HUNTER VALLEY
OPERATIONS

HVO ANNUAL REVIEW 2025

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REVIEW
[Planned Review Date]

OWNER
Superintendent - Environment and Community

TITLE BLOCK

Name of Operations	Hunter Valley Operations
Name of Operator	HV Operations Pty Ltd
Development Consent / Project Approval	DA 450-10-2003 / PA 06_0261
Name of holder of development consent/project approval	HV Operations Pty Ltd
Mining Lease Number	*Contained within* Table 3-2 of this report
Name of Mining Lease Holder	*Contained within* Table 3-2 of this report
Water Licence Number	Contained within Table 3-4 of this report
Name of Water Licence Holder	Contained within Table 3-4 of this report

I, Luke Winkelman, certify that this audit report is a true and accurate record of the compliance status of Hunter Valley Operations for the period 01/01/2025 to 31/12/2025 and that I am authorised to make this statement on behalf of Hunter Valley Operations.

Note:

a) The Annual Review is an 'environmental audit' for the purposes of section 122B (2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, $1 million and for an individual, $250,000.

b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or $22,000, or both).

Name of Authorised Reporting Officer	Luke Winkelman
Title of Authorised Reporting Officer	Acting General Manager
Signature of Authorised Reporting Officer	
Date	31 March 2026

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1 | STATEMENT OF COMPLIANCE

Table 1-1 is a Statement of Compliance against the relevant approvals. **Table** 1-2 provides a brief summary of the non-compliances against development consents and a reference to where these are addressed within this Annual Review. **Table** 1-3 shows the compliance status descriptions relating to **Table** 1-2.

Table 1-1: Statement of Compliance

Were all conditions of the relevant approvals complied with?	
PA 06_0261 (HVO South)	Yes
DA 450-10-2003 (HVO North)	No
Rehabilitation Management Plan / Forward Program	Yes
EPBC 2016/7640	Yes
AL 32	Yes
AL 33	Yes
AL 34	Yes
AUTH 72	Yes
EL 5291	Yes
EL 5292	Yes
EL 5417	Yes
EL 5418	Yes
EL 5606	Yes
EL 8175	Yes
EL 8821	Yes
(Part) CCL 708	Yes
CCL 714	Yes
CCL 755	Yes
CL 327	Yes
CL 359	Yes
CL 360	Yes
CL 398	Yes
CL 584	Yes
CML 4	Yes
ML 1324	Yes
ML 1337	Yes
ML 1359	Yes
ML 1406	Yes

Were all conditions of the relevant approvals complied with?	
ML 1428	Yes
ML 1465	Yes
ML 1474	Yes
ML 1482	Yes
ML 1500	Yes
ML 1526	Yes
ML 1560	Yes
ML 1589	Yes
ML 1622	Yes
ML 1634	Yes
ML 1682	Yes
ML 1704	Yes
ML 1705	Yes
ML 1706	Yes
ML 1707	Yes
ML 1710	Yes
ML 1732	Yes
ML 1734	Yes
ML 1748	Yes
ML 1753	Yes
ML 1810	Yes
ML 1811	Yes
ML 1840	Yes
ML 1841	Yes
ML 1849	Yes
ML 1867	Yes
ML 1869	Yes
ML 1870	Yes
ML 1871	Yes
Water Licences	Yes

Table 1-2: Non-Compliances

Relevant Approval	Condition Number	Condition Description	Compliance Status	Where Addressed in Annual Review
DA 450-10-2003	Schedule 3 Condition 4A	Cheshunt East PM10 Exceedance 6 January 2025	Non-compliant (low)	Section 11
DA 450-10-2003 PA 06_0261	Schedule 3 Condition 6 Schedule 3 Condition 23	Wandewoi TSP HVAS Miscapture 18 January 2025	Non-compliant (low)	Section 11
DA 450-10-2003 PA 06_0261	Schedule 3 Condition 6 Schedule 3 Condition 23	Kilburnie South HVAS PM10 and TSP Miscapture 11 February 2025	Non-compliant (low)	Section 11
DA 450-10-2003	Schedule 3 Condition 4A	Kilburnie South PM10 Exceedance 1 March 2025	Non-compliant (low)	Section 11
DA 450-10-2003 PA 06_0261	Schedule 3 Condition 6 Schedule 3 Condition 23	Wandewoi & Kilburnie South HVAS Miscaptures 24 May 2025	Non-compliant (low)	Section 11
DA 450-10-2003 PA 06_0261	Schedule 3 Condition 6 Schedule 3 Condition 23	Cheshunt East HVAS PM10 and TSP Miscapture 5 June 2025	Non-compliant (low)	Section 11
PA 06_0261	Schedule 3 Condition 6 Schedule 3 Condition 23	Knodlers Lane HVAS Miscapture 26 November 2025	Non-compliant (low)	Section 11
PA 06_0261	Schedule 3 Condition 6 Schedule 3 Condition 23	Long Point HVAS Miscapture 26 November 2025	Non-compliant (low)	Section 11
DA 450-10-2003	Schedule 3, Condition 4A	DL30 Depositional Dust Annual Exceedance	Non-compliant (low)	Section 11
DA 450-10-2003	Schedule 3, Condition 4A	Warkworth Depositional Dust Annual Exceedance	Non-compliant (low)	Section 11
PA 06_0261	Schedule 3 Condition 19	Maison Dieu PM10 Annual Exceedance	Non-compliant (low)	Section 11
PA 06_0261	Schedule 3 Condition 19	Kilburnie South PM10 Annual Exceedance	Non-compliant (low)	Section 11
PA 06_0261	Schedule 3 Condition 19	Maison Dieu PM2.5 Annual Exceedance	Non-compliant (low)	Section 11
PA 06_0261	Schedule 3 Condition 19	Kilburnie South PM2.5 Annual Exceedance	Non-compliant (low)	Section 11

Table 1-3: Compliance Status Key for Table 1-2

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 unlikely 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 unlikely to occur
Administrative Non-Compliance	Non-compliant	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g., submitting a report to government later than required under approval conditions)

2 | INTRODUCTION

2.1 | DOCUMENT PURPOSE

This Annual Review is written to satisfy the requirements of the Development Consents and conditions of mining leases held by Hunter Valley Operations (HVO) for events which occurred during the 2025 calendar year (the reporting period). The Annual Review has been written in accordance with the *Post-approval requirements for State significant mining developments – Annual Review Guideline* (NSW Government, October 2015).

This report is distributed to:

- NSW Department of Planning, Housing and Infrastructure (DPHI);
- NSW Resource Regulator (RR);
- NSW Environment Protection Authority (EPA);
- Department of Climate Change, Energy, the Environment and Water—Water (DCCEEW – Water);
- Singleton Council;
- Muswellbrook Shire Council; and
- HVO Community Consultative Committee (CCC).

2.2 | BACKGROUND

HVO is situated in the Upper Hunter Valley between Singleton and Muswellbrook, approximately 24 km northwest of Singleton, and approximately 100 km northwest of Newcastle. The Hunter River geographically divides HVO into HVO North (DA 450-10-2003) and HVO South (PA 06_0261), however they are integrated operationally with personnel, equipment and materials utilised as required. This improves operational efficiency, rationalisation of infrastructure and resource utilisation.

HVO is owned through a Joint Venture (JV) between Glencore (49%) and Yancoal (51%).

The regional context and layout of the HVO pits and facilities are shown in **Figure** 2-1 and **Figure** 2-2 respectively.

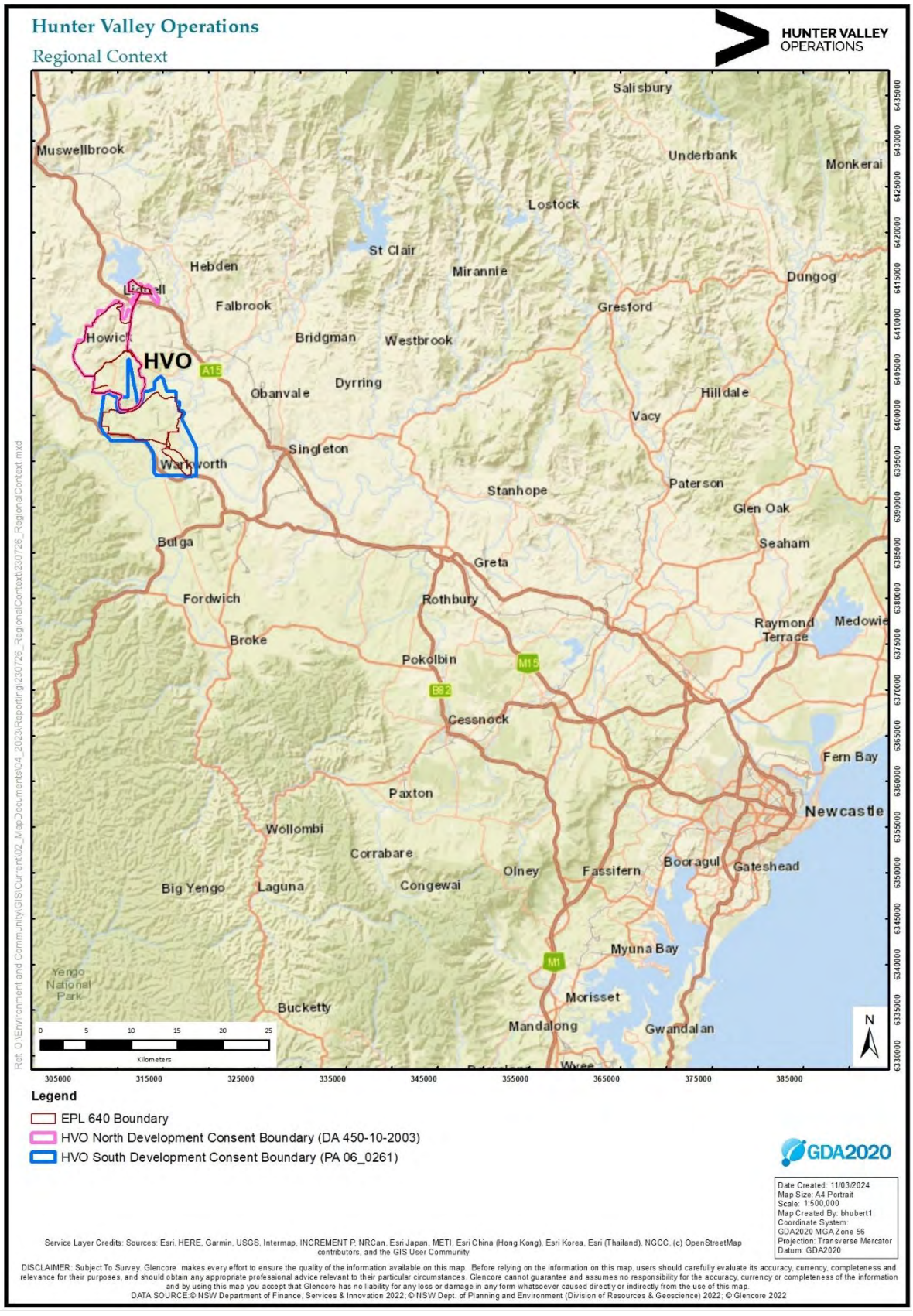


Figure 2-1: Regional Context

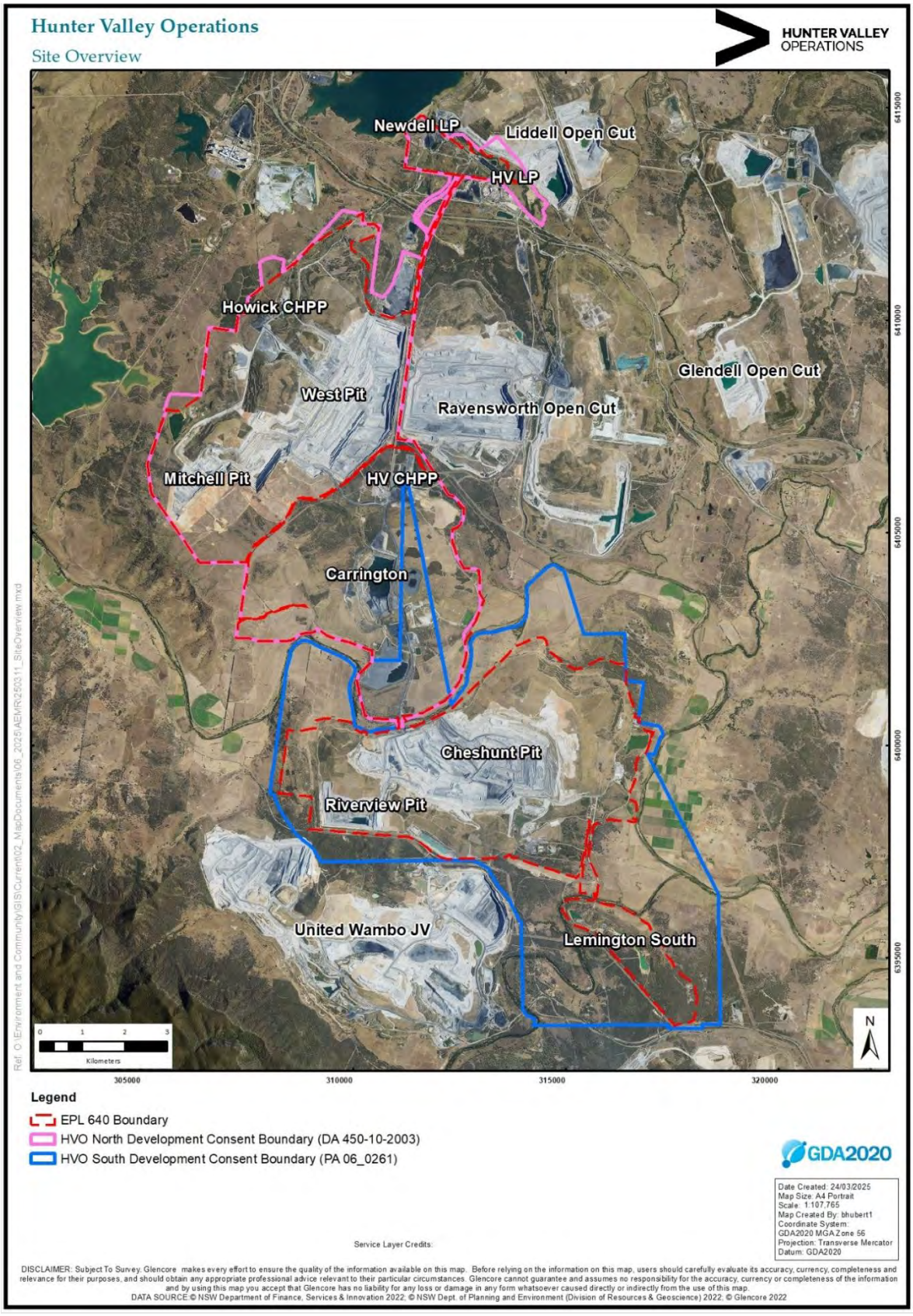


Figure 2-2: Hunter Valley Operations Site Overview

2.3 | MINE CONTACTS

Key mine contacts are listed in **Table** 2-1.

Table 2-1: Mine Contacts

Contact	Role	Phone	Email
David Foster	General Manager	1800 888 733	david.foster@hvo.com.au
Ben de Somer	Environment and Community Manager		ben.desomer@hvo.com.au

3 | OBJECTIVES

3.1 | APPROVALS, LEASES AND LICENCES

3.1.1 | CURRENT APPROVALS

The status of HVO development consents, licences and relevant approvals are listed in:

Table 3-1: HVO Major Approvals

Table 3-2: Summary of Mining Tenements

Table 3-3: HVO Licences and Permits

Table 3-4: Water Related Approvals

Table 3-5: Surface Water Access Licences 2024/25 Water Year

Table 3-6: Groundwater Access Licences

Table 3-1: HVO Major Approvals

Approval Number	Description	Issue Date	Expiry Date
HVO North DA 450-10-2003 MOD 8	Covers West Pit (approved production limit of 12 Mtpa), Carrington Pit (approved production limit of 10 Mtpa), HVCHPP (approved processing limit of 20 Mtpa) and Howick CHPP (approved processing limit of 6 Mtpa). An application to modify DA 450-10-2003 (MOD 8) for an extension of time for mining operations through to 31 December 2026 was granted on 24 April 2025 by the delegate for the Minister for Planning and Public Spaces.	24/04/2025	31/12/2026
HVO South PA 06_0261 MOD 8	Hunter Valley Operations – South Coal Project and associated modifications. MOD 8 Approved 6 February 2023. Covers Riverview and Cheshunt Pits (approved production limit of 20 Mtpa) and processing rate of 20 Mtpa across HVO coal preparation plants.	06/02/2023	24/03/2030
EPBC 2016/7640	Hunter Valley Operations – State approved mining Hunter Valley NSW	10/10/2016	31/12/2030

Table 3-2: Summary of Mining Tenements

Title	Mining Tenement	Titleholder	Purpose	Grant Date	Expiry Date	Status
AL 32	Assessment Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	04/11/2020	03/11/2026	Granted
AL 33	Assessment Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	04/11/2020	03/11/2026	Granted
AL 34	Assessment Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	04/11/2020	03/11/2026	Granted
AUTH 72	Authorisation	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	08/03/1977	08/03/2027	Granted
EL 5291	Exploration Licence	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	28/04/1997	28/04/2029	Granted
EL 5292	Exploration Licence	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	28/04/1997	27/04/2028	Granted
EL 5417	Exploration Licence	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	23/12/1997	23/12/2027	Granted
EL 5418	Exploration Licence	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	23/12/1997	23/12/2028	Granted
EL 5606	Exploration Licence	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	11/08/1999	11/08/2029	Granted
EL 8175	Exploration Licence	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	23/09/2013	23/09/2026	Granted
EL 8821	Exploration Licence	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting	13/02/2019	13/02/2031	Granted
(Part) CCL 708	Various Sub leases	Liddell Tenements Pty Ltd	Prospecting and Mining Coal	17/05/1990	17/05/2044	Granted
CCL 714	Consolidated Coal Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	23/05/1990	30/08/2030	Granted
CCL 755	Consolidated Coal Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	24/01/1990	05/03/2030	Granted
CL 327	Coal Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	06/03/1989	06/03/2031	Granted
CL 359	Coal Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	21/05/1990	21/05/2032	Granted

Title	Mining Tenement	Titleholder	Purpose	Grant Date	Expiry Date	Status
CL 360	Coal Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	29/05/1990	29/05/2032	Granted
CL 398	Coal Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	04/06/1992	04/06/2034	Granted
CL 584	Coal Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	01/01/1982	31/12/2044	Granted
CML 4	Consolidated Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	02/03/1993	03/06/2033	Granted
ML 1324	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	19/08/1993	19/08/2035	Granted
ML 1337	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	01/02/1994	01/02/2034	Granted
ML 1359	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	01/11/1994	01/11/2036	Granted
ML 1406	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	27/02/1997	10/02/2027	Granted
ML 1428	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	15/04/1998	14/04/2040	Granted
ML 1465	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	21/02/2000	21/02/2042	Granted
ML 1474	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	24/11/2000	23/11/2042	Granted
ML 1482	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	19/03/2001	19/03/2040	Granted
ML 1500	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	21/12/2001	20/12/2043	Granted
ML 1526	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	03/12/2002	02/12/2044	Granted
ML 1560	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	28/01/2025	28/01/2046	Granted
ML 1589	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	02/11/2006	01/11/2027	Granted

Title	Mining Tenement	Titleholder	Purpose	Grant Date	Expiry Date	Status
ML 1622	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	22/10/2010	10/03/2027	Granted
ML 1634	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	31/07/2009	31/07/2030	Granted
ML 1682	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	16/12/2012	15/12/2033	Granted
ML 1704	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	05/12/2014	05/12/2035	Granted
ML 1705	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	17/12/2014	17/12/2035	Granted
ML 1706	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	09/12/2014	09/12/2035	Granted
ML 1707	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	09/12/2014	09/12/2035	Granted
ML 1710	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Prospecting and Mining Coal	22/12/2016	10/03/2027	Granted
ML 1732	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	06/04/2016	06/04/2037	Granted
ML 1734	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	06/04/2016	06/04/2037	Granted
ML 1748	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	05/12/2016	04/12/2037	Granted
ML 1753	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	19/04/2017	19/04/2038	Granted
ML 1810	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	04/11/2020	04/11/2041	Granted
ML 1811	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	04/11/2020	04/11/2041	Granted
ML 1840	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	03/11/2022	03/11/2043	Granted
ML 1841	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	3/11/2022	03/11/2043	Granted

Title	Mining Tenement	Titleholder	Purpose	Grant Date	Expiry Date	Status
ML 1849	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	16/05/2023	16/05/2044	Granted
ML 1867	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	16/11/2023	16/11/2044	Granted
ML 1869	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	15/12/2023	15/12/2044	Granted
ML 1870	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities (Mining Purposes)	15/12/2023	15/12/2044	Granted
ML 1871	Mining Lease	Coal & Allied Pty Ltd and Anotero Pty Ltd	Ancillary Mining Activities	15/12/2023	15/12/2044	Granted

Table 3-3: HVO Licences and Permits

Type	Licence Number	Description	Authority	Expiry Date
Environment Protection Licence	EPL640	Environment Protection Licence	EPA	N/A
Licence to Store Explosives	XSTR200117	Licence to Store	SafeWork	02/05/2026
Radiation Licence	RML5085293	Radiation Management Licence	EPA	14/11/2026
Aboriginal Heritage Permit	C0001890	Care Agreement	NSW DCCEEW	03/06/2036
	C0002193	Aboriginal Heritage Impact Permit	NSW DCCEEW	06/12/2026
	5219	Aboriginal Heritage Impact Permit	NSW DCCEEW	12/06/2025
Road Closure Permit	2269820	Road Occupancy Licenses– Golden Highway	RMS	30/06/2026
	N/A	Road Closure Approval - Lemington Road	Singleton Council	30/06/2026

Table 3-4: Water Related Approvals

Licence Number	Type of Licence	Purpose	Legislation	Description	Expiry Date
20BL030566	Bore	Well	Part 5 Water Act 1912	East Open Cut	Perpetuity
20BL141584	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North – Carrington Work Licence	Perpetuity
20BL166637	Bore	Monitoring Bore	Part 5 Water Act 1912	No Current Bores	Perpetuity
20BL168820	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North – Bores: CGW39, CGW45a, CGW46, CGW47, CGW47a, CGW48, CGW49, P50/38.5, CGW56, 4036C, 4035P, 4032P, 4034P, 4033P, 4053P, 4052P, 4051C, 4040P, 4038C, 4037P Destroyed: CGW7, CGW50, CGW57, CGW58, CGW59, CGW60, CGW61, CGW62, CGW63	Perpetuity
20BL169241	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North – Bores: DM1, HF3, HF7 Destroyed: DM2	Perpetuity
20BL169641	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North – Bores: CGW5, CGW51A, CGW52, CGW53, CGW54, CGW55A, CGW53A, CGW52A, CGW54A, CGW6, CFW55, CFW57, CFW57A, CFW59, and CFW55R. Destroyed: CGW1, CGW2, CGW3, CGW5, CGW8, CGW9, CGW10, CGW12, CGW13, CGW14, CGW30, CGW33, CGW34, CGW35, CGW36, CGW37, CGW38, CGW40, CGW41, CGW42, CGW43, CGW44, CFW56, CFW56A, CFW58	Perpetuity
20BL170496	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: BZ10 (CHPZ 2A), BZ11 (CHPZ 3A), BZ18 (CHPZ 10A), BZ20 (CHPZ 12A), BZ21 (CHPZ 13D), BZ21A (CHPZ 13A), BZ20A (CHPZ 12D), BZ11A (CHPZ 3D) Destroyed: AP50/47.5, AQ52, AV50/56.5, AS50/62.5, AR55, Bunc 3, BZ25 (Bunc 12), BZ23 (Bunc 14), BZ24 (Bunc 13),	Perpetuity
20BL170497	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: BZ15 (CHPZ 7A), BZ16 (CHPZ 8D), BZ17 (CHPZ 9A), BZ19 (CHPZ 11A), BZ16A (CHPZ 8A), Bunc 46D Destroyed: Bunc 39 (Shallow & Deep), Bunc 44D	Perpetuity
20BL170498	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: BZ12 (CHPZ 4A), BZ13 (CHPZ 5A), BZ14, BZ9 (CHPZ 1A), BC1, BC1a, BZ8-1, BZ8-2, BZ8-3, HG1, HG2, HG2a, HG3, S4, S6, BZ22 (CHPZ14D), BZ22A (CHPZ 14A), BZ5-1, BZ5-2 Destroyed: S2, S3, S9, S11	Perpetuity
20BL171423	Bore	Monitoring Bore	Part 5 Water Act 1912	E1.5	Perpetuity

Licence Number	Type of Licence	Purpose	Legislation	Description	Expiry Date
20BL171424	Bore	Monitoring Bore	Part 5 Water Act 1912	Destroyed: GW9711	Perpetuity
20BL171425	Bore	Monitoring Bore	Part 5 Water Act 1912	Bores: GW9701, GW9710	Perpetuity
20BL171426	Bore	Monitoring Bore	Part 5 Water Act 1912	Bores: GW9702 Destroyed: D2(WH236)	Perpetuity
20BL171427	Bore	Monitoring Bore	Part 5 Water Act 1912	Bores: C335, C630 (BFS)	Perpetuity
20BL171428	Bore	Monitoring Bore	Part 5 Water Act 1912	D807	Perpetuity
20BL171429	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: B925 (BFS), C122 (BFS), C122 (WDH)	Perpetuity
20BL171430	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: C613 (BFS), C809 (GM/WDH)	Perpetuity
20BL171431	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: B631 (BFS), B631 (WDH)	Perpetuity
20BL171432	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: C130 (AFSH1), C130 (ALL), C130(BFS), C130 (WDH)	Perpetuity
20BL171433	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bore B334 (BFS)	Perpetuity
20BL171434	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: C317 (BFS), C317 (WDH)	Perpetuity
20BL171435	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: BZ3-1, BZ3-2, BZ3-3	Perpetuity
20BL171436	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: BZ4A(1), BZ4A(2), BZ4B	Perpetuity
20BL171437	Bore	Monitoring Bore	Part 5 Water Act 1912	Bores: WG1, WG2, WG3	Perpetuity
20BL171439	Bore	Monitoring Bore	Part 5 Water Act 1912	Bores: BRN, E012	Perpetuity
20BL171492	Bore	Monitoring Bore	Part 5 Water Act 1912	Bores: C1(WJ039), GW9704, North, GWAR981	Perpetuity
20BL171681	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: Bunc45A, Bunc45D	Perpetuity
20BL171725	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: B425 (WDH), BRS, C621 (BFS), C919 (ALL), D317 (BFS), D317(ALL), D317(WDH) Destroyed: D420, D425, D621, PB02	Perpetuity
20BL171726	Bore	Monitoring Bore	Part 5 Water Act 1912	Bores: SR002, SR003, SR004, SR005, SR006, SR007	Perpetuity
20BL171727	Bore	Monitoring Bore	Part 5 Water Act 1912	SR001	Perpetuity

Licence Number	Type of Licence	Purpose	Legislation	Description	Expiry Date
20BL171728	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: BZ2B, BZ1-1, BZ1-2, BZ1-3, BZ2-1, BZ2-2	Perpetuity
20BL171762	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO South – Bores: C817, D010 (BFS), D214 (BFS), D406 (BFS) (AFS), D510 (BFS), PB01 (ALL), D510 (AFS), D010 (GM), D010 (WDH), D406 (BFS) (AFS), D612 (AFS), D612 (BFS)	Perpetuity
20BL171851	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North/South – Bores: HV2, PZ1CH200, PZ2CH400, PZ3CH800, 4118P, 4119P	Perpetuity
20BL171852	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North – PZ4CH1380	Perpetuity
20BL171853	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North – DM3	Perpetuity
20BL171854	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North – Bores: DM5, PZ6CH2450	Perpetuity
20BL171855	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North – PZ5CH1800	Perpetuity
20BL171856	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North – Bores: HV6, HV3, DM6, HV2 (2), 4113P, 4114P. 4116P, 4117P	Perpetuity
20BL171857	Bore	Monitoring Bore	Part 5 Water Act 1912	Bores: HV4, HV4 (2) (GA3), GA3,	Perpetuity
20BL171858	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO North – DM4	Perpetuity
20BL171895	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO West – Destroyed: NPZ4	Perpetuity
20BL171896	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO West – NPZ2	Perpetuity
20BL171897	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO West – Bores: NPZ1 Destroyed: NPZ5	Perpetuity
20BL171898	Bore	Monitoring Bore	Part 5 Water Act 1912	HVO West – NPZ3	Perpetuity
20BL173062	Bore	Monitoring Bore	Part 5 Water Act 1912	RC14	Perpetuity
20BL173065	Bore	Monitoring Bore	Part 5 Water Act 1912	HQ11	Perpetuity
20BL173063	Bore	Monitoring Bore	Part 5 Water Act 1912	RC07, RC08	Perpetuity
20BL173064	Bore	Monitoring Bore	Part 5 Water Act 1912	RC06	Perpetuity
20BL173069	Bore	Monitoring Bore	Part 5 Water Act 1912	RC11	Perpetuity
20CA201247	Works Approval	Pumping Plant	Water Management Act 2000	Associated with WAL965	Perpetuity

Licence Number	Type of Licence	Purpose	Legislation	Description	Expiry Date
20CA212713	Works Approval	Pumping Plant	Water Management Act 2000	Associated with WAL36190	30/05/2035
20FW213280	Flood Work Approval	Levee	Water Management Act 2000	HVO North Carrington Levee 5	21/09/2027
20FW213281 Formerly 20CW802613	Flood Work Approval	Levee	Water Management Act 2000	HVO South – Barry Levee	21/09/2027
20FW213277 Formerly 20CW802603	Flood Work Approval	Block Dam	Water Management Act 2000	HVO South – Hobden Gully Levee	21/09/2027
20FW213278 Formerly 20CW802604	Flood Work Approval	Levee	Water Management Act 2000	HVO North – North Pit Levee 3	21/09/2027
20WA210991 (see WAL 18307) Formerly 20SL050903	Stream Diversion	Stream Diversion	Water Management Act 2000	HVO West – Parnells Creek Dam	09/01/2033
20WA211427 Formerly 20SL061290	Stream Diversion	Cutting (Diversion Drain)	Section 10 Water Act 1912	Pikes Gully Creek Stream Diversion	07/09/2033
20WA210985 (see WAL 18327) 20SL042746	Diversion Works	Industrial	Water Management Act 2000	HV Loading Point Pump Bayswater Creek	08/09/2032
20WA211428 20SL061594	Stream Diversion	Cutting (Diversion Drain)	Water Management Act 2000	HVO North – Carrington Stream Diversion	31/07/2032
20WA201238 (see WAL 962)	Diversion Works	Pumping Plant	Water Management Act 2000	HVCHPP River Pump	16/03/2028
20WA201257 (see WAL 970)	Diversion Works	Pumping Plant	Water Management Act 2000	HVO South – LCHPP River Pump	Perpetuity
20WA201338 (see WAL 1006)	Diversion Works	Pumping Plant	Water Management Act 2000	HVO South – LCHPP River Pump	Perpetuity
20WA201501 (see WAL 1070)	Diversion Works	Pumping Plant	Water Management Act 2000	HVO South – LCHPP River Pump	Perpetuity
20WA201685 (see WAL 13387)	Diversion Works	Pumping Plant	Water Management Act 2000	HVO West – "Lake Liddell" Licence	Perpetuity

Licence Number	Type of Licence	Purpose	Legislation	Description	Expiry Date
20FW213274	Flood Work Approval	Levee	Water Management Act 2000	Riverview	26/10/2028

Table 3-5: Surface Water Access Licences 2024/25 Water Year

Licence Number	Description	Water Source	Water Sharing Plan	Water Source Management Zone	Entitlement (ML)	Passive Take / Inflows (ML)	Active Pumping (ML)	Total Take (ML)
WAL 867	Comleroi, farming & irrigation	Hunter River	Hunter Regulated River WSP	Zone 2a (Hunter River From Glennies Creek Junction To Wollombi Brook Junction)	486	0	98.6	98.6
WAL 962	HVO North – HVCHPP River Pump – Water Access Licence	Hunter River	Hunter Regulated River WSP	Zone 1b (Hunter River From Goulburn River Junction To Glennies Creek Junction)	3,165	0	33.1	33.1
WAL 969	HVO South – Former Riverview pump	Hunter River	Hunter Regulated River WSP	Zone 1b (Hunter River From Goulburn River Junction To Glennies Creek Junction)	39	0	0	0
WAL 970	HVO South – LCHPP River Pump – Water Access Licence	Hunter River	Hunter Regulated River WSP	Zone 2a (Hunter River From Glennies Creek Junction To Wollombi Brook Junction)	500	0	0	0
WAL 1006	HVO South – LCHPP River Pump – Water Access Licence	Hunter River	Hunter Regulated River WSP	Zone 2a (Hunter River From Glennies Creek Junction To Wollombi Brook Junction)	500	0	0	0
WAL 1070	HVO South - LCHPP River Pump – Water Access Licence	Hunter River	Hunter Regulated River WSP	Zone 2a (Hunter River From Glennies Creek Junction To Wollombi Brook Junction)	500	0	0	0
WAL 13387	Macquarie Generation Hunter River Pump Station	Hunter River	Hunter Regulated River WSP	Zone 1b (Hunter River From Goulburn River Junction To Glennies Creek Junction)	20	0	0	0

Licence Number	Description	Water Source	Water Sharing Plan	Water Source Management Zone	Entitlement (ML)	Passive Take / Inflows (ML)	Active Pumping (ML)	Total Take (ML)
WAL 13391	HVO North – Alluvial Rehabilitation Irrigation.	Hunter River	Hunter Regulated River WSP	Zone 1b (Hunter River From Goulburn River Junction To Glennies Creek Junction	420 (525 ML with transfers)	0	0.3	0.3
WAL 18127	Carrington BB1	Hunter River Alluvium	Hunter Unregulated and Alluvial Water Sources WSP	Hunter Regulated River Alluvial Water Source – Upstream Glennies Creek management zone	383	0	0	0
WAL 18158	Ollenberry	Hunter River Alluvium	Hunter Unregulated and Alluvial Water Sources WSP	Hunter Regulated River Alluvial Water Source – Upstream Glennies Creek management zone	65	0	0	0
WAL 18307	HVO West – Parnells Creek Dam (Diversion Works Bywash)	Unregulated River	Hunter Unregulated and Alluvial Water Sources WSP	Jerrys Water Source; Jerrys Management Zone	500	48	0	48
WAL 18327	HV Loading Point Pump Bayswater Creek (Diversion Works)	Unregulated River	Hunter Unregulated and Alluvial Water Sources WSP	Jerrys Water Source; Jerrys Management Zone	150	0	0	0
WAL 23889	Greenleek	Wollombi Brook	Hunter Unregulated and Alluvial Water Sources WSP	Lower Wollombi Brook Water Source	144	0	0	0
WAL 36190	HVO North, old farm bore	Hunter River Alluvium	Hunter Unregulated and Alluvial Water Sources WSP	Hunter Regulated River Alluvial Water Source – Jerrys Management Zone	120	0	0	0
WAL 41527	HVO North (Carrington Pit)	Permian Coal Seams	North Coast Fractured and Porous Rock Groundwater Sources WSP (commenced 1/7/16)	Permian Coal Seams	700	0	0	0

Licence Number	Description	Water Source	Water Sharing Plan	Water Source Management Zone	Entitlement (ML)	Passive Take / Inflows (ML)	Active Pumping (ML)	Total Take (ML)
WAL 41533	HVO North – Pit Excavation	Permian Coal Seams	North Coast Fractured and Porous Rock Groundwater Sources WSP (commenced 1/7/16)	Permian Coal Seams	20	0	0	0

Table 3-6: Groundwater Access Licences

Licence Number	Description	Water Source	Water Sharping Plan (WSP)	Water Source – Management Zone	Entitlement (ML)	Passive Take / Inflows (ML)	Active Pumping (ML)	Total (ML)
WAL 40462	HVO Pit Excavations / Alluvial Lands Bores (x4)	Permian Coal Seams	North Coast Fractured and Porous Rock Groundwater Sources WSP (commenced 1/7/16)	Permian Coal Seams	2,400	539	0	539
WAL 40463	HVO Pit Excavations / Alluvial Lands Bores (x4)	Permian Coal Seams	North Coast Fractured and Porous Rock Groundwater Sources WSP (commenced 1/7/16)	Permian Coal Seams	180	180	0	180
WAL 40466	HVO Pit Excavations / Alluvial Lands Bores (x4)	Permian Coal Seams	North Coast Fractured and Porous Rock Groundwater Sources WSP (commenced 1/7/16)	Permian Coal Seams	460	460	0	460
WAL 41527	HVO North – Carrington Pit	Permian Coal Seams	North Coast Fractured and Porous Rock Groundwater Sources WSP (commenced 1/7/16) Previously Water Act 1912	Permian Coal Seams	700	700	0	700

3.1.2 | MANAGEMENT PLANS, PROGRAMS, STRATEGIES

HVO is required by the site approvals to develop and submit a range of environmental management plans for approval prior to implementation. Approved management plans are made publicly available on the HVO website (https://hvo.com.au/).

Many updated plans have been submitted to DPHI. Some plans remain under review and will be submitted to DPHI in 2026. The status of management plans is shown in **Table** 3-7 and **Table** 3-8.

Table 3-7: Management Plans Required for HVO North

Management Plan	Date Approved	Date of Latest Version Submitted to DPHI
Agricultural Lands Reinstatement Management Plan*	26/08/2025	-
Fine Reject Management Strategy	12/05/2025	-
Greenhouse Gas Mitigation Plan**	N/A	-
HVO Air Quality Management Plan**	-	09/10/2025
HVO Air Quality and Greenhouse Gas Management Plan	19/05/2022	-
HVO Blast Management Plan	26/08/2025	-
HVO Bushfire Management Plan	19/07/2023	N/A
HVO Environmental Management Strategy	26/08/2025	-
HVO Noise Management Plan	17/03/2025	-
HVO North Heritage Management Plan	21/10/2024	-
HVO River Red Gum Rehabilitation & Restoration Strategy	26/08/2025	-
HVO Water Management Plan	16/10/2018	11/08/2025
Final Void Management Plan	16/05/2022	31/10/2025
Rehabilitation Management Plan***	24/11/2025	-

*The Agricultural Lands Reinstatement Management Plan states that the agricultural reinstatement activities and monitoring results will be reported in the HVO Annual Environment Review (Annual Review). Work has not yet commenced, however, surface water monitoring within the Carrington West Wing project area is to be undertaken in accordance with the HVO Water Management Plan.

**The Greenhouse Gas Mitigation Plan and the HVO Air Quality Management Plan will replace the HVO Air Quality and Greenhouse Gas Management Plan once the HVO Air Quality Management Plan has been approved.

***The Rehabilitation Management Plan (RMP)is prepared in accordance with the provisions under the Mining Act 1992 and is approved by DPHI to satisfy the requirement for a RMP in the standard mining lease conditions and the conditions of PA 06_0261.

N/A: Plan does not require approval by DPHI.

Table 3-8: Management Plans Required for HVO South

Management Plan	Date Approved	Date of Latest Version Submitted to DPHI
Greenhouse Gas Mitigation Plan*	N/A	-
HVGC Amenity Management Plan	09/05/2024	-
HVO Air Quality Management Plan*	-	09/10/2025
HVO Air Quality and Greenhouse Gas Management Plan	19/05/2022	-
HVO Biodiversity Offset Strategy	23/10/2017	-
HVO Blast Management Plan	26/08/2025	-
HVO Bushfire Management Plan	19/07/2023	N/A
HVO Environmental Management Strategy	26/08/2025	-
HVO Integrated Biodiversity Management Plan	26/08/2025	-
HVO Noise Management Plan	17/03/2025	-
HVO River Red Gum Rehabilitation & Restoration Strategy	26/08/2025	-
HVO South Aboriginal Cultural Heritage Management Plan	29/10/2024	-
HVO Water Management Plan	16/10/2018	11/08/2025
Rehabilitation Management Plan**	24/11/2025	-
Biodiversity Management Plan (offsets component)	26/06/2017- Goulburn River Biodiversity Area Management Plan***	-

* The Greenhouse Gas Mitigation Plan and the HVO Air Quality Management Plan will replace the HVO Air Quality and Greenhouse Gas Management Plan once the HVO Air Quality Management Plan has been approved.

** The Rehabilitation Management Plan (RMP)is prepared in accordance with the provisions under the Mining Act 1992 and is approved by DPHI to satisfy the requirement for a RMP in the standard mining lease conditions and the conditions of PA 06_0261.

*** Is a component of a management plan managed by Mt Thorley Warkworth (MTW)

N/A: Plan does not require approval by DPHI.

4 | OPERATIONS SUMMARY

4.1 | MINING

Areas to be mined are geologically modelled, a mine plan is formed, and the relevant mining locations are surveyed prior to mining. The mining process is illustrated in **Figure** 4-1. There are no active underground workings at HVO.

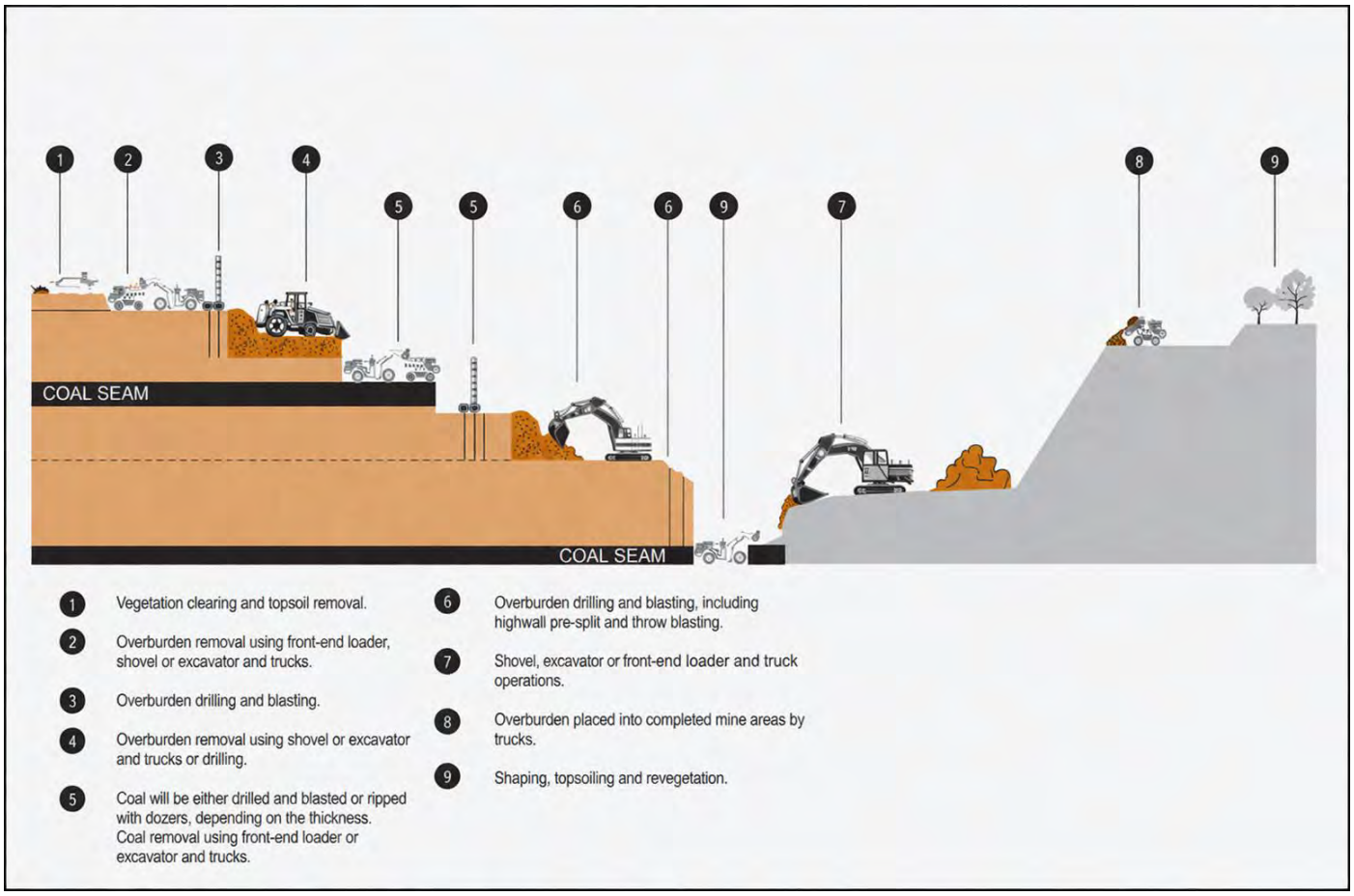


Figure 4-1: Open Cut Mining Schematic

HVO's last dragline ceased operation in 2023, with material movement being replaced by truck and excavators. Mining progress deviated slightly from the schedule of the RMP as a result of normal variations in productivity and utilisation.

The mining equipment employed to carry out mining operations at HVO in 2024 to 2025 is detailed in **Table** 4-1 along with the fleet forecast for 2026.

Table 4-1: HVO Equipment Used 2024-2026

Equipment Type	Number Used in 2024	Numbers Used in 2025	Forecast Number for 2026
Scrapers	3	3	3
Drills	9	9	8
Draglines	0	0	0
Shovels	2	2	2
Excavators	13	13	12
Trucks	90	90	96
Loaders	7	7	6
Service Trucks	6	6	5
Track Dozers	32	33	34
Rubber Tyre	4	4	4
Graders	13	13	13
Water Trucks	10	10	10
Floats	1	1	1
Cable Reeler	1	1	1
Cable Tractors	2	2	2
Total	**193**	**194**	**197**

4.1.1 | MINERAL PROCESSING

HVO generally operates two CHPPs – Hunter Valley (HVCHPP) and Howick (HCHPP).

Upgrades to HVCHPP were completed in 2025. The upgrade mainly consisted of a flotation plant. The flotation upgrade involved the addition of a flotation circuit to the existing HVCHPP. The upgrade aimed to increase the overall product yield by floating ultrafine coal that currently reports to the Carrington tailings storage facility.

During 2025 coal was transported to both HVCHPP and HCHPP where it was crushed to size and processed to remove impurities. Processing produces saleable coal, along with coarse and fine reject material. Coarse rejects are disposed of in-pit and fine rejects are placed in a tailings dam in accordance with the RMP. HVCHPP has stockpile facilities for processed (saleable). HCHPP has stockpile facilities for both processed and raw coal.

Product coal is transported to one of two loading points, Hunter Valley Load Point (HVLP) and Newdell Load Point (NLP) via conveyor belt or road. The capacity of HVCHPP and HCHPP stockpile facilities are listed in **Table 4-2** along with the capacities of HVLP and NLP stockpiles.

Table 4-2: Stockpile Capacities

Location	Raw Stockpile (t)	Saleable Stockpile (t)
Hunter Valley CHPP	0	50,000
Howick CHPP	15,000	32,000
Newdell Load Point	0	450,000
Hunter Valley Load Point	0	354,000

As previously noted, product coal is transported to one of two loading points via conveyor belt or road as detailed in **Table** 4-3**.** The coal from HVCHPP is transported to HVLP and NLP by means of overland conveyor whereas coal from HCHPP is trucked to NLP. After the coal has reached either HVLP or the NLP it is transported to the Port of Newcastle by rail.

Table 4-3: Methods of Coal Transportation

Transport Category	Quantity (Mt)
Coal transported from the site via trains	13.9
Amount of coal received from Hunter Valley Operations South of the Hunter River	9.28
Amount of coal hauled by road to the Hunter Valley Loading Point	0.02
Coal hauled by road to the Newdell Load Point	2.2
Amount of coal hauled by road from the Newdell Loading Point to the Ravensworth Coal Terminal	Nil
Amount of coal hauled by road from the Hunter Valley Loading Point to the Ravensworth Coal Terminal	Nil
Number of coal haulage truck movements generated by the development. (Includes coal hauled to stockpile, coal hauled to bins, coal hauled from stockpile to bins)	187,609

4.1.2 | PRODUCTION STATISTICS

Project approvals allow for the extraction of up to 22 million ROM tonnes from operations north of the Hunter River and 20 million ROM tonnes from operations south of the Hunter River. A summary of production and waste at HVO during 2025 in comparison to previous years and approval limits is provided in **Table** 4-4.

Product coal includes low-ash, semi-soft and steaming coals.

Table 4-4: Production Statistics and Correlating Project Approval Limits

Aspect	Approved Limit (PA 06_0261 and DA 450-10-2003)	Reporting Period 2023	Reporting Period 2024	Reporting Period 2025	Forecast for 2026
Prime Waste (Mbcm)	-	94.72	104.68	105.98	107.11
ROM Coal (Mtpa) (mined)	42	15.28	14.83	18.83	18.92
- HVO South	20	7.23	6.35	9.28	9.89
- West Pit	12	6.24	7.2	8.68	7.31
- Mitchell Pit		0.41	1.28	0.88	1.71
Total ROM Coal Processed	26	13.77	13.5	17.43	17.15
HVCHPP Feed (Mt) – ar	N/A	11.88	12.6	14.82	15.3
HVCHPP Product (Mt) – ar		8.63	9.1	11.05	11.5
HVCHPP Bypass (Mt) – ar		1.88	1.9	0.78	0.4
HVCHPP Coarse Reject (Mt) – ar		2.35	1.92	3.16	2.20
HVCHPP Tailings (Mt) – db		0.89	1.58	1.49	1.61
HCHPP Feed (Mt) – ar		0	0.9	2.6	1.9
HCHPP Product (Mt) – ar		0	0.6	1.6	1.3
HCHPP Bypass (Mt) – ar		0	0.2	0.6	1.2
HCHPP Coarse Reject (Mt) – ar		0	0.3	0.6	0.35
HCHPP Tailings (Mt) – db		0	0.1	0.3	0.26

ar – ‘as received’ includes moisture

db – ‘dry basis’ does not include moisture

4.1.3 | SUMMARY OF CHANGES

The below changes occurred in 2025:

- HCHPP production increased in 2025 compared with 2024 due to the restarting of HCHPP and improved HVCHPP performance after partial completion of the debottlenecking project upgrades.
- Mining in the Carrington West Wing location has not yet commenced. As of the time of reporting, mining in this area is not planned to commence during 2026.
- Completion of the flotation plant at HVCHPP. The flotation plant increases fine coal recovery yield that would otherwise report to the active tailings storage facility.
- Tailings emplacement continued in the Carrington and Cumnock Void 3 tailings storage facilities during 2025.
- Construction of Sediment Dams ahead of mining in Mitchell Pit (Dam 31W and Dam 32W).
- Geotechnical investigations for engineering of North Void TSF barrier wall. A construction tender has progressed, expected to commence in 2026.
- Additional pumping and pipe work infrastructure for improvement water management and reticulation on site: Mitchell Pit, Carrington TSF and Riverview.
- Water Fill Point improvements – C2 and Centre flow rate increase and installation of additional Water Fill Point – Mitchell Pit.
- Installation of Nitrogen Plant for use of nitrogen in HME tyres.

4.2 | FORECAST OPERATIONS FOR NEXT REPORTING PERIOD

Table 4-5 outlines the forecast operations for the next reporting period.

Table 4-5: Production Operations Forecast

Material	Unit	2025 (Actual)	2026 Forecast	2027 Forecast
Stripped Topsoil	kbcm	106	296.79	275.26
Rock / Overburden	Mbcm	109.14	113.92	119.74
ROM Coal	Mt	18.93	18.93	20.28
Reject Material	Mt	4.74	4.37	5.11
Product	Mt	14.08	14.66	15.52

5 | ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

DPHI responded to HVO on 13 May 2025 accepting the 2024 HVO Annual Review. DPHI did not require any changes to the 2024 Annual Review nor request any changes to be made to future Annual Reviews.

6 | ENVIRONMENTAL PERFORMANCE

6.1 | METEOROLOGICAL DATA

The collection of meteorological (weather) data is carried out to assist in day-to-day operational decisions, planning, environmental management and to maintain a historic record. The meteorological stations record:

- wind speed
- wind direction
- temperature
- humidity
- solar radiation
- rainfall

HVO operates two real-time meteorological stations; the HVO Corporate Meteorological Station and the Cheshunt Meteorological Station. The locations of these monitors are shown in **Figure** 6-2. Daily average data is publicly available via the Monthly Environmental Monitoring Reports published on the HVO website.

Total annual rainfall for 2025 was 709.8mm (recorded at the HVO Corporate Meteorological Station) compared to 645.2mm in 2024 and 459.0mm in 2023. (**Figure** 6-1).

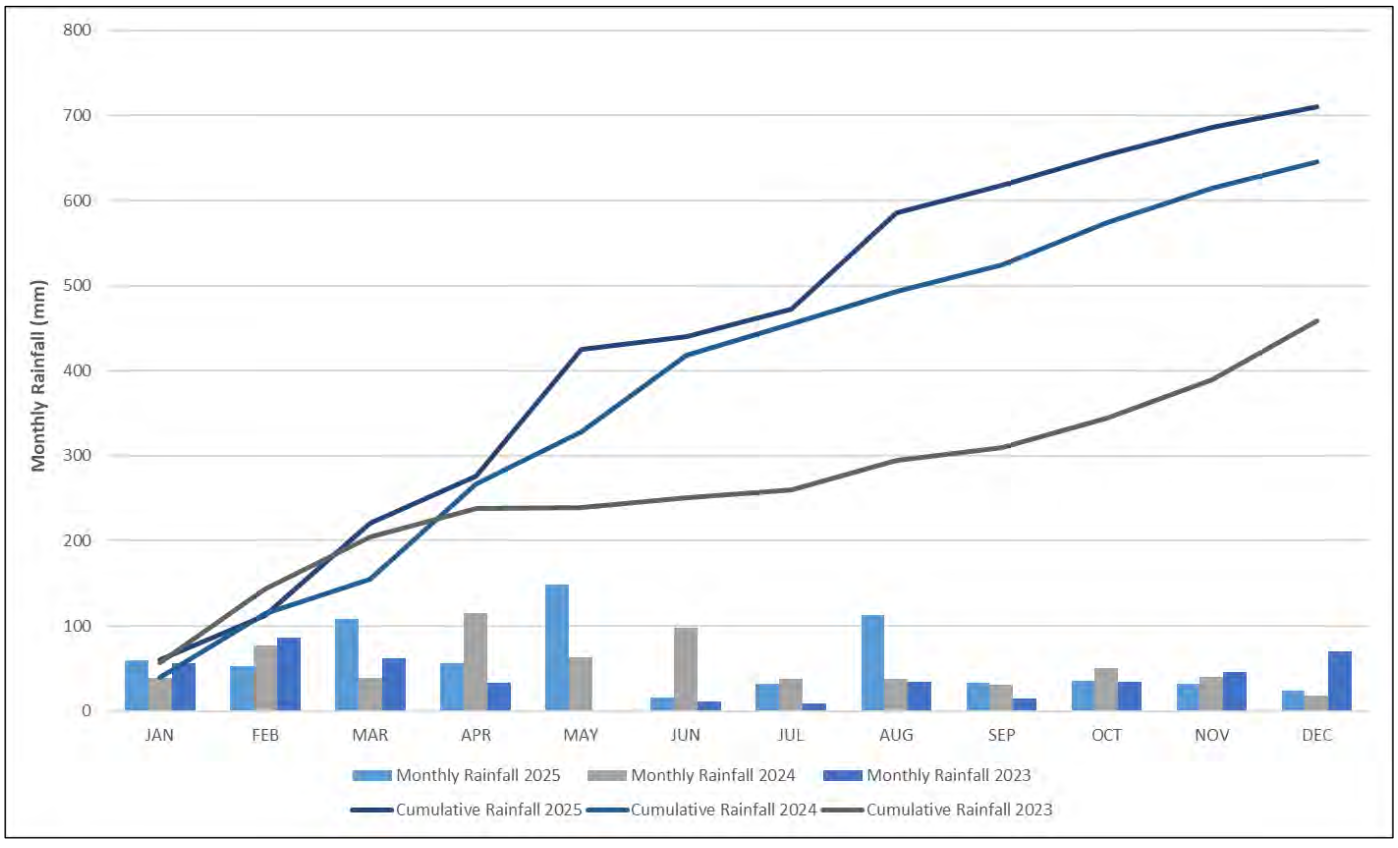


Figure 6-1: HVO Corporate Meteorological Station 2023 – 2025 Rainfall Data

6.2 | NOISE

6.2.1 | NOISE MANAGEMENT

Mining activities at HVO are managed to minimise adverse noise impacts and to maintain compliance with permissible noise limits at nearby private residences. A combination of proactive and reactive noise controls are employed to ensure effective management of noise. Noise controls are as detailed in the HVO Noise Management Plan (NMP).

6.2.2 | SOUND ATTENUATION OF HEAVY EQUIPMENT

All haul trucks at HVO have been fitted with sound attenuation kits. New equipment brought to site arrives sound attenuated or is scheduled for retrofitting prior to operation.

In total, 45 operational units had sound power testing completed in 2025, including 22 existing units of heavy mining equipment and 23 new machines. All new equipment brought to site was fitted with either original equipment manufacturer or aftermarket sound attenuation packages and were compliant prior to operation.

All heavy mining equipment fleets are fitted with sound attenuation packages. A new and improved sound attenuated exhaust system has been procured for the Liebherr 9800, EX330 and will be fitted in 2026. New sound attenuated exhausts have been procured and fitted to the two 830E-5 units (TR490 and TR491). A new design of sound attenuated exhaust has been fitted to two 830E-1 units, and design and development continues with the aftermarket supplier to achieve greater levels of noise mitigation from this system.

6.2.3 | REAL TIME NOISE MANAGEMENT

HVO operates a network of directional real-time noise monitors to measure and manage noise emissions and to minimise community impact.

The real-time system generates alarms when elevated noise is measured, triggering the implementation of reactive controls to reduce noise levels. HVO received and responded to 530 noise alarms during 2025. Noise alarm triggers are based on internally set noise criteria. Alarms received include noise exceedances from other mines and non-mine sources. HVO recorded fourteen (14) hours of equipment downtime for the management of noise during 2025. The location of real-time noise monitoring locations as per the approved NMP are shown in **Figure** 6-2. The Barnowl noise monitor at Moses Crossing experienced intermittent outages which had become more prevalent due to deteriorating software and hardware. The unit is planned to be replaced by an Environmental Noise Compass monitor in 2026.

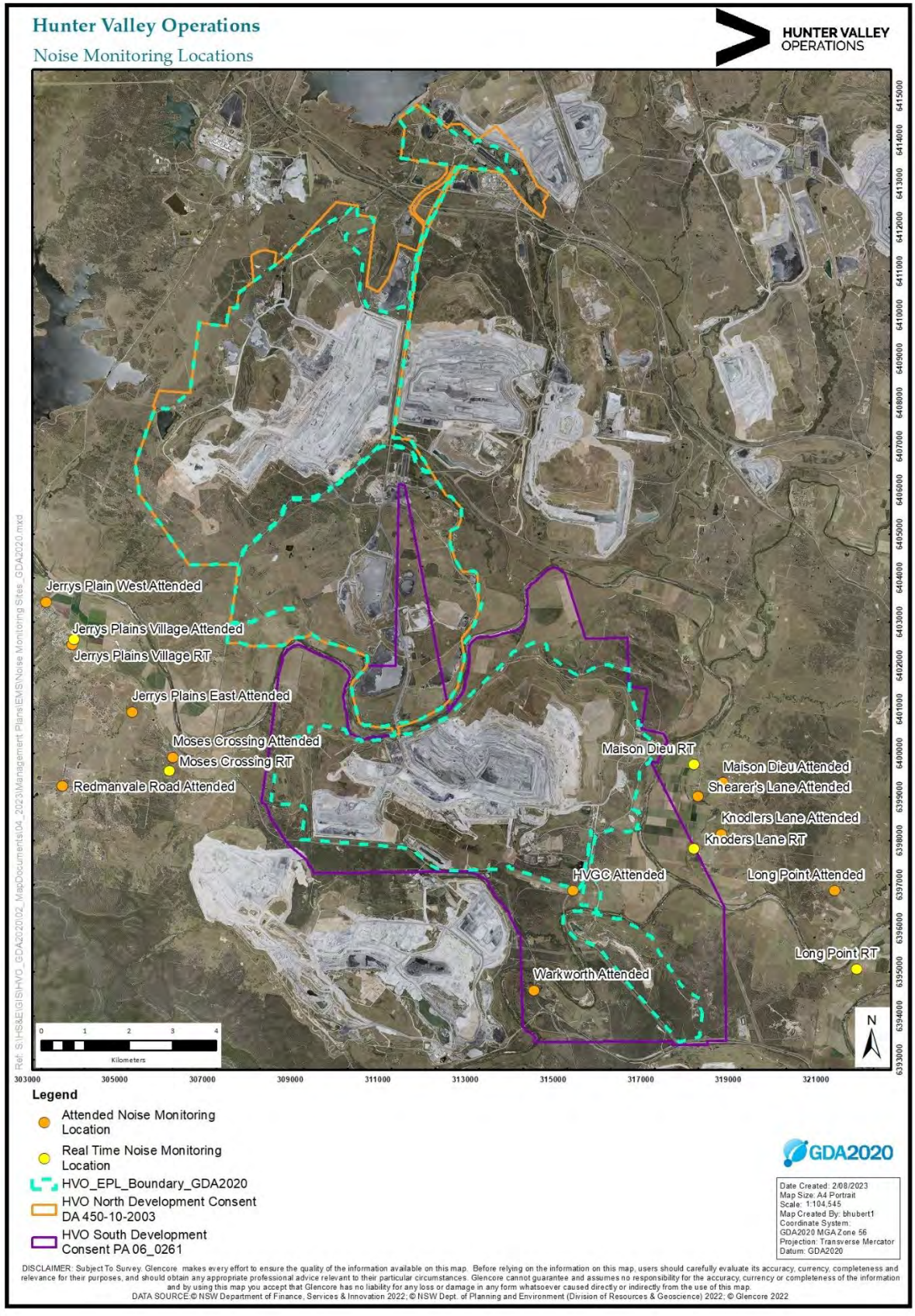


Figure 6-2: HVO Attended and Real Time Noise Monitoring Locations

Attended monitoring during 2025 was compared to real time noise monitoring results where a comparison could be made (e.g., where HVO was audible) in order to validate real time noise monitoring systems. Where comparisons were able to be made, results indicated that the real time monitoring system generally recorded higher noise measurements than attended monitoring, or measurements that aligned with real time measurements. Comparisons were not able to be made for a majority of measurements due to low/inaudible noise from HVO than attended noise measurements.

Details of this assessment is provided in **Table** 6-1.

Table 6-1: Comparison of Attended and Real Time Noise Monitoring During 2025

Monitoring Location	Number of attended noise measurements where comparison could be made[1]		Real time measurements that aligned[2] with attended measurements		Real time measurements with positive variance > 3dB(A) of attended measurements		Real time measurements with negative variance >3dB(A) of attended measurements	
	South	North	South	North	South	North	South	North
MaisonDieu	5	-	1	-	4	-	0	-
Knodlers Lane	2	-	0	-	2	-	0	-
Long Point	0	-	0	-	0	-	0	-
Kilburnie South	2	5	0	0	2	5	0	0
Jerrys Plains Village	0	6	0	3	0	3	0	0

Notes:

[1] Includes measurements under all meteorological conditions

[2] Aligned indicates measurements were within 3dB (A) of each other or measurement results <25dB indicated that source contribution was in audible or not measurable.

6.2.4 | OPERATIONAL NOISE PERFORMANCE

HVO engages a suitably qualified and experienced acoustic consultant to undertake routine attended noise compliance monitoring at nearby private residences to assess compliance with the relevant Project Approval and EPL noise criteria, in accordance with the HVO NMP. Monitoring is undertaken at a frequency of one night per month and an additional one night per quarter as required by the HVO North Approval. This monitoring is undertaken to evaluate and assess noise impacts under a range of meteorological conditions throughout the year.

A total of 112 measurements were recorded during 2025. Each measurement involves an assessment of HVO mine noise against the various $L_{Aeq,\ 15minute}$ and $L_{A1,1min}$ noise criteria in place under the HVO North and South Approvals. Full details for all noise assessments completed can be found in HVO Monthly Environmental Monitoring Reports published on the HVO website.

HVO was compliant with relevant noise criteria for all measurements recorded in 2025.

Comparison between the 2025 L_{Aeq} attended noise monitoring results (maximum HVO contribution levels measured under applicable meteorological conditions), and previous years are shown in **Table** 6-2.

Table 6-2: Comparison of 2025 Noise Monitoring Results Against Previous Years

Year	Number of Measurements	Number of measurements which exceeded allowable noise (under applicable	Number of non-compliances
2025	123	0	0
2024	121	0	0
2023	120	0	0
2022	120	0	0
2021	121	1	0
2020	110	0	0
2019	101	1	0
2018	105	3	0
2017	100	1*	0
2016	109	2*	0

* The now superseded NSW Industrial Noise Policy (INP) allowed for the measured result to be less than or equal to 2 dB above the applicable noise limit without constituting a non-compliance. Note: Where the measured result is greater than 2dB above the applicable noise limit, the site has 75 minutes to reduce noise levels below applicable noise limits before constituting a non- compliance. As of late October 2017, the NSW INP was superseded by the Noise Policy for Industry (NpfI), with the requirements of this policy implemented in late 2017.

6.2.5 | COMPARISON WITH PREDICTIONS

Comparisons against the predicted noise levels in the Noise Impact Assessment (NIA) for HVO North prepared in October 2010 to support Modification 3 of the HVO North DA (450-10-2003). Noise predictions contained within the NIA do not correspond with specific meteorological conditions. Attended noise monitoring results have been compared directly to Year 5, mitigated, total noise predictions in the NIA for Carrington & West Pit under all meteorological conditions where noise criteria were applicable. This comparison is shown in **Table** 6-3.

Table 6-3: Comparison of 2025 Attended Noise Monitoring Against EIS Predictions

Location	Units	EIS Prediction	2025 max measured LAeq 15 min (under applicable met conditions)
Shearers Lane	dB(A)	27	Inaudible
Kilburnie South	dB(A)	37	34
Jerrys Plains	dB(A)	41	35
Jerrys Plains East	dB(A)	39	35
Jerrys Plains West	dB(A)	41	35

Comparison of measured results against the modelled predictions demonstrates noise levels lower than predicted.

Comparisons against the predicted noise levels in the HVO South Modification 5 Environmental Assessment have been made against Stage 2 modelling scenario (indicative of activities carried out during 2025), (Table 6.10 of Appendix E– Hunter Valley Operations South Modification 5 Approval Environmental Assessment Report Volume 2). The comparison (**Table** 6-4) indicates that noise during 2025 was lower than predicted levels for all receptors.

Table 6-4: Comparison of 2025 Monitoring Against HVO South (Stage 2 HVO South Modification 5 EA – 2017)

Location	Units	EIS Prediction (INP)	2025 max measured LAeq 15 min (under applicable met conditions)
Knodlers Lane	dB(A)	40	36
Maison Dieu	dB(A)	40	31
Shearers Lane	dB(A)	41	40
Kilburnie South	dB(A)	39	29
Jerrys Plains	dB(A)	34	31
Jerrys Plains East	dB(A)	36	35
Jerrys Plains West	dB(A)	32	24
Long Point	dB(A)	37	27

6.3 | BLASTING

6.3.1 | BLASTING MANAGEMENT

HVO operates a blast monitoring network to assess and evaluate blast vibration and overpressure impacts against the HVO North and HVO South Consent Criteria. There was 100% blast data capture for all blast monitors in 2025.

Monitors are located at or in close proximity to nearby privately owned residences as shown in Figure 8-2 of the HVO Blast Management Plan (HVO, 2025). The monitors function as regulatory compliance monitors. These monitors are located at:

- Jerrys Plains Village
- Warkworth
- Maison Dieu
- Moses Crossing
- Knodlers Lane

See Figure 6-3 for the blast monitoring locations.

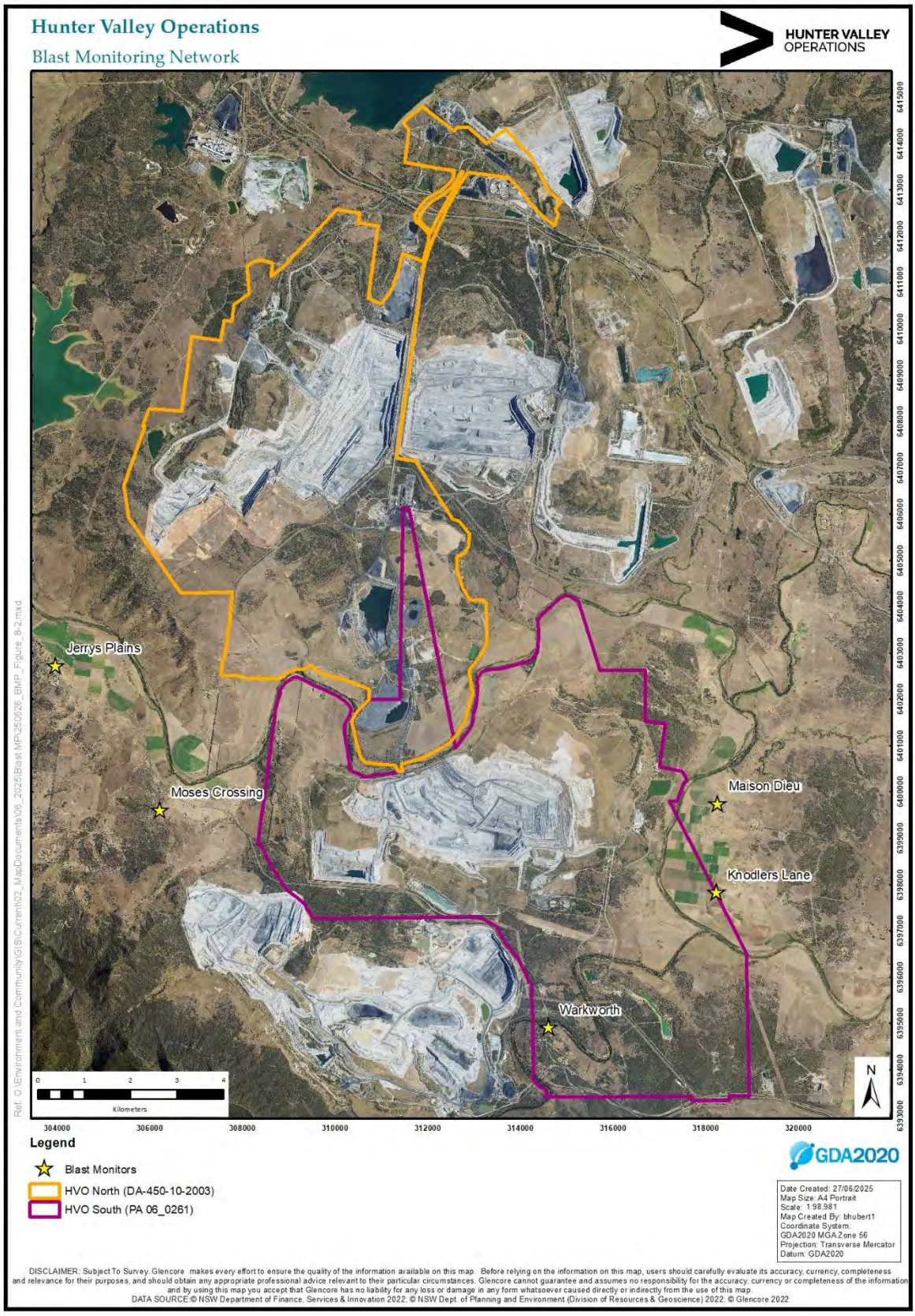


Figure 6-3: HVO Blast Monitoring Network

6.3.2 | BLASTING PERFORMANCE

278 blast events were initiated at HVO during the reporting period. 154 blasts were fired at HVO South and 124 blasts were fired at HVO North. HVO complied with all blasting related consent and licence conditions. Air blast overpressure and ground vibration results for all blasts fired during the reporting period are presented in **Figure** 6-4 to **Figure** 6-8.

One blast recorded an overpressure greater than 115 dB(L) with all remaining blasts recorded overpressure less than 115 dB(L). There were no exceedances of the 5 mm/s ground vibration criteria at any residence on privately-owned land.

Blasting occurred only between the hours of 7am and 6pm Monday to Saturday and no blasting was carried out on Sundays or Public Holidays. No more than four (4) blasts were fired per day and the maximum number of blasts fired during any week was eight (8), which is less than the maximum weekly blasting frequencies as specified in both project approvals.

HVO closed Lemington Road on 104 occasions for an average of 11.8 minutes, and Comleroi Road on 62 occasions for an average of 7.6 minutes. In addition, on 20 occasions the closure of Lemington Road and Comleroi Road was initiated however was cancelled due to changes in operational requirements.

In accordance with PA 06_0261, long term blast monitoring data has been reviewed to identify any trends in the monitoring data over the life of the project. Both ground vibration and overpressure monitoring results have remained generally consistent since monitoring commenced, with no increasing trends developing in the data.

See **Table** 6-5**, Table** 6-6 and **Table** 6-7 for a review of long-term blasting data for both ground vibration and overpressure.

Table 6-5: Recent Blasting Data Trends for HVO North

Monitoring Location	2021		2022		2023		2024		2025	
	Percentage of blasts over 115dB(L) (%)	Percentage of blasts >5mm/s (%)	Percentage of blasts over 115dB(L) (%)	Percentage of blasts >5mm/s (%)	Percentage of blasts over 115dB(L) (%)	Percentage of blasts >5mm/s (%)	Percentage of blasts over 115dB(L) (%)	Percentage of blasts >5mm/s (%)	Percentage of blasts over 115dB(L) (%)	Percentage of blasts >5mm/s (%)
Moses Crossing	0	0	0	0	0	0	0	0	0	0
Jerrys Plains	0	0	0	0	0	0	0	0	0	0
Warkworth	0	0	0	0	0	0	0	0	0	0
Maison Dieu	0	0	0	0	0	0	0	0	1	0
Knodlers Lane	0	0	0	0	0	0	0.4	0	0	0

Table 6-6: Recent Blasting Data Trends for HVO South

Monitoring Location	2021		2022		2023		2024		2025	
	Percentage of blasts over 115dB(L) (%)	Percentage of blasts >5mm/s (%)	Percentage of blasts over 115dB(L) (%)	Percentage of blasts >5mm/s (%)	Percentage of blasts over 115dB(L) (%)	Percentage of blasts >5mm/s (%)	Percentage of blasts over 115dB(L) (%)	Percentage of blasts >5mm/s (%)	Percentage of blasts over 115dB(L) (%)	Percentage of blasts >5mm/s (%)
Moses Crossing	0	0	0	0	0	0	0	0	0	0
Jerrys Plains	0	0	0	0	0.4	0	0	0	0	0
Warkworth	0	0	0	0	0	0	0	0	0	0
Maison Dieu	0	0	0	0	0	0	0	0	0	0
Knodlers Lane	0	0	0.8	0	0	0	0	0	0	0

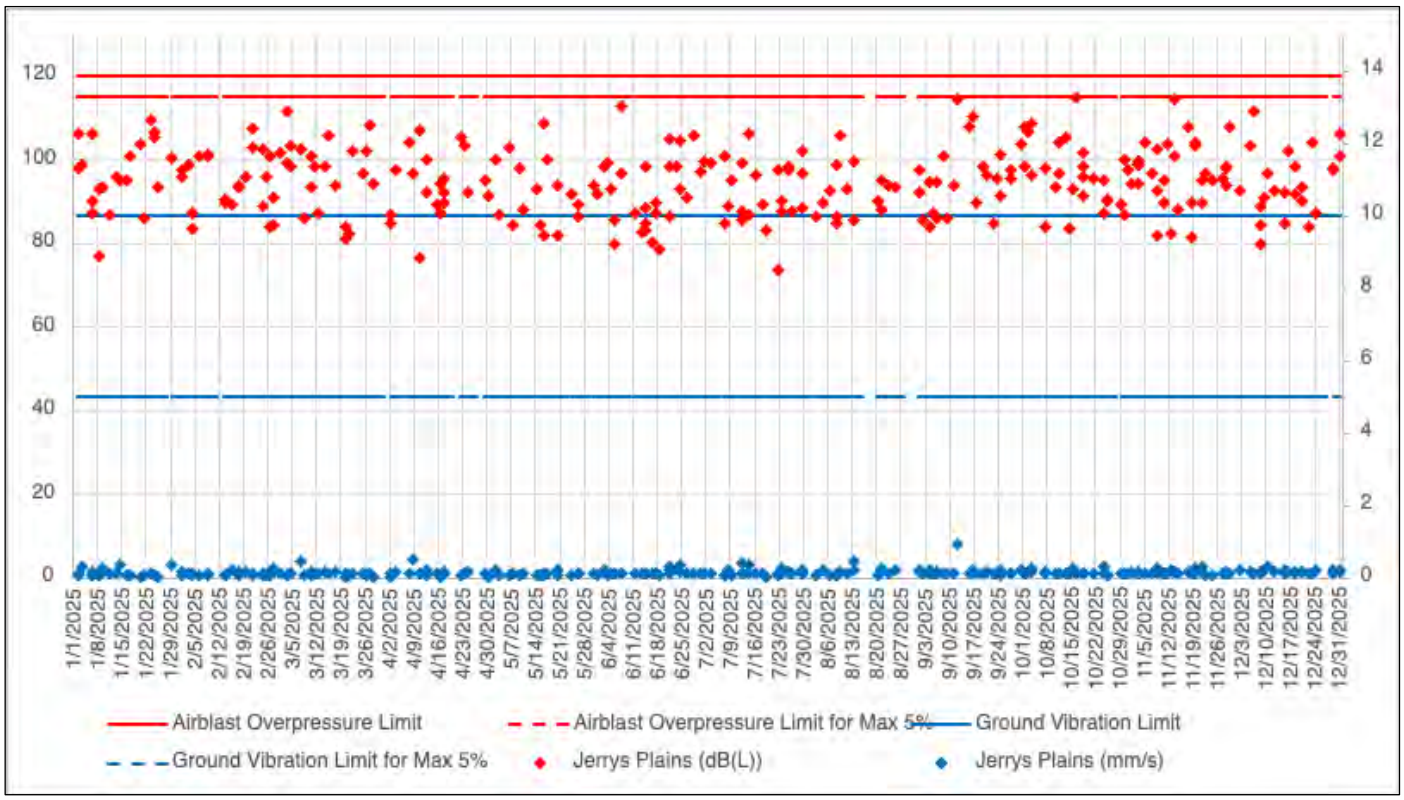


Figure 6-4: Jerrys Plains Blast Monitoring Results 2025

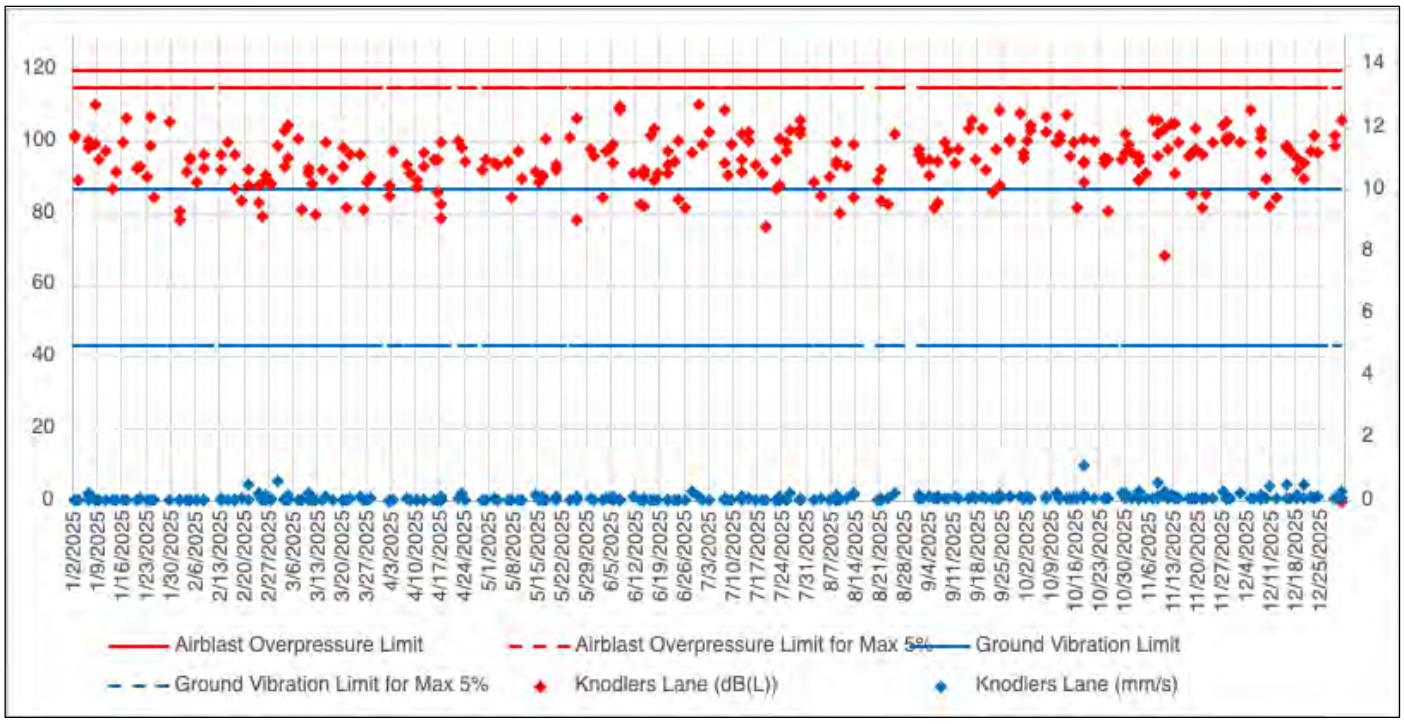


Figure 6-5: Knodlers Lane Blast Monitoring Results 2025

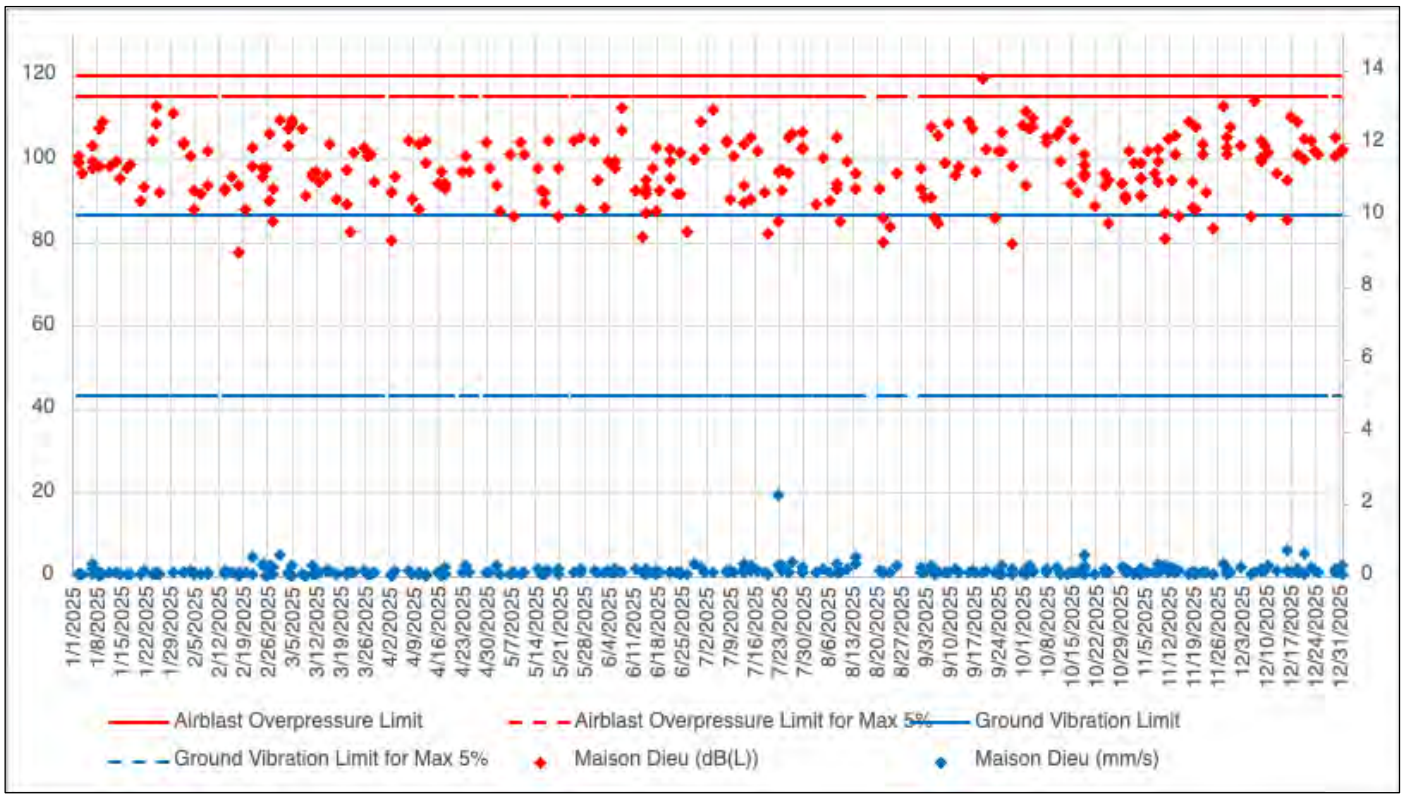


Figure 6-6: Maison Dieu Blast Monitoring Results 2025

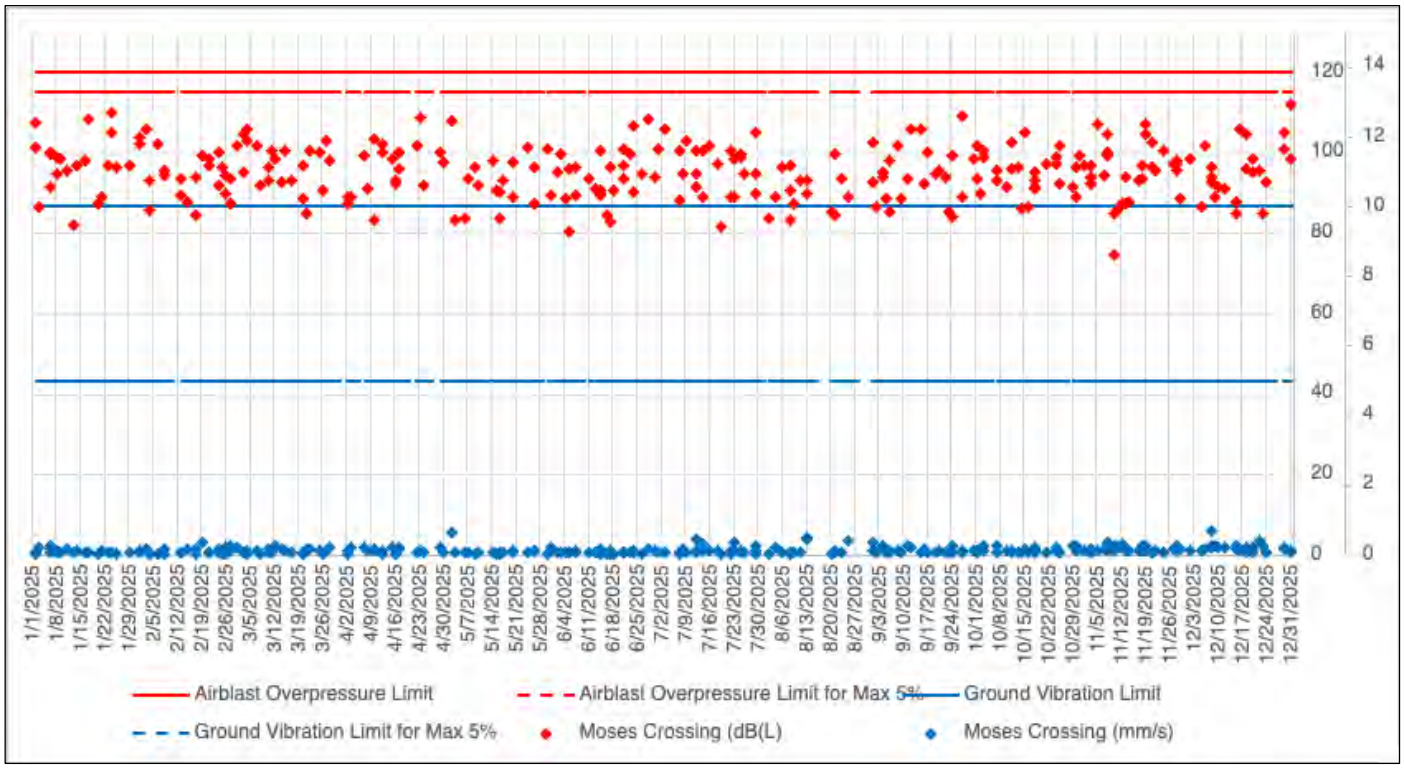


Figure 6-7: Moses Crossing Blast Monitoring Results 2025

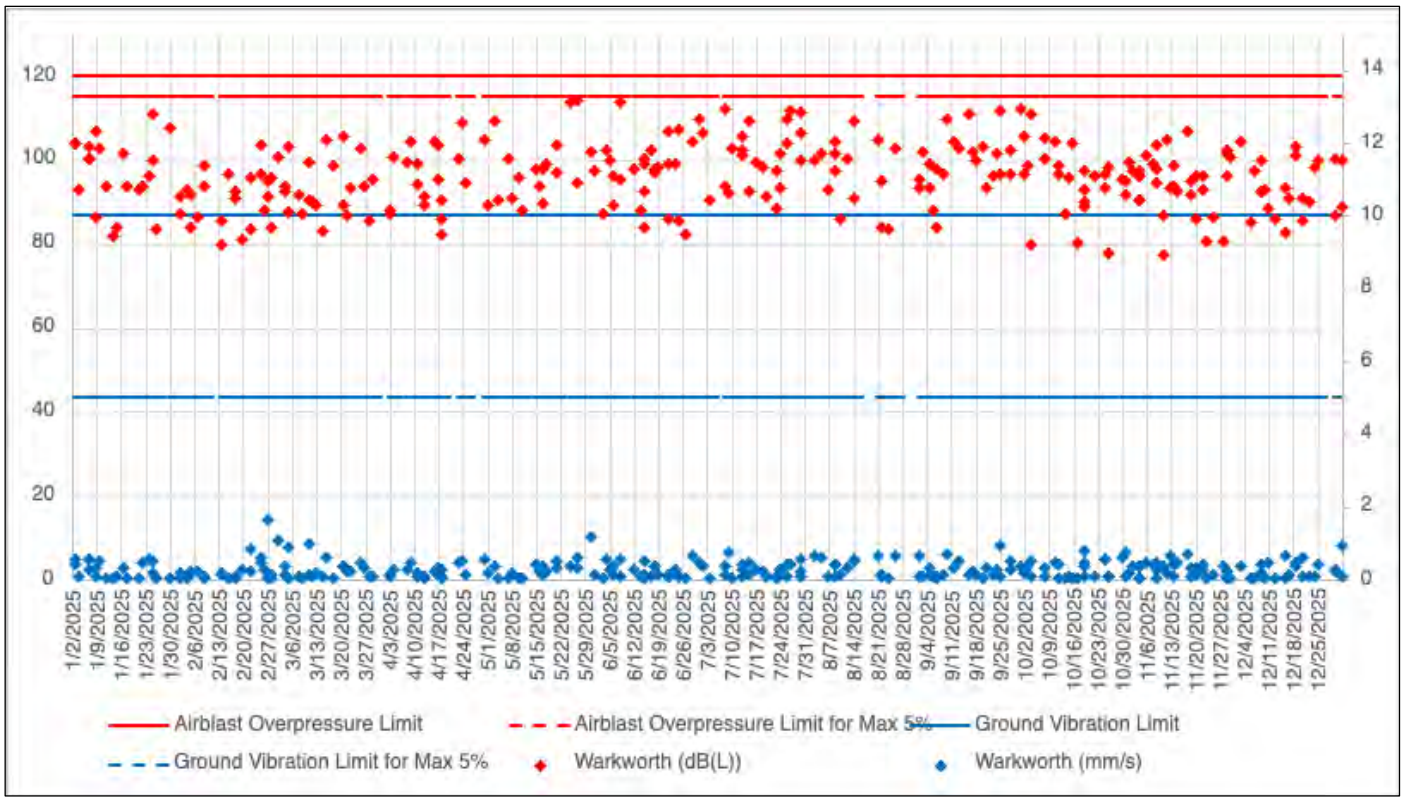


Figure 6-8: Warkworth Blast Monitoring Results 2025

6.3.3 | BLAST FUME MANAGEMENT

Blasting operations at HVO are undertaken in accordance with the HVO Post Blast Fume Generation Mitigation and Management Plan. The plan outlines the practices to be utilised to reduce the risk of generation of post blast fume and reduce potential offsite impact from any fume which may be produced. This includes specialised blasting design, appropriate product selection, on-bench water management, implementation of fume management zones and use of existing blasting permissions to identify likely path of any fume which may be produced and restrictions on firing.

All blasts are observed for fume and any fume produced is ranked according to the Australian Explosive Industry & Safety Group (AEISG) Scale.

Fume rankings for shots fired during 2025 and comparison to previous years is provided in **Table** 6-7. There was a decrease in Category 3 and 4 blast fume events during 2025 compared to 2024. This included:

- Four (4) Category 3 blast fume events, of which internal investigations were undertaken into the cause of each, and outcomes incorporated into updating current practices where appropriate.
- The were no Category 4 (or above) blast fume event during 2025.

One complaint was received regarding blast fume. Refer to Section 9.1 for further information.

Table 6-7: Visible Blast Fume Ranking According to the AEISG Colour Scale

AEISG Ranking	2020	2021	2022	2023	2024	2025
0	160	170	212	218	194	243
1	22	45	52	43	58	54
2	27	27	30	23	26	40
3	0	3	4	6	10	4
4	0	1	0	1	3	0
5	0	0	0	0	0	0
Total*	209	246	298	291	291	341

* Where a number of individual blasts were fired as a blast event, fume was assessed for each individual blast pattern rather than for the event as a whole.

6.4 | AIR QUALITY

6.4.1 | AIR QUALITY MANAGEMENT

Air quality management initiatives are implemented at HVO to ensure that:

- Air quality impacts on surrounding residents are minimised;
- All statutory requirements are adhered to; and
- Local community and regulators are kept informed through prompt and effective response to issues and complaints.

Air quality control mechanisms employed at HVO are described in detail in the *Hunter Valley Operations Air Quality and Greenhouse Gas Management Plan (AQGGMP)*, publicly available via the HVO website.

HVO continued to implement operational controls to manage dust emissions in accordance with the AQGGMP. An improvement programme continued for West Pit to further mitigate dust emissions including reintroduction of chemical dust suppressants, trialling mobile irrigation systems, improving the standard of dust inspections and conducting dust Trigger Action Response Plan (TARP) training with the workforce.

6.4.2 | AIR QUALITY MONITORING

Air quality monitoring at HVO is undertaken in accordance with the HVO Air Quality Monitoring Program (AQMP). An extensive network of monitoring equipment is utilised to assess performance against the relevant conditions of HVO's approvals. Air quality monitoring locations are shown in **Figure** 6-9. Air quality monitoring data is made publicly available through the HVO Monthly Environmental Monitoring Report, available on the HVO website.

6.4.3 | AIR QUALITY PERFORMANCE

6.4.3.1 | REAL TIME AIR QUALITY MANAGEMENT

HVO's real time air quality monitoring stations continuously log information and transmit data to a central database, generating alarms when particulate matter levels exceed internal trigger limits to guide the operational management of air quality on site.

A total of 2,052 real time alarms for air quality and meteorological conditions were received and acknowledged during 2025, which is an increase from 1,456 alarms recorded during 2024. This increase is likely due to the drier conditions from September to December 2025.

In response, 3,056 hours of equipment downtime was recorded due to air quality management. A detailed breakdown of air quality related equipment stoppages (per month, per equipment type) presented in **Figure** 6-10**.** Note that these delays are instances where operations were completely stopped and does not include occasions where operations were changed/modified but not stopped (e.g. changed from exposed dump to in-pit dump).

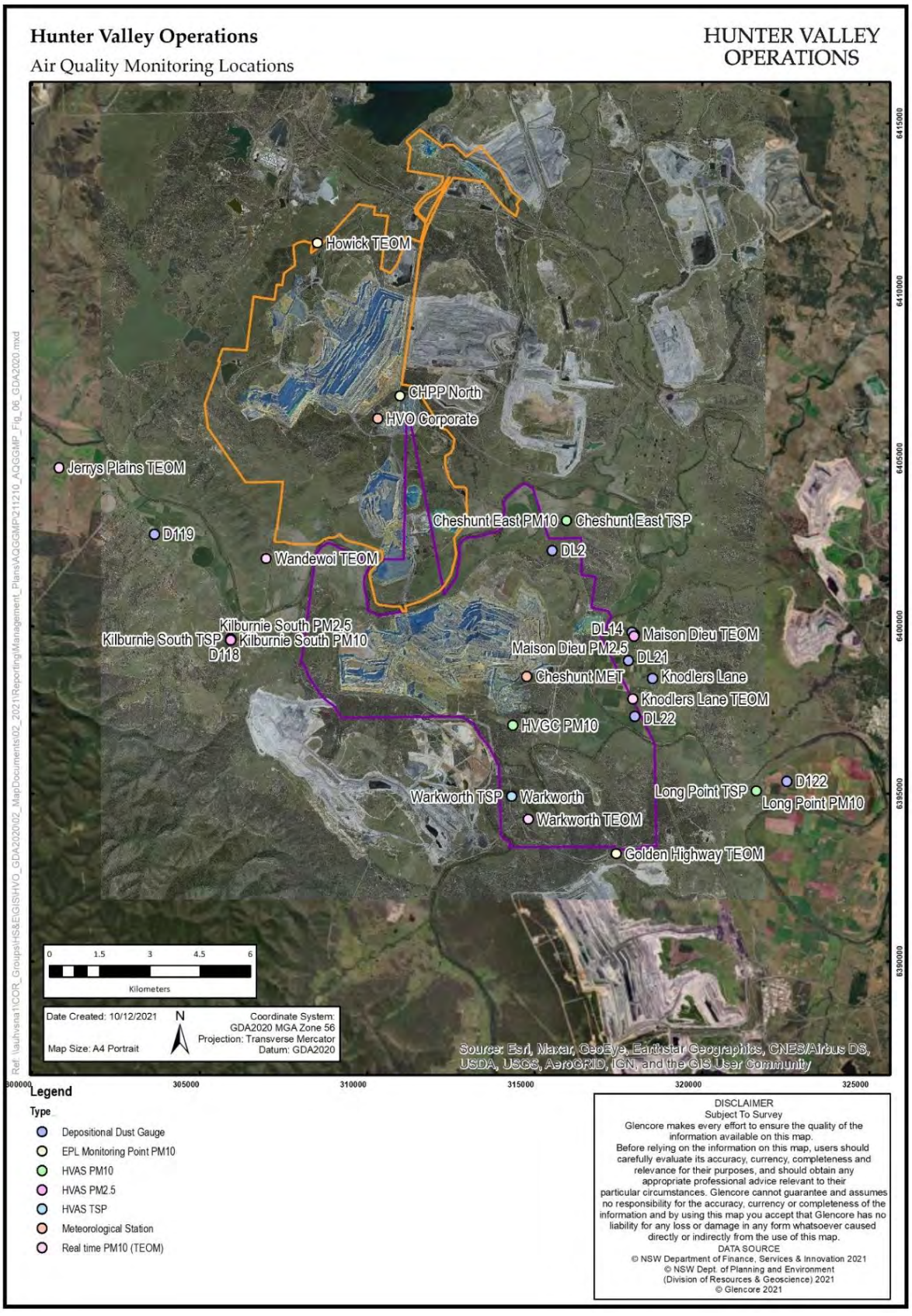


Figure 6-9: Air Quality Monitoring Locations

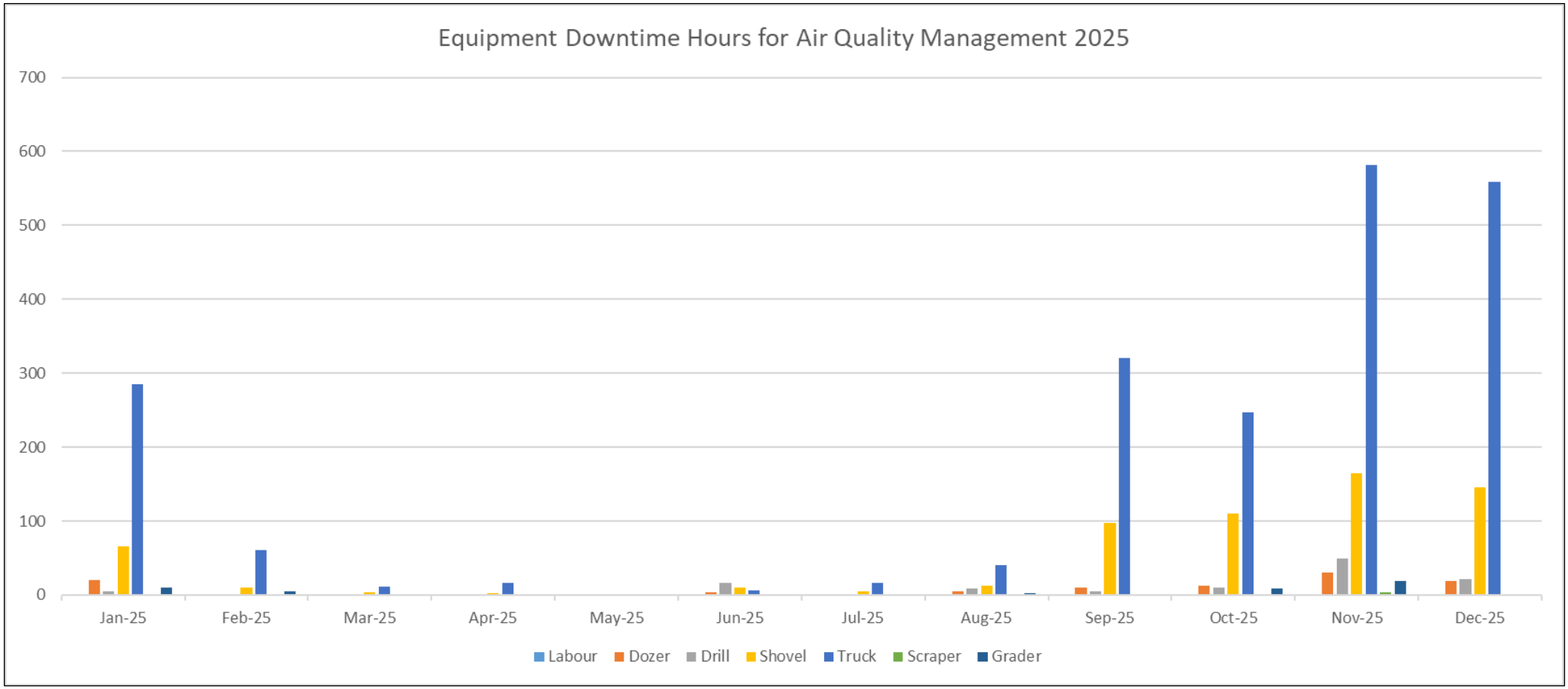


Figure 6-10: Equipment Downtime Hours for Air Quality Management 2025

Data availability from HVO's real time air quality monitoring stations is presented in **Table** 6-8**.** There was high data availability across the network with common reasons for data mis-captures being data-logger and modem issues.

Table 6-8: Real Time PM_{10} Air Quality Monitoring Data Availability 2025

Monitoring Location	2025 Data Availability
Warkworth	96%
Knodlers Lane	95%
Maison Dieu	94%
Howick	97%
CHPP North	94%
Wandewoi	94%
Golden Highway	95%
Jerrys Plains	96%

Note: Data availability calculated across 2025 is based on availability of a 24-hour average result. Greater than 75% data capture is required to record a 24hr average result.

6.4.3.2 | TEMPORARY STABILISATION

Aerial seeding is undertaken biennially. The next aerial seeding event is planned to be completed in 2026.

6.4.3.3 | DEPOSITIONAL DUST

Depositional dust is monitored at nine locations in accordance with the AQGGMP. The annual average insoluble matter deposition rates in 2025 compared with the depositional dust impact assessment criterion and previous years' data are shown in **Figure** 6-11.

Depositional dust samples are collected monthly. Where field observations denote a sample as contaminated (typically with insects, bird droppings or vegetation), the results are excluded from annual average compliance assessment.

The DL30 and Warkworth monitoring locations exceeded the annual average insoluble matter deposition rate criteria of 4 g/m^2/month (HVO North only) during 2025. However, all results were below the maximum insoluble solids incremental increase criterion of 2 g/m^2/month and hence compliant with criteria (**Figure** 6-12).

An external specialist investigation (See **Appendix A**) determined the exceedances to be due to local sources of dust in close proximity to the monitor. The elevated levels at DL30 and Warkworth were assessed to estimate the maximum contribution from HVO North to the annual results. The HVO North maximum contribution to the incremental increase at DL30 was 1.1 g/m^2/month, and 0.7 g/m^2/month at Warkworth. These maximum concentrations were not deemed to have caused the exceedances (**Table** 6-9). The monitors are located in close proximity to HVO South, on the opposite side of HVO North. Given the significant separation distances between HVO North and these monitors, HVO North's contribution to these monitoring sites would always be low and likely indiscernible from background concentrations and the influences of other mines. Therefore, HVO North could only reasonably have a tangible impact at its

nearest monitors which include D118 and D119. These monitors recorded annual average deposited dust levels below both the incremental and cumulative criteria.

Table 6-9: Dust Deposition Annual Average Assessment

Date	Site	Measured Annual Average Dust Deposition (g/m^2/month)	Annual Average Dust Deposition Criteria (g/m^2/month)	HVO's Contribution to Dust Deposition (g/m^2/month)	Discussion
2025	DL30	4.7	4	1.1	An external consultant was engaged to investigate the exceedance, which determined that HVO North could have only provided a minor contribution to the exceedance which is attributable to local sources of dust near the monitor.
2025	Warkworth	8.7	4	0.7	An external consultant was engaged to investigate the exceedance, which determined that HVO North could have only provided a minor contribution to the exceedance which is attributable to local sources of dust near the monitor.

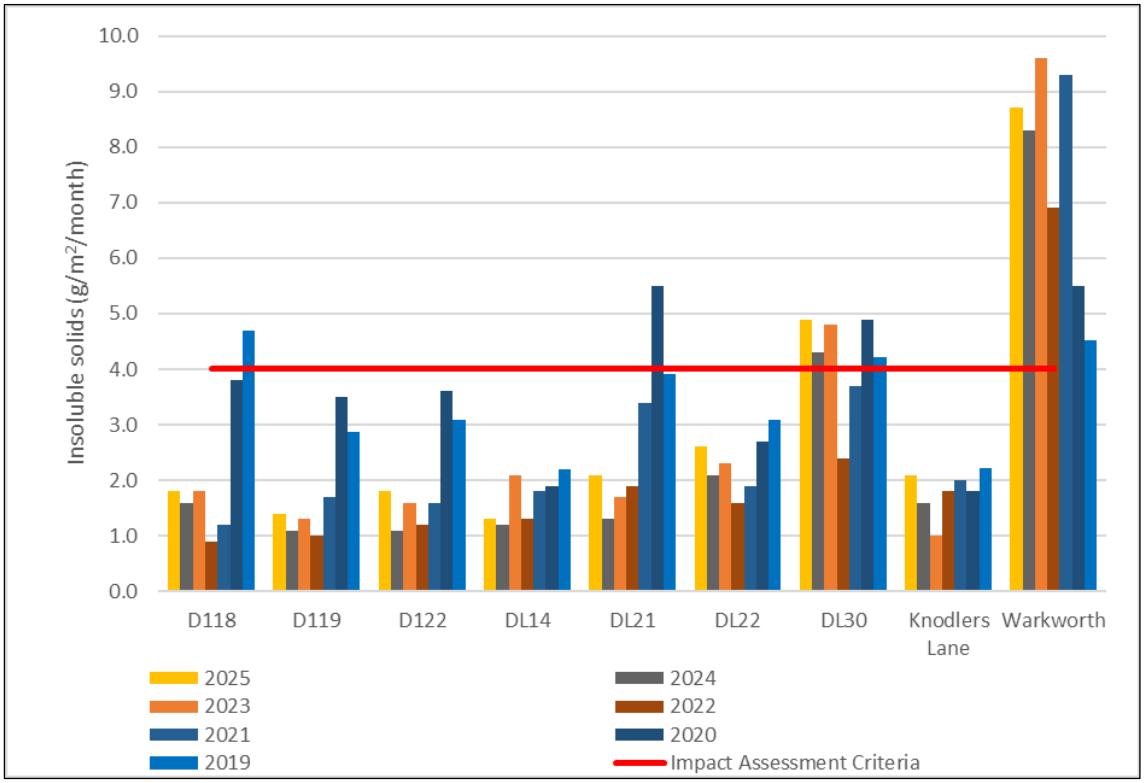


Figure 6-11: Annual Average Insoluble Matter Deposition Rates 2019-2025

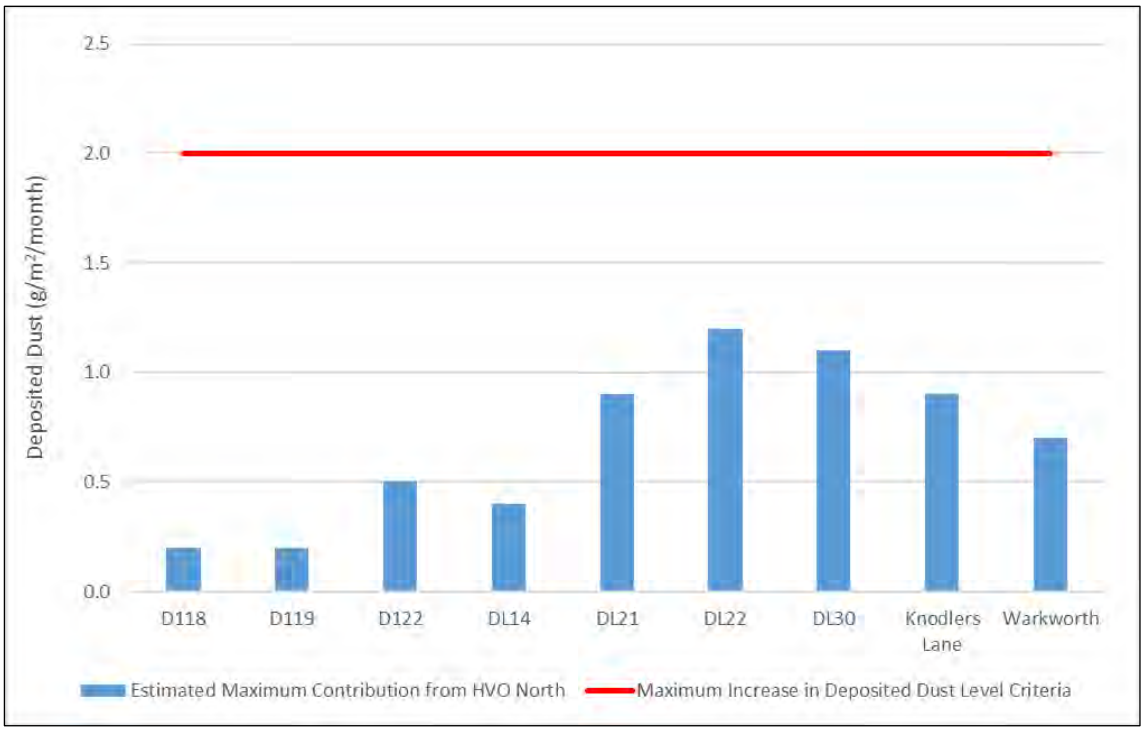


Figure 6-12: Maximum Allowable Increase in Deposited Dust Level 2025

6.4.3.4 | TOTAL SUSPENDED PARTICULATES (TSP)

TSP is monitored using High Volume Air Samplers (HVAS) at six locations in accordance with the AQGGMP.

Annual average TSP concentrations recorded in 2025 compared with the long-term impact assessment criterion and data from previous years are shown in **Figure** 6-13**.** TSP results in 2025 are considered to be similar to historical trends with the exception of Warkworth which recorded 130.3 µg/m^3 and Knodlers Lane which recorded 90.4 µg/m^3 compared to a criteria of 90 ug/m^3.

Contributions at the TSP monitors were estimated to be the 24-hour concentrations minus an estimated background level on the corresponding day. The background level is considered to be the level which excludes the contribution from HVO but may include the influence of other sources, including other mines, localised sources, or regional sources of background dust. For the Warkworth monitor, which is often downwind of HVO South and a neighbouring mine concurrently, the daily contribution is considered to include both mines. In order to determine the contribution from HVO South alone, the combined mining increment was scaled by the proportion of time the monitor was downwind of HVO South relative to the total time the monitor was downwind of both mines during each 24-hour period.

Further methodology for determining HVO contribution is presented in Section 2.7.1 of **Appendix A**. This investigation method has determined the maximum possible contribution of HVO South to the Warkworth and Knodlers Lane annual averages to be 18.6 µg/m^3 and 12.7 µg/m^3 respectively.

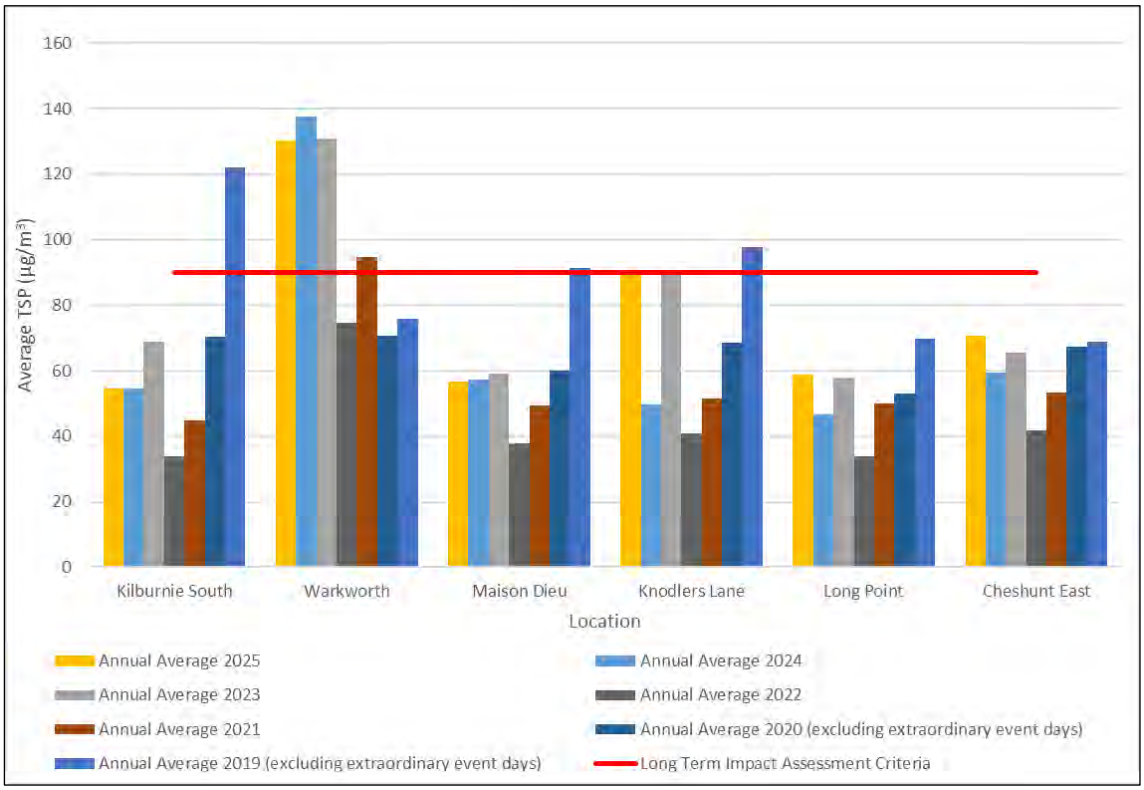


Figure 6-13: Annual Average TSP Concentrations 2019 to 2025 (Excludes Extraordinary Events)

Table 6-10: 2025 TSP HVAS Exceedance Investigation

Date	Site	Measured Annual Average TSP Level (µg/m^3)	HVO Annual Average TSP Criteria (µg/m^3)	Estimated HVO Maximum Contribution to TSP Level (µg/m^3)	Discussion
2025	Warkworth	130.3	90 (HVO South)	18.6	Investigated by external consultant based on wind direction. Refer to **Appendix A**.
2025	Knodlers Lane	90.4	90 (HVO South)	12.7	Investigated by external consultant based on wind direction. Refer to **Appendix A**.

Ten (10) TSP measurements were not able to be collected on the scheduled sampling date (based on a sampling frequency of every six days). Details of these mis-captures are provided in **Table** 6-11.

Table 6-11: TSP HVAS 24hr Mis-captures

HVAS Location	Date	Reason for Miscapture
Wandewoi TSP	18/01/2025	HVAS did not run for sufficient time due to a suspected power failure
Kilburnie South TSP	11/02/2025	HVAS did not run for sufficient time due to a suspected power trip
Maison Dieu TSP	23/02/2025	Result was not valid due to mud nest on filter plate and lid.
Warkworth TSP	12/04/2025	Result was not valid due to grass clippings on filter paper.
Warkworth TSP	18/04/2025	HVAS did not run for sufficient time due to a suspected power outage
Wandewoi TSP	24/05/2025	HVAS did not run for sufficient time due to an area wide power outage
Kilburnie South TSP	24/05/2025	HVAS did not run for sufficient time due to an area wide power outage
Cheshunt East TSP	5/06/2025	HVAS did not run for sufficient time due to a suspected power outage.
Knodlers Lane TSP	26/11/2025	HVAS did not run for sufficient time due to an area wide power outage
Long Point TSP	26/11/2025	HVAS did not run for sufficient time due to an area wide power outage

6.4.3.5 | PARTICULATE MATTER <10µM (PM_{10})

Particulate Matter <10 μm^3 (PM_{10}) is monitored using High Volume Air Samplers (HVAS) and Real Time Tapered Element Oscillating Microbalance (TEOM) monitors. Monitoring is used to assess against short term (24 hour) and annual average air quality criteria.

6.4.3.5.1 | PARTICULATE MATTER <10µM (PM_{10}) – SHORT TERM (24-HOUR AVERAGE) IMPACT ASSESSMENT CRITERIA

Short Term (24-hour average) PM_{10} concentrations from HVO North and South were measured using HVAS and TEOM monitors and assessed against the relevant criteria as per the AQGGMP. For TEOM monitors, this is calculated daily using measured hourly average data. The HVAS samples are taken over a 24-hour period every sixth day. Short term (24-hour average) results recorded by HVO's TEOM compliance monitoring network during 2025 is presented in **Figure** 6-14. The data presented includes total measured results including contribution from all particulate sources.

Four (4) PM_{10} measurements were not able to be collected on the scheduled sampling date (based on a sampling frequency of every six days). Details of these mis-captures are provided in **Table** 6-12.

Table 6-12: PM_{10} HVAS 24hr Mis-captures

HVAS Location	Date	Reason for Miscapture
Kilburnie South PM_{10}	11/02/2025	HVAS did not run for sufficient time due to a suspected power trip
Kilburnie South PM_{10}	24/05/2025	HVAS did not run for sufficient time due to an area wide power outage
Cheshunt East PM_{10}	5/06/2025	HVAS did not run for sufficient time due to a suspected power trip.
Long Point PM_{10}	26/11/2025	HVAS did not run for sufficient time due to an area wide power outage

In 2025 there were no exceedances recorded against the HVO South Consent due to site contributions being below the incremental air quality criterion (HVO South contribution alone). Two (2) air quality exceedances were recorded against the HVO North Consent based on the total contribution criteria (HVO North contribution plus all other sources). It should be noted that the North Consent criterion changed to incremental rather than total contribution in Modification 8 of DA 450-10-2003 approved in April 2025. Outcomes of the exceedance assessments are provided in **Table** 6-13**.** These exceedances required notification to DPHI as the HVO contribution was greater than 0 (zero). Refer to **Section 11** for further information on these notifications. A complete record of HVO's assessment of measured exceedances is included in **Appendix A**.

Table 6-13: 2025 PM_{10} 24hr Exceedance Investigation

Date	Site	Measured 24-Hour Average PM_{10} Level ($\mu g/m^3$)	HVO 24-Hour Average PM_{10} Criteria ($\mu g/m^3$)	Estimated HVO Maximum Incremental Contribution to PM_{10} Level ($\mu g/m^3$)	Discussion
6/01/2025	Cheshunt East HVAS	56.1	50	22.8	Investigated based on wind direction, site contribution not significant
1/03/2025	Kilburnie South HVAS	50.8	50	9.7	Investigated based on wind direction, site contribution not significant

1 HVO South contribution

2 HVO North contribution

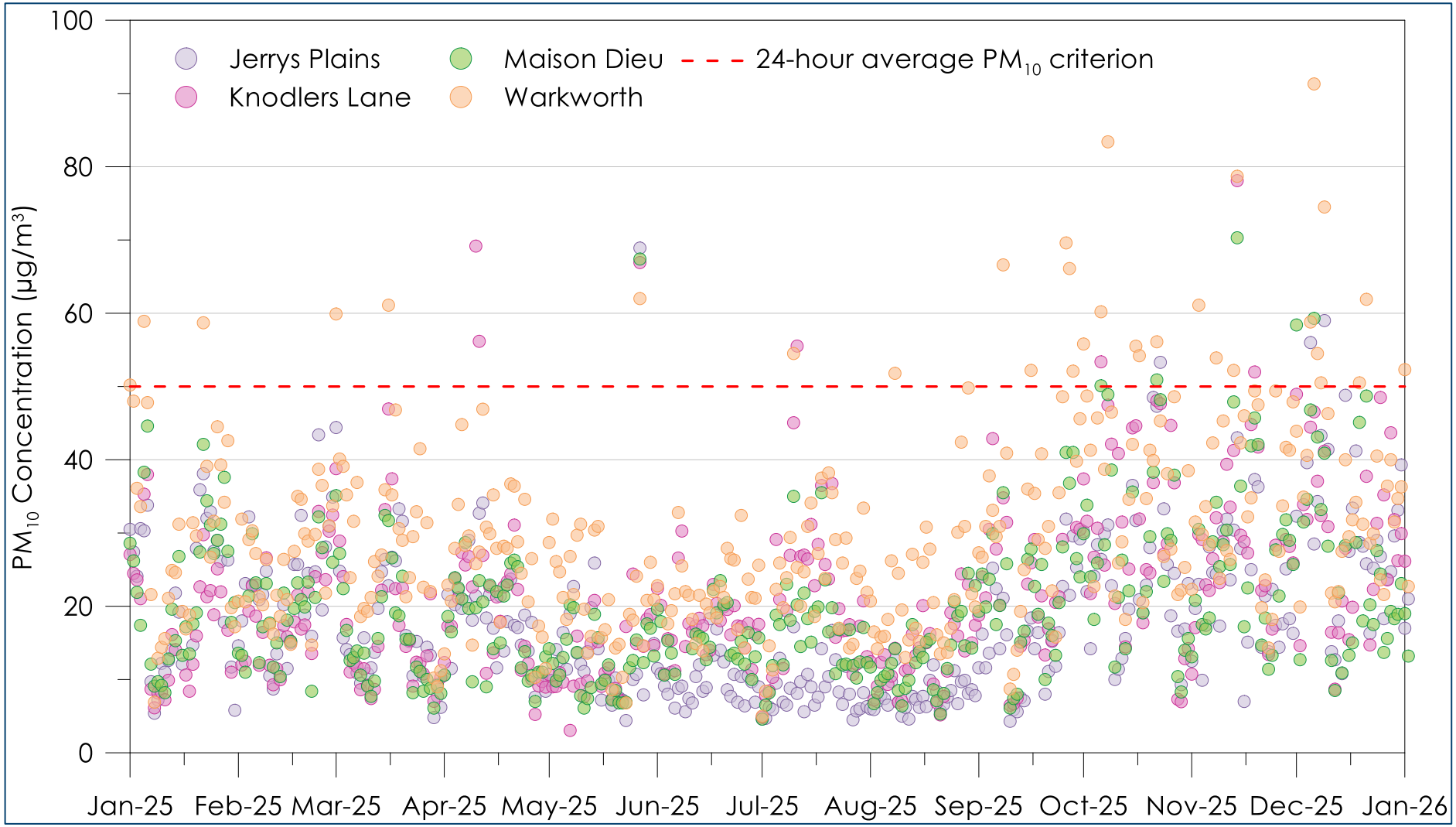


Figure 6-14: TEOM 24-hour Average Total PM_{10} Results 2025

6.4.3.5.2 | LONG TERM PM_{10} IMPACT ASSESSMENT CRITERIA

Annual average PM_{10} concentrations were calculated for both HVAS and TEOM monitors and assessed against the relevant criteria as per the AQGGMP. This was undertaken for TEOM monitors using hourly average data and was calculated for HVAS units using 24-hour average concentrations on each of the run days.

Annual average PM_{10} levels were above the impact assessment criteria at the Hunter Valley Gliding Club (HVAS) and Warkworth (TEOM) during the reporting period (refer to **Table** 6-14). These exceedances were investigated by a specialist consultant (see **Appendix A**). The investigation estimated maximum incremental contribution to PM_{10} level from HVO South to be a minor contribution to the overall result. There are no privately owned residences near the Warkworth or Glider Club monitors and HVO has a Concessions and Mitigation Agreement with the Gliding Club with respect to air quality levels when the facilities are in use. Refer to Section 2.6.1 of **Appendix A** for more information.

Table 6-14: 2025 PM_{10} Exceedance Investigation

Date	Site	Measured Annual Average PM10 Level (µg/m^3)	HVO Annual Average PM10 Criteria (µg/m^3)	Estimated HVO Maximum Contribution to PM_{10} Level (µg/m^3) from HVO South	Discussion
2025	Warkworth (TEOM)	29.6	25 (HVO South)	3.6	Investigated based on wind direction, site contribution not significant.
2025	Glider Club (HVAS)	35.0	25 (HVO South)	11.0	Investigated based on wind direction. Site contribution not significant.

A comparison of the long term PM_{10} impact assessment criterion and previous years' data are shown in **Figure 6-16**.

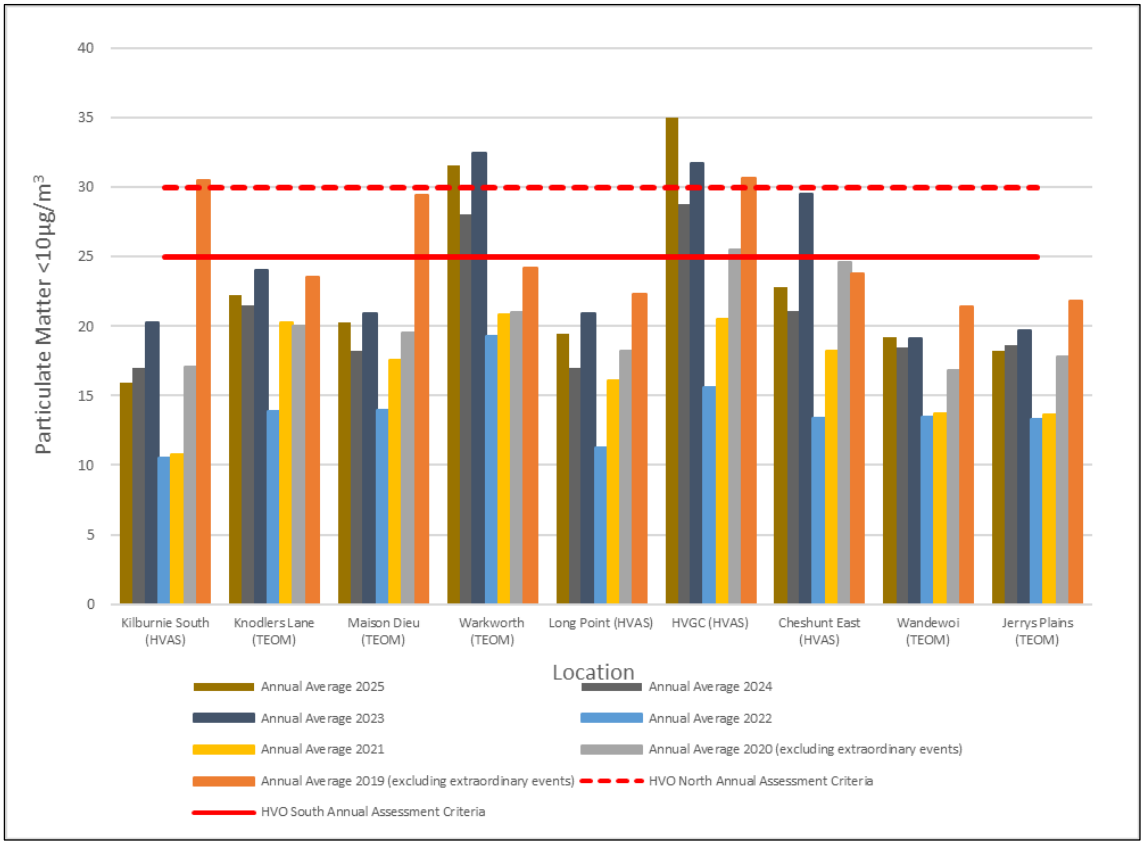


Figure 6-15: Annual Average HVAS PM10 Results 2019 to 2025

6.4.3.5.3 | $PM_{2.5}$ SHORT TERM IMPACT ASSESSMENT CRITERIA

$PM_{2.5}$ samples were collected at Maison Dieu and Kilburnie South using HVAS, and these results are provided in **Table** 6-15 and **Figure 6-17**.

All $PM_{2.5}$ measurements were able to be collected during the reporting period.

Results above criteria were recorded over 11 monitoring days during 2025. The results were investigated and HVO's contribution was assessed based on wind direction (**Table** 6-15). The investigations determined HVO South was below its incremental criteria for all results. As discussed in the Long-Term Impact section the $PM_{2.5}$ levels recorded appear to be anomalously high when compared to co-located PM_{10} monitor results.

Table 6-15: Short Term Impact Assessment Criteria – $PM_{2.5}$ Results 2025

Date	Site	Measured 24-Hour Average $PM_{2.5}$ Level ($\mu g/m^3$)	HVO South 24-Hour Average $PM_{2.5}$ Incremental Criteria ($\mu g/m^3$)	Estimated HVO South Contribution to $PM_{2.5}$ Level ($\mu g/m^3$)	Discussion
6/01/2025	Kilburnie South	25.8	25	0.9	Investigated based on wind direction and background, site contribution below criteria
6/01/2025	Maison Dieu	36.5	25	17.7	Investigated based on wind direction and background, site contribution below criteria
27/09/2025	Maison Dieu	26.8	25	14.1	Investigated based on wind direction and background, site contribution below criteria
9/10/2025	Maison Dieu	31.9	25	16.4	Investigated based on wind direction and background, site contribution below criteria
15/10/2025	Maison Dieu	32.8	25	3.0	Investigated based on wind direction and background, site contribution below criteria
21/10/2025	Kilburnie South	25.1	25	1.1	Investigated based on wind direction and background, site contribution below criteria
8/11/2025	Maison Dieu	36.0	25	10.5	Investigated based on wind direction and background, site contribution below criteria
14/11/2025	Maison Dieu	61.1	25	3.8	Investigated based on wind direction and background, site contribution below criteria
14/11/2025	Kilburnie South	34.2	25	0.2	Investigated based on wind direction and background, site contribution below criteria

Date	Site	Measured 24-Hour Average $PM_{2.5}$ Level ($\mu g/m^3$)	HVO South 24-Hour Average $PM_{2.5}$ Incremental Criteria ($\mu g/m^3$)	Estimated HVO South Contribution to $PM_{2.5}$ Level ($\mu g/m^3$)	Discussion
20/11/2025	Maison Dieu	42.6	25	8.0	Investigated based on wind direction and background, site contribution below criteria
26/11/2025	Maison Dieu	28.3	25	7.1	Investigated based on wind direction and background, site contribution below criteria
8/12/2025	Kilburnie South	34.2	25	0.2	Investigated based on wind direction and background, site contribution below criteria
8/12/2025	Maison Dieu	32.9	25	2.3	Investigated based on wind direction and background, site contribution below criteria
20/12/2025	Kilburnie South	39.3	25	2.7	Investigated based on wind direction and background, site contribution below criteria

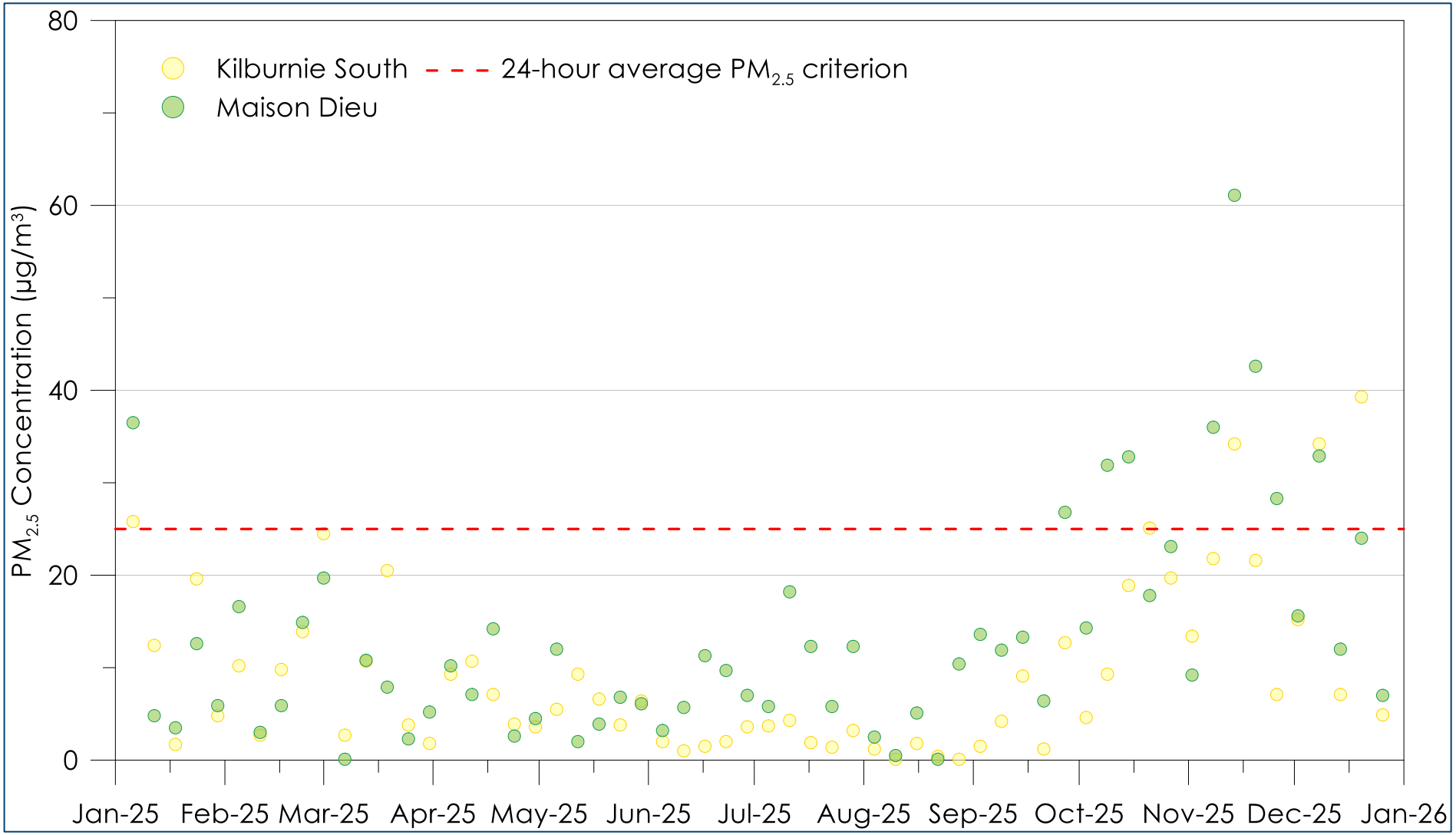


Figure 6-16: 24-hour Average $PM_{2.5}$ Results 2025

6.4.3.5.4 | PARTICULATE MATTER <2.5µM ($PM_{2.5}$) – LONG TERM (ANNUAL AVERAGE) IMPACT ASSESSMENT CRITERIA

Annual average $PM_{2.5}$ was above the annual average criteria of 8 µg/m^3 at both locations for the reporting period (**Table** 6-16**)**. While HVO's contribution is not calculated to be significant, the elevated total levels are considered to be anomalously high and are not consistent with other regional $PM_{2.5}$ monitors or expected ratios of co-located $PM_{2.5}$ monitors. $PM_{2.5}$ levels recorded have been investigated throughout the year, including:

- Monitoring locations have been inspected multiple times to identify any significant local $PM_{2.5}$ sources, with none identified.
- Calculation of PM_{10}:$PM_{2.5}$ ratios for monitoring equipment for co-located units (as shown in **Table** 6-17). The ratio in the Hunter Valley is typically 0.3 to 0.4. Ratios measured at HVO range from 0.40 to 0.78.
- Comparison to levels recorded by EBAMs installed in March 2023.

It is believed that the source of the high readings is due to the high-volume air sampler monitoring method. HVO engaged an air quality consultant to review the air quality monitoring network. The review recommended the implementation of real-time $PM_{2.5}$ monitoring at Maison Dieu and Kilburnie South. During March 2023, HVO installed Environmental Beta Attenuation Mass Monitors (EBAMs) which is an equivalent type to that used in the EPA's Upper Hunter Air Quality Monitoring Network. The use of the EBAMs is pending DPHI approval of the AQ Management Plan. The aim of these monitors is to determine the potential contribution of HVO South to annual average $PM_{2.5}$ levels recorded at HVO HVAS monitors. Given that the results recorded at the Maison Dieu and Kilburnie South HVAS monitors appears to be implausibly high, monitoring data at these locations have been used in order to estimate HVO South's increment to the recorded levels.

HVO South contributions to the EBAM monitors were estimated on an hourly basis for HVAS run days. The hourly contributions were estimated as the concentrations recorded at each monitor minus the estimated background level. The hourly contributions were then averaged for each 24-hour period to determine the 24-hour contributions from HVO South. The percentage contribution of the total level recorded at the EBAM monitors was applied to the HVAS monitoring results for 2025 to determine the potential contribution from HVO South to the monitors. The two EBAM monitors at Maison Dieu and Kilburnie South recorded an average of 4.8µg/m^3 and 5.0 µg/m^3 respectively. Further information is presented in Section 3.4.1 of **Appendix A**.

Table 6-16: $PM_{2.5}$ Annual Average Monitoring Data 2025

Monitoring Location	HVO South Annual Average $PM_{2.5}$ Criteria (µg/m^3)	Measured Annual Average $PM_{2.5}$ Level (µg/m^3)	Estimated Contribution to Annual Average $PM_{2.5}$ Level (µg/m^3)
Maison Dieu	8	13.2	1.4
Kilburnie South	8	9.4	0.1

Table 6-17: Annual $PM_{2.5}$ / PM_{10} Ratios in Upper Hunter

Year	$PM_{2.5}$ / PM_{10} Ratios					
	Muswellbrook	Singleton	Camberwell	Merriwa	Maison Dieu	Kilburnie South
2015	0.46	0.39	0.33	*	*	*
2016	0.44	0.41	0.31	*	*	*
2017	0.43	0.39	0.27	*	*	*
2018	0.35	0.34	0.27	*	*	*
2019	0.35	0.36	0.26	*	*	*
2020	0.41	0.41	0.31	*	0.63	0.78
2021	0.41	0.37	0.30	0.38	0.48	0.54
2022	0.39	0.36	0.32	0.31	0.40	0.57
2023	0.35	0.37	0.30	0.34	0.43	0.62
2024	0.41	0.44	0.33	0.34	0.50	0.47
2025	0.35	0.37	0.28	0.34	0.54	0.58

* Monitoring locations were not in place during this year

$PM_{2.5}$ levels measured at the Maison Dieu and Kilburnie South HVAS units were higher than UHAQMN annual average $PM_{2.5}$ results in comparable locations, as shown in **Table** 6-18.

Table 6-18: UHAQMN Annual Average $PM_{2.5}$ Results for 2025

UHAQMN Monitor	Measured Annual Average 2025 $PM_{2.5}$ Level ($\mu g/m^3$)
Muswellbrook	6.7
Singleton	6.7
Camberwell	5.5
Merriwa	4.4

6.4.4 | COMPARISON AGAINST EA PREDICTIONS

Table 6-19 and **Table** 6-20 show a comparison between 2025 air quality data and the Stage 3 predictions made in the HVO South Modification 5 EIS. Comparisons have been made against the predictions listed in the EA for the nearest private residence to each monitoring location.

PM_{10} measurements in 2025 were similar to or below predicted levels for all monitoring locations for both short term (24-hour average) and long term (annual average) criteria as shown in **Table** 6-14. Annual average TSP measurements in 2025 were below predicted levels for all monitoring locations aside from Warkworth and Knodlers Lane. These results are discussed in **Section 6.4.3.4**.

*Table 6-19: HVO South PM_{10} Annual Average Results Compared Against Cumulative Predictions^*

Site (EA Receptor)	Short Term (24hr) Criteria		Long Term (Annual Average) Criteria	
	Predicted Maximum 24hr PM_{10} Due to HVO South Alone ($\mu g/m^3$) Stage 3	2025 Maximum 24hr PM_{10} HVO Contribution ($\mu g/m^3$)	Predicted PM_{10} Annual Averages ($\mu g/m^3$) Stage 3	2025 PM_{10} Annual Average ($\mu g/m^3$)
Maison Dieu (256)	36	35.8	21.1	19.9
Warkworth (90)	79	45.5	46.3	29.6
Kilburnie South (307)	22	29.8	26.7	15.9
Knodlers Lane (117)	58	43.0	28.6	21.2
Long Point (137)	37	53.4	17.7	19.4
Hunter Valley Gliding Club***	>50	19.7	>50	35.0

^ Cumulative predictions for Stage 2 of the HVO South Mod 5 Environmental Assessment.

*** The HVGC has entered into a Concessions and Mitigation Agreement with Hunter Valley Operations.

*Table 6-20: HVO South TSP Annual Average Results Compared Against Cumulative Predictions^*

Site (EA Receptor)	Long Term (Annual Average) TSP Criteria	
	Stage 2 Prediction ($\mu g/m^3$)	2025 PM_{10} Annual Average ($\mu g/m^3$)
Maison Dieu (256)	60	56.7
Warkworth (90)	106	130.3
Kilburnie South (307)	76	54.5
Knodlers Lane (117)	75	90.4
Long Point (137)	61	58.9

^ Cumulative predictions for Stage 2 of the HVO South Mod 5 Environmental Assessment.

Table 6-21 and **Table** 6-22 detail comparisons between 2025 air quality monitoring results and the modelled predictions from the 2010 HVO North Carrington West Wing Air Quality Impact Assessment. Predictions have been sourced from modelled scenarios of Year Five of the Carrington West Wing development. It should be noted that while Approval has been granted for the commencement of that project, works have not yet commenced.

Annual average PM_{10} levels for 2025 were above the predicted annual average presented in **Table** 6-21 however HVO estimated contributions (North and South) to these were low. Annual average TSP levels were also above predicted levels (**Table** 6-22). HVO contribution to these has been estimated (**Appendix A**) to be low and not considered to be the primary cause of the elevated levels.

*Table 6-21: HVO North 2025 PM_{10} Annual Average Results Compared Against Cumulative Predictions^*

Site (EA Receptor)	Long Term (Annual Average) Criteria			
	Predicted PM_{10} Annual Average (µg/m³)	2025 PM_{10} Annual Average (µg/m³)	HVO North Estimated Contribution to 2025 PM_{10} Annual Average (µg/m³)	HVO South Estimated Contribution to 2025 PM_{10} Annual Average (µg/m³)
Maison Dieu (6)	21.1	19.9	*	1.0
Warkworth (39)	46.3	29.6	*	3.6
Kilburnie South (4)	26.7	15.9	6.2	1.9
Jerrys Plains (13)	13.4	17.7	0.5	1.3
Cheshunt East (7)	29.3	22.5	6.2	*

^ Cumulative predictions for Year Five (CWW) of the HVO North Environmental Assessment.

* no relevant criteria for this location under the consent

*Table 6-22: HVO North 2025 TSP Annual Average Results Compared Against Cumulative Predictions^*

Site (EA Receptor)	Long Term (Annual Average) Criteria		HVO TSP Contribution (µg/m³)
	Predicted TSP Annual Average (µg/m³)	2025 TSP Annual Average (µg/m³)	
Maison Dieu (6)#	43.7	56.7	3.0 (HVO South)
Warkworth (39) #	46.3	130.3	18.6 (HVO South)
Kilburnie South (4)	44.9	54.5	1.7 (HVO North) 9.1 (HVO South)
Cheshunt East (7)	44.5	70.8	16.9 (HVO North) 2.4 (HVO South)

^ Cumulative predictions for Year Five (CWW) of the HVO North Environmental Assessment.

Being upwind of HVO South, separate HVO North contribution was not calculated.

6.5 | GREENHOUSE GAS AND ENERGY MANAGEMENT

6.5.1 | REPORTED GREENHOUSE GAS EMISSIONS

The National Greenhouse Gas and Energy Reporting (NGER) Scheme, established by the NGER Act, provides a national framework for reporting and disseminating company information about greenhouse gas emissions, energy production, energy consumption and other information specified under NGER legislation.

There are two thresholds that determine whether a company has a requirement to report under the NGER Act, facility, and corporate thresholds. HVO as a facility exceeds the 25kt CO_2-e threshold and is therefore required to submit annual NGER reports to the Clean Energy Regulator (CER). HVO undertakes monitoring, reporting and auditing requirements in accordance with its NGER obligations.

As HVO is also a Commonwealth Safeguard facility and Scope 1 emissions data from HVO will be published by the CER on their website on an annual basis.

In April each year, the CER publishes information relating to the Safeguard Mechanism for the previous financial year[1]. This includes information about each Safeguard facility:

- Safeguard outcomes, including progress towards the Commonwealth's emissions reductions commitments
- Baselines and emissions
- Multi-year monitoring periods
- Trade-exposed baseline-adjusted facilities
- Emissions-intensity determinations
- NGER method data.

The above requirements of the NGER Scheme and Commonwealth Safeguard Mechanism form the monitoring, reporting, auditing, and publishing performance measures for HVO as documented in the site Greenhouse Gas Mitigation Strategy (HVO, 2025). This Strategy also outlines various mitigation measures for emissions reduction over time.

Table 6-23 contains the Scope 1 (direct emissions from the mining activities during the year), and Scope 2 emissions (electricity consumption by the mine during the year)

Table 6-23: Greenhouse Gas Emissions 2025

Emissions	NGERS Reported Emissions (tonnes CO_2e-)			
	FY22	FY23	FY24	FY25
Scope 1	577,874	456,690	637,147	670,583
Scope 2	93,865	61,585	58,720	63,884
Total Scope 1 & Scope 2	671,739	518,275	695,867	734,467

[1] Data from the Clean Energy Regulator is available at https://cer.gov.au/markets/reports-and-data/safeguard-data

6.6 | WASTE AND HAZARDOUS MATERIALS

6.6.1 | RECYCLING

HVO has continued reinforcing the principles of effective waste management across the site, including recycling.

During the reporting period, 13% of non-mineral waste material generated at HVO was disposed of in licensed offsite landfill facilities and 87% of waste was recycled. This is a similar result to 2024.

A total of 6,245 tonnes of waste was removed from site during the reporting period. The high recycling rates are influenced by the recycling of effluent (3,322 tonnes), waste oil (1,491 tonnes) and scrap steel (988 tonnes).

6.6.2 | SEWAGE TREATMENT/DISPOSAL

The sewage treatment and disposal facilities at HVO consist of sewage treatment plants which treat, disinfect and re-use the treated effluent on-site where practicable. The remaining effluent from some septic systems that is unable to be treated on site is sent to approved facilities for disposal.

HVO currently operates 3 main grouped on-site sewage management facilities that are interconnected from multiple systems. These facilities are located at Howick, HVO North and HVO South. Design works continued towards upgrade of these systems.

6.6.3 | HYDROCARBONS

A total of 1,621 kL of waste oil was taken offsite to be refined into a base oil for reuse in new oil products during the reporting period. Other hydrocarbons recycled via a licenced waste hydrocarbon disposal contractor include approximately 12.21 tonnes of waste grease.

6.6.4 | CONTAMINATED SOIL

HVO operates and maintains two bioremediation areas to manage hydrocarbon contaminated soil.

Contaminated soil is taken to one of the bioremediation areas and placed in cells based on the time of contamination. Contaminated soil is spread out in beds approximately 300 mm in height and turned to provide aeration for beneficial microbial activity.

Soil in the treatment area is sampled and tested as required until total hydrocarbon levels are below relevant guidelines. Soil meeting these criteria is then removed and disposed of in the spoil dump.

6.6.5 | ACID ROCK DRAINAGE

There were no observed issues relating to Acid Rock Drainage during 2025. The Geochemical Monitoring Programme was reviewed during the reporting period, and this will be implemented from 2025.

6.6.6 | BUILDING DEMOLITION

No building demolition was conducted during 2025 in the HVO operational area.

6.6.7 | WASTE/HAZARDOUS MATERIALS NON-COMPLIANCES

There were no externally reportable incidents related to waste or hazardous material management during the reporting period.

6.7 | HERITAGE

6.7.1 | ABORIGINAL CULTURAL HERITAGE MANAGEMENT AND COMMUNITY CONSULTATION

Aboriginal cultural heritage is managed under the provisions of separate Aboriginal Cultural Heritage Management Plans (ACHMPs) approved for each consent. At HVO North, where mining or associated development activities may impact Aboriginal cultural heritage sites, an Aboriginal Heritage Impact Permit (AHIP) must also be sought from Heritage New South Wales (formerly Office of Environment and Heritage) under Part 6 of the National Parks and Wildlife Act 1974 (NPW Act), on the basis of the management requirements established through the ACHMP process.

The HVO South ACHMP area was approved as a State Significant Development which excludes the requirement for obtaining AHIPs prior to implementing cultural heritage management measures authorised under the provisions of the ACHMP.

HVO consults with the Hunter Valley Operations Cultural Heritage Working Group (CHWG) which is comprised of representatives from HVO and Registered Aboriginal Parties (RAPs) from upper Hunter Valley aboriginal community groups, corporations and individuals. The CHWG met and discussed cultural heritage management matters associated with HVO at one meeting during 2025, conducted on 17 September.

Aboriginal cultural heritage at HVO is managed in consultation with the RAPs associated with the CHWG, in accordance with the ACHMPs, and development consent conditions, to protect, manage and mitigate cultural heritage at HVO. Management measures include:

- Ongoing consultation and involvement of the local Aboriginal community in all matters pertaining to Aboriginal cultural heritage management;
- Compliance with existing ACHMP's and Development Consent conditions;
- A cultural heritage Geographic Information System (GIS) and Cultural Heritage Zone Plan (CHZP) incorporating cultural heritage spatial and spatial data (site location, description, assessments, date recorded, associated reports, management provisions and various other details to assist with the management of sites);
- A Ground Disturbance Permit (GDP) system for the assessment and approval of ground disturbing activities to ensure these activities do not disturb cultural heritage places;
- Limit of Disturbance Boundary (LODB) procedures to demarcate approved disturbance areas and delineate areas not to be disturbed;
- Ongoing cultural heritage site inspections, monitoring and auditing along with regular compliance inspections of development works;
- Protective management measures such as fencing/barricading sites to avoid disturbance, protective buffer zones, cultural heritage off-set areas; and
- Communicating cultural heritage issues and site awareness to personnel via internal electronic and face to face processes.

In consultation with the CHWG and Heritage NSW, a Cultural Heritage Storage Facility (CHSF) was established at the Hunter Valley Services complex. The CHSF is a storage shed, with an adjacent shipping container, fitted out to allow safe and secure storage of cultural materials such as stone artefacts. It is a central repository for all materials collected during community collection and salvage activities on all lands related to HVO (including offset properties). The facility is in accordance with Care Agreement C0001890.

6.7.2 | ABORIGINAL ARCHAEOLOGICAL AND CULTURAL HERITAGE INVESTIGATIONS

The Mitchell Pit South AHIP (AHIP 5350) application was issued to HVO on 23 December 2024. Salvage works associated with the AHIP were carried out between 21 and 31 January 2025. In summary, these and other administration works, comprised:

- Salvage of twenty (20) sites consisting of stone artefact sites;
    - Salvage collection consisting of surface as well as subsurface investigations;
    - No unexpected finds or human remains were found;
- Aboriginal Site Impact Recording Form (ASIRFs), including photographs of all sites and artefacts completed in the field;
- Storage of salvaged artefacts in the HVO Cultural Heritage Storage Facility under Care Agreement C0004768; and
- Preparation of harm report and submission to Heritage NSW.

The work was conducted by three RAP representatives of the CHWG, a suitably qualified and experienced archaeologist (Arrow Heritage Solutions) and HVO personnel.

Due diligence assessments for the presence / absence of Aboriginal cultural heritages sites / artefacts within proposed GDP work areas were referred to Arrow Heritage Solutions at various times throughout 2025. These assessments were undertaken by Arrow Heritage Solutions in the field and/or via desktop investigation depending upon significance.

A chance find investigation was undertaken by Arrow Heritage Solutions upon a silcrete fragment identified by HVO employees southeast of Parnell's Dam on 5 March 2025. The investigation was undertaken in person at the location of the find. The investigation concluded that the find was not of Aboriginal origin based on the previous disturbance at the site – formally mined land – and lack of distinguishing artefact features. The silcrete fragment was removed from the site to ensure the same mis-identification in the future.

During 2025, consultation with Registered Aboriginal Parties (RAPs) associated with the HVO Continuation Project (HVO South (SSD1186621) and HVO North (SSD 11826681) continued in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010). A summary of the primary consultation activities completed during the 2025 included:

- Notification of Approval of HVO North Modification 8 via email on 28 April;
- HVO Operations newsletter via email on 30 April; and
- HVO Continuation Project Amendment Report update and notification of public exhibition letter via post on 15 September

Consultation with Project RAPs will remain ongoing throughout 2026 as the HVO Continuation Project progresses.

6.7.3 | HERITAGE AUDITS

Under the provisions of the HVO South Aboriginal Cultural Heritage Management Plan (HVO South ACHMP), two compliance inspections were conducted between 11 – 15 July and on 18 November 2025. One compliance inspection was conducted during July 2025 under the provisions of the HVO North Heritage Management Plan (HVO North ACHMP). The purpose of the compliance inspections is to provide / allow RAPs:

- The opportunity to visit mine operations and mine areas to inspect operational compliance with ACHMP/HMP provisions and GDP procedures;
- To inspect and monitor the condition and management of sites; and
- To review the effectiveness and performance of the ACHMP / HMP provisions in the management of cultural heritage at the mine.

These compliance inspections were conducted by RAP representatives of the CHWG with the assistance of a qualified archaeologist (Arrow heritage Solutions) and HVO personnel.

The annual HVO South and HVO North compliance inspection was conducted by two RAP representatives of the CHWG, a suitably qualified and experienced archaeologist (Joel Deacon of Arrow Heritage Solutions) and HVO personnel. During the HVO South portion of the compliance inspection, a total of twenty-three (23) Aboriginal cultural heritage sites were inspected in Riverview, Cheshunt and Lemington Southpark areas. During the HVO North portion of the compliance inspection, a total of eighty-three (83) Aboriginal cultural heritage sites were assessed including Mitchell Pit, Wandewoi and north-western areas of Howick and CM-CD-1. The findings and recommendations of these inspections are documented in the '*Hunter Valley Operations Aboriginal Heritage Management Plans July 2025 Compliance Audit Inspections'* report.

The biannual HVO South compliance inspection was conducted on 18 November 2025 by three RAP representatives of the CHWG, a suitably qualified and experienced archaeologist (Joel Deacon of Arrow Heritage Solutions) and HVO personnel. A total of forty-two (42) Aboriginal cultural heritage sites were inspected focusing on locations along the Hunter River terrace at Greenleek and Lemington Southpark properties. The findings and recommendations of these inspections are documented in the '*Hunter Valley Operations* South Aboriginal Heritage Management Plan November 2025 Compliance Audit Inspection' report.

It is noted that areas are not active mining areas, but rather, adjacent to active mining, infrastructure or utilisation by third party rural licensees for grazing, etc. Sites were selected based on the amount of time since their previous inspection as well as proximity / likelihood of disturbance.

The inspections found that all sites have been managed in conformance with the ACHMP/HMP requirements. The report generally recommends:

- Several sites be barricaded to reduce the risk of disturbance; and
- 'Heritage Site' signage be erected in several locations to reduce the risk of disturbance.

Barricade installation / upgrade and maintenance works to specific areas are proposed for 2026.

The CM-CD1 site report included reference to the 2024 cultural burn / weed control and feral animal (pig) control and the need for the continuation of such programmes to minimise disturbance to the area. It is planned for those programmes will continue during 2026. The report also recommends the installation of a 20m buffer exclusion (stock-proof) fence of which at the time of writing this fence has been completed

6.7.4 | HERITAGE INCIDENTS

HVO have a Ground Disturbance Permit (GDP) system in place to ensure all potential ground penetration works are assessed for the presence of Aboriginal cultural heritage sites and artefacts prior to commencement of proposed works. This assessment includes a desktop search of GIS and Cultural Heritage Zone Plan (CHZP) cultural heritage spatial data as well as an on-ground inspection of all proposed work areas. Where Aboriginal cultural heritage sites and/or artefacts are identified to be present, management requirements of those sites are put in place to prevent disturbance to the site/artefacts. For example, hard barricading and 'Heritage Site' signage. In addition, a 'chance find' proposal is provided for every proposed projects on the GDP stating:

> *Should any potential artefacts be identified during works, works must cease in proximity to the object and HVO environment and community cultural heritage officer contacted to assess mitigation measures*

There were thirty-three (33) GDP projects that were assessed for cultural heritage management considerations during 2025. There were no reported breaches of GDP conditions regarding Aboriginal culture heritage sites or artefacts.

There were no reported incidents or unauthorised disturbance caused to cultural heritage sites or the Cultural Heritage Storage Facility at HVO during 2025.

6.7.5 | HISTORIC HERITAGE – MANAGEMENT AND COMMUNITY CONSULTATION

Consultation was conducted during the Hunter Valley Operations Community Consultative Committee (CCC) Meetings held on 5 February, 7 May, 27 August and 5 November 2025. Topics discussed included:

- Finalisation and publication to the HVO website (www.hvo.com.au) of the HVO Historic Heritage Management Plan;
- Ongoing maintenance of the Cockatoo (Dog Leg) Fence Asset Protection Zone;
- Ongoing vegetation maintenance of European heritage sites; and
- Progress on HVOs Historic Homestead Project, including:
  - Completion of the Archerfield homestead Conservation Management Plan (CMP);
  - Progress works and completion of Wandewoi homestead parapet repairs; and
  - Planning and tender for the Archerfield homestead and Carrington Stud homestead repair works.

Conservation and maintenance repair works are planned for Archerfield and Carrington Stud homesteads during 2026 and 2027.

6.7.6 | HISTORIC HOMESTEADS

HVO has continued to execute its five-year Historic Homesteads Project during 2025. Commenced during 2022, the project aims to undertake repairs and improvements to Wandewoi, Archerfield and Carrington Stud homesteads, including several of their outbuilding. Progress to date has included:

- Appointment of a specialist heritage project management consultant (2022);
- Completion of survey and condition reports (2023);
- Preparation and completion of the Archerfield homestead CMP (2024);

- Completion of detailed budget and timing for the works identified in survey and condition reports (2024);
- Tender issued and awarded to complete Wandewoi homestead repairs (2024);
- Completion of Wandewoi homestead parapet repairs (2025);
- Tender issued and awarded to complete Archerfield and Carrington Stud homestead repairs (2025).

On-ground works are planned to continue upon Archerfield and Carrington Stud homesteads during 2026 and possibly 2027.

During the week of 15 December 2025, the roof on the stable at Chain of Ponds Inn dislodged during a windstorm. The sheet metal dislodged on the northern side of the roof, however the timber roof structure remained in place. The cause appears to have been broken, corroded screws holding the sheet metal in position. The roof was temporarily repaired using vinyl tarpaulins anchored to the ground on 20 December 2025 whilst a structural integrity assessment is undertaken and permanent solution developed in consultation with Singleton Council Heritage Officer and Heritage NSW as required. Following the publication of the structural integrity report, the roof will be permanently fixed during 2026 in accordance with its CMP.

6.7.7 | DERELICT RURAL BUILDINGS

HVO owns and manages multiple buffer properties surrounding its operational area. The majority of these properties are managed for agricultural and/or grazing purposes. Derelict rural buildings, such as hay sheds, storage sheds and silos, occur on several properties. These buildings vary in building materials, construction methods and are in various states of disrepair.

Demolition works undertaken upon derelict rural buildings during 2025 were limited to the demolition and removal of the former dairy sheds located on the Cheshunt Farm in Warkworth. The works were undertaken due to the unsafe natural of the timber framed structure and were undertaken by the HVO licensee at the property.

A priority list of other damaged and unsafe structures has been prepared and demolition works are proposed on several structures during 2026.

6.8 | BUSHFIRE MANAGEMENT

Bushfire management at HVO is undertaken in accordance with the HVO Bushfire Management Plan which has been approved by NSW RFS and Singleton Council. Bushfire management at HVO is split between operational and non-operational areas. Operational areas are the responsibility of the HVO infrastructure department, while non-operational areas are the responsibility of the HVO environment and community department. A summary of control and mitigation activities undertaken during 2025 is provided below.

6.8.1 | OPERATIONAL AREAS

Bushfire mitigation measures undertaken in operational areas in 2025 are detailed in **Table** 6-24.

Table 6-24: Bushfire Mitigation Measures Undertaken in Operational Areas

Task	Mitigation Measure	Completion Note
Inspect and maintain operational area fire trails and breaks	Vegetation and ignition sources	Completed as per maintenance strategy
Inspect, install and maintain signage for main intersections, and gates of firebreak trails	Administration – Signage	Completed as per maintenance strategy
Inspect and maintain areas surrounding administration buildings, workshops, crib huts and external roads	Vegetation and ignition sources	Completed as per maintenance strategy
Inspect and maintain areas around power poles, switch yards, transformers, air break switches, and substations	Vegetation and ignition sources	Completed as per maintenance strategy
Inspect and maintain areas around powerlines	Vegetation and ignition sources	Completed as per maintenance strategy
Inspect and maintain areas around CHPP and load points	Vegetation and ignition sources	Completed as per maintenance strategy
Inspect and maintain HC1 conveyor	Vegetation and ignition sources	Completed as per maintenance strategy
Inspect and maintain workshops	Vegetation and ignition sources	Completed as per maintenance strategy
Inspect and maintain water hydrant and pump function	Operational	Completed as per maintenance strategy
Report any instances of bushfire outbreak to supervisor / manager, or raise emergency alarm	Administration – reporting	No bushfire incidents recorded during 2025
Review Bushfire Management Plan including currency of information including maps, access routes	Administration – reporting / external consultation	Plan review and update complete. Plan endorsed by Hunter RFS (December) and Singleton Council (September) 2025
Bushfire reporting in the Annual Review, including any incidents and/or complaints	Administration – reporting	Complete – this report. No incidents or complaints received during 2025
Annual liaison with Rural Fire Service	Administration – reporting / external consultation	Face to face meeting held 20 August 2025 at RFS Singleton Control Centre (Bulga)

6.8.2 | NON-OPERATIONAL AREAS

Bushfire mitigation measures undertaken in non-operational areas in 2025 are detailed in **Table** 6-25.

Table 6-25: Bushfire Mitigation Measures Undertaken in Non-Operational Areas

Task	Completion Note
Report any instances of bushfire outbreak to supervisor / manager, or raise emergency alarm	No bushfire incidents recorded during 2025
Report any community complaints in relation to bushfire outbreak to supervisor / manager	No complaints recorded during 2025 regarding bushfire/s
Inspect and maintain non-operational fire trails and breaks	Inspection and maintenance of fire trails completed between August and November 2025
Inspect, install and maintain signage for gates or firebreak trails	Fire trail signage inspected and updated during November 2025
Review fuel loads and complete necessary reduction including areas adjacent to neighbouring properties	Fuel load inspection and review completed between August and November 2025

HVO did not conduct any hazard reduction and/or cultural burns during 2025 due to continuing wet conditions prior to the official bushfire season.. Hazard reduction activities will continue to be assessed for 2026.

6.8.3 | HVO BUSHFIRE MANAGEMENT PLAN REVIEW AND IMPROVEMENT

HVO reviewed and updated the Bushfire Management Plan during 2025. The draft Plan was provided to Singleton Council and NSW Rural Fire Service (Singleton Control Centre) and who endorsed the Plan during September and December 2025 respectively.

7 | WATER MANAGEMENT

HVO manages surface and ground water according to three main objectives:

- Fresh water usage is minimised.
- Impacts on the environment and HVO neighbours are minimised; and
- Interference to mining production is minimal.

This is achieved by:

- Minimising freshwater use from the Hunter River.
- Preferentially using mine water for coal preparation and dust suppression.
- Emphasis on control of water quality and quantity at the source.
- Segregating waters of different quality where practical.
- Recycling on-site water.
- Ongoing maintenance and review of the system; and
- Disposing of water to the environment in accordance with statutes and regulations.

Plans showing the layout of all water management structures and key pipelines are shown in **Figure** 7-1 to **Figure** 7-3. The HVO Water Management Plan contains further detail on management practices and is available on HVO website. Note that **Figure** 7-1 to **Figure** 7-3 are updated versions of plans presented in the currently approved *HVO Water Management* Plan and have been included in the revised version of the plan provided to DPHI for approval.

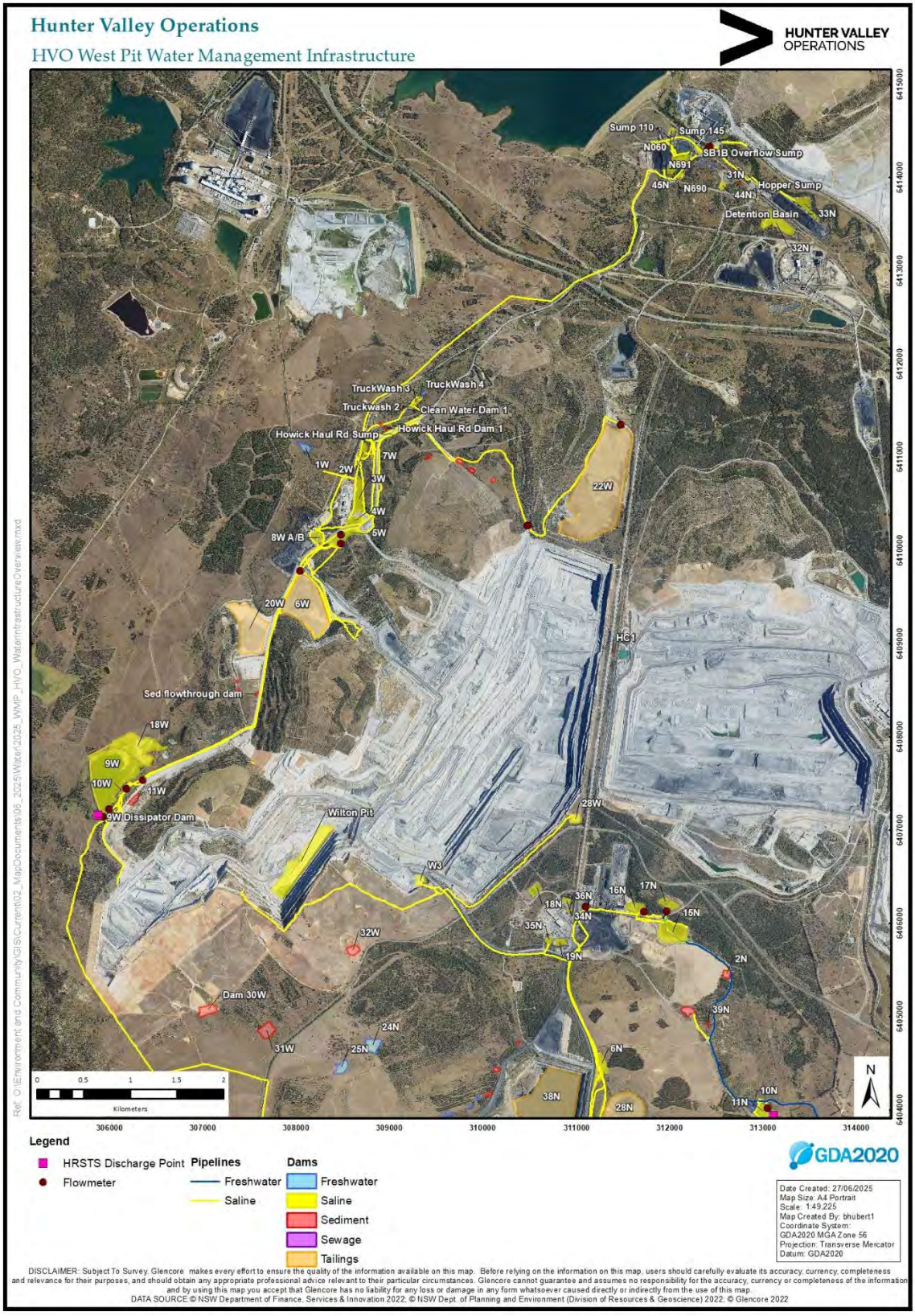


Figure 7-1: West Pit Water Management Infrastructure

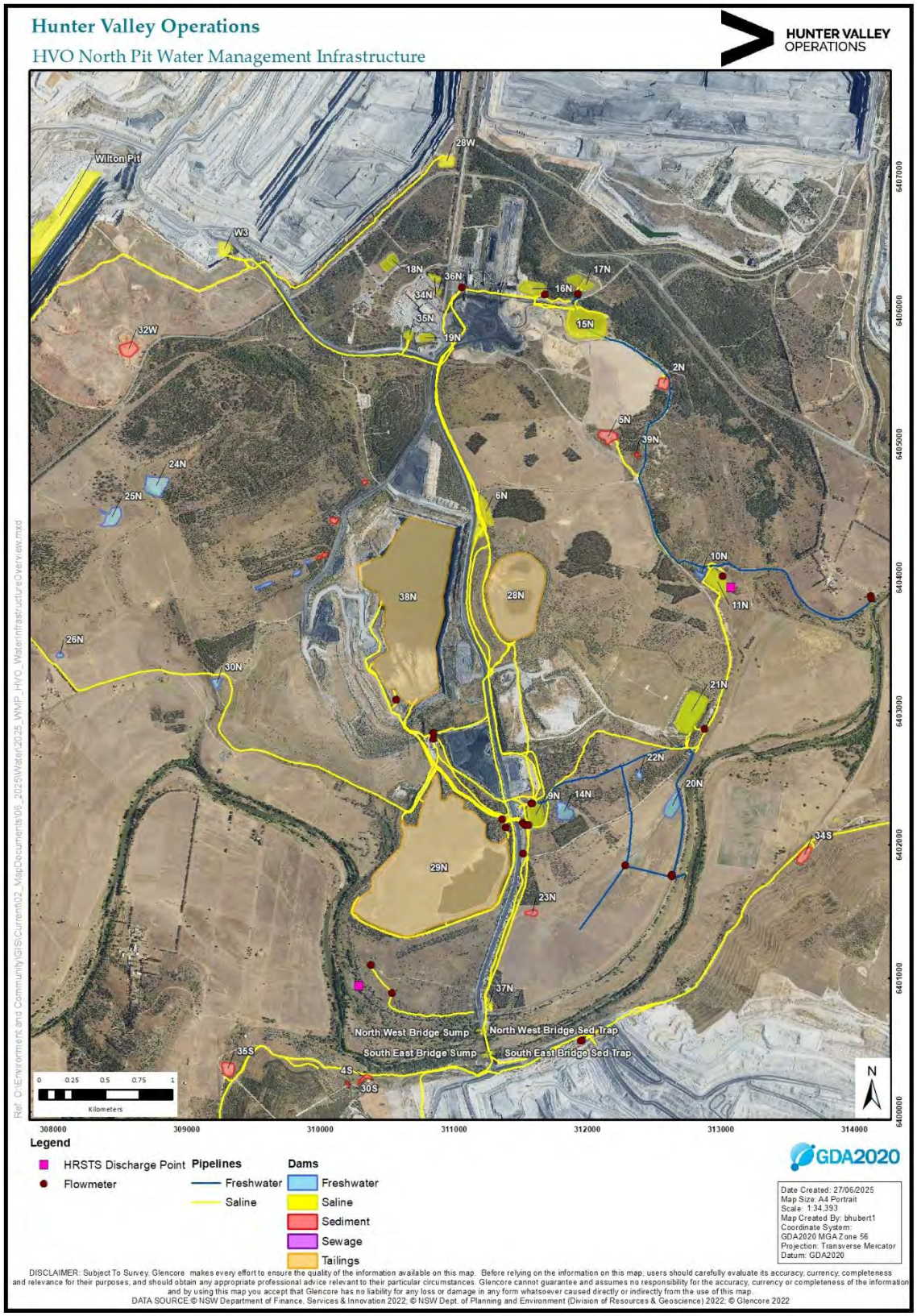


Figure 7-2: North Pit Water Management Infrastructure

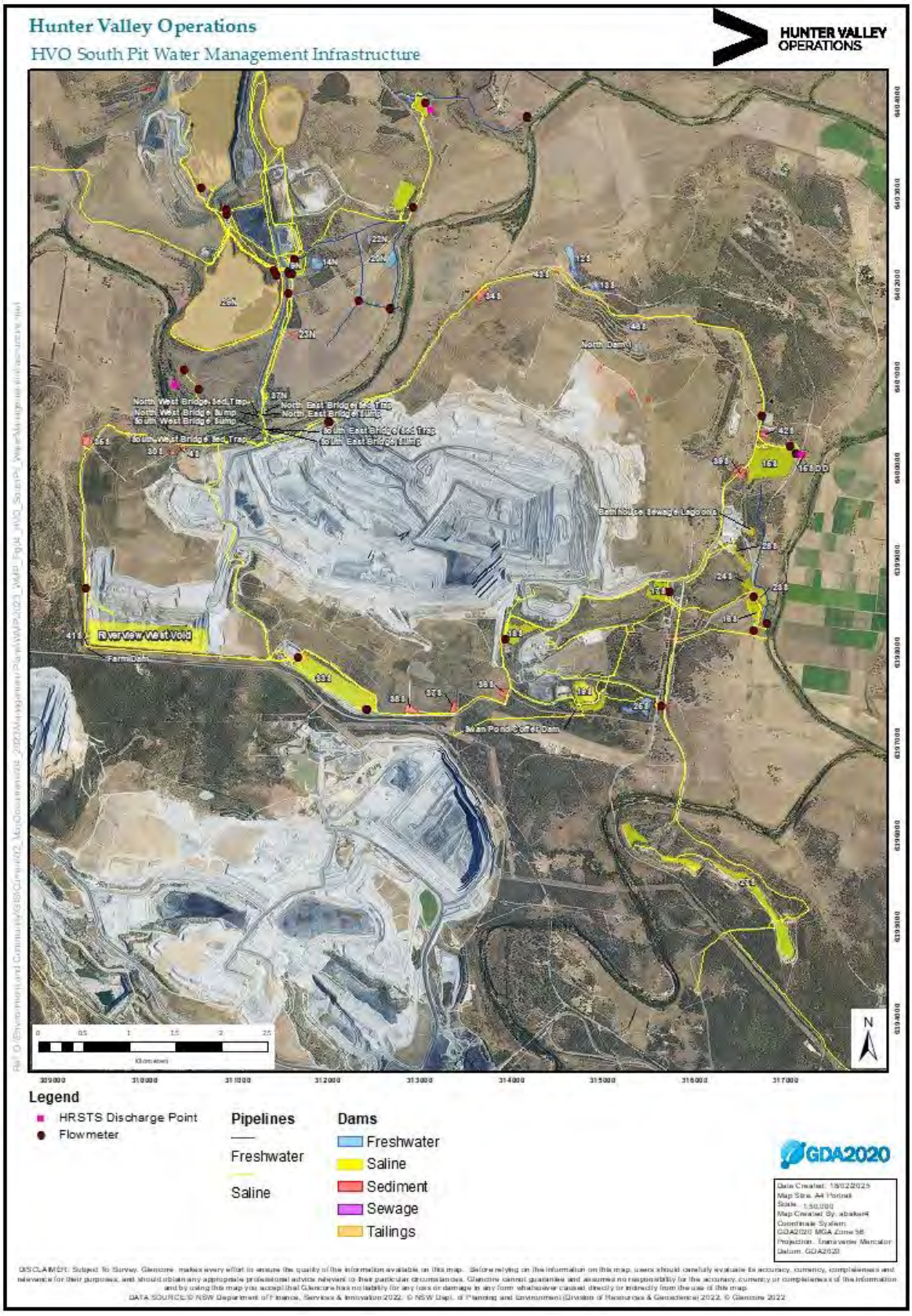


Figure 7-3: South Pit Water Management Infrastructure

7.1 | WATER BALANCE

The 2025 static water balance for HVO is presented in **Table** 7-1.

Table 7-1: 2025 Water Balance

Water Stream	Volume (ML)
Inputs	
Fresh Water (potable)	45 (0.4%)
Fresh Water (Hunter River extraction)	32 (0.3%)
Groundwater	1,879 (18.6%)
Rainfall Runoff	6,804 (67.4%)
Recycled to CHPP from Tails & Storage (not included in total)	4,222
Imported (Liddell/Ravensworth (via Cumnock))	22 (0.2%)
Water from ROM Coal	1,307 (13%)
Total Inputs	**10,090**
Outputs	
Dust Suppression	1,666 (17.7%)
Evaporation – Mine Water & Tailings Dams	1,833 (19.4%)
Entrained in Process Waste	2,273 (24.1%)
Discharged (HRSTS)	1,165 (12.3%)
Vehicle Wash-down	310 (3.3%)
Sent to Third Party	3 (0.0%)
Miscellaneous Industrial Use	350 (3.7%)
Water in Coarse Reject	671 (7.1%)
Water in Product Coal	1,168 (12.4%)
Total Outputs	**9,439**
Change in Pit Storage	651 (increase)

7.1.1 | WATER INPUTS

A total of 709.8 mm of rainfall was recorded at HVO in 2025 producing an estimated 6,804 ML of runoff. Water falling on undisturbed clean water catchments is diverted off site into natural systems where practicable.

Groundwater inflows to the pits are calculated via numerical groundwater modelling methods and were estimated to have contributed 1,879ML to the site during 2025 (**Table** 7-1). 32 ML of fresh water was extracted from the Hunter River during the reporting period.

7.1.2 | WATER OUTPUTS

The main outputs were water use for dust suppression (1,666 ML), evaporation from dams (1,833 ML), water entrained in process waste (2,273 ML) and water in product coal (1,168 ML).

HVO participates in the Hunter River Salinity Trading Scheme (HRSTS) allowing it to discharge from licensed discharge points during declared discharge events, associated with increased flow in the Hunter River. HVO maintains three licensed discharge monitoring locations:

- Dam 11N, located at HVO North, which discharges to Farrell's Creek.
- Lake James, located at HVO South, which discharges to the Hunter River; and
- Parnell's Dam, located at HVO West, which discharges to Parnell's Creek.

1,165 ML was discharged under the Hunter River Salinity Trading Scheme and Environment Protection Licence 640 during 2025.

7.2 | SURFACE WATER

Surface water monitoring activities continued in 2025 in accordance with the HVO WMP and HVO Surface Water Monitoring Program (SWMP). HVO maintains a network of surface water monitoring sites located on mine site dams, discharge points and surrounding natural watercourses (**Figure** 7-4). Water quality monitoring is undertaken to verify the effectiveness of the water management system onsite, and to identify the emergence of potentially adverse effects on surrounding watercourses. A number of mine water dams are monitored routinely to verify the quality of mine water. This water is used in coal processing, dust suppression, and other day to day activities around the mine.

Surface water monitoring data is reviewed on a quarterly basis. The review involves a comparison of measured pH, Electrical Conductivity (EC) and Total Suspended Solids (TSS) results against internal trigger values which have been derived from the historical data set. The response to measured monitoring levels outside the trigger limits is detailed in the HVO Monthly Environmental Monitoring Reports that can be found on the HVO website.

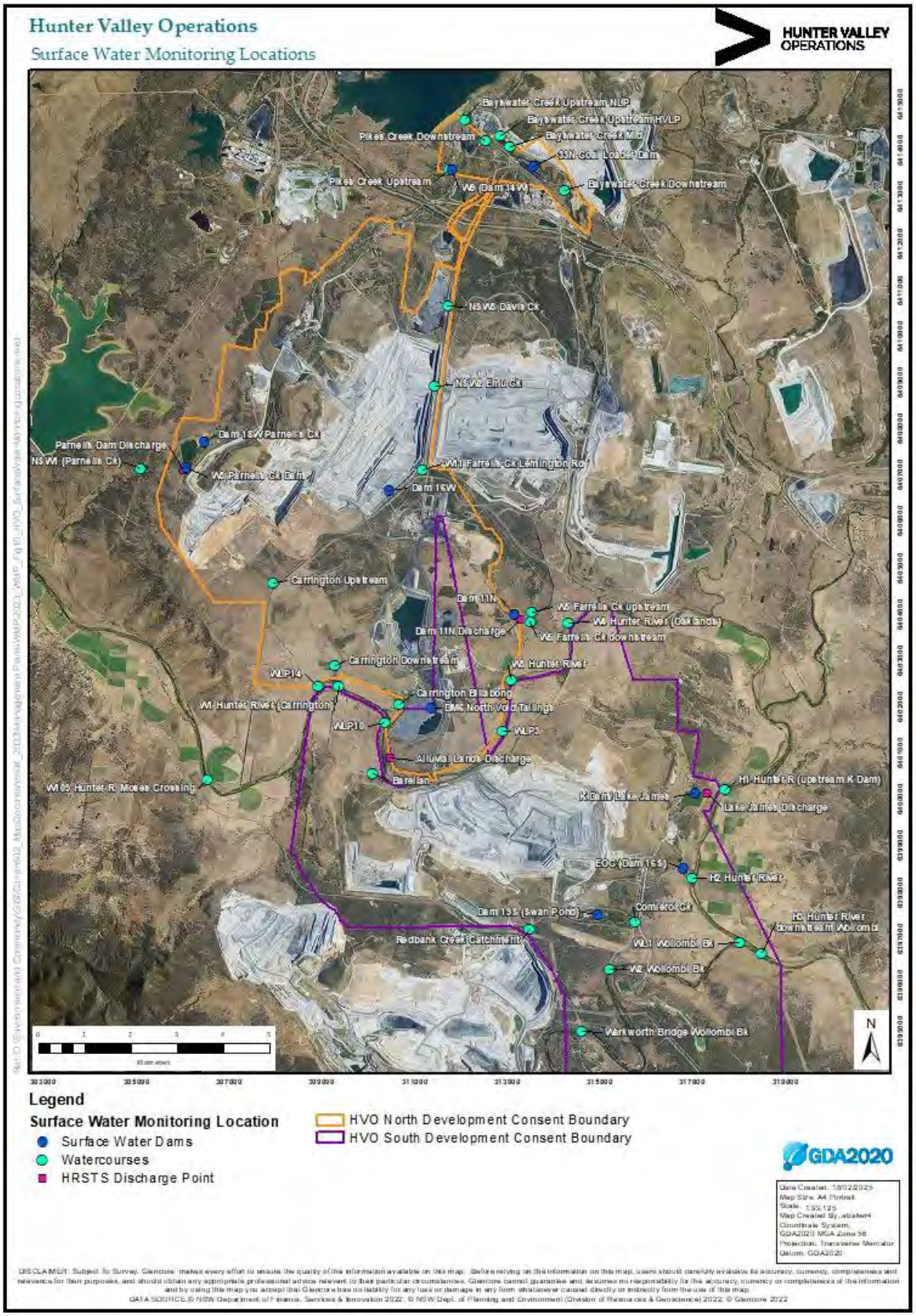


Figure 7-4: Surface Monitoring Locations

7.2.1 | SURFACE WATER MONITORING

Routine surface water monitoring was undertaken in 2025 in accordance with the HVO SWMP. All laboratory analysis of surface water was carried out in accordance with approved methods by a National Association of Testing Authorities (NATA) accredited laboratory.

Water quality is evaluated through the parameters of pH, EC and TSS. Pertinent surface water sites are also sampled for comprehensive analysis annually. Long term water quality trends for the Hunter River, Wollombi Brook, other surrounding tributaries, and site dams are also presented in this section. The sampling frequency for ephemeral water sites was modified in 2016, from quarterly to a rain-event trigger system, in an effort to ensure samples taken were more representative of typical water quality for those streams – up to eight sampling events per annum can now be taken under the revised sampling protocol.

7.2.1.1 | HUNTER RIVER

The Hunter River was sampled from eight monitoring locations during 2025. Long term trends for pH, EC and TSS are shown in **Figure** 7-5 to **Table** 7-7.

Trigger tracking results are detailed in **Table** 7-2.

Table 7-2: Hunter River Internal Trigger Exceedance Results

Location	Date	Trigger Limit	Action Taken in Response
H1 - Hunter River	13/03/2025	pH 7.9- 8.4	No investigation required - first trigger exceedance. No rainfall was received on the day of sampling (at either rain gauge), however, in the 9 days leading up to the sample 24.4 mm of rainfall was recorded for the Cheshunt gauge. Sample comments recorded "flow" conditions at the site. The lowered pH is likely to be attributed to the rainfall received prior to the sample period.
W4 - Hunter River	13/03/2025	pH 8 - 8.6	No investigation required - first trigger exceedance. No rainfall was received on the day of sampling (at either rain gauge), however, in the 9 days leading up to the sample 24.4 mm of rainfall was recorded for the Cheshunt gauge. Sample comments recorded "flow" conditions at the site. The lowered pH is likely to be attributable to the rainfall received prior to the sample period.
W1 - Hunter River (Carrington)	13/03/2025	pH 8 - 8.5	No investigation required - first trigger exceedance. No rainfall was received on the day of sampling (at either rain gauges), however, in the 9 days leading up to the sample 24.4 mm of rainfall was recorded for the Cheshunt gauge. Sample comments recorded "flow" conditions at the site. The lowered pH is likely to be attributable to the rainfall received prior to the sample period.
W109 - Hunter River	13/03/2025	pH 8 - 8.5	No investigation required - first trigger exceedance. No rainfall was received on the day of sampling (at either rain gauge), however, in the 9 days leading up to the sample 24.4 mm of rainfall was recorded for the Cheshunt gauge. Sample comments recorded "flow" conditions at the site. The lowered pH is likely to be attributable to the rainfall received prior to the sample period.

Location	Date	Trigger Limit	Action Taken in Response
W3 - Hunter River	13/03/2025	pH 8 - 8.5	No investigation required - first trigger exceedance. No rainfall was received on the day of sampling (at either rain gauge), however, in the 9 days leading up to the sample 24.4 mm of rainfall was recorded for the Cheshunt gauge. Sample comments recorded "flow" conditions at the site. The lowered pH is likely to be attributable to the rainfall received prior to the sample period.
H1 - Hunter River	13/03/2025	TSS 50	Investigation required - trigger exceedance. No rainfall was received on the day of sampling (at either rain gauge), however, in the 9 days leading up to the sample 24.4 mm of rainfall was recorded for the Cheshunt gauge. Sample comments recorded "flow" conditions and "suspended fines" at the site~~,~~ and it is considered that the elevated TSS result is a consequence of sediment entrainment in broader catchment runoff due to recent rainfall. Based on the observed field conditions and rainfall data, it is concluded that river levels at the time of sampling were elevated relative to typical baseflow conditions. While no rainfall occurred on the day of sampling, a total of 24.4 mm of rainfall was recorded at the Cheshunt gauge over the 9 days preceding the event. This recent rainfall likely contributed to increased catchment runoff, resulting in "flow" conditions and visible "suspended fines" at the sampling site, as noted in the field observations. These indicators, combined with the elevated Total Suspended Solids (TSS) result, support the assessment that higher-than-normal river levels were present due to sediment entrainment following rainfall-driven catchment response.
H1 - Hunter River	5/06/2025	pH 7.9 - 8.4	No rainfall was recorded on the day of monitoring and only <2mm of rainfall was recorded the day prior at both the Cheshunt and Corporate gauges. A review of the historical data set for H1 (2011 - 2025) indicates that the pH result of 7.7 is above the minimum recorded result of 7.5 and given the result is within the ANZECC 2000 lowland rivers trigger value range for south east Australia, no further investigation is considered to be warranted at this stage.
W1 - Hunter River (Carrington)	5/06/2025	pH 8.0-8.5	No rainfall was recorded on the day of monitoring and only <2mm of rainfall was recorded the day prior at both the Cheshunt and Corporate gauges. A review of the historical data set for W1 (2011 - 2025) indicates that the pH result of 7.9 is above the minimum recorded result of 7.8 and given the result is within the ANZECC 2000 lowland rivers trigger value range for south east Australia, no further investigation is considered to be warranted at this stage.
W109 - Hunter River	5/06/2025	pH 8.0- 8.5	No rainfall was recorded on the day of monitoring and only <2mm of rainfall was recorded the day prior at both the Cheshunt and Corporate gauges. A review of the historical data set for W109 (2011 - 2025) indicates that the pH result of 7.9 is above the minimum recorded result of 7.8 and given the result is within the ANZECC 2000 lowland rivers trigger value range for south east Australia, no further investigation is considered to be warranted at this stage.
W4 - Hunter River	5/06/2025	pH 8 - 8.6	No rainfall was recorded on the day of monitoring and only <2mm of rainfall was recorded the day prior at both the Cheshunt and Corporate gauges. A review of the historical data set for W4 (2011 - 2025) indicates that the pH result of 7.7 is above the minimum recorded result of 7.8 and given the result is within the ANZECC 2000 lowland rivers trigger value range for south east Australia, no further investigation is considered to be warranted at this stage.

Location	Date	Trigger Limit	Action Taken in Response
H3 - Hunter River	20/10/2025	EC 890	No rainfall was received on the day of sampling, however, three days prior (17/10/2025) a daily rainfall of 30.2mm was recorded at the Cheshunt gauge and 12.8mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. A review of the historical data set for H3 - Hunter River (1999 - 2025) indicates that the EC result of 1,022 µS/cm is below the maximum recorded result of 1,490 µS/cm (inclusive of lab/ field readings). As such, no further investigation is considered to be warranted.

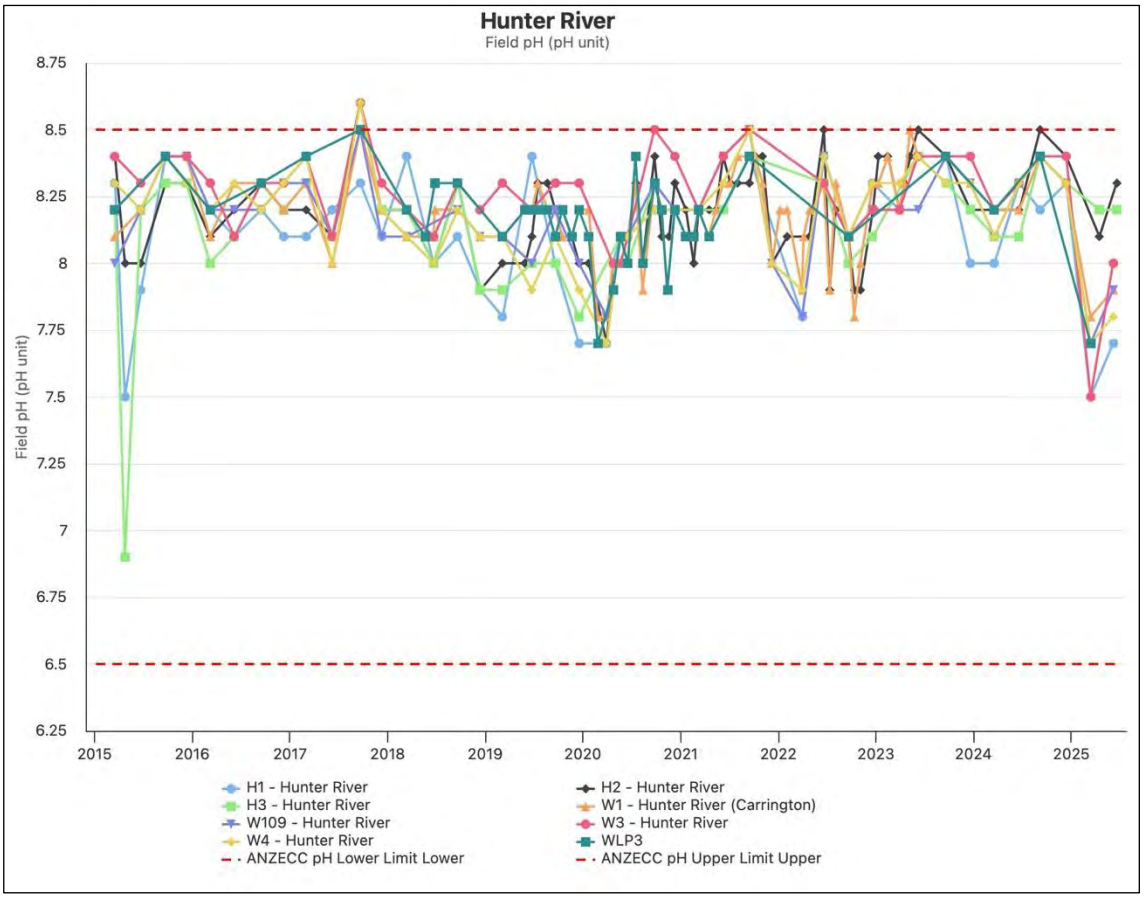


Figure 7-5: Hunter River pH Trends 2017 - 2025

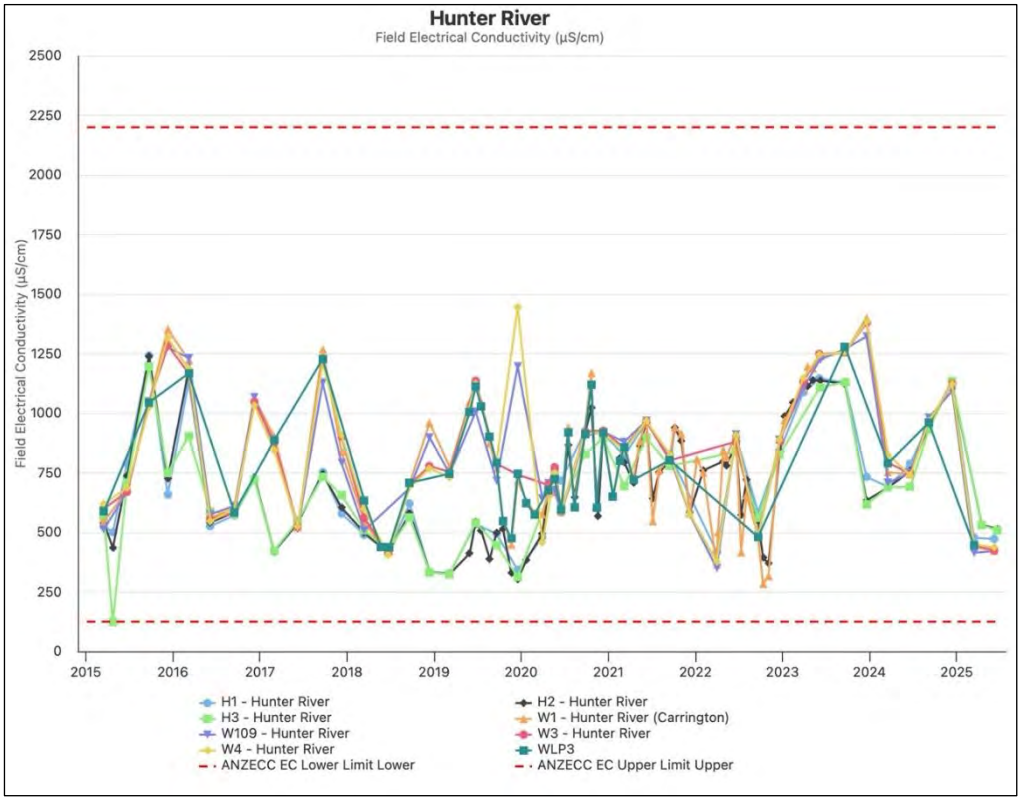


Figure 7-6: Hunter River EC Trends 2017 - 2025

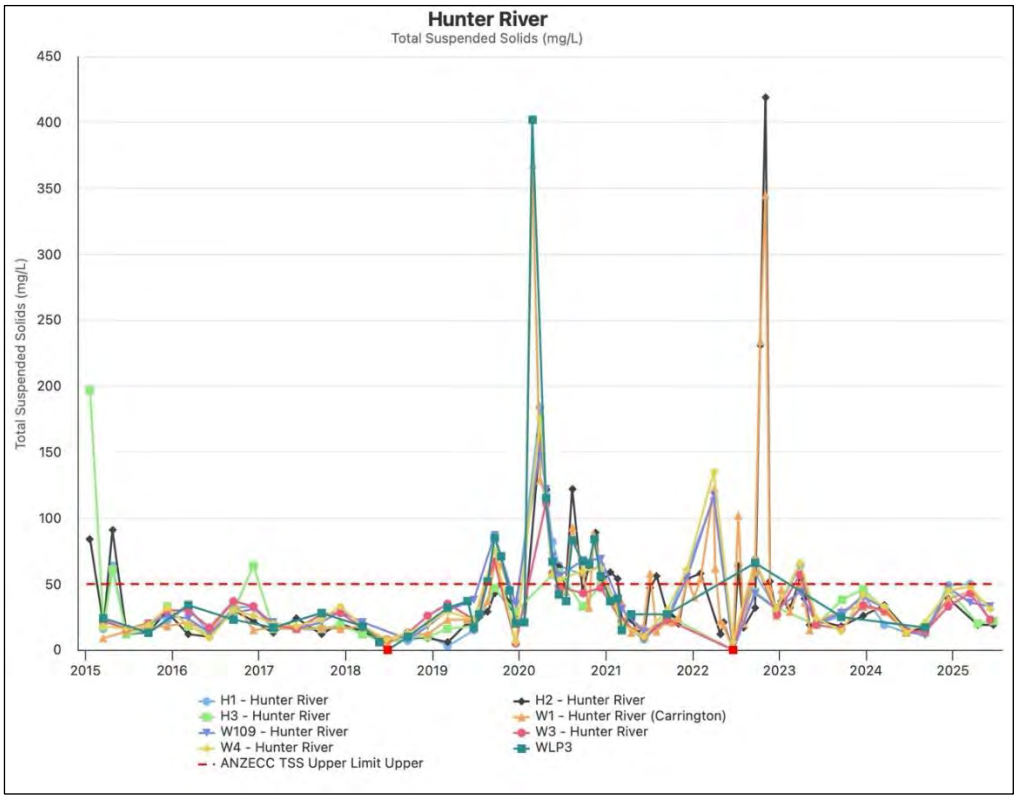


Figure 7-7: Hunter River TSS Trends 2017 – 2025

7.2.1.2 | WOLLOMBI BROOK

Wollombi Brook was sampled from three monitoring locations during 2025. Long term trends for pH, EC and TSS from Wollombi Brook are shown in **Figure** 7-8 to **Figure** 7-10. Results were generally consistent with historical trends and acceptable ranges.

No exceedances were triggered during 2025.

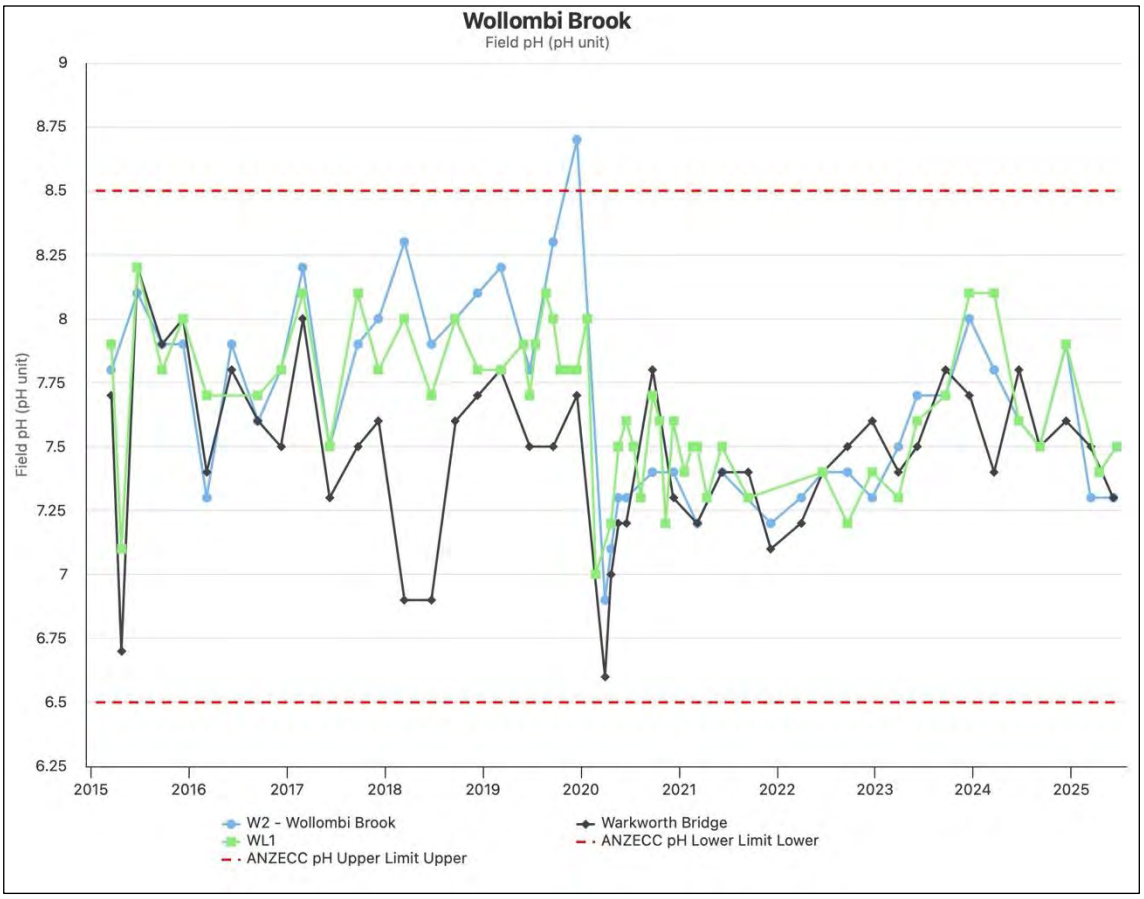


Figure 7-8: Wollombi Brook pH Trends 2017 - 2025

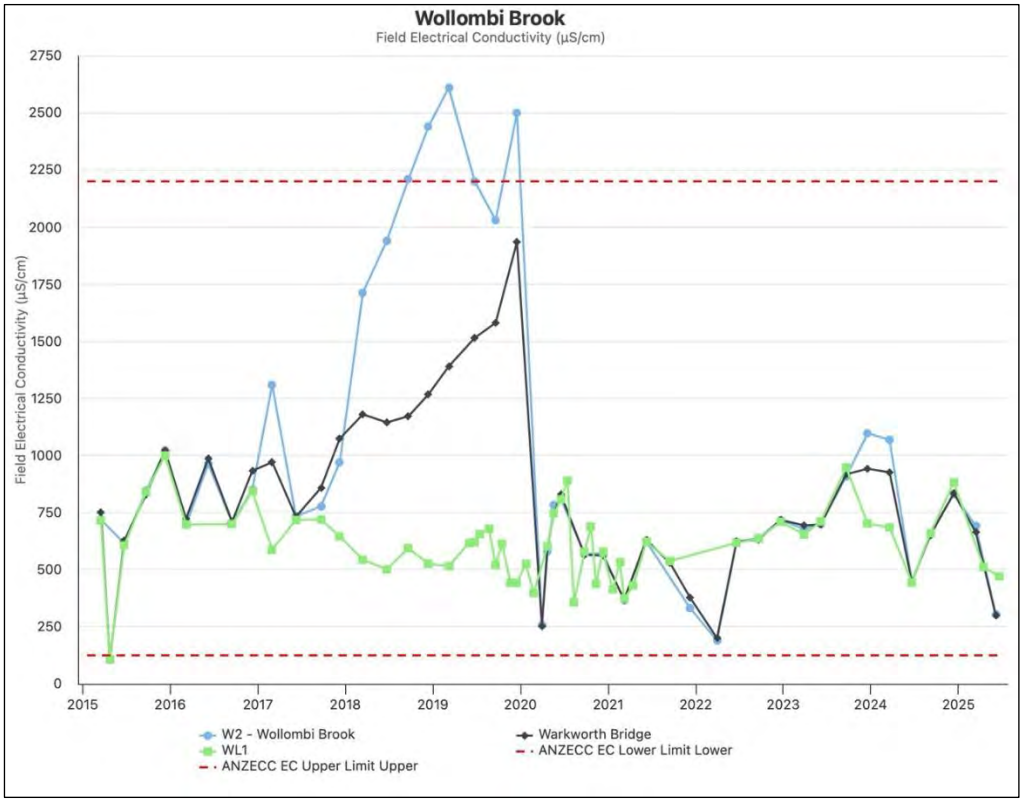


Figure 7-9: Wollombi Brook EC Trends 2017 – 2025

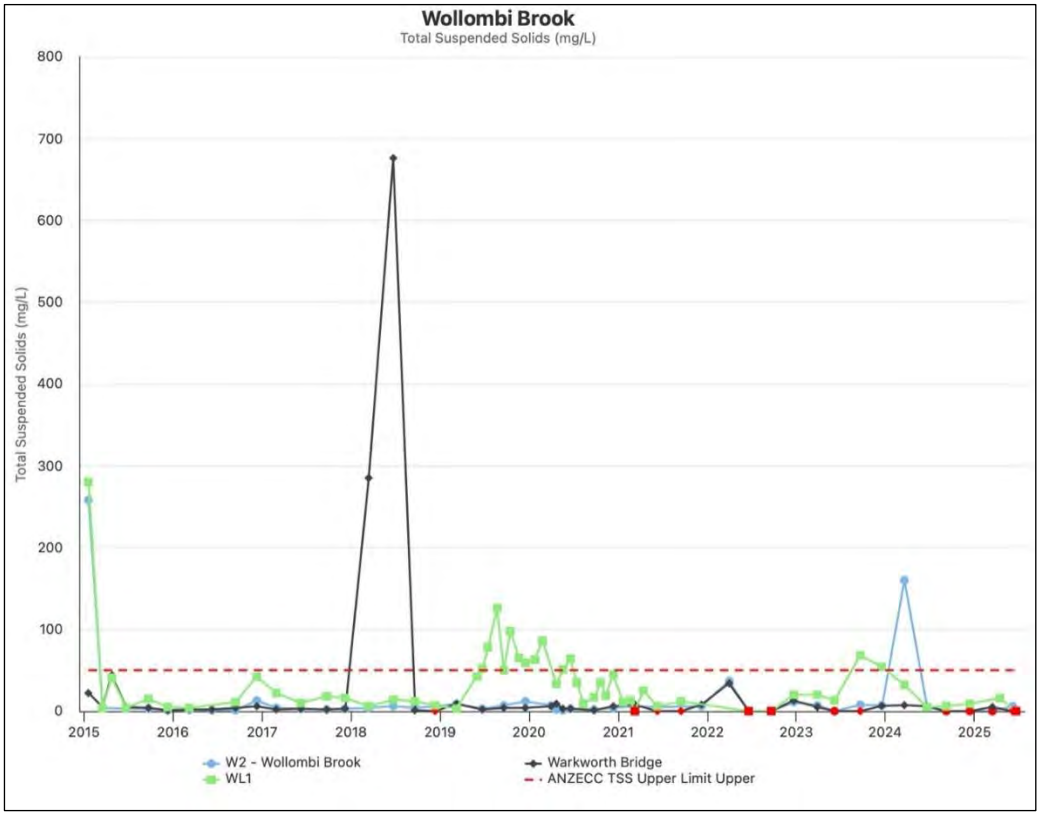


Figure 7-10: Wollombi Brook TSS Trends 2017 - 2025

7.2.1.3 | OTHER SURROUNDING TRIBUTARIES

Rain event-based monitoring of natural tributaries surrounding HVO continued during 2025.

In accordance with the HVO WMP, six rain event sampling rounds were triggered during 2025. These occurred following rainfall greater ≥30mm in a 24-hour period on the days of 31/03/2025, 28/04/2025, 20/05/2025, 4/08/2025, 11/09/2025 and 20/10/2025. Monitoring during these rain events occurred on the following water courses:

- Comleroi Creek.
- Emu Creek.
- Farrells Creek.
- Pikes Creek (no water running to be sampled).
- Redbank Creek.
- Davis Creek.
- Bayswater Creek; and
- Parnells Creek. (no water running to be sampled).

Long term trends for pH, EC and TSS are shown **Figure** 7-11 to **Figure** 7-14. On occasion, some sampling sites recorded results outside of the internal trigger levels however, results for water quality remained generally consistent with historical trends The ephemeral nature of these monitoring locations is the primary reason for the considerable variation in physical water quality.

Trigger tracking results are detailed in **Table** 7-3.

Table 7-3: Other Tributaries Internal Trigger Exceedance Results

Location	Date	Trigger Limit	Action Taken in Response
W11 (Farrells Ck Lemington Rd	31/03/2025	pH 7.3 - 8.2	No investigation required - first trigger exceedance. No rainfall was received on the day of sampling, however, two days prior (29/03/2025) a daily rainfall of 52.2mm was recorded at the Cheshunt gauge and 52.8mm at the Corporate gauge. Sample comments recorded "flow" conditions at the site. The lowered pH is likely to be attributable to the rainfall received prior to the sample period.
Pikes Creek Upstream	31/03/2025	pH 7.3 - 8.2	No investigation required - first trigger exceedance. No rainfall was received on the day of sampling, however, two days prior (29/03/2025) a daily rainfall of 52.2mm was recorded at the Cheshunt gauge and 52.8mm at the Corporate gauge. Sample comments recorded "flow" conditions at the site. The lowered pH is likely to be attributable to the rainfall received prior to the sample period.
NSW2 Emu Ck	31/03/2025	TSS 50	Investigation required - trigger exceedance. No rainfall was received on the day of sampling, however, two days prior (29/03/2025) a daily rainfall of 52.2mm was recorded at the Cheshunt gauge and 52.8mm at the Corporate gauge. The monitoring round field sheet indicates that the sample was taken from 'Pool' of water. Given the absence of flow, the exceedance could be associated with disturbance of settled sediment in the base of the pool during sampling or fine and/or dispersive particulates that had not settled since the rainfall event two days prior.
Bayswater Creek Downstream	20/05/2025	pH 7.0 - 8.0	Rainfall was received on the day of sampling with 16.2mm recorded at the Cheshunt gauge and 10.8mm at the Corporate gauge, and one day prior (19/5/2025) with a rainfall depth of 39.2mm recorded at the Cheshunt gauge and 43.4mm at the Corporate gauge. The monitoring round data record indicates flow at the monitoring location during sample collection. A review of the historical data set for Bayswater Creek Downstream (2011 - 2025) indicates that the pH result of 8.4 is below the maximum recorded result of 8.6.
Bayswater Creek Downstream	20/05/2025	TSS 50	Rainfall was received on the day of sampling with 16.2mm recorded at the Cheshunt gauge and 10.8mm at the Corporate gauge, and one day prior (19/5/2025) with a rainfall depth of 39.2mm recorded at the Cheshunt gauge and 43.4mm at the Corporate gauge. The monitoring round data record indicates flow at the monitoring location during sample collection. A review of historical TSS results (2011 - 2024) for the Bayswater Ck Downstream monitoring location indicates that the 20/5/25 TSS result of 78mg/L is below the 90th percentile (93mg/L) of the historical data set. The comparison suggests that elevated TSS at this monitoring location following flow generating rainfall events is likely to result in exceedances of the 50mg/L trigger, and therefore the rainfall received on the day of and day prior to sampling is the cause of the elevated TSS reading.
Bayswater Creek Upstream HPLV	28/04/2025	EC 4916	No rainfall was received on the day of sampling, however, one day prior (27/4/2025) a daily rainfall of 30.2mm was recorded at the Cheshunt gauge and 30.6mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. A review of the historical data set for Bayswater Creek Upstream (2011 - 2025) indicates that the EC result of 5,740 µS/cm is below the maximum recorded result of 6,900 µS/cm and the EC result of 4,000 µS/cm recorded for the 20 May 2025 monitoring round indicates EC has returned to the normal range. As such, no further investigation is considered to be warranted.

Location	Date	Trigger Limit	Action Taken in Response
NSW1 (Parnells Ck)	28/04/2025	pH 8- 8.7	No rainfall was received on the day of sampling, however, one day prior (27/4/2025) a daily rainfall of 30.2mm was recorded at the Cheshunt gauge and 30.6mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. A review of the historical data set for NSW1 (2012 - 2025) indicates that the pH result of is above the minimum recorded result of 7.6 and the pH result of 8.4 recorded for the 20 May 2025 monitoring round indicates pH has returned to the normal range. As such, no further investigation is considered to be warranted.
NSW2 Emu Ck	28/04/2025	TSS 50	Investigation required - trigger exceedance No rainfall was received on the day of sampling, however, one day prior (27/4/2025) a daily rainfall of 30.2mm was recorded at the Cheshunt gauge and 30.6mm at the Corporate gauge. A review of historical TSS results (2012 - 2024) for the NSW2 Emu Ck monitoring location indicates that the 28/4/25 TSS result of 80 mg/L is below the 80th percentile (146.8 mg/L) of the historical data set. The comparison suggests that elevated TSS at this monitoring location following rainfall events is likely to result in exceedances of the 50mg/L trigger. The monitoring round field sheet indicates that the sample was taken from 'Pool' of water. Given the absence of flow, the exceedance could be associated with disturbance of settled sediment in the base of the pool during sampling or fine and/or dispersive particulates that had not settled since the rainfall event one day prior.
NSW2 Emu Ck	20/05/2025	TSS 50	Investigation required - trigger exceedance Rainfall was received on the day of sampling with 16.2mm recorded at the Cheshunt gauge and 10.8mm at the Corporate gauge,and one day prior (19/5/2025) with a rainfall depth of 39.2mm recorded at the Cheshunt gauge and 43.4mm at the Corporate gauge. A review of historical TSS results (2012 - 2024) for the NSW2 Emu Ck monitoring location indicates that the 20/5/25 TSS result of 112mg/L is below the 80th percentile (146.8mg/L) of the historical data set. The comparison suggests that elevated TSS at this monitoring location following rainfall events is likely to result in exceedances of the 50mg/L trigger. The monitoring round field sheet indicates that the sample was taken from 'Pool' of water. Given the absence of flow, the exceedance could be associated with disturbance of settled sediment in the base of the pool during sampling or fine and/or dispersive particulates that had not settled since the rainfall event on and prior to the day of sampling.

Location	Date	Trigger Limit	Action Taken in Response
W11 (Farrells Ck Lemington)	28/04/2025	pH 7.3 - 8.6	No rainfall was received on the day of sampling, however, one day prior (27/4/2025) a daily rainfall of 30.2mm was recorded at the Cheshunt gauge and 30.6mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. A review of the historical data set for W11 (2012 - 2025) indicates that the pH result of 6.8 is a new minimum result and coupled with the exceedance in Q1 2025 may have indicated a downward trend in pH. However, the pH result of 7.7 for the 20 May 2025 monitoring round indicates otherwise. Given the 20 May 2025 has returned to the normal range and the result of 6.8 is within the ANZECC 2000 lowland rivers trigger value range for south east Australia, no further investigation is considered to be warranted.
W11 (Farrells Ck Lemington)	28/04/2025	TSS 50	No rainfall was received on the day of sampling, however, one day prior (27/4/2025) a daily rainfall of 30.2mm was recorded at the Cheshunt gauge and 30.6mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. A review of historical TSS results (2011 - 2024) for the W11 monitoring location indicates that the 28/4/25 TSS result of 87mg/L is below the maximum (868mg/L) of the historical data set. While the comparison suggests that elevated TSS at this monitoring location following rainfall events may be likely to result in exceedances of the 50mg/L trigger this particular result is toward the top end of the results contained in the historical data set. Inspection was completed. Condition upslope of the monitoring location was observed to have no erosion and the Dam 28W embankment was vegetated, did not exhibit erosion and did not display any evidence that it had been overtopped.
W11 (Farrells Ck Lemington)	20/05/2025	TSS 50	Investigation required - trigger exceedance Rainfall was received on the day of sampling with 16.2mm recorded at the Cheshunt gauge and 10.8mm at the Corporate gauge, and one day prior (19/5/2025) with a rainfall depth of 39.2mm recorded at the Cheshunt gauge and 43.4mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. A review of historical TSS results (2011 - 2024) for the W11 monitoring location indicates that the 20/5/25 TSS result of 72mg/L is below the 95th percentile (73mg/L) of the historical data set. While the comparison suggests that elevated TSS at this monitoring location following rainfall events may be likely to result in exceedances of the 50mg/L trigger this particular result is toward the top end of the historical data set and the second consecutive monthly exceedance.
NSW2 Emu Ck	4/08/2025	pH 7-8.9	On the day of sampling, 0.4mm and 0.6mm of rainfall was recorded at the Cheshunt and Corporate gauges, respectively. For the two days prior to sampling a total of 64.8mm and 70.4mm was recorded at the Cheshunt and Corporate gauges, respectively. Additionally, the monitoring round data record indicates flow was occurring at the monitoring location during sample collection. A review of the historical data set for NSW2 (2011 - 2025) indicates that the pH result of 6.9 is the minimum recorded pH result. However, this is only marginally below the low level trigger and does not deviate significantly from the 5th percentile result (pH 7.0). Given the result is within the ANZECC 2000 lowland rivers trigger value range (6.5-8.5) for south east Australia, no further investigation is considered to be warranted at this stage.

Location	Date	Trigger Limit	Action Taken in Response
Bayswater Creek Downstream	4/08/2025	pH 7-8	Rainfall was received on the day of sampling with 0.4mm recorded at the Cheshunt gauge and 0.8mm at the Corporate gauge, and for the two days prior (2/08 - 3/08) with a rainfall depth of 64.8mm recorded at the Cheshunt gauge and 70.4mm at the Corporate gauge. The monitoring round data record indicates flow at the monitoring location during sample collection. A review of the historical data set for Bayswater Creek Downstream (2011 - 2025) indicates that the pH result of 8.3 is below the maximum recorded result of 8.6 and above the minimum recorded result of 6.7.
NSW1 (Parnells Ck)	4/08/2025	pH 8-8.7	Rainfall was received on the day of sampling with 0.4mm recorded at the Cheshunt gauge and 0.8mm at the Corporate gauge, and for the two days prior (2/08 - 3/08) with a rainfall depth of 64.8mm recorded at the Cheshunt gauge and 70.4mm at the Corporate gauge. The monitoring round data record indicates flow at the monitoring location during sample collection. A review of the historical data set for NSW1 (2011 - 2025) indicates that the pH result of 8.3 is below the maximum recorded result of 9.1 and given the result is within the ANZECC 2000 lowland rivers trigger value range for south east Australia (6.5-8.5), no further investigation is considered to be warranted at this stage.
W11 (Farrells Ck Lemington Rd)	11/09/2025	TSS 50	Rainfall was received on the day of sampling with 0.8mm recorded at the Cheshunt gauge and 1.0mm at the Corporate gauge, and for the two days prior (9/09- 10/09) with rainfall depths of 33.0mm at the Cheshunt gauge and 29.8mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. A review of historical TSS results (2011 - 2025) for the W11 monitoring location indicates that the 11/09/25 TSS result of 190mg/L is above the 95th percentile (90.9mg/L) and below the maximum (868mg/L) of the historical data set. While the investigation suggests that elevated TSS at this monitoring location following rainfall events may be likely to result in exceedances of the 50mg/L trigger, this particular result is the second highest in the historical data set and is the third trigger of 2025. It is assumed that the photos provided to Engeny (taken on the 15/10/2025) shows the upslope area of the monitoring location. The photo shows limited ground cover and would likely contribute to elevated sediment concentrations. As such, it is recommended that work be undertaken to establish better vegetation cover in this area. Site representatives have noted that sediment controls, in the form of coir logs and sediment fencing, are currently in place at W11. These will minimise runoff and assist with sediment stabilisation at the site, however, it should be noted that these alone will not allow for the 50mg/L trigger limit to be met (as observed in the sample results).
W11 (Farrells Ck Lemington Rd)	11/09/2025	pH 7.3-8.6	Rainfall was received on the day of sampling with 0.8mm recorded at the Cheshunt gauge and 1.0mm at the Corporate gauge, and for the two days prior (9/09- 10/09) with rainfall depths of 33.0mm at the Cheshunt gauge and 29.8mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. A review of the historical data set for W11 (2011 - 2025) indicates that the pH result of 7.2 is above the minimum (pH 6.8) and 5th percentile (pH 7.0) recorded result . The result recorded on 11/09/25 is only marginally below the low level trigger (by 0.1 pH) and given the result is within the ANZECC 2000 lowland rivers trigger value range (6.5-8.5) for south east Australia, no further investigation is considered to be warranted at this stage.

Location	Date	Trigger Limit	Action Taken in Response
Bayswater Creek Downstream	11/09/2025	pH 7-8	Rainfall was received on the day of sampling with 0.8mm recorded at the Cheshunt gauge and 1.0mm at the Corporate gauge, and for the two days prior (9/09- 10/09) with rainfall depths of 33.0mm at the Cheshunt gauge and 29.8mm at the Corporate gauge. The field sheet indicated moderate flow and light brown colouration at the sample location. The results for TSS and EC were not above the trigger limits. A review of the historical data set for Bayswater Creek Downstream (2011 - 2025) indicates that the pH result of 8.1 is below the maximum recorded result of 8.6 and below the 95th percentile result of 8.4. The three pH results in Q3 (July = 8.40, August = 8.30 and September = 8.10) are generally consistent with Bayswater Creek Upstream results (July = 8.40, August = 8.40 and September = 8.00) and indicate a downward trend toward the upper pH trigger value. At this stage, no further investigation is considered to be warranted. However, should future results indicate an upward trend that is not consistent with Bayswater Creek Upstream results, further investigation should be undertaken to identify potential causes of the elevated pH results.
Bayswater Creek Upstream HPLV	20/10/2025	EC 4916	No rainfall was received on the day of sampling, however, three days prior (17/10/2025) a daily rainfall of 30.2mm was recorded at the Cheshunt gauge and 12.8mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. A review of the historical data set for Bayswater Creek Upstream (2011 - 2025) indicates that the EC result of 6,500 µS/cm is below the maximum recorded result of 7,720 µS/cm. As such, no further investigation is required
Bayswater Creek Mid	20/10/2025	EC 5068	No rainfall was received on the day of sampling, however, three days prior (17/10/2025) a daily rainfall of 30.2mm was recorded at the Cheshunt gauge and 12.8mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. A review of the historical data set for Bayswater Creek Mid (2011 - 2025) indicates that the EC result of 6,140 µS/cm is below the maximum recorded result of 6,900 µS/cm. As such, no further investigation is required.
NSW1 (Parnells Ck)	20/10/2025	EC 8413	No rainfall was received on the day of sampling, however, three days prior (17/10/2025) a daily rainfall of 30.2mm was recorded at the Cheshunt gauge and 12.8mm at the Corporate gauge. The monitoring round data record indicates no flow at the monitoring location during sample collection. The elevated EC result of 9,230 µS/cm is the maximum recorded result of the historical data set for NSW1 (2008 - 2025).

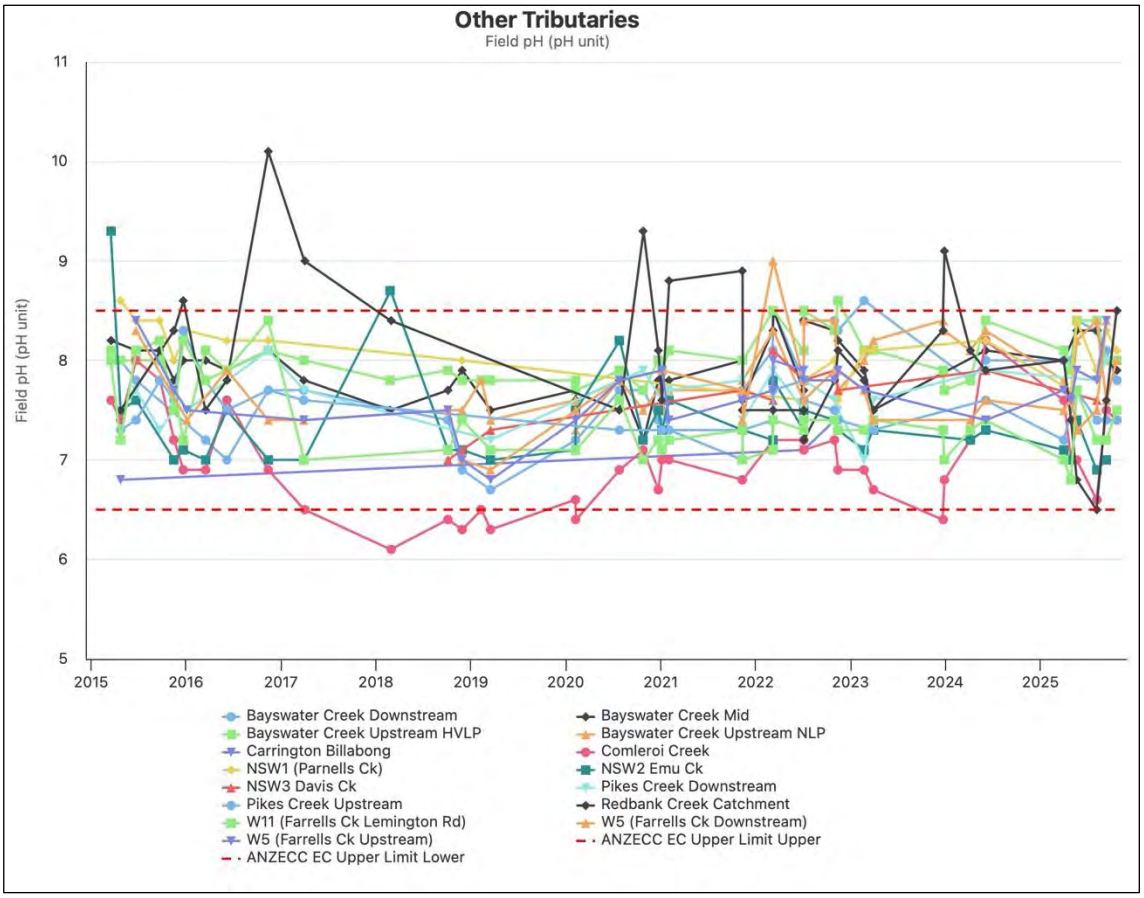


Figure 7-11: Other Tributaries pH Trends 2017 - 2025

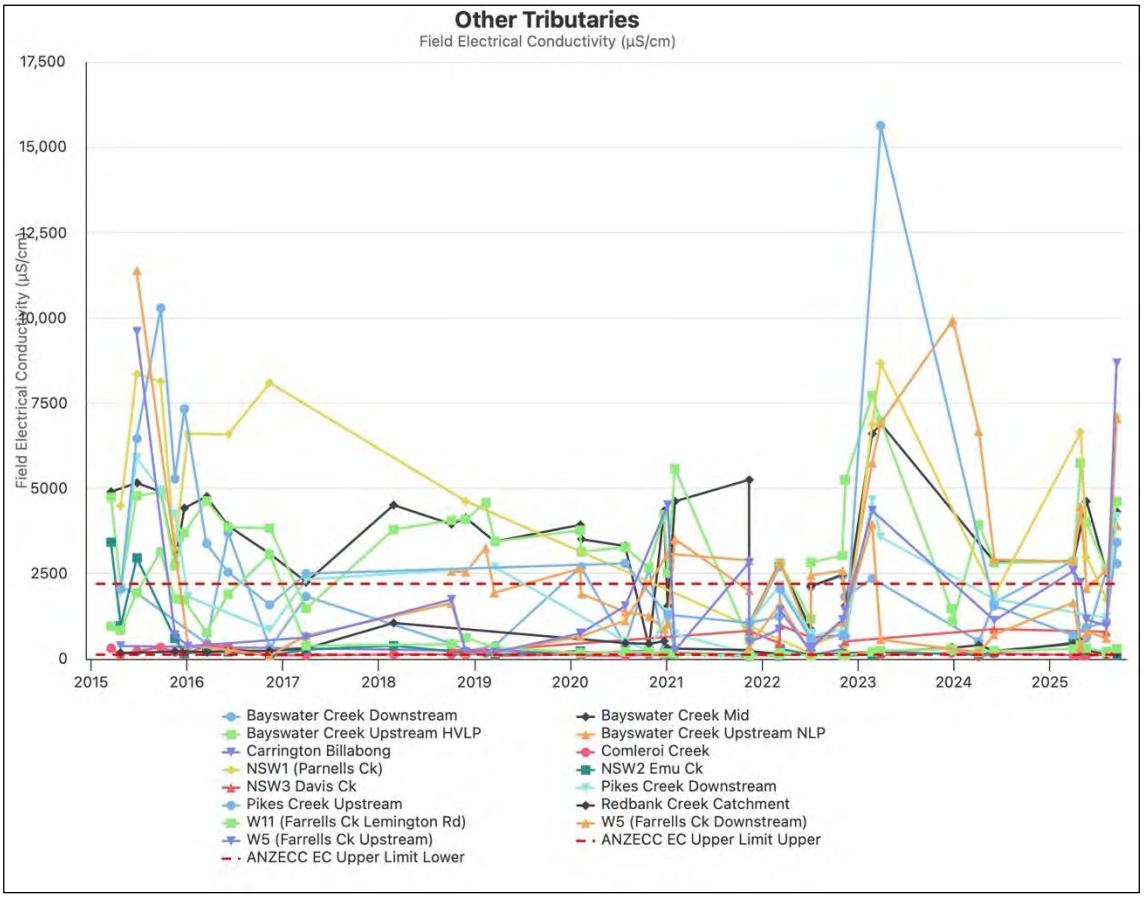


Figure 7-12: Other Tributaries EC Trends 2017 - 2025

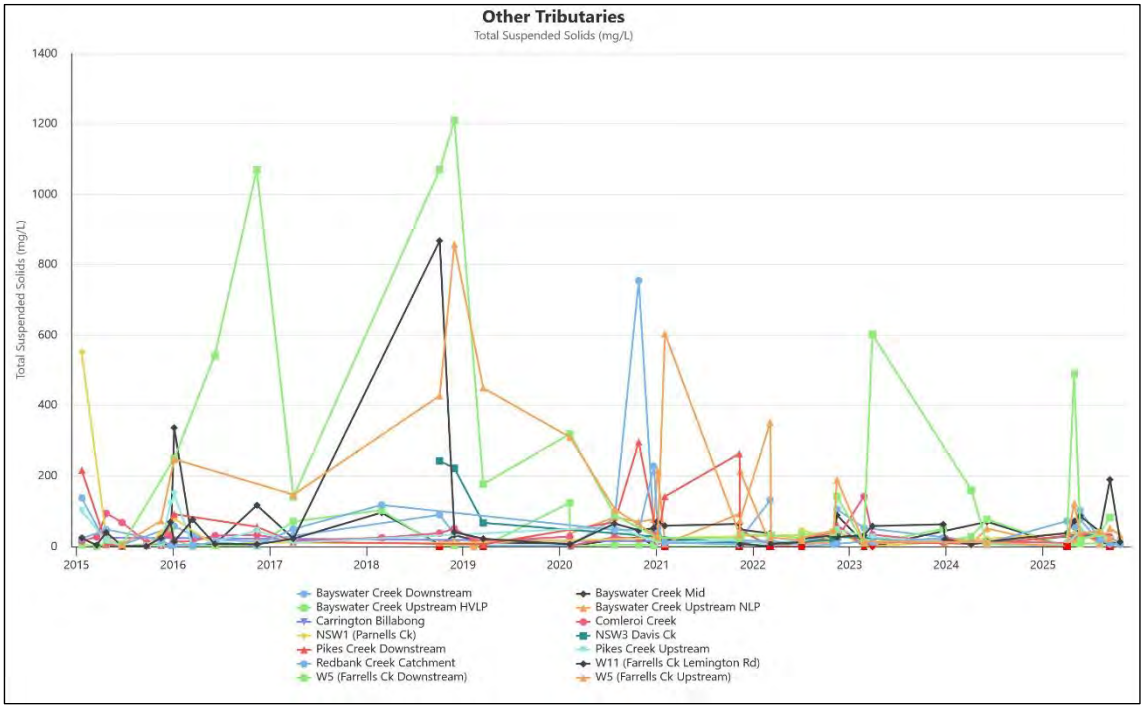


Figure 7-13: Other Tributaries TSS Trends 2017 – 2025

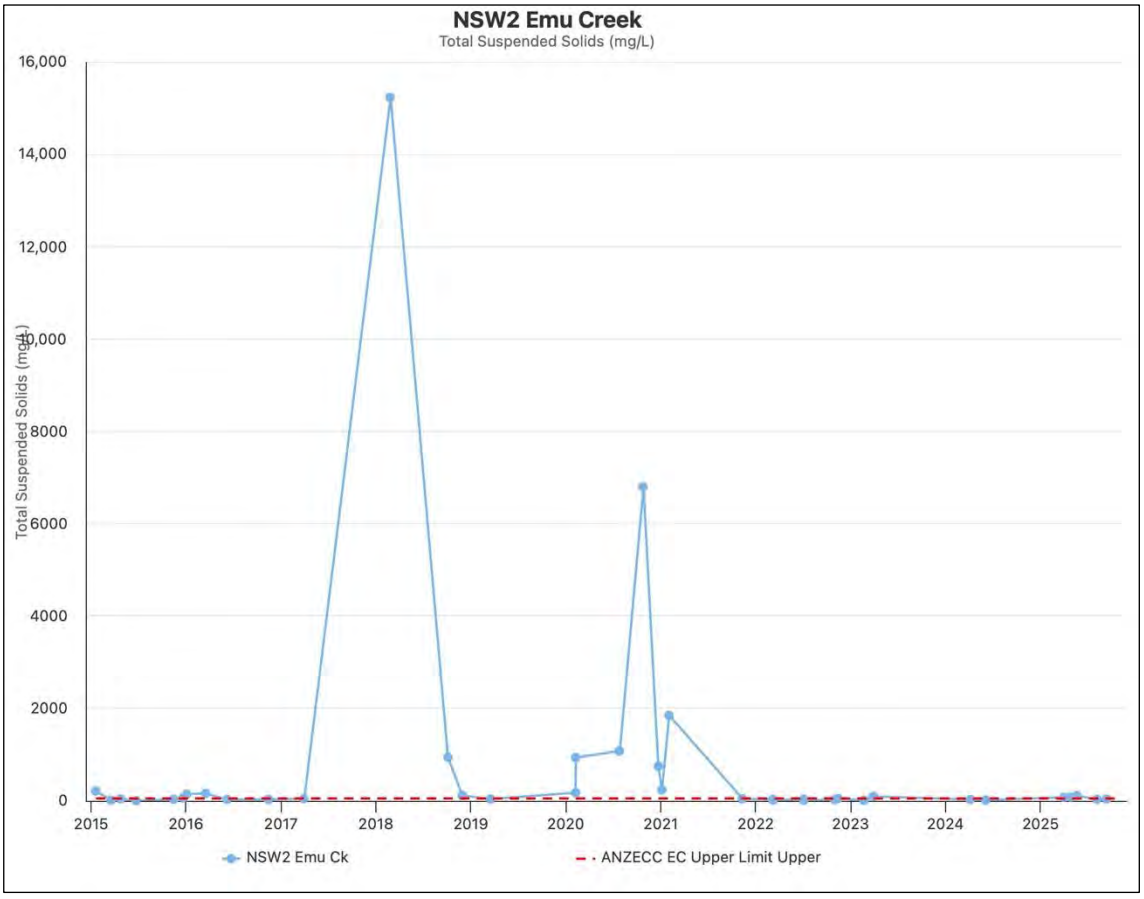


Figure 7-14: NSW2 Emu Creek TSS Trends 2017-2025

7.2.1.4 | HVO SITE DAMS

During 2025 monitoring was completed at across 10 onsite dams. Long term trends for pH, EC and TSS are shown in **Figure** 7-15 to **Figure** 7-17. HVO's onsite dams do not have impact assessment criteria. Results for water quality remained generally consistent with historical water quality trends.

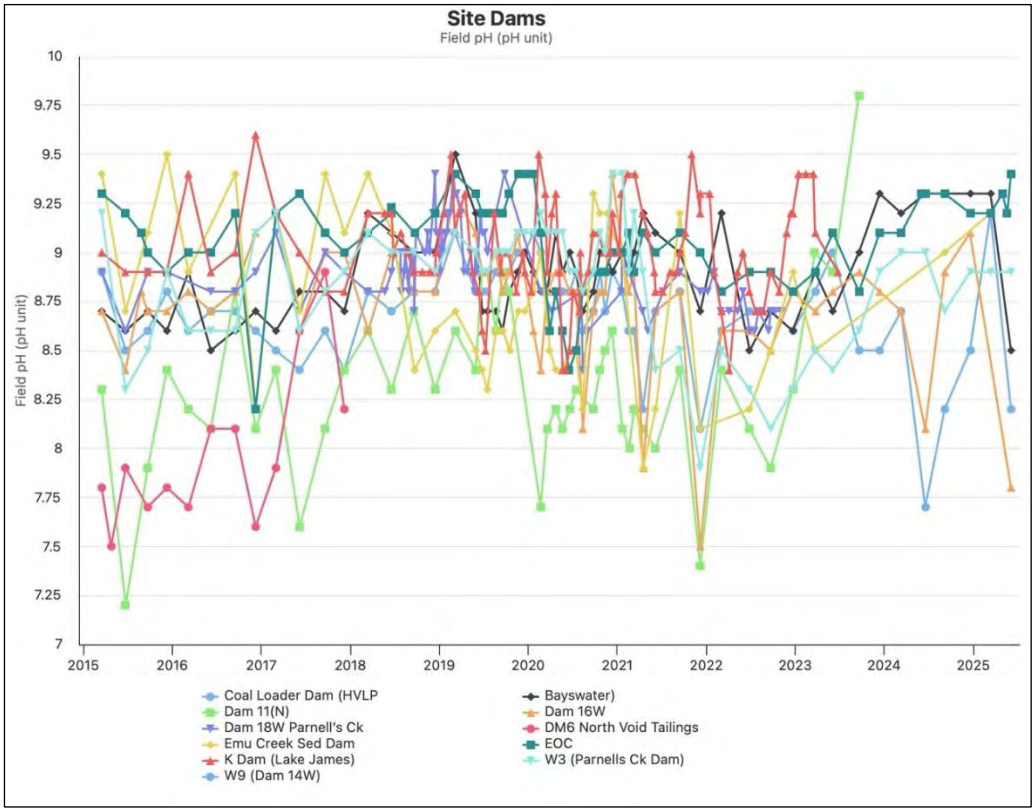


Figure 7-15: HVO Site Dams pH Trends 2017 - 2025

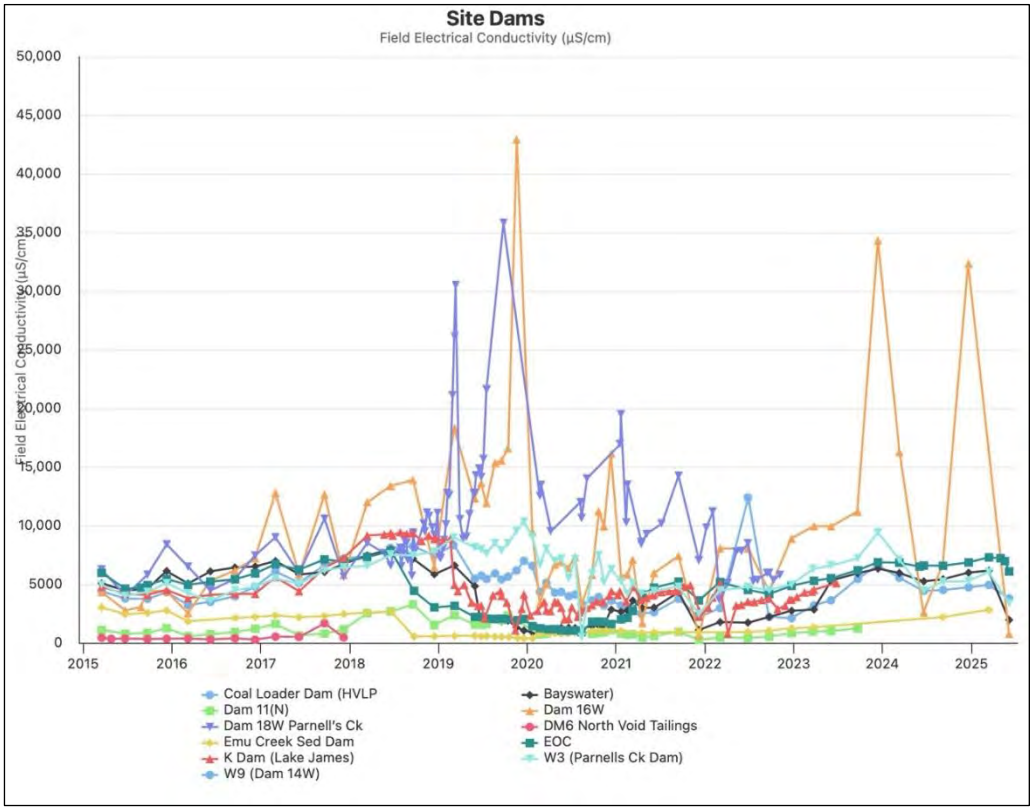


Figure 7-16: HVO Site Dams EC Trends 2017 – 2025

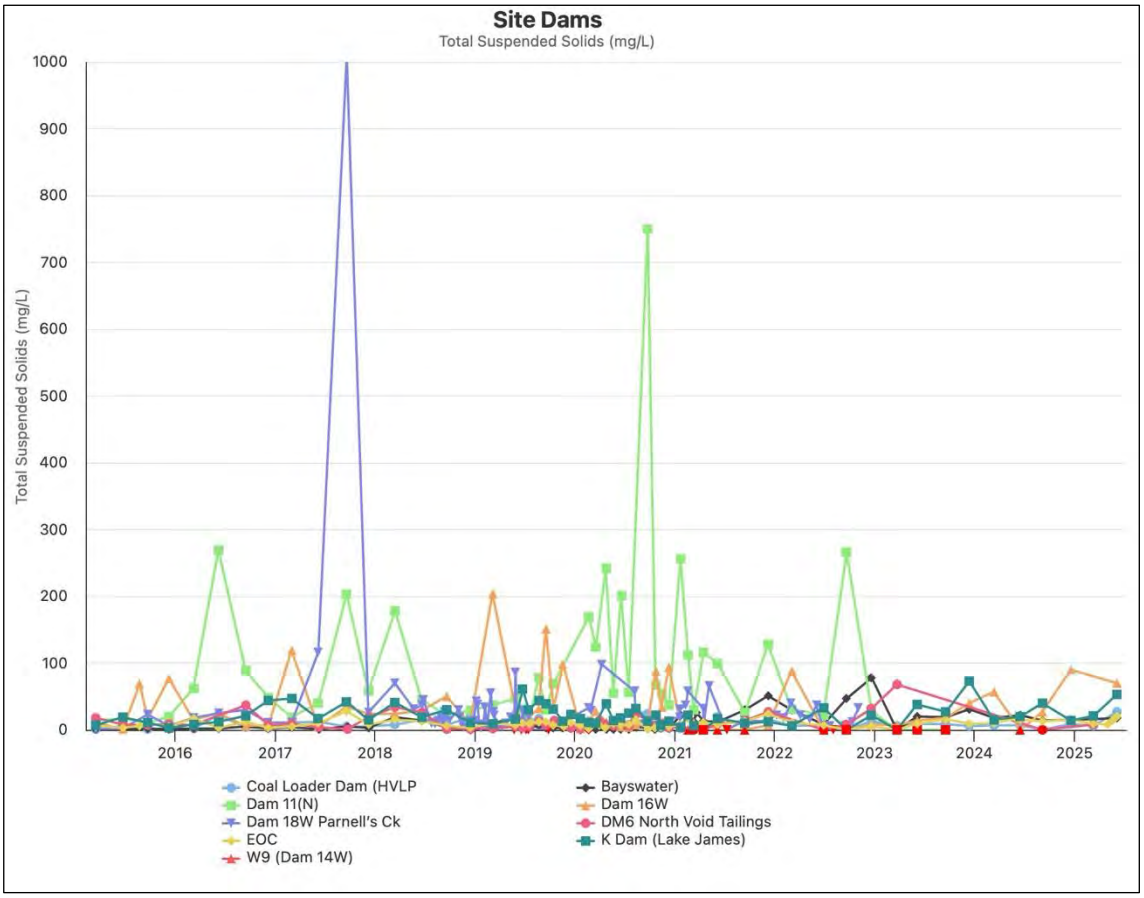


Figure 7-17: HVO Site Dams TSS Trends 2017 – 2025

7.2.1.5 | CARRINGTON WEST WING

Sampling is required for the Carrington West Wing in three locations. Long term trends for pH, EC and TSS are shown in **Figure** 7-18 to **Figure** 7-20.

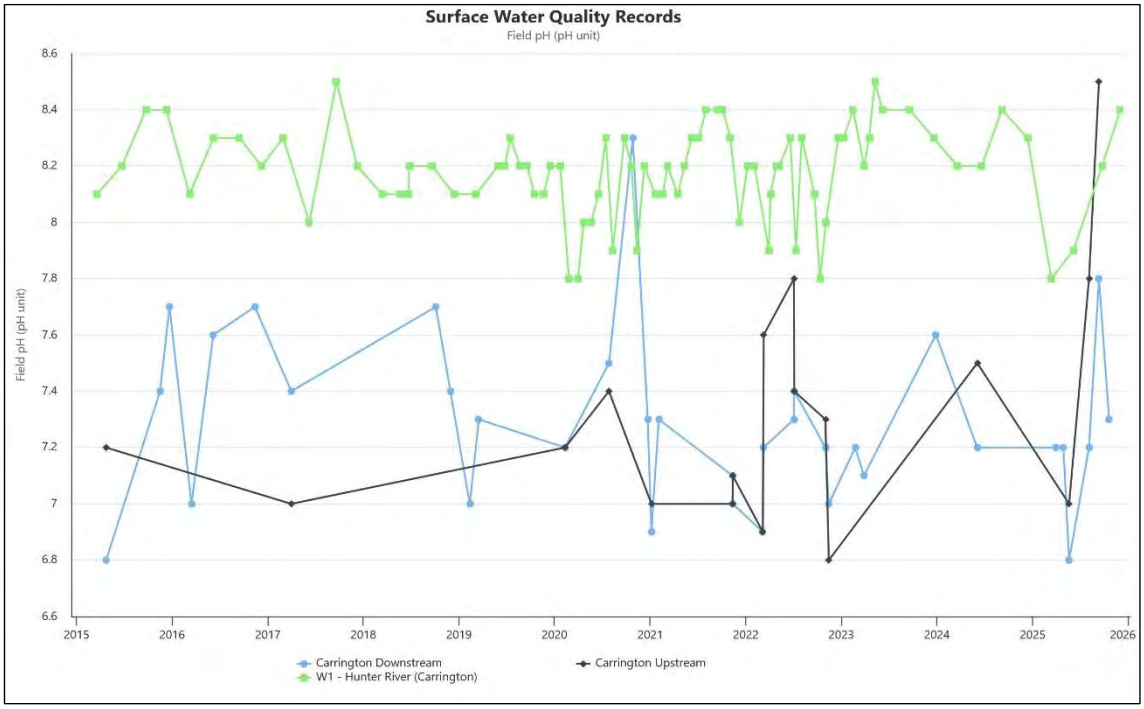


Figure 7-18: Carrington West Wing pH Trends 2017 - 2025

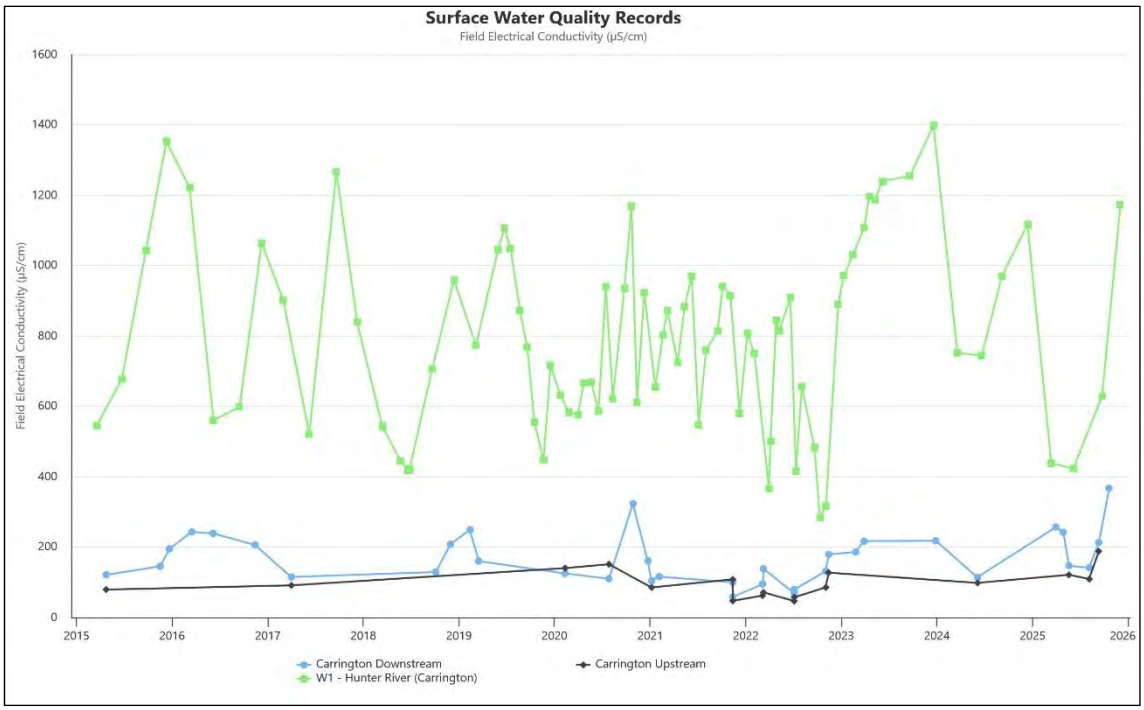


Figure 7-19: Carrington West Wing EC Trends 2017 - 2025

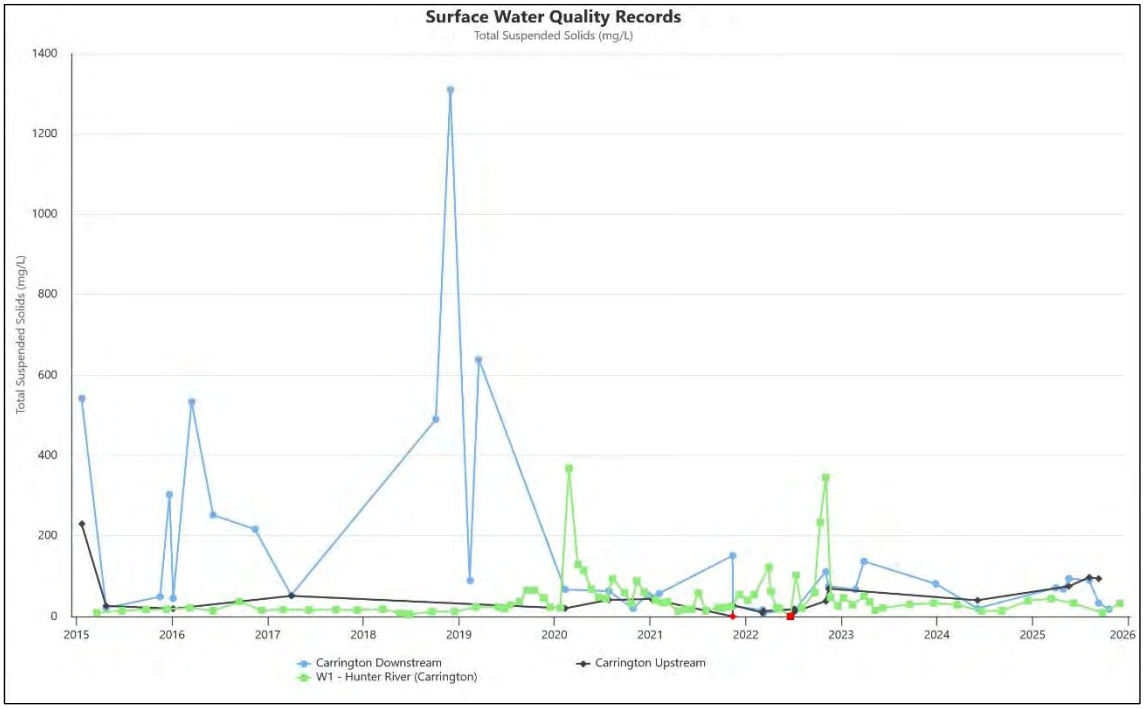


Figure 7-20: Carrington West Wing TSS Trends 2017 - 2025

7.3 | COMPARISON WITH EIS PREDICTIONS

7.3.1 | SOUTH PIT EIS PREDICTIONS

The South Pit EIS estimated an 'instantaneous' water quality for Electrical Conductivity of 5,700 µS/cm as an upper limit. Instantaneous water quality is a simple estimate obtained by dividing the total salt available by the maximum amount of possible void water. Electrical Conductivity measurements at Lake James averaged 6,349 µS/cm during 2025, are slightly elevated compared to predicted EC levels.

The South Pit EIS estimated average runoff water quality from undisturbed catchments to be 400 mg/L for TSS and 615 µS/cm for EC. Comleroi Creek, south of Cheshunt Pit, was sampled six times during rainfall events in 2025 resulting in average TSS of 21 mg/L and average EC of 125 µS/cm, demonstrating that runoff water from undisturbed catchments in the HVO South area is of better quality than that which was predicted in the EIS.

7.3.2 | CARRINGTON PIT EIS PREDICTIONS

The long term mine water quality for Carrington is discussed in the Carrington Mine Environmental Impact Statement (ERM 1999). The EIS estimated an “instantaneous” water quality for Electrical Conductivity of 7,050 µS/cm.

Dewatering from Carrington is a mixture of surface runoff from overburden emplacements, coal mining areas and seepage from the coal seams and alluvium. Water is directed to Dam 9N and into Dam 11N. The average EC and TSS in Dam 11N during 2025 was 3,365 µS/cm and 11 mg/L respectively and is considered broadly representative of mine water quality for Carrington.

The Carrington EIS states that runoff from undisturbed catchments within the Carrington Pit will be directed around the mine via contour banks or surface drains to discharge where possible into natural creeks. The salinity of the runoff water was predicted to be approximately 615 µS/cm. Runoff from rehabilitated lands was initially predicted to have higher TSS, with levels approaching pre-mining conditions after several years. Carrington Billabong (where water quality would be measured for this comparison) did not have any EC results during the 2025 rain event monitoring rounds, as the area was recorded as dry on all occasions, aside from 4/08/2025 where conditions were too wet to access the site.

7.3.3 | WEST PIT EIS PREDICTIONS

The West Pit EIS included the data in **Table** 7-4 as representative of water quality in the local catchment area. During the review period Emu Creek (NSW2) recorded an average pH of 7.1 and an average EC of 279 µS/cm, both lower than the predicted results of **Table 42**. The pH and EC at Farrells Creek (combined upstream and downstream monitoring sites) averaged 7.8 and 2605 µS/cm respectively during the review period, higher than EIS predictions. This is mainly influenced by the elevated EC recorded 11 September 2025. The pH and EC for Davis Creek (NSW3) wa.

s 7.6 and 793 µS/cm respectively – the site was dry for all but one monitoring event, equal to and slightly lower than EIS predictions. Parnell’s Dam measured an average EC of 3,150 µS/cm in 2025, within the prediction.

Table 7-4: Representative Water Quality for West Pit

Watercourse	pH (pH Units)	EC (µS/cm)
Davis Creek	7.6	793
Emu Creek	6.9 to 7.4	115 to 475
Farrells Creek	7.3 to 8.4	967 to +1,600
Mine Water (Parnell's Dam)	-	2,170 to 3,850

7.4 | PERFORMANCE RELATING TO HRSTS DISCHARGES

HVO participates in the Hunter River Salinity Trading Scheme (HRSTS), allowing it to discharge to the Hunter River via three licensed discharge points, including Dam 11N, Dam 15S (Lake James) and Dam 9W (Parnells Dam). Discharges can only take place subject to the scheme's regulations.

As required by the EPL, HVO submitted a discharge report for the 2024/25 financial year. A total of 1165.2ML of water discharged during 2025 in accordance with the HRSTS.

7.5 | GROUNDWATER

7.5.1 | GROUNDWATER MANAGEMENT

Groundwater monitoring activities were undertaken in 2025 in accordance with the HVO WMP and Groundwater Monitoring Programme. The monitoring results are used to establish and monitor trends in physical and geochemical parameters of surrounding groundwater potentially influenced by mining.

The groundwater monitoring programme at HVO measures the quality of groundwater against background data, EIS predictions and historical trends. Ground water quality is evaluated through the parameters of pH, EC, and Standing Water Level (SWL) (measured as elevation in metres with respect to the Australian Height Datum, mAHD). On a periodic basis (nominally once per annum) a comprehensive suite of analytes are measured, including major anions, cations and metals. Prior to sampling for comprehensive analysis, bore purging is undertaken to ensure a representative sample is collected.

Groundwater monitoring data is reviewed regularly for trigger exceedances and analysed in detail on a quarterly basis. The review involves a comparison of measured results against internal trigger values which have been derived from the historical data set. Trigger limits are calculated as the 95th percentile maximum value (EC and pH) and the 5th percentile minimum value (pH only) from data collected since 2011. Trigger levels have been set on the basis of geographical proximity and target stratigraphy. Bores that record as dry and bores of unknown seam have not been included in calculation of the trigger limits. The response to measured data outside the trigger limits is detailed in the HVO Water Management Plan. Where investigations and subsequent actions have been undertaken following review of monitoring data, these are detailed in this section. Monitoring locations are shown in **Figure** 7-21.

The Annual Groundwater Impacts Review conducted during 2025 is provided in **Appendix B**.

7.5.2 | GROUNDWATER PERFORMANCE

Sampling of groundwater was carried out in accordance with the HVO Groundwater Monitoring Programme. Where laboratory analysis was undertaken, this was performed by a NATA accredited laboratory. Sites with a data capture rate of less than 100 per cent are outlined in **Table** 7-5. Data recovery presented in this table has been calculated based on the number of times the sampling location was able to be accessed and at least one sampling parameter was able to be collected. Detailed data capture by sampling parameters is provided in **Appendix B**.

Table 7-5: HVO Groundwater Monitoring Data Recovery for 2025 (By Exception)

Location	Data Recovery	Comments
4040p	-	Bore was not sampled in Q3 due to access issues, but it was sampled twice in Q4 (October and December)
4051C	75%	Not measured in Q3 due to access issues
B425(WDH)	0%	Insufficient water present for sampling
BUNC45A	75%	Insufficient water present for sampling in Q1 to Q3. Notes in Q4 the bore was sampled by only 13cm of water present in the base of the bore
BZ8-2	50%	Insufficient water to sample. No access in Q2.
DM1	75%	Bore damaged in Q1
DM7	50%	Bore dry in Q1 and Q2
GW-101	0%	Bore measured as dry in Q1 to Q4. Insufficient water to sample.
GW-103_1	0%	No data since 2021
GW-103_2	0%	No data since 2021
GW-103_3	0%	No data since 2021
GW-105_3	0%	Sensor failed from Feb 2020
GW-107	Water level 50% Water quality 0%	Bore dry in Q1 and Q2. Insufficient water to sample.
GW-108	Water level 75% Water quality 0%	No access in Q1, approximately 2m of water present at the base of the bore in Q2 to Q4 but not sampled.
GW-110_1	0%	No calibration data to enable conversion to mAHD
GW-110_2	0%	No calibration data to enable conversion to mAHD
LUG Bore	0%	Sample point not fitted to sample. Cannot dip
NPZ3	0%	Bore collapsed
NPZ5	0%	Mined through

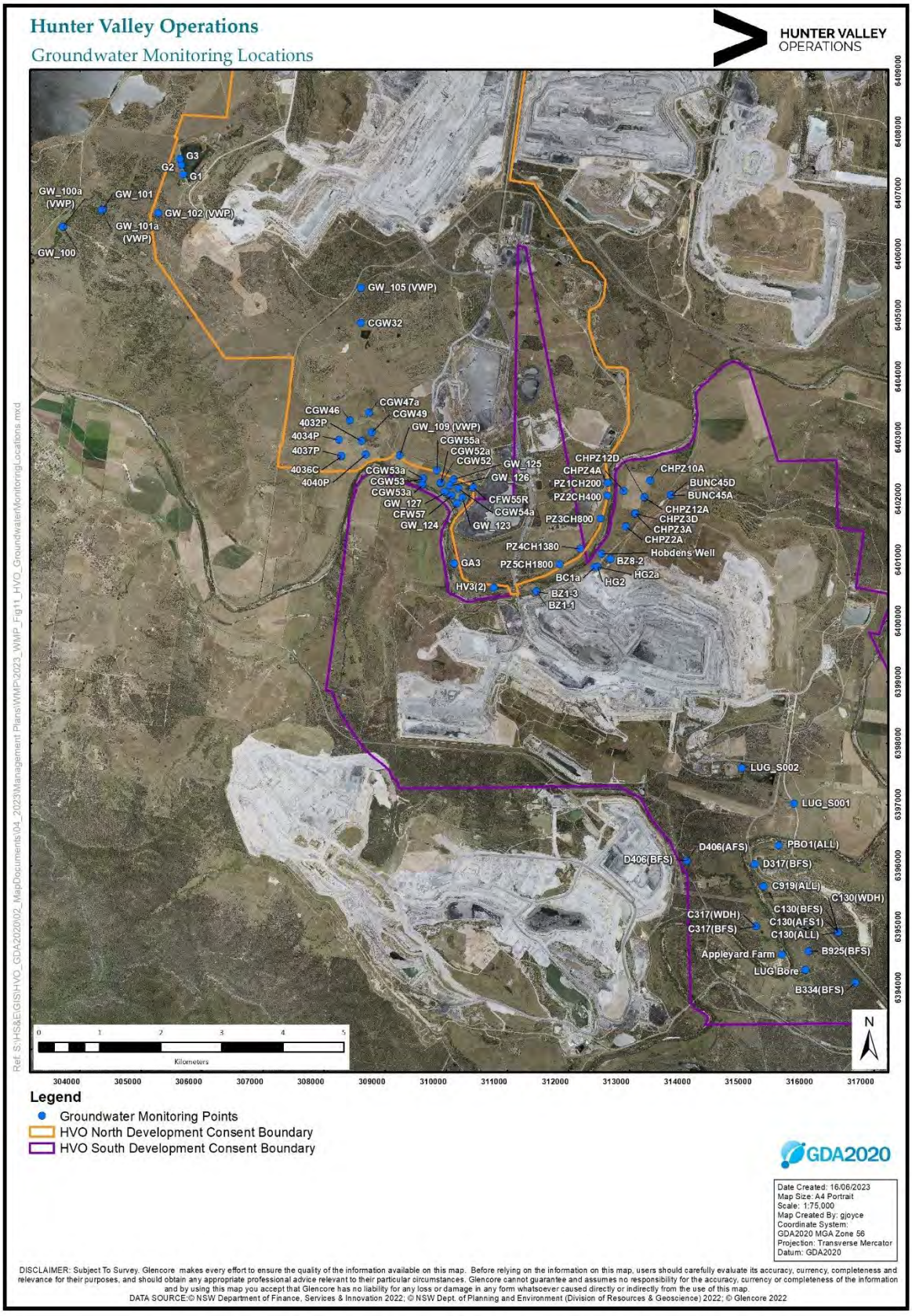


Figure 7-21: Groundwater Monitoring Network at HVO

7.5.3 | GROUNDWATER MONITORING SUMMARY

The following section presents groundwater monitoring data in relation to the geographic locations and target stratigraphy for groundwater monitoring bores.

Each location is discussed, and a summary of monitoring data presented. Where monitoring results required further investigation, these results are summarised. A trigger is considered to be exceeded when levels are outside of the internal statistical trigger limit for three (3) consecutive monitoring events. A detailed Annual Groundwater Review is provided in **Appendix B**.

7.5.4 | CARRINGTON BROONIE

Water quality results were generally consistent with historical ranges with some minor variation noted with pH and EC results. These levels were considered to be consistent with historical concentrations, with no adverse impacts identified.

7.5.5 | CARRINGTON ALLUVIUM

Water quality results were generally consistent with historical trends.

New triggers have been developed following an expert review of the groundwater network to better represent current conditions and monitoring in the area. These have been included in the revised Water Management Plan pending approval. Monitoring results are assessed against these new triggers as part of the North Void Tailings Storage Facility (NV TSF) Pollution Reduction Programme monitoring and reporting requirements via the Environmental Protection Licence. The current EC trigger is considered not to be representative of historical (pre-mining) conditions or adequate to assess improving water quality following seepage from the NV TSF.

HVO continued to mitigate potential impacts of seepage from the NV TSF. This included no deposition of tailings to the TSF and decanting of surface water to allow the tailings to dry and consolidate. Monitoring of the area continues at an increased frequency including data collection from continuous groundwater loggers measuring water level and quality.

As part of a Pollution Reduction Programme, works in 2025 included ongoing assessment of effectiveness for a low permeability barrier wall to be constructed between the TSF and the alluvium.

Trigger exceedances in the Carrington Alluvium are detailed in **Table 5.2** of **Appendix B**. There was one pH level of 6.9 in March 2025 for CFW55R, but no other exceedances recorded.

7.5.6 | CARRINGTON INTERBURDEN

Water quality results were generally consistent with historical trends aside from CGW51a pH. The bore recorded a decline in EC and a general increase in pH over time, above the trigger level of 7.4. Fieldwork by AECOM in 2023 identified the surface casing of the bore was compromised. This is noted in the groundwater level trends that show greater response to rainfall events compared to similar bores. – refer to **Table 6.3** of **Appendix B**.

7.5.7 | CARRINGTON WEST WING ALLUVIUM

Water quality results were generally consistent with historical trends. Bore CGW49 intersects alluvium within the western limb of the paleochannel. Historical readings show that bore CGW49 has recorded pH ranging between 7.3 and 7.7. Review of pH readings remained fairly stable and within historical levels over 2025. The results show no adverse impacts due to mining.

There were no trigger exceedances in 2025.

7.5.8 | CARRINGTON WEST WING FLOOD PLAIN

Water quality results were generally consistent with historical trends.

There were no trigger exceedances during 2025 (i.e. more than 3 consecutive results outside of trigger limits).

7.5.9 | CHESHUNT / NORTH PIT ALLUVIUM

Water quality results were generally consistent with historical trends. Data shows that while mined coal seams are fully depressurised, the degree of depressurisation in the shallow overburden is more subdued. There was one reading of pH 7.6 in Q2 at Hobdens Well, above the pH trigger level.

Trigger tracking results for Hobdens Well are further detailed in **Table 5.4** of **Appendix B**.

7.5.10 | CHESHUNT INTERBURDEN

Water quality results were generally consistent with historical trends.

There were no trigger exceedances during 2025 (i.e. more than 3 consecutive results outside of trigger limits).

7.5.11 | CHESHUNT MT ARTHUR

Water quality results were generally consistent with historical trends except for pH.

pH results from all three bores have been gradually trending downward since July 2011. The updated draft WMP includes amendments to the Cheshunt - Mt Arthur seam groundwater monitoring triggers in response.

Bore BZ3-3, located between Cheshunt Pit and the Hunter River, and had an increasing pH trend between June 2006 (6.0) and August 2012 (7.1) followed by a decreasing trend between December 2012 (7.1) and November 2022 (6.1). The 2025 readings ranging between of 6.2 and 6.4 are within the historical range.

Drawdown in the Mt Arthur Seam in response to mining from 2008 to present is evident, which corresponds with active mining in Cheshunt Pit. Groundwater drawdown is most visible in the deeper bores BZ3-3, BZ2A(1) and BZ1-3. The groundwater levels and drawdown are consistent with predicted impacts for approved operations.

7.5.12 | CHESHUNT PIERCEFIELD

Water quality results were generally consistent with historical trends.

There were no trigger exceedances recorded in 2025.

7.5.13 | LEMINGTON SOUTH ALLUVIUM

Water quality results were generally consistent with historical trends. Refer to **Table 5.4** of **Appendix B**.

There were no trigger exceedances during 2025 (i.e. more than 3 consecutive results outside of trigger limits).

7.5.14 | LEMINGTON SOUTH ARROWFIELD

Water quality results were generally consistent with historical trends.

There were no exceedances of trigger levels (3 or more consecutive events) in 2025.

7.5.15 | LEMINGTON SOUTH BOWFIELD

Water quality results were generally considered to be consistent with historical trends. Bore C122(BFS) has one reading of pH 12.3 in August 2025. The bore had insufficient water for sampling in Q4. The high pH may be a non-representative sample. Bores C130(BFS) and C630(BFS) have recorded a general rise in pH over time, with consecutive readings in Q2 and Q4 above the trigger level of 7.9. These bores are located closest to the southern void in South Lemington Pit 1 and may be influenced by the void water quality. Bore D317(BFS) had a sudden spike reading in 2025 of 17,750 µS/cm, up from 2,520 µS/cm. The reading is uncharacteristic for the bore and may be a data entry error. Bore B631(BFS) has consistently recorded higher EC compared to the other bores, with consecutive readings above the trigger level over 2025 (Q2 and Q4) resulting in a trigger exceedance. Further detail is presented in **Appendix B**.

7.5.16 | LEMINGTON SOUTH INTERBURDEN

Historical readings of C130(ALL) show regular fluctuations of pH between 6.6 and 7.2 The 2025 readings for pH are considered consistent with historical concentrations.

There were no exceedances of trigger levels (3 or more consecutive events) in 2025.

7.5.17 | LEMINGTON SOUTH WOODLANDS HILL

Water quality results were generally consistent with historical trends, with no measurements outside of trigger limits for three (3) consecutive monitoring events or greater aside from Bore C122(WDH) which recorded pH above the upper trigger level in Q4. Bore B631(WDH) recorded pH below the trigger level in Q4. Bore C317(WDH) recorded pH above the upper trigger level in Q2 and Q4 2024 and Q2 and Q4 2025, resulting in a trigger exceedance. Bore C130(WDH) recorded EC levels above the trigger level in Q2 and Q4 2024 and Q2 2025, resulting in a trigger exceedance. The EC for Q4 2025 was slightly below the trigger at 20,200 µS/cm. This was investigated by Umwelt in the Groundwater Annual Review (refer to **Section 5.2.4.2** of **Appendix B**).

7.5.18 | LEMINGTON SOUTH GLEN MUNRO

Water quality results were generally consistent with historical trends.

Bore D010(GM) recorded EC levels above the trigger level in 2024, which declined to just below the trigger level in Q2 2025 but increased above the trigger in Q4 2025. Further detail is presented in **Appendix B**.

7.5.19 | NORTH PIT SPOIL

Groundwater within the spoil flows from northern-most bore DM1 in a southerly direction towards the southern-most bore MB14HVO03. EC and pH were found to generally be within historical levels.

EC in the spoil is highest at bore 4116P and MB14HVO05, which are located to the south of NV TSF. EC has been lowest at 4119P at the far east of Alluvial Lands Pit, but the bore showed a general rise in EC over time, up to 5,470 µS/cm. Bore DM3 recorded pH (6.4) below the lower trigger level in Q2. Further detail is presented in **Appendix B**.

7.5.20 | WEST PIT ALLUVIUM

Over 2025 groundwater elevations within the three bores (G1, G2 and G3) on the south-western side of Parnell's Creek Dam ranged between 106.7 mAHD (1.9 mbgl) and 109.8 mAHD (0.9 mbgl), in bores G3 and G2, respectively. The groundwater level trends do not appear to correlate to long term climate trends. However, groundwater levels at the bores are aligned and appear to correspond with trends in Parnell's Creek Dam. Water levels in Parnell's Dam over 2025 ranged between 110.6 mAHD and 112.8 mAHD.

Bore GW-101 was recorded as dry throughout 2025, a continuation of the trend over 2022 to 2024. Bore GW-101 is 12 m deep and has a screen from 9 m to 12 m depth within clay of the weathered Saltwater Creek Formation. Bore GW-101 has recorded groundwater levels over 12 mbgl and noted as dry or having insufficient water to sample since 2013.

Bores G1, G2 and G3 continued to be monitored on a monthly basis during the reporting period. Monitoring in bores GW-100 and GW-101 was undertaken quarterly in accordance with the HVO Groundwater Monitoring Programme.

Bore GW-100 recorded consecutive EC readings above the trigger level since March 2023. EC increased from 10,750 µS/cm (Mar 2023) to 11,040 µS/cm (Dec 2025). EC trends for G2 and G3 have remained similar, with a slight decrease over 2025 to 4,530 µS/cm. In contrast, the EC fluctuates for G1 and declined rapidly from 4,720 µS/cm in March 2025, down to 792 µS/cm by September 2025. The bores also recorded sulphate concentrations of between 87 mg/L (G1) and 954 mg/L (G2) in 2025. Further detail is presented in **Appendix B**.

7.5.21 | WEST PIT SANDSTONE/SILTSTONE

Water quality results were generally consistent with historical trends.

Bore NPZ2 recorded four consecutive EC concentrations above the trigger level over 2024 and two in Q2 and Q3 of 2025. Bore NPz2 is located away from the West Pit operations and intersects the low permeability Saltwater Creek Formation. Water level trends indicate the bore is slow to recover following sampling, and field records note the presence of "orange fleshy chunks" that may indicate iron bacteria and

compromised bore condition. It is recommended that the condition and purpose of NPz2 be reviewed and updated in the WMP.

Further discussion of NPZ2 levels is presented in **Table 6.3** of **Appendix B**.

7.5.22 | CARRINGTON WEST WING BAYSWATER

Groundwater levels were recorded in Q2 to Q4 of 2025 indicating a rise in groundwater levels up to 51.9 mAHD. The measured groundwater levels at CGW45 are much higher than is recorded for bores within the shallower Broonie Seam (CGW52 and CGW53), and results for CGW45 may not be representative of the Bayswater Seam.

7.6 | COMPENSATORY WATER SUPPLY

During 2025 HVO did not provide compensatory water supply or alternate compensation in lieu of compensatory water supply under any new or existing agreements, and circumstances which may trigger a requirement to provide a compensatory water supply were not identified.

7.7 | PROGRESS AGAINST RECOMMENDATIONS IN 2024 ANNUAL GROUNDWATER REVIEW

A number of recommendations were made in the Annual Groundwater Monitoring Review produced by Umwelt (Appendix B of the 2024 Annual Review). Progress against these actions is shown in **Table 7-6**.

Recommendations made 2025 Annual Groundwater Monitoring Report and proposed actions are shown in **Table** 7-7.

Table 7-6: Progress Against Recommendations in 2024 Annual Groundwater Review

Recommendation	Progress in 2025
BUNC45A - Water levels at or below the base of the screen since monitoring began. Water quality samples should not be collected if water level is below 19.3 mbTOC as they will likely not be representative of the surrounding aquifer	HVO communicated to sampling contractor to not sample below 19.3 mbTOC.
BZ3-3 - Groundwater quality (pH) exceedance during the reporting period. The bore is a 25 mm diameter bore, which is hindering water quality sampling and should be removed from the monitoring schedule. It is noted that the bore has already been removed from the compliance monitoring network in version 3.4 of the revised WMP which is currently with DCCEEW for approval.	Updated in revised WMP. Awaiting DPHI approval.

Recommendation	Progress in 2025
BZ4A(2) - Provide screen interval depth collected in 2024 by AECOM. If current bore details are correct the bore should be removed from the WMP but kept as part of the operational monitoring network for ongoing monitoring of groundwater recovery post mining. Water quality samples should not be collected if the groundwater level is below the base of the screen.	Depth of base of screen and total depth confirmed. Water level below screen, water samples not taken as too low. To be removed from WMP.
C130(WDH) - In 2023, Umwelt undertook a trigger investigation for bore C130(WDH). The investigation noted that the C130 series of bores are 28 years old leading to deterioration of the bores over time which may be influencing water quality results. The investigation recommended undertaking comprehensive water quality analysis of water stored in the Lemington South Pit to determine if there is any seepage to the surrounding groundwater, monitored by the C130 series of bores ((Umwelt, 2023b). A water quality sample was collected from South Lemington Pit in September 2024. However, only bores C130(ALL) and C130(AFS1) have major ion analysis data available for comparison. Based on the available water quality data it is unlikely that seepage is occurring from the pit to the surrounding groundwater. However, it is recommended that an additional round of comprehensive water quality analysis (major ions) is undertaken in all C130 bores and South Lemington Pit to confirm that seepage is not occurring. If it is determined that there is no connection between the pit and the surrounding groundwater, the change in water quality is likely due to bore deterioration in which case the C130 series of bores should be replaced.	Updated in revised WMP. Awaiting DPHI approval.
CGW45 - Over 2024, the bore was recorded as blocked. An extension was added to the casing to increase the height of the casing above the ground surface to avoid further blockages. Removal of the blockage will be attempted again in 2025. Due to the bore condition CGW45 has been removed from the draft WMP which is awaiting approval. The bore should also be removed from the monitoring schedule.	Bore was unblocked in March 2025.
CGW51a - Groundwater quality (pH) exceedance during the reporting period. The bore is used to monitor groundwater levels surrounding the backfilled Carrington Pit. Decommission the bore to prevent potential mixing of alluvial and Permian aquifers and install a replacement bore which can be used for monitoring to ensure the backfilled Carrington Pit continues to act as a groundwater sink. It is noted that the bore has already been removed from the compliance monitoring network in version 3.4 of the revised WMP which is currently with DCCEEW for approval.	Updated in revised WMP. Awaiting DPHI approval. New bore scheduled for installation in 2026.
CGW53a - Groundwater level trigger exceedance during the reporting period. Revised water level trigger already updated in the updated draft WMP, which is currently with DCCEEW for approval.	Updated in revised WMP. Awaiting DPHI approval.
CGW55a - Groundwater level trigger exceedance during the reporting period. Revised water level trigger already updated in the updated draft WMP, which is currently with DCCEEW for approval.	Updated in revised WMP. Awaiting DPHI approval.
GW-100 - Groundwater quality (EC) exceedance during the reporting period. The EC exceedances are due to declining groundwater levels. Trends should continue to be monitored to determine if they are related to mining activities.	Trends were continued to be monitored in quarterly reports throughout 2025.

Recommendation	Progress in 2025
GW-103 - The sensors have been checked and are irreparable. The VWP has been removed from the draft WMP which is awaiting approval. The VWP should also be removed from the monitoring schedule.	Updated in revised WMP. Awaiting DPHI approval.
GW-105 - The deepest sensor (VW3) has failed due to an open circuit and is no longer recording data. The sensor should be removed from the revised WMP and the monitoring schedule.	Updated in revised WMP. Awaiting DPHI approval.
GW-108 - In 2023, AECOM investigated the blockage with a downhole camera. The bore is deformed at depth preventing the collection of water quality samples. A replacement bore is planned to be drilled in 2025 as bore GW-108 forms part of the void closure plan.	To be completed in 2026.
GW-110 - Calibration data from VWP installation is unavailable to convert raw data to water levels. Decommission the VWP and remove from monitoring schedule.	Calibration data unavailable for conversion. To be decommissioned as per recommendation
NPZ2 - Groundwater quality (EC) exceedance during the reporting period. It is noted that the bore has already been removed from the compliance monitoring network in the updated draft WMP which is currently with DCCEEW for approval. However, NPz2 should remain in the operational monitoring network to assist with future assessments and post closure monitoring. No further action is considered necessary.	Updated in revised WMP. Awaiting DPHI approval.
NPZ3 - Bore NPz3 has been recorded as blocked since December 2022. In 2023, AECOM investigated the condition of the bore using a downhole camera. The footage showed major deformation of the PVC casing. The bore has already been removed from the compliance monitoring network in the updated draft WMP which is currently with DCCEEW for approval. However, it is recommended that the bore is replaced as it will be required for monitoring of final voids following closure.	Updated in revised WMP. Awaiting DPHI approval. Bore NPz3 scheduled for replacement

Table 7-7: Recommendations from 2025 Groundwater Report

Recommendation
CGW46 - Review the condition and construction of the bore, due to a general rise in pH and trends not aligned to Permian strata.
PZ1CH200, PZ2CH400 and PZ3CH800 - Further investigation into the trends for bores at the eastern end of Alluvial Lands Pit spoil and Hunter River alluvium.
GW-117 - Recommend inclusion within the WMP to enable monitoring of alluvium north of Riverview Pit.
D317(ALL), C919(ALL) and C130(WDH) - Review groundwater trends and recovery conditions within South Lemington Pit 1. This should include development of a conceptual groundwater model to visualise recovered groundwater levels and surrounding geology.
PB01(ALL) - Confirm the location of bore PB01(ALL).
G1 to G3 - Review trends at the bores and Parnell's Creek Dam water management activities.
Logger data - Review the existing groundwater level loggers and data collection to ensure representative levels are recorded and documented.
HG2A and BC1a - Measure the actual bore depth and base of screen to confirm if the bores are dry.
LUM - Review groundwater monitoring network for LUM as per Modification 7 commitments and post closure recovery.

7.8 | TAILINGS MANAGEMENT

Key tailings management activities in 2025 included:

- Continued Secondary Flocculent dosage into Carrington in Pit TSF was made, to improve beaching;
- Additional pumping infrastructure maintained in Carrington in Pit TSF to reduce decant size and increase consolidation.
- Carrington spigot locations re-designed to optimise storage and minimise decant pond size. 2 additional spigot locations installed in 2025.
- Temporary cessation of deposition into Dam 6W TSF has been extended, allowing time for consolidation prior to final top up deposition.
- Ongoing implementation of the North Void TSF Management Plan to manage and mitigate any potential impacts from an identified seepage pathway. Provision of quarterly and annual analysis reports to EPA;
    - Additional Shear Vane Tests and Cone Penetration Testing completed to aid capping investigations.
    - 9 additional water monitoring holes drilled along western embankment within piezometers installed.
    - Updated groundwater transport model to incorporate capping scenarios, additional piezometer data to inform final barrier wall design;
    - Barrier Wall Construction tender released, expected to commence construction during 2026.
- Capping of Bob's Dump continued:
    - Capping of outer Stage 1 areas complete
    - Cone Penetration and Shear Vane Testing of the 'soft' centre pond area completed to inform safe closure design for Stage 2 of capping works.

Table 7-8 outlines the current state of Tailings Storage Facilities across HVO that are still active or pending decommissioning.

Table 7-8: HVO Tailings Storage Facilities

Facility	Status	Decant System
North Void	Inactive	Decant pumps in place, pumping as required.
Dam 6W	Predominantly inactive – intermittent filling	Decant pumps in place, pumping as required.
Cumnock Void	Active	Decant pump in place, regular pumping when deposition occurring.
Bob's Dump	Inactive; preparation for decommissioning	Decant pump in place, pumping as required.
Southeast TSF	Decommissioned and rehabilitated	N/A
Central TSF	Inactive	No pumps required due to drying after rainfall (small catchment reporting to TSF).

Carrington In-pit TSF	Active	Decant pumps in place, regular pumping.

8 | REHABILITATION AND LAND MANAGEMENT

8.1 | SUMMARY OF REHABILITATION

Rehabilitation at HVO is undertaken in accordance with commitments made in 2025-2028 Forward Works Program (FWP) and Rehabilitation Management Plan (RMP).

A summary of the key rehabilitation performance indicators is shown in **Table** 8-1.

Table 8-1: Key Rehabilitation Performance Indicators

Mine Area Type	Previous Reporting Period (Actual) Year 2024 (ha)	This Reporting Period (Actual) Year 2025 (ha)	Next Reporting Period (Forecast) Year 2026 (ha)
A. Total disturbance footprint[2]	7233.83	7371.94	7434.12
B. Total active disturbance[3]	4303.28	4380.5	4430.55
C. Growth medium development[4]	44.75	35.76	28.56
D. Land under active rehabilitation[5]	2930.55	2993.29	2949.59
E. Completed rehabilitation[6]	0.00	0.00	0.00

[2] **Total mine footprint** includes all areas within a mining lease that either have at some point in time or continue to pose a rehabilitation liability due to mining and associated activities. As such it is the sum of total active disturbance, decommissioning, landform establishment, growth medium development, ecosystem establishment, ecosystem development and relinquished lands (as defined in NSW RR Guidelines). Please note that subsidence remediation areas are excluded

[3] **Total active disturbance** includes all areas ultimately requiring rehabilitation such as: on-lease exploration areas, stripped areas ahead of mining, infrastructure areas, water management infrastructure, sewage treatment facilities, topsoil stockpiles areas, access tracks and haul road, active mining areas, waste emplacements (active/unshaped/in or out-of-pit), and tailings dams (active/unshaped/uncapped).

[4] **Growth medium development** – includes the sum of mine disturbed land that is under the following rehabilitation phases – decommissioning, landform establishment and growth medium development (as defined in NSW RR Guidelines).

[5] **Land under active rehabilitation** – includes areas under rehabilitation and being managed to achieve relinquishment – includes the following rehabilitation phases– “ecosystem and land use establishment” or “ecosystem land use development” as described in the NSW RR Guidelines

[6] **Completed rehabilitation** – requires formal sign off by the NSW RR that the area has successfully met the rehabilitation land use objectives and completion criteria.

8.2 | REHABILITATION PERFORMANCE

A total of 55.78 ha of new rehabilitation 6.8ha of Growth Media Development (GMD) progression was completed in 2025. Details of the rehabilitation areas completed during 2025 are provided in **Figure** 8-1**.**

Table 8-2 details the amount of rehabilitation and disturbance completed during the reporting period compared with proposed area in the respective FWP.

8.2.1 | NEW REHABILITATION

HVO completed rehabilitation in accordance with the 2025-2027 HVO Rehabilitation Forward Work program. Rehabilitation activities completed in 2025 included:

- Shaping of overburden dumps
- Installation of drains
- Deep ripping of overburden
- Rock racking
- Application of 100mm of topsoil and application of Gypsum
- Installation of habitat structures
- Deep ripping or aerating topsoil
- Seeding of final land use via airseeder or Drone

A summary of the rehabilitation completed in 2025 is shown in Table 8-2.

Table 8-2: Summary of New Rehabilitation Completed in 2025

Rehabilitation Site Name	Seed Mix	Area (ha)
HVOCHE202501	Woodland	23.65
HVOCHE202502	Woodland	30.81
HVOCAR202501	Pasture	1.21
HVOCAR202502	Pasture	0.11
Total		**55.78**

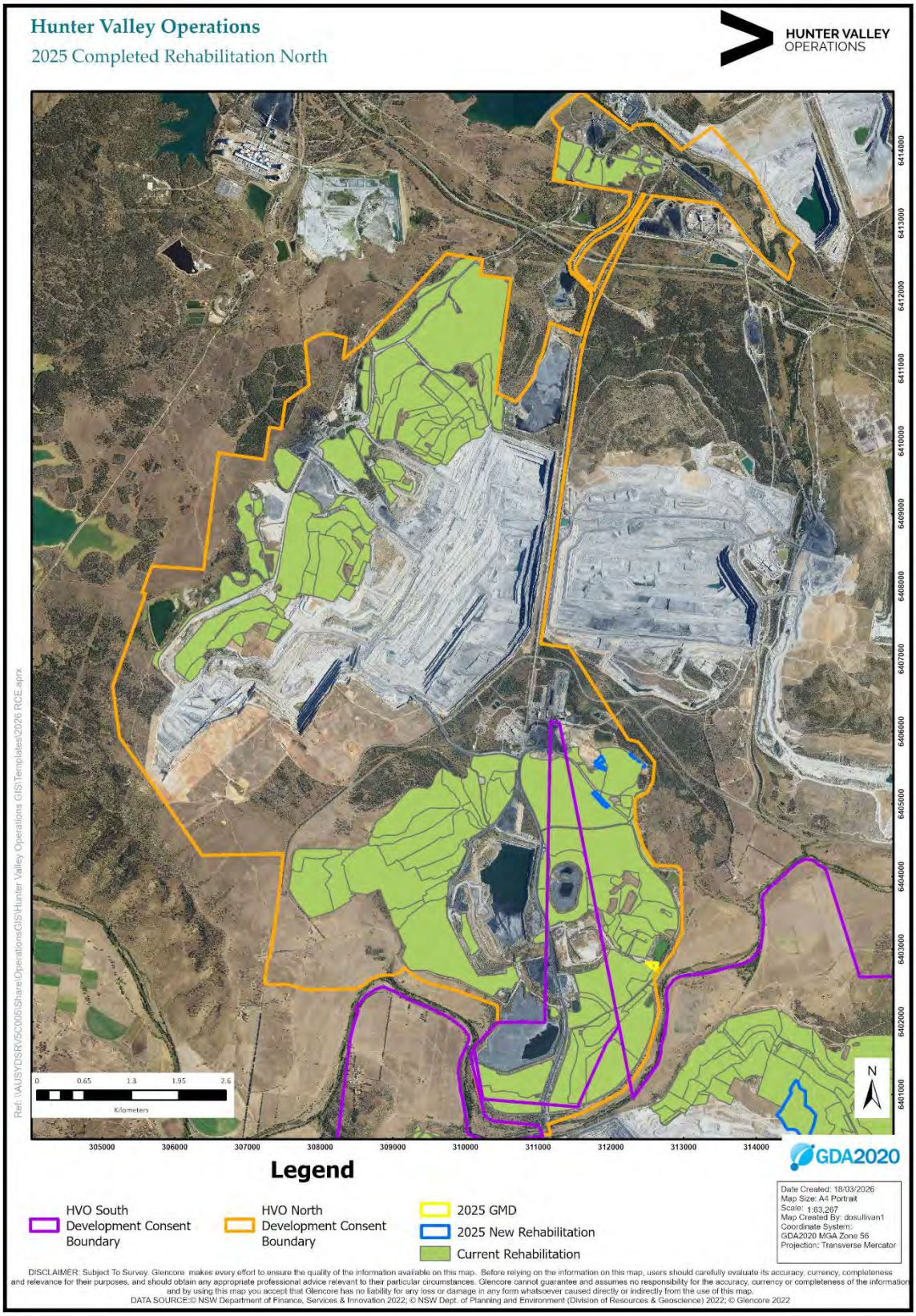


Figure 8-1: HVO Rehabilitation Areas North - 2025

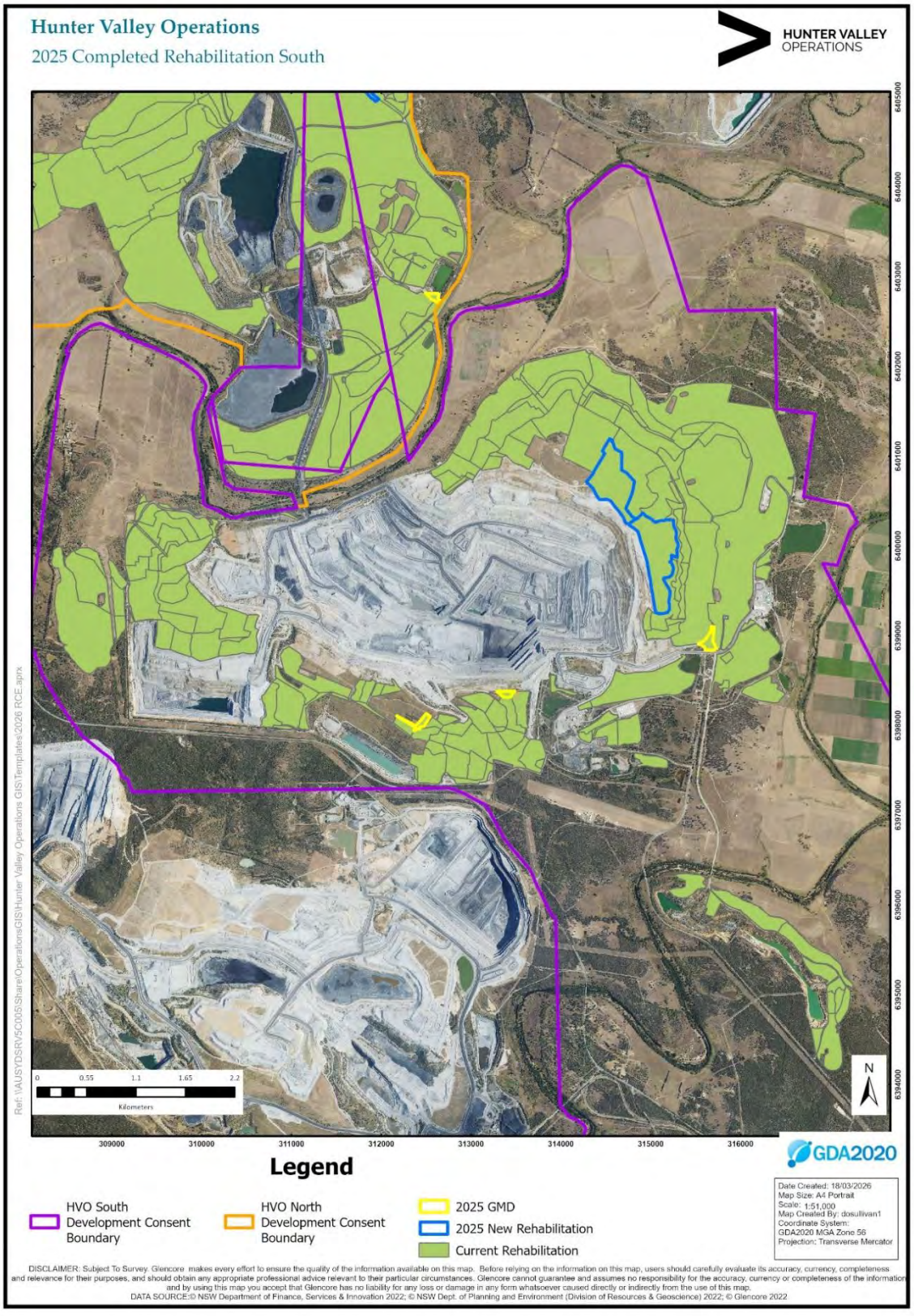


Figure 8-2: HVO Rehabilitation Areas South - 2025



Figure 8-3: 2025 Geomorphic Rehabilitation at Cheshunt

8.2.2 | GROWTH MEDIUM DEVELOPMENT

In 2025, HVO completed 6.8ha of GMD against a planned target of 10.8 ha. The variance was due to 2.1 ha of planned GMD being included in the 2026 disturbance program, while a further 1.9 ha was removed from the 2025 program following mapping updates confirming that GMD works had already been completed in these areas in previous years.

2025 marked the final year of the GMD program with all areas not included in the future life of mine disturbance plan now complete. Further detail on the GMD S240 notice is included below in **Section 8.9.1 |**.

8.3 | VARIATIONS FROM PROPOSED FORWARD WORK PROGRAM

Rehabilitation and disturbance were completed in accordance with the 2025-2027 HVO Forward Work Program (FWP). Table 8-3 details the amount of rehabilitation and disturbance completed during the reporting period compared with proposed area in the respective FWP.

Table 8-3: Summary of Rehabilitation and Disturbance Completed in 2025

FWP	2025 Totals (ha)	
	Actual	Proposed FWP (2025)
Rehabilitation		
HVO North	1.32	0.00
HVO South	54.46	55.62
HVO Total	55.78	55.62
Rehabilitation Disturbance		
HVO North	9.30	38.09
HVO South	3.09	28.52
HVO Total	12.39	66.60
New Disturbance		
HVO North	107.27	130.02
HVO South	17.32	29.33
HVO Total	124.59	159.35
Net Rehabilitation (Rehabilitation minus Rehabilitation Disturbance)		
HVO Total (Rehab)	**HVO Total (Rehab Disturbance)**	**HVO Total (Net Rehabilitation)**
55.78	12.39	43.39

8.4 | EIS PROGRESSION

Rehabilitation during 2025 was completed in accordance with the DA450-10-2003 and PA06_0261.

At the end of 2025, 1,821.97 ha of land in HVO North was under active rehabilitation, with no areas currently classified in the GMD phase. DA450-10-2003 Modification 8 requires rehabilitation to be undertaken in accordance with the RMP and Forward Program, and this is progressing as planned, as outlined in Table 8.3 above

Rehabilitation at HVO South is also being undertaken in accordance with PA06_0261 Modification 5. At the end of 2025, 1,169.47 ha of land in HVO South was under active rehabilitation, with a further 35.76 ha in the GMD phase, resulting in a total rehabilitation management footprint of 1,205.24 ha. This exceeds the EIS predicted total for HVO South at the end of 2025 of 1,180ha.

8.5 | REHABILITATION TRIALS

In 2025, HVO conducted a growth medium trial by applying 18ha of subsoil on flatter grade areas of the Cheshunt rehabilitation area. This trial is a part of the life of mine topsoil strategy and will help inform future methodologies for maximising re-use of growth medium across HVO.

8.6 | KEY ISSUES THAT MAY AFFECT REHABILITATION

HVO conducted a review of the rehabilitation risk assessment in 2025 which identified two high risks to rehabilitation at HVO. These high risks related to the knowledge gap for ground and surface water interactions from mine voids and former underground workings at closure. Actions are assigned to develop a groundwater monitoring networks to assist with filling the knowledge gaps in key areas.

In addition, a further eight medium risks were identified as having the potential to impact rehabilitation establishment including:

- Failure to identify topsoil types when salvaging / stockpiling (e.g. pasture vs woodland)
- Limited biological resources for salvage (soil, vegetation, seeds, habitat resources
- Poor handling and containment of geochemical and geotechnically unsuitable tailings and reject materials
- Soil (topsoil and/or subsoil) deficit for rehabilitation activities
- Soils inadequate to support revegetation or agricultural land capability (e.g. lack of organic matter, nutrient deficiency, adverse chemical properties, weed seed bank)
- Weed infestation limiting target species/community (general)
- Weather and climatic influences (drought, flood) during initial establishment
- Insufficient establishment of target species and limited species diversity

These key risks have been addressed in a rehabilitation Trigger Action Response Plan (TARP) within the HVO RMP. The TARP identifies the required management actions in the event of impacts to rehabilitation, or where rehabilitation outcomes are not achieved in an acceptable timeframe. An assessment of the 2025 rehabilitation monitoring results against the TARP is included in **Section 8.7**.

8.7 | REHABILITATION MONITORING

HVO adopted the revised GCAA rehabilitation monitoring program to monitor rehabilitation areas and trajectory towards meeting the rehabilitation objectives, performance and completion criteria. The monitoring framework comprises Initial Establishment Monitoring (IEM) and Long-Term Monitoring (LTM) depending upon the age of the rehabilitation area. Additionally, a walkover assessment is completed whereby the full extent of each monitoring block included in the annual program is assessed for maintenance requirements.

IEM is a rapid style assessment of young (≤3 years old) rehabilitated areas, principally to determine germination success and landform stability, and describes differing methods for HVO's key final land uses of grazing and non-specific woodland.

LTM utilises the Biodiversity Assessment Methodology (BAM) to compare rehabilitation areas with analogue site results. The objective of the LTM program (areas ≥4 years old) is to evaluate progress of rehabilitation towards fulfilling completion criteria and, ultimately, the targeted post-mining land use. Like methods apply for LTM of both rehabilitation and reference monitoring sites.

Monitoring during 2025 represented a continuation of this ecological monitoring program adopted during 2020. During the 2025 monitoring 127 sites were monitored and these comprised of:

- 15 IEM Non-specific Woodland sites (8 blocks);
- 32 LTM Non-specific Woodland sites (14 blocks);

- 16 IEM Pasture sites (6 blocks); and
- 64 LTM Pasture sites (22 blocks).

The results of the annual rehabilitation monitoring, combined with the annual walkover, are utilised to assess rehabilitation performance against the sites closure criteria, the RMP TARP and GCAA's Rehabilitation Report Card. The location of sites monitored in 2025 can be seen below in Figure 8-4.

8.8 | MONITORING PERFORMANCE

Overall, the majority of the rehabilitation blocks monitored in 2025 are trending towards meeting the rehabilitation criteria. Generally, older rehabilitation blocks (prior to 2015) exhibited lower target species diversity and higher weed coverage. Recommendations have been made to improve these blocks and a detailed maintenance plans have been developed for each block. Erosion was also a major contributor to maintenance works required in older rehabilitation blocks. Monitoring results from younger blocks generally identified a higher abundance of species from target communities, lower weed presence and less erosion.

Pasture IEM blocks generally performed well, with on average a relatively low presence of weeds and bare ground being observed. Erosion was present within a number of these blocks however it was generally observed to be stable, minor and isolated in nature. Pasture composition in these blocks also either met or were observed to be trending towards meeting early establishment targets. Pasture LTM blocks recorded values that were more varied in nature. Observed ground cover was high across all blocks 22 out of the 28 blocks monitored being classed as acceptable. Suitable pasture species composition was relatively high across the blocks, with 16 of the blocks being classed as acceptable.

Native woodland rehabilitation at HVO overall presents as having generally good ground cover and very low levels of erosion. Although extensive works have been undertaken in previous years to reduce the presence of weeds, there is still a substantial load of priority weeds that remain. Native woodland IEM blocks were all observed to exhibit no or very minor but stable erosion. Weed species were present and require targeted maintenance in four of the eight blocks monitored. Tree stems and native composition were generally below early establishment targets. Of the 14 native woodland LTM blocks monitored, only two blocks showed signs of very minor erosion and all blocks had acceptable ground cover. Weed species were prevalent, with only three blocks not requiring targeted weed control. Native tree canopy results overall were generally low with the average being 7.6% and a range of 0.2% to 50.2%. To address the low native species composition levels identified in older woodland rehabilitation, an infill planting program will be conducted in older rehabilitation areas during 2026.

Based on these findings from the monitoring program, a rehabilitation maintenance plan has been developed and will be implemented to continue the progression of HVO's rehabilitation towards meeting closure criteria.

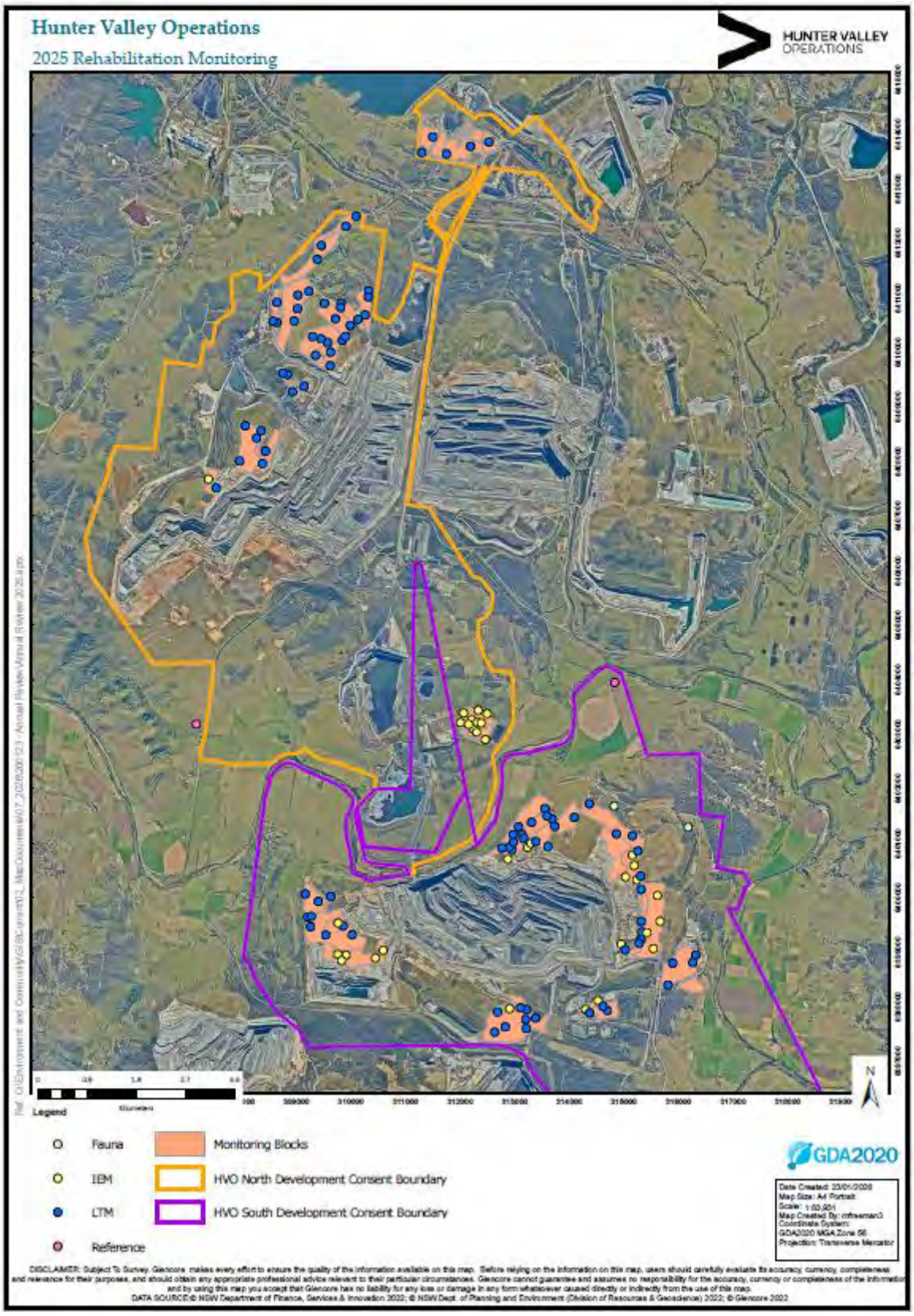


Figure 8-4: 2025 Rehabilitation Monitoring Sites

8.9 | REHABILITATION MAINTENANCE

Management of rehabilitated areas is undertaken proactively to assist in initial establishment and when issues are identified through monitoring, auditing or inspections.

An overview of key rehabilitation maintenance activities is detailed below.

8.9.1 | SECTION 240 MAINTENANCE PROGRAM

In October 2018 HVO received a Section 240 notice (s240) from the NSW Resources Regulator (RR) in response to the triggering of TARPs and a site inspection which identified a number of rehabilitation areas that had been seeded with cover crop only and had remained in the Growth Medium Development (GMD) phase for a number of years. This initial s240 required HVO to review the rehabilitation phase of all rehabilitation areas on site, as well as to provide a plan to progress rehabilitation areas from the GMD phase towards their relevant final land use.

Following this initial s240, a further inspection was undertaken by the RR in May 2019. Following this inspection, HVO was issued with another s240 requesting a report outlining actions to improve rehabilitation performance and a plan / timeline of implementation of improvement works. To address this notice, HVO developed a S240 rehabilitation maintenance and improvement program to progress 520.3ha of rehabilitation classified as GMD to the ecosystem establishment phase. 2025 marked the final year of this program, with a total of 420.4ha of land initially established with a cover crop progressing to the ecosystem establishment phase since 2019. Maintenance activities included mulching, boom spraying, and seeding with final land use species in accordance with the HVO RMP.

The remaining 99.4ha of area outlined the original S240 maintenance plan has either been disturbed due to pit progression, used for topsoil stockpiles, or is planned to be disturbed in accordance with the life of mine plan. All completed GMD areas will be monitored in accordance with HVO's rehabilitation monitoring program and maintenance activities undertaken as required.

8.9.2 | REHABILITATION MAINTENANCE PROGRAM

Management of rehabilitated areas is undertaken proactively to assist in initial establishment and when issues are identified through monitoring, auditing and/or inspections.

Rehabilitation inspections and monitoring undertaken at HVO aim to identify rehabilitation risks and maintenance requirements. Each year an annual rehabilitation maintenance plan is developed which includes a range of maintenance activities that are planned to be complete in order to improve the quality of rehabilitation at HVO and progress towards its closure criteria. These works typically include weed control, erosion repairs, vegetation management and topsoil management. Maintenance works complete during 2025 are discussed below.

An overview of HVO's key 2025 rehabilitation maintenance activities is detailed below.

8.9.2.1 | WEED CONTROL

Broadacre weed treatment within rehabilitation areas is undertaken using agricultural methods comprising of boom sprays, wick wipers and slasher/mulchers. In existing rehabilitation areas boom spraying is primarily used to manage cover crop and fallow areas prior to sowing final native seed mixes. Pre-emergent application of herbicide is used when appropriate and necessary to control emerging weeds in the period between sowing and germination of the desired species. Wick wiping targets rapidly growing

exotic grasses and other erect growing weeds in the period following native germination while desirable species remain below the wiper target zone. Slashing and mulching is also used to remove rank pasture grasses, stimulate fresh growth and control dense infestation of Acacia Saligna. Hand spraying and manual removal of weeds is undertaken in rehabilitation areas with early stages and establishing native vegetation that would be likely to be damaged or destroyed should broadacre methods be used.

The key weed species targeted during the 2025 maintenance program included Galenia (Galenia pubsescens), Saligna (Acacia saligna), Rhodes grass (Chloris gayana), Mustard weed (Brassica juncea), African lovegrass (Eragrostis curvula) and Prickly pear (Opuntias).

During 2025, a total of 328ha rehabilitation blocks were boom sprayed, wick wiped, slashed/mulched or spot sprayed. Blocks managed can be seen below in **Figure** 8-5.

8.9.2.2 | EROSION REPAIRS

Drainage structures such as contour banks, drop structures and sediment dams are largely functioning as designed and require little to no maintenance, particularly in more recently established rehabilitation areas. Erosion repairs were conducted across HVO during 2025 in line with the Annual Rehabilitation and Closure Plan including drainage repair, contour re-shaping and desilting.

8.9.2.3 | VEGETATION ENHANCEMENT

In addition to the progression of GMD areas, HVO undertakes regular re-seeding in rehabilitation areas that have been identified as failing or requiring additional species diversity. The need for these interventions, and the most appropriate method, are identified during the annual rehabilitation walkover, annual ecological monitoring and internal monthly inspections of rehabilitation areas. During 2025, a total of 1200 tubestock were planted within LTM woodland block HVOWIL199902.

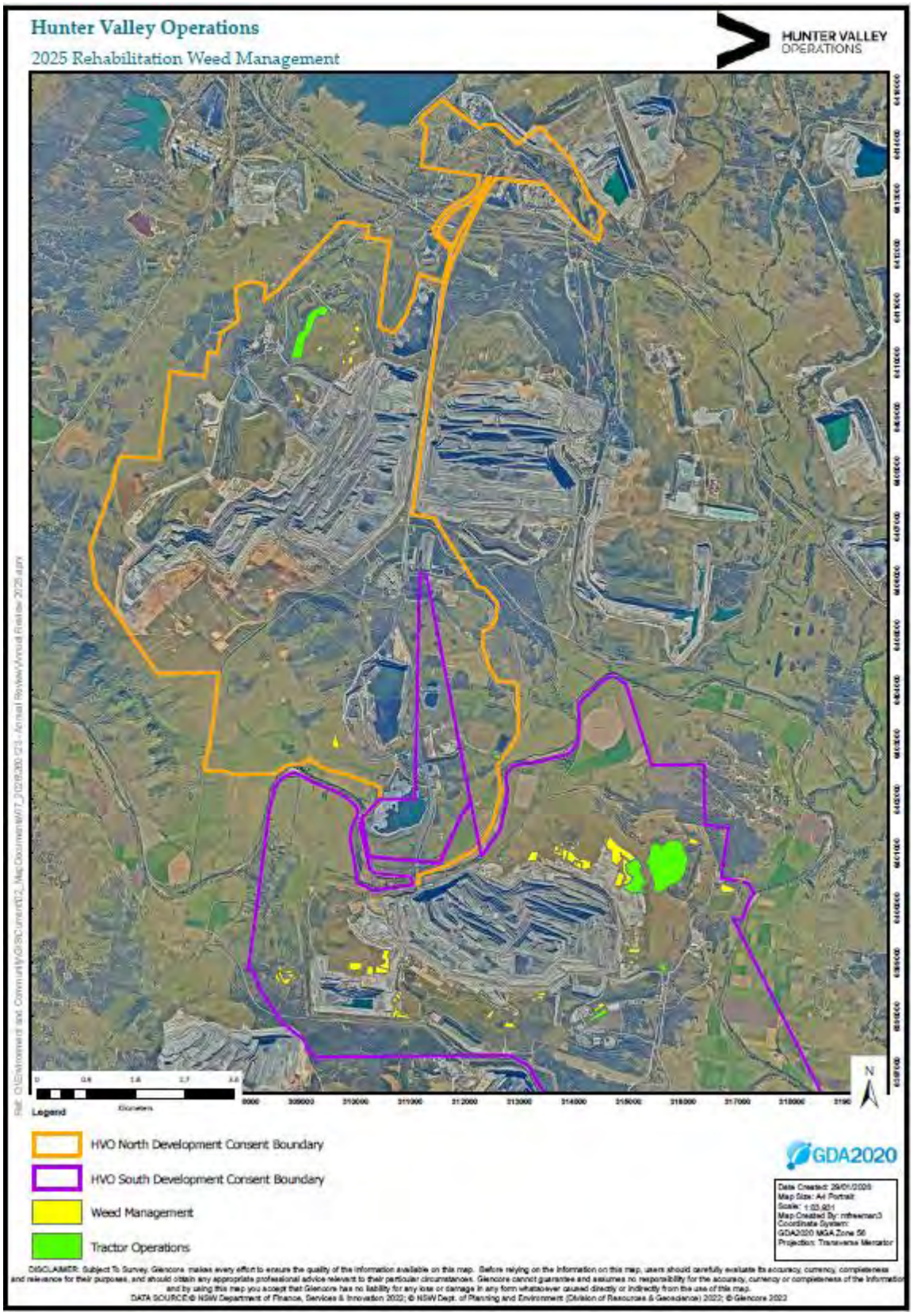


Figure 8-5: Weed Management Activities Conducted in 2025



Figure 8-6: 2025 Infill Planting

Maintenance works including mulching, boom spraying and re seeding of pasture species was also undertaken at 50ha of rehabilitation at the Polo Green in Cheshunt (**Figure** 8-7).



Figure 8-7: Geomorphic Rehabilitation at Cheshunt

8.9.2.4 | TOPSOIL MANAGEMENT

Prior to topsoil stripping occurring, soil profiling and testing is completed to understand amelioration required and topsoil stripping depth. If possible, topsoil is directly placed on rehabilitation areas. If this cannot occur the soil is placed in a topsoil stockpile, where it is shaped and seeded with a target species for its intended final land use (pasture/woodland). An annual inspection of topsoil stockpiles is completed to identify required maintenance activities. In 2025 the annual inspection identified a number of maintenance works including weed control, mulching and re seeding (if weed species have dominated). These maintenance activities have been incorporated into the 2026 ARCP.

8.9.3 | GRAZING OF REHABILITATION AREAS

Grazing of rehabilitation areas is utilised to encourage and maintain pasture diversity, encourage nutrient cycling, and assist in fuel load management.

In 2025, HVO completed fencing and water infrastructure works to enable grazing on an additional 88 ha of rehabilitation at Cyrus Paddock in Carrington. An agronomist-developed monitoring program was also initiated to assess progress against the proposed agricultural completion criteria in the HVO RMP.

Drainage works were also completed at the alluvial lands rehabilitation area during 2025 to restrict water runoff onto the area. Rehabilitation maintenance activities, including weed management and re-levelling, will continue during 2026 in accordance with the annual rehabilitation maintenance plan.



Figure 8-8: Cattle Grazing at Cyrus Paddock Rehabilitation

8.10 | VERTEBRATE PEST MANAGEMENT

A number of vertebrate pest eradication programmes were undertaken on a seasonal basis during 2025 as part of the HVO Vertebrate Pest Management Plan. The programmes were undertaken by external contracting businesses. These programmes were conducted at a frequency designed to disrupt pest species breeding/colonisation cycles and employ a variety of methodologies including baiting, trapping and ground-based shooting.

The activities conducted are listed in **Table 8.4** and discussed in sections below. Pest numbers removed from site presented in **Table 8.4**.

Table 8-4: Summary of HVO Vertebrate Pest Management 2023-2025

Pest	2023	2024	2025
Kangaroo	460	593	0
Pig (trap)	31	24	178
Pig (bait)	45	67	12
Pig (shoot)	43	35	99
Fox	0	0	2
Fox (bait)	56	176	28
Hare	0	0	0
Cat	0	0	0
Rabbit	0	0	1
Dog	0	0	10
Dog (bait)	120	96	19
Deer	0	0	0
TOTAL	**755**	**991**	**349**

8.10.1 | WILD DOG AND FOX BAITING PROGRAMS

During autumn and spring 2025, 1080 ground baiting programmes targeting wild dogs and foxes were implemented across operational as well as biodiversity offset areas. Each programme consisted of approximately sixty (60) bait sites utilising fresh meat injected with sodium monofluroacetate (1080 poison). Baits were checked over a six-week period and replaced each week if taken. The programmes were synchronised to coincide with neighbouring mine operations programmes, with the timing of these events co-ordinated with and by Hunter Local Land Services.

8.10.2 | PIG MANAGEMENT

8.10.2.1 | TRAPPING

A pig trapping programme was commenced between July and concluded in October 2025. The programme consisted of multiple trapping sites located on HVO land as well as biodiversity offset land. Traps consisted of metal cage traps as well as a net trap. The traps were checked the following morning after baiting, with any pigs present euthanised in accordance with the HVO Vertebrate Pest Management Plan. Full results are shown in **Table** 8-4.

8.10.2.2 | BAITING

A pig baiting programme using sodium nitrite 'Hoggone' was implemented during winter 2025. The position of baiting stations was co-ordinated using the HVO vertebrate pest sighting register to maximise potential effect. Baiting stations were located adjacent the Hunter River and Wollombi Brook as well as Howick areas. The programme consisted of:

- Setting up free feeding (non-toxic placebo bait) stations with cracked corn and molasses
- Checking and replacing free feed stations as required
- Installing Hoggone (sodium nitrite) in relevant bait stations once consistent pig activity is observed
- Checking baiting stations each morning for activity and to re-stock Hoggone

The programme resulted in twelve (12) pigs being controlled.

8.10.2.3 | BUFFER PROPERTY BOUNTY PROGRAMME

HVO licensees are encouraged to control vertebrate pest species via a bounty programme. Control methods employed by rural licensees include trapping, shooting and baiting on HVO buffer properties. During 2025, the bounty programme included the following results:

- Pigs: one hundred and thirty-seven (137)
- Foxes: two (2)
- Dogs: ten (10)

8.10.3 | KANGAROO CULL

HVO did not undertake any kangaroo culling activities during 2025.

8.10.4 | WELCOME SWALLOW CULL

HVO conducted a one-off cull of Welcome Swallows (*Hirundo neoxena*) within the North workshop. The cull was undertaken by contracted shooters at night whilst the birds were roosting. The cull was conducted during May 2025 in preparation for the HVO Family Day.

Table 8-4 summarises the results from the vertebrate pest programmes carried out at HVO by external contract companies and buffer property Licensees between 2023 and 2025

8.11 | RIVER RED GUM RESTORATION AND REHABILITATION

8.11.1 | RIVER RED GUM OVERVIEW

Eucalyptus camaldulensis (River Red Gum) populations in the Hunter Valley is listed as an Endangered Population under the NSW *Biodiversity Conservation Act 2016*. There are a number of River Red Gum sites across HVO North and South. HVO manages the River Red Gum stands on lands that it owns in accordance with the HVO River Red Gum Restoration and Rehabilitation Strategy (Strategy) (HVO 2020) which is a compliance requirement under Sch 3, Condition 31 of DA 450-10-2003.

The locations of the River Red Gum stands at HVO are shown in **Figure** 8-9.

The Strategy has an established monitoring program of the river red gum subpopulations and vegetation communities in Carrington Billabong and priority sites on the Hunter River and Wollombi Brook in HVO North and South. The Reference Site is located between Scone and Aberdeen (NSW).

As the Carrington billabong is narrow in form and liable to be subject to storm damage of the older trees, in previous years, tubestock plantings have been undertaken to bulk out the stand over time to reduce potential wind damage on the existing mature *E. camaldulensis*, and contribute towards the development of a vegetated corridor representing the Hunter Floodplain Red Gum Woodland community, connecting the Hunter River populations with the stands in the Billabong.

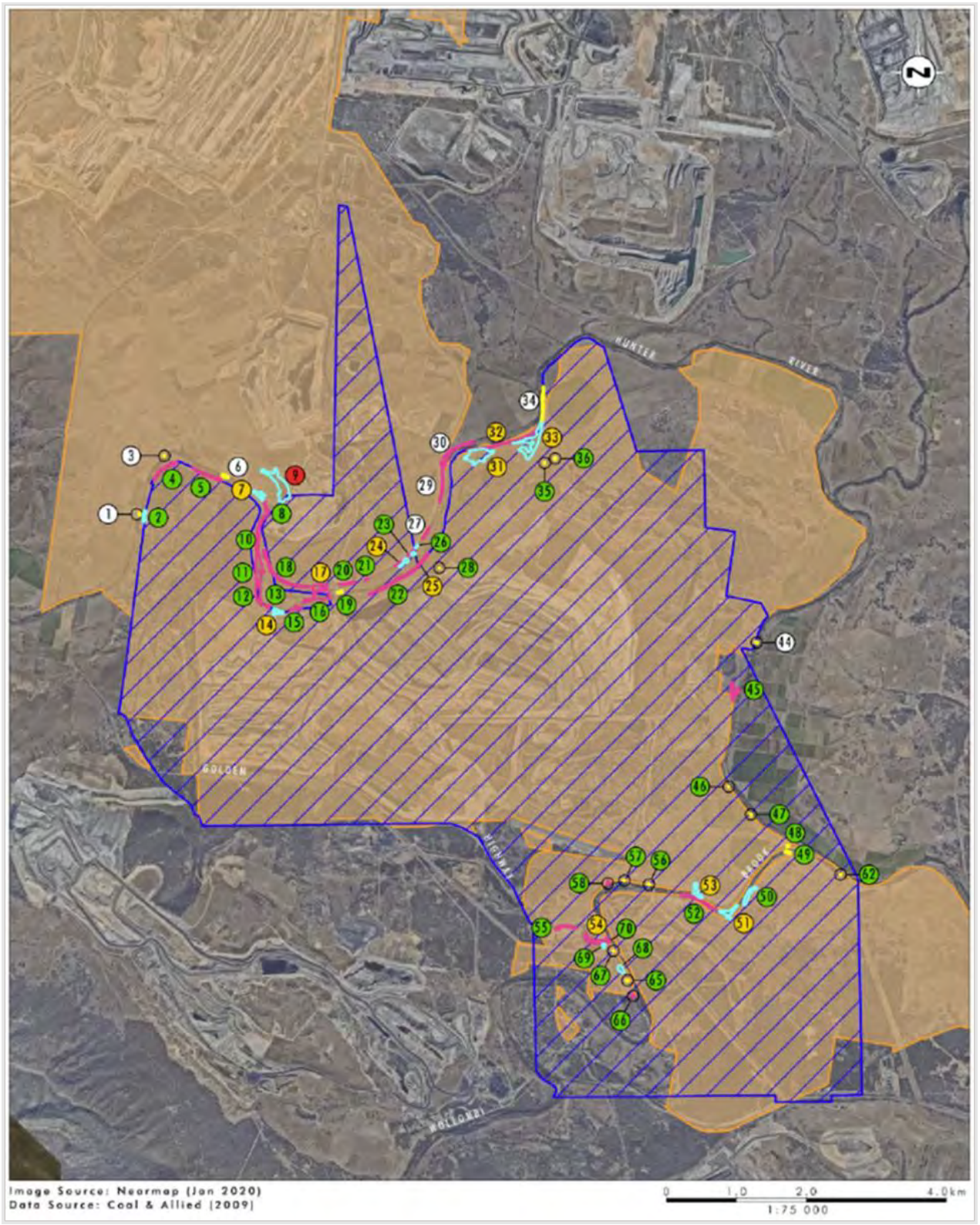


Figure 8-9: Eucalyptus camaldulensis stands being managed at HVO



Figure 8-10: Monitoring Locations within the Carrington Billabong at HVO



Figure 8-11: Monitoring Locations of the River Red Gum Priority Sites at HVO

8.11.1 | RRG MONITORING ACTIVITIES

8.11.1.1 | RIVER RED GUM MONITORING

Monitoring of the River Red Gums at HVO and the Reference Site occurred during 2025. In accordance with the River Red Gum Rehabilitation and Restoration Strategy, floristic surveys, seedling surveys, river red gum health monitoring, remnant ecological health assessments and photo reference monitoring was undertaken. The locations of the monitoring points at HVO are illustrated in **Figure** 8-10 and **Figure** 8-11.

8.11.1.1.1 | FLORISTIC SURVEY

Surveys in 2025 identified a total of 89 species identified; 33 species were native and 56 were exotic.

Within the Billabong itself, total species richness was higher than in 2024, however, the proportion of native species generally decreased (**Figure** 8-12). In comparison, at the reference site, total species richness was slightly greater in 2025 than 2023 with the ratio of native to exotic detected remaining relatively constant.

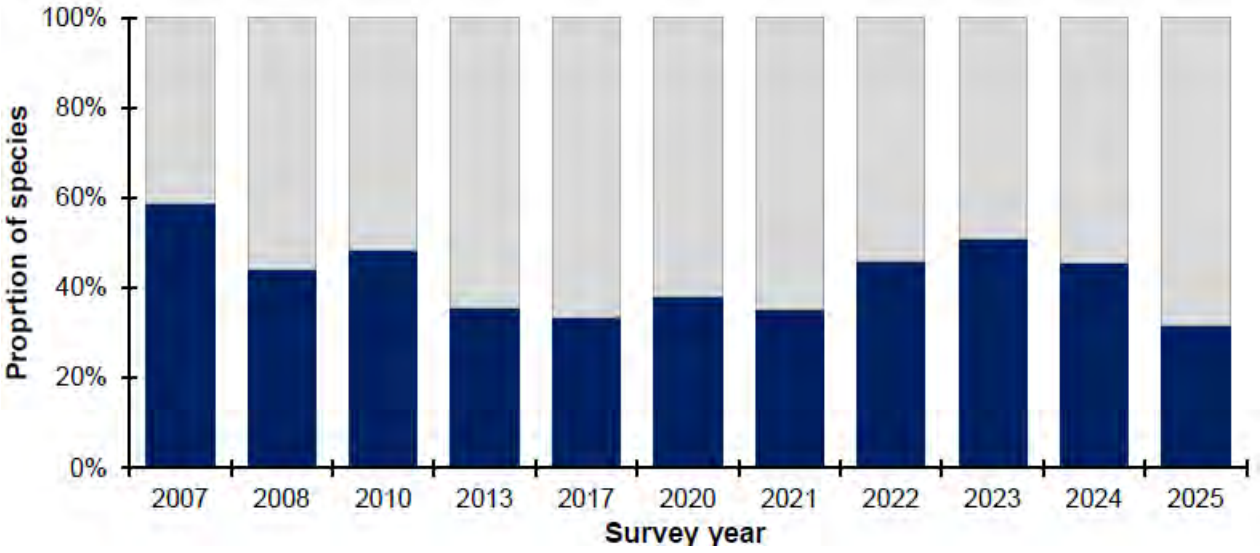


Figure 8-12: Combined Proportion of Native (blue) and Exotic (grey) Species Richness at CB1 and CB2

8.11.1.1.2 | SEEDING MONITORING

In the Carrington Billabong, between the 2023 survey and that occurring in 2025, all seedling recruits had died. Six new seedlings, however, were recorded in the 2025 survey.

The consultant reported that at the Reference Site and CB3 and CB4 had a high cover of plants in the ground layer which may be supressing the recruitment of new RRG seedlings. The living seedlings in each monitoring plot within the Billabong and the Reference Site identified during the surveys are illustrated in **Table** 8-5.

Table 8-5: Living Seedlings Identified in the Carrington Billabong and the Reference Site

Site	Total Number of Seedlings								
	2007	2010	2013	2017	2020	2021	2022	2023	2025
CB3	12	-	-	11	9	9	-	8	0
CB4	25	-	-	105	36	32	33	23	21
CB6	100	-	-	105	36	32	33	23	21
CA2						5	-	5	11
CA3						8	-	6	3
CA5						20	-	21	16

8.11.1.1.3 | RIVER RED GUM HEALTH MONITORING

The health of adult trees were assessed using various attributes that can impact the condition of a tree. These include: canopy density, hollow presence, insect or fungal infection evidence, mistletoe count, epicormic growth, canopy extent, crown tip growth, leaf die-off and the presence of cracked bark. The canopy health scores were then ranked 1-5 with one meaning the tree is dead, and five being healthy.

At Carrington Billabong, 63 adult (tagged) trees were sampled from across the site (**Figure** 8-10). A further nine (non-tagged) trees are monitored at the reference site. A comparison of the data collected from each location between years allows for a general assessment of change to the health of the eucalypts surveyed.

In contrast to the pattern of decreasing health of RRG at Carrington Billabong since 2022, there was an increase in the proportion of trees monitored with a 'healthy' rating for their relative canopy health. The 2025 monitoring determined that the proportion of 'healthy' trees at Carrington Billabong increased from 21.6% in 2024 to 56.5% in 2025. Trees with either 'near dead' or 'stressed' health scores accounted for most trees with either insect or fungal infestation. It is unclear why there was a general increase in the number of 'healthy' RRG trees at the Carrington Billabong in 2025 when compared to previous years.

Factors that affect the health of RRG have been the subject of considerable study and monitoring. The primary factors that can affect the condition of RRG are typically related to surface and groundwater hydrology, weed infestation, and insect herbivory, or a combination of factors.

Carrington Billabong was most recently flooded in 2023, following this, total rainfall during 2024 was below the average, nor was there any flooding events following the 2023 flood. However, rainfall in 2025 was marginally greater than what was recorded in 2024. This higher rainfall during 2025 compared to 2024 may explain the increase in relative health of trees in the Carrington Billabong, however, it is unlikely to be the ultimate cause and is more likely to be within a combination of causes.

The soil pathogen, *Phytophthora inundata*, which is present in Carrington Billabong, may also be affecting tree health. The number of days that were below the 28°C growth threshold for *Phytophthora* sp. since the 2023 flooding event has decreased. During 2023 there was a total of 141 days where the temperature was >28°C, in 2024 there was 129, and to the date of survey (3/11/2025) there was 83 days where the maximum temperature was >28°C. Reduced temperatures may have reduced *Phytophthora* sp. activity. Should this be the reason, the *Phytophthora* may have reverted to the dormant resting stage, which allows the trees to grow and recover as the pathogen is not actively attacking the roots of the trees.

An improvement in tree health does not indicate that these trees are no longer affected by *Phytophthora inundata* as eradication of the pathogen from an infected area is not currently possible. This apparent

period of dormancy will only continue until a period when the growing conditions of *Phytophthora* sp. become optimal again (i.e. when conditions are moist and temperatures are >28°C).

ArborCarbon (2024) noted that much of the damage observed on the Carrington Billabong population of RRG could be attributed to insect damage. Insects that ArborCarbon noted as substantially impacting the crowns of RRG at Carrington Billabong included: Chrysomelid leaf beetle (*Chrysophtharta* spp., *Paropsis* spp.,), Defoliating Sawfly (*Perga* spp.), Leaf Blister Sawfly (*Phylacteophaga froggatti*), and Eucalypt Weevil (*Gonipterus* spp.). The relative proximity of these insect-damaged individuals against the known Phytophthora-impacted trees has not been examined, hence, it was not assessed whether there is a correlation between the two or if they are isolated observations.

Monitoring has focused on the change in attributes of tree health and condition. However, some trees have fluctuated markedly in condition. Tree H66 rapidly declined over monitoring events between 2022 and 2023. In 2022 tree H66 was determined to be “healthy” with a canopy density score of 30-40%, while in 2024 it had a canopy density of 0-10% and was “near dead”. In 2025, H66 had a ‘Healthy’ canopy with a density of 50-60%. Tree H66 also had ‘moderate’ insect/fungal damage in 2022-2023 but had reduced to ‘nil-low’ in 2025. Similarly, trees 30 and 52 declined from ‘slightly stressed’ and ‘healthy’, respectively, in 2022 to ‘near dead’ in 2024, and then ‘stressed’ and ‘healthy’ in 2025. In contrast, tree 13 has seen a continual decrease in relative health with it being recorded at dead in 2025.

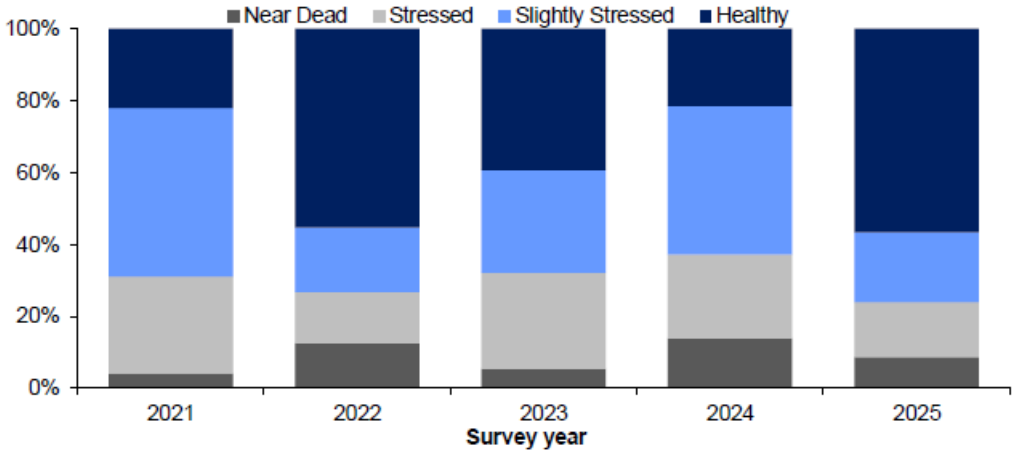


Figure 8-13: Proportion of Living Surveyed Trees In Each Condition Score Over Time

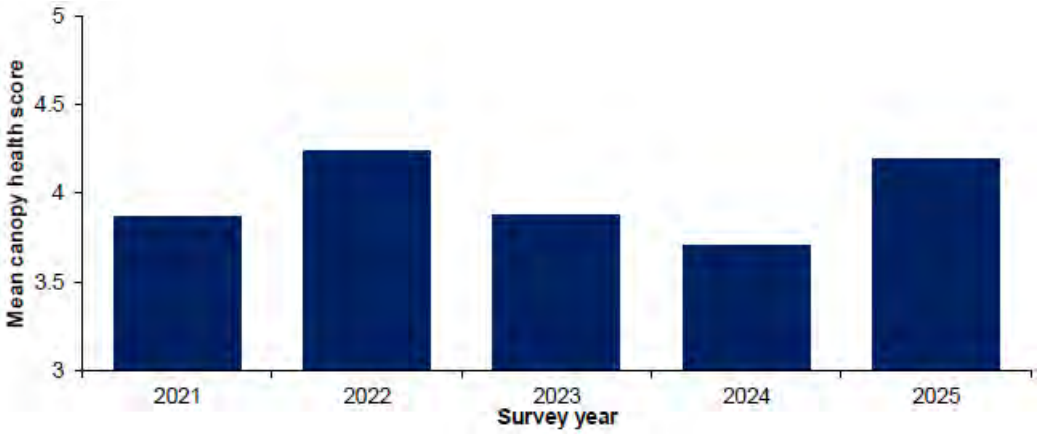


Figure 8-14: Mean Canopy Condition Score for River Red Gums Monitored at Carrington Billabong

8.11.1.1.4 | REMNANT ECOLOGICAL HEALTH MONITORING

There are 16 Remnant Ecological Health Assessment (REHA) points across three surveyed areas; five at Carrington Billabong (**Figure** 8-10), five at the Reference Site and six across the Priority Sites (**Figure** 8-11).

Thirteen attributes that impact ecosystem health were examined at each site and allocated a score between 1 and 3 according to severity. These attributes included: Grazing, logging/clearing history, weed invasion, mowing of understorey, dieback in crown, canopy plant age diversity/regeneration, native diversity of mid-stratum, native diversity of ground stratum, erosion, time since last flood and time since last fire.

The dominant and/or common plant species observed in the vicinity of each location assisted to characterise the vegetation at each site along with the basic structural information.

Mean REHA scores, grouped by sites, for each plot is shown in **Figure** 8-15 and the sum of REHA scores for each site is presented in **Table** 8-6.

Compared to 2024, the mean REHA score in 2025 for Carrington Billabong has decreased. This is in contrast to the mean REHA score for the Priority Sites which increased over the same period. Similarly, the mean REHA score for the Reference Site also increased since the last survey in 2023.

There does not appear to be a direct cause for the decrease in mean REHA score at Carrington Billabong, however, one cause may be the general increase in weed cover observed at the floristic monitoring plots.

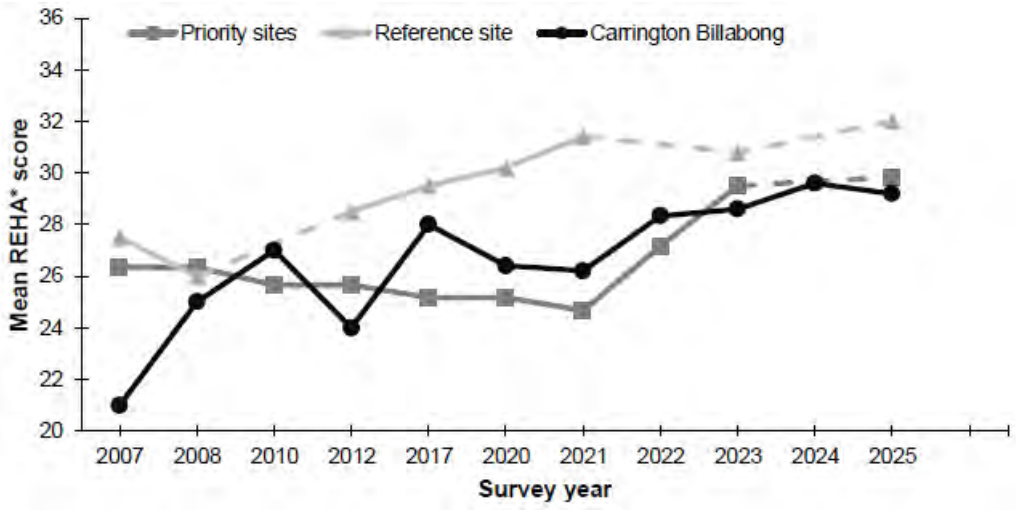


Figure 8-15: Mean Remnant Ecological Health Assessment Site Scores for Each Year of Survey

Note: dashed line indicates data was not collected for that year.

Table 8-6: Sum of Each REHA Score at each Survey Location

Site	Score Per Year										
	2007	2008	2010	2012	2017	2020	2021	2022	2023	2024	2025*
CB1	21	25	27	24	28	26	27	30	32	34	27
CB2	-	-	-	-	-	26	28	27	30	29	29
CB3	-	-	-	-	-	28	26	-	28	29	29
CB4	-	-	-	-	-	26	25	-	28	29	31
CB5	-	-	-	-	-	26	25	28	25	27	25
HR1	25	21	25	26	26	27	25	26	27	-	28
HR2	32	32	28	25	25	23	25	29	32	-	30
HR8	23	23	23	25	24	26	24	25	29	-	29
HR11	26	28	25	25	26	24	27	25	31	-	29
HR13	24	26	26	24	24	24	22	27	31	-	31
WB1	28	28	27	29	26	27	25	31	27	-	32
CA1	29	27	-	31	31	31	32	-	31	-	32
CA2	26	25	-	26	28	30	32	-	29	-	33
CA3	-	-	-	-	-	30	31	-	30	-	32
CA4	-	-	-	-	-	30	29	-	29	-	27
CA5	-	-	-	-	-	30	33	-	35	-	36

Note 1: CB = Carrington Billabong, HR = Hunter River Priority Site, WB = Wollombi Brook Priority Site, CA = Reference Site

Note 2: Green cells = increase in score, blue cells = no change, red cells = decrease in score

Table 8-7: Observations Relating to the Monitoring Goals and Objectives of the Rehabilitation and Restoration Strategy for Carrington Billabong

Goal	Objective	2025 Observation
To reduce the impacts of threatening processes on the stands of RRG	To supress the in-situ environmental factors that are acting to reduce the viability of the remnant population of RRG	Exotic species continue to dominate the vegetation plots monitored at Carrington Billabong accounting for >50% of species recorded in all plots. Additionally, REHA monitoring indicates there is a general decrease in the ecological health of the site. Management of the Carrington Billabong will continue to 'supress and eradicate' exotic species from the area. Anecdotal observations of planted RRG in the area surrounding Carrington Billabong continue to show vigorous growth, and, in addition, ad hoc observations within Carrington Billabong did identify approximately 10 RRG seedlings that were 1-1.5 m in height.
	To improve the conditions within the population of RRG such that it can withstand reasonable periods of stress, predation, and shortage of water supply	RRG have been planted around the remnant community to increase the buffer zone around the remnant and improve the resilience of the RRG population. Ad hoc observations from within Carrington Billabong identified approximately 10 RRG seedlings which likely germinated after flooding in 2023.
To aid the establishment of the appropriate conditions to promote the health of the RRG populations	To identify the likely ex situ factors that are contributing to the reduction in viability of this population and the health of the billabong and act, where possible, to control those factors or to take account of those factors in management approaches if they are not able to be directly controlled.	The ERA outlines the groundwater monitoring around Carrington Billabong and ecological monitoring and triggers.
	To ensure that the results of ongoing monitoring are appropriately used to modify the management regime in response to new or unexpected information.	Plantings aim to buffer the Billabong from climatic and biotic factors. Further monitoring and planting are planned for 2026.

Goal	Objective	2025 Observation
Increase the understanding of the water requirements of the RRGs	Develop an understanding of water requirements through the timely monitoring of responses of RRGs to flood and storm events.	The Strategy requires additional monitoring to be undertaken when triggered by flooding. No flooding events in 2025 triggered the requirement for a seedling recruitment survey to be undertaken. Groundwater monitoring is undertaken at Carrington Billabong.
To enhance the RRG population to enable it to persist as a viable functioning population	To assist this population to continue to self-propagate to ensure ample replacement of senescing trees with juvenile recruits	Weeds continue to dominate the RRG community. Active weed management should continue in order to assist the community to become a self-sustaining population. However, it is also likely that, given the predominance of weeds in the area, flooding, wind and other vectors will affect ongoing weed management efforts. To compensate for the low level of RRG seedling recruitment, RRG have been planted on the floodplain adjoining the remnant.
	To support the establishment of a self-sustaining, functional and viable ecosystem that resembles what is likely to have been present in Carrington Billabong prior to European settlement	Native diversity has decreased slightly at Carrington Billabong between the 2024 and 2025 monitoring events. Recruitment of RRG has been observed at the Carrington Billabong with approximately 10 seedlings <1.5 m in height being observed. Remnant Ecological Health Assessments generally decreased at Carrington Billabong from 2024-2025 but are slightly higher than the mean REHA score from 2023.
	To support the establishment of a self-sustaining, functional and viable ecosystem	
To increase biodiversity including residence habitat, foraging habitat and native flora and fauna species	To increase habitat for the identified and potential native flora and fauna species	Tubestock plantings have occurred and will increase the habitat area and local linkages once established. The trees will provide effective habitat for small fauna in the future.

Objective	2025 Observation
To determine if there is any improvement or deterioration in RRG within Carrington Billabong	Data indicates there was slight increase in the average canopy condition of living trees surveyed, living trees surveyed in 2024 scored 3.7 while trees monitored in 2025 score 4.2. Of the trees assessed as either 'stressed' or 'near dead', 83.3% of trees had either 'severe' or 'moderate' insect and/or fungal attack.
To determine if there is any improvement or deterioration of the natural habitat at Carrington Billabong	Overall, there appears to be a slight decrease in the habitat of Carrington Billabong (as shown by a decrease in REHA scores at individual sites and Carrington Billabong as a whole).
To provide management recommendations to achieve further improvements in the ecological management of the site to assist in the recovery of RRG and their habitat	The following be undertaken in 2026: • Continued weed management and reduction in exotic groundcover biomass. • Continue to record the extent and duration of flood events within Carrington Billabong to identify potential areas for recruitment events. • Continue to plant RRG and midstorey species within the Carrington Billabong site.

8.11.1.1.5 | ECOLOGICAL RISK ASSESSMENT

Carrington Billabong is located adjacent to the North Void TSF.

As part of Condition 8, E2.1 of EPL 640, HVO has implemented a monitoring program that includes an Ecological Risk Assessment (ERA) (Umwelt 2020) that assesses the impact to the RRG community from the North Void TSF seepage. The annual monitoring is required to detect any notable decline in ecological condition of RRG at the Carrington Billabong. Should ecological monitoring identify any of the following factors, additional investigations will be implemented to determine the cause:

- An increase in tree dieback of 10% or greater compared to the previous year;
- Adult tree death of 10% compared to the previous year;
- Remnant ecological health scores decline of 10% compared to the previous year; and
- Unforeseen event that indicates a relatively rapid decline in ecological health or function that can't be linked to catchment wide causes (such as drought).

Triggers have been defined for water levels and water quality (pH, sulphate and sulphate/chloride ratio) to determine whether any hydrological changes could be influencing the adjacent vegetation communities, such as the River Red Gum populations. Three consecutive readings above the trigger level constitute an exceedance, which will initiate further investigation into the likely causes of the values and/or report the exceedance in specified cases. The groundwater level trigger criteria relate to an observed rise in groundwater levels by more than 0.5 m over a 12-month period and in conjunction with water quality changes, not related to climate trends.

The location of the trigger bores in the vicinity of the Carrington Billabong can be seen in **Figure** 8-16.

The findings of the groundwater monitoring program 2025 are provided in detail in the 2025 Groundwater Annual Review (Umwelt 2026) and summarised in the text below. The results of the 2025 monitoring relative to the ERA trigger values is presented in **Table** 8-8.

8.11.1 | MANAGEMENT ACTIONS

8.11.1.1 | TUBESTOCK PLANTING

To assist with expanding remnant stands of river red gum and develop linkages between adjacent populations, HVO intended to undertake tubestock plantings within the Carrington Billabong, several priority river red gum sites and another site selected to link a Hunter River population with a nearby river red gum corridor.

Fortunately, prior to planting commencing, it was identified that several red gum species in the nursery (including *E.camaldulensis*) were infected with crinkle leaf disease/Mycosphaerella leaf disease. It is considered that Mycosphaerella leaf disease may pose a risk to native vegetation when introduced through restoration plantings of infected nursery plants. It can lead to defoliation and reduced growth - especially in seedlings and juvenile foliage. As a result, the red gum species were disposed of and were not included in the 2025 planting program at HVO.

The planting achievements did include 132 *Casuarina cunninghamiana* and 37 *Angophora floribunda* that were planted along the Hunter River within and adjoining the stands of *Eucalyptus camaldulensis* on HVO-managed lands. Both these species are part of the endangered population listing for the *Eucalyptus camaldulensis* in the Hunter Catchment. The supplementary planting, although small in number, was intended to assist with vegetating the buffer zones around the existing populations to reduce weed proliferation and protect the stands from storm impacts.

8.11.1.2 | WEED MANAGEMENT

During 2025, weed management outside the rehabilitation areas at HVO had a focus on riparian areas and other areas identified by the various inspections as containing specific priority weed species. These areas were targeted as they would afford benefits to the management of the River Red Gum populations, reducing pig habitat within riparian areas, improve the condition of areas that are assessed under the requirements of the HVO Riparian Vegetation and Stream Erosion Monitoring Program, and assist to reduce weeds that were known to be of concern.

As with previous years, the primary weeds of concern within riparian and River Red Gum areas include the balloon vine (*Cardiospermum grandiflorum*), castor oil plant (*Ricinus communis*) and thistles (*Onopordum* spp.), which can smother adult trees, outcompete juvenile regrowth via shading, and provide habitat for feral pig populations.

Within the Billabong, HVO has been concentrating efforts on regular slashing the open areas and the adjacent grazing paddock to reduce the possibility for weeds to establish and reseed. Previously, the density of exotic weeds smothered the shorter native species in the area. Slashing the open areas within the Billabong and priority areas did occur and the weeds did not obtain the height observed in previous years.



Figure 8-16: Groundwater Monitoring Locations Adjacent to the Carrington Billabong

Table 8-8: Carrington Billabong Ecological Condition TARP

Observation	Monitoring	Monitoring Action	Response	Monitoring Outcome
Groundwater quality in monitoring bore/s results exceed trigger values	Routine groundwater monitoring in accordance with the HVO groundwater monitoring program	Investigation of groundwater monitoring results to determine significance and if related to seepage from the NV TSF	Investigate groundwater monitoring results to identify if seepage from NV TSF has increased and a cause of the trigger exceedance. If confirmed, additional ecological monitoring should be undertaken in accordance with the monitoring program, which includes six monthly survey until issue is resolved or a remediation plan has been prepared and instigated.	Groundwater monitoring upstream and downstream of the NV TSF did not record any exceedances for pH, sulphate concentrations or sulphate/chloride ratios during the 2025 reporting period.
Annual Ecological monitoring in Carrington Billabong identifies notable decline in ecological condition	Annual Ecological monitoring identifies: • An increase in tree dieback of 10% or greater compared to the previous year	Assess groundwater monitoring results to determine if seepage from the NV TSF is a cause. If groundwater seepage is not identified, undertake other relevant investigations, which will need to be determined at the time	Undertake additional groundwater monitoring if additional data is required.	Of the 63 trees monitored in 2024 and 2025, there was a general increase in the mean health of trees; with nine trees with canopy densities >30% in 2024 while there were 24 trees with the same canopy density in 2025, and mean health of trees increased from 3.7 in 2024 to 4.2 in 2025, and the number of trees with 'Moderate' or greater crown trip growth decreased from 17 in 2024 to 36 in 2025. However, the number of trees with 'moderate' or greater canopy extent decreased from 42 in 2024 to 31 in 2025.

Observation	Monitoring	Monitoring Action	Response	Monitoring Outcome
	• Adult tree death of 10% compared to the previous year		Additional ecological monitoring should be undertaken in accordance with the monitoring program, which includes six monthly surveys until issue is resolved or a remediation plan has been prepared and instigated.	Of the 15 trees recorded as 'dead' in 2025, three were alive in 2024, with 12 being recorded as 'dead' in previous surveys.
	• Remnant ecological health scores decline of 10% compared to the previous year		If other causal factors are suspected, engage relevant specialists to undertake investigations into other potential causes. For example, investigate other possible sources of pollutions, such as surface water inflow, aerial spray drift etc.	Mean REHA scores at Carrington Billabong decreased slightly between 2024 and 2025, with the 2025 mean REHA score of 29.2 being 0.4 less than the 2024 score.
	• Unforeseen event that indicates a relatively rapid decline in ecological health or function that can't be linked to catchment wide causes (such as drought)		When causes of decline are identified, engage relevant specialists to prepare a remediation plan for instigation	RRG health monitoring at the reference site showed little change between what was recorded in 2023, while over the same time period, there has been a general increase in the overall health scores at Carrington Billabong. This increase in overall health may be attributed to a potential dormancy of the *Phytophthora* sp. infestation at Carrington Billabong, which may have allowed infected trees to recover. This possibility has not been examined further.

8.12 | BIODIVERSITY OFFSETS

8.12.1 | GOULBURN RIVER BIODIVERSITY AREA OVERVIEW

In accordance with condition 29 of HVO's Project Approval, PA 06_0261, Hunter Valley Operations are accountable for managing a 140ha offset at the Goulburn River Biodiversity Area (BA).

HVO manage a number of other offsets including the Wandewoi, Condon View, Crescent Head, Hook and Mitchelhill biodiversity areas, however, these are managed under EPBC approval 2016/7640, are subject to compliance reporting under that approval and are not subject to further discussion in this document.

The Goulburn River BA is located near the town of Merriwa and, when considered in combination with the adjoining offset for the Mt Thorley Warkworth Mine (MTW), forms an area of protected vegetation extending from the Goulburn River National Park (**Figure** 8-18). The Goulburn River BA is managed according to the Goulburn River Management Plan that is available on the HVO website.

Given that the Goulburn River offsets for the MTW and HVO are adjacent to each other, and both parties have a common managing partner in Yancoal, there is a commercial agreement for the HVO BA to be managed by the MTW on its behalf. The benefit of this agreement is a reduction in duplication related to the management and monitoring activities that are undertaken by consultants and contractors. As such, while the figures presented below may include information relating to the MTW, the text will focus on the data and activities originating from the HVO BA.

8.12.2 | WEATHER RECORDS

Overall, the rainfall recorded at the closest weather station to the Goulburn River BA was less than the average total rainfall experienced across all years (**Figure** 8-17). The Merriwa (Roscommon gauge) received 562.2 mm, which was lower than the mean average rainfall for the area (615 mm).

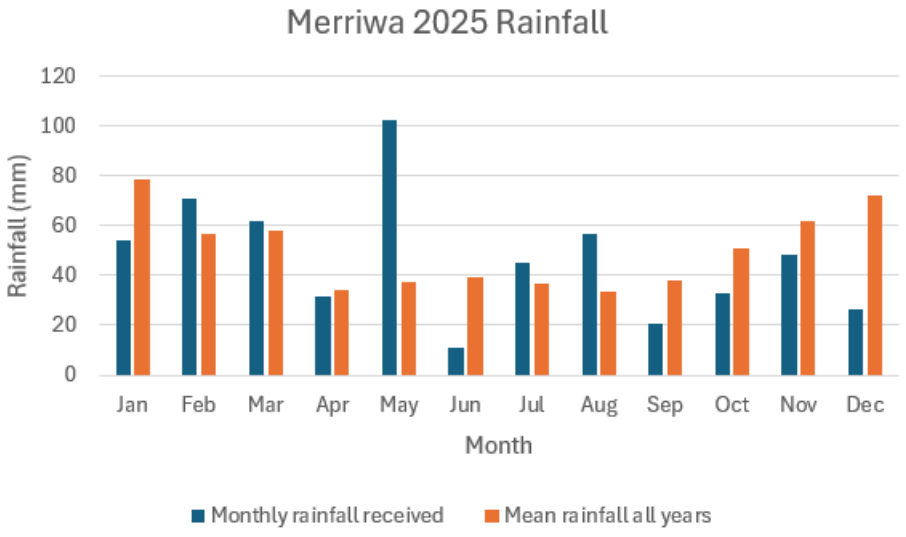


Figure 8-17: Rainfall Records Recorded at the Merriwa (Roscommon) Gauge - 2025

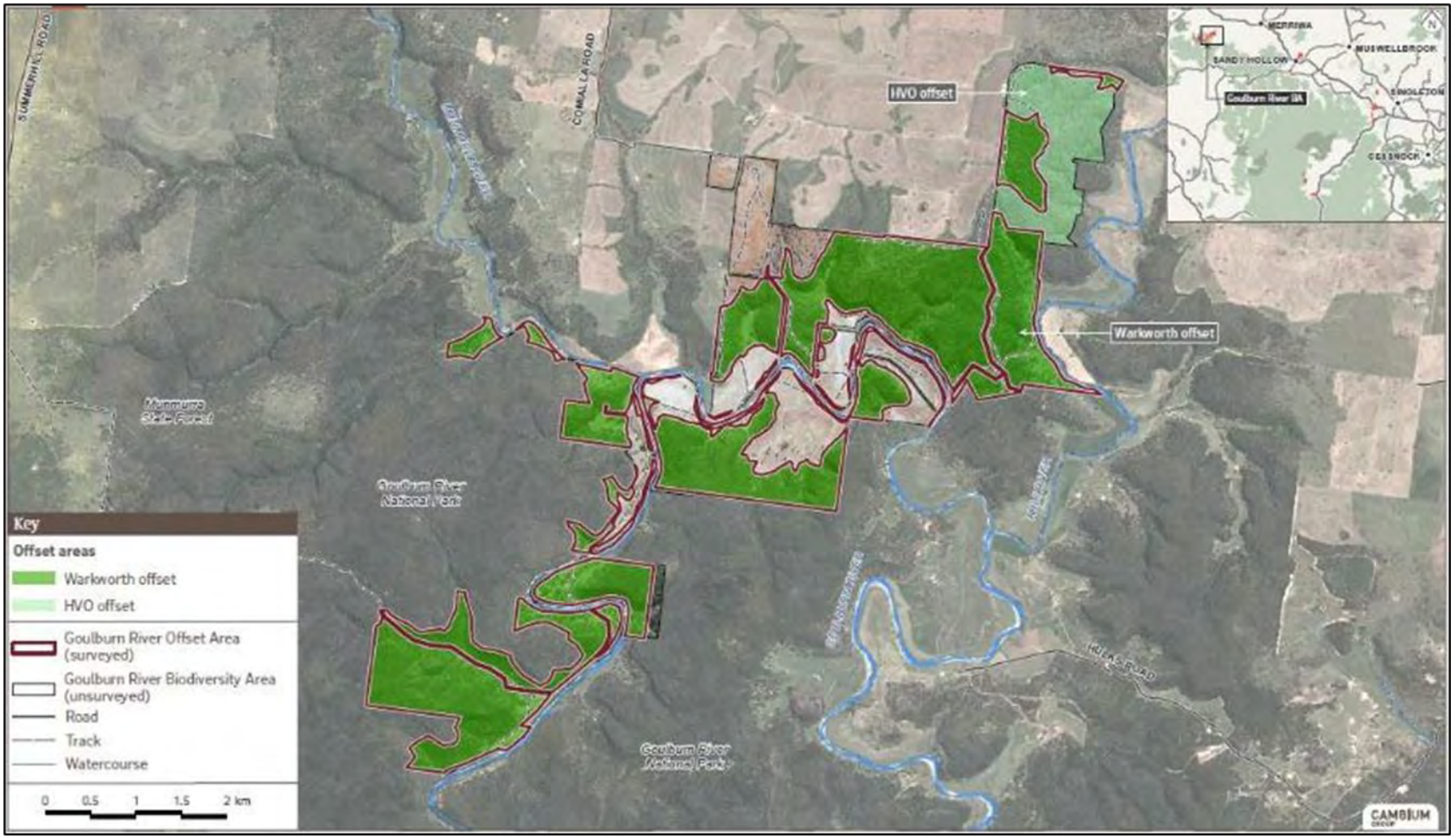


Figure 8-18: HVO's Goulburn River Offset and Adjoining Warkworth Mine Offset

8.12.3 | BIODIVERSITY AREA MANAGEMENT ACTIVITIES

The management activities implemented within the HVO biodiversity offset during 2025 were primarily weed management and feral animal control.

The tracks and fence lines were slashed during 2025 and the areas treated for weeds is shown in **Figure** 8-19. The majority of the HVO offset is in good condition with few weeds. The need for weed and feral animal intervention is assessed during the regular property inspections.

A summary of the key actions in the offset management plan and whether they occurred during 2025 is outlined in **Table** 8-9 below.

Table 8-9: Biodiversity Area Management Activities 2025

Activity	Description
Weed Control	Focus on Prickly Pear and African Lovegrass.
Habitat Monitoring	The remnant woodland vegetation at the HVO portion of the Goulburn River BA is generally stable and should continue to recover from past disturbance with limited management intervention. The vegetation is in generally good condition, with a high native floristic biodiversity and low weed cover.
Bird Assemblage Monitoring	No bird monitoring occurred in 2025 in accordance with the management schedule.
Infrastructure Management and Improvement	Tracks and fence lines slashed for vegetation regrowth and fire management.
Vertebrate Pest Management	Autumn/Winter and the Spring vertebrate pest management (baiting) programs undertaken.
Property Inspections	Property inspections occurred in Feb, April, May, Sept, Dec.

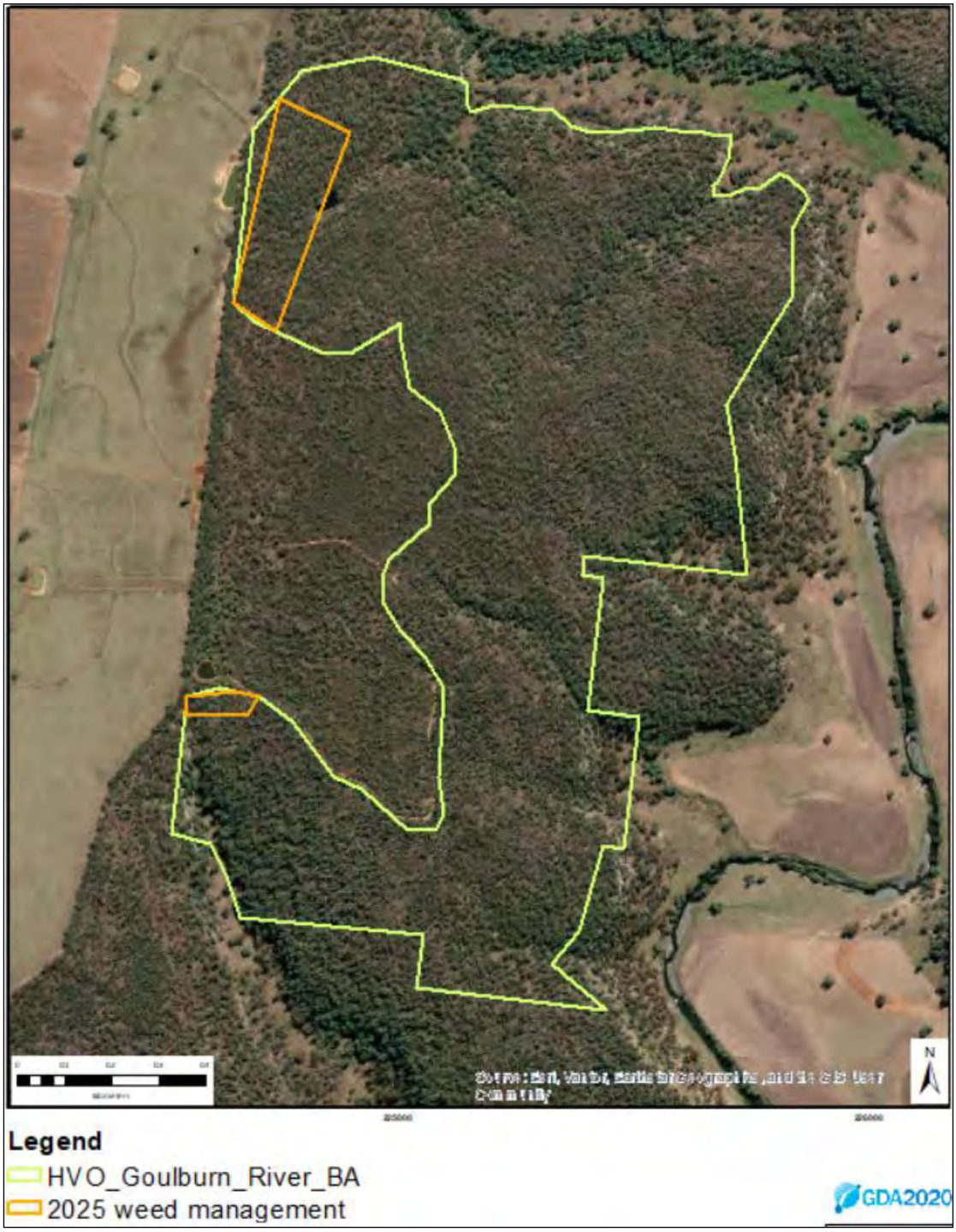


Figure 8-19: Areas of weed control within HVO's Goulburn River Offset and adjoining Warkworth Mine Offset

8.12.3.1 | PROPERTY INSPECTIONS AND RAPID CONDITION ASSESSMENT

The HVO offset was assessed for the presence of weeds, native fauna, waste or stray stock, the state of the gates and fences and tracks, as well as any evidence of vertebrate pests or unauthorised activities during February, April, September and December 2025.

The reports were reviewed on receipt and any necessary actions undertaken or scheduled. In general, the site has limited weed issues despite the proximity to farmland, minor pig activities are typically detected during the inspections, and a variety of native fauna are observed commonly include kangaroos, wallabies and wallaroos, lace monitors and various species of native birds.

The tracks are typically in good condition and any fallen trees are removed during the inspection.

Signage on the gates into the HVO offset identify the HVO biodiversity offset and assist to delineate the boundary from the adjoining MTW biodiversity area.

The Rapid Condition Assessment was undertaken in November 2025 and the results are presented in **Table** 8-10. The results are consistent with the assessment for 2024.

Table 8-10: Rapid Condition Assessment results for 2025

Rapid Site Assessment - Woodland

Biodiversity Area	Goulburn River
Date	17/11/2025
Auditor	Rosemarie Rohr

Note: True = 1, False = 0 Site #	R GR1	R GR2	R GR3	R GR4	R GR5	R GR6	R GR7	R GR8	R GR9	R GR10	R GR11	R HVO1	R HVO2
Low grazing intensity - never farmed	1	1	Grassland	Grassland	1	1	1	1				1	1
Tree and shrub regeneration present (<2m)	1	1			1	1	1	1				1	1
Infrequent fire regime (<5year intervals)	1	1			1	1	1	1				1	1
Healthy mature trees (no dieback)	1	1			1	1	0	0				1	1
Little to no evidence of rabbits	1	1			0	1	1	1				1	1
Little to no evidence of foxes/cats	1	1			1	1	1	1				1	1
Low abundance of weeds (most remnants contain some weeds)	1	1			1	0	0	1				1	1
No evidence of firewood collection	1	1			1	1	1	1				1	1
No obvious signs of erosion or salinity	1	1			1	0	1	1				1	1
Not susceptible to fertiliser application, herbicide or pesticide drift	1	1			1	1	1	1				1	1
Less than 20% trees with Mistletoe (NB some mistletoe is healthy)	1	1			1	1	0	1				1	1
Few tracks, trails or fence lines	0	1			1	1	1	1				1	1
Presence of native shrubs	1	1			1	0	0	0				1	1
Presence of large, old growth trees with hollows	1	1			1	0	0	1				0	0
Dead timber is left standing	1	1			1	1	1	1				1	1
Fallen timber and logs are left on the ground	1	1			1	1	1	1				1	1
Abundance of native ground flora	1	1			1	0	1	1				0	1
Presence of litter, cryptogams, cracks and rocks	1	1			1	1	1	1				1	1
Remnant is large (> 5ha is optimum)	1	1			1	1	1	1				1	1
Connected to or in close proximity to other remnant vegetation	1	1			1	1	1	1				1	1
Health Rating	19	20			19	15	15	18				18	19

*Site was inaccessible

Note. The results relevant for the HVO offset are shown on the right side as HVO1 and HVO2.

8.12.3.2 | VERTEBRATE PEST CONTROL

HVO undertakes vertebrate pest management activities within the offset properties that it manages. The aim of the vertebrate pest management program is to target feral animals, such as wild dogs and foxes, that have been reported in and around the BA. The program involves 1080 ground baiting and ejector baiting in conjunction with the Hunter Local Land Services (HLLS), National Parks and Wildlife Services (NPWS) and local landholders. The Autumn/Winter and the Spring programs were the 20th and 21st respective programs to have occurred at the Goulburn River BA.

The ground baiting method used aligns with the *Humane pest animal control: Code of Practice and Standard Operating Procedures* produced by NSW Department of Primary Industry (DPI). An attractant was also added to lure wild dogs and foxes to the baiting sites to maximise the chances of the bait being detected and taken.

In accordance with the Pesticide Control (1080 Liquid Concentrate and Bait Products) Order 2020, neighbours were notified of the baiting program at least three days prior to the laying of the baits, by letter and / or public notice. In addition to the letter and public notices, 1080 poison notice signs were established on all properties that were baited.

During each program, five bait stations were established within the HVO biodiversity area and another four stations immediately adjacent to the offset boundaries. Monitoring cameras were included to record the effectiveness of the stations. The locations and results of the Spring 2025 program is shown in **Figure** 8-20**.**

Each station recorded at least one bait taken within the baiting period. The camera monitoring indicated that the baits were taken by either a dog, fox, pig or, less frequently, lace monitor.

For the HVO portion of Goulburn River BA during the autumn/winter program, there were 14 takes recorded over the nine bait sites: three by wild dogs, ten by foxes, one pig and no non-target species takes. The Spring baiting program recorded 17 takes over the nine bait sites with one by a wild dog, seven foxes, one pig and eight by non-target species (lace monitor).

The results reflect seasonal change where the lace monitors become less active in cooler months and foraging decreases substantially. The results are welcomed as although research shows that Australian native fauna is naturally resistant to 1080 and concentrations in the meat bait need to be substantially higher to adversely affect the animals, any native species take is an undesirable outcome for baiting results. Therefore, continued baiting during this season is ideal to minimise lace monitor takes and optimise target species takes.

The motion sensor cameras established at the sites in photographic mode successfully captured images of target species taking the baits and as well as documenting species that occur within the area.

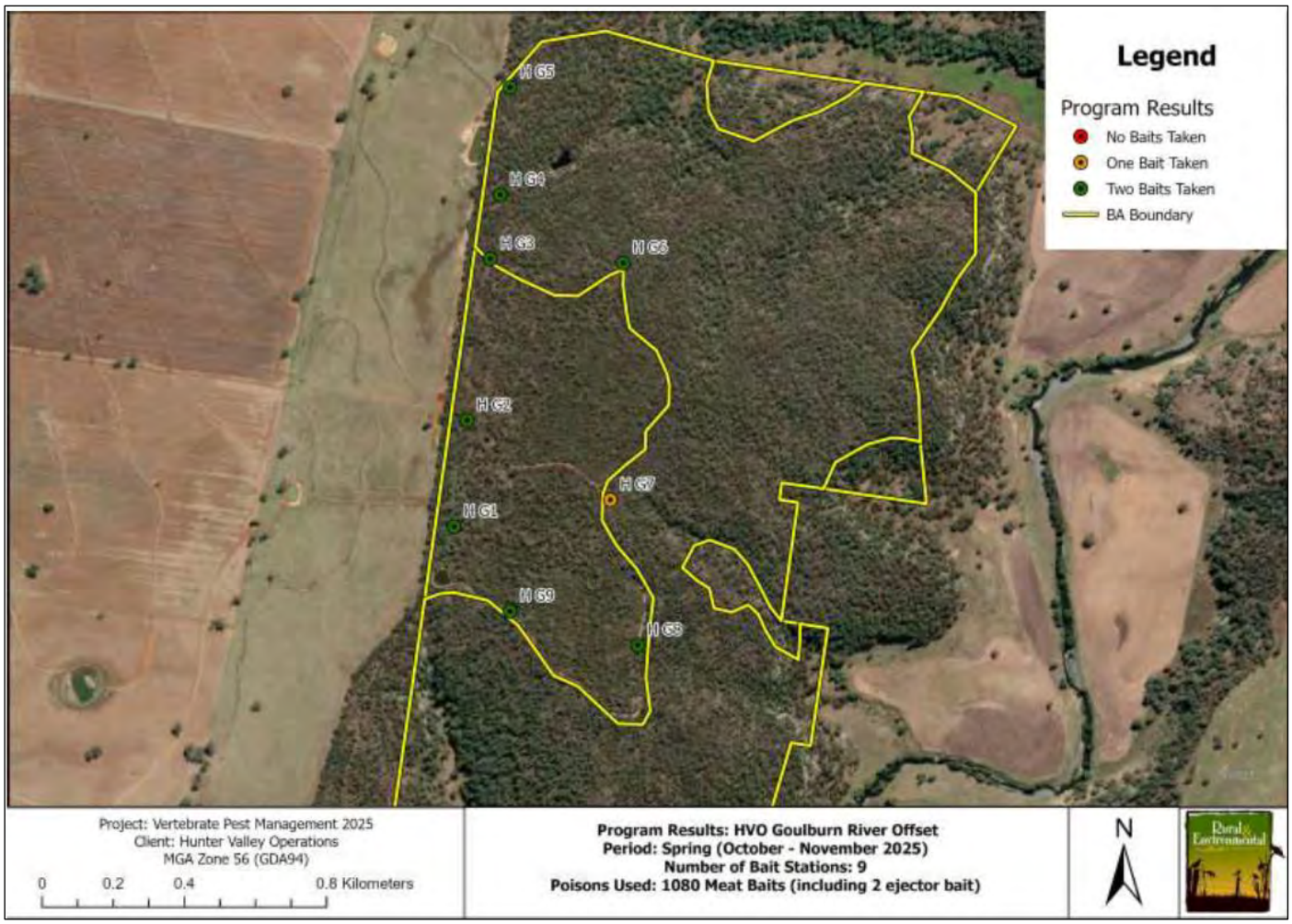


Figure 8-20: 2025 Vertebrate pest baiting locations and Spring Programme results at the Goulburn River Offset

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9 | COMMUNITY

9.1 | COMPLAINTS

HVO provides a 24-hour Community Complaints Hotline (via freecall number 1800 888 733) for community members to comment on concerns relating to its operations. All complaint details are recorded in a database in accordance with Condition M6.2 of Environmental Protection Licence 640 and made available on HVO's website (www.hvo.com.au).

A total of six (6) complaints were received by HVO during 2025 (refer to **Figure** 9-1). This represents a decrease on the thirteen (13) complaints for the previous year, and lower than the average amount of complaints received at HVO over the past decade (**Figure** 9-3). Complaints were related to blasting, air quality and noise. **Figure** 9-2 presents the number of complaints per complaint type. Details of complaints received during 2025 are outlined in **Table** 9-1**.**

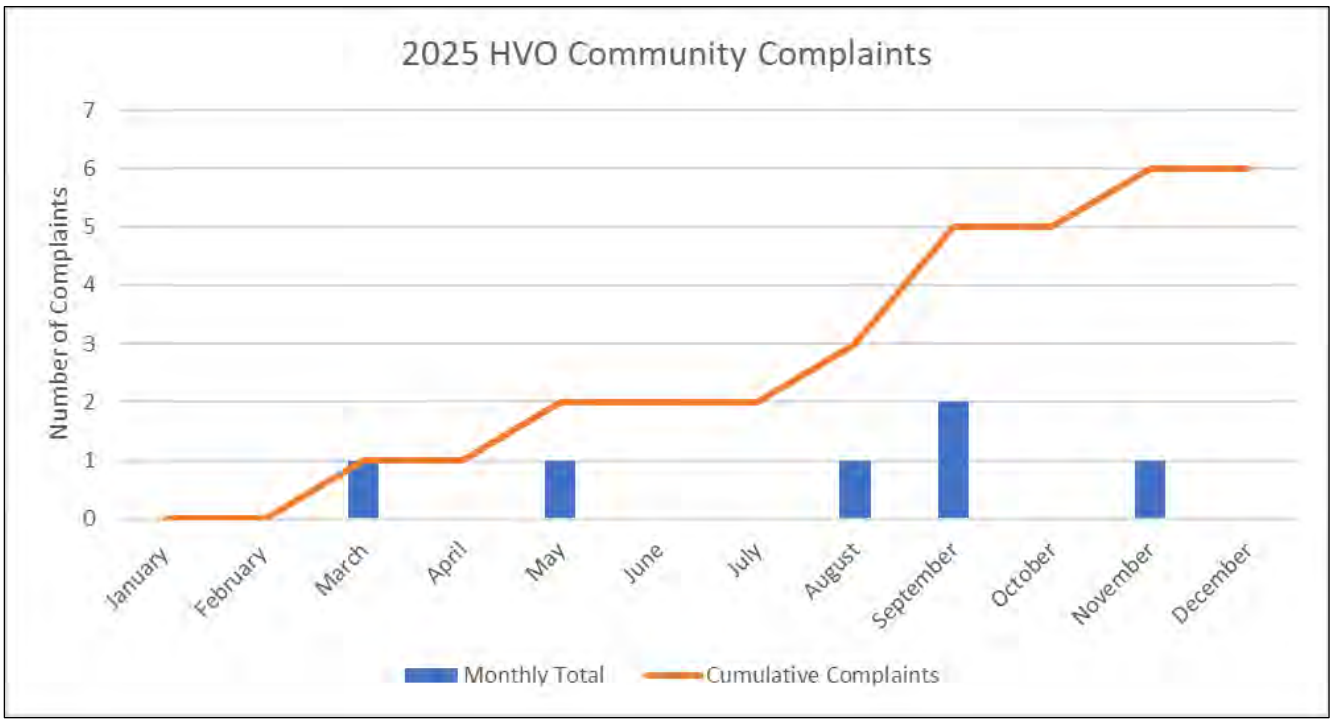


Figure 9-1: Summary of Community Complaints in 2025

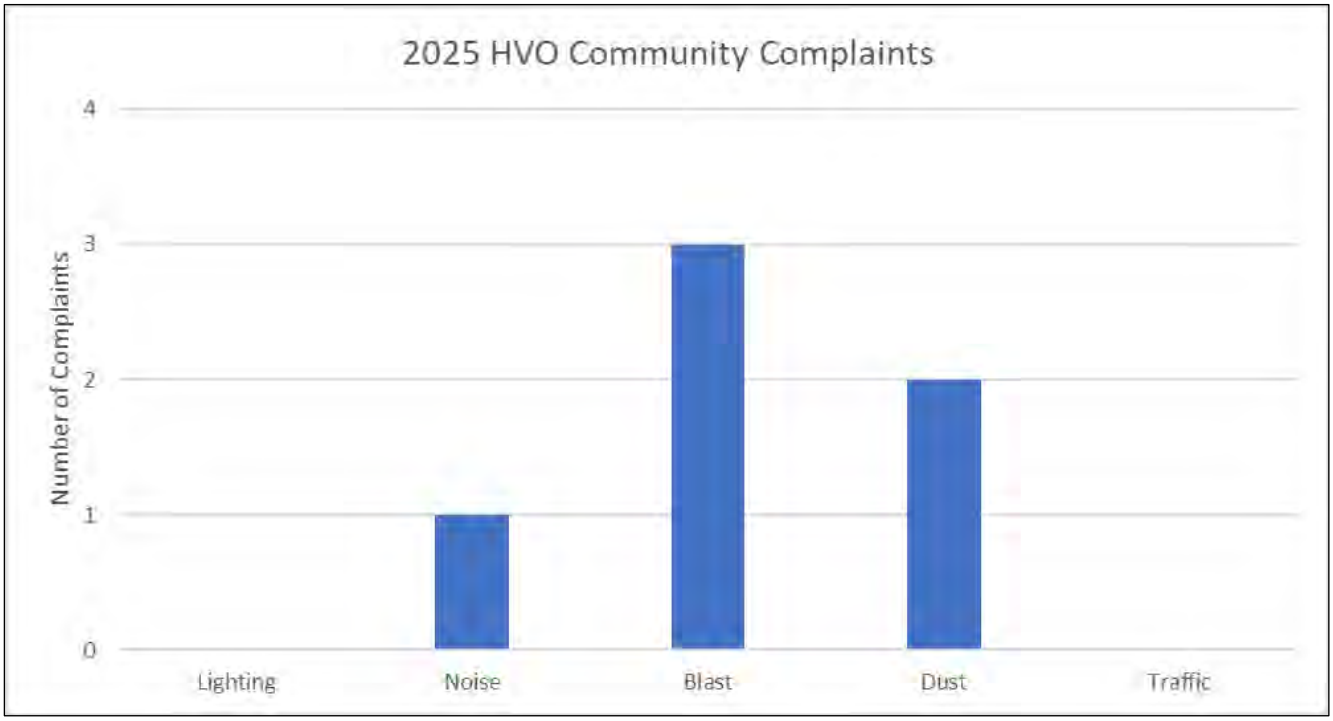


Figure 9-2: Number of Complaints per Type in 2025

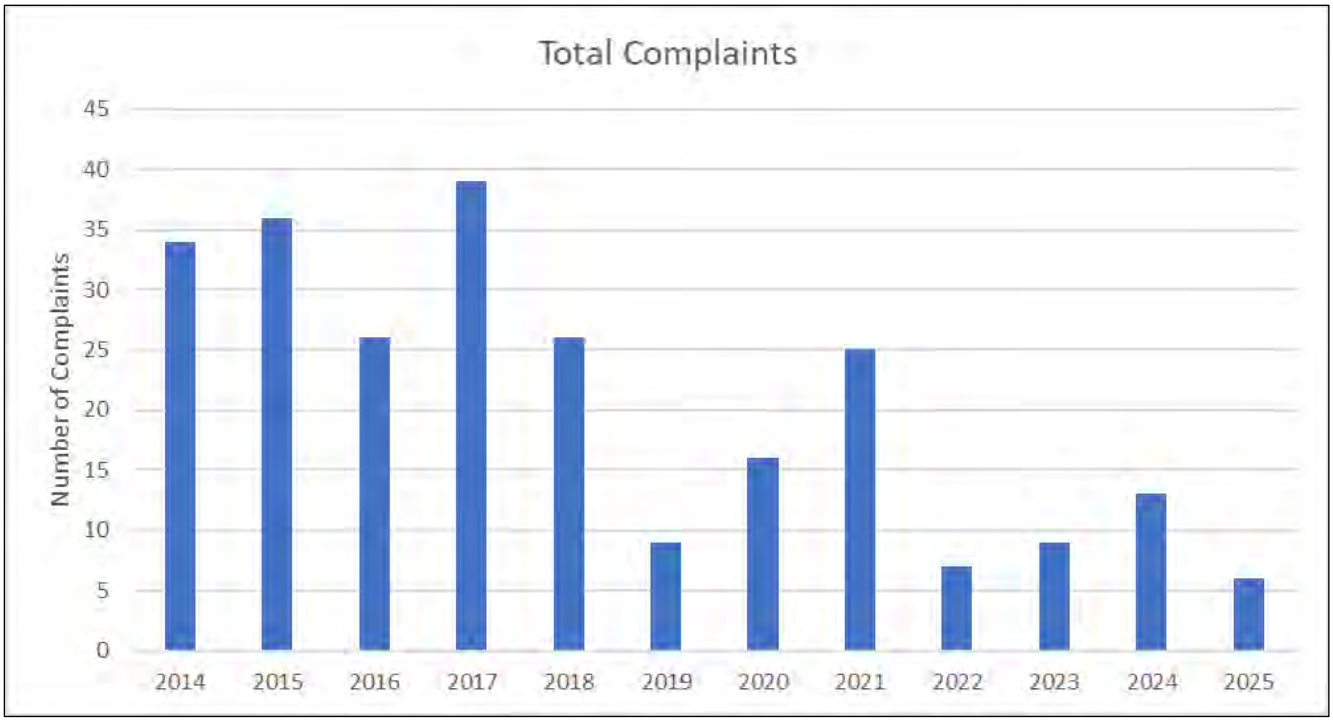


Figure 9-3: Community Complaints 2014-2025

Table 9-1: Details of Complaints Received in 2025

Date	Time	Nature of Complaint	Description	Follow Up Action
25 March 2025	3:40pm	Blast	A resident of Jerrys Plains called the Community Complaints Hotline at 3:40pm regarding observed blast fume and concerns for health impacts.	A member of the HVO environment and community team communicated with the resident via telephone confirming that a blast had been fired in the HVO Cheshunt Pit at 3:31pm. The team member provided feedback and information regarding the blast including mitigation measures and confirmation that the visible plume did not leave site boundaries A subsequent phone call was received from NSW EPA at 9.17am 26 March 2025 regarding a complaint they received from a community member regarding the same blast. The EPA requested further information which HVO provided.
6 May 2025	8:20pm	Noise	A resident of Jerrys Plains called the Community Complaints Hotline at 8:20pm regarding noise.	Noise results as well as meteorological data were checked prior to calling the resident. HVO West Pit OCE communicated with the resident via telephone whereby the resident provided further feedback, including that the noise had since subsided. Noise monitoring results from the closest monitoring unit (Jerrys Plains ENC) prior to and at the time of the complaint were below the compliance limits.

Date	Time	Nature of Complaint	Description	Follow Up Action
21 August 2026	1:58pm	Blast	A resident of Jerrys Plains called the Community Complaints Hotline at 1:58pm regarding blast noise and vibration.	A member of the HVO environment and community team communicated with the resident via telephone confirming that a blast had been fired in the HVO Mitchell Pit at 1:22pm. The team member provided feedback and information regarding the blast including results from the Moses Crossing blast monitor (closest to the resident's house) which were below the relevant compliance limits for blast overpressure and vibration A subsequent email was received from NSW EPA at 3:40pm on 21 August 2025 regarding a complaint they received from a community member regarding the same blast. HVO provided requested information on 29 August 2025.
15 September 2026	6:20pm	Blast	A resident of Jerrys Plains called the Community Complaints Hotline at 6.20pm regarding blast noise and vibration experienced at 5:12pm.	HVO West Pit OCE contacted the resident at 6:51pm and discussed the nature of the complaint, confirming HVO had blasted in Mitchell Pit at that time. A member of the environment and community team contacted the resident the following day and discussed the results, noting they were within compliance limits. Monitoring data from the Jerrys Plains Village blast monitor (closest to the resident's house) was emailed to the resident.
19 September 2026	10:20am	Air Quality	The NSW EPA received an Environment Line report relating to the alleged emission of dust from HVO around 10:20am. The report alleged that a passerby observed dust blowing from haulage trucks as they drove past on Lemington Road.	HVO investigated the event and supplied a report to the EPA, noting compliance with air quality criterion at the time of the event.

Date	Time	Nature of Complaint	Description	Follow Up Action
15 November 2026	10:22am	Air Quality	A resident of Putty Road, Mt Thorley contacted the HVO community complaints hotline regarding poor air quality on 14 and 15 November.	HVO South Mining Supervisors completed inspections and review of camera footage following the complaint and as the resident requested. Mining Supervisors confirmed that operations were temporarily ceased or altered in accordance with the TARP as conditions required. It is noted that regional air quality was visually poor on 14 November, particularly during the afternoon and evening with a white haze present that possibly included smoke. Calculated HVO 24hr PM_{10} contribution was below compliance criterion.

9.2 | REVIEW OF COMMUNITY ENGAGEMENT

9.2.1 | COMMUNICATION

Two near neighbour newsletters were sent to HVO's near neighbours during April and September 2025 providing:

- A message from the HVO General Manager
- Operational updates, including weed management, pest management, safety initiatives and rehabilitation processes
- Community initiatives and contributions
- Community grants programme
- Personnel profiles
- Community information days dates, times and locations
- Changed traffic conditions
- Weed and pest management
- Continuation Project updates
- Communication tools – website, environmental monitoring public reporting website and the blast notification SMS alert system
- Contact details
- Amenity Resource programme – water filters, tank cleaning, solar panel cleaning and gutter cleaning availability for relevant residence

The HVO website as well as a social media channels also provided regular communications throughout 2025 on various aspects of the business.

9.2.2 | CONSULTATION AND ENGAGEMENT ACTIVITIES

Consultation and engagement activities undertaken during 2025 included:

- Financial investment:
    - Community grants programme. See **Section 9.2.4**.
    - Donations to several charities via a pay-per-load process.
        - Five HVO haul trucks continued their partnerships with local/regional charities during 2025. The trays of the trucks have been painted in the colours of Westpac Rescue Helicopter Service, Hunter Prostate Cancer Alliance, Type 1 Foundation, Singleton Family Support and Hunter Breast Cancer Foundation. The charities receive an agreed donation for every load the trucks haul, plus other fundraising support throughout the year. These charities received a combined $35,000 for the 2025 calendar year. Each of the five charities also took part in the HVO Family Day during May where sales of merchandise and raffles formed part of fundraising for each charity.
    - Support of Jerrys Plains Primary School – full-time teachers aid

- The WHRS was supported throughout 2025 via a workplace contribution programme whereby amounts were regularly deducted from employee salaries/wages who volunteered to do so. The total amount provided to WRHS for the 2024/25 financial year was $56,629. In addition, HVO supported WRHS via an annual donation payment generated from the sales from several drink vending machines. This amount was $1,820.
- Support of men's health issues via Movember
- HVO employees working in the Warehouse Department raised $1,060 during November 2025 by growing moustaches for men's health issues as part of Movember. The HVO apprentice programme conducted a working bee for the Singleton Neighbourhood Centre on 28 May, whereby goods donated by Big W Singleton were loaded on a truck at Big W and then unloaded and packed at Singleton Neighbourhood Centre. This process was repeated several times. These works completed by four HVO apprentices under the supervision of HVO Maintenance Learning and Development Co-ordinator Paul Watters.

- HVO Technical Services department working bee at Singleton Community Gardens, including weeding, mulching and tidying up.
- Christmas giving via non-perishable goods and vouchers provided to St Vincent de Pauls Singleton and Singleton Family Support.
    - Multiple HVO employees donated back their Christmas gift vouchers, of which HVO matched that giving and delivered $2,600 in gift vouchers to Singleton Family Support ($1,300) and the Singleton Salvation Army ($1,300) in time for Christmas. HVO also provided St Vincent de Paul with nine trolleys full of non-perishable food items collected as part of HVOs staff Christmas giving project.
- Operation of the HVO Community Consultative Committee
- Food and beverage remaining after the HVO Family Day on 17 May 2025 was donated and transported to the Singleton Neighbourhood Centre.
- Supply of amenity resources – water filters, tank, solar panel and gutter cleans
- Resident notifications of air quality exceedances (where applicable)
- Continuation of air quality and noise mitigation agreements with near neighbours directly affected by such impacts
- Continuation of payment and correspondence with landholders with HVO monitoring equipment on their land
- Onsite mine presentation and tour for local high school students – Rutherford technology High School (Rutherford)
- Offsite mining presentation for local pre-school students – Little Kindy (Singleton)
- Community information sessions:
    - Sessions were held at Jerrys Pains (22 February and 16 September) and Maison Dieu (12 April and 13 September) to provide information to near neighbours on current operations and the HVO Continuation Project.

HVO continued to encourage the community to contact the company in a way that suits the individual community members, including a 24-hour community information hotline advertised in the local Singleton Argus (online and hardcopy newspaper).

9.2.3 | COMMUNITY CONSULTATIVE COMMITTEE

The HVO CCC meetings were held in February, May, August, and November 2025. The HVO CCC meet to discuss operations, projects and mine activities. The Committee is comprised of HVO representatives, community members and other key external stakeholders, including Singleton Council.

The HVO CCC minutes are available on the HVO website (www.hvo.com.au). The community is invited to visit the website(s) to learn more about the HVO CCC.

In 2025 CCC members were:

- Dr Colin Gellatly (Independent chairperson)
- Cr Sue George (Singleton Council)
- Dr Neville Hodkinson
- Mrs Janelle Wenham
- Mr Brian Atfield
- Mrs Di Gee
- Mr Todd Mills
- Mr Michael Wellard
- Mrs Jeanie Hayes
- Mr Peter Nichols
- Mrs Sarah Purser (minute taker)
- HVO General Manager – David Foster
- HVO Environment and Community Manager – Ben de Somer
- HVO Environment and Community Officer – Nic McLaughlin

The annual report for the HVO CCC was submitted to the NSW Department of Planning by CCC chairperson Col Gellatly. The annual report concluded:

> *The committee has performed its functions well and in accordance with the DPE CCC Guideline as well as the HVO CCC terms of reference. It provides an effective communication forum between community representatives, local Council and HVO (the company). There are currently no matters affecting the performance and effectiveness of the committee*

The annual reports are published on the DPE website (https://www.planning.nsw.gov.au/assess-and-regulate/development-assessment/community-consultative-committees/annual-reports).

9.2.4 | COMMUNITY GRANTS

HVO supports local not for profit organisations applications for support that have a clear community benefit in terms of capacity building, heath, environment and/or local need via its community grants programme. A total financial contribution of $119,931 was provided to community organisations via the HVO community grants programme during 2025.

Local organisations successful in obtaining funding via the HVO community grants programme during 2025 included:

- Singleton Strikers Football Club - SSFC Junior/Youth Coaching Development Programme

- Singleton PCYC - 2025 Book Fair to raise funds for youth activities at the centre
- Zoe's Place - Grief and loss program for women suffering pregnancy loss
- Network for Educational Work Placements - Young Business Mind Awards
- Singleton RSL Subbranch - ANZAC Day lunch/events to commemorate WW1 service personnel
- Business Singleton - Singleton Business Awards
- Dyson Family Foundation - Backpack Pal Programme providing lunches for school students in need
- Singleton Library - Parenting teens workshop for parents to gain the tools needed to support their teenagers' mental health
- Northern Agricultural Association - The main attraction on Saturday night at the Singleton Show
- Rotary Club Singleton - Singleton Art Prize
- Muswellbrook Chamber of Commerce and Industry - 2025 Great Cattle Dog Muster Festival
- Singleton Clay Target Club - Purchase of two notebook computers to run the clubs electronic scoring screens used for competitive events, and managing all club attendances and administration
- Witmore - Funding six employment positions for people with disabilities at Inclusive Eats Catering Service
- RFS Hunter Valley - Improving driver safety and promoting health and hygiene by equipping a prime mover appliance with a dash camera and a portable fridge
- Piranhas Cricket Club – Purchase of bowling machine as well as Apple ipad to live stream games
- Singleton Theatrical Society – 2026 production of The Boy from Oz
- Netball Singleton – Education and development of umpires and purchase of two marquees
- Samaritans Foundation Diocese of Newcastle – Christmas lunch in Singleton for the underprivileged
- Mount View High School (Cessnock) – Purchase of awards and gifts to honour students at end-of-year presentation
- Hunter Valley Group 21 Rugby League Referees Association – Education and other opportunities for coaches and purchase of training uniforms and equipment
- Maitland Rugby Union Club – Purchase of playing uniforms
- talk2mebro – Knees in the Breeze charity motorcycle ride to raise awareness of the importance of suicide prevention
- Marrung-ta Aboriginal Corporation –Cultural wellbeing camps at Minimbah Teaching Place
- Singleton Fire Brigade Social Club – 2025 Santa Lolly Run on vintage Bedford fire truck around Singleton
- Kiray Putjung Aboriginal Corporation – Literacy and numeracy classes for community and families
- Singleton Community Garden – Purchase and repair of tools and plants
- WRHS annual Joe Slupik golf day – Fundraiser for Westpac Rescue Helicopter Service (Northern NSW)
- Variety – 2025 Postie Dash charity motorcycle ride to raise funds for children who are sick, disadvantaged, or living with disability

9.2.5 | HVO CONTINUATION PROJECT

In 2025, HVO completed a detailed review of the HVO Continuation Project and subsequently sought to amend the SSD applications for the Project, as detailed in an Amendment Report. In brief, the amendment Project when compared to the original Project:

- reduces the mine life from 2050 to 2045 at HVO North, and 2045 to 2042 at HVO South
- reduces total run-of-mine coal production by over 220 million tonnes
- proposes a limit on overall HVO complex run-of-mine production from 42 million tonnes per annum to 26 million tonnes per annum
- reduces scope 1 emissions by 43%
- reduces diesel emissions by 30%
- reduces fugitive emissions by 50% over the life of the project, with a reduction of approximately 90% from 2040 onwards
- has no impact to the Endangered Ecological Community Warkworth Sands Woodland due to removal of the approved but not constructed Lemington Coal Preparation Plant and associated rail facilities
- includes other minor alterations to accommodate changes since the original Project

The Amendment Report was placed on public exhibition for three weeks commencing 5 September 2025 and concluding 25 September 2025. During the public exhibition of the Amendment Report, 1,331 submissions were received from government agencies, councils, public authorities, organisations and individuals. The majority of submissions from the public and organisations (91%) were in support of the amended Project. This is consistent with submissions received during public exhibition of the EIS (2022), where 91% of the 1,047 submissions received were in support of the Project.

Subsequently, a Submissions Report was prepared and submitted in November 2025 providing a response to matters raised. The NSW Department of Planning, Housing and Infrastructure (DPHI) will consider the HVOCP in relation to the updated environmental, social and economic assessments as they prepare their assessment of the Project. Following this, the Project will be referred to the NSW Independent Planning Commission (IPC) for determination.

The Project also requires approval under the Federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Following referral of the Project in May 2025, the Project was determined to be a Controlled Action in October 2025 due to proposed impacts on water resources and biodiversity.

10 | INDEPENDENT AUDIT

The last Independent Environmental Audit (IEA) was undertaken in November 2025. This audit was undertaken against the conditions of both Project Approval PA 06_0261 (as modified) and DA 450-10-2003 (as modified). The audit also assessed compliance with other licences and approvals including mining leases and EPL 640.

AECOM Australia Pty Ltd (AECOM) were engaged and endorsed by DPHI as suitably qualified, independent experts to undertake the audit. The timeframe for the audit was from 1 December 2022 to 17 October 2025. The site inspection component of the audit was undertaken over five days between 13 and 17 October 2025.

The audit report and HVO's response to the auditor's recommendations were submitted to the DPHI on 5 January 2026.

The audit identified 13 non-compliances with PA 06_0261 and DA 450-10-2003:

- 7 non-compliances associated with PA 06_0261
- 6 non-compliances associated with DA 450-10-2003

These findings, along with the auditor's recommendation and HVO's response to these recommendations, are summarized in **Table 10-1**. The 2025 IEA can be downloaded from the HVO Website.

The next IEA is scheduled to commence in November 2028.

Table 10-1: Independent Audit Recommendations

Ref	Recommendation	HVO Response	Due Date
HVO South – PA 06_0261 Non-Compliance Recommendations			
S5 C4	Expand the Annual Review Section 1 – Statement of Compliance to include a consolidated compliance assessment against all relevant approvals and licences, and ensure that all non-compliances, regardless of approval type, are consistently identified in Section 1 and cross-referenced to detailed discussion in Section 11.	Noted for future Annual Review reports.	31 March 2026
S3 C6	NMP Section 7.3 should be updated to reference Pacific National's EPL 21364 rather than ARTC, ensuring alignment with current regulatory responsibilities.	HVO will include this OFI in the next update of the Noise Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C6	Clarity between EPL locations and DA locations in monthly reports would allow easier determination of locations (Table 8-3 of NMP), noting that day and evening criteria are not included in table 8-3.	HVO will include this OFI in the next update of the Noise Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C18	Clarify BMP guidance on when blast fume events should be classified as non-compliances for Annual Review reporting.	HVO will include this OFI in the next update of the Blast Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C23	Include reference to the Air Quality TARP in the AQGGMP.	HVO will include this OFI in the next update of the Air Quality Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C23	Update the definition of 'temporary' and 'primary' haul roads (Section 6.3.2.7).	HVO will include this OFI in the next update of the Air Quality Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C23	Remove references to the Mining Operations Plan (MOP) if these remain in the unapproved draft, noting that MOPs have been replaced by the Rehabilitation Management Plan (RMP) framework.	This reference has been amended within the current version of the AQMP under assessment (Major Projects Portal Ref: MP06_0261-PA-177).	Complete
S3 C23	Follow up with the Department regarding approval of the updated AQGGMP, submitted following HVO North Modification 8.	Refer to Major Projects Portal referenceMP06_0261-PA-177 for the revised Air Quality Management Plan for pending approval. The HVO Greenhouse Gas Mitigation Plan V1.0 was published 2 December 2025.	Complete

Ref	Recommendation	HVO Response	Due Date
S3 C29	Consider installing nest boxes to support hollow-dependent fauna while natural hollows develop.	Nest box installation has been considered as not essential at this point in time. The number of tree hollows is a habitat feature attribute that is considered in the overall ecological monitoring methodology. As nest boxes are not a requirement of the plan, ecological monitoring has recorded hollows as exceeding benchmark values at two of four sites, other attributes exceed the benchmark ecological values, and bird habitat is determined by the separate bird monitoring, no nest boxes have been installed but will be considered should the monitoring determine it is required. Overall bird species have trended upwards since monitoring in 2020 with the 2024 abundance decline at one monitoring point related to yearly variation in blossom abundance.	Complete
S3 C29	Establish a new monitoring plot that accurately represents HU843 while continuing long-term monitoring at H2.	HVO will endeavour to include this OFI in the next update of the Goulburn River Offset Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A, noting that this document is owned by Mt Thorley Warkworth Mine. In lieu of this, HVO will include in the scope of the 2026 monitoring program.	11 August 2026
S3 C33A	Review and update the Integrated Biodiversity Management Plan to clearly document and integrate performance and completion criteria, monitoring programs and remedial triggers, and to correct minor administrative and formatting issues, to ensure the Plan clearly demonstrates alignment with the requirements of Condition 33A.	HVO will include this OFI in the next update of the Integrated Biodiversity Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C35	HVO should ensure that the Rehabilitation Strategy prepared for HVO North includes consideration of measures to minimise adverse socio-economic effects associated with mine closure of HVO South, noting the absence of a standalone rehabilitation strategy requirement under the HVO South consent.	To be included in submission of the Rehabilitation Strategy required by DA 450-10-2003 –S3 C62C.	24 April 2026

Ref	Recommendation	HVO Response	Due Date
S3 C40	It is recommended that HVO consider consolidating the North and South Cultural Heritage Management Plans into a single Cultural Heritage Management Plan to streamline management processes and ensure consistency across operations.	HVO to seek further advice and advise DPHI of intent to combine or otherwise during submission of next annual plan management review in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5C4A.	30 June 2026
S3 C40	Update Section 5.13 of the HVO North HMP to include the correct location of the Scarred tree 37-2-2080 (C3). During the update it is suggested HVO update the document to ensure the effective and review dates and versions are consistent across the cover page and internal sections and implement a version-control check to prevent future discrepancies.	HVO will include this OFI in the next update of the HVO North Heritage Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11August 2026
S5 C1C	Deficiencies in version control for various management plans for the current audit period, highlighting the need for strengthened document control processes to ensure that version control, approval dates, and consultation evidence are consistently and clearly documented across all plans.	Noted. To be addressed by current and future management plan submissions in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
HVO North – DA 450-10-2003 Non-Compliance Recommendations			
S5 C9	Expand the Annual Review Section 1 – Statement of Compliance to include a consolidated compliance assessment against all relevant approvals and licences, and ensure that all non-compliances, regardless of approval type, are consistently identified in Section 1 and cross-referenced to detailed discussion in Section 11.	Noted for future Annual Review reports.	31 March 2026
S3 C10	NMP Section 7.3 should be updated to reference Pacific National's EPL 21364 rather than ARTC, ensuring alignment with current regulatory responsibilities.	HVO will include this OFI in the next update of the Noise Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C10	Clarity between EPL locations and DA locations in monthly reports would allow easier determination of locations (Table 8-3 of NMP), noting that day and evening criteria are not included in table 8-3.	HVO will include this OFI in the next update of the Noise Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C19	Clarify BMP guidance on when blast fume events should be classified as non-compliances for Annual Review reporting.	HVO will include this OFI in the next update of the Blast Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026

Ref	Recommendation	HVO Response	Due Date
S3 C6	Include reference to the Air Quality TARP in the AQGGMP.	HVO will include this OFI in the next update of the Air Quality Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C6	Update the definition of 'temporary' and 'primary' haul roads (Section 6.3.2.7).	HVO will include this OFI in the next update of the Air Quality Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C6	Remove references to the Mining Operations Plan (MOP) if these remain in the unapproved draft, noting that MOPs have been replaced by the Rehabilitation Management Plan (RMP) framework.	This reference has been amended within the current version of the AQMP under assessment (Major Projects Portal Ref: MP06_0261-PA-177).	Complete
S3 C6	Follow up with the Department regarding approval of the updated AQGGMP, submitted following HVO North Modification 8.	Refer to Major Projects Portal referenceMP06_0261-PA-177 for the revised Air Quality Management Plan for pending approval. The HVO Greenhouse Gas Mitigation Plan V1.0 was published 2 December 2025.	Complete
S3 C31	Update the RRGRR strategy to better detail pathogen management measures, ensuring the current risk and existing and future management controls are clearly captured.	HVO will include this OFI in the next update of the River Red Gum Rehabilitation and Restoration Strategy in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C41A	It is recommended that HVO consider consolidating the North and South Cultural Heritage Management Plans into a single Cultural Heritage Management Plan to streamline management processes and ensure consistency across operations.	HVO to seek further advice and advise DPHI of intent to combine or otherwise during submission of next annual plan management review in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5C4A.	30 June 2026
S3 C41A	Update Section 5.13 of the HVO North HMP to include the correct location of the Scarred tree 37-2-2080 (C3). During the update it is suggested HVO update the document to ensure the effective and review dates and versions are consistent across the cover page and internal sections and implement a version-control check to prevent future discrepancies.	HVO will include this OFI in the next update of the HVO North Heritage Management Plan in accordance with DA 450-10-2003 – S5 C4 and PA 06_0261 – S5 C4A.	11 August 2026
S3 C58	HVO to review the Spontaneous Combustion Principal Hazard Management Plan.	Update of Spontaneous Combustion Principal Hazard Management Plan completed 12 December 2025.	Complete.

* Date indicates when Management Plans are submitted for Department approval. Timing of approval and finalisation of the plan with the changes is outside of HVO's control.

11 | INCIDENTS AND NON-COMPLIANCES

In 2025 there were fourteen (14) incidents that required reporting to DPHI. These were related to air quality and are summarised below.

HVAS PM10 dust exceedance – Cheshunt East – 6 January 2025

Monitoring results indicate that on 6 January 2025, the Cheshunt East HVAS recorded a total result of 56.1µg/m3 for the 24-hour averaging period for PM10, exceeding the relevant criteria of 50ug/m^3. An air specialist consultant was engaged to investigate the result and determined HVO's maximum possible contribution to be 22.8ug/m3. HVO implemented operational controls on 6 January to comply with the HVO Air Quality and Greenhouse Gas Management Plan. The Department of Housing and Infrastructure (DPHI) were advised of the exceedance on 18 November with an incident report submitted on 29 January. HVO notified affected residents as per requirements in HVO North Development Consent.

Wandewoi TSP HVAS Mis-Capture – 18 January 2025

The Wandewoi TSP HVAS unit failed to run the full monitoring period on 18 January 2025 due to a suspected power supply failure. The monitoring contractor collecting the filter paper didn't note anything out of the ordinary upon arrival. The post check was conducted without any issues. The monitor software indicated that the run time for 18 January 2025 was 798 minutes (13.30 hours). HVO engaged an electrician to investigate the power supply issue at the site, of which no issues or causes of the power supply failure were identified. HVO notes that the Wandewoi TEOM located next to the TSP monitor, experienced power related issues on 18 January which were as a result of ongoing Ausgrid mains power issues caused by severe storm activity in the previous days. This data mis-capture will be noted in the 2025 HVO Annual Review.

Kilburnie South HVAS PM10 and TSP Mis-Capture – 11 February 2025

HVO were notified by the monitoring contractor that the Kilburnie South PM10 and TSP HVAS units failed to run for the full monitoring period on 11 February 2025. The monitoring contractor collecting the filter paper noted that the unit was without power upon their arrival. An inspection of the unit's power supply by an electrician found that the cause of the power supply issue was the result of the RCD being in the off position at the distribution board. The unit was re-set and ran successfully on 17 February. DPHI were notified of the mis-capture. No further action was required from DPHI. This data mis-capture will be noted in the 2025 HVO Annual Review.

Kilburnie South HVAS PM10 Exceedance - 1 March 2025

Monitoring results indicate that on 1 March 2025, the Kilburnie South PM10 High Volume Air Sampler (HVAS) recorded a total result of 50.8µg/m3 for the 24-hour averaging period, exceeding the relevant criteria of 50ug/m3. No complaints were received on this day. Todoroski Air Sciences were engaged to investigate the result and determined HVO's maximum potential contribution to be 9.7ug/m3 (HVO South) and 0.0ug/m3 (HVO North). HVO implemented operational controls on 1 March to comply with the HVO Air Quality and Greenhouse Gas Management Plan. The DPHI were advised of this exceedance on 17 March and an incident report was submitted on 24 March. No further follow up has been requested from DPHI at this time.

Wandewoi & Kilburnie South HVAS Miscaptures – 24 May 2025

On 24 May 2025, the Wandewoi TSP, Kilburnie South PM10 and TSP High-Volume Air Samplers (HVAS) failed to operate for their full 24-hour periods resulting in runtimes of 74%, 6% & 6% respectively. It was established that a site-wide power outage occurred on 24 May due to an external supply issue from Ausgrid. An electrician attended the Wandewoi monitoring site with no immediate cause for the outage identified. At Kilburnie South, the electrician found that the Residual Current Device (RCD) on the circuit powering both the TSP and PM_{10} HVAS units had tripped, preventing power restoration. The RCD was subsequently reset, restoring power and further testing conducted confirmed there were no faults. All HVAS units resumed normal operation for their next scheduled run day. These miscaptures were reported to the Department of Planning, Housing & Infrastructure (DPHI) with no further follow up requested.

Cheshunt East HVAS PM10 and TSP Mis-Capture – 5 June 2025

HVO were notified by the monitoring contractor that the Cheshunt East PM10 HVAS and TSP units failed to run for the full monitoring period on 5th June 2025. The monitoring contractor collecting the filter paper noted that the units were without power upon their arrival. HVO engaged an electrician to investigate the power supply issue at the site, of which they discovered a tripped circuit breaker, requiring a manual reboot. Electrical tests were conducted after the monitor was reset, with no further issues discovered. HVO have engaged an electrician to further investigate the potential cause of the tripped circuit breaker. The unit was re-set and ran successfully on 11th June. DPHI were notified of the mis-capture. No further action was required from DPHI. This data mis-capture will be noted in the 2025 HVO Annual Review.

Knodlers Lane and Long Point HVAS Mis-captures – 26 November 2025

On 26 November 25 the Knodlers Lane TSP, Long Point PM10 and TSP High-Volume Air Samplers (HVAS) failed to operate for their full 24-hour periods resulting in a runtime of 57% for all monitors. It was established that all three units experienced power related issues on 26 November as a result of Ausgrid mains power issues caused by severe storm activity on the day. All HVAS units resumed normal operation for their next scheduled run day. These mis-captures were reported to the Department of Planning, Housing & Infrastructure (DPHI) with no further follow up requested.

DL30 and Warkworth Depositional Dust Exceedances – 2025 Annual Average

The DL30 and Warkworth monitoring locations exceeded the annual average insoluble matter deposition rate criteria of 4 g/m^2/month (HVO North only) during 2025. However, all results were below the maximum insoluble solids incremental increase criterion of 2 g/m^2/month and hence compliant with criteria.

EBAM monitors were estimated on an hourly basis for HVAS run days. The hourly contributions were estimated as the concentrations recorded at each monitor minus the estimated background level. The hourly contributions were then averaged for each 24-hour period to determine the 24-hour contributions from HVO South. The percentage contribution of the total level recorded at the EBAM monitors was applied to the HVAS monitoring results for 2025 to determine the potential contribution from HVO South to the monitors. The two EBAM monitors at Maison Dieu and Kilburnie South recorded an average of 4.8µg/m^3 and 5.0 µg/m^3 respectively.

12 | ACTIVITIES TO BE COMPLETED IN 2026

Activities to be completed in 2026 are presented in **Table** 12-1.

Table 12-1: Proposed Activities in 2026

Topic	Proposed Activities
Approvals	• Continued assessment and determination of the HVO Continuation Project
Infrastructure	• Demolition of retired draglines (DL 105 and DL 104).
Noise	• Replacement of Moses Crossing BarnOwl with Environmental Noise Compass
Air Quality	• Aerial seeding of overburden that is temporarily unavailable for rehabilitation where available, • Commission ROM receival upgrades including enclosed hopper. • Implement new real-time monitoring data interface.
Blasting	• Relocation of the West Pit Explosives Reload Facility.
Aboriginal and Historic Heritage	• Continuation of regular compliance audits of Aboriginal cultural heritage sites • Continuation of annual Cultural Heritage Working Group meetings • Fencing of 20m buffer area surrounding site CM-CD1 • Fencing of ACH sites located at Dam 25S • Barricading of specific AHIMS sites as recommended from 2025 ACHMP compliance audit reports • Continuation of regular vegetation maintenance and termite control at heritage sites • Repair and improvement work to Archerfield homestead • Repair and improvement work to Carrington Stud homestead • Repair of Chain of Ponds Inn stable roof and updating of its CMP • Demolition of damaged and unsafe derelict buildings
Water	• Upgrade of pumping infrastructure at the Hunter River – Oaklands extraction site. • Additional pumping and pipe work infrastructure for improvement water management and reticulation in West Pit.

Topic	Proposed Activities
Rehabilitation	• Complete rehabilitation and disturbance works in accordance with the 2026-2029 FWP • 11.9ha of new rehabilitation (levelled/re-contoured, topsoiled and seeded) • 63 ha of disturbance • Maintenance of rehabilitation of rehabilitated areas and topsoil stockpiles in accordance with the ARCP
Tailings Storage Facilities	• Continuation of management activities for the North Void TSF, focusing on monitoring, dewatering and surface strength development • Commencement of barrier wall construction expected in 2026 • Review & Update of all tailings dam Operational and Maintenance Manuals • Continue capping activities on Bob's Dump TSF, pending stability analysis of remaining exposed surface area • Installation of new spigot locations in Carington In Pit TSF •
Stakeholder Engagement	• Hosting four CCC meetings; • Implementing two rounds of the HVO Community Grants Programme; • Undertaking an improvement project in the community with HVO Apprentices; • Developing and distributing two community newsletters; • Conducting Community Information Sessions (nominally two each at Jerrys Plains and Maison Dieu); • Christmas giving projects and financial assistance; • Regular website updates including environmental monitoring reports and CCC meeting agendas, minutes and presentations; • Regular social media updates; • Hosting a school student site tour; and • Stakeholder engagement activities related to the HVO Continuation Project.
Independent Environmental Audit	• The next IEA is scheduled to commence in November 2028.

APPENDIX A: ANNUAL AIR QUALITY REVIEW

APPENDIX B: ANNUAL GROUNDWATER REVIEW

APPENDIX C: 2025 HERITAGE COMPLIANCE INSPECTION AUDITS

APPENDIX D: APPROVAL LETTER

Department of Planning, Housing and Infrastructure

NSW GOVERNMENT

Reference: DA450-10-2003-PA-112

Ben de Somer
Manager Environment & Community
HV OPERATIONS PTY LTD
15/10/2026

Sent via the Major Projects Portal only

Subject: Hunter Valley Operations Mine Complex (HVO North (DA450-10-2003) and HVO South (MP06_0261)) - Annual Review 2025

Dear Mr de Somer

I refer to your revised Annual Review for the period 1 January 2025 to 31 December 2025, submitted as required by Schedule 5, Condition 9 of DA450-10-2003 as modified and Schedule 5, Condition 4 of MP06_0261 as modified (the consents) to the NSW Department of Planning, Housing and Infrastructure (the Department) on 31 March 2026 and 17 July 2026. The 17 July 2026 revision included information to address NSW Department of Climate Change, Energy, the Environment and Water's (DCEEW) comments.

The Department has reviewed the Annual Review and considers it to generally satisfy the reporting requirements of the consents and the Department's Annual Review Guideline (October 2015). Please make publicly available a copy of the 2025 Annual Review on the company's website within 30 days.

Non-compliances identified in the Annual Review have been assessed by the Department in accordance with its Compliance Policy, with the Department on this occasion determining to record the breaches with no further enforcement action proposed. However, please note that recording the breach does not preclude the Department from taking an alternative enforcement action, should it become apparent that an alternative response is more appropriate.

Please note:

- The Department's acceptance of this Annual Review is not an endorsement of the compliance status of the project.
- Following submission of the 2025 Annual Review you are required to review and if necessary, revise the strategies, plans, and programs required under these consents.

Should you wish to discuss the matter further, please contact Ann Hagerthy, (Senior Compliance Officer) on 02 6575 3407 or email compliance@planning.nsw.gov.au

Yours sincerely

Benjamin Harrison
Director
Compliance

As nominee of the Planning Secretary