YANCOAL
兖煤澳大利亚有限公司

Stratford Mining Complex Annual Review

2020

STRATFORDCOAL
Part of the Yancoal Australia Group

STRATFORD MINING COMPLEX

ANNUAL REVIEW

Reporting Period: 1st January 2020 to 31st December 2020

Table 1 – Annual Review Title Block

Name of operation	*Stratford Mining Complex*
Name of operator	*Yancoal Australia Ltd*
Development consent/ project approval #	*SSD-4966 (Stratford Extension Project)*
Name of holder of Development consent/ project approval #	*Stratford Coal Pty Limited*
Mining lease #	*ML1360, ML1409, ML1447, ML1521, ML1528, ML1538, ML1577, ML1733, ML1787*
Name of holder of mining lease	*Gloucester Coal Ltd/CIM Stratford Pty Ltd/Stratford Coal Pty Ltd*
Water licence #	*WAL 41534, WAL 41535, WAL 41536, WAL 41537, WAL 41538,*
Name of holder of water licence	*Gloucester Coal Ltd/CIM Stratford Pty Ltd/Stratford Coal Pty Ltd*
MOP/ RMP start date	*1st March 2018*
MOP/ RMP end date	*1st March 2021*
Annual Review start date	*1st January 2020*
Annual Review end date	*31st December 2020*
I, (John Cullen), certify this audit report is true and accurate record of the compliance status of Stratford Mining Complex for the period of 1st January 2020 to 31st December 2020 and that I am authorised to make this statement on behalf of Yancoal. *Note.* *a) The Annual Review is an 'environmental audit' for the purpose of section 9.39(2) of the Environmental Planning and Assessment Act 1979. Section 9.42 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 the 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	*Mr John Cullen*
Title of authorised reporting officer	*Operation Manager – Stratford Coal*
Signature of authorised reporting officer	
Date	*27 April 2021*

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1. STATEMENT OF COMPLIANCE

This Stratford Mining Complex (SMC) Annual Review has been prepared in accordance with Development Consent SSD-4966 Schedule 5 Condition 4 for the Stratford Extension Project (SEP) for the period 1 January 2020 to 31 December 2020. This report is also prepared in accordance with the annual reporting requirements for Mining Leases ML1360, ML1409, ML1447, ML1521, ML1528, ML1538, ML1577, ML 1733 and ML1787.

Table 2a provides a statement of compliance against SCPL's relevant approvals. A summary of the non-compliances with Development Consent SSD-4966 and the Mining Leases during the reporting period are included in **Table 2b.**

Table 2a- Statement of Compliance

Were all conditions of the relevant approval(s) complied with?	
SSD-4966	No (refer to Table 2b)
ML1360, ML1409, ML1447, ML1521, ML1528, ML1538, ML1577, ML 1733, ML1787	No (refer to Table 2b)

Table 2b- Summary of Non-Compliances

Condition #	**Condition Description/Non-Compliance**	**Compliance Status/Risk**	**Comment**	**Section addressed**
SSD-4966 – Stratford Extension Project				
Schedule 3 Condition 32 and Water Management Plan	07/02/2020 Breach of water management system. Disturbed Area runoff from topsoil stripping area at Avon North Stage 4 breached containment bund.	Low	Rainwater runoff ponded against a water containment bund. Water containment bund was breached and water proceeded to flow outside the approved disturbance area/within Mining Lease. Water diverted and additional sediment control structures installed.	Section 7.2
Schedule 3 Condition 32 and Water Management Plan	09/02/2020 Overflow of Rehabilitation Sediment Dam (DAD19) at Avon North.	Low	Overflow of Rehabilitation Sediment Dam at Avon North in accordance with design criteria following 145.8mm in the 48hrs prior. Water Quality samples taken. Pump crew instructed to recommence pumping.	Section 7.2
Schedule 3 Condition 32 and EPL 5161 Condition O5.3	09/02/2020 Runoff from Stratford East Haul road construction breached bund reporting to Avondale Creek.	Medium	Reported in accordance with SSD-4966 and PIRMP. Following receiving 131.6mm rain within 24hours runoff from the Stratford East Haul Road construction area breached the water management bund adjacent to the Disturbed Area Dam 20 with the flow reporting into the Avondale Creek. Water quality samples taken at point of discharge, upstream and downstream. Repairs to the water management bund to be completed as soon as possible.	Section 7.2

Condition #	Condition Description/Non-Compliance	Compliance Status/Risk	Comment	Section addressed
Schedule 3 Condition 32 and EPL 5161 Condition O5.3	11/03/2020 Runoff from BRN waste emplacement reporting off Mining Lease - Uncontrolled discharge.	Medium	Reported in accordance with SSD-4966 and PIRMP. Following a rain even on site (16.8mm from 12pm to 3pm) the BRN waste emplacement was being inspected at which point it was determined runoff from an area being shaped was reporting over existing rehabilitation. Water containment/diversion bund erected immediately, redirecting water into BRN pit.	Section 7.2
Schedule 3 Condition 16 Blast Management Plan and EPL 5161 Condition M7.2	11/06/2020 Blast in Roseville Pit on was not recorded on video.	Administrative	The drone and video camera was deployed, Drone battery malfunctioned and crashed as blast countdown commenced. Environmental Superintendent and Technical Services Superintendent were notified.	Section 6.6.2
Schedule 3 Condition 32 and Water Management Plan	21/12/2020 Disturb area runoff from the Stratford East Temporary Clean Water Drain construction area breached the containment bund.	Low	Rainwater runoff in the construction area for the Stratford East temporary clean water drain breached the containment bund discharging to a clean water area. Runoff to report to a grassed area downslope. The point of discharge is approximately 1.2km to the nearest water course and remains within the Mining Lease area. 55mm of rainfall was recorded in the 24 hours prior. The temporary clean water drain construction was in accordance with the approved clearing permit and the erosion and sediment control plan.	Section 7.2
Schedule 3 Condition 32 and Water Management Plan	30/12/2020 Disturb area runoff from Stratford East construction area breached the containment bund	Low	Rainwater runoff in the construction area for the Stratford East temporary clean water drain breached the containment bund discharging to a clean water area. In one section the containment bund sustained a minor breach allowing runoff to report to a grassed area downslope. The point of discharge is approximately 1.2km to the nearest water course and remains within the Mining Lease area. 14.8mm of rainfall was recorded in the 24 hours prior. Sump improvement and pumping continued during the night to reduce the water level and allow greater water capture.	Section 7.2

Condition #	Condition Description/Non-Compliance	Compliance Status/Risk	Comment	Section addressed
Mining Leases				
ML 1787 Condition 5	09/02/2020 As reported above Schedule 3 Condition 32 and EPL 5161 Condition O5.3	Medium	Reported in accordance with SSD-4966 and PIRMP.	Section 7.2
ML 1528 Condition 33	11/03/2020 As reported above Schedule 3 Condition 32 and EPL 5161 Condition O5.3	Medium	Reported in accordance with SSD-4966 and PIRMP.	Section 7.2
EPL 5161				
EPL 5161 Condition M2.3	29/06/2020 Less than required Conductivity monitoring undertaken as per M2.3 Water Monitoring Requirements at Point 5. Continuous monitoring required and only two sample were analysed during the reporting period.	Administrative	No adverse effects would be anticipated resulting from the non-compliance. Monthly/Event monitoring was undertaken at Point 5 during the reporting period and on 10 out of the 12 monitoring events Point 5 had no flow. Data was obtained for the 2 monitoring events when flow was recorded.	EPL Annual Return 2020
EPL 5161 Condition M4.1 and POEO Reg (2009) Cl 98E	29/06/2020 The SMC PIRMP was not tested within 1 month of the plan being triggered by pollution incidents on 09/02/20 and 11/03/20.	Administrative	Testing of the PIRMP must be undertaken within 1 month of any pollution incident occurring in the course of an activity to which the licence relates. No adverse effects would be anticipated resulting from the non-compliance. The PIRMP was tested on 28 January 2020 and 9 July 2020, however a test was not conducted within 1 month of the pollution incidents on 09/02/20 and 11/03/20.	EPL Annual Return 2020

Risk Level	Colour Code	Description
High	Non-Compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Medium	Non-Compliant	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-Compliant	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 non-compliance	Non-Compliant	Non-compliance which does not result in any risk of environmental harm

2. INTRODUCTION

The Stratford Mining Complex (SMC) is located in the Gloucester Basin approximately 100km north of Newcastle in New South Wales. Refer **Figure 1** (**Appendix 1**).

Stratford Coal Pty Ltd (SCPL), a wholly owned subsidiary of Yancoal Australia Limited (YAL), is the owner and operator of the SMC.

The SMC encompasses an area of approximately 1,580 hectares (ha) of cleared former grazing land (owned by SCPL) located to the east of The Bucketts Way, between the villages of Stratford and Craven. Refer **Figure 1** (**Appendix 1**). Development Consent was originally approved for the Stratford Coal Mine by the then NSW Minister for Planning on 19 December 1994. Mining Lease (ML) 1360 was subsequently granted by the then NSW Minister for Mineral Resources on 21 December 1994 with production commencing in June 1995.

The SMC consists of an open-cut mine which utilises truck and excavator mining methods to produce run of mine (ROM) coal. ROM coal is processed at the Coal Handling and Processing Plant (CHPP) and transported via train on the North Coast Railway to the Port of Newcastle for distribution to the export market.

Mining activities approved under the former Stratford Coal Mine (DA 23-98/99) and Bowens Road North (DA 39-02-01) Development Consents were suspended in mid-2014. However, ROM coal from the Duralie Coal Mine (DCM) (also owned by YAL) was continued to be processed at the SMC CHPP and transported to the Port of Newcastle for distribution to the export market.

Development Consent SSD-4966 was granted by the then NSW Planning Assessment Commission (PAC), as delegate for the Minister for Planning, for the SEP on 29 May 2015. The SEP provides for the continuation and extension of operations at the SMC, including the mining of three new open cut areas.

Mining activities approved under the SEP Development Consent (SSD-4966) were commenced on 4 April 2018.

A Modification to SSD-4966 (MOD 2) was approved by the Director, Resource Assessments as delegate of the Minister for Planning and Public Spaces on 13 January 2020. The modification sought approval to allow for water stored within the SMC water management system to be available to the Mid Coast Council (as a public authority) for the benefit of local services and other potential public purpose water needs.

This Annual Review (AR) has been prepared in accordance with Schedule 5, Condition 4 of SSD-4966. This report is also prepared in accordance with the annual reporting requirements for the Mining Leases held by SCPL and in accordance with the Department of Planning, Industry and Environment (DPIE) Annual Review Guidelines (October 2015).

The AR describes the environmental performance, pollution control and rehabilitation activities at the SMC for the period 1 January 2020 to 31 December 2020. As required by SSD-4966, comparisons of environmental monitoring results have been made against relevant statutory requirements/performance criteria, monitoring results of previous years and relevant predictions of Environmental Assessments. This AR also reports on any non-compliances, trends in monitoring data and any discrepancies between the predicted and actual impacts of the development. Environmental management activities planned for the next 12 months are also discussed.

2.1 MINE CONTACTS

The SMC is an owner operated mine site by SCPL. Site personnel responsible for mining, CHPP, rehabilitation and environmental issues at the end of the reporting period are provided in **Table 3**.

Table 3: SMC Management Contact Details

Position	Name	Contact
Operations Manager, Stratford & Duralie Operations	Mr John Cullen	02 6538 4210
Environment & Community Superintendent	Mr Michael Plain	02 6538 4203
CHPP Superintendent	Mr Bruce Robinson	02 6538 4235

3. APPROVALS

3.1.1 Status of Leases, Licences and Approvals

The SMC operates in accordance with the approvals provided in **Table 4**.

Table 4: Stratford Mining Complex – Licences, Leases and Approvals

Description	Date of Grant	Duration of Approval	Comments
NSW Planning Approvals			
Stratford Extension Project Development Consent SSD-4966	29 May 2015	31 December 2025 (mining operations)	• Action commenced on 4 April 2018. • MOD 2 granted 13/01/2020
Mining Leases and Exploration Licences			
ML 1360	21 December 1994 (renewed 21 December 2015)	21 December 2036	Variation of Conditions dated 22 June 2018
ML 1409	7 January 1997	7 January 2039	Renewed 7 March 2018 Variation of Conditions dated 8 October 2018
ML 1447	1 April 1999	1 April 2020	Renewal lodged 13 Mar 2019.
ML 1521	24 September 2002	24 September 2023	Variation of Conditions dated 8 October 2018
ML 1528	20 January 2003	20 January 2024	
ML 1538	25 June 2003	25 June 2024	
ML 1577	1 March 2006	1 March 2027	Variation of Conditions dated 8 October 2018
ML 1733	8 April 2016	8 April 2037	Variation of Conditions dated 19 February 2018
ML 1787	5 June 2019	5 June 2040	
A311	17 September 1982	28 November 2017	Renewal lodged 27/11/2017

A315	27 December 1982	28 November 2017	Renewal lodged 27/11/2017
EL 6904	9 October 2007	9 October 2017	Renewal lodged 09/10/2017
Environment Protection Licences			
EPL 5161	1 July 2000	Until revoked or surrendered.	As modified by subsequent variations
Commonwealth Approvals			
EPBC 2011/6176	29 January 2016	30 November 2030	Action commenced on 4 April 2018.
Water Licences			
Water Access Licences (WAL 41534, WAL 41535, WAL 41536, WAL 41537, WAL 41538)	Various	Perpetuity	Groundwater extraction – open cut dewatering.
Groundwater bore licences – various	Various	Perpetuity	Groundwater monitoring
Water Access Licences (WAL 19536, WAL 19514, WAL 19540)	Various	Perpetuity	Avon River Water Source

Environmental Management Plans

Environmental Management Plans (EMPs) have been prepared and approved for the SMC. The current versions approved by DPIE are available on the Stratford Coal website.

- Environmental Management Strategy (revised). Approved 2 July 2019.
- Air Quality Management Plan (revised). Approved 17 June 2019.
- Biodiversity Management Plan (revised). Approved 19 October 2018.
- Blast Management Plan (revised). Approved 17 June 2019.
- Heritage Management Plan. Approved 17 October 2018.
- Life of Mine Rejects Disposal Plan (revised), October 2018.
- Noise Management Plan (revised). Approved 17 June 2019.
- Water Management Plan (revised). Approved 2 July 2019.
- Mining Operations and Rehabilitation Management Plan (MOP) (revised). Approval 16 July 2019.
- Pollution Incident Response Management Plan (revised), November 2018.
- Squirrel Glider Management Plan (revised). Approved 19 October 2018.
- Transport Monitoring Program. Approved 8 March 2018.

3.1.2 Amendments to Approvals/Licences over the Reporting Period

The following amendments to approvals/licences and management plans were granted during the reporting period.

NSW Development Consent SSD-4966 Modification 2

- On 13 January 2020, the Director of Resource Assessments, as delegate of the Minister for Planning and Public Spaces approved a modification to SSD-4966 to facilitate access to water stored at the SMC to the MidCoast Council (as a public authority) for the benefit of local services and other potential public purpose water needs.

Commonwealth Project Approval

- No amendments were made during the reporting period.

Mining Leases

- No changes during reporting period.

Environment Protection Licence

- No variations of EPL 5161 were sought or issued during the reporting period.

Environmental Management Plans

- A Mining Operations Plan and Rehabilitation Management Plan (MOP) has been prepared for the SEP and approved by the Resources Regulator on 16 July 2019. The current MOP expired on 31 March 2021 and an extension was granted until 30 June 2021. A new MOP has been prepared and was lodged with the Resources Regulator on 20 January 2021. The new MOP is currently under review and is pending approval.

- No other EMPs were revised or updated within the reporting period. Revision to the EMPs are planned during the next reporting period.

4. OPERATIONS SUMMARY

A summary of operations (production), during the preceding and current reporting period as well as a forward forecast for the next reporting period is provided below in **Table 5**.

Table 5 - Production Summary

Material	Approved limit (specify source)	Previous reporting period	This reporting period	Next reporting period
Waste Rock/ Overburden (BCM)	N/A	6,641,245	7,451,307	7,500,000
ROM Coal (tonnes)	2.6 million tonnes per annum	1,259,995	990,747	1,500,000
Co-disposal Reject (tonnes)	N/A	509,867	486,143	700,000
Saleable Product Coal (tonnes)	N/A (Process limit of 5.6 million tonnes per annum)	750,128	533,662	1,100,000

Total saleable product coal for the 12-month reporting period was 533,662 tonnes. 7,451,307 BCM of waste rock/overburden was mined from Stratford East, BRN, Roseville West and Avon North pits during the reporting period. No ROM coal from the Duralie Coal Mine was processed at the CHPP during the reporting period

Saleable coal production by month for the reporting period is shown in **Table 6.**

Table 6: Product Coal Produced by Month (Tonnes)

MONTH	Coking Coal	Thermal Coal	Total Product Coal
January 2020	10,076	31,091	41,167
February 2020	11,852	23,672	35,524
March 2020	7,463	13,225	20,688
April 2020	9,023	10,178	19,201
May 2020	12,723	20,005	32,728
June 2020	13,438	26,649	40,087
July 2020	18,855	23,890	42,745
August 2020	14,957	29,971	44,928
September 2020	18,140	36,275	54,415
October 2020	24,711	46,676	71,387
November 2020	21,067	43,456	64,523
December 2020	34,725	51,544	86,269
Total Annual	**197,030**	**356,632**	**553,662**

4.1 EXPLORATION

Exploration activities occur in the Mining Lease and Exploration Lease areas within, and external to, the open cut footprints and is used to investigate aspects such as geological features, seam structure and coal/overburden characteristics as input to detailed mine planning and feasibility studies.

An SMC Group ML Annual Exploration Report 2020 has been prepared and lodged for the period 21/12/2019 to 20/12/2020. Furthermore, Annual Exploration Reports and Community Consultation Reports have been prepared and lodged for Auth 311, Auth 315 and EL 6904

During the reporting period, exploration activities have been primarily desktop based, with minimal on-ground exploration activities. The main activities carried out in the SMC Mining Leases included:

- No on-ground exploration activities were undertaken during the reporting period.
- Update and interpretation of geological models for Avon North and Stratford East;
- Interpretation of geochemical data and development of potentially acid forming strata model;
- Environmental studies including ground water design and piezometer design;
- Geotechnical investigations were undertaken for the BRN and Avon North pits;
- Mining studies including assessments of the potential for acid mine drainage and the identification and handling of potentially acid forming strata; and
- Updating JORC resource and reserves reporting

The main activities carried out in the Exploration Leases included finalising the assessment lease application of the north eastern areas of Auth 311, finalising relinquishment area boundaries and commencing relinquishment reporting. Other activities included:

- Rehabilitation documentation and updates to mining studies in target areas in Stratford North and Stratford South pits within Authorisation 311;
- Collation and validation of rehabilitation documentation;
- Annual reporting and titles management;
- Facilitated Risk Assessment and Gap Analysis to progress targets and determine priorities of supporting studies; and
- Ongoing project and tenure management

During the next reporting period, surface exploration activities includes installation of piezometers and ground water monitoring points and geochemical testing. Mining studies are ongoing, including geochemical modelling and bulk mining studies.

Exploration activities within the ML area are undertaken in accordance with the MOP. Exploration outside the ML area requires an Exploration Activity Approval (and depending on scope, a Review of Environmental Factors)
prior to activities commencing.

4.2 ESTIMATED MINE LIFE

Mining activities approved under SSD-4966 for the SEP were commenced on 4 April 2018.

SSD-4966 provides approval for activities described in the SEP Environmental Impact Statement (EIS 2012) and includes:

- 11 years of mining;
- Up to 2.6 Mtpa ROM coal;
- 3 new open cut mining areas; and
- Use of existing CHPP and infrastructure.

Schedule 2, Condition 5 of SSD-4966 permits the carrying out of mining operations on the site until 31 December 2025.

The MOP describes the mining and rehabilitation activities to be undertaken onsite during the MOP term. The current MOP was to expire on 1 March 2021 however an extension to 30 June 2021 was approved. A new MOP has been prepared for the term 1 January 2021 to 31 December 2023. and was lodged with the Resources Regulator on 20 January 2021.

4.3 OPEN CUT MINING

SMC consists of an open-cut mine which utilises truck and excavator mining methods to produce ROM coal. ROM coal is processed at the CHPP and transported via train on the North Coast Railway to the Port of Newcastle for distribution to the export market.

Mining activities approved under the former Stratford Coal Mine and Bowens Road North Development Consents were suspended in mid-2014. However, ROM coal from the Duralie Coal Mine (DCM) was continued to be processed at the SMC CHPP and transported to the Port of Newcastle for distribution to the export market.

Mining activities approved under SSD-4966 were commenced on 4 April 2018. The following key activities were undertaken during the reporting period:

- Mining continued in the BRN Open Cut and the Roseville West Open Cut within the existing footprints;
- Mining in the Avon North Open Cut advanced to the full proposed mining footprint;
- Mining in the Stratford East Open Cut advanced to the south with further development of the waste emplacement, water division systems and haul road network; and
- Reprocessing of coal from both the Western Co-disposal area continued during the reporting period.

Mining operations are permitted 7 days per week. Operational time restrictions apply as prescribed in SSD-4966. During the reporting period SCPL complied with the approved operating hours.

The mining activities proposed for the next reporting period are described in the MOP.

Surface facilities at the mine and current mine development and rehabilitation as at 31 December 2020 are indicated within **Figure 4 (Appendix 1)**.

4.3.1 Mining Equipment and Method

The mining equipment currently in use at SMC is listed in **Table 7** provided below.

Table 7: Current Mining Equipment

Item	Description	Number
Stratford Coal Pty Ltd		
Excavator	Hitachi 2600-6	2
Excavator	Caterpillar 349L	1
Excavator	Liebherr 994B	1
Haul Trucks	Cat 785C	11
Track Dozer	Caterpillar D10T-2	5
Drill	Atlas Copco	2
Grader	Caterpillar 18M3	2
Water Cart	Caterpillar 777F	2
Water Cart	Caterpillar 773F	1
Service Cart	Caterpillar 775G	1
Service Cart	Mack Metroliner	1
Front End Loader	Caterpillar 988H	1
Front End Loader	Komatsu WA 900-3	1
Front End Loader	Caterpillar 938K	1
Ancillary Mobile Plant	Various	-
Ditchfield Contracting		
Excavator	Caterpillar 6015B	1
Excavator	Komatsu PC1250	2
Excavator	Cat 374, 349, 336	3
Haul Trucks	Cat 775	8
Haul Trucks	Volvo A40	6
Track Dozer	Cat D6, D9, D10, D11	5
Drill	Drill Atlas Copco D65	1
Grader	Caterpillar 14M	2
Water Cart	Caterpillar 773	1

The mining sequence is summarised below and is conducted in accordance with the approved MOP and supporting approvals including relevant EMPs (refer Section 3). The mining sequence generally occurs in the following manner:

- A vegetation clearance and ground disturbance plan is prepared. This includes fauna/flora assessments and cultural heritage surveys.
- An erosion and sedimentation control plan is prepared for the area to be disturbed.
- Delineation of the proposed disturbance area is undertaken.
- Water infrastructure and sedimentation controls are implemented.
- Tree clearing is limited to the minimum area required for ongoing operations and undertaken ahead of the advancing workings.
- Topsoil is removed in accordance with a topsoil stripping plan.
- Overburden removal is undertaken by a hydraulic excavator. Generally, the first one to five metres of subsoil/overburden is ripped and/or free-dig. Deeper overburden requires blasting prior to excavation.
- Overburden waste material is deposited either in out-of-pit waste emplacements or backfilled into mining voids
- Following waste emplacement, shaping to the approved final landform in undertaken in preparation for rehabilitation works.

4.4 COAL HANDLING AND BENEFICIATION

4.4.1 CHPP Throughput

Coal is processed in a 600 tonnes per hour (tph) coal handling and processing plant (CHPP) with coarse coal (i.e. 50mm down to 1mm) treated using dense medium cyclones (50mm to 1.5mm) and “teeter bed” separator/spirals (1.5mm to 0.4mm) and fine coal using floatation (0.4mm to <0.1mm). The CHPP operates on a two shift, 5 days per week basis. Feed to the CHPP is by front end loader based on blending of coal plies from the ROM stockpile. The essential elements of the CHPP and their design capacities are as follows:

ROM coal processing	5.6 Mtpa maximum
CHPP feed rate	600 tph
Product coal	3.3 Mtpa
Train load out rate	3,000 tph

Reclaimed previously emplaced CHPP reject material was also used as feed for the CHPP, as an addition to SMC and DCM ROM coals during the reporting period.

4.4.2 Coal Stockpile Capacity (ROM & Product)

ROM coal stockpile capacity	150,000 t
Product coal stockpile capacity	400,000 t

4.4.3 Product Transport

All saleable (product) coal is transported from site by rail. A total of 91 export trains were loaded during the reporting period. Schedule 2, Condition 8 of SSD-4966 permits a maximum of 6 laden trains per day and no more than 2 laden trains during night-time hours to be dispatched. SCPL were compliant during the reporting period with regard to export trains.

A summary of product coal transported during the reporting period is provided below in **Table 8**. It is noted that the total coal transported from site is marginally higher than that produced at the SMC due to changes in stockpile volumes (see **Table 6**). Records of the export train movements are provided in **Appendix 8** and are also available on the Stratford Coal website.

Table 8: Export Train Coal Transported by Month

MONTH	Product Coal Transported (Tonnes)
January 2020	65,846
February 2020	51,173
March 2020	11,826
April 2020	17,958
May 2020	29,930
June 2020	35,916
July 2020	41,902
August 2020	29,930
September 2020	65,846
October 2020	76,212
November 2020	41,902
December 2020	71,394
Total Annual	**539,835**

4.4.4 CHPP Reject Management

Reject material produced at the SMC CHPP is disposed of in accordance with the SMC Life of Mine Rejects Disposal Plan (RDP 2018). Reference should be made to the RDP for a detailed description of reject management at the SMC. Details of management measures undertaken at SMC are found in Section 7.3 of the SMC Surface Water Management Plan (SWMP).

In general, the coarse and fine reject materials are pumped via pipeline from the CHPP to the Stratford Main pit where they are deposited in locations below the simulated final void ground water levels. Monitoring results for the CHPP rejects are included in **Section 6.12**.

4.5 WASTE MANAGEMENT AND RECYCLING

A fully accredited waste contractor was engaged during the reporting period to manage all waste streams from the Stratford operations. This contract includes general waste and recycling, scrap metal, hydrocarbons including waste grease and oil and hazardous waste.

The waste management contractor provides monthly reporting on all waste streams disposed from the SMC. The monthly reports also provide details of recycling achieved and hazardous substances. The waste management contractor undertakes routine inspections of waste disposal facilities to identify any management actions required.

4.5.1 Sewerage Treatment and Disposal

Sewage treatment at the mine site consists of:

- A “Bio-Treat” tank system located at the main site office. The system works on the combined principles of primary settlement and aerobic treatment. Treated effluent is then discharged via a spray system into a grassed area near the office
- A similar primary treatment and aeration system located at the CHPP. Treated effluent is pumped onto a vegetated area south of the CHPP incorporating the CHPP noise bund;
- A septic tank system for treatment of sewage from the Training Building. Treated effluent is discharged via a spray system into a grassed area near the main site office.
- An active aeration system for treatment of sewage from the bath-house complex. Secondary

stage treated effluent is discharged via the spray irrigation system servicing the main office building;

- A one (1) man septic tank system and transpiration trench located at the Rail Load-out Bin.

These sewage treatment facilities are registered with MidCoast Council and serviced on a quarterly basis by a qualified contractor.

EPL 5161 specifies various operational and monitoring requirements. These requirements have been complied with during the reporting period.

4.5.2 Fuel, Oil and Grease Management and Disposal

Fuel (diesel) at the mine site is stored within a fuel handling facility (adjacent to the workshop). An "Acknowledgement of Notification of Hazardous Chemicals on Premises" (Acknowledgement Number NDG 030521 was held for this facility during the reporting period.

No incidents or reportable spills, with the exception of minor hydrocarbon spills, related to this facility occurred during the reporting period.

The fuel bay contains two (2) 110,000 litre above ground diesel Transtanks. A concrete bund surrounds the tanks. Rainfall and any spilt fuel within the bunded area is directed to a collection sump from where it is pumped to a reclaimer system located in the lube bay and passed through an oil water separator.

The CHPP area has two above ground tanks containing chemical reagents, a 10,000 litre tank contains diesel and a 20,000 litre tank contains a frother, "Metfroth".

Bulk oil is stored within a bunded area at the workshop. Used engine oils (lubricating oils) and hydraulic oils are recovered during plant and vehicle servicing in the workshop and in the field.

Within the workshop area, a separate bunded area holds an 18,000 litre waste oil tank and oil/grease drums. The lube bay is fitted with a silt trap and oil separator. A wash pad facility also contains a silt trap. Waste oil is removed from site by a contractor for subsequent recycling off-site on a regular basis.

Oil for gearboxes and lubrication at the CHPP is stored in drums in a concrete bunded area. Used oil filters and hydraulic hoses are stored within bins and removed from site by a suitably licensed contractor.

4.5.3 Rubbish Disposal

All domestic rubbish (e.g., food scraps, paper etc.) is deposited in industrial rubbish bins that are periodically emptied by a waste contractor for subsequent disposal

Scrap metal at the CHPP and workshop is collected and placed in bins that have been provided by a scrap metal merchant. The merchant collects the scrap metal following inspection by the waste contractor.

Paper and cardboard is collected for recycling from the workshop, CHPP and main office building. Mixed recycling bins are located at the main office. All contractors are responsible for the collection and removal of their own rubbish.

4.6 HAZARDOUS AND EXPLOSIVE MATERIALS MANAGEMENT

Hazardous materials are stored and used in accordance with relevant safety data sheets (SDS). SDS's are kept in a file inside the First Aid Room and are available from an online database on the company intranet.

Bulk explosive area approved for storage within an explosives compound at site.

All hazardous waste is appropriately disposed of by a fully accredited waste contractor and waste

tracking certificates are supplied to SCPL.

4.6.1 Status of Hazardous Chemicals Notification

An “Acknowledgement of Notification of Hazardous Chemicals on Premises” (Acknowledgement Number NDG 030521) issued by SafeWork NSW is held by Stratford Coal Pty Ltd. This Acknowledgement addresses:

- Above Ground Tanks (diesel)
- Above Ground Tank (combustible liquids)
- Above Ground Tank (ammonium nitrate)
- Above Ground Tank (ammonium nitrate emulsion)
- External magazine (detonators and boosters)
- Above-ground tank (oxidising liquid)

5. ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

DPIE provided notification on 3 July 2020 that the SMC Annual Review 2019 satisfies the reporting requirements of the development consent (SSD-4966) and the Department's Annual Review guidelines. No further amendments or actions were required.

The Resources Regulator did not provide any further response following the submission of the SMC Annual Review 2019. No further amendments or actions have been requested.

6. ENVIRONMENTAL PERFORMANCE

6.1 REVIEW OF ENVIRONMENTAL PERFORMANCE

A brief review of environmental performance in relation to Environment Protection License (EPL) 5161, together with SSD-4966 Development Consent conditions, is provided below. This performance is further discussed in the sections on environmental management activities and environmental monitoring.

6.1.1 Development Consent Conditions SSD-4966

SSD-4966 for the SEP was granted on 29 May 2015. SCPL commenced the approved activities in accordance with the conditions of SSD-4966 on 4 April 2018. A Modification to SSD-4966 (MOD 2) was approved by the Director, Resource Assessments as delegate of the Minister for Planning and Public Spaces on 13 January 2020. The modification allows for water stored within the SMC water management system to be available to the Mid Coast Council (as a public authority) for the benefit of local services and other potential public purpose water needs.

Prior to the commencement of SSD-4966, SCPL operated in accordance with DA 23-98/99 for the Stratford Coal Mine and DA 39-02-01 for the BRN Open Cut. These consents have now been surrendered.

Development Consent conditions which were met during this reporting period are described in the following sections. These include administrative and reporting conditions, environmental management and monitoring conditions, community engagement and rehabilitation. Environmental monitoring data was regularly reported as required by the development consent and associated environmental management plans (EMPs).

EMPs required in accordance with the conditions of SSD-4966 have been prepared and continued to be implemented during the reporting period. A Mining Operations Plan and Rehabilitation Management Plan (MOP) was prepared for the SEP and approved by the Secretary for DRG on 9 March 2018 in advance of operations commencing. Since this time, two revisions of the MOP have been approved by the Resources Regulator on the 11 January 2019 and 16 July 2019. A new MOP has been prepared and was lodged with the Resources Regulator on 20 January 2021. The new MOP is currently under review and is pending approval.

An Independent Environmental Audit (IEA) of the SMC was conducted in December 2020 by Ken Holmes of Barnett & May. The purpose of the audit was to review compliance over the audit period 2018-2020 with the conditions and obligations of the SMC environmental licences, approvals and management plans. The findings and recommendations of the IEA are discussed in Section 10 of this report.

A summary of compliance is included in Section 1 and Table 2b.

6.1.2 Environment Protection Licence 5161

SCPL continues to operate in accordance with the conditions of EPL 5161. A summary of compliance is included in Section 1 Table 2b. Refer to EPL 5161 Annual Return 2020 for further details.

- All monitoring has generally been carried out in accordance with licence conditions.
- Records of environmental monitoring activities have been kept.
- A record of environmental and pollution complaints has been maintained.
- Dust suppression measures are in place. Dust monitoring to date (dust deposition gauges, high volume (PM10) air samplers and real-time TEOM monitoring) shows that current dust suppression systems are effective and dust levels are generally below the conditions of consent limits. Monitoring results during the reporting period have demonstrated compliance of the SMC with the air quality management criteria.
- Monthly noise compliance monitoring during the reporting period continued to demonstrate compliance with noise criteria.
- One sediment dam spill from DAD19 occurred during the reporting period.
- A Pollution Incident Response Management Plan (PIRMP) was maintained and is available on the Stratford Coal website.
- An Annual Return was prepared for EPL 5161.
- Two reportable environmental incidents relating to water discharge occurred at the SMC during the reporting period (further information is included in Table 2b and Section 11).

6.2 METEOROLOGICAL MONITORING

A meteorological station (i.e., weather station) is operated at the mine site as required by SSD-4966. The location of the meteorological station and the two inversion monitoring towers is shown on **Figure 2** (**Appendix 1**).

6.2.1 Rainfall

Table 9 below summarises the rainfall record obtained from the site Weather Station (tipping bucket) rain gauge during the reporting period. The graphical representation of monthly recorded rainfall during the reporting period is provided in **Appendix 2**.

Table 9: Stratford Mine - Monthly Rainfall Records

MONTH	YEAR				Stratford District
	2020		2019		Average
	Monthly Total (mm)	No. of Rain Days/Month[1,2]	Monthly Total (mm)	No. of Rain Days/Month[1,2]	1908-2007
January	81.8	11	79.2	9	113.7
February	355	19	101.8	14	114.8
March	128.2	17	102.8	15	129.3
April	15.6	7	54.2	20	78.2
May	48.4	6	25	14	71.6
June	55.6	6	40	21	69.4
July	88.0	7	16.6	14	52.7
August	34.2	5	5.2	11	47.1
September	29	3	30	10	50.5
October	69.2	8	48	7	65.5
November	37.8	8	21.6	9	82.7
December	226.8	19	22.8	2	102.2
Total	**1169.6**	**116**	**547.2**	**146**	**977.7**

Notes: 1. No. of Rain Days/Month - the number of days in the month on which rain fell.
2. When tipping bucket rain gauge data used, a “rain day” by definition requires a minimum recording of >0.20mm comprising dew, heavy fog or light rain (or a combination thereof).

The 2020 calendar year rainfall total was higher than the long-term district average. Four of the twelve months in this period exceeded their respective long-term average. 2020 recorded above average rainfall for the first time since 2011 and was over double the annual rainfall received during 2019.

6.2.2 Wind Speed and Direction

Table 10 indicates the monthly average and maximum wind speeds and the dominant wind directions by month for the period January 2020 to December 2020, inclusive. The graphical representations of the monthly minimum, average and maximum wind speeds recorded for each month during this period are provided in **Appendix 2**.

Table 10: Monthly Average and Maximum Wind Speeds and Dominant Wind Directions by Month

MONTH	AVERAGE WIND SPEED (km/hr)	MAXIMUM WIND SPEED RECORDED (km/hr)	DOMINANT WIND DIRECTIONS
January 2020	10.5	54.0	SSW
February 2020	8.0	50.8	SSW, NNE
March 2020	7.4	44.2	SSW
April 2020	6.6	42.8	NNE
May 2020	7.2	38.0	SSW, NE
June 2020	5.9	38.5	SSW, NNE
July 2020	7.6	42.1	SW, NNE
August 2020	8.7	49.0	NNE, W
September 2020	8.6	51.8	NNE
October 2020	9.2	40.6	S-SSW, NNE
November 2020	10.5	56.4	NNE, S
December 2020	9.6	55.4	S-SSW

6.2.3 Temperature

Table 11 summarises monthly air temperatures for the reporting period.

Table 11: Monthly Minimum, Average and Maximum Air Temperatures

MONTH	MINIMUM AIR TEMP RECORDED (degC)	AVERAGE AIR TEMP (degC)	MAXIMUM AIR TEMP RECORDED (degC)
January 2020	14.9	25.3	45.0
February 2020	14.3	22.6	42.1
March 2020	11.3	19.6	37.1
April 2020	5.7	17.5	29.2
May 2020	0.3	12.9	26.0
June 2020	0.7	11.2	23.5
July 2020	-1.5	10.8	24.3
August 2020	-3.2	11.1	26.4
September 2020	2.5	15.5	30.2
October 2020	5.6	18.3	33.7
November 2020	6.9	20.6	41.1
December 2020	10.6	21.2	36.2

The graphical representation of the daily minimum, average and maximum atmospheric temperatures recorded for each month during this period is provided in **Appendix 2**.

6.3 AIR QUALITY

6.3.1 Air Quality Control Procedures

SMC has an approved Air Quality Management Plan (AQMP) that establishes a dust management strategy which:

- Identifies air quality criteria;
- Outlines proactive and responsive dust management and control measures;
- Establishes dust management protocols;
- Formulates an air quality monitoring programme;
- Establishes data assessment protocols; and
- Details reporting and review requirements.

The following dust control procedures are used during mining operations to control dust emissions from wind erosion on exposed areas and dust generated from mining, handling and processing activities:

- Minimising topsoil stripping operations ahead of the pre-strip to minimise the area of exposed ground;
- Progressive rehabilitation including prompt reshaping, topsoiling and revegetation;
- Watering of haul roads and other trafficked areas;
- Watering dig faces prior to and during digging;
- Fitting drills with dust suppression equipment including aprons and sprays;
- Regular maintenance of hauls roads and minor roads;
- Modifying operations during adverse weather conditions;
- Watering of disturbed areas at the end of shift to help mitigate any potential dust generation when the mine is not operating (as necessary);
- Real-time monitoring with alarm triggers set to enable implementation of reactive dust control management measures;
- A predictive meteorological forecasting system to enable implementation of proactive dust control management measures; and
- Vehicle speed restriction to 60 kilometres per hour.

At the CHPP, potential dust emission sources are controlled by water sprays at a number of locations:

- Run of Mine (ROM) Coal Bin;
- Crusher Station;
- Stamler Feeder/Breaker;
- Product Coal Stockpile (overhead sprays on the conveyor); and
- Train load out.

Sprays are automated in most instances by a solenoid connected to the weight of material on the conveyor belt. Sprays at the ROM Bin, Crusher Station and Stamler operate when 50t/hr of material is on the belts.

The product coal stockpile sprays are located on the overhead conveyor system. A wind speed/direction device provides information to a computer located in the CHPP control room that can electrically activate solenoids valves. The valves open and close in a programmed cycle that alternatively activates sprinkler heads above the stockpile. The dust suppression system operates when the wind speed exceeds 5m/s for >30 seconds.

6.3.2 Air Quality Monitoring and Criteria

SCPL monitors air quality (dust) surrounding the mine site by means of a network of seven (7) static dust fallout gauges, five (5) high volume PM_{10} air samplers, two real-time dust monitors (TEOM) and a meteorological monitoring station (i.e. weather station). The locations of these monitoring sites are shown on **Figure 2** (**Appendix 1**).

Monthly dust deposition levels are measured so that dust deposition rates in g/m^2/month can be determined at or near seven (7) residences that surround the mine site. The annual average condition of consent limit for dust deposition is 4.0g/m^2/month.

The high-volume air samplers (HVAS) (PM_{10}), are located near Stratford Village and Craven Village and are also located to the north and south of the operations. The HVAS results are also used for total suspended particulate (TSP) estimation.

HVAS sampling is undertaken over a 24 hour 6 day week cycle in accordance with AS 2724.3. The consent criteria for PM_{10} air quality is an annual average limit of 30*u*g/m^3/day cumulative impact and a 24-hour average limit of 50*u*g/m^3/day incremental impact.

Two Tapered Element Oscillating Microbalance (TEOM) analysers measuring PM_{10} and $PM_{2.5}$ are used to continuously measure particulate matter. The TEOMs are located in close proximity to Stratford village and Craven village. Real-time air quality monitoring data is used to identify when ambient PM_{10} levels in the surrounding environment are elevated and require contingency action. Real-time response triggers have been established and are designed to provide a system to warn operations personnel (via SMS) when dust levels are approaching a relevant criterion and to require management/control actions to mitigate potential impacts.

6.3.3 Review of Air Quality Monitoring Results

6.3.3.1 Dust Deposition Gauges

Table 12 shows the dust deposition results for seven (7) dust deposition gauges. **Table 13** shows the annual average dust deposition results at the end of the reporting period (December 2020).

Table 12: Dust Deposition Gauge Results

	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
D5	1.6	1.7	0.7	0.4	0.4	0.1	0.1	0.3	0.4	0.2	1.0	0.8
D6	1.9	2	2.7	2.2	0.4	0.3	0.3	0.3	0.7	0.4	0.7	0.7
D7	3.1	1.1	0.9	4.5[I]	0.3	0.6	0.4	0.3	0.5	0.4	2.8	2.4
D8	2.3	1.6	0.7	1.0	0.3	0.5	11[I,B,V]	0.3	1.5	0.3	1.7	1.2
D9	3.1[I,V]	1.1	1.0	0.3	0.4	1.2	0.4	0.3	4.7[I,B,V]	0.3	0.4	2.3
D10	2.6	1.2	1.0	1.9	0.3	0.3	0.8	0.3	0.4	0.4	2.2	1.5
D11	4.2	1.4	0.9	0.6	0.4	0.4	0.4	0.3	0.4	0.3	0.6	1.2

Notes/excluded results, Visual Description Guide:
I=Insects: Whole insects e.g. spiders, ants, moths or outer parts of insects including wings, legs and exoskeletons.
V=Vegetation: Plant debris and algae including trichomes, decomposed organic matter and charred particulates showing characteristic cellular plant structures.
B=Bird droppings: The most common contamination.

Dust levels recorded had an average value of 1.0 g/m^2/month (contaminated results not counted). Elevated values were at times affected by various degrees of contamination from insects, bird droppings, vegetation (seeds/grasses) and algae. Gauges deemed contaminated during the reporting period were D7 in April 2020, D8 in July 2020, D9 in January 2020 and September 2020.

Table 13: Annual Average Dust Deposition Gauge Results

D5	D6	D7	D8	D9	D10	D11	DPIE Limit
0.6	1.1	1.2	1.0	0.8	1.1	0.9	**4.0**

Non-contaminated dust levels were all less than 4.0g/m^2/month with one exception (D11 in January 2020). The annual average dust levels did not exceed the conditions of consent annual average limit of 4g/m^2/month for any deposition gauge. Graphical representation of the dust deposition results and annual averages for the seven (7) dust deposition gauges (D5-D11) are provided within **Appendix 3**.

The dust deposition monitoring results are similar to results presented in previous reports and align with predictions made in the Stratford Extension Project EIS (2012) that dust deposition levels would not exceed relevant air quality criteria at any private residence.

6.3.3.2 High Volume (PM10) Air Samplers

Table 14 shows the HVAS PM_{10} monitoring results in µg/m^3/day (24 hours) for the monitoring sites at Stratford, Craven, Clarke, Ellis and Glen Road for the reporting period.

Results show that all monitoring locations (in terms of monitored days) did not exceed the consent criteria of 50 ug/m^3/day during the reporting period. The HVAS 24 hour criteria is to be assessed on incremental impact (i.e. increase in concentrations due to the development alone, excluding background concentrations from other sources).

Table 14: High Volume Air Sampler (PM10) Results

Date	Stratford	Craven	Ellis	Clarke[1]	Glen Road
3-Jan-20	21	21	21	13	22
9-Jan-20	26	27	30	28	30
15-Jan-20	9	10	35	11	13
21-Jan-20	37	34	41	42	40
27-Jan-20	16	17	15	17	21
2-Feb-20	8	22	24	27	24
8-Feb-20	4	5	5	5	6
14-Feb-20	9	10	11	12	12
20-Feb-20	17	15	17	15	17
26-Feb-20	11	12	13	17	13
3-Mar-20	14	15	17	4	17
9-Mar-20	7	8	11	10	13
15-Mar-20	7	7	8	5	8
21-Mar-20	19	18	20	15	19
27-Mar-20	7	7	8	8	8
2-Apr-20	7	7	7	8	10
8-Apr-20	6	5	6	8	5
14-Apr-20	7	7	10	6	9
20-Apr-20	6	9	5	4	12
26-Apr-20	9	8	10	9	10
2-May-20	1	1	1	2	1
8-May-20	4	4	4	2	10
14-May-20	4	5	6	5	7
20-May-20	2	3	1	2	6
26-May-20	5	5	6	5	5
1-Jun-20	3	3	3	4	6
7-Jun-20	11	12	9	10	13
13-Jun-20	1	1	1	1	1
19-Jun-20	3	3	6	3	3
25-Jun-20	2	3	2	1	2
1-Jul-20	3	4	3	2	5
7-Jul-20	6	6	6	7	8
13-Jul-20	2	2	2	2	2
19-Jul-20	2	3	1	1	7

Date	Stratford	Craven	Ellis	Clarke[1]	Glen Road
25-Jul-20	5	4	4	4	7
31-Jul-20	8	7	10	9	14
6-Aug-20	2	4	2	2	9
12-Aug-20	1	2	1	1	3
18-Aug-20	1	2	8	2	4
24-Aug-20	1	1	1	1	1
30-Aug-20	13	13	14	13	16
5-Sep-20	12	12	12	9	12
11-Sep-20	1	1	1	1	1
17-Sep-20	9	10	9	8	13
23-Sep-20	9	3	8	10	4
29-Sep-20	5	6	5	4	7
5-Oct-20	14	9	12	11	11
11-Oct-20	12	12	12	9	13
17-Oct-20	15	14	16	13	17
23-Oct-20	8	7	8	6	9
29-Oct-20	5	4	5	4	5
4-Nov-20	6	7	6	5	7
10-Nov-20	5	5	4	3	4
16-Nov-20	13	12	13	11	15
22-Nov-20	18	18	18	16	18
28-Nov-20	14	13	14	12	17
4-Dec-20	10	8	9	8	9
10-Dec-20	13	11	11	10	14
16-Dec-20	6	5	7	7	5
22-Dec-20	9	9	9	12	9
28-Dec-20	13	10	11	5	14
Annual Rolling Average*	**8.6**	**8.7**	**9.8**	**8.3**	**10.5**

Note: 1. Owned by Stratford Coal Pty Ltd
*. Rolling average as at end of 2020

Annual averages for all sampling locations were below the 30 µg/m^3/day consent criteria. The HVAS rolling averages remained generally steady throughout the reporting period and show a steep declining trend towards the end of 2020. During the end of 2019, widespread bushfires were occurring throughout the Northern & Mid Coasts of NSW which were causing very poor regional air quality. These results were excluded from the annual average calculation by the end of 2020 resulting in a downwards trend. Graphical representation of the annual rolling average for the five HVAS including PM10 and TSP during the reporting period is provided in **Appendix 3**. **Figure 3-3** (**Appendix 3**) shows the HVAS monitoring results in µg/m^3/day (24 hours) for the monitoring sites during the reporting period. **Figure 3-4** (**Appendix 3**) shows the annual rolling average for the four HVAS during the reporting period.

Results of HVAS monitoring are in concurrence with the EIS (2012), which predicts the annual average PM_{10} criteria of 30µg/m^3 will not be exceeded at any private receiver and that project only 24 hour PM_{10} concentrations will not be above the 50 µg/m^3 assessment criteria at any privately owned receiver. The HVAS annual rolling averages reduced to near background levels following exclusion of bushfire affected results. HVAS results remain low and fluctuations generally reflect changes in meteorological conditions throughout the year, i.e. rainfall and wind.

6.3.3.3 High Volume (TSP) Dust Calculation

A site-specific correlation between TSP and PM10 concentrations was developed by SCPL, based on co-located HVASs measuring PM10 and TSP as per the AQMP. From the monitoring, approximately 45% of TSP was PM10, which compares well with the relationship developed by the NSW Minerals Council for the Hunter Valley (NSW Minerals Council, 2000), which found that approximately 40% of

TSP is PM10.

Figure 3-5 (**Appendix 3**) shows the Total Suspended Particulate estimates across the five HVAS during the reporting period. The Development Consent Criteria of 90ug/m^3 was not exceeded during the reporting period.

The HVAS monitoring results are generally similar to those reported in previous ARs and align with predictions made in the EIS (2012) that particulate levels (PM_{10} and TSP) would not exceed relevant air quality criteria at any residence.

6.3.3.4 TEOM (PM10) Monitoring

Two TEOM dust analysers measuring PM_{10} and $PM_{2.5}$ are used to continuously measure particulate matter and provide a management tool for operations to guide proactive and reactive mitigation measures. The TEOMs are located in close proximity to Stratford village and Craven village. Real-time air quality monitoring data is used to identify when ambient PM_{10} levels in the surrounding environment are elevated and require contingency action. Real-time response triggers have been established and are designed to provide a system to warn operation personnel (via SMS) when dust levels are approaching a relevant criterion and to require management/control actions to mitigate potential impacts.

The Stratford Village TEOM was installed in June 2013 and the Craven Village TEOM was installed and began operation in August 2018. The annual average PM_{10} for the Stratford TEOM from 1 January 2020 to 31 December 2020 is 11.3ug/m^3. The annual average PM_{10} for the Craven TEOM from 1 January 2020 to 31 December 2020 is 15.1ug/m^3. The 24 hour average results for the reporting period and graphical representation of the rolling annual average of PM_{10} results are provided in **Appendix 3**.

The TEOM results are generally consistent with those measured by the HVAS units. The TEOM results continue to be utilised as a management tool for operations to determine proactive and reactive dust controls.

A register was maintained of any trigger alarms from the TEOM system to record the response implemented by SCPL. Alarms during the reporting period primarily resulted from either external events such as bushfires or system faults such as overheating or water infiltration. The real-time dust monitoring response register for the reporting period is provided in **Appendix 3**.

6.3.3.5 Complaints

Two (2) air quality related complaints were received from a single complainant during the reporting period. Following both complaints an inspection was undertaken and confirmed the wind direction was in the opposite direction of the receiver and no visible dust was observed. The TEOM confirmed air quality levels below 12.5ug/m^3 on both occasions. A full list of complaints received, including responses by SCPL is provided in **Appendix 7.**

6.4 BIODIVERSITY MANAGEMENT

In accordance with Condition 33, Schedule 3 of SSD-4966, SCPL is required to implement the Biodiversity Offset Strategy and achieve the broad completion criteria to the satisfaction of the Secretary of the DPIE. The management of biodiversity at the SMC in both the Mining Lease areas and the Biodiversity Areas is undertaken in accordance with the approved Biodiversity Management Plan (BMP).

The *Stratford Mining Complex Annual Biodiversity Report 2020* provides a review of the effectiveness of measures in the Biodiversity Management Plan (BMP) for the annual year ending 31 December 2020 in accordance with Section 8.2.1 of the BMP. The scope of the report includes the biodiversity management activities across the Mining Lease areas, the Biodiversity Offset Areas and the Biodiversity Enhancement Area.

In accordance with the BMP, the *Stratford Mining Complex Annual Biodiversity Report 2020* is included in **Appendix 9**. A summary of the main biodiversity activities and conclusions are provided in the subsections below.

6.4.1 Vegetation Clearance Protocol

Vegetation clearance is undertaken in accordance with the BMP Section 4.1 Vegetation Clearance Protocol. Prior to any clearance operations being undertaken a Clearing Plan is prepared, and pre-clearance surveys are undertaken.

During the 2020 reporting period, vegetation clearance was undertaken in advance of mining operations in the following areas:

- Avon North Open Cut Stage 4
- Stratford East Open Cut Stage 2
- Stratford East Clean Water Diversion Drain
- Stratford Main Pit Waste Emplacement Area (Turkey's Nest)

The area of disturbance at the end of 2020 is shown in the **Figure 4** (**Appendix 1**).

Information obtained during the preparation of the Clearing Plans and the vegetation clearance activities (i.e. habitat features, hollows cleared and fauna observed) is used to determine the requirements for nest box replacement in the Biodiversity Offset and Enhancement Areas.

During the 2020 reporting period a total of fifty-one (51) habitat features including forty-eight (48) tree hollows were removed.

Section 4.1.4 of the BMP requires salvaged material from vegetation clearance activities to be used for habitat enhancement within the rehabilitation, Biodiversity Offset areas and Biodiversity Enhancement Areas. Habitat features such as trunks, logs, large rocks, branches, stumps and roots are salvaged and relocated where practicable.

The areas cleared in advance of mining in 2020 were a mixture of previously cleared pasture and medium density woodland with habitat material available for salvage. In these areas, the cleared vegetation was managed as follows:

- Suitable trees and stumps were salvaged and stockpiled adjacent to the Stratford East Open Cut Area for reuse
- Suitable trees and stumps were salvaged and stockpiled adjacent to the Turkeys Nest area for reuse

6.4.2 Managing Access, Fencing, Gates and Signage

Managing access, fencing, gates and signage is undertaken in accordance with the BMP Section 5.1

and 5.2.

The implementation of the BMP management measures commenced in April 2020. The BMP requires works to be undertaken to exclude livestock and control access to the Biodiversity Offset areas and Biodiversity Enhancement Areas.

During the reporting period, mapping of fencing and access tracks has been completed to assist with ongoing management of the Biodiversity Areas. During the reporting period the removal of redundant fencing has continued and maintenance of existing fencing has been undertaken as required. Access tracks have continued to be maintained.

Livestock have been excluded from the Biodiversity Areas. Livestock will only be permitted in the Biodiversity Areas for 'crash grazing' programs in preparation for revegetation activities in accordance with the BMP.

The installation of signage was completed in 2018. All key points of access to the Biodiversity Areas were identified and had signage erected. During the reporting the need for further signage and locks on gates has been identified to restrict access to the Biodiversity Areas.

6.4.3 Revegetation Management

Seed Collection & Propagation

Seed collection and propagation is undertaken in accordance with the BMP Sections 4.1.5 and 5.3.

Revegetation in the BMP Revegetation Areas (BMP Management Zone A) will occur via seed and tube-stock. Local endemic (adapted) species are preferentially be used where a seed supply is available, however consideration will be given to the use of a high-quality seed sourced further from the site as required.

In preparation for revegetation works each year, SCPL has prepared a scope and schedule for the revegetation works to be implemented. The total volume of seed required was calculated based on the floral listings for the target communities in the BMP appendices. During 2019 seed collection was conducted on felled Forest Oak (Allocasuarina torulosa) near Stratford East. This seed was used in seeding and tube-stock propagation during 2020. Due to the effects of the ongoing drought up to February 2020 no further seed collection was undertaken in 2020 due to limited seed supply.

Kleinfelder, Cumberland Seeds, Hunter Indigenous and Riverdene Nursery have been engaged to assist in the propagation of native plant species with tube-stock grown under controlled nursery conditions and delivered to site as required for revegetation works in the next reporting period.

Revegetation & Regeneration

Revegetation management is undertaken in accordance with the BMP Section 5.3 Revegetation Programme.

The aim of revegetation is to establish a range of habitat niches including native canopy, and understorey. The Revegetation Area (Management Zone A) in the Biodiversity Areas will be revegetated to substantially increase the area of native vegetation in the area and maximise habitat diversity and a range of successional stages.

During 2019 SCPL prepared a scope and schedule for the revegetation works to be implemented in the Biodiversity Areas. Kleinfelder have been engaged to assist with both the site planning and implementation of the revegetation works. The site planning included:

- Mapping of the priority revegetation areas to be completed in 2020.
- Calculation of seed and tube-stock requirements based on the indicative lists of flora species in the BMP appendices.

Furthermore, a scope and schedule for the revegetation works to be implemented 2021 has been

prepared during the second half of 2020. The proposed revegetation schedule for the Biodiversity Areas in 2021 is included in Annual Biodiversity Report.

The Autumn 2020 revegetation work was divided into three tubestock planting areas; in-fill planting of previously planted areas (Squirrel Glider Corridor, Glen Rd North and Glen Rd South) and newly planted areas at Glen Rd East and Glen Rd South East Offsets areas. The next round of tube-stock planting is scheduled to commence in March 2021.

Vegetation Monitoring commenced in 2019 to assess the effectiveness of revegetation in the Revegetation Area (Management Zone A) and to assess the natural regeneration in the Existing Remnant Vegetation Area (Management Zone B). The data gathered in 2019 will serve as a baseline to assess the success of the revegetation efforts for future reporting periods.

Monitoring

Vegetation monitoring was undertaken again in February 2020. Habitat and vegetation monitoring is discussed in Section 11 of the Annual Biodiversity Report (**Appendix 9**). Habitat and vegetation condition monitoring will continue to be undertaken annually to quantitatively measure the change in habitat and vegetation condition over time and to inform any ongoing maintenance requirements.

6.4.4 Weed Control and Monitoring

Weed control is undertaken in accordance with the BMP Sections 4.4 and 5.6. The weed control program aims to manage weeds to minimise their impact on native flora and fauna.

A contractor is engaged at the SMC to undertake weed management activities on an ongoing basis. Weed management during summer 2019/20 was restricted due to the ongoing drought conditions. Following good rain in February 2020 weed spraying commenced and continued through autumn. Weed spraying commenced again during November 2020 and will continue through summer 2020/21. The weed control activities in 2020 continued to target areas of known weed infestation. The key species targeted included blackberry, lantana, privet, wild tobacco and Giant Parramatta grass.

Weeds mapping is proposed to be undertaken during the next reporting period to assist in setting future management priorities and developing on-ground actions for weed control.

Weeds monitoring to evaluate the effectiveness of control measures is undertaken in conjunction with the annual vegetation monitoring and is documented in Annual Biodiversity Report.

6.4.5 Feral Animal Control and Monitoring

Feral animal control is undertaken in accordance with the BMP Section 4.5 and Section 5.7. The objective of feral animal control program is to manage feral animals to minimise their impact on native flora and fauna in the Biodiversity Offset and Biodiversity Enhancement Areas or the impact on agricultural production in other surrounding areas.

MDP Vertebrate Pest Management has been engaged by SCPL since 2016 to implement wild dog and fox control programs across property owned by SCPL including both the Stratford & Duralie Mining Leases and the Stratford & Duralie Biodiversity Offset Areas. During the reporting period, two wild dog control programs were undertaken between March to April 2020 and October and November 2020. The program was productive and successful with a total of 13 wild dogs and 4 foxes trapped and Shot over the 30-Day control program.

The program is showing positive results of reducing the impacts of wild dogs and foxes within the area to the native animals and reducing the impact of livestock attacks to the surrounding agricultural properties.

6.4.6 Bushfire Management

Bushfire management is undertaken in accordance with the BMP Sections 4.7 and 5.9. The objective of bushfire management in the Biodiversity Areas is to prevent impacts from unplanned bushfire and to use fire to promote biodiversity.

Monitoring of fuel loads to evaluate bushfire risk and guide bushfire hazard reduction activities is undertaken in conjunction with the annual vegetation monitoring and was conducted in February 2020. Bushfire risk has continued to be mitigated through the maintenance of access tracks and fire breaks. Additionally, fuel loads have been reduced during 2020 by slashing were required in the Mining Leases and Biodiversity Areas. During 2020 no hazard reduction burning has been undertaken. Following the revegetation works, the aim is to exclude fire from the offset areas for at least 5 years to allow for tubestock and seedlings to establish.

Schedule 3 Condition 51 of SSD-4966 requires the SCPL to assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area. Due to the ongoing drought conditions in 2019/20, water supplies for firefighting were very limited and presented significant challenges for the NSW Rural Fire Service. During November 2019, SCPL informed the RFS of the availability and location of water sources at both the Stratford Mining Complex and the Duralie Mine site which could be accessed for fire fighting purposes.

During December 2019, the RFS requested emergency water access to fill water trucks under the Section 26 of the Rural Fires Act. SCPL made provisions for access and supervising the filling of RFS trucks and water tankers at water hydrants at the SMC. Water was transported to holding facilities for fighting bushfires in the local and regional area. RFS water trucks accessed the SMC throughout December 2019 and January 2020.

6.4.7 Nest Box Program

Nest box management is undertaken in accordance with the BMP Section 5.10. Nest boxes will be installed to provide habitat opportunities in the short to medium-term for a number of arboreal fauna species including the Squirrel Glider.

The nest box programme consists of two main components to replace any tree hollows cleared prior to mining activities:

- Suitable nest boxes for the Squirrel Glider will be installed at a ratio of least 3:1 for each tree hollow cleared suitable for the Squirrel Glider.
- For tree hollows that provide habitat to arboreal fauna species (other than the Squirrel Glider), nest boxes will be installed at a minimum ratio of 1:1 (i.e. one nest box of appropriate size to replace one hollow of similar size and properties).

A summary of the vegetation cleared including habitat features and tree hollows is included in **Appendix 9.**

Nest boxes are installed within the Biodiversity Offset Area and Biodiversity Enhancement Area in Existing Remnant Vegetation (Management Zone B) as well as the Revegetation Area (Management Zone A).

The installation of nest boxes has occurred over three periods with the most recent installation in April 2020. During the 2020 reporting period 70 new nest boxes were installed in the Biodiversity Areas for additional habitat enhancement. Fifty-four (54) nest boxes targeting Squirrel Glider *(Petaurus* norfolcensis) and 16 (16) nest boxes targeting a variety of hollow-dependent fauna were installed in April 2020.

In accordance with Section 5.10 of the BMP, nest boxes will be monitored by suitably qualified personnel with quarterly inspections during the first year followed by annual inspections in spring. Quarterly

monitoring of the nest box program was undertaken in January, April, July and October 2020. Monitoring reports are included in the Annual Biodiversity Report.

Nest boxes will continue to be installed in accordance with the BMP.

6.4.8 Squirrel Glider Management Plan

The management of Squirrel Glider populations is undertaken in accordance with the Squirrel Glider Management Plan (SQMP). The SGMP has been prepared to facilitate the management of squirrel glider populations at the SMC, Biodiversity Enhancement Areas and Biodiversity Offset Areas.

Squirrel glider management programs which have commenced include:

- definition of the squirrel glider colonies (SQMP Section 4.1)
- identification of the squirrel glider home ranges (SQMP 4.2)
- tree hollow census within the home ranges (SQMP Section 7.1)
- nest box program (SQMP Section 7.2) in conjunction with BMP nest box program
- Squirrel Glider vegetation pathways (SQMP Section 8.1) in conjunction with BMP revegetation
- Squirrel Glider population monitoring (SQMP Section 10.1) in conjunction with BMP fauna monitoring.

Squirrel Glider Colonies and Home Range

Kleinfelder was engaged to undertake an initial targeted Squirrel Glider survey to confirm the location of Squirrel Glider colonies within the potential habitat in the vicinity of the SMC Biodiversity Areas. The initial surveys were undertaken during November to December 2018 and the results are provided in the *Initial Squirrel Glider survey as part of Stratford Coal's Squirrel Glider Management Plan (Kleinfelder, 2018)*. Squirrel gliders were identified at five locations out of the 37 locations surveyed.

Kleinfelder was engaged to undertake a radio tracking program to determine the squirrel glider home ranges. Two radio tracking programs were conducted between January and April 2019 and between July and September 2019. The 2019 tracking programs consisted of trapping of the squirrel glider, fitting radio tracking collars and two (2) radio tracking program conducted over 80 nights total. A total of thirty-six (36) squirrel gliders were captured during the program, nineteen (19) squirrel gliders were fitted with radio collars and sufficient data points were obtained to allow home range estimates for 13 gliders.

This information will be used to guide the ongoing management of squirrel glider populations within the SMC Biodiversity Offset Areas and Biodiversity Enhancement Areas. This information will also define the study area for further programs including the census of suitable tree hollows, food resources surveys and habitat enhancement including nest box installations.

Tree Hollow Census

Condition 38(b), Schedule 3 of SSD-4966 requires a census of suitable tree hollows in home ranges and offset areas suitable for squirrel gliders. A tree hollow census was undertaken within the home ranges identified by the radio tracking program described above to identify hollow bearing trees suitable for use as den sites by the squirrel glider.

The hollow-bearing tree census identified and mapped 480 hollow-bearing trees which contained a combined total of 648 hollows. Attributes of available hollows and known den hollows were compared to investigate the hollow preferences of squirrel gliders.

Direct comparison of the density of hollow-bearing trees recorded in the biodiversity enhancement and offsets areas to vegetation community benchmark data for the relevant vegetation type shows that the two major vegetation communities at the SMC were found to contain significantly lower densities of hollow-bearing trees. Information provided in this report can be used to identify areas best suited for nest box installation.

6.4.9 Biodiversity Offset Monitoring and Reporting

The Biodiversity Offset monitoring program is prescribed in the BMP Section 7. The program aims to monitor and report on the effectiveness of the BMP management measures and progress against the detailed performance and completion criteria.

The *Stratford Mining Complex Annual Biodiversity Report 2020* provides a review of the effectiveness of measures in the Biodiversity Management Plan (BMP) for the annual year ending 31 December 2020 in accordance with Section 8.2.1 of the BMP and is included in **Appendix 9.** The annual report includes the results of the monitoring for:

- Habitat and Vegetation monitoring, including visual and photo monitoring;
- Fauna monitoring program
- Effectiveness of weed control;
- Effectiveness of feral animal control;
- Nest box monitoring program.

Habitat and Vegetation Monitoring

Habitat and vegetation condition monitoring is undertaken to quantitatively measure the change in habitat and vegetation condition over time. The visual monitoring and photo monitoring programs are undertaken concurrently with the vegetation monitoring to provide additional information on the change of the Biodiversity Areas over time and inform maintenance requirements.

Vegetation Monitoring commenced in 2019 to assess the effectiveness of revegetation in the Revegetation Area (Management Zone A) and to assess the natural regeneration in the Existing Remnant Vegetation Area (Management Zone B). The data gathered in 2019 serves as a baseline to assess the success of the revegetation efforts and progress against the project specific performance and completion criteria. This survey was undertaken prior to the revegetation works commencing in the Biodiversity Offset areas.

Vegetation monitoring was undertaken again in February 2020. Habitat and vegetation condition monitoring will continue to be undertaken annually to quantitatively measure the change in habitat and vegetation condition over time and to inform any ongoing maintenance requirements.

The monitoring results showed that the native vegetation in the Offsets areas is still relatively sparse but that the results of the revegetation program are beginning to be apparent with the successful establishment of several canopy, midstory and shrub species, although these plants are still very young. The improved rainfall conditions in the period leading up to the survey has led to an increase in the native species diversity in the forbs and the grass and grass-like layers indicating a good degree of resilience to environmental disturbance e.g. drought. These species are obviously present in the seed bank and are capable of germinating when the conditions are more favourable.

Overall, the revegetation efforts in the Biodiversity Areas are in the early stages of implementation and are progressing well with only relatively minor issues to be considered”

Fauna Monitoring

Monitoring of fauna usage within the Biodiversity Areas is conducted every three years to document the fauna species response to improvement in vegetation and habitat in the Biodiversity Areas and assess the performance in providing habitat for a range of vertebrate fauna. The surveys include an assessment of habitat complexity, species richness and abundance.

The first round of fauna monitoring was completed by AMBS Ecology and Heritage within the SMC Biodiversity Offset areas and Biodiversity Enhancement Area during September and October 2019. A total of 167 species of vertebrate were recorded including twenty-two (22) species listed as either threatened or migratory on the schedules of the Biodiversity Conservation Act 2016 (BC Act) and/or Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

The fauna surveys suggest the SMC Offset and Biodiversity Enhancement Areas provide habitat for a range of native vertebrate fauna, including birds, mammals, reptiles and frogs. Two of the threatened species recorded, the Black-chinned Honeyeater and Red-legged Pademelon, have not previously been recorded at SMC. Further detail of monitoring results can be found in **Appendix 9.**

6.4.10 Long-term Security and Conservation Bond

Long-term Security

In accordance with Condition 36, Schedule 3 of Development Consent SSD-4966, SCPL is required to make suitable arrangements for the long-term security of the Stratford Extension Project Biodiversity Offset Area. SCPL has pursued the mechanisms available under section 88E(3) of the NSW Conveyancing Act, 1919, namely:

- Registration of a Positive Covenant under section 88E(3) of the NSW Conveyancing Act, 1919; and
- Registration of a Restriction on the Use of Land by a Prescribed Authority under section 88E(3) of the NSW Conveyancing Act, 1919.

Public Positive Covenants and Restrictions on the Use of Land for the Biodiversity Offsets have been registered on title with NSW Land and Property Information (LPI) in **October 2019**. Copies of the executed Positive Covenants and notice of registration of the instruments was included in the 2019 SMC Annual Biodiversity Report.

Conservation Bond

In accordance with Condition 40, Schedule 3 of Development Consent SSD-4966, SCPL is required to lodge a Conservation Bond with the DP&E which covers the cost of implementing the Biodiversity Offset Strategy detailed in the BMP.

The conservation bond calculation was prepared by Kleinfelder and a verification of the costs was undertaken by Rider Levett Bucknall. The conservation bond calculation was submitted in January 2019 and subsequently approved by DP&E on 15 January 2019.

The Conservation Bond in the form of a bank guarantee was executed and lodged with DP&E on 8 February 2019.

6.4.11 Bowens Road North Biodiversity Offset Strategy

SSD-4966 Schedule 3 Condition 41 requires the ongoing implementation of the Bowens Road North Offset Strategy.

The BRN Offset Area is adjacent to the Duralie Coal Mine Biodiversity Offset and is managed under the approved Duralie Coal Mine Biodiversity Management Plan (Duralie BMP).

The Duralie Coal Mine Annual Biodiversity Report contains a review of the environmental performance and progress against the requirements of the Duralie BMP covering the biodiversity offset area including the BRN component. Refer to the Duralie Coal Mine Annual Reviews.

6.5 BIOREMEDIATION

Operations at the SMC are conducted with the aim of minimising the potential for land contamination. The management of hydrocarbon contaminated soils is detailed in the SMC PIRMP. SMC has previously operated an onsite bioremediation area for hydrocarbon contaminated soil where biological degradation of hydrocarbons is used to reduce the hydrocarbon concentration in the soil to an acceptable level.

Since recommencing mining operations at the SMC, the bioremediation facility has not been reconstructed. Any hydrocarbon contaminated material is recovered and stored for disposal offsite by the licenced waste contractor engaged at SMC.

6.6 BLASTING

6.6.1 Blast Criteria and Control Procedures

Blasting at SMC is conducted in accordance with conditions 9-15 of Schedule 3 of SSD-4966 and respective EPL conditions. SMC has an approved Blast Management Plan (BLMP) that establishes a blast management strategy which:

- Identifies blasting criteria;
- Outlines blast management and control measures;
- Establishes blast management protocols;
- Formulates a blast monitoring programme;
- Details reporting and review requirements.

EPL 5161 condition L3 and Schedule 3, Condition 9 of SSD-4966 states that overpressure caused by blasting at monitored locations may exceed 115 dB(L) for no more than 5% of blasts during the 12 month reporting period and must not exceed 120 dB(L) at any time. Similarly, ground vibration at monitored locations caused by blasting may exceed a peak particle velocity of 5 mm/s for no more than 5% of blasts during the 12 month reporting period and not exceed 10 mm/s.

In accordance with SSD-4966, a dedicated blasting hotline (02 6538 4253) is available to provide current scheduled blasting times for the SMC. Persons living within two (2) kilometres of an active or approved operational area may also request advice of scheduled blasting activities. Notification of blasting is provided to emergency authorities and neighbouring landowners approximately twenty-four (24) hours prior to each blast.

The permitted blasting hours and frequency are prescribed in SSD-4966. Blasting is permitted between 9am and 5pm on Monday to Saturday only. Additionally, a maximum of 1 blast per day is permitted on site and an annual average of 3 blasts per week. A total of 103 blasts were undertaken on site during 2020. SCPL were compliant with the permitted blast hours and frequencies specified under SSD-4966 during the reporting period. The results of blast monitoring undertaken are provided in **Appendix 5**.

Blasting activities are designed and managed in accordance with the BLMP.

6.6.2 Review of Blast Monitoring Results

Blasting activities during the reporting period were undertaken within the Bowens Road North Open Cut, Avon North Open Cut, Roseville West Open Cut and the Stratford East Open Cut.

The locations of blast monitoring units are shown on **Figure 2 (Appendix 1)**. Blast monitors are located at the following residences:

- Isaac Property (mine owned) (south-west of blasting);
- Ex-Judge Property (mine owned) (west);
- Atkins Property (mine owned) (north-west);
- Greenwood Property (south); and
- Clarke Property (mine owned) (east).

Monitoring is undertaken at the Clarke property due to restrictions with monitoring at the next closest residence on privately-owned land. Enviro Strata Consulting (ESC) has been previously engaged to undertake an independent assessment of blasting results and prepare a model to extrapolate the overpressure and ground vibration levels at private residences where monitoring is not possible.

Blast monitoring is also undertaken at Aboriginal heritage site CTS-1 when blasting is within 1km.

Airblast overpressure and ground vibration results for all blasts undertaken during the reporting period

are provided in **Appendix 5** and summarised below.

Airblast Overpressure Results

During the reporting period, all blasts were compliant with the overpressure criteria.

There were no exceedances of the overpressure criteria of 120 dBL during the reporting period. Furthermore, there were no exceedances of the 115 dBL overpressure criteria. SSD-4966 allows 5% of the total number of blasts over a period of 12 months to exceed 115 dBL.

Vibration Results

During the reporting period, there were no blasts where ground vibration exceeded 5 mm/s.

The EIS (2012) provides predictions on blast emissions for various residential receivers. The blasting predictions indicate that blasting emissions would generally comply with airblast criteria of 115 dBL and ground vibration of 5 mm/s at nearby private receivers. During the reporting period, predicted blast emissions were generally consistent with measured values.

Fume Results

The level of blast fume generation is monitored for each blast by the shotfirer as described in the BLMP. During the reporting period, there was one (1) occasion of blast fume being recorded on the 20 March 2020 (2B Fume Rating). As per the approved BLMP (Section 7.1.1), SCPL do not require to notify the relevant regulatory authorities including EPA or DPIE as below reportable blast fume rating.

6.6.3 Property Inspections & Investigations

In accordance with the Development Consent Schedule 3 Conditions 12 landowners within 2 kilometres of blasting may request a property inspection to establish the baseline condition of a building. Additionally, in accordance with Condition 13 if a landowner claims damage has been caused to a building as a result of blasting they may request a property investigation.

Prior to recommencing blasting activities at the SMC, SCPL notified all relevant landowners of their rights in accordance with the Development Consent.

During the reporting period no further building inspections were requested. Building inspections have previously been undertaken by Bill Jordon as a suitably qualified, experienced and independent person to undertake the building condition inspections.

Building condition inspections will continue to be undertaken on request.

No requests have been received by SCPL for a property investigation due to claims of damage resulting from blasting activities.

6.6.4 Complaints

Six (6) blast related complaints were received during the reporting period, primarily from a single complainant. Follow up investigations identified that all blasting activities were deemed to be compliant during the reporting period, however it is noted that the increase in blasting activity associated with the SMC may have been noticeable at private receivers. SCPL continues to implement measures to reduce the impacts of blasting activities as far as reasonably practicable. A full list of complaints received, including responses by SCPL is provided in **Appendix 7.**

6.7 NOISE

6.7.1 Noise Criteria and Control Procedures

SMC has an approved Noise Management Plan (NMP) that establishes a noise management strategy which:

- Identifies noise criteria;
- Outlines proactive and responsive noise management and control measures;
- Formulates a noise monitoring program;
- Establishes data assessment protocols; and
- Details reporting and review requirements.

Noise emissions from the SMC are managed in accordance with the criteria and procedures described in the NMP. DCPL implements measures to ensure noise from the SMC is managed to approved levels, through a combination of the following:

- ensuring best management practices are implemented and reviewed;
- implementing noise controls to reduce noise from the source and attenuate noise transmission; and
- if necessary, implementing measures to control noise at sensitive receivers following a review of monitoring data.

The SMC noise monitoring program comprises attended noise surveys, real-time noise monitoring, rail noise monitoring, meteorological monitoring and sound power testing. The results of compliance attended monitoring are used to assess compliance with relevant noise impact assessment criteria in SSD-4966 and the NMP. Real-time noise monitoring results are used for ongoing performance assessment and will assist in the implementation of pre-emptive management actions to avoid potential non-compliances.

SCPL undertakes monthly attended noise monitoring surveys in accordance with the NMP in order to determine the status of compliance with noise limits provided in SSD-4966 and the EPL.

The Sentinex real-time noise (RTN) monitors are used as a management tool for operations to measure mine contribution noise emissions and implement management controls as outlined under the approved NMP. Sentinex RTN monitors are located near Stratford Village and Craven Village.

6.7.2 Review of Attended Noise Monitoring Results

The locations of noise monitoring sites are shown on **Figure 2 (Appendix 1)**.

SCPL undertakes monthly attended noise monitoring surveys. During noise surveys $LA_{eq\ (15\ minute)}$ noise levels are measured and recorded then compared to the permitted day, evening and night noise limits. Monitoring results and reports are available on the Stratford Coal website.

Monitoring may be undertaken on mine owned land (i.e. Clarke property) due to restrictions with monitoring at the next closest residence on privately owned land. SLR has been engaged to undertake noise monitoring at the SMC and where required the attended noise monitoring results are used to extrapolate the noise levels at private residences where monitoring is not possible based on the noise model developed for the SEP.

Noise monitoring during the reporting period was undertaken on a monthly basis. A summary of Noise Survey results are provided in **Tables 15 to 26**. Full noise reports are available on the Stratford Coal website (www.stratfordcoal.com.au).

January 2020 Noise Survey

Table 15: Stratford Mine Noise Performance Assessment – January 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins	33	35	27	35	35	35	Yes	Yes	Yes
Clarke[2]	41	30	I/A	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall[3]	32	23	I/A	37	37	37	Yes	Yes	Yes
Hall	I/A	29	I/A	35	35	35	Yes	Yes	Yes
Lowrey	<25	25	31	35	35	35	Yes	Yes	Yes
Pryce Jones	I/A	I/A	I/A	43	43	43	Yes	Yes	Yes
Van der Drift	I/A	33	29	37	36	35	Yes	Yes	Yes
Greenwood	I/A	I/A	I/A	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: Not assessed due to non-compliant weather conditions during the Clarke operator attended measurement.

Note 5: Criteria adopted as a guide only.

Operator-attended noise monitoring was conducted between 29 January and 30 January 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

February 2020 Noise Survey

Table 16: Stratford Mine Noise Performance Assessment – February 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins[2]	41	30	25	35	35	35	N/A[5]	N/A[5]	N/A[5]
5 (1) Bignell[3]	32	-[6]	-[6]	35	35	35	Yes	Yes	Yes
5 (2) Bignell[3]	29	-[6]	-[6]	35	35	35	Yes	Yes	Yes
9 (2) Williams[3]	35	-[6]	-[6]	35	35	35	Yes	Yes	Yes
10 – Whatmore & Whatmore[3]	35	-[6]	-[6]	35	35	35	Yes	Yes	Yes
Clarke[2]	48	46	41	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall[3]	N/M	37	30	37	37	37	N/A	N/A	N/A
Hall	I/A	I/A	25	35	35	35	Yes	Yes	Yes
Lowrey	34	I/A	35	35	35	35	Yes	Yes	Yes
Pryce Jones	I/A	I/A	I/A	43	43	43	Yes	Yes	Yes
Van der Drift	33	I/A	26	37	36	35	Yes	Yes	Yes

Greenwood	I/A	I/A	I/A	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: Not assessed due to non-compliant weather conditions during the Clarke operator attended measurement.

Note 5: Criteria adopted as a guide only.

Note 6: Not modelled. Compliance achieved at Atkins therefore noise levels would comply at this receiver.

Operator-attended noise monitoring was conducted between 19 February and 21 February 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

March 2020 Noise Survey

Table 17: SMC Noise Performance Assessment – Operations – March 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins[2]	31	<25	<25	35	35	35	Yes	Yes	Yes
Clarke[2]	27	30	42	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall[3]	20	23	35	37	37	37	Yes	Yes	Yes
Hall	I/A	25	27	35	35	35	Yes	Yes	Yes
Lowrey	I/A	28	29	35	35	35	Yes	Yes	Yes
Pryce Jones	N/M	34	33	43	43	43	Yes	Yes	Yes
Van der Drift	36	28	29	37	36	35	Yes	Yes	Yes
Greenwood	I/A	I/A	<25	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: Not assessed due to non-compliant weather conditions during the Clarke operator attended measurement.

Note 5: Criteria adopted as a guide only.

Operator-attended noise monitoring was conducted on 24 March 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

April 2020 Noise Survey

Table 18: SMC Noise Performance Assessment – Operations – April 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins[2]	32	30	33	35	35	35	N/A[5]	N/A[5]	N/A[5]
5 (1) Bignell	-[6]	-[6]	-[6]	35	35	35	Yes	Yes	Yes
5 (2) Bignell	-[6]	-[6]	-[6]	35	35	35	Yes	Yes	Yes
9 (2) Williams	-[6]	-[6]	-[6]	35	35	35	Yes	Yes	Yes
10 – Whatmore & Whatmore	-[6]	-[6]	-[6]	35	35	35	Yes	Yes	Yes
Clarke[2]	25	I/A	42	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall[3]	18	I/A	35	37	37	37	Yes	Yes	Yes
Hall	29	30	27	35	35	35	Yes	Yes	Yes
Lowrey	<25	31	29	35	35	35	Yes	Yes	Yes
Pryce Jones	31	35	34	43	43	43	Yes	Yes	Yes
Van der Drift	29	<25	26	37	36	35	Yes	Yes	Yes
Greenwood	32	25	25	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: Not assessed due to non-compliant weather conditions during the Clarke operator attended measurement.

Note 5: Criteria adopted as a guide only.

Note 6: Not modelled. Compliance achieved at Atkins therefore noise levels would comply at this receiver.

Operator-attended noise monitoring was conducted on 29 April 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

May 2020 Noise Survey

Table 19: SMC Noise Performance Assessment – Operations – May 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins[2]	34	31[7]	38[7]	35	35	35	N/A[5]	N/A[5]	N/A[5]
5 (1) Bignell[3]	-[6]	-[6]	-[6]	35	35	35	Yes	Yes	Yes
5 (2) Bignell[3]	-[6]	-[6]	-[6]	35	35	35	Yes	Yes	Yes
9 (2) Williams[3]	-[6]	-[6]	-[6]	35	35	35	Yes	Yes	Yes
10 – Whatmore & Whatmore[3]	-[6]	-[6]	-[6]	35	35	35	Yes	Yes	Yes
Clarke[2]	35	42[7]	41[7]	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall	28[3]	-[6]	-[6]	37	37	37	Yes	Yes	Yes

Hall	I/A[1]	<25[7]	30[7]	35	35	35	Yes	Yes	Yes
Lowrey	NM[4]	34[7]	I/A[1]	35	35	35	Yes	Yes	Yes
Pryce Jones	I/A[1]	34[7]	41[7]	43	43	43	Yes	Yes	Yes
Van der Drift	34	33[7]	33[7]	37	36	35	Yes	Yes	Yes
Greenwood	I/A[1]	I/A[1,7]	29[7]	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: Not measurable.

Note 5: Criteria adopted as a guide only.

Note 6: Not modelled. Compliance achieved at representative monitoring location therefore noise levels would comply at this receiver, or criteria not applicable due to non-compliant weather conditions.

Note 7: Criteria not applicable due to non-compliant weather conditions.

Operator-attended noise monitoring was conducted on 28 May 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

June 2020 Noise Survey

Table 20: SMC Noise Performance Assessment – Operations – June 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins[2]	37	35	37	35	35	35	N/A[5]	N/A[5]	N/A[5]
5 (1) Bagnall[3]	29	-[6]	29	35	35	35	Yes	Yes	Yes
5 (2) Bagnall[3]	29	-[6]	29	35	35	35	Yes	Yes	Yes
9 (2) Williams[3]	31	-[6]	31	35	35	35	Yes	Yes	Yes
10 – Whatmore & Whatmore[3]	29	-[6]	29	35	35	35	Yes	Yes	Yes
Clarke[2]	34	33	42	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall	28	27	36	37	37	37	Yes	Yes	Yes
Hall	<30	<25	28	35	35	35	Yes	Yes	Yes
Lowrey	I/A	<30	36/29	35	35	35	Yes	Yes	Yes[7]
Lowrey Remeasure	-	-	29	-	-	35	-	-	Yes
Pryce Jones	I/A	I/A	<25	43	43	43	Yes	Yes	Yes
Van der Drift	36	31	34	37	36	35	Yes	Yes	Yes
Greenwood	I/A	<25	I/A	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: Not measurable.

Note 5: Criteria adopted as a guide only.

Note 6: Not modelled. Compliance achieved at representative monitoring location therefore noise levels would comply at this receiver, or criteria not applicable due to non-compliant weather conditions.

Note 7: Not considered a breach of criteria in accordance with the NMP.

Operator-attended noise monitoring was conducted between 17 June and 18 June 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods with the exception of Lowrey during the night-time. A re-measure was conducted and a sustained exceedance did not occur and in accordance with the NMP. SMC operations are not considered to have breached the noise criteria at this location.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

July 2020 Noise Survey

Table 21: SMC Noise Performance Assessment – Operations – July 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins[2]	37	33	34[7]	35	35	35	N/A[5]	N/A[5]	N/A[5]
5 (1) Bignell[3]	29	-[6]	-[6]	35	35	35	Yes	Yes	Yes
5 (2) Bignell[3]	29	-[6]	-[6]	35	35	35	Yes	Yes	Yes
9 (2) Williams[3]	31	-[6]	-[6]	35	35	35	Yes	Yes	Yes
10 – Whatmore & Whatmore[3]	29	-[6]	-[6]	35	35	35	Yes	Yes	Yes
Clarke[2]	<25	32	41	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall	<25	26	35	37	37	37	Yes	Yes	Yes
Hall	I/A	30[7]	26[7]	35	35	35	Yes	Yes	Yes
Lowrey	NM[4]	35[7]	<25[7]	35	35	35	Yes	Yes	Yes
Pryce Jones	I/A	35[7]	31[7]	37	36	35	Yes	Yes	Yes
Van der Drift	34	30[7]	<30[7]	35	35	35	Yes	Yes	Yes
Greenwood	I/A	<25	<25[7]	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: Not measurable.

Note 5: Criteria adopted as a guide only.

Note 6: Not modelled. Compliance achieved at representative monitoring location therefore noise levels would comply at this receiver, or criteria not applicable due to non-compliant weather conditions.

Note 7: Criteria not applicable due to non-compliant weather conditions.

Operator-attended noise monitoring was conducted on 9 July 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

August 2020 Noise Survey

Table 22: SMC Noise Performance Assessment – Operations – August 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins[2]	32	30	36[7]	35	35	35	Yes	Yes	Yes
Clarke[2]	32	30	40[7]	37	37	37	N/A[5]	N/A[5]	N/A[5]
Wadland[2]	I/A	28	33[7]	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall	19	25[6]	29[6,7]	37	37	37	Yes	Yes	Yes
Hall	34	I/A	27[7]	35	35	35	Yes	Yes	Yes
Lowrey	NM[4]	NM[4]	27[7]	35	35	35	Yes	Yes	Yes
Pryce Jones	I/A	39	36[7]	43	43	43	Yes	Yes	Yes
Van der Drift	34	26[7]	31[7]	37	36	35	Yes	Yes	Yes
Greenwood	I/A	I/A	26[7]	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: Not measurable.

Note 5: Criteria adopted as a guide only.

Note 6: Highest predicted noise level.

Note 7: Criteria not applicable due to non-compliant weather conditions.

Operator-attended noise monitoring was conducted between 13 and 14 August 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

September 2020 Noise Survey

Table 23: SMC Noise Performance Assessment – Operations – September 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins	27	<25[7]	27[7]	35	35	35	Yes	Yes	Yes
Clarke[2,5]	32	35[7]	42[7]	37	37	37	N/A[5]	N/A[5]	N/A[5]
Wadland[2,5]	29	34	41	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall	25	28[7]	36[7]	37	37	37	Yes	Yes	Yes
Hall	I/A	I/A	32[7]	35	35	35	Yes	Yes	Yes
Lowrey	I/A	32[7]	<20	35	35	35	Yes	Yes	Yes
Pryce Jones	I/A	36[7]	35	43	43	43	Yes	Yes	Yes
Van der Drift	<30	31[7]	33[7]	37	36	35	Yes	Yes	Yes
Greenwood	I/A	N/M	N/M	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: N/M = Not measurable.

Note 5: Criteria adopted as a guide only.

Note 6: Not modelled. Compliance achieved at representative monitoring location therefore noise levels would comply at this receiver, or criteria not applicable due to non-compliant weather conditions.

Note 7: Criteria not applicable due to non-compliant weather conditions.

Operator-attended noise monitoring was conducted at seven locations between 2 and 3 September 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

October 2020 Noise Survey

Table 24: SMC Noise Performance Assessment – Operations – October 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins	I/A	<25	26	35	35	35	Yes	Yes	Yes
Clarke[2,]	34	N/M	42	37	37	37	N/A[5]	N/A[5]	N/A[5]
Wadland[2,5]	<25	N/M	29	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall	20	-	26	37	37	37	Yes	Yes	Yes
Hall	IA	27	26	35	35	35	Yes	Yes	Yes
Lowrey	N/M	28	32	35	35	35	Yes	Yes	Yes
Pryce Jones	IA	29	<25	43	43	43	Yes	Yes	Yes
Van der Drift	N/M	32	<25	35	35	35	Yes	Yes	Yes
Greenwood	I/A	I/A	I/A	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: N/M = Not measurable.

Note 5: Criteria adopted as a guide only.

Note 6: Not modelled. Compliance achieved at representative monitoring location therefore noise levels would comply at this receiver, or criteria not applicable due to non-compliant weather conditions.

Note 7: Criteria not applicable due to non-compliant weather conditions.

Operator-attended noise monitoring was conducted between 14 and 15 October 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

November 2020 Noise Survey

Table 25: Noise Performance Assessment – Operations – November 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins	34	<25	25	35	35	35	Yes	Yes	Yes
Clarke2	I/A[1]	I/A[1]	42	37	37	37	N/A[5]	N/A[5]	N/A[5]
Wadland[2,5]	I/A[1]	<25	31	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall	<21	29	27	37	37	37	Yes	Yes	Yes
Hall	I/A[1]	30	NM	35	35	35	Yes	Yes	Yes
Lowrey	I/A[1]	32	I/A[1]	35	35	35	Yes	Yes	Yes
Pryce Jones	NM	34	31	43	43	43	Yes	Yes	Yes
Van der Drift	29	27	24	37	36	35	Yes	Yes	Yes
Greenwood	I/A[1]	I/A[1]	24	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: N/M = Not measurable.

Note 5: Criteria adopted as a guide only.

Note 6: Not modelled. Compliance achieved at representative monitoring location therefore noise levels would comply at this receiver, or criteria not applicable due to non-compliant weather conditions.

Note 7: Criteria not applicable due to non-compliant weather conditions.

Operator-attended noise monitoring was conducted between 25 and 26 November 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

December 2020 Noise Survey

Table 26: Noise Performance Assessment – Operations – December 2020 Survey

Location	Estimated SMC LAeq(15minute) Contribution dBA			Noise Criteria LAeq(15minute) dBA			Compliance		
	Day	Eve	Night	Day	Eve	Night	Day	Eve	Night
Atkins	I/A	I/A	I/A	35	35	35	Yes	Yes	Yes
Clarke2	29	I/A	30	37	37	37	N/A[5]	N/A[5]	N/A[5]
Wadland[2,5]	I/A	I/A	I/A	37	37	37	N/A[5]	N/A[5]	N/A[5]
Bagnall	16	I/A	17	37	37	37	Yes	Yes	Yes
Hall	28	<25	NM	35	35	35	Yes	Yes	Yes
Lowrey	<25	I/A	I/A	35	35	35	Yes	Yes	Yes
Pryce Jones	31	31	37	43	43	43	Yes	Yes	Yes
Van der Drift	27	I/A	NM	37	36	35	Yes	Yes	Yes
Greenwood	27	31	30	35	35	35	Yes	Yes	Yes

Note 1: I/A = Inaudible

Note 2: Owned by Stratford Coal Pty Ltd. Criteria adopted from Bagnall.

Note 3: Modelled result

Note 4: N/M = Not measurable.

Note 5: Criteria adopted as a guide only.

Note 6: Not modelled. Compliance achieved at representative monitoring location therefore noise levels would comply at this receiver, or criteria not applicable due to non-compliant weather conditions.

Note 7: Criteria not applicable due to non-compliant weather conditions.

Operator-attended noise monitoring was conducted between 17 and 18 December 2020 in order to determine the noise performance of the SMC operations against the Development Consent conditions which resulted in:

- Compliance with the relevant noise criteria was achieved at all noise monitoring locations during the day, evening and night periods.
- Based on the measured SMC noise contribution, compliance with the relevant sleep disturbance noise criteria was achieved at all noise monitoring locations during the night-time noise monitoring period.

6.7.3 Night Time Noise Review

In accordance with Schedule 3 Condition 7 of SSD-4966, a review of night-time noise from SMC operations is required to be undertaken within 2 years of the commencement of night-time operations and every 2 years thereafter.

Night-time operations at the SMC commenced in October 2018. A review of night-time noise, from 2018 to 2019 inclusive, was undertaken by SLR during the reporting period (SLR, 2021).

During the 2018 to 2019 night-time noise review period the following operational measures were implemented by SMC;

- Reduced active mining operating hours compared to SSD-4966 approved operating hours (Schedule 3 Condition 3). Active mining operations onsite are generally limited to 6:30am – 1:00am Monday to Friday and no night-time operations on weekends.
- Total production reduced from 2.6 Mtpa to approximately 1.2 Mtpa.
- Reduction in total mobile plant fleet than that assessed in the Stratford Extension Project Noise and Blasting Assessment.
- Reduction in overall site Sound Power Level than that assessed in the 2012 NBA.
- Fewer night-time rail movements than what is approved in Schedule 2 Condition 8 of SSD-4966. Additionally, the Duralie shuttle train ceased operation in October 2018, further reducing night-time rail movements.

SMC also implement ongoing and continual noise mitigation and management strategies including;

- Predictive noise forecasts issued to SMC staff prior to each shift allowing for proactive noise management.
- Real time noise monitoring and alarm systems to allow for reactive management of noise emissions.
- Daily shift reports from the Open Cut Examiner include comments on noise mitigation measures implemented.

The night-time noise review found that SMC maintained compliance with night-time noise requirements and best management practices in accordance with SSD-4966 and approved Noise Management Plans as applicable throughout the 2018-2019 review period.

6.7.4 Real Time Noise System

A real-time noise (RTN) monitoring system is described in the NMP. Real-time monitoring is used as a management tool to assist SCPL to take proactive management actions and implement additional noise mitigation measures to avoid potential non-compliances. A Sentinex RTN monitor is located near Craven Village and a second Sentinex unit is located near Stratford Village.

Noise investigation triggers have been established in the NMP which send alarms when noise emissions are approaching levels which may exceed the noise criteria at privately-owned receivers. Details of any RTN alarms and the operational responses implemented by SCPL are recorded in the RTN Response Register (**Appendix 6**).

In general alarms during the reporting period related to abnormal meteorological conditions, environmental and traffic noise from the Bucketts Way. The SMC noise contribution was often audible, however not the dominant noise source. The RTN response register details the response actions taken by SCPL.

To address any noise alarms regardless of abnormal meteorological conditions such as inversions, SCPL continue to implement the management measures described in the NMP. Additionally, SCPL implement operational management measures in accordance with the real-time noise monitoring response protocol described in the NMP Section 7.3.4.

6.7.5 Noise Prediction and Forecasting System

A noise and meteorological forecasting system is implemented at the SMC to predict meteorological conditions for the coming day to determine, one day in advance, where the risk of noise-enhancing meteorological conditions may occur (e.g. based on wind speed, direction and atmospheric stability).

Predictive noise and meteorological forecasting information is provided at the start of every operational shift to inform the need for any control of the locations of major mobile equipment (i.e. to maintain compliance with Development Consent SSD-4966 noise criteria). The predictive meteorological forecasting system operates in conjunction with the real-time monitoring system, providing an alert for the appropriate personnel to review the real-time data and manage the intensity of activities for that day, increase controls (e.g. gear restriction) or limit activity to various areas of the site.

6.7.6 Rail Noise Monitoring

The Stratford export train is required to be approved to operate on the NSW rail network in accordance with the noise limits specified in ARTC's EPL 3142, as per Condition 5(d), Schedule 3 of SSD-4966. ARTC have recently received a variation to EPL 3142 which has amended conditions relating to the operation of rolling stock. Previously only the rail infrastructure operator was required to hold an EPL. The changes now require the rolling stock operators to also hold an EPL for the operation of rolling stock. PN are the operator of the Stratford export train and have confirmed the Stratford locomotives are listed in locomotives class register approved to operate on the NSW rail network.

The NMP requires rail noise monitoring to be undertaken along the North Coast railway on a quarterly basis at the existing Wards River and Craven village monitoring points.

Rail noise monitoring is reported against rail noise criteria described in Section 4 of the NMP. Rail operations aim to progressively reduce noise levels to the goals of 65dB(A)Leq, (daytime from 7am – 10pm), 60dB(A)Leq (night-time from 10pm –7am) and 85dB(A) (24hr) max pass-by noise, at one metre from the façade of affected residential properties. This is consistent with the criteria in the ARTC EPL noise limits.

Rail noise monitoring was conducted during the March 2020, June 2020, August 2020 and December 2020 Noise Surveys when export trains were operating. Rail noise survey results are included in the Noise Survey reports which are available at the Stratford Coal website. Attended noise measurements were conducted at two locations; TN1 (Craven) and TN2 (Wards River Village).

During the reporting period for all rail noise monitoring undertaken, the maximum SMC rail pass-by noise levels complied with the noise goal of 85 dBA at all monitoring locations, excluding the sounding of horns on approach to level crossings.

6.7.7 Mobile & Fixed Plant Noise Assessments

Sound power testing is undertaken in accordance with the NMP. The indicative mine fleet at the SMC is provided in the Stratford Extension Project Noise Impact Assessment (EIS 2012 Appendix C). The NIA provides the overall A-weighted and Linear Sound Power Levels (SWLs) for each item of plant and equipment proposed to be used at the SMC.

The current mining fleet is shown in Section 4.3.1 of this report. The SMC fleet of mobile plant are assessed annually against the target SWLs.

Sound power testing of existing of plant and equipment at the SMC was undertaking by SLR during in January 2020. A summary of the results from the sound power testing is included below.

Most of the plant and equipment tested conformed to the target SMC sound power levels.

- All excavators conformed with the A weighted SWL targets. A minor exceedance of 2 dB and 1 dB was recorded for EX2600 ID 005 and CAT 349 ID 299, respectively.
- The Komatsu WA900 front end loader working on the ROM pad exceeded A weighted and Linear weighted target SWL by 5 dB and 2 dB respectively.
- Drill 702 was found to have a negligible exceedance of 1 dB.
- Two CAT 785s (ID 111,112) and one CAT 775 (ID 503) exceed the static SWLs. All haul trucks conformed with the target SWLs under dynamic test conditions.
- CV02 drive, CV02 conveyor, CV04 drive and CV05 drive exceeded the A weighted SWL target. CV02 exceed the Linear weighted target.
- All dozers conformed with the A-weighted SWL targets with the exception of D10T ID 139 and D8T 133 when in second gear operation. All dozers conformed to the linear weighted SWL target.

Notwithstanding, given that the current equipment fleet in use at SMC is considerably less than those predicted in the EIS 2012 the overall sound power level from SMC is likely to be less than 136 dBA.

6.7.8 Complaints

Twenty-eight (28) noise related complaints of a total of 43 were received during the reporting period. A full list of complaints received, including responses by SCPL is provided in **Appendix 7.**

It is noted that SMC received an increased number of noise complaints during the reporting period. Factors likely contributing to this increase were SMC resuming full scale operations and commencing mining within new mining areas at Avon North Open Cut and Stratford East Open Cut. SCPL is now undertaking mining operations 7 days per week and typically between the hours of 6:30am am 1:00am, albeit there is no evening/night shift on weekends. The increase in complaints is potentially due to the increase scale of activity and resulting impacts relating predominately to noise, blasting and lighting. However, these impacts remain within the approved Development Consent criteria as demonstrated by the noise monitoring results. The increased scale of operations would be noticeable to offsite sensitive receivers and is not unexpected.

SCPL continues to implement proactive and reactive noise mitigation measures as described in the NMP to reduce the impact of noise emissions as far as is reasonably practicable. SCPL has continued to engage with community members following the receipt of complaints to identify noise sources and potential improvements or additionally mitigation measures to continue to reduce noise emissions.

6.8 LANDSCAPING AND VISUAL SCREENING

A visual assessment of the SMC was undertaken for the EIS 2012. The overall visual impacts of the development are generally considered to be low to moderate during operations and very low to low following final rehabilitation. Views of the SMC from the surrounding area are generally screened by topography and vegetation, except for some areas to the north and west (EIS 2012). However, some local impacts will occur and undertakings such as the following have been, and will continue to be, adopted to lessen these impacts:

- Minimising (where possible) disturbance to native vegetation, especially where such vegetation is providing visual screening;
- Progressive rehabilitation will be undertaken in order to reduce the contrast between the SMC landforms and the surrounding environment;
- Ensuring out of pit emplacement design produces a landform which integrates with the adjoining natural landform;
- The biodiversity offset strategy for the SMC includes measures such as revegetation of cleared areas; and
- Tree plantings/revegetation will progressively limit potential views of the SMC from some viewpoint locations (e.g. Bucketts Way, Glen Road, Wenham Cox Rd).

Consistent with the Development Consent visual screening has been undertaken as necessary for the maintenance of satisfactory visual amenity. The rehabilitation principles and objectives at the SMC are included in the Development Consent and described in the SMC Mining Operations & Rehabilitation Management Plan. This includes requirements for landscaping and visual screening to ensure the final landforms are visually consistent with the surrounding environment and Gloucester Valley landform. The rehabilitation will be generally consistent with the proposed rehabilitation strategy described in the EIS 2012

No visual amenity related complaints were received during the reporting period.

6.9 LIGHTING EMISSIONS

Schedule 3, condition 50 of SSD-4966 requires SCPL implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development. Additionally, SCPL is required to ensure that all external lighting associated with the development complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting or its latest version.

An independent lighting assessment of the SMC was undertaken in 2019. The independent lighting assessment found that the external lighting was not complainant with the Australian Standard unless setup correctly. The 2019 Lighting Compliance Report recommended SCPL produce an operational guideline on portable lighting systems set ups to ensure the lighting is used in the correct manner to meet the requirements of the Australian Standard.

The independent lighting assessment also recommended that training of the procedure be rolled out for SMC staff to detail how to set up portable lighting systems to be in compliance with the Australian Standard, whilst also meeting operational requirements. It was also recommended for legacy lighting issues on fixed structures that a replacement with LED lighting takes place. During the reporting period SCPL has develop a procedure for setting up mobile lighting systems and implemented training for operators.

Six (6) lighting related complaints were received during the reporting period. A full list of complaints received, including responses by SCPL is provided in **Appendix 7.**

6.10 CULTURAL AND NATURAL HERITAGE CONSERVATION

Cultural and natural heritage at the SMC are managed in accordance with the approved Heritage Management Plan (HMP). The purpose of the HMP is to ensure that the development does not cause any direct or indirect impact on identified Aboriginal or Non-Aboriginal heritage sites located outside the approved disturbance area of the development on the site. The HMP has also been prepared to manage potential impacts on items of heritage significance at the SMC in the vicinity of the surface development.

The HMP establishes measures for the management of known and previously unrecorded heritage sites including:

- Protocols for the involvement of the local Aboriginal community;
- Recording and surface collection of heritage sites;
- Removal of scarred trees;
- Fencing and signage of heritage sites outside the disturbance area;
- Protocol for managing previously unrecorded heritage sites;
- Curation of aboriginal artefacts; and
- Monitoring of heritage sites

Archaeological surveys have been conducted over the life of the SMC and most recently for the EIS 2012. A detailed description of each site, is included in Kayandel Archaeological Services (Kayandel) (2012).

As a result of previous assessments and archaeological survey works, 17 sites have been identified within the SMC (Kayandel, 2012). **Table 27** includes a description of the proposed impact on known Aboriginal heritage sites at the SMC and the status of the heritage sites at the end of the reporting period.

Table 27: Aboriginal Heritage Sites at the SMC

Site Code	Site Type	Proposed Impact	Status of Management
OS-1	Open Artefact Scatter	No (outside disturbance area)	Extant, Not disturbed
OS-2	Open Artefact Scatter	No (outside disturbance area)	Not disturbed. Inspection by FLALC did not locate this artefact. (Refer to AMBS 2018 Report).
OS-3	Open Artefact Scatter	Yes	Salvaged by FLALC. Archaeological survey of the approximate 20m2 area could not locate this artefact. It was determined after 20 minutes that the area was considered as having been sufficiently salvaged. (Refer to AMBS 2018 Report).
OS-4	Open Artefact Scatter	Yes	Salvaged by FLALC. Archaeological survey of the approximate 20m2 area could not locate this artefact. It was determined after 20 minutes that the area was considered as having been sufficiently salvaged. (Refer to AMBS 2018 Report).
OS-5	Open Artefact Scatter	Yes	Salvaged by FLALC. Archaeological survey of the approximate 20m2 area could not locate this artefact. It was determined after 20 minutes that the area was considered as having been sufficiently salvaged. (Refer to AMBS 2019 Report).
ST-1	Scarred Tree	No (outside disturbance area)	Extant, Not disturbed
ST-2	Scarred Tree	Yes	Relocated locally following advice from FLALC (Refer to AMBS 2019 Report).
ST-3	Scarred Tree	No (outside disturbance area)	Extant Not disturbed. This scarred tree has been fenced and signed as per the HMP.
ST-4	Scarred Tree	Yes	Extant, Not disturbed. Site inspected by FLALC. Archaeological survey identified this scarred tree. It was determined that fencing and signage should be established around the tree to ensure that it is not impacted by the proposed works.

Site Code	Site Type	Proposed Impact	Status of Management
IF-1	Isolated Find	Yes	Salvaged by FLALC. Archaeological survey of the approximate 20m2 area could not locate this artefact. It was determined after 20 minutes that the area was considered as having been sufficiently salvaged. (Refer to AMBS 2018 Report).
IF-2	Isolated Find	Yes	Salvaged by FLALC. Archaeological survey of the approximate 20m2 area could not locate this artefact. It was determined after 20 minutes that the area was considered as having been sufficiently salvaged. (Refer to AMBS 2018 Report).
IF-3	Isolated Find	Yes	Salvaged by FLALC. Archaeological survey of the approximate 20m2 area could not locate this artefact. It was determined after 20 minutes that the area was considered as having been sufficiently salvaged. (Refer to AMBS 2020 Report).
IF-4	Isolated Find	Yes	Salvaged by FLALC. Archaeological survey of the approximate 20m2 area could not locate this artefact. It was determined after 20 minutes that the area was considered as having been sufficiently salvaged. (Refer to AMBS 2020 Report).
IF-5	Isolated Find	No (outside disturbance area)	Extant, Not disturbed
PAD-1	PAD	No (outside disturbance area)	Extant, Not disturbed
PAD-2	PAD	No (outside disturbance area)	Extant, Not disturbed
CTS-1	Cultural/ Traditional Site	No (outside disturbance area)	Extant. Access restricted. Establishment and operation of the blast monitoring site between CTS-1 and Stratford East Pit for blasts within 1km.

During the reporting period Forster Local Aboriginal Land Council (FLALC) and AMBS Ecology & Heritage were engaged to undertake the salvage of known Aboriginal artefacts as described in the HMP. Sites assessed and salvaged where possible during the reporting period included IF-3 and IF-4. The management of heritage sites during previous reporting periods is described in **Table 27**.

There was no unapproved or unplanned disturbance of any heritage sites during the reporting period. No previously unidentified heritage sites were identified during the reporting period.

6.11 PAF MATERIAL MANAGEMENT

An assessment of the geochemical characteristics of the waste rock material associated with the development of the SEP is provided in the Geochemistry Assessment (EIS 2012 Appendix L) prepared by EGi (2012). The Geochemistry Assessment (EGi, 2012) concluded that the waste rock materials generated from three of the four SMC open cut mining areas are likely to be NAF The acid base accounting test work indicates that the Stratford East Open Cut waste rock materials would be expected to be generally potentially acid forming (PAF), with some potentially acid forming – low capacity (PAF-LC) and NAF materials also expected to be present (EIS Appendix L).

PAF material is managed in accordance with Section 7.2 of the SMC Surface Water Management Plan. PAF waste rock material is segregated and selectively handled and then placed in either in-pit (below the predicted final water table recovery level) or out-of-pit engineered PAF waste cells. PAF waste rock material would be encapsulated within constructed containment cells and capped with a low permeability layer when placed in out-of-pit waste rock emplacements (EIS Appendix L).

During operations, limestone is placed on the open pit floor and interim waste rock in-pit and out-of-pit waste rock emplacement lifts/faces where PAF material is present, to minimise the generation of acid rock drainage.

SCPL monitors the water quality of contained water storages (i.e. pH and solute concentrations) as part of the existing surface water monitoring program. If in the event acid rock drainage is identified through

the surface water monitoring program, specific acid rock drainage controls will be implemented. Refer to the surface water monitoring results in **Section 7.2.2** of this report.

During the reporting period PAF materials have been appropriately management to minimise the potential for any short-term or long-term effects of acid rock drainage.

6.12 CHPP REJECT MANAGEMENT

Reject material produced at the Stratford CHPP is disposed of in accordance with the SMC Life of Mine Rejects Disposal Plan (RDP 2018).

The Development Consent SSD-4966 Table 8 prescribes the performance criteria for CHPP rejects. Reference should be made to the RDP for a detailed description of reject management at the SMC. In general the rejects, both coarse and fine fractions, are pumped via pipeline from the CHPP to the Stratford Main pit where they are deposited below final void ground water levels.

Rejects at the SMC have been previously characterised as being PAF and the EIS 2012 geochemical assessment report concluded that implementation of appropriate management measures would be required to manage potential ARD impacts associated with the existing and proposed co-disposed CHPP rejects. Rejects management measures include placement into the Stratford Main Pit where they are progressively inundated with water to prevent significant pyrite oxidation and acid generation in the long term, with monitoring of water quality undertaken during operations and provision for lime (calcium hydroxide - Ca[OH]2) dosing and limestone (calcium carbonate - CaCO3) treatment as required.

Reject placement in the Stratford Main Pit for the reporting period involved sub-aqueous deposition only, eliminating the use of reject beaches. Hence, no liming of the exposed reject beach was undertaken during the reporting period. Lime dosing of the reject stream was continued.

Monitoring of the reject beach material in previous reporting periods was undertaken on a monthly basis until the beach was completely inundated. No further monitoring was required during the reporting period.

Water quality monitoring in the Main Pit is undertaken monthly, refer to the results in **Section 7** Water Management. The management measures implemented have successfully controlled the formation of acid conditions in the Stratford Main Pit, with recorded pH circum neutral.

6.13 SPONTANEOUS COMBUSTION

Any incidences of spontaneous combustion at the SMC are managed in accordance with a Spontaneous Combustion Management Procedure. Management and mitigation practices generally involve reducing the interaction of potentially reactive materials with water and oxygen by appropriate dumping practices, profiling and capping any materials likely to heat and reducing the time coal faces are exposed prior to mining.

There have been very few occurrences of spontaneous combustion on the Stratford site during the 20 years of operation. During the reporting period there were no spontaneous combustion events on site or observed heating in any stockpiles.

6.14 AGRICULTURAL REPORT

An Agricultural Assessment for the SMC was undertaken for the Stratford EIS (2012). Contemporary land use in the vicinity of the SMC is dominated by mining operations, agricultural production (primarily grazing for beef production) and remnant vegetation generally located along ridgelines, along watercourses and in isolated patches within the cleared landscape which includes nature reserves and national park. Settlements are located at Stratford Village and Craven Village.

The Agricultural Land Use Rehabilitation Objective for the SMC is to establish a minimum of 300 hectares of land with Class 4 agricultural suitability. Class 4 Agricultural Suitability is land suitable for grazing but not for cultivation. Rehabilitation progress is discussed further in **Section 8.**

Rural Land Capability

The Rural Land Capability classification system is used to determine the various classes of rural land on the basis of the capability of the land to remain stable under particular uses. Land is allocated to one of eight classes, with emphasis on the erosion hazards in the use of the land. The pre-mining Rural Land Capability near the SMC ranged from Class IV to Class VIII, with the major factors in determining the classes being slope and soil stability in water.

The rehabilitated flat areas on the Stratford Waste Emplacement were allocated Class IV. Other rehabilitated areas (e.g. batters) on the Stratford Waste Emplacement and the Northern Waste Emplacement were allocated to Class V due to slope angle. The flat areas on the Stratford Waste Emplacement were observed to have similar, and in some cases better, soil conditions than that observed in the "natural" soil profiles under pasture on the SMC site.

Agricultural Suitability

The Agricultural Suitability system is used to classify land in terms of its suitability for general agricultural use. Agricultural land is classified by evaluating biophysical, social and economic factors that may constrain the use of land for agriculture. The pre-mining SMC site ranged from Class 4 to Class 5. Soil limitations included various combinations of the following factors: erosion hazards associated with steep slopes, shallowness, dispersion, acidity, nutrient deficiencies and compaction (EIS 2012).

The rehabilitated areas on the existing SMC waste rock emplacements were allocated by McKenzie Soil Management (2012) to Class 4.

Class 4 Agricultural Suitability is defined as (NSW Agriculture, 2002):

Land suitable for grazing but not for cultivation. Agriculture is based on native pastures and improved pastures established using minimum tillage techniques. Production may be seasonally high but the overall production level is low as a result of major environmental constraints.

Agricultural lands on and surrounding the SMC including SCPL owned land and agricultural rehabilitation continues to be managed for agricultural production. SCPL implements a property management strategy which includes grazing & pasture management and weed and pest control measures. The majority of agricultural lands are grazed under agistment/lease contracts.

There have been no changes to the agricultural land suitability during the reporting period.

7. WATER MANAGEMENT

Water management is undertaken in accordance with the approved Water Management Plan (WMP) and the sub-components of the plan including; surface water, ground water and site water balance, required under SSD-4099. The local and regional hydrological setting along with the baseline data is provided in the WMP.

The main objectives of the water management system on-site are:

- protect the integrity of local and regional water resources;
- operate such that there is no uncontrolled overflow of contained water storages;
- maintain separation between runoff from areas undisturbed by mining and water generated within active mining areas; and
- provide a reliable source of water to meet the requirements of the SMC.

The key principles of the water management system on-site are:

- maintain separation of undisturbed area runoff from water generated within active mining areas;
- minimise the generation of dirty water and divert clean water around disturbed areas;
- minimise storage requirements by maximising re-use of mine water for dust suppression (haul roads, mine waste emplacement surfaces), CHPP supply and irrigation;
- remove potential impacts on downstream water resources by provision of secure containment on site;
- capture and on-site containment of mine water, consisting of any groundwater inflows and/or surface water collection in the open cuts; and
- implement a fail-safe system, whereby under extreme events in excess of design capacity, dirty waters would spill to the mine pit and not to the clean water catchments; and
- not allow sediment laden water having an elevated suspended solids concentration to be discharged off site.

SCPL has investigated options for the beneficial reuse of mine water however continue to maintain zero discharge of mine water from site. The mine water balance at SMC is managed predominantly through the irrigation of excess water on rehabilitated pasture and storage within on site containment facilities. Where possible all clean water is diverted offsite.

7.1.1 Water Supply and Demand

The SMC water management system operates under a surplus water balance, with a trend for increasing water storage on-site over time. The majority of water used on-site is in the CHPP and recovery of water for re-use in the CHPP (i.e., recycling of CHPP process waters) is the largest component of the overall supply system

The principal water losses in the water system are:

- Water applied to land by means of irrigation;
- Water used for dust suppression;
- Evaporation from the Mine Water storages; and
- Water consumed in the CHPP.

The principal water losses in the CHPP water circuit are:

- Loss of water to co-disposal material (water locked up in rejects, pumped to main pit); and
- Water retained in product coal and railed off site.

Contained water storages at the SMC include:

- Stratford Main Pit which acts as both the CHPP rejects co-disposal area and contained water

storage at the SMC, with an estimated capacity of 16,449 ML at December 2020;
- Stratford East Dam which is located on the eastern boundary of the ML and has a capacity of up to approximately 2,872 ML;
- Return Water Dam which has a capacity of approximately 551 ML and receives water by pumping from other contained water storages to supply the CHPP. The Return Water Dam also receives local runoff from the adjacent western co-disposal area; and
- Parkers Pit void is located south-east of the CHPP and west of Avondale Creek. Parkers Pit has an estimated capacity of 106 ML.

The main water supply on-site for the CHPP is the Return Water Dam (RWD), located to the north of the Industrial Area. The RWD is one of three permanent mine water storages on-site. Water used by the CHPP is drawn from the RWD and comprises water pumped from the co-disposal facility, pit produced water and water from specific sediment dams. Water is also pumped directly from the Stratford Main Pit to the RWD to balance the CHPP water demand.

The SMC open cut voids also provide significant additional on-site containment capacity if required for water storage. Mine water may be transferred between the open cut pits and the mine water storages as required for operations.

Site water balance modelling has concluded that water storage capacity on site, would be sufficient to accommodate the water storage demands and disposal of CHPP reject material within the Main Pit until at least 2025. The annual water balance review with contemporary observations of the mine water management storages throughout the reporting period have confirmed that the EIS water balance modelling remains valid and consistent with observations on site. The annual water balance review is further described in **Section 7.1.2.**

Surface Water Licencing

The SMC is located within the mapped extent of the Avon River Water Source under the Water Sharing Plan for the Lower North Coast Unregulated and Alluvial Water Sources 2009. SMC is a water surplus site and no extraction of surface water from any unregulated stream is proposed for the SMC.

Groundwater Licencing

The groundwater systems within which the SMC lies, specifically relate to:
- Gloucester Basin Water Source (i.e. porous rock aquifer) under the Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016.
- Avon River Water Source (i.e. alluvial aquifers) under the Water Sharing Plan for the Lower North Coast Unregulated and Alluvial Water Sources 2009.

SCPL currently holds several WALs in the Gloucester Basin Groundwater Source, for a total of 1,476 share components under the Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016, to account for direct and indirect take of groundwater from the porous rock aquifer.

7.1.2 Site Water Balance Review

The site water balance model for the SMC was developed by Gilbert & Associates in 2012 as part of the Stratford Extension Project EIS Surface Water Assessment (Gilbert & Associates, 2012). The site water balance model of the SCM water management system has been developed to simulate the behaviour of the water management system to the end of the approved mine life, i.e. 2025. More recently, the SMC water balance model was updated during 2018 as part of the Water Management Plan prior to commencement of mining for the SEP (refer WMP Appendix 1 Site Water Balance, Attachment A Site Water Balance Model 2018-2022). Since this time, the SMC water balance model has been updated annually.

A review of the site water balance is undertaken annually and captures all inflows and outflows from the water management system. The water which accumulates in the open pits through rainfall or

groundwater seepage is measured at the point of dewatering. An independent Annual Water Balance Review (Hydro Engineering & Consulting, 2020) for the SCM was conducted for the 2020 calendar year and a summary is provided below.

SMC Quantitative Site Water Balance Review 2020

The water management system at the SMC has operated under a surplus water balance, which means that over time there has been a trend for more water to report to site storages from the mine workings and associated project site catchments than is required to support processing and mining activities. The major water inflows to the site are rainfall-runoff generated from operational areas and (lesser) groundwater inflows to the current and former mine workings. The existing SMC water management system does not release water from disturbed areas off site other than from sediment dams and rehabilitated landforms.

Open Cuts and Waste Emplacements

A mine pit water balance analysis was undertaken for the BRNOC, RWOC, ANOC and SEOC using data recorded during 2020 to assess the relative contributions of surface water and groundwater sources to mine inflows (i.e. the relative contribution of rainfall runoff versus groundwater seepage into the pit).

Bowens Road North Open Cut

Active mining and dewatering of BRNOC continued during 2020 with a total of 176 ML pumped to Stratford Main Pit. BRNOC was completely dewatered during 2020, with only minor stored volumes. The volume of groundwater calculated reporting to the open cut in 2020 was 0 ML. This compares to the SEP EIS prediction of 0 ML. The groundwater inflow rate predicted from water balance analysis is below the estimated rate in the SEP EIS (2012) prediction.

Roseville West Open Cut

Active mining of the RWOC continued during 2020 with a total of 243ML pumped to RWD. Minor volumes of water were stored in RWOC during 2020.
The volume of groundwater assumed reporting to RWOC in 2020 was 75.2 ML which is lower than the SEP EIS prediction of 190 ML (Heritage Computing, 2012).

Avon North Open Cut

Active mining and dewatering of ANOC continued during 2020 with a total of 169 ML pumped to the Stratford Main Pit. Anecdotal information from SCPL suggests minor volumes of water were stored in ANOC during 2020. The volume of groundwater assumed reporting to ANOC in 2020 was 0 ML which is lower than the SEP EIS prediction of 85.8 ML (Heritage Computing, 2012). Based on the modelled predictions, the ANOC was estimated to have a stored water volume of approximately 131 ML at the end of the reporting period.

Stratford East Open Cut

Active mining and dewatering of SEOC continued during 2020 with a total of 167 ML simulated as pumped to the Stratford Main Pit (via the Eastern Emplacement Dam). No pumping data was available however anecdotal observations suggest pumping occurred throughout 2020 to remove water from the active mining area. Minor volumes of water were stored in SEOC during 2020. Flow meters have now been installed. The volume of groundwater assumed reporting to SEOC in 2020 was 30.9 ML as per SEP EIS predictions (Heritage Computing, 2012).

Table 28a provides a summary of water stored at the beginning and end of 2020, as well as inflows to and outflows from the four open cut pits and the Stratford waste rock emplacement both individually and as a whole.

Table 28a – Water Balance – Open Cuts

Component	ML					
	BRNOC	**RWOC**	**ANOC**	**SEOC**	**Stratford Waste Emplacement**	**TOTAL**
Start of Year Total Storage Volume	0	20	23	0	4,782	4,825
End of Year Total Storage Volume	152	29	131	25	5,145	5,482
Change in Total Storage Volume	152	9	108	25	363	657
Inflows						
Rainfall Runoff	343	184	292	161	-	980
Groundwater (Predicted)	*0*	*190*	*85.8*	*30.9*	-	*307*
Groundwater (Estimated)	0	75.2	0	30.9	-	106
Seepage†	-	-	-	-	297	297
TOTAL	343	259	292	192	297	1,383
Outflows						
Evaporation	13.4	8.2	15.2	0.1	-	36.7
Seepage†	-	-	-	-	0	0
Pumped to Other Storages	176	243	169	167	-	755
TOTAL	189	251	184	167	0	792
Inflows minus Outflows	154	8	108	25	297	591

Contained Water Storages

A water balance analysis was undertaken for the Stratford Main Pit, Stratford East Dam and RWD using data recorded during 2020 to assess the relative contributions of the various sources to storage inflows (i.e. the relative contribution of rainfall runoff and groundwater versus pumped inflow).

Table 28b provides a summary of water stored at the beginning and end of 2020, as well as inflows to and outflows from the three monitored contained water storages as a whole (Stratford Main Pit, Stratford East Dam and Return Water Dam).

Table 28b – Water Balance – Mine Water Storages

Component	ML
Start* of Year Total Storage Volume	13,748
End** of Year Total Storage Volume	15,202
Change in Total Storage Volume	1,454
Inflows	
Rainfall Runoff	1,498
Pumped from Open Cut Pits	755
Pumped from Other Storages	301
Groundwater	7
Rejects Water	2,171

Component	ML
Seepage†	0
TOTAL	4,732
Outflows	
Evaporation	800
CHPP Supply	2,151
Haul Road Dust Suppression (Truckfill)	180
Irrigation	0
Entrained in Rejects	171
Seepage†	297
TOTAL	3,599
Inflow minus Outflows	1,133

A notable increase in stored water volume for the Open Cuts, Stratford Main Pit, Stratford East Dam and RWD was observed during 2020.

At the commencement of the reporting period, the Main Pit, Stratford East Dam and Return Water Dam contained a combined 13,748 ML (stored water only).

At the completion of the reporting period the Main Pit, Stratford East Dam and Return Water Dam contained a combined 15,202 ML (stored water only).

No mine water was disposed directly to watercourses during the reporting period.

Groundwater Licencing

SCPL holds existing groundwater licences for dewatering issued by the NSW DPI Water that allow for the dewatering requirements from the open cut pits. The estimated groundwater inflows at the SMC during 2018 where are below the annual extraction limits as shown in **Table 29.**

Table 29 – Water Take

Water Licence	Operation	Entitlement*	Estimated 2020 Take (ML)Total
WAL 41534 (20BL169400)	Stratford Main Pit, ANOC, SEOC	500MLextraction.	38
WAL 41535 (20BL169101)	Stratford (Roseville) Pit	20ML extraction.	0
WAL 41536 (20BL169102)	Roseville Extended and West Pit	315MLextraction.	75
WAL 41538 (20BL169103)	Bowens Road North Pit	410ML extraction.	0
WAL 41537 (20BL169104)	Parkers Pit	186MLextraction.	0

7.2 SURFACE WATER

7.2.1 Surface Water Management

Surface water management is managed in accordance with the SWMP, Appendix 2 of the WMP. The SWMP outlines the procedures and strategies for surface water management at the SMC to ensure compliance with SSD-4966. The SWMP includes the management of clean water and mine related water as outlined below. Mine related water comprises both mine water and sediment laden/turbid water. The local and regional hydrological setting along with the baseline data is provided in the SWMP.

7.2.1.1 Erosion and Sediment Control

The primary objectives of the erosion and sediment control strategy at the SMC are to:

- minimise and control soil erosion and sediment generation in areas disturbed by ongoing mining and construction activities; and
- minimise the potential for mine related activities to lower the water quality (particularly in terms of total suspended solids content) of downstream local watercourses.

Control strategies for soil erosion and sediment migration for the SMC include:

- Maximum separation of runoff from disturbed and undisturbed areas.
- Construction of sediment dams downstream of disturbed areas to contain runoff up to specified design criteria (refer Design Criteria below).
- Subsequent priority use of these waters in SMC related activities and/or natural controlled release to substantial buffer zones in a manner that minimises the potential for change to downstream turbidity.
- Selective use of benign flocculants such as gypsum to assist in the settlement of suspended solids if required.
- Construction of surface drains to facilitate the efficient transport of surface runoff.
- Construction of silt fences downslope of disturbed sites.
- Rapid and progressive stabilisation of disturbed surfaces.

SMC operate a network of sediment control structures to control sediment laden runoff from disturbed areas and active mining areas. All sediment control structures at the SMC were reviewed during 2018 following the approval of the SMP with maintenance or upgrades undertaken in accordance with the SWMP as required. In 2020, where required in areas of approved for mining activities, new sediment control structures were constructed.

The design criteria for sediment control structures is prescribed in the SWMP Erosion and Sediment Control Strategy. Sediment control structures (i.e. sediment dams and disturbed area dams) are designed to spill if a rainfall event exceeds the specific design criteria for the structure. Where the discharge occurs solely as a result of rainfall in excess of the design criteria this is not considered a non-compliance. It should be noted that at all times pumping (where possible) of sediment dams in order to prevent or limit the amount of spilling water was undertaken. Prioritisation of pumping operations also took into account the likely quality of spilling water when a dam was considered vulnerable to spilling. The quality of water collecting within sediment dam is managed (where practicable) to minimise suspended sediment load.

All sediment dams are inspected/monitored on a minimum quarterly basis or following receipt of sufficient rain whereby such dams have the potential to spill. Maintenance activities are undertaken on sediment dams as required. Sediment dams are cleaned out when the storage volume is reduced by sediment deposition (i.e. when 30% of storage volume is lost to sediment build up) and inspected after major rainfall events. Silt fences are cleaned out and/or repaired to maintain their effectiveness.

During the reporting period there was one spill from sediment dam DAD19 at Avon North. The spill at DAD19 was in accordance with design criteria following 145.8mm in the 48hrs prior. Water quality

sampling was undertaken at the time of the spill.

In addition to dedicated sediment dams, clean water is directed around disturbed areas (where practicable) using diversion drains/bunds in order to minimise sediment laden water. Areas under rehabilitation are stabilised by structural controls such as bench drains and contour banks (as required), to break up effective slope length exposed to erosion. Final slopes will generally not exceed 14 degrees in order to limit the potential for erosion and sediment generation.

Inspection of diversion structures and sediment control dams occurred during and following heavy rainfall events. The water management system control structures remained effective.

7.2.1.2 Clean Water Management

The key principle of clean water management is the segregation of clean water from mine/dirty water by the construction of diversion drains around disturbed areas, thereby minimising the quantity of dirty water generated.

Surface water controls aim to prevent clean runoff water from entering the open cut mining, overburden dumping areas, rejects disposal areas and infrastructure areas where practicable. The main clean water management structures are:

- Diversion drains/bunds on the western side of Stratford site and Roseville West Open Cut, designed to divert clean water runoff around disturbed areas;
- Diversion drain around the eastern side of the Avon North Open Cut;
- Diversion drain around the eastern side of the Stratford East Open cut and Stratford East Dam;
- Flood control embankments around the open cut voids which are designed to reduce the likelihood of floodwaters within Avondale Creek and tributaries entering either pit;
    - A 1:100yr ARI flood control bund around the north of the Stratford Main Pit
    - A 1:100yr ARI flood control bund around the northern end of the former Roseville Extension Pit and Roseville West Pit;
    - A 1:100yr ARI flood control bund around the south-western end of the Bowens Road North Pit
    - A 1:100yr ARI flood control bund around the southern end of the Avon North Pit;
- A culvert under the BRN haul road to allow for clean water runoff into Avondale Creek;
- Culverts under the haul road crossing of Avondale Creek and tributaries including Main Haul Road, BRN Haul Rd and Roseville Link Haul Road which allows Avondale Creek to flow through the site;
- Various runoff control drains/bunds about disturbed areas and overburden dumps designed to divert clean water runoff around active mine areas.

During 2018 the Avondale Creek flood model was revised to incorporate the water control structures for Avon North. The revised flood model provided the basis for the design of the Avon North clean water drain, Avon North and Main Pit flood bunds and the BRN Haul Road culvert upgrade. The Avondale Creek flood model was revised again during 2020 to incorporate the Stratford East water management structures including the clean water diversion drain.

Water management control structures for the Stratford East Open Cut were constructed during the reporting period. Additionally, the Stratford East Haul Road and associated water control structures were constructed during the reporting period.

Inspections of diversion structures were undertaken during and after rainfall events of >50/day or a minimum of every 6 months. Remedial and maintenance works were completed as required within the diversion drains and dams during the reporting period.

7.2.1.3 Mine Related Water Management

Mine related water management refers to the control, collection and re-use of water which may have become contaminated by mining operations and associated activities. Mine related water comprises mine water and sediment laden/turbid water. Mine water is water that has come into contact with mining activities. Sediment laden/turbid water has come into contact with disturbed areas but predominantly not core mining areas.

Mine waters are typically characterised by higher salinity and on occasion lower pH. Sediment laden waters are characterised by elevated suspended solids and elevated turbidity.

The main objectives of the mine related water control facilities are:

- Segregation of clean water from mine related water, to minimise the quantities of mine related water to be managed;
- Onsite storage and reuse of mine related water (washing coal); and
- Preventing the release of mine water from site.

The principal sources of mine related water are:

(a) Mine Water

- Rainfall runoff in mining pits and incident rainfall;
- Groundwater seepage into mining pits;
- Rainfall induced runoff and seepage from active sections of the overburden emplacement;
- Rainfall induced runoff from the CHPP and infrastructure area;

(b) Sediment Laden Water

- Rainfall runoff from haul roads and other roads;
- Rainfall induced runoff from areas stripped of topsoil (typically exposing clays); and
- Rainfall induced runoff from areas yet to adequately vegetate within sediment dam catchments.

Mine related water uses and losses are:

- Co-disposal material (water locked up in rejects, lost as seepage or evaporation);
- Evaporation and seepage losses from water storages;
- Haul road dust suppression;
- Water retained in product coal and railed off site; and
- Stored water applied to land via irrigation.

During the reporting period there were five (5) mine water related incidents. There were no spills from any mine water storage dams or pits. Details regarding the mine water related incidents are included in **Section 1 Table 2b**. Two of these incidents were related to the construction activities for the Avon North Open Cut and three incidents were related to the construction activities for the Stratford East Open Cut and Stratford East Haul Road. The incidents occurring on 9 February 2020 ad 11 March 2020 were deemed to trigger the PIRMP and were reported to the relevant authorities in accordance with the PIRMP and POEO Act. The surface water incidents all related to breaches of containment bunds following significant rainfall events. On all occasions, actions were taken to reduce the volume of any water discharged via pumping and repairing bunds/drains. Remediation actions were implemented as soon as practicable to ensure no further breach of containment bunds. SCPL have undertaken a review of the clearing plan process to ensure adequate erosion and sediment control plans/designs are included for all construction activities.

The main permanent mine related water storages on site are the Stratford Main Pit, RWD, SED and Parkers Pit. The locations of mine and sediment laden water storage areas are shown in **Figure 3** (**Appendix 1**).

Due to accumulated water being in excess to site needs, management in past years has focused on maximising water use/loss. The future need to discharge waters from the SMC is expected to be limited due to the availability of the Stratford Main Pit for water storage and long-term storage within the final voids following the completion of open cut mining.

7.2.2 Surface Water Monitoring

SCPL monitors surface water quality on and surrounding the mine site by sampling from a series of selected locations. These locations comprise both streams and water storage structures. A meteorological monitoring station (i.e. weather station) provides site rainfall data. Surface water monitoring is conducted in accordance with the approved SWMP and the EPA Environment Protection Licence 5161.

The locations of surface water monitoring sites are shown on **Figure 2 (Appendix 1**). These sites are generally the same as those used during the baseline studies for the Stratford EIS 2012 (with the exception of W11 which was added to the program during 2018) and is consistent with the SEP EIS. The sites and their locations are described in **Table 30**.

Surface water is sampled and analysed on a monthly, event basis or following a sediment dam spill. Water sampling is not undertaken during no-flow conditions. Collected waters are analysed for a suite of physical and chemical parameters. Results are compared with the performance indicators and measures described in the SWMP Section 9 (WMP Appendix B).

Table 30 - Routine Surface Water Monitoring Sites

SITE	AREA	PROPERTY	HYDROLOGICAL LOCATION
W1	Wenham Cox Road	GLENAVON	Avon River upstream of the mine (i.e. upstream of junction with Dog Trap Creek)
W2	Marengo	BIGNALL	Avon River downstream of the mine (i.e. downstream of junction with Dog Trap Creek)
W3	Dog Trap Creek	Ex-ELLIS/SCM	Upstream Dog Trap Creek (above junction with Avondale Creek)
W3A	Dog Trap Creek	Ex-ELLIS/SCM	Upstream Dog Trap Creek (above junction with Avondale Creek) and Upstream of BRN Operations.
W4	Dog Trap Creek	Ex-ATKINS/SCM	Dog Trap Creek downstream of junction with Avondale Creek and upstream of Avon River.
W5	Wenham Cox Road	SMC	Avondale Creek downstream of mine and upstream of junction with Dog Trap Creek
W6	Parkers Road	SMC	Upstream of Mine on Avondale Creek
W8	Bowens Road	SMC	Avondale Creek in the centre of operations
W9	Glen Road	SMC	Upper Avondale Creek
W10	Lemon Tree Creek - Bowens Road	SMC	“Lemon Tree” Creek upstream of Avondale Creek junction.
W11	Dog Trap Creek	Ex-Ellis	Dog Trap Creek upstream of Avon North operations.

7.2.2.1 Review of Local Stream Monitoring Results

Reference should be made to accompanying surface water monitoring data tables provided in **Appendix 4**.

pH

Figure 5-1 (**Appendix 4**) shows the pH results for each sampling month/event in the reporting period. Surface water pH ranges and averages by sampling site were:

Site	pH Range	pH Average
Site W1:	6.8 to 7.2	7.0
Site W2:	6.8 to 7.1	7.0
Site W3:	6.7 to 7.3	7.0
Site W3A:	6.2 to 8.3	6.8
Site W4:	6.4 to 7.1	6.9
Site W5:	6.1 to 7.2	6.6
Site W6:	6.1 to 7.0	6.4
Site W8:	6.1 to 7.0	6.6
Site W9:	6.0 to 6.7	6.4
Site W10:	6.6 to 7.1	6.8
Site W11:	6.4 to 6.9	6.7

Across all sites the pH ranged from 6.0 to 8.3 with specific location averages essentially neutral. pH results were consistent with previous year's results.

The Surface Water Assessment (Gilbert & Associates, 2012) for the Stratford Extension Project EIS 2012 presents data from the Stratford Coal Surface Water Quality Monitoring Program, 1994 to 2011. Results for the reporting period are similar to pH results from the 1994 to 2011 monitoring period.

Electrical Conductivity (EC)

Figure 5-2 (**Appendix 4**) shows the electrical conductivity results for each sampling month/event in the reporting period. Surface water EC ranges and averages by sampling site were:

Site	**EC Range** (uS/cm)	**EC Average** (uS/cm)
Site W1:	206 to 470	346
Site W2:	231 to 464	340
Site W3:	231 to 530	423
Site W3A:	248 to 413	350
Site W4:	287 to 460	359
Site W5:	218 to 514	333
Site W6:	175 to 230	205
Site W8:	204 to 544	372
Site W9:	68 to 169	115
Site W10:	242 to 556	395
Site W11:	127 to 363	275

All sites had slightly lower average EC values compared to previous reporting periods, primarily due to higher rainfall and runoff during the period.

Results for the reporting period are similar to EC results from the 1994 to 2011 monitoring period as presented in the Surface Water Assessment (Gilbert & Associates, 2012).

Total Suspended Solids (T.S.S.) & Turbidity

Figure 5-3 and **5-4** (**Appendix 4**) shows the total suspended solids and turbidity results for each sampling month in the reporting period. Surface water T.S.S. and turbidity ranges and averages by sampling site were:

Site	**TSS Range (mg/l)**	**TSS Average (mg/l)**	**Turbidity Range (mg/l)**	**Turbidity Average (mg/l)**
Site W1:	<5 to 207	28	5.2 to 105	19.8
Site W2:	<5 to 14	6	6.1 to 40.5	13.3
Site W3:	<5 to 208	40	2.6 to 115	33.6
Site W3A:	<5 to 109	19	5 to 136	31.3
Site W4:	<5 to 28	8	2.6 to 56	17.6
Site W5:	<5 to 113	30	10.9 to 214	65.8
Site W6:	<5 to 57	33	19.3 to 124	61.3
Site W8:	<5 to 75	19	9.1 to 147	40.5
Site W9:	<5 to 186	92	19.8 to 196	105.9
Site W10:	<5 to 105	42	15.8 to 328	123.8
Site W11:	<5 to 95	23	0.5 to 79.7	17.7

TSS and turbidity average concentrations were similar when compared to previous reporting periods. During the reporting period there were three sampling events where elevated TSS and turbidity were recorded (February, July and December 2020). Significant rainfall was recorded before all three sampling events and trends were generally similar between upstream and downstream sampling locations.

Results for the reporting period are similar to historical TSS and turbidity results from the 1994 to 2011 monitoring period as presented in the Surface Water Assessment (Gilbert & Associates, 2012).

Iron [Fe]

Figure 5-5 (**Appendix 4**) shows the iron results for each sampling month in the reporting period**.** Iron concentration ranges and averages by sampling site were:

Site	Range (mg/l)	Average (mg/l)
Site W1:	1.10 to 5.47	2.48
Site W2:	1.00 to 2.60	1.61
Site W3:	0.32 to 6.54	1.89
Site W3A:	0.6 to 17.30	4.80
Site W4:	0.94 to 3.18	1.74
Site W5:	0.48 to 4.46	2.28
Site W6:	1.55 to 4.47	3.04
Site W8:	0.88 to 4.90	2.47
Site W9:	3.08 to 5.66	4.15
Site W10:	1.15 to 10.50	4.27
Site W11:	0.05 to 3.48	0.82

Iron concentration ranges were similar to those for previous reporting periods.

Assessment of Performance Indicators

The surface water monitoring results are used to assess the SMC against the performance indicators and performance measures as detailed in Section 9 Table 12 of the SWMP. If data analysis indicates a performance indicator has been exceeded or is likely to be exceeded, an assessment will be made against the performance measure. If a performance measure is considered to have been exceeded, the Contingency Plan will be implemented (SWMP Section 10). If data analysis indicates that the performance measure has not been exceeded, SCPL will continue to monitor.

Table 31 provides a summary of surface water analysis of the monitoring data to assess against the surface water performance indicators and measures outlined in Table 12 of the SWMP.

Table 31 - Summary of Surface Water Monitoring Results – 2020 Reporting Period

		Long Term Mean	Standard Deviation	12 Month Mean 2020
W4	pH	7.0	0.5	6.9
	EC	589	389	359
	Sulphate	7	60	22
	Iron	0.8	0.8	1.7
W3	pH	7.0	0.4	6.9
	EC	424	209	423
	Sulphate	11	11	26
	Iron	1.0	1.2	1.9
W1	pH	7.1	0.4	7.0
	EC	326	186	346
	Sulphate	9	9	16
	Iron	1.9	2.9	2.5
W3A	pH	7.1	0.4	6.8
	EC	402	173	350
	Sulphate	12	14	25
	Iron	2.3	2.8	4.8
W6	pH	6.7	0.6	6.4
	EC	706	734	205
	Sulphate	22	95	4
	Iron	1.4	1.6	3.0
W9	pH	6.7	0.7	6.4
	EC	196	244	115
	Sulphate	4	4	1
	Iron	2.2	1.4	4.1

Assessment of the Performance Indicators and Performance outcomes are presented in **Table 32.**

Table 32 - Surface Water Monitoring Performance Outcomes – 2020 Reporting Period

Performance Measure	Specific Performance Indicators	Data Analysis to Assess against Performance Indicators	Monitoring			Cascading Trigger Levels	Assessment of Performance Indicator and Performance Measure	Relevant Management and Contingency Measures
			Sites	Parameters	Frequency			
No more than a negligible impact on water quality in Avondale Creek.	No significant decline in water quality at W4 or W3	Water quality data analysed annually: - The mean and standard deviation for each water quality parameter at W4 and W3 will be calculated from the long-term monitoring data. - The mean and standard deviation for each water quality parameter at upstream control sites (W1, W3A, W6 and W9) will be calculated from the long-term monitoring data.	W4 (and W3) W1, W3A, W6 and W9	EC, pH, SO_4, Iron	Monthly/Event	**Low Risk (Negligible) Outcome:** The 12 month mean is within the long-term data 'mean plus 1.5 standard deviation', and the same trigger has not been exceeded at an upstream control site. **Moderate Risk Trigger:** The 12 month mean exceeds the long term data 'mean plus 1.5 standard deviation', and the same trigger has not been exceeded at an upstream control site. **High Risk Trigger:** The 12 month mean exceeds the long term data 'mean plus 2 standard deviation', and the same trigger has not been exceeded at an upstream control site.	Analysis of the monitoring data indicates no statistically significant change in the quality of water at W4 and W3 compared to the long-term data. The 12 month mean for all water quality parameters did not exceed the long-term data mean plus 1.5 standard deviation. Additionally, a similar trend was observed at the reference sites. No further requirement for assessment of Performance Measure.	Continue monitoring as per SWMP.

As shown in **Table 32,** the monitoring results during the reporting period did not exceed any of the performance indicators or measures. Results of surface water monitoring during the reporting period are consistent with previous year's monitoring results are in concurrence with the EIS 2012 that concluded "mining operations at the SMC would not jeopardise local or regional water quality".

During the reporting period the Gloucester region experienced increased rainfall following on from the severe drought conditions during 2019. This is reflected in the monitoring results

7.2.2.2 Review of Mine Water Monitoring Results

Mine Water Storages

The management of mine related water is described in **Section 7.2.1.3** of this report. The monitoring program for the water management system is described in the SWMP Section 8.2.

The performance measure and performance indicator for the mine water storages (SWMP Table 12) states "*No discharge of mine affected water to downstream surface waters*" indicated by "*Modelled forward risk of spill from Stratford Main Pit is negligible*".

The risk of a contained water storage overflow (i.e. spill) from the SMC was evaluated as part of the site water balance review. No spills were simulated during the water balance review, which is consistent with the EIS site water balance (Gilbert and Associates, 2012). Subject to adherence with the operational protocols (including storage of water in active mine pits if required) and other assumptions inherent in the water balance modelling, the implied spill risk from the Stratford Main Pit (i.e. to Avondale Creek) is less than 1%.

No overflows or discharges from the mine water storages or pits occurred during the reporting period.

During the reporting period there were four (4) mine water related incidents. Details regarding the mine water related incidents are included in **Section 1 Table 2b**.

Table 33 provides a summary of Stratford mine water storage surface water analysis. The full results are included in **Appendix 4**.

Table 33 - Summary of Mine Water Storage and Open Cut Water Monitoring Results – 2020

	pH		EC (µS/cm)		TSS (mg/L)	
Site	**Range**	**Average**	**Range**	**Average**	**Range**	**Average**
Stratford Main Pit	7.3 – 8.2	7.9	1520 - 3820	3161	<5 - 64	17
Stratford East Dam	7.6 – 7.7	7.7	2330 - 2820	2575	10 - 13	12
Return Water Dam	8.2 – 8.6	8.4	2293 - 4390	3774	NA	NA
Parkers Pit	6.9 – 8.2	7.5	1020 - 2820	1996	6 - 69	22
Roseville West Pit	7.6 - 8.1	7.8	2050 - 5420	4215	13 - 232	66
Stratford East Pit	7.6 – 7.7	7.7	2330 - 2820	2575	10 - 13	12
Avon North Pit	8.0 – 8.1	8.0	2410 - 3010	2710	7 - 18	13

NA = Not applicable

The simulated water quality for the SMC water management system was prepared for the EIS 2012 including a salinity balance. Mine water pH has remained generally near neutral or slightly alkaline for the life of the project. The Stratford Main Pit EC trend has been generally consistent with the simulated EC.

Sediment Dams

The management of sediment dams is described in Section 7.2.1.1 of this report. The monitoring program for the water management system is described in the SWMP Section 8.2. Monitoring of sediment dams was undertaken on a monthly and rain event basis as required in the SWMP.

During the reporting period there was one spill from DAD19 at Avon North. This was in accordance with the specified design criteria following a significant rainfall event. **Refer to Section 1**.

Table 34 - Summary of Sediment Dam/Disturbed Area Dam Monitoring Results – 2020

	pH		EC (µS/cm)		TSS (mg/L)	
Site	**Range**	**Average**	**Range**	**Average**	**Range**	**Average**
SD12	72 – 7.8	7.6	460 - 1030	644	<5 - 67	15
SD15	74 – 8.9	8.1	2040 - 6600	3888	5 - 36	16
SD16	7.0 – 8.0	7.5	120 - 310	201	10 - 527	114
SD17	7.6 – 8.2	7.9	727 - 2880	2123	<5 - 40	15
DAD4	7.9 – 8.4	8.2	1290 - 1950	1620	<5 - 10	8
DAD10	7.3 – 7.8	7.5	1080 - 1630	1314	<5 - 61	19
DAD13	8.0 – 9.1	8.5	1130 - 2680	1471	<5 - 51	12
DAD14	7.2 – 8.2	7.8	1490 - 2630	2191	<5 - 92	23
DAD19	5.4 – 8.3	6.5	50 - 3620	460	25 - 1750	558
DAD20	6.7 – 8.4	7.8	266 - 3980	2626	<5 - 193	39.4

7.2.3 Biological Monitoring

As part of SMC's environmental monitoring program, Invertebrate Identification Australasia was commissioned to conduct biological (aquatic ecology – macroinvertebrates) monitoring of the streams near the SMC. Biological monitoring has been conducted each year since the start of mining operations.

Macro-invertebrate surveys were undertaken during the reporting period. The survey occurred in September 2020 (Invertebrate Identification Australasia 2020). The results and conclusions of the surveys are summarised below.

Six sites were surveyed on the 8th of September 2020 for aquatic macro- invertebrates and water quality using rapid assessment techniques. All locations, except for Site W5, contained water during this round of survey and were flowing. Site W5 pools were full but disconnected. The sites surveyed includes two sites located on the Avon River, one above (Site W1) and one below (Site W2) the confluence of the Avon River and Avondale Creek. Two sites are located on Avondale Creek. Site W8 is located on what was Bowens Road downstream of the Stratford Coal Handling and Preparation Plant onsite within the mining area, and Site W5 is immediately upstream of where the Avondale Creek crosses Wenham Cox Road. One site (Site S3) is monitored for background data and is located along an unnamed creek which receives waters from the clean water diversions and runoff from the rehabilitated waste dump and then feeds into Avondale Creek. Site W3 is located on Dog Trap Creek and is the control site.

A total of 38 families were recorded. Four biological indices are used to determine the condition of the streams in and adjacent to the project area.

The results of the current survey indicate that the overall aquatic biodiversity across the river sites (Sites W1 and W2) showed a significant increase in condition compared with the last survey and the return of a number of more disturbance sensitive aquatic fauna. The changes over the last twelve months in

ecosystem condition/health appear to be the direct result of the higher rainfall occurring during the late summer and autumn/spring period. The elevated number of rainfall events and volumes rainfall over winter and into spring have increased the available habitats, improved the water quality substantially with a follow-on improvement in the composition and number of aquatic fauna.

The results indicate that there have been significant changes to the aquatic community over the last 12 months with an increase in ecosystem condition between Sites W1 and W2 in both the physicochemical or biological parameters tested. The data indicates that the condition in all sites has improved with little differentiation between sites upstream or downstream of the mining operations and there is therefore no evidence of an adverse effect from the mining operations on the ecology of the Avon River or the upper Avondale Creek sites.

Collectively, all biological monitoring reports to date have not indicated any significant adverse impact from either the general operations of the mine or the historical controlled release of mine water into the Avondale Creek and Avon River systems as per predictions made in environmental assessments that "mining operations at the Stratford Mining Complex would not jeopardise local or regional water quality".

The SWMP performance measures states there would be no significant impact on aquatic ecosystems and biota as a result of the SMC as indicated by no significant change in biotic indices at the monitoring locations. The biological surveys indicate there have been no significant changes.

7.2.4 Irrigation Management

The SMC operates under a continual stored water surplus. The Development Consent conditions precludes the disposal of mine water offsite and SMC operates as a zero-discharge site. Irrigation of mine water is approved under SSD-4966 and irrigation is management in accordance with Section 7.10 of the SWMP. Irrigation only occurs on rehabilitated or topsoiled areas from which runoff reports to contained water storages, or open pits.

A centre-pivot irrigator is installed on the Stratford rehabilitated waste emplacement. However, no irrigation of water from the Stratford East Dam or any other mine water storages occurred during the reporting period.

When irrigation is being undertaken this is governed by soil moisture, with irrigation suspended during wet weather or in periods following rain until soil moisture levels fall to levels low enough such that irrigation would not lead to direct runoff. Runoff from irrigation areas is directed to the Stratford East Dam. Water monitoring results for the Stratford East Dam is found in **Table 32**.

7.3 GROUNDWATER

7.3.1 Groundwater Management

A Groundwater Management Plan (GWMP) (WMP Appendix 2) has been prepared to control potential impacts on local and regional groundwater resources and includes and a monitoring program to validate and review the groundwater model predictions. The local and regional hydrogeological setting along with the baseline data is provided in the GWMP.

The groundwater systems within which the SMC lies, specifically relate to:

- Gloucester Basin Water Source (i.e. porous rock aquifer) under the Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016.
- Avon River Water Source (i.e. alluvial aquifers) under the Water Sharing Plan for the Lower North Coast Unregulated and Alluvial Water Sources 2009.

Groundwater characteristics of the mine have been studied prior to and over the life of the SMC and for the SEP EIS. A hydrogeological characterisation of the Gloucester Basin is included in the GWMP.

The main aquifers in the Gloucester Basin are associated with the coal seams which are intersected by

faults that compartmentalise groundwater flow. Groundwater is located predominantly within coal seams in the SMC area, with recharge occurring from overlying alluvium and regolith. The direction of groundwater flow is from the south-east to the north-west, and the main groundwater discharge zones are Avondale and Dog Trap Creeks, Avondale Swamp and Avon River. Further detail is included in the GWMP.

The water table approaches ground surface in the swampy northwest corner of the basin. The colluvium functions as the principal recharge to the basin. Groundwater is generally saline, highly mineralised water with slight to high acidic pH and is generally unsuitable for domestic consumption or irrigation. Baseline groundwater quality data is also included in the GWMP.

Groundwater resources within the project area were utilised in the early stages of the Stratford Project, as required, to provide make-up water for the CHPP. Since the mine start-up period, water has not been in deficit and no groundwater harvesting has occurred.

Locally there is little reliance on groundwater bores as a source of water, as agricultural enterprises predominantly rely on surface water sources which are more abundant and generally better quality. There are no high priority groundwater dependent ecosystems (GDEs) identified within the WSP as occurring in the vicinity of the SMC.

Groundwater seepage to the SMC mining areas (open cut pits and voids) is actively dewatered to the mine water storage area as required to facilitate mining activities. Groundwater may also be stored in the inactive open cut pits.

7.3.2 Groundwater Monitoring Results

The SMC groundwater monitoring program includes:

- groundwater inflows to the open cut mining areas (where measurable from pumping records);
- alluvial and porous rock groundwater levels and quality;
- representative private groundwater bores (e.g. Stratford Village bores).

Further detail on the groundwater monitoring program is included in the GWMP Section 7. The network of monitoring bores will be used to monitor the potential impacts on aquifers, groundwater levels and quality in the vicinity of the SMC. The general location of these bores is shown on **Figure 2** (**Appendix 1**).

The groundwater monitoring network includes:

- Stratford Village Bores
- Stratford Project Bores (GW Series)
- Roseville Series Bores (RB Series)
- BRN Series Bores (MW Series)
- Stratford Extension Project Bores (F Series)

Stratford Village Bores

Monitoring of the Stratford Village bores, during the reporting period, was undertaken in April 2020 and October 2020. SCPL Germon and Bagnall bores are sampled monthly in accordance with the approved WMP. Full results are included in **Appendix 4**. Sampling is not undertaken at the Stratford village bores when access can't be gain through the landholder.

Sampling to date shows no significant changes in groundwater level or quality and no evidence of impacts from mining operations. The groundwater quality is highly variable, with better quality generally in the shallower bores such as Smith. It is understood that these bores are relatively shallow, and given the lower elevations of the sites are tapping into the shallower alluvial aquifers, as opposed to the deeper groundwater.

Results show that there has been no significant difference in depth to standing water level for the bores gauged to date.

Stratford Project Bores (GW Series)

Monitoring of the GW bores was undertaken on a 6-monthly basis in line with the approved GWMP. Monitoring is undertaken for both groundwater depth and water quality. The locations of these bores are shown on **Figure 2** (**Appendix 1**). Full analytical results are also shown in **Appendix 4**.

A summary of monitoring results for the Stratford Project GW bores is provided in **Table 35**.

Table 35 - Bores Monitored in Relation to the Stratford Project - 2020

Site	Average Depth to Water (m)	Average pH	Average EC (uS/cm)	Average Na (mg/l)	Average Cl (mg/l)	Average Fe (mg/l)	Average SO4 (mg/l)
GW1	13.98*	4.2*	2000*	307*	548*	11.5*	102*
GW2	11.10	6.4	4855	741	1370	21.9	28
GW3	4.44	6.9	2760	378	166	263	794
GW4	1.10	6.7	13750	2280	4620	3.2	102
GW5	3.92	7.2	5265	904	1604	27.7	170
GW7	4.29	6.4	1960	290	545	8.5	77
GW8	10.45*	4.0*	1220*	215*	193*	3.0*	284*
BRWN1	0.73	5.5	3740	155	330	692	911

Notes: *One sample only in average calculation

Monitoring for the GW series bores during the reporting period has indicated (when compared to historic data):

- water table levels across all bores were comparable to the previous reporting periods;
- average pH units recorded were similar to historical results across the data set with neutral pH at all bores except GW1 and GW8 which have an acidic pH as well as BRWN1 also showing a slightly acidic pH. This is consistent with baseline data;
- electrical conductivities were generally similar to the historical results;
- water quality parameters had similar average levels to the previous period results and baseline data; and
- GW1 and GW8 were both dry during the August 2020 sampling period.

Groundwater monitoring data from the Stratford Project bores during the reporting period demonstrates no significant or measurable change in water table level or groundwater quality that could be attributed to the mining activities across the SMC. These results concur with predictions made in the EIS 2012 and the Groundwater Assessment 2012 that negligible impact on groundwater levels or quality, from mining in the long term is likely. Localised groundwater drawdown is consistent with EIS 2012 predictions.

Roseville Pit Bores (RB Series)

The RB series monitoring is undertaken on a quarterly basis for depth to water quality. The locations of these bores are shown on **Figure 2** (**Appendix 1**).

Monitoring results for the Roseville groundwater bores are provided in **Table 36** below with full analytical results within **Appendix 4**.

Table 36 - Bores Monitored in Relation to Roseville Pit

Bore	Average DTW metres	Average pH	Average EC uS/cm	Average SO4 mg/l	Average Na mg/l	Average Cl mg/l
RB1	5.67	6.7	10498	41	1578	3360
RB2	4.44	6.8	9643	146	1555	3043
RB3	11.18*	3.6*	1530*	342*	246*	226*

Notes: *One sample only in average calculation

Monitoring data recorded during the reporting period indicated:

- prevailing high water table near Avondale creek – particularly for RB1 and RB2;
- neutral pH at RB1, RB2 and an acidic pH at RB3; this is consistent with historic monitoring results;
- electrical conductivity is consistent with historical data. Average electrical conductivity readings for RB1 and RB2 bores were similar to those of previous reporting periods. Average electrical conductivity at RB3 is lower than historical levels however, RB3 was dry on three of the four sampling events thus only one result is available for the reporting period;
- water quality parameters had similar average levels to the previous period results and baseline data; and
- RB3 was dry during the May, August and November 2020 monitoring events.

Groundwater monitoring data from the Roseville Pit Bores during the reporting period demonstrates no significant or measurable change in water table level or groundwater quality that could be attributed to the mining activities across the SMC. These results concur with predictions made in the EIS 2012 and the Groundwater Assessment 2012 that negligible impact on groundwater levels or quality, from mining in the long term is likely.

Bowens Road North Pit Bores (MW Series)

Monitoring results for the BRN groundwater bores are provided in **Table 37** below with full analytical results within **Appendix 4**.

Table 37 - Bores Monitored in Relation to Bowens Road North Pit

Bore	Average Depth to Water (metres)	Average pH	Average EC (uS/cm)	Average SO4 (mg/l)
MW3	**	**	**	**
MW4	**	**	**	**
MW6	8.28	6.2	437	29
MW7	7.94*	5.3*	2260*	286*
MW8	**	**	**	**
MW11	10.52	7.0	1298	22
MW12	3.82	6.5	885	26
Griffin	2.98	7.7	2400	<1

Notes: *One sample only in average calculation
** Unable to retrieve sample due to dry bore

Monitoring data recorded during the reporting period indicated:

- depth to water measurement generally indicated a similar water table relative to results from previous reporting periods. Griffin bore depth returned to levels consistent with historical depths;
- pH results were neutral across all sampled bores. Results were consistent with historical data;
- electrical conductivity was consistent with historical data and comparable with those in the previous reporting period; and
- water quality parameters had similar average levels to the previous period results and baseline data;

MW3, MW4 and MW8 were dry and unable to be sampled during the reporting period.

Groundwater monitoring data from the BRN Pit Bores during the reporting period demonstrates no significant or measurable change in water table level or groundwater quality that could be attributed to the mining activities across the SMC. These results concur with predictions made in the EIS 2012 and the Groundwater Assessment 2012 that negligible impact on groundwater levels or quality, from mining in the long term is likely. Localised groundwater drawdown is consistent with EIS 2012 predictions.

Assessment of Performance Indicators

Groundwater monitoring results are assessed against Performance Indicators and Measures as described Section 8 and Table 10 of the GWMP (2018). If data analysis indicates a performance indicator has been exceeded or is likely to be exceeded, an assessment will be made against the performance measure. If a performance measure is determined to have been exceeded, the Contingency Plan will be implemented. Monitoring data for the reporting period assessed against the performance measures and indicators is shown in **Table 38** below:

Table 38 - Groundwater Monitoring Performance Outcomes – 2020 Reporting Period

Performance Measure	Specific Performance Indicators	Data Analysis to Assess against Performance Indicators	Monitoring			Cascading Trigger Levels	Assessment of Performance Indicator and Performance Measure	Relevant Management and Contingency Measures
			Sites	Parameters	Frequency			
No more than a negligible impact on water levels in groundwater bores on privately-owned land as a result of the SMC.	No groundwater related notification received	If a notification is received, an investigation will be conducted to determine if the SMC has resulted in a greater than negligible change in water levels in the Stratford Village bores.	NA	Notification	When received	Notification Received. Investigation (monitoring) confirms that the SMC has resulted in a greater than negligible change in water levels in the Stratford Village bores (refer below). **Low Risk (Negligible) Outcome**: No more than two successive monthly readings at MW12 or SCPL bore are below the P20 groundwater level (116.8 mAHD and 114.8m AHD, respectively). **Moderate Risk Trigger:** More than two successive monthly readings at MW12 or SCPL bore are below the P20 groundwater level (116.8 mAHD and 114.8m AHD, respectively) and the equivalent P20 historical groundwater levels have not been exceeded at other shallow control sites (e.g. dry conditions or other anthropogenic changes are not prevalent). **High Risk Trigger:** More than two successive monthly readings at MW12 and SCPL bore are below the P5 groundwater level (116.3 mAHD and 114.4m AHD, respectively) and the equivalent P5 historical groundwater levels have not been exceeded at control sites (e.g. dry conditions or other anthropogenic changes are not prevalent).	No notifications received. Analysis of the monitoring data indicates no statistically significant change in water levels at MW12 and SCPL bores. A similar trend was observed in the reference sites. No further requirement for assessment of Performance Measure.	Continue monitoring.
	No significant decline in groundwater level at MW12 (Mine Site) or SCPL Bore (Stratford Village).	An investigation will be conducted to determine if the SMC has resulted in a greater than negligible change in water levels in the Stratford Village bores.	MW12 (Control Site: MW11) SCPL Bore (Control Sites: Germon & Bagnall)	Groundwater level	Monthly (MW12, MW11 & SCPL Bore) Monthly (Germon & Bagnall)			

Table 38 (cont'd) - Groundwater Monitoring Performance Outcomes – 2020 Reporting Period

Performance Measure	Specific Performance Indicators	Data Analysis to Assess against Performance Indicators	Monitoring			Cascading Trigger Levels	Assessment of Performance Indicator and Performance Measure	Relevant Management and Contingency Measures
			Sites	Parameters	Frequency			
No impact on regional groundwater quality that reduces the beneficial use as a result of the SMC.	No lowering of the beneficial use category (based on groundwater quality) at a groundwater production bore as a result of the SMC.	Each bore to be assigned a beneficial use category based on EC (refer Table 8 of GWMP). If data analysis indicates the performance indicator has been exceeded, the performance measure will be assessed to determine if there has been a reduction in regional groundwater quality that has lowered the beneficial use.	SCPL Bore (Control Sites: Germon & Bagnall)	EC (field)	Monthly	**Low Risk (Negligible) Outcome**: No more than two successive monthly readings at the SCPL bore are outside the applicable beneficial use category range based on EC. **Moderate Risk Trigger:** More than two successive monthly readings at the SCPL bore are outside the applicable beneficial use category range (based on EC) and the equivalent beneficial use categories at the control sites have not been lowered. **High Risk Trigger:** More than two successive monthly readings at the SCPL bore are outside the applicable beneficial use category range (based on EC) and the equivalent beneficial use categories at the control sites have also been lowered.	Beneficial use categories (SWMP Section 5.1.3 Table 8): • SCPL bore - 3 Irrigation • Germon - 3Irrigation • Bagnall - 2 Marginal Potable Analysis of the monitoring data indicates eight (8) successive monthly readings at the SCPL bore are outside the applicable beneficial use category range based on EC (i.e. 3 Irrigation). Average results at SCPL Bore during the reporting period show a marginal change in average EC slightly greater than 7,800µS/cm upper level for irrigation beneficial use category (i.e. 4 Saline). Change is not significant. No results are available for comparison at either of the control sites as both bores are now disused. No significant change identified at any other monitoring bores. No evidence of a reduction in regional groundwater quality that has lowered the beneficial use.	Continue monitoring at SCPL Bore. Update GWMP and establish replacement control sites for Baganll and Germon.

7.3.2.1 Review of Groundwater Inflows to Mining Operations

Groundwater seepage inflows to mining voids is directed and collected in pit sumps along with rainfall and surface water runoff and seepage through backfilled pit areas. Water levels and water quality analysis of the pit sumps is undertaken on a monthly basis. The volumes of water extracted from the pit sumps is recorded where practicable.

The water quality monitoring results for the open cut pits during the reporting period is included in **Section 7.2.2.2** of this report.

A site water balance review is undertaken on an annual basis to monitor the status of inflows (including groundwater inflows to open pits), storage and consumption. The site water balance review includes an assessment of the measured groundwater inflows (groundwater take) compared to the predicted/modelled groundwater inflow. This is also compared to the groundwater licence extraction entitlements. A summary of the 2020 site water balance review is included in **Section 7.1.2** of this report.

The measured groundwater inflows at the SMC during 2020 where well below the annual licenced extraction limits and also remain below the predicted/modelled groundwater inflow rates.

7.3.2.2 Groundwater Model Review and Validation

A numerical groundwater model developed by Heritage Computing (2012) as part of the groundwater assessment for the SEP, was used to simulate the potential impacts of the SMC on the local aquifer systems and to estimate the potential quantity of groundwater inflow to the open pits. A summary of the potential impacts on local groundwater aquifers, surface water resources (e.g. Avon River, Dog Trap Creek and Avondale Creek) and on existing groundwater users is presented in the GWMP.

The numerical groundwater model is used as a management tool for the validation and review of the predicted groundwater impacts throughout the life of the SMC. The numerical groundwater model is review and recalibrated if required every 3 years.

The GWMP states in the event that actual groundwater drawdown levels exceed the predicted groundwater drawdown levels over the life of the SMC, the groundwater model will be further refined using any new data available to characterise the aquifer systems and determine the extent of impact on groundwater systems.

During the reporting period SLR were engaged to prepare a recalibration and validation of the groundwater model. This report is currently being finalised and the results will be presented in the next Annual Review. The initial results indicate all aquifer properties are the same as the EIS 2012 model. There is negligible difference in the calibration statistics for the 2012 and 2021 models.

8. REHABILITATION

Rehabilitation at the SMC is undertaken in accordance with the approved MOP (MOP 2019) required under the Mining Lease conditions and SSD-4966 conditions. A MOP was prepared for the commencement of the SEP during 2018. The MOP was approved by the Secretary for DRG on 9 March 2018 in advance of operations commencing. An amendment to the MOP was prepared and approved by DRG on 11 January 2019 to include Stratford East Open Cut and a second amendment to the MOP was prepared and approved by DRG on 16 July 2019 to include the recommencement of mining in the Roseville West Pit. The MOP term covers mining operations and rehabilitation activities up to March 2021. The MOP is available on the Stratford Coal website.

A new MOP has been prepared and was lodged with the Resources Regulator on 20 January 2021, for the term from January 2021 to December 2023. The Resources Regulator has requested additional information to be included in the new MOP and has provided an extension of time until 30 June 2021 to prepare the required amendments.

To inform this new, a rehabilitation and mine closure risk assessment was undertaken on 27 October 2020. The outcomes from the risk assessment are incorporated into this new MOP.

Schedule 3, Condition 53 of SSD-4966 specifies the SMC post mining land use and rehabilitation objectives which are reproduced in **Table 39** below.

Table 39 – SMC Post Mining Land Use and Rehabilitation Objectives

Feature	Objective
Mine site (as a whole)	Safe, stable and non-polluting Constructed landforms drain to the natural environment Minimise visual impact of final landforms as far as is reasonable and feasible and be sympathetic to the original Gloucester valley landform
Final voids	Minimise the size and depth of final voids so far as is reasonable and feasible Minimise the drainage catchment of final voids so far as is reasonable and feasible Minimise high wall instability risk so far as is reasonable and feasible The size and depth of final voids must be designed having regard to their function as long-term groundwater sinks, to maximise groundwater flows across back-filled pits to the void and to not be a source of saline groundwater for aquifers and streams Designed and constructed to ensure adequate freeboard to ensure no spillage under any foreseeable conditions Minimise risk of flood interaction for all flood events up to and including the Probable Maximum Flood
Surface infrastructure	To be decommissioned and removed, unless the Deputy Secretary Resources & Energy agrees otherwise
Agricultural land	Establish a minimum of 300 hectares of land with Class 4 agricultural suitability
Other land	Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprising: • a wildlife corridor (shown as Biodiversity Enhancement Area in the figure in Appendix 8); • local native plant species; and • a landform consistent with the surrounding environment
Stratford and Glen heritage railway corridors	Road and transmission alignments to avoid heritage railway corridors Rehabilitation activities to avoid or minimise impacts
Community	Ensure public safety, with an emphasis on final voids Minimise the adverse socio-economic effects associated with mine closure

A summary of the rehabilitation objectives, performance indicators and completion criteria relevant to the SMC rehabilitation domain is provided in the MOP. Plan 4 in the MOP shows the conceptual final landform relevant primary and secondary rehabilitation domains.

8.1 BUILDINGS & INFRASTRUCTURE

Buildings and infrastructure at the SMC have been utilised during the life of the operations The infrastructure areas are currently active.

The existing infrastructure and services at the SMC will continue to be utilised throughout the life of the mining operations.

No buildings or infrastructure were constructed or demolished during the reporting period. No decommissioning of infrastructure is scheduled during the next reporting period. Building and infrastructure decommissioning is further addressed in the Section 8.6 Mine Closure.

8.2 REHABILITATION OF DISTURBED LAND

Rehabilitation of disturbed areas is undertaken progressively and concurrently with ongoing mining operations. Rehabilitation planning, management and implementation is described in the MOP. The overburden dump is rehabilitated in progressive increments to the final landform so the area of disturbed land is minimised and disturbed water catchment areas are reduced. Stage plans for the SMC rehabilitation are provided in the MOP Plans 3A, 3B and 3C.

Mining and rehabilitation activities follow the general progression below:

- Vegetation is cleared ahead of mine progression. Details are included in the Annual Biodiversity Report included in **Appendix 9**;
- Topsoil is removed ahead of the advancing pit or overburden dump and recovered for rehabilitation;
- Overburden and coal extraction is undertaken:
- Bulk shaping of waste emplacements, drainage works, ground preparation and topsoil placement; and
- Planting of rehabilitation areas following all preparation works (areas to be rehabilitated will comprise a combination of native forest/woodland and pasture with scattered trees as described in the MOP).

The SMC rehabilitation progress is generally in accordance with the planned activities described in the SMC MOP Plan 3C – Mining and Rehabilitation Year 3 (March 2021). The MOP makes provision for a total of 319 hectares of rehabilitated area by March 2021.

During the reporting period new disturbance areas were associated with the Stratford East Open Cut advancing to the south and the Stratford Main Pit waste emplacement. Refer to the area calculations in Table 40.

During the reporting period new rehabilitation activities were undertaken for the northern extent of the Avon North waste emplacement.

The current (December 2020) total SMC mine footprint area is 724 hectares including 465 hectares of active disturbed area. The total rehabilitation area is 259 hectares (including 31 hectares of landform establishment). The difference between proposed and completed rehabilitation is primarily due to delays in the completion of the BRN Open Cut and changes to the proposed final landform. Hence, areas of the BRN waste emplacement proposed for rehabilitation in 2020 are still currently active as shown in **Figure 4**. The progressive rehabilitation schedules have been revised and updated in the new MOP.

During the reporting period, approximately 14 hectares of the Avon North waste emplacement area was rehabilitated, incorporating ground preparation, spreading with topsoil and planting with native vegetation species in March 2020. The area was reseeded in November 2020 due to poor germination.

Table 40 presents a summary of the rehabilitation undertaken at the SMC site up to the current reporting period. The current mining areas and rehabilitation as of 31 December 2020 are shown in **Figure 4,** provided in **Appendix 1.** The completed rehabilitation in **Table 40** includes the disturbance of previously rehabilitated land and adjustments to disturbance boundaries in 2020, hence a reduction in total rehabilitation area.

Table 40 – SMC Rehabilitation Status`

Mine area type	Previous RP (actual hectares)	Current RP (actual hectares)	Next RP (forecast hectares)
Total Mining Lease	1580	1580	1580
Total mine footprint (Total Primary Domains)	683	724	724
Total active disturbance (Primary Domains less rehabilitation)	397	465	446
Land being prepared for rehabilitation (Landform Establishment)	42	31.8	48
Land under active rehabilitation (Growth Medium Development)	0	0	
Completed rehabilitation (Ecosystem Establishment & Sustainability)	229	227.7	231

Note: The rehabilitation and disturbance boundaries have been realigned and the areas recalculated. This includes the disturbance of previously rehabilitated land.

Rehabilitation Resources

Topsoil resources are managed in accordance with the MOP Section 3.3.4. Vegetation clearance activities are described in Section 6.5.1 of this report. A total area of 68 hectares was cleared in advance on mining activities during the reporting period. Following the clearance of vegetation all available topsoil is stripped and recovered. Topsoil resources are placed directly on rehabilitation areas if available or relocated to stockpiles for future use.

The site topsoil balance is updated annually to track the recovery and usage of topsoil and to ensure adequate resources are available for rehabilitation of disturbed areas at the SMC. The latest topsoil balance was updated in December 2020. At December 2020, an estimated 369,207 cubic metres of topsoil was held in various stockpiles at the SMC. This would provide for rehabilitation of approximately 369 hectares to the nominal topsoil depth of 100mm. The current area of disturbance which will require topsoil (i.e. not including final void areas (estimated 138ha) or permanent water bodies (estimated 32ha)) is 326 hectares. Hence, the SMC currently holds sufficient topsoil resources to complete all rehabilitation works.

The SMC topsoil balance will be updated again during the next reporting period.

Rehabilitation Maintenance

Recommendations for maintenance activities on rehabilitated land have been included in the rehabilitation monitoring reports, refer to **Section 8.3.**

During the reporting period maintenance activities focussed on the improvement of pasture rehabilitation across the Stratford waste emplacement and included slashing and the removal of woody acacia regrowth. Slashing was also undertaken on the rehabilitated Codam pasture area. Weed control has been undertaken across all rehabilitation areas targeting lantana, blackberry, wild tobacco and Giant Parramatta grass.

During the reporting period, approximately 14 hectares of the Avon North waste emplacement waste emplacement area was rehabilitated, incorporating ground preparation, spreading with topsoil and planting with native vegetation species in March 2020. The area was reseeded in November 2020 due to poor germination.

Recommendations to undertake additional tubestock planting in targeted areas of the native rehabilitation to improve biodiversity and stem density as stated in **Section 8.3** will be considered during the next reporting period.

8.3 REHABILITATION MONITORING

Monitoring of the SMC rehabilitation areas is described in Section 8 of the MOP. Rehabilitation is monitored on a regular basis to ensure vegetation is establishing in the rehabilitation areas and to determine the need for any maintenance and/or contingency measures (e.g. supplementary plantings, weed or erosion control). The monitoring also aims to demonstrate the effectiveness of the rehabilitation techniques and track the progression towards achieving the performance and completion criteria.

The annual rehabilitation monitoring program includes the areas designated for the post-mining land uses (Secondary Domains) of Native Vegetation (Woodland/Open Forest) and Agricultural Pursuits (Pasture/Scattered Trees).

Visual Monitoring

Rehabilitation monitoring includes a visual assessment:

- monitoring of soil erosion status and the effectiveness of erosion control methods;
- assessing germination success and vegetation establishment (diversity and abundance);
- usage of habitat enhancement features;
- the presence of weeds or feral animals; and
- mine landform runoff water quality.

The visual monitoring provides an early identification of areas requiring remedial planting or other maintenance works to maintain rehabilitation progress. The rehabilitation reports provide a list of maintenance recommendations predominantly relating to erosion control, weeds control and vegetation management and enhancement.

Ecosystem Function Analysis

The assessment of rehabilitation quality and ecosystem value is conducted via the use Ecosystem Function analysis (EFA). EFA aims to measure the progression of rehabilitation towards self- sustaining ecosystems. EFA has been incorporated into the overall SMC rehabilitation monitoring program to provide an assessment of landscape functionality.

EFA Analogue Transects have been established in proximal areas to represent the varying landscapes (i.e. slopes and aspects) and target communities planned for each rehabilitation area.

In December 2013 a fixed transect-based Landscape Function Analysis (LFA), Vegetation Dynamics and Habitat Complexity monitoring program was established across the SMC Rehabilitation areas. As rehabilitation progresses, additional EFA Revegetation Transects will be established at the SMC in each of the rehabilitation domain areas.

The rehabilitation transects were assessed again in June 2020 as part of the seventh annual round of monitoring in accordance with Section 8 of the MOP. A summary of the findings from the 2020 Stratford Mining Complex Rehabilitation Monitoring Report (Kleinfelder, 2020) (**Appendix 11**) follows

The 2020 Survey Report concluded that "*The rehabilitation areas of the Stratford Mining Complex are progressing satisfactorily, especially in those areas where a diverse seed mix was used, i.e. the northern BRN and the SWE rehabilitation areas. Other areas are showing the effects of a lack of canopy and/or species diversity and as the Acacias start to senesce, seedlings are unable to germinate due to the dense exotic grasses that dominate the groundcovers – with the notable exception of the BRN area surrounding T26. These areas require assistance to return to woodland vegetation, and where these areas are adjacent to newly rehabilitated areas e.g. BRN next to, and above the Avon North Waste Emplacement, provide a nearby source that could allow these exotic grasses to colonise and spread, and reduce the ecological value of the revegetation. It is suggested that revegetation of these areas will be undertaken at some stage and the most cost-effective method of biomass reduction will probably be ecological burns in the cooler months of the year.*"

"The oldest native flora rehabilitation area SWE 1996/97 is now 20 years old and is approaching the

required vegetation structure, indicating the time scale required for successful revegetation and is showing promising signs of natural recruitment and self-sustaining regeneration."

"The Pasture Rehabilitation areas have proven capable of supporting grazing. Future actions relate to pasture management rather than active rehabilitation or remediation."

The analysis of the survey results provides the basis for the following recommendations (**Table 41**) (Kleinfelder Australia, 2020):

Table 41: Summary of Rehabilitation Monitoring Recommendations 2020

Native Flora Rehabilitation	Recommendations
Bowens Road North 2014	• Determine if the remaining area is of sufficient size to re-establish monitoring transect/s
Bowens Road North 2011	• Investigate the relative feasibility of various revegetation methods, including slashing, ecological burns flowed by seeding or installation of tubestock
Roseville Waste Emplacement 2005	• Implement a tubestock planting program with canopy and "missing" shrub species to improve biodiversity and density.
Bowens Road North 2006- 08	• Implement a tubestock/seeding planting program with canopy and "missing" shrub species to improve biodiversity and density. • For monitoring purposes, treating the area represented by T24 and T25 separately from the southern BRN area.
Stratford Woodland Rehabilitation 1996/97	• Continue with periodic and regular control of woody weeds that have potential to hinder revegetation effort – i.e., *Lantana camara*, and Solanum mauritianum.
Pasture Rehabilitation	Recommendations
Stratford Waste Emplacement Pasture	• Continue monitoring as per consent conditions until such time as sign off and relinquishment process completed Instigate normal pasture weed management practices – suppression of native colonisers (e.g. Acacias) and pasture weeds (e.g. *Cirsium vulgare*).

The outcomes and recommendations from the rehabilitation monitoring will guide the future rehabilitation efforts and maintenance works.

Fauna Monitoring

Fauna usage of the native woodland/forest rehabilitation areas is monitored and documented over time. Fauna surveys are conducted to assess the success of the rehabilitation and revegetation activities in providing habitat for a range of vertebrate fauna. The surveys include an assessment of habitat complexity, species richness and abundance. Fauna monitoring is undertaken every three years and was last undertaken during February 2018.

During 2018 AMBS Ecology & Heritage (AMBS) was engaged to undertake a fauna survey within the SMC native rehabilitation areas to assess the success of the rehabilitation areas in providing habitat for a range of vertebrate fauna. The results are provided in the *SMC Fauna Surveys of the Mine Rehabilitation Areas, February 2018* (AMBS, 2018). An extracted summary is provided below.

"Targeted fauna surveys were undertaken at two sites within the Stratford Mine Rehabilitation Area from 12 to 16 February 2018 and 26 February to 2 March 2018. At each site survey techniques included pitfall traps, funnel traps, Elliott A traps, harp traps, ultrasonic call recording, spotlighting, diurnal bird surveys and reptile searches. Opportunistic observations of signs of fauna were noted throughout the field survey period, including during transit between surveys sites.

A total of 104 species of vertebrate were recorded, comprising 8 frogs, 10 reptiles, 56 birds and 30 mammals, most of which were native. Five introduced species were recorded during the surveys, including the Eurasian Skylark (Alauda arvensis), Red Fox (Vulpes vulpes), House Mouse (Mus musculus), Black Rat (Rattus rattus) and the European Rabbit / Brown Hare.

Eight of the species detected are listed as threatened or migratory on the schedules of the BC Act and/or EPBC Act, including:

- *Grey-crowned Babbler (eastern subspecies) (Pomatostomus temporalis temporalis)*
- *Black-necked Stork (Ephippiorhynchus asiaticus)*
- *Little Lorikeet (Glossopsitta pusilla)*
- *White-throated Needletail (Hirundapus caudacutus)*
- *Brush-tailed Phascogale (Phascogale tapoatafa)*
- *Little Bentwing-bat (Miniopterus australis australis)*
- *Eastern Bentwing-bat (Miniopterus schreibersii oceanensis)*
- *Eastern Freetail-bat (Mormopterus norfolkensis)*

All threatened species except the Grey-crowned Babbler and the Black-necked Stork were recorded at a Mine Rehabilitation Area. Two of these species have been recorded for the first time during dedicated fauna surveys for the SMC, including the Black-necked Stork and White-throated Needletail.

The fauna surveys suggest the Stratford rehabilitation areas provide habitat for a range of native vertebrate fauna, including birds, mammals, reptiles and frogs. The number of species recorded utilising the rehabilitation area is encouraging, particularly given the relatively young age of the vegetation.

8.3.1 Threats to Rehabilitation Completion

The SMC MOP Section 6 establishes the performance indicators and completion criteria for the rehabilitation of the SMC. The SMC MOP Section 9 includes a description of intervention and adaptive management for threats to achieving the rehabilitation completion criteria. SCPL has successfully undertaken rehabilitation activities at the SMC since 1997 with the results of rehabilitation monitoring continuing to inform the effectiveness of rehabilitation methods and requirements for contingency measures.

The 2012 ERA (SP Solutions, 2012) and the 2020 Rehabilitation Risk Assessment (CKC, 2020) (MOP Section 3.1) identified potential issues and risks associated with rehabilitation and mine closure at the SMC. These risks/threats to rehabilitation are outlined in the rehabilitation trigger, action, response plan in the MOP Table 12 (Section 9.2) along with actions that will be undertaken to mitigate these risks

During the reporting period the 2020 rehabilitation monitoring program identified a list of recommendations regarding the existing rehabilitation and future rehabilitation works (**Section 8.3**) (**Appendix 7**). The recommendations mostly related to increasing native tree and shrub density, structure and biodiversity in the native rehabilitation areas, and secondly continuing to manage weeds in both the native and pasture rehabilitation areas.

A review of the threats identified in the rehabilitation TARP (MOP Table 12) indicates the following issues may present a risk to the success of the SMC rehabilitation achieving the relevant rehabilitation completion criteria:

- Species diversity and/or density in rehabilitation areas does not correspond with reference site(s).

The recommendations in the rehabilitation monitoring report (**Section 8.3)** provide recommended maintenance and management measures to address these specific issues.

8.4 REHABILITATION TRIALS AND RESEARCH

SCPL has extensive experience in both native woodland/forest revegetation and agricultural pasture rehabilitation, with successful rehabilitation areas completed over the past 20 years at both the Stratford and Duralie mine sites. Learnings from the rehabilitation works undertaken onsite to date along with industry best practice guidelines are employed in the methodology for new rehabilitation areas.

Rehabilitation trials have been also undertaken in the Duralie Coal Mine Biodiversity Offset Areas. These trials have provided learnings and methods for the rehabilitation and biodiversity offset work at SMC.

8.5 REHABILITATION TARGETS

The rehabilitation targets are specified in the new MOP for the term 2021 to 2023. The SMC MOP Plan 3A - Mining and Rehabilitation Year 1 (2021) rehabilitation target is a cumulative total of 279 hectares of rehabilitation.

Rehabilitation of approximately 15 hectares of BRN waste emplacement to Landform Establishment Phase is scheduled be undertaken in the next reporting period in accordance with the MOP Plan 3A.

8.6 DEVELOPMENT OF THE FINAL REHABILITATION PLAN

8.6.1 Mine Closure Planning

Rehabilitation strategies are provided in the Environmental Assessments for the SMC. Rehabilitation will be generally consistent with the proposed rehabilitation strategy as depicted in SSD-4966.

The SMC MOP (Section 10) includes a mine closure planning program, which includes a schedule of all technical and/or environmental assessments that will be required to undertake final rehabilitation and closure of the SMC. The technical assessments identified in the Mine Closure Planning Program include the risk mitigation measures and risk reduction strategies identified in the 2012 ERA and in the 2020 rehabilitation risk assessment (MOP Section 3.1). The planning program is designed to inform the preparation of a detailed Mine Closure Plan, which will be prepared in future MOP/RMP terms prior to mine closure.

The Mine Closure Plan would include final rehabilitation measures for all areas including infrastructure areas, water management areas, waste emplacements, rejects facilities, final voids and biodiversity offsets.

Many of the assessments/studies included in the Mine Closure Planning Program will commence during the current MOP term, and will continue to be developed in the next and subsequent MOP terms.

The Mine Closure Planning Program components and completion status/schedule for each component is provided in the MOP Table 13. The subsections below provide progressive updates on the key mine closure planning requirements for the SMC and the actions completed during the reporting period.

8.6.2 Final Landform Designs

The proposed final landforms for the SMC would include a combination of pasture and native woodland rehabilitation consistent with the surrounding environment. This would also include final voids and wildlife corridors.

The rehabilitation objectives for the final landforms requires final landform designs which sustain the intended land use for the post-mining domain(s). Final landforms are to be consistent with and complement the topography of the surrounding region to minimize the visual prominence of the final landforms in the postmining landscape. Final landforms are to incorporate design relief patterns and principles consistent with natural drainage.

SCPL have continued to develop the detailed final landform designs consistent with the conceptual rehabilitation strategy in the EIS 2012 and rehabilitation objectives in the Development Consent. The MOP also includes detail regarding the rehabilitation implementation requirements and the conceptual final rehabilitated landform for the SMC.

SCPL will continue to progress the final landform designs during the next reporting period.

8.6.3 Final Void Management

At the completion of mining, the SMC final landform will include partially backfilled final voids located at the Roseville West Extension Pit, Avon North Open Cut and Stratford East Open Cut. The rehabilitation

objectives for these final voids are to:

- Minimise the catchment area of the final voids.
- Ensure the final voids are stable and non-polluting.
- Leave the void surrounds safe (for humans and stock).

The management of final voids for the SEP is described in the EIS 2012 rehabilitation strategy and has been included in the SEP MOP. The mine closure planning program includes several components relating to water management and final voids including:

- Review the site water balance to ensure the balance incorporates the final landform design, surface water inflows and outflows to/from final voids.
- Review the site groundwater model to ensure the model is consistent with the final landform design.
- Review the post-mining drainage design to ensure comparable drainage density to local natural landforms.
- Review the medium to long term water quality predictions of the final voids against available monitoring data to determine the need for additional/alternate management.

8.6.4 Water Management

The rehabilitation and post-mining water management strategy is described in the EIS 2012.

Site Water Balance

A site water balance has been prepared for the SEP EIS by a suitably qualified and experienced person (Gilbert & Associates, 2012). A revised post-mining site water balance will be undertaken to reflect the refined final landform and final void designs, including all surface water inflows and outflows.

Water Infrastructure

All water management infrastructure including sediment dams, Disturbed Area Dams (including the Return Water Dam) and temporary diversion drains not required in the final landform will be decommissioned and rehabilitated in accordance with the rehabilitation objectives for the Water Management domain and Infrastructure Area domain. A strategy will be developed to guide the decommissioning of the relevant dams and is anticipated to include:

- a register/list of the dams to be decommissioned and removed;
- proposed staging or scheduling for decommissioning;
- procedures for decommissioning, including details of where the dam water will be transferred to, where sediments will be disposed of (i.e. within a final void, or at a licensed off-site facility) and embankment re-profiling requirements; and
- rehabilitation requirements (including revegetation species).

The Stratford East Dam will be retained in the final landform. A review will be undertaken, by a suitably qualified and experienced person, of the future approval requirements for the Stratford East Dam which would include an assessment of the dam's catchment and harvestable rights, and potential future uses for either agriculture, use by a public authority or environmental benefit.

8.6.5 Rehabilitation Resources

Topsoil resources are managed in accordance with the MOP Section 3.3.4. To ensure suitable and adequate topsoil resources are available for final rehabilitation, a site topsoil balance is undertaken annually and the volume compared to the total remaining disturbed area requiring rehabilitation. Annual reporting of the site soil balance and rehabilitation performance is provided in Section 8.2 of this report.

Topsoil stripping will continue during the next period associated with development of the Stratford East Open Cut. Soil resources will either be directly placed on available rehabilitation areas or placed within dedicated soil stockpiles. The site topsoil balance will be updated once soil stripping and placement

activities are complete.

8.6.6 Infrastructure Decommissioning

The mine closure planning program includes consideration for infrastructure decommissioning including:

- Identify and remove/demolish all non-active infrastructure which is not required for the remainder of processing activities.
- Undertake infrastructure decommissioning/demolition assessment including consultation to confirm any alternative use for retained infrastructure (i.e. rail loop, haul roads, access tracks and dams) post-mining.

These activities would be undertaken towards the end of mine life.

8.6.7 Stratford Main Pit & Reject Emplacement Rehabilitation

The Stratford Main Pit continues to be used for the disposal of reject material and is now envisaged that the Main Pit will effectively be filled with waste material and rejects over the life of the operation. Rehabilitation concepts for the Stratford Main Pit include profiling the backfilled pit to free-draining landforms, capping the reject material and topsoiling for revegetation with endemic woodland/open forest species.

The overall rehabilitation objective for the Stratford Main Pit is to create and landform which is safe, stable and non-polluting. The final landform would drain to the natural environment and minimise visual impact as far as is reasonable and feasible and be sympathetic to the original Gloucester valley landform.

To achieve the final landform in the Stratford Main Pit the void will be backfilled with co-disposed reject material and overburden spoil. The Main Pit will also be used for water storage during the life of the operation. Xenith have investigated concepts of how to undertake these activities safely and document the intended approach.

The proposed Stratford Main Pit Rehabilitation methodology includes strategies and assessments for:

- Waste emplacement and scheduling;
- Rejects emplacement and scheduling;
- Geotechnical analysis of slope stability and factors of safety during backfilling;
- Assessing reject characterisation and settling densities;
- Pit dewatering and inert material capping;
- Site water balance review; and
- Development of stage plans to achieve final landform.

9. COMMUNITY RELATIONS

SCPL is committed to a policy of regular liaison with the local community and strives to maintain positive relationships with stakeholders. SCPL's community objectives aim to:

- Ensure employees and contractors are informed about SCPL's policies and are made aware of their environmental and community responsibilities in relation to SCPL's activities;
- Inform the community of SCPL's activities and consult with the community in an open and honest fashion in relation to SCPL's projects; and
- Address complaints/conflicts and consult to achieve mutually acceptable outcomes.

Dissemination of information to the local community and relevant agencies regarding SCPL, its progress and environmental management performance will be achieved via the following communication and reporting
mechanisms.

- Community Consultative Committee
- Stratford Coal Website
- Stratford Coal Mine Annual Review
- Community Information and Complaints Line

9.1 COMMUNITY ENGAGEMENT ACTIVITIES

Yancoal Australia Ltd is committed to making a positive contribution in the areas in which it operates. To help facilitate this commitment Stratford Coal Pty Ltd have established the Community Support Program to provide assistance to local initiatives within the local area in which they operate. The aim of the Community Support Program is to help benefit a diverse range of community needs such as education, environment, health, infrastructure projects, arts, leisure and cultural heritage.

The Stratford Coal Community Support Program has granted over $683,000 since commencing in 2010 and during 2020 a total of $84,900 in grants was approved. Unfortunately, due to restrictions imposed following the outbreak of Covid-19, many of the local events were unable to run in 2020. SCPL in consultation with the individual community organisations, provided a reduced sum of funding for these events to cover any administrative costs, planning costs and any other out-of-pocket expenses. A reduced total sum of $48,400 was distributed between 24 community organisations for a diverse range of community projects and initiatives.

The community groups to receive grants in 2020 are summarised in **Table 42**.

Table 42: Summary of Community Support Program Recipients 2020

Community Support Program 2020 Recipients	Project Description
Aussie Helpers	Massive Murray River Paddle - Aussie Helpers - Drought Relief
Stroud Neighbourhood Children's Cooperative	Installation of Playground Equipment
Gloucester Agricultural, Horticultural & Pastoral Assoc.	Gloucester Show 2020 - Educational & Interactive Activities for the Younger Show Audience
Worimi First People Aboriginal Corp	Weaving Workshops
Gloucester Country Club	Stratford Coal Super Sevens Golf Competition 2020
MidCoast Science & Engineering Challenge	MidCoast Science & Engineering Challenge and Discovery Days 2020
Gloucester Pre-School	Sunshade for Playground
Barrington Public School	Sandpit Upgrade
Gloucester Public School P & C Assoc	Initialit - 1 for improved literacy
Stroud Community Lodge Inc	Life Support - Portable Defibrillators

Community Support Program 2020 Recipients	Project Description
Stroud Rodeo Association	2020 Stroud Rodeo and Campdraft - Major Sponsor
Stroud & District Men's Shed Inc	Equipment Upgrade & Improved OH&S
Booral Rural Fire Brigade	IT Upgrade for Community Education & Firefighter Training
Stroud Show Association	2020 Stroud Show - Major Sponsor
Gloucester Chamber of Commerce and Industry	Chill Out Festival 2020
Stroud Raiders Rugby League Club	Stroud Rugby League Scoreboard - Stroud Showground
Stratford Public School P & C	School Kitchen Upgrade - Replace Refrigerator
Stratford Public School	Infants Classroom Interactive Touchscreen
Stroud Road Community Hall & Progress Assoc	Stroud Road Spring "Bash 'n Bang" 2020
Gloucester Mountain Man Tri-Challenge	2020 Gloucester Mountain Man Tri Challenge
Cancer Council	Shit Box Rally 2020 - Cancer Council
Stroud Rural Fire Brigade	Storage for Firefighters PPE
Stroud Public School P&C Association	HeartStart Defibrillator Purchase
Gloucester District Tennis Association	2020 Gloucester Open AMT & JT

SCPL have also continued their commitment to education and training in the Gloucester region through Stratford Coal's Education Support Program, providing much needed funding for the next generation of young students. The Education Support Program is managed by an independent committee and the funds distributed by MidCoast Council. In 2020, $47,500 has been allocated in funding to help support local businesses and students in university degrees, TAFE courses and apprenticeships.

Since the commencement of mining in 1995, Stratford Coal has contributed more than $775,000 to locally based community and training initiatives via the Education Support Program. During that time, the funding has made a genuine difference to the lives of over 160 tertiary students, 100 apprentices and 50 businesses.

Yancoal and Stratford Coal have continued their partnerships with:

- The Clontarf Foundation -Chatham Academy
- QLD University of Technology
- Westpac Rescue Helicopter.

During 2020 SCPL engaged in several activities with the Chatham Academy students including a site visit to the Stratford Coal mine site. The site visit provided an example of an operational mine site and what goes into running a mine including the rehabilitation of mine land. Following the site visit, Clontarf students spent the afternoon learning how to plant tubestock trees in the Stratford Biodiversity Offset Area.

9.2 COMMUNITY CONSULTATIVE COMMITTEE

The Stratford Coal Community Consultative Committee (CCC) was established in 1995 and operates under the guidance of the NSW DPIE. Meetings were held quarterly during 2020 and provide a forum for open discussion between the community, Council, the Company and other stakeholders on issues relating to the mine's operations, environmental performance and community engagement.

The CCC for the SMC is currently comprised of:

- An independent Chairperson;
- Five (5) local community representatives;
- Two (2) local government representatives (MidCoast Council); and
- Two (2) SCPL representatives.

The CCC was formed in accordance with Schedule 5, Condition 6 of SSD-4966. The CCC operates in such a manner as to satisfy the *Community Consultative Committees Guidelines for State Significant Projects* (Department of Planning, 2016) and to the satisfaction of the Secretary of the DPIE.

During the reporting period, quarterly meetings were held in February, May, August and November 2020. Items raised and/or discussed during these CCC meetings include but are not limited to:

- Progress at the mine and general SEP update;
- Environmental Management Plans;
- Environmental monitoring, including air quality, noise, surface water and groundwater;
- Environmental Reporting, including independent environmental audit;
- Community Complaints;
- Community engagement and contributions to MidCoast Council;
- Community Support Program and Education Support Fund;
- Biodiversity Offset Strategy, including revegetation, habitat enhancement and threatened species;
- Rural property management of SCPL owned land;
- Bushfire management and water access;
- Mine rehabilitation progress and mine closure planning; and
- Post-mining land use planning.

A site inspection was conducted following the November 2020 CCC meeting. Due to Covid19 restrictions only four CCC members participated in the inspection. Areas inspected included Stratford East, Stratford Main Pit, Avon North and BRN as viewed from the top of the Stratford rehabilitation area.

The CCC meeting agendas, presentations and minutes are available on the Stratford Coal website (www.stratfordcoal.com.au). An Annual Report for the Stratford Coal CCC was prepared by the Chair and submitted to DPIE on 31 March 2020. The CCC Annual Report is included in **Appendix 7**.

9.3 ENVIRONMENTAL COMPLAINTS

SCPL manages complaints received at the SMC in accordance with the protocol established in the Environmental Management Strategy (EMS). SCPL aims to address all complaints/conflicts and consult to achieve mutually acceptable outcomes.

Complaints may be received in any form. SCPL operates a dedicated community information and complaints hotline (1300 658 239) 24 hours per day. The number is advertised within the Sensis *White Pages Directory (Newcastle)*, a local telephone directory (*Pink Pages*) and in the local newspapers *(Gloucester Advocate)* on a six-monthly basis.

Complaints (by category) received by SMC over the last 4 reporting years are provided below in **Table 43**:

Table 43: Community Complaints Summary

Complaint Category	2017 (January – December 2017)	2018 (January– December 2018)	2019 (January – December 2019)	2020 (January – December 2020)
Noise	1	4	1	28
Blasting	0	0	4	6
Air Quality	1	0	0	2
Water	0	0	0	0
Lighting	0	0	0	6
Traffic/Transport	0	0	0	0
Visual	0	0	0	0
Other	0	0	0	1
Total Complaints	**2**	**4**	**5**	**43**

A summary of complaints received during 2020 is below:

- The total number of complaints received during the reporting period was forty-three (43) with the total number of complainants being five (5).
- Complaints were related to noise, blasting, lighting and air quality.
- The total number of complaints increased significantly during the reporting period.

It is noted that the total number of complaints received during the reporting period increased significantly. This is the result of two factors. Firstly, twenty (20) complaints, approximately half were received from one complainant. Secondly, during the reporting period the SMC has now resumed full scale operations and mining has commenced within the new mining areas at Avon North Open Cut and Stratford East Open Cut. SCPL is now undertaking mining operations 7 days per week and typically between the hours of 6:30am am 1:00am, albeit there is no evening/night shift on weekends. The increase in complaints is potentially due to the increase scale of activity and resulting impacts relating predominately to noise, blasting and lighting. However, these impacts remain within the approved Development Consent criteria as discussed in Section 6 on this report. The increased scale of operations would be noticeable to offsite sensitive receivers and is not unexpected.

The total number of complaints received during 2020 is similar to the number of complaints received when Stratford was last at full scale operations in 2013. SCPL continues to implement mitigation measures described in the EMPs and identify improvements to reduce the overall level of offsite emissions/impacts. SCPL continues to engage with complainants to achieve mutually acceptable outcomes.

A full complaints listing is provided in **Appendix 7** and includes details of SCPL's responses to complaints. A summary of complaints by category is provided in the relevant sections of the report.

9.3.1 Liaison and Complaint Resolution

SCPL aims to inform the community of its activities and consult with the community in an open and honest fashion and address complaints/conflicts and consult to achieve mutually acceptable outcomes.

In accordance with the conditions of SSD-4966, SCPL is required to establish and maintain a complaint handling and response procedure. SCPL operates a system to receive, handle, respond to and record complaints or information requests relating to operation of the SMC which is described in the EMS.

SCPL operates dedicated community information hotline (1300 658 239) 24 hours per day. The number is advertised within the Sensis *White Pages Directory (Newcastle)*, a local telephone directory (*Pink Pages*) and in the local newspapers *(Gloucester Advocate and Dungog Chronicle)* on a six-monthly basis.

Designated SCPL staff, when notified of a complaint, determines an appropriate response on the basis of the nature of the complaint during business hours. This may involve a site visit/inspection, liaison with personnel on site by telephone or other appropriate action. After business hours, all complaints and operations are reviewed as soon as practicable by the open cut examiner and responded to by SCPL staff during business hours.

All complaints received and responses taken in relation to each complaint are recorded in a Complaints Register. The Complaints Register is tabled at each Community Consultative Committee meeting for the period covered since the last Committee meeting and is included in **Appendix 7**. The complaints register is also made available on the Stratford Coal website.

9.4 EMPLOYMENT STATUS AND DEMOGRAPHY

At the end of the reporting period (i.e. December 2020), the total number of FTE (staff/employees/contractors) employed at the SMC was 137, including 99 SCPL employees and 38 Ditchfield contractors. During the reporting period 2 environmental representatives were employed and shared with the nearby Duralie Coal Mine.

In addition to direct permanent employment at the mine, on the basis of a conservative employment

multiplier of one mine site job generating one job within the general community, up to 137 (full time equivalent) jobs are expected to have been provided in supporting services. On the basis of a review of employees' living location, 52% of mine employees currently resided within the greater local area (defined as being bounded by Stroud, Gloucester and Dungog).

9.5 EMPLOYEE ENVIRONMENTAL AWARENESS TRAINING

SCPL recognises the importance of establishing, developing and maintaining a risk-aware, trained, and competent workforce at its operations to ensure a high standard of environment and community management.

SCPL environment & community management objectives include:

- ensuring employees and contractors are informed about SCPL's policies and are made aware of their environmental and community responsibilities in relation to SCPL's activities;
- providing all employees/contractors with the knowledge, skills and equipment necessary to meet their environmental obligations; and
- promoting an awareness and concern for good environmental management amongst all employees/contractors.

New employees and contractors working at site are provided with information on environmental and community issues as part of Stratford Coal induction training which is updated periodically. This includes elements such as the Pollution Incident Response Management Plan and reporting obligations of personnel and the management of environmental incidents. Ongoing environmental awareness training is also undertaken with staff and employees periodically.

During the reporting period employee and contractor training included presentations on:

- General environmental management, approvals and awareness – Training was undertaken during 2019 with all employees and contractors at the Stratford operations. This included information on environmental management milestones including the 2018 audit outcomes to the Pollution Incident Response Management Plan and incident reporting.
- 2019 Internal Environmental Assurance Audit - A presentation was provided to the site managers and supervisors on the findings presented as opportunities for improvement.
- Toolbox Talks regarding: Incident response, lighting management and blast management.

10. INDEPENDENT ENVIRONMENTAL AUDIT

An Independent Environmental Audit (IEA) of the SMC was conducted in December 2020 by Ken Holmes of Barnett & May, in accordance with SSD-4966 Schedule 5, Conditions 9 and 10. The purpose of the audit was to review compliance over the audit period 2018-2020 with the conditions and obligations of the SMC environmental licences, approvals and management plans. This was the first IEA undertaken in accordance with SSD-4966.

The scope of this IEA complied with the requirements of the NSW DPIE Independent Audit Post Approval Guidelines, May 2020. SCPL sought the Secretary's endorsement for the audit team to undertake the IEA. The Secretary approved the audit team on 23 October 2020.

The *SMC 2020 Independent Environmental Audit* (Barnett & May, 2020) was submitted to DPIE on 2 March 2021 and is available on the Stratford Coal website.

The IEA 2020 presents a summary of compliance with the SMC statutory requirements. Non-compliances identified during the site inspection, interviews and document reviews are recorded in detail in the Compliance Registers in the IEA 2020 Appendix A and are summarised in Table 6. Recommendations have been made by the lead auditor to address all identified Non-Compliances. The IEA 2020 identified a total of 23 non-compliances and associated recommendations (18 Administrative,

3 Low and 2 Medium).

The key findings/recommendations in the IEA related to the following matters:

- Water management;
- Air quality;
- Incident reporting;
- Additional information in the Annual Reports/Reviews;
- Management Plan revisions.

SCPL's responses to the recommendations contained in the IEA 2020 Report are included in Appendix 10 of this report. A status update on SCPL's progress against these recommendations will be included in the next AR.

11. INCIDENTS AND NON-COMPLIANCE

Activities at the SMC continue to be carried out in accordance with Development Consent SSD-4966 for the SEP. Additionally, activities at the SMC are undertaken in accordance with EPL 5161 and the SMC Mining Leases.

A protocol for managing incidents and non-compliances is included in the SMC Environmental Management Strategy (EMS).

A statement of compliance is included in Section 1 of this report. During the reporting period there was a total of seven (7) incident/non-compliances in accordance with SSD-4966 at the SMC. Additionally, there were two (2) non-compliances with EPL 5161. A summary of the non-compliances with Development Consent SSD-4966 during the reporting period are included in Table 2b. Compliance recommendations identified in the IEA 2020 are referred to separately in Section 10 and Appendix 10 of this report.

All incidents/non-compliances at the SMC are reported and recorded in Intelex compliance management system. The severity of the incident will determine the level of investigation required. The reporting of incidents to regulators is conducted in accordance with the EMS, Condition 7, Schedule 5 of SSD-4966 and the POEO Act and PIRMP where applicable.

Five of the incidents recorded in Table 2b were ranked as low risk or administrative. Two of the incidents recorded in Table 2b were ranked as medium risk and were determined to have triggered the POEO Act and the PIRMP.

- 09/02/2020 - Runoff from Stratford East Haul road construction breached bund reporting to Avondale Creek.
- 11/03/2020 - Runoff from BRN waste emplacement reporting off Mining Lease - Uncontrolled discharge.

The above incidents were notified to the relevant authorities immediately and written incident reports were submitted within 7 days in accordance with SSD-4966 and the PIRMP.

DPIE requested additional information to be provided for the water discharge incident occurring on 11/03/2020. No additional actions have been requested by either DPIE, Resource Regulator or EPA in relation to these non-compliances.

12. ACTIVITIES PROPOSED IN THE NEXT REPORTING PERIOD

SCPL will continue mining operations in accordance with Development Consent SSD-4966 for the Stratford Extension Project during 2021.

The following environmental targets have been set for the next 12 months:

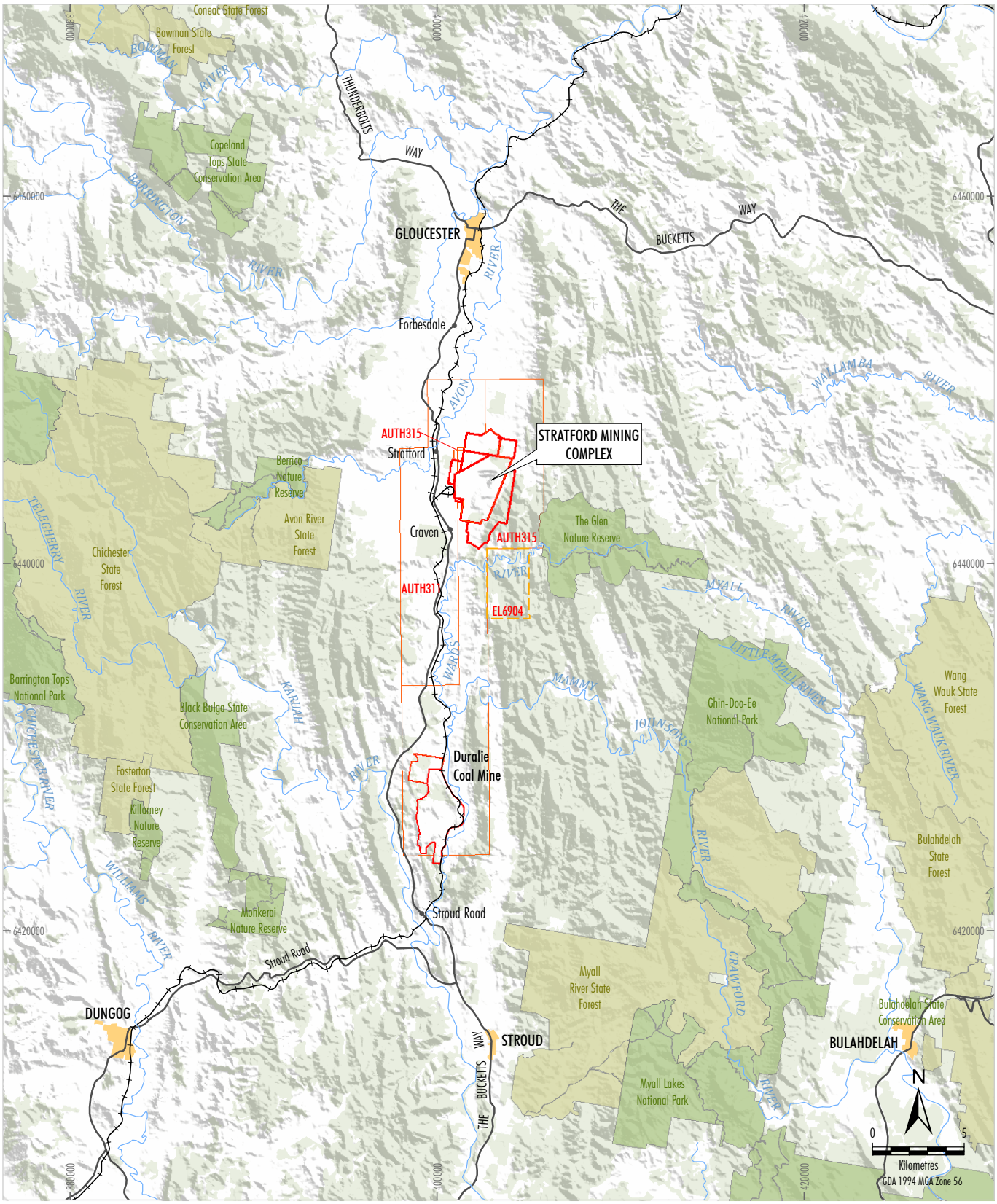
- Mining and progressive rehabilitation activities will be implemented in accordance with the timing in stage plans in the SMC MOP.
- Review and, if necessary, update the Environmental Management Plans to the satisfaction of the Secretary of DPIE to ensure suitable management plans are in place for the SEP;
- Continue developing the detailed Mine Closure Plans in accordance with the mine closure planning schedule in the MOP for the SMC.
- Progress biodiversity offset works in accordance with the BMP including full implementation of the revegetation works.
- Continue to meet the environmental management, monitoring and reporting requirements in accordance with the Development Consents conditions.
- Maintain low level of complaints and non-compliances.

13. REFERENCES

- Barnett & May (2020). *SMC 2020 Independent Environmental Audit*
- Duralie Coal Pty Ltd (2018). *Duralie Coal Mine Biodiversity Management Plan.*
- Gilbert and Associates (2012). *Stratford Extension Project Surface Water Assessment for Stratford Coal Pty Ltd*, Gloucester.
- Heritage Computing (2012). *A Hydrogeological Assessment in Support of the Stratford Coal Project Environmental Impact Statement*.
- Invertebrate Identification Australasia (2020). *Biological Monitoring of the Stratford Mining Complex for Stratford Coal Pty Ltd,* Gloucester.
- Kayandel Archaeological Services (2012). *Stratford Extension Project Aboriginal Cultural Heritage Assessment.*
- Kleinfelder Australia Pty Ltd (2020). *2020 Stratford Rehabilitation Monitoring Report*.
- Resource Strategies (2001a). *Bowens Road North Project Environmental Impact Statement*
- Stratford Coal Pty Ltd (2018). *Stratford Mining Complex (Stratford Extension Project) Biodiversity Management Plan*
- Stratford Coal Pty Ltd (2018a). *Stratford Mining Complex (Stratford Extension Project) Heritage Management Plan*
- Stratford Coal Pty Ltd (2018b). *Stratford Mining Complex (Stratford Extension Project) Life of Mine Rejects Disposal Plan*
- Stratford Coal Pty Ltd (2018c). *Stratford Mining Complex (Stratford Extension Project) Squirrel Glider Management Plan*
- Stratford Coal Pty Ltd (2018d) *Stratford Coal Mine Pollution Incident Response Management Plan*
- Stratford Coal Pty Ltd (2019). *Stratford Mining Complex (Stratford Extension Project) Air Quality Management Plan*
- Stratford Coal Pty Ltd (2019a). *Stratford Mining Complex (Stratford Extension Project) Blast Management Plan*
- Stratford Coal Pty Ltd (2019b) *Stratford Mining Complex Mining Operations Plan and Rehabilitation Management Plan*
- Stratford Coal Pty Ltd (2019c). *Stratford Mining Complex (Stratford Extension Project) Noise Management Plan*
- Stratford Coal Pty Ltd (2019d). *Stratford Mining Complex (Stratford Extension Project) Water Management Plan*
- Stratford Coal Pty Ltd (2020). *Stratford Mining Complex Annual Biodiversity Report 2020*
- Stratford Coal Pty Ltd (2010) *Stratford Coal Mine July 2010 Modification Environmental Assessment*
- Stratford Coal Pty Ltd (2012) *Stratford Extension Project Environmental Impact Statement*

Appendix 1:

- **Regional Location Plan**
- **Site Location Plan**
- **Monitoring Location Plan**
- **Disturbed and Rehabilitated Land Plan.**



YAN-17-10_MP2019 MRCF_205A

LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary*
- Exploration Licence Boundary
- NSW State Forest
- National Park, Nature Reserve or State Conservation Area

**MLA1 is a proposed future Mining Lease Application (MLA) area and has not yet been lodged.*

Source: Geoscience Australia (2006); Yancoal (2019); NSW Department of Planning & Environment (2017)

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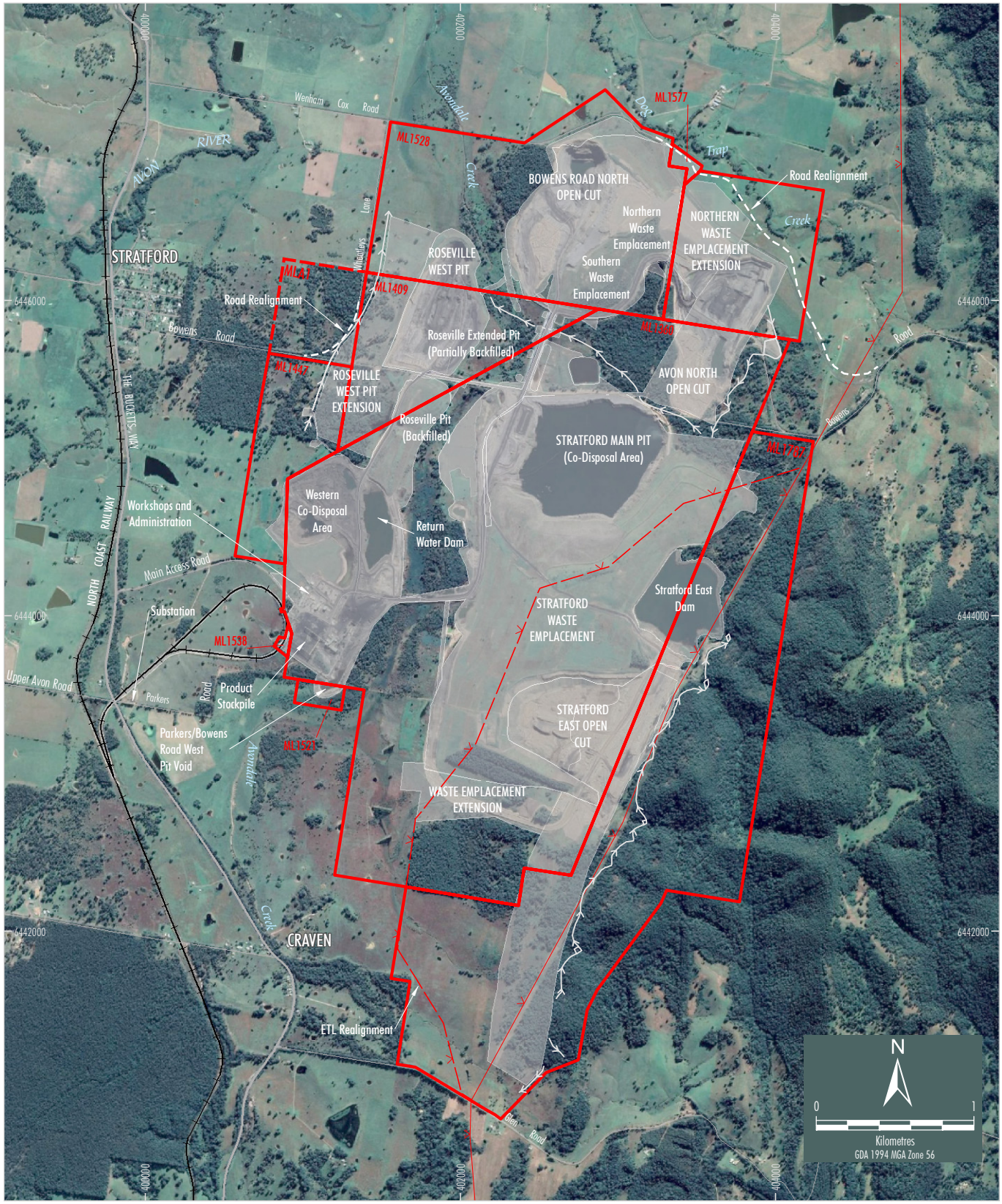
STRATFORD EXTENSION PROJECT

Regional Location

Figure 1



YAN-20-31 SAR 2020_202A

LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Electricity Transmission Line
- Approximate Extent of Existing/Approved Surface Development
- Conceptual Up-Catchment Diversion

Source: Orthophoto - Google Earth CNES/Airbus (2020); NSW Department of Planning & Environment (2017)

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STRATFORD MINING COMPLEX 2020 ANNUAL REVIEW

Approved General Arrangement

* Stratford Main Pit is used as both a Water Management Area and CHPP Rejects Material Management Area

Figure 2

YAN-20-31 SAR 2020_203A

LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary*
- Electricity Transmission Line
- Approximate Extent of Existing/Approved Surface Development
- Conceptual Up-Catchment Diversion

**MLA1 is a proposed future Mining Lease Application (MLA) area and has not yet been lodged.*

Monitoring Sites

- Groundwater Monitoring Site
- Surface Water Quality Monitoring Site
- Meteorological Station
- Static Dust Gauge
- High Volume Air Sampler
- Noise Monitoring Site
- Real-time Noise Monitoring Site
- Blast Monitoring Site
- TEOM Monitoring Site
- Macroinvertebrate Monitoring Site
- Future Groundwater Monitoring Site

Source: Orthophoto - Google Earth CNES/Airbus (2020); LPI (2016); NSW Department of Planning & Environment (2017)

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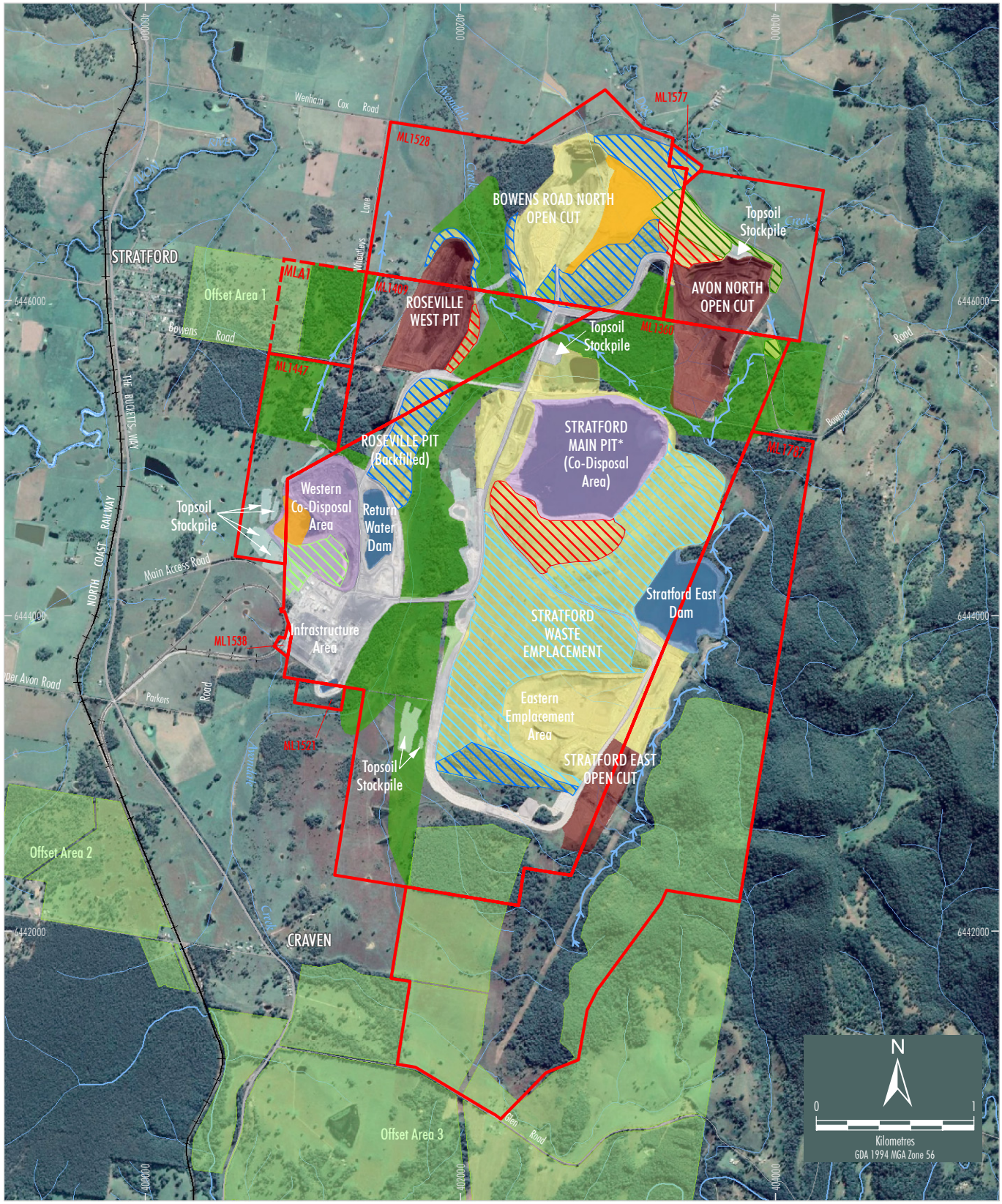
STRATFORD MINING COMPLEX 2020 ANNUAL REVIEW

Environmental Monitoring Sites

Figure 3



YAN-20-31 SAR 2020_201A

LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Electricity Transmission Line
- Surface Contour (5 m interval)
- Up-catchment Diversion

Relevant Primary Domain

- Infrastructure Area (1)
- Water Management Area (2)
- Waste Emplacement (3)
- CHPP Rejects Material Management (4)
- Open Cut Pit (5)
- Biodiversity Enhancement Area/ Biodiversity Offset Area (6)

Rehabilitation Phase

- Landform Establishment
- Ecosystem and Land Use Establishment - Pasture/Scattered Trees
- Ecosystem and Land Use Establishment - Woodland/Open Forest
- Ecosystem and Land Use Sustainability - Pasture/Scattered Trees
- Ecosystem and Land Use Sustainability - Woodland/Open Forest

2021 Activities

- Proposed Rehabilitation Area 2021

* Stratford Main Pit is used as both a Water Management Area and CHPP Rejects Material Management Area

Source: Orthophoto - Google Earth CNES/Airbus (2020); NSW Department of Planning & Environment (2017)

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STRATFORD MINING COMPLEX 2020 ANNUAL REVIEW

Mining and Rehabilitation Areas 2020

Figure 4

Appendix 2:

Meteorological Monitoring

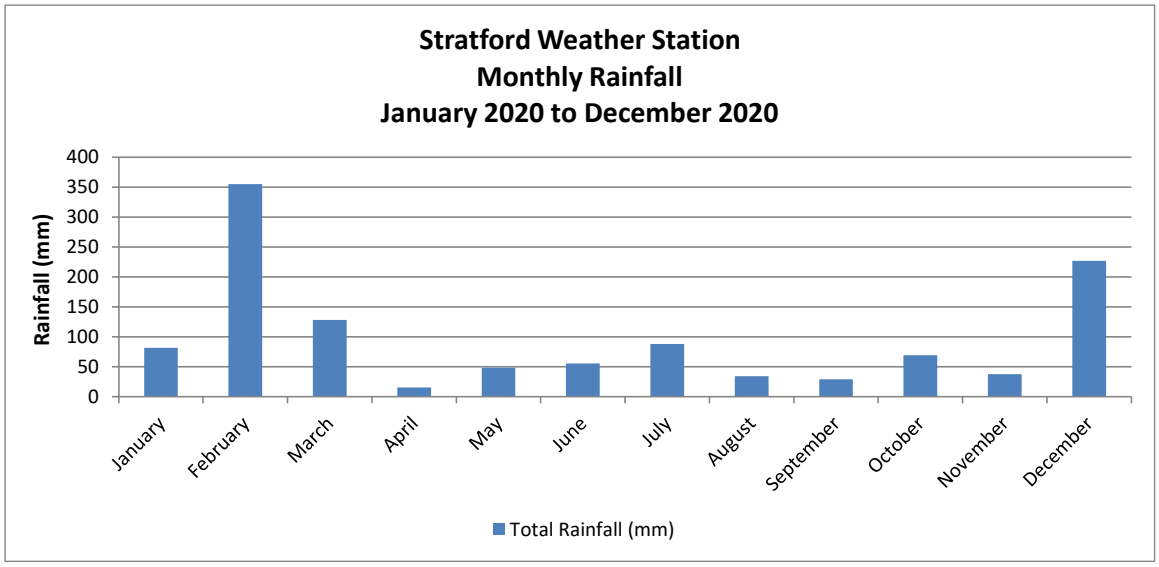


Figure 3-1: Monthly Recorded Rainfall during the Reporting Period

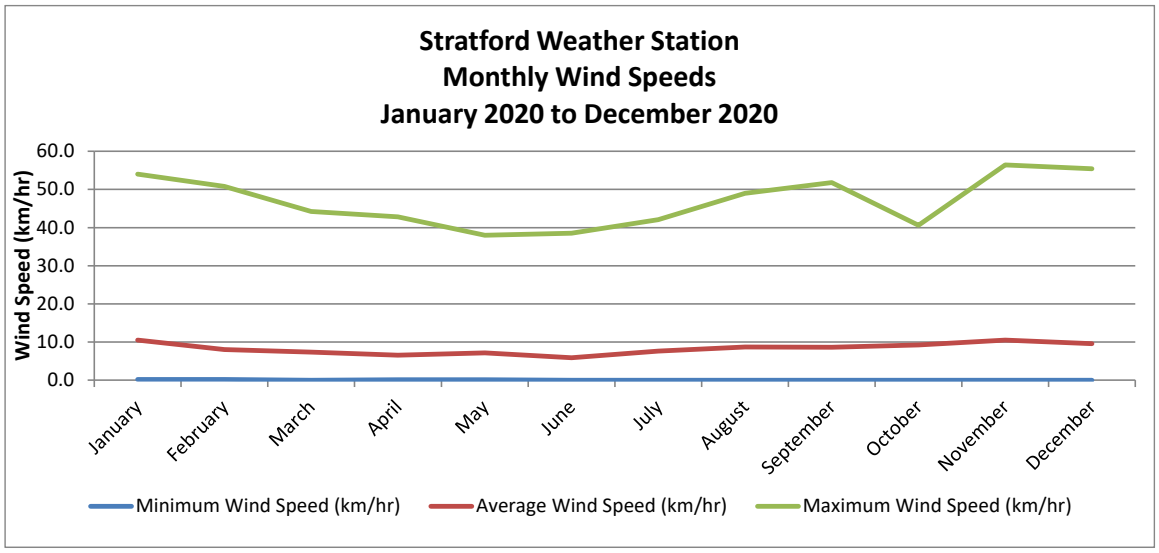


Figure 3-2: Minimum, Maximum and Average Wind Speeds during the Reporting Period

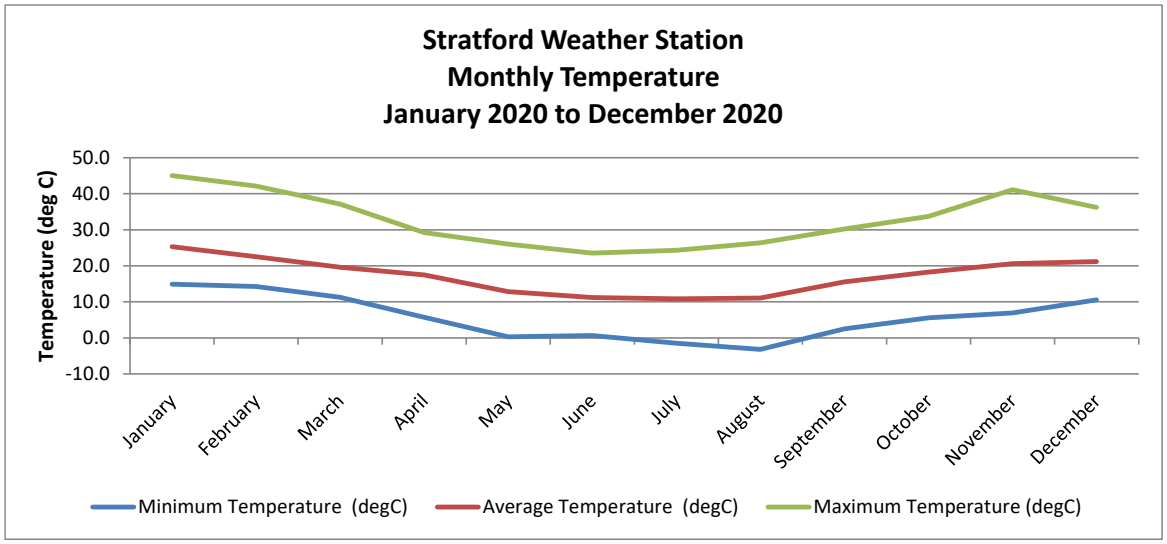


Figure 3-3: Minimum, Maximum and Average Temperatures during the Reporting Period

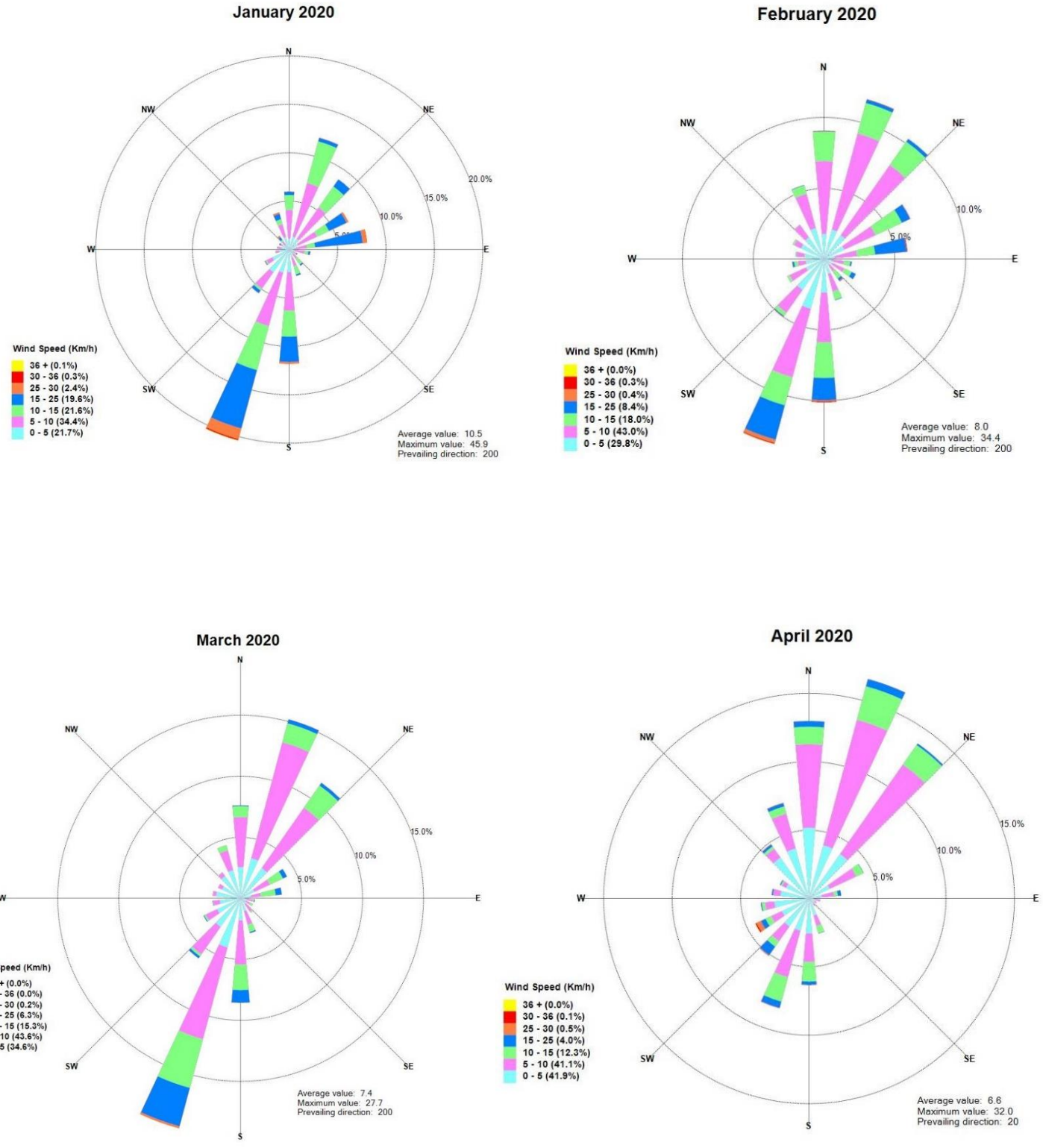


Figure 3-4: Monthly Windroses Displaying Wind Direction and Speed Frequencies during the Reporting Period

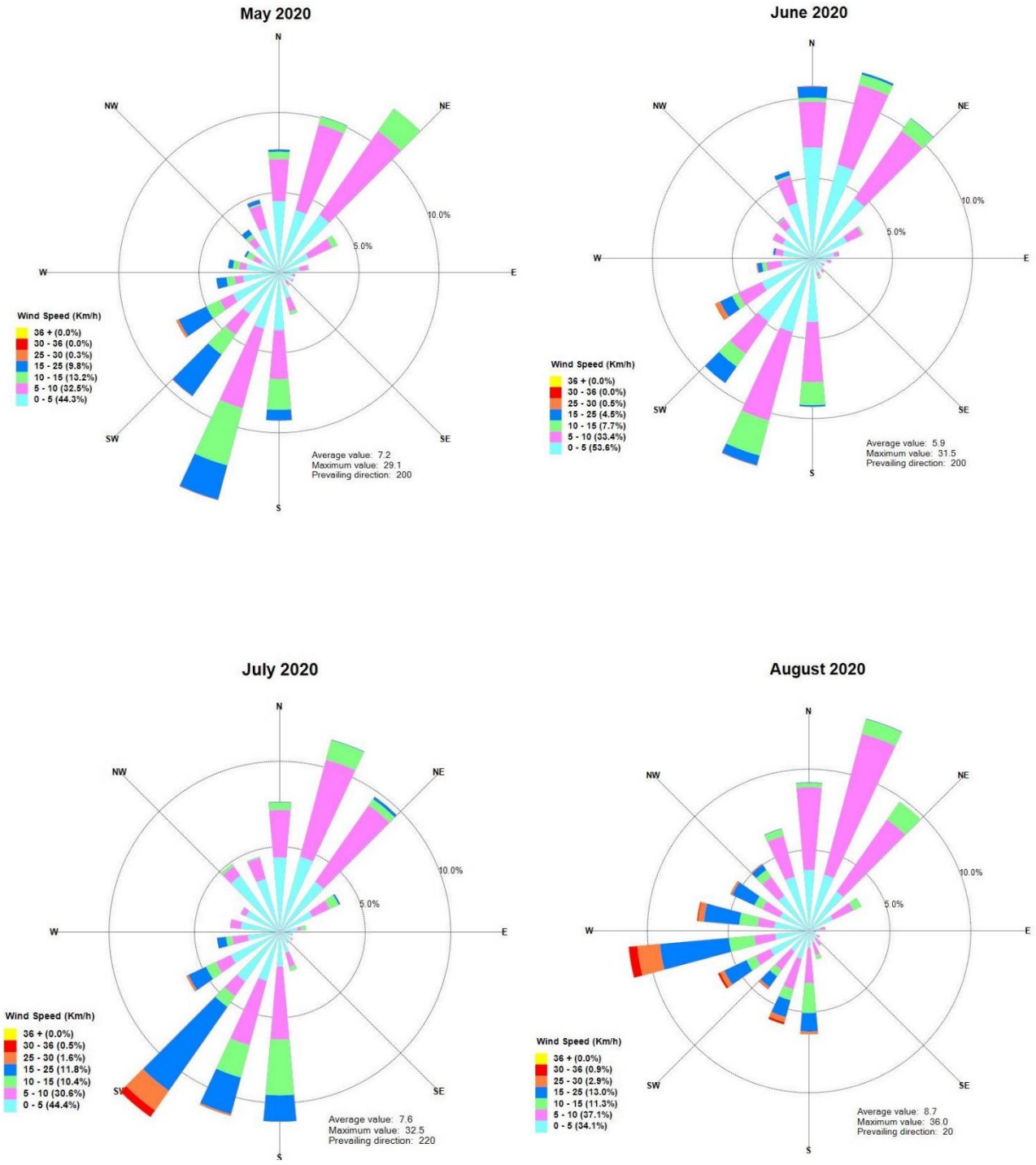


Figure 3-4 (Continued): Monthly Windroses Displaying Wind Direction and Speed Frequencies during the Reporting Period

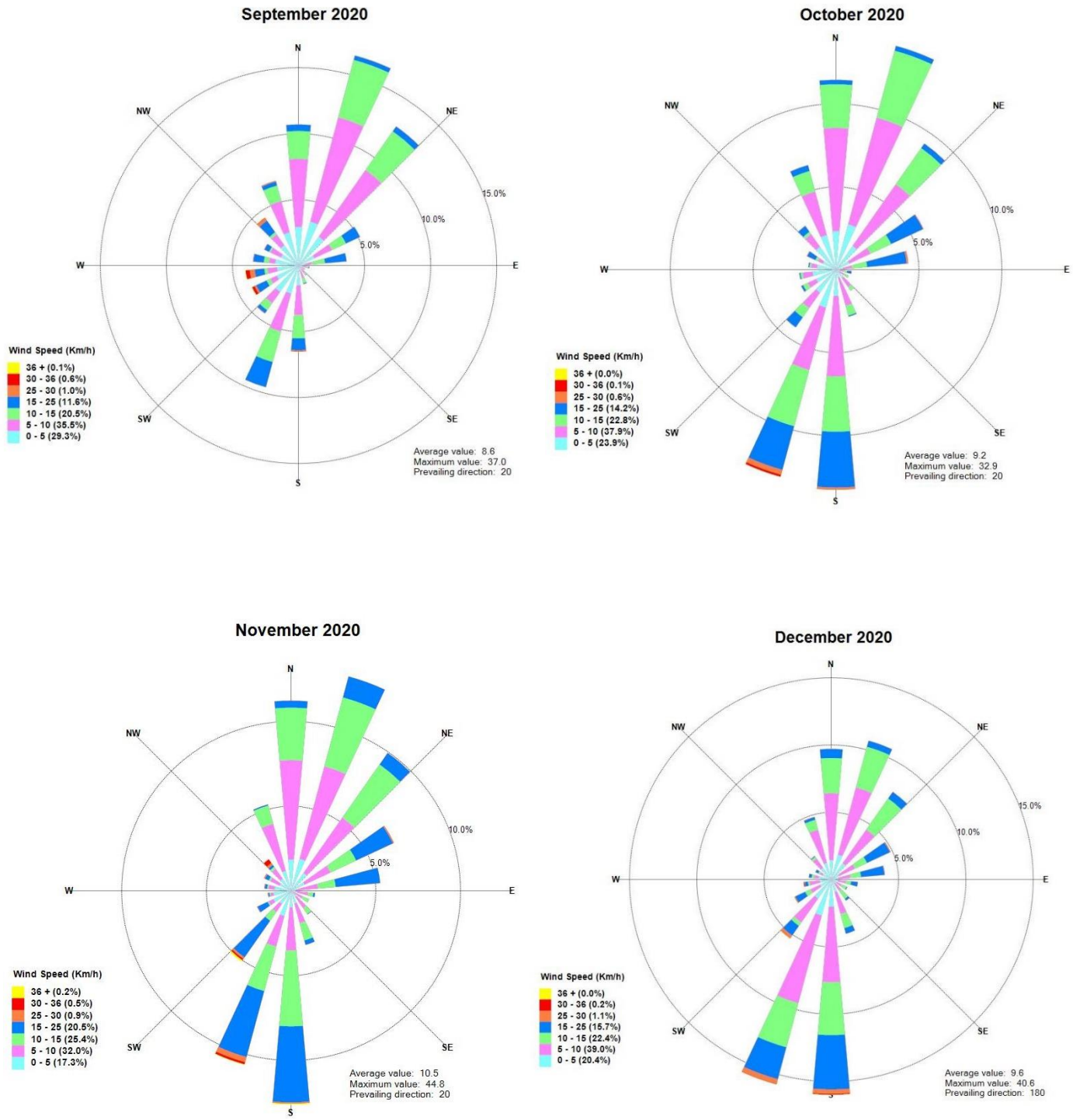


Figure 3-4 (Continued): Monthly Windroses Displaying Wind Direction and Speed Frequencies during the Reporting Period

Appendix 3:

Air Quality Monitoring

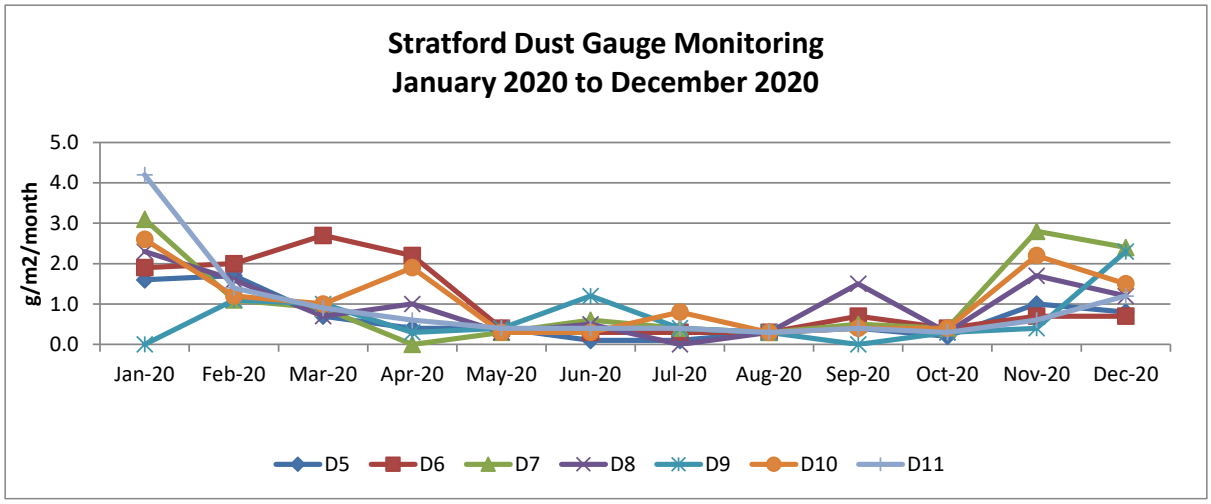


Figure 3-1: Depositional Dust Monitoring Results from January 2020 to December 2020

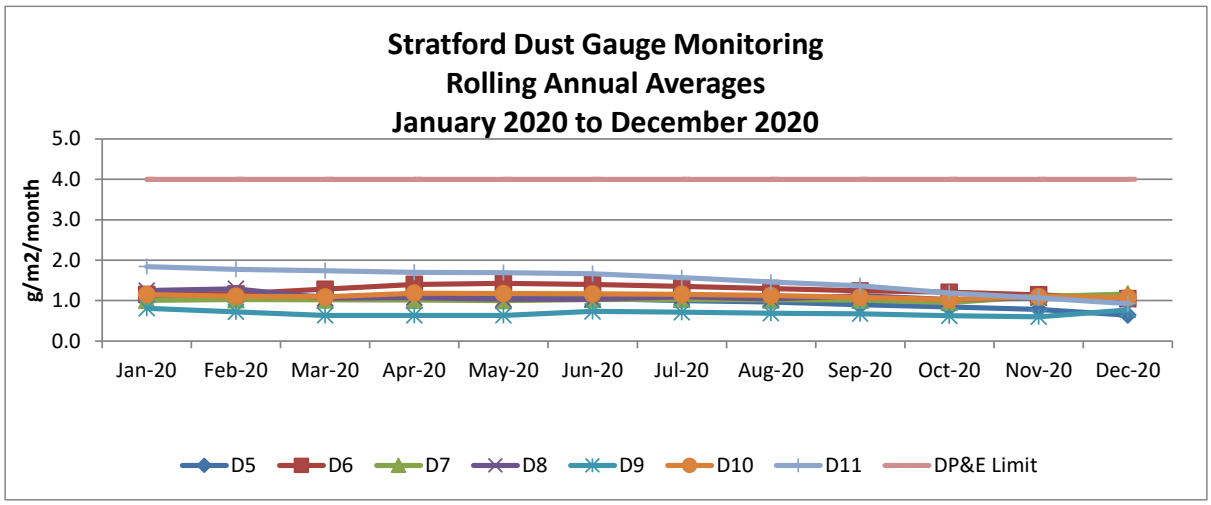


Figure 3-2: Depositional Dust Annual Averages from January 2020 to December 2020

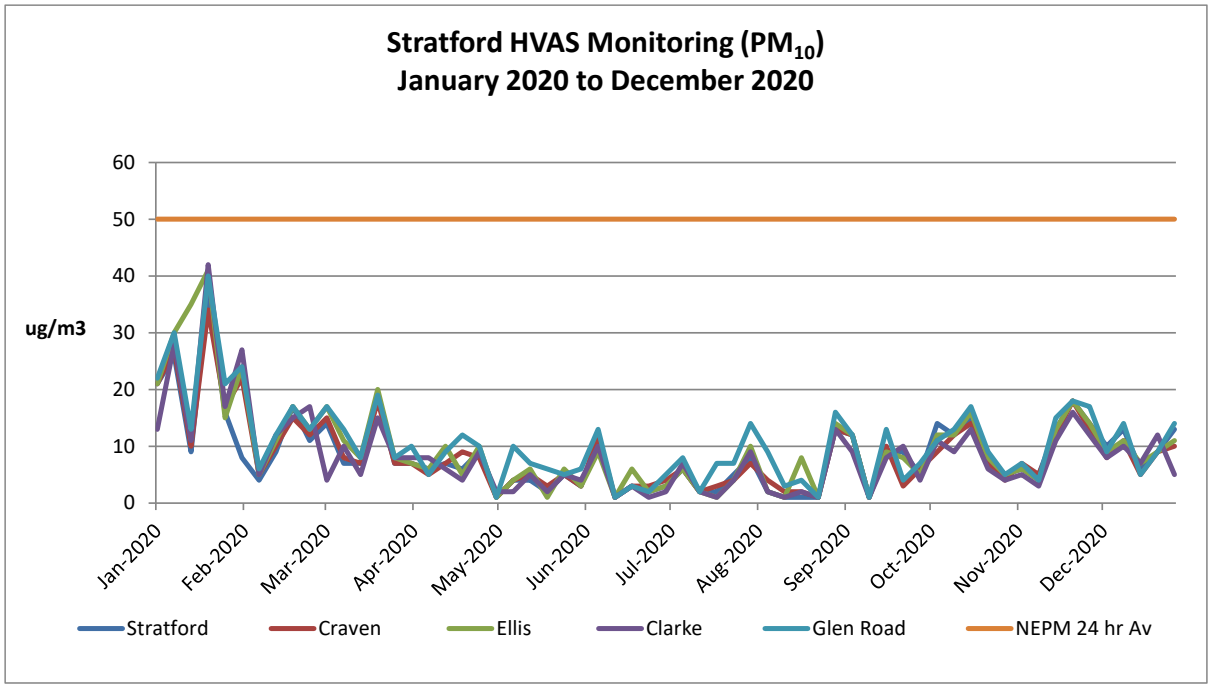


Figure 3-3: High Volume Air Sampler (HVAS) PM_{10} Results

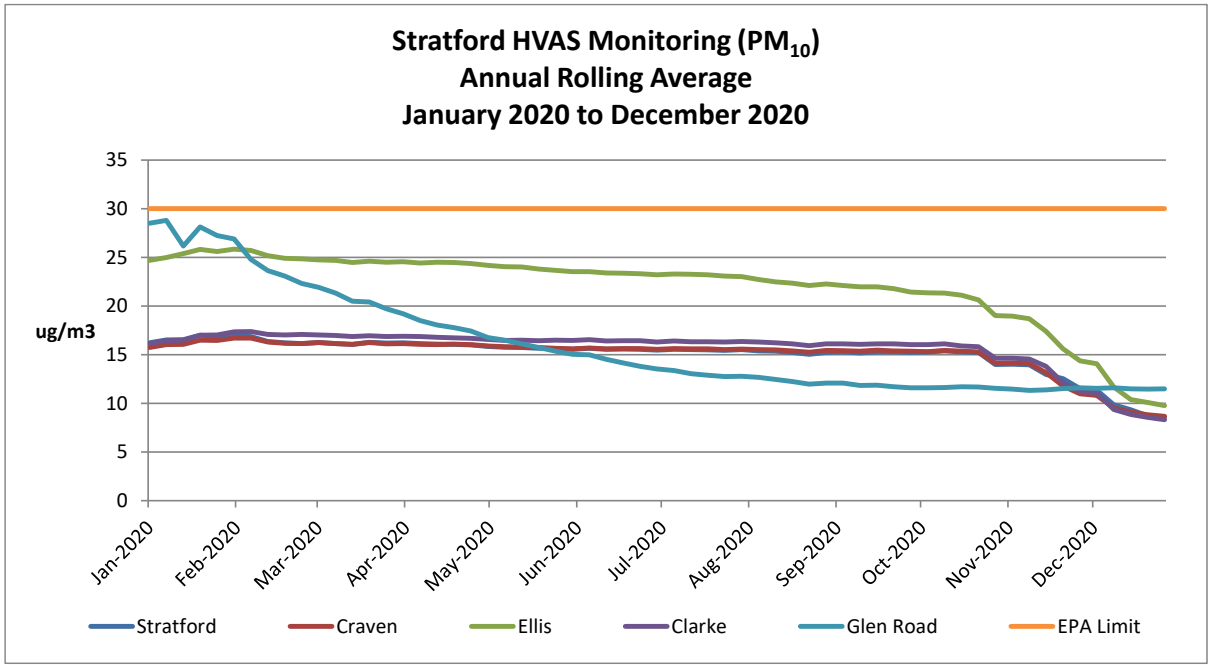


Figure 3-4: HVAS PM_{10} Rolling Annual Average Results

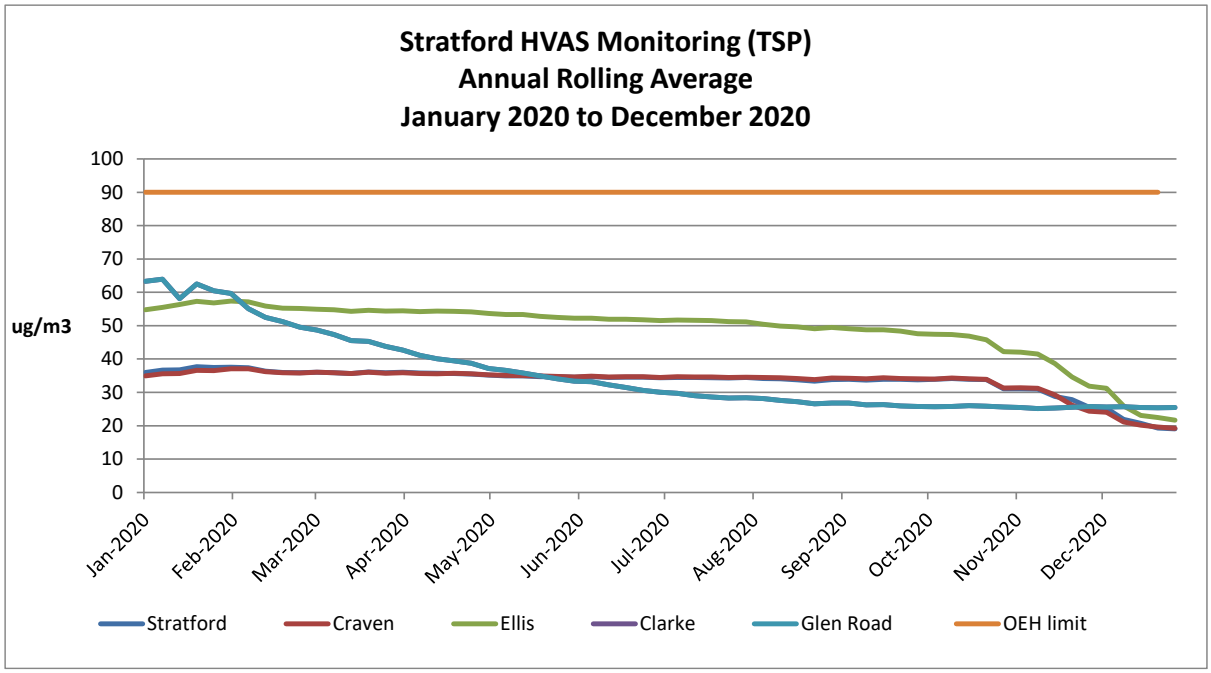


Figure 3-5: HVAS Total Suspended Particulates (TSP) Results

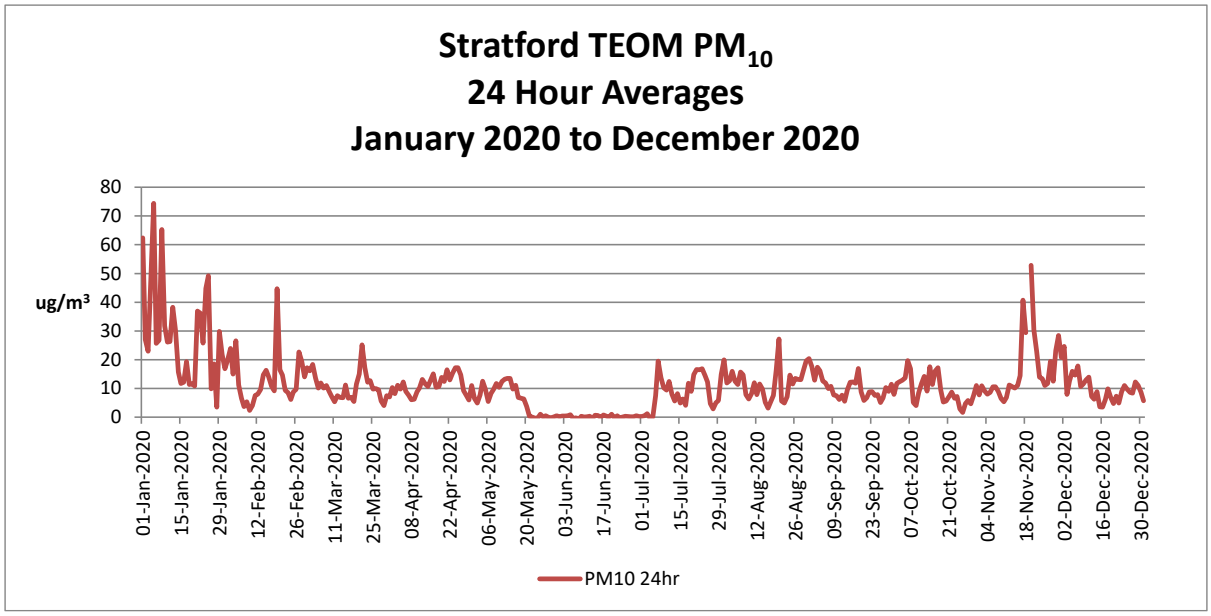


Figure 3-6: Stratford TEOM Real Time Dust Monitoring (PM_{10}) Results during the Reporting Period

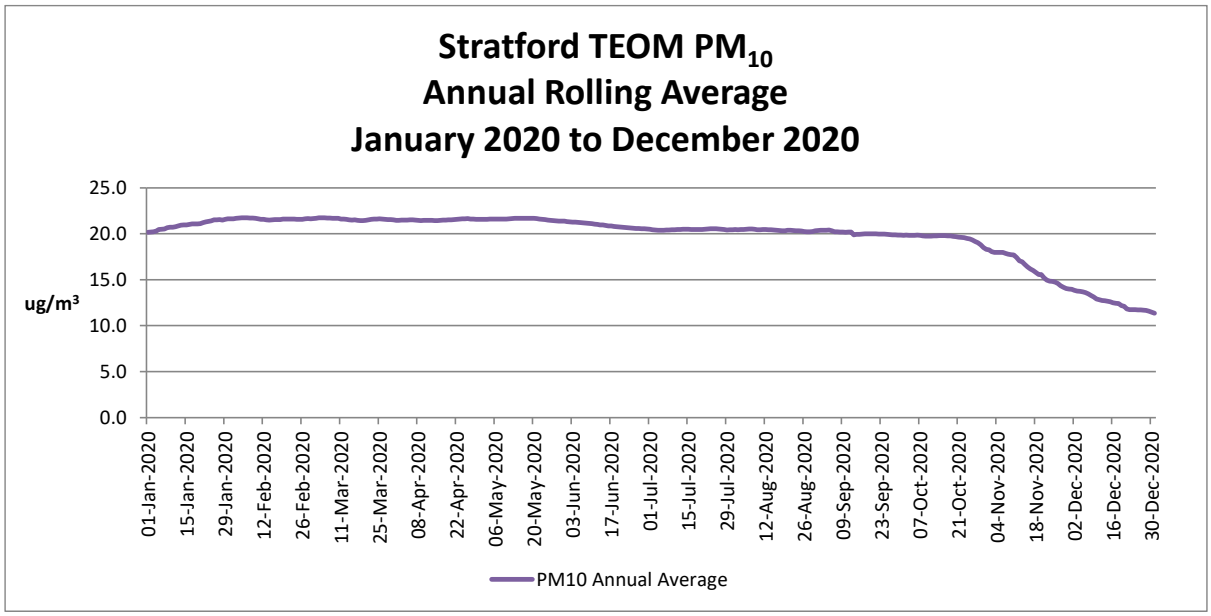


Figure 3-7: Rolling Annual Average Stratford TEOM (PM_{10}) Results during the Reporting Period

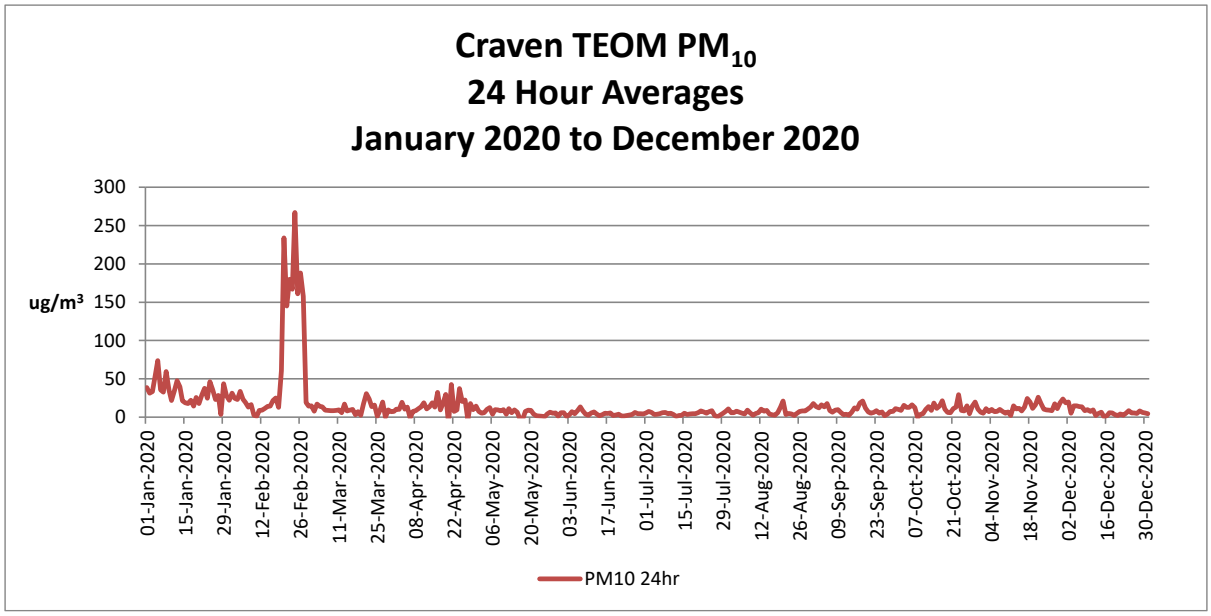


Figure 3-8: Craven TEOM Real Time Dust Monitoring (PM_{10}) Results during the Reporting Period

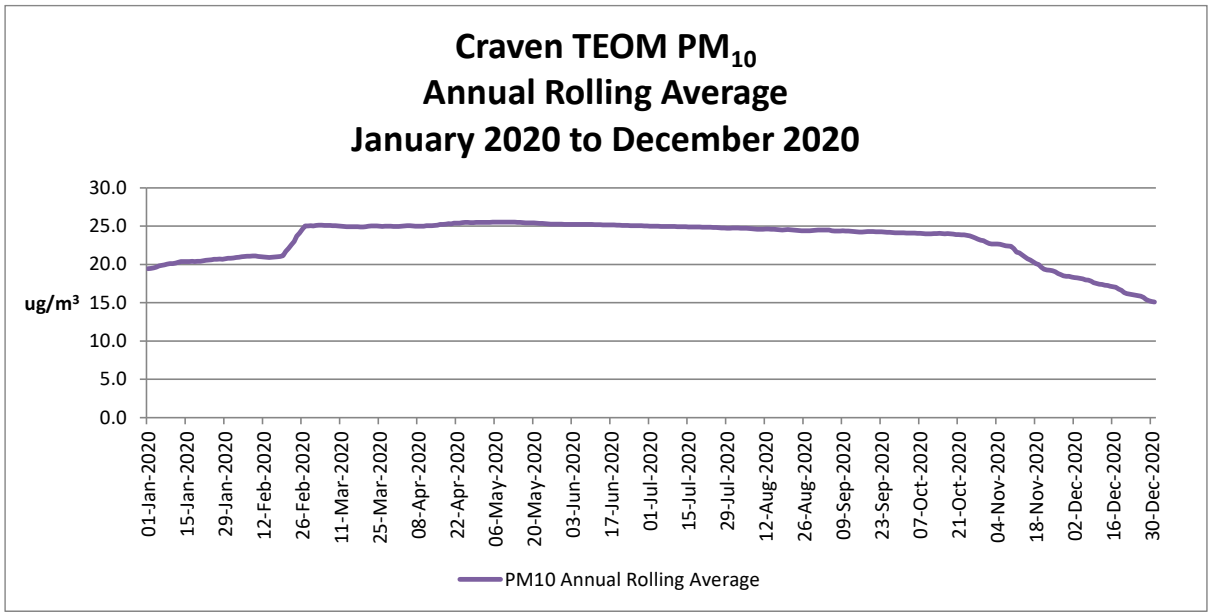


Figure 3-9: Rolling Annual Average Craven TEOM (PM_{10}) Results during the Reporting Period

Appendix 4:

Surface Water and Groundwater Monitoring

Surface waters

W1 **Upstream Avon River**
(Wenhams Cox Road - Glenavon)

DATE	EVENT	Flow	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
7-Feb-20	Event	Nil flow																						
10-Feb-20	Monthly	Fast flow	6.8	206	19.1	105	172	207	13	<1	33	7	4	0.002	0.125	5.47	0.002	<0.0001	0.001	<0.05	<0.0001	0.005	2.9	0.07
31-Mar-20	Monthly	Fast flow	7.08	213	18.1	8.2	172	<5	24	<1	38	8	5	0.002	0.031	1.1	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.5	0.04
29-Apr-20	Monthly	Steady flow, clear	6.85	401	20.2	14.2	236	<5	45	30	68	14	8	0.002	0.197	2.6	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.2	0.02
29-May-20	Monthly	Steady flow, clear	6.82	429	14.4	13.1	222	<5	27	35	80	19	10	<0.001	0.109	1.76	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.2	<0.01
30-Jun-20	Monthly	Steady flow, light brown	7.08	293	11.4	5.2	214	6	41	28	54	14	8	<0.001	0.055	1.3	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.2	0.02
26-Jul-20	Event	Fast flow, clear	7.07	337	13	8.5	218	<5	39	24	62	14	8	<0.001	0.077	1.6	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.3	0.02
28-Aug-20	Monthly	Steady flow, clear	7.11	316	13.2	5.3	198	<5	48	22	51	14	8	<0.001	0.074	1.63	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.3	0.03
29-Sep-20	Monthly	Slow flow, brown, clear	6.95	362	16.9	10	212	<5	81	13	83	18	10	0.002	0.832	2.27	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.3	0.04
29-Oct-20	Monthly	Trickle, light brown	7.18	429	20.8	8.98	254	13	94	4	71	21	11	<0.001	0.962	2	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.7	0.11
30-Nov-20	Monthly	Nil flow																						
16-Dec-20	Monthly	Slow flow, brown, clear	7.09	470	26.4	19.2	274	26	96	2	85	22	12	<0.001	0.728	5.04	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	1.4	0.18

W2 **Downstream Avon River**
(Marengo - Bignall)

DATE	Event	Flow	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
7-Feb-20	Event	Nil flow																						
10-Feb-20	Monthly	No access due to red lightning tarp and flash flooding																						
31-Mar-20	Monthly	Steady flow, Clear	6.99	231	21.8	12.2	196	<5	33	<1	39	8	6	<0.001	0.069	1.87	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.9	0.08
29-Apr-20	Monthly	Steady flow, Clear	6.83	393	20.3	10.6	221	<5	46	27	66	14	8	0.002	0.344	2.6	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.5	0.05
29-May-20	Monthly	Slow flow, clear	6.94	464	14.6	7.8	240	<5	58	94	90	19	11	<0.001	0.222	1.16	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.5	0.02
30-Jun-20	Monthly	Steady flow, light brown	6.98	302	12.8	7.7	220	5	37	32	54	13	8	<0.001	0.054	1.31	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.4	0.03
26-Jul-20	Event	Steady flow, slightly turbid, brown	6.95	319	13	40.5	240	14	28	30	59	9	8	<0.001	0.078	1.81	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.8	0.08
28-Aug-20	Monthly	Steady flow, brown	7.09	307	12.7	8	187	<5	48	21	50	12	7	<0.001	0.084	1.54	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.5	0.04
29-Sep-20	Monthly	Slow flow, light brown	7.1	362	17.2	6.1	235	6	72	15	70	15	10	<0.001	0.319	1	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.5	0.09
29-Oct-20	Monthly	Nil flow																						
30-Nov-20	Monthly	Nil flow																						
16-Dec-20	Monthly	Nil flow																						

W3 **Upstream Dog Trap Creek**
(Dog Trap Creek - Ellis)

DATE	Event	Flow	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
7-Feb-20	Event	Nil flow																						
10-Feb-20	Monthly	Fast flow, brown	6.69	231	19.1	107	151	208	11	1	37	7	5	0.001	0.211	3.34	0.002	<0.0001	<0.001	<0.05	<0.0001	0.004	3.5	0.32
31-Mar-20	Monthly	Steady flow	6.9	310	19.9	4.4	228	<5	40	<1	50	10	7	<0.001	0.336	1.24	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.6	0.1
29-Apr-20	Monthly	Steady flow, clear, brown	6.92	526	22.7	19.2	280	22	43	40	106	15	10	0.002	0.516	1.14	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.4	0.05
29-May-20	Monthly	Steady flow, clear	6.91	530	16.8	8.5	286	13	38	43	114	18	12	0.003	0.336	0.93	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	1	0.06
30-Jun-20	Monthly	Slow flow, clear	6.97	510	14.3	2.6	300	<5	41	46	118	17	12	<0.001	0.071	0.37	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.2	0.03
26-Jul-20	Event	Fast flow, turbid, grey	6.67	381	14.4	67.9	254	82	30	30	76	13	9	<0.001	2.03	6.54	0.006	<0.0001	<0.001	<0.05	<0.0001	0.001	1.1	0.31
28-Aug-20	Monthly	Slow flow, clear	6.95	393	15.9	5.3	237	<5	48	29	66	13	8	<0.001	0.425	0.98	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.2	0.04
29-Sep-20	Monthly	Slow flow, clear	7.32	408	18.6	2.9	243	<5	50	28	106	14	10	<0.001	0.025	0.43	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.2	0.03
29-Oct-20	Monthly	Trickle, clear	7.27	498	21.4	2.84	290	<5	62	22	107	16	10	<0.001	0.104	0.32	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.4	0.04
30-Nov-20	Monthly	Nil flow																						
16-Dec-20	Monthly	Trickle flow, slightly turbid, brown	6.88	446	28.0	115.00	316	49	56	21	86	13	10	0.001	0.746	3.60	0.002	<0.0001	0.001	<0.05	<0.0001	0.003	1.6	0.26

W3A **Upstream Dog Trap Creek**

(Dog Trap Creek - Ellis)

DATE	Event	Flow	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
7-Feb-20	Event	Nil flow																						
10-Feb-20	Monthly	Fast flow	6.81	248	22.8	12.5	192	20	12	1	40	8	5	0.003	0.123	0.63	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	2.1	0.01
31-Mar-20	Monthly	Steady flow	6.71	292	23.6	5	194	<5	40	<1	47	10	6	0.007	0.314	1.46	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.5	0.03
29-Apr-20	Monthly	Trickle flow, brown	8.31	413	23.9	18.3	242	8	38	38	66	13	8	0.004	1.84	3.53	0.004	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.3	0.02
29-May-20	Monthly	Slow flow, clear, orange scum on water	6.22	410	18.5	19.4	230	<5	37	37	74	16	10	<0.001	2.2	3.66	0.004	<0.0001	<0.001	<0.05	0.0002	<0.001	0.4	<0.01
30-Jun-20	Monthly	Slow flow, light brown	6.27	381	15.4	25.1	246	13	41	40	74	16	10	<0.001	2.32	4.57	0.003	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.2	0.03
26-Jul-20	Event	Fast flow, turbid, brown	6.9	324	14.6	136	238	109	30	30	58	12	8	<0.001	0.309	17.3	0.012	<0.0001	<0.001	<0.05	<0.0001	0.001	1.4	0.25
28-Aug-20	Monthly	Trickle, clear. Orange scum in water	6.6	324	17.6	14.1	196	<5	36	27	55	10	7	<0.001	1.08	2.67	0.003	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.2	0.02
29-Sep-20	Monthly	Trickle, light brown	7.08	328	18.7	29	202	8	44	26	64	12	8	<0.001	1.57	2.09	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.1	0.03
29-Oct-20	Monthly	Trickle, light brown	6.42	370	22.5	10.85	254	8	56	23	61	14	9	<0.001	1.9	3.3	0.003	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.2	<0.01
30-Nov-20	Monthly	Nil flow																						
16-Dec-20	Monthly	Trickle flow, slightly turbid, brown	6.59	411	28.9	42.6	248	7	60	31	75	15	10	<0.001	2.38	8.8	0.006	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.5	0.04

W4 **Avondale Creek - Downstream of Dog Trap Creek**

(Avondale Swamp - Atkins)

DATE	Event	FLOW	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
7-Feb-20	Event	Nil flow																						
10-Feb-20	Monthly	No access due to red lightning tarp and flash flooding																						
31-Mar-20	Monthly	Slow flow	7.06	331	21.7	22.1	296	<5	71	<1	50	10	10	0.001	0.226	3.18	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	2	0.22
29-Apr-20	Monthly	Slow flow, clear	7.05	405	18.9	10.8	240	<5	52	27	66	11	7	<0.001	0.4	2.2	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.5	0.06
29-May-20	Monthly	Slow flow, clear	6.93	460	14.6	7.6	244	<5	58	25	87	20	11	<0.001	0.213	1.12	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.4	0.01
30-Jun-20	Monthly	Slow flow, light brown	6.99	296	11.8	7.5	215	<5	38	32	55	12	8	<0.001	0.053	1.36	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.4	0.03
26-Jul-20	Event	Steady flow, turbid, brown	6.87	287	13.4	56	240	28	23	28	53	7	7	<0.001	0.109	2.29	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	1.3	0.15
28-Aug-20	Monthly	Slow flow, brown and slightly turbid	7.05	372	11.5	16.4	228	<5	45	28	64	11	9	<0.001	0.124	1.12	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.8	0.06
29-Sep-20	Monthly	Slow flow, light brown	6.38	360	15.4	2.6	214	<5	70	15	70	15	10	<0.001	0.326	0.94	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.4	0.05
29-Oct-20	Monthly	Nil flow																						
30-Nov-20	Monthly	Nil flow																						
16-Dec-20	Monthly	Nil flow																						

W5 **Downstream of Mine - Upstream of Avondale Swamp**

(Wenhams Cox Road - SCPL)

DATE	Event	FLOW	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
7-Feb-20	Event	Nil flow																						
9-Feb-20	Event	Fast flow. Over flowing sampling	6.12	218	18.4	214	326	113	7	35	36	3	4	0.007	0.074	4.46	0.001	<0.0001	0.005	<0.05	<0.0001	0.005	2.5	<0.10
10-Feb-20	Monthly	Fast flow	6.26	222	25	76.1	230	37	10	<1	37	3	4	0.002	0.045	2.47	<0.001	<0.0001	<0.001	<0.05	<0.0001	0.002	2	0.02
31-Mar-20	Monthly	Steady flow	7.23	349	20.1	10.9	323	<5	79	<1	53	10	12	<0.001	0.87	3.42	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	2	0.15
29-Apr-20	Monthly	Nil flow																						
29-May-20	Monthly	Nil flow																						
30-Jun-20	Monthly	Slow flow, light brown	6.47	514	12	12.9	360	<5	9	91	103	14	18	<0.001	0.044	0.48	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.4	0.02
26-Jul-20	Event	Fast flow, clear, brown	6.81	303	14.2	41.1	246	6	14	32	56	7	6	<0.001	0.029	1.56	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.9	0.04
28-Aug-20	Monthly	Trickle, clear, slightly turbid	6.74	392	12.4	39.5	278	14	30	39	69	9	10	<0.001	0.11	1.26	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	1.1	0.08
29-Sep-20	Monthly	Nil flow																						
29-Oct-20	Monthly	Nil flow																						
30-Nov-20	Monthly	Dry																						
16-Dec-20	Monthly	Nil flow																						

W6 **Upstream of Mine on Avondale Creek**
(Parkers Road - SCPL)

DATE	Event	FLOW	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
7-Feb-20	Event	Nil Flow																						
9-Feb-20	Event	Steady flow. Over flowing sampling. Flowing over roadway	6.24	175	19.9	68.9	145	57	5	<1	36	3	4	0.04	0.048	2.09	<0.001	<0.0001	0.004	<0.05	<0.0001	0.005	2.7	0.71
10-Feb-20	Monthly	Steady flow	6.14	230	27.5	33	223	22	9	<1	46	4	5	0.003	0.06	1.55	<0.001	<0.0001	0.001	<0.05	<0.0001	<0.001	2	0.09
31-Mar-20	Monthly	Trickle	6.96	211	23.4	19.3	187	<5	53	<1	31	7	7	<0.001	0.241	4.47	0.003	<0.0001	<0.001	<0.05	<0.0001	<0.001	2.3	0.41
29-Apr-20	Monthly	Nil flow																						
29-May-20	Monthly	Nil flow																						
30-Jun-20	Monthly	Nil flow																						
26-Jul-20	Event	Steady flow, turbid, brown	6.24	204	13.3	124	232	48	8	12	46	4	4	0.002	0.122	4.06	<0.001	<0.0001	0.003	<0.05	<0.0001	0.002	1.9	0.22
28-Aug-20	Monthly	Nil Flow																						
29-Sep-20	Monthly	Nil Flow																						
29-Oct-20	Monthly	Nil flow																						
30-Nov-20	Monthly	Dry																						
16-Dec-20	Monthly	Nil flow																						

W8

DATE	Event	FLOW	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
7-Feb-20	Event	Nil flow																						
9-Feb-20	Event	Fast flow. Over flow sampling	6.17	204	18.2	147	214	75	6	21	33	3	4	0.003	0.073	4.4	<0.001	<0.0001	0.004	<0.05	<0.0001	0.003	13	<0.10
10-Feb-20	Monthly	Fast flow	6.09	215	25	50.8	207	19	10	<1	36	3	4	0.003	0.058	1.66	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	1.8	0.02
31-Mar-20	Monthly	Steady flow	6.99	362	22.9	9.2	356	<5	94	<1	53	10	13	0.001	2.77	4.9	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	2.4	0.21
29-Apr-20	Monthly	Nil flow																						
29-May-20	Monthly	Nil flow																						
30-Jun-20	Monthly	Slow flow, clear	6.6	502	12	9.1	362	<5	17	79	102	14	19	<0.001	0.359	1.38	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.6	0.04
26-Jul-20	Event	Slow flow, slightly turbid, brown	6.51	544	13.6	10	368	<5	11	49	117	14	18	<0.001	0.315	0.88	<0.001	<0.0001	0.004	<0.05	<0.0001	<0.001	0.5	0.04
28-Aug-20	Monthly	Trickle, brown	6.95	407	10.9	17.1	290	<5	33	25	80	9	11	<0.001	0.102	1.62	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.9	0.05
29-Sep-20	Monthly	Nil flow																						
29-Oct-20	Monthly	Nil flow																						
30-Nov-20	Monthly	Nil flow																						
16-Dec-20	Monthly	Nil flow																						

W9 **Upper Avondale Creek**
(Off Glen Road - SCPL)

DATE	Event	FLOW	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
07-Feb-20	Event	Nil flow																						
10-Feb-20	Monthly	Fast flow	6.03	107	21.5	102	141	85	5	<1	20	2	2	0.002	0.048	3.08	<0.001	<0.0001	0.003	<0.05	<0.0001	0.002	1.6	<0.01
31-Mar-20	Monthly	Steady flow	6.53	169	18.6	19.8	169	<5	40	<1	26	6	5	0.001	0.598	3.7	0.002	<0.0001	<0.001	<0.05	<0.0001	<0.001	1.6	0.07
29-Apr-20	Monthly	Nil flow																						
29-May-20	Monthly	Nil flow																						
30-Jun-20	Monthly	Nil flow																						
26-Jul-20	Event	Fast flow, turbid, brown	6.72	68	14.1	196	143	186	8	<1	12	1	1	0.002	0.126	5.66	<0.001	<0.0001	0.006	<0.05	<0.0001	0.003	1.3	0.15
28-Aug-20	Monthly	Nil flow																						
29-Sep-20	Monthly	Nil Flow																						
29-Oct-20	Monthly	Dry																						
30-Nov-20	Monthly	Dry																						
16-Dec-20	Monthly	Nil flow																						

W10 **Lemon Tree Creek**
(Off Bowens Road - SCPL)

DATE	Event	FLOW	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
7-Feb-20	Event	Nil flow																						
10-Feb-20	Monthly	No access due to red lightning tarp and flash flooding																						
31-Mar-20	Monthly	No monitoring as per T.Kirkwood																						
29-Apr-20	Monthly	Nil flow																						
29-May-20	Monthly	No monitoring as per T.Kirkwood																						
30-Jun-20	Monthly	No access as per T.Kirkwood																						
26-Jul-20	Event	No access as per T.Kirkwood																						
31-Jul-20	T.Kirkwood	NR	7.14	242	17.9	27.6	210	15	24	17	41	7	4	0.001	0.02	1.17	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.4	0.05
28-Aug-20	Monthly	Trickle, grey, slightly turbid	6.79	556	13.4	15.8	314	<5	55	35	117	19	11	<0.001	0.028	1.15	0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.3	0.05
29-Sep-20	Monthly	Nil Flow																						
29-Oct-20	Monthly	Nil flow																						
30-Nov-20	Monthly	Dry																						
16-Dec-20	Monthly	Trickle flow, turbid, brown	6.55	386	28.3	328	464	105	22	58	65	13	7	0.005	0.157	10.5	0.003	<0.0001	0.004	<0.05	<0.0001	0.016	1.8	0.24

W11

DATE	Event	FLOW	pH	Cond. (uS/cm)	Temp °C	Turbidity (NTU)	TDS (mg/L)	TSS (mg/L)	Alkalinity (mg/L)	Sulphate (mg/L)	Chloride (mg/L)	Calcium (mg/L)	Mg (mg/L)	Copper (mg/L)	Mn (mg/L)	Iron (filt.) (mg/L)	Arsenic (mg/L)	Cd (mg/L)	Cr (mg/L)	Boron (mg/L)	Mercury (mg/L)	Lead (mg/L)	Tot. N (mg/L)	Tot. P (mg/L)
19-Jan-20	Event	Nil flow																						
07-Feb-20	Event	Nil flow																						
10-Feb-20	Monthly	No access due to red lightning tarp and flash flooding																						
31-Mar-20	Monthly	Steady flow	6.84	286	24.4	6.0	150	<5	46	<1	46	10	6	<0.001	0.024	0.36	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.4	0.02
29-Apr-20	Monthly	Trickle, clear	6.75	363	22.4	0.5	198	<5	45	20	61	15	8	0.003	0.022	0.14	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	<0.1	<0.01
29-May-20	Monthly	Nil flow																						
30-Jun-20	Monthly	Nil flow																						
26-Jul-20	Event	Fast flow, turbid, brown	6.93	127	14.6	79.7	139	95	7	6	20	4	3	0.002	0.224	3.48	0.002	<0.0001	0.002	<0.05	<0.0001	0.001	1.1	0.18
28-Aug-20	Monthly	Trickle, clear	6.59	294	17.1	1.8	173	<5	46	23	47	10	7	<0.001	0.01	0.07	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	0.2	0.03
29-Sep-20	Monthly	Trickle, light brown	6.38	304	16.7	0.6	194	<5	48	22	58	12	8	<0.001	0.011	0.05	<0.001	<0.0001	<0.001	<0.05	<0.0001	<0.001	<0.1	<0.01
29-Oct-20	Monthly	Nil flow																						
30-Nov-20	Monthly	Dry																						
16-Dec-20	Monthly	Nil flow																						

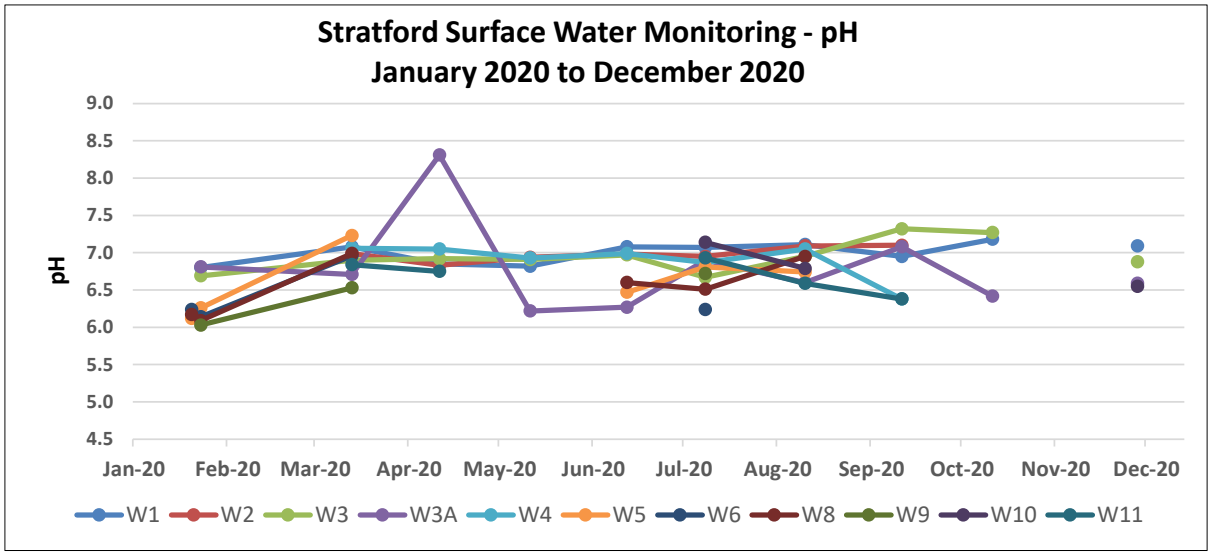


Figure 5-1: Surface Water Monitoring Results - pH

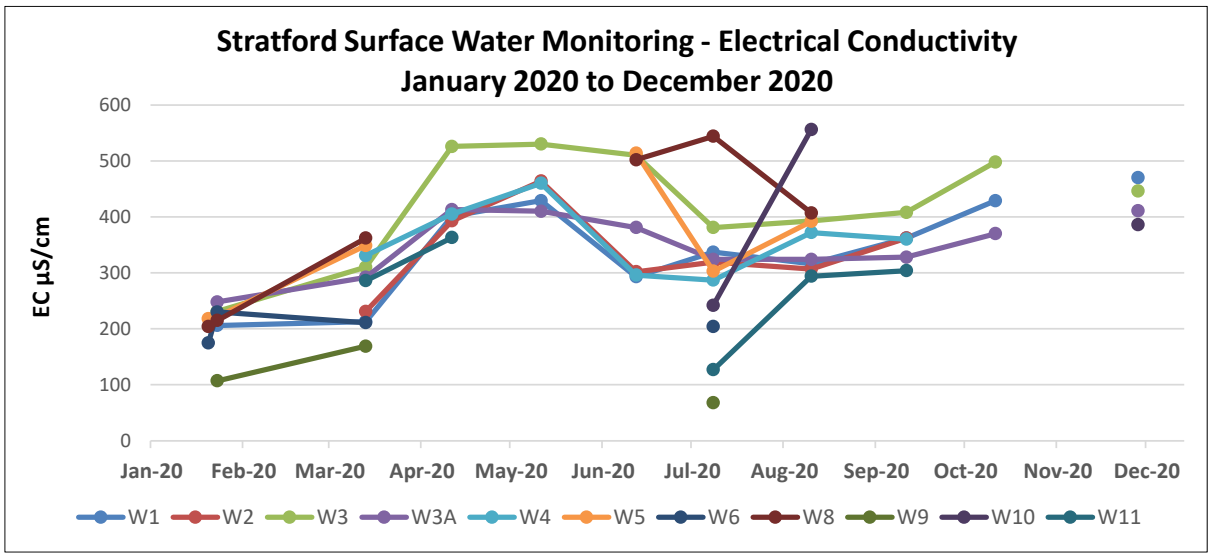


Figure 5-2: Surface Water Monitoring Results - Electrical Conductivity

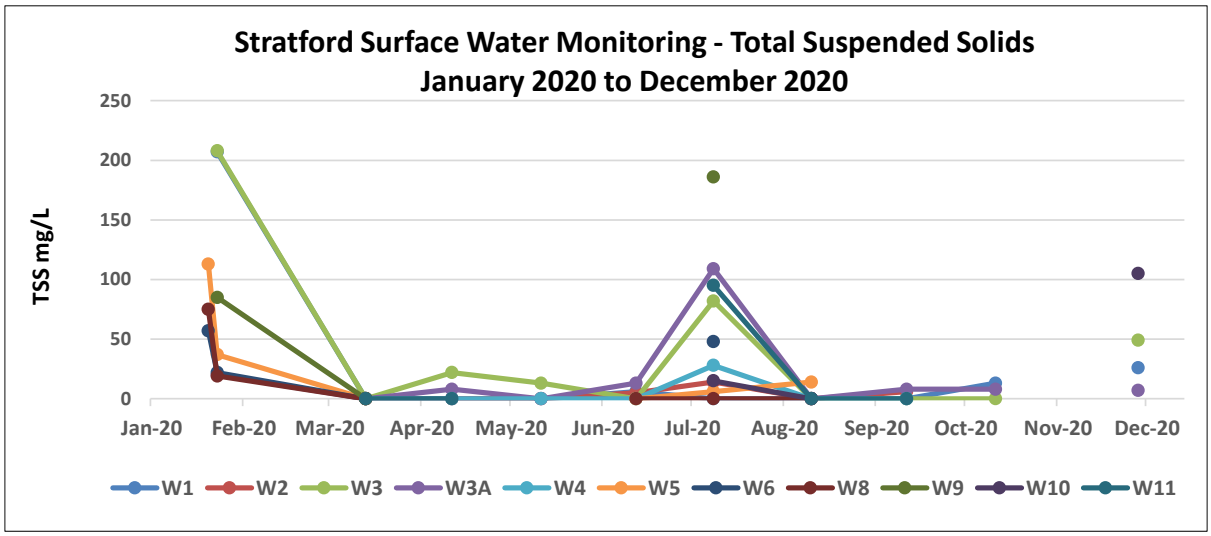


Figure 5-3: Surface Water Monitoring Results - Total Suspended Solids

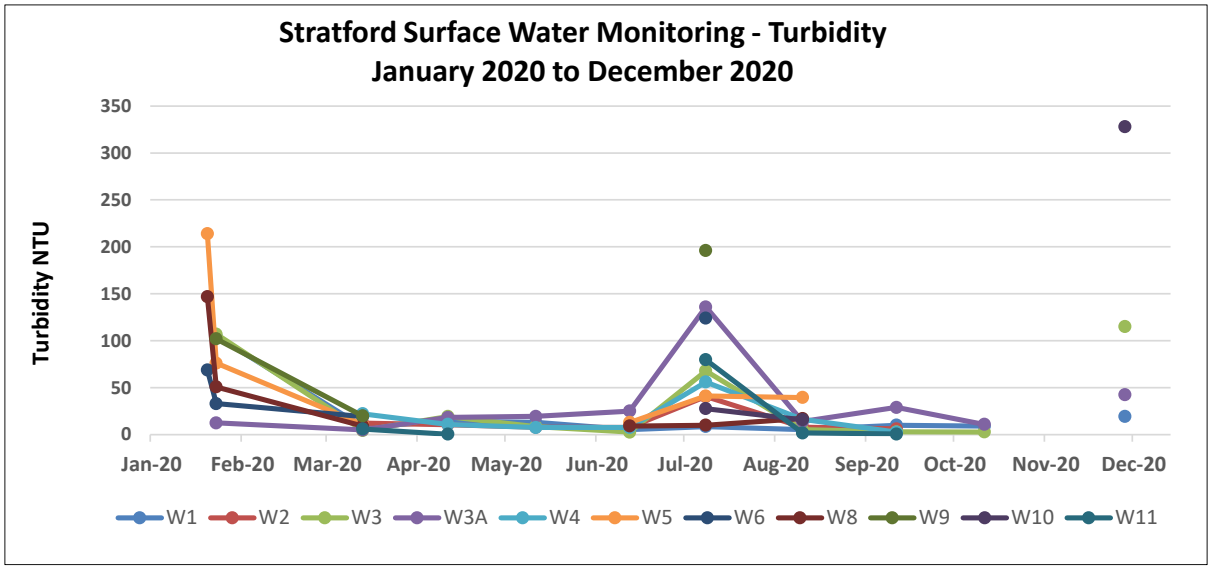


Figure 5-4: Surface Water Monitoring Results - Turbidity

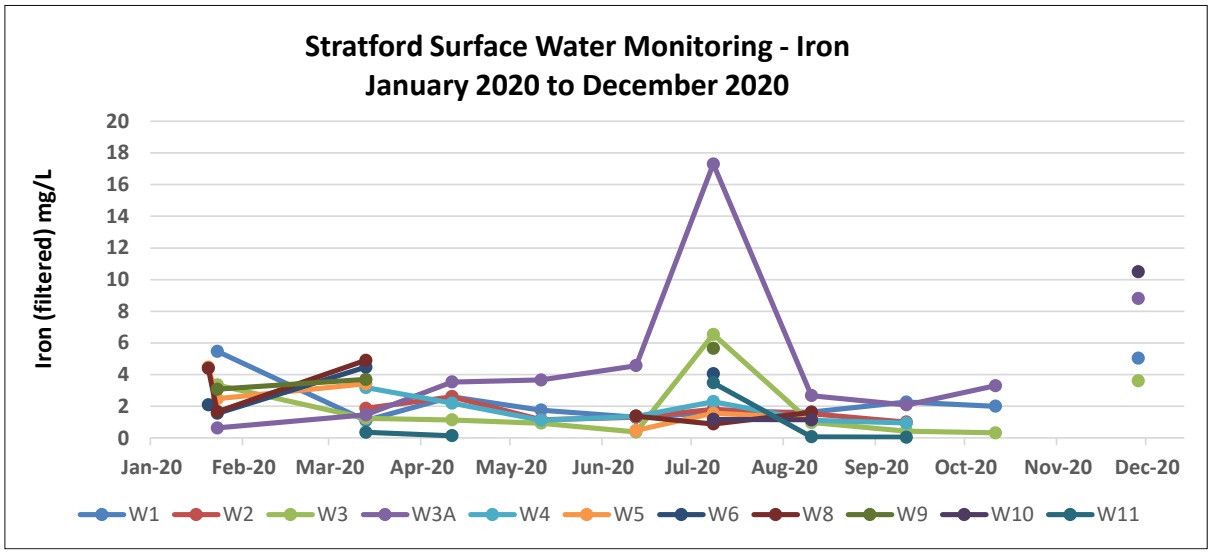


Figure 5-5: Surface Water Monitoring Results - Iron

Summary of Results – Mine Water Storage Monitoring Points

Site	Roseville West Pit		BRW (Parkers) Pit	
Parameter	**Range**	**Average**	**Range**	**Average**
pH	7.6 to 8.1	7.8	6.9 to 8.2	7.5
EC	2050 to 5420	4215	1020 to 2820	1996
ORP	43 to 291	140	34 to 229	153
Acidity	3 to 16	7	3 to 11	6
Aluminium	0.06 to 4.46	0.74	0.05 to 0.42	0.14
Sulphate	23 to 291	122	380 to 997	692
Sodium	270 to 806	620	76 to 286	179
Calcium	81 to 289	158	82 to 244	168
Chloride	399 to 1600	1146	60 to 374	206
Iron	0.08 to 2.96	0.75	0.06 to 0.3	0.14
Zinc	0.006 to 0.03	0.0124	0.009 to 0.111	0.051
Magnesium	40 to 113	63	37 to 108	73
Manganese	0.024 to 0.142	0.06	0.217 to 1.03	0.65
Site	**RWD (Return Water Dam)**		**ESD (Stratford East Dam)**	
Parameter	**Range**	**Average**	**Range**	**Average**
pH	8.19 to 8.57	8.4	8.2 to 8.9	8.6
EC	2293 to 4390	3774	839 to 1070	960
ORP	-26 to 256	92	49 to 274	130
Acidity	N/A	N/A	2 to 8	4
Aluminium	N/A	N/A	0.02 to 0.2	0.07
Sulphate	N/A	N/A	77 to 108	86
Sodium	N/A	N/A	121 to 144	131
Calcium	N/A	N/A	22 to 31	274
Chloride	N/A	N/A	146 to 181	161
Iron	N/A	N/A	0.05 to 0.14	0.08
Zinc	N/A	N/A	0.006 to 0.006	0.006
Magnesium	N/A	N/A	23 to 29	26
Manganese	N/A	N/A	0.005 to 0.041	0.02
Site	**Stratford Main Pit**		**Stratford East Pit***	
Parameter	**Range**	**Average**	**Range**	**Average**
pH	7.3 to 8.2	7.9	7.6 to 7.7	7.7
EC	1520 to 3820	3161	2330 to 2820	2575
ORP	59 to 304	134	71 to 101	86
Acidity	5 to 15	8.3	7 to 8	8
Aluminium	0.04 to 0.20	0.11	0.07 to 0.18	0.13
Sulphate	16 to 1480	1181	213 to 619	416
Sodium	376 to 432	405	225 to 316	271
Calcium	279 to 319	296	157 to 214	186
Chloride	353 to 411	386	337 to 750	544
Iron	0.11 to 0.73	0.25	0.28 to 0.70	0.49
Zinc	0.005 to 0.024	0.014	0.016 to 0.091	0.054
Magnesium	101 to 115	107	46 to 66	56
Manganese	0.251 to 0.481	0.381	0.399 to 0.602	0.501

Site	Avon North Pit*	
Parameter	**Range**	**Average**
pH	8.0 to 8.1	8.0
EC	2410 to 3010	2710
ORP	81 to 103	92
Acidity	5 to 6	6
Aluminium	0.05 to 0.32	0.19
Sulphate	21 to 352	187
Sodium	390 to 429	410
Calcium	119 to 119	119
Chloride	364 to 828	596
Iron	0.08 to 0.18	0.13
Zinc	<0.005 to <0.005	<0.005
Magnesium	30 to 38	34
Manganese	0.064 to 0.072	0.068

Note: *results based on only 2 sampling events.

Groundwaters

GW Series Groundwater Monitoring Bores

Bore ID	Date	Depth to Water from top of collar	Well Depth	DtoW below	pH	EC	Na	Cl	Fe(filt)	SO4	TDS	Ca	Mg	ORP	Temp
		m	m	m		uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mV	°C
GW1	21-Feb-20	13.98	16.42	13.08	4.24	2000	307	548	11.5	102	1040	6	44	315	18
	27-Aug-20	DRY													
GW2	26-Feb-20	10.99	17.03	9.79	6.47	4880	760	1410	21.2	25	3170	42	121	48	20
	27-Aug-20	11.21	17.03	10.01	6.41	4830	722	1330	22.6	30	2990	51	122	82	21
GW3	21-Feb-20	4.79	6.38	3.89	6.93	2410	333	70	8.32	645	1550	84	108	262	18
	27-Aug-20	4.08	6.38	3.18	6.95	3110	422	261	518	942	2360	112	138	140	18
GW4	21-Feb-20	1.25	5.97	0.55	6.69	14700	2310	4770	3.81	102	10100	289	366	129	15.7
	27-Aug-20	0.95	5.97	0.25	6.61	12800	2250	4470	2.68	102	9250	307	373	216	17.9
GW5	21-Feb-20	4.53	8.55	3.53	7.21	3640	658	967	48.8	106	3270	34	55	228	18.8
	27-Aug-20	3.31	8.55	2.31	7.24	6890	1150	2240	6.62	233	4220	94	152	7	22.0
GW7	26-Feb-20	3.75	8.28	3.00	6.18	2240	341	632	8.86	77	1540	36	54	-16	18.3
	27-Aug-20	4.82	8.28	4.07	6.64	1680	238	458	8.06	<1	988	27	36	60	17.8
GW8	26-Feb-20	10.45	11.75	9.55	4.03	1220	215	193	3.03	284	816	3	15	232	19.2
	27-Aug-20	Dry													

Bore ID	Date	Depth	Bore Volume	Volume Purged	pH	EC	ORP	SO4	Na	Cl	Iron	TDS	Ca	Mg	Temp
		m	L	L		uS/cm	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	°C
BRWN1	21-Feb-20	0.93	6.02	11	5.58	4430	223	374	840	1060	3.29	2560	21	44	17.2
	27-Aug-20	0.52	6.82	10	5.34	3050	87	285	544	762	3.17	1800	12	23	14.5

Bore Id	DATE	Depth to Water Level m	Corrected DTWL m	pH	EC µS/cm	ORP mV	Fe mg/L	Na mg/L	Cl mg/L	SO4 mg/L	TDS mg/L	Mg mg/L	Ca mg/L
RB1	26-Feb-20	5.90	5.30	6.74	10700	218	7.33	1580	3610	42	7810	246	221
	12-May-20	5.71	5.11	6.88	10800	-14	23.4	1620	3240	36	7630	255	263
	27-Aug-20	5.58	4.98	6.52	9590		12.2	1540	3310	41	6260	241	257
	20-Nov-20	5.48	4.88	6.76	10900	-66	16.6	1570	3280	44	7410	239	280
RB2	26-Feb-20	4.63	3.53	6.68	10200	248	0.54	1620	3450	136	6100	205	176
	12-May-20	4.51	3.41	6.91	9660	72	0.4	1580	2800	144	6100	193	178
	27-Aug-20	4.35	3.25	6.92	8910		0.96	1510	3000	144	6110	195	188
	20-Nov-20	4.28	3.18	6.85	9800	-5	1.09	1510	2920	159	6050	182	191
RB3	21-Feb-20	11.18	10.33	3.64	1530	293	6.85	246	226	342	927	20	4
	12-May-20	Dry											
	27-Aug-20	Dry											
	20-Nov-20	Dry											

Bowens Road North Groundwater Monitoring Bores

Bore Id	DATE	Depth to Water Level m	Corrected DTWL m	Bore Volume L	Volume Purged L	pH	EC µS/cm	ORP mv	Ca mg/L	Fe mg/L	Pb mg/L	Mg mg/L	Mn mg/L	P mg/L	K mg/L	Na mg/L	Bicarbonate (as CaCO3) mg/L	Cl mg/L	SO4 mg/L	Zn mg/L
MW3	20-Feb-20	Dry																		
	20-May-20	Dry																		
	26-Aug-20	Dry																		
	20-Nov-20	Dry																		
MW4	20-Feb-20	Dry																		
	20-May-20	Dry																		
	26-Aug-20	Dry																		
	20-Nov-20	Dry																		
MW6	20-Feb-20	5.39	4.89	9.04	28.0	6.21	347	188	5	8.5	0.015	5	0.133	0.32	1	51	45	69	18	0.064
	20-May-20	9.33	8.83	1.31	5.5	6.09	430	68	9	3.75	0.005	9	0.179	0.17	2	60	70	69	22	0.032
	26-Aug-20	8.46	7.96	3.02	10.0	6.07	377		6	7.31	0.008	6	0.174	0.33	1	55	51	55	31	0.042
	20-Nov-20	9.92	9.42	0.16	0.5	6.34	594	114	15	1.87	0.002	14	0.118	0.07	2	75	117	84	46	0.014
MW7	20-Feb-20	7.94	7.44	4.04	15.0	5.28	2260	92	27	13.5	0.006	56	1.77	0.3	5	318	22	575	286	0.267
	20-May-20	Dry																		
	26-Aug-20	Dry																		
	20-Nov-20	Dry																		
MW8	20-Feb-20	Dry																		
	20-May-20	Dry																		
	26-Aug-20	Dry																		
	20-Nov-20	Dry																		
MW11	15-Jan-20	11.32	10.82			6.95	1336													
	20-Feb-20	10.93	10.43	29.54	91.0	7.24	1290	75	79	0.35	<0.001	13	0.069	0.07	2	170	374	224	11	<0.005
	18-Mar-20	13.17	12.67			7.02	1239													
	22-Apr-20	10.48	9.98			7.05	1425													
	20-May-20	10.31	9.81	30.75	95.0	7.09	1310	-29	71	0.57	<0.001	13	0.082	0.05	3	153	350	200	22	<0.005
	30-Jul-20	10.18	9.68			6.97	1212													
	16-Jul-20	10.15	9.65			7.03	1409													
	26-Aug-20	10.07	9.57	31.22	96.0	7.05	1170	1	71	0.86	<0.001	12	0.092	0.06	2	150	329	185	28	0.006
	25-Sep-20	9.86	9.36			7.09	1351													
	23-Oct-20	9.86	9.36			7.12	1345													
	20-Nov-20	9.99	9.49	31.38	95.0	6.93	1150	-49	74	0.77	<0.001	12	0.083	0.04	2	148	305	174	28	0.009
	17-Dec-20	9.96	9.46			7.01	1337													
MW12	15-Jan-20	5.13	4.63			6.44	1673													
	20-Feb-20	5.64	5.14	11.11	36.0	6.47	1410	69	53	1.65	<0.001	41	2.62	0.04	5	148	205	363	17	0.015
	18-Mar-20	2.90	2.40			6.36	1107													
	22-Apr-20	3.50	3.00			6.44	950													
	20-May-20	3.52	3.02	10.74	35.0	6.5	734	8	28	1.81	0.002	19	1.2	0.03	3	86	119	159	29	0.007
	30-Jul-20	3.42	2.92			6.65	653													
	16-Jul-20	3.53	3.03			6.57	707													
	26-Aug-20	3.54	3.04	10.70	35.0	6.58	564	73	19	2.1	0.002	12	0.769	0.04	3	68	84	110	33	0.01
	25-Sep-20	3.51	3.01			6.67	577													
	23-Oct-20	3.57	3.07			6.75	593													
	20-Nov-20	3.71	3.21	10.37	32.0	6.51	620	13	18	0.82	<0.001	13	0.764	0.02	2	71	88	126	24	0.01
	17-Dec-20	3.86	3.36			6.33	1034													
GRIFFIN	20-Feb-20	Blocked																		
	20-May-20	3.34	2.94			7.57	2390	64	30	0.38	<0.001	16	0.023	0.05	3	405	586	474	<1	<0.005
	26-Aug-20	2.94	2.54			7.72	2390	31	29	2.94	<0.001	13	0.031	0.41	2	455	550	483	<1	0.007
	20-Nov-20	2.68	2.28			7.82	2420	77	29	2.08	<0.001	12	0.037	0.47	3	466	553	464	<1	0.015

Stratford Groundwater Monitoring Bores

Bore Id	DATE	Depth to water m	pH	EC µS/cm	ORP mv	Temp mg/L	Ca mg/L	Fe mg/L	Mg mg/L	Mn mg/L	Pb mg/L	P mg/L	K mg/L	Na mg/L	Cl mg/L	SO4 mg/L	Bicarbonate as CaCO3 mg/L	Zn mg/L	TDS mg/L
Bagnell (Stratford Shop)	15-Jan-20																		
	20-Feb-20																		
	18-Mar-20																		
	22-Apr-20																		
	20-May-20																		
	30-Jul-20																		
	16-Jul-20																		
	26-Aug-20																		
	26-Oct-20																		
	20-Nov-20																		
Ex-Bramley	22-Apr-20	7.87	7.06	2034															
	26-Oct-20	7.80	7.19	1910	-119	18	104	0.85	25	0.186	0.002	3.36	14	201	410	<10	257	0.017	997
Ex-Butler/McDonald	22-Apr-20	14.42	Pump not working. Depth only																
	26-Oct-20	14.22	Pump not working. Depth only																
Fardell (ex Horner)	22-Apr-20	No one home																	
	26-Oct-20	7.74																	
Forbes	22-Apr-20	9.98	7.05	4010															
	26-Oct-20	Not home																	
Germon	15-Jan-20	Not home																	
	20-Feb-20	Not home																	
	18-Mar-20	Not home																	
	22-Apr-20	9.96																	
	20-May-20																		
	30-Jul-20																		
	16-Jul-20																		
	26-Aug-20	9.60																	
	25-Sep-20																		
	26-Oct-20	9.72																	
	20-Nov-20	9.73																	
Hooker	22-Apr-20	4.46	6.86	3878															
	26-Oct-20	4.70	7.32	343	8	24.5	45	0.26	8	0.029	<0.001	0.14	8	15	14	19	137	0.018	241
Mitchell	22-Apr-20	Not home																	
	26-Oct-20	Not home																	
Glew	22-Apr-20	No access to get depth only sample	7.02	3170															
	26-Oct-20	Not home																	
Smith	22-Apr-20	Not home																	
	26-Oct-20	Not home - guard dog in yard																	
SCPL Bore, Wood St	15-Jan-20	11.11	6.44	7280															
	20-Feb-20	11.17	6.69	7190															
	18-Mar-20	11.19	6.56	6650															
	22-Apr-20	11.15	6.58	8180															
	20-May-20	11.17	6.67	8200															
	30-Jul-20	11.22	6.69	8820															
	16-Jul-20	11.17	6.69	8980															
	26-Aug-20	10.07	6.53	7880															
	25-Sep-20	11.19	6.67	9010															
	26-Oct-20	11.25	6.69	8040	-44	24.5	238	2.9	185	0.552	<0.001	<0.01	11	1080	1770	187	676	0.008	5080
	20-Nov-20	11.25	6.67	8460															

Appendix 5:

Blast Monitoring Results

Shot #	Location	Date	Time	Isaac (B1) 7432		Ex-Judge (B2) 7441		Atkins (B6) 7434		Greenwood 7422		Clarke (B5) (Mine-owned) 7433 (previously 7377)		Bagnall (Extrapolated result)		Powerline Monitor Result		PPV CTS-1 (Extrapolated Result)		Overpressure Site Exceedance [1]	Overpressure "Cumulative Exceedance" [1]	Ground Vibration Site Exceedance [1]	Ground Vibration "Cumulative Exceedance" [1]	Monitored Blasts[1]	Fume Rating
			24hr	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	%		%			
AN101B	Avon North	Friday, 10 January 2020	10:10:00	0.24	98.8	<0.24	<114	0.35	96.1			0.81	106.6	0.56	102.64					0.00%	0	0.0%	0	1	Nil
RSV289	Roseville West	Wednesday, 15 January 2020	10:07:00	0.51	103.3	0.33	102.6	<0.24	<114			<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	2	Nil
AN113	Avon North	Thursday, 16 January 2020	12:29:00	0.28	82.5	<0.24	<114	0.45	111.9			2.1	111.9	1.32	107.05					0.00%	0	0.0%	0	3	Nil
RSV290	Roseville West	Tuesday, 21 January 2020	12:45:00	0.32	96.5	0.28	98.1	0.35	96.1			<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	4	Nil
AN117	Avon North	Wednesday, 22 January 2020	12:42:00	<0.24	<114	<0.24	<114	<0.24	<114			0.64	104.5	0.64	104.50					0.00%	0	0.0%	0	5	Nil
AN117B - Refi	Avon North	Wednesday, 22 January 2020	13:10:00	0.25	88.5	<0.24	<114	0.33	97.0			0.72	105.8	0.72	105.80					0.00%	0	0.0%	0	6	Nil
AN116	Avon North	Friday, 24 January 2020	10:09:00	<0.24	<114	<0.24	<114	0.26	102.1			0.24	85.8	0.16	81.55					0.00%	0	0.0%	0	7	Nil
RSV291	Roseville West	Thursday, 30 January 2020	12:48:00	0.49	107.6	0.4	104.6	0.4	103.9			0.25	97.0	0.21	95.16					0.00%	0	0.0%	0	8	Nil
AN120	Avon North	Friday, 31 January 2020	12:40:00	<0.24	<114	<0.24	<114	<0.24	<114			0.76	108.5	0.52	104.48					0.00%	0	0.0%	0	9	Nil
RSV293	Roseville West	Tuesday, 4 February 2020	12:32:00	0.23	93.4	0.24	93.0	<0.24	<114			<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	10	Nil
AN120B	Avon North	Thursday, 6 February 2020	12:33:00	0.25	82.5	<0.24	<114	0.33	106.5			0.96	112.5	0.63	108.16					0.00%	0	0.0%	0	11	Nil
RSV294	Roseville West	Wednesday, 12 February 2020	12:41:00	0.61	101.1	0.43	105.5	0.49	106.8			0.28	88.2	0.23	86.35					0.00%	0	0.0%	0	12	Nil
AN124	Avon North	Thursday, 13 February 2020	12:36:00	<0.24	<114	<0.24	<114	<0.24	<114			0.5	100.8	0.33	96.30					0.00%	0	0.0%	0	13	Nil
RSV295	Roseville West	Wednesday, 19 February 2020	12:38:00	0.49	93.4	0.41	99.9	0.43	100.5			<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	14	Nil
AN121	Avon North	Friday, 21 February 2020	12:38:00	<0.24	<114	<0.24	<114	<0.24	<114			0.41	102.7	0.29	98.92					0.00%	0	0.0%	0	15	Nil
RSV296	Roseville West	Thursday, 27 February 2020	13:17:00	0.53	106.0	0.51	110.7	0.7	111.5			<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	16	Nil
AN126	Avon North	Friday, 28 February 2020	12:46:00	<0.24	<114	<0.24	<114	0.27	102.1			1.06	113.4	1.06	113.40					0.00%	0	0.0%	0	17	Nil
RSV297	Roseville West	Wednesday, 4 March 2020	14:47:00	0.36	104.1	0.41	104.6	0.63	98.6			<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	18	Nil
AN128	Avon North	Friday, 6 March 2020	10:02:00	0.24	82.5	<0.24	<114	0.36	97.0			1.57	112.7	1.01	108.12					0.00%	0	0.0%	0	19	Nil
AN126B	Avon North	Wednesday, 11 March 2020	12:40:00	<0.24	<114	<0.24	<114	<0.24	<114			0.56	106.3	0.39	102.43					0.00%	0	0.0%	0	20	Nil
RSV298	Roseville West	Thursday, 12 March 2020	13:01:00	0.39	98.8	0.38	102.0	0.52	98.6			<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	21	Nil
AN128B	Avon North	Wednesday, 13 March 2002	12:56:00	<0.24	<114	<0.24	<114	<0.24	<114			0.48	110.2	0.31	105.67					0.00%	0	0.0%	0	22	Nil
RSV300	Roseville West	Thursday, 19 March 2020	13:13:00	0.37	94.5	0.37	103.1	0.42	105.3			<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	23	Nil
AN129	Avon North	Friday, 20 March 2020	12:37:00	0.28	86.0	0.27	79.1	0.31	100.5			1.1	114.0	0.73	109.66					0.00%	0	0.0%	0	24	2B
RSV301	Roseville West	Thursday, 26 March 2020	13:59:00	0.34	94.5	0.43	93.0	0.63	101.1			<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	25	Nil
AN131	Avon North	Friday, 27 March 2020	12:44:00	<0.24	<114	0.28	85.1	0.29	102.6			1.19	108.7	0.75	103.84	STRATFORD EAST BLASTS SHOWN				0.00%	0	0.0%	0	26	Nil
RSV299	Roseville West	Monday, 30 March 2020	13:12:00	<0.24	<114	0.43	104.2	<0.24	<114			<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	27	Nil
AN133	Avon North	Tuesday, 31 March 2020	12:34:00	<0.24	<114	<0.24	<114	<0.24	<114			1.01	105.5	0.64	100.70					0.00%	0	0.0%	0	28	Nil
STRE002	Stratford East	Friday, 3 April 2020	13:06:00	<0.24	<114	<0.24	<114	<0.24	<114	0.3	102.8	0.34	96.2	0.32	95.46	7.10		2.81		0.00%	0	0.0%	0	29	Nil
STRE001	Stratford East	Tuesday, 7 April 2020	12:52:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.39	109.5	0.36	108.66	73.10		1.58		0.00%	0	0.0%	0	30	Nil
STRE001A	Stratford East	Thursday, 9 April 2020	12:43:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.41	95.3	0.38	94.51	44.08		0.95		0.00%	0	0.0%	0	31	Nil
STRE004B	Stratford East	Wednesday, 15 April 2020	15:08:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.26	102.2	0.24	101.25	16.46		2.83		0.00%	0	0.0%	0	32	Nil
RVL302	Roseville West	Thursday, 16 April 2020	13:33:00	0.44	93.4	0.31	97.1	0.44	100.5	<0.24	<114	<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	33	Nil
STRE003	Stratford East	Friday, 17 April 2020	12:37:00	0.39	104.8	<0.24	<114	<0.24	<114	<0.24	<114	0.43	94.3	0.40	93.65	33.62	126.70	1.75		0.00%	0	0.0%	0	34	Nil
RSV304	Roseville West	Monday, 20 April 2020	1:07:00	<0.24	<114	<0.24	<114	0.31	97.0	<0.24	<114	<0.24	<114	<0.24	<114					0.00%	0	0.0%	0	35	Nil
RSV303	Roseville West	Wednesday, 22 April 2020	13:09:00	0.49	99.4	41.00	97.1	0.37	101.1	<0.24	<114	0.27	98.5	0.23	96.66					0.00%	0	0.0%	0	36	Nil
STR005	Stratford East	Thursday, 23 April 2020	13:10:00	0.23	101.6	<0.24	<114	<0.24	<114	0.27	99.6	0.42	82.2	0.40	81.57	48.40	128.30	0.91		0.00%	0	0.0%	0	37	Nil
RSV305	Rosevill W	Thursday, 30 April 2020	2:24:00	0.65	105.4	0.47	99.1	<0.24	<114	<0.24	<114	0.24	98.5	0.20	96.58	0.40	100.60			0.00%	0	0.0%	0	38	Nil
AN132C	Avon North	Friday, 1 May 2020	12:02:00	0.27	82.5	<0.24	<114	0.39	98.6	<0.24	<114	1.45	109.8	0.94	105.21	0.71	95.00			0.00%	0	0.0%	0	39	Nil
AN137	Avon North	Tuesday, 5 May 2020	10:13:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.61	112.2	0.40	107.64	<0.24	<114			0.00%	0	0.0%	0	40	Nil
AN130	Avon North	Friday, 8 May 2020	12:37:00	<0.24	<114	<0.24	<114	0.28	102.1	<0.24	<114	2.19	105.8	1.34	100.66					0.00%	0	0.0%	0	41	Nil
AN138	Avon North	Monday, 11 May 2020	12:37:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.39	101.3	0.25	96.83	<0.24	<114			0.00%	0	0.0%	0	42	Nil
RSV306	Roseville West	Wednesday, 13 May 2020	1:11:00	0.56	103.7	<0.24	<114	0.49	105.3	<0.24	<114	0.25	100.8	0.21	98.89	0.33	93.1			0.00%	0	0.0%	0	43	Nil
STR009	Stratford East	Friday, 15 May 2020	12:35:00	0.25	97.3	0.24	85.1	<0.24	<114	0.26	92.5	0.92	112.6	0.84	111.67	42.67	130.9	5.53		0.00%	0	0.0%	0	44	Nil
RSV307	Roseville West	Wednesday, 20 May 2020	13:10:00	<0.24	<114	<0.24	<114	0.37	103.4	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	45	Nil
STR010	Stratford East	Friday, 22 May 2020	9:33:00	0.28	82.5	0.25	102.5	<0.24	<114	0.36	92.5	0.66	88.2	0.62	87.52	17.32	123.8	5.40		0.00%	0	0.0%	0	46	Nil
STR012	Stratford East	Thursday, 28 May 2020	12:32:00	0.25	93.4	<0.24	<114	<0.24	<114	0.28	101.1	0.45	85.8	0.42	85.10	70.61	126.3	2.90		0.00%	0	0.0%	0	47	Nil
STR011	Stratford East	Tuesday, 2 June 2020	3:10:00	0.31	94.5	<0.24	<114	<0.24	<114	0.39	100.7	0.52	99.10	0.49	98.38	39.33	132.70	5.66		0.00%	0	0.0%	0	48	Nil
RSV308	Roseville West	Wednesday, 3 June 2020	13:09:00	0.45	93.4	0.45	99.1	0.37	104.2	<0.24	<114	0.24	95.30	0.20	93.40	0.35	93.10			0.00%	0	0.0%	0	49	Nil
STR014	Stratford East	Thursday, 4 June 2020	12:51:00	<0.24	<114	<0.24	<114	<0.24	<114	0.30	98.5	0.52	90.20	0.41	87.70	27.19	127.70	0.96		0.00%	0	0.0%	0	50	Nil
RSV309	Roseville West	Thursday, 11 June 2020	12:59:00	0.25	104.1	0.35	107.7	0.47	112.9	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	51	Nil
RSV310	Roseville West	Wednesday, 17 June 2020	13:11:00	0.28	90.5	<0.24	<114	0.41	99.9	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	52	Nil
STR017	Stratford East	Friday, 19 June 2020	9:38:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.37	105.20	0.34	104.33	11.48	123.90	7.94		0.00%	0	0.0%	0	53	Nil
AN140	Avon North	Tuesday, 23 June 2020	12:34:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	54	Nil
RSV311	Roseville West	Thursday, 25 June 2020	13:04:00	0.48	97.3	0.39	102.6	0.38	103.9	<0.24	<114	0.24	96.20	0.20	94.32	<0.24	<114			0.00%	0	0.0%	0	55	Nil
AN144	Avon North	Friday, 26 June 2020	10:09:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.66	108.00	0.43	103.48	0.35	105.40			0.00%	0	0.0%	0	56	Nil
STR018	Stratford East	Tuesday, 30 June 2020	12:42:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.33	85.80	0.31	85.08	20.90	128.00	1.70		0.00%	0	0.0%	0	57	Nil
AN146	Avon North	Friday, 3 July 2020	10:04:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.69	112.9	0.44	108.1	0.38	87.1			0.00%	0	0.0%	0	58	Nil

Shot #	Location	Date	Time	Isaac (B1) 7432		Ex-Judge (B2) 7441		Atkins (B6) 7434		Greenwood 7422		Clarke (B5) (Mine-owned) 7433 (previously 7377)		Bagnall (Extrapolated result)		Powerline Monitor Result		PPV CTS-1 (Extrapolated Result)		Overpressure Site Exceedance [1]	Overpressure "Cumulative Exceedance" [1]	Ground Vibration Site Exceedance [1]	Ground Vibration "Cumulative Exceedance" [1]	Monitored Blasts[1]	Fume Rating
			24hr	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	mm/s	dBL	%		%			
RSV312	Roseville West	Tuesday, 7 July 2020	13:08:00	<0.24	<114	0.26	99.1	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	59	Nil
STR013	Stratford East	Friday, 10 July 2020	12:36:00	0.40	90.5	0.30	85.1	<0.24	<114	0.59	108.2	0.68	90.2	0.64	89.6	**22.40**	**123.6**	**4.37**	**110.74**	0.00%	0	0.0%	0	60	Nil
STR021	Stratford East	Friday, 17 July 2020	12:38:00	<0.24	<114	<0.24	<114	<0.24	<114	0.25	81.6	0.78	106.3	0.71	105.4	**14.95**	**117.4**	**2.45**	**103.17**	0.00%	0	0.0%	0	61	Nil
STR022	Stratford East	Tuesday, 21 July 2020	12:39:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.37	88.2	0.35	87.6	**7.27**	**120.4**	**2.29**	**111.32**	0.00%	0	0.0%	0	62	Nil
RSV314	Roseville West	Wednesday, 22 July 2020	10:08:00	0.43	97.3	0.32	99.9	0.62	101.6	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	63	Nil
STR024	Stratford East	Friday, 24 July 2020	12:36:00	0.25	99.4	0.25	79.1	<0.24	<114	0.25	97.8	0.90	97.8	0.75	95.9	**23.84**	**126.5**	**0.62**	**97.77**	0.00%	0	0.0%	0	64	Nil
RSV315	Roseville West	Thursday, 30 July 2020	1:32:00	0.25	92.0	0.39	96.0	0.44	103.0	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	65	Nil
STR023	Stratford East	Friday, 31 July 2020	12:41:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.40	88.2	0.38	87.5	**<0.24**	**<114**	**<0.24**	**<114**	0.00%	0	0.0%	0	66	Nil
RSV313	Roseville West	Thursday, 6 August 2020	1:04:00	0.23	101.6	0.33	105.1	0.28	107.4	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	67	Nil
STR025	Stratford East	Friday, 7 August 2020	12:09:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.45	82.2	0.42	81.6	**19.82**	**129.5**	**4.00**	**116.89**	0.00%	0	0.0%	0	68	Nil
AN148	Avon North	Friday, 14 August 2020	12:48:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	1.05	109.8	0.65	104.7	<0.24	<114			0.00%	0	0.0%	0	69	Nil
AN147	Avon North	Tuesday, 18 August 2020	12:42:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.87	106.3	0.57	101.9	<0.24	<114			0.00%	0	0.0%	0	70	Nil
STR029	Stratford East	Friday, 21 August 2020	12:38:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.44	99.1	0.41	98.3	**59.31**	**130.6**	**4.62**	**110.51**	0.00%	0	0.0%	0	71	Nil
AN152	Avon North	Tuesday, 25 August 2020	12:44:00	0.24	88.5	0.24	91.1	0.30	101.6	<0.24	<114	1.24	105.8	0.81	101.3	<0.24	<114			0.00%	0	0.0%	0	72	Nil
STR015	Stratford East	Friday, 28 August 2020	12:44:00	0.32	101.1	0.27	88.6	<0.24	<114	0.50	102.4	0.58	93.1	0.55	92.5	**19.30**	**124.5**	**2.86**	**109.48**	0.00%	0	0.0%	0	73	Nil
AN153	Avon North	Friday, 4 September 2020	12:43:00	0.24	94.6	<0.24	<114	0.35	100.5	<0.24	<114	1.40	106.3	0.90	101.7	0.76	97.9			0.00%	0	0.0%	0	74	Nil
STR036	Stratford East	Friday, 11 September 2020	12:46:00	0.25	85.1	0.25	85.1	<0.24	<114	<0.24	<114	0.99	88.2	0.96	87.9	**19.30**	**124.5**	**7.08**	**116.61**	0.00%	0	0.0%	0	75	Nil
RVL316	Roseville West	Wednesday, 16 September 2020	1:04:00	0.39	100.6	<0.24	<114	0.24	101.6	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	76	Nil
AN156	Avon North	Friday, 18 September 2020	12:40:00	0.23	82.5	0.25	93.0	0.35	109.0	<0.24	<114	1.56	115.9	1.01	111.4	0.19	110.3			0.00%	0	0.0%	0	77	Nil
STR040	Stratford East	Monday, 21 September 2020	14:49:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	**<0.24**	**<114**	**<0.24**	**<114**	0.00%	0	0.0%	0	78	Nil
RVL317	Roseville West	Wednesday, 23 September 2020	13:09:00	0.30	97.3	0.33	98.1	0.51	105.9	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	79	Nil
AN158	Avon North	Thursday, 24 September 2020	12:40:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	80	Nil
STR037	Stratford East	Friday, 25 September 2020	12:45:00	0.27	90.5	<0.24	<114	<0.24	<114	<0.24	<114	0.33	99.1	0.31	98.5	**2.70**	**117.0**	**1.33**	**111.40**	0.00%	0	0.0%	0	81	Nil
STR043	Stratford East	Thursday, 1 October 2020	12:52:00	0.22	100.0	<0.24	<114	<0.24	<114	0.25	104.5	0.32	85.8	0.30	85.2	**3.29**	**121.6**	**1.50**	**115.43**	0.00%	0	0.0%	0	82	Nil
AN134	Avon North	Friday, 2 October 2020	12:31:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.42	109.8	0.29	106.1	<0.24	<114			0.00%	0	0.0%	0	83	Nil
AN159	Avon North	Thursday, 8 October 2020	12:39:00	0.26	93.4	0.29	97.1	0.26	96.1	<0.24	<114	1.08	108.0	0.75	104.2	<0.24	<114			0.00%	0	0.0%	0	84	Nil
STR044	Stratford East	Thursday, 15 October 2020	12:37:00	0.23	99.4	<0.24	<114	<0.24	<114	<0.24	<114	0.50	85.8	0.46	85.0	**9.25**	**126.9**	**1.46**	**112.37**	0.00%	0	0.0%	0	85	Nil
AN160	Avon North	Tuesday, 20 October 2020	12:43:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.56	106.3	0.37	101.8	<0.24	<114			0.00%	0	0.0%	0	86	Nil
STR046	Stratford East	Wednesday, 21 October 2020	12:38:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.35	82.2	0.33	81.5	**<0.24**	**<114**	**<0.24**	**<114**	0.00%	0	0.0%	0	87	Nil
STR047	Stratford East	Thursday, 22 October 2020	12:56:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.26	82.2	0.25	81.6	**1.75**	**121.1**	**0.82**	**115.15**	0.00%	0	0.0%	0	88	Nil
STR048	Stratford East	Wednesday, 4 November 2020	12:37:00	0.25	99.4	<0.24	<114	<0.24	<114	<0.24	<114	0.44	82.2	0.41	81.5	**9.97**	**127.5**	**3.60**	**119.48**	0.00%	0	0.0%	0	89	Nil
AN162	Avon North	Thursday, 5 November 2020	12:42:00	<0.24	<114	<0.24	<114	0.25	105.3	<0.24	<114	0.96	110.0	0.59	104.9	<0.24	<114			0.00%	0	0.0%	0	90	Nil
BRN318	BRN	Monday, 9 November 2020	13:17:00	<0.24	<114	<0.24	<114	0.34	105.0	<0.24	<114	0.28	95.3	0.22	93.0	<0.24	<114			0.00%	0	0.0%	0	91	Nil
STR049	Stratford East	Friday, 13 November 2020	10:42:00	0.29	82.5	0.25	85.1	<0.24	<114	0.31	109.7	0.71	85.8	0.66	85.1	**<0.24**	**<114**	**<0.24**	**<114**	0.00%	0	0.0%	0	92	Nil
BRN318	BRN	Monday, 16 November 2020	13:32:00	<0.24	<114	<0.24	<114	0.53	95.1	<0.24	<114	0.36	96.2	0.29	93.8	<0.24	<114			0.00%	0	0.0%	0	93	Nil
STR051	Stratford East	Friday, 20 November 2020	12:42:00	0.34	86.0	0.34	85.1	<0.24	<114	0.63	109.9	0.71	85.8	0.67	85.2	**<0.24**	**<114**	**<0.24**	**<114**	0.00%	0	0.0%	0	94	Nil
RVL321	Roseville West	Tuesday, 24 November 2020	13:06:00	0.28	90.5	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	95	Nil
STR052	Stratford East	Wednesday, 25 November 2020	12:32:00	0.27	92.0	<0.24	<114	<0.24	<114	0.49	103.5	0.40	88.2	0.38	87.7	**3.24**	**119.2**	**1.76**	**114.39**	0.00%	0	0.0%	0	96	Nil
AN163	Avon North	Friday, 27 November 2020	12:44:00	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	0.44	107.3	0.30	103.3	<0.24	<114			0.00%	0	0.0%	0	97	Nil
STR054	Stratford East	Thursday, 3 December 2020	12:39:00	0.28	90.5	<0.24	<114	<0.24	<114	0.35	108.8	0.39	82.2	0.37	81.7	**2.48**	**118.5**	**1.39**	**113.94**	0.00%	0	0.0%	0	98	Nil
STR056	Stratford East	Monday, 7 December 2020	12:47:00	0.67	93.4	<0.24	<114	<0.24	<114	<0.24	<114	0.80	85.8	0.73	85.1	**<0.24**	**<114**	**<0.24**	**<114**	0.00%	0	0.0%	0	99	Nil
RVL322	Roseville West	Thursday, 10 December 2020	13:59:00	0.52	95.6	0.28	99.1	0.27	100.5	<0.24	<114	0.25	90.2	0.21	88.3	<0.24	<114			0.00%	0	0.0%	0	100	Nil
STR057	Stratford East	Friday, 11 December 2020	9:14:00	0.23	90.5	0.29	103.1	<0.24	<114	0.25	97.2	0.59	90.2	0.54	89.6	**<0.24**	**<114**	**<0.24**	**<114**	0.00%	0	0.0%	0	101	Nil
RVL323	Roseville West	Tuesday, 22 December 2020	13:05:00	0.33	98.1	0.29	103.1	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114	<0.24	<114			0.00%	0	0.0%	0	102	Nil
STR059	Stratford East	Wednesday, 30 December 2020	12:46:00	0.35	92.0	0.25	85.1	<0.24	<114	0.58	105.4	0.52	82.2	0.49	81.7	**4.53**	**110.8**	**2.45**	**105.93**	0.00%	0	0.0%	0	103	Nil

Note 1 Site exceedance, monitored blasts & cumulative exceedances reference blasts between 1/7/20 and most recent blast.
Note 2 Blast exceedance of 115dBL or 5mm/s.
Note 3 Blast exceedance of 120dBL or 10mm/s

STRATFORD EAST BLASTS SHOWN

**Note: Blast compliance,*

- ** No more than 5% of total blasts for annual monitoring period to exceed an overpressure of 115dB(L) or ground vibration of 5mm/s.*
- ** No blast is to exceed an overpressure of 120dB(L) or ground vibration of 10mm/s.*
- ** SEP Environmental Impact Statement (SCPL, 2012) concluded that vibration velocity at the Aboriginal heritage site CTS-1 is predicted to beless than a nominated archaeological/geological vibration damage criteria of 80 mm/s (SLR Consulting, 2012).*

Appendix 6:

Real –Time Noise Monitoring Response Register

SMC Real-Time Noise Monitoring Response Register

** Register of alarms when the real-time monitoring system detects any potential exceedance of noise limits (NMP Section 7.3.3)*

Alarm Description				Validate Data	Source Identification	Management Strategy	Review
Alarm Date/Time		Name/Location	What Performance Indicator has been exceeded?	Review of Meteorological Data (Does the noise criteria apply)	Review of real-time audio to determine mine contribution. Identify main contributing noise source.	Management measure taken, i.e. Additional mitigation measures applied or ceasing of activities.	Review of real-time data to determine whether the management strategy has resulted in a discernible noise reduction.
9:15:15 PM	Wednesday, 1 January 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
10:15:15 PM	Wednesday, 1 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
11:00:11 PM	Wednesday, 1 January 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
1:45:11 AM	Thursday, 2 January 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
10:15:15 PM	Tuesday, 7 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:30:15 PM	Tuesday, 7 January 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
10:30:15 PM	Wednesday, 8 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 9 January 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Thursday, 9 January 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:15:15 PM	Thursday, 9 January 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Friday, 10 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Monday, 13 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
10:30:15 PM	Monday, 13 January 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
12:30:15 AM	Wednesday, 15 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:30:11 PM	Wednesday, 15 January 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
10:15:11 PM	Wednesday, 15 January 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
12:00:11 AM	Thursday, 16 January 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
12:15:15 AM	Thursday, 16 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
9:45:11 PM	Thursday, 16 January 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
7:15:11 PM	Monday, 20 January 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
10:15:15 PM	Monday, 20 January 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:00:15 PM	Monday, 20 January 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Tuesday, 21 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:45:11 PM	Tuesday, 21 January 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:15:15 PM	Tuesday, 21 January 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:15:15 PM	Wednesday, 22 January 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
9:45:15 PM	Wednesday, 22 January 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:15:15 PM	Wednesday, 22 January 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:15:11 PM	Thursday, 23 January 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:45:20 PM	Thursday, 23 January 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
5:15:50 AM	Friday, 24 January 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:45:15 PM	Monday, 27 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:48:11 PM	Tuesday, 28 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:45:15 PM	Wednesday, 29 January 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:45:15 PM	Wednesday, 29 January 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:15:15 PM	Wednesday, 29 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:45:15 PM	Wednesday, 29 January 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:30:15 AM	Thursday, 30 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
1:00:15 AM	Thursday, 30 January 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:45:15 PM	Thursday, 30 January 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:15:15 PM	Thursday, 30 January 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
9:15:11 PM	Monday, 3 February 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:15:15 PM	Monday, 3 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:45:10 AM	Tuesday, 4 February 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
1:45:11 AM	Tuesday, 4 February 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:45:15 AM	Wednesday, 5 February 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:45:11 PM	Wednesday, 5 February 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
7:30:11 PM	Wednesday, 5 February 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
8:15:15 PM	Wednesday, 5 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
9:30:15 PM	Wednesday, 5 February 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
10:45:15 PM	Wednesday, 5 February 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:45:15 PM	Thursday, 6 February 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
9:30:11 PM	Thursday, 6 February 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Monday, 10 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:20 PM	Monday, 10 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 11 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:45:20 PM	Tuesday, 11 February 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:30:15 PM	Tuesday, 11 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
10:15:15 PM	Tuesday, 11 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Tuesday, 11 February 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:00:15 AM	Wednesday, 12 February 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
6:45:15 PM	Wednesday, 12 February 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
7:15:15 PM	Wednesday, 12 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Wednesday, 12 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
9:45:15 PM	Wednesday, 12 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:15:15 PM	Wednesday, 12 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:45:15 PM	Thursday, 13 February 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:30:40 PM	Thursday, 13 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:15:20 PM	Monday, 17 February 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:15:50 PM	Monday, 17 February 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:48:11 AM	Tuesday, 18 February 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
9:30:15 PM	Tuesday, 18 February 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:16:45 PM	Tuesday, 18 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:30:11 PM	Wednesday, 19 February 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:45:15 PM	Wednesday, 19 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:30:15 PM	Wednesday, 19 February 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:45:15 PM	Wednesday, 19 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
1:00:15 AM	Thursday, 20 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:15:15 PM	Thursday, 20 February 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:33:11 AM	Friday, 21 February 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:45:15 PM	Monday, 24 February 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
9:00:11 PM	Monday, 24 February 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:15:11 PM	Monday, 24 February 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:15:15 PM	Monday, 24 February 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:30:15 PM	Monday, 24 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:00:11 AM	Tuesday, 25 February 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:00:11 PM	Tuesday, 25 February 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:15:20 PM	Tuesday, 25 February 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:30:15 PM	Tuesday, 25 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:45:10 PM	Tuesday, 25 February 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 25 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:45:20 PM	Tuesday, 25 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:00:11 AM	Wednesday, 26 February 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
1:00:15 AM	Wednesday, 26 February 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Minor Mine Noise Noted, Environmental noise dominant
7:15:20 PM	Wednesday, 26 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
8:00:11 PM	Wednesday, 26 February 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:30:20 PM	Wednesday, 26 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 26 February 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:20 PM	Wednesday, 26 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:30:11 PM	Wednesday, 26 February 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
1:15:11 AM	Thursday, 27 February 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:20 PM	Thursday, 27 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:15:15 PM	Thursday, 27 February 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Thursday, 27 February 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Thursday, 27 February 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Monday, 2 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:15:20 PM	Monday, 2 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 2 March 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:00:15 AM	Tuesday, 3 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:20 PM	Tuesday, 3 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:15:20 PM	Tuesday, 3 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:00:20 AM	Wednesday, 4 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:15:20 AM	Wednesday, 4 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Wednesday, 4 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Thursday, 5 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:30:15 PM	Thursday, 5 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Thursday, 5 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Thursday, 5 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Friday, 6 March 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Monday, 9 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Monday, 9 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:45:15 PM	Monday, 9 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:45:15 PM	Monday, 9 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Monday, 9 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:45:15 PM	Monday, 9 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Tuesday, 10 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:30:15 PM	Tuesday, 10 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:31:45 PM	Tuesday, 10 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:30:15 PM	Tuesday, 10 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:45:20 PM	Wednesday, 11 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:30:15 PM	Wednesday, 11 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:45:15 AM	Thursday, 12 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:00:15 PM	Thursday, 12 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
9:00:15 PM	Thursday, 12 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:15:25 PM	Thursday, 12 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:45:15 PM	Thursday, 12 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:00:15 PM	Monday, 16 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Tuesday, 17 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:30:20 AM	Tuesday, 17 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
1:00:15 AM	Tuesday, 17 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:48:11 PM	Tuesday, 17 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:33:11 PM	Tuesday, 17 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording

9:18:11 PM	Tuesday, 17 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:48:11 PM	Tuesday, 17 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:18:11 PM	Wednesday, 18 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:03:11 PM	Thursday, 19 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:18:11 PM	Thursday, 19 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:30:11 PM	Thursday, 19 March 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Friday, 20 March 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:18:11 PM	Tuesday, 24 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Tuesday, 24 March 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Wednesday, 25 March 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:48:11 PM	Wednesday, 25 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:18:11 PM	Wednesday, 25 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:30:11 PM	Wednesday, 25 March 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:18:11 PM	Thursday, 26 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:03:11 PM	Thursday, 26 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:48:11 PM	Thursday, 26 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:18:11 PM	Thursday, 26 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:48:11 AM	Friday, 27 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:48:11 PM	Monday, 30 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Monday, 30 March 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:15:10 PM	Monday, 30 March 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:48:11 PM	Monday, 30 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 30 March 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:18:11 PM	Monday, 30 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:33:11 PM	Monday, 30 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Monday, 30 March 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:00:11 AM	Tuesday, 31 March 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:03:11 PM	Tuesday, 31 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:18:11 PM	Tuesday, 31 March 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:33:11 PM	Tuesday, 31 March 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Tuesday, 31 March 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Tuesday, 31 March 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:33:11 PM	Tuesday, 31 March 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:48:11 PM	Tuesday, 31 March 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Wednesday, 1 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:45:25 PM	Wednesday, 1 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Wednesday, 1 April 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Wednesday, 1 April 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:45:15 PM	Wednesday, 1 April 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:10 PM	Thursday, 2 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:25 PM	Thursday, 2 April 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:30:11 PM	Thursday, 2 April 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Thursday, 2 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 2 April 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Thursday, 2 April 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Thursday, 2 April 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Monday, 6 April 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Monday, 6 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:16:15 PM	Monday, 6 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:30:11 PM	Tuesday, 7 April 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Tuesday, 7 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 7 April 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Wednesday, 8 April 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:00:15 PM	Wednesday, 8 April 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:15:15 PM	Wednesday, 8 April 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Thursday, 9 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Thursday, 9 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Thursday, 9 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 20 April 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:18:11 PM	Monday, 20 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:30:11 PM	Monday, 20 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:33:11 PM	Monday, 20 April 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Monday, 20 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Monday, 20 April 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:18:11 PM	Monday, 20 April 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
11:45:11 PM	Monday, 20 April 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
11:48:11 PM	Monday, 20 April 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
12:33:11 AM	Tuesday, 21 April 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:45:11 PM	Tuesday, 21 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:18:11 PM	Tuesday, 21 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:30:11 PM	Tuesday, 21 April 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:00:10 PM	Tuesday, 21 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:48:11 PM	Wednesday, 22 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Wednesday, 22 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:30:11 PM	Wednesday, 22 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:15:11 AM	Thursday, 23 April 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Thursday, 23 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:48:11 PM	Thursday, 23 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:18:11 PM	Thursday, 23 April 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:30:11 PM	Thursday, 23 April 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
9:15:10 PM	Thursday, 23 April 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:45:11 PM	Thursday, 23 April 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:30:11 AM	Friday, 24 April 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:48:11 PM	Monday, 27 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:00:11 PM	Tuesday, 28 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:18:11 PM	Tuesday, 28 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:15:11 PM	Tuesday, 28 April 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
9:45:11 PM	Tuesday, 28 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:15:11 PM	Tuesday, 28 April 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:45:11 PM	Wednesday, 29 April 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:45:15 PM	Wednesday, 29 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:00:20 PM	Wednesday, 29 April 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:30:11 PM	Wednesday, 29 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:45:11 PM	Wednesday, 29 April 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:45:11 PM	Wednesday, 29 April 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:45:11 PM	Wednesday, 29 April 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:00:11 PM	Thursday, 30 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:00:15 PM	Thursday, 30 April 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
9:15:11 PM	Thursday, 30 April 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
1:00:15 AM	Friday, 1 May 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:48:11 PM	Monday, 4 May 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:15:45 PM	Monday, 4 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:30:55 PM	Monday, 4 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
10:15:20 PM	Monday, 4 May 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:30:11 PM	Monday, 4 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:00:11 AM	Tuesday, 5 May 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:45:15 AM	Tuesday, 5 May 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
8:30:15 PM	Tuesday, 5 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
11:00:11 PM	Tuesday, 5 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
12:30:11 AM	Wednesday, 6 May 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:45:11 PM	Wednesday, 6 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:45:15 PM	Wednesday, 6 May 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:00:15 PM	Wednesday, 6 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
7:15:11 PM	Wednesday, 6 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise
6:45:11 PM	Thursday, 7 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
6:45:20 PM	Thursday, 7 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
7:00:11 PM	Thursday, 7 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
8:30:20 PM	Thursday, 7 May 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
9:30:11 PM	Thursday, 7 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Trafffic Noise Noted.
11:15:11 PM	Thursday, 7 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:30:11 AM	Friday, 8 May 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 11 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Monday, 11 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:45:11 PM	Monday, 11 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:30:11 PM	Monday, 11 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Monday, 11 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 11 May 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Monday, 11 May 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:30:15 PM	Monday, 11 May 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 12 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 12 May 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:15:11 PM	Tuesday, 12 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Tuesday, 12 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Tuesday, 12 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Tuesday, 12 May 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:20 PM	Wednesday, 13 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:45:11 PM	Wednesday, 13 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Wednesday, 13 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 13 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Wednesday, 13 May 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Wednesday, 13 May 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:20 PM	Thursday, 14 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:15:11 PM	Thursday, 14 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:30:15 PM	Thursday, 14 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:45:15 PM	Thursday, 14 May 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:45:15 PM	Thursday, 14 May 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 18 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Monday, 18 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording

9:45:10 PM	Monday, 18 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:45:15 PM	Monday, 18 May 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:30:11 PM	Monday, 18 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 19 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 19 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
8:30:20 PM	Tuesday, 19 May 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
8:45:11 PM	Tuesday, 19 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
9:45:11 PM	Tuesday, 19 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
10:15:11 PM	Tuesday, 19 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
10:15:15 PM	Tuesday, 19 May 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
10:30:11 PM	Tuesday, 19 May 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
11:30:11 PM	Tuesday, 19 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
6:45:11 PM	Wednesday, 20 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
6:45:15 PM	Wednesday, 20 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Wednesday, 20 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:00:10 AM	Thursday, 21 May 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 21 May 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Thursday, 21 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:30:15 PM	Thursday, 21 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:30:15 PM	Thursday, 21 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
1:00:11 AM	Friday, 22 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Friday, 22 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Friday, 22 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:15:15 PM	Monday, 25 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Monday, 25 May 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Tuesday, 26 May 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:45:15 PM	Tuesday, 26 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:15:15 PM	Tuesday, 26 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 26 May 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Wednesday, 27 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Wednesday, 27 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Wednesday, 27 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 27 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:30:25 PM	Wednesday, 27 May 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Thursday, 28 May 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:45:11 AM	Thursday, 28 May 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 28 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Thursday, 28 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:30:11 PM	Thursday, 28 May 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:15:15 PM	Thursday, 28 May 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:30:11 PM	Thursday, 28 May 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:30:15 PM	Thursday, 28 May 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 28 May 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Thursday, 28 May 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Faint truck noise, Environmental noise dominant
5:45:15 AM	Tuesday, 2 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Faint truck noise, Environmental noise dominant
8:45:15 PM	Tuesday, 2 June 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Faint truck noise, Environmental noise dominant
9:30:11 PM	Tuesday, 2 June 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Faint truck noise, Environmental noise dominant
5:15:15 AM	Wednesday, 3 June 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Faint truck noise, Environmental noise dominant
5:30:15 AM	Wednesday, 3 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Faint truck noise, Environmental noise dominant
6:45:15 PM	Wednesday, 3 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Faint truck noise, Environmental noise dominant
10:15:15 PM	Wednesday, 3 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Faint truck noise, Environmental noise dominant
10:45:11 PM	Wednesday, 3 June 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Faint truck noise, Environmental noise dominant
5:30:15 AM	Thursday, 4 June 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 4 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:30:11 PM	Thursday, 4 June 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:45:15 PM	Thursday, 4 June 2020	Stratford	GreenNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:30:15 PM	Thursday, 4 June 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:18:11 PM	Tuesday, 9 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Thursday, 11 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 15 June 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:46:00 PM	Monday, 15 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Monday, 15 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 15 June 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Monday, 15 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:15:15 PM	Monday, 15 June 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:45:15 PM	Monday, 15 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 16 June 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 16 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:10 PM	Tuesday, 16 June 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:15:11 PM	Tuesday, 16 June 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:15:15 PM	Tuesday, 16 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:30:10 PM	Tuesday, 16 June 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Tuesday, 16 June 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 16 June 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:30:15 PM	Tuesday, 16 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:00:11 AM	Wednesday, 17 June 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Minor Mine Noise Noted, Environmental noise dominant
12:30:11 AM	Wednesday, 17 June 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Minor Mine Noise Noted, Environmental noise dominant
8:48:11 PM	Wednesday, 17 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Minor Mine Noise Noted, Environmental noise dominant
9:48:11 PM	Wednesday, 17 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Minor Mine Noise Noted, Environmental noise dominant
10:48:11 PM	Wednesday, 17 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	Minor Mine Noise Noted, Environmental noise dominant
7:15:10 PM	Thursday, 18 June 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Thursday, 18 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:20 PM	Thursday, 18 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Thursday, 18 June 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 22 June 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Monday, 22 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Monday, 22 June 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:00:11 AM	Tuesday, 23 June 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
1:00:15 AM	Tuesday, 23 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 23 June 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Tuesday, 23 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
1:00:15 AM	Wednesday, 24 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Wednesday, 24 June 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Wednesday, 24 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:30:11 PM	Wednesday, 24 June 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Wednesday, 24 June 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Wednesday, 24 June 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:15:15 PM	Wednesday, 24 June 2020	Stratford	GreenNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
12:30:15 AM	Thursday, 25 June 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
7:30:15 PM	Thursday, 25 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
8:00:15 PM	Thursday, 25 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
8:15:15 PM	Thursday, 25 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
8:45:15 PM	Thursday, 25 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
9:00:11 PM	Thursday, 25 June 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
9:30:15 PM	Thursday, 25 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
10:15:15 PM	Thursday, 25 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
11:30:10 PM	Thursday, 25 June 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Wind noise noted on noise recording
6:45:11 PM	Monday, 29 June 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Monday, 29 June 2020	Stratford	RedEStratford	Yes	External Noise Source	1 Review the audio to determine	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Monday, 29 June 2020	Craven	RedECraven	Yes	External Noise Source	1 Review the audio to determine	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 29 June 2020	Craven	AmberNCraven	Yes	External Noise Source	1 Review the audio to determine	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Monday, 29 June 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:11 PM	Monday, 29 June 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:15 PM	Monday, 29 June 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:45:11 AM	Tuesday, 30 June 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
6:45:11 PM	Tuesday, 30 June 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
7:00:15 PM	Tuesday, 30 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
7:15:11 PM	Tuesday, 30 June 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
7:15:15 PM	Tuesday, 30 June 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
8:30:15 PM	Tuesday, 30 June 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
9:30:11 PM	Tuesday, 30 June 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
10:15:11 PM	Tuesday, 30 June 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
10:30:11 PM	Tuesday, 30 June 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
10:30:15 PM	Tuesday, 30 June 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
11:15:11 PM	Tuesday, 30 June 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
6:45:11 PM	Wednesday, 1 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Wednesday, 1 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:15:11 PM	Wednesday, 1 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 1 July 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:15:11 AM	Thursday, 2 July 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Thursday, 2 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Thursday, 2 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:15:15 PM	Thursday, 2 July 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:30:11 PM	Thursday, 2 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:30:25 PM	Thursday, 2 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:11 PM	Thursday, 2 July 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:15:11 AM	Friday, 3 July 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Friday, 3 July 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 6 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Monday, 6 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Monday, 6 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:45:11 PM	Monday, 6 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:30:11 PM	Monday, 6 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 6 July 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Monday, 6 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Monday, 6 July 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Monday, 6 July 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:00:11 AM	Tuesday, 7 July 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording

12:45:15 AM	Tuesday, 7 July 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
1:00:11 AM	Tuesday, 7 July 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
1:00:15 AM	Tuesday, 7 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 7 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
10:30:15 PM	Tuesday, 7 July 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Wednesday, 8 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Wind noise noted on noise recording
6:45:15 PM	Wednesday, 8 July 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Wind noise noted on noise recording
7:00:11 PM	Wednesday, 8 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Wind noise noted on noise recording
8:15:11 PM	Wednesday, 8 July 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Wind noise noted on noise recording
8:30:11 PM	Wednesday, 8 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Wind noise noted on noise recording
9:00:11 PM	Wednesday, 8 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Wind noise noted on noise recording
9:30:11 PM	Wednesday, 8 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Wind noise noted on noise recording
10:45:11 PM	Wednesday, 8 July 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
11:00:15 PM	Wednesday, 8 July 2020	Stratford	GreenNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
11:15:11 PM	Wednesday, 8 July 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
11:30:15 PM	Wednesday, 8 July 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
11:45:25 PM	Wednesday, 8 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
6:45:10 PM	Thursday, 9 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
7:00:11 PM	Thursday, 9 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
7:15:15 PM	Thursday, 9 July 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
7:30:15 PM	Thursday, 9 July 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
7:45:11 PM	Thursday, 9 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
8:00:11 PM	Thursday, 9 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
8:15:15 PM	Thursday, 9 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
9:30:11 PM	Thursday, 9 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
9:30:15 PM	Thursday, 9 July 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
10:45:15 PM	Thursday, 9 July 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
11:00:15 PM	Thursday, 9 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Wind noise noted on noise recording
6:45:11 PM	Tuesday, 14 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 14 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Tuesday, 14 July 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Wednesday, 15 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:30:10 PM	Wednesday, 15 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 15 July 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Thursday, 16 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 16 July 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:15 PM	Thursday, 16 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:30:11 PM	Thursday, 16 July 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Thursday, 16 July 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Monday, 20 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Monday, 20 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Monday, 20 July 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:15:11 PM	Monday, 20 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Monday, 20 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:00:15 AM	Tuesday, 21 July 2020	Stratford	GreenNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:30:15 AM	Tuesday, 21 July 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:45:15 AM	Tuesday, 21 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Tuesday, 21 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Tuesday, 21 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:15:15 PM	Tuesday, 21 July 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:00:11 PM	Tuesday, 21 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Tuesday, 21 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 21 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:45:15 PM	Tuesday, 21 July 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Wednesday, 22 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Wednesday, 22 July 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:45:15 PM	Wednesday, 22 July 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:00:11 PM	Wednesday, 22 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Wednesday, 22 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 22 July 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Wednesday, 22 July 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Thursday, 23 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 23 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:15:11 PM	Thursday, 23 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Thursday, 23 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 23 July 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Thursday, 23 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:30:15 AM	Friday, 24 July 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 27 July 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:00:15 AM	Tuesday, 28 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 28 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 28 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Tuesday, 28 July 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:30:15 AM	Wednesday, 29 July 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Wednesday, 29 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Wednesday, 29 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:15:15 PM	Wednesday, 29 July 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:15 PM	Wednesday, 29 July 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:00:15 AM	Thursday, 30 July 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 30 July 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Thursday, 30 July 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:15 PM	Thursday, 30 July 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 3 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Monday, 3 August 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Monday, 3 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Monday, 3 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 3 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Monday, 3 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:15:11 AM	Tuesday, 4 August 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Tuesday, 4 August 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 4 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Tuesday, 4 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Tuesday, 4 August 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 4 August 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Tuesday, 4 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Wednesday, 5 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Wednesday, 5 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Wednesday, 5 August 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Wednesday, 5 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Wednesday, 5 August 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 6 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:45:11 PM	Thursday, 6 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:15:11 PM	Thursday, 6 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:30:15 PM	Thursday, 6 August 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:45:30 PM	Thursday, 6 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:30:11 PM	Thursday, 6 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:30:15 PM	Thursday, 6 August 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Thursday, 6 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Thursday, 6 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 6 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Thursday, 6 August 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
12:00:15 AM	Friday, 7 August 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 10 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Monday, 10 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 11 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
6:45:35 PM	Tuesday, 11 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Tuesday, 11 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 11 August 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
10:30:15 PM	Tuesday, 11 August 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Wednesday, 12 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas / Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Wednesday, 12 August 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:45:15 PM	Wednesday, 12 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Thursday, 13 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Thursday, 13 August 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Thursday, 13 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:10 PM	Thursday, 13 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:15 PM	Thursday, 13 August 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Thursday, 13 August 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 17 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:30:11 PM	Monday, 17 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Monday, 17 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 17 August 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Monday, 17 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:15 PM	Monday, 17 August 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:30:15 PM	Monday, 17 August 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Tuesday, 18 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Tuesday, 18 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:30:11 PM	Tuesday, 18 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Tuesday, 18 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Wednesday, 19 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Wednesday, 19 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Thursday, 20 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:30:11 PM	Thursday, 20 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Monday, 24 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Monday, 24 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Monday, 24 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:00:15 PM	Monday, 24 August 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:15:11 PM	Monday, 24 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording

10:15:11 PM	Monday, 24 August 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Monday, 24 August 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Monday, 24 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:15 PM	Monday, 24 August 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:30:11 AM	Tuesday, 25 August 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 25 August 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
7:00:15 PM	Tuesday, 25 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
9:30:11 PM	Tuesday, 25 August 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
9:45:11 PM	Tuesday, 25 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:15:11 PM	Tuesday, 25 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:45:15 PM	Tuesday, 25 August 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
11:00:11 PM	Tuesday, 25 August 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
11:45:15 PM	Tuesday, 25 August 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
12:00:11 AM	Wednesday, 26 August 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
6:45:11 PM	Wednesday, 26 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
7:15:11 PM	Wednesday, 26 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
7:15:15 PM	Wednesday, 26 August 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
8:45:11 PM	Wednesday, 26 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
6:45:11 PM	Thursday, 27 August 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
6:45:15 PM	Thursday, 27 August 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
7:15:11 PM	Thursday, 27 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
9:00:11 PM	Thursday, 27 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
1:00:15 AM	Friday, 28 August 2020	Stratford	GreenNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
6:45:11 PM	Monday, 31 August 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
9:15:15 PM	Monday, 31 August 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:15:15 PM	Monday, 31 August 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
7:00:15 PM	Tuesday, 1 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
7:15:11 PM	Tuesday, 1 September 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
7:30:11 PM	Tuesday, 1 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
8:00:25 PM	Tuesday, 1 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
8:30:11 PM	Tuesday, 1 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
9:30:11 PM	Tuesday, 1 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
9:45:11 PM	Tuesday, 1 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:15:11 PM	Tuesday, 1 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
11:30:11 PM	Tuesday, 1 September 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
12:15:11 AM	Wednesday, 2 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
6:45:11 PM	Wednesday, 2 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
6:45:15 PM	Wednesday, 2 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
7:00:15 PM	Wednesday, 2 September 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
7:45:30 PM	Wednesday, 2 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
8:30:11 PM	Wednesday, 2 September 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
9:00:11 PM	Wednesday, 2 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:15:15 PM	Wednesday, 2 September 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:45:11 PM	Wednesday, 2 September 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
12:30:11 AM	Thursday, 3 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
9:45:15 PM	Thursday, 3 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:15:15 PM	Thursday, 3 September 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:30:15 PM	Thursday, 3 September 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:45:11 PM	Thursday, 3 September 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
8:30:15 PM	Monday, 7 September 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
9:45:11 PM	Monday, 7 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
9:45:15 PM	Monday, 7 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:15:15 PM	Monday, 7 September 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise
10:30:11 PM	Monday, 7 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:15 PM	Monday, 7 September 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Monday, 7 September 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Tuesday, 8 September 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Tuesday, 8 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Tuesday, 8 September 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Thursday, 10 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 10 September 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:30:15 PM	Thursday, 10 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Thursday, 10 September 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Thursday, 10 September 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Monday, 14 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Monday, 14 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Monday, 14 September 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Monday, 14 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 14 September 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Monday, 14 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
11:00:15 PM	Monday, 14 September 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Tuesday, 15 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
7:30:15 PM	Tuesday, 15 September 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
8:30:15 PM	Tuesday, 15 September 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
9:45:10 PM	Tuesday, 15 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Tuesday, 15 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 15 September 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Tuesday, 15 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
12:00:11 AM	Wednesday, 16 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Wednesday, 16 September 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Wednesday, 16 September 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
7:45:11 PM	Wednesday, 16 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
7:45:15 PM	Wednesday, 16 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Wednesday, 16 September 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
9:30:11 PM	Wednesday, 16 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
9:30:15 PM	Wednesday, 16 September 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 16 September 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Thursday, 17 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 17 September 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
7:45:11 PM	Thursday, 17 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
9:00:11 PM	Thursday, 17 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
9:00:15 PM	Thursday, 17 September 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
9:15:11 PM	Thursday, 17 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 17 September 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers to use 1st gear when work high and or exposed areas where possible after 6pm	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 21 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Monday, 21 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:00:11 PM	Monday, 21 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Monday, 21 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Monday, 21 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:15 PM	Monday, 21 September 2020	Stratford	GreenNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:00:15 AM	Tuesday, 22 September 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Tuesday, 22 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
1:00:15 AM	Wednesday, 23 September 2020	Stratford	GreenNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Wednesday, 23 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:30:15 PM	Wednesday, 23 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Thursday, 24 September 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 24 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Thursday, 24 September 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:30:10 PM	Thursday, 24 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:30:15 PM	Thursday, 24 September 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:30:11 PM	Thursday, 24 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:45:11 PM	Thursday, 24 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 24 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Thursday, 24 September 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Thursday, 24 September 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Monday, 28 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Monday, 28 September 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:00:25 PM	Monday, 28 September 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:45:11 PM	Monday, 28 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:45:30 PM	Monday, 28 September 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:00:11 PM	Monday, 28 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:30:11 PM	Monday, 28 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 28 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Monday, 28 September 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Monday, 28 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 29 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Tuesday, 29 September 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:30:10 PM	Tuesday, 29 September 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Tuesday, 29 September 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:30:11 PM	Tuesday, 29 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Tuesday, 29 September 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Wednesday, 30 September 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 30 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Wednesday, 30 September 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Wednesday, 30 September 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 1 October 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Thursday, 1 October 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Thursday, 1 October 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:30:15 PM	Thursday, 1 October 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:00:15 PM	Thursday, 1 October 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Thursday, 1 October 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Tuesday, 6 October 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
7:15:15 PM	Tuesday, 6 October 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Tuesday, 6 October 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
8:45:15 PM	Tuesday, 6 October 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:30:11 PM	Tuesday, 6 October 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
11:30:15 PM	Tuesday, 6 October 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording
9:30:15 PM	Wednesday, 7 October 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on	No Audible Mine Noise, Environmental noise noted on recording

11:00:15 PM	Wednesday, 7 October 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
6:45:10 PM	Thursday, 8 October 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
8:15:11 PM	Thursday, 8 October 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
12:00:15 AM	Friday, 9 October 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Monday, 12 October 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Monday, 12 October 2020	Stratford	GreenEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Monday, 12 October 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:00:11 AM	Tuesday, 13 October 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 13 October 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:30:11 PM	Tuesday, 13 October 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:45:15 PM	Tuesday, 13 October 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Tuesday, 13 October 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:15 PM	Tuesday, 13 October 2020	Stratford	GreenNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Tuesday, 13 October 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:15 PM	Tuesday, 13 October 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Wednesday, 14 October 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:45:15 PM	Wednesday, 14 October 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:15:11 PM	Thursday, 15 October 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Thursday, 15 October 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Thursday, 15 October 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:00:11 AM	Friday, 16 October 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:30:11 AM	Friday, 16 October 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Monday, 19 October 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Tuesday, 20 October 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Tuesday, 20 October 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:30:11 PM	Wednesday, 21 October 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:15:20 PM	Wednesday, 21 October 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Wednesday, 21 October 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 21 October 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:15 PM	Wednesday, 21 October 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Wednesday, 21 October 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Thursday, 22 October 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Thursday, 22 October 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Thursday, 22 October 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:15:15 PM	Thursday, 22 October 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:00:11 PM	Thursday, 22 October 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Thursday, 22 October 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 22 October 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:15 PM	Thursday, 22 October 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:20 PM	Wednesday, 28 October 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:15 PM	Wednesday, 28 October 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 29 October 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:30:11 PM	Thursday, 29 October 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Thursday, 29 October 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:15:15 PM	Monday, 2 November 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:45:25 PM	Monday, 2 November 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Monday, 2 November 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Monday, 2 November 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:00:15 AM	Tuesday, 3 November 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 3 November 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 3 November 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:30:15 PM	Tuesday, 3 November 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 3 November 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:11 PM	Tuesday, 3 November 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Tuesday, 3 November 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:45:10 PM	Tuesday, 3 November 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:45:15 PM	Tuesday, 3 November 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Wednesday, 4 November 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:45:11 PM	Wednesday, 4 November 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:11 PM	Wednesday, 4 November 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Wednesday, 4 November 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:45:11 PM	Thursday, 5 November 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Thursday, 5 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:20 PM	Monday, 9 November 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Monday, 9 November 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:00:20 PM	Monday, 9 November 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:15:11 PM	Monday, 9 November 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:11 PM	Monday, 9 November 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:30:11 PM	Monday, 9 November 2020	Craven	GreenNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 10 November 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:11 PM	Tuesday, 10 November 2020	Craven	GreenECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:30:11 PM	Tuesday, 10 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:30:11 PM	Tuesday, 10 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Tuesday, 10 November 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:10 PM	Tuesday, 10 November 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:11 PM	Tuesday, 10 November 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Wednesday, 11 November 2020	Stratford	GreenNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Wednesday, 11 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Wednesday, 11 November 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:30:11 PM	Wednesday, 11 November 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:10 PM	Wednesday, 11 November 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:45:15 PM	Wednesday, 11 November 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
12:45:15 AM	Thursday, 12 November 2020	Stratford	GreenNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:15:20 PM	Thursday, 12 November 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
7:45:11 PM	Thursday, 12 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Thursday, 12 November 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:30:11 PM	Thursday, 12 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Thursday, 12 November 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 12 November 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
11:15:15 PM	Thursday, 12 November 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
1:30:15 AM	Monday, 16 November 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford ea	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Monday, 16 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
8:15:15 PM	Monday, 16 November 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
11:00:15 PM	Monday, 16 November 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
12:15:20 AM	Wednesday, 18 November 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Wednesday, 18 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
7:45:15 PM	Wednesday, 18 November 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 18 November 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
11:15:15 PM	Wednesday, 18 November 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
11:30:11 PM	Wednesday, 18 November 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Thursday, 19 November 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
11:30:20 PM	Thursday, 19 November 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:00:11 PM	Monday, 23 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Thursday, 26 November 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Thursday, 26 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 26 November 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:30:11 PM	Thursday, 26 November 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:45:15 PM	Thursday, 26 November 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
11:00:15 PM	Thursday, 26 November 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
7:45:11 PM	Monday, 30 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Monday, 30 November 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Monday, 30 November 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 1 December 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Tuesday, 1 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
12:45:15 AM	Wednesday, 2 December 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Wednesday, 2 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
8:00:11 PM	Wednesday, 2 December 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
8:15:11 PM	Wednesday, 2 December 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
8:45:11 PM	Wednesday, 2 December 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Wednesday, 2 December 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
11:15:15 PM	Wednesday, 2 December 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
12:45:15 AM	Thursday, 3 December 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
7:00:15 PM	Thursday, 3 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
8:45:11 PM	Thursday, 3 December 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 3 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Thursday, 3 December 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
12:15:11 AM	Friday, 4 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
9:45:15 PM	Monday, 7 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
2:45:11 AM	Tuesday, 8 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Tuesday, 8 December 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
7:45:11 PM	Tuesday, 8 December 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
8:45:15 PM	Tuesday, 8 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
10:30:15 PM	Tuesday, 8 December 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
10:45:11 PM	Tuesday, 8 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
12:15:11 AM	Wednesday, 9 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
4:30:11 AM	Wednesday, 9 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Wednesday, 9 December 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
7:30:15 PM	Wednesday, 9 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
11:00:11 PM	Wednesday, 9 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Thursday, 10 December 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the expose areas/Noise bunds where possible, no dozer operations on l	No Audible Mine Noise, Environmental noise noted on recording
9:15:15 PM	Monday, 14 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:30:15 PM	Monday, 14 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:45:15 PM	Monday, 14 December 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
6:45:20 PM	Tuesday, 15 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
8:30:11 PM	Tuesday, 15 December 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Tuesday, 15 December 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Tuesday, 15 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 15 December 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording

11:15:11 PM	Tuesday, 15 December 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
11:45:15 PM	Tuesday, 15 December 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
12:30:15 AM	Wednesday, 16 December 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
12:45:15 AM	Wednesday, 16 December 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Wednesday, 16 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Wednesday, 16 December 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:45:11 PM	Wednesday, 16 December 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 16 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
11:15:25 PM	Wednesday, 16 December 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Thursday, 17 December 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
8:15:11 PM	Thursday, 17 December 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
8:15:20 PM	Thursday, 17 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
8:30:11 PM	Thursday, 17 December 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:15:20 PM	Thursday, 17 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:45:10 PM	Thursday, 17 December 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Thursday, 17 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
5:45:15 AM	Friday, 18 December 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Trafffic Noise Noted.
8:45:15 PM	Monday, 21 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Trafffic Noise Noted.
12:00:15 AM	Tuesday, 22 December 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
6:45:25 PM	Tuesday, 22 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
11:45:11 PM	Tuesday, 22 December 2020	Craven	AmberNCraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
7:00:11 PM	Wednesday, 23 December 2020	Craven	AmberECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
8:15:15 PM	Wednesday, 23 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:15:15 PM	Wednesday, 23 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:11 PM	Wednesday, 23 December 2020	Craven	RedNCraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Wednesday, 23 December 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
6:45:11 PM	Monday, 28 December 2020	Craven	RedECraven	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:00:30 PM	Monday, 28 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Tuesday, 29 December 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Tuesday, 29 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
9:00:30 PM	Tuesday, 29 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Tuesday, 29 December 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
12:30:15 AM	Wednesday, 30 December 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
6:45:15 PM	Wednesday, 30 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
8:00:15 PM	Wednesday, 30 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
10:15:15 PM	Wednesday, 30 December 2020	Stratford	RedNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
12:15:15 AM	Thursday, 31 December 2020	Stratford	AmberNStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Environmental noise noted on recording
7:30:20 PM	Thursday, 31 December 2020	Stratford	AmberEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Trafffic Noise Noted.
8:45:20 PM	Thursday, 31 December 2020	Stratford	RedEStratford	Yes	External Noise Source	Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford e	No Audible Mine Noise, Trafffic Noise Noted.

Appendix 7:

Complaints and CCC Annual Report

Stratford Complaint Summary

Period: January 2020 to December 2020

Total No. of Complaints: 43 (29 noise, 2 air quality, 6 Blast Overpressure, 5 lighting, 1 Other)

Total No. of Complainants: 5

Date/Time of Complaint	Complainant Location	Method of Complaint	Nature of Complaint	Investigation/Outcome
10/03/2020 20:51hrs	Approx. 3.2km west of source	Community hotline.	Mine Noise	Complaint: "Noise Complaint" • Complainant stated that he could hear the mine 'droning noise' 'not the track slap'. • Acting E&C Supt. advised the CHPP was operating at the time with the loader on the ROM. No train loading activities were being undertaken. • Acting E&C Supt. advised that the SCPL Craven real time noise indicated compliance with the site criteria, no inversion and a gentle wind from the NE was recorded at the time. • Acting E&C Supt. advised SCPL are approved to undertake activities within the noise limits with recent noise survey results demonstrating compliance. • Complainant stated the consultants always measure on a Wednesday. • Acting E&C Supt. advised she would review the timing and ensure these were being undertaken on different days of the week.
20/03/2020 12:45hrs	Wenham Cox Rd	Direct to staff at Blast sentry point	Various	Opportunistic complaint to Coal Supt. at blast sentry point. Acting E&C Supt. Returned phone call to Complainant who advised she would call back, no call was received. A text message was received direct to Acting E&C Supt. mobile with various complaints on the 24, 30/03 & 1, 7/04. No further action taken.
27/03/2020 14:55hrs	Approx. 6.5 km west of source	Direct to mobile.	blast	Complaint: "Blast was more noticeable at residence around 12:45 and was wondering why that would be?" • The complaint was made directly to the Acting E&C Supt. mobile. • Acting E&C Supt. advised a blast had been fired earlier today 27/03/2020. Acting E&C Supt. advised the overpressure and ground vibration results at the monitors were compliant, with none showing any higher then designed readings warranting any further investigation. • Acting E&C Supt. provided some detail around how we monitor and investigate blasting at SMC. • The complainant asked about SMC timetable of blasting. • Acting E&C Supt. advised of the Stratford Blasting hotline and the notification distribution list available. The complainant was content to be added to the text messge notification list for future blasting.

28/04/2020 20:37hrs	Approx. 4Km west of the CHPP	Direct to AB email	Lighting	Complaint: "I am alarmed & disturbed at what appears to me to be the recent rapid increase in lights from the Southern end of your coal operations. Can you please help me understand the likely ongoing visual impact of lighting & what steps the mine are taking to mitigate it for the adjoining community?" • The complaint was made directly to the Acting E&C Supt. via email. • Acting E&C Supt. contacted the OCE on site who conducted a lighting audit and boundary check and included in the daily OCE report" 5 lighting plants in the Stratford east area all facing towards working areas and not reflected out into environment. Audit of light direction and boundary check of lighting all satisfactory." • Acting E&C Supt. returned a phone call to complainant advising a lighting audit had been undertaken by the Open Cut Examiner on site following receipt of complaint determining satisfactory lighting set up. • Acting E&C Supt. inspected operational lighting and undertook external inspection including Crowthers Road on 30/04/20 between 6:30-8pm.
1/05/2020 12:03hrs	Approx. 1.5km from blast	Direct text to AB mobile	Blast	Complaint "blast shaking the house again" • The complaint as made direct to the Acting E&C Sup. mobile via text • Acting E&C Supt. contacted The Complainant 1/5/20 to discuss and advised the blast was compliant. • Acting E&C Supt. offered to discuss any matters further with The Landowner. • The Complainant said she would talk to The Landowner and let AB know if he would like to.
11/05/2020 11:42hrs	Not advised	EPA hotline	Mine Noise	After hours call ref EPA109404. HEAVY MACHINERY AND VEHICLES revving constantly, without reprieve but at varying levels of acceleration or idling. Caller is reporting this from their fathers property. There is a constant issue. Response to EPA. Direct complaint also recieved.
14/05/2020 7:30hrs	Approx. 1.5km from suspected noise source, Bowens Road Stratford	Direct text to AB mobile	Mine Noise	Complaint "You need to get down there night time an listen to these machines 11pm put earmuff on from headaches an been woken to it again at 7 this morning. This is constant. I don't need call-back you need to fix this problem" • Acting E&C Supt. returned Complainant text "Hi *Complainant*, I have recorded your complaint in our records. If you wish to contact the Stratford Complaints directly the number is 1300658239 Regards, Alarna" • SCPL OCE was closely auditing the Avon North noise and lighting. The digger and truck were not operating from 8:15pm-11pm on the night of the complaint due to a break down.
14/05/2020 16:39hrs	Approx. 1.5km from suspected noise source, Bowens Road Stratford	Direct text to AB mobile	Lighting	Complaint “It's *complainant* come down road heading into town around corner bam there the big light in eyes that's Road hazard” “Think you need to come have a look it across road on to the house across the paddock” • Acting E&C Supt. contacted the OCE to audit the lighting. Lighting was glow only with no lighting plant positioned shining onto the road.
20/05/2020 8:00hrs	Approx. 1.5km from suspected noise source, Bowens Road Stratford	Direct text to AB mobile	Mine Noise	Complaint “it now 11:34 I have 3 very tired and cranky children awake due to noise” "and start back up at 7 and wake them" • ECC returned complainants text message with a phone call at 9:02. ECC suggested to the complainant to contact the complaints line so the complaint can be actioned immediately. • ECC informed complainant that compliance noise monitoring will be conducted before the end of the month. Complainant stated 'I went for a drive last night and the noise is drastically different between the our house and other places.' ECC informed complainant of the operations in the Avon N pit at the time of complaint.

20/05/2020 9:44hrs	Approx. 1.5km from suspected noise source, Bowens Road Stratford	Direct text to AB mobile	Mine Noise	Complaint “This noise again tonight is unacceptable" • Weather conditions: Inversion. Light SW wind. • ECC returned complainants text message with a call, no answer. • Dozer on upper BRN dump restricted to first gear only to reduce noise. Discussion with OCE to continue to limit elevated dozer use when inversions present.
21/05/2020 8:05hrs	Approx. 1.5km from suspected noise source, Bowens Road Stratford	EPA hotline	Mine Noise	Description of Incident: After hours call EPA109601. calling to advise of coal mine site working from 18:30 to 19:00 started working again very loud noise - heavy machinery working continuously. Response provided to EPA. Direct complaint also received.
22/05/2020 7:35hrs	Approx. 1.5km from suspected noise source, Bowens Road Stratford	Direct text to AB mobile	Mine Noise	Complaint “keep the noise down" • Weather conditions: Moderate WSW wind. • ECC called complainant at 8:18am with no answer, ECC returned complainants call at 11:58am. Complainant stated that "machinery noise, still going" "light is still on the road" "keep the noise down". • SCPL to continue implementing noise mitigation measures for mobile plant in accordance with the NMP. Lighting plant have been audited and deemed satisfactory.
26/05/2020 20:59hrs	Approx. 1.5km from suspected noise source, Bowens Road Stratford	Direct text to AB mobile	Mine Noise	Complaint “Machinery loud again tonight" • Weather conditions: SW wind. • AB contacted OCE on evening shift. Dozer at RL 84 in Avon pit operating in first gear. Dozer at RL 103 in BRN dump well below surface ceasing work at 9:30 pm. Coal was being hauled from Avon pit after 9:30 pm. Stratford East had 2 dig units running 5 trucks and 2 dozers. Only 1 dig unit in operation from 4:30pm till 6:00pm. • AB called complainant at 9:27am with no answer. Called at 11:42am to discuss the operation at the time of the complaint. Complainant stated "it roars through the house" "something has to be done" "I don't need a call back just log it or whatever you do". AB advised SCPL were available to discuss the matters further with The landowner. The complainant stated "You need to fix it" and hung up the call. • SCPL to continue implementing noise mitigation measures for mobile plant in accordance with the NMP.
9/06/2020 19:02hrs	Approx. 3.2km west of the operation	Community Hotline	Mine Noise	Complaint: "Noise" • AB returned a call at 19:51. • Complainant advised the noise 'sounds like blasting shaking the house' 'loud banging' 'started at 1pm seems to of dropped off about 7pm, can just hear engine roaring now' 'can see lights over the hill and flashing blue and red lights' • AB Contacted OCE on evening shift. Lighting and noise audit undertaken during shift with levels found satisfactory. • The Real Time Noise(RTN) monitoring shows compliance with noise criteria at the Craven unit. Minor truck noise and instances of loud banging (likely the first bucket into trucks) audible in audio data. Advice provided to Operations to review excavator bucket height • AB call back the complainant at 12:55pm no answer, called at 16:50pm. • AB advised RTN monitoring indicated compliance however during review of the audio banging could be heard. SCPL are going to review truck loading and heights of the buckets.

29/06/2020 5:45hrs	Approx. 3.2km west of the operation	Community Hotline	Mine Noise	Complaint: "the noise is excessive tonight - also lights really broaching his private space - blue lights on a gantry and another shining through his window". • Weather conditions: Medium inversion. Light NW wind. • AB contacted the OCE to audit the lighting and noise. OCE went out to Upper Avon Rd reported a faint glow on the Stratford East Dump- adjusted tilt of the lighting plant to remove the glow. Minimal noise observed. • OCE report/email saved on the server. • AB contacted CHPP - operating at the time with loader on the ROM. No train. No dozer. •ECC reviewed Stratford Noise Monitoring audio files with dozer and truck noise audible. Real time noise and MET monitoring shows SCPL to be within noise criteria. • AB contacted Complainant discussed the current operations and RTN review. Discussed lighting hierarchy, mentioned improvements conducted recently with timers installed on wash down bay.
29/06/2020 10:30hrs	Approx. 2.6km west of source	Community Hotline	Mine Noise	Complaint: "Noise Last Night". (received 30/6/2020, 11:38AM) • Weather conditions: Strong inversion. Moderate NW wind. • ECC Returned complainants call as requested. Complainant stated that 'truck noise was more noticeable than usual last night at 10:30PM'. ECC outlined operation and MET conditions to the complainant. •ECC reviewed Stratford Noise Monitoring audio files and truck noise was noted on the recording with ambient noise identified as being the dominant source. • SCPL to continue implementing noise mitigation measures for mobile plant during periods of strong inversions.
6/07/2020 19:00hrs	Approx. 1.5km from suspected noise source, Bowens Road Stratford	Direct text to AB mobile	Mine Noise	Complaint “Noise Woke me this morning and they're loud now. I don't need to listen to it into the night. thanks" • Weather conditions: Moderate W wind, strong inversion. • Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford east area. • SCPL to continue implementing noise mitigation measures for mobile plant in accordance with the NMP.
21/07/2020	Approx. 1.5km from suspected noise source, Bowens Road Stratford	Direct text to AB mobile	Mine Noise, dust lighting	Complaint "Last night the noise was too much. The dust is quite thick. The lights are still on the road which is quite the hazard. And I think it's about time you service your dozers. Don't need it again tonight thank you very much." • Weather conditions: Strong inversion. Light wind during the night operations- inconsistent direction. • AB Returned complainants call. • SCPL to continue implementing noise mitigation measures for mobile plant during periods of strong inversions.
29/07/2020	Approx. 2.6km west of source	Community Hotline	Mine Noise	Complaint "has been woken by trucks from 5:00AM onwards, she is a shift worker so doesn't get to sleep until late" Weather conditions: Strong inversion. Light SSW wind during the complaint period. Call returned to complainant.

17/08/2020	Approx. 4Km west of the CHPP	Email	Blasting and general enquiries	The Complainant contacted SCPL to discuss general matters including lighting, mining activities and blasting. • MP returned call to The Complainant on 17/08/20. MP provided an update on contact methods for community members including direct contact details, updates on exploration lease status and mining activities, updates on previous lighting queries. Complaint: The Complainant advised a neighbour had noticed elevated noise from a blast on 07/08/20 and would like this recorded as a complaint. • Blast on 7/8/20 didn't trigger monitoring at Isaac or Ex-judge, in direction of complainant. Advice on complaint provided to D&B Engineer. MP advised he would follow-up progress on changes to ROM pad lighting and white light on waste emplacement. • CHPP Supt. Confirmed adjusts to ROM pad lighting had been completed although the proposed louvre is no longer available. Additionally, CHPP lights are turned off when not required. • MP inspected light emissions from Crowthers Rd at 7pm and observed direct light from lighting plant on Stratford East NAF dump. MP phoned OCE (Mick Bird) who immediately adjusted the orientation of the plant and reduce glare to the west.
18/08/2020	Approx. 3.2km west of the operation	Community Hotline	Lighting	Complaint: "Light Pollution, all she sees is light not darkness" • MP attended Upper Avon Rd at 7pm to observe lighting and noise emissions. No direct line of sight of lighting was possible from the road. The outlook may be different from the location of the dwelling. MP noted noise emissions were also low the time of observation. • MP returned call to Complainant on 19/08/20 and discussed lighting and noise concerns. The complainant advised the light emissions had noticeable increased and noise has also been bad on several night. MP provided an update on current mining activities. MP also advised recent discussions with neighbours regarding lighting and changes which had been made at the CHPP and Stratford East. MP advised the noise emissions would have increased due to mining in Stratford East, however noise monitoring will continue to be undertaken to identify and adverse impacts. • MP provided feedback to OCEs regarding setup of lighting plants and noise emissions from Stratford East. Information also provided to CHPP Supt. MP advised he would follow-up with another visit to Upper Avon Rd to inspect lighting emissions from closer to the dwelling. • Advice provided to OCE and CHPP regarding lighting and noise impacts and mitigation.
18/08/2020	Approx. 3.2km west of the operation	Community Hotline	Noise	Complaint: "Noise complaint - low drone noise and machinery" • Response included above.
4/09/2020 12:46hrs	Approx. 1.5km from blast location, Bowens Road Stratford	Direct text to mobile	Blast	Complaint: "Blasting dust everywhere that's a no no big time" • MP returned a text message to advise the complaint would be follow-up. No call back required as requested previously. • E&C Coordinator reviewed blast video. Dust was observed to stay within ML and blast exclusion zone. Minor levels of dust migrated north of the blast location and dissipated within 4.5 mins.

16/09/2020 18:30hrs	Approx. 1.5km from suspected noise source, Bowens Road Stratford	Direct text to mobile	Noise	Complaint: "Noise rattling through house at 11 last night, do not want a repeat again tonight." • MP returned a text message to advise the complaint would be follow-up. No call back required as requested previously. • Weather conditions: No inversion present at 11:00PM on the 15/9/2020. Consistent light N wind at the time referenced in complaint. • OCE Comments; Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford east area. • SCPL to continue implementing noise mitigation measures for mobile plant in accordance with the NMP.
22/09/2020 21:49hrs	Approx. 3km west of the operation	Complaints line	Noise	Complaint: "noise like a freight train, and lighting" • ECC attempted call back, no answer. • Weather conditions: Strong inversion present at 9:49PM on the 22/9/2020. Consistent very light SE wind at the time referenced in complaint. • OCE Comments; • SCPL to continue implementing noise mitigation measures for mobile plant in accordance with the NMP.
2/10/2020 12:40 hrs	Approx. 1.5km from blast location, Bowens Road Stratford	Direct text to TK mobile	Blast	Complaint via text: ''Not informing when blasting again dust everywhere and that was a bit close to road and you didn't block bit dangerous.'' No call back required as requested by Complainant previously. Blast notifications for Complainant residence ceased as requested by Complainant. Notes from Senior Mining Engineer: • Blast was minimum 700m from Wenham Cox Road – road closure not mandatory • Dust plume very thin, did not leave immediate area of blast • Blast fired at 12:30:18PM against a scheduled blast time of 12:30PM – coincided with Blasting Hotline and community blasting notifications sent by E&C Coordinator • Filmed from 3 locations 1) Drone; 2)Handheld camera at Clarke; 3) DBS in pit camera all footage displays compliance with relevant requirements
7/10/2020 21:45hrs	Approx. 4Km west of the CHPP	Email	Lighting	Complaint: "lighting tonight is very extensive" • MP returned call to The Complainant on 08/10/20. • The Complainant explained he had noticed a beam of light from the Stratford East area shining from south to north. The Complainant advised there was no light shining directly towards them although the light seemed to have changed from previous nights. • MP advised he would follow-up with OCE and confirm positioning of lighting plants. • OCE advised lighting plant locations had not changed. OCE confirmed lighting plants angled towards east and north and below horizontal. OCE advised beam of light was possibly from PAF Cell light and would inspect on following night. • No call back to The Complainant required. Confirmed lighting plants are angled below horizontal and away from receivers to the west.
14/10/2020 21:30 hrs	Approx. 1.5km from location, Bowens Road Stratford	Direct text to MP mobile	Dust	Complaint via text: "the dust is bad fix this problem" No call back required as requested by Complainant previously. • Stratford and Craven TEOM Showing low PM10 12.47 and 12.25 respectively • Light ENE wind at time of complaint (4.2km/h), away from complainant • Water Cart watering grading floors, ramps and tipheads in the Avon and Stratford circuits. • Trucks tipping at Old Main Pit, Stratford East and Turkeys nest. No dust issues noted at dump locations.

15/10/2020 21:30hrs	Approx. 1.5km from location, Bowens Road Stratford	Direct text to MP mobile	Dust	Complaint via text: "its me again the dust really bad again tonight. you should take a drive down Wenham cox road and have a look for yourself." No call back required as requested by Complainant previously. • Stratford and Craven TEOM Showing low PM10 12.47 and 7.26 respectively • Light NNW wind at time of complaint (6.4km/h) • Water Cart watering grading floors, ramps and tip heads in the Avon and Stratford circuits. • Trucks tipping at Stratford East and Turkeys nest. No dust issues noted at dump locations.
8/10/2020 12:30hrs	Approx. 2.5km west of source (2.5kms from blast)	Direct to mobile.	Blast	Complaint: "Blast from Stratford mine caused the windows on the house to shake. Blast was larger than others previously from Avon North." • The complaint was made directly to the E&C Supt. mobile. Call returned on 19/11/20 • MP advised a blast had been fired at 12:39pm on 08/10/2020. MP provided blast monitoring results (0.29mm/s, 97.1dB(L)@ Ex-judge). Similar levels to previous blasts. • MP advised the measures which are undertaken in blast design to reduce the offsite impacts as much as practicable and information is conveyed to the drill and blast engineer.
12/11/2020 16:48hrs	Approx. 3.2km west of the operation	Community Hotline	Noise	Complaint: "Noise from heavy machinery" • ECC returned complainants call at 8:20am on 13/11/2020, Complainants wife answered the call. The complainants wife explained that the noise coming from the mine was a roaring machine noise which they hadn't previously heard. The complainants wife was unable to diagnose the machine type the noise may have been coming from. Complainants wife referred ECC to call her husband. ECC called the complainant at 8:25am, complainant did not answer. • Weather conditions: No inversion present at 4:48PM on the 12/11/2020. Consistent light N wind at the time referenced in complaint. • OCE Comments; Dozers in first gear on the expose areas in the Avon pit BRN dump and also in the Stratford east area. EX006 on higher exposed area of Stratford East. • ECC reviewed noise monitoring audio files from Craven noise monitoring unit. Moderate truck noise noted, traffic noise also noted on noise file. • SCPL to continue implementing noise mitigation measures for mobile plant in accordance with the NMP.
19/11/2020 19:00hrs	Approx. 1.5km west of operations, Bowens Road Stratford	Direct text to MP mobile	Various issues - noise, dust, blasting, contacts	Complaint via text: Numerous complaints via text message direct to SCPL. Issues relate to noise, dust, blasting, lighting. The complainant requested the contact details to call Yancoal head office • SCPL advised community complaints are managed at a site level. SCPL offered to engage with the complainant to resolve issues. The complainant declined and asked for head office contact. • SCPL inform the measures which continue to be implemented to mitigate impacts. SCPL advised the complainant they could request an independent review from DPIE if they are unsatisfied with SCPLs response. • The complainant declined to discuss issues with SCPL any further. SCPL continue to implement management and mitigation measures for noise, dust, blasting and lighting.

21/11/2020 23:20hrs	Approx. 1.5km west of operations, Bowens Road Stratford	Email to Yancoal Head office	Various issues - noise, dust, blasting, contacts	The Complaint emailed the Yancoal head office regarding ongoing concerns relating to noise, dust, blasting and lighting. The Complainant indicated they were not satisfied with the response from SCPL and their concerns were being ignored. • SCPL provided a return email on 30/11/2020. The email included information on the measures which have been implemented by SCPL to minimise the impacts of noise, dust, blasting and lighting. The email advised the Complainant if they were still unsatisfied with SCPL's response, there is a process in the Development Consent to request an independent review from the DPIE. • SCPL advised they would continue to cooperate and provide further information as requested. SCPL continue to implement management and mitigation measures for noise, dust, blasting and lighting.
3/12/2020 7:16hrs	Approx. 2.6km west of source	Community Hotline	Noise	Complaint: "Incredibly noisy, sounds like trucks coming through the wall, I'm a shift worker" • ECC Returned complainants call at 10:10 as requested. •Complainant explained that there had been loud revving noise with discernible gear change noise coming from the direction of the CHPP. • ECC explained that the noise she was hearing was most likely to be originating from Stratford East and explained the current noise mitigation measures undertaken by Stratford coal. ECC informed the Complainant of current attended noise monitoring requirements and prompted the complainant to review the reports on the Stratford Coal website. • Weather conditions: No inversion present at 7:16AM on the 3/12/2020. Consistent light N wind at the time referenced in complaint. • OCE Comments; Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford east area, Coal being Hauled to ROM from Stratford East Likely source. • ECC reviewed noise monitoring audio files from Craven noise monitoring unit. Low operational noise noted, source not identifiable. • SCPL to continue implementing noise mitigation measures for mobile plant in accordance with the NMP.
2/12/2020 21:30hrs	Approx. 1.5km west of operations, Bowens Road Stratford	Direct text to MP mobile	Noise	Complaint via text: "Noise is loud please keep it down thanks". • SCPL forwarded details of complaint to mining supervisor to ensure noise mitigation measures were being implemented. • SCPL provided a return text on 3/12/2020 to advise the complaint had been recorded and offered a follow-up call if required. • SCPL advised they would continue to cooperate and provide further information as requested. SCPL continue to implementing management and mitigation measures for noise.

10/12/2020 10;02hrs	Approx. 2.6km west of source	Community Hotline	Noise	Complaint: "noise - house is shut up but can still hear trucks revving" • ECC Returned complainants call at 09:40AM on 9/12/2020 as requested. • Complainant explained that there had been loud revving noise coming from the southern end of SCPL operation. • ECC and complainant discussed the inversion present and operations at the time of complaint. The complainant added that the operation is often audible but in this instance far exceeded the norm. Complainant also stated the noise of concern was aggressive intermittent revving. • Weather conditions: Inversion present at 10:02PM on the 10/12/2020. Consistent still wind conditions at the time of complaint. • OCE Comments; Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford East area. Waste material being dumped in the Stratford East Waste emplacement area. Rom Loader operational during night shift. Operational noise noted, source likely truck or loader engine noise. • SCPL to continue implementing noise mitigation measures for mobile plant in accordance with the NMP.
9/12/2020 9:58hrs	Approx. 3.2km west of the operation	Community Hotline	Noise	Complaint: "2nd call - Also called last night. Very loud machinery noise, and loud horns. Lights are also pointing at his house again." • ECC Returned complainants call at 9:20AM. Complainant did not answer. • ECC returned complainants call at 10:22AM. Complainant stated that the machinery noise had increased over the last 2 nights. The Complainant explained the noise as an revving noise that sounded different to the normal noise coming from the mine. The complainant also noted that the horn noise mentioned in the complaint was happening at around 10:00PM and sounded as if the horn operator was using the horn to signal someone. During the phone call the complainant raised an intrusive light that has reappeared in the Stratford east area. ECC committed to investigating the machine noise, horn noise and intrusive lighting. Weather conditions: No inversion present at 9:58PM on the 9/12/2020. Consistent light N wind conditions at the time of complaint. • OCE Comments; Dozers in first gear on the exposed areas in the Avon pit BRN dump and also in the Stratford East area. Waste material being dumped in the lower sections of Stratford east waste emplacement and in pit dumping at Stratford East. Rom Loader operational during night shift, OCE noted loud operational coming from the ROM loader. • Minor LF noise noted on noise recording. Cicadas and road noise dominant at Craven noise monitor
14/12/2020 6:38hrs	Approx. 2.6km west of source	Community Hotline	Noise	Complaint: "Noise for the last 1/2 hour to 40 minutes- Trucks" • Complainant did not request a call back. • Weather conditions: No inversion present at 6:38AM on the 14/12/2020. Light Westerly wind conditions at the time of complaint. • No truck noise noted on Real time monitoring unit at Craven. Traffic noise noted. • OCE Comments; Single service cart running at time of complaint. ROM Loader operational at time of complaint. • SCPL to continue implementing noise mitigation measures for mobile plant in accordance with the NMP.

14/12/2020 23:06hrs	Approx. 2.6km west of source	Community Hotline	Noise	Complaint: "Noise .. machines ... sounds like a highway" • Complainant did not request a call back. • Weather conditions: Light Rain, No inversion present at 23:30PM on the 14/12/2020. Light SSW wind conditions at the time of complaint. • Minor truck noise noted on Real time monitoring unit at Craven. Environmental noise dominant on noise recording. • OCE Comments; Light rain at time of complaint. Trucks dumping at Stratford east waste emplacement area. • SCPL to continue implementing noise mitigation measures for mobile plant in accordance with the NMP.
16/12/2020 21:50hrs	Approx. 3.2km west of the operation	Community Hotline	Noise and Lighting	Complaint: "Noise and Lighting" Comments from OCE: I went for a drive up the upper Avon Rd at 10.15pm and stopped at various spots along the road to check for noise and light, there was no noise to speak of and the only light was from the wash plant. There are 3 white lights that are stair lights leading up to the southern gantry that can be seen from a few spots on the rd but I would not call it intrusive light. All the Stratford East pit lights are at low level and are pointing to the east and north
21/12/2020 21:55hrs	Approx. 2.6km west of source	Community Hotline	Noise	Complaint: "Loud noise, sounds like a highway coming through the house" • Complainant did not request a call back. • Weather conditions: Persistent rain/12/2020. Light N wind conditions at the time of complaint. • Operations had ceased at 6:30pm due to wet weather. • ROM loader and CHPP ceased operations at approx. 8pm. The stockpile dozer and train loading was completed at 8:22pm. • MP sent text message to complainant to seek further information on complaint. Complainant returned call at 12:30pm 22/12. Complainant stated the noise definitely sound like trucks revving (stop/start) and it was very loud between 9:30pm and 11pm. MP stated there were no operations at Stratford Mine at this time and would try to identify what the noise source may be coming from. The complainant also advise they have been getting loud noise in the early morning from 5:45am. MP stated the operations start between 6:30am and 7am. The complainant suggested mine personnel could visit the location when noise is audible. MP suggested this would be possible and advised of current noise monitoring undertaken. SCPL to continue investigating potential source of noise. SCPL to attend location of noise impacts if request from resident is received.
22/12/2020 22:24hrs	Approx. 3.2km west of the operation	Community Hotline	Lighting	Complaint: "lights are all on but no work seems to be happening" • ECC returned complainants call as requested at 13:18. Complainant did not answer and a message was left on complainants message service. • Comments from OCE: all trucks running to the lower NAF or PAF dumps RL150/wind from the south south west/Lighting face down and to the south

23/12/2020 22:22hrs	Approx. 2.6km west of source	Community Hotline	Noise	Complaint: "Noise Complaint - same noise as previous when you said the mine was not operational and it was unbelievably loud" • ECC Returned complainants call at 09:00AM on 24/12/2020 as requested. Complainant stated that the noise has been consistent for the previous 2 weeks and has been a notable 'ramp up' in noise. Complainant outlined the period from 21:30 to 23:00 had been exceptionally loud. ECC explained that there had be significantly different operations at SCPL to the date of the most recent complaint from the complainant on the 21/12/2020. ECC explained details of the inversion that was present. Complainant requested further noise monitoring to be conducted at the complainants residence. ECC committed to investigating options to implement noise monitoring. • Weather conditions: Light SSW wind conditions at the time of complaint. Inversion present from 21:15 on the 23/12/2020 • Comments from OCE: Drove to front gate and sub-station to check for noise- a pit hum but not loud or intrusive. Checked all Dozers in First gear-Yes- checked if digger were using hornless systems-yes. all compliant. EX002 working at RL 170 on the hill-Lighting was directed down/Dump lighting also directed down. • Comments from CHPP: CHPP and ROM loader operated during night shift on 23/12/2020. No stockpile dozer operational. SCPL to investigate noise monitoring at the complainants residence.

Stratford Coal Community Consultative Committee Annual Report for Year 2020

Community Consultative Committee Details

CCC / Project Name:	Stratford Coal Mining Complex	**Reporting Period:**	January - December 2020
Independent Chairperson:	**Margaret MacDonald-Hill**	**Proponent Contact:**	**Michael Plain**

1. Executive Summary

The Stratford Community Consultative Committee (CCC) is a long established committee initiated in 1995 as part of the Stratford Coal Mine Development Consent approval. With the subsequent approval of the Stratford Extension Project, the Committee members oversee the Stratford Mining Complex in accordance with the Department of Planning and Environment's 2019 Community Consultative Committee Guidelines for State Significant Projects. The mine's area of operation is a 1,500 ha site of former grazing land, east of The Bucketts Way and situated between the villages of Craven and Stratford.

The committee comprises:

- five local community representatives;
- two Mid Coast Council representatives (elected and staff);
- two Stratford Coal representatives, with attendance from other personnel as required;
- one independent Chairperson.

The Committee meets quarterly, although with Covid-19, the May and August meetings were conducted via tele/video conferencing with most members resuming normal attendance at the November meeting. Despite the technology challenges that accompanied Covid-19, attendance numbers remained high. The committee continues to enjoy the benefit of long term community members and their knowledge is a well respected asset to the successful function of the whole committee. The committee sets its meeting dates at the end of each calendar year for the ensuing year to avoid any known potential conflicts.

Since the merging of two former Local Government Areas into the MidCoast Council, staff and elected representatives have shown a keen interest in the area, ensuring a consistent and vital link into local and regional affairs and greatly contributing to the efficacy of the committee. A much improved financial account of the Stratford Coal Community Enhancement contributions paid to Council is now provided to the committee annually.

The incumbent Stratford Coal personnel have remained the same for some time. Their expertise and good rapport with the committee, together with the high standard of pre-meeting information reports and comprehensive presentations given ensures a proficient community consultative committee.

For the reporting period and because of Covid-19 restrictions, only one invited speaker from the Yancoal Tenements Team joined the August meeting. This was in response to concerns raised at the May meeting on the advertisement of renewal of Yancoal Exploration and Assessment Leases and the lack of communication, which raised criticism and confusion within the local community, of the company and the name

changes of the Division of Resources and Geoscience (DRG) contributing to incorrect website accessibility. The Yancoal Tenements Manager briefed the committee on the specific requirements of the DRG, formerly the Division of Resources and Energy, provided information on the difference in the mining tenements and an explanation for the inclusion of biodiversity offset areas. Stratford Coal agreed to advise the committee of future renewals to avoid any further ructions within the local community.

In the wake of the previous year's drought and extreme bushfire events experienced across the State and prior discussions on controlled release of water in times of drought, at the February meeting the committee welcomed the news of the approval of the Stratford Water Access Modification to allow offsite water transfer by a public authority, the MidCoast Council and access to water by the RFS for fire fighting purposes. A water reuse order from the EPA is still required to be finalised before water can be transferred onsite. Bushfire management in the biodiversity offset areas has been discussed in recent years as the drought conditions worsened, as had the value of being aware of the GPS and access tracks. This information was collected and provided to the committee.

Other topics of discussion for the reporting period also included:

- general environmental management and monitoring, including air quality, noise, surface water and groundwater
- weeds, pest and pasture management, including wild dog control
- community complaints
- broader community engagement and community enhancement contributions to Council and allocation thereof
- progress at the mine and the Stratford Extension Project including proposed road closures
- Rehabilitation progress
- Biodiversity offset strategy
- Successful Nest Box Program
- Yancoal land management, including rural leased lands
- Bushfire mitigation
- Post mining land use and mine closure planning
- Triennial Independent Environmental Audit
- Covid-19 Site response

2. CCC activities over last 12 months

- Committee meetings were held in the months of February, May and August via tele/video conference, and November 2020.
- Committee site tours were restricted because of Covid-19. During the November meeting, four members of the committee viewed Avon North and Bowens Road North, Stratford East, Stratford Main Pit from the top of the Stratford Rehabilitation Area.

- No joint CCC meetings were held during the period, although the committee is appraised of Yancoal's sister operations at Duralie as the mine approaches end of life stages.

3. Key Issues

The CCC applauded Stratford Coal in progressing the modification and the infrastructure to allow transfer of offsite water to the MidCoast Council for civil construction works and associated dust suppression. The committee is very aware of strategic planning and utilisation of mine infrastructure that could provide valuable water resources for future use.

The Stratford CCC continues support for the long running Stratford Coal Education Program and the benefits it brings to the youth of the local community. It remains vigilant that the benefits of such funding, along with other community enhancement contributions and Yancoal Community Support Programs should flow through to those communities directly impacted by mining.

Improved annual reporting by MidCoast Council on the allocation of community enhancement contributions has led to an ongoing refinement of information and better understanding of the process. The Council continues to review its management practices and financial reporting back to the committee.

Community complaints of lighting and noise have increased this year and the committee has requested a review of mitigation measures.

Issue	Actions Taken	Next Steps
Stratford Coal Education and Yancoal Community Support Programs	Actively support ongoing success of Stratford Coal Education Program and Stratford Coal Community Support through CCC networks and media.	Ongoing
Stratford Extension Project	Update management plans and include relevant changes to committee presentations for discussion at CCC meetings.	As and when required
Biodiversity and Conservation Areas information exchange	GPS survey of access tracks used by emergency services and contract services completed. Information shared with Committee.	Available for future fire fighting Integration of biodiversity connectivity projects with MidCoast Council planning. Ongoing

Community complaints	Review lighting compliance: installation of timer in heavy vehicle wash down bay Lower wattage lights used Lights turned off when not in use Noise from blasting Noise monitoring	Monitor Location to be included in complaints summary Early hours of day shift to be included at sites where higher predicted noise affectation is occurring
Request for production tonnages split	Report on thermal/coking ratios	To be included in future reporting from February 2021

4. Focus for next 12 months

The planned activities for 2021 will continue to be guided by the contributions of the CCC members. These activities are likely to include:

- to investigate potential opportunities to increase agricultural land capability whilst meeting rehabilitation requirements
- interest in management of Yancoal owned land, including rural lease areas
- bush fire control
- MidCoast Council Catchment Officer to attend 2021 meeting to present on Karuah river Catchment Management Improvement works and biodiversity connectivity projects
- The committee resumes its meeting schedule in February each year and will maintain a similar schedule as the previous year.

To the best of my knowledge, there are no outstanding or emerging issues that have not been addressed or are in the process of being so, to the committee's satisfaction.

Committee Meeting minutes and presentations are available on the website within two weeks of each meeting.

Signature of Chair:	
Date:	March 3 2021

Appendix 8:

Export Train Summary

Stratford Mining Complex Export Train Summary

Note: Departure from Stratford rail loop.

2020	
Departure Date	**Departure Time**
Friday, 10 January 2020	9:50:00 AM
Wednesday, 15 January 2020	1:40:00 PM
Thursday, 16 January 2020	10:15:00 AM
Friday, 17 January 2020	12:45:00 PM
Tuesday, 21 January 2020	5:24:00 PM
Wednesday, 22 January 2020	5:28:00 PM
Friday, 24 January 2020	12:47:00 PM
Tuesday, 28 January 2020	11:50:00 AM
Wednesday, 29 January 2020	11:40:00 AM
Thursday, 30 January 2020	11:47:00 AM
Friday, 31 January 2020	8:12:00 PM
Monday, 3 February 2020	2:30:00 PM
Tuesday, 4 February 2020	11:35:00 AM
Wednesday, 5 February 2020	11:30:00 AM
Friday, 7 February 2020	11:30:00 AM
Monday, 17 February 2020	4:10:00 PM
Tuesday, 18 February 2020	1:10:00 PM
Friday, 21 February 2020	2:15:00 PM
Thursday, 27 February 2020	4:56:00 PM
Friday, 28 February 2020	10:10:00 AM
Monday, 16 March 2020	12:45:00 PM
Tuesday, 24 March 2020	1:10:00 PM
Friday, 10 April 2020	9:00:00 AM
Wednesday, 15 April 2020	9:05:00 PM
Monday, 27 April 2020	12:35:00 PM
Monday, 4 May 2020	12:20:00 PM
Wednesday, 13 May 2020	9:10:00 PM
Friday, 22 May 2020	1:05:00 PM
Monday, 25 May 2020	9:34:00 PM
Thursday, 28 May 2020	1:30:00 PM
Monday, 15 June 2020	10:40:00 PM
Tuesday, 16 June 2020	11:12:00 PM
Wednesday, 17 June 2020	1:10:00 PM
Thursday, 18 June 2020	4:20:00 PM
Thursday, 25 June 2020	4:10:00 PM
Friday, 26 June 2020	10:10:00 AM
Wednesday, 1 July 2020	4:30:00 PM
Thursday, 2 July 2020	6:50:00 PM
Monday, 6 July 2020	9:55:00 AM
Tuesday, 7 July 2020	4:50:00 PM
Thursday, 9 July 2020	12:01:00 AM
Friday, 10 July 2020	4:25:00 PM
Tuesday, 14 July 2020	7:18:00 PM
Friday, 7 August 2020	11:30:00 AM

Month	Number of Movements
January	11
February	9
March	2
April	3
May	5
June	6
July	7
August	5
September	11
October	13
November	7
December	12
Annual Total	**91**

Thursday, 13 August 2020	12:50:00 PM
Friday, 14 August 2020	9:25:00 AM
Thursday, 27 August 2020	9:55:00 PM
Friday, 28 August 2020	1:38:00 PM
Wednesday, 2 September 2020	10:00:00 AM
Thursday, 3 September 2020	11:35:00 AM
Wednesday, 9 September 2020	11:35:00 AM
Friday, 11 September 2020	11:50:00 AM
Thursday, 17 September 2020	11:35:00 AM
Monday, 21 September 2020	10:04:00 AM
Friday, 25 September 2020	12:15:00 PM
Saturday, 26 September 2020	1:23:00 PM
Monday, 28 September 2020	11:59:00 AM
Tuesday, 29 September 2020	8:00:00 PM
Wednesday, 30 September 2020	12:07:00 PM
Monday, 12 October 2020	10:15:00 AM
Wednesday, 14 October 2020	1:55:00 AM
Thursday, 15 October 2020	12:41:00 PM
Friday, 16 October 2020	8:30:00 AM
Monday, 19 October 2020	5:16:00 PM
Tuesday, 20 October 2020	11:50:00 AM
Tuesday, 20 October 2020	8:00:00 PM
Thursday, 22 October 2020	12:10:00 PM
Friday, 23 October 2020	8:00:00 AM
Friday, 23 October 2020	7:10:00 PM
Monday, 26 October 2020	7:40:00 PM
Wednesday, 28 October 2020	1:30:00 PM
Friday, 30 October 2020	12:30:00 PM
Monday, 9 November 2020	12:40:00 PM
Monday, 16 November 2020	1:30:00 PM
Friday, 20 November 2020	12:25:00 PM
Monday, 23 November 2020	7:25:00 PM
Thursday, 26 November 2020	8:04:00 PM
Monday, 30 November 2020	12:20:00 PM
Monday, 30 November 2020	5:28:00 PM
Wednesday, 2 December 2020	8:10:00 PM
Thursday, 3 December 2020	4:40:00 PM
Friday, 4 December 2020	6:30:00 AM
Tuesday, 8 December 2020	12:00:00 PM
Friday, 11 December 2020	2:34:00 PM
Tuesday, 15 December 2020	9:55:00 AM
Thursday, 17 December 2020	11:26:00 AM
Friday, 18 December 2020	12:48:00 PM
Monday, 21 December 2020	8:25:00 AM
Monday, 21 December 2020	3:15:00 PM
Monday, 21 December 2020	9:00:00 PM
Tuesday, 22 December 2020	11:48:00 AM

Appendix 9:

Stratford Mining Complex - Annual Biodiversity Report 2020

Stratford Mining Complex Annual Biodiversity Report 2020

FOR THE YEAR ENDING 31 DECEMBER 2020

CONTENTS

List of Appendices

Appendix J: Kleinfelder – SMC Hollow-bearing Tree Census Report 2019

Appendix K: AMBS Ecology & Heritage - SMC Fauna Surveys of the Biodiversity Offset and Biodiversity Enhancement Areas 2019.

1 INTRODUCTION

The Stratford Mining Complex (**SMC**), located in the Northern part of the Gloucester Basin NSW, is approximately 10 kilometres south of Gloucester and is owned and operated by Stratford Coal Pty Ltd (**SCPL**), a fully owned subsidiary of Yancoal Australia Limited (**YAL**).

1.1 Scope

In accordance with the Stratford Extension Project Development Consent SSD-4966, the proponent (SCPL) is required in accordance with *Schedule 2, condition 39* to prepare and implement a Biodiversity Management Plan (BMP). This Plan must include:

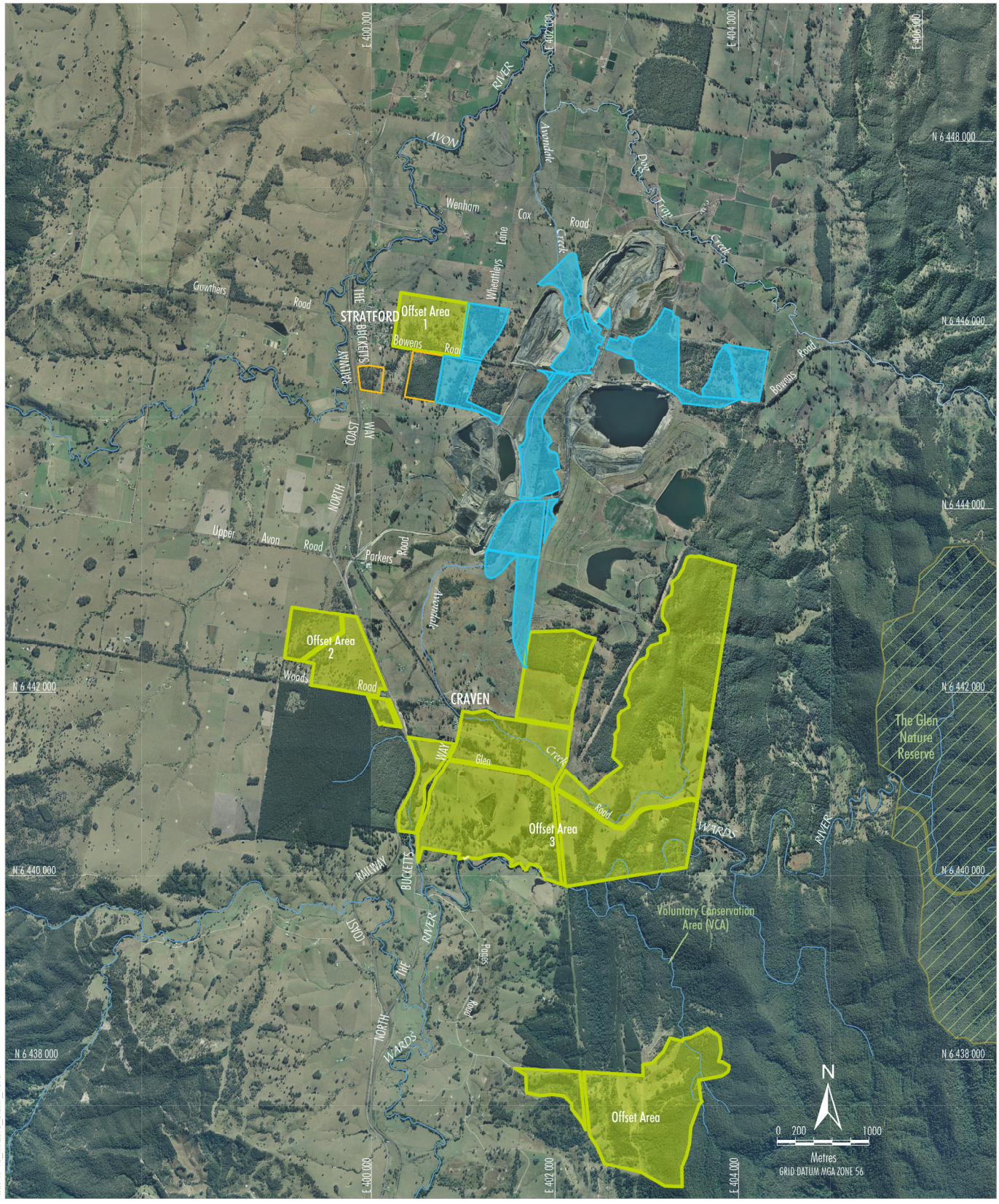
> *"a program to monitor and report on the effectiveness of the measures in the Biodiversity Management Plan, and progress against the detailed performance and completion criteria".*

The BMP was approved by the Department of Planning & Environment on 19 October 2018. This is the third Annual Biodiversity Report prepared for the Stratford Extension Project. This SMC Annual Biodiversity Report provides a review of the effectiveness of measures in the BMP for the annual year ending 31 December 2020 in accordance with Section 8.2.1 of the BMP. The scope of the review includes the Mining Lease areas, the Biodiversity Offset areas and the Biodiversity Enhancement area as indicated on Plan A.

This report (and associated Appendices) is included as an Appendix of the SMC Annual Review which is available on the Stratford Coal website www.stratfordcoal.com.au.

2 STATUS OF BMP PERFORMANCE CRITERIA

Performance criteria as prescribed in the BMP is presented in **Tables 1 to 9**. The performance criteria have been developed to meet the specific objectives for the areas described in Section 1.2 of the BMP. All performance criteria are linked to the management specifications listed in the BMP Section 4 and Section 5, and monitoring/reporting specifications in the BMP Section 7. The status of BMP performance criteria is provided in the subsequent sections of this report.



YAN-17-10_MP2018_BioMP_107D

LEGEND
- Crown Land
- Biodiversity Enhancement Area
- Offset Area

STRATFORDCOAL
Part of the Yancoal Australia Group

STRATFORD EXTENSION PROJECT

Biodiversity Offset Areas, Biodiversity Enhancement Area

Source: Australian Museum Business Services (2011) ; FloraSearch (2011); SCPL (2012); DFS-LPI (2012) ; DPI C&L [CLD] (2012) Orthophoto - SCPL (flown July 2011)

Figure 3

3 VEGETATION CLEARANCE PROTOCOL

3.1 Vegetation Clearance Report

Vegetation clearance is undertaken in accordance with the BMP Section 4.1 Vegetation Clearance Protocol. Prior to any clearance operations being undertaken a Clearing Plan is prepared, and pre-clearance surveys are undertaken.

During the 2020 reporting period, vegetation clearance was undertaken in advance of mining operations in the following areas:

- Avon North Open Cut Stage 4
- Stratford East Open Cut Stage 2
- Stratford East Clean Water Diversion Drain
- Stratford Main Pit Waste Emplacement Area (Turkey's Nest)

The area of disturbance at the end of 2020 is shown in the SMC Annual Review 2020 Figure 4 (Appendix A).

Information obtained during the preparation of the Clearing Plans and the vegetation clearance activities (i.e. habitat features, hollows cleared and fauna observed) is used to determine the requirements for nest box replacement in the Biodiversity Offset and Enhancement Areas (refer to Section 9). A summary of the vegetation cleared during the reporting period including habitat features and tree hollows is included in Appendix C.

A summary of the habitat features and tree hollows cleared since the commencement of the Stratford Extension Project is included below:

- 2018 – six (6) habitat features including zero (0) tree hollows.
- 2019 – forty-two (42) habitat features including nine (9) glider suitable tree hollows and five (5) other hollows.
- 2020 H1 – thirty-three (33) habitat features including nineteen (19) glider suitable tree hollows and eleven (11) other hollows.
- 2020 H2 – eighteen (18) habitat features including seven (7) glider suitable tree hollows and eleven (11) other hollows.

**Note tree hollows are include in the total habitat features reported above.*

3.2 Salvaged and Reused Material for Habitat Enhancement

Section 4.1.4 of the BMP requires salvaged material from vegetation clearance activities to be used for habitat enhancement within the rehabilitation, Biodiversity Offset areas and Biodiversity Enhancement Areas. Habitat features such as trunks, logs, large rocks, branches, stumps and roots are salvaged and relocated where practicable.

The areas cleared in advance of mining in 2020 as described in Section 3.1 were a mixture of previously cleared pasture and medium density woodland with habitat material available for salvage. In these areas, the cleared vegetation was managed as follows:

- Suitable trees and stumps were salvaged and stockpiled adjacent to the Stratford East Open Cut Area for reuse.
- Suitable trees and stumps were salvaged and stockpiled adjacent to the Turkeys Nest area for reuse

4 MANAGING ACCESS, FENCING, GATES AND SIGNAGE

Managing access, fencing, gates and signage is undertaken in accordance with the BMP Section 5.1 and 5.2.

Table 1: Fencing, Gate and Signage Performance and Completion Criteria

Management Action	Performance Criteria			Completion Criteria
	Year 1 (January – December 2018)	Year 2 (January – December 2019)	Year 3 (January – December 2020)	
Review of fencing requirements for offset areas.	Review of fencing complete including development of mapping showing fence and gate types, redundant fences and fences to be retained.	-	-	-
Gate and fence installations	50% of gates and fences installed	Installation of gates and fences complete	-	Gate and fence installations complete. Livestock excluded.
Redundant fence removal	50% of redundant fencing removed	Redundant fences removed	-	No redundant fencing
Installation of signage	-	Installation of signage complete	-	Signage installed

Table 2: Access Track Performance and Completion Criteria

Management Action	Performance Criteria			Completion Criteria
	Year 1 (January – December 2018)	Year 2 (January – December 2019)	Year 3 (January – December 2020)	
Operational review and mapping to facilitate site access for offset management activities.	Operational review developed. Mapping complete	-	-	Operational review and mapping completed
Access track enhancement and maintenance	Enhancement of access tracks undertaken as identified in operational review.	Maintenance of access tracks annually	Maintenance of access tracks annually	-

Legend	Not commenced	In progress	Completed

The implementation of the BMP management measures continued in 2020. The BMP requires works to be undertaken to exclude livestock and control access to the Biodiversity Offset areas and Biodiversity Enhancement Areas.

Following the initial 2018 review of the existing fencing, gates and access tracks, contractors were engaged to implement the removal of redundant fencing and install new fencing where required. Contractors were also engaged to maintain access tracks required for the ongoing management of the Biodiversity Areas.

During the reporting period mapping of fencing and access tracks has been completed to assist with ongoing management of the Biodiversity Areas. During the reporting period the removal of redundant fencing has continued and maintenance of existing fencing has been undertaken as required. Access tracks have continued to be maintained.

The installation of signage was completed in 2018. All key points of access to the Biodiversity Areas were identified and had signage erected. During the reporting the need for further signage and locks on gates has been identified to restrict access to the Biodiversity Areas.

5 REVEGETATION MANAGEMENT

5.1 Seed Collection and Propagation

Seed collection and propagation is undertaken in accordance with the BMP Section 4.1.5 and 5.3.

Table 3: Seed Collection and Propagation Performance and Completion Criteria

Management Action	Performance Criteria			Completion Criteria
	Year 1 (January – December 2018)	Year 2 (January – December 2019)	Year 3 (January – December 2020)	
Develop seed collection species list	Species list developed over time.			-
Seed collection	Seed collection commenced	Seed collection to continue	Seed collection to continue	-
Seed propagation	-	Seed propagation commenced	Seed propagation to continue	-

Revegetation in the BMP Revegetation Areas (BMP Management Zone A) will continue via seed and tube-stock. Local endemic (adapted) species are preferentially used where a seed supply is available, however consideration will be given to the use of a high quality seed sourced further from the site as required. An indicative list of flora species proposed to be used in the Revegetation Area (BMP Management Zone A) is provided in the BMP Appendix A.

In preparation for revegetation works each year, SCPL has prepared a scope and schedule for the revegetation works to be implemented (further discussed in Section 5.2). The total volume of seed required was calculated based on the floral listings for the target communities in the BMP appendices. During 2019 seed collection was conducted on felled Forest Oak (*Allocasuarina torulosa*) near Stratford East. This seed was used in seeding and tube-stock propagation during 2020. Due to the effects of the ongoing drought up to February 2020 no further seed collection was undertaken in 2020 due to limited seed supply.

Kleinfelder, Cumberland Seeds, Hunter Indigenous and Riverdene Nursery have been engaged to assist in the propagation of native plant species with tube-stock grown under controlled nursery conditions and delivered to site as required for revegetation works in the next reporting period.

5.2 Revegetation and Regeneration

Revegetation management is undertaken in accordance with the BMP Section 5.3 Revegetation Programme. The aim of revegetation is to establish a range of habitat niches including native canopy, and understorey. The Revegetation Area (Management Zone A) in the Biodiversity Areas will be revegetated to substantially increase the area of native vegetation in the area and maximise habitat diversity and a range of successional stages.

Table 4: Revegetation and Regeneration Performance and Completion Criteria

Management Action	Performance Criteria			Completion Criteria
	Year 1 (January – December 2018)	Year 2 (January – December 2019)	Year 3 (January – December 2020)	
Site Planning	Site inspection complete and advice received.	-	-	-
Map Revegetation Areas (Management Zone A) and identify target vegetation communities to establish	Mapping complete and target vegetation communities identified	-	-	-
Develop a species list for each target vegetation community	Species list developed	-	-	-
Develop application rates for seeds as well as planting densities for tube stock	Application rates developed	-	-	-
Implement revegetation schedule	Develop revegetation schedule	Implement revegetation schedule	Implement revegetation schedule	-
Revegetation Area (Management Zone A)	Commence revegetation works within the Revegetation Area (Management Zone A) (Figures 12a to 12c)	Continue revegetation works within the Revegetation Area (Management Zone A) (Figures 12a to 12c)	Continue revegetation works within the Revegetation Area (Management Zone A) (Figures 12a to 12c)	Vegetation established and provides suitable habitat for use by native fauna species.
Squirrel Glider Vegetation Pathways (Management Zone A1)	Commence planting *of* flora species which provide habitat for the Squirrel Glider within designated revegetation zones (Figures 12a to 12c)	Continue plantings of flora species which provide habitat for the Squirrel Glider	Continue plantings of flora species which provide habitat for the Squirrel Glider	Squirrel Glider vegetation pathways planted within the indicative area shown on Figures 12a to 12c, and provide connective habitat for the Squirrel Glider.
Allocasuarina spp. Plantings (Management Zone A2)	-	Commence planting of *Allocasuarina* spp. within designated revegetation zones (Figures 12a to 12c)	Complete *Allocasuarina* spp. plantings within Offset Area 3	*Allocasuarina* spp. plantings within the indicative area shown on Figures 12a to 12c, and provide foraging habitat for the Glossy Black-cockatoo
Coastal Floodplain Forest Revegetation (Management Zone A3)	-	-	Re-establishment of flora species characteristic of the Cabbage Gum open forest vegetation community	Improvement in condition of the riparian habitat along Avondale Creek within the indicative area shown on Figures 12a to 12c, as evidenced by monitoring data
Existing Remnant Vegetation (Management Zone B)	Inspection to be undertaken to monitor regeneration.	Inspection to be undertaken to monitor regeneration.	Inspection to be undertaken to monitor regeneration.	-
Power Line Corridor (Management Zone C)*	-N/A	-	-	-

Site Planning & Schedule

During 2019 SCPL prepared a scope and schedule for the revegetation works to be implemented in the Biodiversity Areas. Kleinfelder have been engaged to assist with both the site planning and implementation of the revegetation works. The site planning included:

- Mapping of the priority revegetation areas and vegetation communities to be completed in the 2020.
- Calculation of seed and tube-stock requirements based on the indicative lists of flora species in the BMP appendices.

Plans showing the areas revegetated in the Biodiversity Areas in 2020 are included in Appendix D (*2020 Autumn Stratford & Duralie Biodiversity Offsets Planting Program Report, Kleinfelder 2020*). These works were implemented during the first half of 2020.

Furthermore, a scope and schedule for the revegetation works to be implemented 2021 has been prepared during the second half of 2020. The proposed revegetation schedule for the Biodiversity Areas in 2021 is included in Appendix E.

Revegetation Implementation

The Autumn 2020 revegetation work was divided into three tubestock planting areas; in-fill planting of previously planted areas (Squirrel Glider Corridor, Glen Rd North and Glen Rd South) and newly planted areas at Glen Rd East and Glen Rd South East Offsets areas.

Ground preparation work was undertaken prior to tubestock planting and involved slashing by tractor to reduce the biomass and then deep ripped to break the soil surface and provide a soil bed for easier tubestock installation. The total number of plants installed were 62,237 consisting of 27,152 canopy plants across 20 different species and 35,085 midstorey and shrub plants across 29 species. This number includes some plantings undertaken in the Duralie Biodiversity Offset Area. A summary of the revegetation work undertaken during 2020 is included in Appendix D (*2020 Autumn Stratford & Duralie Biodiversity Offsets Planting Program Report, Kleinfelder 2020).* An extracted summary of the results from the **Error! Reference source not found.** is provided below.

> *Revegetation works during 2020 were undertaken in accordance with the Stratford Mining Complex Biodiversity Management Plan and the Duralie Coal Mine Biodiversity Management Plan. The 2020 Offsets Planting Program installed 62, 237 tubestock in the Duralie Biodiversity Offset and the Stratford Biodiversity Offset Areas between the 16th March and 14th May 2020. Areas selected for planting this year were either in-fill planting (installing plants into an area previously planted to increase diversity and density) or areas that were to be newly planted. In-fill planting areas did not generally require ground preparation work as existing rip lines were used to install plants. New planting areas were subject to ground cover (i.e. grasses) biomass reduction either by slashing or crash grazing by cattle and then ripping to break the soil surface and provide a soil bed for easier tubestock installation.*
>
> *The Stratford Offsets Planting program involved in-fill planting into three areas planted in spring 2019 and areas newly planted this year. In-fill planting occurred in the Squirrel Glider Corridor, Glen Rd North and Glen Rd South. Newly planted areas were the Glen Rd East and South East Offsets areas.*
>
> *The Squirrel Glider Corridor, Glen Rd North and Glen Rd South areas are located in Offsets Area 3 and were a combination of Rough-barked Apple – Red Gum grassy woodland on floodplain (Cabbage Gum variant), Spotted Gum – Grey Ironbark Forest (Spotted Gum Variant) with the Squirrel Glider Corridor a combination of both plus extra species to increase food resources for the Squirrel Glider.*
>
> *The Squirrel Glider Corridor had 810 tubestock installed which was slightly below the proposed total of 840. A small tree screen as installed along Wenham Cox's Rd that required 185 tubestock that had been accounted for in the initial planning stages of this year's program.*
>
> *Glen Rd North has an additional 9, 340 tubestock installed. These were predominantly with species characteristic of the Spotted Gum – Grey Ironbark Forest (Spotted Gum Variant) but included an area of Rough-barked Apple – Red Gum grassy woodland on floodplain (Cabbage Gum variant). The Glen Rd South area was predominantly in-fill planting with species characteristic of Rough-barked Apple – Red Gum grassy woodland on floodplain (Cabbage Gum*

variant), but did include two smaller areas of new planting of Spotted Gum – Grey Ironbark Forest (Spotted Gum Variant). In total 7, 894 tubestock were installed in this area.

The Glen Rd East and Glen Rd South East planting areas were the main focus of the Stratford Offsets Planting program this year and covered a total of 80.4ha. This consisted of 44.4ha of species characteristic of the Tallowwood – Small Fruited Grey Gum dry grassy forest of the foothills of the North Coast in the Glen Rd East area and 22.2ha of the same community in the Glen Rd South East area, and 13.8ha of species characteristic of the Grey Box – Forest Red Gum – Grey Iron bark Open Forest on the hinterland ranges of the North Coast in the Glen Rd East area. In total, 18, 318 tubestock were installed in the Glen Rd East area (both vegetation communities) with 10, 940 tubestock installed in the Glen Rd South East area. The plantings of the Grey Box – Forest Red Gum – Grey Iron bark Open Forest also included a dense area of Allocasuarina torulosa (Forest Oak) to act as a foraging resource for the Glossy-back Cockatoo. This area was required to be reduced in size from 17ha to the planted 13.8ha due to slope steepness, but the same quantity of tubestock was installed in the remaining areas to compensate.

Overall, this year's planting program was deemed to be very successful. Survival is expected to very good with excellent rainfall experienced before and during planting.

Plate 1: Tube-stock being prepared for the biodiversity offset.

Plate 2: *Tubestock preparation in 2020.*

Plate 3: Tubestock planting in March 2020.

Plate 4: Tubestock planting in the biodiversity areas in March 2020.

The next round of tube-stock planting is scheduled to commence in March 2021. Details of the 2021 revegetation works will be included in the next annual biodiversity report.

Monitoring

Vegetation Monitoring commenced in 2019 to assess the effectiveness of revegetation in the Revegetation Area (Management Zone A) and to assess the natural regeneration in the Existing Remnant Vegetation Area (Management Zone B). The data gathered in 2019 serves as a baseline to assess the success of the revegetation efforts.

Vegetation monitoring was undertaken again in February 2020. The full report is included in Appendix F (*2020 Stratford Mining Complex Biodiversity Offset Strategy Flora Monitoring Report, Kleinfelder 2020*). Habitat and vegetation monitoring is discussed further in Section 11. Habitat and vegetation condition monitoring will continue to be undertaken annually to quantitatively measure the change in habitat and vegetation condition over time and to inform any ongoing maintenance requirements.

6 WEED CONTROL AND MONITORING

Weed control is undertaken in accordance with the BMP Section 4.4 and Section 5.6. The weed control program aims to manage weeds to minimise their impact on native flora and fauna

Table 5: Weed Management Performance and Completion Criteria

Management Action	Performance Criteria			Completion Criteria
	Year 1 (January – December 2018)	Year 2 (January – December 2019)	Year 3 (January – December 2020)	
Monitoring of weed location and density	Mapping of weed extent and density produced	-	-	-
Bi-annual weed inspections and recording	Inspections and records completed	Inspections and records completed	Inspections and records completed	-
Weed control/treatment program	Strategic weed control as required, recording on areas worked and implementation of recommendations			Priority weed infestations appropriately controlled and minimised as evidenced through monitoring data

The general procedure for controlling weed involves:

- Monitoring to identify locations and densities of priority weed;
- Identification of suitable control measures;
- Implementation of the selected control measure by a suitable qualified person;
- Follow-up inspections to evaluate effective of weed control.

Weed spraying activities are generally undertaken between the months of September and April each year. Physical management measures such as mechanical removal, slashing and/or back-burning can be undertaken at other times of the year as required.

A contractor is engaged at the SMC to undertake weed management activities on an ongoing basis. Weed management during summer 2019/20 was restricted due to the ongoing drought conditions. Following good rain in February 2020 weed spraying commenced and continued through autumn. Weed spraying commenced again during November 2020 and will continue through summer 2020/21. The weed control activities in 2020 continued to target areas of known weed infestation. The key species targeted included blackberry, lantana, privet, wild tobacco and Giant Parramatta grass.

Weeds mapping is proposed to be undertaken during the next reporting period to assist in setting future management priorities and developing on-ground actions for weed control.

Weeds monitoring to evaluate the effectiveness of control measures is undertaken in conjunction with the annual vegetation monitoring and is documented in Appendix F (*2020 Stratford Mining Complex Biodiversity Offset Strategy Flora Monitoring Report, Kleinfelder 2020).*

> *Environmental weeds such as Lantana and Privet were recorded in some areas of the offsets, but not in high density or numbers. Offset Area 1 (Quadrat 15), the Biodiversity Enhancement Area (Quadrat 6) and the remnant stand informally labelled the "Hundred Acre Wood" (Quadrat 9) were recommended for weed surveys and control works.*

7 FERAL ANIMAL CONTROL AND MONITORING

Feral animal control is undertaken in accordance with the BMP Section 4.5 and Section 5.7. The objective of the feral animal control program is to manage feral animals to minimise their impact on native flora and fauna in the Biodiversity Offset and Biodiversity Enhancement Areas and/or their impact on agricultural production in other surrounding areas.

Table 6: Feral Animal Management Performance and Completion Criteria

Management Action	Performance Criteria			Completion Criteria
	Year 1 (January – December 2018)	Year 2 (January – December 2019)	Year 3 (January – December 2020)	
Abundance of feral animal species established	Initial study undertaken in the Biodiversity Offset Area and Biodiversity Enhancement Area.	-	-	-
Feral animal control and monitoring	-	Inspections and records completed	-	-
Feral animal control program	Feral animal control as required.			Feral animal numbers within offset areas minimised as evidenced through monitoring data

AMBS was commissioned to undertake the initial invasive animal survey in 2017, in accordance with Section 5.7 of the BMP. The objective of the study was to determine the range and abundance of invasive animals that occur or are likely to occur within the Stratford Mining Lease and Biodiversity Areas and provide recommendations for invasive animal control.

MDP Vertebrate Pest Management has been engaged by SCPL since 2016 to implement wild dog and fox control programs across property owned by SCPL including both the Stratford & Duralie Mining Leases and the Stratford & Duralie Biodiversity Offset Areas. During the reporting period two wild dog control programs were undertaken. The first was between **19 March**

2020 to **16 April 2020.** The 28-Day control program was productive and successful with a total of 9 wild dogs and 2 foxes trapped and shot. The second was between **13 October 2020** to **11 November 2020**. The program was productive and successful with a total of 4 wild dogs and 2 foxes trapped and Shot over the 30-Day control program.

During the control programs no non-target species were trapped. Soft jaw wild dog traps were used to trap targeted pest animals. MDP Trap dog & trail camera monitoring was used to find and locate wild dog & fox signs in the program area for trap placement. The wild dog and fox numbers were moderate in the previous controlled areas of the Stratford/Duralie Mining Lease and Biodiversity Areas which demonstrates the control programs are being successful in having an impact and lowering the numbers and presence of wild dogs and foxes within that area. The program is showing positive results of reducing the impacts of wild dogs and foxes within the area to the native animals and reducing the impact of livestock attacks to the surrounding agricultural properties.

Plate 5 – Wild Dog captured on camera

In accordance with the BMP Section 5.7 follow-up feral animal monitoring surveys would be undertake every two years. A feral animal survey of the Biodiversity Offset Area and Biodiversity Enhancement Area will be undertaken during the next reporting period to monitor the success of control programs and determine priorities for ongoing control measures

8 BUSHFIRE PREVENTATION AND RISK MANAGEMENT

Bushfire management is undertaken in accordance with the BMP Section 4.7 and Section 5.9. The objective of bushfire management in the Biodiversity Areas is to prevent impacts from unplanned bushfire and to use fire to promote biodiversity.

Table 7: Bushfire Management Performance and Completion Criteria

Management Action	Performance Criteria			Completion Criteria
	Year 1 (January – December 2018)	Year 2 (January – December 2019)	Year 3 (January – December 2020)	
Mapping of Fire Breaks and Trails	Mapping complete	-	-	-
Monitoring of Fuel Loads	Inspections and records completed	Inspections and records completed	Inspections and records completed	-
Controlled Burning	-	Implement (if required)	Implement (if required)	Controlled burns implemented (where required)

Monitoring of fuel loads to evaluate bushfire risk and guide bushfire hazard reduction activities is undertaken in conjunction with the annual vegetation monitoring and was conducted in February 2020. Further detail is included in Section 11 and Appendix F.

Bushfire risk has continued to be mitigated through the maintenance of access tracks and fire breaks. Additionally, fuel loads have been reduced during 2020 by slashing were required in the Mining Leases and Biodiversity Areas. During 2020 no hazard reduction burning has been undertaken. Following the revegetation works, the aim is to exclude fire from the offset areas for at least 5 years to allow for tubestock and seedlings to establish.

Section 4.7 of the BMP states SCPL will:

- ensure that the development is suitably equipped to respond to any fires on site; and
- assist the Rural Fire Service (RFS), emergency services and National Parks and Wildlife Service as much as possible if there is a fire in the surrounding area.

The 2019/2020 fire season was one of the worst on record for the broader NSW area. Whilst the Stratford Biodiversity Areas were not directly affected by bushfires, there were significant bushfires in regional area.

Schedule 3 Condition 51 of SSD-4966 requires the SCPL to assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area. Due to the ongoing drought conditions in 2019/20, water supplies for firefighting were very limited and presented significant challenges for the NSW Rural Fire Service. During November 2019, SCPL informed the RFS of the availability and location of water sources at both the Stratford Mining Complex and the Duralie Mine site which could be accessed for fire fighting purposes.

The Duralie Offset Area was affected by an unplanned bushfire in November 2019. SCPL received a request from the RFS to access water from the Duralie Mine Water Dams, under Section 44 of the Rural Fires Act for firefighting. This was to assist with filling firefighting helicopters.

During December 2019, the RFS requested emergency water access to fill water trucks under the Section 26 of the Rural Fires Act. SCPL made provisions for access and supervising the filling of RFS trucks and water tankers at water hydrants at the SMC. Water was transported to holding facilities for fighting bushfires in the local and regional area. RFS water trucks accessed the SMC throughout December 2019 and January 2020.

9 NEST BOX PROGRAMME

Nest box management is undertaken in accordance with the BMP Section 5.10. Nest boxes will be installed to provide habitat opportunities in the short to medium-term for a number of arboreal fauna species including the Squirrel Glider.

Table 8: Nest Box Program Performance and Completion Criteria

Management Action	Performance Criteria			Completion Criteria
	Year 1 (2018)	Year 2 (2019)	Year 3 (2020)	
Nest Boxes – Installation	Nest boxes installed for clearing activities	Installation continued as clearing progresses	Installation continued as clearing progresses	Nest boxes installed as required.
Nest Boxes – Monitoring and Reporting	Quarterly inspections undertaken – undertaken in Year 2	Annual inspection and records completed	Annual inspection and records completed	-
Nest Boxes – Maintenance	-	Maintenance or replacement as required	Maintenance or replacement as required	Nest boxes functioning as designed

Implementation & Installation

The nest box programme described in the BMP Section 5.10, consists of two main components to replace any tree hollows cleared prior to mining activities as described in Section 3 of this report:

- Suitable nest boxes for the Squirrel Glider will be installed at a ratio of least 3:1 for each tree hollow cleared suitable for the Squirrel Glider. Squirrel Glider nest boxes will have a small entrance hole (45-50 millimetres diameter) to exclude larger possums and birds.
- For tree hollows that provide habitat to arboreal fauna species (other than the Squirrel Glider), nest boxes will be installed at a minimum ratio of 1:1 (i.e. one nest box of appropriate size to replace one hollow of similar size and properties). These next boxes will be provided for birds, bats and arboreal mammals.

Nest boxes will be installed within the Biodiversity Offset Area and Biodiversity Enhancement Area in Existing Remnant Vegetation (Management Zone B) as well as the Revegetation Area (Management Zone A).

As described in Section 3.1, a summary of the habitat features and tree hollows cleared since the commencement of the Stratford Extension Project is included below. Full details of the vegetation clearance and nest box replacement Requirements are included in Appendix C.

- 2018 – six (6) habitat features including zero (0) tree hollows.
- 2019 – forty-two (42) habitat features including nine (9) glider suitable tree hollows and five (5) other hollows.
- 2020 H1 – thirty-three (33) habitat features including nineteen (19) glider suitable tree hollows and eleven (11) other hollows.
- 2020 H2 – eighteen (18) habitat features including seven (7) glider suitable tree hollows and eleven (11) other hollows.

The installation of nest boxes has occurred over three periods with the most recent installation in April 2020. During the reporting period 70 new nest boxes were installed in the Biodiversity Areas for additional habitat enhancement (Appendix G, AMBS 2020). The current nest box program involves:

- Five (5) nest boxes targeting Squirrel Glider *(Petaurus norfolcensis),* installed December 2018.

- Twenty-Five (25) nest boxes targeting Squirrel Glider *(Petaurus norfolcensis),* installed May 2019
- Fifty-four (54) nest boxes targeting Squirrel Glider *(Petaurus norfolcensis),* installed April 2020
- Sixteen (16) nest boxes targeting a variety of hollow-dependent fauna, installed April 2020.

During 2020, Kleinfelder have undertaken further habitat assessment of the approved Stratford East Open Cut disturbance area. Based on the habitat assessment, it is estimated there is likely to be required to replace 25 hollows suitable for gliders (i.e. 75 nest boxes) and 18 hollows for other arboreal fauna (i.e. 18 nest boxes). Consequently, a total of 93 nest boxes are proposed to be installed in March and April 2021. Next Boxes will continue to be installed in accordance with the BMP.

Monitoring

In Accordance with section 5.10 of the BMP nest boxes will be monitored by suitably qualified personnel with quarterly inspections during the first year followed by annual inspections in spring. Monitoring reports provide details of the nest box identification number, the tree species on which the box is installed, evidence of use and whether fauna was present. Details on each of the fauna species present within nest boxes is collected (sex, weight, length, breeding status and if it had been a new capture or recapture). Quarterly nest box monitoring was undertaken in January and April 2020 by Kleinfelder and July and October 2020 by AMBS. Annual nest box reporting was completed by Kleinfelder in May 2020 (Appendix H). Additionally, a progress report was prepared by AMBS in October 2020 (Appendix H).

An extracted summary of results from the Kleinfelder annual report (Kleinfelder, 2020) is provided below:

> *A nest box program for the Stratford Mining Complex (SMC) is being implemented by Kleinfelder as part of the requirement for Schedule 3, Condition 38 (g) of the Development Consent (SSD-4966) and forms part of the SMC Squirrel Glider Management Plan (SGMP 2018) Section 7.2. The nest box program is also undertaken in accordance with the SMC Biodiversity Management Plan (BMP 2018) Section 5.10.*
>
> *The installation of nest boxes aims to provide vertebrate fauna species which would naturally rely on tree hollows, with suitable refuge and breeding habitat. This is a commonly adopted management strategy to help lessen the effects of the loss of hollow-bearing trees through vegetation clearing. Annual nest box monitoring within the Stratford Mining Complex was conducted in four separate quarterly stages by Kleinfelder from April 2019 (date of nest box installation) to April 2020. Stage one monitoring was conducted in July 2019, stage two in October 2019, stage three in January 2020 and stage four in April 2020. Squirrel Gliders were present in three of the four monitoring stages, with the greatest occupancy seen in the cooler months. One other arboreal fauna species, the Sugar Glider, was seen using the nest boxes during these stages. Squirrel Glider occupancy and signs of use appeared to correlate most with seasonal temperature and the potential of inferior insulation properties of nest boxes when compared to natural hollows. Occupancy and signs of use also appeared to correlate with nest box design, trees species in which the box was attached to and aspect in which the box was installed. However, this was the first year of nest box monitoring since their installation. Research has shown that rate of occupancy can increase as time since nest box installation increases and therefore it is essential in the that monitoring continues as this would allow for a better understanding of factors associated with nest box occupancy within the Stratford Mining Complex.*

Plate 6: Fresh glider bowl (box 29) after glider was removed.

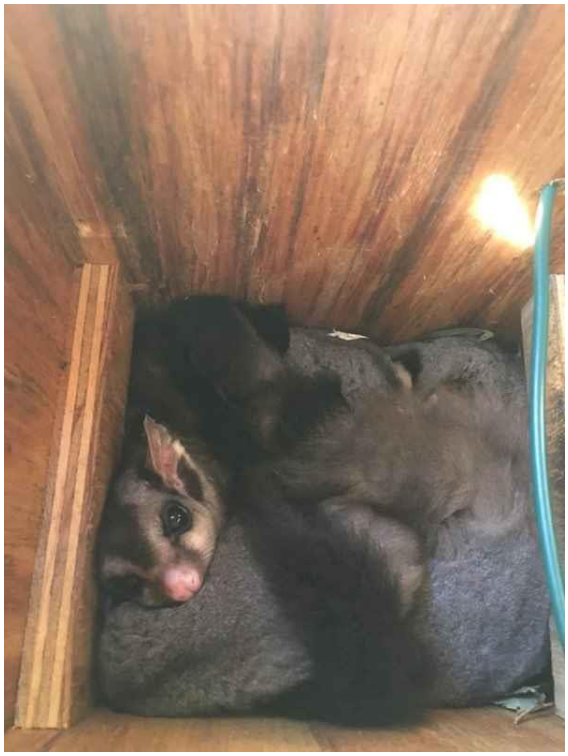


Plate 7: Six squirrel gliders (box 30).

An extracted summary of results from the AMBS progress report (AMBS, 2020) is provided below:

This report presents the results of the second quarterly monitoring of the nest boxes installed during April 2020. The program currently involves 70 nest boxes targeting a variety of hollow-dependent species that were installed between 10 April 2020 and 14 April 2020. Of these, 54 nest boxes were designed to target the Squirrel Glider with 16 nest boxes targeting other fauna. The nest box monitoring was undertaken between 27 and 29 October 2020.

Results of the nest box inspections in the Stratford Offset and Biodiversity Enhancement Areas are shown in Table 1. Thirty-five nest boxes in the Stratford Offset and Biodiversity Enhancement Areas were occupied by vertebrates or contained signs of previous occupancy. This represents an occupancy rate of 50% approximately 6 months after installation. Five nest boxes were occupied the Squirrel Glider (Petaurus norfolcensis), including one which had an ear tag (number 501). Other vertebrates observed occupying nest boxes at the time of the survey, or which showed signs of previous occupancy, included the Common Brushtail Possum (Trichosurus vulpecula), Eastern Rosella (Platycercus eximius) (nesting attempt), microbat scats, Brown Antechinus (Antechinus stuartii) scats, Australian Owlet-nightjar (Aegotheles cristatus) and Sugar Glider (Petaurus breviceps). Signs of previous occupancy by vertebrates within nest boxes included leaves (eucalypt), fur, scats, smell, scratches, and indentation in nest box substrate.

There were two additional fauna observations recorded opportunistically, Koala (Phascolarctos cinereus) scats were recorded at the base of trees A10 and A66. The Koala is listed as a threatened species under the NSW Biodiversity Conservation Act 2016 and Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

Plate 8: Squirrel glider during monitoring in Oct 2020.

10 SQUIRREL GLIDER MANAGEMENT PLAN

In accordance with Condition 38(a), Schedule 3 of the Development Consent SSD-4966 the management of Squirrel Glider populations is undertaken in accordance with the Squirrel Glider Management Plan (SQMP). The SQMP was approved by the DP&E on 19 October 2018 and includes specific management measures in addition to those in the BMP. The SGMP has been prepared to facilitate the management of squirrel glider populations at the SMC, Biodiversity Enhancement Areas and Biodiversity Offset Areas.

Squirrel Glider management programs which have been commenced include:

- definition of the Squirrel Glider colonies (SQMP Section 4.1)
- identification of the Squirrel Glider colony home ranges (SQMP 4.2),
- tree hollow census within the home ranges (SQMP Section 7.1)
- nest box program (SQMP Section 7.2), in conjunction with BMP nest box program in Section 9.
- Squirrel Glider vegetation pathways (SQMP Section 8.1), in conjunction with BMP revegetation in Section 5.
- Squirrel Glider population monitoring (SQMP Section 10.1), in conjunction with BMP fauna monitoring in Section 11.2.

10.1 Definition of the Squirrel Glider Colonies

Kleinfelder was engaged to undertake an initial targeted Squirrel Glider survey to confirm the location of Squirrel Glider colonies within the potential habitat in the vicinity of the SMC Biodiversity Areas, including the previously identified Squirrel

Glider colonies and any new colonies which have been established within the areas identified as potential habitat. The surveys will ensure that future monitoring requirements of the SQMP are being implemented at locations of known colony locations.

The initial surveys were undertaken during November to December 2018 and the results are provided in the *Initial Squirrel Glider survey as part of Stratford Coal's Squirrel Glider Management Plan (Kleinfelder, 2018)*. Squirrel gliders were identified at five locations out of the 37 locations surveyed. These locations provided the basis for ongoing survey efforts.

Plate 9: Squirrel Glider photographed during initial camera trap surveys.

10.2 Squirrel Glider Home Ranges

Objectives outlined in Section 4 of the SGMP require measures to establish the home range size of known squirrel glider colonies near the SMC. This information will be used to guide the ongoing management of squirrel glider populations within the SMC Biodiversity Offset Areas and Biodiversity Enhancement Areas. This information will also define the study area for further programs including the census of suitable tree hollows, food resources surveys and habitat enhancement including nest box installations.

Kleinfelder was commissioned by SCPL to conduct a radio tracking program to determine the Squirrel Glider home ranges of the local population based on the colony locations identified in the initial survey.

Two radio tracking programs were conducted between January - April 2019 and July - September 2019 during the 2019 reporting period. The 2019 radio tracking programs consisted of trapping of Squirrel Gliders, followed by processing and collaring. Generally, two gliders from each colony area were targeted for radio tracking. Radio tracking of the selected gliders was then conducted, followed by analyse of the data and estimating home ranges for each radio-tracked squirrel glider. The findings of the initial survey, radio tracking and home range estimations are provided in the Appendix I (*2019 SMC Squirrel Glider Colony & Home Range Report, Kleinfelder 2019)*. The following is an extracted summary from the Squirrel Glider Colony & Home Range Report:

> *"An initial targeted squirrel glider survey was undertaken to establish the locations of any existing Squirrel Glider colonies within the potential habitat in the vicinity of SMC. The initial survey was undertaken from 26 November to 17 December 2018 consisting of a total of 692 trap nights over 37 locations. Squirrel glider presence was confirmed*

at five locations. Four of these locations were determined as suitable areas to conduct home range surveys using radio-tracking.

Radio-tracking was undertaken to examine spatial requirements and use, and den preferences. Radio-tracking was conducted in two periods of 40 nights and are subsequently referred to as seasons. A total of 36 squirrel gliders were captured, 19 gliders were fitted with radio collars and sufficient data points were obtained to allow home range estimates for 13 gliders.

Results of the radio-tracking study showed that the seasonal home range for squirrel gliders within the Stratford area in period 1 (Summer) was FK95% 3.9 ± 0.3. ha and MCP100% was 9.7 ± 1.6ha. The FK95% for period 2 (Winter) was 3.6 ± 0.3 and the MCP100% was 12.8 ± 2.1. There was no significant difference between periods (P = 0.366, F7,5 = 1.407). This study also identified areas within the impact area of the Avon North extension where squirrel gliders were denning and foraging.

Further studies in accordance with the Squirrel Glider Management Plan into the population dynamics of the squirrel glider within the Biodiversity Offset areas and Biodiversity Enhancement areas would be conducted to determine the impacts predators and habitat fragmentation are having on the local population. This will provide information on the effectiveness of the offset measures and habitat enhancement being implemented for the species."

Plate 10: Radio-transmitting collar fitted to squirrel glider

Plate 11: Squirrel glider (Sharon) with young.

10.3 Tree Hollow Census

Condition 38(b), Schedule 3 of Development Consent SSD-4966 requires a census of suitable tree hollows in home ranges and offset areas suitable for Squirrel Gliders. A tree hollow census was undertaken within the home ranges identified by the radio tracking program (Section 10.2) to identify hollow bearing trees suitable for use as den sites by the Squirrel Glider. The results of the tree hollow census are provided in the Appendix J (*2019 SMC Hollow-bearing Tree Census Report, Kleinfelder 2019*).

An extracted summary is provided below:

"Radio-tracking and home range estimations was undertaken to comply with the requirement outlined in section 4.2 of the Squirrel Glider Management Plan (SGMP) (Stratford Coal 2018, Kleinfelder 2019). The areas identified to form part of a squirrel gliders home range were then used as study sites for the hollow-bearing tree census as required by Section 7.1 of the SGMP.
The hollow-bearing tree census identified and mapped 480 hollow-bearing trees which contained a combined total of 648 hollows. Attributes of available hollows and known den hollows were compared to investigate the hollow preferences of squirrel gliders. The results indicated that hollow entrance size (area and width of hollow opening) was the most important factors in determining whether a hollow would be selected as a den by a squirrel. Tree species was not a determining factor with seven species being used for dens. Stags and Eucalyptus siderophloia (Grey Ironbark) were the most commonly used den species.

Direct comparison of the density of hollow-bearing trees recorded in the biodiversity enhancement and offsets areas to vegetation community benchmark data for the relevant vegetation type shows that the two major vegetation communities at the SMC were found to contain significantly lower densities of hollow-bearing trees.

Once the squirrel glider food resources have been mapped as outlined in section 6.1 of the SGMP, information provided in this report can be used to identify areas best suited for nest box installation. Nest boxes will be best situated in areas currently lacking tree hollows but have an adequate number of food resources."

Plate 12: Elsie denning in a termite nest on Grey Ironbark (*Eucalyptus siderophloia*).

11 BIODIVERSITY OFFSET MONITORING AND REPORTING

The Biodiversity Offset monitoring program is prescribed in the BMP Section 7. The program aims to monitor and report on the effectiveness of the BMP management measures and progress against the detailed performance and completion criteria.

Table 9: Monitoring Program – Biodiversity Offset Strategy

Monitoring Program	Relevant BMP Section	Frequency
Visual Monitoring	Section 7.1.1	Annual
Photo Monitoring	Section 7.1.2	Annually (spring)
Habitat and Vegetation Monitoring Program	Section 7.1.3	Annually (spring)
Fauna Monitoring Program	Section 7.1.4	Every three years
Weed Monitoring	Section 5.6	Biannually
Initial Feral Animal Study of the Biodiversity Offset Area and Biodiversity Enhancement Area	Section 5.7	Within 12 months of approval of the BMP
Feral Animal Monitoring	Section 5.7	Every two years
Nest Box Monitoring	Section 5.10	Quarterly for 12 months and then biannually

11.1 Habitat and Vegetation Condition Monitoring

Habitat and vegetation condition monitoring is undertaken to quantitatively measure the change in habitat and vegetation condition over time. The visual monitoring and photo monitoring programs are undertaken concurrently with the vegetation monitoring to provide additional information on the change of the Biodiversity Areas over time and inform maintenance requirements.

Vegetation Monitoring commenced in 2019 to assess the effectiveness of revegetation in the Revegetation Area (Management Zone A) and to assess the natural regeneration in the Existing Remnant Vegetation Area (Management Zone B). The data gathered in 2019 serves as a baseline to assess the success of the revegetation efforts and progress against the project specific performance and completion criteria. This survey was undertaken prior to the revegetation works commencing in the Biodiversity Offset areas.

Vegetation monitoring was undertaken again in February 2020. The full report is included in Appendix F (*2020 Stratford Mining Complex Biodiversity Offset Strategy Flora Monitoring Report, Kleinfelder 2020*). Habitat and vegetation condition monitoring will continue to be undertaken annually to quantitatively measure the change in habitat and vegetation condition over time and to inform any ongoing maintenance requirements.

An extracted summary of the survey results from the *2020 Stratford Mining Complex Biodiversity Offsets Flora Monitoring Report (Appendix F*) is provided below.

> *"The monitoring of the SMC vegetation communities and habitats located within the Biodiversity Enhancement Area and Biodiversity Offset Area was conducted in February 2020. This report is the second monitoring event for the Stratford Offset Revegetation program. occurring immediately prior the 2020 revegetation program. Revegetation*

works will continue for the remaining areas of Management Zone A. The results show that the native vegetation in the Biodiversity areas is still relatively sparse, but that the results of the revegetation program are beginning to be apparent with the successful establishment of several canopy, midstorey and shrub species, although these plants are still very young. The improved rainfall conditions in the period leading up to the survey has led to an increase in the native species diversity in the forbs and the grass and grass-like layers indicating a good degree of resilience to environmental disturbance e.g. drought. These species are obviously present in the seed bank and are capable of germinating when the conditions are more favorable.

A small number of management actions are suggested to improve the quality of the revegetation effort and/or the monitoring effort. The key management action is to continue revegetation efforts in accordance with the BMP for the remaining areas of Management Zone A.

There are only a few environmental weeds observed in, or near the monitoring quadrats as detailed in Table 5 but it is recommended that further weed surveys and control work in these areas be undertaken e.g. Offsets Area 1 (Quadrats 15 and 16), and the informally named "100 Acre Wood" (Quadrat 9) adjacent to Offset Area 3, and the Biodiversity Enhancement Area (Quadrat 6).

Overall, the revegetation efforts in the Biodiversity Areas are in the early stages of implementation and are progressing well with only relatively minor issues to be considered"

11.2 Fauna Monitoring

Monitoring of fauna usage within the Biodiversity Areas is conducted every three years to document the fauna species response to improvement in vegetation and habitat in the Biodiversity Areas and assess the performance in providing habitat for a range of vertebrate fauna. The surveys include an assessment of habitat complexity, species richness and abundance.

During 2019 AMBS Ecology & Heritage (AMBS) were engaged to undertake a fauna survey within the SMC Biodiversity Offset areas and Biodiversity Enhancement Areas. The full report is included in Appendix K (*SMC Fauna Surveys of the Biodiversity Offset and Biodiversity Enhancement Areas 2019, AMBS 2019)*. An extracted summary of the survey results are included below.

"Targeted fauna surveys were undertaken at eight sites. Six sites within the Stratford Offset Areas and two sites within the Biodiversity Enhancement Area. Field surveys occurred during two weeks, from 23 to 27 September 2019 and 28 October to 2 November 2019. At each site survey techniques included pitfall traps, funnel traps, Elliott A traps, harp traps, ultrasonic call recording, spotlighting, diurnal bird surveys and reptile searches. In addition, targeted frog surveys were undertaken at four water sources, one located in the Biodiversity Enhancement Area and three in the Biodiversity Offset Area. Opportunistic observations of signs of fauna were noted throughout the field survey period, including during transit between surveys sites.

A total of 167 species of vertebrate were recorded, comprising 11 frogs, 16 reptiles, 97 birds and 43 mammals, most of which were native. Six introduced species were recorded during the surveys, including the Red Fox (Vulpes vulpes), Feral Cat (Felis catus), Black Rat (Rattus rattus), European Rabbit (Oryctolagus cuniculus), European Brown Hare (Lepus europaeus) and Cattle (Bos taurus). This is a reasonable diversity of fauna considering extreme drought conditions throughout the year and the relatively short length of the survey.

Twenty-two of the species detected are listed as threatened or migratory on the schedules of the BC Act and/or EPBC Act, including:

- *White-bellied Sea-eagle (Haliaeetus leucogaster)*
- *Dusky Woodswallow (Artamus cyanopterus cyanopterus)*
- *Black-chinned Honeyeater (eastern subspecies) (Melithreptus gularis gularis)*
- *Black-faced Monarch (Monarcha melanopsis)*
- *Spectacled Monarch (Symposiachrus trivirgatus)*
- *Varied Sittella (Daphoenositta chrysoptera)*
- *Grey-crowned Babbler (eastern subspecies) (Pomatostomus temporalis temporalis)*
- *Black-necked Stork (Ephippiorhynchus asiaticus)*
- *Little Lorikeet (Glossopsitta pusilla)*
- *Yellow-bellied Sheathtail-bat (Saccolaimus flaviventris)*
- *Little Bent-winged Bat (Miniopterus australis)*
- *Large Bent-winged Bat (Miniopterus orianae oceanensis)*
- *Eastern Coastal Free-tailed Bat (Micronomus norfolkensis)*
- *Large-eared Pied Bat (Chalinolobus dwyeri)*
- *Southern Myotis (Myotis macropus)*
- *Greater Broad-nosed Bat (Scoteanax rueppellii)*
- *Brush-tailed Phascogale (Phascogale tapoatafa)*
- *Red-legged Pademelon (Thylogale stigmatica)*
- *Yellow-bellied Glider (Petaurus australis)*
- *Squirrel Glider (Petaurus norfolcensis)*
- *Koala (Phascolarctos cinereus)*
- *New Holland Mouse (Pseudomys novaehollandiae)*

The fauna surveys suggest the Stratford Offset and Biodiversity Enhancement Areas provide habitat for a range of native vertebrate fauna, including birds, mammals, reptiles and frogs. Two of the threatened species recorded, the Black-chinned Honeyeater and Red-legged Pademelon, have not previously been recorded at the Stratford Mining Complex."

Plate 13: Brush-tailed Phascogale (*Phascogale tapoatafa*)

Plate 14: Koala (*Phascolarctos cinereus*)

Plate 15: Red-legged Pademelon (*Thylogale stigmatica*)

Plate 16: Northern Brown Bandicoot (Isoodon macrourus)

12 LONG TERM SECURITY AND CONSERVATION BOND

12.1 Long-term Security

In accordance with Condition 36, Schedule 3 of Development Consent SSD-4966, SCPL is required to make suitable arrangements for the long-term security of the Stratford Extension Project Biodiversity Offset Area. SCPL has pursued the mechanisms available under section 88E(3) of the NSW Conveyancing Act, 1919, namely:

- Registration of a Positive Covenant under section 88E(3) of the NSW Conveyancing Act, 1919; and
- Registration of a Restriction on the Use of Land by a Prescribed Authority under section 88E(3) of the NSW Conveyancing Act, 1919.

To finalise securing the offset areas, the following actions were conducted:

- confirmation that the completed instruments are to the satisfaction of the Secretary completed 15 April 2019;
- execution of the instruments by the prescribed authority (the DP&E);
- execution of the instruments by the three separate registered proprietors of the offset lands (i.e. Yancoal's subsidiary companies, CIM Stratford Pty Ltd; Stratford Coal Pty Ltd and Gloucester Coal Limited);
- lodgement of the executed instruments with NSW Land Registry Services (LRS) in accordance with LRS's dealing lodgement requirements;
- LRS assessment/review of the instruments to confirm the instruments are acceptable for registration; and
- registration of the instruments on the titles of the offset lands.

Public Positive Covenants and Restrictions on the Use of Land for the Biodiversity Offsets have been registered on title with NSW Land and Property Information (LPI) in **October 2019**. Copies of the executed Positive Covenants and notice of registration of the instruments was included in the 2019 SMC Annual Biodiversity Report.

12.2 Conservation Bond

In accordance with Condition 40, Schedule 3 of Development Consent SSD-4966, SCPL is required to lodge a Conservation Bond with the DP&E which covers the cost of implementing the Biodiversity Offset Strategy detailed in the BMP.

The conservation bond calculation was prepared by Kleinfelder and a verification of the costs was undertaken by Rider Levett Bucknall. The conservation bond calculation was submitted in January 2019 and subsequently approved by DP&E on 15 January 2019.

The Conservation Bond in the form of a bank guarantee was executed and lodged with DP&E on 8 February 2019.

13 COMMONWEALTH EPBC APPROVAL COMPLIANCE REPORTS

In accordance with Condition 10 of EPBC 2011/6176 for the Stratford Extension Project, by 31 March of each year after the commencement of the action, or as agreed with DoEE, SCPL is required to publish a report addressing compliance with the conditions of EPBC 2011/6176 during the previous calendar year, including implementation of any management documents as specified in the conditions of EPBC 2011/6176.

SCPL commenced the action approved under EPBC 2011/6176 on 4 April 2018. The first annual compliance report was submitted in March 2019. The *Stratford Extension Project (EPBC 2011/6176) Annual Compliance Report 2019*, was submitted on 9 April 2020.

Condition 10 also requires reporting on the implementation of the relevant management documents required in accordance with the conditions of EPBC 2011/6176. This SMC Annual Biodiversity Report provides a review of the implementation of the management measures in the BMP for the annual year ending 31 December 2020. This report is included as an Appendix of the SMC Annual Review.

14 APPENDICES

Appendix A: DPIE Approval of the Biodiversity Management Plan.

Appendix B: SMC Annual Review 2020 – Figure 4 Mining & Rehabilitation Areas

Appendix C: SMC Vegetation Clearance & Nest Box Replacement Requirements 2020

Appendix D: Kleinfelder - 2020 Autumn Stratford & Duralie Biodiversity Offsets Planting Program Report

Appendix E: Kleinfelder - 2021 Biodiversity Offset Area – Proposed Revegetation Areas

Appendix F: Kleinfelder - 2020 Stratford Mining Complex Biodiversity Offset Strategy Flora Monitoring Report

Appendix G: AMBS Ecology & Heritage - Nest Box Installations within the Stratford Biodiversity Areas - April 2020

Appendix H: Kleinfelder – SMC Annual Nest Box Monitoring Report 2019-20.
AMBS Ecology & Heritage - Nest Box Program – Progress Report October 2020

Appendix I: Kleinfelder - 2019 SMC Squirrel Glider Colony & Home Range Report

Appendix J: Kleinfelder – SMC Hollow-bearing Tree Census Report 2019

Appendix K: AMBS Ecology & Heritage - SMC Fauna Surveys of the Biodiversity Offset and Biodiversity Enhancement Areas 2019.

(Appendices available on request)

Appendix 10:

SMC Independent Environmental Audit 2020 – Responses to Recommendations

STRATFORDCOAL
Part of the Yancoal Australia Group

Stratford Mining Complex - Independent Environmental Audit 2020
Response to Recommendations

IEA 2020 Recommendations						
Condition Reference No #	**Condition Detail**	**Management Area**	**Risk Level of Non-compliance**	**Auditor Recommendation**	**Stratford Coal Response**	**Completion Status**
Development Consent SSD-4966 Non-compliance Recommendations						
Sch 3 Cond 14	**The Applicant shall:** **(d) operate a suitable system to enable the public to get up-to-date information on the proposed blasting Schedule on site, to the satisfaction of the Secretary.**	**Blasting**	**Administrative**	Ensure that the blast hotline information is up to date at all times.	SCPL accepts the recommendation. SCPL has operated a blasting hotline during the entire 3 year audit review period and has demonstrated the intention to comply with this condition. The blasting hotline is regularly updated, however at the time this was checked SCPL acknowledges it was not up to date. SCPL will ensure the blast hotline is updated the day prior to any blast at the SMC.	Completed
Sch 3 Cond 27	**Unless an EPL authorises otherwise, the Applicant shall comply with Section 120 of the POEO Act**	**Water**	**Medium**	Ensure that all surface water controls are inspected before, during and after forecast (heavy) rainfall events.	SCPL accepts the recommendation. Procedures for the inspection of water management infrastructure will be reviewed.	Open
Sch 3 Cond 46	**From the commencement of mining operations in the new mining areas until their cessation, unless otherwise agreed by the Secretary, the Applicant shall pay GSC and GLC annual contributions for the maintenance and resealing of The Bucketts Way in accordance with the terms in Appendix 4.**	**Road Maintenance**	**Administrative**	Continue discussions with Council in relation to payments for Road maintenance on Bucketts Way or seek agreement with Council and DPIE for removal of this Condition.	SCPL have made all endeavours to comply with this condition and to communicate with MidCoast Council. This matter has been raised with MCC on several occasions over the past few years and SCPL are still to receive any invoicing from MidCoast Council regarding this condition. SCPL have provided reminders to MidCoast Council and have also requested a meeting to resolve the matter. SCPL has received a reply from MidCoast Council in December 2020, thanking SCPL for their patience and honesty in relation to the matter, however the accounting has still not been finalised. SCPL has demonstrated the commitment to comply with this condition, yet ultimately the invoicing for these payments is not within the control of SCPL.	Open
Sch 3 Cond 47	**From the commencement of mining operations in the new mining areas until their cessation, unless otherwise agreed by the Secretary, the Applicant shall pay GSC and GLC annual contributions for the maintenance and resealing of The Bucketts Way in accordance with the terms in Appendix 4.**	**Road Maintenance**	**Administrative**	Continue discussions with Council in relation to payments for Road maintenance on Wenham Cox Road or seek agreement with Council and DPIE for removal of this Condition.	SCPL have made all endeavours to comply with this condition and to communicate with MidCoast Council. This matter has been raised with MCC on several occasions over the past few years and SCPL are still to receive any invoicing from MidCoast Council regarding this condition. SCPL have provided reminders to MidCoast Council and have also requested a meeting to resolve the matter. SCPL has received a reply from MidCoast Council in December 2020, thanking SCPL for their patience and honesty in relation to the matter, however the accounting has still not been finalised. SCPL has demonstrated the commitment to comply with this condition, yet ultimately the invoicing for these payments is not within the control of SCPL.	Open
Sch 3 Cond 52 a	**The Applicant shall:** **(a) implement all reasonable and feasible measures to minimise the waste (including coal reject) generated by the development;**	**Waste**	**Low**	Develop and implement a waste minimisation strategy, covering in particular on-site waste minimisation.	SCPL accepts the recommendation. Whilst SCPL does not have a specific waste minimisation program, SCPL have developed a whole of site waste management contract. This includes regular inspections and recommendations for improvements in waste handling. This also includes regular reporting of waste disposal volumes including the percentage of recycling achieved.	Open
Sch 3 Cond 52 c	**The Applicant shall:** **(c) monitor and report on the effectiveness of waste minimisation and management measures in the Annual Review.**	**Waste**	**Administrative**	In future Annual Reviews report on the implementation and effectiveness of the waste minimization strategy.	SCPL accepts the recommendation. SCPL will include information in the next Annual Review. Whilst SCPL does not have a specific waste minimisation program, SCPL have developed a whole of site waste management contract. This includes regular inspections and recommendations for improvements in waste handling. This also includes regular reporting of waste disposal volumes including the percentage of recycling achieved.	Open

Sch 3 Cond 55	**The Rehabilitation Management Plan must:** **(d) describe how the rehabilitation of the site would be integrated with the implementation of the biodiversity offset strategy;**	**Rehabilitation**	**Administrative**	Revise the MOP / Rehabilitation Management Plan to include a section describing how the rehabilitation of the site would be integrated with the implementation of the biodiversity offset strategy.	SCPL accepts the recommendation. The SMC MOP/RMP has been updated in February 2021 and lodged with the Resources Regulator for approval. The SMC Biodiversity Management Plan provides specific detail on the relationship to other management plans including the integration of the site rehabilitation and the biodiversity offset strategy; refer to BMP Section 1.4 RELATIONSHIP OF THE BMP TO OTHER MANAGEMENT PLANS, 1.4.2 Mining Operations Plan/ Rehabilitation Management Plan BMP Section 4.8 REHABILITATION - ESTABLISHING NATIVE VEGETATION AND FAUNA HABITAT. A similar level of detail will be added to the MOP/RMP.	Completed
Sch 5 Cond 4 d	**Annual Review** **d) identify any trends in the monitoring data over the life of the development;**	**Annual Review**	**Administrative**	Ensure that future Annual Reviews include (in each subsection of Section 6) a discussion of trends in monitoring data over the life of the development.	SCPL accepts the recommendation. Additional information will be included with the next SMC Annual Review. The Annual Reviews discuss monitoring results and environmental performance and where necessary include reviews against performance criteria in each sub-section. The Annual Reviews also include statements regarding comparison between monitored results and the predicted results in the EIS. SMC has demonstrated a long running good environmental performance and has rarely exceeded any monitoring criteria and as such the statements regarding EIS comparisons are generally brief. Additionally, discrepancies between the EIS predictions have been uncommon and the measures to improve environmental performance have not been required in many circumstances. Overall SCPL has met the intentions of this condition.	Next Annual Review
Sch 5 Cond 4 e	**Annual Review** **(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and**	**Annual Review**	**Administrative**	Ensure that future Annual Reviews include (in each subsection of Section 6) a discussion of predicted and actual environmental impacts.	SCPL accepts the recommendation. Additional information will be included with the next SMC Annual Review.	Next Annual Review
Sch 5 Cond 4 f	**Annual Review** **(f) describe what measures will be implemented over the next year to improve the environmental performance of the development.**	**Annual Review**	**Administrative**	The Annual Reviews do not specifically report on measures to be taken in the next year to improve environmental performance. Note: where no noncompliance's, monitoring exceedances or incidents have occurred during the relevant reporting period the Annual Review could note that no improvement initiatives are planned.	SCPL accepts the recommendation. Additional information will be included with the next SMC Annual Review.	Next Annual Review
Sch 5 Cond 5a	**Within 3 months of:** **(a) the submission of an annual review under Condition 4 above; the Applicant shall review the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.**	**Management Plans**	**Administrative**	Establish a register that records the reviews of all management plans (as evidence for future audits). Note: the review of each plan does not necessarily result in the revision of every plan. Where no changes to a plan are warranted, the register can note that the review was undertaken and no changes to the plan were required.	SCPL accepts the recommendation. Whilst full compliance with this condition has not been met, most of the environmental management plans (EMP) have been revised at least 3 times during the audit period. The intention of this condition is to ensure that the EMPs remain current and relevant. The Stratford EMPs have been reviewed/revised regularly and provide the basis for a highly structure and detailed Environmental Management System.	Open
Sch 5 Cond 5b	**(b) the submission of an incident report under Condition 7 below; the Applicant shall review the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.**	**Management Plans**	**Administrative**	Establish a register that records the reviews of all management plans (as evidence for future audit).	SCPL accepts the recommendation. Whilst full compliance with this condition has not been met, most of the environmental management plans (EMP) have been revised at least 3 times during the audit period. The intention of this condition is to ensure that the EMPs remain current and relevant. The Stratford EMPs have been reviewed/revised regularly and provide the basis for a highly structure and detailed Environmental Management System.	Open
Environment Protection Licence EPL 5161 Recommendations						
L1.1	**Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.**	**Water**	**Medium**	Ensure that all surface water controls are inspected and maintained before, during and after forecast (heavy) rainfall events.	SCPL accepts the recommendation. Procedures for the inspection of water management infrastructure will be reviewed.	Open

O4.3	**The PIRMP must be tested at least annually or following a pollution incident.**	**PIRMP**	**Administrative**	Ensure that the PIRMP is tested within one month of any incident that triggers the implementation of the PIRMP.	SCPL accepts the recommendation. No adverse effects would be anticipated resulting from the non-compliance. The PIRMP was tested on 28 January 2020 and 9 July 2020, however a test was not conducted within 1 month of the pollution incidents on 09/02/20 and 11/03/20. Testing of the PIRMP has been completed during the reporting period. The PIRMP was implemented successfully following the pollution incidents during the reporting period. No changes to the PIRMP were required as a result of the test. SCPL staff have been reminded of the obligations requiring testing of the PIRMP.	Completed
M1.2	**All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form;**	**Monitoring Records**	**Administrative**	Ensure that sampling personnel carefully complete the sampling sheets so that all information required by the EPL is legible.	SCPL accepts the recommendation.	Open
M2.2	**Air Monitoring Requirements**	**Air Quality**	**Low**	No recommendation required as the TEOM was replaced as soon as was possible to do so.	Noted. The continuous air quality monitor was operational for more than 99% of the Audit Period. However, it was not operational for two days in March 2019 due to equipment failure. Consider adding a note in the EPL conditions stating the percentage of time monitoring is required to meet the real-time continuous criteria, i.e. 95% or 99%.	Completed
M2.3	**Water Monitoring Requirements Testing Methods**	**Water**	**Low**	Ensure that future sampling reports and records incorporate the EPA sampling point designations.	Overall compliance with this condition was achieved with the exception of one sample missed during the audit period. Less than required pH and Conductivity samples analysed for Groundwater Monitoring Requirements at Point 15 and Point 17. Two samples required during the reporting and only one sample was analysed. The environmental monitoring field sheets and scheduling has been updated. Employees and contractors have been made aware of the environmental monitoring requirements for groundwater sampling.	Completed
M6.2	**The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.**	**Complaints Line**	**Administrative**	Update the website and entry signage to ensure that it is clear that the community hotline is also the complaints line.	The Community (complaints) Information hotline is shown on the Stratford website on the Community page, Environment page and Contacts page. The Community (complaints) hotline is also advertised in the local phone directory and periodically in the local newspaper. There is no requirement for this to be signposted at the front entrance. The Stratford website has been updated for clarification. SCPL will continue operation of the complaints line and notify the public via the current avenues.	Completed
M7.2	**All blast shots must be recorded on video from a position allowing the collars of the shot, and where possible, any face, and/or toe, to be seen on the video. The licensee must retain a copy of this video for at least 12 months after the blast was initiated.**	**Blasting**	**Administrative**	Ensure that drone and video camera are checked prior to all blasts.	SCPL accepts the recommendation. SCPL has recorded every blast on video over the 3 year audit period and only missed two blasts due to technical failures. SCPL has demonstrated the intentions of meeting this condition consistently. SCPL will continue to ensure all blasts at the SMC are recorded on video.	Completed
R2.2	**The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.**	**Notification of Environmental Harm**	**Administrative**	Ensure that any future written reports to the EPA are submitted within the timeframes specified in the EPL.	SCPL accepts the recommendation. Incident reports will be provided to the regulators as required in the licence/consent conditions.	Open
Mining Lease 1778						
ML4	**(b) Non-conformance notifications under condition 4(a) must be provided in the form specified on the Department's website within seven (7) days of the mining lease holder becoming aware of the breach.**	**Non-compliance Reporting**	**Administrative**	Ensure that notifications to the Department in relation to non-compliances are provided in the specified form (from the Departments Website).	SCPL accepts the recommendation. Incident notifications will be provided to the regulators as required in the licence/consent conditions.	Open
ML5	**The lease holder must provide environmental incident notifications and reports to the Secretary no later than seven (7) days after those environmental incident notifications and reports are provided to the relevant authorities under the Protection of the Environment Operations Act 1997.**	**Environmental Incident Report**	**Administrative**	Ensure that all reportable environmental incidents are included in the reporting of incidents.	SCPL accepts the recommendation. Incident reports will be provided to the regulators as required in the licence/consent conditions.	Open

Appendix 11:

Stratford Mining Complex - Rehabilitation Monitoring Report 2020

2020 Stratford Mining Complex Rehabilitation Monitoring Report

Stratford Coal Pty LTD

Stratford Coal Pty Ltd
3364 Buckett's Way, Stratford, NSW 2422

06 January 2021

2020 Stratford Mining Complex Rehabilitation Monitoring Report

Stratford Coal Pty Ltd
3364 Buckett's Way, Stratford, NSW 2422

Kleinfelder Document Number: NCA20R1191556
Project No: 20210698

Prepared for:

STRATFORD COAL PTY LTD
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EXECUTIVE SUMMARY

The survey of the Stratford Mine Complex (SMC) Rehabilitation areas was conducted in June 2020 and was the seventh survey in accordance with the Stratford Mining Complex – Mining Operations Plan & Rehabilitation Management Plan (MOP)(2019) to assess the rehabilitation progress against the project specific performance and completion criteria. Using Ecosystem Function Analysis (EFA) the survey provides indicators of rehabilitation success and assessment of landscape processes.

Landscape Functional Analysis (LFA) measures biophysical processes necessary to the establishment and maintenance of a self-sustaining ecosystem are obtained from measurements at nine rehabilitation transects representing the various ages of rehabilitation, slope and aspect, plus three analogue transects (One Pasture Analogue and two Native Flora – Woodland – Analogues). Processes associated with the soil surface are reported as three main indices,

- *Stability Index - measures the ability of the soil to resist erosion and to reform after disturbances,*
- *Infiltration Index - measures how the soil partitions rainfall into soil-water that is plant available and runoff that is lost from the local system and may also remove nutrients and other materials, and,*
- *Nutrient Cycling Index - how efficiently organic matter is cycled back into the soil.*

The development of the woody vegetation is tracked using the Vegetation Dynamics component of the EFA methodology and measures the number of plants per hectare and calculates the volume of canopy for each distinct layer of vegetation. This data is presented in Vegetation Structure section of this report.

*The Stratford Mining Complex rehabilitation includes three waste emplacements consisting of pasture and native flora vegetation with rehabilitation of six ages. Pasture transects were 50m in length and located on the Stratford Waste Emplacement (SWE). Two pasture rehabilitation transects of two ages and one analogue transect were surveyed this year. Native vegetation transects were predominantly 50m in length, with two transects 25m in length, and were located on the BRN waste emplacement (BRN), SWE and the Roseville Waste Emplacement (RWE) with four ages of rehabilitation. A total of six native flora transects plus two analogue transects were surveyed this year (**Table 1**). This report compares the results of the*

rehabilitation index scores to the analogue index scores and compares each transect over time.

***Table 1*: Details of the monitoring transects where Landscape Function Analysis and Vegetation Structure was surveyed at the SMC in 2020**

Year of Rehabilitation	Transect	Location at SMC	Vegetation Type
1996/97	T11	Stratford Waste Emplacement	Pasture
2003	T1		
1996/97	T17	Stratford Waste Emplacement	Native Woodland Rehabilitation
2005	T19	Roseville Waste Emplacement (South)	
	T20	Roseville Waste Emplacement (North)	
2006-08	T24	Bowen's Road North waste Emplacement	
	T26		
	T29		
2011	T27		
Analogue	T33	Adjacent to main SMC access road	Pasture Analogue
	T34	East of BRN, off Wenham Cox Rd	Woodland Analogue
	T35	South of Stratford Woodland Rehab	

Mean Stability index scores were at or above analogue index score (80.7 ± 0.7) for all four of the native flora rehabilitation areas. This year's scores were statistically the same for the four oldest rehabilitation areas, Mean Infiltration index scores were generally near or below the mean analogue index score of 62.0 ± 6.2, which itself was statistically the same as the 2019 survey (59.1 ± 4.9). The mean Nutrient Cycling Index scores were below the mean analogue index score of 62.5 ± 4.8 (an increase from the 2019 survey score of 53.1 ± 4.9).

Vegetation Structure data for the native rehabilitation areas show that the vegetation structure is dependent upon the combination of the initial seeding/planting regime and the age of the rehabilitation.

The SWE 1996/97 rehabilitation is on track with total vegetation structure and structure by stratum comparable to the analogue areas in that there is discernible shrub, mid and canopy stratum. Total plant numbers and distribution of plants between these strata is considerably different, however. Overall numbers of plants were about half of the Analogue sites with the rehabilitation area with a denser canopy stratum, comparable midstorey stratum but a greatly reduced number of plants in the shrub stratum. Self-recruitment has resulted in new species being introduced including Leucopogon juniperinus, a true shrub species that is very common

in remnant vegetation. Weed control works are required to reduce the younger Lantana and Wild tobacco plants that were observed.

The RWE 2005 rehabilitation surveyed Transects T19 and T21 this year. Both the northern and southern mounds are only sparsely covered with native vegetation but do have a dense cover of exotic and native grasses. The canopy planting program on the northern mound has been successful but with limited numbers and young plants and requires further time for the trees to mature. The native vegetation on the southern mound surrounding the transect has some taller canopy with seedlings evident, however Acacia longifolia is the most common native species.

The BRN 2006-08 native flora rehabilitation was surveyed at three locations and was found to consist of two distinct vegetation types. The northern area of the rehabilitation most resembles Analogue sites with distinct shrub, midstory and canopy layers but as with the SWE 1996/97 rehabilitation, plant densities are still in the process of evolving. The remaining areas were found to have much more Acacia (various species) and had few if any Eucalypts – none were recorded this survey. The dense Acacias are starting to senesce in southern most area, with many seedlings and saplings germinating.

The BRN 2011 rehabilitation was also found to be Acacia dominated with no Eucalypts present, as has been observed in previous surveys. Density has again decreased in this area, while the canopy volume has increased slightly indicating that the surviving plants are increasing in size.

Due to the continued active mining operations, the BRN 2014 rehabilitation has lost both transects and this area was not surveyed this year.

*Recommendations for improvements to the native flora rehabilitation areas were summarised in the **Table 2** below. Recommendations included revegetation and replanting programs in the woodland areas to increase biodiversity and plant after the investigation of various biomass (i.e. grass and groundcover) reduction methods including slashing and ecological burns. The 2019 report recommended the installation of nest boxes in the SWE 1996/97 and BRN 2006/08 rehabilitation areas. Given the on-going mining operations and the isolation of these woodland areas form other remnant woodland, it is suggested that nest box installation be delayed until mining operations are completed.*

Table 2: Summary of Recommendations for the Native Flora Rehabilitation

Native Flora Rehabilitation	Recommendations
Bowens Road North 2014 (Not surveyed this year)	• *Determine if the remaining area is of sufficient size to re-establish monitoring transect/s*
Bowens Road North 2011	• *Investigate the relative feasibility of various revegetation methods, including slashing, ecological burns followed by seeding or installation of tubestock*
Roseville Waste Emplacement 2005	• *Implement a tubestock planting program with canopy and "missing" shrub species to improve biodiversity and density.*
Bowens Road North 2006-08	• *Implement a tubestock/seeding planting program with canopy and "missing" shrub species to improve biodiversity and density.* • *For monitoring purposes, treating the area represented by T24 and T25 separately from the southern BRN area.*
Stratford Woodland Rehabilitation 1996/97	• *Continue with periodic and regular control of woody weeds that have potential to hinder revegetation effort – i.e., Lantana camara, and Solanum mauritianum.*

The Pasture rehabilitation transects surveyed this year recorded mixed LFA Index scores that were similar to the Pasture Analogue Index scores but were lower than for the previous survey. Whether these differences are a result of the reintroduction of cattle or due to intrinsic differences across the rehabilitation areas is unknown at this stage. Continued monitoring will indicate whether this a one-off event or a trend. Management actions undertaken by Yancoal have resulted in these areas being returned to grazing with any remaining issues falling under the heading of pasture management rather than rehabilitation or remediation. The only recommendation made is for continued monitoring as per consent conditions until relinquishment is achieved.

Table 3: Summary of recommendation for the Pasture Rehabilitation areas.

Pasture Rehabilitation	Recommendations
Stratford Waste Emplacement Pasture	• *Continue monitoring as per consent conditions until such time as sign off and relinquishment process completed* • *Instigate normal pasture weed management practices*

Overall, it was concluded that rehabilitation was progressing consistent with the MOP performance criteria, albeit with differing rates that were largely determined by the initial seeding/planting programs. That is, when a complex vegetation structure was revegetated early, the success of the woodland revegetation was more successful with increased diversity and cover. Areas of reduced complexity now require additional work to improve the diversity and cover.

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1. INTRODUCTION

Stratford Coal Pty Ltd (SCPL) is a wholly owned subsidiary of Yancoal Australia Ltd and operates the Stratford Mine Complex (SMC). The SMC is located between the small towns of Craven and Stratford on the Buckett's Way, approximately 100km north of Newcastle (**Figure 1**). The SMC consists of the Bowens Road North (BRN) Open Cut, the Roseville West Open Cut, Avon North Open Cut, Stratford East Open Cut, the Stratford Main Pit and associated waste emplacements, coal handling and preparation plant, and other infrastructure.

On 29 May 2015, the NSW Planning Assessment Commission approved the Stratford Extension Project (SEP). The SEP provides for the continuation of mining and processing at the SMC for an additional 11 years.

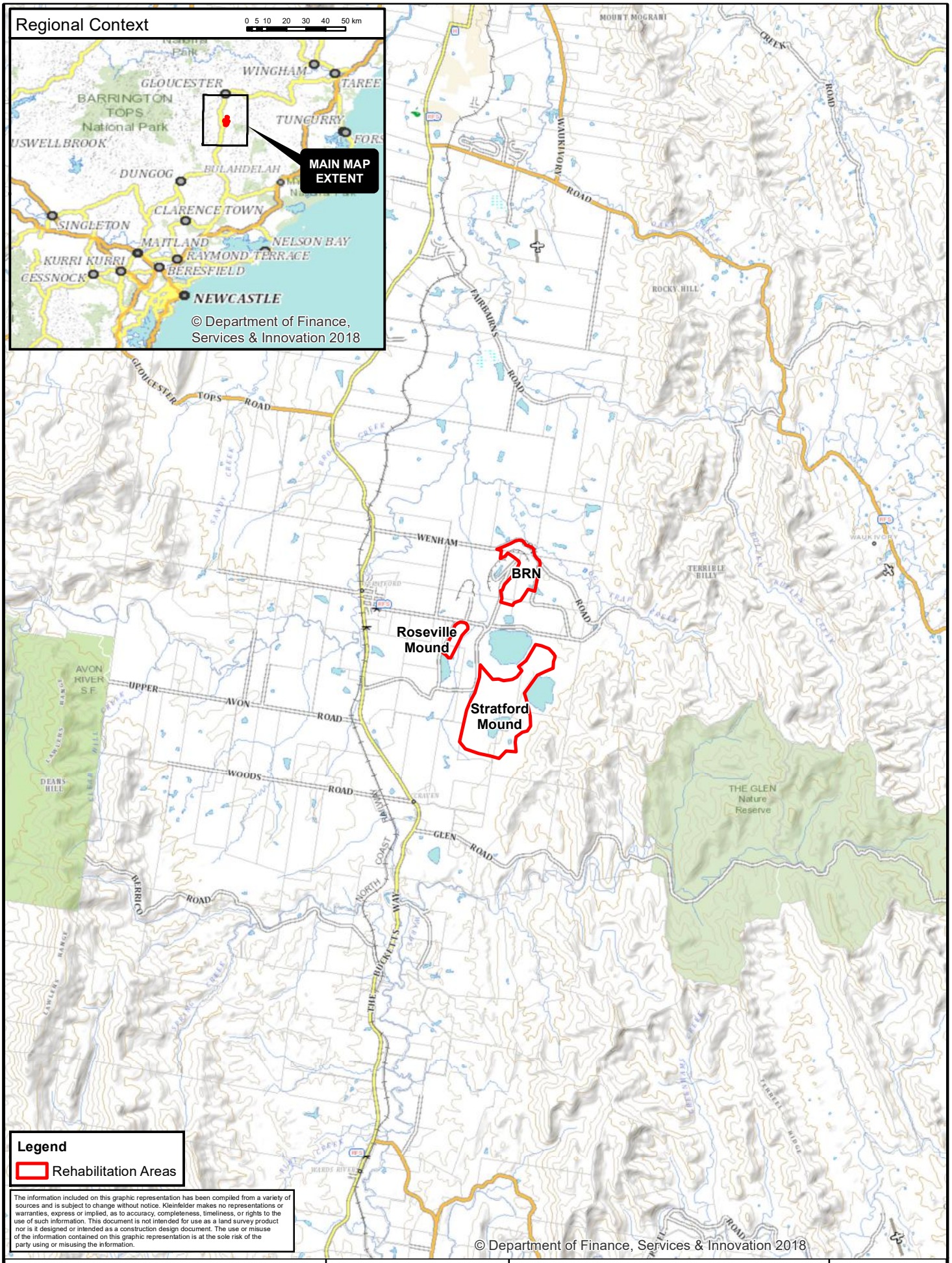
The SMC operates under two key approvals, NSW Development Consent (SSD-4966) and the Commonwealth Approval (EPBC 2011/6176). Both may be viewed at http://www.stratfordcoal.com.au.

In accordance with Section 8.1 of the Stratford Mining Complex – Mining Operations Plan & Rehabilitation Management Plan (2019) monitoring and assessment of the rehabilitation areas will be required to demonstrate the effectiveness of the rehabilitation techniques and track the progression towards achieving the performance and completion criteria. This assessment will be conducted using EFA (Ecosystem Functional Analysis) to measure the progression of the rehabilitation towards a self-sustaining ecosystem. This report is submitted to fulfil this requirement.

1.1 SCOPE AND RATIONALE

Kleinfelder Australia was commissioned by SCPL to conduct EFA monitoring to ensure compliance with the above stated objectives. The findings of the LFA and vegetation dynamics surveys and appropriate recommendations are provided in this report.

The LFA and EFA monitoring was conducted by Kleinfelder staff on the 12th, 15th, and the 16th June 2020.



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2. METHODS

2.1 LANDSCAPE FUNCTIONAL ANALYSIS

Landscape Functional Analysis is a monitoring technique that uses eleven soil surface characteristics to determine the functional status of a landscape and is fully described in Tongway and Hindley (2011). These soil surface characteristics correspond to a range of physical, chemical and biological processes that involve physical movement of water, topsoil and organic matter in a landscape. The landscape is divided into a patch and inter-patch system along transects where water and nutrients are accumulated or shed respectively. Full data for each transect is provided in **Appendix 1**.

Using a subset of the transects established as part of previous monitoring efforts conducted on behalf of SCPL by Greening Australia, LFA data was collected from the three rehabilitated waste emplacements at the SMC. Transects (25m in length for native flora revegetation areas or 50m in length for the pasture rehabilitation areas) were located using co-ordinates sourced from previous reports then located by sight.

A photograph was taken looking along transects from the starting peg with the tape measure visible if possible. Where the full transect was not visible due to vegetation, an additional photograph was taken at the half-way point to illustrate the typical conditions. An example of the typical query zone or zones for each transect is also presented (**Appendix 2**).

2.2 Vegetation Structure

The second component of the monitoring consisted of assessing the vegetation structure at each transect. The “point-centre-quadrat” method as outlined in Tongway and Hindley (2011) was employed to collect density and canopy size of woody vegetation, if present, at each transect. For native flora revegetation areas, at 5 x 5m points along transects, the distance to the nearest stem for stratum designated canopy, midstorey and shrubs, was measured and the plant height, canopy density, and dimensions (breadth and width) were recorded. For analogue sites canopy was designated as the dominant tree layer, with midstorey being stems above 1.5m in height and below the canopy and shrubs were woody species under 1.5m, regardless of species i.e. young, canopy, midstorey and true shrub species. This methodology

was used for the analogue sites (T34 and T35) and the rehabilitation sites, despite the absence of canopy trees on certain transects (i.e. T19, T20 and T27).

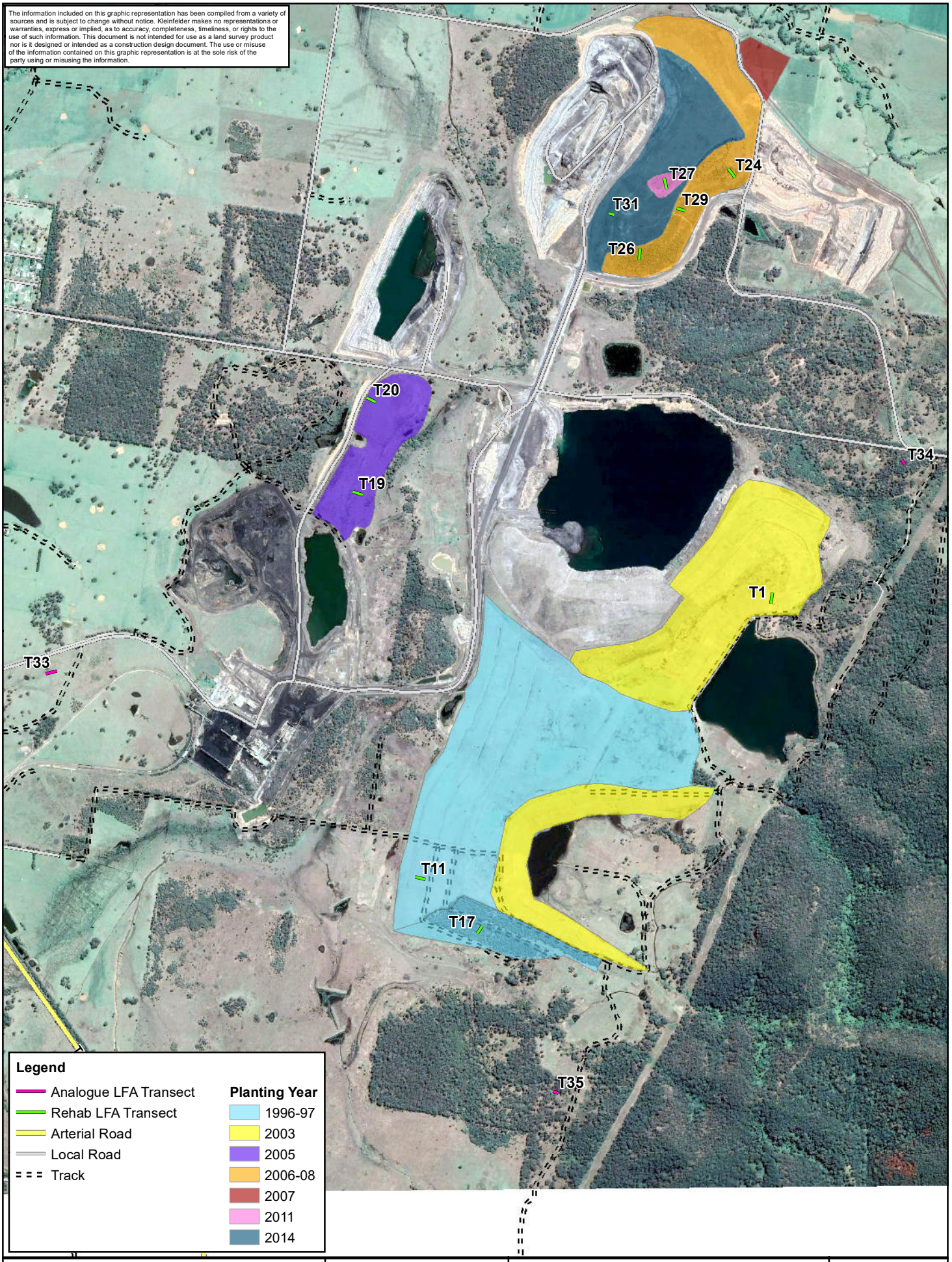
Nine transects were selected for data collection from five of the six ages of rehabilitation, three waste emplacements and two vegetation types that have been conducted at the SMC (**Table 4**). The three waste emplacements are designated Bowens Road North (BRN) Waste Emplacement, Stratford Waste Emplacement (SWE) and Roseville Waste Emplacement (RWE). This survey also included three analogue transects - one native pasture and two native woodland (Spotted Gum – Ironbark Woodland), giving a total of twelve transects monitored. This year's survey did not include 2014 rehabilitation on the BRN waste emplacement as the established transects (T31 and T32) have been subsumed by operational requirements. **Figure 2** shows the location of the surveyed transects throughout the SMC.

2.3 DATA ANALYSIS

The collected data is input into a software system purpose designed for LFA where a series of tables are generated providing data on both a hillside and a patch basis. This data can then be used to provide insight into the functional status of the landscape. Vegetation Structure data is also input into purpose-designed software where woody plant density and vegetative volume on a per hectare basis is calculated.

Table 4: Details of the monitoring transects where Landscape Function Analysis and Vegetation Structure was surveyed at the SMC in 2020

Year of Rehabilitation	Transect	Location at SMC	Vegetation Type
1996/97	T11	Stratford Waste Emplacement	Pasture
2003	T1		
1996/97	T17	Stratford Waste Emplacement	Native Woodland Rehabilitation
2005	T19	Roseville Waste Emplacement (South)	
	T20	Roseville Waste Emplacement (North)	
2006-08	T24	Bowen's Road North Waste Emplacement	
	T26		
	T29		
2011	T27		
Analogue	T33	Adjacent to main SMC access road	Pasture Analogue
	T34	East of BRN, off Wenham Cox Rd	Woodland Analogue
	T35	South of Stratford Woodland Rehab	



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PROJECT REFERENCE: Stratford
DATE DRAWN: 2020/06/08 13:53Version 1
DRAWN BY: GJoyce
DATA SOURCE:
LPI - 2009

LFA Transects
Stratford Mining Complex

Stratford Coal Pty Ltd
Stratford Rehabilitation LFA
Stratford Coal Mine
June 2019

FIGURE:
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3. RESULTS

3.1 LANDSCAPE FUNCTION ANALYSIS

3.1.1 Native Flora Rehabilitation Transects

The 2020 LFA results for the native flora rehabilitation areas overall compare well to the previous survey data (**Figure 3**). The mean Analogue Stability Index score for 2020 was 80.7 ± 0.7 compared to 75.6 ± 2.0 in 2019, and all of the rehabilitation areas returned scores that exceeded or were comparable to the 2019 index (**Table 5**).

The 2020 mean Analogue Infiltration Index score for the score of 62.0 ± 6.2 is equivalent to the 2019 score of 59.9 ± 4.9. The rehabilitation areas are near or just below this score, with the RWE 2005 rehabilitation recording the lowest score of 48.3 ± 0.7. Nonetheless, all rehabilitation areas were equivalent to, or improved from the 2019 survey.

The mean Nutrient Cycling index score for the Analogue transects was 62.5 ± 4.8 compared to 53.1 ± 4.9 in 2019, essentially unchanged. Indeed, the Analogue index scores are very similar since the 2017 survey. All rehabilitation sites recorded nutrient cycling scores under the analogue index score. The scores of SWE 1996/97 (53.0 ± 4.6) and RWE 2005 (48.6 ± 0.8) have partially recovered compared to last year but remain below the Analogue mean score. The scores of BRN 2006-08 53.7 ± 2.6 for this survey, (48.9 ± 6.65 last survey) and BRN 2011 54.7 ± 3.4 this survey (50.2 ± 3.4 last survey) remained largely unchanged this year, and remain slightly under the Analogue mean score for this index.

3.1.2 Pasture Rehabilitation Transects

The Analogue Pasture Rehabilitation recorded a Stability Index score of 68.1 ± 1.4 which is unchanged for the previous survey (68.6 ± 1.4). Both the SWE 1996/97 (64 ± 3.6) and 2003 (66.3 ± 1.3) Pasture rehabilitation areas recorded scores equivalent to the analogue index score, but lower than scores for the previous survey (75.0 ± 2.2 and 76.3 ± 1.7 respectively) (**Table 6** and **Figure 4**).

The Pasture Rehabilitation areas recorded Infiltration Index scores of 28.6 ± 0 and 30.4 ± 0 for the SWE 1996/97 and SWE 2003 areas respectively, compared to the Pasture Analogue site

which recorded a score of 34.5 ± 2.3. The Pasture Analogue score was unchanged from the previous survey (34.9 ± 2.7), but the rehabilitation areas recorded decreases from the 2019 survey results (35.8 ± 2.9 for the SWE1996/97 area and 34.4 ± 2.3 for the SWE 2003 area).

The Nutrient Cycling Index score for the pasture areas – analogue and rehabilitation recorded a substantial decrease this survey. The Pasture Analogue area recorded a decrease from 35.3 ± 3.3 for the 2019 survey to 26.6 ± 3.4 this survey. Likewise, the rehabilitation areas also recorded a decrease for this index. The SWE 1996/97 Pasture rehabilitation area fell to 28.6 ± 0.0 compared to 34.1 ± 4.0 last survey, while the SWE 2003 Pasture rehabilitation area fell to 24.4 ± 2.3 compared to 34.8 ± 2.3.

Table 5: Average LFA scores for the transects located in areas of native flora rehabilitation

Index	Analogue				SWE 1996/97							RWE 2005							BRN 2006-08							BRN 2011							BRN 2014		
	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020	2017	2018	2019
Stability	74.6	77.9	75.6	80.65	75.1	69.0	77.5	75.6	78.8	74.8	79.8	77.7	69.3	68.1	75.4	80.9	80.4	81.3	73.0	65.6	74.3	72.3	76.2	77.3	80.1	75.55	73.5	74.2	77.5	78.1	81.4	79.4	65.4	66.9	76.7
SE	1.3	2.1	2.0	0.65	0.0	3.5		1.2	1.4	2.8	1.2	3.2	3.2	3.2	1.2	0.4	1.0	1.1	2.5	1.7	4.5	5.3	2.1	4.7	0.9	0.05	1.20		1.40	3.10	1.60	1.70	1.55	3.75	2.4
Infiltration	63.6	62.2	58.9	62.0	55.8	42.9	61.8	57.1	56.6	50.6	53.3	43.6	41.7	58.3	56.8	56.6	42.5	48.3	45.9	40.0	52.0	52.9	57.4	54.0	56.2	42.7	45.25	48.5	58.3	49.8	42	59	37.9	42.4	37.9
SE	1.3	8.9	4.9	6.2	4.4	1.6		3.7	9.3	2.8	4.7	4.3	2.6	3.1	11.6	9.3	0.4	0.7	1.0	0.9	5.3	7.1	4.4	5.2	4.2	0.30	2.15		4.50	4.70	2.70	5.00	1.00	3.55	2.5
Nutrient Cycling	59.2	60.7	53.1	62.5	51.9	37.5	54.5	51.1	55.5	44.7	53.0	44.0	37.8	44.5	46.4	55.5	43.5	48.6	43.0	34.4	46.2	47.1	52.4	48.9	53.7	42.7	39.7	48.6	58.1	45.6	50.2	54.7	32.6	32.4	37.9
SE	3.3	7.4	4.9	4.8	2.2	0.9		5.3	9.5	3.5	4.6	4.6	3.7	4.1	12.6	9.5	0.0	0.8	1.2	1.6	6.8	6.9	6.2	6.7	2.6	0.30	3.20		6.50	4.60	3.40	3.40	1.90	3.85	3.6

Table 6: Average LFA scores for the transects located in areas of pasture rehabilitation

	Analogue				SWE 1996/97							SWE 2003						
	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020
Stability Index	61.9	71.5	68.6	68.1	75.1	69.3	72.6	67.9	76.9	75.0	64.0	67.9	65.8	62.2	63.9	73.9	76.3	66.3
SE	2.6	4.3	1.6	1.4	2.0	1.4	2.0	6.6	3.4	2.2	3.6	2.4	1.5	1.8	3.3	2.5	1.7	1.3
Infiltration Index	37.4	43.8	34.9	34.5	39.0	38.6	56.0	43.1	45.4	35.8	28.6	32.7	37.4	47.5	44.7	34.4	34.4	30.4
SE	4.9	4	2.7	2.3	1.9	0.9	4.7	6.3	5.6	2.9	0.0	3.2	1.2	2.3	2.6	1.6	2.3	0.0
Nutrient Cycling Index	20.5	35.7	35.3	26.6	37.0	33.3	46.0	31.5	46.1	34.1	28.6	29.8	32.4	27.9	28.7	32.3	34.8	24.4
SE	0	4.6	3.3	3.4	2.1	1.3	4.3	11.0	5.2	4.0	0.0	3.8	2.2	4.7	5.6	2.3	3.4	2.3

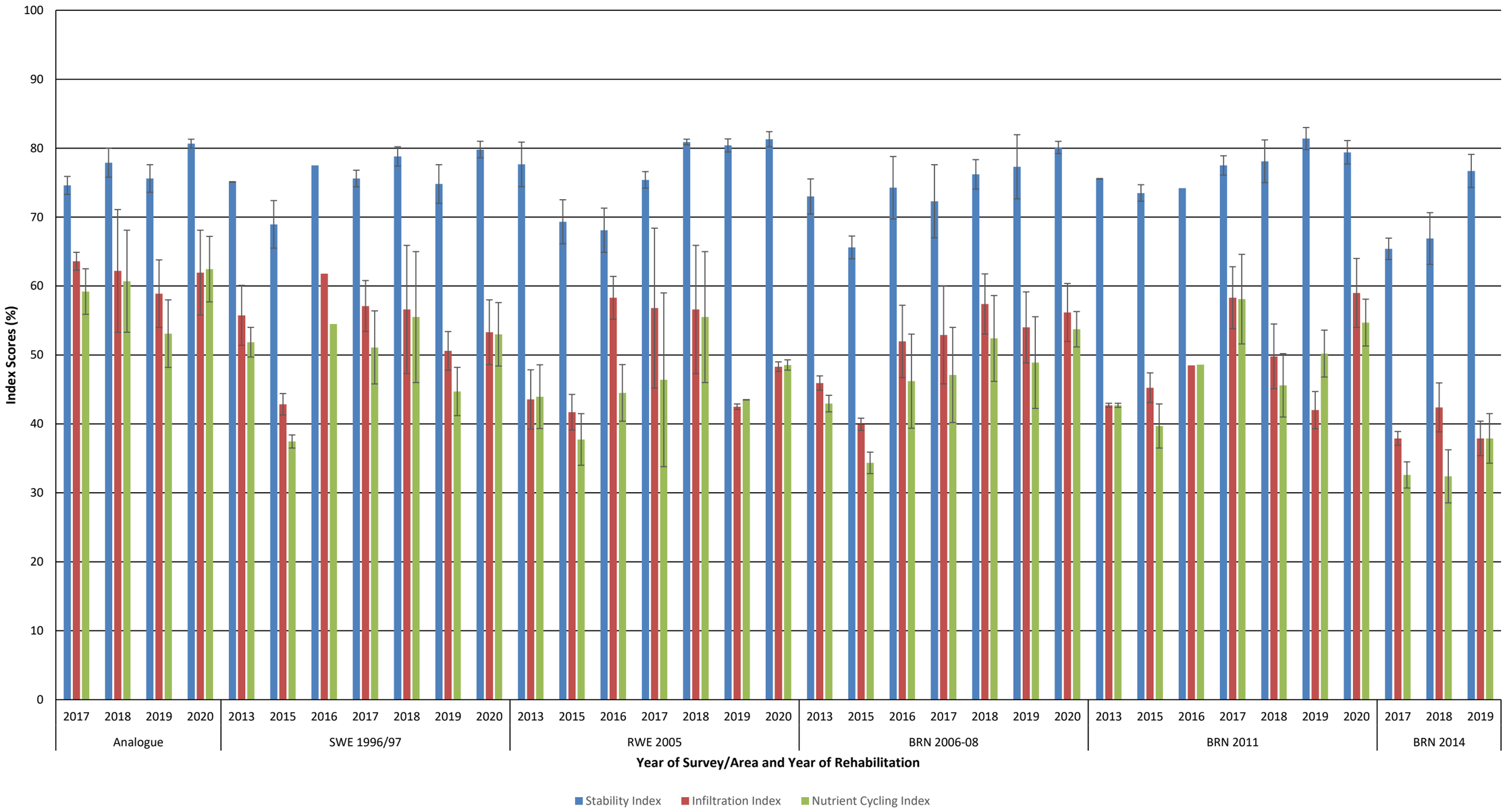

Figure 3: **Landscape Function Analysis for the native flora rehabilitation transects at the SMC. Data is presented for the three major indices, for the seven survey years and for each waste emplacement where rehabilitation has been conducted. SWE = Stratford Waste Emplacement, RWE = Roseville Waste Emplacement, BRN = Bowens Rd North Waste Emplacement.**

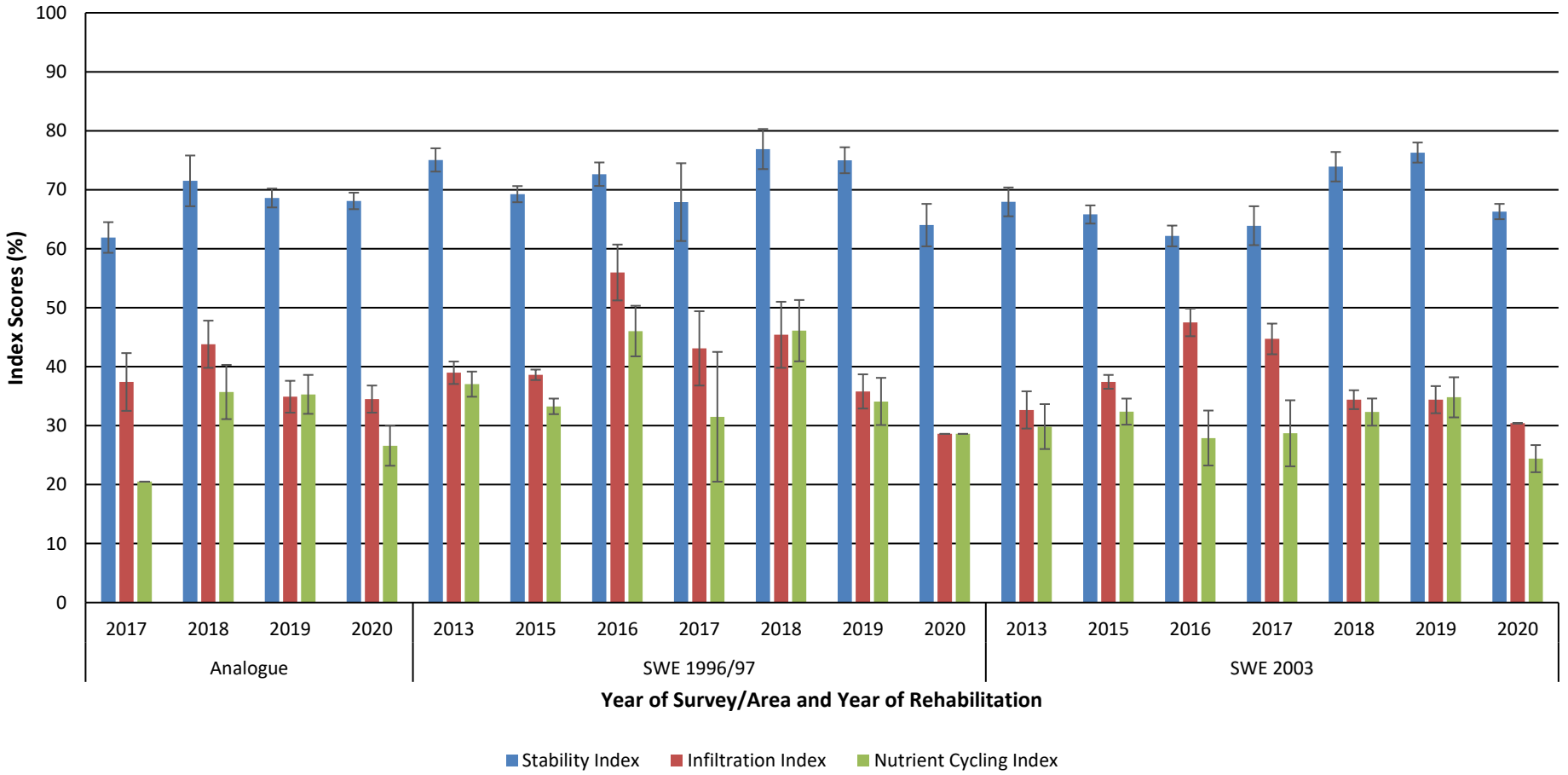

Figure 4: **Landscape Function Analysis for the pasture rehabilitation transects at the SMC. Data is presented for the three major indices, for the seven survey years and for each waste emplacement where rehabilitation has been conducted. SWE = Stratford Waste Emplacement**

3.2 VEGETATION STRUCTURE

Vegetation structure data for the 2020 survey is presented as total woody vegetation number of stems (**Figure 5**) and average total woody vegetation canopy volume (**Figure 6**) and then summarised in **Table 7.**

The total vegetation structure of the native flora rehabilitation areas exhibits considerable variation between areas and, in comparison to the mean analogue site data as expected. This variation was due to the relative ages of the rehabilitation and the dominant species that were seeded into that area i.e. canopy species versus more *Acacia* dominated native vegetation (**Table 7** and **Figure 5**).

Analogue woodland areas recorded total native woody plants of 1189 stems/ha and a canopy volume 17, 747 m^3/ha. Total plants have decreased from the previous two surveys, while canopy volume has decreased substantially from the over the course of the last surveys.

The oldest and best developed woodland rehabilitation area, SWE 1996/97, recorded a total plant density of 673 plants/ha and total canopy volume 28,676 m^3/ha. The specific area surveyed this year was last surveyed in 2018 and comparison to that data shows a substantial decline in total plants with only a modest decrease in canopy volume.

The RWE 2005 transects surveyed this year have only had sparse regeneration and this is reflected in the data presented with all data recorded in a single stratum – midstorey – to allow for calculation of the parameters. This survey, the average total plant density was 191 stems/ha with a canopy volume of 2057 m^3/ha. This is about the same of plants as previously surveyed (2018) but with a large increase in canopy volume.

The BRN 2006/08 has recorded a plant density of 3567 plants/ha compared to 2036 plants/ha in 2019 and 5005 plants/ha in 2018. Total canopy volume this survey recorded 19, 291 m3/ha compared to 11192.5 m^3/ha in 2019 and 49197.09 m^3/ha in 2018. This result can be attributed to a combination of differing locations of the transects surveyed year to year and the continued senescence of *Acacia* dominated rehabilitation areas where seedlings (if present) have not yet matured.

The BRN 2011 area, represented by T27, continued to decline in total plant density from the 2018 survey (856 plants/ha) to the 2019 survey (341.0 plants/ha) and now to the 2020 survey (191 plants/ha) and also recorded a decline in canopy volume from 7257.18 m^3/ha in 2018 to 1232.6 m^3/ha in 2019 but has shown a slight increase to 2176 m^3/ha, due to surviving plants increasing in size (**Table 7** and **Figure 5**).

3.2.1 Vegetation Structure by Stratum

A clearer picture of the vegetative structure is obtained by examination of the vegetation structure by stratum (**Table 9**, **Figure 7**, **Figure 8** and **Figure 9**).

Examination of the data show that SWE 1996/97 area is approaching the structure of the Analogue areas in that there is a clearly defined canopy, midstorey and shrub stratum, albeit in different quantities. The SWE 1996/97 overall recorded half the total number of plants per hectare, when compared to the Analogue area. However, the canopy stratum was considerably higher at 180 stem/ha and 26,568 m^3/ha of canopy, (compared to 56 stems/ha and 17, 747 m^3/ha for the Analogue sites) while midstorey stratum recorded a similar number of stems this year – 316 stems/ha compared to 422 stems/ha for the Analogue areas. Canopy volume for this stratum was however much greater at 1990 m^3/ha for the rehabilitation area versus 341 m^3/ha for the Analogue areas. The shrub stratum is the major difference in structure between the two areas. The SWE 1996/97 area recorded only 177 shrub plants/ha but with a volume of 118 m^3/ha. This compares to the Analogue sites with 710 shrubs or shrub sized plants/ha, but a volume of only 104 m^3/ha.

The RWE 2005 areas surveyed this year recorded an average of 191 plants/ha. The number of plants compares well to the previous surveys of these areas in 2016 (212 plants/ha) and 2018 (207 plants/ha). Canopy volume has increased from the 2018 survey from 567 m^3/ha to 2057 m^3/ha this survey, an encouraging result. Plants of species from each stratum were recorded (e.g. *Leucopogon juniperinus* in the shrubs, *Acacia longifolia* in the midstorey and various *Eucalyptus* spp. in the canopy – most of which were <1.5m tall) in each stratum, but in such sparse numbers that all plants were required to be combined for the sake of analysis.

Three transects were surveyed in the BRN 2006-08 area this survey and can be compared to the 2018 survey results. Only a single area, T24 recorded true canopy species i.e. Eucalypts, while the remaining two transects, T26 and T29 represent areas where Eucalypts are so sparse as not be recorded in the surveys, but where *Acacias* have been seeded in very high densities. Therefore, the data presented on canopy densities should interpreted with caution,

while at the same time explaining the very high midstorey densities. Canopy numbers were recorded at 141 stems/ha with a canopy volume of 12, 737 m^3/ha compared to the 2018 survey where 41 canopy stems/ha were recorded with a canopy volume of 3,116 m^3/ha. Midstorey this survey recorded 3,197 stems/ha with a canopy volume of 6,532 m^3/ha. This compares to the 2018 survey where 3,712 stems/ha and 44, 955 m^3/ha canopy volume were recorded. The shrub stratum recorded 229 stems/ha and a canopy volume of 22 m^3/ha in 2020 compared to 219 stems/ha and 75 m^3/ha in 2018.

In the BRN 2011 area the 2020 survey shows the continued senescence of the pre-dominantly *Acacia* midstorey. This survey 130 stems/ha with a canopy volume of 2176 m^3/ha were recorded. The previous survey in 2019 recorded 341 stems/ha with a canopy volume of 1234 m^3/ha, while the 2018 survey recorded 857 stems/ha and 7257 m^3/ha.

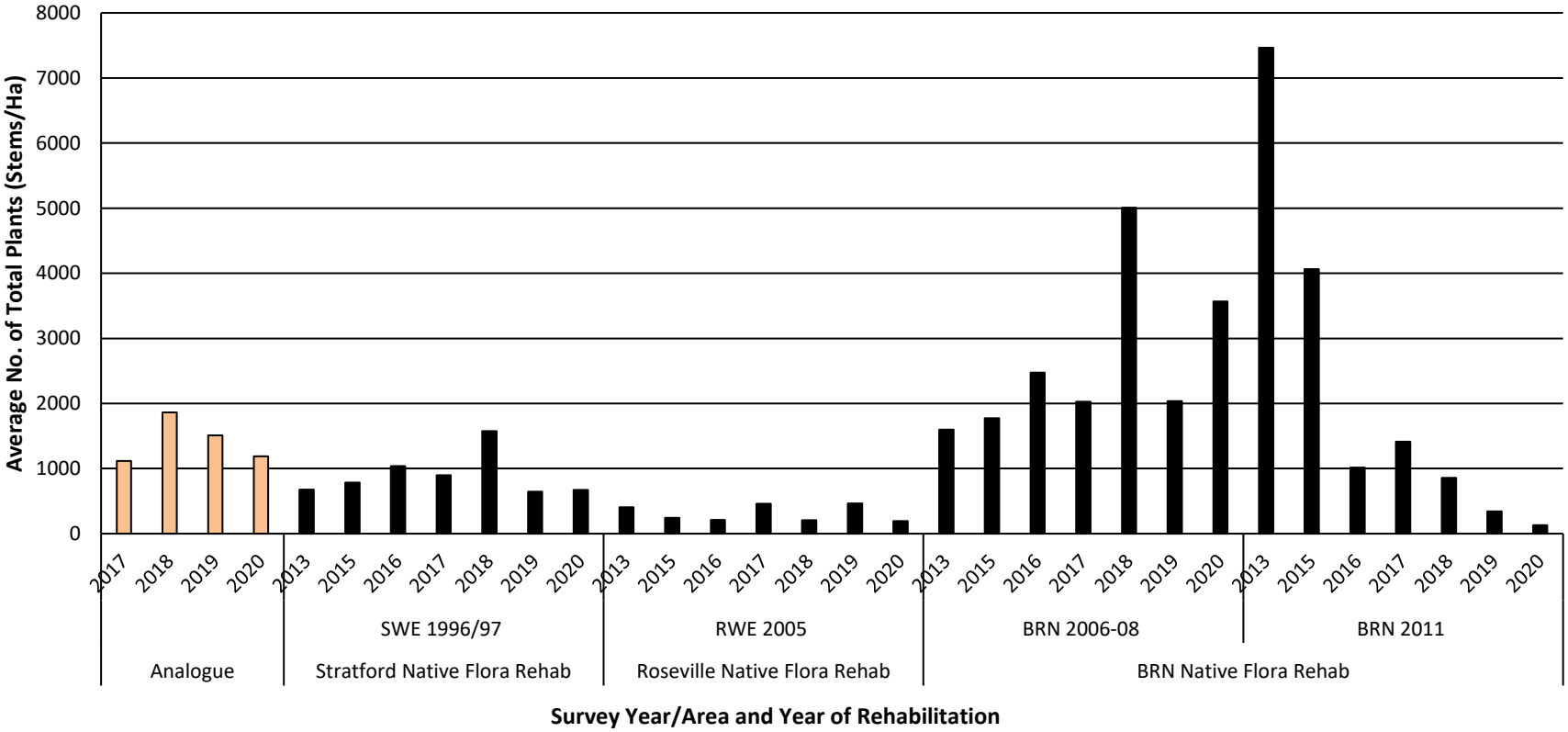

Figure 5: **Total woody native vegetation (canopy, midstorey and shrub layers combined) density for the native flora rehabilitation areas of the SMC for the 2020 survey**

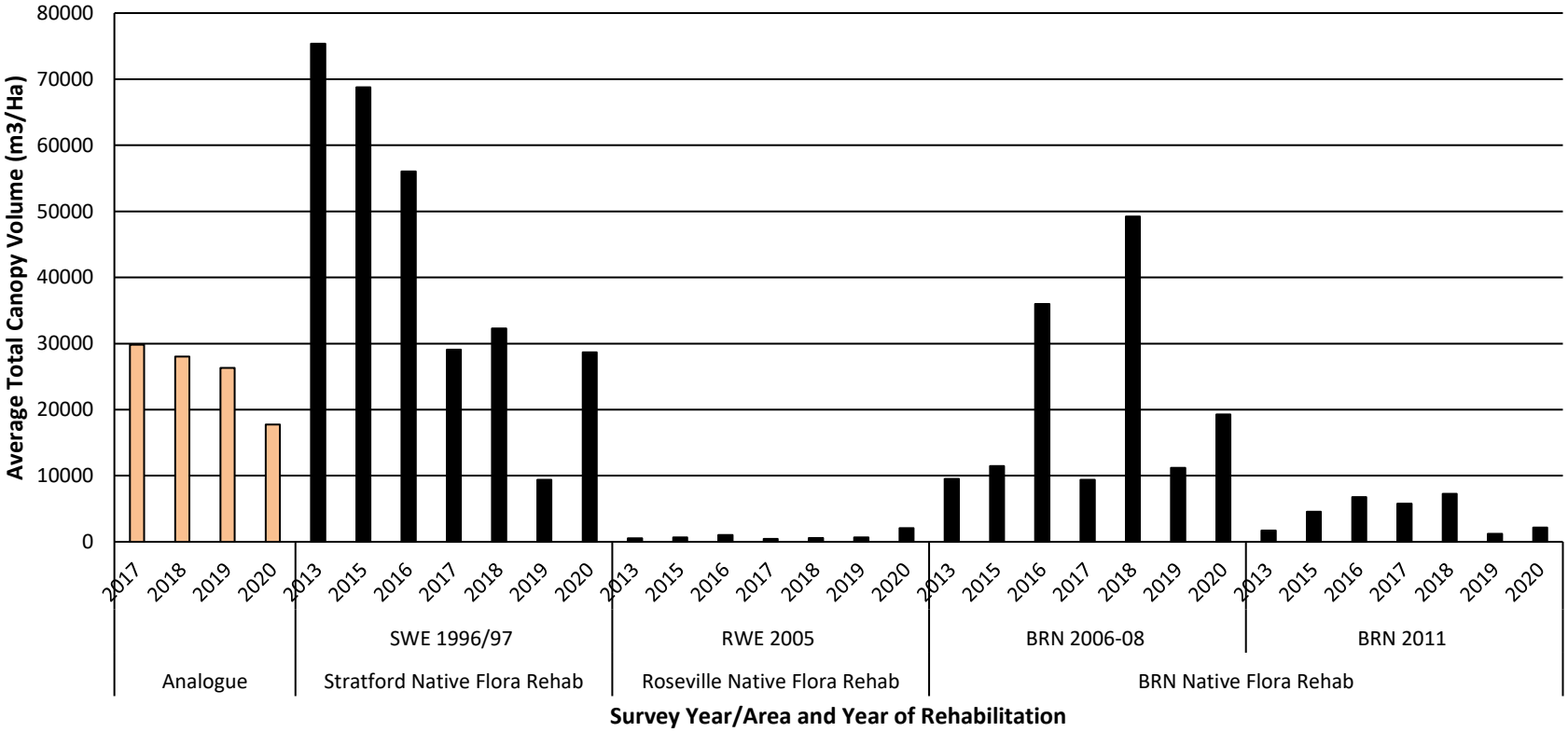

Figure 6: **Average total woody native vegetation (canopy, midstorey and shrub layers) volume for the native flora rehabilitation areas of the SMC for the 2020 survey**

Table 7: Historical Average Total Woody Vegetation Structure for the Native Flora Rehabilitation on the Stratford and Roseville Waste Emplacement Areas of the SMC

Area	Analogue				Stratford Native Flora Rehab							Roseville Native Flora Rehab						
Year of Rehab					SWE 1996/97							RWE 2005						
Year of Survey	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020
Total No. of Plants (stems/ha)	1117	1862	1510	1189	676	787	1038	899	1575	646	673	407	244	212	462	207	465	191
Total Canopy Volume (m^3/ha)	29823	28029	26315	17747	75359	68795	56019	29070	32261	9391	28676	549	688	1010	430	567	687	2057

Table 8: Historical Average Total Woody Vegetation Structure for the Native Flora Rehabilitation on the Bowens Road North Waste Emplacement Areas of the SMC

Area	Analogue				BRN Native Flora Rehab													
Year of Rehab					BRN 2006-08							BRN 2011						
Year of Survey	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020
Total No. of Plants (stems/ha)	1117	1862	1510	1189	1597	1774	2473	2027	5005	2036	3567	7464	4062	1015	1411	856	341	130
Total Canopy Volume (m^3/ha)	29823	28029	26315	17747	9514	11473	35995	9394	49197	11193	19291	1692	4570	6778	5781	7257	1232	2176

Table 9: Woody Vegetation Structure by Stratum for the Native Flora Rehabilitation Areas of the SMC for the 2020 survey. C = Canopy, M = Midstorey, S = Shrub

	Analogue			SWE 1996/97			RWE 2005			BRN 2006-08			BRN 2011		
Stratum Component	**Canopy**	**Mid**	**Shrub**	**Canopy**	**Mid**	**Shrub**	**Canopy**	**Mid**	**Shrub**	**Canopy**	**Mid**	**Shrub**	**Canopy**	**Mid**	**Shrub**
Total No. of Plants (Stems//ha)	56	422	710	180	316	177	0	191	0	141	3197	229	0	130	0
Mean Distance /b/ plants (m)	14.1	8.0	3.9	7.4	5.6	7.5	0.0	7.8	0.0	1.6	2.6	1.3	0.0	8.8	0.0
Canopy Volume (m^3/ha)	17301	341	104	26568	1990	118	0	2057	0	12737	6532	22	0	2176	0

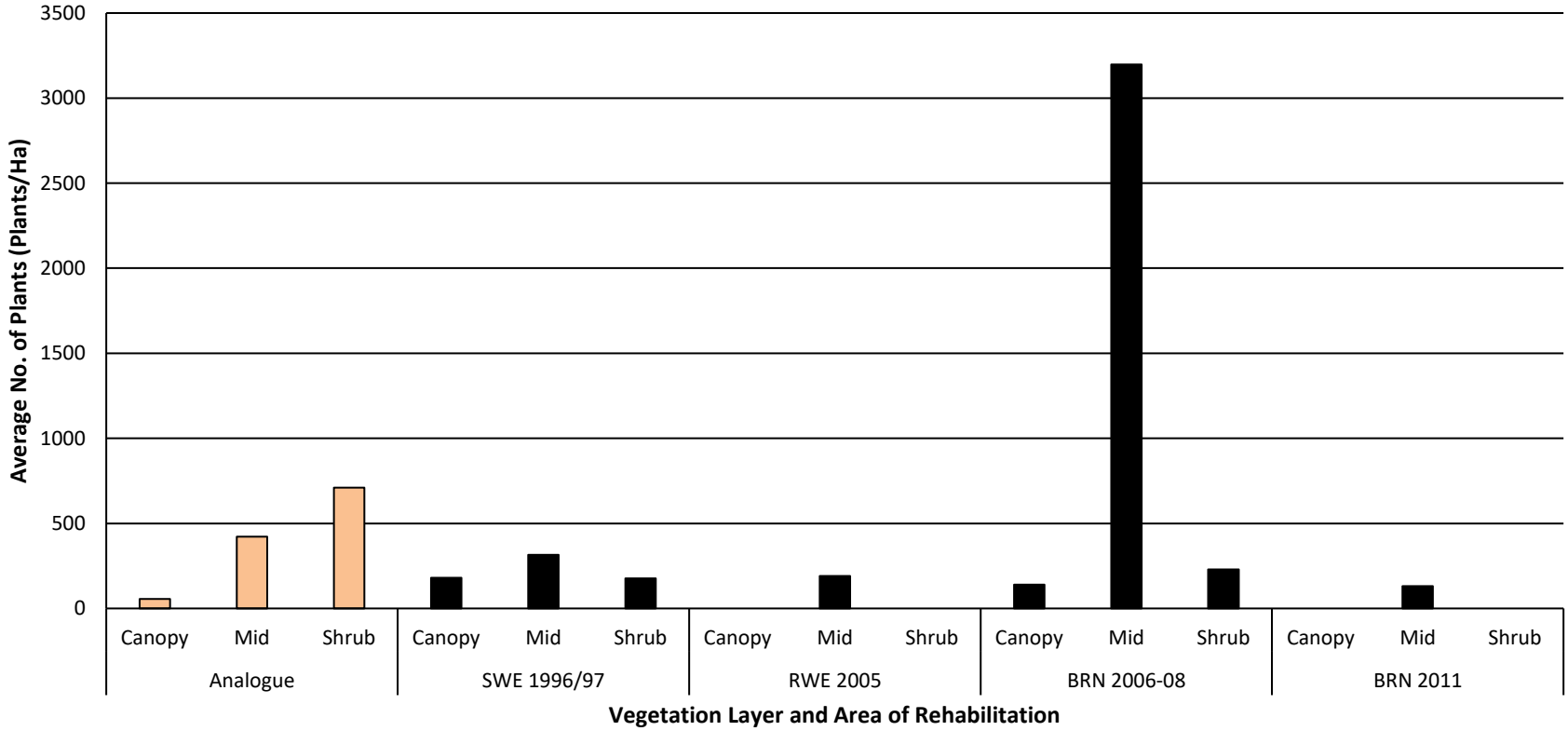

Figure 7: Average Number of Plants per Hectare by Vegetation Stratum for each of the Rehabilitation Areas for the 2020 Survey

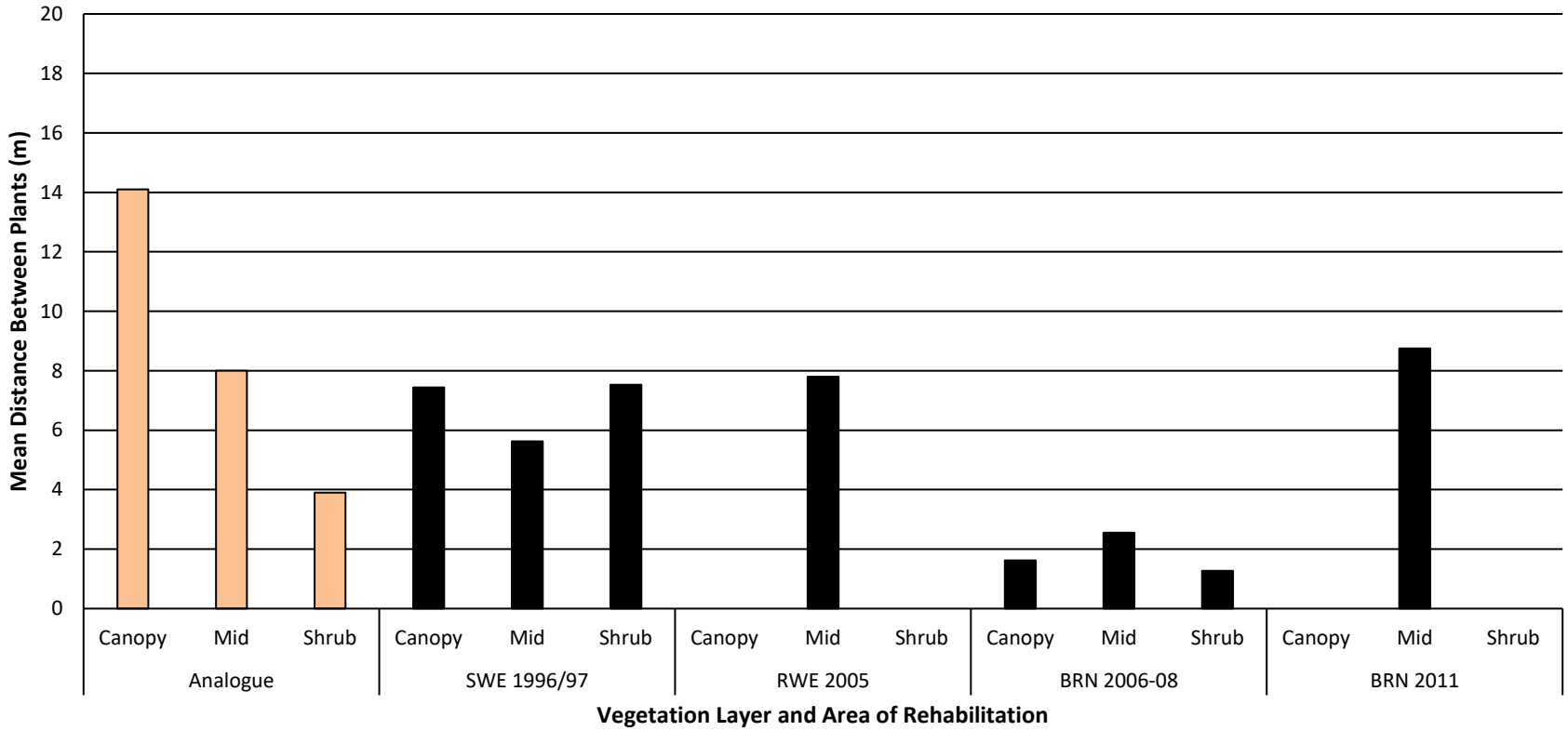

Figure 8: Mean Distance between Plants by Vegetation Stratum for each of the Rehabilitation Areas for the 2020 Survey

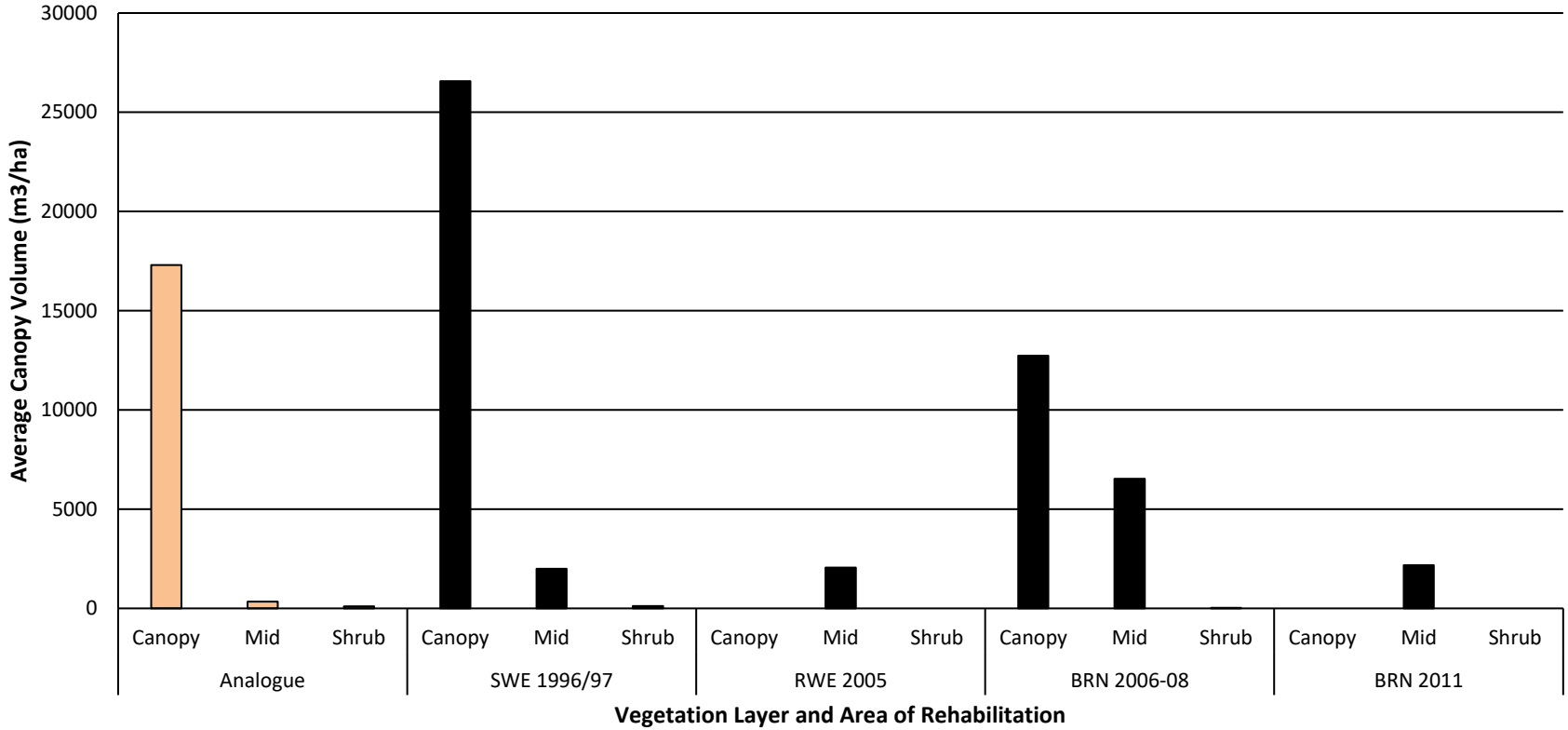

Figure 9: Average Canopy Volume per Hectare by Vegetation Stratum for each of the Rehabilitation Areas for the 2020 Survey

4. DISCUSSION AND RECOMMENDATIONS

4.1 NATIVE FLORA AREAS REHABILITATION

In the 2020 survey most of the Native Flora rehabilitation areas had achieved or were on trajectory to achieve similar mean index scores to the mean analogue scores. The Stability Index scores were at or above analogue values and the Infiltration and Nutrient Cycling Index scores were near analogue values or had improved from previous surveys.

The soil surface indices and vegetation structure scores recorded for the native flora rehabilitation areas are indicative of rehabilitation that overall is progressing, with the rate of progress very much dependent upon vegetation cover and the composition and density of the planted vegetation. Where the revegetation has incorporated a good mix of species, a multi-strata community is developing, albeit in different proportions when compared to Analogue communities. These areas include the SWE (1996/97) Woodland rehabilitation and the northern section of BRN 2006/08 Woodland Rehabilitation (T24 area).

4.1.1 Bowen's Road North Waste Emplacement (BRN)

4.1.1.1 BRN – 2006/08 Rehabilitation

The BRN (2006-08) area included three transects in native flora revegetation consisting of:

1. T24 (north) – consisting of a well-defined canopy, midstorey and shrub layer of *Corymbia maculata, Eucalyptus punctata, Eucalyptus crebra, Acacia irrorata, Acacia longifolia Acacia ulicifolia* and sparse *Ozothamnus diosmifolius* and *Breynia oblongifolia.* The understorey is patchy due to the shading effect of the canopy but is still dominated by exotic grasses.

2. T26 (south) – consisting of a dense midstorey of *Acacia irrorata with some scattered Trema tomentosa* and *Breynia oblongifolia* with no *Eucalypts* recorded. The *Acacias* have started to die-back and moderate layer of younger seedlings and saplings are

beginning to emerge. The understorey is very shaded and consists of a combination of native and exotic grasses and forbs with variable density.

3. T29 (mid) – consisting of an area with some senescence of *Acacias,* but still dominated by *Acacia longifolia* with *Acacia falcata, Breynia oblongifolia, Leptospermum polygalifolium* and *Ozothamnus diosmifolius* and dense understorey of exotic grasses.

These differences had a substantial effect on two of the LFA indices, average plant densities and canopy volumes, even though they have ostensibly been rehabilitated over the same period. Examination of the individual transect data (**Appendix 1**) shows that all three transects have Stability Index scores close to or exceeding Analogue levels. Infiltration and Nutrient cycling Index scores for T24 (**Plate 11, Plate 12**) slightly exceeded Analogue levels indicating that the area represented by this transect is on track to be considered successful rehabilitation. Transect T30 (**Plate 15**, **Plate 16**) had an Infiltration score which was 10 points below the average and Nutrient Cycling index scores was 4.2 points below Analogue values.

Vegetation data shows that T24 is similar to Analogue structure, with well-developed and distinct canopy, midstorey and shrub strata average stem densities above the Analogue averages. Examination of the EFA data (data not shown) shows that many of the species recorded in the midstorey and shrub strata are in fact young *Acacia irrorata*) suggesting that more diversity in these strata would be desirable. The midstorey stratum did record various species of *Eucalyptus* species indicating that there has been at least one self-recruitment event.

The area surrounding T26 has only sparse *Eucalyptus spp.* that were not recorded in the transect data and plant densities are very high due to the numerous *Acacia irrorata*. Many of the older trees are starting to senesce, but saplings and seedlings have germinated due to the dense shade reducing the groundcover density. Additional species such as *Trema tomentosa*, *Ozothamnus diosmifolius* and a single *Grevillea robusta* have been introduced by fauna. The *G. robusta* should be considered an exotic as this species, while a “native” Is not endemic to the area. *Lantana camara* (Lantana) and *Solanum Mauritianum* (Wild Tobacco) are present in the area.

The area surrounding T29 again has very few canopy species but is more diverse than the T26 area. Many of the *Acacias* are senescing. Weed species such as Lantana and Wild Tobacco have been introduced by fauna along with desirable natives. Manual weed control will be difficult due to the combination of tall exotic grass species dominating the groundcover

and the copious dead woody stems that have fallen over and are hidden from view, posing a significant trip hazard for any personnel working in this area. Nonetheless, an increase in canopy cover by a planting program and weed control works would be beneficial for the rehabilitation effort.

Recommendations are very similar to those made for the 2019 report and include:

- Treating the northern area of the BRN as a separate domain due the clear differences in LFA indices and vegetation structure and composition (T25 and T24);
- Management actions for the northern section include ongoing periodic weed control;
- The southern areas of the BRN would benefit from –
  - Ongoing periodic weed control; and,
  - Installation of canopy species as tubestock.
- The feasibility of an ecological burn could be investigated to reduce weed species and to help stimulate the seed bank of native species (mainly *Acacias*). A co-ordinated re-planting program could then be implemented to increase the diversity of the native vegetation.

4.1.1.2 BRN – 2011 Rehabilitation

The BRN (2011) rehabilitation (T27) is now a sparse midstorey of predominantly *Acacia* revegetation (*A. longifolia* and *A. falcata* dominate with lesser numbers of *A. irrorata* and *A. ulicifolia*), a limited number of other native shrub species and a dense groundcover of exotic grasses. Canopy species continue to be absent (**Plate 13, Plate 14**). Density has continued to decrease although canopy volume has increased from the 2019 survey as the surviving individual plants have grown. Previous reports have adopted a “wait and see” approach to this area and did not recommend any management actions. But with the rehabilitation of the Avon North spoil emplacement underway, the threat of exotic grass colonisation from this area to that rehabilitation is a possibility. As with the T29 area, the combination of woody material on the ground and dense groundcover render manual efforts hazardous. Therefore, as for the above area, a cool season ecological burn may be the most feasible and cost effective method to reduce groundcover biomass and exotic species cover to allow for a replanting effort and to stimulate whatever seed bank the original *Acacia* revegetation has established.

The ecological burn could be undertaken on the entire BRN waste emplacement rehabilitation and revegetation, either be seeding or tubestock installation be conducted.

4.1.1.3 BRN – 2014 Rehabilitation

This rehabilitation area was not surveyed this year as both transects (T31 and T32) have now been disturbed by the new waste emplacement. Establishment of further transects in the remaining small of this aged rehabilitation is subject to current mining operations.

4.1.2 Roseville Waste Emplacement (RWE)

The RWE 2005 rehabilitation area has four LFA transects established with this year's survey being undertaken on the alternate transects T19 (Roseville South, east facing) and T20 (Roseville North, west facing). These areas are stable with the Stability Index scores exceeding Analogue levels, while the Infiltration and Nutrient Cycling indices continue to be below the analogue average. This area will gradually improve over time with increasing vegetation cover and litter development.

The north mound transect, T20 (**Plate 9, Plate 10)** is an area dominated by a combination of native and exotic pasture grasses. The area has been subject to both seeding with native species and has had a modest canopy species program undertaken. Several shrub species have germinated or the seed bank, but overall, the native vegetation is sparse and the EFA required the plants to be combined into a single layer for analysis. The westerly aspect contributes to the difficulty in establishing and maintaining native vegetation.

The southern mound transect surveyed this year, T19 (**Plate 7, Plate 8**) is on the eastern side and is more established than the northern mound and has a very few scattered *Eucalyptus globoidea* trees. Native vegetation is dominated by *Acacia longifolia*, but also included *Acacia irrorata* and *Jacksonia scoparia.* Where the larger *E globoidea* have established, seedlings were observed, providing evidence of limited self-sustaining regeneration. Again, the very low density of native plants required the data to be combined into a single stratum for analysis, regardless of the size of the plant.

The revegetation of the RWE is progressing very slowly and would benefit from further plantings to increase densities and biodiversity. Reduction of the exotic grass biomass would be required (as was conducted previously on the north mound) to reduce competition for the seeded and/or planted natives. The slope on these mounds may preclude the use of machinery to slash, and again consideration for a cool season ecological burn should be considered.

Therefore, the recommendations made for this area are:

- Conduct a planting effort on the RWE north emplacement to increase the density and diversity of native woody species.
- Determination of the best method of biomass reduction prior to replanting to be undertaken.

4.1.3 Stratford Waste Emplacement Rehabilitation

This year the SWE (1996/97) Woodland rehabilitation LFA indices were mixed. The Stability Index was equivalent to the Analogue SI, but the remaining indices were lower than the Analogue index scores. However, the rehabilitation index scores were equivalent to the 2018 survey scores when this transect was last surveyed (T17 - **Plate 5, Plate 6**). The vegetation structure continues to be the closest to the Analogue structure but does require more diversity and greater numbers in the shrub stratum. The EFA data (not shown) does record several young Eucalypts in the midstorey stratum, and many young *Acacia irrorata* in the shrub stratum. The presence of *Leucopogon juniperinus*, identified for the first time this survey is especially important for the development of this vegetation community. This species is a very common shrub species and dominates in several remnant vegetation areas within the Offsets areas. It has not been seeded and indicates natural regeneration of a true shrub species as opposed to just young canopy and midstorey species that will grow out of the shrub stratum. Woody weed species such as Lantana and Wild Tobacco were observed in this area despite the weed control works conducted the previous year.

Management actions for this area are restricted to:

- Ongoing periodic weed control for woody weeds.

4.1.4 Nest Boxes

Previous reports had recommended the installation of nest boxes in the SWE and BRN rehabilitation areas. Given the ongoing coal extraction works in the Avon North and Stratford East Open Cuts, these areas have become temporarily isolated from larger areas of native vegetation. Therefore, the installation of nest boxes should be delayed until such time as mining operations are complete and revegetation of haul roads and spoil emplacements has occurred.

4.2 PASTURE REHABILITATION - SWE

The mean soil surface indices for the pasture rehabilitation areas continue to be satisfactory for the SWE 2003 rehabilitation area and are at, or above the Pasture Analogue transect (T33 – **Plate 17, Plate 18**). The lower Infiltration and Nutrient Cycling Indices on the SWE 1996/97 rehabilitation area was noted last survey and is again the result recorded for a different area of this rehabilitation indicating that this is a feature of the rehabilitat6ion.

With the LFA indices now relatively stable or above analogue levels these areas have been returned to active grazing. Any issues identified during this and the last survey have more to do with pasture management (i.e. pasture weeds such as *Cirsium vulgare* and *Gomphocarpus fruticosus* and perhaps stocking levels) which are now the responsibility of the leasee rather than rehabilitation of the spoil emplacement. The Pasture Analogue site has not been grazed in some time and this is reflected in the regeneration of native canopy and midstorey species. This is now occurring to such an extent that this site is now losing its utility as an Analogue and requires either the return of cattle, slashing or relocation of the transect.

The only recommendation suggested for the pasture rehabilitation areas is to continue monitoring as per consent conditions until such time as sign off and relinquishment has been achieved.

4.3 CONCLUSIONS

The rehabilitation areas of the Stratford Mining Complex are progressing satisfactorily, especially in those areas where a diverse seed mix was used, i.e. the northern BRN and the SWE rehabilitation areas. Other areas are showing the effects of a lack of canopy and/or species diversity and as the *Acacias* start to senesce, seedlings are unable to germinate due to the dense exotic grasses that dominate the groundcovers – with the notable exception of the BRN area surrounding T26. These areas require assistance to return to woodland vegetation, and where these areas are adjacent to newly rehabilitated areas e.g. BRN next to, and above the Avon North Waste Emplacement, provide a nearby source that could allow these exotic grasses to colonise and spread, and reduce the ecological value of the revegetation. It is suggested that revegetation of these areas will be undertaken at some stage and the most cost-effective method of biomass reduction will probably be ecological burns in the cooler months of the year.

The oldest native flora rehabilitation area SWE 1996/97 is now 20 years old and is approaching the required vegetation structure, indicating the time scale required for successful revegetation and is showing promising signs of natural recruitment and self-sustaining regeneration.

The Pasture Rehabilitation areas have proven capable of supporting grazing. Future actions relate to pasture management rather than active rehabilitation or remediation.

A summary table of the recommendations are included in **Table 10** below.

Table 10: Summary of Recommendations

Native Flora Rehabilitation	Recommendations
Bowens Road North 2014	• Determine if the remaining area is of sufficient size to re-establish monitoring transect/s
Bowens Road North 2011	• Investigate the relative feasibility of various revegetation methods, including slashing, ecological burns flowed by seeding or installation of tubestock
Roseville Waste Emplacement 2005	• Implement a tubestock planting program with canopy and "missing" shrub species to improve biodiversity and density.
Bowens Road North 2006-08	• Implement a tubestock/seeding planting program with canopy and "missing" shrub species to improve biodiversity and density. • For monitoring purposes, treating the area represented by T24 and T25 separately from the southern BRN area.
Stratford Woodland Rehabilitation 1996/97	• Continue with periodic and regular control of woody weeds that have potential to hinder revegetation effort – i.e., *Lantana camara,* and *Solanum mauritianum*.
Pasture Rehabilitation	**Recommendations**
Stratford Waste Emplacement Pasture	• Continue monitoring as per consent conditions until such time as sign off and relinquishment process completed • Instigate normal pasture weed management practices – suppression of native colonisers (e.g. *Acacias*) and pasture weeds (e.g. *Cirsium vulgare*).

5. REFERENCES

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APPENDIX 1. INDIVIDUAL LFA AND VEGETATION STRUCTURE TRANSECT DATA

Table 11: **Soil Surface Indicators for the Pasture Rehabilitation LFA transects for the monitoring conducted to date. Transects are grouped by year of rehabilitation. Yellow highlighted indicates transects surveyed in 2020. Red highlight indicates transects no longer surveyed.**

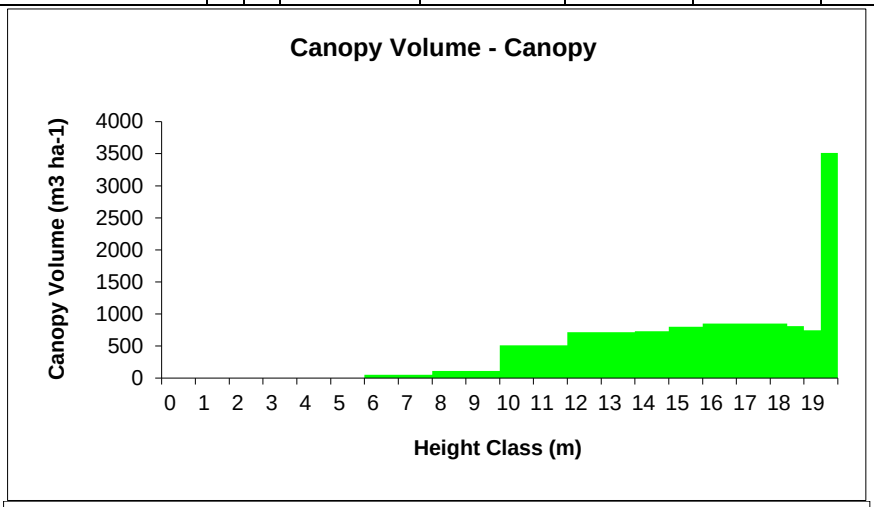
Transect No.	Year Planted	Vegetation Type	Stability Index							Infiltration Index							Nutrient Cycling Index						
			2013	2015	2016	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020
T33		Pasture Analogue				**61.9**	**71.5**	**68.6**	**68.1**				**37.4**	**43.8**	**34.9**	**34.5**				**20.5**	**35.7**	**35.3**	**26.6**
SE							**4.3**	**1.6**	**1.4**					**4.0**	**2.7**	**1.0**					**4.6**	**3.3**	**1.5**
T8	1996/97	SWE Pasture	74.8	65.1	69.2					42.8	35.6	52					40.8	28.2	42				
T9			73.3	71.4		61.3				38.2	40.8		36.8				33.1	35.8		20.5			
T10			77.3	70.4		74.4				43.4	38.4		49.4				40.2	33.6		42.5			
T11			77.8	68.5	76.1				64	38.1	38.2	65.4				28.6	39	34.6	54.6				20.6
T12			80.5	74	72.6		76.9			40.7	41.4	50.5		45.4			40.9	36.7	41.5		46.1		
T15			66.6	66.1				75		30.6	37.3				35.8		28.2	30.7				34.1	
Mean			**75.1**	**69.3**	**72.6**	**67.85**		**75**	**64**	**39**	**38.6**	**56**	**43.1**		**35.8**	**28.6**	**37**	**33.3**	**46**	**31.5**		**34.1**	**20.6**
SE			**2**	**1.4**	**2**	**6.55**	**3.4**	**2.2**	**1.6**	**1.9**	**0.9**	**4.7**	**6.3**	**5.6**	**2.9**	**0**	**2.1**	**1.3**	**4.3**	**11**	**5.2**	**4**	**0.1**
T1	2003	SWE Pasture	68.4	65	57.5				66.3	27.4	33.8	46.1				30.4	25.4	26.2	17.3				24.4
T2			66.1	61.3		70.4				35.7	35.8		49.5				33.3	30		39.5			
T3			73.1	58.6	61.8		73.9			44.8	40	46.5		34.4			39.2	37.1	28.7		32.3		
T4								76.3							34.4							34.8	
T5			76.9	69.6	67.1					42.6	41.7	53.3					46.4	42.2	41.3				
T6			60	64.5		59.4				20.8	32.3		40.4				15.9	23.4		20.5			
T7			56.7	71.6	59.4					21.3	36.7	40					15.1	29.7	17.9				
T13			68.5	68.8	65					34.5	40	51.6					31.3	37.1	34.3				
T14			73.8	67		61.9				34.2	39.1		44.2				32.1	33.3		26.1			
Mean			**67.9**	**65.8**	**62.2**	**63.9**		**76.3**	**66.3**	**32.7**	**37.4**	**47.5**	**44.7**		**34.4**	**30.4**	**29.8**	**32.4**	**27.9**	**28.7**		**34.8**	**24.4**
SE			**2.4**	**1.5**	**1.8**	**3.33**	**2.5**	**1.7**	**1.3**	**3.2**	**1.2**	**2.3**	**2.6**	**1.6**	**2.3**	**0**	**3.8**	**2.2**	**4.7**	**5.6**	**2.3**	**3.4**	**1.2**
T22	2007	BRN Pasture	**56.2**	**63.9**	**53.7**					**23.9**	**37.3**	**40.6**					**17.8**	**23.9**	**21.7**				

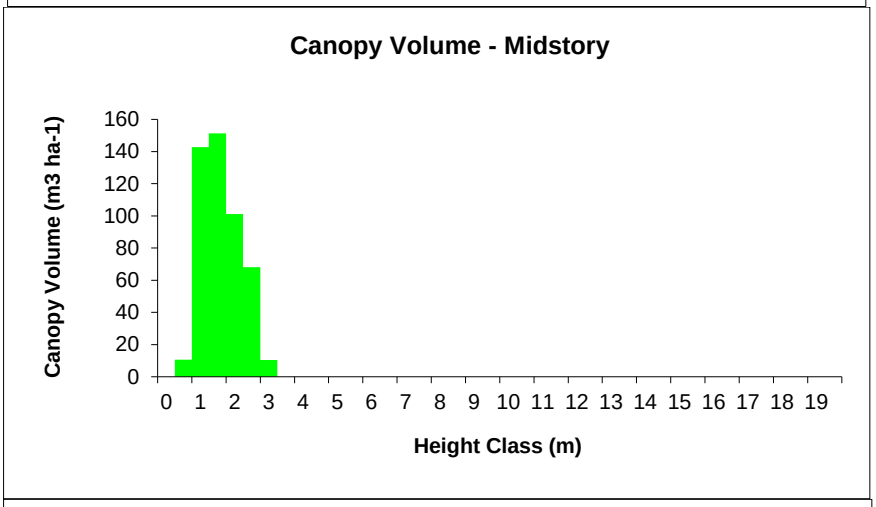
Table 12: **Soil Surface Indicators for the Native Flora Rehabilitation LFA transects for the monitoring conducted to date. Transects are grouped by year of rehabilitation. Yellow highlight indicates transects surveyed in 2020. Red highlight indicates transects no longer surveyed.**

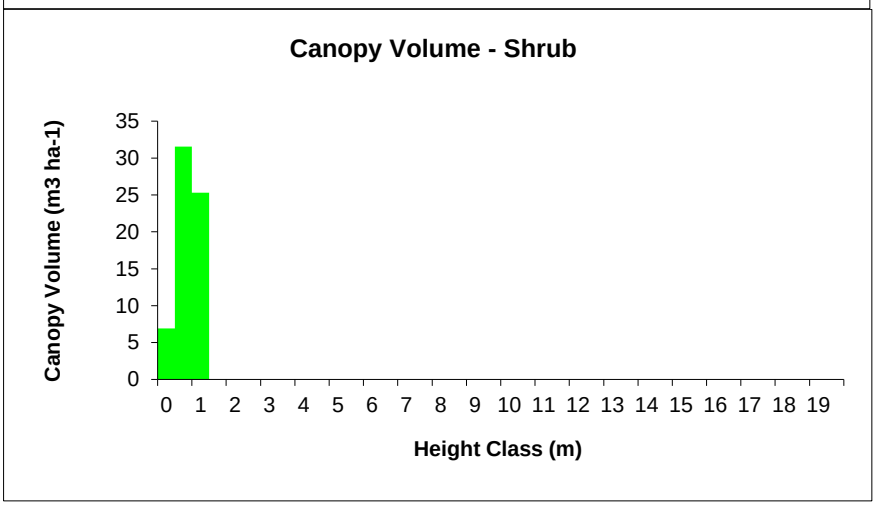
Transect No.	Year Rehabilitated	Vegetation Type	Stability Index							Infiltration Index							Nutrient Cycling Index						
			2013	2015	2016	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020	2013	2015	2016	2017	2018	2019	2020
T34						73.3	80	73.6	81.3				64.9	71.1	63.8	68.1				62.5	68.1	58	67.2
T35		Woodland Analogue				75.9	75.8	77.6	80				62.3	53.3	54	55.8				55.9	53.3	48.2	57.7
Mean						**74.6**	**77.9**	**75.6**	**80.7**				**63.6**	**62.2**	**58.9**	**62.0**				**59.2**	**60.7**	**53.1**	**62.5**
SE						**1.3**	**2.1**	**2**	**0.6**				**1.3**	**8.9**	**4.9**	**6.2**				**3.3**	**7.4**	**4.9**	**4.8**
T16			75.1	65.5		75.6		74.8		51.4	44.4		57.1		50.6		49.7	38.4		51.1		44.7	
T17	1996/97	SWE Native Flora	75.1	72.4	77.5		78.8		79.8	60.1	41.3	61.8		56.6		53.2	54	36.5	54.5		55.5		53
Mean			**75.1**	**68.95**	**77.5**	**75.6**		**74.8**	**79.8**	**55.75**	**42.85**	**61.8**	**57.1**		**50.6**	**53.2**	**51.85**	**37.45**	**54.5**	**51.1**		**44.7**	**53**
SE			**0**	**3.5**			**3.1**	**2.8**	**1.2**	**4.4**	**1.6**			**9.3**	**2.8**	**4.7**	**2.2**	**0.9**			**9.5**	**3.5**	**4.6**
T18			78.7	67.2		69.4		79.4		41.2	44.3		45.2		42.9		41.1	40.9		33.8		43.5	
T19			79.7	76.2	71.3		81.3		80.2	45.6	46.7	61.4		49.9		49	46.5	44.4	48.6		48.6		47.8
T20	2005	RWE Native Flora	68.5	61.5	64.9		80.5		82.4	33.4	34.8	55.2		41.6		47.6	33.1	27.1	40.4		43.1		49.3
T21			83.7	72.4		81.3		81.3		54	41		68.4		42.1		55.1	38.6		58.9		43.5	
Mean			**77.65**	**69.325**	**68.1**	**75.35**	**80.9**	**80.4**	**82.4**	**43.55**	**41.7**	**58.3**	**56.8**	**45.75**	**42.5**	**47.6**	**43.95**	**37.75**	**44.5**	**46.35**	**45.85**	**43.5**	**49.3**
SE			**3.2**	**3.2**	**3.2**	**5.9**	**0.4**	**0.95**	**1.1**	**4.3**	**2.6**	**3.1**	**11.6**	**4.15**	**0.4**	**0.7**	**4.62**	**3.74**	**4.1**	**12.55**	**2.75**	**0**	**0.8**
T23a						75.6							39.1							36.4			
T23			78.7	64.6						43.3	39.7						43.6	31.3					
T24			79	66.9	82.1		78.5		81.8	49.9	40.8	60.5		64.9		47.8	48.1	38.3	59.2		64.9		33.1
T25		BRN Native Flora	73.4	67.9		79.4		81.9		44.5	39.6		62.7		59.1		41.5	34.5		60.1		55.5	
T26	2007		65.9	60.7	74.3		71.9		79.7	48.1	36.9	42.4		57.4		59.5	41	28.5	36.1		46.3		56.3
T29			76.1	71.6	66.4		78.1		78.8	45.5	43.5	53		49.8		61.2	43.7	37.8	43.3		46.1		56.3
T30			64.9	61.9		61.9		72.6		44.3	39.2		57		48.8		39.8	35.7		44.8		42.2	
Mean			**73**	**65.6**	**74.3**	**72.3**	**76.2**	**77.3**	**80.1**	**45.9**	**40**	**52**	**52.9**	**57.4**	**54.0**	**56.2**	**43**	**34.4**	**46.2**	**47.1**	**52.4**	**48.9**	**48.6**
SE			**2.50**	**1.70**	**4.50**	**5.31**	**2.14**	**4.65**	**0.89**	**1.00**	**0.90**	**5.30**	**7.11**	**4.36**	**5.15**	**4.21**	**1.20**	**1.60**	**6.80**	**6.94**	**6.23**	**6.65**	**7.73**
T27	2011	BRN Native Flora	**75.6**	**74.4**	**74.2**	**77.5**	**78.1**	**81.4**	**79.4**	**43**	**43.1**	**48.5**	**58.3**	**49.8**	**42**	**59**	**43.3**	**36.5**	**38.6**	**58.1**	**45.6**	**50.2**	**54.7**
SE							**3.1**	**1.6**	**1.7**					**4.7**	**2.7**	**5**					**4.6**	**3.4**	**3.4**
T31						66.9	70.6	76.7					38.9	45.9	37.9					34.4	36.2	37.9	
T32	2012	BRN Native Flora				63.8	63.1						36.9	38.8						30.7	28.5		
Mean						**65.4**	**66.9**	**76.7**					**37.9**	**42.4**	**37.9**					**32.6**	**32.4**	**37.9**	
SE						**1.55**	**3.75**	**2.4**					**1**	**3.55**	**2.5**					**1.85**	**3.85**	**3.6**	

Transect T34 – Analogue (BRN)

Stratum	Canopy	Midstorey	Shrubs	Layer4	Total
No Plants/hectare	35.90	779.71	918.27	0.00	1733.88
Mean Distance /b/ plants	16.69	3.58	3.30	0.00	n/a
Canopy Volume/hectare	17937.14	484.15	63.78	0.00	18485.07

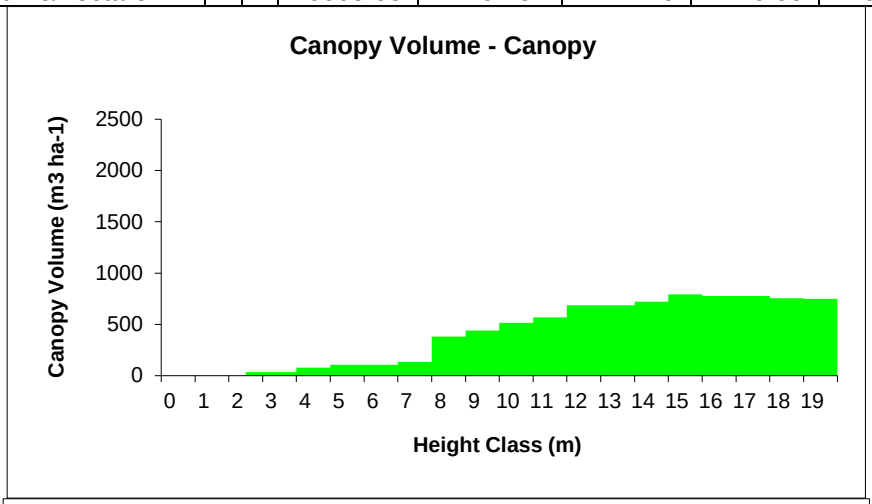


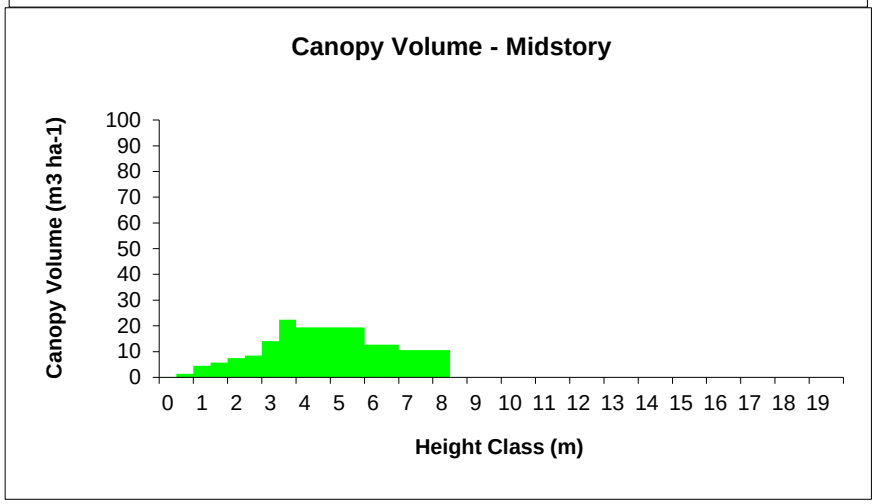


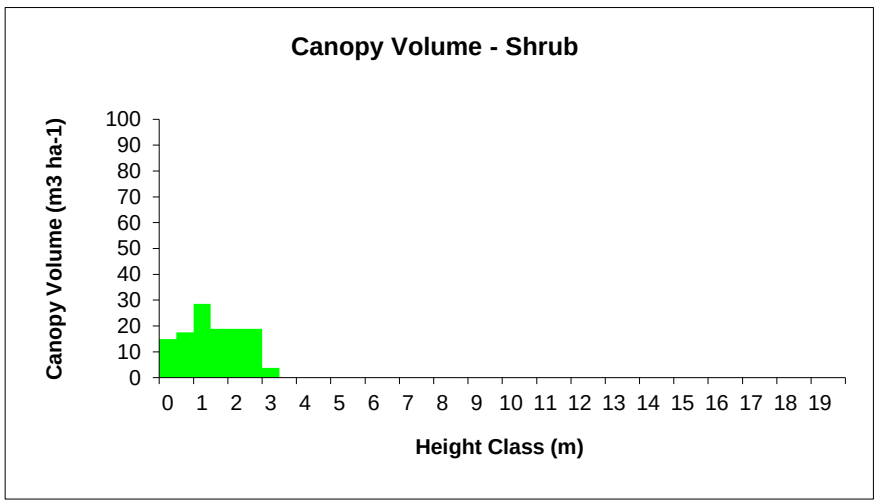


Transect T35 – Analogue (Stratford)

Stratum	Canopy	Midstorey	Shrubs	Layer4	Total
No Plants/hectare	75.68	65.30	502.16	0.00	643.14
Mean Distance /b/ plants	11.50	12.38	4.46	0.00	n/a
Canopy Volume/hectare	16665.68	197.51	144.70	0.00	17007.89

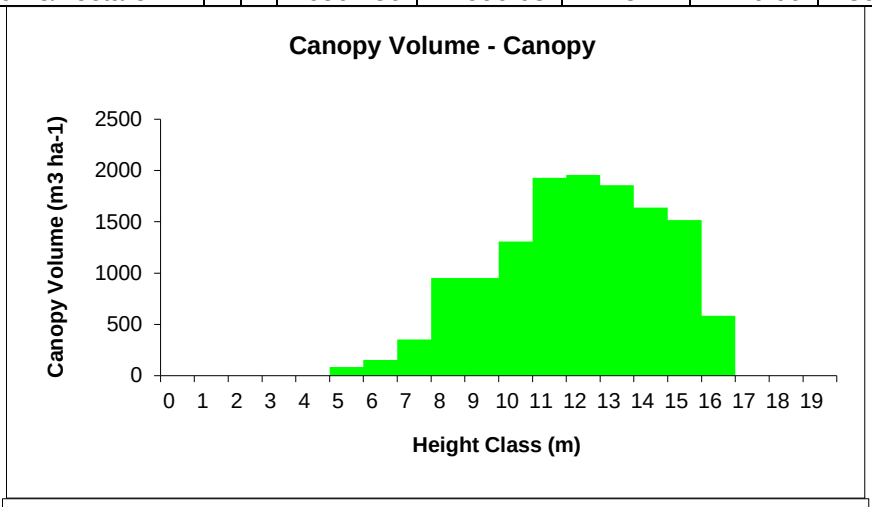


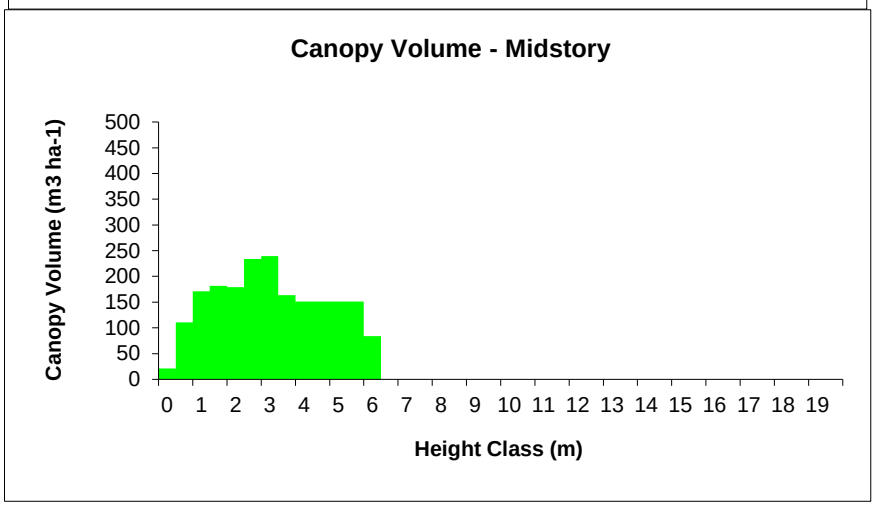


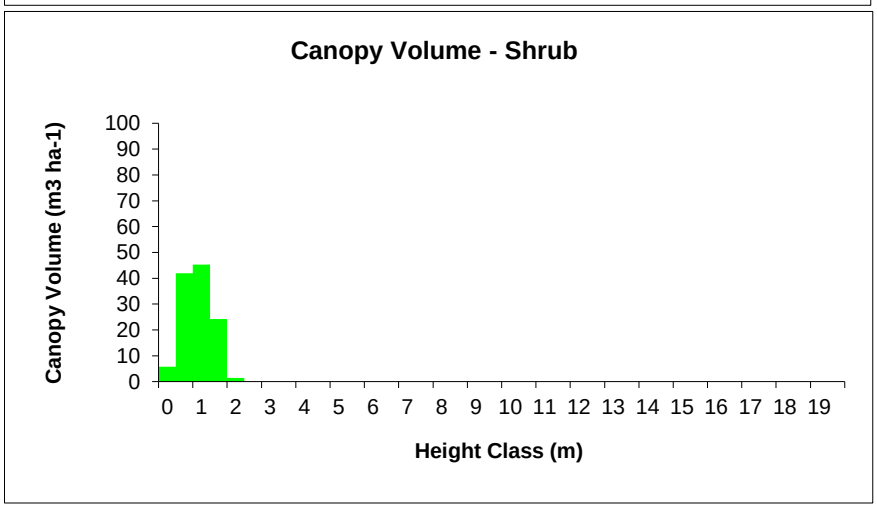


Transect 017 – Stratford Woodland Rehabilitation Area

Stratum	Canopy	Midstorey	Shrubs	Layer4	Total
No Plants/hectare	180.47	316.05	176.52	0.00	673.04
Mean Distance /b/ plants	7.44	5.63	7.53	0.00	n/a
Canopy Volume/hectare	26567.86	1990.03	118.47	0.00	28676.35

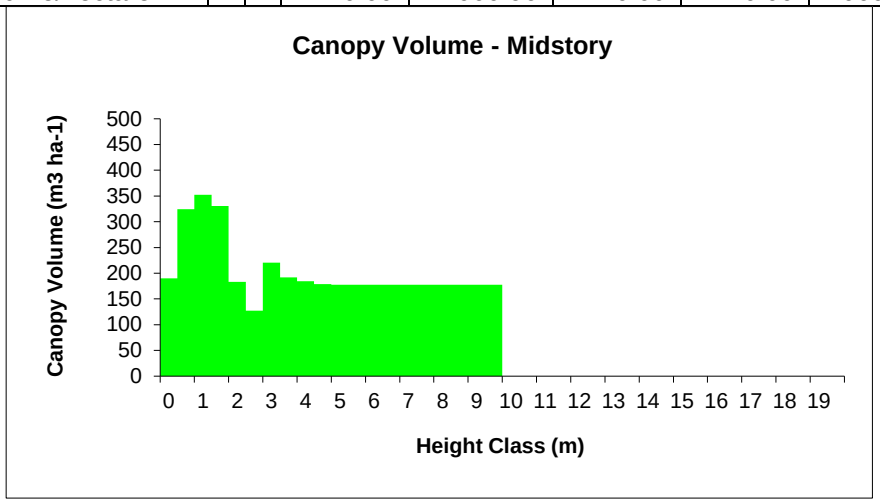






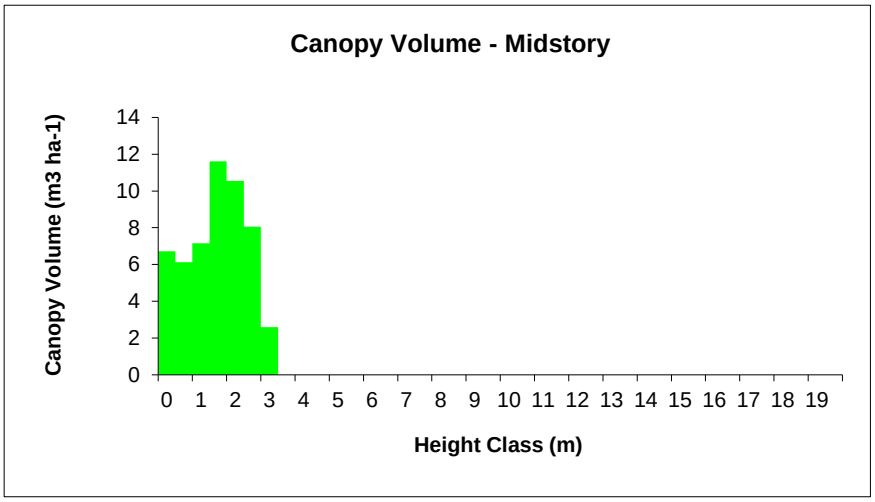
Transect T19 Roseville Waste Emplacement

Stratum	Canopy	Midstorey	Shrubs	Layer4	Total
No Plants/hectare	0.00	272.64	0.00	0.00	272.64
Mean Distance /b/ plants	0.00	6.06	0.00	0.00	n/a
Canopy Volume/hectare	0.00	4060.96	0.00	0.00	4060.96



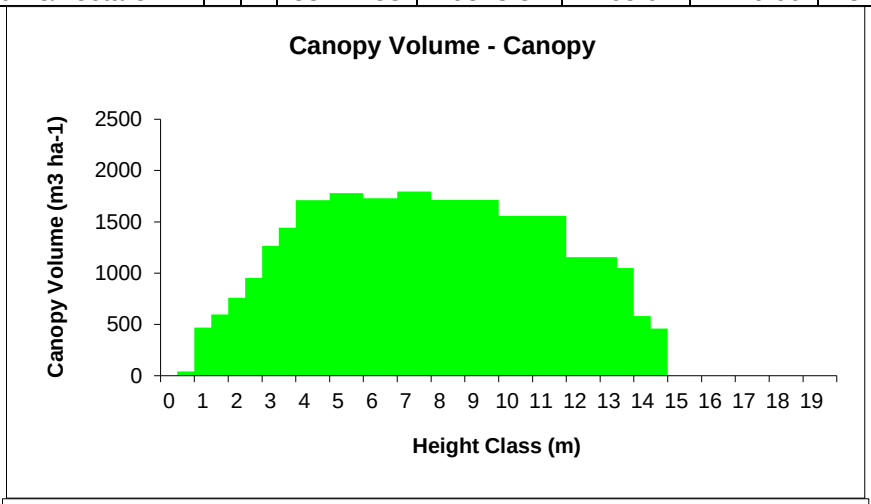
Transect T20 Roseville Waste Emplacement

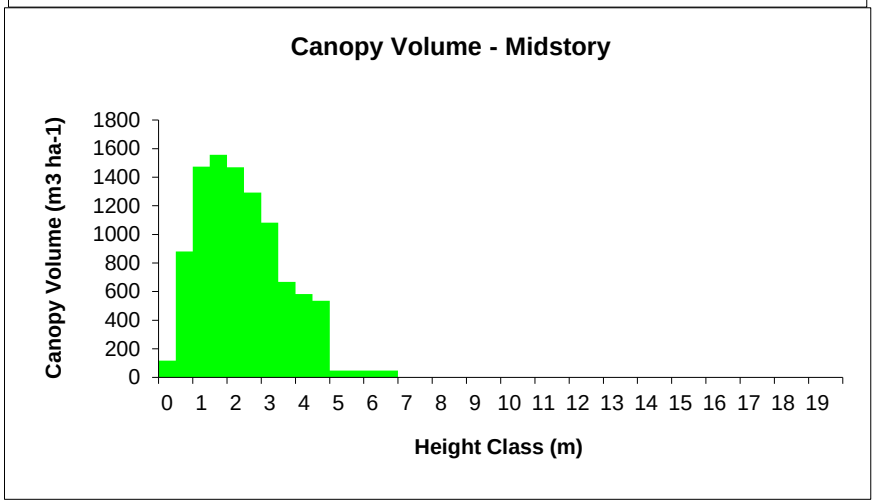
Stratum	Canopy	Midstorey	Shrubs	Layer4	Total
No Plants/hectare	0.00	109.84	0.00	0.00	109.84
Mean Distance /b/ plants	0.00	9.54	0.00	0.00	n/a
Canopy Volume/hectare	0.00	52.82	0.00	0.00	52.82

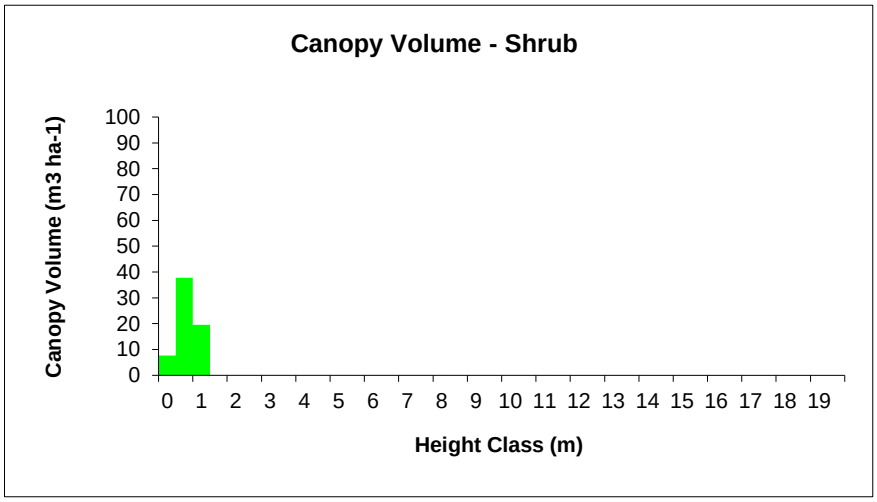


Transect T24 – Bowen's Road North Native Flora Rehabilitation

Stratum	Canopy	Midstorey	Shrubs	Layer4	Total
No Plants/hectare	422.22	1900.67	687.99	0.00	3010.88
Mean Distance /b/ plants	4.87	2.29	3.81	0.00	n/a
Canopy Volume/hectare	38211.88	9848.31	65.07	0.00	48125.26

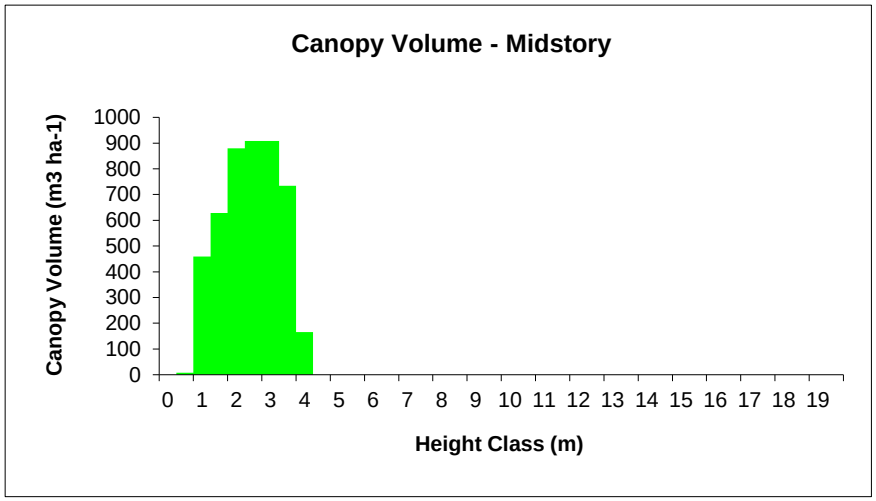






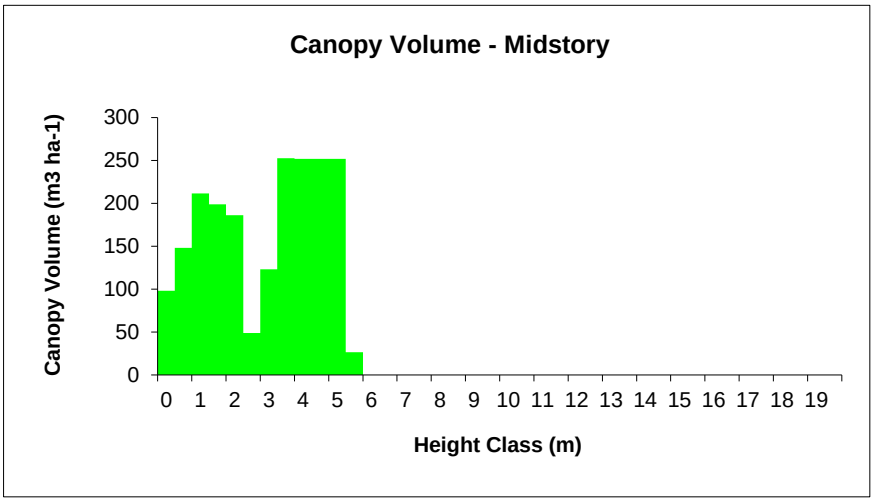
Transect T26 – Bowens Road North Native Flora Rehabilitation

Stratum	Canopy	Midstorey	Shrubs	Layer4	Total
No Plants/hectare	0.00	7121.37	0.00	0.00	7121.37
Mean Distance /b/ plants	0.00	1.19	0.00	0.00	n/a
Canopy Volume/hectare	0.00	7697.36	0.00	0.00	7697.36



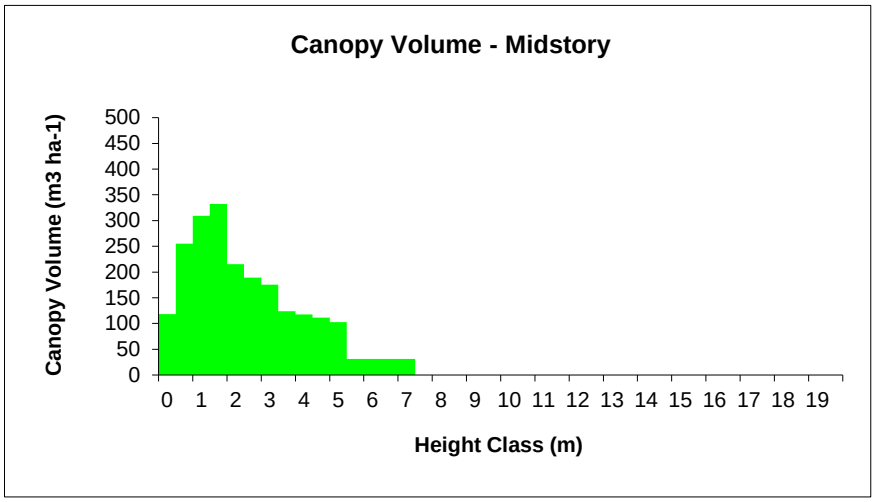
Transect T29– Bowens Road North Native Flora Rehabilitation

Stratum	Canopy	Midstorey	Shrubs	Layer4	Total
No Plants/hectare	0.00	569.60	0.00	0.00	569.60
Mean Distance /b/ plants	0.00	4.19	0.00	0.00	n/a
Canopy Volume/hectare	0.00	2049.45	0.00	0.00	2049.45



Transect T27 – Bowens Road North Native Flora Rehabilitation

Stratum	Canopy	Midstorey	Shrubs	Layer4	Total
No Plants/hectare	0.00	130.46	0.00	0.00	130.46
Mean Distance /b/ plants	0.00	8.76	0.00	0.00	n/a
Canopy Volume/hectare	0.00	2175.84	0.00	0.00	2175.84



APPENDIX 2. MONITORING PHOTOGRAPHS

Plate 1: **Transect T1 LFA. Stratford Waste Emplacement - 2003 Pasture Rehabilitation**

Plate 2: **Transect T1 at the 1-2m point**

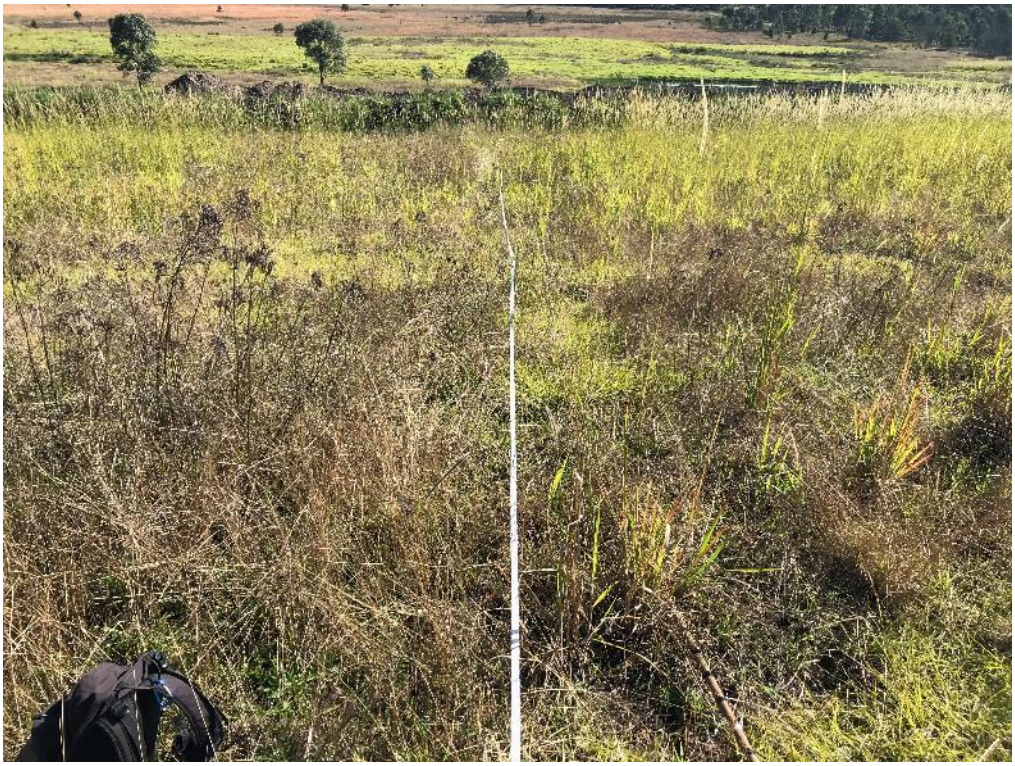


Plate 3: **Transect T11 LFA– 1996/97 Pasture Rehabilitation**

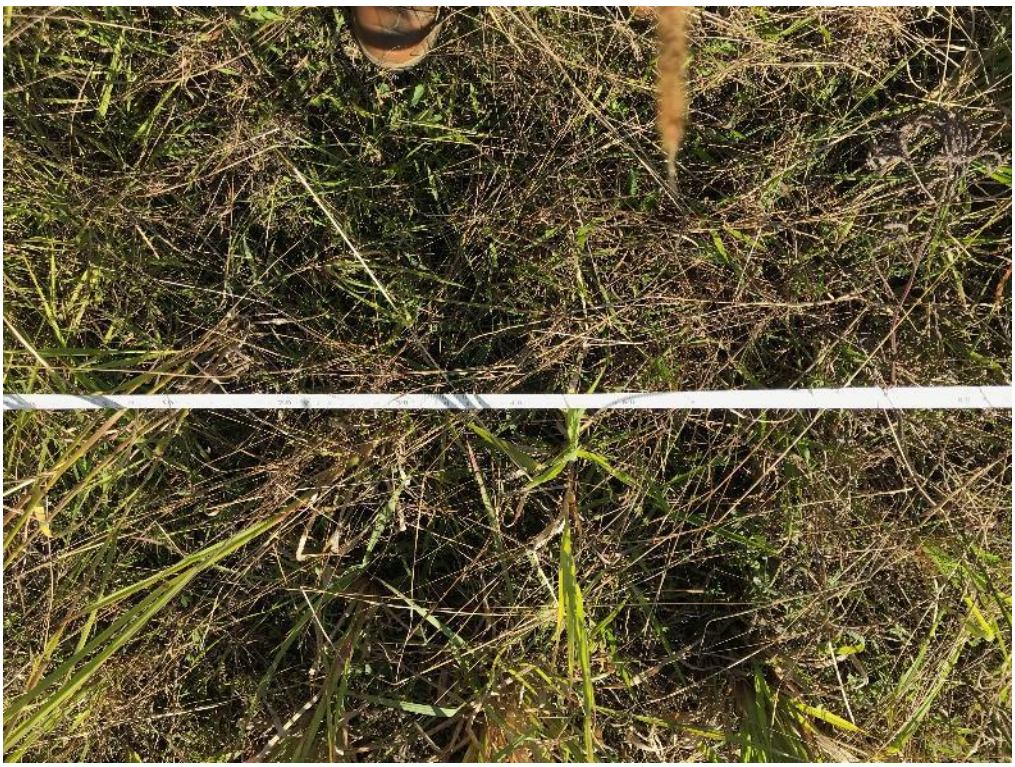


Plate 4: **T11 LFA transect at the 1-2m point**

Plate 5: **Transect T17 SWE Native Vegetation Rehabilitation LFA**

Plate 6: **Transect T17 at the 1-2 m point**

Plate 7: **Transect T19 LFA - Roseville Waste Emplacement - Native Flora Rehabilitation.**

Plate 8: **Transect T19 at the 1-2m point**

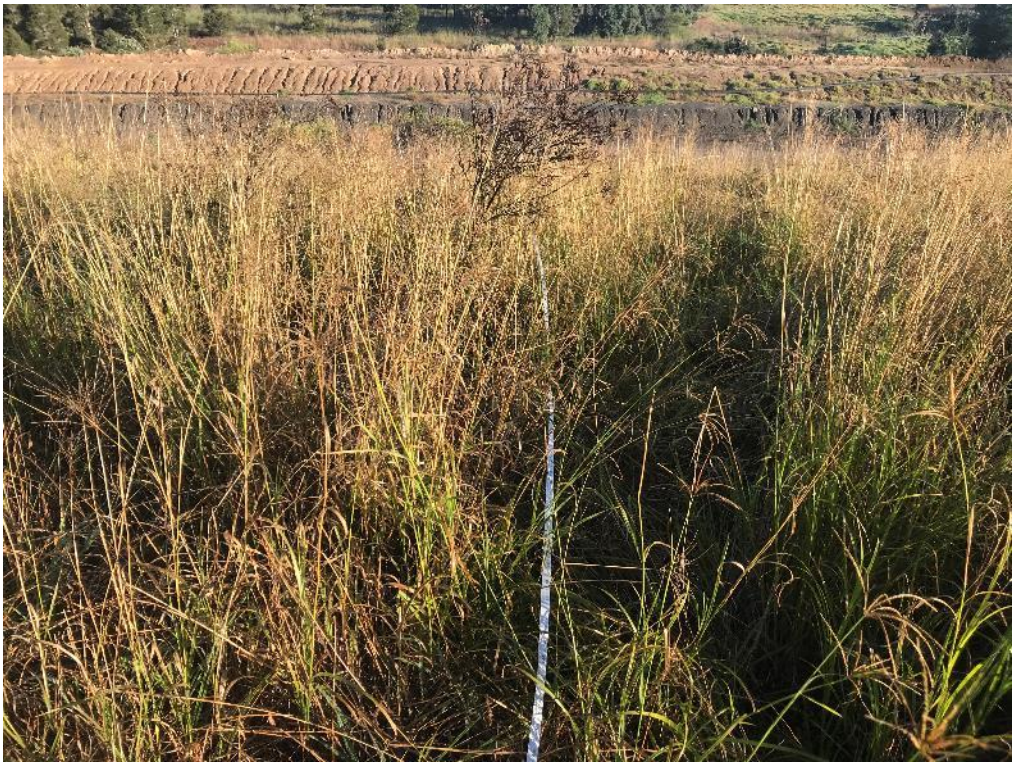


Plate 9: Transect T20 LFA - Roseville Waste Emplacement Native Flora Rehabilitation

Plate 10: Transect T20 at the 4-5m point

Plate 11: **Transect T26 LFA – Bowens Rd Waste Emplacement Native Flora Rehabilitation showing litter and developing vegetation structure**

Plate 12: **Transect T26 at the 10-11m point, more typical groundcover of transect**

Plate 13: **Transect T27 - Bowens Rd Waste Emplacement Native Flora Rehabilitation- LFA top of transect.**

Plate 14: **Transect T27 at the 1-2m point showing deep grass litter.**

Plate 15: **Transect T29 - Bowens Rd Waste Emplacement Native Flora Rehabilitation - LFA top of transect**

Plate 16: **Transect T29 at the 1-2m point**

Plate 17: Transect T33 - Pasture Analogue. LFA at top of transect

Plate 18: Transect T33 at the 1-2m point

APPENDIX 3. STAFF CONTRIBUTIONS

The following staff were involved in the compilation of this report.

Name	Qualification	Title/Experience	Contribution
Gayle Joyce	BSc (Forestry) (Hons)	GIS Specialist	GIS and Mapping
Nigel Fisher	BSc (Hons) PhD	Senior Soil Microecologist	Fieldwork, Report Writing and Review, Project Management
Ashley Owen	DipSc BEnvSc (In progress)	Ecologist	Fieldwork