



Centennial Coal




***CENTENNIAL ANGUS PLACE
PTY. LTD.
ANGUS PLACE COLLIERY
ANNUAL REVIEW***

March 2017



1. Annual Review Title Block

| | |
|---|--|
| Name of Operation | Angus Place Colliery |
| Name of Operator | Centennial Angus Place Pty Ltd |
| Development Consent/ Project Approval # | PA 06_0021 |
| Mining Lease # | CCL704, ML1424, ML1699, ML1720 |
| Name of Holder of Mining Lease | Centennial Springvale Pty Ltd and Springvale SK Kores Pty Ltd |
| Water License # | WAL36445; WAL36449; WAL37340; WAL37343 |
| Name of Holder of Water License | Centennial Angus Place Pty Ltd |
| MOP/RMP Start Date | May 2016 |
| MOP/RMP End Date | April 2023 |
| Annual Review Start Date | 1 January 2016 |
| Annual Review End Date | 31 December 2016 |
| <p>I, Mick Cairney, certify that this audit report is a true and accurate record of the compliance status of Angus Place Colliery for the period 2016 and that I am authorized to make this statement on behalf of Centennial Angus Place.</p> <p><i>Note:</i></p> <p>a) <i>The Annual Review is an 'environmental audit' for the purposes of s122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion) in an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</i></p> <p>b) <i>The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (intention to defraud by false or misleading statement – maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents –maximum penalty 2 years imprisonment or \$22,000, or both).</i></p> | |
| Name of Authorised Reporting Officer | Mick Cairney |
| Title of Authorised Reporting Officer | Executive General Manager Operations |
| Signature of Authorised Reporting Officer |  |
| Date | |

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1. STATEMENT OF COMPLIANCE

Table 0. Statement of Compliance

| Were all conditions of the relevant approval(s) complied with? | |
|--|------|
| PA 06_0021 | No* |
| EPBC 2011/5952 | Yes |
| CCL 704 | No* |
| ML 1424 | No* |
| ML 1699 | Yes |
| ML 1720 | Yes |
| EPL 467 | No |
| Extraction Plan Approval 12/15868 | Yes |
| SMP Approval OUT14/10918 | Yes |
| SMP Approval 04/1675 | Yes* |
| WAL36445 | Yes* |
| WAL36449 | Yes* |
| WAL37340 | Yes |
| WAL37343 | Yes |
| Radiation Management Licence RML29229 | Yes |

* Compliance status has been determined from the Angus Place 2014 compliance audit. This is attached as an appendix.

Table 3. Non Compliances

| Relevant Approval | Condition # | Condition summary | Compliance Status | Comment | Section addressed in Annual Review |
|-------------------|----------------------------|--|--|--|------------------------------------|
| PA06_0021 | Schedule 2; Condition 1 | Obligation to minimise harm to the environment | Non compliant | Exceedance of Project Approval criteria | N/A |
| ELP467 | O1.1 | N/A | Licensed activities must be carried out in a competent | Notification to the Environmental Pollution Hotline (ref C04645) | 11 |

| | | | | | |
|---------------|------|------------------------|---------------|---|----|
| | | | manner | regarding approx. 400-600L ferric chloride spilt from bore 940 surface pipe work during maintenance outage. | |
| EPL467 | L3.1 | Volume and mass limits | Non compliant | LDP001 volume exceeded 2000 kL/day limit on 5 January 2016 | 11 |

Note: Compliance Status Key for Table 3

| Risk Level | Colour Code | Description |
|-----------------------|-------------|--|
| High | | Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence |
| Medium | | Non-compliance with: <ul style="list-style-type: none"> • Potential for serious environmental consequences, but is unlikely to occur; or • Potential for moderate environmental consequences, but is likely to occur |
| Low | | Non-compliance with: <ul style="list-style-type: none"> • Potential for moderate environmental consequences, but is unlikely to occur; or Potential for low environmental consequences, but is likely to occur |
| Administrative | | Only to be applied where the non-compliance does not result in any risk of environmental harm (eg submitting a report to government later than required under approval conditions) |

2. INTRODUCTION

Angus Place Colliery (Angus Place) is an underground coal mining operation located approximately 5 kilometres (km) north of the village of Lidsdale, 8 km northeast of the township of Wallerawang and approximately 15 km northwest of the city of Lithgow in the Blue Mountains region of New South Wales (NSW). It is bordered by Springvale Colliery to the south, Ivanhoe Colliery to the northwest and the Wolgan Valley and Newnes Plateau to the north and east respectively.

Angus Place has been in operation since 1979 and is operated by Centennial Angus Place Pty Ltd, a joint venture company owned in equal share between Centennial Coal Company Ltd and SK Kores Pty Ltd. Angus Place utilises the longwall retreat method of mining to extract coal from the Lithgow Seam, within Mining Lease (ML) 1424 and Consolidated Coal Lease (CCL) 704.

In response to the prolonged downturn in international coal markets, a decision was made by Centennial Coal to commence 'care and maintenance' at Angus Place following the completion of secondary extraction within Longwall 900W. Angus Place completed secondary extraction of the longwall panel on 15 February 2015 and the mine was placed on 'care and maintenance' on 28 March 2015. To increase the operational efficiency of the neighbouring Springvale Mine (Springvale), two development crews and some mining equipment were redeployed. While on 'care and maintenance', Angus Place will continue to meet safety and environmental regulations and the site will be appropriately maintained to enable a reopening when the Springvale reserves have been extracted or if market conditions improve.

Angus Place's existing Project Approval (PA) 06_0021 was granted on 13 September 2006 pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act), and provided for extension of the mining area with a production limit of 3.5 million tonnes per annum of coal from the Lithgow seam. Four modifications to PA06_0021 have since been approved:

- Modification 1 - two additional longwall panels (910 and 900W) and an increase in production to 4 million tonnes per annum.
- Modification 2 - construction and operation of an additional ventilation facility on Newnes Plateau.
- Modification 3 - longwall panel 980 and 900W geometry changes.
- Modification 4 – development continuity.

The main components of Angus Place's operations are an underground longwall mine and development panels with supporting surface infrastructure situated at the Angus Place pit top area and on the Newnes Plateau.

On 18 November 2013, Centennial Angus Place lodged a State Significant Development Application (SSD 5602) with the NSW Department of Planning and Environment. Assessment of this project is currently ongoing.

Table 4. Key Contact Details

| Contact | Contact Details |
|--|-----------------|
| Terry O'Brien – Mine Manager | (02) 6354 8721 |
| Tom Hollis – Environment and Community Coordinator | (02) 6354 8960 |
| Community Information and Complaints | (02) 6354 8700 |

| | |
|------|--|
| Line | |
|------|--|

3. APPROVALS

Table 5. Approvals

| Approval | Changes During the Reporting Period |
|---|-------------------------------------|
| Development Consent | |
| PA 06_0021 | No |
| EPBC Approval | |
| EPBC 2011/5952 | No |
| Mining Operations Plan | |
| Mining Operations Plan | Yes – Approved on 25/05/2016 |
| Mining Leases | |
| CCL 704 | No |
| ML 1424 | No |
| ML 1699 | No |
| ML 1720 | No |
| MLA 498 | No |
| EL 6856 | No |
| EL 6293 | No |
| EL7415 | Yes – Renewed 2 November 2016 |
| EL 8188 | No |
| Environment Protection Licence | |
| EPL 467 | No |
| Subsidence Management Plans/Extraction Plans | |
| SMP Approval 04/1675 | No |
| Extraction Plan Approval 12/15868 | No |
| SMP Approval OUT14/10918 | No |
| Water Licences | |
| WAL36445 | No |
| WAL36449 | No |
| WAL37340 | No |
| WAL37343 | No |

10BL601829 No

10BL603236 No

10BL603802 No

10BL604512 No

10BL604709 No

10BL605132 No

Forestry Corporation of NSW Occupation Permits

Level 3 Occupation Permit No

Approval Under the NSW Threatened Species Conservation Act 1995

Section 95(2) Certificate No

Radiation Licence

Radiation Management Licence RML29229 No

4. OPERATIONS SUMMARY

Table 6. Production Summary

| Material | Approved Limit (and source) | Previous Reporting Period (Actual) | This Reporting Period (Actual) | Next Reporting Period (Forecast) |
|------------------------|-----------------------------|------------------------------------|--------------------------------|----------------------------------|
| Waste Rock/ Overburden | N/A | N/A | N/A | N/A |
| ROM Coal | 4,000,000 | 298,286 | 0* | 0 |
| Coarse reject | N/A | N/A | N/A | N/A |
| Fine reject (Tailings) | N/A | N/A | N/A | N/A |
| Saleable product | N/A | 3,424,888 | 0 | 0 |

* No production during 2016 reporting period due to Angus Place Colliery being on care and maintenance.

4.1. Other Operations

Table 7. Operations Summary

| | Approved Limit (and source) | Previous Reporting Period (Actual) | This Reporting Period (Actual) | Comment (if applicable) |
|-------------------------------|--|------------------------------------|--------------------------------|---|
| Hours of operation | 24 hours a day, 7 days a week | 24 hours a day, 7 days a week | 24 hours a day, 7 days a week | Currently under Care and Maintenance provisions (since 28 March 2015) |
| Transport (private haul road) | Up to 4 mtpa via Wallerawang Haul Road and Up to 4 mtpa via Mount Piper Haul Road | 298,286 | 0 | - |

4.2. Next Reporting Period

All activities within the 2017 reporting period will be undertaken in accordance with the approved Mining Operations Plan approved on 25 May 2016.

Table 8. Actions Required from Previous Annual Review

| Action Required | Requested By | Action Taken | Where addressed in Annual Review |
|---|-------------------------------------|--|----------------------------------|
| DP&E notes that in the next reporting period the Proponent is required to satisfy the following conditions: S3, C24B; • S3 C27. | DP&E via letter dated 2 April 2015 | Centennial Angus Place is working towards meeting the requirements of Condition 24B by the end of December 2016. | N/A |
| Angus Place to respond to Actions 7 and 9 from the 2013 DRE AEMR response letter by 31 January 2016. | DRE via letter dated 6 January 2016 | Centennial Angus Place responded to DRE regarding the matters raised on 3 February 2016. DRE has since raised additional matters in an email dated 5 February 2016. Centennial Angus Place is due to respond to DRE. | N/A |
| Send Revised Annual Review to Greg Kininmonth | DPE via email | Completed. Sent to Greg Kininmonth 29 July 2016 | N/A |
| Schedule 3 Condition 5 Letter from DPE 18 April 2016- Additional monitoring data, previous trends and visual representation | | Complete. Updated Annual Review Sent to Chris Schultz 18 July 2016 | N/A |

5. ENVIRONMENTAL PERFORMANCE

Noise

Angus Place operates in accordance with the approved *Noise Monitoring Program*, as required by Schedule 3, Condition 22 of PA 06_0021. Potential operational noise sources from the Pit Top facilities are limited due to the site being on care and maintenance status. This can be seen in attended noise monitoring results obtained during 2016.

Table 9. 2016 Noise Monitoring Results dB(A) LAeq (15min)

| Site | PA Criteria | EA Mod 1 Criteria | Q1 | Q2 | Q3 | Q4 |
|-----------------------------------|-------------|-------------------|-----|-----|----|----|
| Day (7:00am – 6:00pm) | | | | | | |
| R1 – Sharpe | 42 | 40 | IA | 30 | IA | IA |
| R2 – Mason | 41 | 38 | IA | 30 | IA | IA |
| R3 – Lidsdale | 44 | 43 | IA | IA | IA | IA |
| Evening (6:00pm – 10:00pm) | | | | | | |
| R1 – Sharpe | 38 | 38 | <30 | IA | IA | IA |
| R2 – Mason | 37 | 37 | IA | <25 | IA | IA |
| R3 – Lidsdale | 40 | 39 | IA | IA | IA | IA |
| Night (10:00pm – 7:00am) | | | | | | |
| R1 – Sharpe | 36 | N/A-* | <30 | IA | IA | IA |
| R2 – Mason | 35 | N/A* | <30 | <25 | IA | IA |
| R3 – Lidsdale | 35 | N/A* | IA | IA | IA | IA |

Table 10. 2015 Noise Monitoring Results (For Comparison)

| Site | Criteria | Q1 2015 | Q2 2015 | Q3 2015 | Q4 2015 |
|-----------------------------------|----------|---------|---------|---------|---------|
| Day (7:00am – 6:00pm) | | | | | |
| R1 - Sharpe | 42 | <30 | IA | IA | IA |
| R2 - Mason | 41 | <30 | IA | IA | IA |
| R3 - Neubeck | 44 | <30 | IA | IA | IA |
| Evening (6:00pm – 10:00pm) | | | | | |
| R1 - Sharpe | 38 | <30 | <25 | <25 | IA |
| R2 - Mason | 37 | <30 | <25 | <20 | IA |
| R3 - Neubeck | 40 | <30 | IA | IA | IA |
| Night (10:00pm – 7:00am) | | | | | |
| R1 - Sharpe | 36 | <30 | IA | <20 | IA |
| R2 - Mason | 35 | <30 | IA | <20 | IA |
| R3 - Neubeck | 35 | <30 | IA | IA | IA |

Table 11. EA Predictions

| Reference | EA Predictions (max) | |
|-----------|----------------------|---------|
| | Day | Evening |
| Sharpe | 45 | 45 |
| Mason | 44 | 44 |
| Neubeck | 47 | 47 |

From the 2016 results (as well as EA predicted levels), it can clearly be seen that the activities associated with Care and Maintenance are related to decreased levels of noise at all 3 monitoring locations.

Angus Place Colliery complied with the applicable noise limits and EA predictions at all monitoring locations during 2016. Given the continuation of 'care and maintenance' provisions and the reduced noise trend no actions are proposed for 2017.

Air Quality

Dust emissions from Angus Place are managed in accordance with the Angus Place *Air Quality Monitoring Program*. The air quality monitoring system at Angus Place consists of a combination of Dust Deposition Gauges and a High Volume Air Sampler (HVAS). Average air quality monitoring data obtained during the reporting period appears in the following tables.

Table 12. Depositional Dust Results 2016

| Gauge | Consent Criteria (g/m ² /month) | Insoluble Solids (g/m ² /mth)* |
|-------|--|---|
| DDG1 | 4 | 1.1 |
| DDG2 | 4 | 1.4 |
| DDG3 | 4 | 0.4 |
| DDG4 | 4 | 0.5 |
| DDG5 | 4 | 0.3 |
| DDG6 | 4 | 1.6 |
| DDG7 | 4 | 0.4 |
| DDG8 | 4 | 0.4 |

A graphical representation of the dust results at each monitoring locations is included below. The previous three years has been captured and presented at each location.

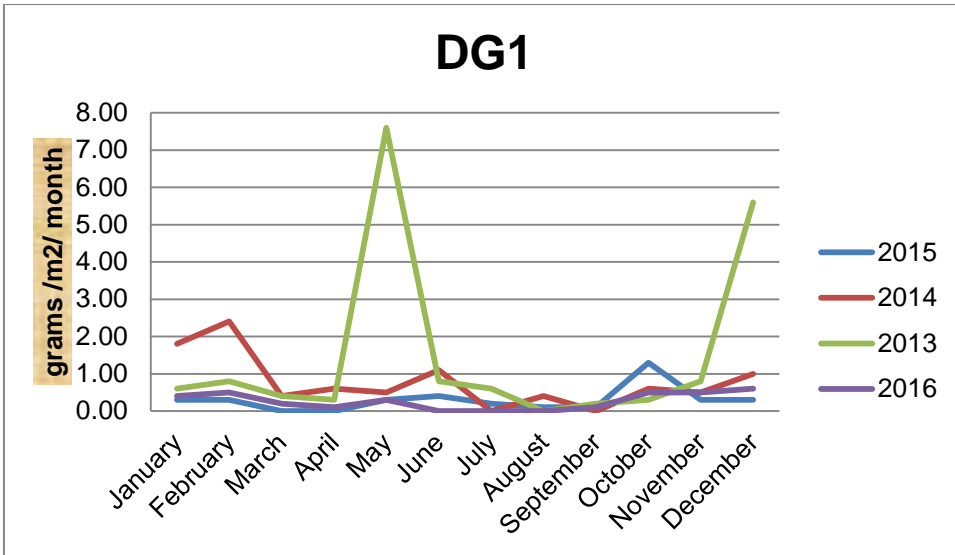


Figure 6. 1 Deposition Dust Gauge 1 2013-2016

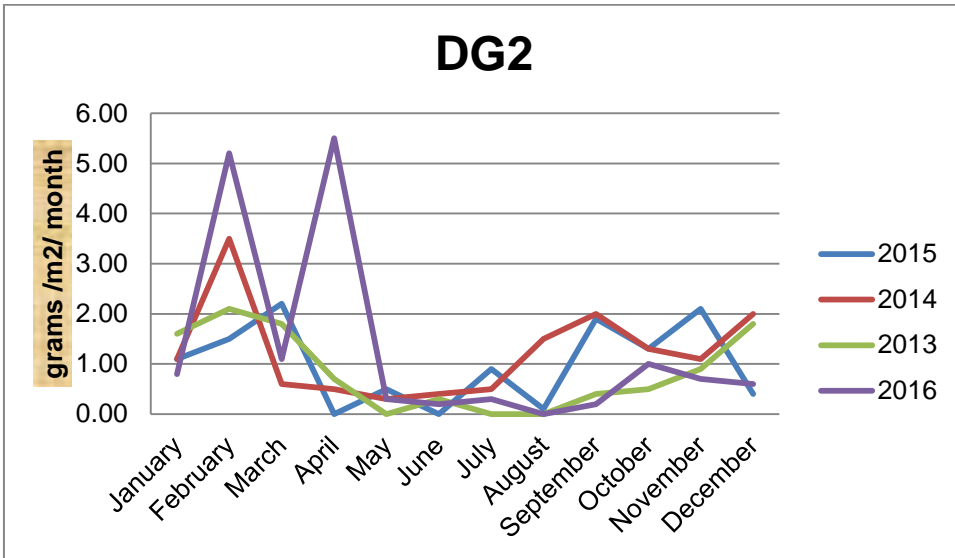


Figure 6. 2 Deposition Dust Gauge 2 2013-2016

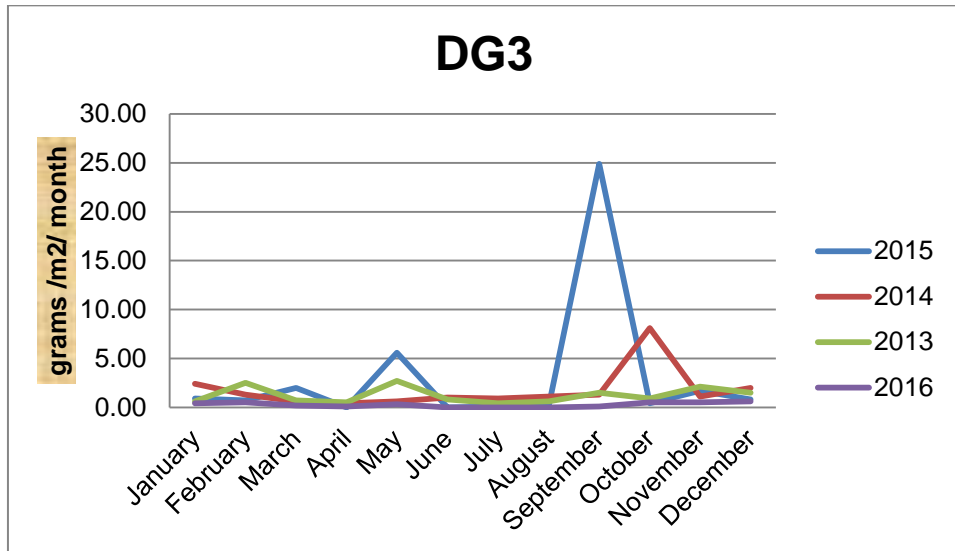


Figure 6. 3 Deposition Dust Gauge 3 2013-2016

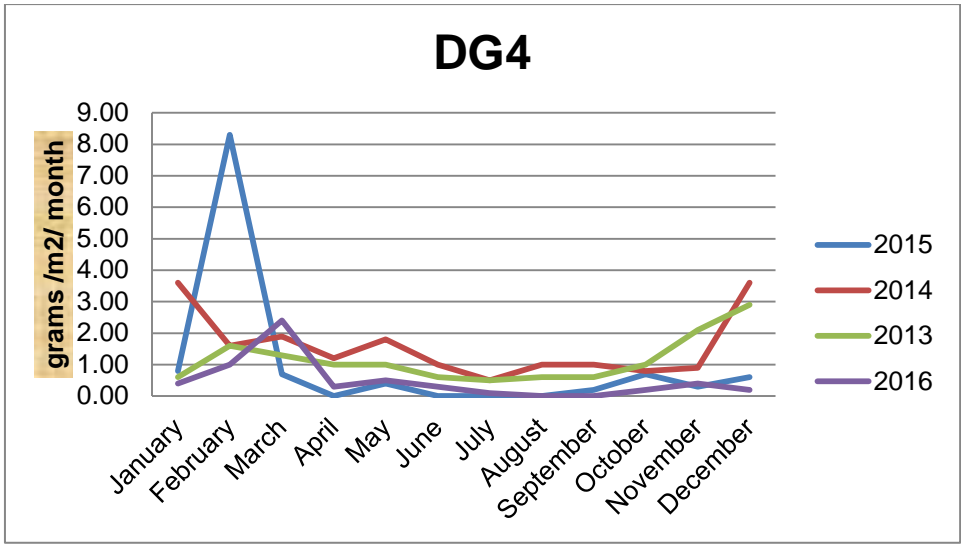


Figure 6.4 Deposition Dust Gauge 4 2013-2016

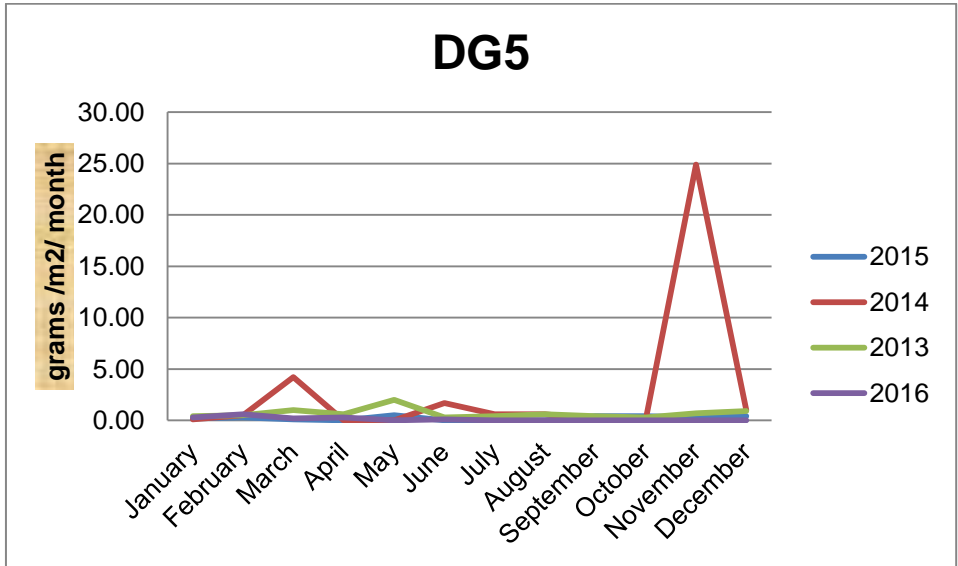


Figure 6.5 Deposition Dust Gauge 5 2013-2016

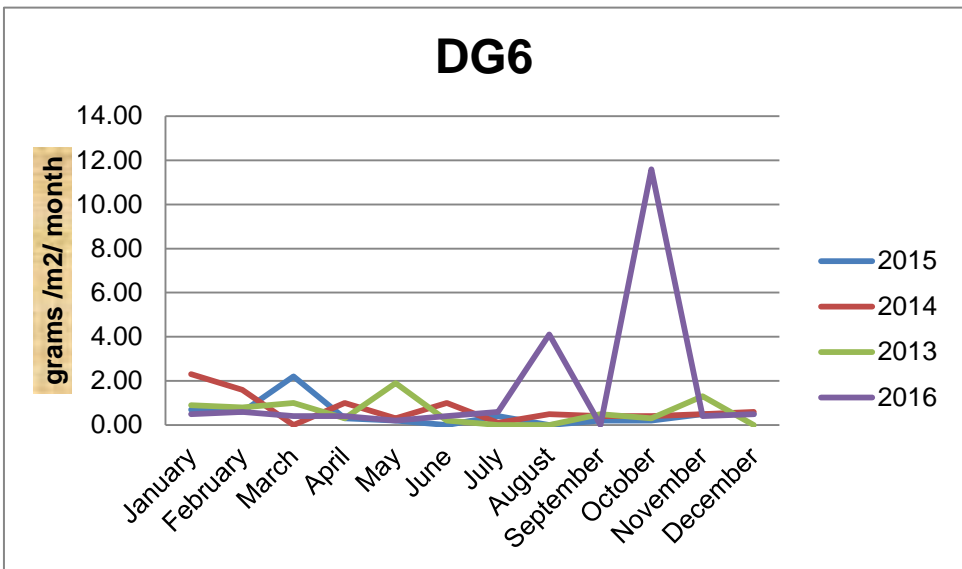


Figure 6.6 Deposition Dust Gauge 6 2013-2016

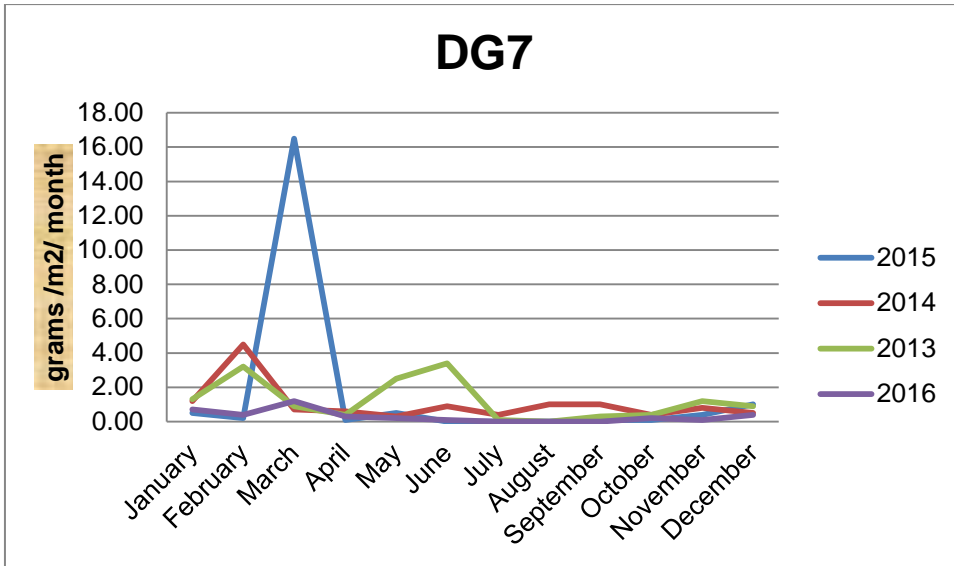


Figure 6.7 Deposition Dust Gauge 7 2013-2016

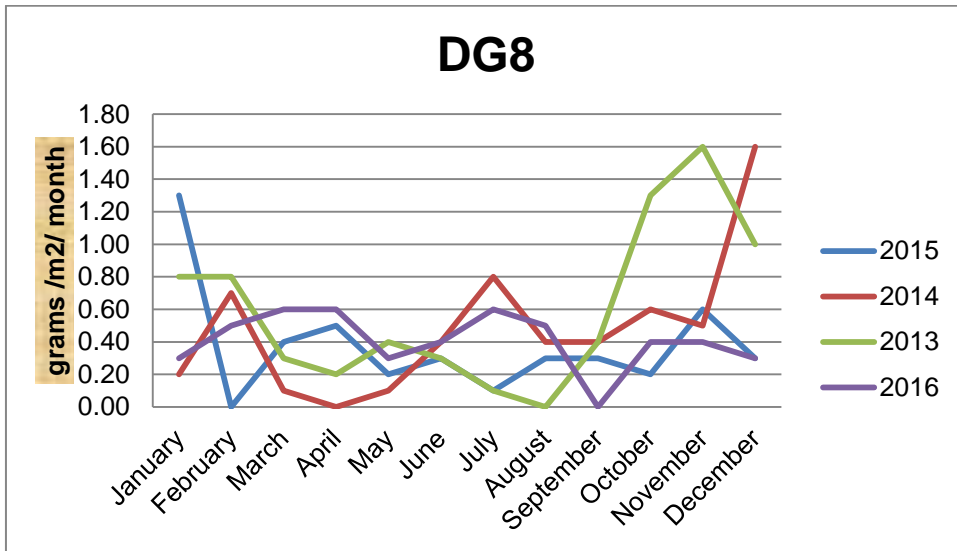


Figure 6.8 Deposition Dust Gauge 8 2013- 2016

Table 13. HVAS Results 2016

| | PM ₁₀ (µg/m ³)** | TSP (µg/m ³) |
|-------------------------|---|--------------------------|
| Consent Criteria | 30 | 90 |
| Minimum | <1 | <1 |
| Average | 5.31 | 12.37 |
| Maximum | 20 | 35 |

In addition to being compliant with the approval criteria, the 2016 results are generally consistent with the results recorded during years 2011 – 2015.

As a component of the Mod 1 Environmental Assessment an Air Quality Assessment was undertaken by Heggies Pty. Ltd. This assessment outlined that the results of modelling indicate that the operations would generally comply with the relevant criteria. In summary it was reported that:

- Dust deposition levels are predicted to be below the project air quality criteria at all surrounding dwellings.
- Cumulative annual average PM₁₀ and TSP concentrations are predicted to be below the project air quality goal at all surrounding dwellings.
- Incremental 24-hour PM₁₀ concentrations attributable to the modifications are predicted to be well below the project air quality goals set at the majority of surrounding dwellings.
- Minimal impacts associated with the ventilation fans (odour and particles).

Air quality monitoring undertaken by Angus Place during the 2016 reporting period indicates that observed results are consistent with the predicted air quality emissions for the operation. Given the continuation of care and maintenance provisions and the reduced noise trend no actions are proposed.

PM10 and TSP results for the past 4 years is trended in the figures below.

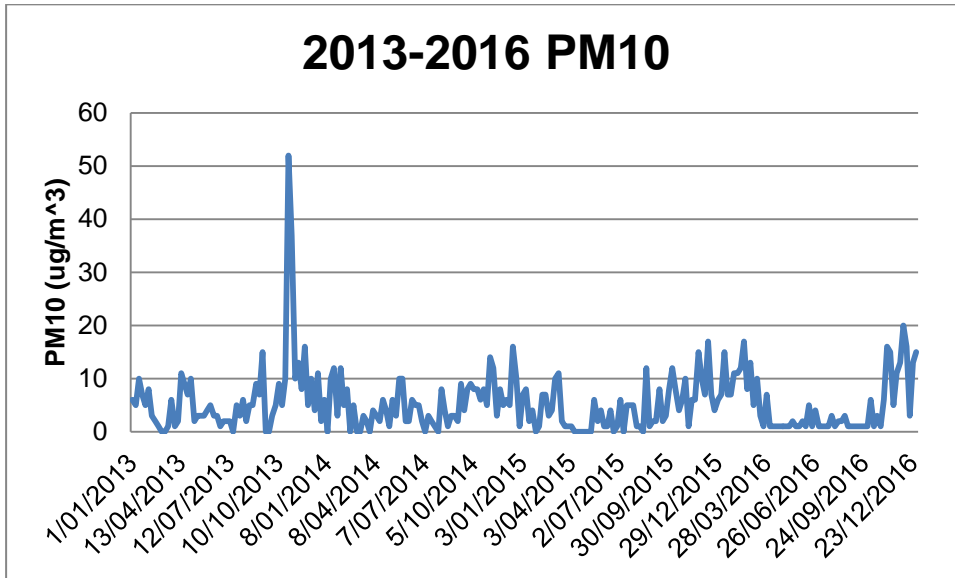


Figure 6. 9 PM10 2013-2016

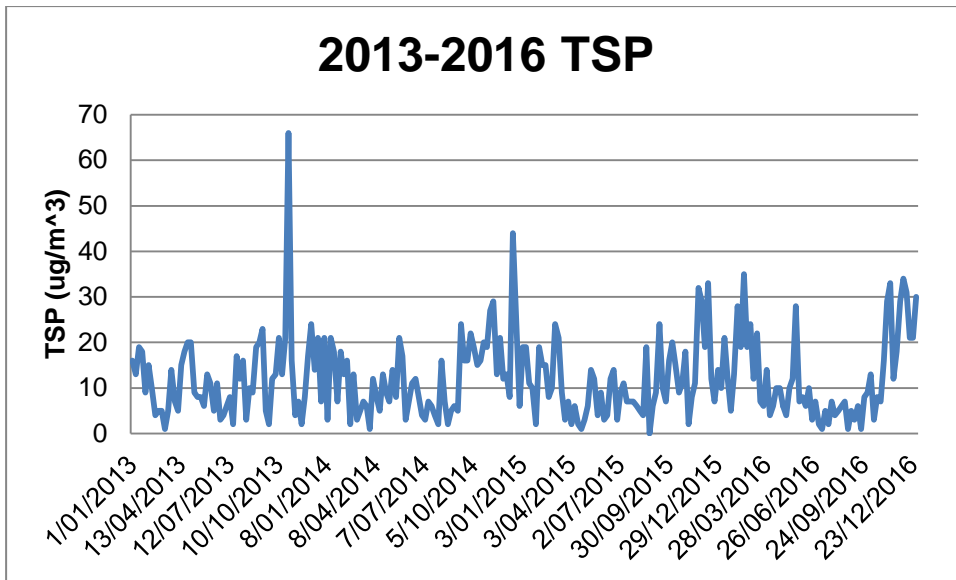


Figure 6. 10 TSP 2013-2016

Biodiversity

Angus Place manages potential impacts to flora and fauna in accordance with the approved Flora and Fauna Management Plan, required under Schedule 3, Condition 24 of PA 06_0021. The purpose of the Flora and Fauna Management Plan is to protect threatened species and communities, minimise impacts upon native flora and fauna, manage clearing on the site, control weeds, control access to environmentally sensitive areas and manage any potential conflicts between flora and fauna and Aboriginal heritage.

Monitoring of flora and fauna is undertaken in accordance with the Flora and Fauna Management Plan, Longwalls 930 – 980 Environmental Monitoring Program and the Longwalls 900W and 910 Environmental Monitoring Program. There are currently 21 flora monitoring sites at Angus Place which have been established.

Longwalls 930 – 980 SMP Area

Monitoring of fauna at Angus Place is undertaken for the Longwalls 930 – 980 SMP Area (SMP Area) in accordance with the approved *Flora and Fauna Management Plan* and the *Longwalls 930 – 980 Environmental Monitoring Program*.

A total of 60 bird, 10 reptile, 3 amphibian and 23 native mammal species (plus four introduced) were located within Angus Place Colliery SMP Application area during the 2016 surveys. This number of species is similar to that obtained for the last five years and can be considered as typical of that expected from the Central Tablelands. The total numbers of species found in Angus Place SMP Area since 2004 are: birds 116; reptiles 29; native mammals 35, and amphibians 9.

A search of various databases resulted in a species listing for the Angus Place Colliery that was provided in the 2004 report. According to the results from the search, 102 bird, 20 mammal and 26 reptile species have been previously recorded from the Colliery area. By 2013, more than 100% of the bird species and 92% of the reptile species had been

located as a result of the monitoring surveys. More mammal species are known from the area than has been previously recorded (33 versus 20 native species) because of the current surveys.

Longwalls 900W and 910 Integrated SMP/Extraction Plan Area

Monitoring of fauna at Angus Place is undertaken for the Longwalls 900W and 910 Integrated SMP/Extraction Plan Area (Extraction Plan Area) in accordance with the approved *Flora and Fauna Management Plan* and the *Longwalls 900W and 910 Environmental Monitoring Program*.

A total of 50 bird, 21 native mammals (plus two introduced), 6 reptile and 2 amphibian species were located within the Extraction Plan Area. The results from the surveys show that Extraction Plan Area is typical of the forest and swamp environments on the Newnes Plateau. Biodiversity indices for birds and mammals were similar to that found within the remainder of Angus Place Colliery and consequently there is a good database to use for future monitoring.

Swamp Results

During the 2016 reporting period there was no secondary extraction beneath Newnes Plateau Shrub Swamps or Newnes Plateau Hanging Swamps.

No additional biodiversity actions are proposed.

Heritage

Management of Aboriginal cultural heritage at Angus Place is undertaken in accordance with Centennial's Western Region *Aboriginal Cultural Heritage Management Plan* (ACHMP). This document was prepared in consultation with the Registered Aboriginal parties, the NSW Office of Environment and Heritage (OEH) and DP&E, and outlines protocols for Aboriginal consultation, handling sensitive cultural information, monitoring and management of Aboriginal cultural heritage and dispute resolution.

Angus Place also undertakes the management of Aboriginal cultural heritage in accordance with the approved *Longwalls 900W and 910 Heritage Management Plan*. This plan was prepared in consultation with OEH and relevant Aboriginal stakeholders and outlines the monitoring and management measures to be implemented to manage potential environmental consequences of proposed secondary extraction of Longwalls 900W and 910 upon Aboriginal heritage sites or values. This plan is a component of the approved Longwalls 900W and 910 Integrated SMP/Extraction Plan.

As outlined in the *Longwalls 900W and 910 Heritage Management Plan*, there is only one known Aboriginal heritage site associated with the approved longwall panels. This site is a Rock Shelter with Potential Archaeological Deposit (PAD) which was identified during a survey undertaken during the preparation of the relevant Cultural Heritage Impact Assessment by RPS (2010). The Rock Shelter with PAD is located approximately 465 m to the west of Longwall 910 and is 280 m from the limit of predicted vertical subsidence. DgS (2010) stated that "it is very unlikely that cracking of cliff lines associated with the site would occur due to mine subsidence as all known cliff lines occur outside the predicted area of subsidence". From the end of March 2015, Angus Place was placed on 'care and maintenance'. Secondary extraction of Longwall 900W was

completed in February 2015. Longwall 910 is not planned to be extracted until the recommencement of mining.

A Western Region Aboriginal Cultural Heritage Sub-Committee was established in 2015. Two meetings were held in May and October 2016. The meeting invitees include Registered Aboriginal Groups, OEH and Centennial representatives. An update was held on activities completed in the previous three months and upcoming three months. Discussions during 2016 included Aboriginal Groups involvement in due diligence surveys, access to heritage sites on Centennial land and regarding site specific heritage activities. No European Heritage activities were undertaken in 2016.

There were no archaeological or heritage related complaints, non-compliances or incidents reported at Angus Place during the reporting period. No further actions are proposed.

6. WATER MANAGEMENT

It is important to note that Table 7 reports on the WATER YEAR which is from 1 July to 30 June, not the calendar year.

Table 14. Water Take

| License # | Water Sharing Plan, source and management zone (as applicable) | Entitlement | Passive take inflows | / | Active pumping | TOTAL |
|-----------|--|-------------|----------------------|---|----------------|-------|
| WAL36445 | Sydney Basin Coxs River Groundwater Source | 2,701 | N/A | | 456 | 456 |
| WAL37340 | | 329 | N/A | | NIL | NIL |
| WAL36449 | Sydney Basin Richmond Groundwater Source | 2,523 | N/A | | 2,172 | 2,172 |
| WAL37343 | | 35 | N/A | | NIL | NIL |

Volume is reported in annual megalitres (ML)

Table 15. LDP001 Water Quality 2016

| Pollutant | EPL Limit | Minimum | Average | Maximum |
|-------------------------------|------------|---------|---------|----------|
| Conductivity (µs/cm) | - | 772 | 1059.47 | 1145 |
| Oil and Grease (mg/L) | 10 | <5 | <5 | 6 |
| pH | 6.5-9 | 6.77 | 8.35 | 8.64 |
| Total Suspended Solids (mg/L) | 30 | <5 | <5 | <5 |
| Turbidity (NTU) | - | 1 | 3.4 | 28 |
| Flow (kL/day) | 2000kL/day | 366 | 1261.14 | 2020.47* |

* Discharge limit exceeded after surface flow from rainfall contributed to flow through LDP001.

Total volume of water discharged from LDP001 during 2016 was 461.856 ML.

A graphical representation for each parameter monitored at LDP001 for the 2016 period and the past 4 years is included below.

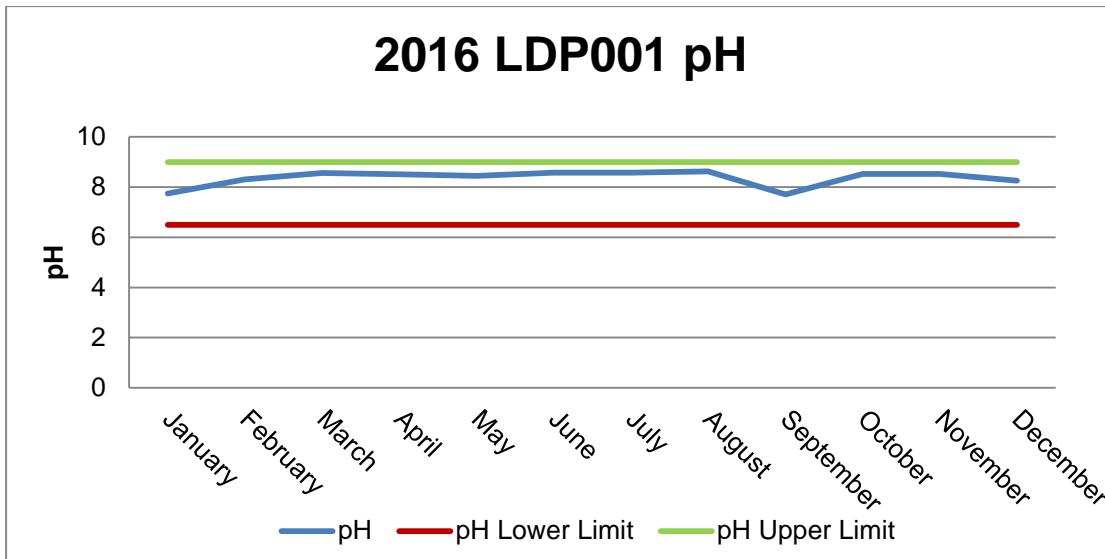


Figure 7. 1 LDP001 pH 2016

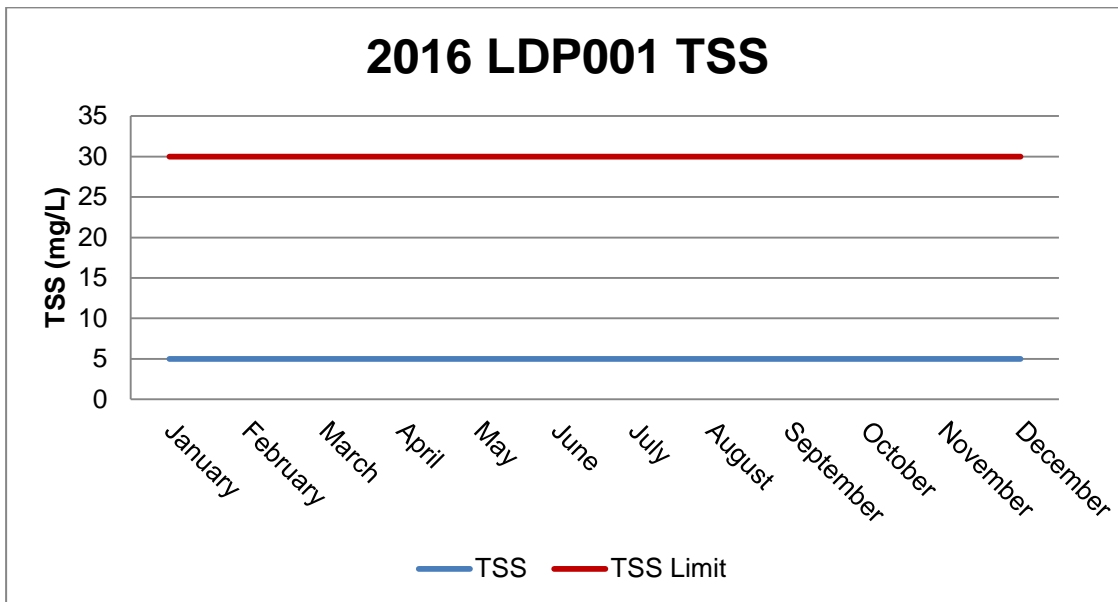


Figure 7. 2 LDP001 TSS 2016

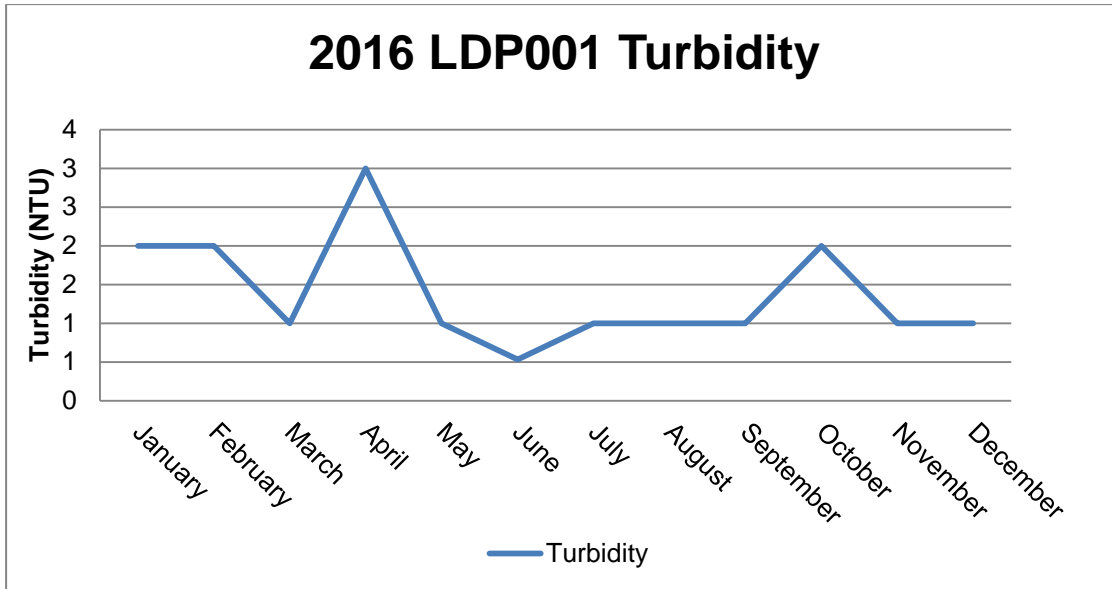


Figure 7. 3 LDP001 Turbidity 2016

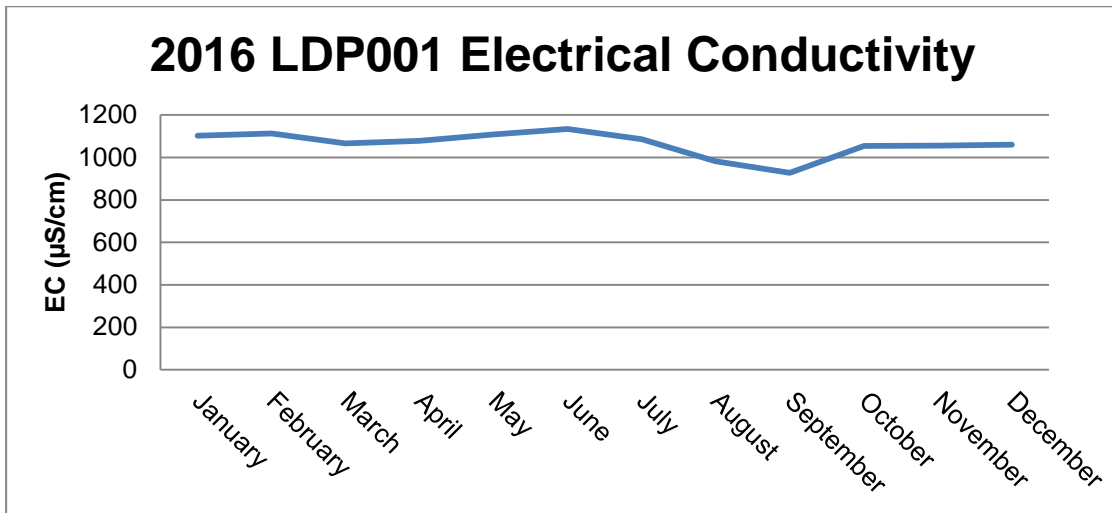


Figure 7. 4 LDP001 Electronic Conductivity 2016

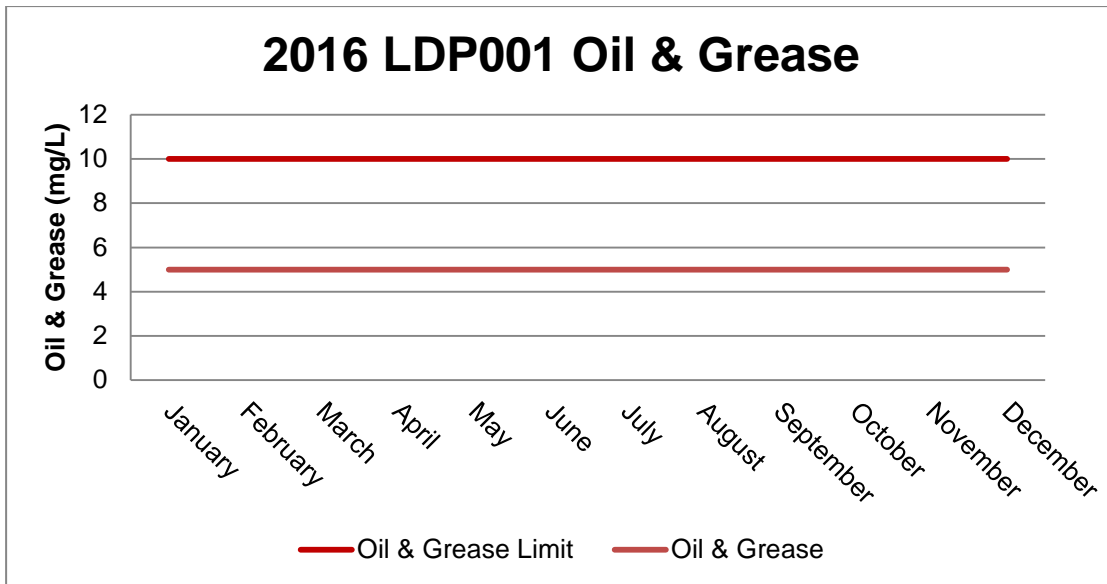


Figure 7. 5 LDP001 Oil and Grease

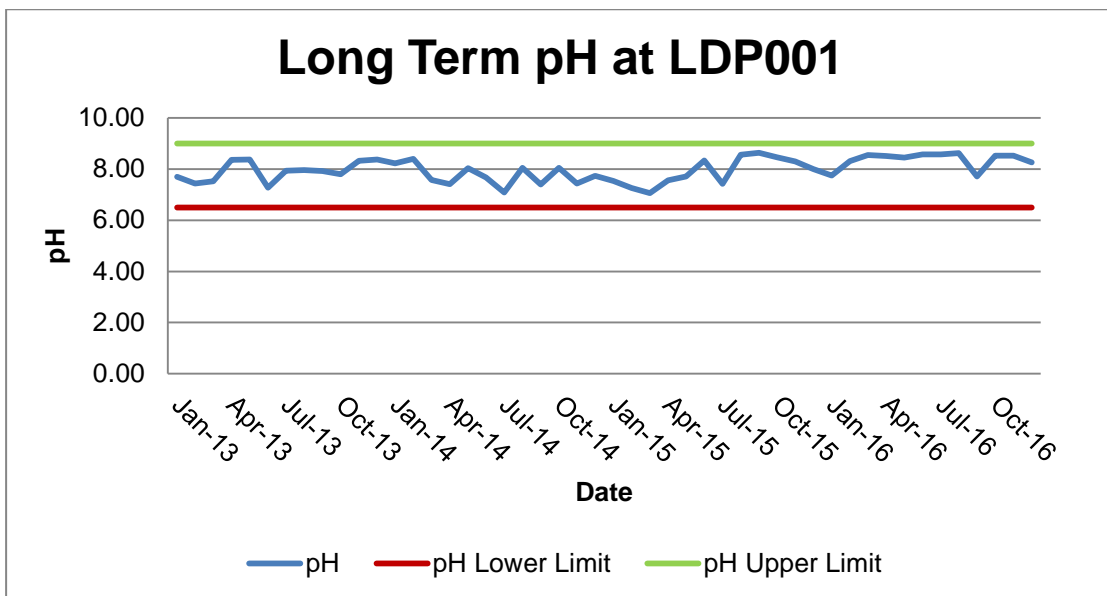


Figure 7. 6 LDP001 Long Term pH

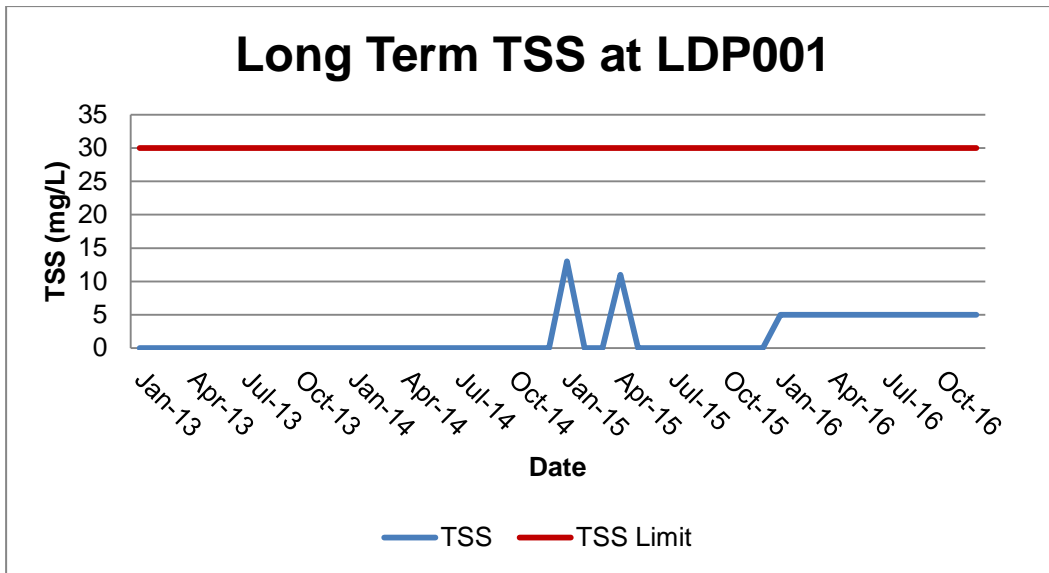


Figure 7. 7 LDP001 Long Term TSS

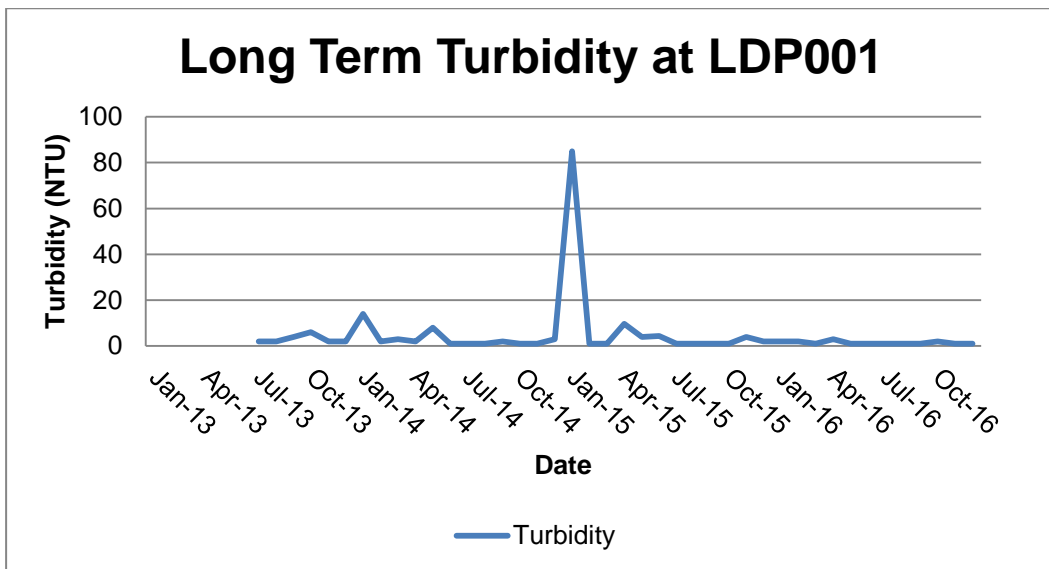


Figure 7. 8 LDP001 Long Term Turbidity

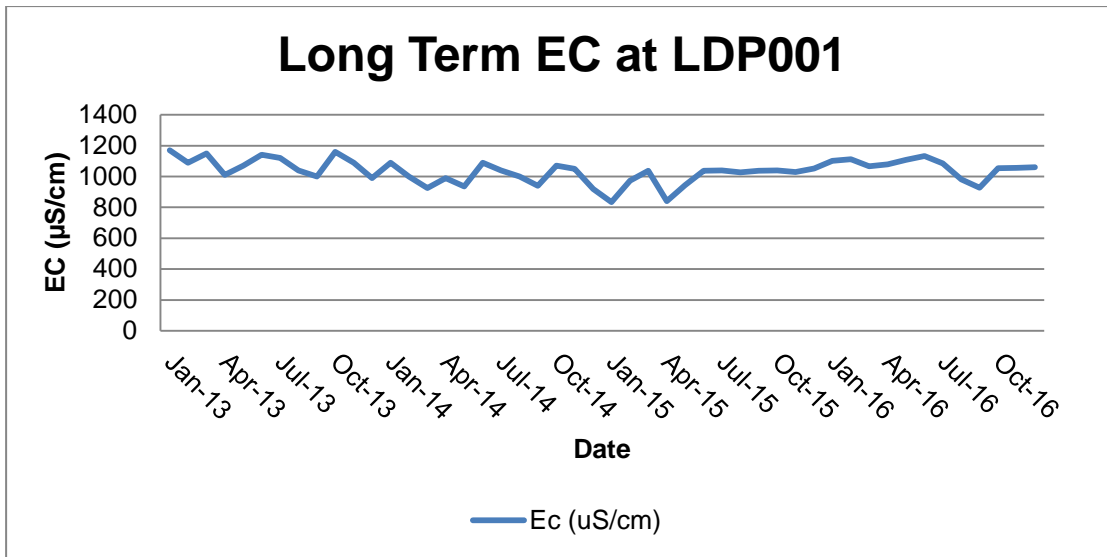


Figure 7. 9 LDP001 Long Term Electronic Conductivity

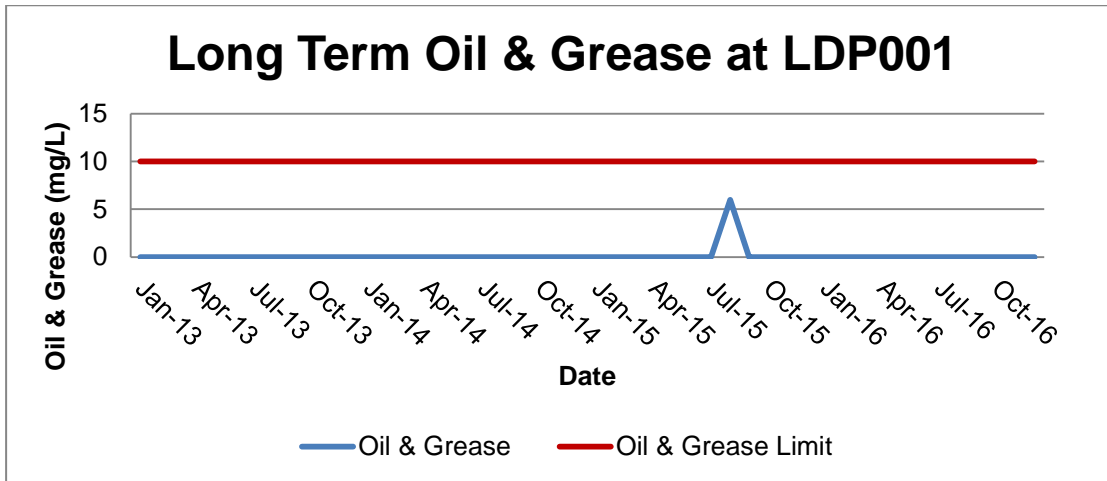


Figure 7. 10 LDP001 Long Term Oil and Grease

Table 16. LDP002 Water Quality 2016

| Pollutant | EPL Limit | Minimum | Average | Maximum |
|-------------------------------|-----------|---------|---------|---------|
| Conductivity (µs/cm) | - | 178 | 321.54 | 1037 |
| Oil and Grease (mg/L) | 10 | <5 | <5 | <5 |
| pH | 6.5-9 | 6.77 | 7.67 | 8.72 |
| Total Suspended Solids (mg/L) | 30 | 6 | 11.5 | 17 |
| Turbidity (NTU) | - | 2 | 16.85 | 41 |

* Result from discharge event during 21 April where Limit Condition L2.5 replaces L2.4 (rain event exceeded 44mm rainfall).

A graphical representation for each parameter monitored at LDP002 for the 2016 period and the past 3 years is included below.

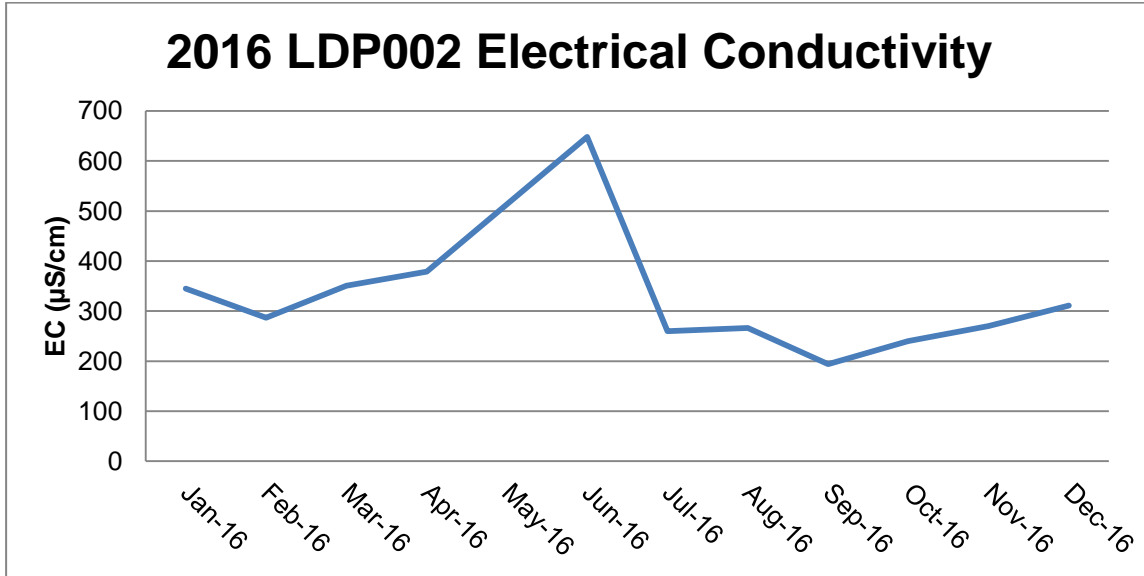


Figure 7. 11 LDP002 Electronic Conductivity 2016

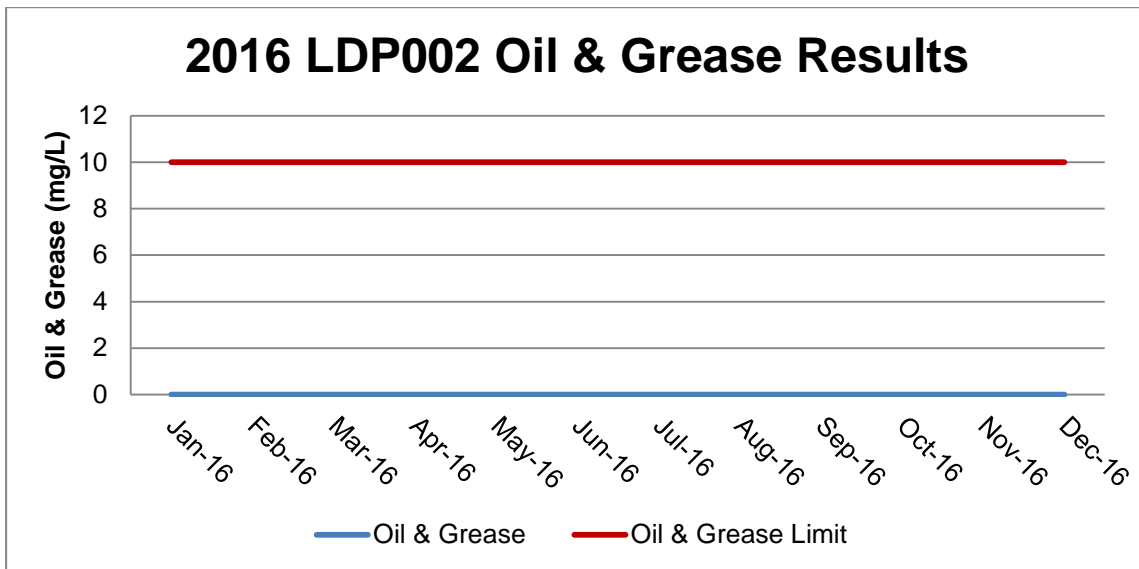


Figure 7. 12 LDP002 Oil and Grease 2016

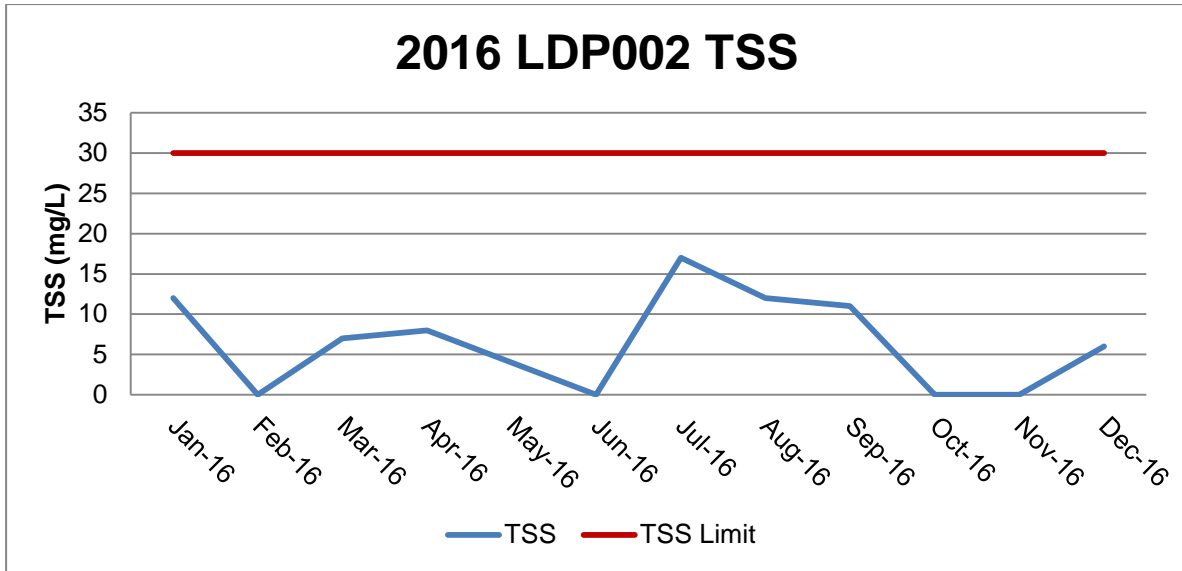


Figure 7. 13 LDP002 TSS 2016

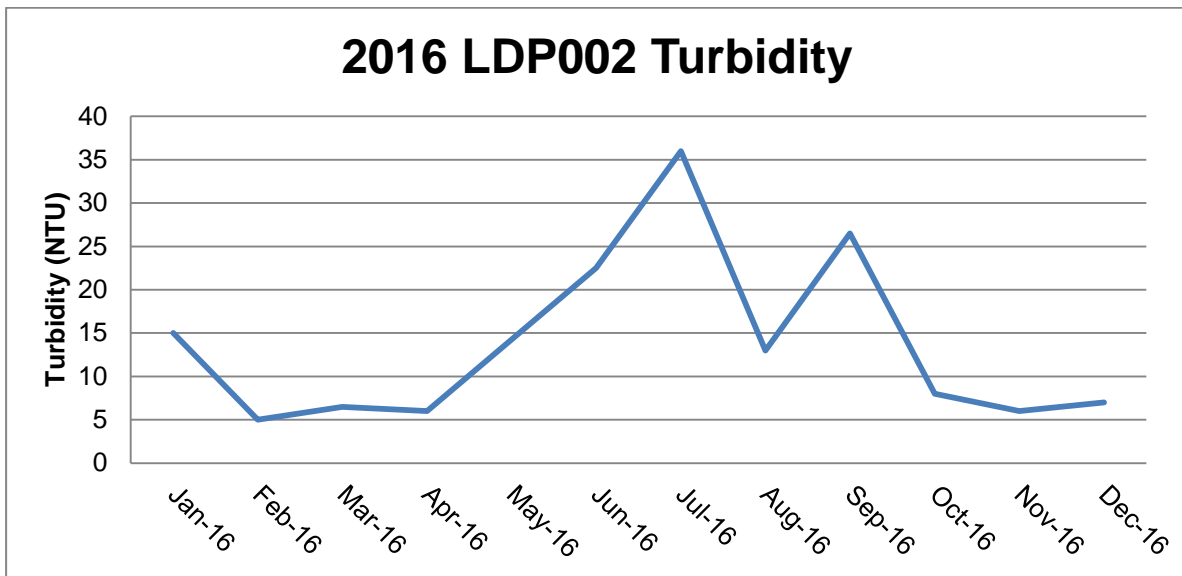


Figure 7. 14 LDP002 Turbidity 2016

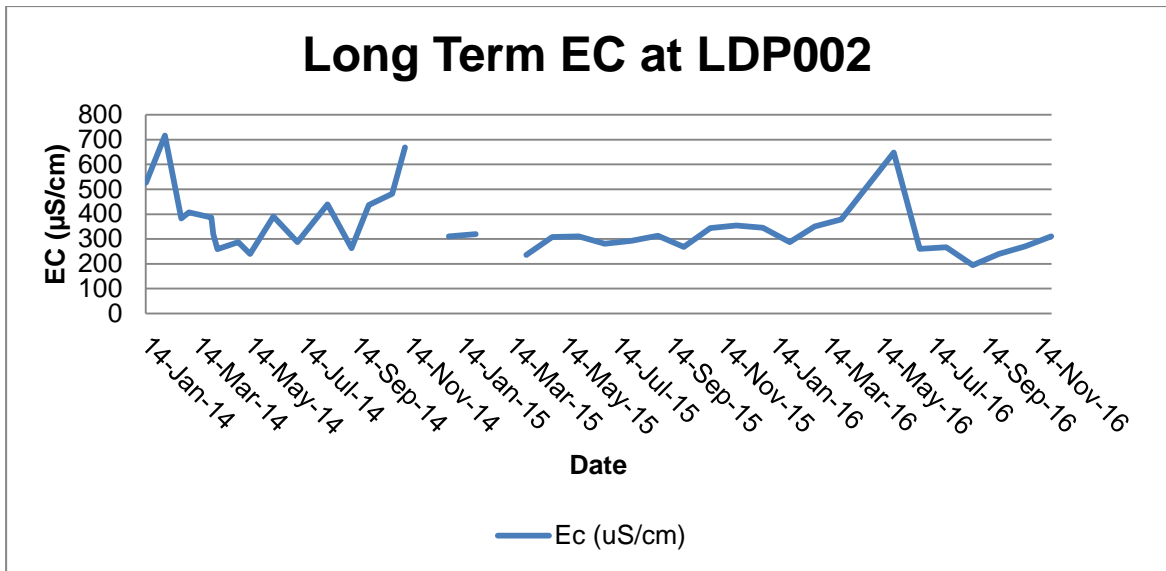


Figure 7. 15 LDP002 Long Term Electronic Conductivity

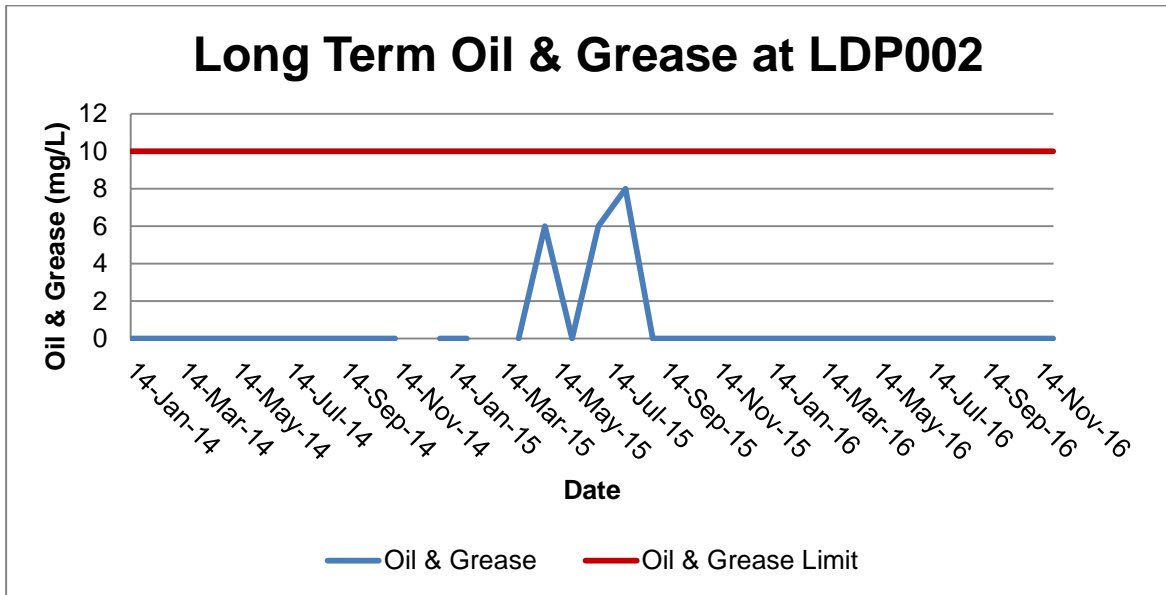


Figure 7. 16 LDP002 Long Term Oil and Grease

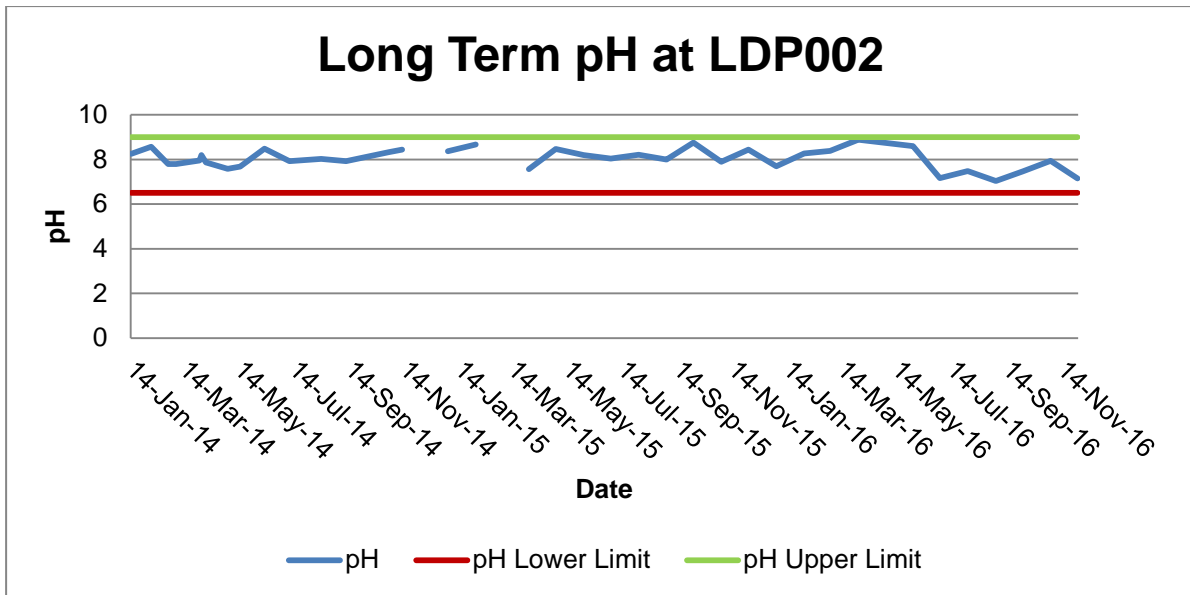


Figure 7. 17 LDP002 Long Term pH

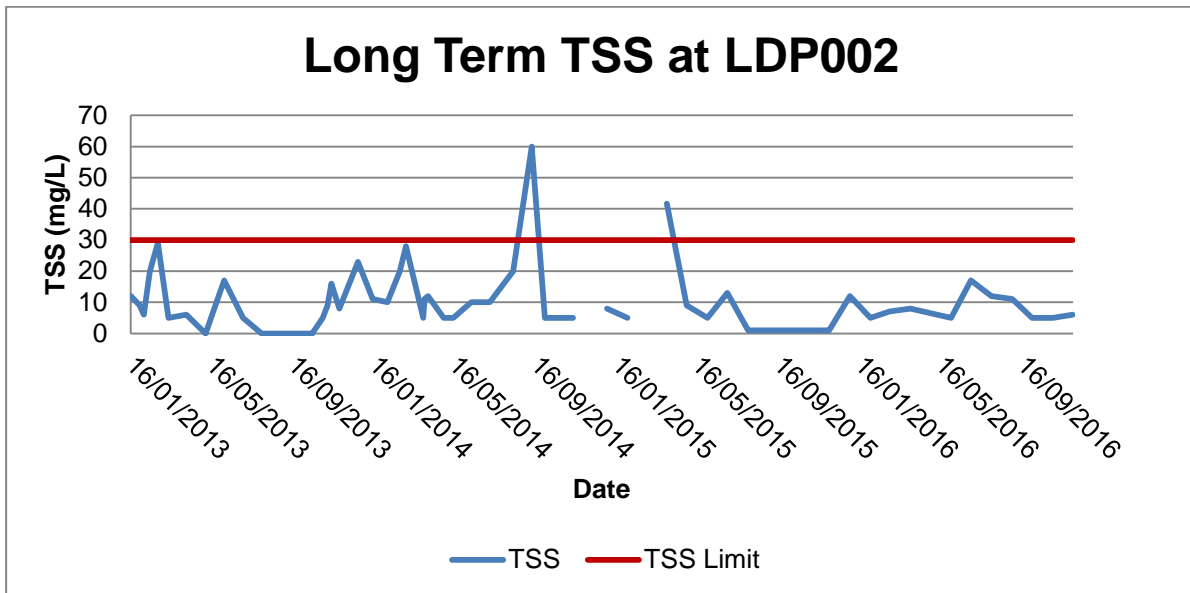


Figure 7. 18 LDP002 Long Term TSS

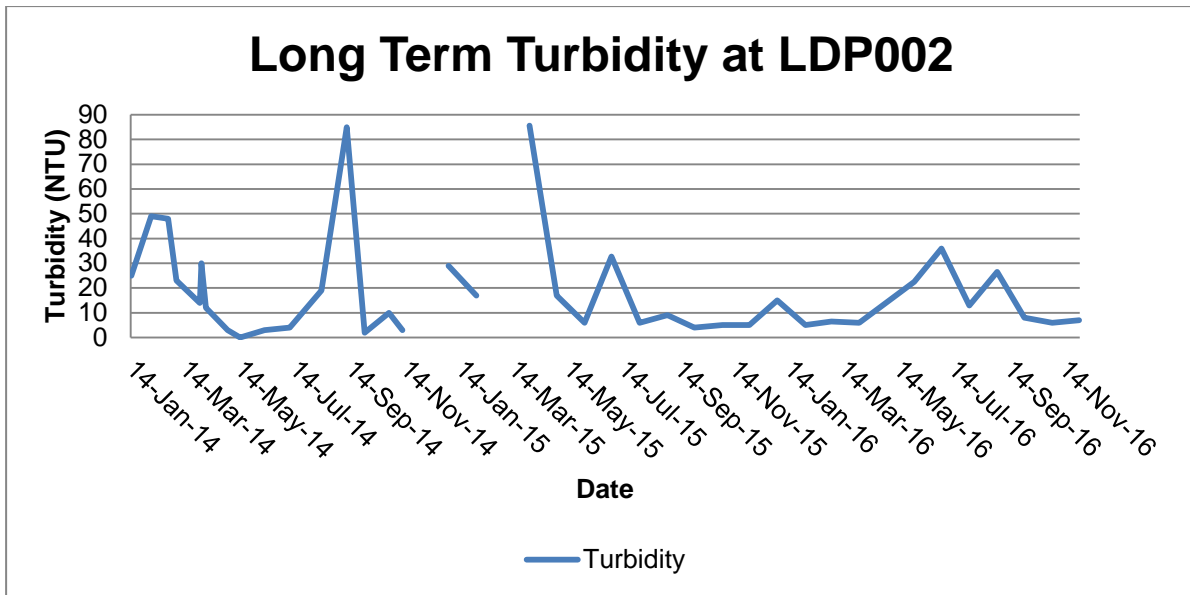


Figure 7. 19 LDP002 Long Term Turbidity

Table 17. LDP003 Water Quality 2016

| Pollutant | EPL Limit | Minimum | Average | Maximum |
|-------------------------------|-----------|---------|---------|---------|
| Conductivity (µs/cm) | - | 77 | 85 | 96 |
| Oil and Grease (mg/L) | 10 | <5 | <5 | <5 |
| pH | 6.5-8.5 | 70.1 | 7.72 | 8.38 |
| Total Suspended Solids (mg/L) | 50 | 7 | 19.33 | 31 |
| Turbidity (NTU) | - | 9 | 18 | 31 |

A graphical representation for each parameter monitored at LDP003 for the 2016 period and the past 3 years is included below.

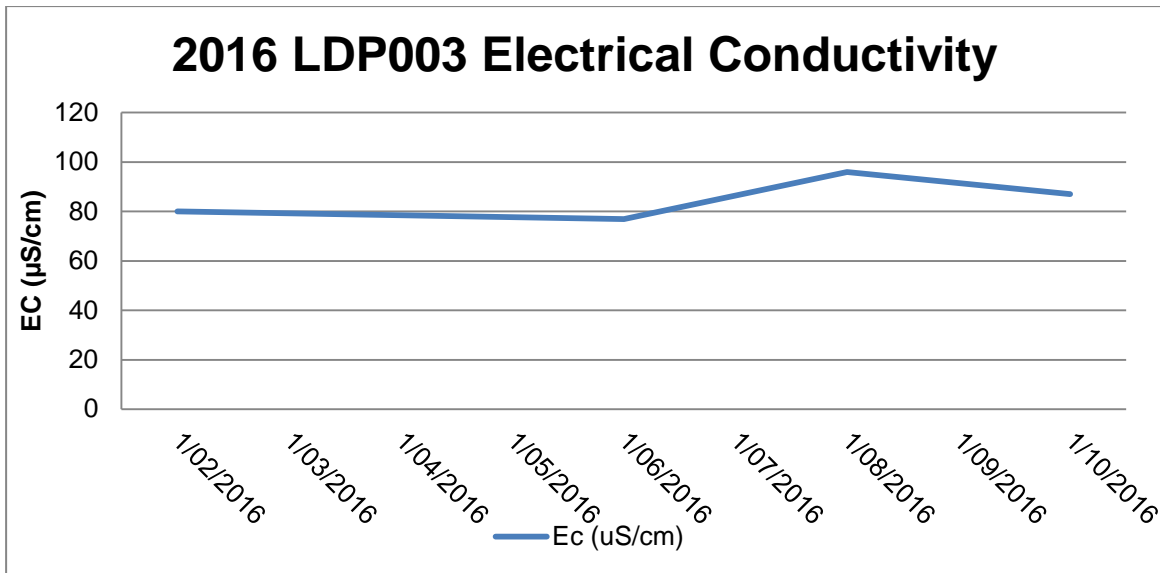


Figure 7. 20 LDP003 Electrical Conductivity 2016

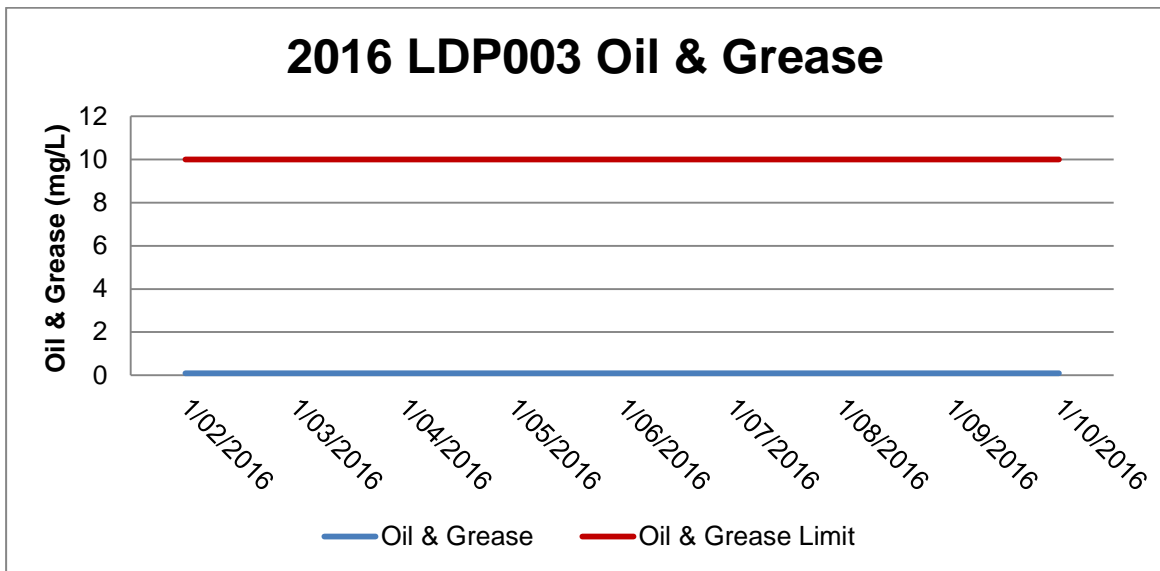


Figure 7. 21 LDP003 Oil and Grease 2016

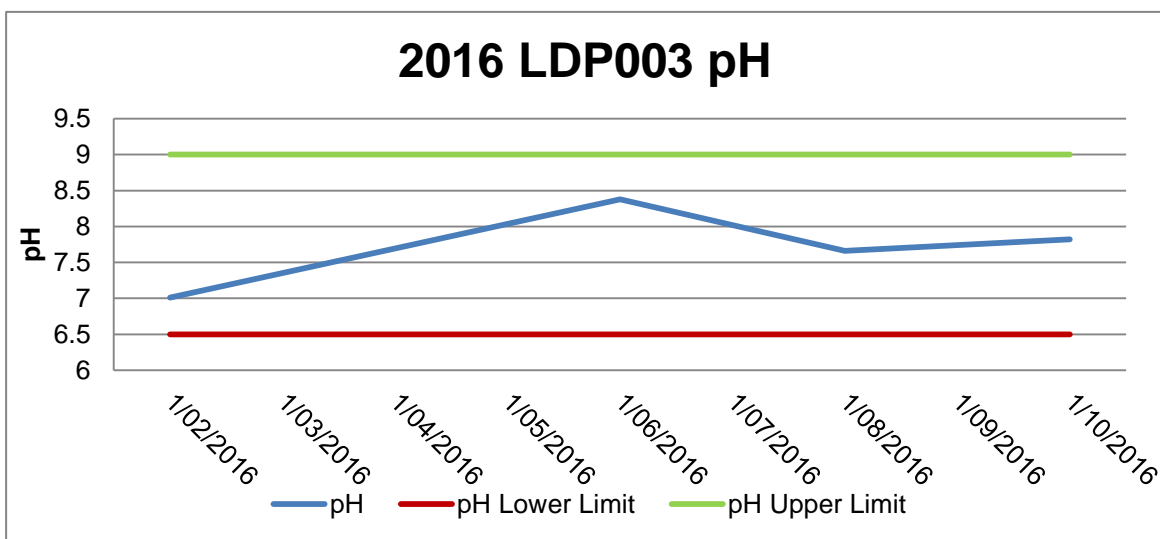


Figure 7. 22 LDP003 pH2016

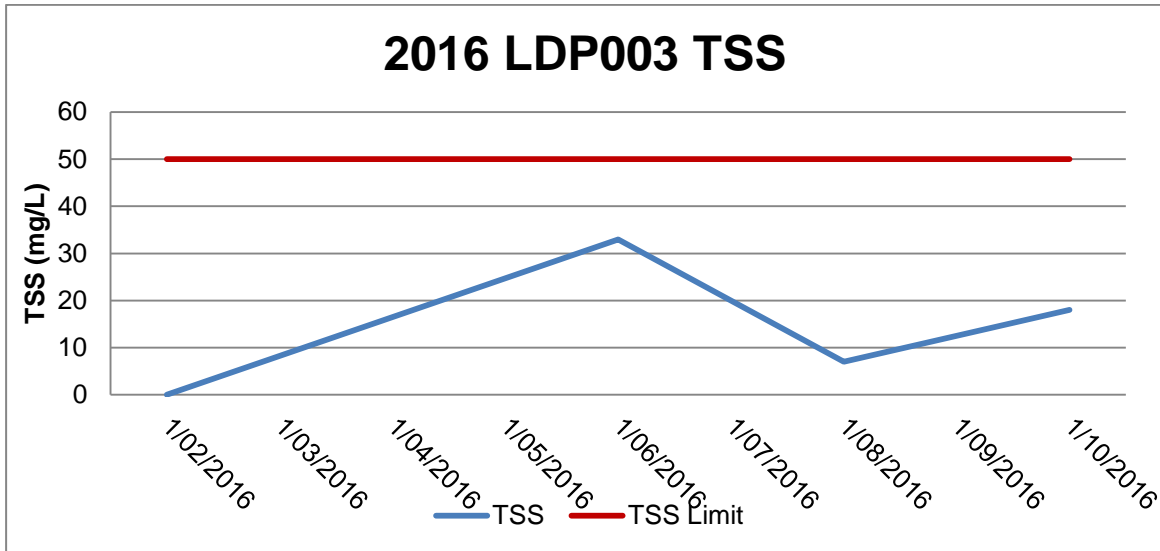


Figure 7. 23 LDP003 TSS 2016

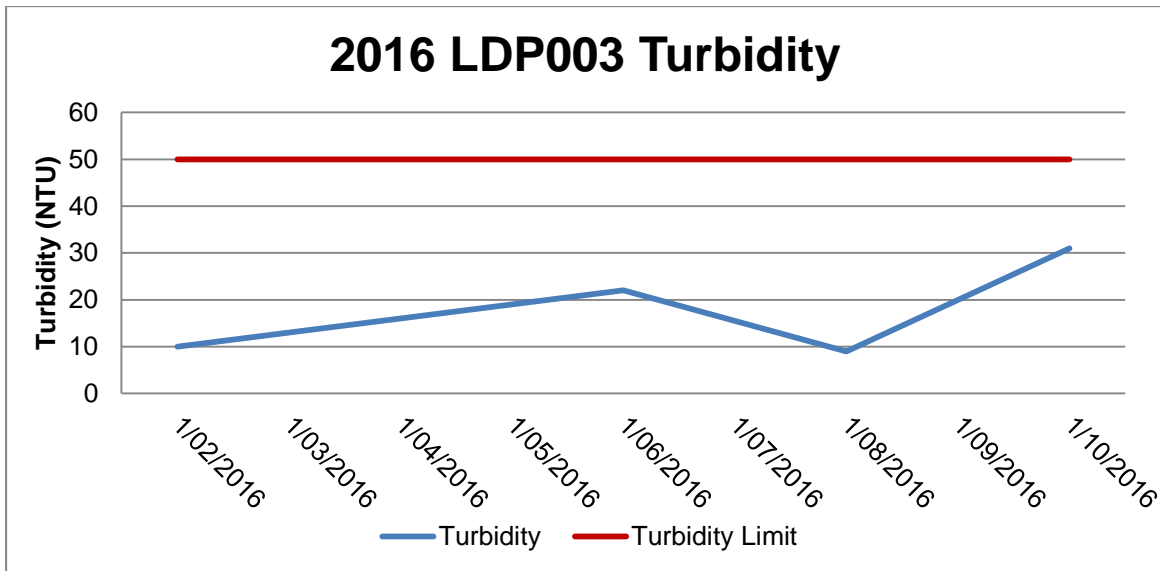


Figure 7. 24 LDP003 Turbidity 2016

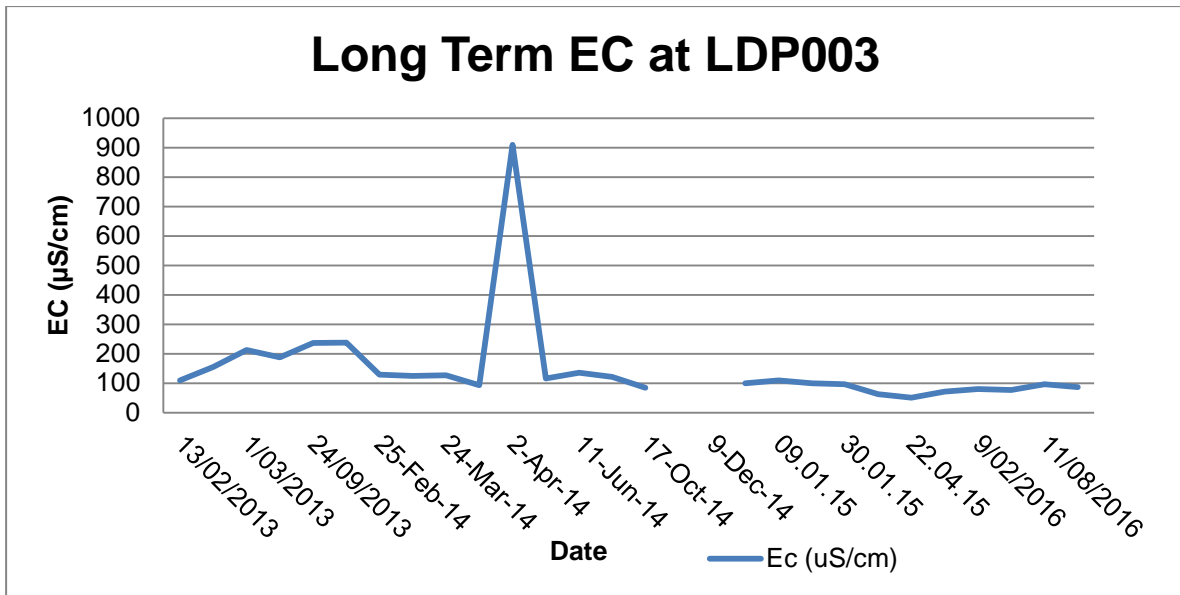


Figure 7. 25 Long Term Electronic Conductivity 2013-2016

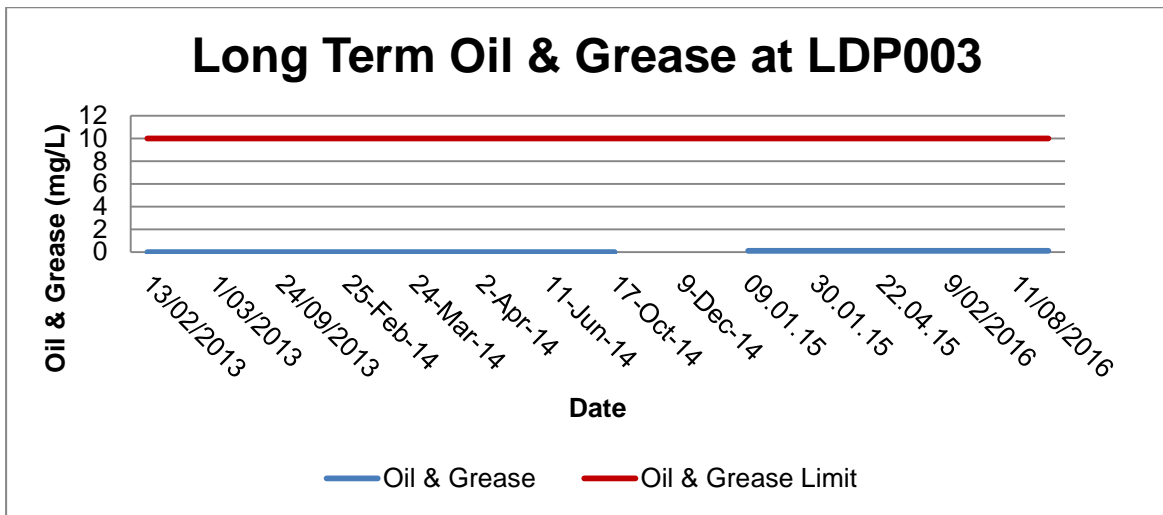


Figure 7. 26 LDP003 Long Term Oil and Grease

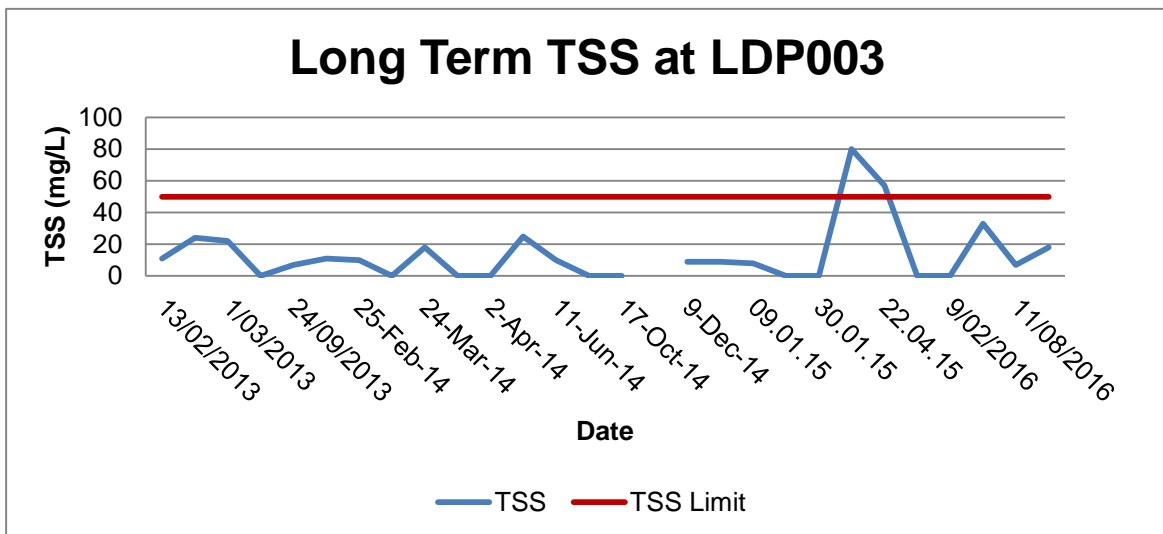


Figure 7. 27 LDP003 Long Term TSS

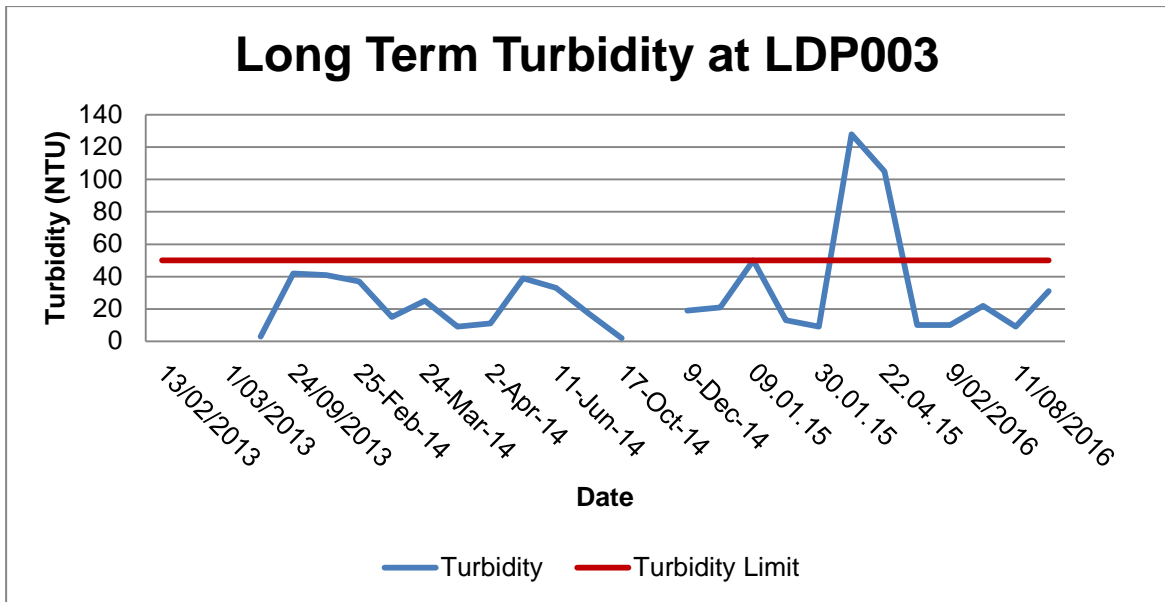


Figure 7. 28 LDP003 Long Term Turbidity

7. REHABILITATION

Buildings

No permanent buildings were removed during the 2016 reporting period.

Rehabilitation of Disturbed Land

Newnes Plateau

During the 2015 reporting period rehabilitation works were started across the laydown area associated with the Angus Place Ventilation Facility and also along the infrastructure corridor established along Sunnyside Ridge Road. During 2016 further maintenance activities were carried out in these areas. Weeding along the infrastructure corridor and further ripping and seeding activities occurred in the rehabilitated laydown area.

A baseline rehabilitation monitoring program was commenced during 2014 which identified that all plots showed natural regeneration from the existing seedbed. The monitoring program continued in 2016. Monitoring focussed on rehabilitation activities undertaken at the laydown area and infrastructure corridor and vegetation established to stabilise site perimeter bund and some areas surrounding internal settling ponds and drains.

Angus Place Pit Top

No rehabilitation activities occurred at the Pit Top during the 2016 reporting period.

7.1. Next Reporting Period

Angus Place proposed to undertake progressive rehabilitation of the ventilation facility situated on Newnes Plateau during the next reporting period.

Table 18: Rehabilitation Status

| Mine Area Type | Previous Reporting Period (Actual) | This Reporting Period (Actual) | Next Reporting Period (Forecast) |
|--|------------------------------------|--------------------------------|----------------------------------|
| | 2015 (ha) | 2016 (ha) | 2017 (ha) |
| A. Total mine footprint¹ | 41.87 | 41.87 | 41.87 |
| B. Total active disturbance² | 41.87 | 41.87 | 41.87 |
| C. Land being prepared for rehabilitation³ | 1.76 | 1.76 | 1.76 |
| D. Land under active rehabilitation⁴ | 4.87 | 4.87 | 4.87 |
| E. Completed rehabilitation⁵ | 0 | 0 | 0 |

8. COMMUNITY

During the 2016 reporting period no community complaints were received by Angus Place Colliery. This is consistent with previous years.

Community Consultative Committee

In accordance with Schedule 5, Condition 8 of PA 06_0021, a Community Consultative Committee (CCC) has been established to monitor the operations and provide a forum whereby the community can communicate with the mine operators and be kept up to date with the progress of the mine. The committee is composed of:

- An independent chairperson;
- Four representatives from Centennial Coal, including the Environment and Community Coordinator;
- One representative from Council; and
- At least three representatives from the local community.

In October 2014 the CCC was also expanded to include Springvale Colliery and Western Coal Services. The combined Angus Place, Springvale and Western Coal Services CCC aims to facilitate a single channel of communication regarding current operations in the area. Two CCC meetings were held on 14 April and 11 October 2016. Minutes from the meeting are available on the Centennial Coal website and at Wallerawang Library. Meetings will continue to be held during 2017.

¹ **Total Mine Footprint:** includes all areas within a mining lease that either have at some point in time or continue to pose a rehabilitation liability due to mining and associated activities. As such it is the sum of total active disturbance, decommissioning, landform establishment, growth medium development, ecosystem establishment, ecosystem development and relinquished lands (as defined in the DRE MOP/RMP Guidelines). Please note that subsidence remediation areas are excluded.

² **Total Active Disturbance:** includes all areas requiring rehabilitation

³ **Land being prepared for rehabilitation:** includes the sum of mine disturbed land that is under the following rehabilitation phases – decommissioning, landform establishment and growth medium development (as defined in DRE MOP/RMP Guidelines)

⁴ **Land under active rehabilitation:** includes areas under rehabilitation and being managed to achieve relinquishment – includes 'ecosystem and land use establishment' and 'ecosystem and land use sustainability' (as defined under the DRE MOP/RMP Guidelines)

⁵ **Completed rehabilitation:** requires formal sign off from DRE that the area has successfully met the rehabilitation land use objectives or completion criteria

Broader Engagement and Donations

During 2016, Angus Place contributed through monetary in kind donations and/or attendance at local community events to a range of local organisations.

9. INDEPENDENT AUDIT

An independent audit as required under Schedule 5, Condition 8 was conducted during 2013. No further Independent Audits were required under DA06 _0021, MOD1.

10. INCIDENTS AND NON-COMPLIANCES DURING THE REPORTING PERIOD

Table 19: Incident/Non-Compliance Summary

| | |
|--|--|
| Nature of the incident/non-compliance | Notification to the Environmental Pollution Hotline (Reference Number 03730-2015) Approx. 30-180L Ferric chloride was spilt from Bore 940 surface pipe work. |
| Date of incident/ non-compliance (if known; if not known state not known) | 23/03/2015 |
| The location of the incident/ non-compliance (include a figure if appropriate), if known | Angus Place Bore 940, Newness Plateau, NSW |
| Detail the cause of the incident/non-compliance | At approximately 12:30pm on Tuesday, 29 March 2016 during a water testing site visit of the Bore 940 by ALS personnel, ferric chloride was observed to be leaking from a hole in the small chemical pump outlet pipe. The cause of the hole was determined to be caused from age and friction, caused by the pulsing nature of the chemical pump which feeds the chemical into the pipework of the bore water line. The 940 bore line contributes to the Springvale-Delta Water Transfer Scheme and is discharged through Springvale LDP009. |
| Detail action that has been, or will be, taken to mitigate any adverse effects of the incident/ non-compliance | Ferric chloride that had leached into the soil was excavated, turned and treated with hydrated lime to stabilise the pH. New road base material replaced the excavated material. Excavated material was tested and classified safe for landfill. Approx. 6-8m3 taken to landfill. |
| Detail action that has been, or will be, taken to prevent recurrence of the incident/ non-compliance | An upgrade to the system has been completed which includes a self-bunded chemical tank inside a concrete-bunded site with an integrated concrete hardstand area to unload/ transfer ferric chloride from the delivery truck to the 8,000L tank. |

| | |
|--|---|
| Nature of the incident/non-compliance | LDP001 Volume exceeding 2000 KL/Day limit. |
| Date of incident/ non-compliance (if known; if not known state not known) | 5 January 2016 |
| The location of the incident/ non-compliance (include a figure if appropriate), if known | LDP001 |
| Detail the cause of the incident/non-compliance | Additional surface water from rainfall in the area contributed clean-water runoff to LDP001 from the local catchment. |
| Detail action that has been, or will be, taken to mitigate any adverse effects of the incident/ non-compliance | <p>Centennial engaged ALS Water Resources Group to upgrade the LDP001 weir / v-notch on 24 June 2015. As the site's downstream conditions have changed over time, stream stabilisation efforts and reed growth downstream had raised the water level putting the 60 degree v-notch in a "drowned state". Consequently, the water flow recorded was reading between more than 5 - 15% depending on flow conditions. A 90 degree v-notch was installed and the sill level raised so the nape would be free and allow the weir plate to operate as intended.</p> <p>Upon investigation by ALS Water Resources Group of the previous data recorded, their determined likely reading for the reported exceedances that occurred on 8 June 2015 of 2013 KL and 17 June 2015 of 2085 KL is 1880 KL and 1947 KL respectively.</p> |
| Detail action that has been, or will be, taken to prevent recurrence of the incident/ non-compliance | The timing from when AP personnel calculate the volume for previous 24-hour period was changed from midnight-midnight to midday-midday. This enables Angus Place staff to react in the event of a potential exceedance of daily discharge limits due to environmental flow as a result of a rainfall event. |

Table 20: Summary of Reportable Incidents and Regulatory Actions

| Compliance Type | Agency | Number | Response |
|------------------------|---------------|---------------|---|
| Incidents | EPA | 1 | Notification to the Environmental Pollution Hotline (Reference Number C04645) |
| Caution Notices | | Nil | |
| Warning Letters | | Nil | |
| Penalty Notices | | Nil | |
| Prosecutions | | Nil | |

11. ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD

Angus Place Colliery proposes to undertake the following activities during the next reporting period:

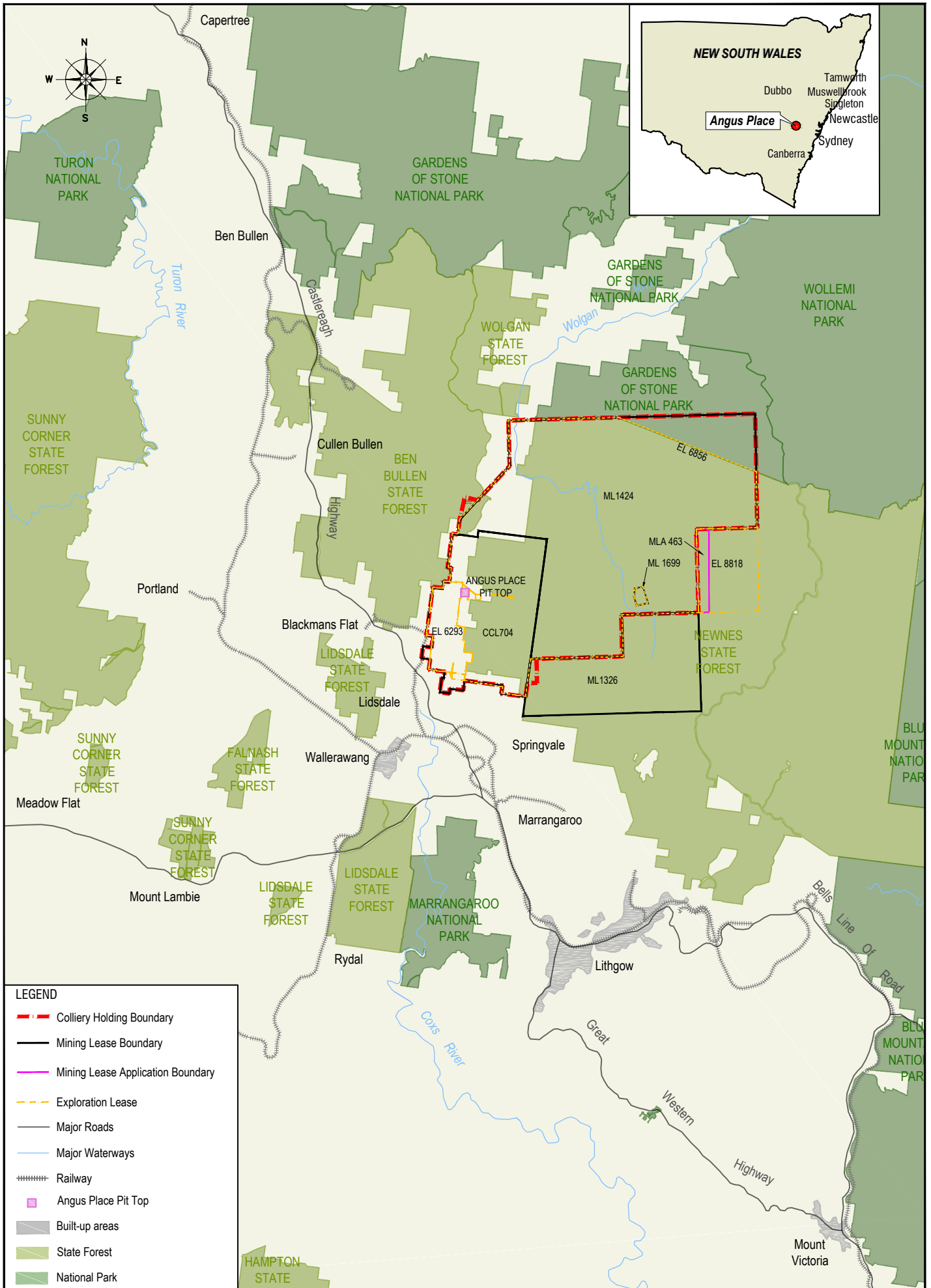
- Transition to long term monitoring programs as stipulated in the Western Region Environmental Management Plans submitted in 2016.
- Progress the rehabilitation of the Vale of Clwydd site and clean-up activities, with an investigation of an appropriate shaft cap and an assessment of heritage structures by a structural engineer.



Centennial Coal

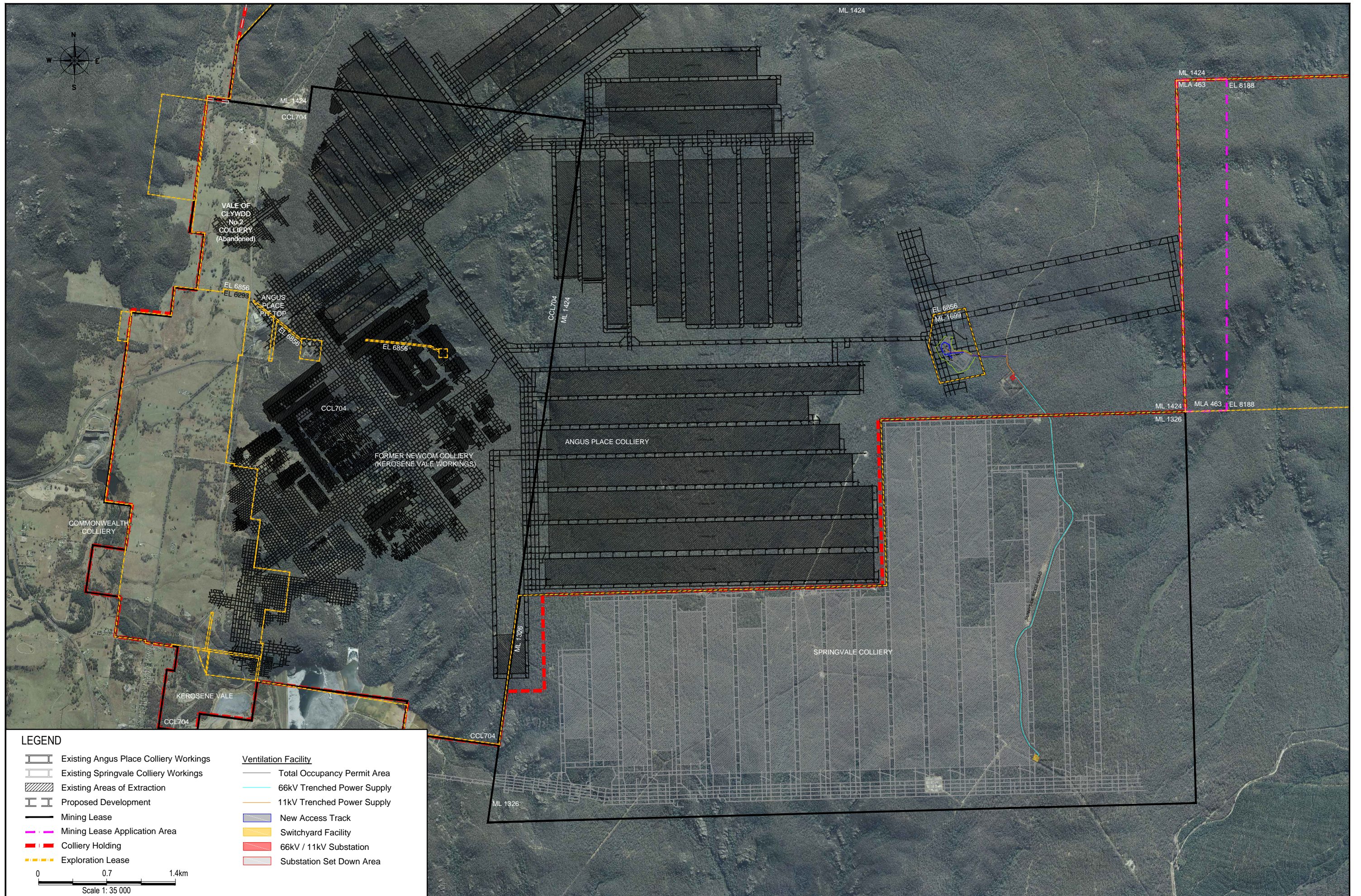
Centennial Angus Place Pty Limited
Level 18, BT Tower 1 Market Street
Sydney NSW 2000
www.centennialcoal.com.au





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LEGEND

- | | |
|--|-----------------------------|
| Existing Angus Place Colliery Workings | <u>Ventilation Facility</u> |
| Existing Springvale Colliery Workings | Total Occupancy Permit Area |
| Existing Areas of Extraction | 66kV Trenched Power Supply |
| Proposed Development | 11kV Trenched Power Supply |
| Mining Lease | New Access Track |
| Mining Lease Application Area | Switchyard Facility |
| Colliery Holding | 66kV / 11kV Substation |
| Exploration Lease | Substation Set Down Area |

0 0.7 1.4km
Scale 1: 35 000

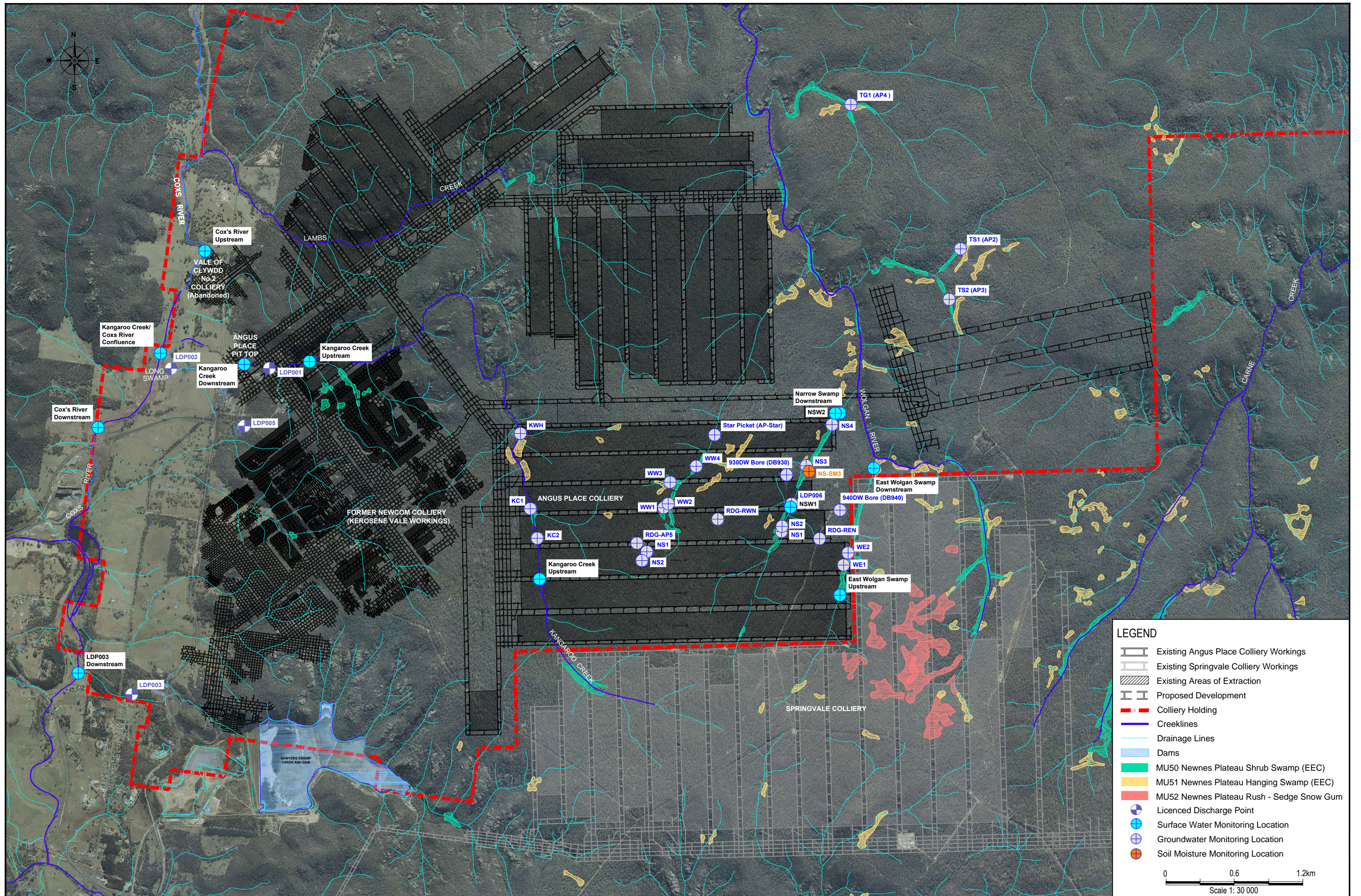
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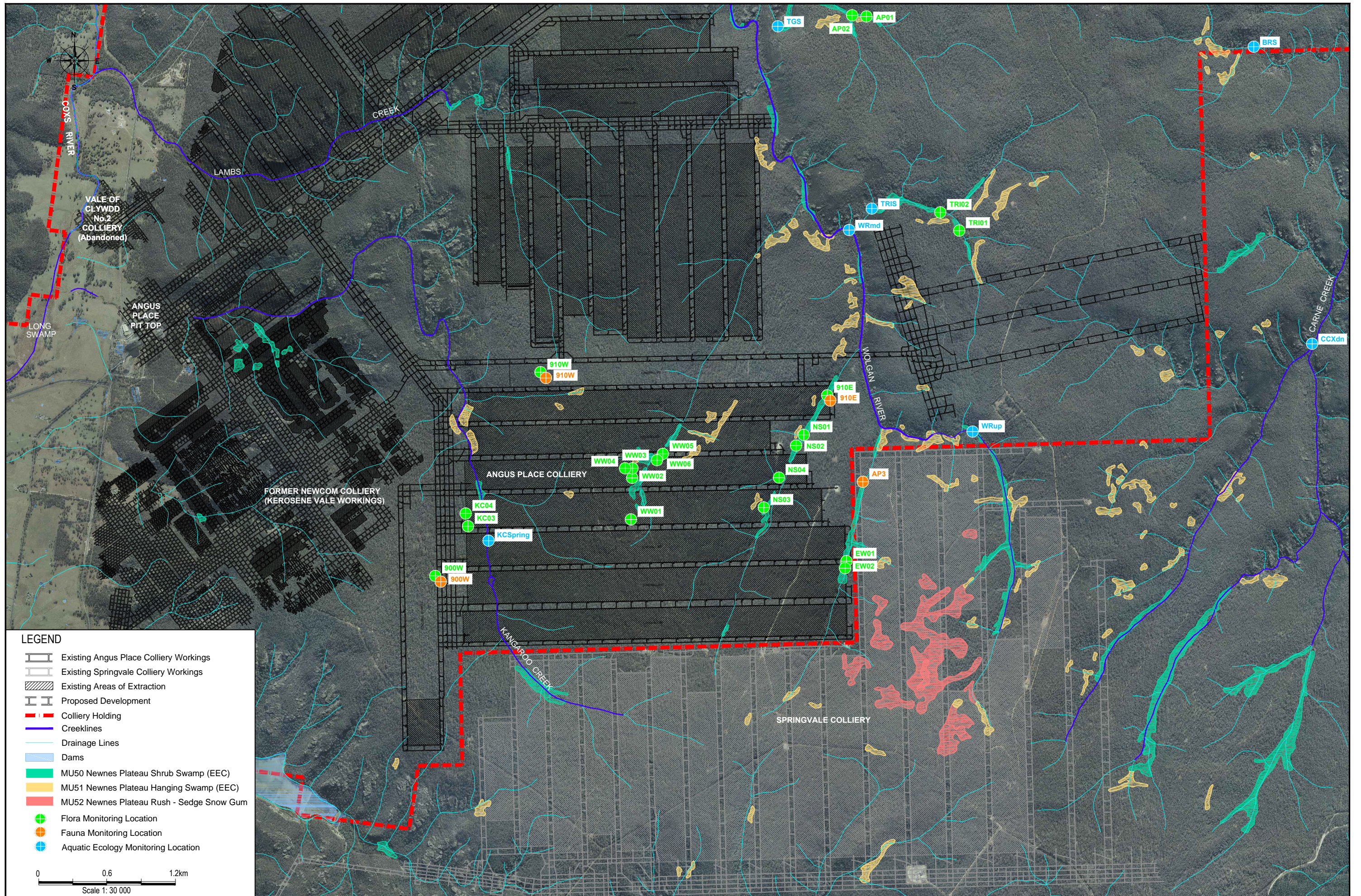
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LEGEND

-  Existing Angus Place Colliery Workings
-  Existing Springvale Colliery Workings
-  Existing Areas of Extraction
-  Proposed Development
-  Colliery Holding
-  Creeklines
-  Drainage Lines
-  Dams
-  MU50 Newnes Plateau Shrub Swamp (EEC)
-  MU51 Newnes Plateau Hanging Swamp (EEC)
-  MU52 Newnes Plateau Rush - Sedge Snow Gum
-  Flora Monitoring Location
-  Fauna Monitoring Location
-  Aquatic Ecology Monitoring Location

0 0.6 1.2km
Scale 1: 30 000

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