

To: Dan Hunt  
 Director-General  
 Natural Resources and Mines

From: Sue Ryan 29/4/13  
 Deputy Director-General, Service Delivery

<p>Approved / Not Approved / Noted</p> <p>Further information required</p> <p>sch4p4(6) Personal information</p> <p>Director-General</p> <p>Dated 3.15.13</p>
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Endorsed: Rachael Cronin, Acting Deputy Director-General, Policy and Program Support  
 Darren Moor, A/Executive Director, Central Region Service Delivery  
 Bernadette Ditchfield, A/Executive Director, Land and Mines Policy  
 Peter Donaghy, Regional Director, Mines – Central, Mining and Petroleum Operations

15 April 2013

## Bandanna Energy – Springsure Creek Coal Mine Project Strategic Cropping Land Requirements

### Recommendation

- It is recommended that the Director-General:
  - note** the strategic cropping land (SCL) requirements Bandanna Energy (Bandanna) will be required to meet for its Springsure Creek Coal Mine Project, and
  - note** that a mining lease for transportation through land, under section 316 of the *Mineral Resources Act 1989*, which is required to enable Bandanna to transport coal from the mine project area to a rail line, does not meet any transitional provisions in the *Strategic Cropping Land Act 2011* (SCL Act).

### Timing

- Routine.

### Background

- Bandanna's proposed Springsure Creek Coal Project is located within the Central Protection Area under the SCL Framework.
- Under the SCL Act, land that is confirmed as SCL in a Protection Area cannot be permanently impacted by a development (except in limited exceptional circumstances).
- The previous government included specific transitional provisions in the SCL Act (sections 289-290) regarding Bandanna's Springsure Creek coal project, which is the subject of an existing Exploration Permit for Coal - number 891 (EPC891).
- These sections of the SCL Act also provide transitional provisions for a future mining lease and environmental authority, provided the mining lease application relates to EPC891 and is for resource activities under an Environmental Impact Statement (EIS) resulting from the finalised EIS Terms of Reference (TOR) published on 2 June 2011.
- Specifically, the transitional provisions state that no open-cut mining can be carried out under the lease and the environmental authority holder must use all reasonable endeavours to rehabilitate all impacts on the land from underground coal mining carried out under the lease.
- In February 2013, Bandanna submitted the Springsure Creek Coal Project's EIS for public notification.
- Mining Lease Application (MLA) 70486 was lodged on 19 October 2012 which relates to EPC891.
- A separate MLA for a transport corridor (haul road and rail load out facility from the mine site to the Bauhinia rail line) has not yet been submitted.
- Bandanna has indicated a further EIS will likely be required for the transport corridor.
- No SCL applications have been submitted to date, however, a preliminary meeting between Bandanna and Department of Natural Resources and Mines (the department) staff occurred on 6 March 2013 to discuss SCL requirements for the project.
- Bandanna is likely to lodge an SCL validation application in the near future. Preliminary information in the EIS and existing department data indicate the majority of the site is likely to be SCL.

14. The department considers MLA 70486 meets the requirements of section 289 of the SCL Act for transitional status and is therefore exempt from the permanent impact restriction.
15. The department considers any future MLA lodged for the transport corridor will not be eligible for transitional status under the SCL Act, as it does not relate to an EIS resulting from the finalised EIS TOR relating to EPC891, published on 2 June 2011. Bandanna indicated the same view at the 6 March 2013 meeting.

**Springsure Creek Mine Project Area**

16. The mining project includes underground mining (long wall) and related surface infrastructure, which may or may not be located on SCL depending on final layout and results of SCL validation.
17. An SCL protection decision will be required for the mining project prior to issue of a Mining Lease (ML) and Environmental Authority (EA). Section 290(2) and 290(3) of the SCL Act contain the conditions which must be imposed on the ML and EA respectively.
18. Section 290(5) of the SCL Act states that the imposed conditions do not limit or otherwise affect power to impose other SCL protection conditions that are not inconsistent with the conditions imposed by sections 290(2) and 290(3).
19. The SCL protection decision application for the mining project will be assessed in line with the SCL Act. Bandanna will be required to demonstrate:
  - it has avoided SCL to the greatest extent practicable;
  - it has minimised the impacts where they cannot be avoided;
  - whether the impacts are temporary or permanent;
  - for temporary impacts, how the SCL will be restored to its pre-development condition; and
  - for permanent impacts, mitigation measures in accordance with the SCL Act.
20. Whether the underground mining and resultant subsidence constitutes a temporary or permanent impact will be determined based on the information provided by the applicant. In particular, whether the applicant can demonstrate the area affected by subsidence can be restored to pre-development condition and that full restoration can be achieved within 50 years.
21. If underground mining operations for the Springsure Creek Coal Project are deemed a temporary impact, there will be other SCL protection conditions imposed on the EA to ensure restoration. If the impact is permanent, mitigation will be required. The project is located in the Central Highlands-Isaac sub zone which has a current mitigation rate of \$4750 per hectare of permanently impacted SCL.

**Transport Corridor Area**

22. The transport corridor does not have the exemption from the permanent impact restriction, so any resource activities permanently impacting SCL will need to be decided as being in Exceptional Circumstances (EC) under section 133(2) of the SCL Act.
23. Bandanna has indicated it is proposing a 40 metre wide haul road and a rail load out facility to transport the coal from the mine to the Bauhinia rail line. Previous SCL protection decisions have determined haul roads to be a permanent impact due to the extensive soil disturbance during construction and the impact from large mining trucks continuously driving along the road for a long period of time.
24. If an EC application under the SCL Act is lodged by Bandanna, it must be decided by the Minister for Natural Resources and Mines.
25. The criteria for making the decision is specified in sections 134 and 135 of the SCL Act and includes a determination of significant community benefit and there being no alternative site.
26. Should the decision be that EC do not apply to the development and, for the SCL protection decision, the resource activities are determined to have a permanent impact, then section 94 of the SCL Act requires that an EA for the resource activities cannot be issued.
27. This situation would likely result in the section 316 Mining Lease not being issued. However, there are other options that could be considered by Bandanna such as transporting the coal by road if this situation arises.

**Attachments**

- 28. Attachment 1 - Map of Area of EPC891 and MLA 70486.
- Attachment 2 - Map of MLA70486 and existing rail infrastructure.
- Attachment 3 - Map of EPC891 and MLA70486 over SCL trigger map.

**Clearance**

- 29. Does this have a budget or financial impact? **NO**
- 30. Does this have an impact for Service Delivery or any other area in DNRM? **NO**
- 31. Peter Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations has been consulted in developing this Brief.
- 32. Land and Mines Policy have also been consulted in developing this brief.

**Next Steps**

- 33. DNRM Service Delivery staff will continue to consult with Bandanna through the SCL process.

**Sue Ryan**

Action Officer: Errol Sander  
 Telephone: 4999 6969

**Director-General - Natural Resources and Mines**

**Comments:**

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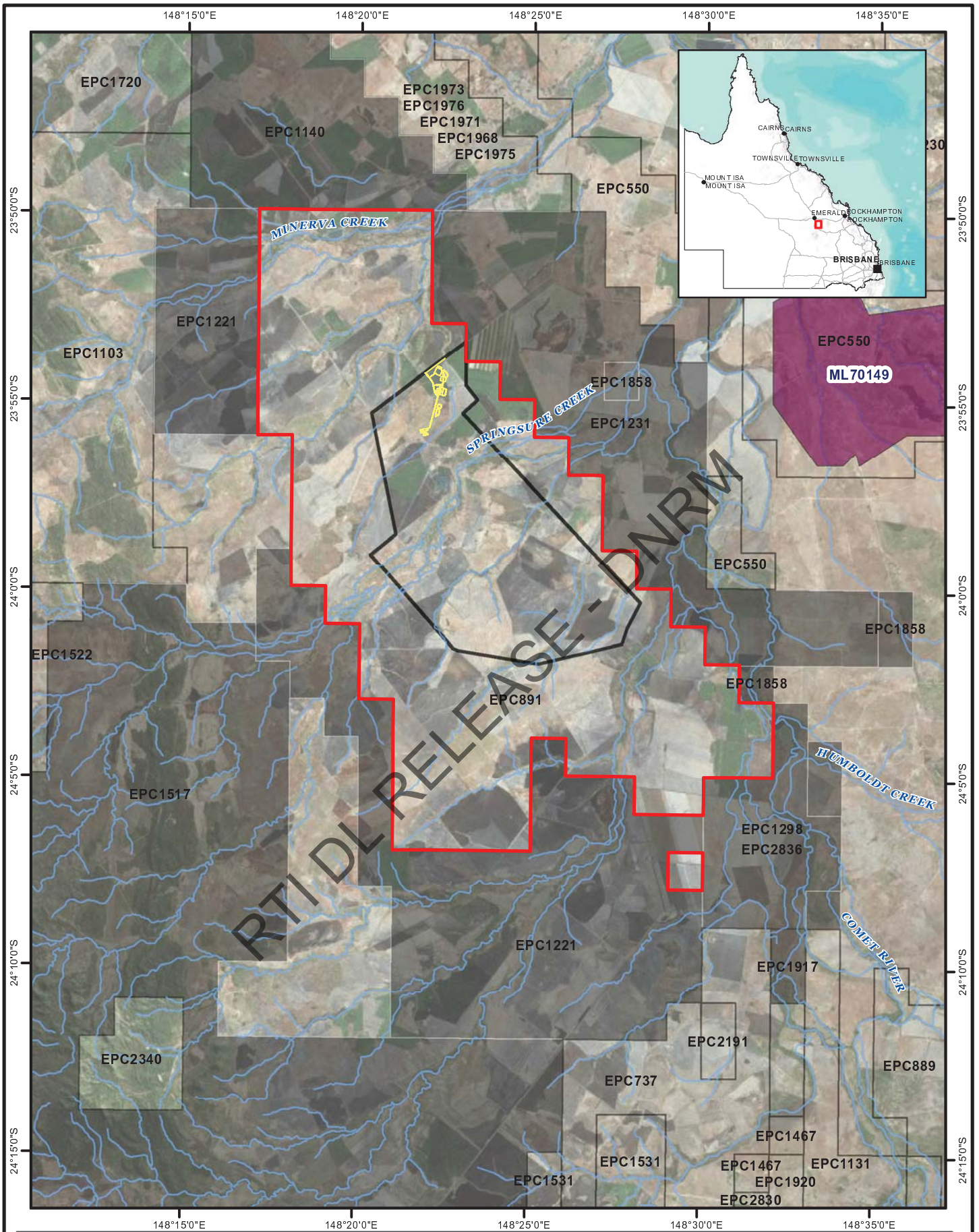
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**Figure 3-8 Coal mining tenements surrounding the Project**

**Key**

- MIA
- MLA 70486
- Watercourse
- EPC 891
- Mining Lease (ML)
- Coal Exploration Permit (EPC)
- Adjacent EPC's

**Data Source:**  
 Tenements by DNRM, 24/11/2012;  
 Watercourses from Geofabric v2,  
 © Commonwealth of Australia  
 (Bureau of Meteorology) 2011;  
 Image from Bing Maps, 2011.

Job: B11560\_124-R2\_CoalTenure  
 Date: 29/11/2012

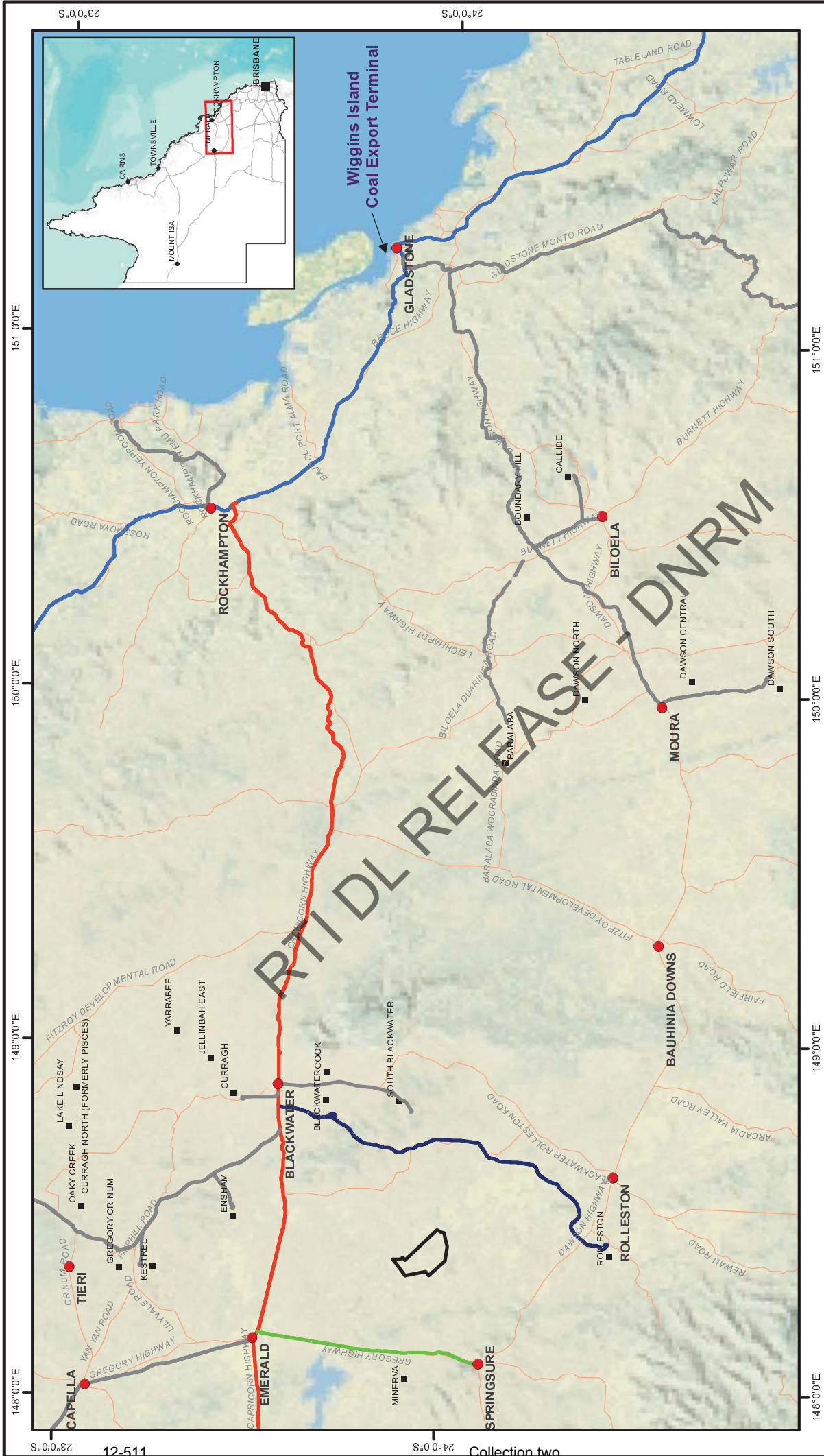
**Scale**  
 1:250,000

Metres  
 0 2,500 5,000

**DISCLAIMER**  
 CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map.

**SPRINGSURE CREEK** **CDM Smith**  
 cdmsmith.com





**Figure 6-4 Existing rail network and port**

**Key**

- Operating Mine
- Road
- MLA 70486
- Railway system
  - Blackwater System
  - Bauhinia Branch Line
  - North Coast Rail Line
  - Springsure Branch
  - Other railway line

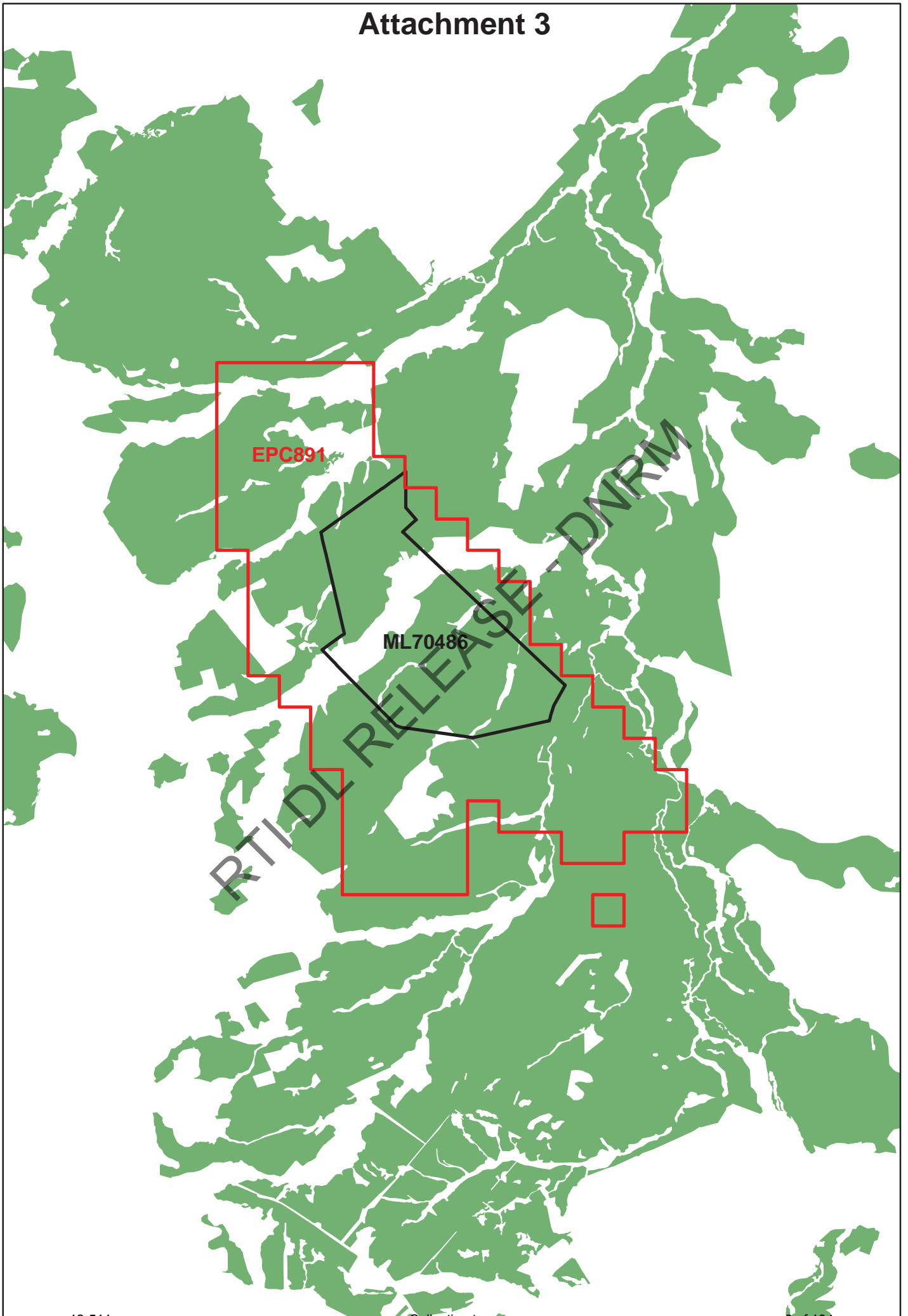
**Scale**  
1:1,500,000

**DISCLAIMER**  
CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map.

**Data Source:**  
DERM, 2010;  
Geoscience Australia  
Image from Bing Maps, 2011.  
Job: B11560\_159-R1\_railway  
Date: 17/01/2013

**SPRINGSURE CREEK**  
**CDM Smith**  
cdmsmith.com

# Attachment 3



CTS

To: Dan Hunt  
Director-General  
Natural Resources and Mines  
  
From: Sue Ryan  
Deputy Director-General  
Service Delivery

<b>Approved / Not Approved / Noted</b> <b>Further information required</b>
.....
<b>Director-General</b>
<b>Dated</b> ...../...../.....

Endorsed: John Skinner, Deputy Director-General, Mining and Petroleum  
Darren Moor, A/Executive Director - Central Region, Service Delivery

7 March 2013

**Bandanna Energy – Springsure Creek Coal Mine Project Strategic Cropping Land Requirements**

**Recommendation**

1. It is recommended that the Director-General:
  - **note** the strategic cropping land (SCL) requirements Bandanna Energy (Bandanna) will be required to meet for its Springsure Creek Coal Mine Project.
  - **note** that a mining lease for transportation through land, which is required to enable Bandanna to transport coal from the mine project area to a rail line, does not meet any transitional provisions in the *Strategic Cropping Land Act 2011* (SCL Act).

**Timing**

2. Non Urgent – no timeframes currently need to be met.

**Background**

3. ~~Bandanna's~~The Springsure Creek Coal ~~Mine~~ Project is located within the Central Protection Area under the SCL framework.
4. ~~Under the SCL Act, land that is confirmed as SCL in a Protection Area cannot be permanently impacted by a development (except in limited exceptional circumstances).~~
5. ~~The previous government included specific transitional provisions in the SCL Act regarding Bandanna's Springsure Creek coal project which is the subject of an existing exploration permit for coal number 891 (EPC891).~~
6. ~~Those transitional provisions (sections 289-290 of the SCL Act) provide transitional provisions for a future mining lease and environmental authority relating to EPC891, provided the mining lease application relates to EPC891 and is for resource activities under an Environmental Impact Statement (EIS) resulting from the finalised EIS terms of reference published on 2 June 2011.~~
7. ~~Specifically, the transitional provisions state that no open-cut mining can be carried out under the lease, and the environmental authority holder must use all reasonable endeavours to rehabilitate all impacts on the land from underground coal mining carried out under the lease.~~
- 4.8. ~~In February 2013 Bandanna Energy submitted the Springsure Creek Coal Project's EIS dated February 2013 submitted for thfor public notification. e Springsure Creek Coal Mine Project~~
- 5.9. ~~A Mining Lease Application (MLA) 70486 was lodged on 19 October 2012 which relates to EPC 891.~~
- 6.10. ~~A separate MLA for a transportation corridor through land (required for a haul road and rail load out facility to transport coal from the mine site to the Bauhinia rail line) (s316 MRA) has not yet been submitted, which is required for a haul road and rail load out facility to transport coal from the Mine site to the Bauhinia rail line. Bandanna Energy (Bandanna) hasve indicated a further EIS will be required for the transport corridor which will does not result from the finalised EIS TOR relating to EPC 891, published 2 June 2011.~~
7. ~~Section 289 and 290 of the SCL Act provide transitional provisions for a future mining lease and environmental authority relating to EPC891~~

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## CTS

- ~~8-11.~~ No SCL applications have been submitted to date, however a preliminary meeting between Bandanna and Department of Natural Resources and Mines (DNRM) SCL regional staff occurred on 6 March 2013 to discuss SCL requirements for the project.
- ~~9-12.~~ Bandanna is likely to lodge a validation application in the near future. Preliminary Information in the EIS and existing DNRM data indicate the majority of the site is likely to be SCL.
- ~~13.~~ DNRM considers MLA70486 meets the requirements of s289 of the SCL Act for transitional status, and is therefore exempt from the permanent impact restriction.
- ~~14.~~ DNRM considers any future MLA lodged for the transport corridor will not be eligible for transitional status under the SCL Act, as it does not relate to an EIS resulting from the finalised EIS Terms of Reference relating to EPC 891 published on 2 June 2011. Bandanna indicated the same view at the 6 March 2013 meeting with DNRM SCL regional staff.
- ~~10.~~ Section 289 of the SCL Act provides for an exemption from the permanent impact restriction for any related Environmental Authority (EA) and Mining Lease (ML) related to EPC 891. It also provides for that exemption to apply only to resource activities under an EIS resulting from finalised EIS TOR relating to EPC 891, published on 2 June 2011.
- ~~11.~~ DNRM considers the MLA for mining project meets both tests of s289, however a MLA for the transport corridor meets neither. Bandanna indicated the same view at the 6 March 2013 meeting.

### Springsure Creek Mine project area

- ~~12-15.~~ The mining project includes underground mining (longwall) and related surface infrastructure, which may or may not be located on SCL depending on final layout and results of SCL validation.
- ~~13-16.~~ An SCL protection decision will be required for resource activities of the mining project ML and EA. Section 290(2) ~~ss2~~ and 290(3) state conditions which must be imposed on the ML and EA respectively.
- ~~14-17.~~ Section 290(5) ~~ss5~~ of the SCL Act states that the imposed conditions do not limit or otherwise affect power to impose other protection conditions that are not inconsistent with the conditions (that is, other SCL conditions can be imposed that are not inconsistent with the SCL protection decision conditions).
- ~~15-18.~~ The SCL protection decision application for the mining project ~~will~~ be assessed in line with the SCL ~~a~~Act. Bandanna will have to demonstrate:
- ~~They ha~~ve avoided SCL to the greatest extent practicable;
  - ~~m~~inimised the impacts where they ~~can~~ot be avoided;
  - ~~W~~hether the impacts are temporary or permanent;
  - ~~f~~or temporary impacts, how the SCL will be restored to its pre-development condition;
  - ~~m~~itigate all permanent impacts.
- ~~16-19.~~ Whether the underground mining and resultant subsidence constitutes a temporary or permanent impact will be determined based on the information provided by the applicant. In particular, whether they can demonstrate the area affected by subsidence can be restored to pre-development condition and that full restoration can be achieved within 50 years.
- ~~17-20.~~ If ~~underground is~~ underground mining operations for the Springsure Creek coal project are deemed ~~to be~~ a temporary impact, there will be other SCL protection conditions imposed on the EA to ensure restoration. -If the impact is permanent, mitigation will be required. The project is located in the Central Highlands--Isaac sub zone which has a current mitigation rate of \$4750 per hectare of permanently impacted SCL.

### Transport Corridor Area

- ~~18-21.~~ The transport corridor does ~~n~~ot have the exemption from the permanent impact restriction, so any resource activities permanently impacting SCL will need to be decided as being in Exception Circumstances (EC) under s133(2) of the SCL ~~A~~act.
- ~~19-22.~~ Bandanna have indicated they are proposing a 40 metre wide haul road and a rail load out facility to transport the coal from the mine to the Bauhinia rail line. Previous SCL protection decisions have determined haul roads to be a permanent impact due to the extensive soil disturbance during construction, and the impact from large mining trucks continuously driving along the road for a long period of time.
- ~~20-23.~~ If an EC application under the SCL Act is lodged, it must be decided by the Minister for Natural Resources and Mines.

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~~24-24.~~ The criteria for making the decision is specified in sections 134 and 135 of the SCL aAct, and includes a determination of significant community benefit and there being no alternative site.

~~22-25.~~ Should the decision be that ~~EC~~exceptional circumstances do not apply to the development, and for the SCL protection decision, the resource activities are determined to have a permanent impact. If so, then s94 of the SCL aAct requires that an EA for the resource activities cannot be issued.

~~23-26.~~ This situation would likely be a ~~prevents~~showstopper for the entire project proceeding, as Bandanna will not have a means of transporting the coal from the Springsure Creek mine to the railway.

**Attachments**

~~24-27.~~ **Attachment 1:** Map of Area of EPC891 and MLA 70486

**Attachment 2:** Map of MLA70486 and existing rail infrastructure.

**Attachment 3:** Map of EPC891 and MLA70486 over SCL trigger map

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**Clearance**

~~25-28.~~ Peter Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations has been consulted in developing this brief.

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**Next Steps** ~~(delete if not applicable).~~

~~26-29.~~ DNRM service delivery will continue to consult with Bandanna through the SCL process.

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**Sue Ryan**

Action Officer: Errol Sander  
Telephone: 4999 6969

**Director-General - Natural Resources and Mines**

**Comments:**

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CTS

RTI DL RELEASE - DNRM

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From: Sue Ryan  
Deputy Director-General  
Service Delivery

<b>Approved / Not Approved / Noted</b> <b>Further information required</b>
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<b>Director-General</b>
<b>Dated</b> ...../...../.....

Endorsed: John Skinner, Deputy Director-General, Mining and Petroleum  
Darren Moor, A/Executive Director - Central Region, Service Delivery  
Bernadette Ditchfield, A/Executive Director, Land and Mines Policy  
Peter Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations

19 March 2013

**Bandanna Energy – Springsure Creek Coal Mine Project Strategic Cropping Land Requirements**

**Recommendation**

1. It is recommended that the Director-General:
  - **note** the strategic cropping land (SCL) requirements Bandanna Energy (Bandanna) will be required to meet for its Springsure Creek Coal Mine Project.
  - **note** that a mining lease for transportation through land, under section 316 of the *Mineral Resources Act 1989*, which is required to enable Bandanna to transport coal from the mine project area to a rail line, does not meet any transitional provisions in the *Strategic Cropping Land Act 2011* (SCL Act).

**Timing**

2. Non Urgent – no timeframes currently need to be met.

**Background**

3. Bandanna’s Springsure Creek Coal Project is located within the Central Protection Area under the SCL framework.
4. Under the SCL Act, land that is confirmed as SCL in a Protection Area cannot be permanently impacted by a development (except in limited exceptional circumstances).
5. The previous government included specific transitional provisions in the SCL Act (sections 289-290) regarding Bandanna’s Springsure Creek coal project which is the subject of an existing exploration permit for coal number 891 (EPC891).
6. Those sections of the SCL Act provide transitional provisions for a future mining lease and environmental authority relating to EPC891, provided the mining lease application relates to EPC891 and is for resource activities under an Environmental Impact Statement (EIS) resulting from the finalised EIS terms of reference published on 2 June 2011.
7. Specifically, the transitional provisions state that no open-cut mining can be carried out under the lease, and the environmental authority holder must use all reasonable endeavours to rehabilitate all impacts on the land from underground coal mining carried out under the lease.
8. In February 2013 Bandanna submitted the Springsure Creek Coal Project’s EIS for public notification.
9. A Mining Lease Application (MLA) 70486 was lodged on 19 October 2012 which relates to EPC 891.
10. A separate MLA for a transport corridor through land (required for a haul road and rail load out facility to transport coal from the mine site to the Bauhinia rail line) has not yet been submitted. Bandanna has indicated a further EIS will likely be required for the transport corridor which does not result from the finalised EIS TOR relating to EPC 891, published 2 June 2011.
11. No SCL applications have been submitted to date, however a preliminary meeting between Bandanna and Department of Natural Resources and Mines (DNRM) SCL regional staff occurred on 6 March 2013 to discuss SCL requirements for the project.



12. Bandanna is likely to lodge a validation application in the near future. Preliminary Information in the EIS and existing DNRM data indicate the majority of the site is likely to be SCL.
13. DNRM considers MLA70486 meets the requirements of s289 of the SCL Act for transitional status, and is therefore exempt from the permanent impact restriction.
14. DNRM considers any future MLA lodged for the transport corridor will not be eligible for transitional status under the SCL Act, as it does not relate to an EIS resulting from the finalised EIS Terms of Reference relating to EPC 891 published on 2 June 2011. Bandanna indicated the same view at the 6 March 2013 meeting with DNRM SCL regional staff.

Springsure Creek Mine project area

15. The mining project includes underground mining (long wall) and related surface infrastructure, which may or may not be located on SCL depending on final layout and results of SCL validation.
16. An SCL protection decision will be required for resource activities of the mining project ML and EA. Section 290(2) and 290(3) state conditions which must be imposed on the ML and EA respectively.
17. Section 290(5) of the SCL Act states that the imposed conditions do not limit or otherwise affect power to impose other SCL protection conditions that are not inconsistent with the conditions imposed by sections 290(2) and 290(3).
18. The SCL protection decision application for the mining project will be assessed in line with the SCL Act. Bandanna will be required to demonstrate:
  - They have avoided SCL to the greatest extent practicable
  - They have minimised the impacts where they cannot be avoided
  - Whether the impacts are temporary or permanent
  - For temporary impacts, how the SCL will be restored to its pre-development condition
  - For permanent impacts, mitigation in accordance with the SCL Act.
19. Whether the underground mining and resultant subsidence constitutes a temporary or permanent impact will be determined based on the information provided by the applicant. In particular, whether they can demonstrate the area affected by subsidence can be restored to pre-development condition and that full restoration can be achieved within 50 years.
20. If underground mining operations for the Springsure Creek coal project are deemed a temporary impact, there will be other SCL protection conditions imposed on the EA to ensure restoration. If the impact is permanent, mitigation will be required. The project is located in the Central Highlands-Isaac sub zone which has a current mitigation rate of \$4750 per hectare of permanently impacted SCL.

Transport Corridor Area

21. The transport corridor does not have the exemption from the permanent impact restriction, so any resource activities permanently impacting SCL will need to be decided as being in Exceptional Circumstances (EC) under s133(2) of the SCL Act.
22. Bandanna have indicated they are proposing a 40 metre wide haul road and a rail load out facility to transport the coal from the mine to the Bauhinia rail line. Previous SCL protection decisions have determined haul roads to be a permanent impact due to the extensive soil disturbance during construction, and the impact from large mining trucks continuously driving along the road for a long period of time.
23. If an EC application under the SCL Act is lodged, it must be decided by the Minister for Natural Resources and Mines.
24. The criteria for making the decision is specified in sections 134 and 135 of the SCL Act, and includes a determination of significant community benefit and there being no alternative site.
25. Should the decision be that EC does not apply to the development, and for the SCL protection decision the resource activities are determined to have a permanent impact, then s94 of the SCL Act requires that an EA for the resource activities cannot be issued.
26. This situation would likely result in the s316 Mining Lease not being issued, however there are other options that could be considered by Bandanna such as transporting the coal by road.

**Attachments**

27. **Attachment 1:** Map of Area of EPC891 and MLA 70486  
**Attachment 2:** Map of MLA70486 and existing rail infrastructure.

**Attachment 3:** Map of EPC891 and MLA70486 over SCL trigger map

**Clearance**

- 28. Peter Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations has been consulted in developing this brief.
- 29. Land and Mines Policy have also been consulted in developing this brief.

**Next Steps**

- 30. DNRM service delivery will continue to consult with Bandanna through the SCL process.

**Sue Ryan**

Action Officer: Errol Sander  
Telephone: 4999 6969

<p><b>Director-General - Natural Resources and Mines</b></p> <p><b>Comments:</b></p> <hr/> <hr/> <hr/> <hr/> <hr/>
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Endorsed: John Skinner, Deputy Director-General, Mining and Petroleum  
Darren Moor, A/Executive Director - Central Region, Service Delivery

7 March 2013

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**Recommendation**

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**Timing**

2. Non Urgent – no timeframes currently need to be met

**Background**

3. The Springsure Creek Coal Mine Project is located within the Central Protection Area under the SCL framework.
4. EIS dated February 2013 submitted for the Springsure Creek Coal Mine Project
5. Mining Lease Application (MLA) 70486 lodged 19 October 2012 which relates to EPC 891.
6. MLA for transportation through land (s316 MRA) not yet submitted which is required for a haul road and rail load out facility to transport coal from the Mine site to the Bauhinia rail line. Bandanna Energy (Bandanna) have indicated a further EIS will be required for the transport corridor which will does not result from the finalised EIS TOR relating to EPC 891, published 2 June 2011.
7. Section 289 and 290 of the SCL Act provide transitional provisions for a future mining lease and environmental authority relating to EPC891
8. No SCL applications have been submitted to date, however a preliminary meeting between Bandanna and DNRM SCL regional staff occurred on 6 March 2013 to discuss SCL requirements for the project.
9. Bandanna is likely to lodge a validation application in the near future. Preliminary Information in the EIS and existing DNRM data indicate the majority of the site is likely to be SCL.
10. Section 289 of the SCL Act provides for an exemption from the permanent impact restriction for any related Environmental Authority (EA) and Mining Lease (ML) related to EPC 891. It also provides for that exemption to apply only to resource activities under an EIS resulting from finalised EIS TOR relating to EPC 891, published on 2 June 2011.
11. DNRM considers the MLA for mining project meets both tests of s289, however a MLA for the transport corridor meets neither. Bandanna indicated the same view at the 6 March 2013 meeting.

Mine project area

12. The mining project includes underground mining (longwall) and related surface infrastructure, which may or may not be located on SCL depending on final layout and SCL validation.



13. A SCL protection decision will be required for resource activities of the mining project ML and EA. Section 290 ss2 and 3 state conditions which must be imposed on the ML and EA respectively.
14. Section 290, ss5 of the SCL Act states that the imposed conditions do not limit or otherwise affect power to impose other protection conditions that are not inconsistent.
15. The protection decision application for the mining project will be assessed in line with the SCL act. Bandanna will have to demonstrate:
  - they've avoided SCL to the greatest extent practicable,
  - minimised the impacts where they can't be avoided,
  - whether the impacts are temporary or permanent,
  - for temporary impacts, how the SCL will be restored to its pre-development condition,
  - mitigate all permanent impacts.
16. Whether the underground mining and resultant subsidence constitutes a temporary or permanent impact will be determined based on the information provided by the applicant. In particular whether they can demonstrate the area affected by subsidence can be restored to pre-development condition and that full restoration can be achieved within 50 years.
17. If underground is deemed to be a temporary impact there will be other protection conditions imposed on the EA to ensure restoration. If the impact is permanent mitigation will be required. The project is located in the Central Highlands - Isaac sub zone which has a current mitigation rate of \$4750 per hectare of permanently impacted SCL.

#### Transport Corridor Area

18. The transport corridor doesn't have the exemption from the permanent impact restriction, so any resource activities permanently impacting SCL will need to be decided as being in Exception Circumstances (EC) under s133(2) of the SCL act.
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20. If an EC application is lodged, it must be decided by the Minister for Natural Resources and Mines.
21. The criteria for making the decision is specified in sections 134 and 135 of the SCL act, and includes a determination of significant community benefit and there being no alternative site.
22. Should the decision be that exceptional circumstances do not apply to the development, and for the protection decision, the resource activities are determined to have a permanent impact, then s94 of the SCL act requires that an EA for the resource activities cannot be issued.
23. This situation would likely be a showstopper for the entire project, as Bandanna will not have a means of transporting the coal from the mine to the railway.

#### **Attachments**

24. **Attachment 1:** Map of Area of EPC891 and MLA 70486  
**Attachment 2:** Map of MLA70486 and existing rail infrastructure.  
**Attachment 3:** Map of EPC891 and MLA70486 over SCL trigger map

#### **Clearance**

25. Peter Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations has been consulted in developing this brief

#### **Next Steps** *(delete if not applicable).*

26. DNRM service delivery will continue to consult with Bandanna through the SCL process.

Action Officer: Errol Sander  
Telephone: 4999 6969

**Director-General - Natural Resources and Mines**

**Comments:**

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RTI DL RELEASE - DNRM

RTI DL RELEASE - DNRM



## Background

- EIS submitted for the Springsure Creek Coal Mine Project
- Mining Lease Application (MLA) [number] submitted which relates to EPC 891
- MLA for transportation through land (s316 MRA) not yet submitted which is required for a haul road and rail load out facility to transport coal from the Mine site to the Bauhinia rail line. Bandanna Energy (Bandanna) have indicated a further EIS will be required for the transport corridor which will does not result from the finalised EIS TOR relating to EPC 891, published 2 June 2011.
- Section 289 and 290 of the SCL Act provide transitional provisions for a future mining lease and environmental authority relating to EPC891

## SCL situation

- No SCL applications have been submitted to date, however a preliminary meeting between Bandanna and DNRM SCL regional staff occurred on 6 March 2013 to discuss SCL requirements for the project.
- Bandanna is likely to lodge a validation application in the near future. Preliminary Information in the EIS and existing DNRM data indicate the majority of the site is likely to be SCL.
- Section 289 of the SCL Act provides for an exemption from the permanent impact restriction for any related Environmental Authority (EA) and Mining Lease (ML) related to EPC 891. It also provides for that exemption to apply only to resource activities under an EIS resulting from finalised EIS TOR relating to EPC 891, published on 2 June 2011.
- DNRM considers the MLA for mining project meets both tests of s289, however a MLA for the transport corridor meets neither. Bandanna indicated the same view at the 6 March 2013 meeting.

## Mine project Area

- The mining project includes underground mining (longwall) and related surface infrastructure, which may or may not be located on SCL depending on final layout and SCL validation.
- A SCL protection decision will be required for resource activities of the mining project ML and EA. Section 290 ss2 and 3 state conditions which must be imposed on the ML and EA respectively.
- Section 290, ss5 of the SCL Act states that the imposed conditions do not limit or otherwise affect power to impose other protection conditions that are not inconsistent.
- The protection decision application for the mining project with be assessed in line with the SCL act. Bandanna will have to demonstrate:
  - they've avoided SCL to the greatest extent practicable,
  - minimised the impacts where they can't be avoided,
  - whether the impacts are temporary or permanent,

- for temporary impacts, how the SCL will be restored to it's pre-development condition,
- mitigate all permanent impacts.
- Whether the underground mining and resultant subsidence constitutes a temporary or permanent impact will be determined based on the information provided by the applicant. In particular whether they can demonstrate the area affected by subsidence can be restored to pre-development condition and that full restoration can be achieved within 50 years.
- If underground is deemed to be a temporary impact there will be other protection conditions imposed on the EA to ensure restoration. If the impact is permanent, mitigation will be required. The project is located in the Central Highlands - Isaac sub zone which has a current mitigation rate of \$4750 per hectare of permanently impacted SCL.

#### **Transport corridor area**

- The transport corridor doesn't have the exemption from the permanent impact restriction, so any resource activities permanently impacting SCL will need to be decided as being in Exception Circumstances (EC) under s133(2) of the SCL act.
- Bandanna have indicated they are proposing a 40 metre wide haul road and a rail load out facility to transport the coal from the mine to the Bauhinia rail line. Previous protection decisions have determined haul roads to be a permanent impact due to the extensive soil disturbance during construction and the impact from large mining trucks continuously driving along the road for a long period of time.
- If an EC application is lodged, it must be decided by the Minister for Natural Resources and Mines.
- The criteria for making the decision is specified in sections 134 and 135 of the SCL act, and includes a determination of significant community benefit and there being no alternative site.
- Should the decision be that exceptional circumstances do not apply to the development, and for the protection decision, the resource activities are determined to have a permanent impact, then s94 of the SCL act requires that an EA for the resource activities cannot be issued.
- This situation would likely be a showstopper for the entire project, as Bandanna will not have a means of transporting the coal from the mine to the railway.

#### **Consultation**

Have consulted with Pete Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations

## Background

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- MLA submitted which relates to EPC 891
- MLA for transportation through land (s316 MRA) not yet submitted which is required for a haul road and rail load out facility to transport coal from the Mine site to the Bauhinia rail line. Bandanna Energy (Bandanna) have indicated a further EIS will be required for the transport corridor which will does not result from the finalised EIS TOR relating to EPC 891, published 2 June 2011.
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- Section 289 of the SCL Act provides for an exemption from the permanent impact restriction for any related Environmental Authority and Mining Lease related to EPC 891. It also provides for that exemption to apply only to resource activities under an EIS resulting from finalised EIS TOR relating to EPC 891, published on 2 June 2011.
- DNRM considers the MLA for mining project meets both tests of s289, however a MLA for the transport corridor meets neither. Bandanna indicated the same position at the 6 March 2013 meeting.
- A SCL protection decision will be required for the mining project MLA and EA and s290 ss2 and 3 state conditions which must be imposed on the ML and EA respectively.
- s290(5) of the SCL Act states that the imposed conditions do not limit or otherwise affect power to impose other protection conditions that are not inconsistent.
- The protection decision application for the mining project with beotherwise assess as normal – avoid, minimise, temp/permanent & restore/mitigate
- condition doesn't indicate that underground is temp or permanent
- "project" includes underground mining (longwall) and related surface infrastructure.
- if underground is temporary there will be other conditions to ensure restoration? , if permanent then will require mitigation
- transport corridor – temp or permanent – doesn't have exemption from permanent impact restriction so any permanent impacts will need to be EC – to date haul roads are generally permanent impacts.

## Consultation

have consulted with Pete Donahey of Mines...



**From:** Mcclurg Andrew [Andrew.Mcclurg@dnrm.qld.gov.au] on behalf of DACoordinationMackay [DACoordinationMackay@dnrm.qld.gov.au]

**Sent:** Thursday, 14 February 2013 10:46 AM

**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna

**CC:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Smith Wedeena; Barley Rachel; Meacle Kristy

**Subject:** Request for comments: Springsure Creek Coal Mine EIS

Morning all,

This is a request for comments on the Environmental Impact Statement (EIS) for the [Springsure Creek Coal Mine](#).

The EIS documents for this project are now available online and can be viewed on the following link:

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Please note: We have yet to receive a CD copy of the documents, so I have not saved the documents on the Mackay and Rockhampton FTP drives. Once they are received, they will be placed on these drives and we will send through notification of such.

A little background on the project:

- The Springsure Creek Coal Mine Project is located 47km southeast of Emerald and 37 km east of the township of Springsure in the Central Highlands Regional Council local government area
- The proponent for The Project is SSC, a wholly owned subsidiary of Bandanna Energy
- The Project comprises three components, of which only the underground mine is addressed in the EIS
- The underground mine is proposed to produce up to 11 million tonnes per annum of thermal coal, located within Mining Lease Application (MLA) area 70486
- The transport and infrastructure corridor including all associated infrastructure are considered subject to a separate approvals process and as such not considered within the EIS
- The train load out facility is also considered subject to a separate approvals process
- DNRM (as DERM) commented on the TOR for this project back in March 2011

Could you please send any comments your work unit has on this EIS by **COB Wednesday 20 March 2013** to [DACoordinationMackay@dnrm.qld.gov.au](mailto:DACoordinationMackay@dnrm.qld.gov.au)

**If your business unit will not be making any comment, an email to that effect would be much appreciated.**

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The RP&C coordinator for this project [Wedeena Smith](#) will be in contact with any interested parties shortly – our apologies for

the short notice.

Should you have any matters you wish to discuss regarding this project, please don't hesitate to contact the coordinator, Wedeena on (4999 6914).

Cheers

Andrew McClurg  
Trainee Project Officer, Regional Planning and Coordination  
**Telephone:** 07 4999 6855 **VOIP:** 23855  
**Email:** [Andrew.McClurg@dnrm.qld.gov.au](mailto:Andrew.McClurg@dnrm.qld.gov.au)

[www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)  
Department of Natural Resources and Mines  
22-30 Wood Street, Mackay, QLD 4740

RTI DL RELEASE - DNRM

**From:** McClurg Andrew [Andrew.Mcclurg@dnrm.qld.gov.au] on behalf of DACoordinationMackay [DACoordinationMackay@dnrm.qld.gov.au]  
**Sent:** Thursday, 14 February 2013 11:40 AM  
**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna  
**CC:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Smith Wedeena; Barley Rachel; Meacle Kristy  
**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS  
**Attachments:** Comments (TEMPLATE).doc

**Follow Up Flag:** Follow up  
**Due By:** Friday, 15 March 2013 1:13 PM  
**Flag Status:** Flagged

My apologies all – neglected to include the comment template.

Please provide all comments on the attached document – if possible, including the volume / section / page # would be greatly appreciated.

Andrew McClurg  
Trainee Project Officer, Regional Planning and Coordination  
**Telephone:** 07 4999 6855 **VOIP:** 23855  
**Email:** [Andrew.McClurg@dnrm.qld.gov.au](mailto:Andrew.McClurg@dnrm.qld.gov.au)

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Should you have any matters you wish to discuss regarding this project, please don't hesitate to contact the coordinator, Weddeena on (4999 6914).

Cheers

Andrew McClurg  
Trainee Project Officer, Regional Planning and Coordination  
**Telephone:** 07 4999 6855 **VOIP:** 23885  
**Email:** [Andrew.McClurg@dnrm.qld.gov.au](mailto:Andrew.McClurg@dnrm.qld.gov.au)

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**Volume xx - Section xx – Title (Page-XX)**

Issue

Recommendation

*Reviewing Officer – John Smith, Title*

**Volume xx - Section xx – Title (Page-XX)**

Issue

Recommendation

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**Volume xx - Section xx – Title (Page-XX)**

Issue

Recommendation

*Reviewing Officer – John Smith, Title*

**Volume xx - Section xx – Title (Page-XX)**

Issue

Recommendation

*Reviewing Officer – John Smith, Title*

RTI DL RELEASE - DNRM



**From:** Smith Wedeena [Wedeena.Smith@dnrm.qld.gov.au]

**Sent:** Thursday, 14 February 2013 2:43 PM

**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna

**CC:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Barley Rachel; Meacle Kristy; O'flynn Mick; Krosch Neil

**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS

Good afternoon

Copies of the EIS including shape files have now been uploaded to the Rockhampton and Mackay FTP drives.

\\Mackay\GroupDir\ftp\Springsure Creek - EIS

\\Rockhampton\GroupDir\ftp\Springsure Creek - EIS

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Please also note that I work part time (Wednesday, Thursday and Friday).

Regards

**Wedeena Smith**

senior natural resource officer | regional planning and coordination | department of natural resources and mines

t: 07 4999 6914 | f: 4999 6903 | m: sch4p4(6) Personal information e: [wedeena.smith@dnrm.qld.gov.au](mailto:wedeena.smith@dnrm.qld.gov.au)

Please note that I am at work part time – Wednesdays, Thursdays and Fridays

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**From:** McClurg Andrew **On Behalf Of** DACoordinationMackay

**Sent:** Thursday, 14 February 2013 11:40 AM

**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna

**Cc:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Smith Wedeena; Barley Rachel; Meacle Kristy

**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS

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Trainee Project Officer, Regional Planning and Coordination

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RTI DL RELEASE - DNRM

**From:** Smith Wedeena [Wedeena.Smith@dnrm.qld.gov.au]

**Sent:** Thursday, 21 February 2013 12:52 PM

**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna

**CC:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Barley Rachel; Meacle Kristy; O'flynn Mick; Krosch Neil; Hambleton Alison; OSullivan Paul; Hoy Neil

**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS - RSVP's for 4 March Site Inspection

Hi All

We have has the hurry up on the RSVP's for the site inspection on 4 March. I understand that there are very limited places. At this stage the following have advised they will be attending:

1. Paul O'Sullivan (Tenure Administration – Mining and Petroleum);
2. Neil Hoy (Industry Liaison – Mining and Petroleum);
3. Neil Krosch (Mining and Petroleum); and
4. Alison Hambleton (Regional Planning and Coordination).

Can you please advise by **midday tomorrow (Friday 22 February 2013)** if you or someone from your group will be attending.

I understand that the itinerary for the day will be as follows:

07:30 a.m. Meet at the cafe inside Emerald Airport

07:40 a.m. Collect hire cars and depart for site

08:30 a.m. Introductions, H&S briefing then begin tour of Den-Lo Park (location of all proposed above-ground mine infrastructure

12:30 p.m. Lunch at Den-Lo Park Homestead

13:30 p.m. Depart Den-Lo Park

The consultants have advised that the site visit will only comprise a tour of Den-Lo Park. If you wish to access any other properties then the Department will have to make other arrangements with respective landowners.

Please call me if you have any issues.

Thank you

**Wedeena Smith**

senior natural resource officer | regional planning and coordination | department of natural resources and mines

t: 07 4999 6914 | f: 4999 6903 | m: sch4p4(6) Personal information | e: [wedeena.smith@dnrm.qld.gov.au](mailto:wedeena.smith@dnrm.qld.gov.au)

Please note that I am at work part time – Wednesdays, Thursdays and Fridays

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**From:** Smith Wedeena

**Sent:** Thursday, 14 February 2013 2:44 PM

**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna

**Cc:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Barley Rachel; Meacle Kristy; O'flynn Mick; Krosch Neil

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Please also note that I work part time (Wednesday, Thursday and Friday).

Regards

**Weddeena Smith**

senior natural resource officer | regional planning and coordination | department of natural resources and mines  
t: 07 4999 6914 | f: 4999 6903 | m: sch4p4(6) Personal information | e: [weddeena.smith@dnrm.qld.gov.au](mailto:weddeena.smith@dnrm.qld.gov.au)

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Could you please send any comments your work unit has on this EIS by **COB Wednesday 20 March 2013** to [DACoordinationMackay@dnrm.qld.gov.au](mailto:DACoordinationMackay@dnrm.qld.gov.au)

**If your business unit will not be making any comment, an email to that effect would be much appreciated.**

#### **Agency Briefings:**

Please note Bandanna have planned agency briefings and site visits for this project:

Advisory Agencies' information session: Thursday 14 February 2013 – 12:00 pm until 2:00 pm at Bandanna Office, Level 4, 260 Queen Street, Brisbane

Advisory Agencies' site visit #1: Monday 18 February 2013, 10:00 am until 02:00 PM – meeting place to be advised

Advisory Agencies' site visit #2: Monday 4 March 2013, 10:00 am until 02:00 PM – meeting place to be advised

The RP&C coordinator for this project Wedeen Smith will be in contact with any interested parties shortly – our apologies for the short notice.

Should you have any matters you wish to discuss regarding this project, please don't hesitate to contact the coordinator, Wedeen on (4999 6914).

Cheers

Andrew McClurg

Trainee Project Officer, Regional Planning and Coordination  
**Telephone:** 07 4999 6855 **VOIP:** 23855  
**Email:** [Andrew.McClurg@dnrm.qld.gov.au](mailto:Andrew.McClurg@dnrm.qld.gov.au)

[www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)  
Department of Natural Resources and Mines  
22-30 Wood Street, Mackay, QLD 4740

RTI DL RELEASE - DNRM

**From:** Smith Wedeena [Wedeena.Smith@dnrm.qld.gov.au]  
**Sent:** Thursday, 21 February 2013 1:12 PM  
**To:** Sander Errol  
**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS - RSVP's for 4 March Site Inspection

Thanks Errol – I kept you included in the email trail so that you didn't miss out on anything.

---

**From:** Sander Errol  
**Sent:** Thursday, 21 February 2013 1:11 PM  
**To:** Smith Wedeena  
**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS - RSVP's for 4 March Site Inspection

Hi Wedeena,

As discussed, no one from SCL will be attending this site visit, however I envisage we will more than likely organise something on our own down the track.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

---

**From:** Smith Wedeena  
**Sent:** Thursday, 21 February 2013 12:53 PM  
**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna  
**Cc:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Barley Rachel; Meacle Kristy; O'lynn Mick; Krosch Neil; Hambleton Alison; OSullivan Paul; Hoy Neil  
**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS - RSVP's for 4 March Site Inspection

Hi All

We have has the hurry up on the RSVP's for the site inspection on 4 March. I understand that there are very limited places. At this stage the following have advised they will be attending:

1. Paul O'Sullivan (Tenure Administration – Mining and Petroleum);
2. Neil Hoy (Industry Liaison – Mining and Petroleum);
3. Neil Krosch (Mining and Petroleum); and
4. Alison Hambleton (Regional Planning and Coordination).

Can you please advise by **midday tomorrow (Friday 22 February 2013)** if you or someone from your group will be attending.

I understand that the itinerary for the day will be as follows:

07:30 a.m. Meet at the cafe inside Emerald Airport

07:40 a.m. Collect hire cars and depart for site

08:30 a.m. Introductions, H&S briefing then begin tour of Den-Lo Park (location of all proposed above-ground mine

infrastructure

12:30 p.m. Lunch at Den-Lo Park Homestead

13:30 p.m. Depart Den-Lo Park

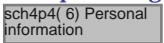
The consultants have advised that the site visit will only comprise a tour of Den-Lo Park. If you wish to access any other properties then the Department will have to make other arrangements with respective landowners.

Please call me if you have any issues.

Thank you

**Wedeeena Smith**

senior natural resource officer | regional planning and coordination | department of natural resources and mines

t: 07 4999 6914 | f: 4999 6903 | m:  | e: [wedeeena.smith@dnrm.qld.gov.au](mailto:wedeeena.smith@dnrm.qld.gov.au)

Please note that I am at work part time – Wednesdays, Thursdays and Fridays

---

**From:** Smith Wedeeena

**Sent:** Thursday, 14 February 2013 2:44 PM

**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna

**Cc:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Barley Rachel; Meacle Kristy; O'lynn Mick; Krosch Neil

**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS

Good afternoon

Copies of the EIS including shape files have now been uploaded to the Rockhampton and Mackay FTP drives.

[\\Mackay\GroupDir\ftp\Springsure Creek - EIS](#)

[\\Rockhampton\GroupDir\ftp\Springsure Creek - EIS](#)

As you are aware there are three agency briefings and site visits for this project:

1. Advisory Agencies' information session: Thursday 14 February 2013 – 12:00 pm until 2:00 pm at Bandanna Office, Level 4, 260 Queen Street, Brisbane
2. Advisory Agencies' site visit #1: Monday 18 February 2013, 10:00 am until 02:00 PM – meeting place to be advised – **RSVP to RP&C as soon as possible**
3. Advisory Agencies' site visit #2: Monday 4 March 2013, 10:00 am until 02:00 PM – meeting place to be advised – **RSVP to RP&C by Wed 27 February**

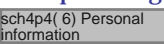
Please advise Regional Planning and Coordination ([DACoordinationMackay@dnrm.qld.gov.au](mailto:DACoordinationMackay@dnrm.qld.gov.au)) if you, or any of your team would like to attend the site meetings so that we can coordinate RSVP's on behalf of the Department. Please advise any special dietary requirements at the time.

Please also note that I work part time (Wednesday, Thursday and Friday).

Regards

**Wedeeena Smith**

senior natural resource officer | regional planning and coordination | department of natural resources and mines

t: 07 4999 6914 | f: 4999 6903 | m:  | e: [wedeeena.smith@dnrm.qld.gov.au](mailto:wedeeena.smith@dnrm.qld.gov.au)

Please note that I am at work part time – Wednesdays, Thursdays and Fridays

---

**From:** McClurg Andrew **On Behalf Of** DACoordinationMackay  
**Sent:** Thursday, 14 February 2013 11:40 AM  
**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna  
**Cc:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Smith Wedeena; Barley Rachel; Meacle Kristy  
**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS

My apologies all – neglected to include the comment template.

Please provide all comments on the attached document – if possible, including the volume / section / page # would be greatly appreciated.

Andrew McClurg  
Trainee Project Officer, Regional Planning and Coordination  
**Telephone:** 07 4999 6855 **VOIP:** 23855  
**Email:** [Andrew.McClurg@dnrm.qld.gov.au](mailto:Andrew.McClurg@dnrm.qld.gov.au)

[www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)  
Department of Natural Resources and Mines  
22-30 Wood Street, Mackay, QLD 4740

---

**From:** McClurg Andrew **On Behalf Of** DACoordinationMackay  
**Sent:** Thursday, 14 February 2013 10:46 AM  
**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna  
**Cc:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Smith Wedeena; Barley Rachel; Meacle Kristy  
**Subject:** Request for comments: Springsure Creek Coal Mine EIS

Morning all,

This is a request for comments on the Environmental Impact Statement (EIS) for the [Springsure Creek Coal Mine](#).

The EIS documents for this project are now available online and can be viewed on the following link:

<http://www.springsurecreekproject.com.au/project-development-and-approvals/springsure-creek-coal-mine-eis>

Please note: We have yet to receive a CD copy of the documents, so I have not saved the documents on the Mackay and Rockhampton FTP drives. Once they are received, they will be placed on these drives and we will send through notification of such.

A little background on the project:

- The Springsure Creek Coal Mine Project is located 47km southeast of Emerald and 37 km east of the township of Springsure in the Central Highlands Regional Council local government area
- The proponent for The Project is SSC, a wholly owned subsidiary of Bandanna Energy
- The Project comprises three components, of which only the underground mine is addressed in the EIS
- The underground mine is proposed to produce up to 11 million tonnes per annum of thermal coal, located within Mining Lease Application (MLA) area 70486
- The transport and infrastructure corridor including all associated infrastructure are considered subject to a separate approvals process and as such not considered within the EIS



The train load out facility is also considered subject to a separate approvals process

- DNRM (as DERM) commented on the TOR for this project back in March 2011

Could you please send any comments your work unit has on this EIS by **COB Wednesday 20 March 2013** to [DACoordinationMackay@dnrm.qld.gov.au](mailto:DACoordinationMackay@dnrm.qld.gov.au)

If your business unit will **not** be making any comment, an email to that effect would be much appreciated.

**Agency Briefings:**

Please note Bandanna have planned agency briefings and site visits for this project:

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Advisory Agencies' site visit #2: Monday 4 March 2013, 10:00 am until 02:00 PM – meeting place to be advised

The RP&C coordinator for this project [Weddeena Smith](#) will be in contact with any interested parties shortly – our apologies for the short notice.

Should you have any matters you wish to discuss regarding this project, please don't hesitate to contact the coordinator, Weddeena on (4999 6914).

Cheers

Andrew McClurg  
Trainee Project Officer, Regional Planning and Coordination  
**Telephone:** 07 4999 6855 **VOIP:** 23855  
**Email:** [Andrew.McClurg@dnrm.qld.gov.au](mailto:Andrew.McClurg@dnrm.qld.gov.au)

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Department of Natural Resources and Mines  
22-30 Wood Street, Mackay, QLD 4740

RTI/DL RELEASE - DNRM

**From:** Donaghy Peter [Peter.Donaghy@dnrm.qld.gov.au]  
**Sent:** Friday, 8 March 2013 6:37 AM  
**To:** Sander Errol; Riethmuller Jason; Haenfler Anita  
**Subject:** Re: Springsure Creek Coal Mine SCL Brief

Thanks Errol I'll be back in the office late today, so will probably not get a chance to review until Monday.

---

**From:** Sander, Errol  
**Sent:** Thursday, March 07, 2013 04:53 PM  
**To:** Riethmuller, Jason; Haenfler, Anita; Donaghy Peter  
**Subject:** Springsure Creek Coal Mine SCL Brief

Hi Jason, Anita and Peter,

Attached is a draft brief to the DG in relation to the Springsure Creek Coal Mine and their SCL requirements. I'd appreciate your feedback and suggestions if there is anything more you think I should add. Peter, could you please check my terminology around mining leases etc, and also the numbers and related dates for their MLA.

If you wouldn't mind getting back to me sometime Monday, although I you're all busy, that'd be great.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

RTI DL RELEASE - DNRM

**From:** Burt Sue [Sue.Burt@ehp.qld.gov.au]  
**Sent:** Friday, 8 March 2013 9:25 AM  
**To:** Peter.Jones@ghd.com; Neil.Dale@ghd.com  
**CC:** SCL North; Sander Errol  
**Subject:** Springsure Creek Coal SCL meeting 06032013

Hi Neil and Peter

This email is just a quick recap on the issues discussed in our meeting/teleconference held in the Mackay DNRM office on the 6<sup>th</sup> March 2013.

The Springsure Creek Coal EIS is currently within the public notification state of the EIS process.

Under the SCL Act, Springsure Creek Coal meets transitional provisions particularly s289 and s290, and as such the permanent impact restriction in a protection area is excluded.

A preliminary Strategic Cropping Land Assessment has been included within the EIS.

- The DNRM Officers noted that the LIDAR data presented within the EIS was calculated over 10m grids. For assessment of slope within the SCL framework the slope must be measured over a distance of 20m. LIDAR data is acceptable for slope assessment, but it must be presented over 20 grids.
- The soils within the project area have not been mapped at a suitable scale, nor have soil mapping units been provided.
- Bandana provided DNRM with the GT Environmental Services proposal for the Springsure Creek Project SCL assessment
- Proponents should not exclude areas that are less than the minimum size. This is a decision made by dnr assessment officers.

Bandana have the option to accept the strategic cropping land trigger map and have all land identified as potential SCL treated as SCL. If, following the soils mapping and SCL assessment by GT Environmental Services, Bandana wish to have the SCL mapping changed, a SCL validation application will need to be made. The validation process may take 3 – 4 months to assess – within the validation process there is a public notification period (minimum 21 days) and following the decision being made, an appeal period (28 days) before the decision takes effect.

Regardless of whether the Validation process is pursued, a Protection Decision will be required to assess the impacts on SCL.

- Bandana will need to demonstrate how impacts to SCL have been avoided and minimised
- Each component of the project (eg haul roads, dams, vents, subsidence etc) which will be sited on SCL will need to be assessed as to whether they are a temporary or permanent impacts
  - Permanent impact – land cannot be restored to predevelopment condition within 50 years
  - Temporary impact – land can be restored to predevelopment condition within 50 years
- Bandana must demonstrate that permanent impacts cannot be restored to predevelopment condition
- A restoration plan must be provided for temporary impacts which details construction methodology, operational management and how the land will be restored to predevelopment condition.
- Financial Assurance (FA) will be required for temporary impacts (held by DNRM). This will only be a gap payment between the FA required under the EA and FA for SCL.
- Permanent impacts require mitigation, payable to DAFF

Bandana informed DNRM that a separate EIS will address the Proposed Transport Corridor.

- Coal is proposed to be transported from the mine site to the main rail line via a Haul Road
- The Transport Corridor does not fall within the transition arrangement under the SCL Act and as such is not excluded from the permanent impact restriction within the SCL protection area.

- The only way permanent impacts can occur within the protection areas is if exceptional circumstance is granted (see chapter 4 of the SCL Act)

Please contact the SCL team if you have any further questions.  
We are look forward to working with you during this process.

Regards

**Susan Burt**

Senior Natural Resource Management Officer

Department of Natural Resources and Mines

**Telephone: 0749996960** **Mobile:** sch4p4(6) Personal information **Email:** [sue.burt@dnrm.qld.gov.au](mailto:sue.burt@dnrm.qld.gov.au)

30 Wood Street, Mackay, Q 4740

PO Box 63, Mackay Q 4740

RTI DL RELEASE - DNRM

**From:** Pete Jones [Peter.Jones@ghd.com]  
**Sent:** Monday, 11 March 2013 11:34 AM  
**To:** Burt Sue; Neil.Dale@ghd.com  
**CC:** SCL North; Sander Errol  
**Subject:** RE: Springsure Creek Coal SCL meeting 06032013

Thanks Sue, this is our understanding of the meeting too. We will consider the best way forward for the project and be in touch again for further discussion. Appreciate your inputs thus far.

Cheers, Pete

sch4p4(6) Personal information

---

**From:** Burt Sue [Sue.Burt@dnrm.qld.gov.au]  
**Sent:** Friday, 8 March 2013 9:25 AM  
**To:** Pete Jones; Neil.Dale@ghd.com  
**Cc:** SCL North; Sander Errol  
**Subject:** Springsure Creek Coal SCL meeting 06032013

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Please contact the SCL team if you have any further questions.  
We are look forward to working with you during this process.

Regards

Susan Burt

Senior Natural Resource Management Officer  
Department of Natural Resources and Mines

Telephone: 0749996960 Mobile: sch4p4(6) Personal Information Email: [sue.burt@dnrm.qld.gov.au](mailto:sue.burt@dnrm.qld.gov.au) <<mailto:sue.burt@dnrm.qld.gov.au>>

30 Wood Street, Mackay, Q 4740  
PO Box 63, Mackay Q 4740

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\_\_\_\_\_  
This e-mail has been scanned for viruses by MessageLabs.

**From:** McMullen Jamie [Jamie.McMullen@dnrm.qld.gov.au]  
**Sent:** Friday, 15 March 2013 11:56 AM  
**To:** Sander Errol  
**CC:** Haenfler Anita  
**Subject:** FOR INFO: Springsure Creek Coal Mine SCL Brief (LARP feedback)  
**Attachments:** 130314\_Draft DG brief\_Springsure creek\_JMc edits.doc

**Due By:** Monday, 5 December 8907 6:42 PM

Hey Errol

Sorry for taking so long to get back to you, has been a busy, busy week.

I've attached some feedback on the Bandanna Spring Creek DG brief in track changes. Note, the track changes looks more significant than what they really are – I mainly added in some background/context stuff at the start to lead in, and then did some re-ordering of the existing text which makes it look like I changed a lot. Other than that just minor amendments really.

Happy to discuss if need be.

Cheers!

Jamie McMullen  
Policy Officer  
Land and Mines Policy  
**Department of Natural Resources and Mines**  
Level 7, 61 Mary Street Brisbane, Queensland 4000  
PO Box 15216, City East, Queensland 4002  
**Tel:** +61 7 3237 1426  
**Email:** [Jamie.McMullen@dnrm.qld.gov.au](mailto:Jamie.McMullen@dnrm.qld.gov.au)  
**Web:** [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)

RTI DL RELEASE - DNRM

---

**From:** Sander Errol  
**Sent:** Tuesday, 12 March 2013 11:07 AM  
**To:** McMullen Jamie  
**Subject:** RE: FOR ACTION: Springsure Creek Coal Mine SCL Brief

Hi Jamie,

That's no worries.

Cheers

**Errol Sander**  
*Project Manager, Property Planning & Assessment*  
*Central Region*  
**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

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**From:** McMullen Jamie  
**Sent:** Monday, 11 March 2013 2:50 PM  
**To:** Sander Errol

**Subject:** RE: FOR ACTION: Springsure Creek Coal Mine SCL Brief

Hi Errol

Anita is away today and tomorrow, so she wanted me to let you know we'll have a squiz at the brief but unfortunately won't be able to get our feedback to you until Wednesday sorry.

Cheers

Jamie McMullen  
Policy Officer  
Land and Mines Policy  
**Department of Natural Resources and Mines**  
Level 7, 61 Mary Street Brisbane, Queensland 4000  
PO Box 15216, City East, Queensland 4002  
**Tel:** +61 7 3237 1426  
**Email:** [Jamie.McMullen@dnrm.qld.gov.au](mailto:Jamie.McMullen@dnrm.qld.gov.au)  
**Web:** [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)

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**From:** Sander Errol  
**Sent:** Thursday, 7 March 2013 4:53 PM  
**To:** Riethmuller Jason; Haenfler Anita; Donaghy Peter  
**Subject:** Springsure Creek Coal Mine SCL Brief

Hi Jason, Anita and Peter,

Attached is a draft brief to the DG in relation to the Springsure Creek Coal Mine and their SCL requirements. I'd appreciate your feedback and suggestions if there is anything more you think I should add. Peter, could you please check my terminology around mining leases etc, and also the numbers and related dates for their MLA.

If you wouldn't mind getting back to me sometime Monday, although I you're all busy, that'd be great.

Cheers

**Errol Sander**  
*Project Manager, Property Planning & Assessment  
Central Region*  
**Telephone** 07 4999 6969 **Mobile** Sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

CTS

To: Dan Hunt  
Director-General  
Natural Resources and Mines

From: Sue Ryan  
Deputy Director-General  
Service Delivery

Approved / Not Approved / Noted Further information required ..... Director-General Dated ...../...../.....
---

Endorsed: John Skinner, Deputy Director-General, Mining and Petroleum  
Darren Moor, A/Executive Director - Central Region, Service Delivery

7 March 2013

**Bandanna Energy – Springsure Creek Coal Mine Project Strategic Cropping Land Requirements**

**Recommendation**

- It is recommended that the Director-General:
  - note** the strategic cropping land (SCL) requirements Bandanna Energy (Bandanna) will be required to meet for its Springsure Creek Coal Mine Project.
  - note** that a mining lease for transportation through land, which is required to enable Bandanna to transport coal from the mine project area to a rail line, does not meet any transitional provisions in the *Strategic Cropping Land Act 2011* (SCL ~~a~~Act).

**Timing**

- Non Urgent – no timeframes currently need to be met.

**Background**

- ~~Bandanna's~~The Springsure Creek Coal ~~Mine~~ Project is located within the Central Protection Area under the SCL framework.
- ~~Under the SCL Act, land that is confirmed as SCL in a Protection Area cannot be permanently impacted by a development (except in limited exceptional circumstances).~~
- ~~The previous government included specific transitional provisions in the SCL Act regarding Bandanna's Springsure Creek coal project which is the subject of an existing exploration permit for coal number 891 (EPC891).~~
- ~~Those transitional provisions (sections 289-290 of the SCL Act) provide transitional provisions for a future mining lease and environmental authority relating to EPC891, provided the mining lease application relates to EPC891 and is for resource activities under an Environmental Impact Statement (EIS) resulting from the finalised EIS terms of reference published on 2 June 2011.~~
- ~~Specifically, the transitional provisions state that no open-cut mining can be carried out under the lease, and the environmental authority holder must use all reasonable endeavours to rehabilitate all impacts on the land from underground coal mining carried out under the lease.~~
- ~~In February 2013 Bandanna Energy submitted the Springsure Creek Coal Project's EIS dated February 2013 submitted for thfor public notification. e Springsure Creek Coal Mine Project~~
- ~~A Mining Lease Application (MLA) 70486 was lodged on 19 October 2012 which relates to EPC 891.~~
- ~~A separate MLA for a transportation corridor through land (required for a haul road and rail load out facility to transport coal from the mine site to the Bauhinia rail line) (s316 MRA) has not yet been submitted, which is required for a haul road and rail load-out facility to transport coal from the Mine site to the Bauhinia rail line. Bandanna Energy (Bandanna) have indicated a further EIS will be required for the transport corridor which will does not result from the finalised EIS TOR relating to EPC 891, published 2 June 2011.~~
- ~~Section 289 and 290 of the SCL Act provide transitional provisions for a future mining lease and environmental authority relating to EPC891~~

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CTS

~~8-11.~~ No SCL applications have been submitted to date, however a preliminary meeting between Bandanna and Department of Natural Resources and Mines (DNRM) SCL regional staff occurred on 6 March 2013 to discuss SCL requirements for the project.

~~9-12.~~ Bandanna is likely to lodge a validation application in the near future. Preliminary information in the EIS and existing DNRM data indicate the majority of the site is likely to be SCL.

~~13.~~ DNRM considers MLA70486 meets the requirements of s289 of the SCL Act for transitional status, and is therefore exempt from the permanent impact restriction.

~~14.~~ DNRM considers any future MLA lodged for the transport corridor will not be eligible for transitional status under the SCL Act, as it does not relate to an EIS resulting from the finalised EIS Terms of Reference relating to EPC 891 published on 2 June 2011. Bandanna indicated the same view at the 6 March 2013 meeting with DNRM SCL regional staff.

~~10.~~ Section 289 of the SCL Act provides for an exemption from the permanent impact restriction for any related Environmental Authority (EA) and Mining Lease (ML) related to EPC 891. It also provides for that exemption to apply only to resource activities under an EIS resulting from finalised EIS TOR relating to EPC 891, published on 2 June 2011.

~~11.~~ DNRM considers the MLA for mining project meets both tests of s289, however a MLA for the transport corridor meets neither. Bandanna indicated the same view at the 6 March 2013 meeting.

Springsure Creek Mine project area

~~12-15.~~ The mining project includes underground mining (longwall) and related surface infrastructure, which may or may not be located on SCL depending on final layout and results of SCL validation.

~~13-16.~~ An SCL protection decision will be required for resource activities of the mining project ML and EA. Section 290(2) ~~ss2~~ and 290(3) state conditions which must be imposed on the ML and EA respectively.

~~14-17.~~ Section 290(5) ~~ss5~~ of the SCL Act states that the imposed conditions do not limit or otherwise affect power to impose other protection conditions that are not inconsistent with the conditions (that is, other SCL conditions can be imposed that are not inconsistent with the SCL protection decision conditions).

~~15-18.~~ The SCL protection decision application for the mining project will ~~th~~ be assessed in line with the SCL ~~a~~Act. Bandanna will have to demonstrate:

- ~~They ha~~'ve avoided SCL to the greatest extent practicable;
- ~~mi~~Minimised the impacts where they can ~~n~~'ot be avoided;
- ~~W~~Whether the impacts are temporary or permanent;
- ~~f~~For temporary impacts, how the SCL will be restored to it's pre-development condition;
- ~~mi~~Mitigate all permanent impacts.

~~16-19.~~ Whether the underground mining and resultant subsidence constitutes a temporary or permanent impact will be determined based on the information provided by the applicant. In particular, whether they can demonstrate the area affected by subsidence can be restored to pre-development condition and that full restoration can be achieved within 50 years.

~~17-20.~~ If ~~underground is~~ underground mining operations for the Springsure Creek coal project are deemed ~~to be~~ a temporary impact, there will be other SCL protection conditions imposed on the EA to ensure restoration. -If the impact is permanent, mitigation will be required. The project is located in the Central Highlands--Isaac sub zone which has a current mitigation rate of \$4750 per hectare of permanently impacted SCL.

Transport Corridor Area

~~18-21.~~ The transport corridor does ~~n~~'ot have the exemption from the permanent impact restriction, so any resource activities permanently impacting SCL will need to be decided as being in Exception Circumstances (EC) under s133(2) of the SCL ~~A~~act.

~~19-22.~~ Bandanna have indicated they are proposing a 40 metre wide haul road and a rail load out facility to transport the coal from the mine to the Bauhinia rail line. Previous SCL protection decisions have determined haul roads to be a permanent impact due to the extensive soil disturbance during construction, and the impact from large mining trucks continuously driving along the road for a long period of time.

~~20-23.~~ If an EC application under the SCL Act is lodged, it must be decided by the Minister for Natural Resources and Mines.

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CTS

24-24. The criteria for making the decision is specified in sections 134 and 135 of the SCL Act, and includes a determination of significant community benefit and there being no alternative site.

22-25. Should the decision be that EC exceptional circumstances do not apply to the development, and for the SCL protection decision, the resource activities are determined to have a permanent impact. If so, then s94 of the SCL Act requires that an EA for the resource activities cannot be issued.

23-26. This situation would likely be a prevent showstopper for the entire project proceeding, as Bandanna will not have a means of transporting the coal from the Springsure Creek mine to the railway.

Attachments

24-27. Attachment 1: Map of Area of EPC891 and MLA 70486

Attachment 2: Map of MLA70486 and existing rail infrastructure.

Attachment 3: Map of EPC891 and MLA70486 over SCL trigger map

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Clearance

25-28. Peter Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations has been consulted in developing this brief.

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Next Steps (delete if not applicable)

26-29. DNRM service delivery will continue to consult with Bandanna through the SCL process.

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Sue Ryan

Action Officer: Errol Sander  
Telephone: 4999 6969

Director-General - Natural Resources and Mines

Comments:

Five horizontal lines for entering comments.

RTI DE RELEASE - DNRM



CTS

RTI DL RELEASE - DNRM

**From:** Donaghy Peter [Peter.Donaghy@dnrm.qld.gov.au]  
**Sent:** Monday, 18 March 2013 4:54 PM  
**To:** Sander Errol  
**Subject:** RE: Springsure Creek Coal Mine SCL Brief

Hi Errol

I've had a read and would offer the following comments:

1. In the second dot point of the recommendation refer to a Section 316 mining lease application for transportation through land.
2. Your last dot point on page 2 isn't actually correct. If the S316 is knocked back (and I agree with you this will be hard to overcome) the company still has the ability to seek an amendment to the EIS to deal with transportation of coal by road. I suspect this would be just as difficult as overcoming the SCL requirements, however it is an option available to them.

HAppy to discuss tomorrow.

**Peter Donaghy**

Regional Director Mines - Central

**Department of Natural Resources and Mines**

25 Yeppoon Road, Parkhurst, Queensland 4701

PO Box 3679, Red Hill Qld 4701

**Telephone:** +61 7 49360367 **Facsimile:** +61 7 49384310 **Mobile:** sch4p4(6) Personal information

**Email:** peter.donaghy@dnrm.qld.gov.au

**Website - CQ Mining Information:** <http://mines.industry.qld.gov.au/mining/central-qld-info-maps.htm>

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**From:** Sander, Errol  
**Sent:** Thursday, 7 March 2013 4:53 PM  
**To:** Riethmuller, Jason; Haenfler, Anita; Donaghy Peter  
**Subject:** Springsure Creek Coal Mine SCL Brief

Hi Jason, Anita and Peter,

Attached is a draft brief to the DG in relation to the Springsure Creek Coal Mine and their SCL requirements. I'd appreciate your feedback and suggestions if there is anything more you think I should add. Peter, could you please check my terminology around mining leases etc, and also the numbers and related dates for their MLA.

If you wouldn't mind getting back to me sometime Monday, although I you're all busy, that'd be great.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment*

*Central Region*

**Telephone** 07 4999 6969 **Mobile:** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

**From:** nrmsdddg.corro@dnrm.qld.gov.au [nrmsdddg.corro@dnrm.qld.gov.au]

**Sent:** Tuesday, 16 April 2013 3:54 PM

**To:** Sander Errol

**Subject:** CTS No: 06811/13 for your information/input concerning: Bandanna Energy Springsure Creek Coal Mine Project Strategic Cropping Land Requirements

CTS No 06811/13 concerning the above is currently assigned to **NRM - SD DDG** for action. It has been decided that you need to be involved so you have been sent a link to this item for your information/input. Please see below for relevant comments.

Please click on the [Item Link](#) to view the item on MECS.

If you have any queries please contact NRM - SD DDG or officers from NRM - SD DDG by emailing to [nrmsdddg.corro@dnrm.qld.gov.au](mailto:nrmsdddg.corro@dnrm.qld.gov.au) or via the link [Management Team Link](#).

email: EmailInformationOfficerNotification

RTI DL RELEASE - DNRM

To: Dan Hunt  
 Director-General  
 Natural Resources and Mines

From: Sue Ryan 29/4/13  
 Deputy Director-General, Service Delivery

<p>Approved / Not Approved / Noted</p> <p>Further information required</p> <p>sch4p4(6) Personal information</p> <p>Director-General</p> <p>Dated 3.15.13</p>
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Endorsed: Rachael Cronin, Acting Deputy Director-General, Policy and Program Support  
 Darren Moor, A/Executive Director, Central Region Service Delivery  
 Bernadette Ditchfield, A/Executive Director, Land and Mines Policy  
 Peter Donaghy, Regional Director, Mines – Central, Mining and Petroleum Operations

15 April 2013

## Bandanna Energy – Springsure Creek Coal Mine Project Strategic Cropping Land Requirements

### Recommendation

- It is recommended that the Director-General:
  - note** the strategic cropping land (SCL) requirements Bandanna Energy (Bandanna) will be required to meet for its Springsure Creek Coal Mine Project, and
  - note** that a mining lease for transportation through land, under section 316 of the *Mineral Resources Act 1989*, which is required to enable Bandanna to transport coal from the mine project area to a rail line, does not meet any transitional provisions in the *Strategic Cropping Land Act 2011* (SCL Act).

### Timing

- Routine.

### Background

- Bandanna's proposed Springsure Creek Coal Project is located within the Central Protection Area under the SCL Framework.
- Under the SCL Act, land that is confirmed as SCL in a Protection Area cannot be permanently impacted by a development (except in limited exceptional circumstances).
- The previous government included specific transitional provisions in the SCL Act (sections 289-290) regarding Bandanna's Springsure Creek coal project, which is the subject of an existing Exploration Permit for Coal - number 891 (EPC891).
- These sections of the SCL Act also provide transitional provisions for a future mining lease and environmental authority, provided the mining lease application relates to EPC891 and is for resource activities under an Environmental Impact Statement (EIS) resulting from the finalised EIS Terms of Reference (TOR) published on 2 June 2011.
- Specifically, the transitional provisions state that no open-cut mining can be carried out under the lease and the environmental authority holder must use all reasonable endeavours to rehabilitate all impacts on the land from underground coal mining carried out under the lease.
- In February 2013, Bandanna submitted the Springsure Creek Coal Project's EIS for public notification.
- Mining Lease Application (MLA) 70486 was lodged on 19 October 2012 which relates to EPC891.
- A separate MLA for a transport corridor (haul road and rail load out facility from the mine site to the Bauhinia rail line) has not yet been submitted.
- Bandanna has indicated a further EIS will likely be required for the transport corridor.
- No SCL applications have been submitted to date, however, a preliminary meeting between Bandanna and Department of Natural Resources and Mines (the department) staff occurred on 6 March 2013 to discuss SCL requirements for the project.
- Bandanna is likely to lodge an SCL validation application in the near future. Preliminary information in the EIS and existing department data indicate the majority of the site is likely to be SCL.

14. The department considers MLA 70486 meets the requirements of section 289 of the SCL Act for transitional status and is therefore exempt from the permanent impact restriction.
15. The department considers any future MLA lodged for the transport corridor will not be eligible for transitional status under the SCL Act, as it does not relate to an EIS resulting from the finalised EIS TOR relating to EPC891, published on 2 June 2011. Bandanna indicated the same view at the 6 March 2013 meeting.

**Springsure Creek Mine Project Area**

16. The mining project includes underground mining (long wall) and related surface infrastructure, which may or may not be located on SCL depending on final layout and results of SCL validation.
17. An SCL protection decision will be required for the mining project prior to issue of a Mining Lease (ML) and Environmental Authority (EA). Section 290(2) and 290(3) of the SCL Act contain the conditions which must be imposed on the ML and EA respectively.
18. Section 290(5) of the SCL Act states that the imposed conditions do not limit or otherwise affect power to impose other SCL protection conditions that are not inconsistent with the conditions imposed by sections 290(2) and 290(3).
19. The SCL protection decision application for the mining project will be assessed in line with the SCL Act. Bandanna will be required to demonstrate:
  - it has avoided SCL to the greatest extent practicable;
  - it has minimised the impacts where they cannot be avoided;
  - whether the impacts are temporary or permanent;
  - for temporary impacts, how the SCL will be restored to its pre-development condition; and
  - for permanent impacts, mitigation measures in accordance with the SCL Act.
20. Whether the underground mining and resultant subsidence constitutes a temporary or permanent impact will be determined based on the information provided by the applicant. In particular, whether the applicant can demonstrate the area affected by subsidence can be restored to pre-development condition and that full restoration can be achieved within 50 years.
21. If underground mining operations for the Springsure Creek Coal Project are deemed a temporary impact, there will be other SCL protection conditions imposed on the EA to ensure restoration. If the impact is permanent, mitigation will be required. The project is located in the Central Highlands-Isaac sub zone which has a current mitigation rate of \$4750 per hectare of permanently impacted SCL.

**Transport Corridor Area**

22. The transport corridor does not have the exemption from the permanent impact restriction, so any resource activities permanently impacting SCL will need to be decided as being in Exceptional Circumstances (EC) under section 133(2) of the SCL Act.
23. Bandanna has indicated it is proposing a 40 metre wide haul road and a rail load out facility to transport the coal from the mine to the Bauhinia rail line. Previous SCL protection decisions have determined haul roads to be a permanent impact due to the extensive soil disturbance during construction and the impact from large mining trucks continuously driving along the road for a long period of time.
24. If an EC application under the SCL Act is lodged by Bandanna, it must be decided by the Minister for Natural Resources and Mines.
25. The criteria for making the decision is specified in sections 134 and 135 of the SCL Act and includes a determination of significant community benefit and there being no alternative site.
26. Should the decision be that EC do not apply to the development and, for the SCL protection decision, the resource activities are determined to have a permanent impact, then section 94 of the SCL Act requires that an EA for the resource activities cannot be issued.
27. This situation would likely result in the section 316 Mining Lease not being issued. However, there are other options that could be considered by Bandanna such as transporting the coal by road if this situation arises.

**Attachments**

- 28. Attachment 1 - Map of Area of EPC891 and MLA 70486.
- Attachment 2 - Map of MLA70486 and existing rail infrastructure.
- Attachment 3 - Map of EPC891 and MLA70486 over SCL trigger map.

**Clearance**

- 29. Does this have a budget or financial impact? **NO**
- 30. Does this have an impact for Service Delivery or any other area in DNRM? **NO**
- 31. Peter Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations has been consulted in developing this Brief.
- 32. Land and Mines Policy have also been consulted in developing this brief.

**Next Steps**

- 33. DNRM Service Delivery staff will continue to consult with Bandanna through the SCL process.

**Sue Ryan**

Action Officer: Errol Sander  
 Telephone: 4999 6969

RTI/DL RELEASE - DNRM

**Director-General - Natural Resources and Mines**

**Comments:**

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**From:** Bickey Mystie [Mystie.Bickey@dnrm.qld.gov.au]  
**Sent:** Monday, 6 May 2013 1:43 PM  
**To:** Sander Errol; Gordon Ian (Mackay); Donaghy Peter  
**Subject:** For info - Item Finalised : 06811/13 Subject: Bandanna Energy Springsure Creek Coal Mine Project Strategic Cropping Land Requirements  
**Attachments:** 06811\_13 Final brief - Bandanna Energy.pdf

Hi guys,

In case you didn't get the automated finalised item email below, please find attached signed brief FYI.

Ta

Regards,

**Mystie Bickey**  
A/Project Officer  
Office of the Executive Director  
Service Delivery, Central Region  
**Telephone:** 07 4837 3504  
**Facsimile:** 07 4837 3448  
**Email:** [mystie.bickey@dnrm.qld.gov.au](mailto:mystie.bickey@dnrm.qld.gov.au)

Department of Natural Resources and Mines  
Level 1, 209 Bolsover Street  
PO Box 1762  
Rockhampton Qld 4700

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**From:** [me\\_correspondence@deedi.qld.gov.au](mailto:me_correspondence@deedi.qld.gov.au) [mailto:[me\\_correspondence@deedi.qld.gov.au](mailto:me_correspondence@deedi.qld.gov.au)]  
**Sent:** Monday, 6 May 2013 12:46 PM  
**To:** Corro NRM SD Central  
**Subject:** Item Finalised : 06811/13 Subject: Bandanna Energy Springsure Creek Coal Mine Project Strategic Cropping Land Requirements

Our records indicate that you wrote Correspondence Number 06811/13. It has has been finalised. If any comments were added they will appear below:

Briefing Note noted by Director-General returned to corro unit on 6/5/2013. This matter is now finalised. Original documents returned to DDG SD.

#### **Item Details**

Document Type: Request for DG Brief  
Subject: Bandanna Energy Springsure Creek Coal Mine Project Strategic Cropping Land Requirements

As this correspondence is a public record, if procedures require it, please go to the workflow form, print the attachments and ensure they are attached to the appropriate departmental file. It will be automatically declared a record on MECS and added to the Department's Records Management System by MECS

You should also check whether any changes were made to the draft that you prepared.



Please click on the [Item Link](#) to view the Request for DG Brief

If you have any queries please contact NRM - DG or officers from NRM - DG by emailing to [me\\_correspondence@deedi.qld.gov.au](mailto:me_correspondence@deedi.qld.gov.au) or via the link [Management Team Link](#).

email: EmailFinaliseSignOffAuthor

RTI DL RELEASE - DNRM

Pages 55 through 65 redacted for the following reasons:

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sch3( 6)(c)(i) Infringe the privileges of Parliament



# Proposal – Springsure Creek Project – Haul Road and Train Load out Soils and Strategic Cropping Land Assessment

Bandana Energy Limited  
23 April 2013

RTI/DL RELEASE - DAFRM



GT Environmental Services Pty Ltd  
10 Cressbrook Street  
Eight Mile Plains QLD 4113  
[www.gtenvironmental.com.au](http://www.gtenvironmental.com.au)

## SCOPE OF WORK

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GT Environmental Services Pty Ltd (GTES) are pleased to present this proposal to Bandana Energy Limited for the Springsure Creek Coal Mine Project (the project) haul road and train load out and is tied in with the Rolleston line in partnership with Acacia Coal for a shared trainload. This proposal is for a soils land suitability and Strategic Cropping Land (SCL) assessment to facilitate lodging an application under the Strategic Cropping Land Act 2001. This project will supplement the GTES proposal 'Springsure Creek Project Strategic Cropping Land Assessment, 20 February 2012

The project leads to Mining Lease Application (MLA) 70486 which is approximately 10,736 hectares (ha) and located 47 km southeast of Emerald in the Central Highlands. The haul road and train load out covers a distance of approximately 36 and five (5) kilometres (km) respectively. The work will include a soil survey and evaluation of SCL status as defined on the Queensland Department of Environment and Heritage Protection (DEHP), formally known as Department of Environment and Resource Management (DERM) SCL Trigger maps of the resultant soil mapping units (SMU's) across the linear feature.

This proposal also includes a variation to the GTES proposal 'Springsure Creek Project Strategic Cropping Land Assessment, 20 February 2012 for additional work. This is included within the Cost Estimate section.

RTI DL RELEASE - DNRPM

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## PROPOSED PROJECT METHODS

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### *Standards and Guidelines*

The assessment will follow requirements of the SCL Act (2011) using methods described in the *Australian Soil and Land Survey: Field Handbook* (NCST, 2009). In addition, the land suitability methodology will follow Land Resources Branch (1989) which is the method specified in *Technical Guidelines for Environmental Management of Exploration and Mining in Queensland* (DME, 1995).

The Draft Guidelines for Soil Survey along Linear Features (Forster 2011) and previous negotiations with DEHP for similar projects will be referred to for the sampling density for the haul road and rail line. Agricultural land classes will be in accordance with the planning guideline, the identification of Good Quality Agricultural Land (DPI/DHLGP, 1993).

### *Desktop Evaluations*

The desktop evaluations will include descriptions of regulatory requirements, local geological, climatic and topographical setting. In addition, available soils and land use information directly or indirectly applicable to the survey area to be sourced and reviewed to develop a preliminary soil type legend of expected soil types. The most relevant existing mapping for the actual project area is Land Systems Isaac Comet (CSIRO 1967). Other available reference material of direct relevance includes;

- Bourne and Tuck (1993) Central Highlands Land Management Manual.
- Tuck, G.A (unpublished 1993), Major Soils of the Raingrown Cropping Area at Emerald.
- McCarrol, S (1999) Potential Irrigation Areas along the Comet River and Soils of Comet River Transects.
- Irvine,S.A (1999) Site Characterisation Report for Sustainable Farming Systems 'Juanita', Gindie Group

Preliminary soil types will be assigned to the resulting 'initial map units' using the field experience of Graham Tuck, Principal Environmental Scientist/Managing Director in the Central Queensland area combined with expected soil types in that area from CSIRO (1967) mapping.

The outcome will be a plan showing preliminary soil mapping units, and a proposed investigation plan for Bandanna Energy review and approval prior to any field work. The soil legend will then be progressively refined in alignment with field work and laboratory analysis of selected soil samples.

### *Field Sampling Program*

Field sampling essentially seeks to advance the preliminary soil mapping units into fully verified soil types with the spatial distribution (i.e map boundaries) for each, clearly and accurately along the linear feature. It facilitates selection of laboratory sites deemed representative of the soil mapping unit.

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Survey techniques will be based upon pre-determined sampling locations from background information, existing soils information available, an examination of air photo patterns and reference to the Soil Survey Sampling along Linear Features, Forster 2011. Free survey techniques (McKenzie, 2008 and Gunn, 1988) may be used to verify proposed soil types and assign boundaries pending land access or topography issues relating to pre-determined locations

The scope of work requirements are;

- Approximately 14 km of the linear feature defined as potential SCL on the DERM Trigger Map; and
- Approximately 27 km of the linear feature defined as non-SCL on the DERM Trigger Map.

GTES have considerable experience with soil types in the local area of the survey with Graham Tuck previously employed with the Department of Primary Industries (DPI) in Emerald and subsequently BMA Blackwater Mine.

An inspection of Land Systems mapped in the area (CSIRO 1967) combined with land patterns from Google Earth™ imagery indicates that approximately seven major soil mapping units may exist. Accordingly, this assumption is used in the proposal for laboratory costs and report write-up. Sampling requirements are summarised below in **Table 1**.

The types of site descriptions will be done in accordance with DEHP SCL Criteria (September 2011) which requires;

- Two (2) exclusion sites per individual exclusion unit (i.e. To verify areas of disturbance, if applicable);
- Two (2) check sites per individual soil map unit, to verify soil type, surrounding vegetation, surface conditions and / or a soil boundary;
- Two (2) detailed site per soil type, to verify soil type and horizons at depth, surrounding vegetation and surface conditions and / or a soil boundary; and
- One (1) laboratory analysed site per soil type (if the soil type was not previously described in the SCL evaluation of the mining lease area).

The minimum sample density required for SCL assessment of a linear feature is one (1) sample site per two (2) km on SCL trigger map nominated areas and one (1) sample site per five (5) km on non-SCL areas.

**Table 1: Field Sampling Program of SCL Area**

SCL Type as defined on DEHP Trigger Maps	Distance (km) of Haul Road and Train Load out Features	MINIMUM Sampling Requirements Proposed by (McKenzie et al 2008) <sup>1</sup>	Sampling Recommendations Proposed by GTES
SCL	14	1 site / 2 km= 7 sites 20% detailed = 2 sites 80% observation = 5 sites Lab sites (1-5%) = 1 sites	1 sites / 2 km= 7 sites Detailed = 7 sites Check = at least 2 per identified SMU Lab sites = 3 sites

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SCL Type as defined on DEHP Trigger Maps	Distance (km) of Haul Road and Train Load out Features	MINIMUM Sampling Requirements Proposed by (McKenzie et al 2008) <sup>1</sup>	Sampling Recommendations Proposed by GTES
Non-SCL	27	1 site / 5 km = 6 sites 20% detailed = 2 site 80% observation = 4 site Lab sites (1-5%) = 1 site	1 sites / 5 km= 6 sites Detailed = 6 sites Check = at least 2 per identified SMU Lab sites = 4 sites

1 – Detailed sites are rounded up in preference to Observations sites to equal the total sites.

GTES proposed sampling recommendations are based upon previous project work conducted in late 2012 which required every site location to be detailed. Two (2) check sites will be included for every SMU identified and where changes in topography are noted. It is recommended that this sampling method be confirmed as acceptable/best practice with the DEHP prior to commencing the fieldworks.

GTES proposes to exceed what are MINIMUM site laboratory sampling requirements with a proposed total of seven (7) sites pending the SMUs identified.

### Site Descriptions

Two levels of site descriptions will be applied; detailed and non-detailed (observation/check). Detailed sites describe the range of soil profile morphological attributes as per NCST (2009) Guidelines (including soil colour as per Munsell charts), in addition to landforms, slope, surface conditions, rock cover and major vegetation. Non-detailed sites confirm map unit type and boundaries and often include an auger boring sufficient to determine soil type (e.g depth to clay, B horizons). At each detailed site an assessment will be made of the quality, depth and quantities of re-useable topsoil and subsoil that may be excavated in the future.

Soil profiles will be exposed using 50mm hand augers. As a minimum, all detailed profiles will be taken to the deeper of either the base of the B-horizons or a depth of 100cm. Where this does not allow for accurate determination of soil profiles, this will be increased up to 180cm or alternative profiles undertaken. Where possible, profiles at geological exploration pits, cuttings and eroded channels will also be recorded in addition to detailed profiles proposed.

Items to be recorded include but are not limited to slope, landform, vegetation and land condition. Photographs will be taken at all representative sites and non-detailed observation sites to assist with final interpretation on soils and suitability. Sampling and observation points will be recorded using a global positioning system (GPS) data logger, set to the site survey datum.

Detailed site descriptions (which include photographs) used as representative soil profiles will be included in the main body of the report. Additional detailed soil profiles will be provided in the attachment section of the report for all sites. A tabular summary of non-detailed (i.e. observation) sites and data recorded in each will also be included as an attachment to the main report.

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Where soil profile morphology attributes and vegetation structure indicates that elevated subsoil salinity or extremes of pH may be present, GTES determine 'field' pH and EC with a 1:5 soil water solution which is measured using a portable TPS instrument after two (2) days.

Sampling is undertaken on an ad-hoc basis where salinity or pH is suspected as a limitation to agricultural land suitability or soil reuse, or to gain a more complete understanding of a particular soil type. Where field tests suggest a possible issue, samples may be taken for laboratory confirmation. Such tests are included in the cost estimate for laboratory analysis.

## *Sampling Program*

The aim of the soil sampling program in SCL assessments is to map and describe Soil Management Units in accordance with relevant Guidelines from which an SCL evaluation can be made for each SMU. This information can also be used in assessment of land suitability, GQAL and suitability for mine rehabilitation.

All representative SMU's will be subject to soil analysis to determine chemical factors in accordance with SCL Assessment Guidelines (DERM 2011). In addition, in areas of proposed haul road and train load out disturbance, this data can assist in the determination of soil potential in future rehabilitation and topsoil and subsoil stripping depths.

Representative sites will be sampled for detailed analysis of the surface horizons with subsoil layers tested for attributes related to effective soil depth assessment and soil water storage potential. Soils which are minor in occurrence would be sampled at a single (1) representative location while soils of wider distribution and importance may be sampled at up to three (3) locations across the linear feature.

Soil sampling of profiles will be conducted as per Gunn et al (1988) Guidelines for Surveying Soil and Land Resources with samples taken from the surface (0.0-0.1m) and every 0.30m unless the subsoil horizons transitions between these depths. Samples will not be collected across horizon boundaries.

GTES often take additional (back-up) samples from other locations which are retained by us for a situation where additional sampling may be desirable after the initial lab results are obtained.

## *Laboratory Soil Analysis*

Laboratory data will be used for two primary purposes in this survey;

- To assist in delineation of soil types (SMU's) across the entire project area; and
- Evaluation of zonal SCL criteria for each SMU.

Laboratory information will also assist in the assessment of subsoil layers for reuse as rehabilitation (capping) material.

A NATA accredited or ASPAC Certified laboratory will perform the soil fertility analysis. We have obtained a quotation from Australian Laboratory Services Pty Ltd (ALS) for soil analysis which forms the basis of the following projected cost estimate for laboratory analysis.

The following table, **Table 2** outlines analytical suites which are required to evaluate SCL criteria in accordance with DERM (2011) Guidelines. Laboratory analysis seeks to enhance field morphology assessments to further highlight key soil attributes associated with SCL zonal criteria, e.g effective soil depth, salinity, pH, dispersion and water storage potential.

**Table 2: Laboratory Soil Analysis**

Test ID	Test suite	Surface samples	Subsoil layers	Justification for analysis
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2	Total N, nitrates	Y	-	Assess existing fertility of the surface topsoil layer for agricultural land suitability assessment and mine rehabilitation
3	Bicarbonate Extractable P (Olsen):	Y	-	
7	Organic Matter Content	Y	-	
4	Major exchangeable Cations (Ca, Mg, K, Na), CEC, Ca/Mg Ratio, ESP	Y	Y	Essential for all depths to determine potential fertility and soil physical behaviour e.g. structural, dispersive qualities. Required to reinforce SCL arguments
5	Metals (Mn, B, Cu, Fe, Zn):	Y	-	Determine metal / elemental deficiencies or toxicity in surface soil.
6	Sulfur (Total as S):	Y	-	
8	Chloride:	Y	Y	Confirm if chloride dominates samples with elevated EC
9	Particle Size Analysis by Hydrometer :	Y		Confirm field texture, assists in predictions of physical behaviour, soil water storage in SCL criteria. Hydrometer method provides more accurate results for this purpose.
10	Emmerson Aggregate test and R1 dispersion	Y	-	Confirm soil stability / dispersion evidenced by chemical data (above).

## *Agricultural Land Suitability and GQAL Assessment*

Techniques will follow LSAT Guidelines and Technical Guidelines for Environmental Management of Exploration and Mining in Queensland (Department of Mines and Energy, 1995) – both of which are based on Land Resources Branch (1989). The assessment seeks to meet likely regulatory requirements in a Terms of Reference (TOR) for an EIS and will use the five class system for both cropping and grazing.

Good Quality Agricultural Land (GQAL) classes (ALC's) will be assessed for each soil mapping unit in accordance with the *Planning Guideline: The Identification of Good Quality Agricultural Land* (Department of Primary Industry, 1993). This guideline requires that ALC be determined from established land suitability assessment techniques described in Land Resources Branch (1989).

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In this survey, GTES will be assessing land suitability for each soil unit using Land Resources Branch (1989). This assessment isolates major limiting factors to cropping and grazing land uses for each soil type which then facilitates assignment to an appropriate ALC.

The changes envisaged between pre and post mining scenarios will be discussed and include an assessment of possible impacts of changes to land suitability and GQAL. The assessment will require further information from the client of proposed disturbance types and distribution.

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- Chemical data from major horizons provides data of sodicity, dispersion, salt and fertility in addition to the particle size distribution. Such data can assist in predictions of soil sealing, dispersion and suitability for plant growth.

From an examination of soil profile data (above) combined with this experience, GTES will provide management recommendations for each soil type including:

- A plan showing recommended stripping depths;
- An average 'safe' stripping depth for the upper topsoil layer;
- An estimation of variation (i.e. opportunity for deeper stripping of the topsoil layer) within each soil unit;
- Stockpiling methods for the soil materials (topsoil and subsoil);
- Other management measures including application of ameliorants or mixing practices to derive suitable material for reuse as capping or topdressing, as necessary;
- Opportunities for stripping and reuse of deeper subsoil horizons; and
- Reasons why certain soils are not recommended for stripping.

## *Reports and Mapping*

Reports will be supplied electronically and as hard copies if requested. Mapping prepared by spatial consultant, Greg Tuck of GTES will be supplied in PDF and Shape (shp) format.

Maps will be supplied showing;

- Project site boundary, soil types and location of sampling points;
- Land suitability for grazing and cropping;
- Existing GQAL or ALC classes;

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- Topsoil stripping units which are based on recommended strip depths and quality; and
- SCL trigger mapping including delineation of the SCL area under assessment, SCL Passes or fails.

## Staff

GTES staff nominated for this project and their roles are summarised below in **Table 3**.

**Table 3: GTES Nominated Project Staff**

GTES Personnel	Project Position	Role
Graham Tuck	Project and Quality Manager	<ul style="list-style-type: none"> <li>• Oversee all aspects of the project</li> <li>• Contributor to data analysis, soil unit development and report development</li> </ul>
Reece McCann	Senior Soil Scientist, GTES Safety Officer.	<ul style="list-style-type: none"> <li>• Manage / supervise field sampling and basic report development</li> <li>• Supervise laboratory sampling and analysis</li> <li>• Reece holds current St John's First Aid certification</li> </ul>
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**From:** Pete Jones [PeteJones@bandannaenergy.com.au]  
**Sent:** Wednesday, 22 May 2013 10:39 AM  
**To:** Sander Errol  
**CC:** Neil Dale; Stuart Clarke  
**Subject:** Agenda  
**Attachments:** Springsure Creek Haul Road - GTES SCL Prp.pdf



Hi Errol,

Confirming our proposed agenda for meeting tomorrow:

- Update on project progress from Bandanna
- Update on SCL studies at EPC 891
- Discussion on proposed SCL studies for infrastructure corridor and train load out (please see attached methodology for DNRM's comment)
- Discussion of approval pathways, timing, and information requirements.

Stuart Clark, Neil Dale, Graham Tuck and myself will be in attendance.

We look forward to meeting you at 10:30.

Many thanks,  
Pete

**Pete Jones**  
*Environmental Approvals Coordinator*  
**BANDANNA ENERGY LIMITED**

Telephone No: 07 3041 4400  
Direct No: 07 3041 4434  
Fax No: 07 3041 4444  
Email: [petejones@bandannaenergy.com.au](mailto:petejones@bandannaenergy.com.au)

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Proposal – Springsure Creek Project –  
Haul Road and Train Load out  
Soils and Strategic Cropping Land  
Assessment

Bandana Energy Limited  
23 April 2013



GT Environmental Services Pty Ltd  
10 Cressbrook Street  
Eight Mile Plains QLD 4113  
[www.gtenvironmental.com.au](http://www.gtenvironmental.com.au)



## SCOPE OF WORK

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GT Environmental Services Pty Ltd (GTES) are pleased to present this proposal to Bandana Energy Limited for the Springsure Creek Coal Mine Project (the project) haul road and train load out and is tied in with the Rolleston line in partnership with Acacia Coal for a shared trainload. This proposal is for a soils land suitability and Strategic Cropping Land (SCL) assessment to facilitate lodging an application under the Strategic Cropping Land Act 2001. This project will supplement the GTES proposal 'Springsure Creek Project Strategic Cropping Land Assessment, 20 February 2012

The project leads to Mining Lease Application (MLA) 70486 which is approximately 10,736 hectares (ha) and located 47 km southeast of Emerald in the Central Highlands. The haul road and train load out covers a distance of approximately 36 and five (5) kilometres (km) respectively. The work will include a soil survey and evaluation of SCL status as defined on the **Queensland Department of Environment and Heritage Protection (DEHP)**, formally known as Department of Environment and Resource Management (DERM) SCL Trigger maps of the resultant soil mapping units (SMU's) across the linear feature.

This proposal also includes a variation to the GTES proposal 'Springsure Creek Project Strategic Cropping Land Assessment, 20 February 2012 for additional work. This is included within the Cost Estimate section.

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## PROPOSED PROJECT METHODS

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### *Standards and Guidelines*

The assessment will follow requirements of the SCL Act (2011) using methods described in the *Australian Soil and Land Survey: Field Handbook* (NCST, 2009). In addition, the land suitability methodology will follow Land Resources Branch (1989) which is the method specified in *Technical Guidelines for Environmental Management of Exploration and Mining in Queensland* (DME, 1995).

The Draft Guidelines for Soil Survey along Linear Features (Forster 2011) and previous negotiations with DEHP for similar projects will be referred to for the sampling density for the haul road and rail line. Agricultural land classes will be in accordance with the planning guideline, the identification of Good Quality Agricultural Land (DPI/DHLGP, 1993).

### *Desktop Evaluations*

The desktop evaluations will include descriptions of regulatory requirements, local geological, climatic and topographical setting. In addition, available soils and land use information directly or indirectly applicable to the survey area to be sourced and reviewed to develop a preliminary soil type legend of expected soil types. The most relevant existing mapping for the actual project area is Land Systems Isaac Comet (CSIRO 1967). Other available reference material of direct relevance includes;

- Bourne and Tuck (1993) Central Highlands Land Management Manual.
- Tuck, G.A (unpublished 1993), Major Soils of the Raingrown Cropping Area at Emerald.
- McCarrol, S (1999) Potential Irrigation Areas along the Comet River and Soils of Comet River Transects.
- Irvine,S.A (1999) Site Characterisation Report for Sustainable Farming Systems 'Juanita', Gindie Group

Preliminary soil types will be assigned to the resulting 'initial map units' using the field experience of Graham Tuck, Principal Environmental Scientist/Managing Director in the Central Queensland area combined with expected soil types in that area from CSIRO (1967) mapping.

The outcome will be a plan showing preliminary soil mapping units, and a proposed investigation plan for Bandanna Energy review and approval prior to any field work. The soil legend will then be progressively refined in alignment with field work and laboratory analysis of selected soil samples.

### *Field Sampling Program*

Field sampling essentially seeks to advance the preliminary soil mapping units into fully verified soil types with the spatial distribution (i.e map boundaries) for each, clearly and accurately along the linear feature. It facilitates selection of laboratory sites deemed representative of the soil mapping unit.

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Survey techniques will be based upon pre-determined sampling locations from background information, existing soils information available, an examination of air photo patterns and reference to the Soil Survey Sampling along Linear Features, Forster 2011. Free survey techniques (McKenzie, 2008 and Gunn, 1988) may be used to verify proposed soil types and assign boundaries pending land access or topography issues relating to pre-determined locations

The scope of work requirements are;

- Approximately 14 km of the linear feature defined as potential SCL on the DERM Trigger Map; and
- **Approximately 27 km of the linear feature defined as non-SCL on the DERM Trigger Map.**

GTES have considerable experience with soil types in the local area of the survey with Graham Tuck previously employed with the Department of Primary Industries (DPI) in Emerald and subsequently BMA Blackwater Mine.

An inspection of Land Systems mapped in the area (CSIRO 1967) combined with land patterns from Google Earth™ imagery indicates that approximately seven major soil mapping units may exist. Accordingly, this assumption is used in the proposal for laboratory costs and report write-up. Sampling requirements are summarised below in **Table 1**.

The types of site descriptions will be done in accordance with **DEHP SCL Criteria (September 2011) which** requires;

- Two (2) exclusion sites per individual exclusion unit (i.e. To verify areas of disturbance, if applicable);
- Two (2) check sites per individual soil map unit, to verify soil type, surrounding vegetation, surface conditions and / or a soil boundary;
- Two (2) detailed site per soil type, to verify soil type and horizons at depth, surrounding vegetation and surface conditions and / or a soil boundary; and
- One (1) laboratory analysed site per soil type **(if the soil type was not previously described in the SCL evaluation of the mining lease area).**

The minimum sample density required for SCL assessment of a linear feature is one (1) sample site per two (2) km on SCL trigger map nominated areas and one (1) sample site per five (5) km on non-SCL areas.

**Table 1: Field Sampling Program of SCL Area**

SCL Type as defined on DEHP Trigger Maps	Distance (km) of Haul Road and Train Load out Features	MINIMUM Sampling Requirements Proposed by (McKenzie et al 2008) <sup>1</sup>	Sampling Recommendations Proposed by GTES
SCL	14	<b>1 site / 2 km = 7 sites</b> 20% detailed = 2 sites 80% observation = 5 sites Lab sites (1-5%) = 1 sites	1 sites / 2 km = 7 sites Detailed = 7 sites Check = at least 2 per identified SMU Lab sites = 3 sites

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SCL Type as defined on DEHP Trigger Maps	Distance (km) of Haul Road and Train Load out Features	MINIMUM Sampling Requirements Proposed by (McKenzie et al 2008) <sup>1</sup>	Sampling Recommendations Proposed by GTES
Non-SCL	27	1 site / 5 km = 6 sites 20% detailed = 2 site 80% observation = 4 site Lab sites (1-5%) = 1 site	1 sites / 5 km= 6 sites Detailed = 6 sites Check = at least 2 per identified SMU Lab sites = 4 sites

1 – Detailed sites are rounded up in preference to Observations sites to equal the total sites.

GTES proposed sampling recommendations are based upon previous project work conducted in late 2012 which required every site location to be detailed. Two (2) check sites will be included for every SMU identified and where changes in topography are noted. It is recommended that this sampling method be confirmed as acceptable/best practice with the DEHP prior to commencing the fieldworks.

GTES proposes to exceed what are MINIMUM site laboratory sampling requirements with a proposed total of seven (7) sites pending the SMUs identified.

## Site Descriptions

Two levels of site descriptions will be applied; detailed and non-detailed (observation/check). Detailed sites describe the range of soil profile morphological attributes as per NCST (2009) Guidelines (including soil colour as per Munsell charts), in addition to landforms, slope, surface conditions, rock cover and major vegetation. Non-detailed sites confirm map unit type and boundaries and often include **an auger boring sufficient to determine soil type** (e.g depth to clay, B horizons). At each detailed site an assessment will be made of the quality, depth and quantities of re-useable topsoil and subsoil that may be excavated in the future.

Soil profiles will be exposed using 50mm hand augers. As a minimum, all detailed profiles will be taken to the deeper of either the base of the B-horizons or a depth of 100cm. Where this does not allow for accurate determination of soil profiles, this will be increased up to 180cm or alternative profiles undertaken. Where possible, profiles at **geological exploration pits**, cuttings and **eroded channels** will also be recorded in addition to detailed profiles proposed.

Items to be recorded include but are not limited to slope, landform, vegetation and land condition. Photographs will be taken at all **representative sites and non-detailed observation sites** to assist with final interpretation on soils and suitability. Sampling and observation points will be recorded using a global positioning system (GPS) data logger, set to the site survey datum.

Detailed site descriptions (which include photographs) used as representative soil profiles will be included in the main body of the report. Additional detailed soil profiles will be provided in the attachment section of the report for all sites. A tabular summary of non-detailed (i.e. observation) sites and data recorded in each will also be included as an attachment to the main report.

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Where soil profile morphology attributes and vegetation structure indicates that elevated subsoil salinity or extremes of pH may be present, GTES determine 'field' pH and EC with a 1:5 soil water solution which is measured using a portable TPS instrument after two (2) days.

Sampling is undertaken on an ad-hoc basis where salinity or pH is suspected as a limitation to agricultural land suitability or soil reuse, or to gain a more complete understanding of a particular soil type. Where field tests suggest a possible issue, samples may be taken for laboratory confirmation. Such tests are included in the cost estimate for laboratory analysis.

## *Sampling Program*

The aim of the soil sampling program in SCL assessments is to map and describe Soil Management Units in accordance with relevant Guidelines from which an SCL evaluation can be made for each SMU. This information can also be used in assessment of **land suitability, GQAL and suitability for mine rehabilitation.**

All representative SMU's will be subject to soil analysis to determine chemical factors in accordance with SCL Assessment Guidelines (DERM 2011). In addition, in areas of proposed haul road and train load out disturbance, **this data can assist in the determination of soil potential in future rehabilitation and topsoil and subsoil stripping depths.**

Representative sites will be sampled for detailed analysis of the surface horizons with subsoil layers tested for attributes related to effective soil depth assessment and soil water storage potential. Soils which are minor in occurrence would be sampled at a single (1) representative location while soils of wider distribution and importance may be sampled at up to three (3) locations across the linear feature.

Soil sampling of profiles will be conducted as per Gunn et al (1988) Guidelines for Surveying Soil and Land Resources with samples taken from the surface (0.0-0.1m) and **every 0.30m** unless the subsoil horizons transitions between these depths. Samples will not be collected across horizon boundaries.

GTES often take additional (back-up) samples from other locations which are retained by us for a situation where additional sampling may be desirable after the initial lab results are obtained.

## *Laboratory Soil Analysis*

Laboratory data will be used for two primary purposes in this survey;

- To assist in delineation of soil types (SMU's) across the entire project area; and
- Evaluation of zonal SCL criteria for each SMU.

Laboratory information will also assist in the assessment of subsoil layers for reuse as rehabilitation (capping) material.

A NATA accredited or ASPAC Certified laboratory will perform the soil fertility analysis. We have obtained a quotation from Australian Laboratory Services Pty Ltd (ALS) for soil analysis which forms the basis of the following projected cost estimate for laboratory analysis.

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**From:** Binns Peter [Peter.Binns@dnrm.qld.gov.au]

**Sent:** Thursday, 23 May 2013 9:19 AM

**To:** Sander Errol

**Subject:** Emailing: Springsure Creek Haul Road - GTES SCL Prp (PB comments).pdf

**Attachments:** Springsure Creek Haul Road - GTES SCL Prp (PB comments).pdf

<<...>>

Hi Errol,

Comments in PDF,

Cheers,

PB

RTI DL RELEASE - DNRM

## Strategic Cropping Land

### Chapter 5 - Section 5.3.3 – Soils (Page-5-6)

#### Issue

The department notes that 26 sites have been described for the EIS process. These sites are located around the perimeter of the mining tenure. The soil observation sites have not been sited to enable an adequate assessment of soils across the tenure. The soil assessment has not been conducted in accordance with the Land Suitability Assessment Techniques in the *Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland* (DME, 1995).

#### Recommendation

Conduct a soil survey across the entire mining tenure, to identify and characterise the soils and their properties in accordance with the requirements detailed within Land Suitability Assessment Techniques in the *Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland* (DME, 1995).

### Chapter 5 - Section 5.3.4 – Land Suitability (Page-5-11)

#### Issue

The soil survey has not been conducted to an acceptable standard, therefore, the subsequent land suitability assessment is also not acceptable.

#### Recommendation

After undertaking the revised soil survey, reassess the land suitability in accordance with the Land Suitability Assessment Techniques in the *Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland* (DME, 1995). Provide the revised soil survey and reassessment of the land suitability as an amendment to the EIS.

### Chapter 5 - Section 5.3.4.4 – Strategic Cropping Land Assessment (Page-5-13)

#### Issue

The strategic cropping land assessment has not been undertaken in accordance with the requirements of the Strategic Cropping Land legislative framework. DNRM officers have met with representatives of Springsure Creek Coal to discuss the requirements of the *Strategic Cropping Land Act, 2011*.

#### Recommendation

The Strategic Cropping Land requirements will be assessed parallel to the EIS process.

**Chapter 18 - Section Topsoil Salvage – Title (Page-18-34)**

Issue

The depth of topsoil stripping for each soil type present has not been assessed adequately.

Recommendation

Assess the topsoil stripping depths for each soil type following the completion of the soil and land suitability assessment. Provide this information as an amendment to the EIS.

**Appendix A4-1 - Section Soil Results and SCL Report – Soil Field Summary**

Issue

Sites SB3, SB5, and SB12 have been incorrectly classified. These soils are not Vertosols.

Recommendation

Reclassify the soils using the *Australian Soil Classification Revised Edition* (Isbell 1996) and provide this information as an amendment to the EIS.

**Vegetation Management**

**Chapter 1 – Section 1.5.1.2 Queensland Legislation (page 1-37 – 1-38)**

Issue

The exemption from the provisions of the *Vegetation Management Act 1999* (VM Act) for a mining activity, relevant to the project, has been incompletely referenced.

Recommendation

Amend the EIS to correctly reflect the legislative requirements of the VM Act by including the following underlined text:

“The clearing of native vegetation for the project will be exempt from the provisions of the *Vegetation Management Act 1999* under Schedule 24 Part 1, Item 1 (6) of the *Sustainable Planning Regulation 2009* (SP Regulation) where clearing occurs within a mining lease for a mining activity.”

**Chapter 12 – Ecology 12.6.2.3 Discrepancy in Regional Ecosystem Mapping (page 12-43)**

Issue

The EIS notes that a Property Map of Assessable Vegetation (PMAV) will be submitted by SCC to amend the current regional ecosystem (RE) mapping to reflect the ground-truthed mapping conducted within the project area.

Recommendation

The proponent to note the following requirements:

A detailed PMAV application in which the current RE mapping is being contested must be submitted to DNRM with the following contents:

- PMAV application form with registered owner/s consent;
- Prescribed fee of \$365.60
- Supporting information i.e. field survey data, spatially defined boundaries for proposed vegetation categories etc.

Where there is an existing certified 20C PMAV over any of the subject lots, the registered owner/s of the land are required to consent to the making of a replacement PMAV. Please refer to Table 1 below for an initial indication of existing certified 20C PMAVs over the lots subject to a prospective PMAV application.

Table 1: Properties subject to a prospective PMAV application

Property/Lot on Plan	20C PMAV Status	Lot/s subject to Certified PMAV
1. Den-Lo Park (Lot 2 on DSN856)	No 20C PMAV	N/A
2. Springton (Lot 5 on DSN856 and Lot 2 on SP141314)	PMAV 2009/007378 certified on 18/08/2011	Lot 1 on SP132168 Lot 2 on SP141314 Lot 5 on DSN856
3. Cowley (Lot 6 on DSN708)	No 20C PMAV	N/A
4. Arcturus Downs (Lot 7 on RP620355 and Lot 8 on RP620355)	PMAV 2006/008321 certified on 13/12/2007	Lot 9 on RP620356 Lot 6 on RP620356 Lot 8 on RP620355 Lot 7 on RP620355 Lot 8 on RP619636 Lot 5 on RP849407 Lot 10 on RP849407 Lot 4 on DSN709 Lot 9 on DSN969
5. Cedar Park (Lot 11 on RP619636)	No 20C PMAV	N/A

Please submit the application to [CWVegetationApplication@dnrm.qld.gov.au](mailto:CWVegetationApplication@dnrm.qld.gov.au) or post to:

DNRM  
Attention: Vegetation Management

**Chapter 1 – Introduction 1.5.1.2 Queensland Legislation (page 1-37 – 1-38)**

Issue

The EIS notes that components of the project located outside of a mining lease will be subject to separate approvals processes. Clearing that is not exempt under Schedule 24 of the SP Regulation will require an operational work application for the clearing of native vegetation under the VM Act.

Recommendation

The proponent to note the following requirements:

For the components of the project located outside of a mining lease, if an operational work application is required then the applicant must provide a Property Vegetation Management Plan ('PVMP') which is consistent with Part 4, section 11 of the Vegetation Management Regulation 2012.

If offsets are required as part of the PVMP, a vegetation offset proposal consistent with the relevant Policy for Vegetation Management Offsets (Offset Policy) must also be submitted and include the following information:

- how the proposed operational works have been designed and located on the lot/s to avoid and minimise the extent of impact;
- the number of hectares needing to be offset for each performance requirement criteria under the relevant code;
- the availability of offset areas within the landscape (Bioregion) which meet the Offset Policy for each performance requirement.

Please note if an Offset Transfer is proposed, within twelve months (12 months) of the date upon which the Development Approval is issued by the State of Queensland, the Applicant must legally secure the offset properties that meet the requirements set out in the relevant Offset Policy.



## Chapter 1 – Introduction - 1.5.1.2 Queensland Legislation (page 1-37 – 1-38)

### Issue

For the components of the project located outside of a mining lease, there is scope under the VM Act for a proponent to seek a determination by DNRM Vegetation Management as to whether a project can be determined to be a 'Significant Community Project' pursuant to section 10(5) of the VM Act. The status of significant community project triggers an exemption under Schedule 24 Part 2 of the SP regulation for clearing regulated regrowth vegetation on freehold land and leasehold land for agriculture and grazing. The regional vegetation management codes provide for significant community projects in the form of acceptable solutions for performance requirements.

### Recommendation

It is advisable, prior to the lodgement of any operational work applications with DNRM, if the proponent deems applicable, confirmation should be sought from DNRM Vegetation Management of the project being determined to be a Significant Community Project. Please note a declaration of the project being a Significant Project under section 26(1)(a) of the SDPWO Act does not automatically make the project an SCP. The applicant should address and meet the following criteria:

- b. The project must meet **any one** of the following categories:
  - Provides an **aesthetic, conservation, economic** or **cultural** benefit to the local or regional community or the State;
  - Serves an **essential need** of the community; or
  - Significantly improves the community's **access to services**.
- c. The project must meet **all** of the following considerations:
  - A project that has specific locational requirements. Hence there is a community need for the project, the location is appropriate based on the project context, and there are no reasonable alternative locations for the project to be located in;
  - The project benefits are not speculative. Hence the benefits of the project proposal are realistic and supported by evidence;
  - The benefits of the project are significant to the relevant community (whether local, regional or State community), and the benefits are enduring or long term; and
  - The project is predominately for the community benefit, and not predominately for other purposes. Furthermore, the benefits are significant to the community and not merely a limited number of people.

Please note only interests based solely on the merits of the project and no other ancillary interests/merits regarding the project will be considered in the assessment.

## Mines and Petroleum

### Chapter 3 - Section 3.3.3 – General Construction Methods (Page-3-11)

#### Issue

The EIS does not make reference to the sources of extractive materials, the effect the expected demand for these materials will place on sources within the region, and any proposed measures designed to mitigate this demand. Also, the EIS should take into consideration increased demands placed on the sources of extractive resources due to other projects in the region.

#### Recommendation

Amend the EIS to provide information that details the approximate quantities and source/s of extractive materials required for the project, the present regional demands on those materials and any mitigating measures to be implemented should this project's demands exceed those supply sources.

### Chapters 3 and 5 – Sections 3.4.2.1, 3.4.2.2 and 5.4.3 – Regional Geology, Local Geology and Geology and Geomorphology respectively (Pages 3-17 to 3-26 and 5-22 to 5-24)

#### Issue

Insufficient detail given of sub-surface/solid geology of the project site, in particular of the strata and variability of same, overlying the identified coal deposit.

While a regional stratigraphic section across the Denison Trough is presented as Figure 3-10 and stratigraphical columns from 4 drill holes are presented as Figure 3-14, no representative cross-sections have been provided across/ through the identified deposit.

#### Recommendation

Refer to Section 4.2.1.3 Geology and geomorphology (page 18) of the Terms of Reference.

Review requirements in the Terms of Reference and amend the EIS to submit representative cross sections across the deposit planned for mining, a key map or index plan for same and a brief verbal description of the subsurface rocks along each section line.

**Chapter 5 - Section 5.5 - Subsidence – (Page-5-46 to 5-59)**

Issue

Subsidence predictions regarding the behaviour of the overlying basalts during subsidence events may be inaccurate based on assumptions made regarding the caving characteristics of the overlying basalt(s).

There appears to be no obvious declaration or discussion in the body of the EIS regarding what apparently was a key assumption made by the subsidence consultants Strata Control Technology (SCT) when modelling the behaviour/caving characteristics of the basalt (s) overlying the deposit planned for longwall mining – i.e. as stated in the consultant’s subsidence report presented as Appendix A4-2 of the EIS (SCT Report No SCM 3956 dated July 2012) Section 2.2, page 3 that.....  
*‘Without a detailed characterisation and numerical modelling of the basalt to suggest that any bridging capabilities exist, a reduction in subsidence due to the basalt will not be made in these predictions.’*

Recommendation

Amend the EIS to comment on and discuss options regarding subsidence predictions and potential inaccuracies in modelling.

**Water Management & Use - Groundwater Comments**

**Chapter 9 - Section 9.2.1 – Water Act 2000 (Page - 9-2)**

Issue

In this section the following statement is made;

*The Water Resource (Fitzroy Basin) Plan (2011) in particular outlines provisions where the taking of water is permitted to satisfy the requirements of an environmental approval issued under the Environmental Protection Act (Qld) 1994 (EP Act). The present Project is seeking an environmental approval under the EP Act.*

*An authorisation is required to access groundwater and/or construct works to take groundwater for certain purposes (including mining). The Highlands sub artesian area covers an area of 9,499,670 ha within the Fitzroy Basin. The available unallocated groundwater for the Highlands groundwater management area specified by the Water Resource (Fitzroy Basin) Plan (2011) is outlined in Table 9-1.*

It should be noted that within the *Water Resource (Fitzroy Basin) Plan 2011* (the plan) Schedule 3 identifies that the area of the proposed mine is within the Highlands groundwater management area. There appears to be some confusion in the discussion above between the sub artesian area and the groundwater management area. The *Highlands groundwater management area* is the correct terminology.

Recommendation

Amend the EIS to clearly reference and discuss the sections of the legislation relevant to the take of groundwater in the project area.

**Chapter 9 - Section 9.2.1 – Water Act 2000 (Page - 9-2)**

Issue

This section of the EIS states that an authorisation is required for certain purposes. This should be expanded as there are a number of issues that are not clearly addressed:

- Section 116 (2) (f) of the plan identifies that groundwater may be taken for stock or domestic purposes without an entitlement. This is important when searching for licences in the area, and understanding where existing groundwater users may be.
- Section 116 of the plan also identifies that an entitlement will be required for purposes other than stock or domestic (e.g. mining).
- Section 32(4)(C) of the plan indicates that an application to take groundwater for mine dewatering can be accepted.

Recommendation

Amend the EIS to clearly reference and discuss the sections of the legislation relevant to the take of groundwater in the project area.

**Chapter 9 - Section 9.2.1 – Water Act 2000 (Page - 9-2)**

Issue

There is mention by the proponent that the plan provides provisions where the taking of water is permitted to satisfy the requirements of an environmental approval issued under the *Environmental Protection Act*. However this provision in the plan does not relate to groundwater.

Recommendation

Amend the EIS to clearly reference and discuss the sections of the legislation relevant to the take of groundwater in the project area.

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**Chapter 9 - Section 9.3.1 – Ecological Values (Page- 9-5)**

Issue

The EIS includes the following statement in part:

*Potential Groundwater Dependant Ecosystems (GDEs) in the Project area are restricted to the immediate vicinity of ephemeral creek lines. The depth to groundwater observed during baseline monitoring and in historical records suggests that groundwater contribution to these creek systems is likely to be infrequent and related to periods of high rainfall. The dependence of vegetation on groundwater in these areas is therefore considered to be minor and as such the environmental value of groundwater in terms of supporting ecosystems is considered to be low.*

This statement needs to be supported by fact. No baseline monitoring adjacent to the creek has been provided.

Recommendation

Amend the EIS to provide data to support the statement that the dependence of vegetation on groundwater in these areas is considered to be minor.

**Chapter 9 - Section 9.3 – Environmental Values and the existing Environment (Page- 9-5)**

Issue

There is discussion in this section of a number of purposes that groundwater is currently used for in the area of the proposed mine. However while there is discussion of drinking purposes there is no discussion of domestic purposes, other than drinking.

Recommendation

Amend the EIS to include a discussion of domestic purposes other than drinking as an environmental value of the groundwater resource in the area.

**Chapter 9 - Section 9.3.7 – Geology (Page- 9-7)**

Issue

The surface geology mapping presented as Figure 9-3 is difficult to relate to the aquifer summary provided in Table 9-2. For instance the Bandanna Formation and Rewan Formation do not appear in the legend of Figure 9-3. If surface geology mapping is not available that matches the formation names in Table 9-2 there should be a clear description in the text as to which formation on Figure 9-3 is the equivalent of the aquifer in Table 9-2.

Recommendation

Amend the EIS to provide a clear connection between the aquifers discussed and the surface geology presented.

**Chapter 9 - Section 9.3.7 – Geology (Page- 9-7)**

Issue

There are no geological cross sections provided to provide an understanding of the changing geological conditions (at depth) across the project area and the area which will eventually be modelled.

Recommendation

Amend the EIS to provide geological cross sections across the area to be modelled.

**Chapter 9 - Section 9.3.8 – Existing Groundwater Users (Page- 9-12)**

Issue

In this section, and throughout the report, there is reference to the EHP Groundwater Database. The database referred to is presumably the DNRM groundwater database.

Recommendation

Amend the EIS accurately reference sources such as the DNRM groundwater database.

**Chapter 9 – Table 9-3 – Summary of Sampled Groundwater Bore Use (Page- 9-13)**

Issue

In this table irrigation bores are quoted as having an estimated water usage of 500 – 1000 litres per day which equates to only 0.365 megalitres per year which seems far too low. It would be useful if the table identified the aquifer that each bore took water from and it does not. It would also be useful if electrical conductivity was provided for each bore rather than saline or fresh.

Recommendation

Amend the EIS to present accurate and detailed data in this table in relation to estimated water use, water quality and aquifer details.

**Chapter 9 - Section 9.3.8 – Existing Groundwater Users (Page- 9-12)**

Issue

No information on existing licensed groundwater users is presented in this section. In the area of the proposed mine, licences are required to take groundwater for purposes other than stock or domestic. A search of the DNRM licensing database should have been carried out and results presented here. It has not been.

Recommendation

Amend the EIS to present details of all licensed groundwater users in the area of the proposed mine where impacts are possible.

**Chapter 9 - Section 9.3.9.1 – Hydro Census (Page- 9-14)**



Issue

In this section it is stated;

*A hydro census was undertaken to improve understanding of the significance and use of groundwater in the Project area. The hydro census involved consultation with landowners and inspection of existing groundwater bores.*

It also states;

*There are significantly more groundwater bores within the Project area than are presented in the hydro census.*

The data presented from the census is a valuable part of the EIS and provides an example of water users in the area. However all bores that potentially may be impacted by mining operations should be identified in such a census/ survey.

Recommendation

Amend the EIS to ensure the census identifies the location and details of all bores that may be impacted by mining operations.

**Chapter 9 – Figure 9-4 – Locations of Sampled Groundwater Bores (Page- 9-15)**

Issue

*This figure shows the locations of bores SPR129, SPR130 and SPR132C. However there are no details of these bores anywhere in the chapter. Are these monitoring bores? What information is available for these bores? Was information from these bores used in the modelling process?*

Recommendation

*Amend the EIS to present all data from all bores utilised in investigating the project area, including details of SPR129, SPR130 and SPR132C.*

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**Chapter 9 - Section 9.3.10 – Groundwater Flow Regime (Page- 9-18)**

Issue

In this section it is stated:

*The majority of these wells are screened in the Tertiary Basalt, which forms the main water table aquifer of the Project area. When contoured, the data produces localised troughs and peaks in the interpreted water table surface. The contoured water table indicates groundwater flow to the north east, which is consistent with the local topography.*

The contours discussed are not presented in the EIS. Contours should be presented for each of the main aquifers to be modelled in the project and model area.

Recommendation

Amend the EIS to present groundwater contours for each of the main aquifers to be modelled.

**Chapter 9 - Section 9.3.10 – Groundwater Flow Regime (Page- 9-18 – 9-21)**

Issue

In this section it is stated:

*Both 13050021 and 13050022 are screened within the basalt; bore 13050022 shows a more rapid response to the onset of the wetter period than the response seen at 13050021. This is likely to be due to recharge of the groundwater within the basalt from the alluvial aquifer proximal to 13050022 and the thicker unsaturated zone at 13050021 acting as a buffer to recharge.*

The plot presented for these bores is useful in understanding recharge to the Tertiary basalt aquifer and a valuable inclusion in the EIS. It demonstrates some 6 – 7 metres of recharge in the period 2008 to 2012. However the interpretation of recharge in the EIS based on this plot appears to be incorrect. The plot quite clearly demonstrates very similar water level response to rainfall in both bores. Hence it demonstrates that recharge is very likely to occur right across the basalt outcrop as well as via the alluvial deposits.

The inclusion of groundwater contours in the basalt would assist with this interpretation of the source of recharge to the basalt.

Recommendation

Amend the EIS to revise the interpretation of recharge to the basalt, to support likely recharge via the basalt outcrop in addition to recharge via the alluvial deposits.

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**Chapter 9 – Table 9-6 – Groundwater Elevation Observations (Page- 9-20)**

Issue

The groundwater elevations in this table indicate that groundwater levels in SPR137 (Rewan Formation) rose by 10.97 metres between 1/9/12 and 8/11/12.

There is no discussion of this apparent high level of recharge given the low hydraulic permeability attributed to this aquifer. How does this information affect the modelled connectivity between the basalt and the coal measures?

Recommendation

Amend the EIS to demonstrate analysis of data presented and advise how this supports or does not support conceptualisation of the groundwater system.

**Chapter 9 – Table 9-6 – Groundwater Elevation Observations (Page- 9-20)**

Issue

It is evident from this table that the first monitoring bores drilled specifically for investigating the groundwater for this project were not installed until about August 2012. Others like SPR129, SPR130 and SPR132C were possibly drilled after this date as no data is presented for them in the EIS. It is considered that at least 12 months of groundwater level data is required to inform investigations for an EIS such as this.

In Section 3.1 of Appendix A4-07A it states that:

*transient calibration near the proposed Springsure Creek coal mine is not possible because there are insufficient historical measurements of water table elevations and piezometric heads in deeper hydrostratigraphic units.*

However it would appear that there has been little attempt to gather this information.

Furthermore in section 4.3 of Appendix A4-07A it states that;

*in this project, given the relative paucity of data, formal model calibration has not been possible.*

Recommendation

The proponent must collect sufficient data on which to base a realistic assessment of potential mining operations on groundwater. At least 12 months monitoring data from a representative network and assessment is required to be incorporated into an amended EIS for the project.

**Chapter 9 – Table 9-7 – Aquifer Parameters from Pump Tests (Page- 9-23)**

Issue

Details are provided in this table of results of tests carried out on four bores but there is no indication as to which aquifer these bores were taking water from.

Recommendation

Amend Table 9-7 of the EIS to clearly identify which aquifers the pump test results relate to.

**Chapter 9 – Table 9-11 In situ Water Quality (Page- 9-26)**

Issue

Water quality data is provided in this table referenced to bore numbers, but there is no indication as to which aquifer these bores were taking water from. This is a common problem with much of the data presented throughout the EIS where the aquifer name is not presented.

Recommendation

Amend Table 9-11 and all other relevant tables in this chapter of the EIS to clearly identify which aquifers the water quality and other presented data relates to.

**Appendix A4-07A – Section 3.2.2 Model Layers and Hydrostratigraphic Units (Page- 34)**

Issue

In this section the EIS states:

*The model layers and distribution of associated hydrostratigraphic units are based on the grid data provided to NTEC by CDM Smith.*

There is no background about how this grid data was developed. This needs to be explained.

Recommendation

Amend the EIS to supply supporting information on how the grid data was developed, on which the model layers are based.

**Appendix A4-07A – Section 3.2.3 Boundary Conditions (Page- 34)**

Issue

In this section the EIS states:

*Recharge is applied to the uppermost active layer along the existing drainage lines, corresponding to the distribution of the Quaternary Alluvium surface geology.*

However the spot groundwater level elevations presented do not tend to support the concept of higher groundwater level elevations adjacent the creeks. Additionally there is very little data presented in regards to the nature of the alluvium, depth, lithology, permeability. It appears no monitoring of groundwater in the alluvium has occurred in combination with the basalt.

Recommendation

Amend the EIS to supply more detailed information to support the conceptualisation of recharge only occurring through the alluvium.

**Appendix A4-07A – Section 3.3 Model Calibration (Page- 35)**

Issue

In this section the EIS states:

*The calibration targets for the project area include groundwater level data from 8 monitoring wells gauged in November 2012 and historical depth to water level data from registered wells within the project area. The November 2012 gauging data are used as the primary calibration targets, as they represent a synchronous data set from wells with known construction and top of casing elevation.*

The only indication within the appendix of which bores constitute the 8 primary calibration targets are the red dots marked on Figure 2-3. There are no bore numbers provided or any indication as to which aquifers are represented by these 8 bores.

Furthermore the eight bores appear to be inadequate to represent 4 main aquifers (alluvium, basalt, Rewan Formation and Coal Seams) over the area of the model.

Recommendation

Amend the EIS to supply details of which bores were used as the primary calibration targets, including bore numbers and aquifers represented.

The EIS should also be amended to provide detail to ensure the 4 main aquifers are adequately represented over the model area.



**Appendix A4-07A – Section 3.3 Model Calibration (Page- 35)**

Issue

There is a concern raised in the appendix that when it was attempted to use water levels from private bores the calibration match was poor. This was attributed to reliability of data from private bores and temporal variation over some 60 years. It is unclear why the proponent did not measure groundwater levels in these bores (where accurate logs were available), survey the top of casing levels, and use this information to increase the spatial representation of the area.

Recommendation

The model requires updating, using data from additional bores, which represent all the aquifers and provide adequate spatial coverage of the model area.

**Appendix A4-07A – Section 3.3 Model Calibration (Page- 35)**

Issue

This is an area where the basalt aquifer in particular is an important source of water for local agricultural activities. Understanding the likely impacts of this mining operation on this aquifer is critical. Furthermore a better understanding of recharge processes in all aquifers and understanding dewatering volumes will also be critical in planning mine operations and investigating any application for a dewatering licence.

It is recommended that this model be redeveloped after the collection of significantly more data that better represents the various aquifers that are present and provides better spatial coverage of the model area. Given the uncertainties associated with the modelling, including the affects of goafing on the integrity of the Rewan aquitard, any updated model should then be reviewed by an independent groundwater consultant with demonstrated modelling experience.

Recommendation

The EIS should be amended to reflect a redeveloped groundwater model. This should be based on the collection of significantly more data that better represents the various aquifers that are present; and provides better spatial coverage of the model area. Any updated model should be reviewed by an independent groundwater consultant with demonstrated modelling experience.

Issue

There is a commitment in this section towards affected landholder bores. It states in part:

*Landholder Bores*

*Any registered landholder bores located in areas of significant drawdown may need to be deepened or replaced. This is in addition to any structural damage to bores occurring due to subsidence. In most cases, the Basalt aquifer will have sufficient saturated thickness to enable deepening of wells. Seven bores are located in where the modelled initial saturated thickness of the basalt aquifer is less than 40 m. Deepening of these bores may not be possible and these bores may need to be re-located. In the event that groundwater bores are damaged due to mining activities, SCC will maintain supply of groundwater as agreed with the landholder.*

There should be a clearer commitment to mitigate the effects to landholders bores where available pumping supplies have been impacted as a result of mining operations. The commitment should be to enter into agreements with the landholders to replace diminished groundwater with the same quantity and quality or better.

Recommendation

The proponent must commit to enter into agreements, prior to mining commencing, with those landowners predicted to be impacted and with others as additional information indicating impacts or potential impacts, becomes available. There must also be a commitment to replace diminished groundwater with the same quantity and quality or better. The EIS should also be amended to reflect these requirements.

**Chapter 18 – Draft EMP Plan, Section 18.5.4.12 Proposed Environmental Authority Conditions: Schedule D – Water, Condition D34 (Page- 18-100)**

Issue

Within this proposed condition there is a commitment to develop and implement a groundwater monitoring program. However the commitment currently lacks detail.

There should be a commitment to monitor groundwater levels and quality. There should be mention of all aquifers proposed to be monitored. There should be an indication of frequency of measurement. Monitoring of groundwater levels in and around the mining operations should be monitored by datalogger with at least one reading every 12 hours.

There must be a commitment to construct all monitoring bores in accordance with *Minimum Construction Requirements for Water Bores in Australia*.

Recommendation

The proponent must provide a commitment for the development of a groundwater monitoring program and commit to submit this program to the administering authority for approval before the commencement of dewatering.

The program should include details of the aquifers to be monitored, details of the measurement of water levels, and sampling for water quality monitoring, and bores to be measured/ sampled and frequencies.

There must be a commitment to construct all monitoring bores in accordance with *Minimum Construction Requirements for Water Bores in Australia*. The EIS should be amended to reflect these requirements.

**Chapters 9 and 18 – Draft EMP Plan**

Issue

There appears to be no commitment in the Draft EMP or in Chapter 9 Groundwater report to update/ recalibrate groundwater model on a regular basis as more data becomes available.

Recommendation

The proponent must make a clear commitment to update/ recalibrate the groundwater model on a regular basis as more data becomes available. The commitment needs to be in the groundwater report and the EMP.

**Chapter 18 - Draft EM Plan, Potential Impacts on Environmental Values  
18.5.4.6, p18-84 Groundwater**

Issue

Inadequate listing of potential impacts on the environmental values of the groundwater.

The section under the heading *Aquifer Cross Contamination* does not discuss long-term cross contamination of aquifers from subsidence.

Response

Amend the EIS to provide a revised evaluation of potential impacts on the environmental values of the groundwater.

This should include a statement to the effect that there is potential for permanent cross contamination of aquifers due to subsidence; and that the subsidence may cause: permanent change in the hydrogeological character of aquifers; change in the interactions between surface water and groundwater; change in the interactions between different aquifers (e.g. the alluvium and the basalt, p20 of groundwater report, Appendix A4-07a) and damage to bores.

**Chapter 18 - Draft EM Plan, Potential Impacts on Environmental Values  
18.5.4.6, (p18-84) - Groundwater**

Issue

Inadequate evaluation of potential impacts on the environmental values of the groundwater.

The section under the heading *Environmental values including Groundwater Dependent Ecosystems (GDE)* states that a maximum drawdown of 0.5m is not expected to significantly impact riparian vegetation.

No evidence is given that a drawdown of 0.5m is an insignificant impact on GDEs.

Response

Amend the EIS to provide evidence for the statement that a drawdown of 0.5m is an insignificant impact on GDEs, or revise the assessment to indicate the impacts.

Additionally, provide evidence that the change in the availability of water is statistically insignificant.

**Chapter 18 - Section 18.5.9.2 Potential Impacts on Environmental Values - Changes to Groundwater Table (p18-176)**

Issue

Inadequate evaluation of potential impacts on the environmental values of the groundwater.

The Draft EM Plan states that impacts on deep-rooting species will be temporary, but impacts from subsidence will be permanent.

Response

Amend the EMP to provide a revised evaluation of potential impacts on environmental values. This should remove the statement about temporary impacts on deep-rooting species and replace with:

“Deep-rooting species may have to adapt to a permanently altered water regime and the loss of individuals may occur.”

Also, provide evidence to support the statement: “*Water drawdown resulting from the Project is not expected to significantly impact this TEC.*”

**Chapter 18 – Section 18.5.9.5 Control Strategies - subsidence management, (p18-181)**

Issue

The EIS contains an incomplete list of potential impacts from subsidence.

The statement:

*“Subsidence may result in impacts to surface topography, water flows, stream flows and ultimately impact vegetation communities within the study area”* does not include groundwater processes.

Response

Amend the EIS to include “groundwater processes” in the statement after the heading.

**Water Management & Use – Surface Water**

**Chapter 3 - Section 3.8.5.6 – Water Storage and Management Dams (Page 3-63)**

Issue

Dams not required for use by the post-mine land owner or for nature conservation are required to be decommissioned.

Recommendation

The capture of overland flow post mine must be in accordance with the *Water Resource (Fitzroy Basin) Plan 2011*.

**Chapter 8 - Section 8.2.2 – Water Act 2000 (Page 8-3)**

Issue

The EIS states “*Authorisation under the Water Act for the taking of water from overland flow, a watercourse, lake or spring comes via a water entitlement and a development application.*”

The requirement for development permits under the *Sustainable Planning Act 2009* is no longer required if the proposed water related operational works are located on a mining lease and are considered to be an authorised activity under the *Minerals Resources Act 1989*.

Recommendation

It is recommended that the proponent updates the text within this section of the EIS accordingly.

**Chapter 8 - Section 8.2.2 – Water Act 2000 (Page 8-3)**

Issue

The EIS refers to the outdated guideline ‘*Activities in a watercourse, lake or spring associated with mining operations*’ (DERM 2010),

A newer version of the DNRM Guideline - *Activities in a watercourse, lake or spring associated with a resource activity or mining operations* (version 3) was released in 2012 and is accessible from the website at:  
<http://www.derm.qld.gov.au/about/policy/documents/3435/attachments/guideline-3435-act-wls-assoc-mining-v3-20120712.pdf>

Recommendation

The proponent to note that a new version of the guideline is available.

**Chapter 8 - Section 8.3.2 – Existing Waterways and Local Catchments (Page 8-5)**

Issue

Six waterways directly traverse the project area, which are yet to be determined under the *Water Act 2000*.

Recommendation

It is recommended that the proponent ensures all features within the proposed project area have been determined by an authorised officer under the *Water Act 2000* to identify relevant regulatory provisions for each of the features.

**Volume 8 - Section 8.3.5 – Existing Water Users (Page 8-12)**

Issue

The EIS states that there are no existing water rights for properties within the designated Project area or Springsure Creek.

However, properties are able to undertake water harvesting as outlined in section 3.6.3.2 of the EIS.

The proponent should clarify if water harvesting as described in the EIS is the take of water from Springsure Creek or the capture of overland flow from the Springsure Creek catchment.

Recommendation

Amend the EIS to clarify if water harvesting as described in the EIS is the take of water from Springsure Creek or the capture of overland flow from the Springsure Creek catchment.

**Volume 8 - Section 8.5.5 – Erosion and Sedimentation (Page 8-39)**

Issue

The EIS states “*The Australian Coal Industry Research Program (ACARP) has established design guidelines for stable channels which the EHP has adopted as part of the Watercourse Diversions-Central Queensland Mining Industry, Version 5 guideline.*”

The guideline relates to the diversion of watercourses which is regulated under the *Water Act 2000*. The department responsible for the guideline including the regulation of watercourse diversion is Department of Natural Resources and Mines, not EHP.

Recommendation

Amend the EIS to note that the guideline referenced is a regional guideline relating to watercourse diversions with the responsible department being the Department of Natural Resources and Mines.

**Appendix A4-6 Mine Subsidence Surface Water Report - Section 7.3 – Post-Subsidence Stream Flows (Page-35)**

Issue

The EIS states that repairs to Denlo Park farm dams will be required after mining occurs under these areas.

Recommendation

Any repairs to overland flow storages will need to be carried out in accordance with the *Water Resource (Fitzroy Basin) Plan 2011*. The EMP needs to be modified to require the proponent to liaise with DNRM when these repairs are proposed.



**Appendix A4-6 Mine Subsidence Surface Water Report - Section 7.3 – Post-Subsidence Stream Flows (Page-35)**

Issue

The capture of overland flow post mine must be in accordance with the *Water Resource (Fitzroy Basin) Plan 2011*. Accordingly, the subsidence of existing storages that take overland flow, cannot facilitate the take of a larger volume of water.

Recommendation

Amend the EIS to note that the subsidence of existing storages that capture overland flow should not lead to the storages increasing the take of overland flow. The proponent should liaise with DNRM regarding any requirements for the reconfiguration of the storages. The proponent may need to demonstrate how this will be achieved.

**Appendix A4-6 Mine Subsidence Surface Water Report - Section 8 – Subsidence Impact Mitigation Strategies (Page-39)**

Issue

A Subsidence Management Plan is required to address the impacts of subsidence on watercourses and surrounding landscapes. The Department of Natural Resources and Mines has developed a draft guideline titled "*Watercourse Subsidence – Central Queensland Mining Industry*" that contains the minimum requirements for developing a Subsidence Management Plan.

Recommendation

Amend the EIS to refer to the draft Departmental guideline titled "*Watercourse Subsidence – Central Queensland Mining Industry*" when developing the Subsidence Management Plans (SMP). The SMP will need to include the requirements for monitoring, assessment, reporting, mitigation measures and rehabilitation.

## Aquatic Ecology

### Appendix A4 -13 - Aquatic Ecology report, Chapter 12 1- 2.6.8.1, Chapter 18 - Draft EM Plan, stygofauna, p18-172, and Appendix A4-07a, Groundwater Report.

#### Issue

Inadequate sampling for stygofauna has been undertaken.

The Aquatic Ecology report states that there are no alluvial aquifers in the study area. However, the Groundwater Report states that Quaternary alluvium is present within the project area.

The section on stygofauna in the EM plan states that alluvium is not present, however Quaternary Alluvium is included on Table 18-21 and p18-81.

The proponent has failed to sample adequately for stygofauna by omitting to sample the alluvium.

#### Response

Amend the EIS to include Quaternary alluvium in Table 12-18 consistent with the Groundwater Report (Table 9-2, text on p9-11, and text on p 9-44).

Sample the Quaternary alluvium for stygofauna and ensure that the reporting of alluvium is consistent throughout all documents.

If a monitoring bore is to be installed in the Quaternary alluvium of Springsure Creek as recommended on p 9-44, then it should be sampled for stygofauna following waiting period recommended in the Western Australian Environmental Protection Authority document *Guidance for the Assessment of Environmental Factors – Consideration of Subterranean Fauna in Groundwater and Caves during Environmental Impact Assessment in Western Australia* (2003).

## Chapter 12 - Aquatic Ecology report, s12.5.2.4 - Stygofauna Assessment

### Issue

Inadequate sampling for stygofauna has been undertaken.

This section of the report states that the sampled bores were purged (300L) prior to pumping to ensure that the aquifer was sampled rather than the bore contents. The Western Australian Environmental Protection Authority document *Guidance for the Assessment of Environmental Factors – Consideration of Subterranean Fauna in Groundwater and Caves during Environmental Impact Assessment in Western Australia* (2003) addresses this matter in s3.7.1.1, Validity of sampling bores, and concludes that bores contain all species found in the aquifer. There is therefore no need to purge the bore. Purging the bore means that the method is inconsistent with methods used to sample stygofauna in other EISs, and makes it difficult to compare results.

### Response

Repeat sampling of the Quaternary alluvium is required to satisfy the comment above, and should be carried out without purging the bore first. Amend the EIS to provide the results of the sampling for comparison.

## Chapter 12 - Aquatic Ecology report 12.6.8.1 - Desktop assessment

### Issue

An incorrect statement has been made in the EIS regarding the absence of stygofauna from coal seams.

The technical report for the Adani Carmichael Coal Mine and Rail Project (GHD November 2012, available on the internet) reports the presence of eight species of stygofauna in coal seam aquifers.

Also the reference to Hancock and Boulton (2008) is misleading. It says that all the known specimens collected in Qld were from alluvial or sedimentary aquifers, and although this is true, Hancock and Boulton did not sample other aquifer types.

### Response

Amend the EIS to provide a revised description of stygofauna taking these reports correctly into account.

**From:** Smith Wedeena [Wedeena.Smith@dnrm.qld.gov.au]  
**Sent:** Wednesday, 5 June 2013 2:49 PM  
**To:** Sander Errol  
**Subject:** Springsure Creek Comments as Requested  
**Attachments:** Springsure Creek Coal EIS comments; KEEPER\_n2069150\_DNRM\_Submission\_-\_Springsure\_Creek\_Coal\_Mine\_EIS.PDF

Errol

Here is a copy of Sue's email to us and the comments that went to EHP for all of DNRM.

Let me know when you are wanting to catch up Thur or Fri.

Thanks

**Wedeena Smith**

senior natural resource officer | regional planning and coordination | department of natural resources and mines  
t: 07 4999 6914 | f: 4999 6903 | m: sch4p4(6) Personal information | e: [wedeena.smith@dnrm.qld.gov.au](mailto:wedeena.smith@dnrm.qld.gov.au)

Please note that I am at work part time – Wednesdays, Thursdays and Fridays

RTI DL RELEASE - DNRM

## Orellana Jose

---

**From:** Burt Sue  
**Sent:** Tuesday, 19 March 2013 11:53 AM  
**To:** DACoordinationMackay  
**Cc:** SCL North  
**Subject:** Springsure Creek Coal EIS comments  
**Attachments:** Soil Comments - EIS.doc

Hi Guys

Please find attached comments on the EIS with respect to soil and land suitability and SCL.

Basically, they have to do it again.

Cheers

Sue

**Susan Burt**

Senior Natural Resource Management Officer  
Department of Natural Resources and Mines

**Telephone: 0749996960** **Mobile:** sch4p4(6) Personal information **Email:** [sue.burt@dnrm.qld.gov.au](mailto:sue.burt@dnrm.qld.gov.au)

30 Wood Street, Mackay, Q 4740  
PO Box 63, Mackay Q 4740

RTI DL RELEASE - DNRM

**Volume xx - Section 5.3.3 – Soils (Page-5-6)**

Issue

The department notes that 26 site have been described for the EIS process. These sites are located around the perimeter of the mining tenure. The soil observation sites have not been sited to enable an adequate assessment of soils across the tenure. The soil assessment has not been conducted in accordance with the Land Suitability Assessment Techniques in the Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland (DME, 1995).

Recommendation

Conduct a soil survey across the entire mining tenure to identify and characterise the soils and their properties in accordance with the requirements detailed within Land Suitability Assessment Techniques in the Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland (DME, 1995).

*Reviewing Officer – Sue Burt, Senior Natural Resource Management Officer*

**Volume xx - Section 5.3.4 – Land Suitability (Page-5-11)**

Issue

The soil survey has not been conducted to an acceptable standard, and therefore the subsequent land suitability assessment is also not acceptable.

Recommendation

Following the revised soil survey, reassess the land suitability in accordance with the Land Suitability Assessment Techniques in the Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland (DME, 1995).

*Reviewing Officer – Sue Burt, Senior Natural Resource Management Officer*

**Volume xx - Section 5.3.4.4 – Strategic Cropping Land Assessment (Page-5-13)**

Issue

The strategic cropping land assessment has not been undertaken in accordance with the requirements of the Strategic Cropping Land legislative framework. DNRM officer have met with representative of Springsure Creek Coal to discuss the requirements of the *Strategic Cropping Land Act, 2011*.

Recommendation

The Strategic Cropping Land requirements will be assessed parallel to the EIS process.

*Reviewing Officer – Sue Burt, Senior Natural Resource Management Officer*

**Volume EMP - Section Topsoil Salvage– Title (Page-18-34)**

Issue

The depth of topsoil stripping for each soil type present has not been assessed adequately.

Recommendation

Assess the topsoil stripping depths for each soil type following the completion of the soil and land suitability assessment.

*Reviewing Officer – Sue Burt, Senior Natural Resource Management Officer*

**Appendix A4-01 - Section Soil Results and SCL Report– Soil Field Summary**

Issue

Sites SB3, SB5, and SB12 have been incorrectly classified. These soils are not Vertosols

Recommendation

Reclassify using the Australian Soil Classification Revised Edition (Isbell 1996)

*Reviewing Officer – Sue Burt, Senior Natural Resource Management Officer*

RTI DL RELEASE - DNRM

**From:** Sander Errol [Errol.Sander@dnrm.qld.gov.au]

**Sent:** Thursday, 21 February 2013 1:11 PM

**To:** Smith Wedeena

**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS - RSVP's for 4 March Site Inspection

Hi Wedeena,

As discussed, no one from SCL will be attending this site visit, however I envisage we will more than likely organise something on our own down the track.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment*

*Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4( 6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines

22-30 Wood St, Mackay Q 4740

PO Box 63, Mackay Q 4740

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**From:** Smith Wedeena

**Sent:** Thursday, 21 February 2013 12:53 PM

**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna

**Cc:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Barley Rachel; Meacle Kristy; O'flynn Mick; Krosch Neil; Hambleton Alison; OSullivan Paul; Hoy Neil

**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS - RSVP's for 4 March Site Inspection

Hi All

We have has the hurry up on the RSVP's for the site inspection on 4 March. I understand that there are very limited places. At this stage the following have advised they will be attending:

1. Paul O'Sullivan (Tenure Administration – Mining and Petroleum);
2. Neil Hoy (Industry Liaison – Mining and Petroleum);
3. Neil Krosch (Mining and Petroleum); and
4. Alison Hambleton (Regional Planning and Coordination).

Can you please advise by **midday tomorrow (Friday 22 February 2013)** if you or someone from your group will be attending.

I understand that the itinerary for the day will be as follows:

07:30 a.m. Meet at the cafe inside Emerald Airport

07:40 a.m. Collect hire cars and depart for site

08:30 a.m. Introductions, H&S briefing then begin tour of Den-Lo Park (location of all proposed above-ground mine infrastructure

12:30 p.m. Lunch at Den-Lo Park Homestead

13:30 p.m. Depart Den-Lo Park

The consultants have advised that the site visit will only comprise a tour of Den-Lo Park. If you wish to access any other properties then the Department will have to make other arrangements with respective landowners.



Please call me if you have any issues.

Thank you

**Wedeen Smith**

senior natural resource officer | regional planning and coordination | department of natural resources and mines  
t: 07 4999 6914 | f: 4999 6903 | m: sch4p4(6) Personal information | e: [wedeen.smith@dnrm.qld.gov.au](mailto:wedeen.smith@dnrm.qld.gov.au)

Please note that I am at work part time – Wednesdays, Thursdays and Fridays

---

**From:** Smith Wedeen

**Sent:** Thursday, 14 February 2013 2:44 PM

**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna

**Cc:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Barley Rachel; Meacle Kristy; O'lynn Mick; Krosch Neil

**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS

Good afternoon

Copies of the EIS including shape files have now been uploaded to the Rockhampton and Mackay FTP drives.

[\\Mackay\GroupDir\ftp\Springsure Creek - EIS](#)

[\\Rockhampton\GroupDir\ftp\Springsure Creek - EIS](#)

As you are aware there are three agency briefings and site visits for this project:

1. Advisory Agencies' information session: Thursday 14 February 2013 – 12:00 pm until 2:00 pm at Bandanna Office, Level 4, 260 Queen Street, Brisbane
2. Advisory Agencies' site visit #1: Monday 18 February 2013, 10:00 am until 02:00 PM – meeting place to be advised – **RSVP to RP&C as soon as possible**
3. Advisory Agencies' site visit #2: Monday 4 March 2013, 10:00 am until 02:00 PM – meeting place to be advised – **RSVP to RP&C by Wed 27 February**

Please advise Regional Planning and Coordination ([DACoordinationMackay@dnrm.qld.gov.au](mailto:DACoordinationMackay@dnrm.qld.gov.au)) if you, or any of your team would like to attend the site meetings so that we can coordinate RSVP's on behalf of the Department. Please advise any special dietary requirements at the time.

Please also note that I work part time (Wednesday, Thursday and Friday).

Regards

**Wedeen Smith**

senior natural resource officer | regional planning and coordination | department of natural resources and mines  
t: 07 4999 6914 | f: 4999 6903 | m: sch4p4(6) Personal information | e: [wedeen.smith@dnrm.qld.gov.au](mailto:wedeen.smith@dnrm.qld.gov.au)

Please note that I am at work part time – Wednesdays, Thursdays and Fridays

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**From:** Mcclurg Andrew **On Behalf Of** DACoordinationMackay

**Sent:** Thursday, 14 February 2013 11:40 AM

**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna

**Cc:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Smith Wedeen; Barley Rachel; Meacle Kristy

**Subject:** RE: Request for comments: Springsure Creek Coal Mine EIS

My apologies all – neglected to include the comment template.

Please provide all comments on the attached document – if possible, including the volume / section / page # would be greatly appreciated.

Andrew McClurg  
Trainee Project Officer, Regional Planning and Coordination  
**Telephone:** 07 4999 6855 **VOIP:** 23855  
**Email:** [Andrew.McClurg@dnrm.qld.gov.au](mailto:Andrew.McClurg@dnrm.qld.gov.au)

[www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)  
Department of Natural Resources and Mines  
22-30 Wood Street, Mackay, QLD 4740

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**From:** McClurg Andrew **On Behalf Of** DACoordinationMackay  
**Sent:** Thursday, 14 February 2013 10:46 AM  
**To:** DACoordinationMackay; CWVegetationApplication; SCL North; CW Water Approvals Rockhampton; Irwin Malcolm; Andrews Joanna  
**Cc:** Alty Lana; Wyeth Jo; Sander Errol; Jones Mary-Anne; Dotter Stephen; Doig Barbara; Smith Wedeena; Barley Rachel; Meacle Kristy  
**Subject:** Request for comments: Springsure Creek Coal Mine EIS

Morning all,

This is a request for comments on the Environmental Impact Statement (EIS) for the Springsure Creek Coal Mine.

The EIS documents for this project are now available online and can be viewed on the following link:

<http://www.springsurecreekproject.com.au/project-development-and-approvals/springsure-creek-coal-mine-eis>

Please note: We have yet to receive a CD copy of the documents, so I have not saved the documents on the Mackay and Rockhampton FTP drives. Once they are received, they will be placed on these drives and we will send through notification of such.

A little background on the project:

- The Springsure Creek Coal Mine Project is located 47km southeast of Emerald and 37 km east of the township of Springsure in the Central Highlands Regional Council local government area
- The proponent for The Project is SSC, a wholly owned subsidiary of Bandanna Energy
- The Project comprises three components, of which only the underground mine is addressed in the EIS
- The underground mine is proposed to produce up to 11 million tonnes per annum of thermal coal, located within Mining Lease Application (MLA) area 70486
- The transport and infrastructure corridor including all associated infrastructure are considered subject to a separate approvals process and as such not considered within the EIS
- The train load out facility is also considered subject to a separate approvals process
- DNRM (as DERM) commented on the TOR for this project back in March 2011

Could you please send any comments your work unit has on this EIS by **COB Wednesday 20 March 2013** to [DACoordinationMackay@dnrm.qld.gov.au](mailto:DACoordinationMackay@dnrm.qld.gov.au)

If your business unit will **not** be making any comment, an email to that effect would be much appreciated.

**Agency Briefings:**

Please note Bandanna have planned agency briefings and site visits for this project:

Advisory Agencies' information session: Thursday 14 February 2013 – 12:00 pm until 2:00 pm at Bandanna Office, Level 4, 260 Queen Street, Brisbane

Advisory Agencies' site visit #1: Monday 18 February 2013, 10:00 am until 02:00 PM – meeting place to be advised

Advisory Agencies' site visit #2: Monday 4 March 2013, 10:00 am until 02:00 PM – meeting place to be advised

The RP&C coordinator for this project Weddeena Smith will be in contact with any interested parties shortly – our apologies for the short notice.

Should you have any matters you wish to discuss regarding this project, please don't hesitate to contact the coordinator, Weddeena on (4999 6914).

Cheers

Andrew McClurg  
Trainee Project Officer, Regional Planning and Coordination  
**Telephone:** 07 4999 6855 **VOIP:** 23855  
**Email:** [Andrew.McClurg@dnrm.qld.gov.au](mailto:Andrew.McClurg@dnrm.qld.gov.au)

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Department of Natural Resources and Mines  
22-30 Wood Street, Mackay, QLD 4740

RTI DL RELEASE - DNRM

**From:** Sander Errol [Errol.Sander@dnrm.qld.gov.au]  
**Sent:** Thursday, 7 March 2013 9:59 AM  
**To:** Riethmuller Jason  
**Subject:** could you please give me a call

Hi Jason,

When you get 5 could you please give me a call about Springsure creek coal mine.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal Information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

RTI DL RELEASE - DNRM

**From:** Sander Errol [Errol.Sander@dnrm.qld.gov.au]

**Sent:** Thursday, 7 March 2013 4:53 PM

**To:** Riethmuller Jason; Haenfler Anita; Donaghy Peter

**Subject:** Springsure Creek Coal Mine SCL Brief

**Attachments:** attachment 3 - SCL trigger map.pdf; Draft DG brief\_springsure creek 20130307.doc; Attachment 1 - Map EPC891 and MLA70486.pdf; Attachment 2 - Rail infrastructure.pdf

Hi Jason, Anita and Peter,

Attached is a draft brief to the DG in relation to the Springsure Creek Coal Mine and their SCL requirements. I'd appreciate your feedback and suggestions if there is anything more you think I should add. Peter, could you please check my terminology around mining leases etc, and also the numbers and related dates for their MLA.

If you wouldn't mind getting back to me sometime Monday, although I you're all busy, that'd be great.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment*

*Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal Information **Facsimile** 4999 6904

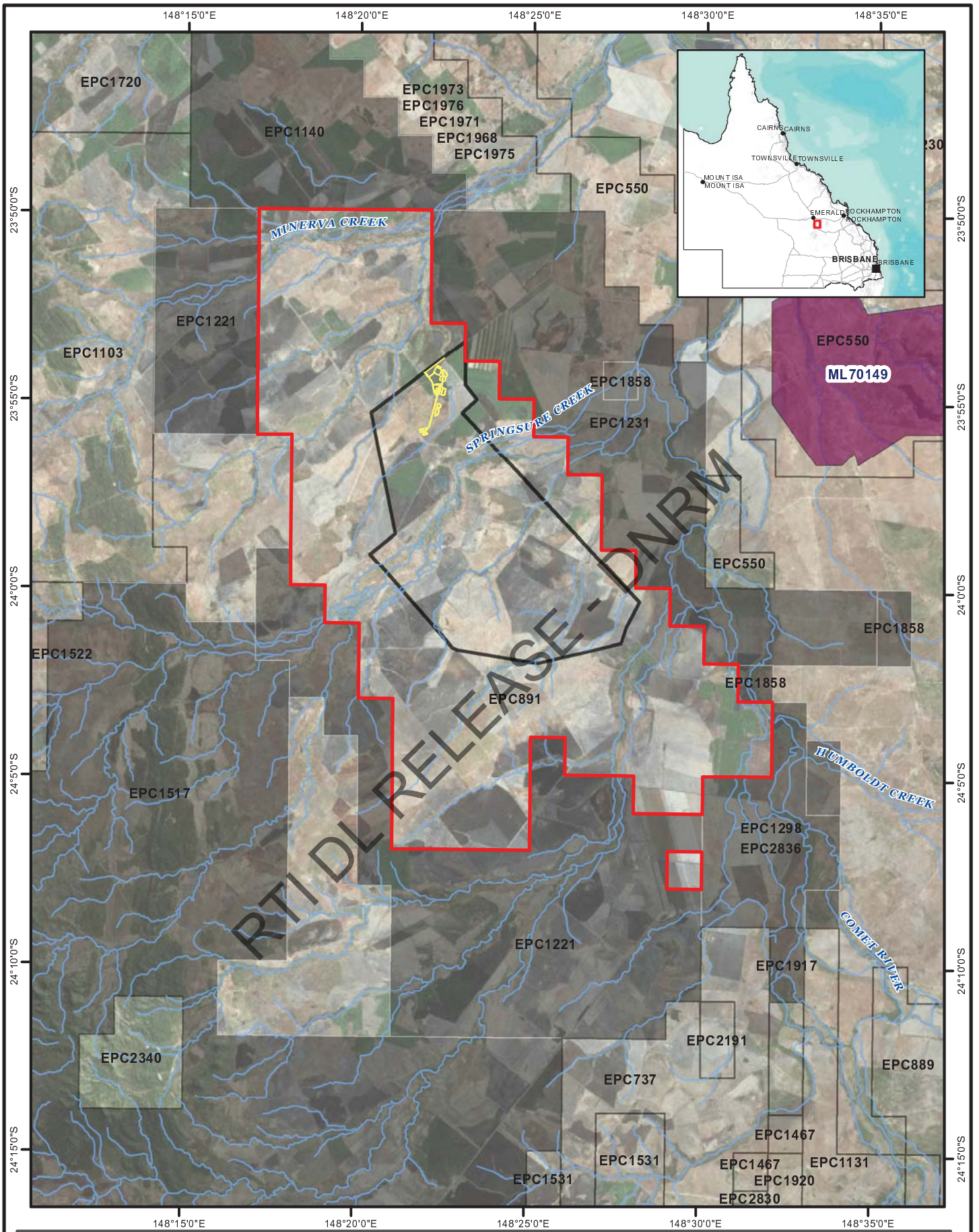
Department of Natural Resources and Mines

22-30 Wood St, Mackay Q 4740

PO Box 63, Mackay Q 4740

RTI DL RELEASE - DNRM





**Figure 3-8 Coal mining tenements surrounding the Project**

Key	
	MIA
	MLA 70486
	Watercourse
	EPC 891
	Mining Lease (ML)
	Coal Exploration Permit (EPC)
	Adjacent EPC's

**Data Source:**  
 Tenements by DNRM, 24/11/2012;  
 Watercourses from Geofabric v2,  
 © Commonwealth of Australia  
 (Bureau of Meteorology) 2011;  
 Image from Bing Maps, 2011.

Job: B11560\_124-R2\_CoalTenure  
 Date: 29/11/2012

**Scale**  
 1:250,000

Metres  
 0 2,500 5,000

**DISCLAIMER**  
 CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map.

**SPRINGSURE CREEK** **CDM Smith**  
 cdmsmith.com



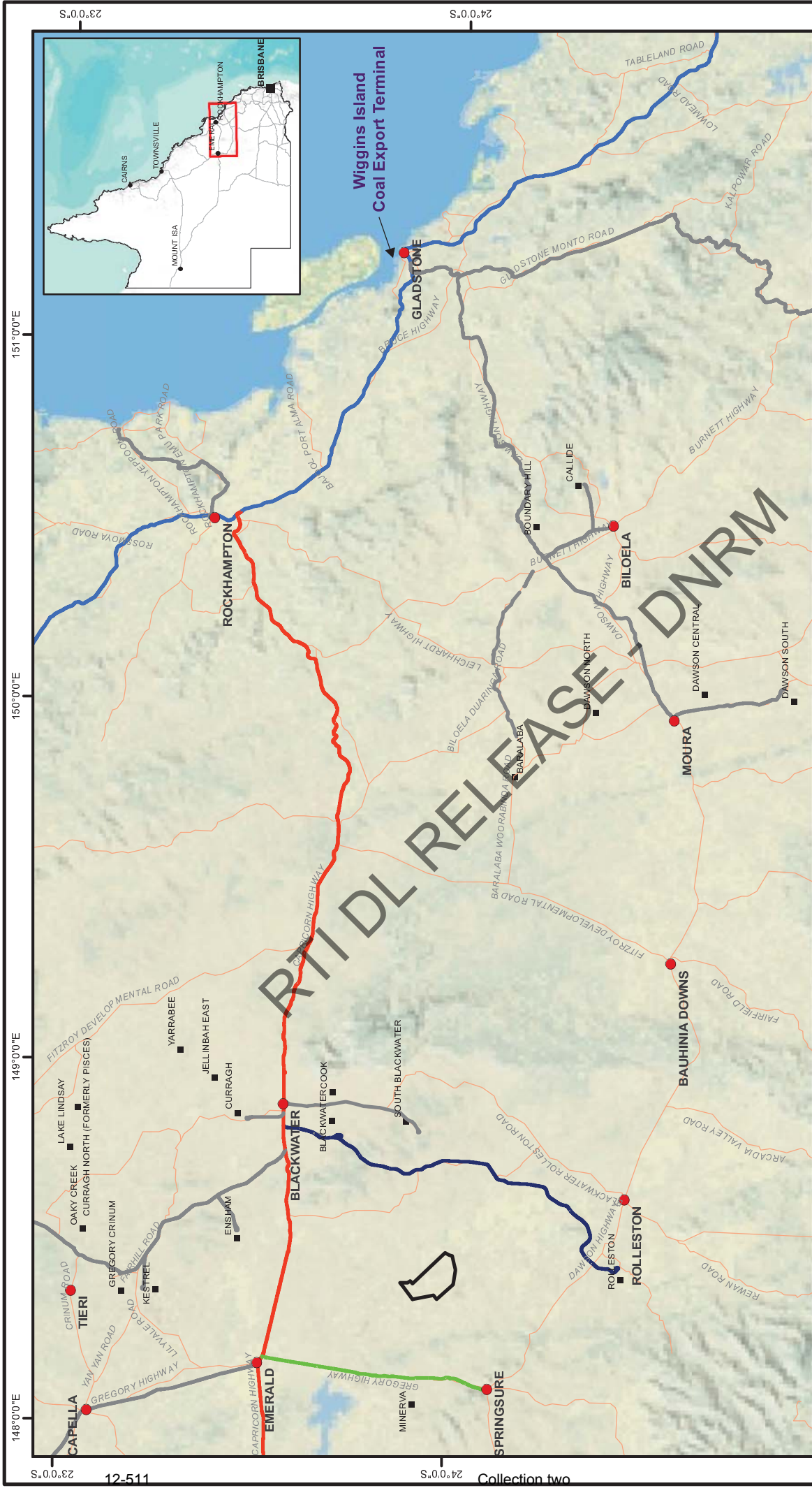


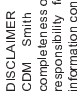
Figure 6-4 Existing rail network and port

Key

- Operating Mine
- Road
- MLA 70486
- Blackwater System
- Bauhinia Branch Line
- North Coast Rail Line
- Springsure Branch
- Other railway line

Scale

1:1,500,000

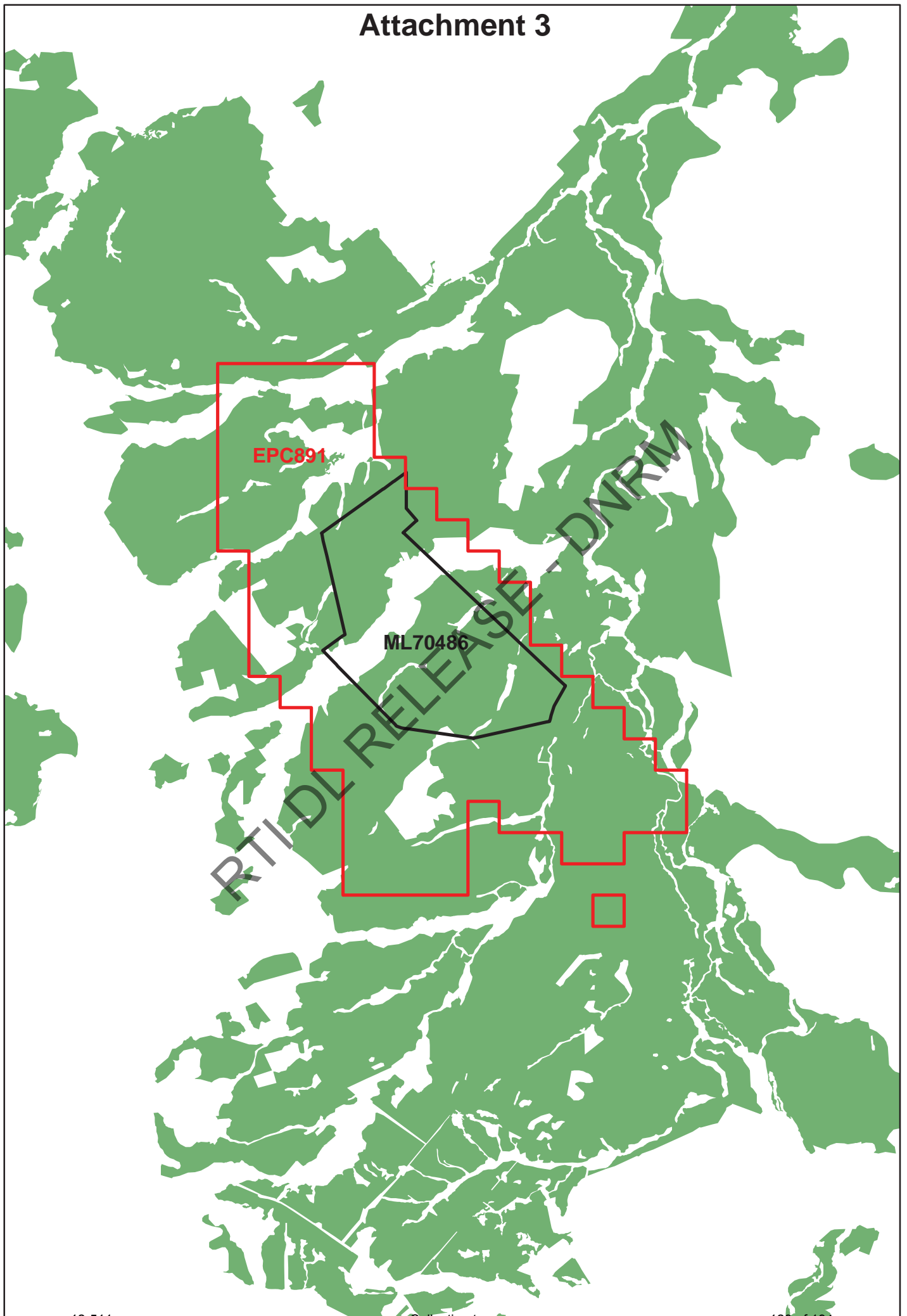


DISCLAIMER  
CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map.

Data Source:  
DERM, 2010;  
Geoscience Australia  
Image from Bing Maps, 2011.  
Job: B11560\_159-R1\_railway  
Date: 17/01/2013



# Attachment 3





To: Dan Hunt  
Director-General  
Natural Resources and Mines  
  
From: Sue Ryan  
Deputy Director-General  
Service Delivery

<b>Approved / Not Approved / Noted</b> <b>Further information required</b>
..... <b>Director-General</b> <b>Dated</b> ...../...../.....

Endorsed: John Skinner, Deputy Director-General, Mining and Petroleum  
Darren Moor, A/Executive Director - Central Region, Service Delivery

7 March 2013

**Bandanna Energy – Springsure Creek Coal Mine Project Strategic Cropping Land Requirements**

**Recommendation**

- It is recommended that the Director-General:
  - note** the strategic cropping land (SCL) requirements Bandanna Energy (Bandanna) will be required to meet for its Springsure Creek Coal Mine Project.
  - note** that a mining lease for transportation through land, which is required to enable Bandanna to transport coal from the mine project area to a rail line, does not meet any transitional provisions in the *Strategic Cropping Land Act 2011* (SCL act).

**Timing**

- Non Urgent – no timeframes currently need to be met

**Background**

- The Springsure Creek Coal Mine Project is located within the Central Protection Area under the SCL framework.
- EIS dated February 2013 submitted for the Springsure Creek Coal Mine Project
- Mining Lease Application (MLA) 70486 lodged 19 October 2012 which relates to EPC 891.
- MLA for transportation through land (s316 MRA) not yet submitted which is required for a haul road and rail load out facility to transport coal from the Mine site to the Bauhinia rail line. Bandanna Energy (Bandanna) have indicated a further EIS will be required for the transport corridor which will does not result from the finalised EIS TOR relating to EPC 891, published 2 June 2011.
- Section 289 and 290 of the SCL Act provide transitional provisions for a future mining lease and environmental authority relating to EPC891
- No SCL applications have been submitted to date, however a preliminary meeting between Bandanna and DNRM SCL regional staff occurred on 6 March 2013 to discuss SCL requirements for the project.
- Bandanna is likely to lodge a validation application in the near future. Preliminary Information in the EIS and existing DNRM data indicate the majority of the site is likely to be SCL.
- Section 289 of the SCL Act provides for an exemption from the permanent impact restriction for any related Environmental Authority (EA) and Mining Lease (ML) related to EPC 891. It also provides for that exemption to apply only to resource activities under an EIS resulting from finalised EIS TOR relating to EPC 891, published on 2 June 2011.
- DNRM considers the MLA for mining project meets both tests of s289, however a MLA for the transport corridor meets neither. Bandanna indicated the same view at the 6 March 2013 meeting.

Mine project area

- The mining project includes underground mining (longwall) and related surface infrastructure, which may or may not be located on SCL depending on final layout and SCL validation.

13. A SCL protection decision will be required for resource activities of the mining project ML and EA. Section 290 ss2 and 3 state conditions which must be imposed on the ML and EA respectively.
14. Section 290, ss5 of the SCL Act states that the imposed conditions do not limit or otherwise affect power to impose other protection conditions that are not inconsistent.
15. The protection decision application for the mining project will be assessed in line with the SCL act. Bandanna will have to demonstrate:
  - they've avoided SCL to the greatest extent practicable,
  - minimised the impacts where they can't be avoided,
  - whether the impacts are temporary or permanent,
  - for temporary impacts, how the SCL will be restored to it's pre-development condition,
  - mitigate all permanent impacts.
16. Whether the underground mining and resultant subsidence constitutes a temporary or permanent impact will be determined based on the information provided by the applicant. In particular whether they can demonstrate the area affected by subsidence can be restored to pre-development condition and that full restoration can be achieved within 50 years.
17. If underground is deemed to be a temporary impact there will be other protection conditions imposed on the EA to ensure restoration. If the impact is permanent mitigation will be required. The project is located in the Central Highlands - Isaac sub zone which has a current mitigation rate of \$4750 per hectare of permanently impacted SCL.

#### Transport Corridor Area

18. The transport corridor doesn't have the exemption from the permanent impact restriction, so any resource activities permanently impacting SCL will need to be decided as being in Exception Circumstances (EC) under s133(2) of the SCL act.
19. Bandanna have indicated they are proposing a 40 metre wide haul road and a rail load out facility to transport the coal from the mine to the Baubinia rail line. Previous protection decisions have determined haul roads to be a permanent impact due to the extensive soil disturbance during construction and the impact from large mining trucks continuously driving along the road for a long period of time.
20. If an EC application is lodged, it must be decided by the Minister for Natural Resources and Mines.
21. The criteria for making the decision is specified in sections 134 and 135 of the SCL act, and includes a determination of significant community benefit and there being no alternative site.
22. Should the decision be that exceptional circumstances do not apply to the development, and for the protection decision, the resource activities are determined to have a permanent impact, then s94 of the SCL act requires that an EA for the resource activities cannot be issued.
23. This situation would likely be a showstopper for the entire project, as Bandanna will not have a means of transporting the coal from the mine to the railway.

#### **Attachments**

24. **Attachment 1:** Map of Area of EPC891 and MLA 70486  
**Attachment 2:** Map of MLA70486 and existing rail infrastructure.  
**Attachment 3:** Map of EPC891 and MLA70486 over SCL trigger map

#### **Clearance**

25. Peter Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations has been consulted in developing this brief

#### **Next Steps** *(delete if not applicable).*

26. DNRM service delivery will continue to consult with Bandanna through the SCL process.

Action Officer: Errol Sander  
Telephone: 4999 6969

**Director-General - Natural Resources and Mines**

**Comments:**

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RTI DL RELEASE - DNRM

RTI DL RELEASE - DNRM

**From:** Sander Errol [Errol.Sander@dnrm.qld.gov.au]  
**Sent:** Tuesday, 12 March 2013 11:07 AM  
**To:** McMullen Jamie  
**Subject:** RE: FOR ACTION: Springsure Creek Coal Mine SCL Brief

Hi Jamie,

That's no worries.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

---

**From:** McMullen Jamie  
**Sent:** Monday, 11 March 2013 2:50 PM  
**To:** Sander Errol  
**Subject:** RE: FOR ACTION: Springsure Creek Coal Mine SCL Brief

Hi Errol

Anita is away today and tomorrow, so she wanted me to let you know we'll have a squiz at the brief but unfortunately won't be able to get our feedback to you until Wednesday sorry.

Cheers

Jamie McMullen  
Policy Officer  
Land and Mines Policy  
**Department of Natural Resources and Mines**  
Level 7, 61 Mary Street Brisbane, Queensland 4000  
PO Box 15216, City East, Queensland 4002  
**Tel:** +61 7 3237 1426  
**Email:** [Jamie.McMullen@dnrm.qld.gov.au](mailto:Jamie.McMullen@dnrm.qld.gov.au)  
**Web:** [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)

---

**From:** Sander Errol  
**Sent:** Thursday, 7 March 2013 4:53 PM  
**To:** Riethmuller Jason; Haenfler Anita; Donaghy Peter  
**Subject:** Springsure Creek Coal Mine SCL Brief

Hi Jason, Anita and Peter,

Attached is a draft brief to the DG in relation to the Springsure Creek Coal Mine and their SCL requirements. I'd appreciate your feedback and suggestions if there is anything more you think I should add. Peter, could you please check my terminology around mining leases etc, and also the numbers and related dates for their MLA.

If you wouldn't mind getting back to me sometime Monday, although I you're all busy, that'd be great.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

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PO Box 63, Mackay Q 4740

RTI DL RELEASE - DNRM

**From:** Sander Errol [Errol.Sander@dnrm.qld.gov.au]  
**Sent:** Tuesday, 19 March 2013 8:26 AM  
**To:** DONAGHY Peter  
**Subject:** RE: Springsure Creek Coal Mine SCL Brief

Thanks Peter,

When you get a chance today, could you please give me a quick call. I'd just like to clarify for myself your second dot point.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

---

**From:** Donaghy Peter  
**Sent:** Monday, 18 March 2013 4:55 PM  
**To:** Sander Errol  
**Subject:** RE: Springsure Creek Coal Mine SCL Brief

Hi Errol

I've had a read and would offer the following comments:

1. In the second dot point of the recommendation refer to a Section 316 mining lease application for transportation through land.
2. Your last dot point on page 2 isn't actually correct. If the S316 is knocked back (and I agree with you this will be hard to overcome) the company still has the ability to seek an amendment to the EIS to deal with transportation of coal by road. I suspect this would be just as difficult as overcoming the SCL requirements, however it is an option available to them.

Happy to discuss tomorrow.

**Peter Donaghy**

Regional Director Mines - Central

**Department of Natural Resources and Mines**

25 Yeppoon Road, Parkhurst, Queensland 4701

PO Box 3679, Red Hill Qld 4701

**Telephone:** +61 7 49360367 **Facsimile:** +61 7 49384310 **Mobile:** sch4p4(6) Personal information

**Email:** [peter.donaghy@dnrm.qld.gov.au](mailto:peter.donaghy@dnrm.qld.gov.au)

**Website - CQ Mining Information:** <http://mines.industry.qld.gov.au/mining/central-qld-info-maps.htm>

---

**From:** Sander, Errol  
**Sent:** Thursday, 7 March 2013 4:53 PM  
**To:** Riethmuller, Jason; Haenfler, Anita; Donaghy Peter  
**Subject:** Springsure Creek Coal Mine SCL Brief

Hi Jason, Anita and Peter,

Attached is a draft brief to the DG in relation to the Springsure Creek Coal Mine and their SCL requirements. I'd appreciate your feedback and suggestions if there is anything more you think I should add. Peter, could you please check my terminology around mining leases etc, and also the numbers and related dates for their MLA.

If you wouldn't mind getting back to me sometime Monday, although I you're all busy, that'd be great.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment*

*Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

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PO Box 63, Mackay Q 4740

RTI DL RELEASE - DNRM



**From:** Sander Errol [Errol.Sander@dnrm.qld.gov.au]  
**Sent:** Tuesday, 19 March 2013 12:45 PM  
**To:** Haenfler Anita  
**Subject:** RE: FOR ACTION: Springsure Creek Coal Mine SCL Brief (LARP feedback)

No worries Anita,

I'll update it. After talking to Peter Donaghy from mines, I wasn't quite correct in the showstopper comment... there are other options such as transporting the coal by road using their mine access and existing road network. I'm just making the changes at the moment so it'll be in MECS soonish.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

---

**From:** Haenfler Anita  
**Sent:** Tuesday, 19 March 2013 11:46 AM  
**To:** Sander Errol  
**Cc:** Squire Warwick; McMullen Jamie  
**Subject:** FOR ACTION: Springsure Creek Coal Mine SCL Brief (LARP feedback)  
**Importance:** High

Hi Errol

Sorry to send more comments through on the Bandanna brief – but I think we need to make it clear that Land and Mines Policy has been consulted in preparing the brief and get Bernadette Ditchfield to endorse also.

If you are happy with the content, and once it is loaded onto MECS, can you include us on the MECS item and we will organise for Bernadette to endorse the 'final' version of the brief.

Many thanks

Regards

**Anita Haenfler**

Manager  
Land and Mines Policy  
Department of Natural Resources and Mines  
**Phone:** [07] 3895 3924  
**Fax:** [07] 3227 7433  
**Email:** [Anita.Haenfler@dnrm.qld.gov.au](mailto:Anita.Haenfler@dnrm.qld.gov.au)  
**Post:** PO Box 15216, City East Qld 4002

---

**From:** McMullen Jamie  
**Sent:** Friday, 15 March 2013 11:56 AM  
**To:** Sander Errol  
**Cc:** Haenfler Anita  
**Subject:** FOR INFO: Springsure Creek Coal Mine SCL Brief (LARP feedback)

Hey Errol

Sorry for taking so long to get back to you, has been a busy, busy week.

I've attached some feedback on the Bandanna Spring Creek DG brief in track changes. Note, the track changes looks more significant than what they really are – I mainly added in some background/context stuff at the start to lead in, and then did some re-ordering of the existing text which makes it look like I changed a lot. Other than that just minor amendments really.

Happy to discuss if need be.

Cheers!

Jamie McMullen  
Policy Officer  
Land and Mines Policy  
**Department of Natural Resources and Mines**  
Level 7, 61 Mary Street Brisbane, Queensland 4000  
PO Box 15216, City East, Queensland 4002  
**Tel:** +61 7 3237 1426  
**Email:** [Jamie.McMullen@dnrm.qld.gov.au](mailto:Jamie.McMullen@dnrm.qld.gov.au)  
**Web:** [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)

---

**From:** Sander Errol  
**Sent:** Tuesday, 12 March 2013 11:07 AM  
**To:** McMullen Jamie  
**Subject:** RE: FOR ACTION: Springsure Creek Coal Mine SCL Brief

Hi Jamie,

That's no worries.

Cheers

**Errol Sander**  
*Project Manager, Property Planning & Assessment  
Central Region*  
**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

---

**From:** McMullen Jamie  
**Sent:** Monday, 11 March 2013 2:50 PM  
**To:** Sander Errol  
**Subject:** RE: FOR ACTION: Springsure Creek Coal Mine SCL Brief

Hi Errol

Anita is away today and tomorrow, so she wanted me to let you know we'll have a squiz at the brief but unfortunately won't be able to get our feedback to you until Wednesday sorry.

Cheers

Jamie McMullen  
Policy Officer  
Land and Mines Policy  
**Department of Natural Resources and Mines**  
Level 7, 61 Mary Street Brisbane, Queensland 4000  
PO Box 15216, City East, Queensland 4002  
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**Web:** [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)

---

**From:** Sander Errol  
**Sent:** Thursday, 7 March 2013 4:53 PM  
**To:** Riethmuller Jason; Haenfler Anita; Donaghy Peter  
**Subject:** Springsure Creek Coal Mine SCL Brief

Hi Jason, Anita and Peter,

Attached is a draft brief to the DG in relation to the Springsure Creek Coal Mine and their SCL requirements. I'd appreciate your feedback and suggestions if there is anything more you think I should add. Peter, could you please check my terminology around mining leases etc, and also the numbers and related dates for their MLA.

If you wouldn't mind getting back to me sometime Monday, although I you're all busy, that'd be great.

Cheers

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

RTI DL RELEASE - DNRM

**From:** Sander Errol [Errol.Sander@dnrm.qld.gov.au]

**Sent:** Tuesday, 19 March 2013 1:23 PM

**To:** Riethmuller Jason

**Subject:** Springsure Creek DG Brief

**Attachments:** DG brief\_Springsure creek\_20130319.doc; Attachment 1 - Map EPC891 and MLA70486.pdf; Attachment 2 - Rail infrastructure.pdf; attachment 3 - SCL trigger map.pdf

<<...>> Hi <<...>> J <<...>> as <<...>> on,

I've run this past Peter Donaghy and Anita Haenfler and incorporated their comments (although we'll still gain their or their groups endorsement as it passes through a few more hands).

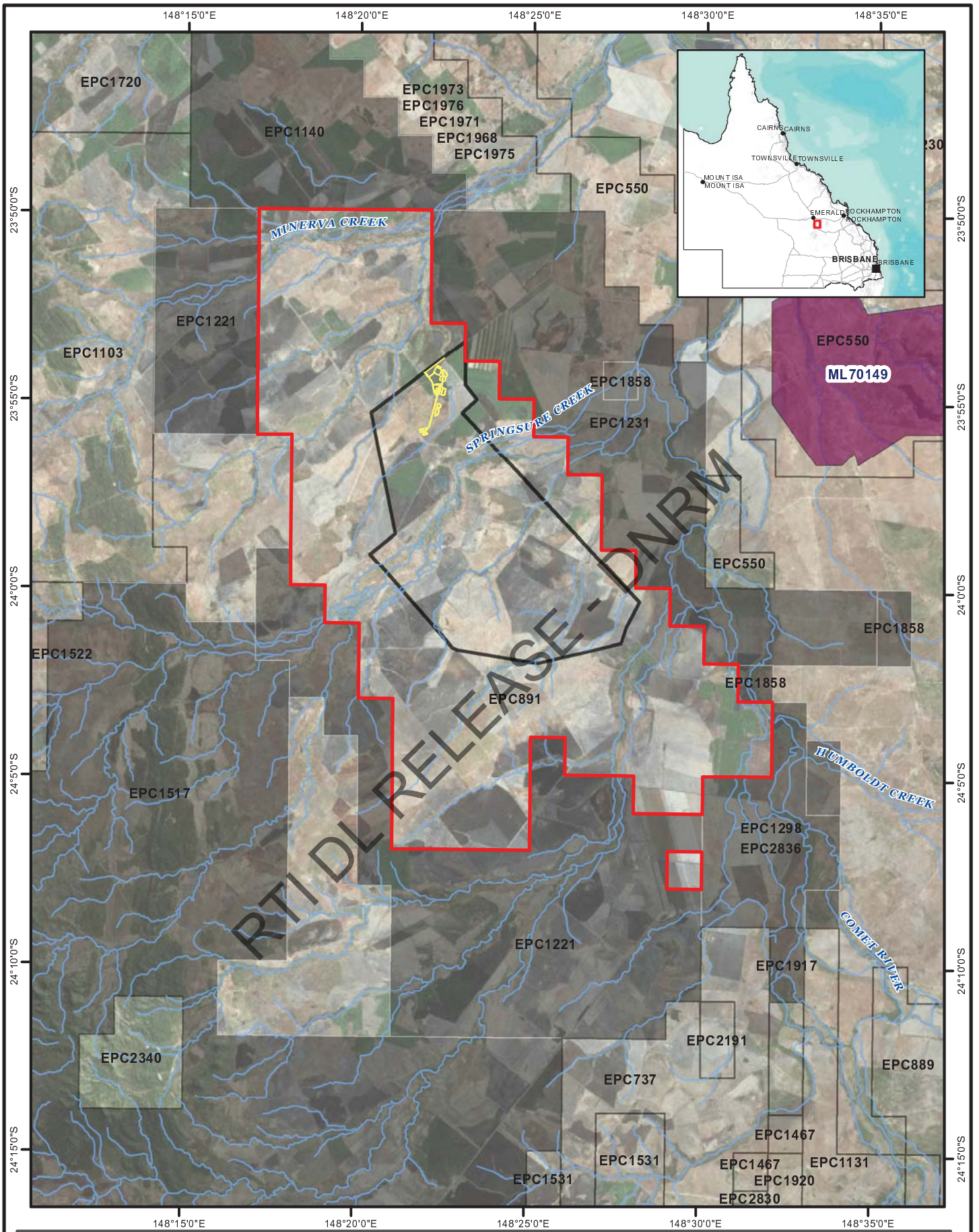
Do you want me to get it loaded into MECS and then assign it to you or are you happy to look at it first?

Cheers

Errol







RTI DL RELEASE - DNRM





**Figure 3-8 Coal mining tenements surrounding the Project**

**Key**


-  MIA
-  MLA 70486
-  Watercourse
-  EPC 891
-  Mining Lease (ML)
-  Coal Exploration Permit (EPC)
-  Adjacent EPC's

**Data Source:**  
 Tenements by DNRM, 24/11/2012;  
 Watercourses from Geofabric v2,  
 © Commonwealth of Australia  
 (Bureau of Meteorology) 2011;  
 Image from Bing Maps, 2011.



Job: B11560\_124-R2\_CoalTenure  
 Date: 29/11/2012

**Scale**  
 1:250,000

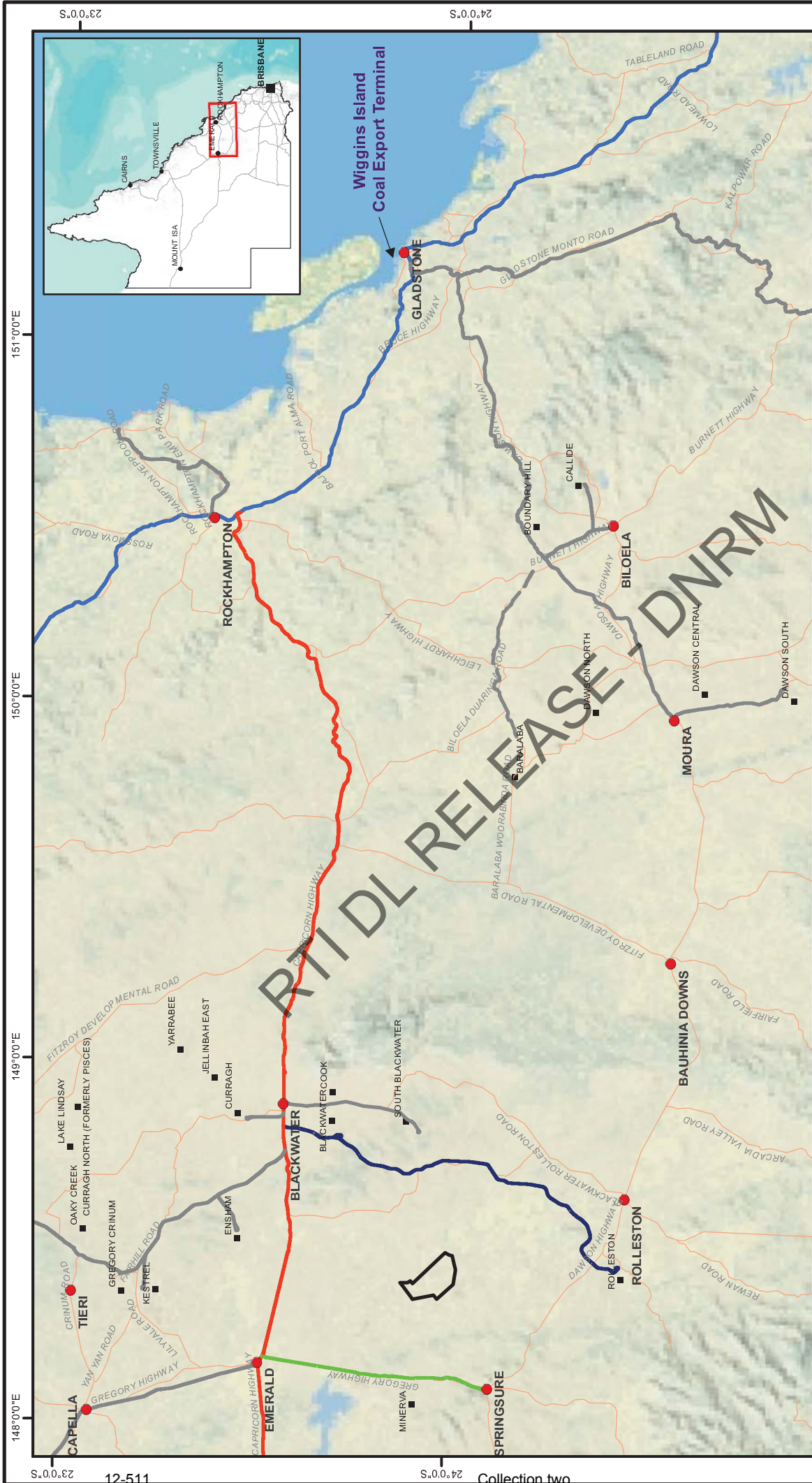
Metres  
 0 2,500 5,000



**DISCLAIMER**  
 CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map.





**Figure 6-4 Existing rail network and port**

**Key**

- Operating Mine
- Road
- MLA 70486
- Railway system
  - Blackwater System
  - Bauhinia Branch Line
  - North Coast Rail Line
  - Springsure Branch
  - Other railway line

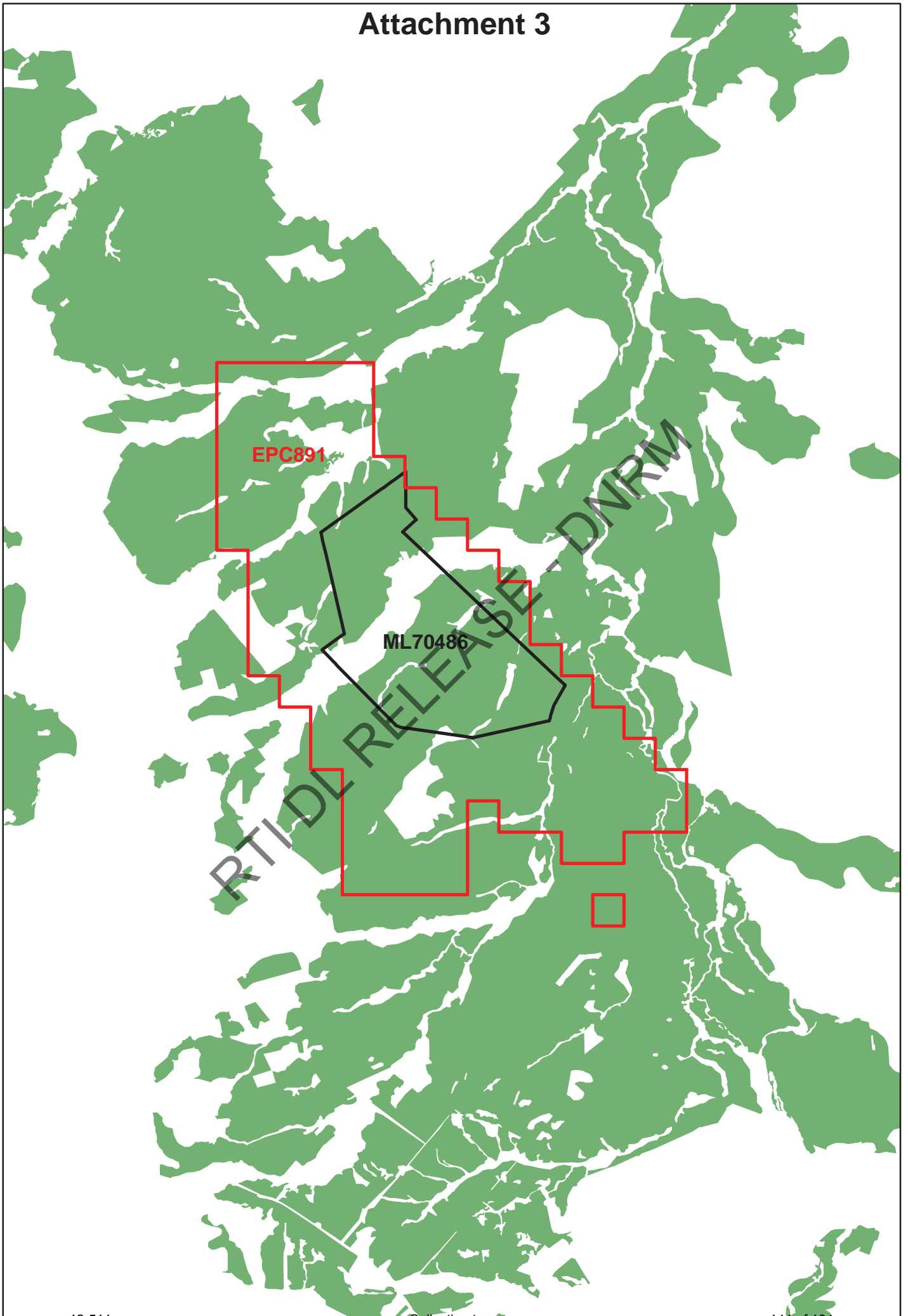
**Scale**  
1:1,500,000

**DISCLAIMER**  
CDM Smith has endeavoured to ensure accuracy and completeness of the data. CDM Smith assumes no legal liability or responsibility for any decisions or actions resulting from the information contained within this map.

**Data Source:**  
DERM, 2010;  
Geoscience Australia  
Image from Bing Maps, 2011.  
Job: B11560\_159-R1\_railway  
Date: 17/01/2013

**SPRINGSURE CREEK**  
**CDM Smith**  
cdmsmith.com

# Attachment 3



To: Dan Hunt  
 Director-General  
 Natural Resources and Mines

From: Sue Ryan  
 Deputy Director-General  
 Service Delivery

<p><b>Approved / Not Approved / Noted</b>  <b>Further information required</b></p> <p>.....</p> <p><b>Director-General</b></p> <p><b>Dated</b> ...../...../.....</p>
--

Endorsed: John Skinner, Deputy Director-General, Mining and Petroleum  
 Darren Moor, A/Executive Director - Central Region, Service Delivery  
 Bernadette Ditchfield, A/Executive Director, Land and Mines Policy  
 Peter Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations

**19 March 2013**

**Bandanna Energy – Springsure Creek Coal Mine Project Strategic Cropping Land Requirements**

**Recommendation**

1. It is recommended that the Director-General:
  - **note** the strategic cropping land (SCL) requirements Bandanna Energy (Bandanna) will be required to meet for its Springsure Creek Coal Mine Project.
  - **note** that a mining lease for transportation through land, under section 316 of the *Mineral Resources Act 1989*, which is required to enable Bandanna to transport coal from the mine project area to a rail line, does not meet any transitional provisions in the *Strategic Cropping Land Act 2011* (SCL Act).

**Timing**

2. Non Urgent – no timeframes currently need to be met.

**Background**

3. Bandanna’s Springsure Creek Coal Project is located within the Central Protection Area under the SCL framework.
4. Under the SCL Act, land that is confirmed as SCL in a Protection Area cannot be permanently impacted by a development (except in limited exceptional circumstances).
5. The previous government included specific transitional provisions in the SCL Act (sections 289-290) regarding Bandanna’s Springsure Creek coal project which is the subject of an existing exploration permit for coal number 891 (EPC891).
6. Those sections of the SCL Act provide transitional provisions for a future mining lease and environmental authority relating to EPC891, provided the mining lease application relates to EPC891 and is for resource activities under an Environmental Impact Statement (EIS) resulting from the finalised EIS terms of reference published on 2 June 2011.
7. Specifically, the transitional provisions state that no open-cut mining can be carried out under the lease, and the environmental authority holder must use all reasonable endeavours to rehabilitate all impacts on the land from underground coal mining carried out under the lease.
8. In February 2013 Bandanna submitted the Springsure Creek Coal Project’s EIS for public notification.
9. A Mining Lease Application (MLA) 70486 was lodged on 19 October 2012 which relates to EPC 891.
10. A separate MLA for a transport corridor through land (required for a haul road and rail load out facility to transport coal from the mine site to the Bauhinia rail line) has not yet been submitted. Bandanna has indicated a further EIS will likely be required for the transport corridor which does not result from the finalised EIS TOR relating to EPC 891, published 2 June 2011.
11. No SCL applications have been submitted to date, however a preliminary meeting between Bandanna and Department of Natural Resources and Mines (DNRM) SCL regional staff occurred on 6 March 2013 to discuss SCL requirements for the project.



12. Bandanna is likely to lodge a validation application in the near future. Preliminary Information in the EIS and existing DNRM data indicate the majority of the site is likely to be SCL.
13. DNRM considers MLA70486 meets the requirements of s289 of the SCL Act for transitional status, and is therefore exempt from the permanent impact restriction.
14. DNRM considers any future MLA lodged for the transport corridor will not be eligible for transitional status under the SCL Act, as it does not relate to an EIS resulting from the finalised EIS Terms of Reference relating to EPC 891 published on 2 June 2011. Bandanna indicated the same view at the 6 March 2013 meeting with DNRM SCL regional staff.

Springsure Creek Mine project area

15. The mining project includes underground mining (long wall) and related surface infrastructure, which may or may not be located on SCL depending on final layout and results of SCL validation.
16. An SCL protection decision will be required for resource activities of the mining project ML and EA. Section 290(2) and 290(3) state conditions which must be imposed on the ML and EA respectively.
17. Section 290(5) of the SCL Act states that the imposed conditions do not limit or otherwise affect power to impose other SCL protection conditions that are not inconsistent with the conditions imposed by sections 290(2) and 290(3).
18. The SCL protection decision application for the mining project will be assessed in line with the SCL Act. Bandanna will be required to demonstrate:
  - They have avoided SCL to the greatest extent practicable
  - They have minimised the impacts where they cannot be avoided
  - Whether the impacts are temporary or permanent
  - For temporary impacts, how the SCL will be restored to its pre-development condition
  - For permanent impacts, mitigation in accordance with the SCL Act.
19. Whether the underground mining and resultant subsidence constitutes a temporary or permanent impact will be determined based on the information provided by the applicant. In particular, whether they can demonstrate the area affected by subsidence can be restored to pre-development condition and that full restoration can be achieved within 50 years.
20. If underground mining operations for the Springsure Creek coal project are deemed a temporary impact, there will be other SCL protection conditions imposed on the EA to ensure restoration. If the impact is permanent, mitigation will be required. The project is located in the Central Highlands-Isaac sub zone which has a current mitigation rate of \$4750 per hectare of permanently impacted SCL.

Transport Corridor Area

21. The transport corridor does not have the exemption from the permanent impact restriction, so any resource activities permanently impacting SCL will need to be decided as being in Exceptional Circumstances (EC) under s133(2) of the SCL Act.
22. Bandanna have indicated they are proposing a 40 metre wide haul road and a rail load out facility to transport the coal from the mine to the Bauhinia rail line. Previous SCL protection decisions have determined haul roads to be a permanent impact due to the extensive soil disturbance during construction, and the impact from large mining trucks continuously driving along the road for a long period of time.
23. If an EC application under the SCL Act is lodged, it must be decided by the Minister for Natural Resources and Mines.
24. The criteria for making the decision is specified in sections 134 and 135 of the SCL Act, and includes a determination of significant community benefit and there being no alternative site.
25. Should the decision be that EC does not apply to the development, and for the SCL protection decision the resource activities are determined to have a permanent impact, then s94 of the SCL Act requires that an EA for the resource activities cannot be issued.
26. This situation would likely result in the s316 Mining Lease not being issued, however there are other options that could be considered by Bandanna such as transporting the coal by road.

**Attachments**

27. **Attachment 1:** Map of Area of EPC891 and MLA 70486  
**Attachment 2:** Map of MLA70486 and existing rail infrastructure.

**Attachment 3:** Map of EPC891 and MLA70486 over SCL trigger map

**Clearance**

- 28. Peter Donaghy, Regional Director Mines – Central, Mining and Petroleum Operations has been consulted in developing this brief.
- 29. Land and Mines Policy have also been consulted in developing this brief.

**Next Steps**

- 30. DNRM service delivery will continue to consult with Bandanna through the SCL process.

**Sue Ryan**

Action Officer: Errol Sander  
Telephone: 4999 6969

**Director-General - Natural Resources and Mines**

**Comments:**

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RTI DL RELEASE - DNRM

Pages 148 through 153 redacted for the following reasons:  
-----  
sch3( 6)(c)(i) Infringe the privileges of Parliament

**From:** Sander Errol [Errol.Sander@dnrm.qld.gov.au]  
**Sent:** Wednesday, 22 May 2013 11:58 AM  
**To:** Binns Peter  
**Subject:** FW: Agenda  
**Attachments:** Springsure Creek Haul Road - GTES SCL Prp.pdf

FYI

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

---

**From:** Pete Jones [mailto:PeteJones@bandannaenergy.com.au]  
**Sent:** Wednesday, 22 May 2013 10:39 AM  
**To:** Sander Errol  
**Cc:** Neil Dale; Stuart Clarke  
**Subject:** Agenda

Hi Errol,

Confirming our proposed agenda for meeting tomorrow:

- Update on project progress from Bandanna
- Update on SCL studies at EPC 891
- Discussion on proposed SCL studies for infrastructure corridor and train load out (please see attached methodology for DNRM's comment)
- Discussion of approval pathways, timing, and information requirements.

Stuart Clark, Neil Dale, Graham Tuck and myself will be in attendance.

We look forward to meeting you at 10:30.

Many thanks,  
Pete

**Pete Jones**

*Environmental Approvals Coordinator*

**BANDANNA ENERGY LIMITED**

Telephone No: 07 3041 4400

Direct No: 07 3041 4434

Fax No: 07 3041 4444

Email: [petejones@bandannaenergy.com.au](mailto:petejones@bandannaenergy.com.au)

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Proposal – Springsure Creek Project –  
Haul Road and Train Load out  
Soils and Strategic Cropping Land  
Assessment

Bandana Energy Limited  
23 April 2013



GT Environmental Services Pty Ltd  
10 Cressbrook Street  
Eight Mile Plains QLD 4113  
[www.gtenvironmental.com.au](http://www.gtenvironmental.com.au)

## SCOPE OF WORK

---

GT Environmental Services Pty Ltd (GTES) are pleased to present this proposal to Bandana Energy Limited for the Springsure Creek Coal Mine Project (the project) haul road and train load out and is tied in with the Rolleston line in partnership with Acacia Coal for a shared trainload. This proposal is for a soils land suitability and Strategic Cropping Land (SCL) assessment to facilitate lodging an application under the Strategic Cropping Land Act 2001. This project will supplement the GTES proposal 'Springsure Creek Project Strategic Cropping Land Assessment, 20 February 2012

The project leads to Mining Lease Application (MLA) 70486 which is approximately 10,736 hectares (ha) and located 47 km southeast of Emerald in the Central Highlands. The haul road and train load out covers a distance of approximately 36 and five (5) kilometres (km) respectively. The work will include a soil survey and evaluation of SCL status as defined on the Queensland Department of Environment and Heritage Protection (DEHP), formally known as Department of Environment and Resource Management (DERM) SCL Trigger maps of the resultant soil mapping units (SMU's) across the linear feature.

This proposal also includes a variation to the GTES proposal 'Springsure Creek Project Strategic Cropping Land Assessment, 20 February 2012 for additional work. This is included within the Cost Estimate section.

RTI DL RELEASE - DNRPM

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This proposal may contain privileged and/or confidential information intended for the use of the addressee. If you are not the addressee, or the person responsible for delivering it to the person to whom it is addressed, you may not copy or deliver this message to anyone else. If you receive this proposal by mistake, please telephone the nominated office (reverse charges). Thank you.

## PROPOSED PROJECT METHODS

---

### *Standards and Guidelines*

The assessment will follow requirements of the SCL Act (2011) using methods described in the *Australian Soil and Land Survey: Field Handbook* (NCST, 2009). In addition, the land suitability methodology will follow Land Resources Branch (1989) which is the method specified in *Technical Guidelines for Environmental Management of Exploration and Mining in Queensland* (DME, 1995).

The Draft Guidelines for Soil Survey along Linear Features (Forster 2011) and previous negotiations with DEHP for similar projects will be referred to for the sampling density for the haul road and rail line. Agricultural land classes will be in accordance with the planning guideline, the identification of Good Quality Agricultural Land (DPI/DHLGP, 1993).

### *Desktop Evaluations*

The desktop evaluations will include descriptions of regulatory requirements, local geological, climatic and topographical setting. In addition, available soils and land use information directly or indirectly applicable to the survey area to be sourced and reviewed to develop a preliminary soil type legend of expected soil types. The most relevant existing mapping for the actual project area is Land Systems Isaac Comet (CSIRO 1967). Other available reference material of direct relevance includes;

- Bourne and Tuck (1993) Central Highlands Land Management Manual.
- Tuck, G.A (unpublished 1993), Major Soils of the Raingrown Cropping Area at Emerald.
- McCarrol, S (1999) Potential Irrigation Areas along the Comet River and Soils of Comet River Transects.
- Irvine,S.A (1999) Site Characterisation Report for Sustainable Farming Systems 'Juanita', Gindie Group

Preliminary soil types will be assigned to the resulting 'initial map units' using the field experience of Graham Tuck, Principal Environmental Scientist/Managing Director in the Central Queensland area combined with expected soil types in that area from CSIRO (1967) mapping.

The outcome will be a plan showing preliminary soil mapping units, and a proposed investigation plan for Bandanna Energy review and approval prior to any field work. The soil legend will then be progressively refined in alignment with field work and laboratory analysis of selected soil samples.

### *Field Sampling Program*

Field sampling essentially seeks to advance the preliminary soil mapping units into fully verified soil types with the spatial distribution (i.e map boundaries) for each, clearly and accurately along the linear feature. It facilitates selection of laboratory sites deemed representative of the soil mapping unit.

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## *Company Reputation*

GTES have completed over 30 surveys for EIS and other regulatory purposes in Queensland and have never had a rejection from regulatory authorities. We are proud of this and rigorously maintain standards.

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Survey techniques will be based upon pre-determined sampling locations from background information, existing soils information available, an examination of air photo patterns and reference to the Soil Survey Sampling along Linear Features, Forster 2011. Free survey techniques (McKenzie, 2008 and Gunn, 1988) may be used to verify proposed soil types and assign boundaries pending land access or topography issues relating to pre-determined locations

The scope of work requirements are;

- Approximately 14 km of the linear feature defined as potential SCL on the DERM Trigger Map; and
- Approximately 27 km of the linear feature defined as non-SCL on the DERM Trigger Map.

GTES have considerable experience with soil types in the local area of the survey with Graham Tuck previously employed with the Department of Primary Industries (DPI) in Emerald and subsequently BMA Blackwater Mine.

An inspection of Land Systems mapped in the area (CSIRO 1967) combined with land patterns from Google Earth™ imagery indicates that approximately seven major soil mapping units may exist. Accordingly, this assumption is used in the proposal for laboratory costs and report write-up. Sampling requirements are summarised below in **Table 1**.

The types of site descriptions will be done in accordance with DEHP SCL Criteria (September 2011) which requires;

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- Two (2) detailed site per soil type, to verify soil type and horizons at depth, surrounding vegetation and surface conditions and / or a soil boundary; and
- One (1) laboratory analysed site per soil type (if the soil type was not previously described in the SCL evaluation of the mining lease area).

The minimum sample density required for SCL assessment of a linear feature is one (1) sample site per two (2) km on SCL trigger map nominated areas and one (1) sample site per five (5) km on non-SCL areas.

**Table 1: Field Sampling Program of SCL Area**

SCL Type as defined on DEHP Trigger Maps	Distance (km) of Haul Road and Train Load out Features	MINIMUM Sampling Requirements Proposed by (McKenzie et al 2008) <sup>1</sup>	Sampling Recommendations Proposed by GTES
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Non-SCL	27	1 site / 5 km = 6 sites 20% detailed = 2 site 80% observation = 4 site Lab sites (1-5%) = 1 site	1 sites / 5 km= 6 sites Detailed = 6 sites Check = at least 2 per identified SMU Lab sites = 4 sites

1 – Detailed sites are rounded up in preference to Observations sites to equal the total sites.

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GTES proposes to exceed what are MINIMUM site laboratory sampling requirements with a proposed total of seven (7) sites pending the SMUs identified.

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The aim of the soil sampling program in SCL assessments is to map and describe Soil Management Units in accordance with relevant Guidelines from which an SCL evaluation can be made for each SMU. This information can also be used in assessment of land suitability, GQAL and suitability for mine rehabilitation.

All representative SMU's will be subject to soil analysis to determine chemical factors in accordance with SCL Assessment Guidelines (DERM 2011). In addition, in areas of proposed haul road and train load out disturbance, this data can assist in the determination of soil potential in future rehabilitation and topsoil and subsoil stripping depths.

Representative sites will be sampled for detailed analysis of the surface horizons with subsoil layers tested for attributes related to effective soil depth assessment and soil water storage potential. Soils which are minor in occurrence would be sampled at a single (1) representative location while soils of wider distribution and importance may be sampled at up to three (3) locations across the linear feature.

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GTES often take additional (back-up) samples from other locations which are retained by us for a situation where additional sampling may be desirable after the initial lab results are obtained.

## *Laboratory Soil Analysis*

Laboratory data will be used for two primary purposes in this survey;

- To assist in delineation of soil types (SMU's) across the entire project area; and
- Evaluation of zonal SCL criteria for each SMU.

Laboratory information will also assist in the assessment of subsoil layers for reuse as rehabilitation (capping) material.

A NATA accredited or ASPAC Certified laboratory will perform the soil fertility analysis. We have obtained a quotation from Australian Laboratory Services Pty Ltd (ALS) for soil analysis which forms the basis of the following projected cost estimate for laboratory analysis.

The following table, **Table 2** outlines analytical suites which are required to evaluate SCL criteria in accordance with DERM (2011) Guidelines. Laboratory analysis seeks to enhance field morphology assessments to further highlight key soil attributes associated with SCL zonal criteria, e.g effective soil depth, salinity, pH, dispersion and water storage potential.

**Table 2: Laboratory Soil Analysis**

Test ID	Test suite	Surface samples	Subsoil layers	Justification for analysis
1	pH plus EC- 1:5 soil/water leachate	Y	Y	Standard tests in soil survey for all depths Also required to key out Aust soil class
2	Total N, nitrates	Y	-	Assess existing fertility of the surface topsoil layer for agricultural land suitability assessment and mine rehabilitation
3	Bicarbonate Extractable P (Olsen):	Y	-	
7	Organic Matter Content	Y	-	
4	Major exchangeable Cations (Ca, Mg, K, Na), CEC, Ca/Mg Ratio, ESP	Y	Y	Essential for all depths to determine potential fertility and soil physical behaviour e.g. structural, dispersive qualities. Required to reinforce SCL arguments
5	Metals (Mn, B, Cu, Fe, Zn):	Y	-	Determine metal / elemental deficiencies or toxicity in surface soil.
6	Sulfur (Total as S):	Y	-	
8	Chloride:	Y	Y	Confirm if chloride dominates samples with elevated EC
9	Particle Size Analysis by Hydrometer :	Y		Confirm field texture, assists in predictions of physical behaviour, soil water storage in SCL criteria. Hydrometer method provides more accurate results for this purpose.
10	Emmerson Aggregate test and R1 dispersion	Y	-	Confirm soil stability / dispersion evidenced by chemical data (above).

## *Agricultural Land Suitability and GQAL Assessment*

Techniques will follow LSAT Guidelines and Technical Guidelines for Environmental Management of Exploration and Mining in Queensland (Department of Mines and Energy, 1995) – both of which are based on Land Resources Branch (1989). The assessment seeks to meet likely regulatory requirements in a Terms of Reference (TOR) for an EIS and will use the five class system for both cropping and grazing.

Good Quality Agricultural Land (GQAL) classes (ALC's) will be assessed for each soil mapping unit in accordance with the *Planning Guideline: The Identification of Good Quality Agricultural Land* (Department of Primary Industry, 1993). This guideline requires that ALC be determined from established land suitability assessment techniques described in Land Resources Branch (1989).

In this survey, GTES will be assessing land suitability for each soil unit using Land Resources Branch (1989). This assessment isolates major limiting factors to cropping and grazing land uses for each soil type which then facilitates assignment to an appropriate ALC.

The changes envisaged between pre and post mining scenarios will be discussed and include an assessment of possible impacts of changes to land suitability and GQAL. The assessment will require further information from the client of proposed disturbance types and distribution.

The discussion will include a comparison of ground-truthed GQAL to the published regional broad scale GQAL mapping for the area.

## *Soil Resources*

Each soil type will be assessed for its suitability for reuse in mine rehabilitation programs. The assessment will be undertaken from;

- Morphological soil profile observations in the field which describe the extent and characteristics of soil profile horizons. Information gained includes structure, texture, field pH, consistence (hardness), drainage, inclusions (gravel / ironstone etc), segregations (carbonate, manganese), mottling. Essentially, morphological information provides visual evidence of how the soil horizons can be expected to perform should it be replaced on rehabilitation; and
- Chemical data from major horizons provides data of sodicity, dispersion, salt and fertility in addition to the particle size distribution. Such data can assist in predictions of soil sealing, dispersion and suitability for plant growth.

From an examination of soil profile data (above) combined with this experience, GTES will provide management recommendations for each soil type including:

- A plan showing recommended stripping depths;
- An average 'safe' stripping depth for the upper topsoil layer;
- An estimation of variation (i.e. opportunity for deeper stripping of the topsoil layer) within each soil unit;
- Stockpiling methods for the soil materials (topsoil and subsoil);
- Other management measures including application of ameliorants or mixing practices to derive suitable material for reuse as capping or topdressing, as necessary;
- Opportunities for stripping and reuse of deeper subsoil horizons; and
- Reasons why certain soils are not recommended for stripping.

## *Reports and Mapping*

Reports will be supplied electronically and as hard copies if requested. Mapping prepared by spatial consultant, Greg Tuck of GTES will be supplied in PDF and Shape (shp) format.

Maps will be supplied showing;

- Project site boundary, soil types and location of sampling points;
- Land suitability for grazing and cropping;
- Existing GQAL or ALC classes;

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- Topsoil stripping units which are based on recommended strip depths and quality; and
- SCL trigger mapping including delineation of the SCL area under assessment, SCL Passes or fails.

## Staff

GTES staff nominated for this project and their roles are summarised below in **Table 3**.

**Table 3: GTES Nominated Project Staff**

GTES Personnel	Project Position	Role
Graham Tuck	Project and Quality Manager	<ul style="list-style-type: none"> <li>• Oversee all aspects of the project</li> <li>• Contributor to data analysis, soil unit development and report development</li> </ul>
Reece McCann	Senior Soil Scientist, GTES Safety Officer.	<ul style="list-style-type: none"> <li>• Manage / supervise field sampling and basic report development</li> <li>• Supervise laboratory sampling and analysis</li> <li>• Reece holds current St John's First Aid certification</li> </ul>
Greg Tuck	Spatial Consultant, Field Technician.	<ul style="list-style-type: none"> <li>• Provide technical assistance in the field</li> <li>• Responsible for mapping and fieldwork navigation</li> <li>• Greg holds current St John's First Aid certification</li> </ul>

## Safety

GTES has never had a safety incident in 12 years of soil survey for the mining industry and prides itself on safety. A Safety Management Plan is maintained for field work which is based on reducing risks identified in a Job Safety and Environmental Analysis (JSEA) for all field activities. Essentially this entails a variety of aspects including a minimum of two persons in field work as well as GPS and portable UHF radios for each person.

GTES staff has extensive experience working in the remote Australian locations, particularly on mine leases and exploration areas and have all completed mining industry generic inductions. In addition, a variety of company level inductions and safety training has been completed in Queensland. Reece McCann and Greg Tuck are currently St John's First Aid certified. Reece McCann is nominated as the safety representative for GTES and will supervise all field work undertaken. GTES would undertake any further training to meet Bandanna Energy required safety standards. The consultant will adhere to the established mining industry safety requirements during the conduct of all field work.



**From:** Sander Errol [Errol.Sander@dnrm.qld.gov.au]  
**Sent:** Wednesday, 22 May 2013 12:00 PM  
**To:** Haenfler Anita  
**Subject:** FOR INFO: Springsure Creek  
**Attachments:** Springsure Creek Haul Road - GTES SCL Prp.pdf

FYI

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

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**From:** Pete Jones [mailto:PeteJones@bandannaenergy.com.au]  
**Sent:** Wednesday, 22 May 2013 10:39 AM  
**To:** Sander Errol  
**Cc:** Neil Dale; Stuart Clarke  
**Subject:** Agenda

Hi Errol,

Confirming our proposed agenda for meeting tomorrow:

- Update on project progress from Bandanna
- Update on SCL studies at EPC 891
- Discussion on proposed SCL studies for infrastructure corridor and train load out (please see attached methodology for DNRM's comment)
- Discussion of approval pathways, timing, and information requirements.

Stuart Clark, Neil Dale, Graham Tuck and myself will be in attendance.

We look forward to meeting you at 10:30.

Many thanks,  
Pete

**Pete Jones**

*Environmental Approvals Coordinator*

**BANDANNA ENERGY LIMITED**

Telephone No: 07 3041 4400

Direct No: 07 3041 4434

Fax No: 07 3041 4444

Email: [petejones@bandannaenergy.com.au](mailto:petejones@bandannaenergy.com.au)

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Proposal – Springsure Creek Project –  
Haul Road and Train Load out  
Soils and Strategic Cropping Land  
Assessment

Bandana Energy Limited  
23 April 2013



GT Environmental Services Pty Ltd  
10 Cressbrook Street  
Eight Mile Plains QLD 4113  
[www.gtenvironmental.com.au](http://www.gtenvironmental.com.au)

## SCOPE OF WORK

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GT Environmental Services Pty Ltd (GTES) are pleased to present this proposal to Bandana Energy Limited for the Springsure Creek Coal Mine Project (the project) haul road and train load out and is tied in with the Rolleston line in partnership with Acacia Coal for a shared trainload. This proposal is for a soils land suitability and Strategic Cropping Land (SCL) assessment to facilitate lodging an application under the Strategic Cropping Land Act 2001. This project will supplement the GTES proposal 'Springsure Creek Project Strategic Cropping Land Assessment, 20 February 2012

The project leads to Mining Lease Application (MLA) 70486 which is approximately 10,736 hectares (ha) and located 47 km southeast of Emerald in the Central Highlands. The haul road and train load out covers a distance of approximately 36 and five (5) kilometres (km) respectively. The work will include a soil survey and evaluation of SCL status as defined on the Queensland Department of Environment and Heritage Protection (DEHP), formally known as Department of Environment and Resource Management (DERM) SCL Trigger maps of the resultant soil mapping units (SMU's) across the linear feature.

This proposal also includes a variation to the GTES proposal 'Springsure Creek Project Strategic Cropping Land Assessment, 20 February 2012 for additional work. This is included within the Cost Estimate section.

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## PROPOSED PROJECT METHODS

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### *Standards and Guidelines*

The assessment will follow requirements of the SCL Act (2011) using methods described in the *Australian Soil and Land Survey: Field Handbook* (NCST, 2009). In addition, the land suitability methodology will follow Land Resources Branch (1989) which is the method specified in *Technical Guidelines for Environmental Management of Exploration and Mining in Queensland* (DME, 1995).

The Draft Guidelines for Soil Survey along Linear Features (Forster 2011) and previous negotiations with DEHP for similar projects will be referred to for the sampling density for the haul road and rail line. Agricultural land classes will be in accordance with the planning guideline, the identification of Good Quality Agricultural Land (DPI/DHLGP, 1993).

### *Desktop Evaluations*

The desktop evaluations will include descriptions of regulatory requirements, local geological, climatic and topographical setting. In addition, available soils and land use information directly or indirectly applicable to the survey area to be sourced and reviewed to develop a preliminary soil type legend of expected soil types. The most relevant existing mapping for the actual project area is Land Systems Isaac Comet (CSIRO 1967). Other available reference material of direct relevance includes;

- Bourne and Tuck (1993) Central Highlands Land Management Manual.
- Tuck, G.A (unpublished 1993), Major Soils of the Raingrown Cropping Area at Emerald.
- McCarrol, S (1999) Potential Irrigation Areas along the Comet River and Soils of Comet River Transects.
- Irvine,S.A (1999) Site Characterisation Report for Sustainable Farming Systems 'Juanita', Gindie Group

Preliminary soil types will be assigned to the resulting 'initial map units' using the field experience of Graham Tuck, Principal Environmental Scientist/Managing Director in the Central Queensland area combined with expected soil types in that area from CSIRO (1967) mapping.

The outcome will be a plan showing preliminary soil mapping units, and a proposed investigation plan for Bandanna Energy review and approval prior to any field work. The soil legend will then be progressively refined in alignment with field work and laboratory analysis of selected soil samples.

### *Field Sampling Program*

Field sampling essentially seeks to advance the preliminary soil mapping units into fully verified soil types with the spatial distribution (i.e map boundaries) for each, clearly and accurately along the linear feature. It facilitates selection of laboratory sites deemed representative of the soil mapping unit.

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6	Sulfur (Total as S):	Y	-	
8	Chloride:	Y	Y	Confirm if chloride dominates samples with elevated EC
9	Particle Size Analysis by Hydrometer :	Y		Confirm field texture, assists in predictions of physical behaviour, soil water storage in SCL criteria. Hydrometer method provides more accurate results for this purpose.
10	Emmerson Aggregate test and R1 dispersion	Y	-	Confirm soil stability / dispersion evidenced by chemical data (above).

## *Agricultural Land Suitability and GQAL Assessment*

Techniques will follow LSAT Guidelines and Technical Guidelines for Environmental Management of Exploration and Mining in Queensland (Department of Mines and Energy, 1995) – both of which are based on Land Resources Branch (1989). The assessment seeks to meet likely regulatory requirements in a Terms of Reference (TOR) for an EIS and will use the five class system for both cropping and grazing.

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In this survey, GTES will be assessing land suitability for each soil unit using Land Resources Branch (1989). This assessment isolates major limiting factors to cropping and grazing land uses for each soil type which then facilitates assignment to an appropriate ALC.

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Each soil type will be assessed for its suitability for reuse in mine rehabilitation programs. The assessment will be undertaken from;

- Morphological soil profile observations in the field which describe the extent and characteristics of soil profile horizons. Information gained includes structure, texture, field pH, consistence (hardness), drainage, inclusions (gravel / ironstone etc), segregations (carbonate, manganese), mottling. Essentially, morphological information provides visual evidence of how the soil horizons can be expected to perform should it be replaced on rehabilitation; and
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From an examination of soil profile data (above) combined with this experience, GTES will provide management recommendations for each soil type including:

- A plan showing recommended stripping depths;
- An average 'safe' stripping depth for the upper topsoil layer;
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- Reasons why certain soils are not recommended for stripping.

## *Reports and Mapping*

Reports will be supplied electronically and as hard copies if requested. Mapping prepared by spatial consultant, Greg Tuck of GTES will be supplied in PDF and Shape (shp) format.

Maps will be supplied showing;

- Project site boundary, soil types and location of sampling points;
- Land suitability for grazing and cropping;
- Existing GQAL or ALC classes;

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- Topsoil stripping units which are based on recommended strip depths and quality; and
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## Staff

GTES staff nominated for this project and their roles are summarised below in **Table 3**.

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**From:** Sander Errol [Errol.Sander@dnrm.qld.gov.au]  
**Sent:** Thursday, 23 May 2013 7:43 AM  
**To:** Hambleton Alison  
**Subject:** FW: Agenda  
**Attachments:** Springsure Creek Haul Road - GTES SCL Prp.pdf

**Errol Sander**

*Project Manager, Property Planning & Assessment  
Central Region*

**Telephone** 07 4999 6969 **Mobile** sch4p4(6) Personal information **Facsimile** 4999 6904

Department of Natural Resources and Mines  
22-30 Wood St, Mackay Q 4740  
PO Box 63, Mackay Q 4740

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**From:** Pete Jones [mailto:PeteJones@bandannaenergy.com.au]  
**Sent:** Wednesday, 22 May 2013 10:39 AM  
**To:** Sander Errol  
**Cc:** Neil Dale; Stuart Clarke  
**Subject:** Agenda

Hi Errol,

Confirming our proposed agenda for meeting tomorrow:

- Update on project progress from Bandanna
- Update on SCL studies at EPC 891
- Discussion on proposed SCL studies for infrastructure corridor and train load out (please see attached methodology for DNRM's comment)
- Discussion of approval pathways, timing, and information requirements.

Stuart Clark, Neil Dale, Graham Tuck and myself will be in attendance.

We look forward to meeting you at 10:30.

Many thanks,  
Pete

**Pete Jones**

*Environmental Approvals Coordinator*

**BANDANNA ENERGY LIMITED**

Telephone No: 07 3041 4400

Direct No: 07 3041 4434

Fax No: 07 3041 4444

Email: [petejones@bandannaenergy.com.au](mailto:petejones@bandannaenergy.com.au)

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Proposal – Springsure Creek Project –  
Haul Road and Train Load out  
Soils and Strategic Cropping Land  
Assessment

Bandana Energy Limited  
23 April 2013



GT Environmental Services Pty Ltd  
10 Cressbrook Street  
Eight Mile Plains QLD 4113  
[www.gtenvironmental.com.au](http://www.gtenvironmental.com.au)

## SCOPE OF WORK

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GT Environmental Services Pty Ltd (GTES) are pleased to present this proposal to Bandana Energy Limited for the Springsure Creek Coal Mine Project (the project) haul road and train load out and is tied in with the Rolleston line in partnership with Acacia Coal for a shared trainload. This proposal is for a soils land suitability and Strategic Cropping Land (SCL) assessment to facilitate lodging an application under the Strategic Cropping Land Act 2001. This project will supplement the GTES proposal 'Springsure Creek Project Strategic Cropping Land Assessment, 20 February 2012

The project leads to Mining Lease Application (MLA) 70486 which is approximately 10,736 hectares (ha) and located 47 km southeast of Emerald in the Central Highlands. The haul road and train load out covers a distance of approximately 36 and five (5) kilometres (km) respectively. The work will include a soil survey and evaluation of SCL status as defined on the Queensland Department of Environment and Heritage Protection (DEHP), formally known as Department of Environment and Resource Management (DERM) SCL Trigger maps of the resultant soil mapping units (SMU's) across the linear feature.

This proposal also includes a variation to the GTES proposal 'Springsure Creek Project Strategic Cropping Land Assessment, 20 February 2012 for additional work. This is included within the Cost Estimate section.

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## PROPOSED PROJECT METHODS

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### *Standards and Guidelines*

The assessment will follow requirements of the SCL Act (2011) using methods described in the *Australian Soil and Land Survey: Field Handbook* (NCST, 2009). In addition, the land suitability methodology will follow Land Resources Branch (1989) which is the method specified in *Technical Guidelines for Environmental Management of Exploration and Mining in Queensland* (DME, 1995).

The Draft Guidelines for Soil Survey along Linear Features (Forster 2011) and previous negotiations with DEHP for similar projects will be referred to for the sampling density for the haul road and rail line. Agricultural land classes will be in accordance with the planning guideline, the identification of Good Quality Agricultural Land (DPI/DHLGP, 1993).

### *Desktop Evaluations*

The desktop evaluations will include descriptions of regulatory requirements, local geological, climatic and topographical setting. In addition, available soils and land use information directly or indirectly applicable to the survey area to be sourced and reviewed to develop a preliminary soil type legend of expected soil types. The most relevant existing mapping for the actual project area is Land Systems Isaac Comet (CSIRO 1967). Other available reference material of direct relevance includes;

- Bourne and Tuck (1993) Central Highlands Land Management Manual.
- Tuck, G.A (unpublished 1993), Major Soils of the Raingrown Cropping Area at Emerald.
- McCarrol, S (1999) Potential Irrigation Areas along the Comet River and Soils of Comet River Transects.
- Irvine,S.A (1999) Site Characterisation Report for Sustainable Farming Systems 'Juanita', Gindie Group

Preliminary soil types will be assigned to the resulting 'initial map units' using the field experience of Graham Tuck, Principal Environmental Scientist/Managing Director in the Central Queensland area combined with expected soil types in that area from CSIRO (1967) mapping.

The outcome will be a plan showing preliminary soil mapping units, and a proposed investigation plan for Bandanna Energy review and approval prior to any field work. The soil legend will then be progressively refined in alignment with field work and laboratory analysis of selected soil samples.

### *Field Sampling Program*

Field sampling essentially seeks to advance the preliminary soil mapping units into fully verified soil types with the spatial distribution (i.e map boundaries) for each, clearly and accurately along the linear feature. It facilitates selection of laboratory sites deemed representative of the soil mapping unit.

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Survey techniques will be based upon pre-determined sampling locations from background information, existing soils information available, an examination of air photo patterns and reference to the Soil Survey Sampling along Linear Features, Forster 2011. Free survey techniques (McKenzie, 2008 and Gunn, 1988) may be used to verify proposed soil types and assign boundaries pending land access or topography issues relating to pre-determined locations

The scope of work requirements are;

- Approximately 14 km of the linear feature defined as potential SCL on the DERM Trigger Map; and
- Approximately 27 km of the linear feature defined as non-SCL on the DERM Trigger Map.

GTES have considerable experience with soil types in the local area of the survey with Graham Tuck previously employed with the Department of Primary Industries (DPI) in Emerald and subsequently BMA Blackwater Mine.

An inspection of Land Systems mapped in the area (CSIRO 1967) combined with land patterns from Google Earth™ imagery indicates that approximately seven major soil mapping units may exist. Accordingly, this assumption is used in the proposal for laboratory costs and report write-up. Sampling requirements are summarised below in **Table 1**.

The types of site descriptions will be done in accordance with DEHP SCL Criteria (September 2011) which requires;

- Two (2) exclusion sites per individual exclusion unit (i.e. To verify areas of disturbance, if applicable);
- Two (2) check sites per individual soil map unit, to verify soil type, surrounding vegetation, surface conditions and / or a soil boundary;
- Two (2) detailed site per soil type, to verify soil type and horizons at depth, surrounding vegetation and surface conditions and / or a soil boundary; and
- One (1) laboratory analysed site per soil type (if the soil type was not previously described in the SCL evaluation of the mining lease area).

The minimum sample density required for SCL assessment of a linear feature is one (1) sample site per two (2) km on SCL trigger map nominated areas and one (1) sample site per five (5) km on non-SCL areas.

**Table 1: Field Sampling Program of SCL Area**

SCL Type as defined on DEHP Trigger Maps	Distance (km) of Haul Road and Train Load out Features	MINIMUM Sampling Requirements Proposed by (McKenzie et al 2008) <sup>1</sup>	Sampling Recommendations Proposed by GTES
SCL	14	1 site / 2 km= 7 sites 20% detailed = 2 sites 80% observation = 5 sites Lab sites (1-5%) = 1 sites	1 sites / 2 km= 7 sites Detailed = 7 sites Check = at least 2 per identified SMU Lab sites = 3 sites

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SCL Type as defined on DEHP Trigger Maps	Distance (km) of Haul Road and Train Load out Features	MINIMUM Sampling Requirements Proposed by (McKenzie et al 2008) <sup>1</sup>	Sampling Recommendations Proposed by GTES
Non-SCL	27	1 site / 5 km = 6 sites 20% detailed = 2 site 80% observation = 4 site Lab sites (1-5%) = 1 site	1 sites / 5 km= 6 sites Detailed = 6 sites Check = at least 2 per identified SMU Lab sites = 4 sites

1 – Detailed sites are rounded up in preference to Observations sites to equal the total sites.

GTES proposed sampling recommendations are based upon previous project work conducted in late 2012 which required every site location to be detailed. Two (2) check sites will be included for every SMU identified and where changes in topography are noted. It is recommended that this sampling method be confirmed as acceptable/best practice with the DEHP prior to commencing the fieldworks.

GTES proposes to exceed what are MINIMUM site laboratory sampling requirements with a proposed total of seven (7) sites pending the SMUs identified.

## Site Descriptions

Two levels of site descriptions will be applied; detailed and non-detailed (observation/check). Detailed sites describe the range of soil profile morphological attributes as per NCST (2009) Guidelines (including soil colour as per Munsell charts), in addition to landforms, slope, surface conditions, rock cover and major vegetation. Non-detailed sites confirm map unit type and boundaries and often include an auger boring sufficient to determine soil type (e.g depth to clay, B horizons). At each detailed site an assessment will be made of the quality, depth and quantities of re-useable topsoil and subsoil that may be excavated in the future.

Soil profiles will be exposed using 50mm hand augers. As a minimum, all detailed profiles will be taken to the deeper of either the base of the B-horizons or a depth of 100cm. Where this does not allow for accurate determination of soil profiles, this will be increased up to 180cm or alternative profiles undertaken. Where possible, profiles at geological exploration pits, cuttings and eroded channels will also be recorded in addition to detailed profiles proposed.

Items to be recorded include but are not limited to slope, landform, vegetation and land condition. Photographs will be taken at all representative sites and non-detailed observation sites to assist with final interpretation on soils and suitability. Sampling and observation points will be recorded using a global positioning system (GPS) data logger, set to the site survey datum.

Detailed site descriptions (which include photographs) used as representative soil profiles will be included in the main body of the report. Additional detailed soil profiles will be provided in the attachment section of the report for all sites. A tabular summary of non-detailed (i.e. observation) sites and data recorded in each will also be included as an attachment to the main report.

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Where soil profile morphology attributes and vegetation structure indicates that elevated subsoil salinity or extremes of pH may be present, GTES determine 'field' pH and EC with a 1:5 soil water solution which is measured using a portable TPS instrument after two (2) days.

Sampling is undertaken on an ad-hoc basis where salinity or pH is suspected as a limitation to agricultural land suitability or soil reuse, or to gain a more complete understanding of a particular soil type. Where field tests suggest a possible issue, samples may be taken for laboratory confirmation. Such tests are included in the cost estimate for laboratory analysis.

## *Sampling Program*

The aim of the soil sampling program in SCL assessments is to map and describe Soil Management Units in accordance with relevant Guidelines from which an SCL evaluation can be made for each SMU. This information can also be used in assessment of land suitability, GQAL and suitability for mine rehabilitation.

All representative SMU's will be subject to soil analysis to determine chemical factors in accordance with SCL Assessment Guidelines (DERM 2011). In addition, in areas of proposed haul road and train load out disturbance, this data can assist in the determination of soil potential in future rehabilitation and topsoil and subsoil stripping depths.

Representative sites will be sampled for detailed analysis of the surface horizons with subsoil layers tested for attributes related to effective soil depth assessment and soil water storage potential. Soils which are minor in occurrence would be sampled at a single (1) representative location while soils of wider distribution and importance may be sampled at up to three (3) locations across the linear feature.

Soil sampling of profiles will be conducted as per Gunn et al (1988) Guidelines for Surveying Soil and Land Resources with samples taken from the surface (0.0-0.1m) and every 0.30m unless the subsoil horizons transitions between these depths. Samples will not be collected across horizon boundaries.

GTES often take additional (back-up) samples from other locations which are retained by us for a situation where additional sampling may be desirable after the initial lab results are obtained.

## *Laboratory Soil Analysis*

Laboratory data will be used for two primary purposes in this survey;

- To assist in delineation of soil types (SMU's) across the entire project area; and
- Evaluation of zonal SCL criteria for each SMU.

Laboratory information will also assist in the assessment of subsoil layers for reuse as rehabilitation (capping) material.

A NATA accredited or ASPAC Certified laboratory will perform the soil fertility analysis. We have obtained a quotation from Australian Laboratory Services Pty Ltd (ALS) for soil analysis which forms the basis of the following projected cost estimate for laboratory analysis.

The following table, **Table 2** outlines analytical suites which are required to evaluate SCL criteria in accordance with DERM (2011) Guidelines. Laboratory analysis seeks to enhance field morphology assessments to further highlight key soil attributes associated with SCL zonal criteria, e.g effective soil depth, salinity, pH, dispersion and water storage potential.

**Table 2: Laboratory Soil Analysis**

Test ID	Test suite	Surface samples	Subsoil layers	Justification for analysis
1	pH plus EC- 1:5 soil/water leachate	Y	Y	Standard tests in soil survey for all depths Also required to key out Aust soil class
2	Total N, nitrates	Y	-	Assess existing fertility of the surface topsoil layer for agricultural land suitability assessment and mine rehabilitation
3	Bicarbonate Extractable P (Olsen):	Y	-	
7	Organic Matter Content	Y	-	
4	Major exchangeable Cations (Ca, Mg, K, Na), CEC, Ca/Mg Ratio, ESP	Y	Y	Essential for all depths to determine potential fertility and soil physical behaviour e.g. structural, dispersive qualities. Required to reinforce SCL arguments
5	Metals (Mn, B, Cu, Fe, Zn):	Y	-	Determine metal / elemental deficiencies or toxicity in surface soil.
6	Sulfur (Total as S):	Y	-	
8	Chloride:	Y	Y	Confirm if chloride dominates samples with elevated EC
9	Particle Size Analysis by Hydrometer :	Y		Confirm field texture, assists in predictions of physical behaviour, soil water storage in SCL criteria. Hydrometer method provides more accurate results for this purpose.
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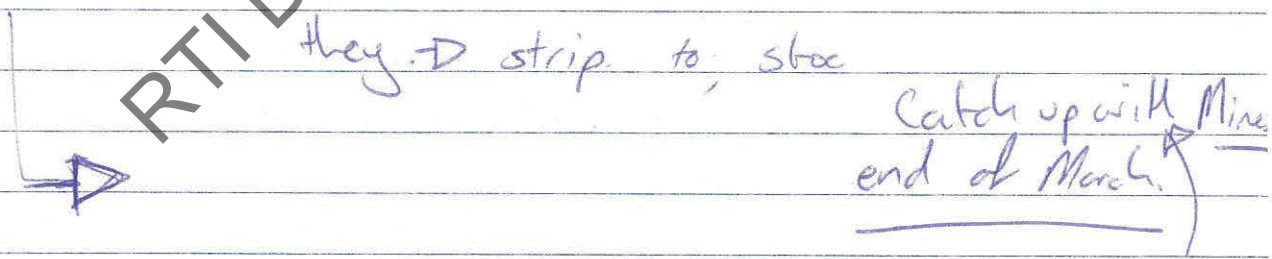


\* Golden Triangle Action Group. → Pete Donohue.

- Infrastructure Corridor  
see 316 Infrastructure lease.

Nth Corner heads NE.

Haul road. (Haul-sag)  
(haul road raised up)



350m wide longwall 3 mth subsidence.

↓ 1.5 - 2.5 existing banks 1m

(could they leave pegs in the ground.)



Initial brainstorm.

MLA 70486.

• 289 →

any related resource opp for a Mining Lease. relating to EPC 891.

does a ~~Infrastructure~~ Mining lease for transportation through land which is not physically on EPC 891 fit that. s 316. MRA

Does EIS include <sup>transportation</sup> Infrastructure corridor → no, specifically excluded in 6.3.7 of EIS.

TOR → requires info on how to get coal out - haul roads, rail, etc etc. new/existing.

Assessment.

• 290 → (2) → condition to go on lease.

(3) → condition to go on EIS.

(5) → doesn't limit or affect power to impose other conditions that are not inconsistent.

Therefore. → 289 gives exemption for perm impact in protection area. so ordinary assessment for protection dec in management area. → avoid, minimise → temp/perm → restore = mitigate

questions → route would determining subsidence Bas perm be inconsistent?

→ does "underground mining" in s 290 (2) inc surface infrastructure

issue with transportation lease.

⇒ if haul rd is permanent then need EC.

Brief to DG.

- validate or not
- how we would apply act. + assessed.
- transport corridor

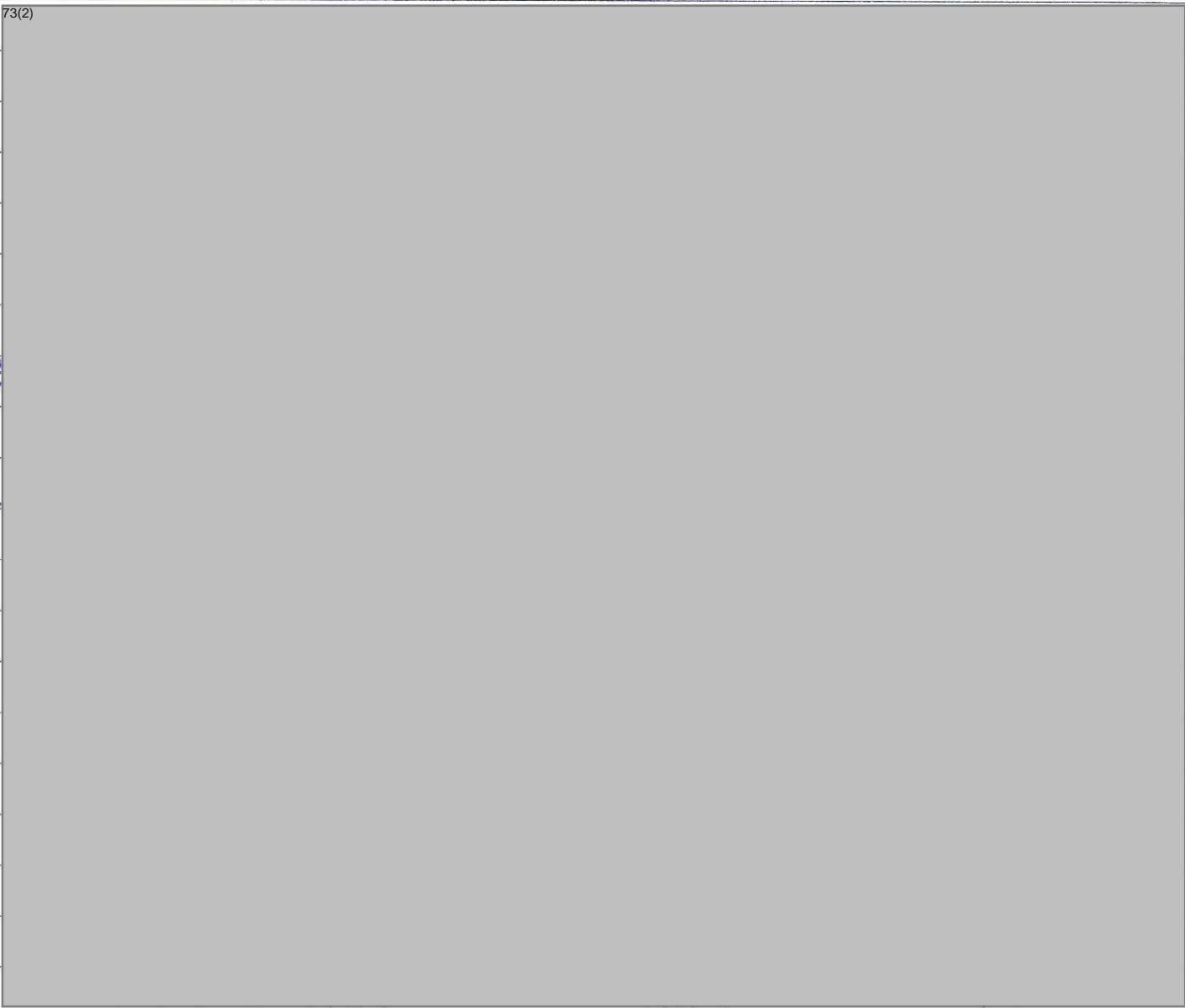
- joint

Collection two

Ryan

John  
Skinner.

73(2)



\*

one Mining lease for transportation s316 MRA

→ ~~or~~ just straight to ML ?

→ will they need an EA?

Check with Pete Donahy, + his <sup>through</sup> channels

→

Mitigation zone.

↑  
transport corridor  
anything under TIA.

\*

Springstore Creek

6 March 2013

Peter Jones Neil D...

→ exemption from permanent impact restriction.

→ protection decision. - avoid, minimise, mitigate etc.

\* Proposing Validation?

Another EIS for train load out + haul road.

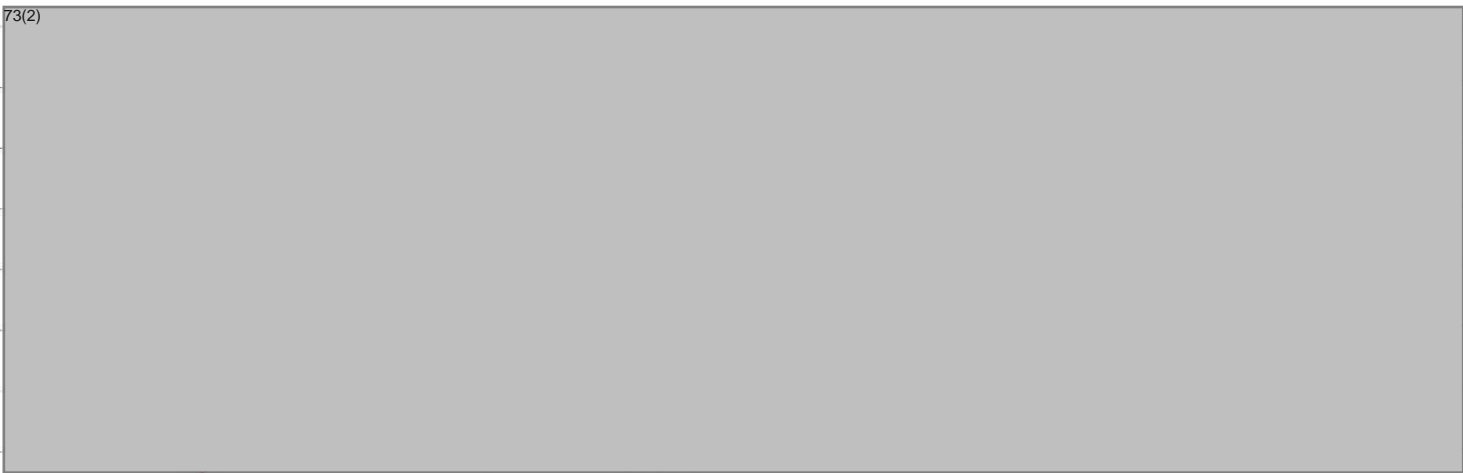
→ doesn't have permanent impact exemption.

→ haul road 40m wide.

Validation - minimum 6 weeks away.

73(2)



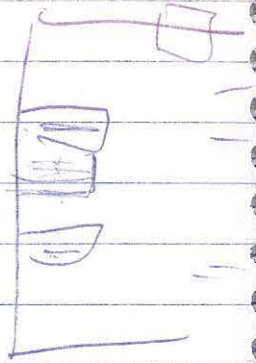


\* Phil Rowland.

13/5/2013.

→ No EIS for Haul Road.

→



RTI/DL RELEASE - DNRM

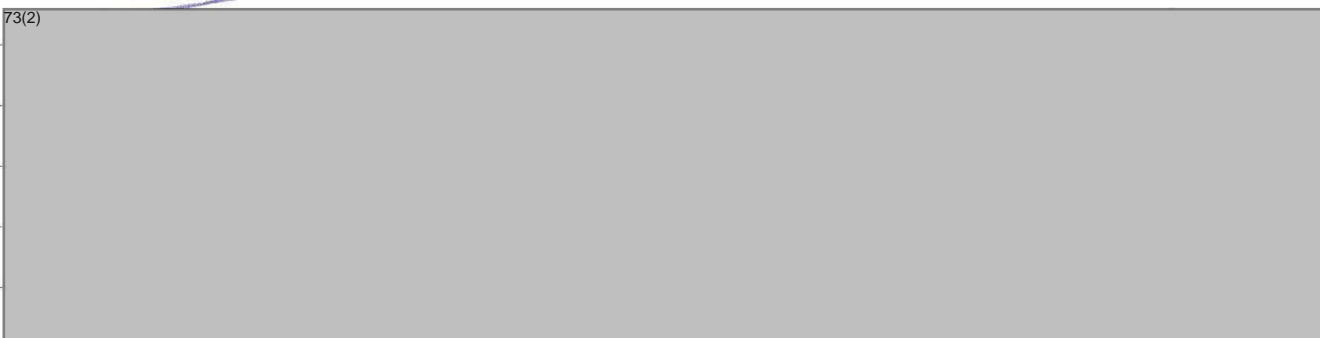
\* Pete Jones.

13/5/2013

- Sampling density / infrastructure corridor -
- update on field work
- " " EIS end may / mid June.
- how much SCL info in EIS.

~~→~~

⇒ Peter Donaghoe → process for getting ML granted.  
is any different? still need EA first?



Springstone Creek.

23/5/13

Load out → east to triumph ck

Pete Jones

Neil Dale

2x Mks for loadout + haul. road.  
voluntary.

Stuart Clarke

Graham Tuck.

→ EHP → EIS refused → straight to EA.

MLAs up on IARM (projection issues)

Load out facility ~~not~~ no p.SCL

no all areas have access

probably won't validated. haul road area

powerline.

20m wide road.

• pre-development condition

~~def.~~ "condition of surrounding land use changes during the development - impact."

→ don't intend to validate on Mbease area.

→ do we want to see ongoing subsidence management plans  
land management plans  
→ conditional - continual improvement

- Protection Decisions in July - Haul road + Mine area.  
Application



\* Springssure Ch-projed  
 \* despite stat region planning process. this is \*  
 \* the situation

5/6/13

\* Springsure Creek EIS teleconference

Alison H

Wedeen.

EHP consideration

(acceptability of proposed final land use.)

Phil ~~Raymond~~ Rowland. EHP

+ SBIS when it comes in. (21 June) Monika Rhoder. EHP

→ Review EIS info. again from protection decision

→ Is what provided going to be ok. for SCL. to what extent.

- Will have to some comment.

"Peer reviewed report" for groundwater

Haul → application process.

73(2)