *Mining Act 1992*, which

requires an activity approval to be obtained prior to commencing any assessable prospecting operation).

### **Work Program (Schedule 5)**

Condition 1 of Schedule 2 of this licence requires the licence holder to comply with the Work Program. The Work Program unique identifier is set out at Schedule 5 of this licence. The Work Program may be amended on application of the licence holder, with the approval of the Minister.

## LICENCE HISTORY

Identifier	Effective date	Reasons for update
19	12 May 2014	Renewal of EL 5831 (Act 1992)
32	6 September 2023	Renewal of EL 5831 (Act 1992)

## DEFINITIONS

In this licence:

- (a) A reference to a Code or Guideline is a reference to that document as amended or replaced from time to time, and
- (b) Words have the meaning given to those terms in the *Mining Act 1992* unless otherwise defined below:

**Change in effective control of the licence holder** means any occurrence which results in any person, not being a related body corporate of the licence holder, newly being in one or more of the following positions:

- (a) having the capacity to appoint or control more than 50% of the number of directors of the licence holder's board;
- (b) being entitled to exercise (directly or indirectly) more than 50% of the votes entitled to be cast at any general meeting of the licence holder; or
- (c) holding more than 50% of the issued share capital (other than shares issued with no rights other than to receive a specified amount in distribution) of the licence holder.

**Environmental incident notifications and reports** means any notifications and reports to be provided to relevant authorities under Part 5.7 or Part 5.7A of the *Protection of the Environment Operations Act 1997*.

**Foreign acquisition of substantial control in the licence holder** means any occurrence which results in a foreign party, not being a related body corporate of the licence holder, newly being in one or more of the following positions:

- (a) having the capacity to appoint or control 20% or more of the number of directors of the licence holder's board;
- (b) being entitled to exercise (directly or indirectly) 20% or more of the votes entitled to be cast at any general meeting of the licence holder; or
- (c) holding interests in 20% or more of the issued share capital (other than shares issued with no rights other than to receive a specified amount in distribution) of the licence holder.

**National park, regional park, historic site, nature reserve, karst conservation reserve and Aboriginal area** have the meaning given to those terms in the *National Parks and Wildlife Act 1974*.

**Related Body Corporate** has the same meaning given to that term in the *Corporations Act 2001 (Cth)*.

**Relevant authorities** have the meaning given to that term in section 148 of the *Protection of the Environment Operations Act 1997*.

**Work Program** means the approved work program identified in Schedule 5 of this licence, as amended from time to time with the approval of the Minister.

## EXPLORATION AREA

The exploration area comprises of an area of **474.3 hectares** as shown on Plan No. **E1725-09**, and exclusive of any land:

- (a) vested in the Commonwealth of Australia; or
- (b) that was not subject to the licence immediately before this renewal.

**Note:** *This exclusion (b) may include land that, at the date this licence was initially granted, was:*

- *subject to an authority, or an application for an authority;*
- *subject to a residence area or business area referred to in clause 1, Part 1 of Schedule 11 of the Mining Regulation 2003;*
- *subject to any mining reserve constituted under section 367 of the Mining Act 1992 which prohibited the grant of new exploration licences;*
- *vested in the Commonwealth of Australia;*
- *located within a national park, regional park, historic site, nature reserve, karst conservation area or Aboriginal area established under the National Parks & Wildlife Act 1974 or other legislation.*

The boundaries of the exploration area are indicated on the following diagram.

### DISCLAIMER

The boundaries of the exploration area in the diagram are indicative only, based on knowledge and understanding at the time this licence was granted. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date. No warranty about the accuracy, currency or completeness of any information in this diagram is inferred (including, without limitation, any information provided by third parties). While all reasonable care has been taken in the compilation of this diagram, to the extent permitted by law, Regional NSW excludes all liability for the accuracy or completeness of the information, or for any injury, loss, or damage whatsoever (including without limitation liability for negligence and consequential losses) suffered by any person acting, or purporting to act, in reliance upon anything contained herein. Users should rely upon their own advice, skills, interpretation and experience in applying the information in the diagram.

PLAN No. E1725-09

RESOURCES & GEOSCIENCE

File:T18-1550

DIAGRAM OF EXPLORATION LICENCE No. 5831  
HOLDER: WHITEHAVEN COAL MINING LIMITED  
PARISHES: TULCUMBA, VICKERY & WEAN  
SCALE 1: 40000

(ELA No. 1725)

COUNTY: NANDEWAR  
REF MAPS: 8936-1-S & 8936-4-S

SUBJECT TO SURVEY

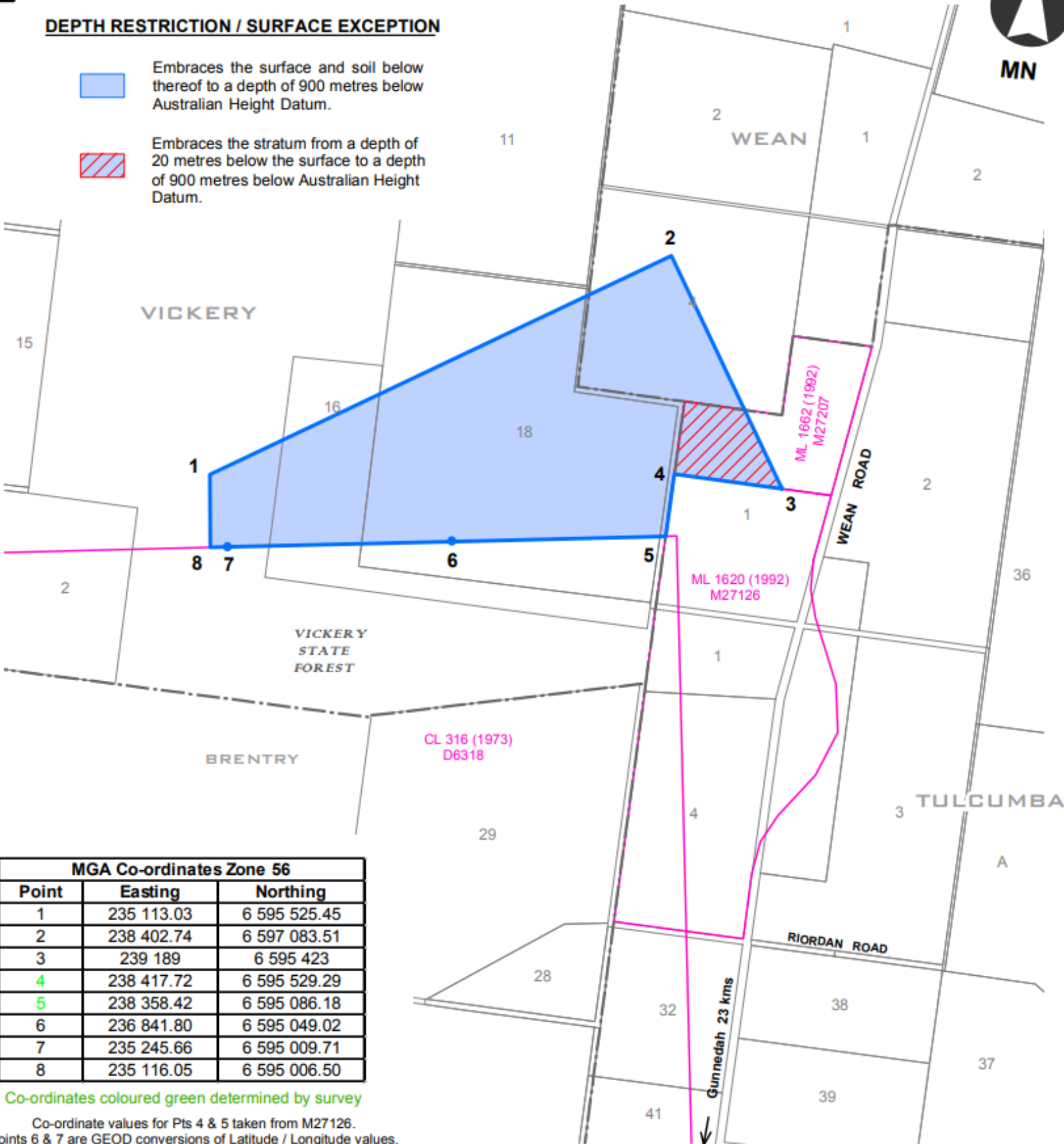
DEPTH RESTRICTION / SURFACE EXCEPTION



Embraces the surface and soil below thereof to a depth of 900 metres below Australian Height Datum.



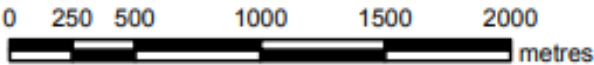
Embraces the stratum from a depth of 20 metres below the surface to a depth of 900 metres below Australian Height Datum.



MGA Co-ordinates Zone 56		
Point	Easting	Northing
1	235 113.03	6 595 525.45
2	238 402.74	6 597 083.51
3	239 189	6 595 423
4	238 417.72	6 595 529.29
5	238 358.42	6 595 086.18
6	236 841.80	6 595 049.02
7	235 245.66	6 595 009.71
8	235 116.05	6 595 006.50

Co-ordinates coloured green determined by survey

Co-ordinate values for Pts 4 & 5 taken from M27126.  
Points 6 & 7 are GEOD conversions of Latitude / Longitude values.



AREA: abt. 474.3 ha

Prepared by: S Carter  
Date: 09-05-2018  
Approved by: P.Hord  
Date: 11-05-2018  
Drafting Services  
Operations & Programs

DISCLAIMER: The compilation of information shown on this diagram is derived from plans and data, some of which has been produced and provided by third parties. Title boundaries have been adjusted to maintain their relationship with the digital cadastral database in some circumstances, thereby creating certain inaccuracies in the data. The Department and the State of New South Wales make no statement, representation or warranty that the titles information shown on this diagram is complete, accurate or free from error. Users rely on the titles information supplied on this diagram at their own risk. The Department and the State of New South Wales accept no responsibility for any person, acting on, or relying on, or upon any of the titles information shown on this diagram, and disclaim all liability for any loss, damage, cost, expense or injury (including death) incurred or arising by reason of any person using or relying on the titles information contained on this diagram by reason or by any error, omission, defect or misstatement (whether such error, omission or misstatement is caused by or arises from negligence, lack of care or otherwise). Users should always verify historical material by making and relying upon their own separate inquiries prior to making any important decisions or taking any action on the basis of titles information.



## GENERAL CONDITIONS

### Work Program

1. The licence holder must carry out the operations, and any other activities, described in the Work Program and comply with any commitments in relation to the conduct of operations specified in the Work Program, as for the time being in force, in respect of this licence.

### Native Title

2. The licence holder must not prospect on any land or waters within the exploration area on which Native Title has not been extinguished under the *Native Title Act 1993 (Cth)* without the prior written consent of the Minister.

### Community Consultation

3. The licence holder must carry out community consultation in relation to the planning and conduct of activities under this licence in accordance with the *Exploration Code of Practice: Community Consultation* (March 2016).

### Protection of the Environment

4. The licence holder must prevent, or if that is not reasonably practicable, minimise so far as is reasonably practicable, any harm to the environment arising from activities carried out under this licence.

### Security

5. The licence holder must provide a security deposit to secure funding for the fulfilment of obligations under this licence (including obligations that may arise in the future) as follows:

- (a) Amount: **\$59,000**
- (b) Licence holder's entitlement to interest: none.

### Rehabilitation

6. The licence holder must carry out rehabilitation of all disturbance caused by activities carried out under this licence in accordance with the requirements in Part B of the *Exploration Code of Practice - Rehabilitation* (July 2015) to the satisfaction of the Minister.

### Environmental Incident Reporting

7. The licence holder must provide environmental incident notifications and reports to the Secretary no later than seven days after those notifications and reports are provided to relevant authorities under the *Protection of the Environment Operations Act 1997*.

### Annual Activity Reporting

8. Unless otherwise approved by the Secretary, the licence holder must submit annual activity reports prepared in accordance with the *Exploration Guideline: Annual Activity Reporting for Prospecting Titles* (July 2015) at the following times:

- (a) Annually, within one calendar month following the grant anniversary date of this licence;
- (b) On any other date or dates directed by the Secretary in writing; and
- (c) Within one calendar month following the cancellation or expiry of this licence.

## **Change in Control**

9. If the licence holder is a corporation, the Secretary must be notified within 30 days of any:

- (a) Change in effective control of the licence holder; or
- (b) Foreign acquisition of substantial control in the licence holder.

Notification is not required where a change in effective control of the licence holder, or a foreign acquisition of substantial control of the licence holder, occurs as a result of the acquisition of shares or other securities on a registered stock exchange.

## **SPECIAL CONDITIONS**

### **Activity Approvals Issued Prior To 1 March 2016**

10. Any prospecting operations the subject of an activity approval granted pursuant to this exploration licence before 1 March 2016 must, in addition to any requirements of that approval, be carried out in accordance with the following Codes of Practice:

- (a) Part B of the *Exploration Code of Practice: Environmental Management*
- (b) Part B of the *Exploration Code of Practice: Produced Water Management, Storage and Transfer*

and these codes prevail to the extent of any inconsistency with a requirement of such an activity approval.

## **FURTHER APPROVALS**

Further approvals and consents may be granted after the commencement of this licence.

The licence holder is required to comply with all approvals and consents which have been granted after commencement of this licence.

## WORK PROGRAM

In accordance with Condition 1 of this licence the approved Work Program is the document identified by the identification number:

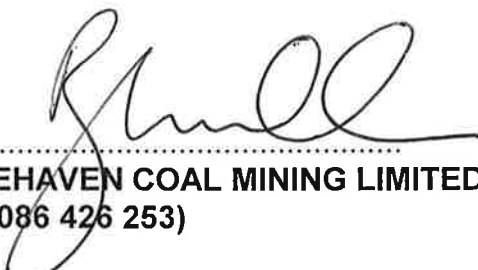
**WP-EL5831-2023-2026**

**MINING ACT 1992****INSTRUMENT OF RENEWAL OF EXPLORATION LICENCE 5831  
HELD BY WHITEHAVEN COAL MINING LIMITED**

I, **THE HON. ANTHONY ROBERTS, MP, MINISTER FOR RESOURCES AND ENERGY** for the State of New South Wales **HEREBY RENEW THE LICENCE** subject to the terms and conditions set out below:


1. The licence is renewed for a further term until **5 April 2018**.
2. The conditions of the licence are amended by deleting all the conditions contained in the licence prior to this renewal and by including the attached **Exploration Licence Conditions (Coal) 2012** numbered:  
  
**1-45(inclusive) and 48-55(inclusive)**
3. The licence is renewed over the land described hereunder and shown on the **Exploration Area** attached hereto.
4. Mineral Group covered by this licence: Group 9. (Coal & Oil Shale)

We, **Whitehaven Coal Mining Limited (ACN 086 426 253)**, hereby accept the renewal of this Exploration Licence and agree to be bound by the conditions specified.



.....  
**WHITEHAVEN COAL MINING LIMITED**  
**(ACN 086 426 253)**

Renewed this 12th day of May 2014



.....  
**MINISTER FOR RESOURCES AND ENERGY**  
**(UNDER DELEGATION FROM)**

## EXPLORATION AREA

The exploration area embraces an area of about **474.3 hectares**, as shown on the **Plan No E1725-07** hereunder exclusive of:-

- (a) land subject to any assessment lease, mining lease or mineral claim under the *Mining Act 1992*, at the date this renewal has effect.
- (b) land subject to any pending application for a mining lease, mining purposes lease or claim under the *Mining Act 1973* or any application for a coal lease under the *Coal Mining Act 1973*, made prior to **11.40am** on the **third** day of **January, 2001**.
- (c) land subject to any pending application for an assessment lease, mining lease or mineral claim under the *Mining Act 1992*, made prior to **11.40am** on the **third** day of **January, 2001**.
- (d) land on which bona fide mining operations were being carried out at the date of grant of the licence by the owner of the mineral or some person with his consent and over which the exploration licence was not granted by virtue of the provisions of Section 23(4) of the *Coal Mining Act 1973*.
- (e) land on which mining operations were being carried out at the date of grant of the licence by the owner of the mineral or some person with his consent and over which an exploration licence may not be granted by virtue of the provisions of Section 20 of the *Mining Act 1992*.
- (f) land vested in the Commonwealth of Australia.
- (g) land subject to any national park, regional park, historic site, nature reserve, karst conservation reserve or Aboriginal area at the date of grant of this licence.

**Note:** This exclusion includes national parks and Aboriginal areas contained within Community Conservation Area Zones 1 and 2 established under the *Brigalow and Nandewar Community Conservation Area Act 2005*.

- (h) any other land that was not subject to the licence immediately before this renewal.
- (i) land subject to any mining reserve constituted under section 367 of the *Mining Act 1992* that prohibits exploration, that was notified prior to the date of grant.

## RESOURCES &amp; ENERGY

File: C00-0519

DIAGRAM OF EXPLORATION LICENCE No. 5831  
 HOLDER: WHITEHAVEN COAL MINING LIMITED  
 PARISHES: TULCUMBA, VICKERY & WEAN  
 SCALE 1: 40000

(ELA No. 1725)

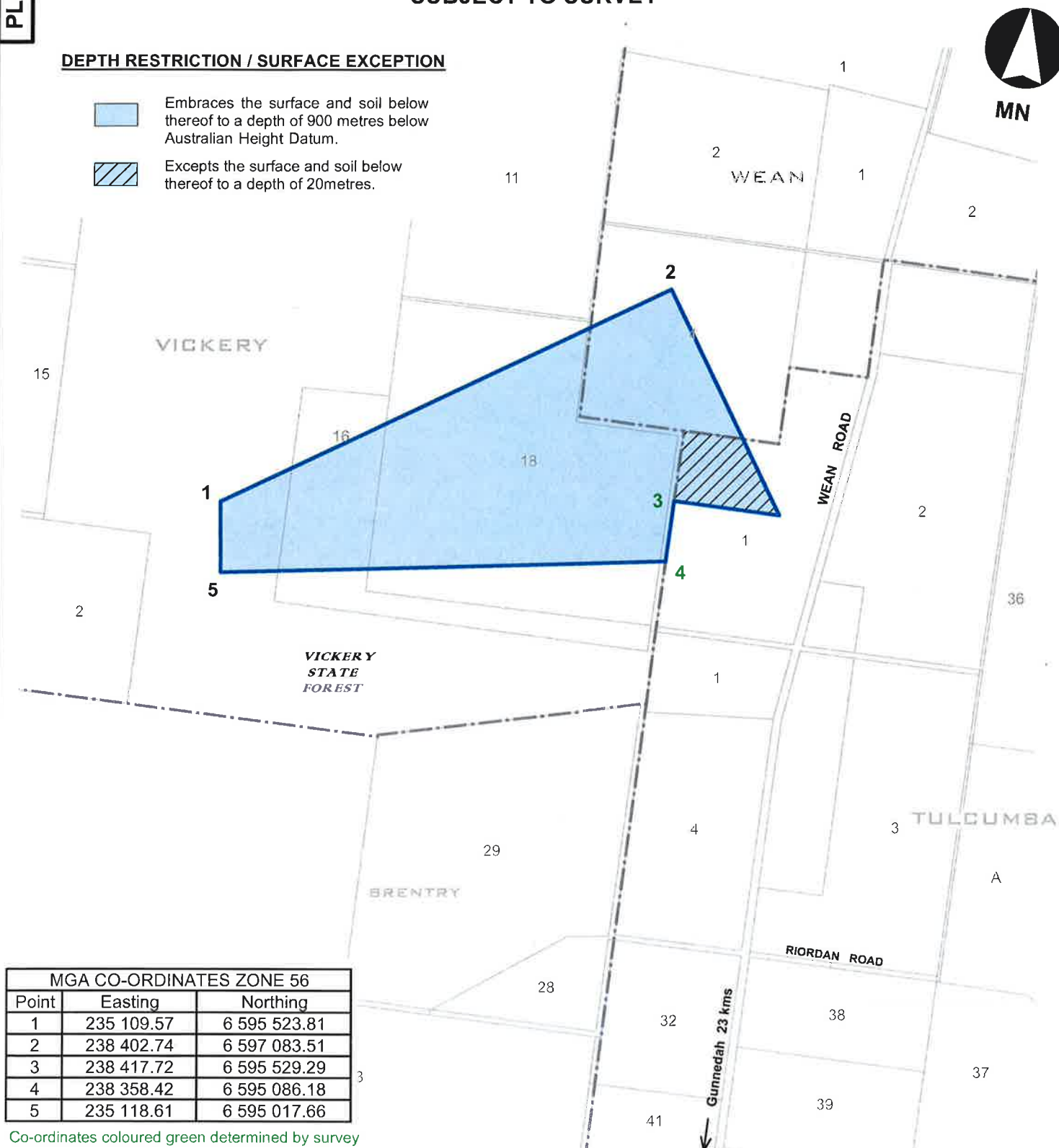
COUNTY: NANDEWAR  
 REF MAPS: 8936-1-S, & 8936-2-N, 8936-4-S  
 SUBJECT TO SURVEY

DEPTH RESTRICTION / SURFACE EXCEPTION

Embraces the surface and soil below  
 thereof to a depth of 900 metres below  
 Australian Height Datum.



Excepts the surface and soil below  
 thereof to a depth of 20metres.



## MGA CO-ORDINATES ZONE 56

Point	Easting	Northing
1	235 109.57	6 595 523.81
2	238 402.74	6 597 083.51
3	238 417.72	6 595 529.29
4	238 358.42	6 595 086.18
5	235 118.61	6 595 017.66

Co-ordinates coloured green determined by survey

UNIVERSAL TRANSVERSE MERCATOR PROJECTION  
 HORIZONTAL DATUM: GDA84



Resources  
& Energy  
MINERAL RESOURCES

0 250 500 1000 1500 2000  
 metres

AREA: abt. 474.3 ha

Prepared by: G Walker  
 Date: 24-02-2012  
 Approved by: F.Schiavo  
 Date: 28-02-2012  
 Maitland Regional Office

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# **EXPLORATION LICENCE CONDITIONS (COAL) 2012**

## **DEFINITIONS**

Words used in this exploration licence have the same meaning as defined in the *Mining Act 1992* except where otherwise defined below:

**Act** means the *Mining Act 1992*.

**Borehole** means any hole made by drilling or boring, but excludes sampling and coring using hand held equipment.

**Category 1 prospecting operations** means development to which clause 10(2) of the Mining SEPP applies.

**Category 2 prospecting operations** means:

- a) Development of a kind described in clause 10(2) of the Mining SEPP but that is not exempt development because it will not take place on land that is described in clause 10(1);
- b) Construction of an access way such as a track or road;
- c) Excavations (including bulk samples) totalling less than 100 cubic metres;
- d) Non-intensive drilling of boreholes;
- e) Construction of water monitoring bores required in connection with prospecting operations; and
- f) Seismic surveys.

**Category 3 prospecting operations** means:

Development, not being development to which clause 10(2) of the Mining SEPP applies, which is:

- a) Excavation totalling more than 100 cubic metres, including bulk samples, but not if the bulk sample is permissible only with consent under the EP&A Act;
- b) Intensive drilling of boreholes;
- c) Shaft sinking or tunnelling; and
- d) Any other prospecting operations not being Category 1 prospecting operations or Category 2 prospecting operations.

**Department** means the Division of Resources & Energy within the Department of Trade and Investment, Regional Infrastructure and Services.

**Director-General** means the Director-General of the Department of Trade and Investment, Regional Infrastructure and Services.

**Environment** has the same meaning as in the *Protection of the Environment Operations Act 1997*.

**EP&A Act** means the *Environmental Planning and Assessment Act 1979*.

**Exploration licence area** means the land and water which is subject to this exploration licence.

Exploration Licence Conditions (Coal) 2012	Version Date: May 2013
Exploration Licence No. 5831 (Act 1992)	Page 1 of 14

**Harm to the environment** includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution, contributes to the extinction or degradation of any threatened species, populations or ecological communities and their habitats and causes impacts to places, objects and features of significance to Aboriginal people.

**Landholder** for the purposes of these conditions does not include a secondary landholder and includes, in the case of exempted areas, the controlling body for the exempted area.

**Material harm to the environment** has the same meaning as in the *Protection of the Environment Operations Act 1997*.

**Minister** means the Minister administering the Act.

**Pollution incident** has the same meaning as in the *Protection of the Environment Operations Act 1997*.

**Standard working hours** means:

- a) Monday to Friday 7am to 6pm;
- b) Saturday 8am to 1pm; and
- c) No work on Sundays or Public Holidays.

**Mining SEPP** means the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*, as amended from time to time.

**Waste** has the same meaning as in the *Protection of the Environment Operations Act 1997*.

**Water land** has the same meaning as in section 198A of the *Fisheries Management Act 1994*.

**Wetland** has the same meaning as in section 198A of the *Fisheries Management Act 1994*.

## CONDITIONS

Conditions 1 to 3, 8 to 19, 23 to 29 and 37 to 49 of this exploration licence are identified as conditions relating to environmental management.

### Prospecting operations permitted under this exploration licence

1. The licence holder may conduct Category 1 prospecting operations on the exploration licence area subject to the conditions of this licence.

*Note. a) The licence holder must comply with the requirements of the Act and other relevant legislation.*

*b) Category 1 prospecting operations:*

- i) must be of minimal environmental impact;*
- ii) cannot be carried out in critical habitat of an endangered species, population or ecological community (identified under the Threatened Species Conservation Act 1995 or the Fisheries Management Act 1994); and*
- iii) can not be carried out in a wilderness area (identified under the Wilderness Act 1987).*

### Prospecting operations requiring further approval

2. The licence holder must obtain the Minister's written approval prior to carrying out any of the following prospecting operations on the exploration licence area:

- a) Category 2 prospecting operations; and
- b) Category 3 prospecting operations.

*Note: The information required to be submitted as part of the licence holder's request for written approval under this condition is set out in the "Note" following condition 3 below.*

3. The licence holder must comply with the conditions of an approval under condition 2 when carrying out those prospecting operations.

*Note: In the case of prospecting operations identified in condition 2 as requiring approval by the Minister, the application for approval must be accompanied by a Surface Disturbance Notice (SDN). A Review of Environmental Factors and Agricultural Impact Statement may be required for Category 2 prospecting operations if the Minister is of the opinion that the prospecting operations may result in more than minimal environmental impact.*

*A Surface Disturbance Notice, Review of Environmental Factors and Agricultural Impact Statement are required for all Category 3 prospecting operations.*

*If the impact of prospecting operations on the environment is determined as likely to significantly affect the environment (including critical habitat) or threatened species, populations or ecological communities, or their habitats, in terms of Part 5 of the EP&A Act, then the licence holder will be required to submit an Environmental Impact Statement (EIS).*

*Applications may also require a Groundwater Monitoring and Modelling Plan (see condition 12)).*

### Native Title

4. The licence holder must not prospect on any land or waters on which native title exists without the prior written consent of the Minister.

### Community consultation

5. The licence holder must engage with the community in relation to the planning for and conduct of prospecting operations authorised under this exploration licence.
6. The consultation must be undertaken in accordance with the *Guideline for community consultation requirements for the exploration of coal and petroleum, including coal seam gas* (NSW Trade & Investment, 2012) as amended from time to time.

Exploration Licence Conditions (Coal) 2012	Version Date: May 2013
Exploration Licence No. 5831 (Act 1992)	Page 3 of 14

7. An annual report on Community Consultation must be submitted to the Department within 28 days of the anniversary of this licence being granted, together with evidence that the consultation has been undertaken in accordance with the Guideline.

*Note: Copies of the Guideline are available from [www.resources.nsw.gov.au](http://www.resources.nsw.gov.au)*

### **Access to exploration licence and relevant documents**

8. The licence holder must ensure that a copy of this exploration licence and any relevant documentation relating to the conduct of prospecting operations is:
  - a) accessible on the site of active prospecting operations authorised by this exploration licence; and
  - b) made available to all supervisors or other persons concerned in the day to day management of prospecting operations authorised by this exploration licence.

*Note: For the purposes of this condition, relevant documentation includes, but is not limited to:*

- a) access arrangements required under Part 8 of the Act;
- b) exempted area consents required under section 30 of the Act;
- c) approvals under condition 2 of this exploration licence, and any document specified as forming part of that approval, such as a Review of Environmental Factors; and
- d) the approved Groundwater Monitoring and Modelling Plan under condition 12 of this exploration licence.

### **Environmental harm**

9. The licence holder must implement all reasonably practicable measures to prevent and/or minimise harm to the environment that may result from the conduct of any prospecting operations under this exploration licence.

### **Erosion and sediment control**

10. The licence holder must prevent erosion and pollution of watercourses resulting from the conduct of prospecting operations by implementing effective erosion and sediment control measures.
11. The planning, design and construction of erosion and sediment control measures must be conducted generally in accordance with *Managing Urban Stormwater: Soils and Construction* (DECC 2007), as amended or replaced from time to time.

### **Groundwater Monitoring and Modelling Plan**

12. Prior to conducting prospecting operations involving the construction and use of boreholes, the licence holder must:
  - a) Prepare a Groundwater Monitoring and Modelling Plan in consultation with the NSW Office of Water;
  - b) Ensure that the Groundwater Monitoring and Modelling Plan:
    - i) describes methods for identifying aquifers, their depths, behaviour, containing layers and connectivity with surrounding aquifers or surface water systems;
    - ii) describes methods for collection of data relevant to the type, quantity and quality of water contained within aquifer systems likely to be encountered during prospecting operations;
    - iii) provides for the future development of a conceptual model of regional groundwater behaviour;
    - iv) provides for the future development of a calibrated computer model of regional groundwater behaviour, to enable the impacts of any proposed mining operations to be assessed;

Exploration Licence Conditions (Coal) 2012	Version Date: May 2013
Exploration Licence No. 5831 (Act 1992)	Page 4 of 14

- v) describes how records of all data collected will be maintained;
  - vi) describes the staging process for implementation of the plan; and
  - vii) is prepared in accordance with any additional requirements prescribed by the Director-General.
- c) The Groundwater Monitoring and Modelling Plan must address the requirements identified in b)i) to b)vii) in a level of detail commensurate with the scale, timing and potential impact of proposed operations;
  - d) Have the Groundwater Monitoring and Modelling Plan approved by the Minister; and
  - e) Implement and comply with the approved Groundwater Monitoring and Modelling Plan.

*Note. The Groundwater Monitoring and Modelling Plan is required to ensure:*

- (a) there is sufficient groundwater data available to assess future operations against the Aquifer Interference Policy (NSW Office of Water, 2012), as amended or replaced from time to time; and*
- (b) 2 years of baseline data is available prior to submitting an application for any future production operations.*

*An application may be made to the Department at any time to vary an approved Groundwater Monitoring and Modelling Plan.*

## **Use of Chemicals and Fuel**

13. The licence holder must ensure that all chemicals, fuels and oils, excluding those contained within plant and equipment and those for personal use, are:
  - a) stored and handled in accordance with the relevant Material Safety Data Sheet and Australian Standards for the material;
  - b) stored in appropriate containers that are in good condition and labelled to clearly identify the stored product; and
  - c) kept in a facility or area which is capable of containing at least 100% of the largest container capacity stored within that area;
 unless otherwise approved by the Minister.
14. The licence holder must ensure that adequate spill prevention and oil absorbent materials required to manage spills and leaks for all chemicals, fuels and oils on site are readily available at all times where prospecting operations are being carried out. Equipment and/or materials to capture drips and spills must be used during transfer of chemicals, fuels and oils, and when maintaining oil or fuel filled components.

## **Noise**

15. The licence holder must carry out operations in accordance with the requirements of the *Interim Construction Noise Guidelines* (DECC, 2009), as amended or replaced from time to time. Unless otherwise approved by the Minister, the licence holder must ensure that:
  - a) noise levels during standard working hours do not exceed the Rating Background Level (RBL) +10dB at any residence or other sensitive receiver (as defined in the *Interim Construction Noise Guidelines*).
  - b) noise levels outside of standard working hours do not exceed the RBL +5dB.

16. The noise limits identified in condition 15 will not apply where the licence holder has negotiated a written agreement with:
  - a) the relevant landholder; or
  - b) in the case of a prospecting operation that will result in an exceedance of the criteria at a dwelling or other sensitive receiver, the resident of that dwelling or occupier of the sensitive receiver;
  - c) to allow different limits and the licence holder complies with those limits.

## **Vegetation Clearing**

17. Vegetation clearing and vegetation disturbance must be limited to the minimum extent necessary to facilitate the conduct of prospecting operations authorised by this exploration licence.

*Note: Any clearing of native vegetation which is not authorised under the Mining Act 1992 is subject to the Native Vegetation Act 2003.*

*Additional approvals may also be required before using timber from Crown land.*

## **Fire prevention**

18. The licence holder must take all reasonably practicable precautions against causing an outbreak of fire.
19. The licence holder must not burn off any grass, foliage or herbage without the consent of the landholder and the local fire authority.

## **Infrastructure**

20. The licence holder must ensure that prospecting operations do not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility without the prior written approval of the infrastructure owner and subject to any conditions that may be stipulated by the infrastructure owner.

## **Passage of stock**

21. The licence holder must permit the passage of stock through the exploration licence area and must conduct operations in a manner so as not to cause danger to travelling stock.
22. The licence holder must not interfere with or prevent the access of stock to any watering places or approaches to such watering places without the approval of the landholder.

## **Roads and Tracks**

23. Except where otherwise approved under condition 2, the licence holder must ensure that:
  - a) Existing roads and tracks are used in preference to constructing new roads and tracks;
  - b) The planning, design, construction and maintenance of unsealed roads and tracks is constructed generally in accordance with *Managing Urban Stormwater: Soils and Construction, Volume 2C, Unsealed Roads* (DECC 2007) as amended or replaced from time to time; and

Exploration Licence Conditions (Coal) 2012	Version Date: May 2013
Exploration Licence No. 5831 (Act 1992)	Page 6 of 14

- c) All water land and wetland crossing works are constructed in accordance with the requirements of the Policy and Guidelines for Fish Friendly Waterway Crossings (NSW DPI 2003) and Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003) as amended or replaced from time to time.
24. The licence holder must restrict the use of any unsealed road or track during wet weather to prevent damage to that road or track unless the road or track has been designed and constructed for use in wet weather.

### Topsoil management

25. The licence holder must ensure that all topsoil removed in the course of prospecting operations is stockpiled for later use in rehabilitating those operations.

### Drilling

26. The licence holder must:
- a) Construct, maintain and decommission all boreholes and petroleum wells in accordance with standards equivalent to or exceeding the *Minimum Construction Requirements for Water Bores in Australia* (NUDLC 2012), as amended or replaced from time to time. Where this condition is inconsistent with other conditions set out in this exploration licence, those conditions prevail to the extent of that inconsistency.
  - b) Ensure that the construction, operation, maintenance and decommissioning of boreholes does not cause or enhance:
    - i) hydraulic connection between aquifers;
    - ii) contamination or cross-contamination of aquifers;
    - iii) the escape of natural or noxious gases;
    - iv) the uncontrolled surface discharge of ground waters;
    - v) collapse of the surrounding surface; or
    - vi) hazards to persons, stock and wildlife;
  - c) Before commencing any drilling within the exploration licence area, carry out an assessment of the risk of blowouts. Details of the assessment must be notified to the Department at least 7 days prior to the proposed commencement of drilling. If this assessment indicates that there is potential for a blowout to occur, blowout prevention equipment must be installed, in accordance with the *Schedule of Onshore Petroleum Exploration and Production Safety Requirements* (DMR 1992), as amended or replaced from time to time;
  - d) Implement appropriate controls to manage any risks associated with natural or noxious gases, both during and after drilling;
  - e) Contain all drill cuttings, fluids and groundwater returned to the surface as part of the drilling process in above-ground tanks or in-ground sumps pending re-circulation or disposal. In-ground sumps must be lined with an impermeable barrier where there is a potential risk of contamination from drill cuttings or fluids;
  - f) Survey boreholes to a minimum of 0.5 metre accuracy at collar, with the survey to be carried out by a surveyor registered with the Board of Surveying and Spatial Information under the *Surveying and Spatial Information Act 2002*;
  - g) Remove equipment and logging tools from the borehole prior to plugging and abandonment of the borehole, unless otherwise approved by the Minister; and;
  - h) Once a borehole ceases to be used, the borehole must be completely filled with cement grout during drill rod withdrawal and plugged, unless otherwise approved by the Minister.

Exploration Licence Conditions (Coal) 2012	Version Date: May 2013
Exploration Licence No. 5831 (Act 1992)	Page 7 of 14

27. The licence holder must report any blowout associated with prospecting operations to the Department:
- a) immediately; and
  - b) provide a written report within 24 hours.

*Note. The licence holder should have regard to any Director-General's guidelines related to the drilling, operation and abandonment of boreholes.*

## **Waste Management**

28. The licence holder must ensure that:
- a) the sites of prospecting operations are maintained in a clean and tidy condition at all times;
  - b) all waste, including contaminated residues, must be collected, segregated and securely deposited in properly constructed containers and disposed lawfully;
  - c) drilling by-products contaminated by chemicals, oils or fuels must be collected and remediated or disposed lawfully; and
  - d) all drill cuttings and drilling fluids not being reused in drilling operations are disposed lawfully.

*Note. Alternative reuse of drill cuttings and treated fluids may be approved by the Minister under condition 2 of this exploration licence.*

29. The licence holder must maintain records of:
- a) all waste generated as a result of prospecting operations under this exploration licence; and
  - b) the means of disposal of all waste.

*Note. Waste is regulated under the Protection of the Environment Operations Act 1997 and the NSW Waste Regulations. Contact the Local Council or the Environment Protection Authority for details of those requirements.*

## **Safety**

30. The licence holder must notify the Department at least 7 days prior to the proposed commencement of any prospecting operation involving any drilling, blasting or other potentially hazardous operation. This notification must be made in the form approved by the Director-General.
31. The licence holder must carry out operations in a manner that ensures the safety of members of the public, stock and wildlife in the vicinity of the operations.
32. The licence holder must put in place measures to control safety hazards. These measures include, but are not limited to, the development of a Safety Management Plan prepared in accordance with relevant Departmental guidelines.

*Note: Mining activities in NSW, including exploration, are subject to the Work Health and Safety Act 2011 which is the main Act dealing with the health, safety and welfare of persons at work. The Work Health and Safety Act 2011 is to be read in conjunction with the Coal Mine Health and Safety Act 2002 which deals with health, safety and welfare of people at work at coal operations or related places and puts in place special provisions necessary for the control of particular risks arising from the exploration for coal.*



## Technical Manager

33. The licence holder must ensure that prospecting operations are conducted, or directly supervised, by a Technical Manager, being:
- a) a person with tertiary qualifications in geoscience, petroleum or mining engineering; or
  - b) a person having other qualifications or exploration experience approved by the Minister.
34. The licence holder must advise the Minister of the name and contact details of the Technical Manager(s) within ten (10) working days of any changes to the nominated Technical Manager or their contact details.

## Cooperation with other title holders

35. The licence holder must make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping authorisations under the *Mining Act 1992* or petroleum title under the *Petroleum (Onshore) Act 1991*. The cooperation agreement should address but not be limited to:
- a) access arrangements;
  - b) operational interaction arrangements;
  - c) dispute resolution;
  - d) information exchange;
  - e) location of prospecting operations;
  - f) timing of drilling;
  - g) potential resource extraction conflicts; and
  - h) integrated rehabilitation activities.

## Minister's approval of change in control

36. a) It is a condition of this licence that, where the licence-holder is a corporation or a trust, the Minister's prior written approval is required before there occurs:
- (i) any change in the effective control of the licence-holder; or
  - (ii) any foreign acquisition of substantial control in the licence-holder.
- b) Subject to Clause (d), for the purposes of this condition, there is a "change in effective control" where, after the imposition of this condition, any Third Party or Trustee of a Trust Estate:
- (i) acquires the capacity to appoint or control at least 50% of the number of directors of the licence-holder's board;
  - (ii) becomes entitled to exercise (directly or indirectly) greater than 50% of the votes entitled to be cast at any general meeting of the licence-holder; or
  - (iii) holds more than 50% of the issued share capital (other than shares issued with no rights other than to receive a specified amount in distribution) of the licence-holder.

- c) Subject to Clause (d), for the purposes of this condition, there is a "foreign acquisition of substantial control" where, after the imposition of this condition, a Foreign Party:

- (i) acquires the capacity to appoint or control at least 15% of the number of directors of the licence-holder's board;
- (ii) becomes entitled to exercise (directly or indirectly) greater than 15% of the votes entitled to be cast at any general meeting of the licence-holder; or
- (iii) holds more than 15% of the issued share capital (other than shares issued with no rights other than to receive a specified amount in distribution) of the licence-holder;

For the purposes of this condition a Foreign Party means:

- (iv) a natural person not ordinarily resident in Australia (foreign person);
  - (v) a corporation incorporated outside Australia (foreign corporation);
  - (vi) a corporation in which a foreign person or foreign corporation is a shareholder holding more than 15% of issued capital entitled to vote at any general meeting of the licence holder;
  - (vii) a corporation in which 2 or more persons, each of whom is either a foreign person or a foreign corporation are shareholders and collectively hold not more than 40% of issued capital entitled to vote at general meetings of the corporation;
  - (viii) the trustee of a trust estate, in which a foreign person or a foreign corporation is a beneficiary of the trust estate and holds more than 15% of the beneficial interest in the trust estate; or
  - (ix) the trustee of a trust estate in which 2 or more persons, each of whom is either a foreign person or a foreign corporation, are beneficiaries of the trust estate and collectively hold more than 40% of the beneficial interest in the trust estate, provided that a foreign party shall not include a related body corporate of the licence holder.
- d) Approval under (a) is not required where a change in effective control of the licence holder or a foreign acquisition of substantial control of the licence holder occurs as a result of the acquisition of shares or other securities on a registered stock exchange.
- e) For the purpose of this condition:
- (i) Related Body Corporate means in relation to a body corporate, a body corporate which is a related body corporate of the first mentioned body corporate for the purposes of the *Corporations Act 2001 (Cth)*; and
  - (ii) Third Party means any person who is not a Related Body Corporate of the licence holder.

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## Rehabilitation

37. All disturbance resulting from prospecting operations carried out under this exploration licence must be rehabilitated by the licence holder to the satisfaction of the Minister.
38. In rehabilitating the disturbance resulting from prospecting operations, the licence holder must ensure that:
- a) all machinery, buildings and other infrastructure is removed from the area;
  - b) the area is left in a clean, tidy and stable condition
  - c) there is no adverse environmental effect outside the disturbed area;
  - d) the land is properly drained and protected from soil erosion;
  - e) the land is not a potential source of pollution;
  - f) the land is compatible with the surrounding land and land use requirements;
  - g) the landforms, soils, hydrology and flora require no greater maintenance than that in, or on, the surrounding land;
  - h) the land does not pose a threat to public safety; and
  - i) in cases where vegetation has been removed or damaged:
    - i) where the previous vegetation was native, species used for revegetation are endemic to the area; or
    - ii) where the previous vegetation was not native, species used for revegetation are appropriate to the area; and
    - iii) any revegetation is of an appropriate density and diversity.
39. The licence holder must ensure that all water land and wetland crossings that are disturbed during prospecting operations are rehabilitated such that the natural flow of water is unimpeded and bank stability is maintained to prevent erosion.
40. The licence holder must comply with any relevant guidelines issued by the Director-General in the rehabilitation of disturbance resulting from prospecting operations under this exploration licence.
41. All rehabilitation of disturbance resulting from prospecting operations under this exploration licence must be completed before the expiry of this exploration licence or as soon as practicable following cancellation of this exploration licence, unless otherwise approved by the Minister.
42. Boreholes that have been abandoned as a result of previous mining or prospecting operations, and which have been opened up or used by the licence holder are subject to the conditions of this exploration licence as if the boreholes were constructed by the holder of this exploration licence.

## REPORTING

### Environmental Management Report

43. The licence holder must submit an Environmental Management Report to the Department in the following circumstances:
- a) where the licence holder is seeking to renew this exploration licence, an Environmental Management Report must accompany an exploration licence renewal application; or

- b) where the licence holder is seeking to cancel or part cancel this exploration licence, an Environmental Management Report must accompany an exploration licence cancellation application;
  - c) where the licence holder is not seeking to renew or cancel this exploration licence, an Environmental Management Report must be submitted prior to the expiry of this exploration licence.
44. The report must be prepared in accordance with any Director-General's requirements for environmental and rehabilitation reporting on exploration licences and include information on all disturbance resulting from prospecting operations and rehabilitation carried out within the exploration licence area. The report must be prepared to the satisfaction of the Director-General.

## Environmental Incident and Complaint Reporting

45. The licence holder must, in addition to the requirements under section 148 of the *Protection of the Environment Operations Act 1997*:

- a) Notify the Department of all:

- i) pollution incidents causing or threatening material harm to the environment;
- ii) breaches of the conditions of this exploration licence; and
- iii) breaches of environment protection legislation (as defined in the *Protection of the Environment Administration Act 1991*),

arising in connection with prospecting operations under this exploration licence.

- b) The notification must be given immediately, i.e. promptly and without delay, after the licence holder becomes aware of the incident, breach or complaint.

*Note.* Refer to [www.resources.nsw.gov.au/environment](http://www.resources.nsw.gov.au/environment) for notification contact details.

- c) Submit an Environmental Incident and Complaints Report to the Department within seven (7) days of all:

- i) pollution incidents causing or threatening material harm to the environment;
- ii) breaches of the conditions of this exploration licence;
- iii) breaches of environment protection legislation (as defined in the *Protection of the Environment Administration Act 1991*); and
- iv) complaints from landholders or the public alleging environmental harm or a breach of conditions of this exploration licence or of environment protection legislation,

arising in connection with prospecting operations under this exploration licence.

- d) The Environmental Incident and Complaints Report must include:

- i) the details of the exploration licence;
- ii) contact details for the licence holder, complainant and landholder;
- iii) a map showing the area of concern;
- iv) a description of the nature of the incident or complaint, likely causes and consequences;
- v) a timetable showing actions taken or planned to address the incident or complaint; and
- vi) a summary of all previous incidents or complaints relating to prospecting operations under this exploration licence.

*Note.* The licence holder should have regard to any relevant Director-General's guidelines in the preparation of an Environmental Incident and Complaints Report. Refer to [www.resources.nsw.gov.au/environment](http://www.resources.nsw.gov.au/environment) for further details.

Exploration Licence Conditions (Coal) 2012	Version Date: May 2013
Exploration Licence No. 5831 (Act 1992)	Page 12 of 14

## SECURITY

### Security

46. Not used.

47. Not used.

### Group Security

48. The authorisations specified in the Schedule hereunder/attached (including the present authorisation) are subject to a condition that the holder of the authorisations is required to provide and maintain a security deposit (being a group security deposit) to secure funding for the fulfilment of obligations of all or any kind under each and every authorisation, including obligations of all or any kind under each and every authorisation that may arise in the future.

49. The amount of the group security deposit to be provided has been assessed by the Director-General at **\$30,000**.

## EXPLORATION MANAGEMENT

### Samples

50. The licence holder must:

- a) if using non-core drilling methods, retain representative cuttings every one (1) metre drilled. Such samples must be at least 200 grams in dry weight, dried, stored appropriately, and securely labelled with depth limits; and
- b) if using core drilling methods, retain the cores (other than material required from the cores for the purpose of assay) and samples in standard modular durable core boxes and label the cores and samples after the completion of the borehole.

51. Cores and samples must be made available for examination and/or sampling by officers of the Department for the purpose of analysis or other testing upon request.

52. The licence holder must not dispose of the cores or samples referred to in Condition 50 without approval of the Minister and without first offering them to the Department for archival storage. If so directed, the licence holder must lodge selected core and samples with one of the Department's Core Libraries. Selected core must be lodged with the Department in standard modular core boxes. Information on the borehole and drilling depths must be clearly and permanently indicated on both the inside and outside of each box.

*Note: Conditions 50 and 52 do not apply to boreholes or sections of boreholes sunk in surface gravel or alluvial ground.*

*Specifications for standard modular core boxes can be obtained by contacting the Department.*

53. The licence holder must undertake analyses and tests on any or all coal seams intersected in boreholes if directed to do so by the Minister.

Exploration Licence Conditions (Coal) 2012	Version Date: May 2013
Exploration Licence No. 5831 (Act 1992)	Page 13 of 14

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## **Work Program**

54. Unless otherwise approved by the Minister, the licence holder must implement and complete the work program specified in the **renewal** application for this exploration licence.

## **SPECIAL CONDITIONS**

### **Aboriginal Land Council Notification**

55. The licence holder must inform the relevant Local Aboriginal Land Council of the grant or renewal of this exploration licence within 28 days of the grant or renewal.

**MINING ACT 1992****INSTRUMENT OF RENEWAL OF EXPLORATION LICENCE NO. 5831 (ACT 1992)  
HELD BY WHITEHAVEN COAL MINING LIMITED**

I, **IAN MACDONALD, MLC, MINISTER FOR MINERAL RESOURCES** for the State of New South Wales **HEREBY RENEW THE LICENCE** subject to the terms and conditions set out below:

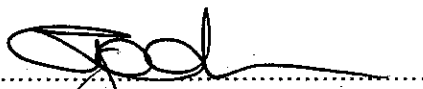
1. The licence is renewed for a further term until **5 April 2013**.
2. The conditions of the licence are amended by deleting all the conditions contained in the licence prior to this renewal and by including the attached **Exploration Licence Conditions 2008** numbered:  
  
**1-3 (inclusive), 8, 10-24 (inclusive), 26-28 (inclusive), 30, 32-34 (inclusive), 36, 38, 41, 42 and 44-48 (inclusive).**
3. The licence is renewed over the land described hereunder and shown on the **Exploration Area** attached hereto.
4. Mineral Group covered by this licence: Group 9. (Coal & Oil Shale)

We, **Whitehaven Coal Mining Limited (ACN 086 426 253)**, hereby accept the renewal of this Exploration Licence and agree to be bound by the conditions specified.



.....  
**WHITEHAVEN COAL MINING LIMITED**  
**(ACN 086 426 253)**

Renewed this ~~eleventh~~ day of **November** 2008



.....  
**TEAM LEADER COAL & PETROLEUM TITLES**  
**UNDER DELEGATION FROM THE MINISTER**

## EXPLORATION AREA

The exploration area embraces an area of about **474.3 hectares**, as shown on the **Plan No E1725-06** hereunder exclusive of:-

- (a) land subject to any assessment lease, mining lease or mineral claim under the Mining Act, 1992, at the date this renewal has effect.
- (b) land subject to any pending application for a mining lease, mining purposes lease or claim under the Mining Act, 1973 or any application for a coal lease under the Coal Mining Act, 1973, made prior to **11.40 am** on the **Third** day of **January, 2001**.
- (c) land subject to any pending application for an assessment lease, mining lease or mineral claim under the Mining Act, 1992, made prior to **11.40 am** on the **Third** day of **January, 2001**.
- (d) land on which bona fide mining operations were being carried out at the date of grant of the licence by the owner of the mineral or some person with his consent and over which the exploration licence was not granted by virtue of the provisions of Section 23(4) of the Coal Mining Act 1973.
- (e) land on which mining operations were being carried out at the date of grant of the licence by the owner of the mineral or some person with his consent and over which an exploration licence may not be granted by virtue of the provisions of Section 20 of the Mining Act, 1992.
- (f) land vested in the Commonwealth of Australia.
- (g) land subject to any national park, regional park, historic site, nature reserve, karst conservation reserve or Aboriginal area at the date of this renewal.

**Note:** This exclusion includes national parks and Aboriginal areas contained within Community Conservation Area Zones 1 and 2 established under the *Brigalow and Nandewar Community Conservation Area Act 2005*.

- (h) any other land that was not subject to the licence immediately before this renewal.



# EXPLORATION LICENCE CONDITIONS 2008

## Contents

### DEFINITIONS

- 1 Categories of Prospecting Operations
- 2 Sensitive Areas
- 3 Other Definitions

### Section A. APPROVAL OF PROSPECTING OPERATIONS

- 1. Prospecting Operations Permitted under the Licence
- 2. Prospecting Operations Requiring Further Approval

### Section B. SPECIAL AREAS CONDITIONS

- 3. Exempted Areas
- 8. Native Title Areas

### Section C. ENVIRONMENTAL MANAGEMENT CONDITIONS

- 10. Environmental Management Conditions
- 11. Environmental Management - General
- 12. Aboriginal Cultural Heritage
- 13. Threatened Species, Populations, Ecological Communities and Critical Habitat
- 14. Heritage Items
- 15. Trees and Vegetation
- 16. Roads and Tracks
- 17. Streams and Watercourses
- 18. Erosion and Sediment Controls
- 19. Prevention and Monitoring of Pollution
- 20. Refuse, Chemicals, Fuels and Waste Materials
- 21. Transmission Lines, Communication Lines, Pipelines and other Public Utilities
- 22. Public and Private Property
- 23. Drilling
- 24. Drilling (Additional for Group 8 and 9 Minerals)
- 26. Maintenance of Open Drillholes
- 27. Rehabilitation of Land
- 28. Environmental Reporting
- 30. Single Security
- 32. Failure to Fulfil Obligations

### Section D. GENERAL CONDITIONS

- 33. Control of Operations
- 34. Landholder Liaison Program (Group 9 Minerals)
- 36. Safety of Operations
- 38. Core Samples (For Group 8 and 9 Minerals)

### Section E. EXPLORATION PERFORMANCE AND REPORTING CONDITIONS

Exploration Licence Conditions 2008	Version Date: Sep 08
Exploration Licence No. 5831 (Act 1992)	Page 1 of 18

- 41. Completion of Exploration Program
- 42. Technical Management of Exploration
- 44. Geological Reports (For Group 8 and 9 Minerals)
- 45. Confidentiality of Reports
- 46. Licence to Use Reports
- 47. Terms of the non-exclusive licence

**Section F. SPECIAL CONDITIONS**  
**48 Co-Operation Agreement**

## Definitions

### 1 Categories of Prospecting Operations

Three categories of prospecting operations are defined under this licence, as follows:

**Category 1: Reconnaissance and low intensity activities, including:**

- (a) Geological mapping
- (b) Airborne surveys
- (c) Sampling and coring using hand held equipment
- (d) Geophysical surveys and downhole logging, but not seismic surveys
- (e) Shallow reconnaissance drilling involving no more than minimal site preparation
- (f) Minor clearing or cutting of native vegetation
- (g) Minor excavations excluding costeaning or bulk sampling
- (h) Vehicle access that does not require construction of new tracks

**Category 2: Operations which have potential for moderate disturbance to the land surface, native vegetation or other environmental value, including:**

- (a) Operations under Category 1 (c) to (h) within or adjacent to Sensitive Areas\*
- (b) Operations under Category 1 (c) to (h) of a concentrated or cumulative nature
- (c) Seismic surveys
- (d) Excavating or bulk sampling not exceeding 60 cubic metres
- (e) Non-intensive drilling involving no more than moderate site preparation, excluding drilling holes exceeding 400 millimetre diameter
- (f) Camp construction
- (g) Access tracks, drill pads or line clearing involving no more than moderate native vegetation disturbance

**Category 3: Operations which have potential to cause significant environmental impact involving, for example, considerable land surface disturbance or native vegetation clearing, including:**

- (a) Operations under Category 2 (c) to (g) within or adjacent to Sensitive Areas\*
- (b) Operations under Category 2 (c) to (g) of a concentrated or cumulative nature
- (c) Excavations or bulk sampling in excess of 60 cubic metres
- (d) Shaft sinking or tunnelling
- (e) Drilling holes in excess of 400 millimetre diameter
- (f) Intensive drilling, such as for resource definition purposes.
- (g) Access tracks involving formed construction

\* see definition 2 for Sensitive Areas

## 2 Sensitive Areas

For the purposes of the licence, **Sensitive Areas** include the following:

- (a) land reserved as a State Conservation Area under the *National Parks and Wildlife Act 1974*;
- (b) land declared as an Aboriginal place under the *National Parks and Wildlife Act 1974*;
- (c) land identified as wilderness under the *Wilderness Act 1987*;
- (d) land subject to a 'conservation agreement' under the *National Parks and Wildlife Act 1974*;
- (e) land acquired by the Minister for the Environment under Part 11 of the *National Parks and Wildlife Act 1974*;
- (f) land proposed to be reserved under the *National Parks and Wildlife Act 1974*;
- (g) land within State forests mapped as Forestry Management Zone 1, 2 or 3;
- (h) wetlands mapped under SEPP 14 - Coastal Wetlands;
- (i) wetlands listed under the Ramsar Wetlands Convention;
- (j) lands mapped under SEPP 26 - Littoral Rainforests;
- (k) areas listed on the Register of National Estate;
- (l) areas listed under the *Heritage Act 1977* for which a plan of management has been prepared;
- (m) land declared as critical habitat under the *Threatened Species Conservation Act 1995*;
- (n) land within a restricted area prescribed by a controlling water authority;
- (o) land reserved or dedicated under the *Crown Lands Act 1989* for the preservation of flora, fauna, geological formations or other environmental protection purpose; and
- (p) any other land identified as Sensitive Land by the Department

It should be noted that some of these areas are also "exempted areas" under the Act.

## 3 Other Definitions

"Act" means the *Mining Act 1992*

"Department" means the Department of Primary Industries

"Minister" means the Minister administering the *Mining Act 1992*

"Wetlands" means wetlands mapped as such under State Environmental Planning Policy No 14 - Coastal Wetlands;

# EXPLORATION LICENCE CONDITIONS 2008

## Section A APPROVAL OF PROSPECTING OPERATIONS

### 1 Prospecting Operations Permitted under the Licence

The prospecting operations listed in Category 1 may be conducted on the licence area provided that:

- (a) the operations do not cause more than minimal impact on the environment, taking into account the sensitivity of the local environment to disturbance;
- (b) the operations do not cause harm to any threatened species, population or ecological community, or their habitats, including critical habitat;
- (c) the operations do not cause damage to Aboriginal objects or Aboriginal places;
- (d) the operations do not cause damage to the values and features listed in section 238 of the Act;
- (e) the requirements of section 30 of the Act are met, if relevant; and
- (f) the requirements of all State conservation, threatened species, environmental protection, heritage and related legislation are met.

### 2 Prospecting Operations Requiring Further Approval

All prospecting operations not covered by Condition 1 require additional approval. Such operations comprise:

- (a) prospecting operations listed in Category 1 where the provisos listed under Condition 1 cannot be satisfied;
- (b) prospecting operations listed in Category 2 or 3; and
- (c) surface disturbing prospecting operations not listed in Categories 1, 2 or 3.

All such prospecting operations require prior notification on a Surface Disturbance Notice form to the Department.

Approval by the Department requires assessment and determination under Part 5 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*.

In the case of prospecting operations listed in Category 3, a review of environmental factors (REF) must be prepared, and must accompany the Surface Disturbance Notice. In respect of prospecting operations not listed under Category 3, the Department, after consideration of the completed Surface Disturbance Notice form, will determine whether a REF must be prepared and notify the licence holder in writing. Any REF must be prepared in accordance with Departmental guidelines. If the impact of prospecting operations on the environment is determined as likely to be significant in terms of Part 5 of the *EP&A Act*, then the Department will require the licence holder to submit an Environmental Impact Statement (EIS).

The licence holder must not commence the operations without prior written approval from the Department.

## **Section B SPECIAL AREA CONDITIONS**

### **3 Exempted Areas**

The licence holder must not commence prospecting operations in an exempted area under the Act without obtaining prior written consent from the Minister.

"Exempted areas" under the Act are lands set aside for public purposes. They include travelling stock reserves, road reserves, water supply reserves, State forests, and public reserves and permanent commons. Under Section 30 of the Act the "exercise of rights" under an exploration licence is subject to the consent of the Minister. The "exercise of rights" includes the right to conduct prospecting operations. The Minister's consent requires assessment and determination under Part 5 of the *EP&A Act*.

Applications for the Minister's consent to exercise rights under the licence may address Category 1 prospecting operations only, or may also address prospecting operations requiring further approval under Condition 2. If an application for the Minister's consent is submitted in terms of Category 1 prospecting operations only, then if granted it will contain a condition requiring approval of further prospecting operations under Condition 2. If the application also addresses prospecting operations requiring further approval under Condition 2, then it will satisfy the requirements of Condition 2 for prior notification to and approval by the Department of those operations. The Minister's consent may be granted subject to conditions.

Applications for the Minister's consent to exercise rights under the licence are to be submitted to the Titles Program, accompanied by any necessary Surface Disturbance Notice form, REF or EIS (see Condition 2). Inclusion of the views and requirements of the agency or council controlling the exempted area will speed up the consent process.

### **8 Native Title Areas**

The licence holder must not prospect on any land or waters on which native title exists without the prior written consent of the Minister.

## **Section C ENVIRONMENTAL MANAGEMENT OF PROSPECTING OPERATIONS.**

### **10 Environmental Management Conditions**

- (a) Conditions attached to any consent or approval given pursuant to the Act or this licence are taken to be conditions of this licence and are enforceable under the Act as such.
- (b) Without limiting the generality of paragraph (a) conditions attached to the following approvals and consents are taken to be conditions of this licence and are enforceable as such:
  - i) Approvals under conditions 2, 6, 9, 16(a), 17, 20(b) and 21(a); and
  - ii) Consents under conditions 3 and 4.
- (c) For the purposes of Sections 125(3) and 374A(1) of the Act, Conditions 1 to 6 and 9 to 32 (if included in the licence) are identified as being related to environmental management.
- (d) For the purposes of Division 3 of Part 11 of the Act, Conditions 1 to 6 and 9 to 28 (if included in the licence) are identified as being imposed under Division 2 of Part 11 of the Act, as well as being imposed under Section 26(1), 114(4) or 121(3) of the Act as the case may be.

### **11 Environmental Management – General**

- (a) Environmental management of operations must be carried out according to current best environmental practice\* or, alternately, it must conform to a specific Environmental Management Plan prepared by the licence holder which is acceptable to the Department.

\*As a guide see "Onshore Minerals and Petroleum Exploration", 1996 Commonwealth Department of the Environment and Heritage or "Guidelines for Environmentally Responsible Mineral Exploration in NSW" 1998 NSW Minerals Council.

- (b) Approval of Category 3 prospecting operations may be subject to a requirement to prepare an Environmental Management Plan (EMP). When directed in writing by the Department, the licence holder must prepare an EMP for the operations or for a specific aspect of the operations. The EMP must be prepared in a format and with content as specified and to a timetable specified by the Department.

### **12 Aboriginal Cultural Heritage**

- (a) Prior to carrying out any prospecting operations the licence holder must consider potential impacts on Aboriginal Heritage according to Guidelines for Aboriginal Heritage Impact Assessment in the Exploration and Mining Industries (NPWS, October 1997).
- (b) Aboriginal Cultural Heritage issues must be satisfactorily addressed in any notification under Condition 2 of this licence.
- (c) The licence holder must not knowingly destroy, deface or damage any Aboriginal object or Aboriginal place within the area except in accordance with a consent issued under the *National Parks and Wildlife Act 1974*. The licence holder must take all necessary precautions in drilling, excavating or disturbing the land against any such destruction, defacement or damage.

Exploration Licence Conditions 2008	Version Date: Sep 08
Exploration Licence No. 5831 (Act 1992)	Page 7 of 18

### **13 Threatened Species, Populations, Ecological Communities and their Habitats, and Critical Habitat**

- (a) Prior to carrying out any prospecting operations the licence holder must consider potential impacts on threatened species (of plants, animals and fish), populations and ecological communities and their habitats, and critical habitat, and plan the activities to minimise any such impacts.
- (b) Threatened species populations and ecological communities and their habitats, and critical habitat, must be satisfactorily addressed in any notification under Condition 2 of this licence.
- (c) The licence holder must comply with legislation relating to threatened species, populations, ecological communities and their habitat, and critical habitat. Should prospecting operations require a licence under the *National Parks and Wildlife Act 1974* or the *Threatened Species Conservation Act 1995* then the licence holder must obtain such a licence.

### **14 Heritage Items**

- (a) Prior to carrying out any prospecting operations the licence holder must consider potential impacts on items of heritage significance including old mine relics and workings. The licence holder must take all necessary precautions in drilling, excavating or disturbing the land against causing any damage to or destruction of items of heritage significance.
- (b) Heritage items must be satisfactorily addressed in any notification under Condition 2 of this licence.
- (c) The licence holder must not disturb any item of heritage significance within the area except in accordance with an approval issued under the *Heritage Act 1977*.

### **15 Trees and Vegetation**

- (a) The licence holder must not fell trees, strip bark or cut timber on any land subject of this licence without the consent of the landholder who is entitled to the use of the timber, or if such a landholder refuses consent or attaches unreasonable conditions to the consent, without the approval of the Mining Warden.
- (b) The licence holder must not cut, destroy, ringbark or remove any timber or other vegetative cover on any land the subject of this licence other than in accordance with the conditions of this licence and any approval granted thereunder. Any clearing not authorised under the Act must comply with the provisions of the *Native Vegetation Act 2003*.
- (c) The licence holder must have any necessary licence from the Department's State Forests Division before using timber from any Crown land within the licence area.

### **16 Roads and Tracks**

- (a) Operations must not affect the public's normal use of any road or track unless with the prior written approval of the Department.
- (b) Operations must not affect the availability of existing roads on any land for use for fire fighting.



- (c) The licence holder must pay to the designated authority in control of the road or track (generally the local council or the Roads and Traffic Authority) the reasonable costs incurred by the designated authority in fixing any damage to roads caused by operations carried out under the licence.
- (d) During wet weather the use of any road or track must be restricted so as to prevent damage to the road or track.
- (e) Existing access tracks should be used for all operations where possible. New access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land, watercourses or vegetation.
- (f) The design, construction, repair and rehabilitation of constructed access tracks must be in accordance with specifications given in any Review of Environmental Factors required (Condition 2) or an Environmental Management Plan (Condition 11) which has been accepted by the Department.
- (g) As soon as possible after they are no longer required for prospecting operations temporary access tracks must be rehabilitated and revegetated to the satisfaction of the Department.
- (h) Rehabilitation activities undertaken in regard to this Condition must be included in reports prepared in accordance with Condition 28 (a).

## **17 Streams and Watercourses**

The licence holder must not interfere with the flow of water in any stream or watercourse without the prior written approval of the Department, and subject to any conditions that may be stipulated.

## **18 Erosion and Sediment Controls**

- (a) All operations must be planned and carried out in a manner that minimises erosion and controls sediment movement. The licence holder must observe and perform any instructions given by the Department in this regard.
- (b) For operations requiring approval under Condition 2 the licence holder must document in any Review of Environmental Factors required a plan setting out the proposed methods for minimising erosion and controlling sediment movement.
- (c) The procedures undertaken to minimise erosion and control of sediment movement must be included in reports prepared in accordance with Condition 28 (a).

## **19 Prevention and Monitoring of Pollution**

- (a) Operations must be planned and carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination. For the purpose of this condition, water shall be taken to include any watercourse, waterbody or groundwaters. The licence holder must observe and perform any instructions given by the Department in this regard.
- (b) For operations requiring approval under Condition 2 the licence holder must document in any Review of Environmental Factors required the proposed methods for minimising air pollution, water pollution and soil contamination.

- (c) The licence holder must carry out environmental monitoring as directed by the Department to assess environmental performance in relation to prevention of pollution and rehabilitation of affected areas.
- (d) The procedures and results of monitoring of the activities undertaken to minimise air pollution, water pollution and soil contamination must be included in reports prepared in accordance with Condition 28 (a).

## **20 Refuse, Chemicals, Fuels and Waste Materials**

- (a) The licence holder must maintain operations areas in a clean and tidy condition at all times.
- (b) All refuse and waste materials must be collected, segregated and deposited in properly constructed containers and removed to an approved landfill or buried in an approved manner at an approved location.
- (c) Sanitation collection should be in accordance with the requirements of the local authority, or the licence holder must make such provisions for sanitation as may be directed by the Department.
- (d) Precautions must be taken to prevent spills and soil contamination. All chemicals, fuels and oils must be stored in sound containers and kept spill trays or in a bunded area. A supply of appropriate spill and dust prevention and oil absorbent materials must be maintained at drill sites.
- (e) All drill cuttings and fluids must be contained in above-ground tanks or in-ground sumps. To prevent contamination of the groundwater or soils in-ground sumps must be plastic lined whenever toxic or non-biodegradable drilling fluids are used or when drilling into rock potentially containing high concentrations of toxic metals or metalloids.
- (f) Any soil contaminated by chemicals, oils and fuels, or drilling mud or drill core containing toxic metals must be collected and remediated or disposed of in an approved manner, and the site rehabilitated with clean soil.
- (g) Activities undertaken in regard to this Condition must be included in reports prepared in accordance with Condition 28 (a).

## **21 Transmission Lines, Communication Lines, Pipelines and other Public Utilities**

- (a) Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other public utility without the prior written approval of the Department and subject to any conditions that may be stipulated.
- (b) If the operation in any way impacts on the utility the licence holder must inform the authority in control of the utility and provide sufficient information for the authority to assess the proposal or its impacts. The licence holder must pay costs for remediation or repair of damage to utilities caused by prospecting operations and associated activities.

## **22 Public and Private Property**

The licence holder must observe any instructions given by the Department in connection with minimising or preventing public inconvenience or damage to public or private property.

Exploration Licence Conditions 2008	Version Date: Sep 08
Exploration Licence No. 5831 (Act 1992)	Page 10 of 18

## 23 Drilling

- (a) At least 28 days prior to commencement of drilling operations other than Category 1 drilling the licence holder must notify the relevant Department of Water and Energy regional Hydrologist of the intention to drill exploratory drill holes together with information on the nature and location of the proposed holes.
- (b) If the licence holder drills exploratory drill holes he must satisfy the Department that during and after the activity:
  - i) all holes cored or otherwise are constructed and/or sealed to prevent the collapse of the surrounding surface;
  - ii) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;
  - iii) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination or cross-contamination of aquifers, and is permanently sealed with cement plugs to prevent surface discharge of groundwater;
  - iv) potentially hazardous tools or logging equipment dropped in holes and unable to be recovered must be reported to the Regional Inspector of Mines and if directed to do so the licence holder must recover the equipment;
  - v) waters flowing from any drill holes must be managed and contained. Disposal of any such waters must be in accordance with the ANZECC 2000 *"Australian and New Zealand Guidelines for Fresh and Marine Water Quality Guidelines"* so as to meet the environmental values of the receiving Climate
  - vi) once any drill hole ceases to be used the land and its immediate vicinity is to be rehabilitated to its former condition;
  - vii) activities undertaken in regard to this Condition must be included in reports prepared in accordance with Condition 28(a).

## 24 Drilling (Additional for Group 8 and 9 Minerals)

- (a) Before commencing drilling within the licence area, the licence holder must carry out an assessment of the risk of gas blowouts to the satisfaction of the Department. If this assessment indicates that there is potential for a gas blowout to occur in any particular drillhole, that drillhole is to be drilled using a drilling rig fitted with gas blowout prevention equipment according to the Schedule of Onshore Petroleum Exploration and Production Safety Requirements.
- (b) The licence holder must report orally and forthwith to the Department all over-pressure gas occurrences that occur during drilling. Written notification of the occurrence is to be given to the Inspector within 24 hours of the occurrence.
- (c) The Department may direct the licence holder to undertake analyses and tests on any or all coal seams intersected in drill holes which in the opinion of the Department are likely to be economically mineable.
- (d) once any drill hole ceases to be used the hole must be sealed, surveyed and marked in accordance with Departmental Guidelines for Borehole Sealing on Land: Coal Exploration. Alternatively, the hole must be sealed as instructed by the Department.

## 26 Maintenance of Open Drillholes

Where the licence holder wishes to temporarily maintain a drillhole in an open condition for monitoring purposes, or where a landholder requests that a drillhole be left open for water supply purposes, the licence holder shall inform the Department and provide reasons for leaving the hole open. If leaving the drillhole open at the request of a landholder, the licence holder must produce a signed copy of a document transferring the responsibility of that drillhole and its licencing requirements to the landholder. All drillholes which are maintained in an open condition must be cased to prevent collapse and fitted with a removable cap to ensure the safety of persons and stock.

## 27 Rehabilitation of land

- (a) Land disturbed must be rehabilitated to a stable and permanent form suitable for a subsequent land use acceptable to the Department so that:-
  - i) there is no adverse environmental effect outside the disturbed area and the land is properly drained and protected from soil erosion;
  - ii) the state of the land is compatible with the surrounding land and land use requirements;
  - iii) the landforms, soils, hydrology and flora require no greater maintenance than that in or on the surrounding land;
  - iv) in cases where native vegetation has been removed or damaged, and where vegetation is required, species endemic to the area must be re-established. If the previous vegetation was not native, any re-established vegetation must be appropriate to the area or to the satisfaction of the landholder. Any re-established vegetation must be at an acceptable density and diversity; and
  - v) the land does not pose a threat to public safety.
- (b) Any topsoil that is temporarily removed from an area of prospecting operations must be stored, maintained and returned as soon as possible in a manner acceptable to the Department.
- (c) Any shafts, drill holes and excavations, that remain abandoned from previous mining or exploration, which are opened up or used by the licence holder must be filled in or otherwise rehabilitated to a standard acceptable to the Department.
- (d) All rehabilitation of disturbed areas should be completed before the expiry of the licence or immediately following termination of the licence.
- (e) Activities undertaken in regard to this Condition must be included in reports prepared in accordance with Condition 28(a).

## 28 Environmental Reporting

- (a) An **Environmental and Rehabilitation Report** must be submitted to the Department as follows:
  - i) The reports must be prepared according to Departmental Guidelines for environmental and rehabilitation reporting on exploration licences.
  - ii) The reports must be lodged within one month of expiry or earlier termination of the licence or whenever part of the licence ceases to have effect.

Exploration Licence Conditions 2008	Version Date: Sep 08
Exploration Licence No. 5831 (Act 1992)	Page 12 of 18

- iii) The reports must be prepared to the satisfaction of the Department and include information on all surface disturbing prospecting operations and rehabilitation carried out in the licence area or in the part of the licence that has ceased to have effect. They should include sufficient information to demonstrate that the requirements of Conditions 1 to 6 and 9 to 27 or those of them included in the licence have been satisfied.
- (b) An **Incident and Complaints Report** must be submitted to the Department as follows:
  - i) The report is to be submitted within 24 hours of confirmation of any serious environmental incident, breach of Conditions 1 to 27 or those of them included in the licence or breach of other environmental regulations, or a serious complaint from landholders or the public.
  - ii) The report must include the details of the exploration licence, contact details for the exploration manager, complainant and landholder, a map showing the area of concern, the nature of the incident or complaint, likely causes and consequences, and a timetable showing actions taken or planned to fix the problem.
  - iii) Details of all incidents or complaints occurring whilst the licence is in force must be included in reports prepared in accordance with Condition 28 (a).
- (c) Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Department and must be lodged as instructed.

### 30 Single Security

- (a) A single security in the sum of **\$30,000** must be given and maintained with the Minister by the licence holder for the purpose of ensuring the fulfilment by the licence holder of obligations under **EL 4699, EL 5831 and EL 5967**.
- (b) The licence holder must provide the security required by paragraph (a) in one of the following forms:
  - i) cash, or
  - ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.
- (c) The Minister may at any time or times hereafter vary the amount that may be applied by him towards the cost of fulfilling obligations provided for in paragraph (a). Where he has so varied that sum, he shall serve on the licence holder a notice in writing to this effect.
- (d) For the purposes of this condition, a person is deemed to be the holder of an exploration licence until such time as all obligations under that licence have been met.

### 32 Failure to Fulfil Obligations

For the purposes of Condition 30, the licence holder shall be deemed to have failed to fulfil the obligations of this licence if the licence holder fails to comply with:

- (a) any condition or provision of the licence;
- (b) any condition of a consent or approval given pursuant to the Act or the licence;
- (c) any provision of the Act or regulations made thereunder; or
- (d) any direction or other instruction given by the Department pursuant to paragraphs (a) – (c) above.

## **Section D            GENERAL CONDITIONS**

### **33    Control of Operations**

- (a) If the Department believes that the licence holder is not complying with any provision of the Act or Regulations, or any condition or provision of this licence, the Department may direct the licence holder to:
  - i)    cease all prospecting operations and other activities authorised by the licence; or
  - ii)   cease those prospecting operations and other activities not complying;  
        until in the opinion of the Department the situation has been corrected.
- (b) The licence holder must comply with any direction given under this Condition.

### **34    Landholder Liaison Program (Group 9 Minerals)**

The licence holder must establish a Landholder Liaison Program. This program must have procedures for addressing all landholder inquiries or complaints.

Notification of the program is to be given to all landholders within the licence area and to the Department.

### **36    Safety of Operations**

- (a) The licence holder must give notification to the Department at the Department's nearest regional office at least 7 days before commencement of any field exploration activity involving drilling, blasting or other potentially hazardous operation.
- (b) Operations must be carried out in a manner that ensures the safety of landholders and members of the public, stock and wildlife in the vicinity of the operations.
- (c) The measures put in place to control hazards must comply with the *Mine Health and Safety Act 2004* and *Mine Health and Safety Regulation 2007*. These measures include, but are not limited to, the development of a Safety Management Plan prepared according to Departmental guidelines.
- (d) Operations must be carried out and supervised in a manner that ensures the safety of all employees and contractors.

### **38    Core Samples (For Group 8 and 9 Minerals)**

- (a) Where a person obtains a core in the course of drilling any borehole, the core (except any material used for analysis) and any samples obtained there from shall be labelled and properly stored by the person on the completion of the borehole.
- (b) The licence holder must, if using non core drilling methods, retain representative cuttings of every three (3) metres of formation drilled, or change of formation and such samples must be at least 100 grams in weight, dried, bagged and securely labelled with depth limits.
- (c) Cores and samples labelled and stored as required under subsection (a) or (b) shall at all times be available for examination by the Manager Coal Advice of the Department.

- (d) Portions of cores or samples labelled and stored as required under subsection (a) or (b) may be taken by the Manager Coal Advice referred to in subsection (c) for the purpose of analysis or other examination.
- (e) Any information obtained by any person as the result of any action taken under subsection (c) shall not be made public without the consent of the person carrying out the drilling from which the cores or samples were obtained unless the Manager Coal Advice directs otherwise.
- (f) If a person who has obtained cores or samples in the course of drilling any borehole proposes to dispose of the cores or samples:
  - (i) the person shall advise the Manager Coal Advice in writing, and
  - (ii) the Manager Coal Advice may take possession of the cores and samples within 28 days after being given that notice.
- (g) This section does not apply to boreholes or sections of boreholes sunk in surface gravel or alluvial ground.

## **Section E                      EXPLORATION PERFORMANCE AND REPORTING CONDITIONS**

### **41 Completion of Exploration Program**

The licence holder must satisfactorily complete the work program nominated in the application for this licence or for renewal of this licence. Any change to the proposed program must be approved by the Department.

### **42 Technical Management of Exploration**

Prospecting operations are to be conducted, or directly supervised, by the Technical Manager nominated in the application for this licence. The nominated technical manager must prepare or supervise and approve all exploration reports. Any change to the Technical Manager must be approved by the Department.

### **44 Exploration Reports (For Group 8 and 9 Minerals)**

The licence holder must lodge reports to the satisfaction of the Department detailing the operations conducted. The reports must comply with Departmental guidelines and be lodged, as specified in this condition, and include all maps, plans and data necessary to satisfactorily interpret and evaluate the reports. Approval by the Department is required if the holder wishes to lodge reports at times other than those specified.

- (a) Summary Reports must be lodged within twenty eight (28) days after the expiry of each 6 months during the currency of the licence and must contain:
  - i) a brief summary of prospecting operations carried out, including expenditure thereon, during the 6 month period; and
  - ii) the results and conclusions of all surveys and other operations; and
  - iii) the proposed exploration to be conducted during the following 6 month period.
- (b) Application for Renewal Report must accompany any application for renewal of the licence and contain a comprehensive report of:
  - i) prospecting operations carried out, including expenditure thereon, during the current term of the licence; and
  - ii) the results of prospecting operations and the conclusions reached as to the coal resources potential of the licence area.
- (c) Airborne Geophysical Survey Results must be lodged within 6 calendar months of the completion of any airborne geophysical survey. The results must be in digital form and comply with Departmental Guidelines for the Submission of Digital Coal & Petroleum Exploration Data.
- (d) A Final Report must be lodged on the expiry or earlier termination of the licence and must contain:
  - i) details of all surveys and other operations (including details of the expenditure incurred) carried out by or on behalf of the licence holder during the full term of the licence from grant to termination; and
  - ii) the results of the surveys and operations and the conclusions reached by the licence holder as to the coal resources potential of the licence area; and



- iii) if detailed data has been included in previous reports the Final Report may consist of a summary of all work conducted, and the main results and conclusions of each phase of operations.
- (e) Additional Reports on surveys and other operations may be required from time to time and must be lodged as instructed.

## **45 Confidentiality of Reports**

- (a) All exploration reports lodged in accordance with the conditions of this licence will be kept confidential while the licence is in force, except in cases where:
  - i) the licence holder has agreed that specified reports may be made non-confidential.
  - ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the licence.
- (b) Confidentiality will be continued beyond the termination of a licence where an application for a flow-on title was lodged during the currency of the licence. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.
- (c) Continued confidentiality is subject to the licence holder lodging a report that covers all exploration conducted on the areas not covered by the flow-on title. This report will be made public.
- (d) The Department may extend the period of confidentiality.

## **46 Licence to Use Reports**

- (a) The licence holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.
- (b) The non-exclusive licence will operate as consent for the purposes of section 365 of the Act.

## **47 Terms of the non-exclusive licence**

The terms of the non-exclusive copyright licence granted under Condition 46(a) are:

- (a) the Minister may sub-license others to publish, print, adapt and reproduce but not on-licence reports.
- (b) the Minister and any sub-licensee will acknowledge the licence holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.
- (c) the licence holder does not warrant ownership of all copyright works in any report and, the licence holder will use best endeavours to identify those parts of the report for which the licence holder owns the copyright.
- (d) there is no royalty payable by the Minister for the licence.
- (e) if the licence holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the licence holder, that licence is revocable on the giving of a period of not less than three months notice.

## **SECTION F: SPECIAL CONDITIONS**

### **48 Cooperation Agreement**

The licence holder must make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping petroleum title(s). The cooperation agreement should address but not be limited to issues such as:


- access arrangements
- operational interaction procedures
- dispute resolution
- information exchange
- well location
- timing of drilling
- potential resource extraction conflicts and
- rehabilitation issues.

**MINING ACT 1992****INSTRUMENT OF RENEWAL OF EXPLORATION LICENCE 5831, HELD BY  
WHITEHAVEN COAL MINING LIMITED, A.C.N. 086 426 253**

I, **KERRY ARTHUR HICKEY**, Minister for Mineral Resources for the State of New South Wales **HEREBY RENEW THE LICENCE** subject to the terms and conditions set out below:-

1. The licence is renewed for a further term until **05 April 2008**.
2. The conditions of the licence are amended by deleting all the conditions contained in the licence prior to this renewal and by including the attached Conditions of Authority (Coal) 2003A, numbered: **1-3 inclusive, 5-6 inclusive, 8-13 inclusive, 16-17 inclusive, 19-25 inclusive, 28-30 inclusive, 35-37 inclusive, and 41**.
3. The licence is renewed over the land described hereunder and shown on the **Exploration Area** attached hereto.

**Whitehaven Coal Mining Limited, ACN 086 426 253**, hereby accept the renewal of this Exploration Licence and agree to be bound by the conditions specified.

  
.....  
**KEITH ROSS - DIRECTOR  
WHITEHAVEN COAL MINING LIMITED  
ACN 086 426 253**

  
.....  
**MARK TZANJLES - COMPANY SECRETARY  
WITNESS**

Renewed this **FIFTEENTH** day of **August** 2003

  
.....  
**MANAGER, COAL & PETROLEUM TITLES  
UNDER DELEGATION FROM THE MINISTER  
FOR MINERAL RESOURCES**

## EXPLORATION AREA

The exploration area embraces an area of about **7.78 square kilometers**, as shown on the diagram hereunder exclusive of:-

- (a) land subject to any assessment lease, mining lease or mineral claim under the Mining Act, 1992, at the date this renewal has effect.
- (b) land subject to any pending application for a mining lease, mining purposes lease or claim under the Mining Act, 1973 or any application for a coal lease under the Coal Mining Act, 1973, made prior to **11.40am on the third day of January 2001**.
- (c) Land subject to any pending application for an assessment lease, mining lease or mineral claim under the Mining Act, 1992, made prior to **11.40am on the third day of January 2001**.
- (c) (d) land on which bona fide mining operations were being carried out at the date of grant of the licence by the owner of the mineral or some person with his consent and over which the exploration licence was not granted by virtue of the provisions of Section 23(4) of the Coal Mining Act 1973.
- (e) land on which mining operations were being carried out at the date of grant of the licence by the owner of the mineral or some person with his consent and over which an exploration licence may not be granted by virtue of the provisions of Section 20 of the Mining Act, 1992.
- (f) land vested in the Commonwealth of Australia.
- (g) any other land that was not subject to the licence immediately before this renewal.

# DEPARTMENT OF MINERAL RESOURCES File: C00-0519

DIAGRAM OF EXPLORATION LICENCE No. 5831

(ELA No. 1725)

BY: WHITEHAVEN COAL MINING PTY LIMITED

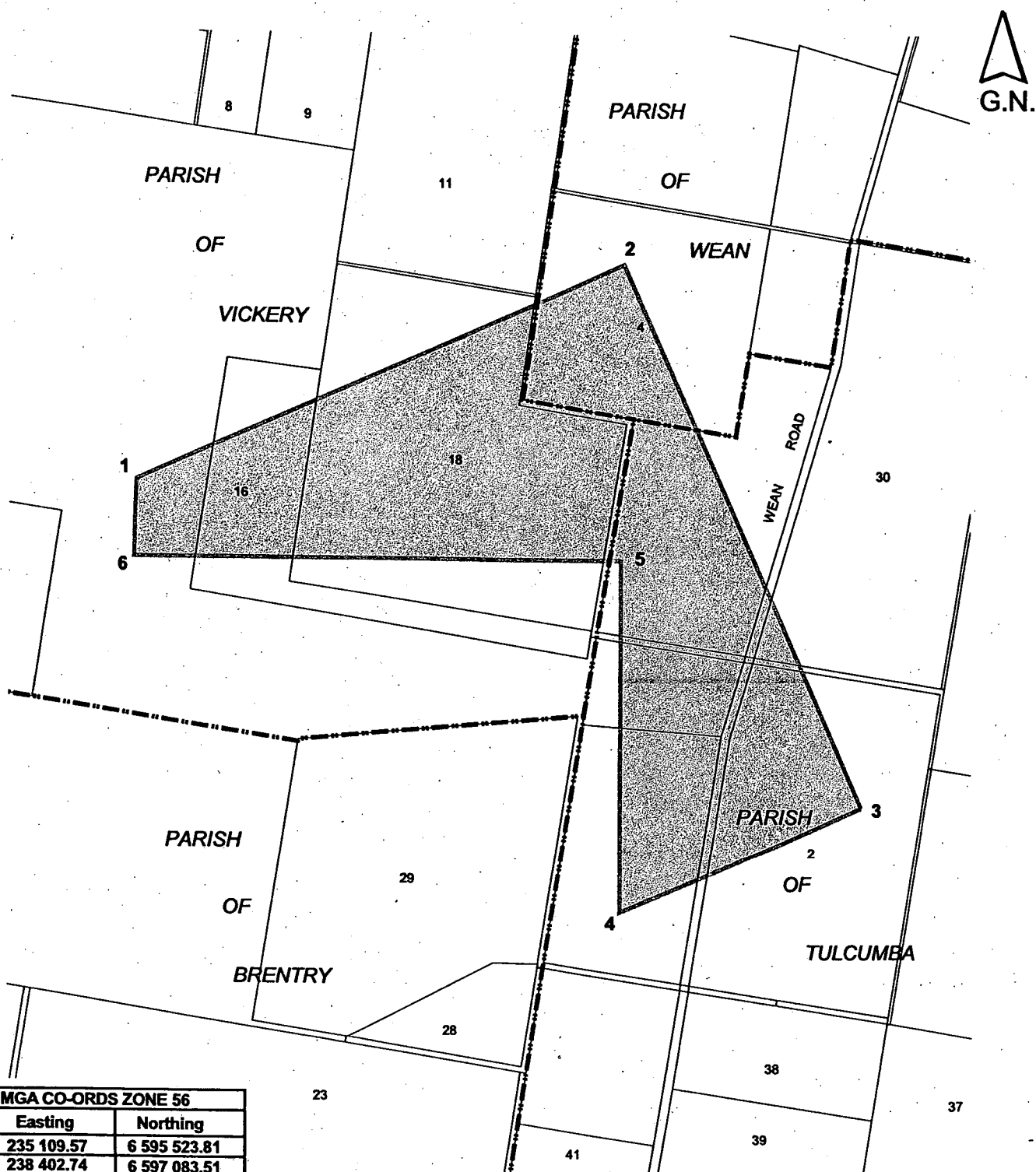
PARISHES: TULCUMBA, VICKERY & WEAN

COUNTY: NANDEWAR

SCALE 1:40000

REF MAPS: 8936-1-S, -2-N, -3-N, -4-S

SUBJECT TO SURVEY



## MGA CO-ORDS ZONE 56

Pt	Easting	Northing
1	235 109.57	6 595 523.81
2	238 402.74	6 597 083.51
3	240 115.67	6 593 466.90
4	238 496.20	6 592 699.86
5	238 437.88	6 595 088.14
6	235 118.61	6 595 017.66

## CONDITIONS OF AUTHORITY (EL) (2003A)

### **Environmental Assessment**

1. This Exploration Licence is granted under Part 3 (or renewed if applicable under Part 7) of the Mining Act 1992. After consideration of the environmental impact as required by Section 111 of the Environmental Planning and Assessment Act 1979, it has been determined that the type of exploration activities listed in Category 1 and in certain circumstances Category 2 may be conducted on the licence area provided that:
  - the licence holder has consulted the register of critical habitat kept by the Director-General of the National Parks and Wildlife Service under the Threatened Species Conservation Act 1995, and considered the significance of any notations in respect of the area of any proposed exploration activity.
  - the licence holder has consulted the register of critical habitat kept by the Director of NSW Fisheries under the Fisheries Management Act 1994.
  - the activities do not contravene Part 6 (Aboriginal objects and Aboriginal places) of the National Parks and Wildlife Act 1974.
  - minimal impact is caused to the local environment at the activity site and the assessment of this minimal impact takes into account the sensitivity of the local environment to potential disturbance from the activity including potential harm to any threatened species, populations and ecological communities, and their habitats, and critical habitat.
  - the activities do not cause other than minimal/nil impact on the features listed in Section 238 of the Mining Act 1992 (i.e. of Aboriginal, architectural, archaeological, historical or geological interest). Where these features are present, an Exploration Protocol acceptable to the Department of Mineral Resources must be completed prior to exploration commencing to ensure that exploration activities will not have an adverse impact on these features.
  - full rehabilitation in accordance with Department of Mineral Resources' guidelines/standards is carried out after completion of the exploration activities.
- notice is given (on the Department of Mineral Resources Notice of Surface Disturbing Exploration Activities pro forma) to an Environmental Officer of the Department of Mineral Resources if exploration:-
  - is to be carried out in sensitive areas (See page 3 of pro forma or Appendix 2 of "Guidelines for Environmentally Responsible Mineral Exploration in New South Wales" published by the NSW Minerals Council as a guide); or
  - may harm any threatened species, populations and ecological communities, and their habitats, and critical habitat.

The type of activity listed in Category 2 requires notification to an Environmental Officer of the Department of Mineral Resources (on the Notice of Surface Disturbing Exploration Activities pro forma) if exploration:-

- is to be carried out in sensitive areas; or
- may harm any threatened species, populations and ecological communities, and their habitats, and critical habitat; or
- where the likely impact is other than minimal.

Conditions of Authority – Exploration Licence (Coal) 2003A	Version Date: April 2003
Exploration Licence No. 5831 (Act 1992)	Pg. 1

Such activities may require an additional specific determination under Part 5 of the Environmental Planning and Assessment Act. The program submitted prior to the conduct of such activity must include a description of the activity, a schedule of events and the location of proposed surface disturbance. The sensitivity of the local environment to potential disturbance from the activity must also be included. An Environmental Officer of the Department of Mineral Resources shall give notice within 3 weeks of receipt if an additional Part 5 determination is or is not required. If an additional specific determination is not required, the provisos listed above apply. Where the proposed activities require an additional determination, operations must not commence until the written approval of the Assistant Director, Environment of the Department of Mineral Resources is obtained, and subject to any conditions that may be stipulated.

The type of activity listed in Category 3 requires notification to an Environmental Officer of the Department of Mineral Resources (on the Notice of Surface Disturbing Exploration Activities pro forma) and will normally require an additional specific determination under Part 5 of the Environmental Planning and Assessment Act. At least 4 weeks prior to the proposed commencement of any activity listed in Category 3, a Review of Environmental Factors in accord with Clause 228 of the Environmental Planning and Assessment Regulation 2000 must be submitted to the Environment Unit, Department of Mineral Resources to enable a determination under Part 5 of the Environmental Planning and Assessment Act to be made. In these cases the Department will assess any potential impact under Parts 6 or 8A of the National Parks and Wildlife Act 1974. Exploration activities must not commence until the written approval of the Assistant Director, Environment of the Department of Mineral Resources is obtained, and subject to any conditions that may be stipulated.

#### **CATEGORY 1**

- Stream sediment and soil sampling (by hand held equipment)
- Gossan or rock sampling (by hand held equipment)
- Geological mapping
- Airborne Surveys
- Magnetic, Electromagnetic, Gravity, Radiometric Surveys
- Induced Polarisation, Resistivity, Self Potential Surveys
- Auger, reverse circulation and rotary air blast drilling (of a reconnaissance level including access clearing in non-sensitive areas)
- Percussion and diamond drilling (of a reconnaissance level including access clearing in non-sensitive areas)
- Geophysical downhole logging
- Survey gridding (axe cut line clearing only)

#### **CATEGORY 2**

- Costeaming and trenching provided any trench or costean does not exceed 50 metres length or, if longer, 60 cubic metres volume.
- Surface bulk sampling provided disturbance/removal of greater than 60 cubic metres of material is not exceeded in any one year
- Access tracks or line clearing involving formed construction or significant native vegetation disturbance
- Large diameter boreholes and calweld drill holes (greater than 360 millimetres diameter)
- Seismic Surveys
- Activities that may harm any threatened species, populations and ecological communities, and their habitats, and critical habitat.

#### **CATEGORY 3**

Conditions of Authority – Exploration Licence (Coal) 2003A	Version Date: April 2003
Exploration Licence No. 5831 (Act 1992)	Pg. 2

- Costeaming or trenching (in excess of 60 cubic metres volume)
- Surface bulk sampling (in excess of 60 cubic metres disturbance/removal in any one year)
- Shaft Sinking
- Adit Driving
- Operations within or from the surface of natural water bodies including dredging/suction operations
- Surface disturbing operations within or close to environmentally sensitive areas such as wetlands
- Closely spaced percussion, reverse circulation, rotary air blast or diamond drilling for delineation of an orebody or for feasibility studies
- Cumulative activities from Category 1 or Category 2 of a concentrated nature.

#### **Native Title**

2. The licence holder must not prospect on any land or waters on which native title exists without the prior written consent of the Minister.

#### **Technical Management of Exploration**

3. Exploration activities are to be conducted, or directly supervised, by the technical manager nominated in the application for this licence. All exploration reports must be prepared by the nominated technical manager. Permission to change the technical manager must be obtained, in writing, from the Assistant Director (Minerals), Geological Survey or the Assistant Director (Coal & Petroleum), Geological Survey, as the case may require.

#### **Reports (For Group 9 Minerals)**

5. The licence holder must lodge reports to the satisfaction of the Director-General detailing the operations conducted. The reports must comply with Departmental guidelines and be lodged, as specified in this condition, and include all maps, plans and data necessary to satisfactorily interpret and evaluate the reports. Approval is required if the holder wishes to lodge reports at times other than those specified.

- (a) **Summary Reports** must be lodged within fourteen (14) days after the expiry of each 6 months during the currency of the licence and must contain:

- (i) a brief summary of exploration activities carried out, including expenditure thereon, during the 6 month period; and
- (ii) the results and conclusions of all surveys and other operations; and
- (iii) the proposed exploration to be conducted during the following 6 month period.

- (b) **Application for Renewal Report** must accompany any application for renewal of the licence and contain a comprehensive report of:

- (i) exploration activities carried out, including expenditure thereon, during the current term of the licence; and
- (ii) the results of exploration activities and the conclusions reached as to the coal resources potential of the licence area.

- (c) **Airborne Geophysical Survey Results** must be lodged within 6 calendar months of the completion of any airborne geophysical survey. The results must be in digital form and



comply with Departmental Guidelines for the Submission of Digital Coal & Petroleum Exploration Data.

- (d) **A Final Report** must be lodged on the expiry or earlier termination of the licence and must contain:
- (i) details of all surveys and other operations (including details of the expenditure incurred) carried out by or on behalf of the licence holder during the full term of the licence from grant to termination; and
  - (ii) the results of the surveys and operations and the conclusions reached by the licence holder as to the coal resources potential of the licence area; and
  - (iii) if detailed data has been included in previous reports the Final Report may consist of a summary of all work conducted, and the main results and conclusions of each phase of operations.
- (e) **Additional Reports** on surveys and other operations may be required from time to time and must be lodged as instructed.

#### **Licence to Use Reports**

6. (1) (a) The licence holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.
- (b) The non-exclusive licence will operate as consent for the purposes of section 365 of the Mining Act 1992.

#### **Confidentiality**

- (2) (a) All exploration reports lodged in accordance with the conditions of this licence will be kept confidential while the licence is in force, except in cases where:
- (i) the licence holder has agreed that specified reports may be made non-confidential.
  - (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the licence.
- (b) Confidentiality will be continued beyond the termination of a licence where an application for a flow-on title was lodged during the currency of the licence. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.
- (c) Continued confidentiality is subject to the licence holder lodging a report that covers all exploration conducted on the areas not covered by the flow-on title. This report will be made public.
- (d) The Director-General may extend the period of confidentiality.

#### **Terms of the non-exclusive licence**

- (3) The terms of the non-exclusive copyright licence granted under sub-clause (1)(a) are:

Conditions of Authority – Exploration Licence (Coal) 2003A	Version Date: April 2003
Exploration Licence No. 5831 (Act 1992)	Pg. 4

- (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports.
- (b) the Minister and any sub- licensee will acknowledge the licence holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.
- (c) the licence holder does not warrant ownership of all copyright works in any report and, the licence holder will use best endeavours to identify those parts of the report for which the licence holder owns the copyright.
- (d) there is no royalty payable by the Minister for the licence.
- (e) if the licence holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the licence holder, that licence is revocable on the giving of a period of not less than three months notice.

### **Safety**

- 8. Operations must be carried out in a manner that ensures the safety of persons and stock in the vicinity of the operations. All drill holes, shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the licence holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.

### **Rehabilitation**

- 9. (a) Land disturbed must be rehabilitated to a stable and permanent form suitable for a subsequent land use acceptable to the Director-General so that:-
  - there is no adverse environmental effect outside the disturbed area and that the land is properly drained and protected from soil erosion.
  - the state of the land is compatible with the surrounding land and land use requirements.
  - the landforms, soils, hydrology and flora require no greater maintenance than that in the surrounding land.
  - in cases where revegetation is required and native vegetation has been removed or damaged, the original species must be re-established. If the original vegetation was not native, any re-established vegetation must be appropriate to the area and at an acceptable density.
  - the land does not pose a threat to public safety.
- (b) Any topsoil that is removed must be stored and maintained in a manner acceptable to the Director-General.

### **Drilling**

10. (1) At least twenty eight days prior to commencement of drilling operations the licence holder must notify the relevant Department of Land and Water Conservation regional hydrogeologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.
- (2) If the licence holder drills exploratory drill holes he must satisfy the Director-General that:
- (a) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;
  - (b) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;
  - (c) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;
  - (d) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;
  - (e) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.
  - (f) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.
  - (g) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.

#### **Drilling (Additional for Group 9 Minerals)**

11. (a) Before commencing drilling within the licence area, the licence holder must carry out an assessment of the risk of gas blowouts occurring during drilling. If this assessment indicates the potential for a gas blowout occurring in any particular drillhole, that drillhole is to be drilled using a drilling rig fitted with gas blowout prevention equipment.
- (b) The licence holder must report orally and forthwith to an Inspector under the Mining Act 1992 all over-pressure gas occurrences that occur during drilling. Written notification of the occurrence is to be given to an Inspector within twenty-four hours of the occurrence.
12. The Director-General may direct the licence holder to undertake analyses and tests on any or all coal seams intersected in drill holes which in the opinion of the Director-General are likely to be economically mineable.
13. Where the licence holder wishes to temporarily maintain a drillhole in an open condition for monitoring purposes or where a landholder requests that a drillhole be left open for water supply purposes, the licence holder shall inform an Environmental Officer and provide reasons for leaving the hole open. If leaving the drillhole open at the request of a landholder, the licence holder must produce a signed copy of a document transferring the responsibility of that drillhole to the landholder. All drillholes, which are maintained in an open condition, must be fitted with a removable cap to ensure the safety of persons and stock.

The licence holder must also comply with the requirements set out in the Department's Guidelines for Borehole Sealing Requirements on Land: Coal Exploration, where applicable.

#### **Core Samples (For Group 9 Minerals)**

16. (a) The licence holder must, if using non core drilling methods, retain representative cuttings of every three (3) metres of formation drilled or change of formation and such samples must be at least 100 grams in weight, dried, bagged and securely labelled with depth limits.
- (b) The licence holder must, if using diamond drilling methods, where solid core is recovered retain all cores in standard modular metal core boxes, the size specifications of which are obtainable from the Department's Core Library. Drilling depths shall be clearly and permanently indicated inside and outside of each box.
- (c) The licence holder must not dispose of any core without the approval of the Assistant Director (Coal & Petroleum), Geological Survey. If the Assistant Director (Coal & Petroleum), Geological Survey requires the core to be kept for archival purposes, the licence holder must deliver the required core to a nominated Department Core storage facility in standard modular metal core boxes.
- (d) The licence holder must provide to the Department such cores and samples as required by the Director-General.

#### **Trees and Vegetation**

17. (a) The licence holder must not fell trees, strip bark or cut timber on any land subject of this licence without the consent of the landholder who is entitled to the use of the timber, or if such a landholder refuses consent or attaches unreasonable conditions to the consent, without the approval of a warden.
- (b) The licence holder must not cut, destroy, ringbark or remove any timber or other vegetative cover on any land subject of this licence except such as directly obstructs or prevents the carrying on of operations. Any clearing not authorised under the Mining Act 1992 must comply with the provisions of the Native Vegetation Conservation Act 1997.
- (c) The licence holder must have any necessary licence from State Forests of NSW before using timber from any Crown land within the licence area.

#### **Erosion and Sediment Controls**

19. If the licence holder proposes to carry out any costeaning, trenching or bulk sampling operations or any other activity likely to cause significant disturbance to the site, the licence holder must seek advice from the Department of Land and Water Conservation regarding erosion and sediment control before commencing such operations.

#### **Prevention of Soil Erosion and Pollution**

20. Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval. For the purpose of this condition, water shall be taken to include any watercourse, waterbody or groundwaters. The licence holder must observe and perform any instructions given by the Director-General in this regard.

### **Transmission Lines, Communication Lines and Pipelines**

21. Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the area without the prior written approval of the Director-General and subject to any conditions he may stipulate.

### **Roads and Tracks**

22. (a) Operations must not affect any road or track unless with the prior written approval of the Director-General and subject to any conditions he may stipulate.
- (b) The licence holder must pay to the local council, the Department of Land and Water Conservation or the Roads and Traffic Authority the costs incurred in fixing any damage to roads caused by operations carried out under the licence.
23. Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled, rehabilitated and appropriately revegetated as soon as possible after they are no longer required for prospecting operations. The design and construction of access tracks must be in accordance with specifications of the Department of Land and Water Conservation.
24. During wet weather the use of any road or track must be restricted to prevent damage to the road or track.

### **Aboriginal object or Aboriginal place**

25. The licence holder must not knowingly destroy, deface or damage any Aboriginal object or Aboriginal place within the area except in accordance with an authority issued under the National Parks and Wildlife Act, 1974. The licence holder must take every precaution in drilling, excavating or disturbing the land against any such destruction, defacement or damage.

### **Miscellaneous**

28. The flow of water in any stream or watercourse must not be interfered with.
29. The licence holder must observe any instructions given by the Director-General in connection with minimising or preventing public inconvenience or damage to public or private property.
30. All refuse must be deposited in properly constructed containers. The licence holder must maintain the area in a clean and tidy condition at all times.

### **Control of Operations**

35. (a) If an Environmental Officer of the Department of Mineral Resources believes that the licence holder is not complying with any provision of the Act or any condition of this licence relating to the working of the licence, he may direct the licence holder to:-
- (i) cease working the licence; or
- (ii) cease that part of the operation not complying with the Act or conditions;
- until in the opinion of the Environmental Officer the situation has been corrected.

- (b) The licence holder must comply with any direction given.

**Completion of Exploration Program**

36. The licence holder must satisfactorily complete the nominated exploration program during the term of the licence.

**Landholder Liaison Program**

37. The licence holder must establish a landholder liaison program. This program must have procedures for addressing all landholder inquiries. In addition, as part of this program, the licence holder must inform relevant local government authorities of the grant or renewal of the licence.

Details of the program are to be forwarded to all landholders within the licence area and to the Director, Resource Planning and Development at the Department of Mineral Resources.

**Security**

**Single Security (extended)**

41. (a) The single security required to be lodged with the Minister by the licence holder for the purpose of ensuring the fulfilment by the licence holder of his obligations under the Exploration Licences described in the attached Schedule is extended to apply to this licence.
- (b) If the licence holder fails to fulfil any one or more of his obligations under this licence, then the sum of **\$30,000.00** may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the licence holder shall be deemed to have failed to fulfil the obligations of the licence if he fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.
- (c) The Minister may at any time or times hereafter vary the amount that may be applied by him towards the cost of fulfilling obligations provided for in sub-clause (b) hereof. Where he has so varied that sum he shall serve on the licence holder a notice in writing to this effect.

## **SCHEDULE 1**

**Exploration Licence 4699 (Act 1992)**  
**Exploration Licence 5967 (Act 1992)**

# STANDARDS FOR THE SUBMISSION OF DIGITAL COAL AND PETROLEUM EXPLORATION DATA (18.05.2001 version)

From 01 January 2000 the Department of Mineral Resources will require submission of fully digitised reports.

## Report structure and sequence

When compiling digital reports please ensure:

- 1) the integrity of the original report and associated data is maintained, and
- 2) the ordering of the report components is clear.

The reports should retain the well established structure and sequence of a hardcopy (paper) report, including title page, list of contents, main body of text, attachments (plans, figures, etc) and appendices (additional reports, tabular data, etc).

Standards for Digital Reporting - Coal and Petroleum are summarised in table 1.

## Digital file formats

**Text:** The body of the report and any separate reports that are included as appendices are to be provided in Adobe Acrobat Portable Document Format (PDF).

When using PDF, the report text (including table of contents, abstract, etc) and any figures and plans that form part of the body of the report and can be accommodated within the PDF size limitations should be compiled as a single PDF file. Each appendix to the report should be a separate PDF file where possible. In the event that creating one PDF file for an appendix and its accompanying series of plans would result in an excessively large PDF file of more than two megabytes, the data should be split into a number of smaller, logically named PDF files. (e.g.BohenaSS\_Report\_1.pdf, Wybong1WCR\_App2.pdf, EL025\_170599\_Encl\_3-5).

The files should be supplied on 1.4 Mb 3.5 in floppy disk or CD-ROM.

## Plans, figures, plates, etc

The preferred format for the submission of digital reports is PDF. Most small to medium (up to 1143 x 1143 mm (45 x 45 in) figures, plans, etc, can be accommodated in PDF. These should be incorporated in a single file or multiple PDF files (depending on size).

For larger plans, or where PDF is not considered appropriate, the raster image formats of TIFF Group 4 (black and white) and JPEG (colour and grey scale) may be used. Many users will find JPEG a convenient format. Wherever possible plans should not exceed A0 in size.

Digital files should be supplied on floppy disk, 100 Mb Zip disk or CD-ROM. File names should be logical, such as Figure1.tif, Appendix1\_Figure1a.jpg, Enclosure4.pdf and/or a covering letter should indicate what the files are, how they fit into the report and which disk they are on.

## Tabular data

All tabular data (excluding small tables incorporated in the body of the report text) should be supplied as delimited ASCII files (fixed width space delimited preferred). Metadata and header information are to be included at the beginning of each file, followed by the actual data.

Files should have names that indicate which part of the report they are and/or what they contain. The files should also include a header with column headings, units, and explanations of abbreviations or a separate file containing such information. Data should be supplied on 1.4 Mb 3.5 in floppy disk or CD-Rom. Exabyte or equivalent 8mm cartridge tape are acceptable but not preferred.



Wherever coordinates are used in the data, the spheroid, datum and grid system (e.g. Lat/Long, MGA zone 54) must be stated. **Note:** as of 01 January 2000 all coordinates must be supplied in the new geocentric datum GDA94 (spheroid-GSR80, datum-GDA94, grid projection-MGA94).

## **Textual lithology logs (English Logs)**

Textual lithological descriptions should be supplied as PDF or ASCII (if in a table form they should be fixed width space delimited) format. Each well/borehole should be a separate file.

## **Wireline logs (downhole geophysics)**

Digital logs must be supplied in LAS version 2.0 format. In the case of imaged logs, data should be supplied in LIS format for tape data or tape image format (TIF, ITF, etc) for disk or CD ROM data. Log curves should be treated as 'Plans, figures, plates, etc, (see above). Filenames should indicate the well name, the tool type and the run number where practical (e.g. DM Nepean DDH2\_Gamma\_r2.las). Files should be supplied on 1.4Mb 3.5 in floppy disk or CD-ROM.

## **Airborne Geophysical Survey Data (Magnetics, Gravity, Radiometrics, etc)**

Data should be supplied in standard ASCII, formatted in GDF or GDF2 as specified by the Australian Society of Exploration Geophysicists. Data should be supplied on 8mm data cartridge tape (Exabyte or equivalent) or CD-ROM and be accompanied by a covering letter explaining the contents and file format.

## **Seismic sections**

Final stack and/or migrated stack seismic sections must be supplied in hardcopy form on stable media such as transparency or acetate. The Department also encourages the supply of sections digitally as CGM/CGM+ format files. No other digital format is acceptable. (Note: interpreted sections that form part of a report should be treated as 'Plans, figures, plates, etc'). CGM/CGM+ format sections should be supplied on 8mm cartridge tapes (Exabyte or equivalent) or CD-ROM. Filenames should include the line name (e.g. BohenaSS\_98FSG\_AAA.cgm, GunnedahSS\_80-M3.cgm).

## **Seismic surveys field and stack tapes**

Must be supplied on 8mm data cartridge tape (Exabyte or equivalent) in SEG-Y format. No other format or media will be accepted.

## **Hardcopy**

In some cases hardcopy may still be required as well as digital data. When supplying hardcopy you should be aware that it will be digitally scanned and therefore you should avoid using light colours (particularly yellow or orange) and finely dotted lines. Non-colour documents should be black and white, not grey scale (no grey lines or differences in contrast). Reports and/or data submitted with poor quality printing/copying will not be accepted.

## **File compression**

Files may be submitted in compressed form, however, compressed files must be self extracting or instructions for decompression must be included. If software other than Winzip (or TAR for Unix 8mm tapes) is used for compression, then the relevant decompression software must be included. Compressed files must decompress into a single directory with NO subdirectories. Compressed files must not be recompressed into another compressed file. File names used in lists of contents must be the decompressed file names and **not** the compressed file names.

## **Location coordinates**

Conditions of Authority - Exploration Licence (Coal) 2003A	Version Date: April 2003
Exploration Licence No. 5831 (Act 1992)	Pg. 12

## Inquiries regarding digital submission

**Petroleum Exploration:-** Sean Hawley, Geologist, on (02) 9901 8321, fax (02) 9901 8520 or e-mail: hawleys@minerals.nsw.gov.au

**Coal Exploration:-** Steve Cozens, Geologist, on (02) 9901 8517, fax (02) 9901 8520 or e-mail: cozenss@minerals.nsw.gov.au

**Airborne Geophysical Survey Data:-** Dave Robson, Chief Geophysicist, on (02) 9901 8342, fax (02) 9901 8256 or e-mail: robsond@minerals.nsw.gov.au

**TABLE 1**

### Standards for Digital Reporting – Coal and Petroleum

	Adobe Acrobat PDF	ASCII Delimited	Hardcopy	TIFF	JPEG	CGM/CGM +	LAS v2	LIS	GDF/GDF2	SEG-Y	UKOOA	Media
<b>REPORT BODY</b>												
Text	M											Disc/CD
Tables	P	A										Disc/CD
Figures	P			A*	A*							Disc/CD
<b>APPENDICES, ENCLOSURES, ETC</b>												
Text	M											Disc/CD
Tables		P										Disc/CD
Figures	P			A*	A*							Disc/CD
Plans	P			A*	A*							Disc/CD
Plates	P			A*	A*							Disc/CD
Photos	P			A*	A*							Disc/CD
Text Lithological Logs	P	P										Disc/CD
<b>WIRELINE LOGS</b>												
Data							M					Disc/CD
Image log data (downhole camera etc)				A				P				Disc/CD
Curves (images)				A*	A*							Disc/CD
<b>SEISMIC</b>												
Sections			M			P						CD/Tape
Field and Stack Data										M		Tape
Shotpoint Locations		P									P	Disc/CD
<b>AIRBORNE GEOPHYSICS</b>												
Images	P			A*	A*							Disc/CD
Data									M			CD/Tape

M = Mandatory – must be supplied

P = Preferred

A = Acceptable

\* must be accompanied by a hardcopy version

Disc = 3.5" IBM/DOS compatible floppy disk

CD = 650 mb IBM/DOS compatible CD

TAPE = 8 mm Cartridge Tape (Exabyte or equivalent)