Centennial Coal

IVANHOE COAL PTY LTD
LIDSDALE SIDING
2016 ANNUAL REVIEW

March 2017

Centennial Coal
Environment Matters

Table 1 - Annual Review Title Block

Name of Operation	Lidsdale Siding
Name of Operator	Ivanhoe Coal Pty Ltd
Development Consent/ Project Approval #	Lidsdale Siding Upgrade Project 08-0223
Water Licence #	WAL25774
Name of Holder of Water License	Ivanhoe Coal Pty Ltd
Annual Review Start Date	1 January 2016
Annual Review End Date	31 December 2016

I, Mick Cairney[1] certify that this audit report is a true and accurate record of the compliance status of Lidsdale Siding for the period 2016 and that I am authorised to make this statement on behalf of Ivanhoe Coal Pty Ltd.

Note:

a) *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.*

b) *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).*

Name of Authorised Reporting Officer	Mick Cairney
Title of Authorised Reporting Officer	Executive General Manager Operations
Signature of Authorised Reporting Officer	M Cairney
Date	28.2.17

Contents

1. STATEMENT OF COMPLIANCE

Table 2 - Statement of Compliance

Were all conditions of the relevant approval(s) complied with?	
Project Approval number 08_0223	No
Environmental Protection Licence	No
WAL25774	Yes

Table 3 - Non-compliances

Relevant Approval	Condition #	Condition summary	Compliance Status	Comment	Section # addressed in Annual Review
DA 08_0223	C3.2	Noise generated by the project does not exceed the project criteria	Non-Compliant	Train loading, overland conveyors and train entry to site (wagons bunching) for the day, evening and night periods has resulted in noise exceedances	6.2
EPL 5129	L4.1	Noise generated at the premises must not exceed the noise limits in EPL 5129	Non-compliant	Train loading, overland conveyors and train entry to site (wagons bunching) for the day, evening and night periods has resulted in noise exceedances	6
DA 08_0223	C 3.8	Dust non-compliance	Non-compliant	Exceedance of the short term PM10 criterion average of 50 µg/m3	6.3

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: • 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: • 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 (e.g. submitting a report to government later than required under approval conditions)

2. INTRODUCTION

Ivanhoe Coal Pty Ltd (Centennial Ivanhoe) operates the Lidsdale Siding Rail Loading Facility, located approximately 12 kilometers northwest from the city of Lithgow, NSW. Lidsdale Siding is situated approximately 150 kilometers west of Sydney adjacent to the township of Wallerawang.

The *Lidsdale Siding Environmental Monitoring Sites (Water & Air Quality)* map is attached in Appendix 1. This plan illustrates the following:

- The regional context of the project;
- The project boundary (superimposed on aerial photography of the site);
- Water and Air Quality Monitoring locations (other monitoring locations are provided in figures throughout the review as applicable);
- The area of willow removal and control outside the operational area; and
- The area of hydrocarbon contamination under study.

The Lidsdale Siding Upgrade Project Environmental Assessment (EA) was submitted to the Department of Planning and Infrastructure (DP&I), now Department of Planning and Environment (DP&E) in August 2012. The Minister for Planning and Infrastructure approved the Project on 3 May 2013, via the Planning Assessment Commission.

The upgrade project at Lidsdale Siding ensures the improvement of operational efficiency and increases its throughput capacity to approximately 6.3 million tonnes per annum. The upgraded train loading process is automated by establishing a coal stockpile with underground reclaimers feeding a conveyor leading to a train loading bin. The total stockpile capacity is approximately 50,000 tonnes. The commissioning of the automated train loading at Lidsdale Siding was a staged process and commissioning commenced on 5 June 2014, continuing until the end of July 2014. All trains have been loaded from the new automated system since 1 August 2014.

This Annual Review relates solely to the reporting period 1 January 2016 to 31 December 2016.

Table 4 - Lidsdale Siding contact details

Position	Contact Details
Manager Springvale Coal Services	02 6355 9508
Environment and Community Coordinator	02 6355 9509
Community contact number	02 6322 9500

2.1. Meteorological monitoring

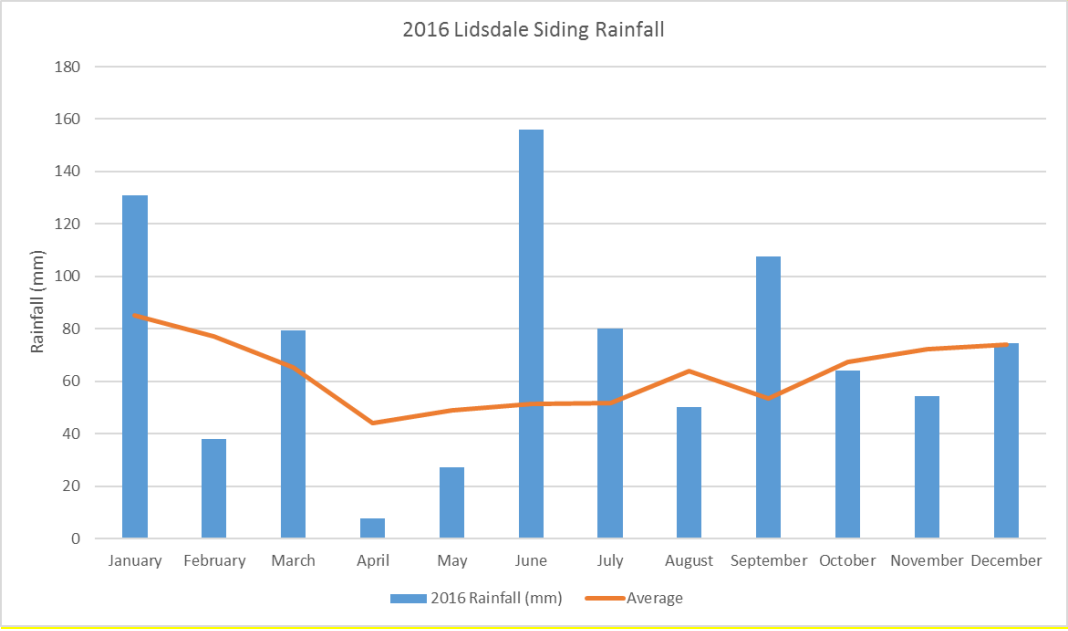
Rainfall

The total monthly rainfall at the Lidsdale Siding site for the 2016 reporting period is compared against the average monthly rainfall recorded at the Bureau of Meteorology (BOM) station 063132 (Maddox Lane, Lidsdale). The results are summarised in

Table and Figure 1 below.

Table 5 - 2016 Lidsdale Siding monthly rainfall summary

Month	Total rainfall (mm)[1]	Average[2]
January	131.0	85.2
February	38.0	77.0
March	79.4	65.1
April	7.8	43.9
May	27.2	49.0
June	155.8	51.2
July	80.0	51.6
August	50.0	64.0
September	107.4	53.6
October	64.2	67.2
November	54.4	72.2
December	74.6	73.8
Total	869.8	



[1] Monthly rainfall taken from Lidsdale Siding AWS
[2] BOM station 063132 Lidsdale (Maddox Lane) 1959-2016

Figure 1 - Lidsdale siding 2016 Rainfall summary

Temperature

The minimum and maximum monthly temperature for Lidsdale Siding for the 2016 reporting period is summarised in Table and Figure 2 below.

Table 6 - Lidsdale Siding 2016 monthly temperature summary

Month	Min	Max
January	6.76	34.9
February	6.80	34.2
March	4.20	32.4
April	1.64	28.7
May	-7.67	24.8
June	-6.67	15.2
July	-5.59	17.5
August	-5.88	18.1
September	-1.08	19.5
October	-1.25	25.8
November	-0.43	29.7
December	3.18	33.4

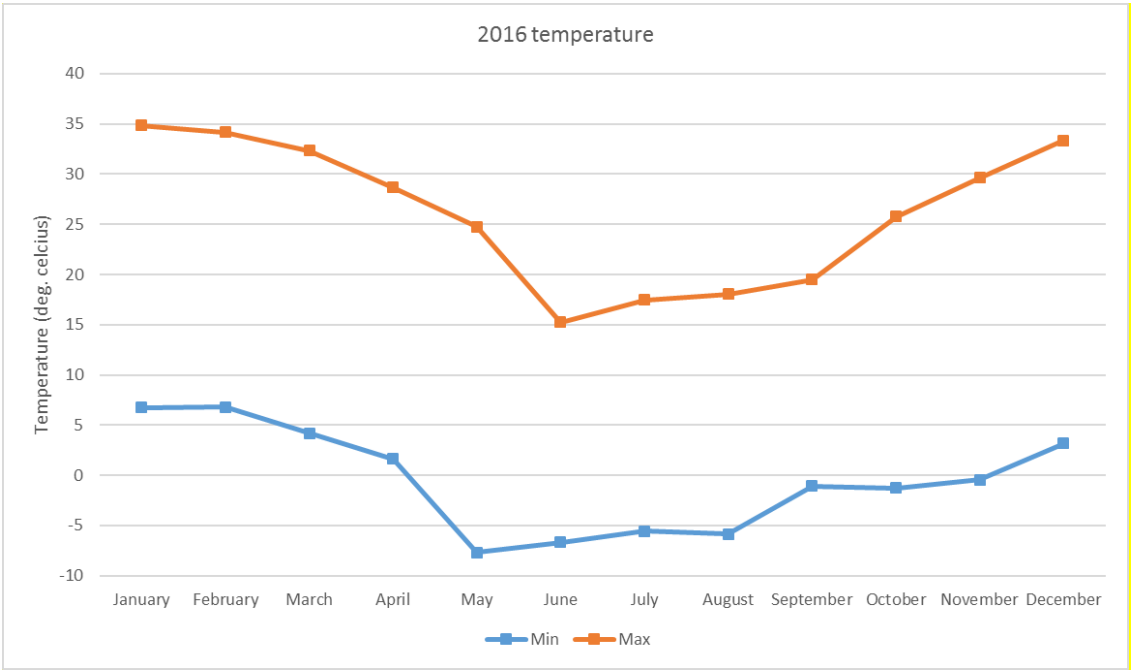


Figure 2 - Lidsdale Siding 2016 monthly temperature summary

3. APPROVALS

Table 7 – Lidsdale Siding Approvals Summary

Approval/ Title/ Licence/ Permit	Description	Details/Status
Project Approval	08_0223	Approval to carry out coal handling and train loading operations on the site until 31 December 2042.
Environmental Protection Licence	EPL 5129	The licence authorises the operation of the coal loading facility with a maximum capacity of 5 Mt per annum.
Lease	Site lease	Memorandum of Lease (4/11/1978). Signed between Public Transport Commission of NSW and Austen and Butta Limited. NSW Rail land, but there is a lease in place between the managers of the site (John Holland Group) and Centennial Ivanhoe. The original lease was signed by the owners of the site (former Department of Public Transport Commission of NSW) and Austen and Butta Limited.
Water Management Act 2000	10WA116403	The water supply bore at Lidsdale Siding was relocated as the existing bore was grouted in 31/10/2014 to address U1.3 of the pollution reduction program requirement in EPL 5129.
Monitoring Bore Licence	10BL605720	Additional water monitoring bores installed at Lidsdale Siding during 2015.

4. OPERATIONS SUMMARY

Table 8 - Lidsdale Siding 2016 Production Summary

Material	Project Approval Limit	Previous Reporting Period (Actual)	This Reporting *Period* (Actual)	Next Reporting Period (Forecast)
Saleable product	6.3 Mt	1,539,005 tonnes	1,032,586 tonnes	679,643 tonnes

4.1. Other Operations

Table 9 - Lidsdale Siding 2016 Operations Summary

	Project Approval Limit (08_0223)	Previous Reporting Period (Actual)	This Reporting Period (Actual)	Comment (if applicable)
Hours of operation	24 hours a day, 7 days per week until 31/12/2042	24 hours a day, 7 days per week	24 hours a day, 7 days per week	**Compliant**
Transport (rail)	6.3 million tonne of coal per annum.	1,539,005 tonnes	1,032,586 tonnes	**Compliant**
	All coal to be transported by rail	Rail transport only	Rail transport only	**Compliant**
	No more than 7 laden trains leave the site per day	Maximum of 3 trains per day	Maximum of 3 trains per day	**Compliant**
	No more than 5 laden trains leave the site each day when averaged per annum	Average of 2 trains per day	Less than 2 trains per day	**Compliant**

4.2. Next Reporting Period

There is no material change planned for the Lidsdale Siding Coal Loading operation during 2017.

The facility will continue to be used for the distribution of coal from the Springvale Colliery to the ports on the NSW Coast via the Main Western Railway line.

5. ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

Table 10 below provides a summary of actions from the 2015 Annual Review, the action taken and where it is addressed in this Annual Review.

Table 10 - Actions from previous Annual Review

Action Required	Requested By	Action Taken	Where addressed in Annual Review
Complete an independent review of the Remedial Action Plan (RAP) for the Lidsdale Siding Upgrade Project against NEPM 2013 and update as required. Once EPA approval of the RAP has been received implementation of the RAP will commence in 2016	EPA	A Phase 2 Environmental Site Assessment (ESA) in support of further contaminated site characterisation at the site was completed in October 2016 to meet the intent of the action and RAP. Stage 3 works as recommended from the Stage 2 report were completed in January 2017. Stage 3 report recommendations and development of an Environmental Management Plan to direct the monitoring and management of ecological risks associated with the potential offsite migration of hydrocarbon impacts in accordance are scheduled for completion in Q2 2017 with submission to the EPA proposed following internal Centennial review and approval.	Section 6.1
Update the flood study for Lidsdale Siding by 1 November 2016	DPE	An updated Lidsdale Siding flood study was provided to the DPE on 14 October 2016. No feedback with regards to the study findings was received from the DPE in 2016.	Section 7
The preparation of a water management procedure for Lidsdale Siding complex shall be developed by August 2016. The procedure will include best management practices for management of surface water and adoption of quality assurance measures to ensure duplicate samples of all surface water discharge samples are taken	DPE	Centennial commissioned a review of the site Water Management Plan (WMP) in 2016 with a draft received in December 2016. The WMP review included appropriate water management procedures for the operation to ensure compliance with monitoring requirements specified in	Section 7.1

Action Required	Requested By	Action Taken	Where addressed in Annual Review
		approvals, licenses and management plans, including triggers for duplicate samples to be taken for licensed discharge points. The provision of submission for the final WMP as proposed in 2017 is dependent on the consultation timeframes and process Centennial will undertake with relevant stakeholders and regulatory agencies as required for activities as proposed for the Springvale Water Treatment Project. Where required, recommendations and findings from this consultation will be incorporated into the revised WMP to ensure alignment between all Centennial water management activities and consultation in the upper Cox's river catchment.	
Complete noise modelling of the Lidsdale Siding and Western Coal Services operations. Once this work has been completed, strategies to target key noise areas will be developed and implemented commencing in 2016	DPE	Centennial has conducted extensive noise modelling and monitoring of the complex noise environment in the Lidsdale/Wallerawang area in 2016. A complete and detailed review of the sources of noise, and Centennial's subsequent ability to feasibly and practically manage and mitigate these sources in the Lidsdale / Wallerawang area has been a priority for Centennial in 2016. Noise mitigation at Lidsdale Siding is being given attention at the highest level in the Centennial Group, with a committed, experienced and resourced project team engaged to drive the noise mitigation work.	Section 6.2 and 11
Commence removal of willows from the identified area within Pipers Flat Creek	DPE	Willow control commenced along Pipers Flat Creek.	Section 6.1 and 8

6. ENVIRONMENTAL PERFORMANCE

6.1. Biodiversity

Biodiversity at Lidsdale Siding is managed in accordance with the Lidsdale Siding Biodiversity Management Plan.

No vegetation was cleared during the reporting period.

During the Annual Review period, weed management actions were undertaken along Pipers Flat Creek with the poisoning of willows. These works included targeted cut and inject poisoning treatment of *Salix cinerea* and *Salix fragilis* specimens identified in the water course reaches of Pipers Flat Creek, with works undertaken and completed in a methodical north–to south west transected approach.

The willow control area is illustrated in in the *Lidsdale Siding Environmental Monitoring Locations (Water and Air Quality) Map* attached in Appendix 1.

Native trees and shrubs were planted as a view screen to neighbouring properties, including the playing field at the south west section of the operational site.

To improve efficiency, planting lines were mowed/brush cut and sprayed before mulching. Maintenance was carried out to all trees as required, including photographing, reporting, tree guard repairs, pruning, weeding and watering.

The Lidsdale Siding Biodiversity Management Plan is proposed to be replaced by a Centennial Coal Western Regional Biodiversity Management Plan (BMP) in 2017. Lidsdale Siding does not require consultation with government agencies for the purposes of this BMP. The Western Region BMP will be resubmitted by 28 April 2017 including Lidsdale Siding. No correspondence or feedback has been received from the DPE in relation to the Western Region BMP submitted in December 2016.

Phase 2 Environmental Site Assessment

Centennial conducted a limited Phase 2 Environmental Site Assessment (ESA) in support of further contaminated site characterisation at the site in 2016.

The hydrocarbon contamination study area is illustrated in in the *Lidsdale Siding Environmental Monitoring Locations (Water and Air Quality) Map* attached in Appendix 1, with a site map illustrating the works locations and monitoring sites undertaken during the Phase 2 Environmental Site Assessment along with a modelled hydrocarbon plume demarcation included in Appendix 2.

The objective of the limited ESA was to investigate the extent of hydrocarbon contamination identified on the site, particularly as it pertained to impacts sourced from the former above ground diesel storage tank (AST) and dispensing infrastructure including a comparison of the results to the latest and most relevant regulatory guidance to project approval conditions issued by the DP&I.

Preparation of the ESA report was completed in accordance with the requirements of *Guidelines for Consultants Reporting on Contaminated Sites (OHE, 2011)*.

To characterise the nature and extent of subsurface contamination relating the former diesel storage and distribution infrastructure, the following was completed.

- Clearance of all drilling locations by a qualified underground service locator using geophysical methods such as electromagnetic scanning and ground penetrating radar.
- Installation of eight (8) soil bores using solid flight auger drilling methods. The target depths for all bores was 5m below grade, however where refusal on gravel or rock was encountered the bores were terminated at the refusal depth. The completed soil boring scope was as follows:
    - Three (3) bores (ESSB06, ESSB07 and ESSB08) were drilled to depths of 4.0 m, 4.4 m and 3.8 m below grade respectively. These bores were located in the centre of known hydrocarbon impact to attempt to delineate the vertical extent of impact.
    - Five (5) bores (ESSB01 to ESSB05) were drilled to depths of 3.0 m, 3.8 m, 4.7 m, 3.8 m and 4.1m below grade respectively. The bores were located

beyond the extent of the previous investigations to attempt to delineate the lateral extent of impact.

- A minimum of three (3) soil samples were collected from each bore and submitted to the National Association of Testing Authorities (NATA) accredited laboratory ALS Environmental for analysis of the following contaminants of potential concern (CoPC):
  - Metals (As, Cd, Cr (Total), Cu, Pb, Hg (Total), Ni, and Zn;
  - Total recoverable hydrocarbons (TRH);
  - Total petroleum hydrocarbons (TPH);
  - Benzene, toluene, ethylbenzene and xylenes (BTEX); and
  - Volatile organic compounds (VOCs).
- Installation of one (1) groundwater monitoring well (MW01) used solid flight auger drilling methods. The target depth for the well was 5 m however refusal on shale was met at 3.7 m below grade. The well was located to the north and directly down gradient of the area of hydrocarbon impacted soil.
- Three (3) soil samples were collected from the groundwater bore during drilling. The soil samples were analysed for the same analytical suite as the samples collected from the soil bores as detailed above. Following installation, the well was developed to remove fines and sediment introduced into the water column during drilling.

- One following installation of the new well, (MW01), three (3) existing groundwater monitoring wells (MW04, MW05 and MW06) and a recently installed production well (PW) were gauged and sampled using a low-flow peristaltic pump.
- Groundwater physico-chemical parameters including dissolved oxygen (DO), pH, electrical conductivity (EC), redox potential and temperature were collected at regular intervals during purging. Once the physico-chemical parameters stabilised groundwater samples were collected from the five (5) wells.
- Groundwater samples were analysed for the following CoPC:
  - Metals (As, Cd, Cr (Total), Cu, Pb, Hg (Total), Ni, and Zn);
  - TRH/TPH, BTEX, VOCs, pH, Total organic carbon (TOC); and
  - Natural attenuation indicators (Fe^{2+}, Mn, SO_4, NO_3, CH_4)
- Two (2) sediment samples (SD1 and SD2) were collected from a culvert to the southeast of the former AST. The culvert was targeted due to hydrocarbon odours noted to be emanating from the location during previous site investigations. The sediment samples were analysed for of the following CoPC:
  - Metals (As, Cd, Cr (Total), Cu, Pb, Hg (Total), Ni, and Zn;
  - TRH, TPH, BTEX, VOCs; and
  - TOC.

The purpose and objectives of the limited Phase 2 ESA were met with the following findings.

- Hydrocarbon impacts in the vicinity of the former AST are not considered to pose a risk to Human Health in any of the matrices investigated, or exceed ecological screening and Site Management Limits in soil, and are not currently migrating beyond the site boundary.
- The concentrations of all CoPC in soil were below the Tier 1 human health assessment criteria in all samples collected from the site. Further discussion of potential risks to human health from CoPC was not warranted.
- The nature of soil contamination was limited to the presence of TRH F2 and F3 fractions.

- Total recoverable hydrocarbons in the F2 (C10-16) and F3 (C16-34) fractions were present in soil at concentrations exceeding the Commercial and Industrial ESLs and Management Limits for TPH. The presence of these fractions in soil has the potential to pose an unacceptable risk to ecological receptors.
- The lateral extent of TRH F2 and F3 impact to soil was not fully defined.
- The vertical extent of the TRH F2 and F3 impact to soil was defined by analysis or based on field observations, by the depth at which competent shale is encountered.
- The concentrations of all CoPC including metals, BTEXN, TRH/TPH and VOCs in groundwater pose an unacceptable risk to human health.
- BTEX, VOCs and TRH/TPH compounds were not detected in the four groundwater monitoring wells or the production well. Therefore, hydrocarbon impacts from diesel spills/leaks in and around the former AST, are not considered to be migrating off-site in the direction of groundwater flow.
- Chromium (III & VI), manganese, nickel and zinc were identified in groundwater on the northern site boundary at concentrations exceeding the ecological investigation levels. These metals are not associated with diesel fuel and are therefore considered to be related to either background, or conditions at the site disassociated from the former diesel AST.
- The concentrations of all CoPC in the two sediment samples were below the Tier 1 human health and ecological assessment criteria. Further discussion of potential risks posed from CoPC in sediment to human health and ecological receptors is not required.

Based on the identified conclusions the following recommendations were identified;

- Further intrusive works would be required to fully delineate the lateral extent of the hydrocarbon impacts detected in the vicinity of the former diesel AST.
- As the hydrocarbon impacts in soil extend beyond the depth at which the shallow aquifer is encountered in several locations, it was recommended that at least one additional groundwater well be installed, down gradient of the vicinity of the former diesel AST, but up gradient of the position of the existing site well network.
    - The position of this well will allow better understanding of whether hydrocarbon impacts exist in groundwater on the site which are not currently, but have potential, to migrate beyond the site boundary.

Stage 3 works as recommended from the Stage 2 report were completed in January 2017. Stage 3 report recommendations and development of an Environmental Management Plan (EMP) to direct the monitoring and management of ecological risks, associated with the potential offsite migration of hydrocarbon impacts in accordance are scheduled for completion in Q2 2017 with submission to the EPA proposed following internal Centennial review and approval.

Once the EMP is prepared and enacted it is not considered that remediation of the site would be required to meet the Consent conditions provided by the NSW DPI for the proposed Site upgrade.

6.2. Noise

Noise at WCS is managed in accordance with the Centennial Coal Western Region Noise Management Plan (CCWRNMP) and PA 08_0223 consent criteria provided in Table 11 below.

Attended noise monitoring is undertaken at locations as prescribed in the CCWRNMP as illustrated in Figure 3 below.

Figure 3 - Lidsdale siding Attended Noise Monitoring Sites

Noise criteria are listed in Table 4 below.

Table 4 – Lidsdale Siding Noise Criteria dB(A)

Location	Day LAeq (15min)	Evening LAeq (15min)	Night LAeq (15min)	Night LA1 (1min)
1 Lot 2 Main Street Wallerawang	50	50	50	55
2 Black Gold Cabins, Main Street Wallerawang	46	46	46	49
3 "Killarney" Brays Lane Wallerawang	47	47	47	56
4 Fairview" Brays Lane Wallerawang	43	43	43	54
5 Duncan Street, Lidsdale Wallerawang	46	46	46	57
6 Old Castlereagh Highway Wallerawang	43	43	43	56
7 Royal Hotel, Main Street Wallerawang	41	41	41	49
8 Corner Heel Street & Cripps Avenue Wallerawang	40	40	40	45
9 Corner Cripps Avenue & Pindari Place Wallerawang	39	39	39	45
10 Brays Lane South Wallerawang	45	45	45	50
11 "Tara" Brays Lane Wallerawang	45	45	45	51
12 Brays Lane Corner Wallerawang	43	43	43	51

2016 Noise monitoring works

All noise monitoring was completed as required under Project Approval number 08_0223 for the 2016 period.

Attended noise monitoring was undertaken each month in 2016, with sound power level monitoring undertaken on 10 February 2016.

Noise exceedances

Noise criteria were recorded as exceeding noise receiver locations as detailed in tables 12,13, and 14 below from attended noise monitoring results undertaken during 2016.

Attended noise monitoring measure compliance against LAeq, 15min dB, LA1, 1min dB, and Low frequency noise criteria (LAeq).

Noise exceedances were attributed to train loading, overland conveyors and train entry to site (wagons bunching) across day, evening and night periods in independent and cumulative scenarios.

All noise exceedances were reported to the DPE in accordance with project approval conditions.

Table 5 – Lidsdale Siding Noise exceedance summary (LAeq,15min dB)

Location	Start Date and Time	Period	Criterion dB	Lidsdale Siding LAeq,15min dB	Exceedance	DPE Notification
R3	11/03/2016 22:56	Night	47	48	1	**Completed 05/05/16**
R3	19/04/2016 17:40	Day	47	48	1	**Completed 05/05/16**
R3	19/04/2016 19:55	Evening	47	49	2	**Completed 05/05/16**
R9	19/04/2016 20:07	Evening	39	42	3	**Completed 05/05/16**
R12	20/04/2016 22:52	Night	43	44	1	**Completed 05/05/16**

Table 6 – Lidsdale Siding Noise exceedance summary (LA1,1min dB)

Location	Start Date and Time	Period	Criterion dB	Lidsdale Siding LA1,1min dB	Exceedance	DPE Notification
R10	11/03/2016 00:13	Night	50	55	5	**Completed 23/03/16**
R4	17/11/2016 06:51	Night	54	65	11	**Completed 28/11/16**

Table 7 – Lidsdale Siding Noise exceedance summary – Low frequency noise criteria

Location	Start Date and Time	Period	Criterion dB	Lidsdale Siding LAeq dB	Exceedance	DPE Notification
R12	09/02/2016 23:09	Night	43	47	4	**Completed 22/02/16**
R2	10/02/2016 19:35	Evening	46	50	4	**Completed 22/02/16**
R10	10/03/2016 20:01	Evening	45	46	1	**Completed 23/03/16**
R11	10/03/2016 20:25	Evening	45	46	1	**Completed 23/03/16**
R3	11/03/2016 22:56	Night	47	53	6	**Completed 23/03/16**
R3	19/04/2016 17:40	Day	47	53	6	**Completed 05/05/16**
R3	19/04/2016 19:55	Evening	47	54	7	**Completed 05/05/16**
R8	20/04/2016 20:35	Evening	40	43	3	**Completed 05/05/16**
R12	20/04/2016 22:52	Night	44	49	6	**Completed 05/05/16**
R4	17/11/2016 06:51	Night	43	44	1	**Completed 28/11/16**
R8	07/12/2016 20:12	Evening	40	45	5	**Completed 19/12/16**
R10	07/12/2016 19:58	Evening	45	46	1	**Completed 19/12/16**

Noise management activities undertaken in reporting period.

2016 Historic timeline of key Centennial and DPE interface events

- On 11 Feb 2016 a draft Centennial Coal Western Region Noise Management Plan was submitted to DPE for review and approval.
- On 29 Feb 2016 Centennial completed a regional noise model to understand existing noise environment and impacts from individual and cumulative operations in the region.
- On 31 March 2016 Centennial completed the identification of options for noise mitigation.
- On 13 April 2016, DPE wrote to Centennial requesting timeframes for all noise mitigation corrective actions for Lidsdale Siding as previously communicated to be provided.
- On 22 April 2016, Centennial provided DPE with a timeframe for implementation of corrective actions for noise issues. All actions were completed including completed noise modelling of the Lidsdale Siding and Western Coal Services operations, and the identification of strategies to target key noise areas to be developed and implemented.

- On 08 July 2016 the Centennial Coal Western Region Noise Management Plan was re-submitted to DPE for review and approval.
- On 18 July 2016, DPE issued a Show Cause Notice to Centennial for noise issues at Lidsdale Siding.
- On 22 July 2016 the Centennial Coal Western Region Noise Management Plan was approved by DPE.
- On 5 August 2016, Centennial provided a response to the DPE Show Cause notice for Lidsdale Siding noise issues.
- On 7 October 2016, Centennial and a DPE representative met onsite at WCS where the DPE representative was provided an informal appraisal of the current status of noise management at Lidsdale Siding including progress on noise mitigation strategies.
- On 16 December 2016, DPE requested copies of attended noise monitoring reports Lidsdale Siding.
- On 16 December 2016, Centennial provided copies of the requested noise Lidsdale Siding.
- On 30 January 2017 the DPE issued Centennial with an Official Caution and Draft Order to ensure compliance with noise criteria in the Lidsdale Siding Project approval 08_0223.
- On 17 February 2017 Centennial provided the DPE with a response to the draft order including modelling for Lidsdale Siding as ‘stand-alone’ operation as well as the regional cumulative noise scenario, and the operational management and technical measures in train and proposed via a detailed works plan.

Noise predictions against Lidsdale Coal Loader Project Environmental Assessment

All monitoring data was reviewed as part of the regional noise impact assessment works completed in 2016.

Trends for noise monitoring data over the life of the project continue to show exceedances above the noise criteria within the approval.

The Environmental Assessment stated the Project would provide a significant reduction in noise emissions compared to the historical operations.

The noise exceedances for 2016 are one to three dB above the Project Approval limits and are well below the pre-project approval range modelled in the Environmental Assessment in 2012.

During the 2016 reporting period, the R3 noise monitoring location recorded exceedances.

The R3 exceedance range for 2016 (48-49 dB) is well below the pre-project approval range (62-74 dB) and shows the noise levels for the current operation are significantly reduced when compared to the pre-approval noise environment.

Noise monitoring sites R8 to R12 were not modelled as part of the Environmental Assessment therefore a comparison cannot be made between the exceedances for R9 and R12 during the 2016 reporting period and the pre-project approval range.

Table 8 below provides the existing noise limits compared to the pre-project approval modelled noise levels.

Table 8 – Lidsdale Siding Comparison of existing noise limits against modelled pre-project approval levels and 2016 exceedances

Location	Existing Day, Evening and Night LAeq (15min)	Existing Night LA1 (1min)	Pre project approval range	Exceedance range (2016) LAeq (15min)
1 Lot 2 Main Street Wallerawang	50	55	62-74	-
2 Black Gold Cabins, Main Street Wallerawang	46	49	62-74	-
3 "Killarney" Brays Lane Wallerawang	47	56	62-74	48-49
4 Fairview" Brays Lane Wallerawang	43	54	59-71	-
5 Duncan Street, Lidsdale Wallerawang	46	57	56-68	-
6 Old Castlereagh Highway Wallerawang	43	56	48-60	-
7 Royal Hotel, Main Street Wallerawang	41	49	55-69	-
8 Corner Heel Street & Cripps Avenue Wallerawang	40	45	ND	-
9 Corner Cripps Avenue & Pindari Place Wallerawang	39	45	ND	42
10 Brays Lane South Wallerawang	45	50	ND	-
11 "Tara" Brays Lane Wallerawang	45	51	ND	-
12 Brays Lane Corner Wallerawang	43	51	ND	44

6.3. Air Quality

The short-term (24 hour) PM10 criteria is 50 µg/m^3 at any residence on private land. The long-term (annual) PM10 criteria is 30 µg/m^3 and TSP criteria is 90 µg/m^3 at any residence on private land. The 2016 results are summarised in Table 9 below.

Table 9 –2016 Lidsdale Siding air quality summary

	Criteria	Maximum	Mean
Short term 24hr PM10	50 µg/m3	75.0	22.8
Long term TSP	90 µg/m3	-	44.60
Long term PM10	30 µg/m3	-	17.84

PM10

The short term PM10 mass concentration for February 2015 to December 2016 is presented in Figure 3 below.

Activities at Lidsdale Siding complied with the project approval air quality assessment criteria limits during all continuous PM10 monitoring undertaken with the exception of the 72 hour period from 30 January to 1 February 2016.

Centennial was not able to identify the cause of the exceedance. Investigation into the exceedance did not indicate abnormal or non-compliant operational activity that occurred during the period. Additional monitoring data from this period indicate that the operation remained compliant with the long term air quality assessment criteria for deposited dust, and long term criteria for particulate matter.

The methodology for calculating results against the short term and long term criteria is as follows.

- Calculations are performed on the 10 minute interval data recorded by the Beta Attenuation Monitor (BAM) installed at Lidsdale Siding.
- Only data of a specific quality is included in the calculations. This includes:
  - Good continuous records
  - Reliable edited data
  - Fair quality data
- The following data points are excluded:
  - Poor quality data
  - No record.

88.5% of the data for 2015-2016 is recorded in the above grouping (Good continuous records / Reliable edited data / Fair quality data).

Short term averages are taken of all data of appropriate quality between midnight 12:00am and 11:50pm on each day.

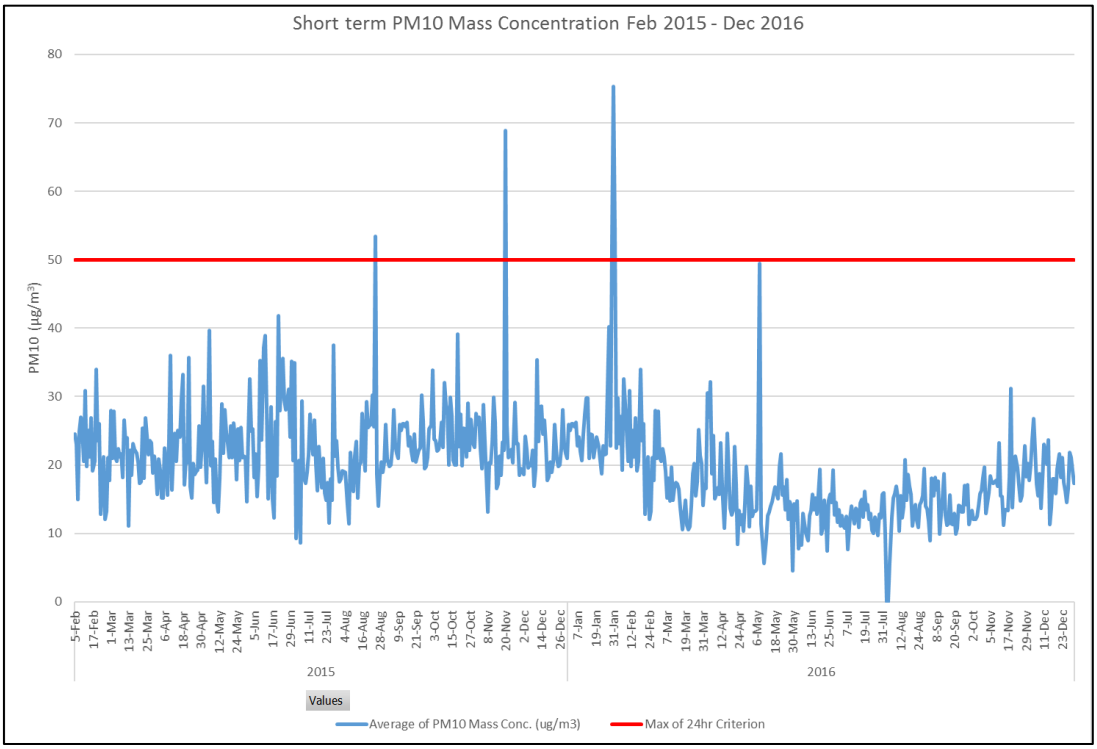


Figure 3 - Short term PM10 mass concentration (February 2015 to December 2016)

The long-term annual average for on-site PM10 was 17.84 µg/m^3 in 2016 and 22.76 µg/m^3 in 2015, below the criterion of 30 µg/m^3.

The results are presented in Figure 4 below. Long term averages are taken of all data of appropriate quality between 12:00 am 1 January and 11:50 31 December per calendar year period.

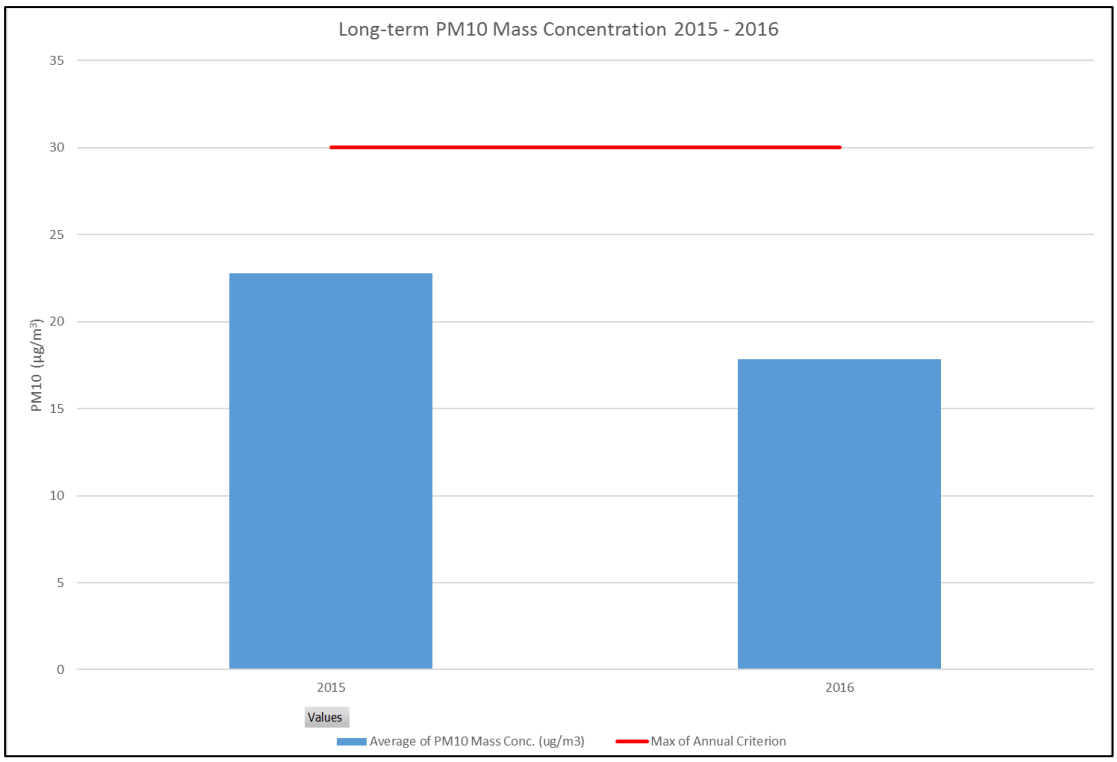


Figure 4 - Long term PM10 mass concentration (2015 – 2016)

TSP

At all surrounding sites a consistent TSP to PM10 ratio has been established using HVAS data over several annual cycles. This ratio is used to estimate the TSP concentration, based on measured PM10 concentrations. The ratio between TSP and PM10 concentrations has been calculated from long term monitoring data (Table 10).

Table 10 - Ratio between TSP and PM10 concentrations for Centennial sites

Site	Ratio
Western Coal Services	0.43
Springvale	0.45
Angus Place	0.44
Clarence Colliery	0.40

For Lidsdale Siding, the most conservative ratio of 0.40 is used to calculate compliance with the TSP criteria from the PM10 data. The measured PM10 annual average would therefore be divided by 0.40 to estimate the annual average TSP concentration.

Results are detailed in Table 12 further above.

Deposited Dust

The deposited dust limit is 4 g/m^2/month at any residence on private land averaged annually.

Depositional dust emissions were below the annual average trigger at all sites as detailed in table 14 further below.

The summary of 2016 depositional dust monitoring is shown in Figure 5 below.

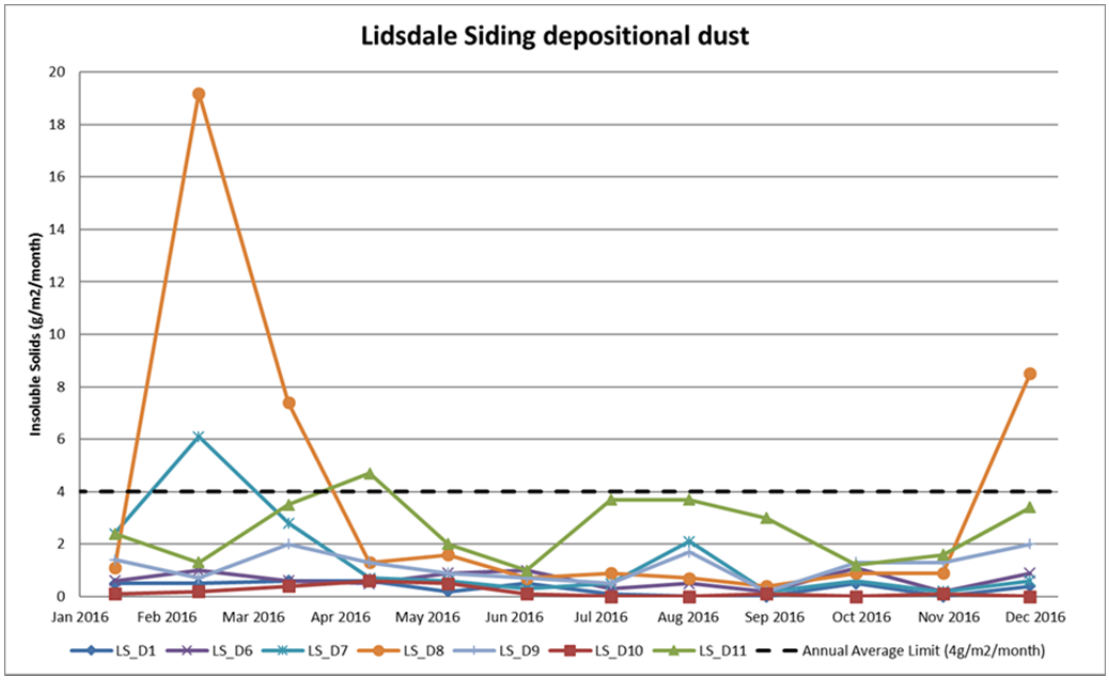


Figure 5 - Summary of 2016 depositional dust

The six year comparison of the annual average of depositional dust for Lidsdale Siding is shown in Figure 6 below.

Dust Gauge 7 (LS_D7) is located within close proximity to the Lidsdale Siding coal stockpile and former train loading area.

Since 2011, the annual average for LS_D7 has decreased. From 2014, LS_D7 has remained under the annual average limit of 4g/m^2/month.

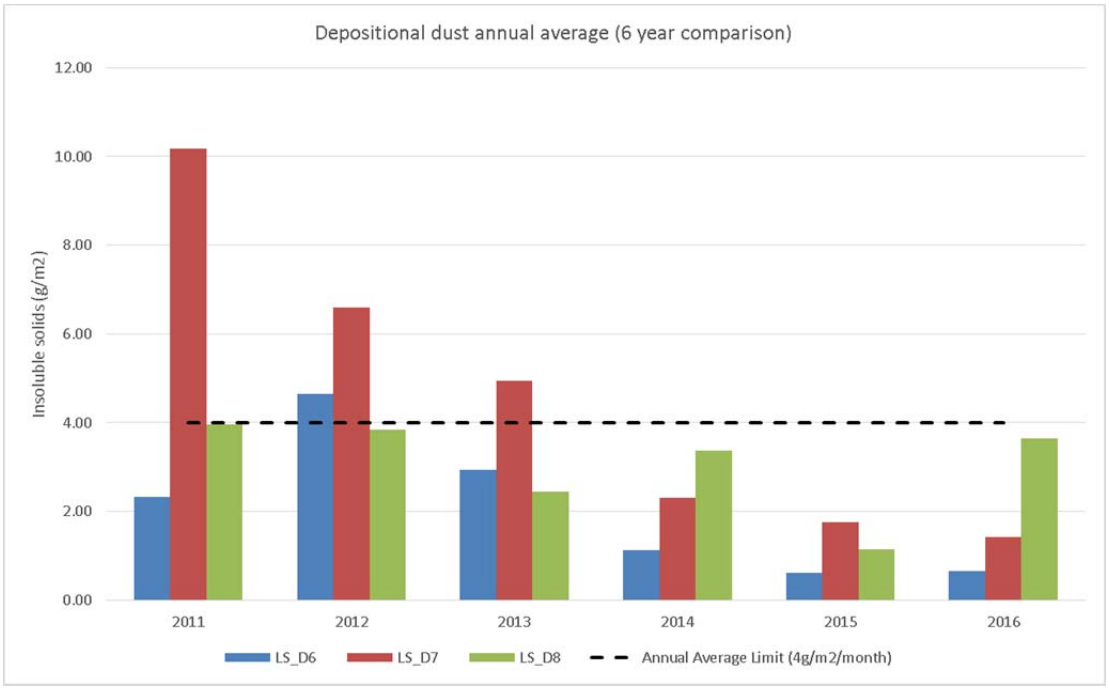


Figure 6 - 6 year comparison of the annual average of depositional dust

The rolling average for depositional dust uses 12 months of data from February 2015 to generate the graph commencing January 2016 as shown in Figure 7 below.

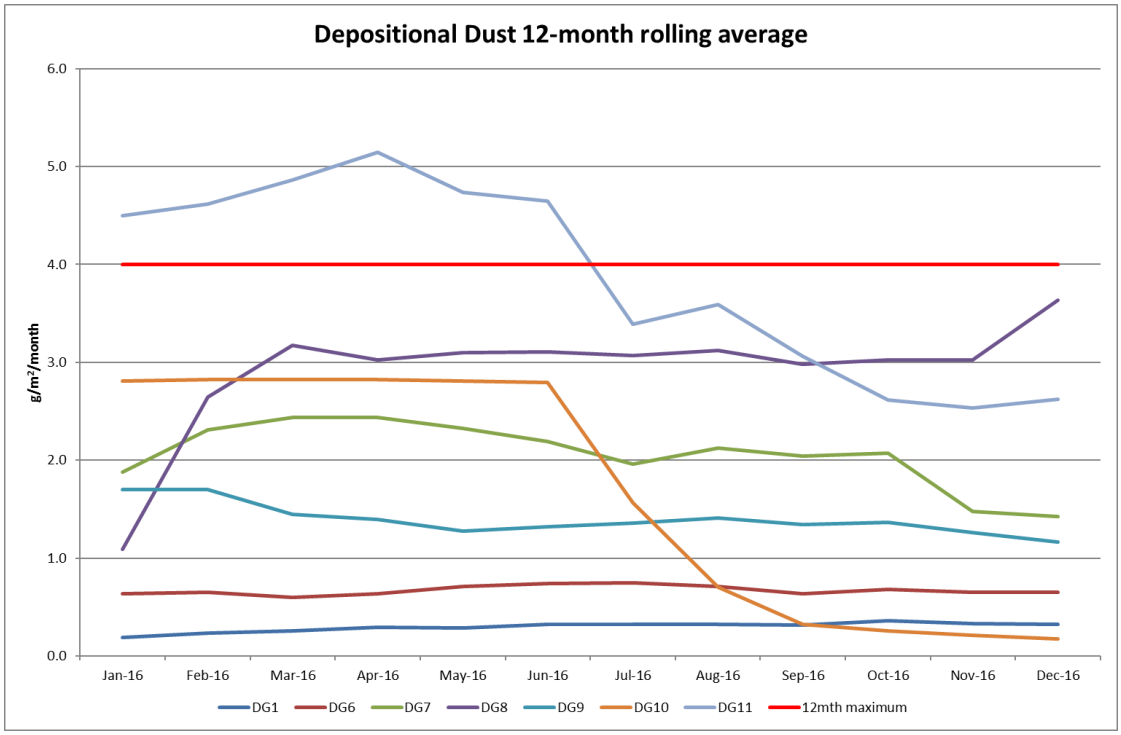


Figure 7 - 2016 depositional dust 12-month rolling average

The exceedance of the 12-month rolling average for DG11 from January to June 2016 (Figure 7) is from high dust readings recorded in 2015 attributed to the development of storage units adjacent to the project site.

The rolling average for depositional dust uses 12 months of data from May 2013 to generate the graph commencing April 2014 as shown in Figure 8 below.

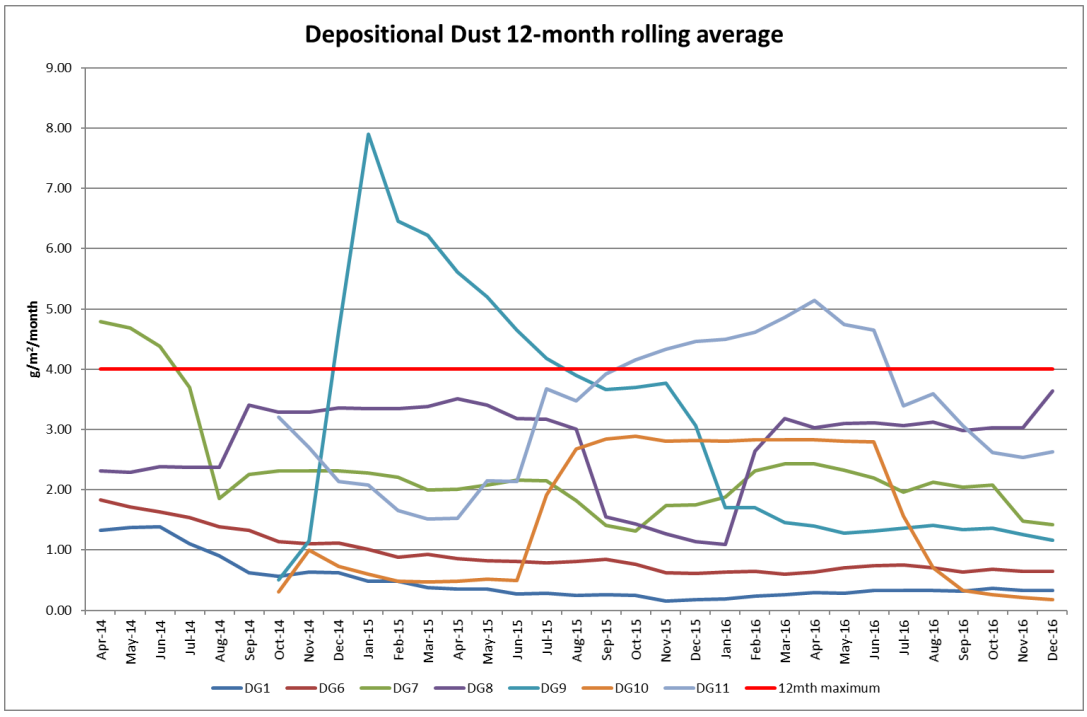


Figure 8 - May 2013 to December 2016 depositional dust 12-month rolling average

Depositional dust emissions were below the annual average trigger (4g/m^2/month) at all sites (Table 11).

Table 11 - Lidsdale Siding 2016 Depositional dust summary

Dust Gauge	1	6	7	8	9	10	11
Max	0.6	1.1	6.1	19.2	2.0	0.6	4.7
Min	0.1	0.2	0.2	0.4	0.2	0.1	1.0
Average	0.425	0.650	1.425	3.633	1.167	0.265	2.625

Centennial use daily dust forecast reports to determine the frequency of watering unsealed areas and to schedule dust suppression activities and operational mitigation strategies.

6.4. Heritage

Lidsdale Siding was compliant with all heritage requirements for the 2016 reporting period. There are no historical heritage items or Indigenous heritage sites listed within the project site, with no new heritage items identified at the site in 2016.

No surface disturbance activities have been undertaken at Lidsdale Siding.

Willow control has commenced along riparian areas adjacent to Lidsdale Siding with no AHIMS sites recorded in the vicinity of the willow control.

Centennial hosted two Western Region Aboriginal Cultural Heritage Committee meetings during 2016 on 18 May 2016, and 26 October 2016.

These meetings provide a forum for discussion on Indigenous heritage management that relate to the Lidsdale and Wallerawang area from Centennial Operations including Lidsdale Siding, Western Coal Services, Springvale Mine, and Angus Place Mine.

No specific issues or management actions were identified for Lidsdale Siding by the committee.

Lidsdale Siding heritage management is proposed to be included and managed in accordance with the Centennial Coal Western Region Historic Heritage Management Plan (HHMP) in 2017. The HHMP was approved in July 2016, to be resubmitted including Lidsdale Siding by 28 April 2017.

7. WATER MANAGEMENT

Water at Lidsdale Siding is managed in accordance with the site Water Management Plan (WMP).

EPL 5129 requires monthly monitoring of Conductivity, Oil and Grease, pH and Total suspended solids at LDP004 when flowing.

A summary of the data is provided in Table 12 below, with analysis of water quality data provided in Section 7.1 below.

Table 12 - LDP004 Water Chemistry summary

Pollutant	Unit of measure	No. of samples required by the licence	No. of samples collected	Lowest sample value	Mean of sample	Highest sample value	EPL limit
Conductivity	µS/cm	3	4	376	457	531	#
Oil & grease	mg/L	3	4	<5	<5	<5	10
pH	-	3	4	6.9	7.4	8.0	6.5-8.5
Total suspended solids	mg/L	3	4	7	16	30	30

The flow summary for the 2016 reporting period for LDP004 is presented in Table 13 and Figure 9 below.

Table 13 - LDP004 Flows 1 January 2016 to 31 December 2016

Unit of measure	Frequency	No. of measurements made	Lowest result	Mean result	High result	Total Discharge
Megalitres per day	Daily during any discharge	4	0	0.022	5.78	8.05

no concentration limit

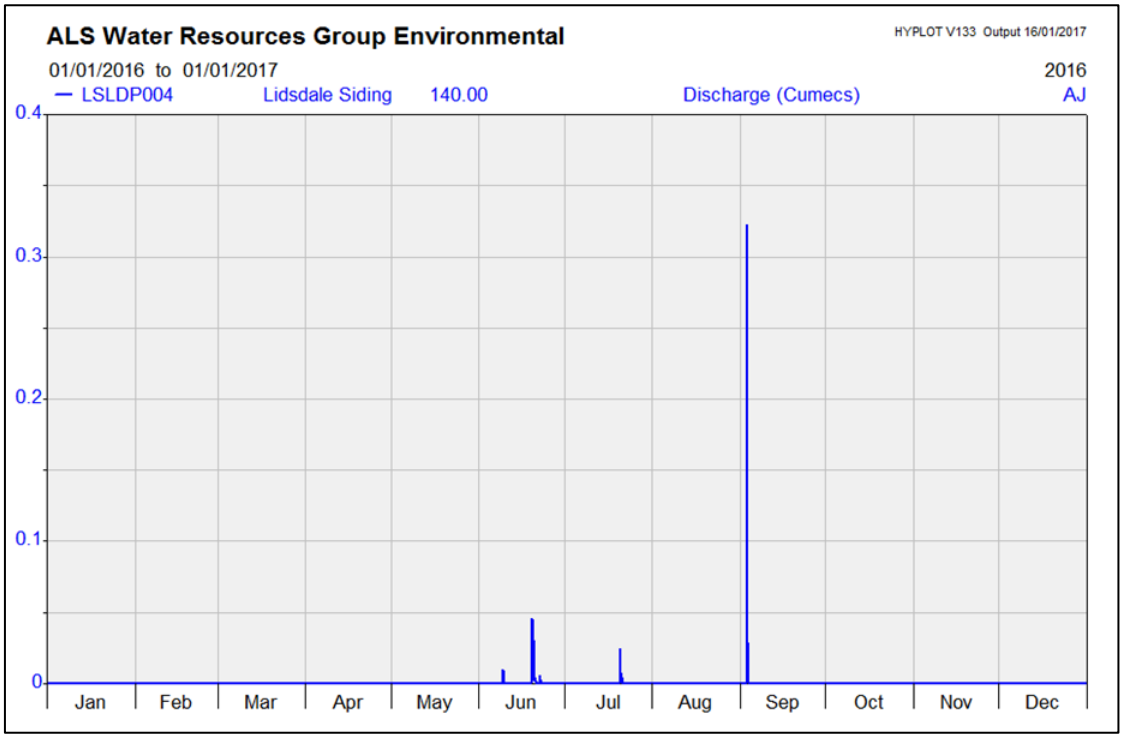


Figure 9 - 2016 flow summary for LDP004

The flood study for the site, as required by Schedule 3, Condition 20 of Project Approval 08_0223 was updated and provided to the DPE on 14 October 2016. The resubmitted study included:

- Evidence of consultation with agencies

- An assessment of the risks associated with off-site contamination in the event of flooding
- A specific commitment and timetable for the implementation of the recommendations (i.e. willow control in Pipers Flat Creek and construction of an on-site bund).

No feedback with regards to the study findings was received from the DPE in 2016.

Error! Not a valid bookmark self-reference. below reports on the Water usage for the WATER YEAR which is from 1 July to 30 June, not the calendar year.

Table 14 – Lidsdale Siding Water take

License #	Water Sharing Plan, source and management zone (as applicable)	Entitlement (ML)	Passive take / inflows (ML)	Active pumping (ML)	TOTAL (ML)
WAL25774	Greater Metropolitan Region Groundwater Sources	8.5		4.6	4.6[3]

Reporting Period 1/07/2015-30/06/2016

[1] Estimate of pumped volume based on measured pumping rates of 12.6kL per day.

7.1. Water quality data representation and analysis

The Lidsdale Siding Coal Loader Project environmental assessment undertaken in 2012 did not involve any significant changes to the site in terms of surface water drainage. Water management on site remains broadly similar to before the upgrade with existing water control systems being adequate to cater for the current operations. Water quality data for LDP004 is presented in the following graphs with trend analysis and interpretation provided for the reporting period and historical 3 year period.

- The results for total suspended solids were compliant during 2016.
- A single high value of 30 mg/L was recorded on 5 September 2016 (Figure 10 below).
- All other results for the last three years have been below the EPL limit of 30 mg/L.
- The water quality is monitored regularly and treatment of the pond initiated if required.

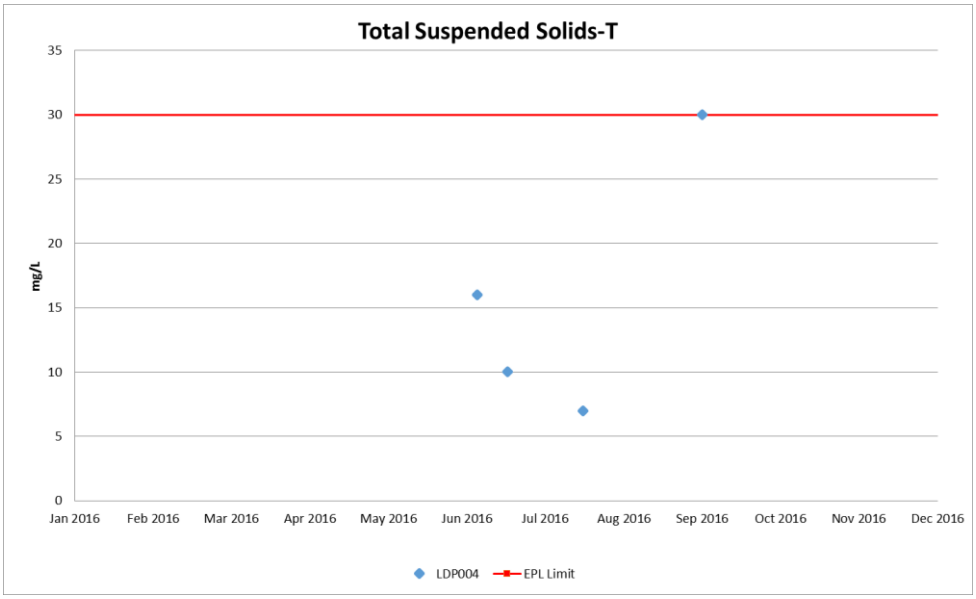


Figure 10 – Lidsdale siding 2016 LDP004 Total Suspended Solids

- The results for pH for 2016 and the preceding two years were compliant with EPL limits (Figure 11 below).

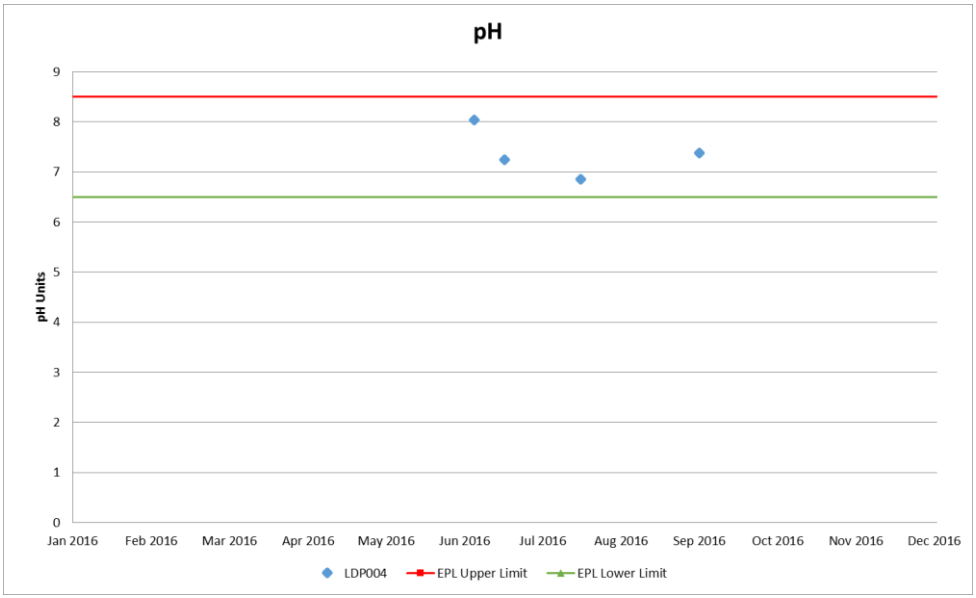


Figure 11 – Lidsdale Siding 2016 LDP004 pH

- The results for oil and grease were compliant with EPL limits during 2016 (Figure 12 below).

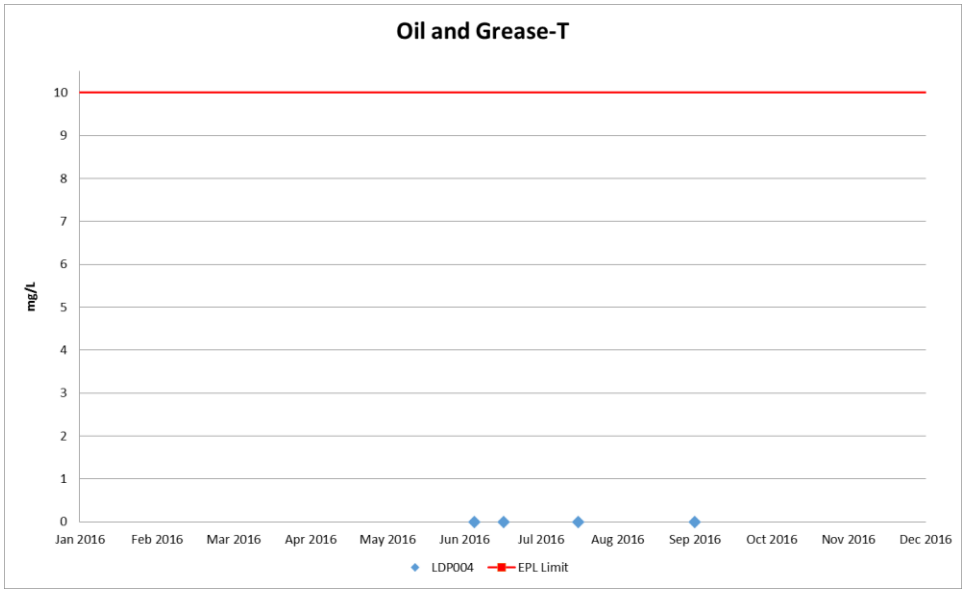


Figure 12 – Lidsdale Siding LDP004 Oil and Grease

- Figure 13 below shows the results for electrical conductivity during 2016.

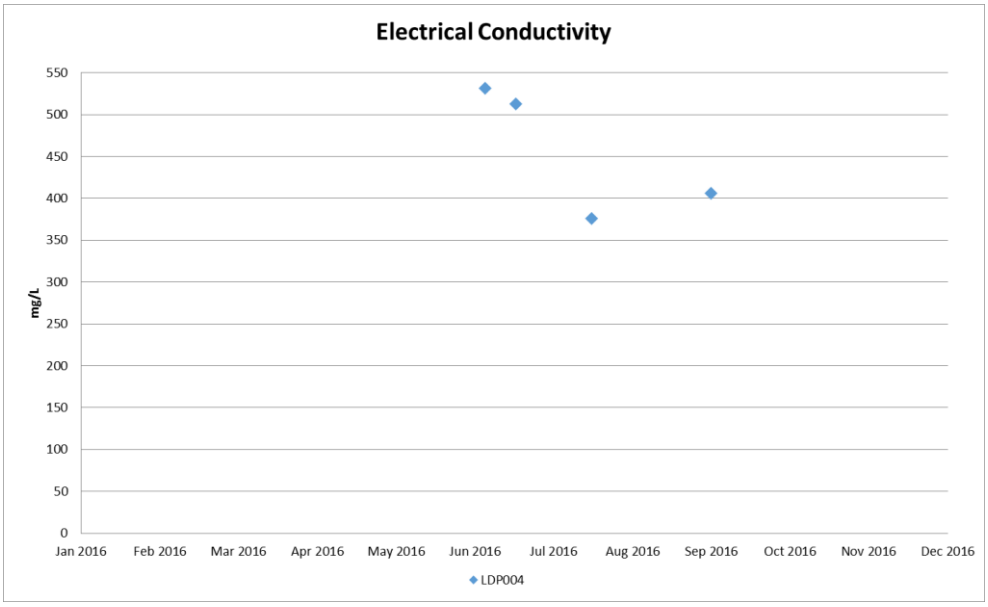


Figure 13 – Lidsdale Siding LDP004 Electrical conductivity

- Figure 15 below shows the results for pH during 2014 - 2016. Trends remain static across the period. Data graphed includes all monitoring undertaken and is not necessarily reflective of a site discharge event.

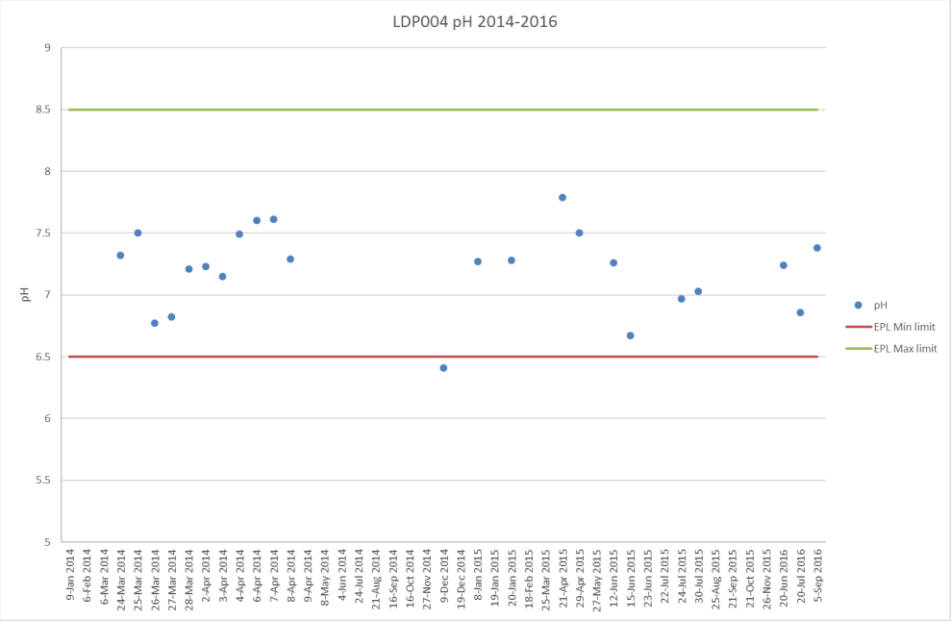


Figure 15 – Lidsdale Siding LDP004 pH 2014-2016

- Figure 16 below shows the results for TSS during 2014 - 2016. Trends remain static across the period. Data graphed includes all monitoring undertaken and is not necessarily reflective of a site discharge event.

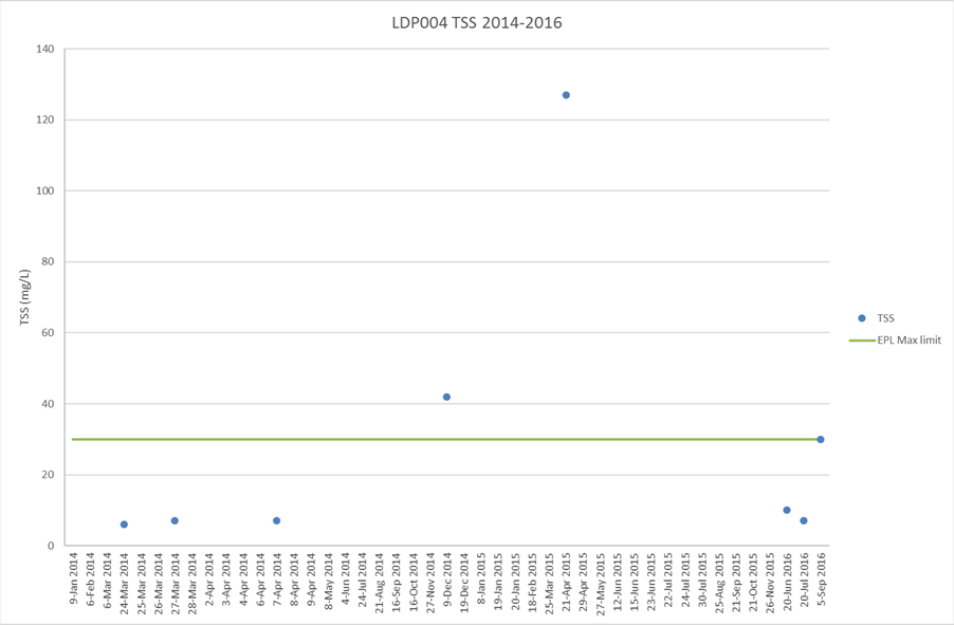


Figure 16 – Lidsdale Siding LDP004 TSS 2014-2016

- Figure 17 below shows the results for EC during 2014 - 2016. Trends remain static across the period. Data graphed includes all monitoring undertaken and is not necessarily reflective of a site discharge event.

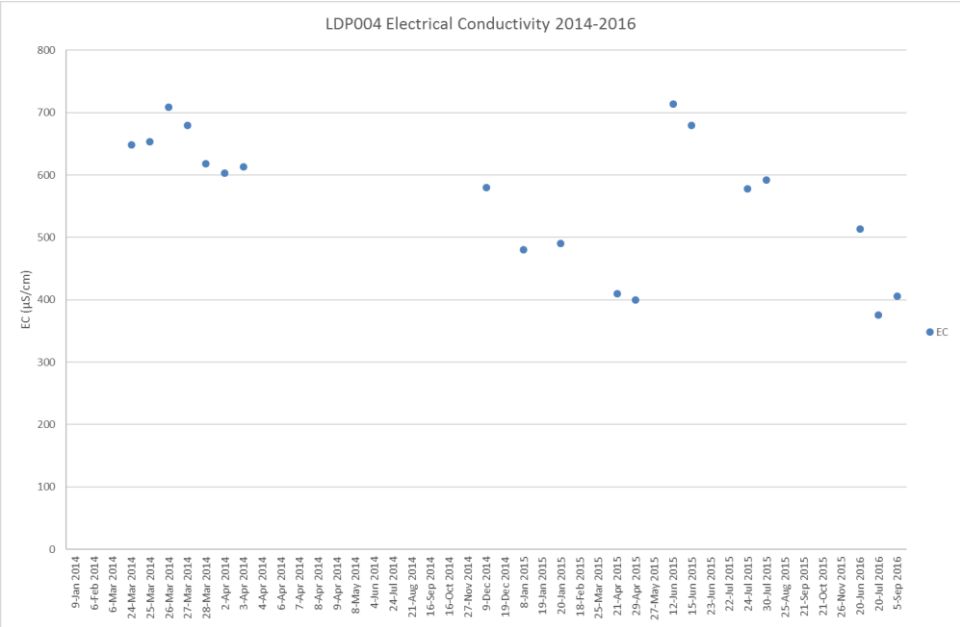


Figure 17 – Lidsdale Siding EC TSS 2014-2016

As stated above The Lidsdale Siding Coal Loader Project Environmental assessment in 2012 did not involve any significant changes to the site in terms of surface water drainage. Water management on site remains broadly similar to before the upgrade with existing water control systems being adequate to cater for the current operations.

River Health Monitoring

River Health monitoring is conducted on Pipers Flat Creek upstream and downstream of the site twice a year in autumn and spring. Monitoring sites are illustrated in in the *Lidsdale Siding Environmental Monitoring Locations (Water and Air Quality) Map* attached in Appendix 1.

River health monitoring in Q1 2016 determined all sites recorded diversity values within the range of their respective mean values.

Riparian, Channel and Environment (RCE) Inventory results are consistent across the last three years of monitoring. Higher RCE Scores indicate better riparian and channel aquatic habitat condition.

The upstream site on Pipers Flat Creek (PFup) consistently scores a higher RCE score due to the continuity of riparian vegetation, even though the corridor is comprised mostly of introduced species dominated by willows, blackberry and boxthorn. Differences in the Pipers Flat Creek upstream and downstream RCE scores are largely due to the differences in continuity of the riparian corridor.

A summary of RCE scores from 2013-2016 are presented in

Table 15 and Figure below.

Table 15 - Pipers Flat Creek RCE Inventory results

Survey Date	Pipers Flat Creek Upstream	Pipers Flat Creek Downstream
Autumn 2016	41	27
Spring 2015	42	29
Autumn 2015	41	29
Spring 2013	40	29

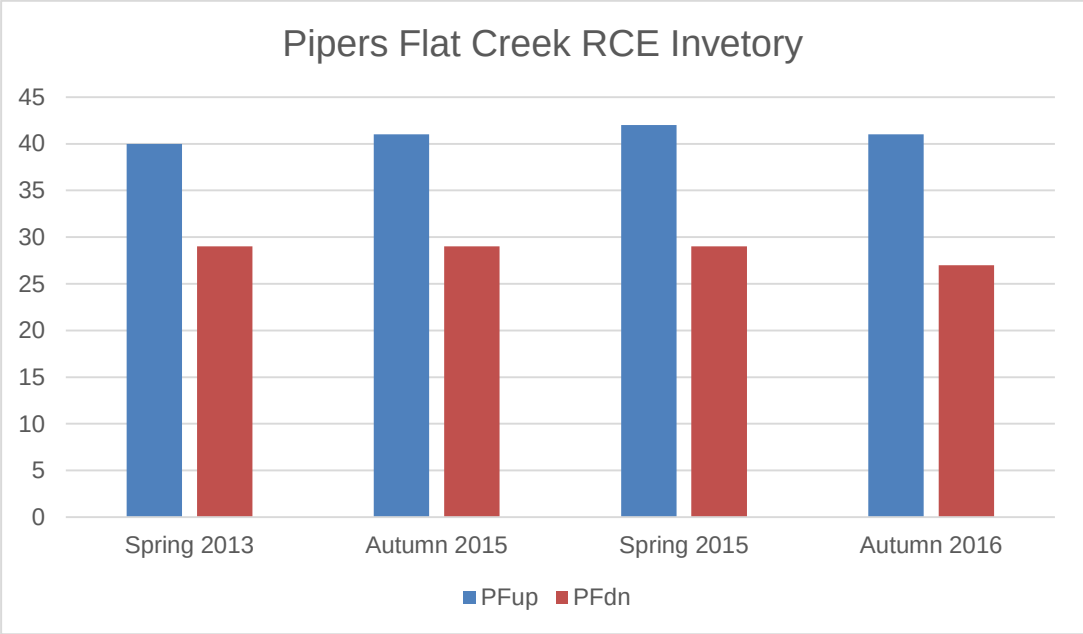


Figure 18 - Pipers Flat Creek RCE Inventory results

Water Management Activities and Management Plan revision

The site WMP (and associated procedures) for Lidsdale Siding operations is updated regularly to ensure compliance with monitoring requirements specified in approvals, licenses and related management plans.

Centennial commissioned a review of the WMP in 2016 with a draft received in December 2016.

The WMP review included appropriate water management procedures are in place and relevant for the operation to ensure compliance with monitoring requirements specified in approvals, licenses and management plans, including triggers for duplicate samples to be taken for licensed discharge points.

The Lidsdale Siding WMP will be incorporated into the Centennial Coal Western Region Management Plan at the completion of final review in 2017.

The provision of submission for the final WMP as proposed in 2017 is dependent on the consultation timeframes and process Centennial will undertake with relevant stakeholders and regulatory agencies as required for activities as proposed for the Springvale Water Treatment Project.

Where required, recommendations and findings from this consultation will be incorporated into the revised WMP to ensure alignment between all Centennial water management activities and consultation in the upper Cox's river catchment and ensure

that additional appropriate and compliant management strategies are further developed and implemented as required.

8. REHABILITATION

The rehabilitation and closure objective for the site is to create stable, non-polluting post closure landforms that allow the achievement of the post closure land use. A final rehabilitation and closure plan will be completed at least three years prior to the planned completion of the operations. Lidsdale Siding has approval to carry out coal handling and train loading operations on the site until 31 December 2042.

Lidsdale Siding Rehabilitation status information is detailed in Table 18 below. During the Annual Review period, weed management actions were undertaken, with the poisoning of willows along Pipers Flat Creek. Planting of native trees and shrubs was undertaken as a view screen to neighbouring properties, including the playing field at the south west section of the site. No additional land disturbance activities were undertaken during 2016.

8.1. Next Reporting Period

- No rehabilitation planned for the next reporting period.
- Maintenance of existing screening vegetation to be undertaken.
- Continuation of willow control works.
- The identification of opportunities to partner with agencies to implement additional improvements for tree planting and habitat restoration.

Table 23 - Lidsdale Siding 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 footprint[4]	108	108	108
B. Total active disturbance[5]	17	17	17
C. Land being prepared for rehabilitation[6]	0	0	0
D. Land under active rehabilitation[7]	2.1	2.1	2.1
E. Completed rehabilitation[8]	0	0	0

9. COMMUNITY

There were two complaints at Lidsdale Siding during the Annual Review period.

1. The complaint related to tripper lights at the Lidsdale Siding Train Loading Facility being left on overnight. To prevent a recurrence of the event, a timer was been installed to switch off the tripper lights after two hours.

2. The complaint also related to light spill from the Lidsdale Siding facility. A joint inspection was undertaken with the resident and it was determined the gantry

[4] **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.
[5] **Total Active Disturbance:** includes all areas requiring rehabilitation
[6] **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)
[7] **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)
[7] **Completed rehabilitation**: requires formal sign off from DRE that the area has successfully net the rehabilitation land use objectives or completion criteria

lights were the cause of the complaint. The gantry lights have since been disabled until a permanent solution can be determined. This resident also complained about trains blowing horns when using the level crossing. The resident was advised it is a train safety protocol to use the horn prior to passing the level crossing.

In 2016 Lidsdale Siding received two complaints as detailed above. In years 2013, 2014, and 2015, only 1 complaint per year has been received as detailed in Table 23 below.

Table 24 - Lidsdale Siding Complaint Summary Rehabilitation status

Year	Number of complaints	Complaint type
2013	1	Noise from rail wagons bunching
2014	1	Noise from fire alarm
2015	1	Lighting spill from TLO
2016	2	Lighting spill from TLO / Noise from train horn

A community information line currently exists for Lidsdale Siding to receive calls from the local community. Lidsdale Siding's community information line (6355 9500) operates 24 hours a day, 7 days a week.

The combined Western Region Community Consultative Committee hosted three meetings during 2016.

These meetings provide a forum for discussion on issues of interest to the community that relate to the Lidsdale and Wallerawang area from Centennial Operations including Lidsdale Siding, Western Coal Services, Springvale Mine, and Angus Place Mine, including a review of community complaints in the period.

No specific issues action or management actions were identified for Lidsdale Siding by the committee.

No new community contributions were undertaken during the reporting period via the Community Consultative Committee. $30K of funds allocated in 2015 was expended during the period via The Friends of St Johns to help with the restoration / replacement of the tiles on the roof of St Johns Church. The balance of unspent money was returned and put in a trust to the Wallerawang Lidsdale Progress Association to purchase seating quotes and a new flag pole.

10. INDEPENDENT AUDIT

MCW Environmental was engaged by Ivanhoe Coal Pty Ltd to carry out an independent environmental audit of the Lidsdale Siding facility. An update on 2016 performance is provided in table 24 below.

Table 25 - Independent Audit summary

Condition Number	Condition	Compliance Status	Status at 31/12/2016
DA 08_0223 C2.9	Within 12 months of the date of this approval, or as otherwise agreed by the Director-General, the Proponent shall surrender all existing development consents for the site in accordance with	**Compliant**	Surrender was made to Lithgow City Council on 28 November 2016, with acceptance of surrender by Council on 2 December 2016

Condition Number	Condition	Compliance Status	Status at 31/12/2016
	Section 104A of the EP&A Act.		
DA 08_0223 C3.2	The Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 1 (condition 2 schedule 3)	**Non-Compliant**	A complete and detailed review of the sources of noise, and Centennial's subsequent ability to feasibly and practically manage and mitigate these sources in the Lidsdale / Wallerawang area has been a priority for Centennial in 2016 and will remain so in 2017 and beyond. Noise mitigation at Lidsdale Siding will continue to receive attention at the highest level in Centennial, with the committed, experienced and resourced project team continuing to be engaged to drive the noise mitigation work in accordance with the operational management and technical measures proposed in the detailed works plan and correspondence submitted to DPE on Feb 17 2017. The Work Plan sets out Centennial's current proposal for ensuring that its operations at Lidsdale Siding reduce their noise and achieve compliance with consented noise limits.
DA 08_0223 C3.14	Within 6 months of the date of this approval, the Proponent shall upgrade the rail level crossings of Main Street and Brays Lane, Wallerawang, unless the Director-General directs otherwise, by: (a)installing additional signage and line marking on Main Street Wallerawang; (b) installing upgraded safety measures at the Brays Lane level crossing in accordance with the relevant Australian standard.	**Non-Compliant**	The required rail level crossing upgrade works have been completed. The outstanding correspondence with Council and the rail authority has not been obtained.
DA 08_0223 C3.17	The Proponent shall ensure that all surface water discharges from the site comply with the discharge limits(both volume and quality) set for the project in any EPL.	**Compliant**	All discharges in 2016 complied with all approval and licence conditions.
DA 08_0223 C3.18	Within 6 months of the date of this approval, unless otherwise agreed by the Director-General, the Proponent shall undertake a Phase 2 Contamination Assessment for the site and implement any necessary remediation within 18 months of this approval in accordance with the requirements of the Contaminated Land Management Act 1997, to the satisfaction of the EPA.	**Non-Compliant**	A Phase 2 Environmental Site Assessment I (ESA) in support of further contaminated site characterisation at the site was completed in October 2016 to meet the intent of the action and RAP. Stage 3 works as recommended from the Stage 2 report were completed in January 2017. Stage 3 report recommendations and development of an Environmental Management Plan to direct the monitoring and management of ecological risks, associated with the potential offsite migration of hydrocarbon impacts in accordance are scheduled for completion in Q2 2017 with submission to the EPA proposed following internal Centennial review and approval.
DA 08_0223 C3.30	Within 12 months of the date of this approval, the Proponent shall lodge a rehabilitation bond for the project with the Director-General. The sum of the	**Compliant**	Centennial completed an annual revision in 2016 in accordance with approval requirements.

Condition Number	Condition	Compliance Status	Status at 31/12/2016
	bond shall be calculated in accordance with the current publicly-available version of methodology and calculation spreadsheets utilised by DRE for the purpose of determining rehabilitation liabilities for mine sites, to the satisfaction of the Director-General. The Proponent shall pay the Department's reasonable costs in engaging experts to review the adequacy of the calculated sum of the bond.		
EPL 5129 L2.1	L2.1 For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table. L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	**Compliant**	All discharges in 2016 complied with all approval and licence conditions.
EPL 5129 L4.1	Noise generated at the premises must not exceed the noise limits presented in the table below.	**Non-Compliant**	A complete and detailed review of the sources of noise, and Centennial's subsequent ability to feasibly and practically manage and mitigate these sources in the Lidsdale / Wallerawang area has been a priority for Centennial in 2016 and will remain so in 2017 and beyond. Noise mitigation at Lidsdale Siding will continue to receive attention at the highest level in Centennial, with the committed, experienced and resourced project team continuing to be engaged to drive the noise mitigation work in accordance with the operational management and technical measures proposed in the detailed works plan and correspondence submitted to DPE on Feb 17 2017. The Work Plan sets out Centennial's current proposal for ensuring that its operations at Lidsdale Siding reduce their noise and achieve compliance with consented noise limits.
EPL 5129 L4.4	For the purpose of condition L4.3, the meteorological data to be used for determining meteorological conditions is the data recorded by the meteorological weather station identified as EPA identification Point 9 in condition P1.1.	**Compliant**	The Lidsdale siding weather station installed in 2015 remained operational in 2016 as per as EPA identification Point 9 in condition P1.1.
EPL 5129 L4.5	To determine compliance: a) With the Leq(15 minute) noise limits in condition L4.1, the noise measurement equipment must be located: i) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or ii) within 30 metres of a dwelling façade, but not closer than 3 metres where any dwelling on the property is situated more than 30 metres from the property boundary	**Compliant**	All attended noise monitoring reports have been revised accordingly with all monitoring undertaken in compliance with all licence and approvals conditions.

Condition Number	Condition	Compliance Status	Status at 31/12/2016
	closest to the premises. b) With the LA1(1 minute) noise limits in condition L4.1, the noise measurement equipment must be located within 1 metre of a dwelling façade. c) With the noise limits in condition L4.1, the noise measurement equipment must be located: i) at the most affected point at a location where there is no dwelling at the location; or ii) at the most affected point within an area at a location prescribed by conditions L4.5(a) or L4.5(b).		
EPL 5129 L4.6	A non-compliance of condition L4.1 will still occur where noise generated from the premises in excess of the appropriate limit is measured: a) at a location other than an area prescribed by conditions L4.5(a) and L4.5(b); and/or b) at a point other than the most affected point at a location.	**Compliant**	All attended noise monitoring reports have been revised accordingly with all monitoring undertaken in compliance with all licence and approvals conditions.
EPL 5129 U1.2	All stockpiled soil and fill material excavated as part of the Lidsdale Rail Siding upgrade project must be characterised prior to reuse on-site or disposal off-site. The characterisation must be undertaken in accordance with the industrial land use criteria summarised in Appendix II of "Guidelines for the NSW Site Auditor Scheme" (DEC, 2006).	**Compliant Completed**	No changes to 2015 information.
SoC-1	Sound power levels from all new plant and equipment will meet the specified levels as described in the Noise Impact Assessment prepared by Hatch 2012.	**Non-Compliant**	Trends for noise monitoring data over the life of the project continue to show exceedances above the noise criteria within the approval and 2012 Hatch Noise assessment.

11. INCIDENTS AND NON-COMPLIANCES DURING REPORTING PERIOD

Table 26 below contains a summary for each incident and/or non-compliance during the Annual Review period.

Table 26 – Lidsdale Siding Incident/Non-Compliance Summary

Nature of the incident/non-compliance	**DA 08_0223 Condition 3.2** **EPL 5129 L4.1** Exceedance of noise limits
Date of incident/ non-compliance (if known; if not known state not known)	R12 09/02/2016 23:09 R2 10/02/2016 19:35 R10 10/03/2016 20:01 R11 10/03/2016 20:25 R10 11/03/2016 00:13 R3 11/03/2016 22:56 R3 19/04/2016 17:40 R3 19/04/2016 19:55 R9 19/04/2016 20:07 R8 20/04/2016 20:35 R12 20/04/2016 22:52 R4 17/11/2016 06:51 R8 07/12/2016 20:12 R10 07/12/2016 19:58
The location of the incident/ non-compliance (include a figure if appropriate), if known	As above
Detail the cause of the incident/non-compliance	The exceedance of the noise criteria is related to train loading, overland conveyors and train entry to site (wagons bunching) for the day, evening and night periods.
Detail action that has been, or will be, taken to mitigate any adverse effects of the incident/ non-compliance	A complete and detailed review of the sources of noise, and Centennial's subsequent ability to feasibly and practically manage and mitigate these sources in the Lidsdale / Wallerawang area has been a priority for Centennial in 2016 and will remain so in 2017 and beyond. Centennial has provided the DPE with a detailed work plan identifying operational management and technical measures undertaken to date, and proposed in the detailed works plan and correspondence submitted to DPE on Feb 17 2017.
Detail action that has been, or will be, taken to prevent recurrence of the incident/ non-compliance	A complete and detailed review of the sources of noise, and Centennial's subsequent ability to feasibly and practically manage and mitigate these sources in the Lidsdale / Wallerawang area has been a priority for Centennial in 2016 and will remain so in 2017 and beyond. Noise mitigation at Lidsdale Siding will continue to receive attention at the highest level in Centennial, with the committed, experienced and resourced project team continuing to be engaged to drive the noise mitigation work in accordance with the operational management and technical measures proposed in the detailed works plan and correspondence submitted to DPE on Feb 17 2017. The Work Plan sets out Centennial's current proposal for ensuring that its operations at Lidsdale Siding reduce their noise and achieve compliance with consented noise limits.

Nature of the incident/non-compliance	**DA 08_0223 Schedule 3 Condition 8** Exceedance of PM10 dust criteria
Date of incident/ non-compliance (if known; if not known state not known)	30/01/2016, 31/01/2016, 01/02/2016
The location of the incident/ non-compliance (include a figure if appropriate), if known	Lidsdale Siding Automatic Weather Station
Detail the cause of the incident/non-compliance	The exceedance of the dust criteria is related to unidentified causes.
Detail action that has been, or will be, taken to mitigate any adverse effects of the incident/ non-compliance	Daily monitoring of Real Time AQ measurements & the implementation of appropriate dust suppression activities as required.
Detail action that has been, or will be, taken to prevent recurrence of the incident/ non-compliance	Daily monitoring of Real Time AQ measurements & the implementation of appropriate dust suppression activities as required.

Table 27 – Lidsdale Siding Summary of Reportable Incidents and Regulatory Actions

Compliance Type	Agency	Number	Response
Incidents		7	
Caution Notices		Nil	
Warning Letters		Nil	
Penalty Notices		Nil	
Prosecutions		Nil	

Note: This table includes actions taken by DPE, DRE and the EPA during the reporting period. Include a summary of actions taken to prevent recurrence of incidents and/or regulatory actions.

12. ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD

The following activities are proposed for the next reporting period.

Operations

- There is no material change planned for the Lidsdale Siding Coal Loading operation during 2017.
- The facility will continue to be used for the distribution of coal from the Springvale Colliery to the ports on the NSW Coast via the Main Western Railway line.

Water

- The Lidsdale Siding WMP will be incorporated into the Centennial Coal Western Region Management Plan at the completion of final review in 2017.
- The provision of submission for the final WMP as proposed in 2017 is dependent on the consultation timeframes and process Centennial will undertake with relevant stakeholders and regulatory agencies as required for activities as proposed for the Springvale Water Treatment Project.
- Where required, recommendations and findings from this consultation will be incorporated into the revised WMP to ensure alignment between all Centennial water management activities and consultation in the upper Cox's river catchment and ensure that additional appropriate and compliant management strategies are further developed and implemented as required.

Noise

- A complete and detailed review of the sources of noise, and Centennial's subsequent ability to feasibly and practically manage and mitigate these sources in the Lidsdale / Wallerawang area remains a priority for Centennial in 2017.
- Noise mitigation at Lidsdale Siding will continue to receive attention at the highest level in Centennial, with the committed, experienced and resourced project team continuing to be engaged to drive the noise mitigation work in accordance with the operational management and technical measures proposed in the detailed works plan and correspondence submitted to DPE on Feb 17 2017.
- The Work Plan sets out Centennial's current proposal for ensuring that its operations at Lidsdale Siding reduce their noise and achieve compliance with consented noise limits.

Rehabilitation and Mine Closure

- No rehabilitation planned for the next reporting period.
- Maintenance of existing screening vegetation to be undertaken.
- Continuation of willow control works.
- The identification of opportunities to partner with agencies to implement additional improvements for tree planting and habitat restoration.

Biodiversity

- The Lidsdale Siding Biodiversity Management Plan is proposed to be replaced by a Centennial Coal Western Regional Biodiversity Management Plan (BMP) in 2017.
- Lidsdale Siding does not require consultation with government agencies for the purposes of this BMP.

Contamination Assessment

- Stage 3 works as recommended from the Stage 2 report were completed in January 2017.

- Stage 3 report recommendations and development of an Environmental Management Plan (EMP) to direct the monitoring and management of ecological risks, associated with the potential offsite migration of hydrocarbon impacts in accordance are scheduled for completion in Q2 2017 with submission to the EPA proposed following internal Centennial review and approval.
- Once the EMP is prepared and enacted it is not considered that remediation of the site would be required to meet the Consent conditions provided by the NSW DPI for the proposed Site upgrade.

Heritage

- Lidsdale Siding heritage management is proposed to be included and managed in accordance with the Centennial Coal Western Region Historic Heritage Management Plan (HHMP) in 2017. The HHMP was approved in July 2016, to be resubmitted including Lidsdale Siding by 28 April 2017.

13. Appendix 1 – Lidsdale Siding Environmental Monitoring Sites (Water and Air Quality) Map.

DG 9
DG3
LDP007
Piper Flat Creek U/S
PFdn
LDP004
MW 4
PB02
Triangle Dam
ESMW01/MW9
PFup
AWS & BAM
MW 8
CR5
Dirty Water Dam
ESMW02/MW10
MW 7
DG 7
MW 5
MW 1
DG 8
MW 3
MW 6
DG 6
DG 1
DG 10
Wang STP Monitoring Point
DG 11

Lithgow Locality

LEGEND:

- Surface Water Monitoring
- Ground Water Monitoring
- Dust Monitoring Stations
- Willow Control Areas
- Hyrocarbon Study Area
- Regional Aquatic Monitoring

Operational Area
EIS Study Area
Weather Station and BAM Unit

NOTES:
LDP007and DG3 shown on this Plan are Monitored for Compliance under Western Coal Services Project.

DRAWN: Brett Haddon	DATE: 19 May 2017
PLAN No: SVY04392	INFORMATION SUPPLIED BY:
COMPUTER PATH: N:\Z_Western Coal Services\Plans\TLO facility and Locality.dwg	
SCALE: As Shown	A3V Sheet 1 of 1

SPRINGVALE MINE

TITLE:

Lidsdale Siding
Environmental Monitoring
Water and Air Quality

SpringvaleCoal
SPRINGVALE MINE
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Lidsdale NSW 2790
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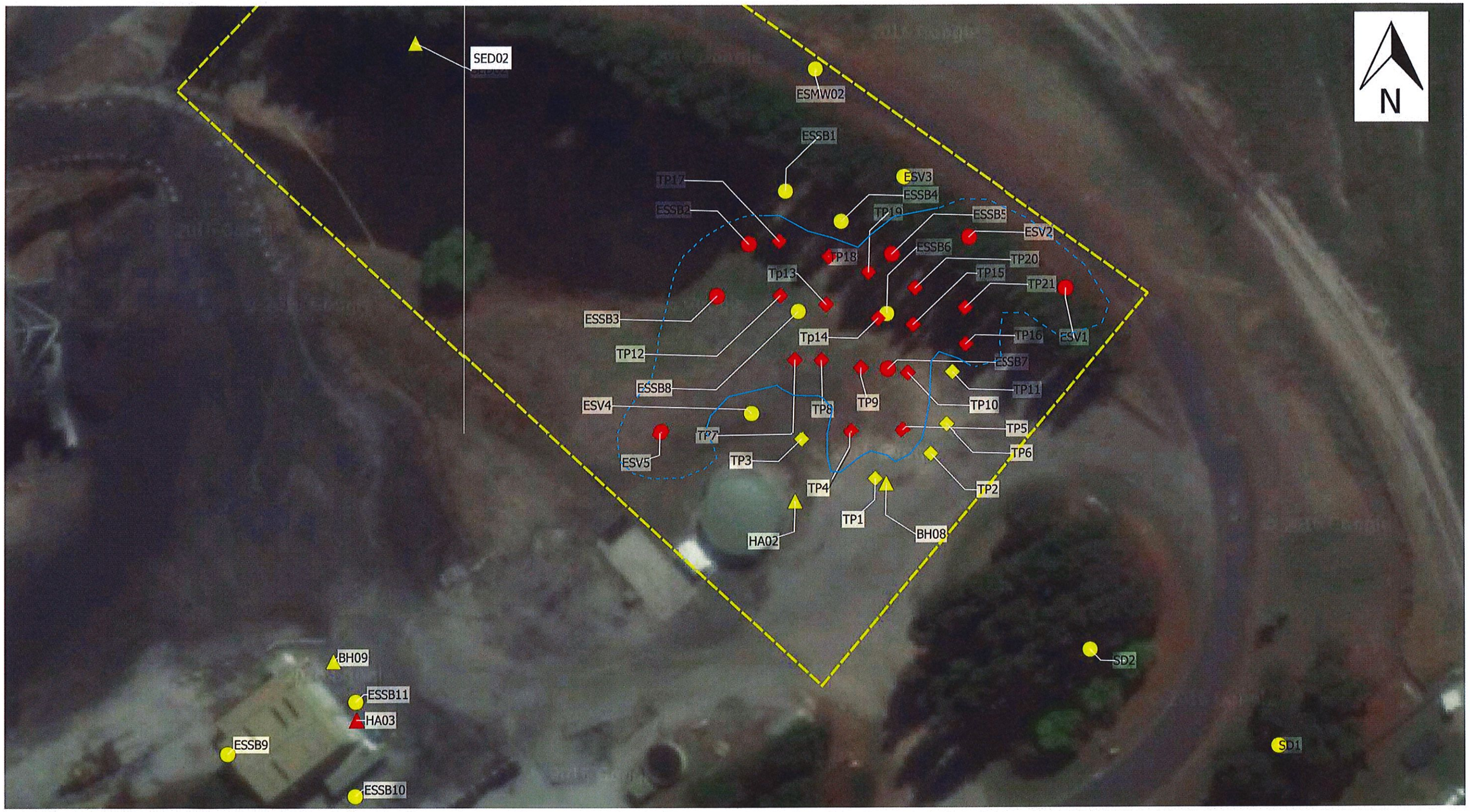
14. Appendix 2 – Lidsdale Siding Phase 2 Environmental Site Assessment Works

Environmental Strategies
PROVIDING BENEFITS

Soil and Sediment Sample Locations | Figure 2

16169 Lidsdale Siding
Phase 2



Legend

- ES Soil Bore - No Exceedances
- ES Soil Bore - ESL Exceeded
- SLR Soil Bore - No Exceedances
- Approximate extent of plume
- SLR Soil Bore - ESL Exceeded
- AECOM Soil Bore - No Exceedances
- AECOM Soil Bore - ESL Exceeded

0 25 50 75 100 m

Basemap from Google Maps
Projection WGS 84 / Pseudo Mecator
11/10/16 Drafted by TS

Centennial Coal

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Centennial Coal
Environment Matters