

WQMS Data Review

Huntly Bauxite Mine

JUNE 2026



Document Control

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1. Executive Summary

SciDev conducted an analysis of turbidity data collected from Water Quality Monitoring Systems (WQMS) operating across Alcoa's Huntly bauxite mining operations for June 2026. The purpose of this assessment was to evaluate data quality, identify genuine turbidity exceedance events, and support compliance with the *Environmental Protection (Darling Range Bauxite Mining Proposal) Exemption Order 2023*.

The review focused on events where turbidity exceeded 25 NTU for at least one hour. Events were evaluated in accordance with Alcoa's Turbidity Event Classification Guidelines and classified as either "true" exceedances, representing genuine increases in turbidity, or "false" exceedances resulting from environmental or operational interferences.

Key outcomes of the analysis were:

- **Excluded Unit:** Twenty-Eight (28) WQMS units were excluded from the analysis due to invalid data caused by equipment faults or environmental interference.
- **False Events:** Fifty-four (54) turbidity exceedances were identified as false, commonly caused by debris, sensor obstruction, or hydraulic disturbances.
- **True Events:** Thirty-two (32) "True" turbidity exceedance event were recorded following detailed assessment. Of these, only one (1) has an undetermined source that may or may not have been mining related

Data gaps were also identified due to system outages, maintenance, and unexpected shutdowns. These have been documented to maintain transparency in reporting.

Overall, while turbidity exceedance events were recorded during June 2026, the assessment found no evidence that any true turbidity exceedance event was caused by mining activities.

2. Scope

SciDev were engaged by Alcoa to analyse turbidity data collected from the Huntly Water Quality Monitoring Systems (WQMS). The primary objective of this engagement is to assess the quality of the collected data and identify potential “true” turbidity events. This analysis supports Alcoa’s reporting obligations under *Schedule 1, Division 2, Clause 6 of the Environmental Protection (Darling Range Bauxite Mining Proposal) Exemption Order 2023*.

3. Introduction

3.1 Background

Alcoa of Australia Ltd (Alcoa) operates two bauxite mines, Huntly and Willowdale, approximately 100 km southeast of Perth, Western Australia. These mining operations are subject to environmental controls mandated by the *Environmental Protection (Darling Range Bauxite Mining Proposal) Exemption Order 2023*.

Under this Exemption Order, Alcoa is required to implement drainage control measures and monitor effectiveness in water bodies within and downstream of mining operations. Turbidity, a critical water quality parameter, is monitored using Water Quality Monitoring Systems (WQMS), to detect deviations and identify high-turbidity events.

Alcoa is obligated to report monthly on-stream turbidity, including the identification and classification of any “true” high-turbidity exceedance events. (Refer to Appendix B for the site map showing WQMS locations.)

3.2 Monitoring Requirements

Environmental Protection (Darling Range Bauxite Mining Proposal) Exemption Order 2023 specifies that a drainage incident occurs when:

- a. Runoff from a disturbance area enters the surrounding environment, resulting in surface water turbidity of at least 25 NTU for a duration of at least one hour; or
- b. a discharge from containment infrastructure includes, or may include, environmentally hazardous material.

Trigger levels for drainage incidents are outlined in Schedule 1 of the Exemption Order. To meet these requirements, Alcoa has developed "Turbidity Event Classification Guidelines" which define a true turbidity exceedance event as a WQMS recording turbidity levels of at least 25 NTU for a period exceeding one hour.

3.3 Water Quality Management System (WQMS)

During the June 2026 monitoring period, forty-three (43) WQMS units were deployed to monitor turbidity levels in streams subject to surface water runoff within and downstream of Huntly mining operations.

Each WQMS unit consists of the following components:

Aquas SMR10 Turbidity Probe

Positioned at a 90-degree angle to water flow, each probe is equipped with an automatic lens wiper and a guard to protect against larger debris.

Data Taker DT82 Logger

Records data locally every six seconds, with six-minute averages transmitted via IoT-enabled modems to a cloud-based platform.

Float Switch

Detects whether the sensor is submerged, or the stream is dry.

3.4 Purpose

This report aims to analyse turbidity data collected during June 2026, focusing on the identification and classification of "true" turbidity exceedance events based on Alcoa's Turbidity Event Classification Guidelines.

3.5 Exclusions

This report is not intended as:

- An assessment of the WQMS network or Alcoa's compliance with relevant legislation and requirements.
- An evaluation of the suitability of the trigger levels or event classification procedures adopted by Alcoa.

3.6 Abbreviations

	Term
IoT	Internet of Things
NTU	Nephelometric Turbidity Units
WQMS	Water Quality Management System

4. Methodology

4.1 WQMS Locations

A site map showing the WQMS locations is provided in Appendix B.

4.2 Data Review

Data recorded by the WQMS Units was reviewed and potential events where turbidity levels exceeded 25 NTU for at least one hour. Each potential event was categorised as either 'true' or 'false'.

4.2.1 True Turbidity Exceedance Events

These events are caused by an actual increase in stream turbidity. Per Alcoa's "Turbidity Event Classification Guidelines" true exceedance events typically exhibit:

- A sharp, sudden incline in turbidity levels.
- A return to baseline turbidity levels in a pattern resembling a normal (Gaussian) distribution.

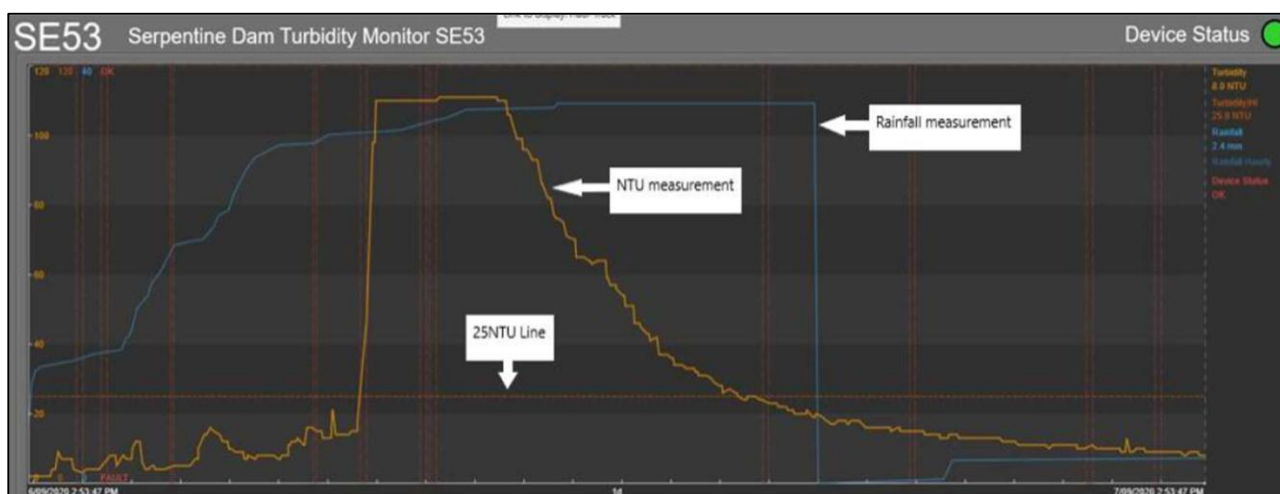


Figure 1 Typical 'true' exceedance event

4.2.2 False Turbidity Exceedance Events

These events are caused by factors unrelated to actual turbidity increase, such as:

- Organic debris (e.g., leaves, sticks, algae) obstructing the sensor
- Air bubbles or water turbulence near the sensor
- Fluctuating water levels intermittently covering and uncover the sensor lens.

False events typically exhibit sharp inclines and declines without the characteristic bell curve shape of true events.

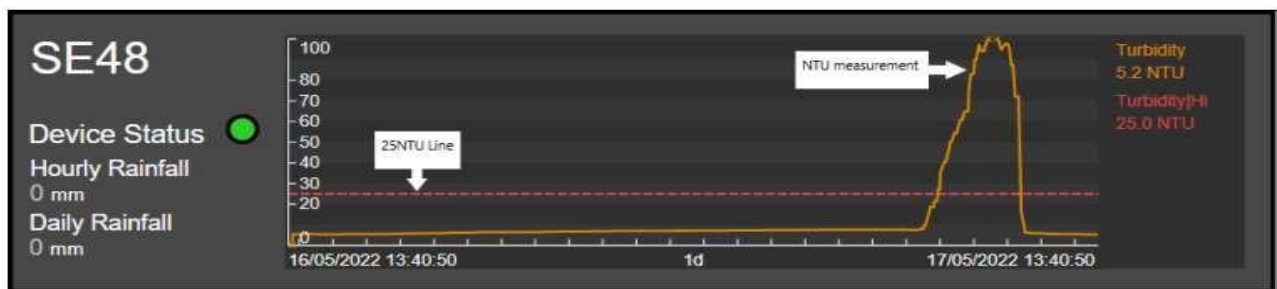


Figure 2 Typical 'False' Exceedance event

4.2.3 Missing Data

Missing data occurs when a WQMS unit fails to record information, this can occur from unexpected system logoffs, equipment faults, or unplanned shutdowns.

5. Results and Discussion

5.1 Events

Table 1 provides a summary of identified events. Table 2 offers detailed information about each event.

Table 1: Events Summary

Category	# of events
Total events	86
True Events	32
False events	54
Undetermined source	1

It was found that:

- a) There were eighty-six (86) total events recorded.
- b) There were thirty-two (32) True events.
- c) The source of One (1) True event is undetermined. Alcoa cannot confidently say that the event was mining or non-mining related.
- d) Five (5) units that were previously dry, now had water present.
- e) Twenty-eight (28) units remained dry with no presence of water.
- f) Fifteen (15) units remained flowing throughout the month.

Note:

A True event is recorded when there is water present within the water way, and, that the probe has not been affected by any external sources.

Table 2: Events Details

Event ID	Monitor	False Event (Y/N)	Event Start Date	Event Start Time	Event End Date	Event End Time	Event Duration Minutes	Event Duration Hrs/Mins	Ave. Turbidity (NTU)	Peak Turbidity (NTU)
HUN-2606-001	SE59T	N	31/05/2026	5:00:00 AM	3/06/2026	7:39:00 AM	4479	74:39	1027.1	3118.51
HUN-2606-002	SE52T	Y	31/05/2026	7:14:00 AM	1/06/2026	9:24:00 AM	1570	26:10	235.14	1480.92
HUN-2606-003	SE03INV1	N	31/05/2026	12:33:52 PM	1/06/2026	3:43:02 AM	909	15:09	46.93	365.62
HUN-2606-004	SE05T	N	31/05/2026	10:15:16 PM	1/06/2026	5:07:29 AM	412	6:52	46.82	79.7
HUN-2606-005	SE53T	N	31/05/2026	11:20:02 PM	1/06/2026	1:58:51 AM	159	2:38	28.7	34.62
HUN-2606-006	SE06T	Y	31/05/2026	11:30:51 PM	1/06/2026	12:37:31 AM	67	1:06	73.55	125.7
HUN-2606-007	SE03T	N	1/06/2026	12:57:11 AM	1/06/2026	3:05:27 AM	128	2:08	28.74	30.87
HUN-2606-008	SE51T	N	1/06/2026	1:09:28 AM	1/06/2026	3:29:59 AM	141	2:20	31.77	36.47
HUN-2606-009	SE03INV1	Y	1/06/2026	10:04:52 AM	3/06/2026	12:59:41 PM	3055	50:54	61.61	96.26
HUN-2606-010	SE06T	Y	6/06/2026	5:48:01 AM	6/06/2026	6:54:01 AM	66	1:06	26.74	28.48
HUN-2606-011	SE06T	Y	6/06/2026	7:48:01 AM	6/06/2026	12:54:01 PM	306	5:06	28.68	31.6

HUN-2606-012	SE05T	N	8/06/2026	5:32:00 AM	8/06/2026	7:46:00 AM	134	2:14	29.94	37.2
HUN-2606-013	DB02T	Y	8/06/2026	3:40:14 PM	8/06/2026	5:05:05 PM	85	1:24	32.05	52.88
HUN-2606-014	DB02T	Y	8/06/2026	10:08:00 PM	10/06/2026	2:50:00 PM	2442	40:42	56.94	209.91
HUN-2606-015	SE05T	N	8/06/2026	3:38:00 PM	8/06/2026	7:59:00 PM	261	4:21	783.43	5000
HUN-2606-016	SE59T	Y	8/06/2026	3:51:00 PM	11/06/2026	9:37:00 AM	3946	65:46	1495.59	2114.36
HUN-2606-017	SE02T	N	8/06/2026	3:48:00 PM	8/06/2026	4:54:00 PM	66	1:06	35.11	47.69
HUN-2606-018	SE03INV1	N	8/06/2026	3:56:00 PM	8/06/2026	9:29:00 PM	333	5:33	62.6	113.54
HUN-2606-019	SE61T	N	8/06/2026	3:57:02 PM	8/06/2026	9:54:38 PM	358	5:57	81.31	187.99
HUN-2606-020	SE51T	N	8/06/2026	4:06:00 PM	8/06/2026	8:00:00 PM	234	3:54	36.36	47.46
HUN-2606-021	SE52T	N	8/06/2026	4:18:00 PM	8/06/2026	9:24:00 PM	306	5:06	83.34	264.96
HUN-2606-022	SE03T	Y	9/06/2026	9:54:00 AM	12/06/2026	1:30:00 PM	4536	75:36	952.22	2647.67
HUN-2606-023	SE03T	N	8/06/2026	5:00:00 PM	9/06/2026	12:18:00 AM	438	7:18	43.34	86.29
HUN-2606-024	SE53T	Y	8/06/2026	10:06:00 PM	8/06/2026	11:30:00 PM	84	1:24	28.03	34.85
HUN-2606-025	SE53T	N	8/06/2026	5:00:00 PM	8/06/2026	6:48:00 PM	108	1:48	33.77	45.27
HUN-2606-026	PD01T	N	8/06/2026	5:54:00 PM	8/06/2026	7:00:00 PM	66	1:06	31.94	37.85

HUN-2606-027	DB03T	N	8/06/2026	6:04:45 PM	9/06/2026	5:29:36 AM	685	11:24	37.37	44.96
HUN-2606-028	SE48T	Y	8/06/2026	8:24:00 PM	8/06/2026	9:24:00 PM	60	1:00	41.36	53.7
HUN-2606-029	SE36T	Y	8/06/2026	4:39:00 PM	8/06/2026	8:00:00 PM	201	3:21	62.15	409.73
HUN-2606-030	SE03INV3	Y	14/06/2026	5:17:57 PM	14/06/2026	9:26:26 PM	248	4:08	184.68	295.65
HUN-2606-031	SE03INV3	Y	14/06/2026	10:39:10 PM	14/06/2026	11:45:50 PM	67	1:06	91.32	128.62
HUN-2606-032	SE03INV3	Y	15/06/2026	12:22:12 AM	15/06/2026	3:54:20 AM	212	3:32	121.81	196.35
HUN-2606-033	SE03INV3	Y	15/06/2026	6:13:44 AM	15/06/2026	9:10:44 PM	897	14:57	252.48	417.65
HUN-2606-034	SE05T	N	9/06/2026	2:15:22 AM	9/06/2026	4:28:42 AM	133	2:13	28.91	33.04
HUN-2606-035	SE05T	N	14/06/2026	3:05:39 PM	14/06/2026	4:48:41 PM	103	1:43	31.66	40.32
HUN-2606-036	SE05T	N	26/06/2026	7:19:00 AM	26/06/2026	11:09:00 AM	230	3:50	36.72	49.06
HUN-2606-037	SE61T	N	26/06/2026	11:27:00 AM	26/06/2026	2:04:00 PM	157	2:37	27.11	28.03
HUN-2606-038	SE06T	Y	8/06/2026	2:56:18 PM	8/06/2026	4:02:59 PM	67	1:06	72.6	293.3
HUN-2606-039	SE06T	Y	11/06/2026	3:22:16 PM	11/06/2026	4:41:04 PM	79	1:18	48.14	63.45
HUN-2606-040	SE06T	Y	13/06/2026	11:14:12 PM	14/06/2026	1:21:30 AM	127	2:07	33.27	51.91
HUN-2606-041	SE06T	Y	14/06/2026	4:47:35 AM	14/06/2026	6:36:41 AM	109	1:49	29.58	34.1

HUN-2606-042	SE36T	Y	13/06/2026	6:40:14 AM	13/06/2026	8:59:38 AM	139	2:19	84.78	148.98
HUN-2606-043	SE36T	Y	13/06/2026	10:36:37 AM	13/06/2026	1:32:25 PM	176	2:55	102.21	210.6
HUN-2606-044	SE36T	Y	16/06/2026	7:06:11 AM	16/06/2026	9:01:21 AM	115	1:55	88.97	157.34
HUN-2606-045	SE36T	Y	16/06/2026	10:38:20 AM	16/06/2026	12:09:15 PM	91	1:30	109.28	175.14
HUN-2606-046	SE36T	Y	16/06/2026	2:40:46 PM	16/06/2026	8:32:18 PM	352	5:51	127.91	165.01
HUN-2606-047	SE36T	Y	17/06/2026	12:40:49 AM	17/06/2026	3:00:13 AM	139	2:19	72.76	139.68
HUN-2606-048	SE36T	Y	17/06/2026	5:07:30 AM	17/06/2026	6:32:21 AM	85	1:24	137.49	211.01
HUN-2606-049	SE36T	Y	17/06/2026	8:39:39 AM	17/06/2026	10:04:30 AM	85	1:24	72.51	130.97
HUN-2606-050	SE36T	Y	17/06/2026	11:41:29 AM	17/06/2026	1:30:35 PM	109	1:49	121.02	181.78
HUN-2606-051	SE36T	Y	17/06/2026	5:39:06 PM	18/06/2026	2:08:15 AM	509	8:29	82.98	164.98
HUN-2606-052	SE36T	Y	18/06/2026	4:09:28 AM	18/06/2026	5:34:20 AM	85	1:24	99.69	161.02
HUN-2606-053	SE36T	Y	18/06/2026	12:38:36 PM	18/06/2026	2:03:28 PM	85	1:24	110.43	186.67
HUN-2606-054	SE36T	Y	18/06/2026	5:11:31 PM	18/06/2026	9:02:02 PM	231	3:50	89.64	125.22
HUN-2606-055	SE36T	Y	18/06/2026	11:09:26 PM	19/06/2026	1:04:42 AM	115	1:55	100.8	170.17
HUN-2606-056	SE36T	Y	19/06/2026	3:06:01 AM	19/06/2026	4:06:41 AM	61	1:00	83.97	120.94

HUN-2606-057	SE36T	Y	19/06/2026	5:43:45 AM	19/06/2026	7:02:37 AM	79	1:18	153.54	298.07
HUN-2606-058	SE36T	Y	19/06/2026	1:36:40 PM	19/06/2026	3:07:35 PM	91	1:30	83.21	131.9
HUN-2606-059	SE36T	Y	19/06/2026	6:09:25 PM	19/06/2026	11:00:21 PM	291	4:50	92.54	156.6
HUN-2606-060	SE36T	Y	20/06/2026	2:08:16 AM	20/06/2026	4:33:44 AM	145	2:25	75.19	126.43
HUN-2606-061	SE36T	Y	20/06/2026	7:11:19 AM	20/06/2026	9:00:25 AM	109	1:49	106.88	159.76
HUN-2606-062	SE36T	Y	20/06/2026	11:38:01 AM	20/06/2026	2:09:33 PM	152	2:31	92.4	143.97
HUN-2606-063	SE36T	Y	24/06/2026	8:40:00 AM	24/06/2026	12:36:00 PM	236	3:56	84.98	130.88
HUN-2606-064	SE51T	Y	17/06/2026	6:30:34 PM	17/06/2026	7:50:00 PM	79	1:19	27.22	28.02
HUN-2606-065	SE51T	Y	17/06/2026	11:23:51 PM	18/06/2026	12:49:23 AM	86	1:25	26.42	29.34
HUN-2606-066	SE06T	Y	23/06/2026	5:29:00 PM	24/06/2026	5:49:00 PM	1460	24:20	87.37	204.37
HUN-2606-067	SE09T	Y	21/06/2026	8:18:00 PM	21/06/2026	9:36:00 PM	78	1:18	75.21	104.44
HUN-2606-068	SE03INV1	Y	19/06/2026	5:42:01 PM	23/06/2026	1:48:00 PM	5526	92:05	74.3	152.34
HUN-2606-069	SE06T	Y	25/06/2026	7:53:00 PM	26/06/2026	5:00:01 AM	547	9:07	30.78	62.23
HUN-2606-070	DB02T	Y	28/06/2026	1:46:00 AM	28/06/2026	11:09:00 AM	563	9:23	43.69	70.7
HUN-2606-071	SE52T	N	27/06/2026	6:36:01 AM	27/06/2026	11:36:01 AM	300	5:00	57.47	131.19

HUN-2606-072	SE03T	Y	27/06/2026	8:30:01 AM	27/06/2026	12:36:02 PM	246	4:06	56.44	201.45
HUN-2606-073	SE03T	Y	27/06/2026	2:36:01 PM	28/06/2026	11:00:00 AM	1224	20:23	1962.8	4850.15
HUN-2606-074	SE05T	N	27/06/2026	6:57:00 AM	27/06/2026	11:54:00 AM	297	4:57	48.56	95.45
HUN-2606-075	SE61T	N	27/06/2026	7:51:00 AM	28/06/2026	4:58:00 AM	1267	21:07	229.51	555.13
HUN-2606-076	SE59T	N	27/06/2026	9:00:01 AM	27/06/2026	10:48:01 AM	108	1:48	27.6	29.18
HUN-2606-077	DB03T	N	27/06/2026	4:38:00 PM	27/06/2026	6:03:00 PM	85	1:25	25.91	26.38
HUN-2606-078	SE61T	N	30/06/2026	12:18:01 AM	30/06/2026	8:12:01 AM	474	7:54	37.95	56.99
HUN-2606-079	SE34T	Y	30/06/2026	12:36:01 AM	30/06/2026	2:30:01 AM	114	1:54	108.23	278.12
HUN-2606-080	SE62T	Y	1/07/2026	4:36:01 AM	1/07/2026	7:00:01 AM	144	2:24	98.92	158.13
HUN-2606-081	SE52T	N	30/06/2026	12:36:01 AM	30/06/2026	2:48:00 AM	132	2:11	35.43	50.77
HUN-2606-082	PD01T	N	30/06/2026	2:18:01 AM	30/06/2026	4:36:01 AM	138	2:18	34.54	42.59
HUN-2606-083	SE03T	N	30/06/2026	2:24:02 AM	30/06/2026	5:18:01 AM	174	2:53	27.85	30.5
HUN-2606-084	SE06T	Y	29/06/2026	10:48:01 PM	29/06/2026	11:48:01 PM	60	1:00	400.96	1238.24
HUN-2606-085	SE59T	N	30/06/2026	3:12:01 AM	30/06/2026	4:54:01 AM	102	1:42	30.33	35.21
HUN-2606-086	DB03T	N	30/06/2026	5:06:01 AM	30/06/2026	10:00:01 AM	294	4:54	30.04	32.55

5.2 Event Assessment Outcomes

5.2.1 True Events

5.2.1.1 HUN-2606-001

SE59T

The turbidity exceedance event occurred at monitoring location SE59T between 5:00 AM on 31 May 2026 and 7:39 AM on 3 June 2026. During the first 24hrs of this period, 10.6 mm of rainfall was recorded, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 3) displays a response pattern consistent with a genuine turbidity event. Following the initial rise in turbidity, sediment accumulation on the sensor likely contributed to persistently elevated readings, prolonging the apparent duration of the exceedance.

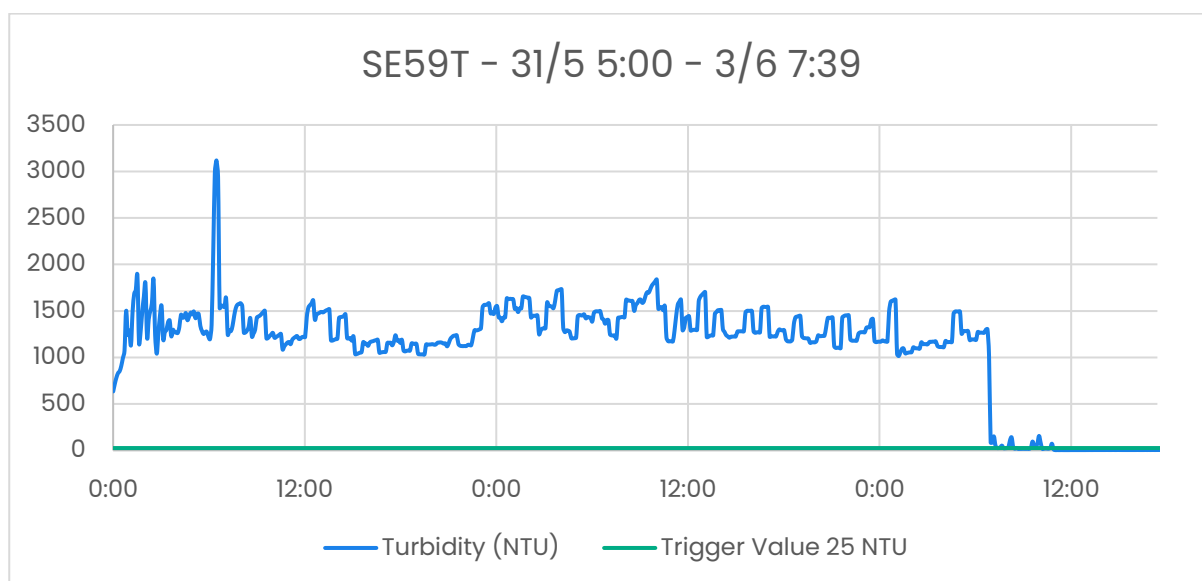


Figure 3 – SE59T May 31st – June 3rd

Field notes provided by Alcoa are included below.

‘Compliance turbidity monitoring site SE59T recorded a turbidity event exceeding 25 NTU for >1 hour on 31 May 2026.

The event was recorded on 31 May 2026 from 05:00 AM to 03/06/2026 07:39 AM, with a duration of 74 hours and 39 minutes. The average turbidity value during the event was 1027.10, with a peak of 3118.51. There was 10.6 mm of rainfall recorded in the 24 hours preceding the event.

The data trend indicates a rapid incline in turbidity NTU with the NTU stabilising over 1000 NTU for several hours beyond rainfall and rapidly declined to 3.12 NTU post clean.

SE59T monitoring site was inspected on 03 June 2026, stream was clear and flowing with slight cascading flow immediately upstream of sensor. The sensor and sensor cage was heavily impacted with sediment on inspection potentially impacted from stream bank adjacent which had evidence of animal activity and erosion of bank. The sensor was cleaned and returned into flow cell in the stream.

The SE59T catchment area has been inspected and no evidence of mining related drainage concerns observed.'

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.2 HUN-2606-003

SE03INV1

The turbidity exceedance event occurred between 12:33 PM on 31 May 2026 and 3:43 AM on 1 June 2026 at monitoring location SE03INV1

Trend analysis of the monitoring data (Figure 4) indicates a prolonged and highly variable response, characterised by a gradual build-up followed by a pronounced spike. Turbidity levels initially increased slowly from the trigger threshold, followed by a further increase. A sharp and isolated spike then occurred at approximately 12:10 AM, with turbidity rapidly increasing to a peak of around 360–370 NTU. This spike was short-lived, with turbidity levels dropping quickly back to approximately 60 NTU within a short period.

Following this peak, turbidity levels continued to decline with minor fluctuations, forming a gradual recession limb and returning below the trigger threshold.

The observed turbidity response is consistent with rainfall-driven runoff processes. A total of 17.6 mm of rainfall was recorded in the 24 hours preceding the event, which is sufficient to generate sustained runoff and sediment mobilisation. However, the magnitude and abrupt nature of the peak suggest a localised or discrete input of highly turbid water, such as a concentrated inflow, resuspension event, or disturbance within the channel. This indicates a complex response involving both gradual catchment runoff and a short-duration, high-intensity turbidity pulse.

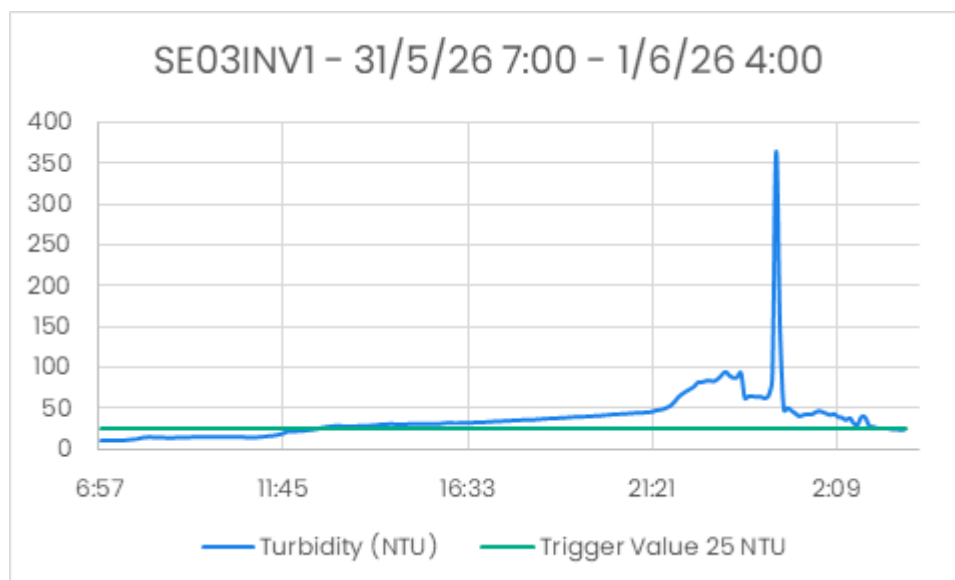


Figure 4 – SE03INV1 31st May – 1st June

Field notes provided by Alcoa are included below.

‘Site visit of SE03INV1 was carried out on the 03 June 2026. The stream was flowing, shallow and clear. Sensor is very close to the stream bed due to depth and was being impacted by organic matter, stream bed sediment and algae. Turbidity NTU pre clean was 96.1 and post clean 3.6 NTU.

Data trend of gradual incline mid rain event and declining gradually with some spikes in data likely indicating organic debris clearing.

SE03INV1 catchment area was inspected and no evidence of mining related drainage concerns were observed.’

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.3 HUN-2606-004

SE05T

The turbidity exceedance event occurred between 10:15 PM on 31 May 2026 and 5:07 AM on 1 June 2026 at monitoring location SE05T.

Trend analysis of the monitoring data (Figure 5) indicates a moderate, multi-phase response. Turbidity initially increased, before briefly plateauing. This was followed by a rapid increase to a primary peak. A sharp decline then occurred, followed by a short-lived fluctuation and subsequent rise to a secondary peak.

Following this secondary peak, turbidity levels exhibited a steady and continuous decline, forming a well-defined recession limb. Concentrations progressively decreased over several hours.

The observed turbidity response is consistent with rainfall-driven runoff processes. A total of 20.6 mm of rainfall was recorded in the 24 hours preceding the event. This rainfall is sufficient to generate localised surface runoff, particularly under potentially wet antecedent conditions. The presence of multiple peaks suggests staggered runoff inputs and/or delayed mobilisation of sediments within the catchment.

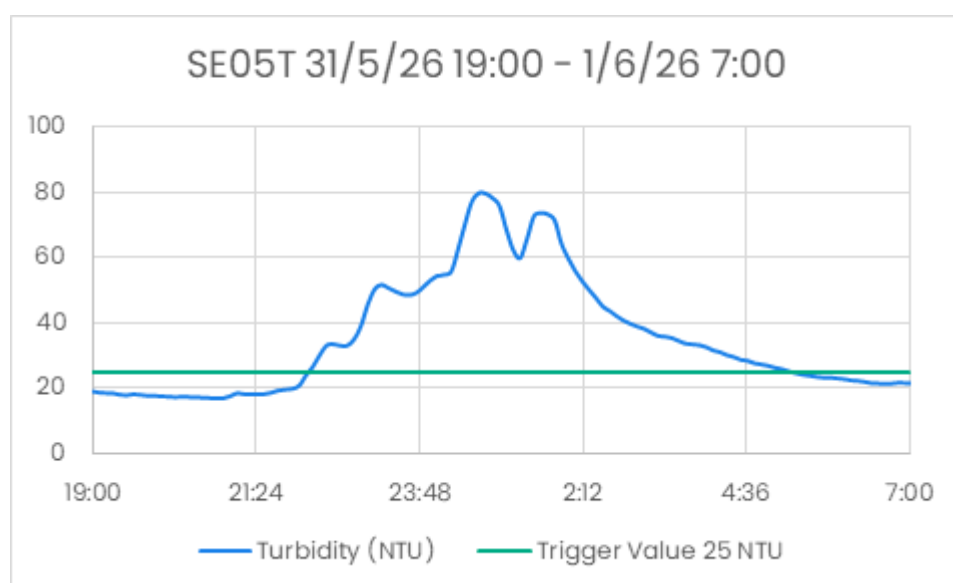


Figure 5 – SE05T 31st May – 1st June

Field notes provided by Alcoa are included below.

‘Compliance turbidity monitoring site SE05T recorded a turbidity event exceeding 25 NTU for >1 hour on 31 May 2026.

The event was recorded on 31 May 2026 from 10:15 PM to 01 June 2026 at 5:07 AM, with a duration of 6 hours and 52 minutes. The average turbidity value during the event was 46.82, with a peak of 79.7. There was 20.6mm of rainfall recorded in the 24 hours preceding the event.

The data trend indicates a gradual increase in turbidity with rainfall then gradually declined down to below 15 NTU.

The SE05T monitoring site was inspected on 02 June 2026, the stream was fast flowing. Sensor face was impacted with a film of algae.

The SE05T catchment area was inspected, no evidence of mining related contribution was found.’

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.4 HUN-2606-005

SE53T

The turbidity exceedance event occurred between 11:20 PM on 31 May 2026 and 1:58 AM on 1 June 2026 at monitoring location SE53T.

Trend analysis (Figure 6) indicates a moderate, single-peaked response with minor secondary fluctuations. Turbidity initially increased, this was followed by a more pronounced rise to a primary peak.

Following the primary peak, turbidity levels gradually declined, with minor fluctuations observed during the recession phase. Concentrations then continued to decrease steadily, returning to below the trigger threshold.

The observed turbidity response is consistent with rainfall-driven runoff processes. A total of 29.3 mm of rainfall was recorded in the 24 hours preceding the event. This relatively high rainfall volume is sufficient to generate sustained surface runoff and sediment mobilisation across the catchment.

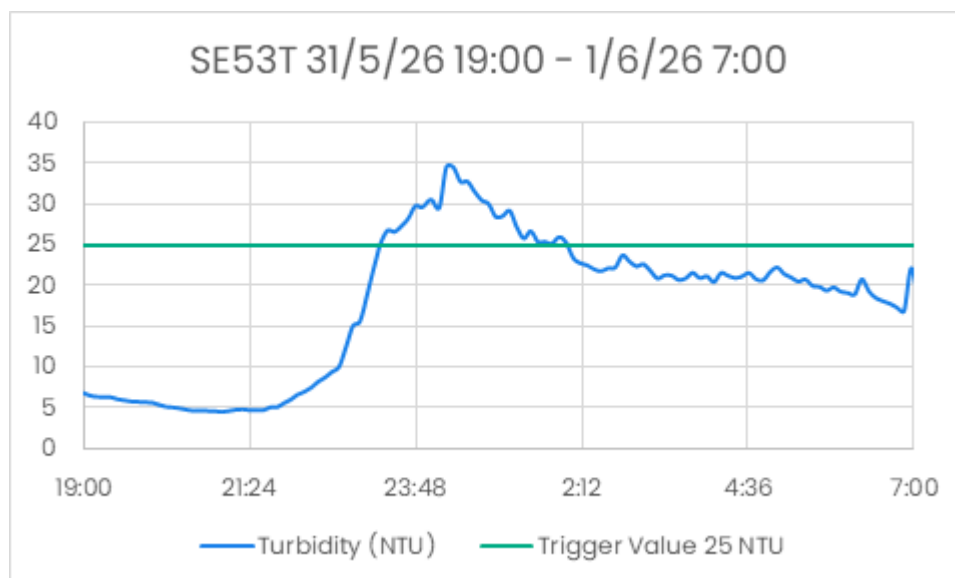


Figure 6 – SE53T 31st May – 1st June

Field notes provided by Alcoa are included below.

‘Compliance turbidity monitoring site SE53T recorded a turbidity event exceeding 25 NTU for >1 hour on 31 May 2026. The event was recorded on 31 May 2026 from 11:20 PM to 01 June 2026 01:58 AM, with a duration of 2 hours and 38 minutes. The average

turbidity value during the event was 28.7, with a peak of 34.62. There was 29.6 mm of rainfall recorded in the 24 hours preceding the event.

The data trend indicates a gradual incline in turbidity NTU commencing midway through the rain event and a gradual decline post rainfall. SE53T monitoring site was inspected on 03 June 2026, stream was clear and flowing with vegetation surrounding the sensor location. On arrival, the sensor pole was observed to have vertically dropped and therefore the sensor appeared to be sitting close to the stream bed. The sensor face was covered in a light film of algae.

The SE53T catchment area was inspected, no evidence of mining related contribution was found.'

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.5 HUN-2606-007

SE03T

The turbidity exceedance event occurred at monitoring location SE03T between 12:57 AM and 3:05 AM on 1 June 2026. A total of 28.77 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 7) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 31 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity

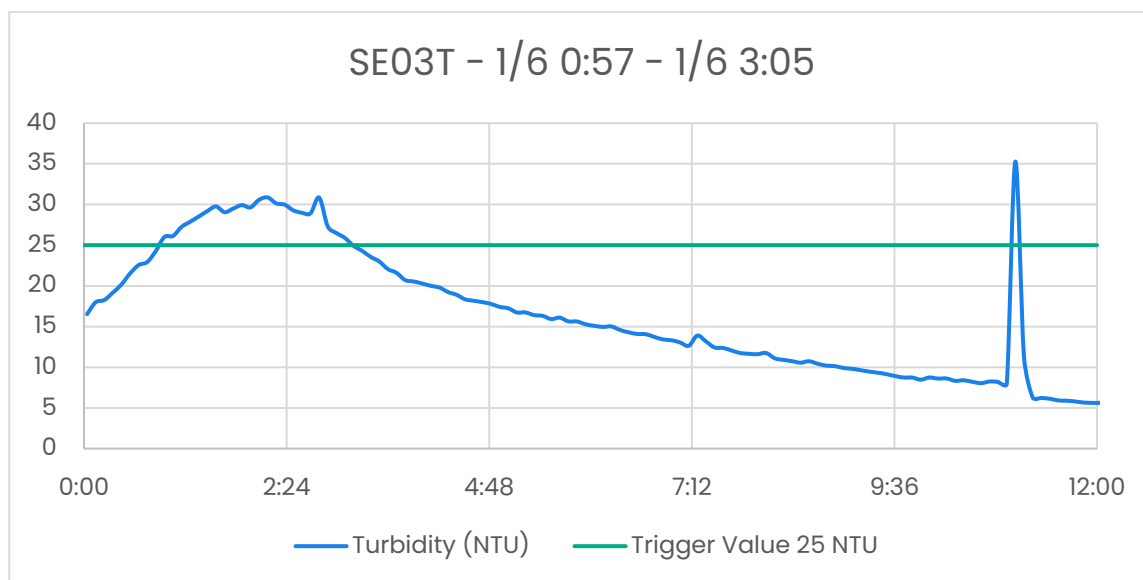


Figure 7 – SE03T 1st June

Field notes provided by Alcoa are included below.

‘Local turbidity monitor SE03T recorded a turbidity event exceeding 25NTU for >1 hour on 01/06/2026 at 12:57 AM for a duration of 2 hours and 8 minutes. The duration of the event was 2 hours and 8 minutes, following a 28.74mm rainfall event. The monitor site was inspected on 3/06/2026. The stream was clear and flowing, however on removal from flow cell, sensor was observed to be impacted with silt, resulting in a higher turbidity reading of 30.8 NTU. Data trend indicates a gradual incline with the rain event followed by a gradual decline once the rain event ceased.’

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.6 HUN-2606-008

SE51T

The turbidity exceedance event occurred at monitoring location SE51T between 1:09 AM and 3:29 AM on 1 June 2026. A total of 28 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 8) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 36 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The smooth rise and gradual recession of turbidity readings are characteristic of a rainfall-driven runoff response.

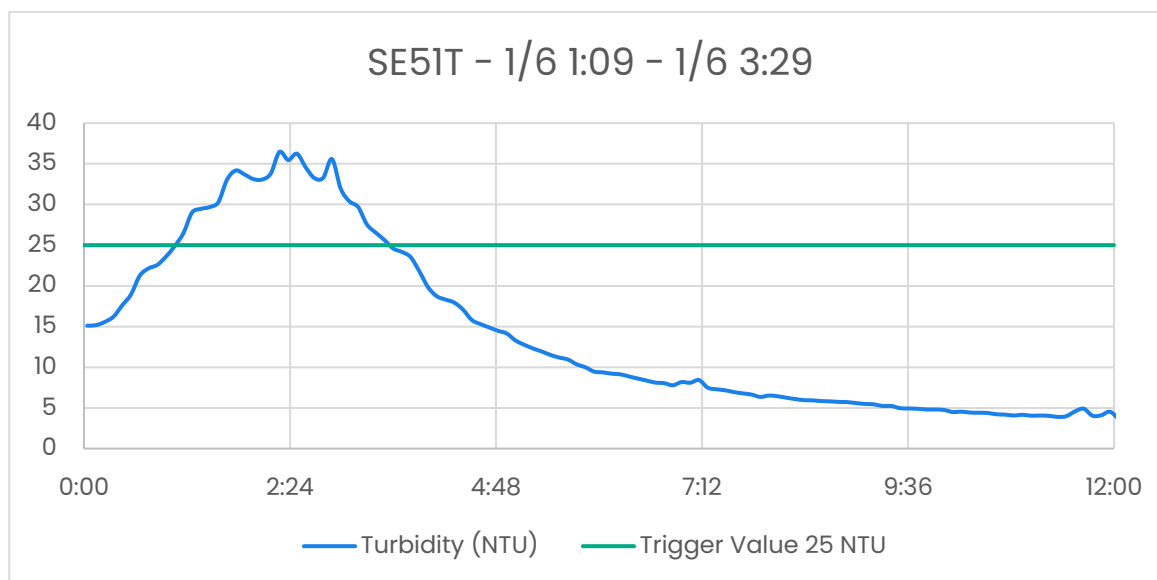


Figure 8 – SE51T 1st June

Field notes provided by Alcoa are included below.

‘Compliance turbidity monitoring site SE51T recorded a turbidity event exceeding 25 NTU for more than 1 hour on 1 June 2026. The event was recorded on 1 June 2026 from 1:09 AM to 3:29 AM, with a duration of 2 hours and 20 minutes. The average turbidity value during the exceedance was 31.77 NTU, with a peak of 36.47 NTU. There was 28mm of rainfall recorded in the 24 hours preceding the event. The data trend shows a gradual increase and subsequent decline in turbidity, which closely aligns with the recorded rainfall pattern. Turbidity values rose steadily in response to increasing rainfall, reaching a peak of 36.47 NTU before gradually declining as rainfall intensity eased. The SE51T monitoring site and associated catchment were inspected following the event. Site observations identified no evidence of erosion, sediment mobilisation, drainage control failures, or other mining-related sources that may have contributed to the elevated turbidity. Based on the inspection findings and review of the turbidity data, no evidence of mining-related contributions to the exceedance event was identified.’

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.7 HUN-2606-0012

SE05T

The turbidity exceedance event occurred at monitoring location SE05T between 5:32 AM and 7:46 AM on 8 June 2026. A total of 28.2 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation

and transport within the monitored waterbody. The turbidity graph (Figure 9) displays a response pattern consistent with a genuine turbidity event, with turbidity rising rapidly above the 25 NTU trigger value and reaching a peak of approximately 37 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The distinct rise and subsequent recession in turbidity readings are characteristic of a rainfall-driven runoff response and do not indicate sensor malfunction.

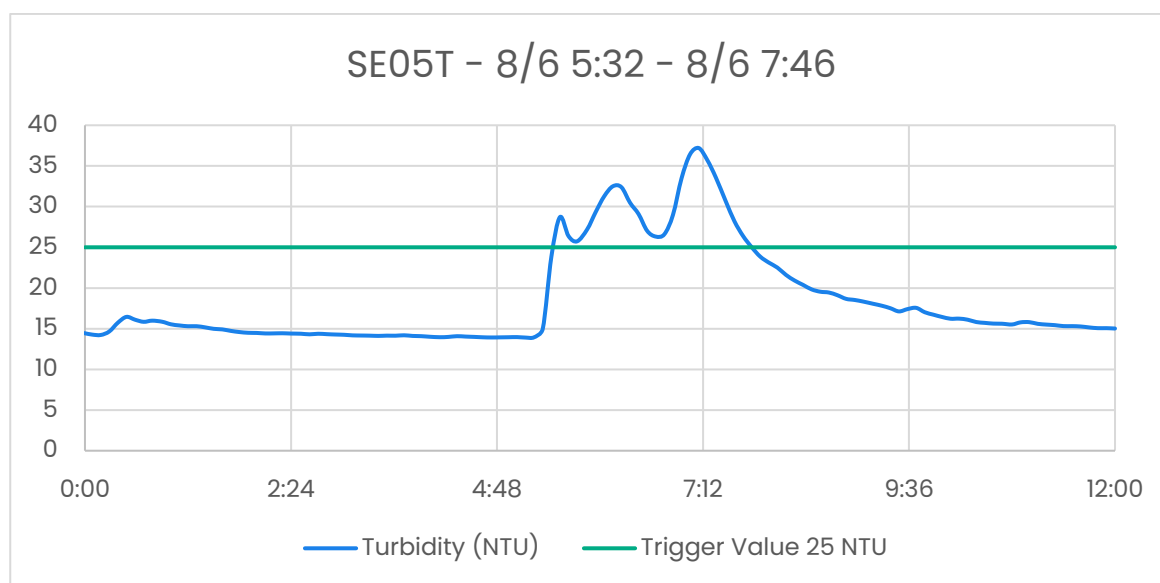


Figure 9 - SE05T 8th June

Field notes provided by Alcoa are included below.

'Compliance monitor SE05T recorded a turbidity event exceeding 25NTU for >1 hour on the 08/06/2026.

The event has a duration from 08/06 05:32 to 08/06 07:46, totalling 2hours and 14 minutes.

The average turbidity was 29.94, with a maximum of 37.2. There was 28.2mm of rainfall in the proceeding 24 hours.

Analysis of the data trends displays evidence of true event, with 2x incline during rainfall, a bell curve and tailing end.

A monitor and catchment inspection was completed on the 13th June. No issues identified'

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.8 HUN-2606-0015

SE05T

The turbidity exceedance event occurred at monitoring location SE05T between 3:38 PM and 7:59 PM on 8 June 2026. A total of 32.7 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 10) displays a response pattern consistent with a genuine turbidity event, with turbidity rapidly increasing above the 25 NTU trigger value and reaching a peak of approximately 5,000 NTU. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The sharp rise in turbidity followed by a rapid return to baseline levels is indicative of a significant sediment pulse associated with rainfall-driven runoff rather than sensor malfunction. The exceptionally high turbidity values recorded during the event suggest a substantial influx of suspended sediments within the catchment.

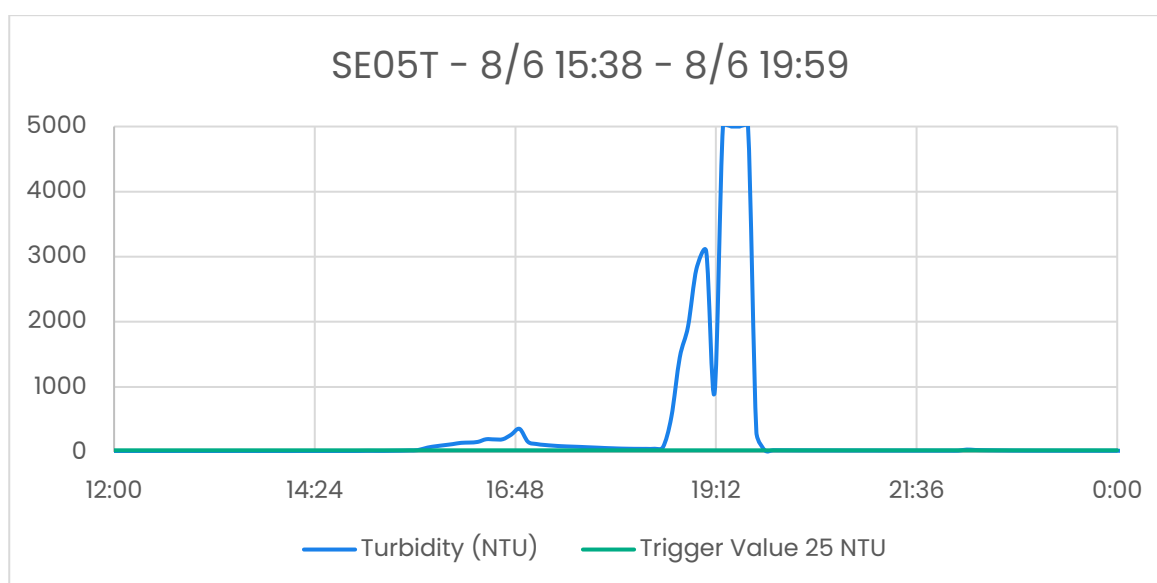


Figure 10 – SE05T 8th June

Field notes provided by Alcoa are included below.

"Compliance monitor SE05T recorded a turbidity event exceeding 25NTU for >1 hour on the 08 June 2026. The event was recorded on 8 June 2026 from 3:38 PM to 7:59 with a duration of 4 hours and 21 minutes. The average turbidity value during the event was 783.43 NTU, with peak of 5000 NTU. There was 32.7mm of rainfall recorded in the preceding 24 hours. The data trend shows two distinct extreme peaks characterised by rapid increases and decreases. Turbidity values were gradually rising prior to the event, followed by a sharp decline from 1152 NTU to 35.5 NTU within 6 minutes, after which levels continued to decrease gradually. This pattern is indicative of significant debris

interference, while also suggesting an increase in background turbidity levels. The SE05T catchment area was inspected, no evidence of mining contribution was found."

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.9 HUN-2606-0017

SE02T

The turbidity exceedance event occurred at monitoring location SE02T between 3:48 PM and 4:54 PM on 8 June 2026. A total of 32.1 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 11) displays a response pattern consistent with a genuine turbidity event, with turbidity rising rapidly above the 25 NTU trigger value and reaching a peak of approximately 48 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The well-defined rise and recession of turbidity readings are characteristic of a rainfall-driven runoff response and support the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

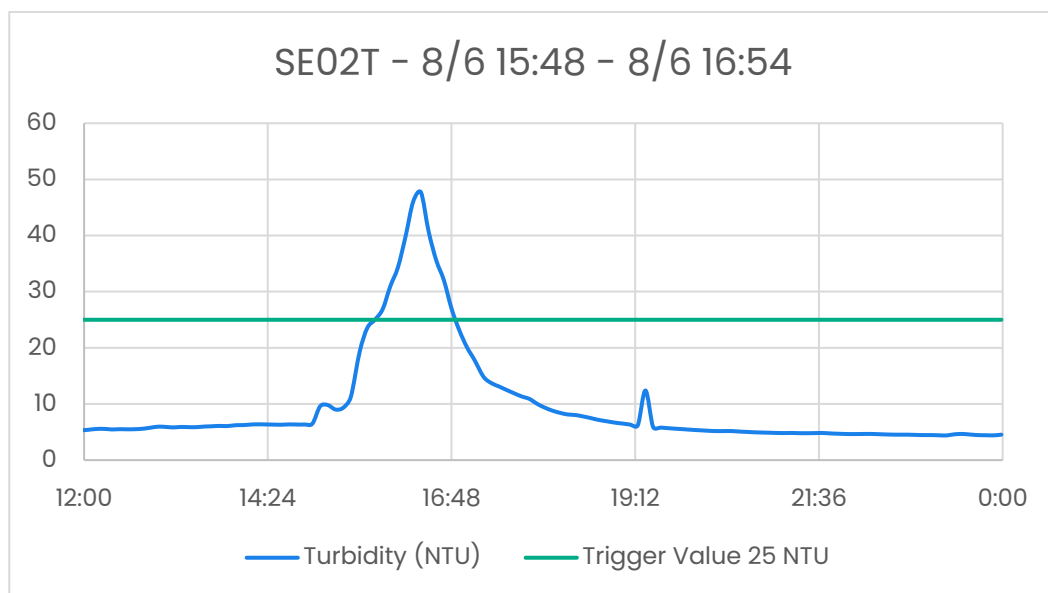


Figure 11 - SE02T 8th June

Field notes provided by Alcoa are included below.

'Compliance monitoring site SE02T recorded a turbidity event exceeding 25NTU for >1 hour on the 08/06/2026.'

The event had a duration from 08/06 15:48 to 08/06 16:54, with a total duration of 1 hour and 6 minutes. The average turbidity was 35.11, with a peak of 47.69 NTU. The rainfall in the 24 hours proceeding was 32.1mm.

Analysis of the data trends displays a gradual increase of turbidity aligned with the rainfall, a cresting peak and slow tailing fall. This shows evidence of a true turbidity event.

A monitor and catchment inspection was completed on the 10/06. it was noted moderate levels of algae present on the sensor.

A catchment inspection was undertaken, where no evidence of mining drainage discharge was found."

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.10 HUN-2606-0018

SE03INV1

The turbidity exceedance event occurred at monitoring location SE03INV1 between 3:56 PM and 9:29 PM on 8 June 2026. A total of 34.9 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 12) displays a response pattern consistent with a genuine turbidity event, with turbidity rising rapidly above the 25 NTU trigger value and reaching a peak of approximately 113 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The multiple peaks observed during the event are indicative of successive pulses of sediment-laden runoff entering the waterbody, while the gradual recession of turbidity levels is characteristic of a natural rainfall-driven response rather than an instrument anomaly.

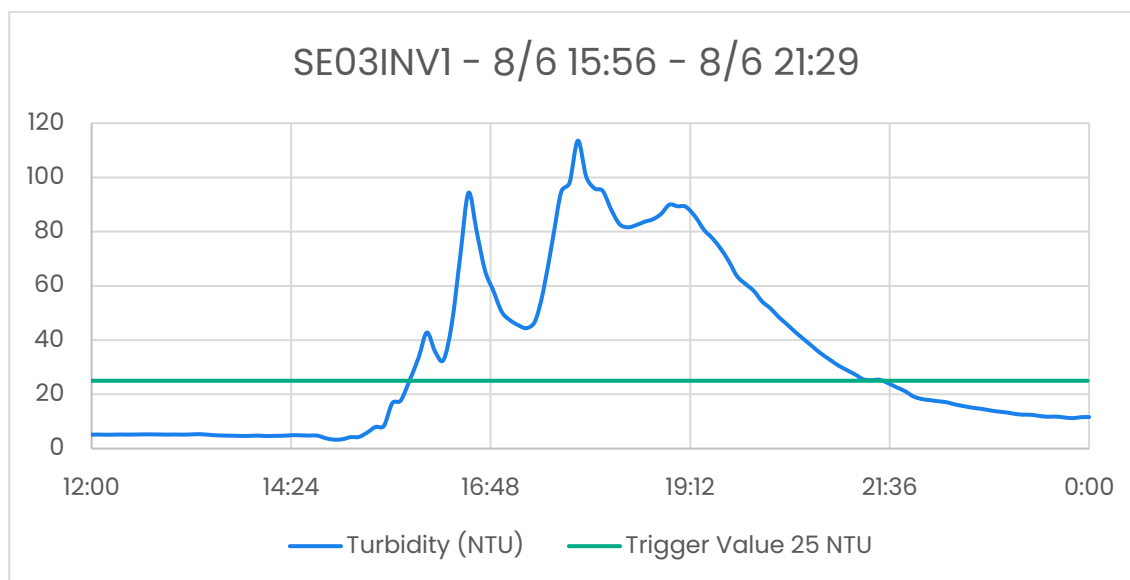


Figure 12 – SE03INV1 8th June

Field notes provided by Alcoa are included below.

"Local monitor SE03INV1 recorded a turbidity event exceeding 25NTu for >1 hour on the 08/06/2026.

The event has a duration from 08/06 15:56 to 08/06 21:29, totalling 5 hours and 33 minutes.

The average turbidity was 62.6, with a maximum of 113.54. There was 34.9mm of rainfall in the proceeding 24 hours.

Initially, the analysis of the data trends displays evidence of false event due to the rapid incline and decline, with 2x peaks. Further analysis determines it as true, due to its averaging bell curve shape and tailing end.

A monitor and catchment inspection was completed over the 12th and 13th June. A drainage event was identified, but through investigation, found no impact the SE03INV1 stream. No other mining drainage was identified"

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.11 HUN-2606-0019

SE61T

The turbidity exceedance event occurred at monitoring location SE61T between 3:48 PM and 9:54 PM on 8 June 2026. A total of 34.0 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 13) displays a

response pattern consistent with a genuine turbidity event, with turbidity rising rapidly above the 25 NTU trigger value and reaching a recorded peak of approximately 188 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The pronounced rise, multiple peaks, and gradual recession of turbidity levels are characteristic of a rainfall-driven runoff response and indicate successive inflows of sediment-laden water rather than an instrument anomaly. However, due to battery-related issues during the monitoring period, the complete event was not captured.

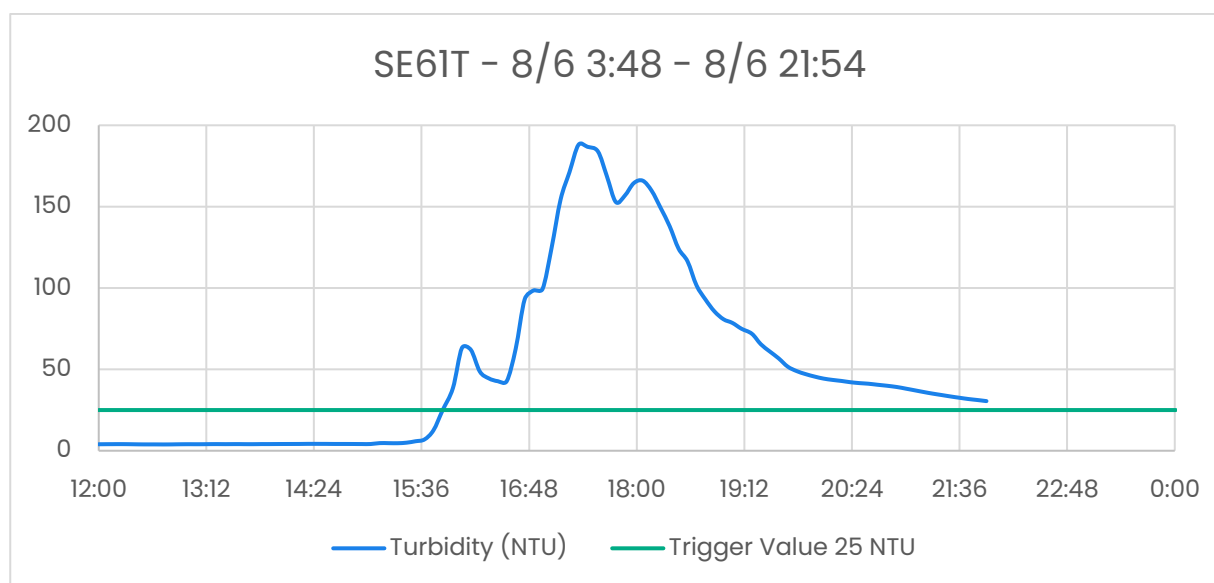


Figure 13 – SE061T 8th June

Field notes provided by Alcoa are included below.

Local turbidity monitor SE61T recorded a turbidity event exceeding 25NTU for >1 hour on 08/06/2026 at 15:57 AM for a duration of 5 hours and 57 minutes following a 34mm rainfall in the 24 hours proceeding. The monitor site and catchment was inspected on 8/06/2026. The surrounding mining infrastructure was inspected and identified no drainage or potential turbidity release.

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.12 HUN-2606-0020

SE51T

The turbidity exceedance event occurred at monitoring location SE51T between 4:06 PM and 8:09 PM on 8 June 2026. A total of 47.5 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation

and transport within the monitored waterbody. The turbidity graph (Figure 14) displays a response pattern consistent with a genuine turbidity event, with turbidity remaining above the 25 NTU trigger value and reaching a recorded peak of approximately 48 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The gradual recession in turbidity levels is characteristic of a rainfall-driven runoff response rather than an instrument anomaly. However, a data gap was present at the commencement of the event, and as a result, the onset of the exceedance was not have been fully captured.

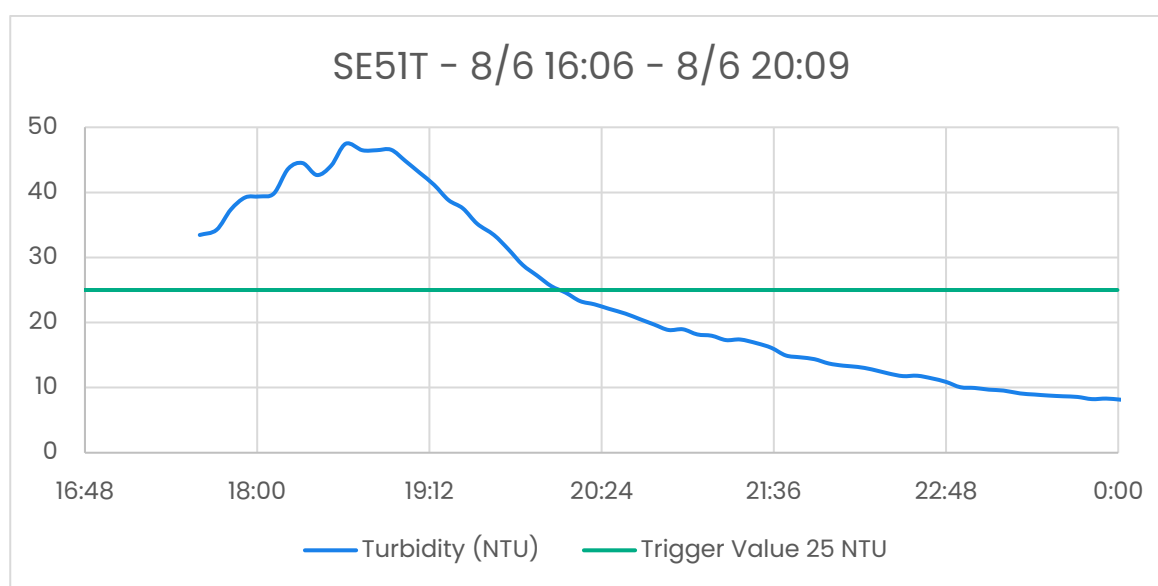


Figure 14 – SE51T 8th June

Field notes provided by Alcoa are included below.

"Compliance monitoring site SE51T recorded a turbidity event exceeding 25NTU for >1 hour on the 08/06/2026.

The event had a duration from 08/06 16:06 to 08/06 20:00, with a total duration of 3hours and 54 minutes. The average turbidity was 36.36, with a peak of 47.46 NTU. The rainfall in the 24 hours proceeding was 47.5mm.

Analysis of the data trends displays a bell curve with tailing end, aligning with the rainfall, causing for a TRUE rating.

A monitor and catchment inspection was completed on the 12/06 A catchment inspection was undertaken, where no evidence of mining drainage discharge was found."

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.13 HUN-2606-0021

SE52T

The turbidity exceedance event occurred at monitoring location SE52T between 4:18 PM and 9:24 PM on 8 June 2026. A total of 37.4 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 15) displays a response pattern consistent with a genuine turbidity event, with turbidity rising rapidly above the 25 NTU trigger value and reaching a peak of approximately 265 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by multiple turbidity peaks, indicating successive pulses of sediment-laden runoff entering the waterbody. The subsequent gradual recession in turbidity levels is characteristic of a rainfall-driven response and supports the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

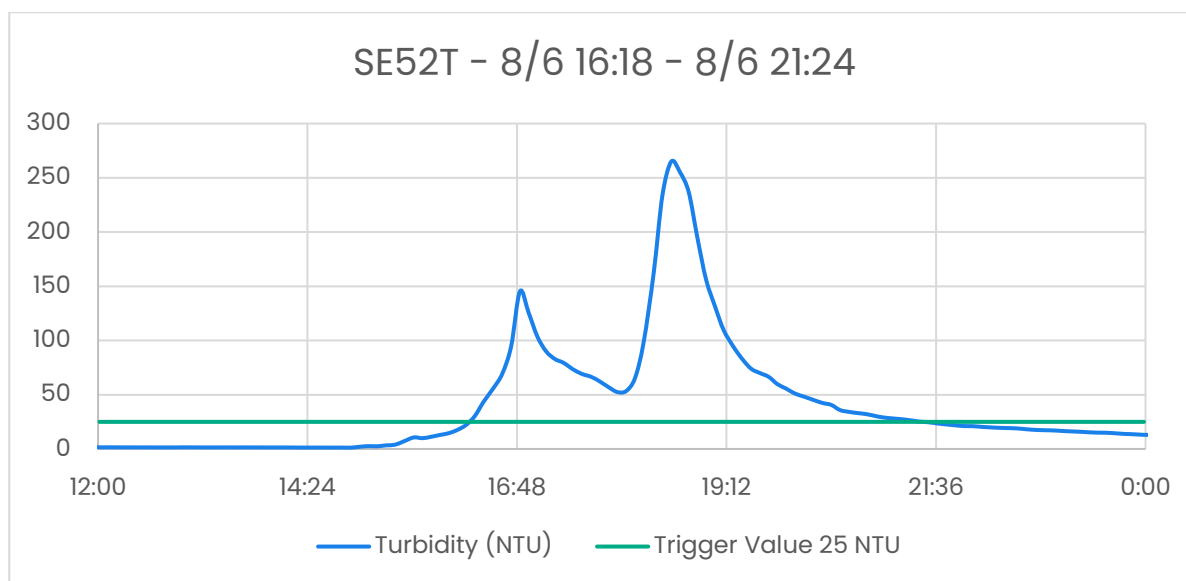


Figure 15 – SE52T 8th June

Field notes provided by Alcoa are included below.

‘Compliance monitoring site SE52T recorded a turbidity event exceeding 25NTU for >1 hour on the 08/06/2026.

The event had a duration from 08/06 16:18 to 08/06 21:24, with a total duration of 5 hours and 6 minutes. The average turbidity was 83.34 NTU, with a peak of 264.96 NTU. The rainfall in the 24 hours proceeding was 37.4mm.

The data trend displays suspected true event, with a rapid rise, bell curve and tailed end, during a rainfall event.

SE52T site was visited on the 10/06. In-field review identified heavy leaf litter and organic debris within the flow cell and caught around equipment. A catchment inspection was completed as confirmation, no drainage or potential issues identified"

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.14 HUN-2606-0023

SE03T

The turbidity exceedance event occurred at monitoring location SE03T between 5:00 PM on 8 June 2026 and 12:18 AM on 9 June 2026. A total of 38.0 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 16) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 86 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by a progressive rise in turbidity, multiple peaks during the rising limb, and a prolonged recession period, indicating successive inputs of sediment-laden runoff to the waterbody. This response is characteristic of a rainfall-driven turbidity event and does not indicate sensor malfunction.

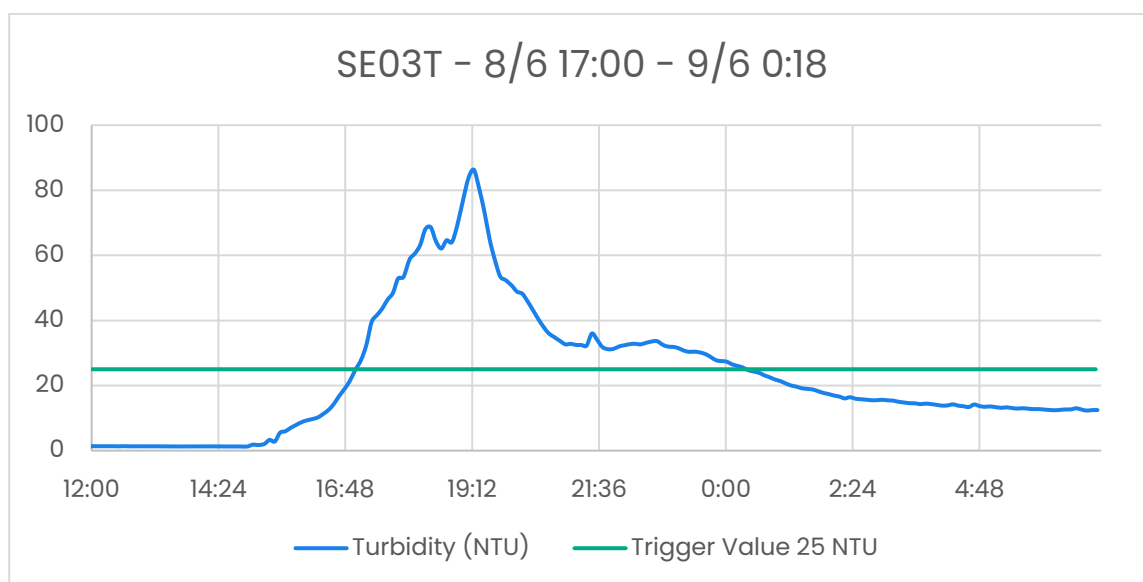


Figure 16 – SE03T 8th June

Field notes provided by Alcoa are included below.

"Local monitor SE03T recorded a turbidity event exceeding 25NTu for >1 hour on the 08/06/2026. The event has a duration from 08/06 17:00 to 09/06 00:18, totalling 7 hours and 18 minutes.

The average turbidity was 43.34, with a maximum of 86.29. There was 38mm of rainfall in the proceeding 24 hours.

Analysis of the data trends displays evidence of true event, with a rapid incline during rainfall, a bell curve and tailing end.

A monitor and catchment inspection was completed over the 12th and 13th June. A drainage event was identified, but through investigation, found no impact the SE03T stream. No other mining drainage was identified"

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.15 HUN-2606-0025

SE53T

The turbidity exceedance event occurred at monitoring location SE53T between 4:18 PM and 9:24 PM on 8 June 2026. A total of 34.7 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 17) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 45 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by multiple peaks and fluctuations in turbidity, indicating successive pulses of sediment-laden runoff entering the waterbody. The subsequent decline in turbidity levels is consistent with a natural rainfall-driven runoff response and supports the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

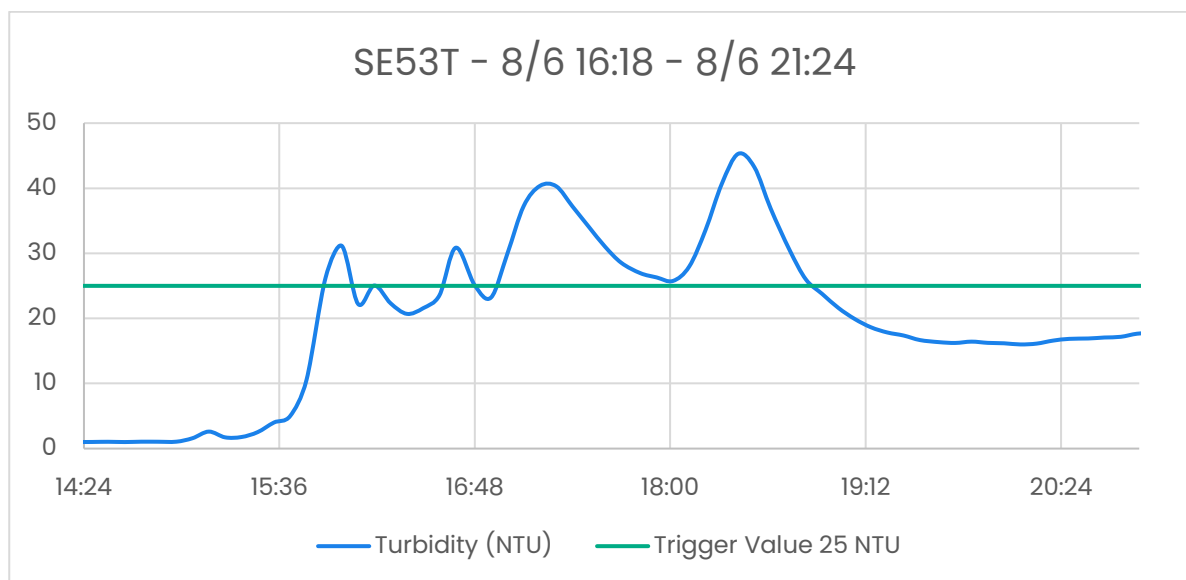


Figure 17 – SE53T 8th June

Field notes provided by Alcoa are included below.

‘Compliance monitor SE53T recorded a turbidity event exceeding 25NTu for >1 hour on the 08/06/2026. The event has a duration from 08/06 17:00 to 08/06 1848, totalling 7hours and 48 minutes.

The average turbidity was 33.77, with a maximum of 45.27. There was 34.7mm of rainfall in the proceeding 24 hours.

Analysis of the data trends displays evidence of true event, with 2x rapid incline during rainfall, a bell curve and tailing end.

A monitor and catchment inspection was completed on the 13th June. No issues identified”

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.16 HUN-2606-0026

PD01T

The turbidity exceedance event occurred at monitoring location PD01T between 5:54 PM and 7:00 PM on 8 June 2026. A total of 38.0 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 18) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 38 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The smooth rise and gradual recession

of turbidity levels are characteristic of a rainfall-driven runoff response and support the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly. The sustained decline in turbidity following the peak indicates the progressive settling and dispersal of suspended sediments within the waterbody

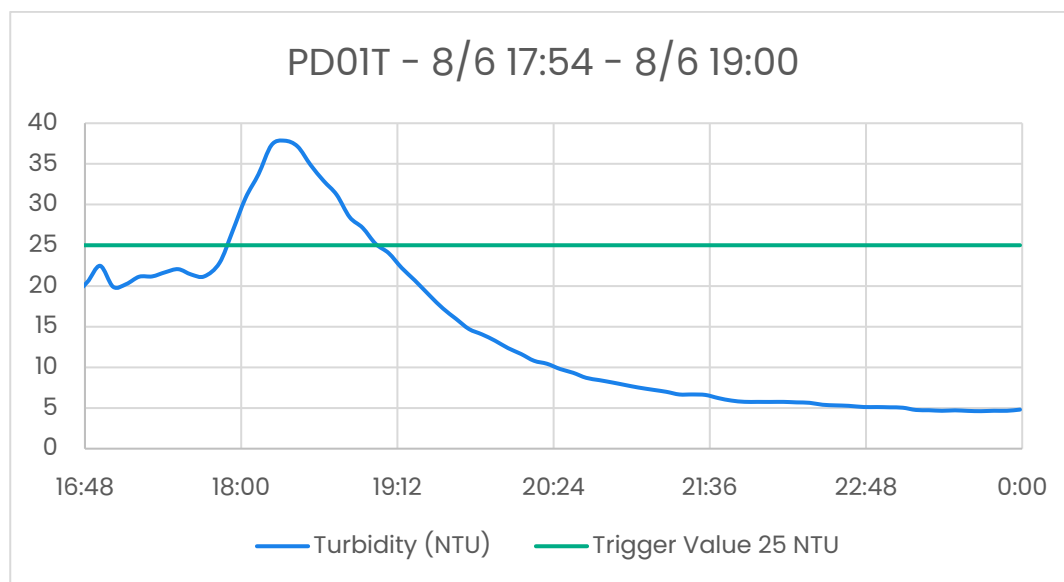


Figure 18 – PD01T 8th June

Field notes provided by Alcoa are included below.

"Compliance monitoring site PD01T recorded a turbidity event exceeding 25NTU for >1 hour on the 08/06/2026. The event had a duration from 08/06 17:54 to 08/06 19:00, with a total duration of 1 hour and 6 minutes. The average turbidity was 31.94, with a peak of 37.85 NTU. The rainfall in the 24 hours preceding was 38mm.

Analysis of the data trends displays a bell curve with a moderate rapid increase and tailing end, aligning with the rainfall, causing for a TRUE rating.

A monitor and catchment inspection was completed on the 11/06 A catchment inspection was undertaken, where no evidence of mining drainage discharge was found."

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.17 HUN-2606-0027

DB03T

The turbidity exceedance event occurred at monitoring location DB03T between 6:04 PM on 8 June 2026 and 5:29 AM on 9 June 2026. A total of 37.8 mm of rainfall was recorded during the

24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 19) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 45 NTU before gradually declining towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by multiple peaks during the elevated turbidity period, indicating successive pulses of sediment-laden runoff entering the waterbody. The prolonged recession and gradual return towards ambient conditions are consistent with a natural rainfall-driven response and support the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

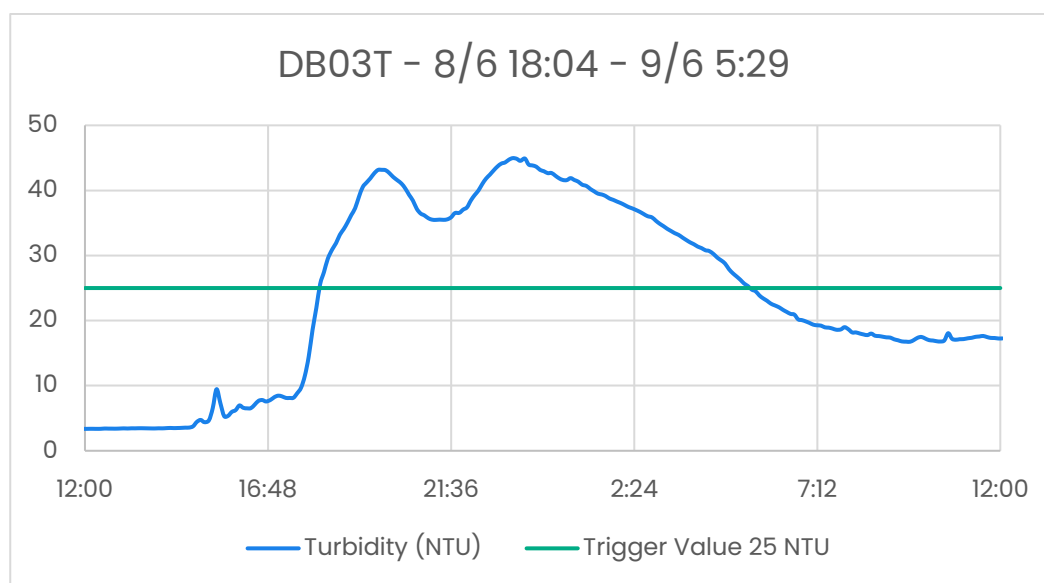


Figure 19 – DB03T 8th – 9th June

Field notes provided by Alcoa are included below.

"Compliance turbidity monitoring site DB03T recorded a turbidity event exceeding 25 NTU for >1 hour on the 08/06/2026.

The event was recorded on 08/06 from 18:04 to 09/06 05:29, with a total duration of 11 hours and 24 minutes. The average turbidity was 37.37 NTU, with a peak of 44.96. The rainfall in the 24 hours preceding the start date was a total of 37.8mm.

The data trend of the event displays a rapid increase of NTU within 2 hours of 27mm rainfall within 1 hour and 30 minutes. The NTU gradually declined as rainfall slowed. DB03T monitoring site was inspected on the 10/06/2026, and it was noted that the stream was slightly turbid with dark material (~5-10NTU).

A catchment inspection was completed, with no evidence of mining related drainage. It is suspected the turbidity has naturally occurred from the rapid increase of stream velocity due to the rain."

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.18 HUN-2606-0034

SE05T

The turbidity exceedance event occurred at monitoring location SE05T between 2:15 AM and 4:28 AM on 9 June 2026. A total of 52.2 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 20) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 33 NTU before gradually declining towards baseline levels. The significant rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by a gradual rise in turbidity followed by a sustained recession, consistent with the mobilisation and subsequent settling of suspended sediments associated with rainfall-driven runoff. This response is indicative of a genuine environmental event and does not suggest instrument malfunction.

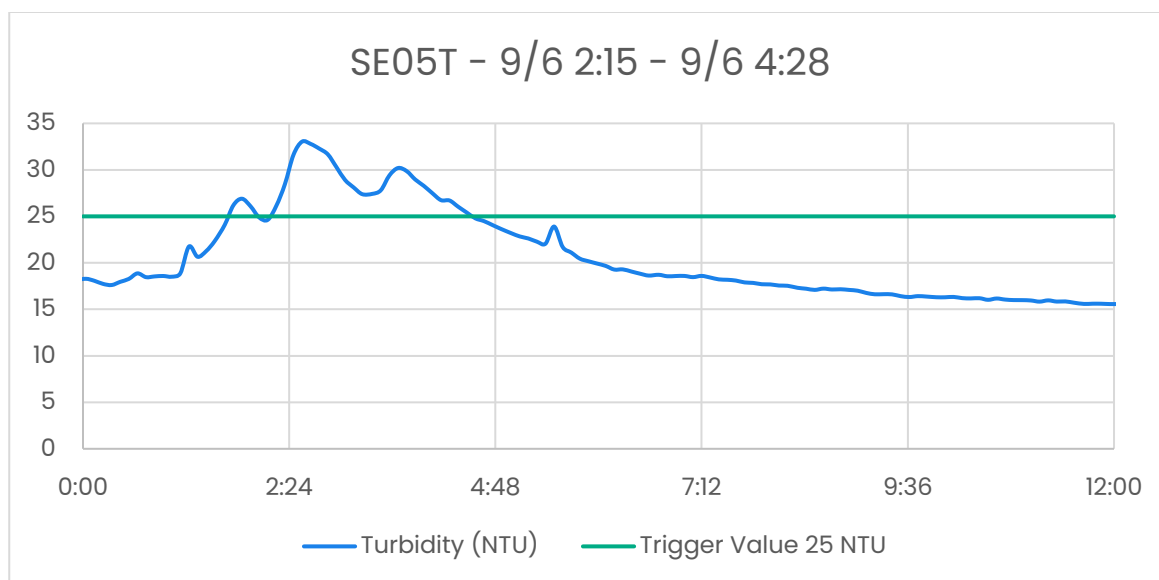


Figure 20 – SE05T 9th June

Field notes provided by Alcoa are included below.

Compliance monitor SE05T recorded a turbidity event exceeding 25NTU for >1 hour on the 09/06/2026. Site inspection completed on the 13/06/2026. Event duration was 132minutes with the average Turbidity at 28.91 NTU and maximum NTU of 33.03. There was a 52.2mm of rainfall in the proceeding 24hrs. Analysis of data trend indicates true

event with a gradual increase then decrease of NTU during rain fall. The SE05T catchment was inspected and there was no evidence of mining contribution found.

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.19 HUN-2606-0035

SE05T

The turbidity exceedance event occurred at monitoring location SE05T between 3:05 PM and 4:48 PM on 14 June 2026. A total of 21.2 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 21) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 40 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by a distinct rise in turbidity followed by a gradual recession, consistent with the mobilisation and subsequent settling of suspended sediments associated with rainfall-driven runoff. This response is indicative of a genuine environmental event and does not suggest instrument malfunction.

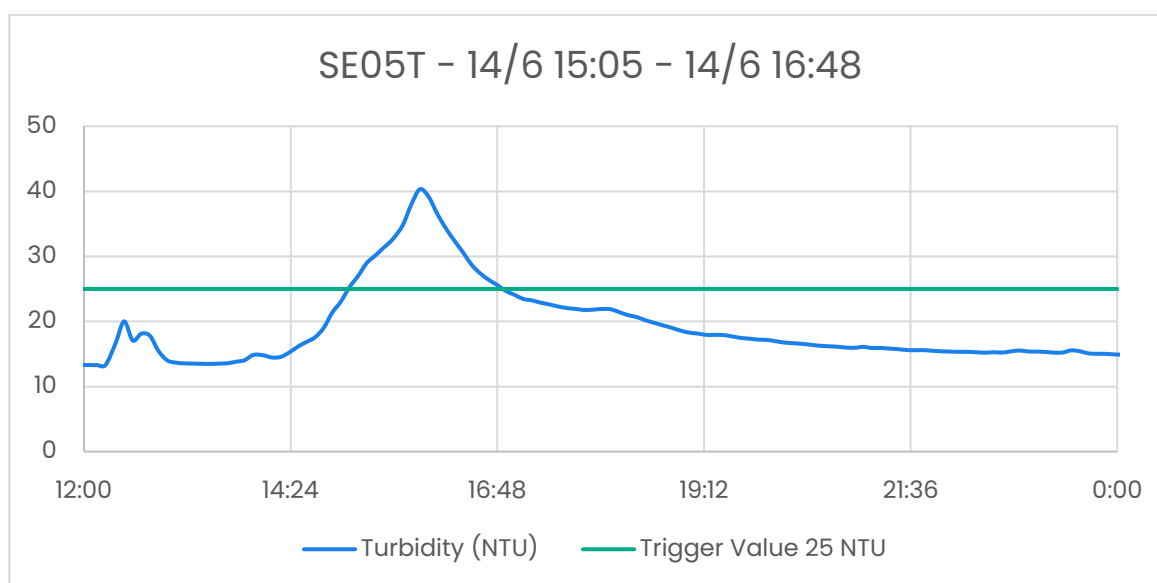


Figure 21 – SE05T 14th June

Field notes provided by Alcoa are included below.

‘Compliance monitor SE05T recorded a turbidity event exceeding 25NTU for >1 hour on the 14/06/2026. Site inspection completed on the 16/06/2026. Event duration was 4 hr and 43 minutes. Average NTU was 31.66 with max NTU at 40.31. There was 21.2 mm of

rainfall in the proceeding 24hrs. Analysis of data trend indicates true event as NTU gradually increases with rain fall, then gradually declines with bell curve to below 25NTU. The SE05T catchment was inspected and there was no evidence of mining related contribution found.

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.20 HUN-2606-0036

SE05T

The turbidity exceedance event occurred at monitoring location SE05T between 7:19 AM and 11:09 AM on 26 June 2026. A total of 10.4 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 22) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 49 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by multiple turbidity peaks, indicating successive pulses of sediment-laden runoff entering the waterbody. The subsequent gradual recession in turbidity levels is consistent with the settling and dispersal of suspended sediments following a rainfall-driven runoff event and supports the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

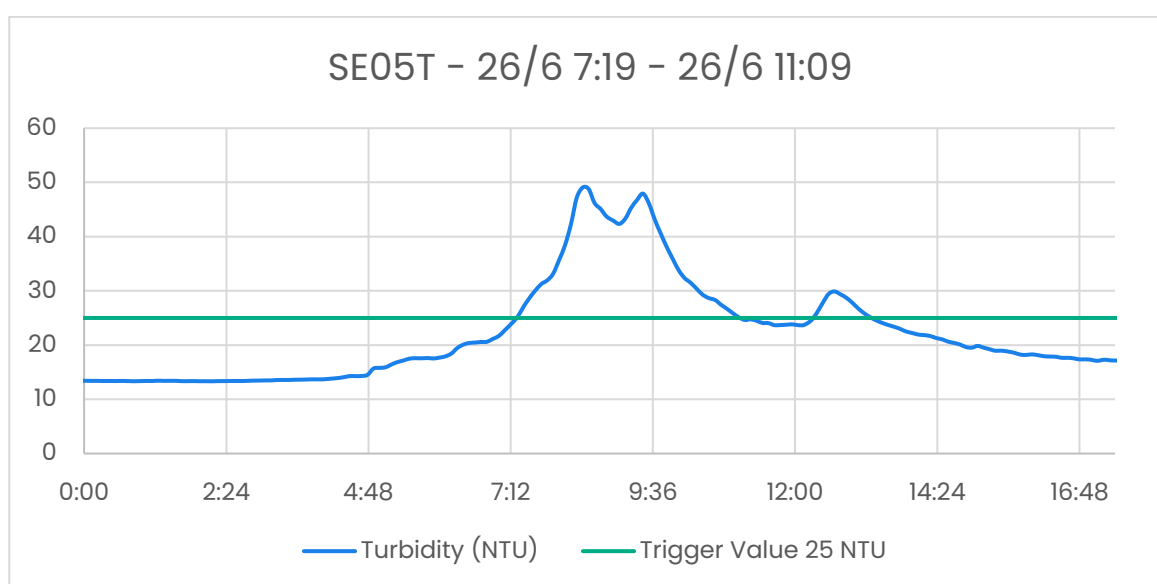


Figure 22 - SE05T 26th June

Field notes provided by Alcoa are included below.

"Compliance monitor SE05T recorded a turbidity event exceeding 25NTU for >1 hour on the 26 June 2026. The event was recorded on 26 June 2026 from 7:19 AM to 11:09 AM with a duration of 3 hours and 50 minutes. The average turbidity value during the event was 36.72 NTU, with peak of 49.06 NTU. There was 10.4mm of rainfall recorded in the preceding 24 hours. The data trend indicates a gradual increase in turbidity with rainfall then gradually declined down to below 15 NTU.

The SE05T monitoring site was inspected on 28 June 2026, the stream was fast flowing. Sensor face was impacted with a film of algae.

The SE05T catchment area was inspected, no evidence of mining related contribution was found."

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.21 HUN-2606-0037

SE61T

The turbidity exceedance event occurred at monitoring location SE61T between 11:27 AM and 2:04 PM on 26 June 2026. A total of 19.4 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 23) displays a response pattern consistent with a genuine turbidity event, with turbidity gradually rising above the 25 NTU trigger value and reaching a peak of approximately 28 NTU before declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The gradual increase and subsequent recession in turbidity are characteristic of a rainfall-driven runoff response, reflecting the mobilisation and settling of suspended sediments within the waterbody. This response is consistent with a genuine environmental event and does not indicate sensor malfunction.

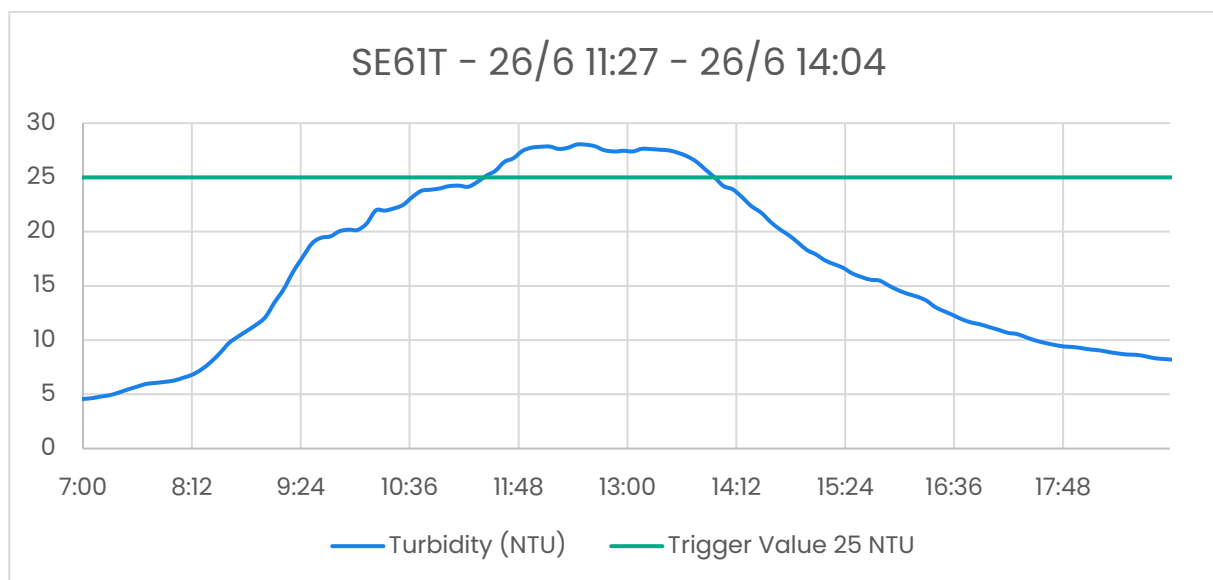


Figure 23 – SE61T 26th June

Field notes provided by Alcoa are included below.

‘Local turbidity monitor SE61T recorded a turbidity event exceeding 25 NTU for more than 1 hour on 26th June 2026. The event was recorded on 26 June 2026 from 11:27 AM to 2:04 PM, with a duration of 2 hours and 37 minutes. The average turbidity value during the event was 27.11 NTU, with a peak of 28.03 NTU. There was 19.4mm of rainfall recorded in the 24 hours preceding the event. The SE61T monitoring site and associated catchment area was inspected, no evidence of erosion, sediment mobilisation, drainage control failure, or other mining-related contributions to stream turbidity was identified.

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.22 HUN-2606-0071

SE52T

The turbidity exceedance event occurred at monitoring location SE52T between 6:36 AM and 11:36 AM on 27 June 2026. A total of 24.5 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 24) displays a response pattern consistent with a genuine turbidity event, with turbidity rising rapidly above the 25 NTU trigger value and reaching a peak of approximately 130 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by multiple peaks during the rising limb, indicating successive pulses of sediment-laden runoff entering the waterbody. The prolonged recession and gradual return towards ambient conditions are

consistent with the settling and dispersal of suspended sediments following a rainfall-driven runoff event and support the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

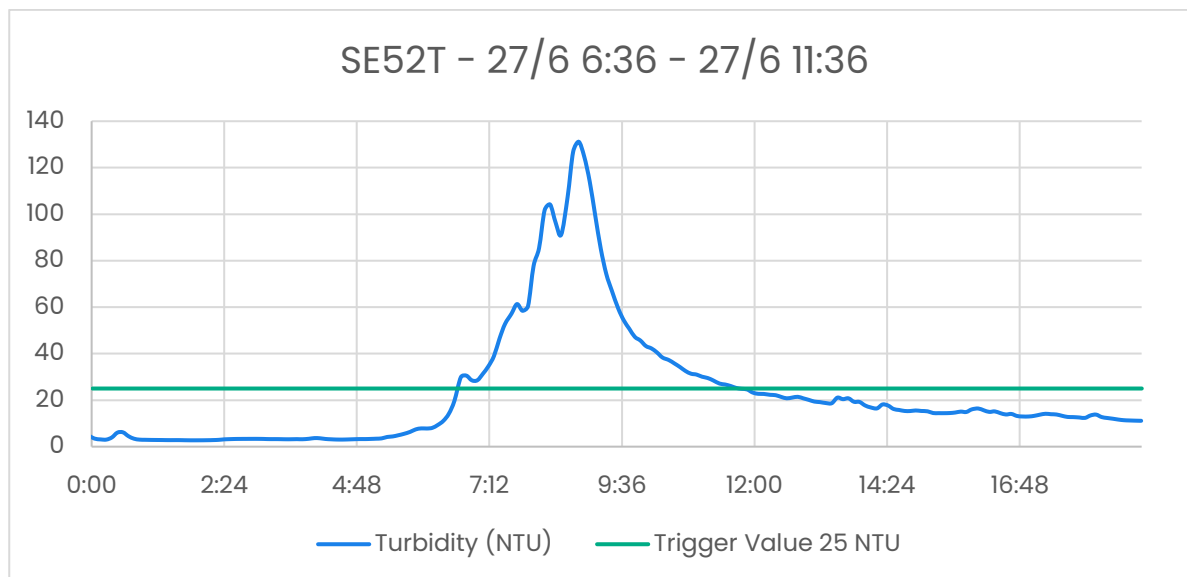


Figure 24 – SE52T 27th June

Field notes provided by Alcoa are included below.

‘Compliance turbidity monitoring site SE52T recorded a turbidity exceedance event of >25 NTU for more than one hour on 27 June 2026. The event occurred between 6:36 AM and 11:36 AM, with a duration of 5 hours. The average turbidity value during the event was 57.47 NTU, with a peak value of 131.19 NTU. A total of 24.5 mm of rainfall was recorded in the 24 hours preceding the event.

The data trend shows a gradual incline and decline in turbidity, with a pronounced peak of 131.19 NTU.

The SE52T monitoring site and associated catchment were inspected following the exceedance. No evidence of erosion, sediment mobilisation, drainage control failure, or other mining-related sources of turbidity was identified during the inspection. Based on the site observations and catchment assessment, no evidence of mining-related contributions to the turbidity exceedance was found.

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.23 HUN-2606-0074

SE05T

The turbidity exceedance event occurred at monitoring location SE05T between 6:57 AM and 11:54 AM on 27 June 2026. A total of 10.9 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 25) displays a response pattern consistent with a genuine turbidity event, with turbidity rising rapidly above the 25 NTU trigger value and reaching a peak of approximately 96 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by a sharp increase in turbidity followed by a prolonged recession, indicating the mobilisation and subsequent settling of suspended sediments within the waterbody. This response is consistent with a rainfall-driven runoff event and supports the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

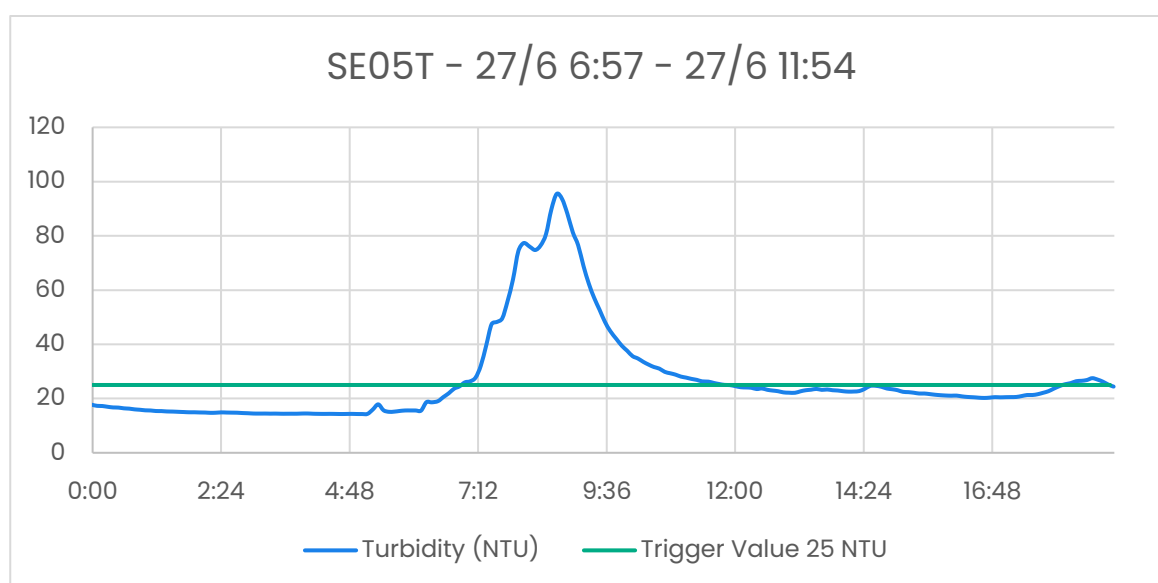


Figure 25 – SE05T 27th June

Field notes provided by Alcoa are included below.

"Compliance monitor SE05T recorded a turbidity event exceeding 25NTU for >1 hour on the 26 June 2026. The event was recorded on 27 June 2026 from 6:57 AM to 11:54 AM with a duration of 4 hours and 57 minutes. The average turbidity value during the event was 48.56 NTU, with peak of 95.45 NTU. There was 10.9mm of rainfall recorded in the preceding 24 hours. The data trend indicates a sharp increase in turbidity with rainfall then sharp declined down to below 15 NTU.

The SE05T monitoring site was inspected on 28 June 2026, the stream was fast flowing. Sensor face was impacted with a film of algae.

The SE05T catchment area was inspected, no evidence of mining related contribution was found."

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.24 HUN-2606-0075

SE61T

The turbidity exceedance event occurred at monitoring location SE61T between 7:51 AM on 27 June 2026 and 4:58 AM on 28 June 2026. A total of 24.5 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 26) displays a response pattern consistent with a genuine turbidity event, with turbidity rising significantly above the 25 NTU trigger value and reaching a peak of approximately 570 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by multiple elevated peaks and sustained periods of high turbidity, indicating successive pulses of sediment-laden runoff entering the waterbody. The prolonged recession and gradual return to ambient conditions are consistent with the settling and dispersal of suspended sediments following a substantial rainfall-driven runoff event and support the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

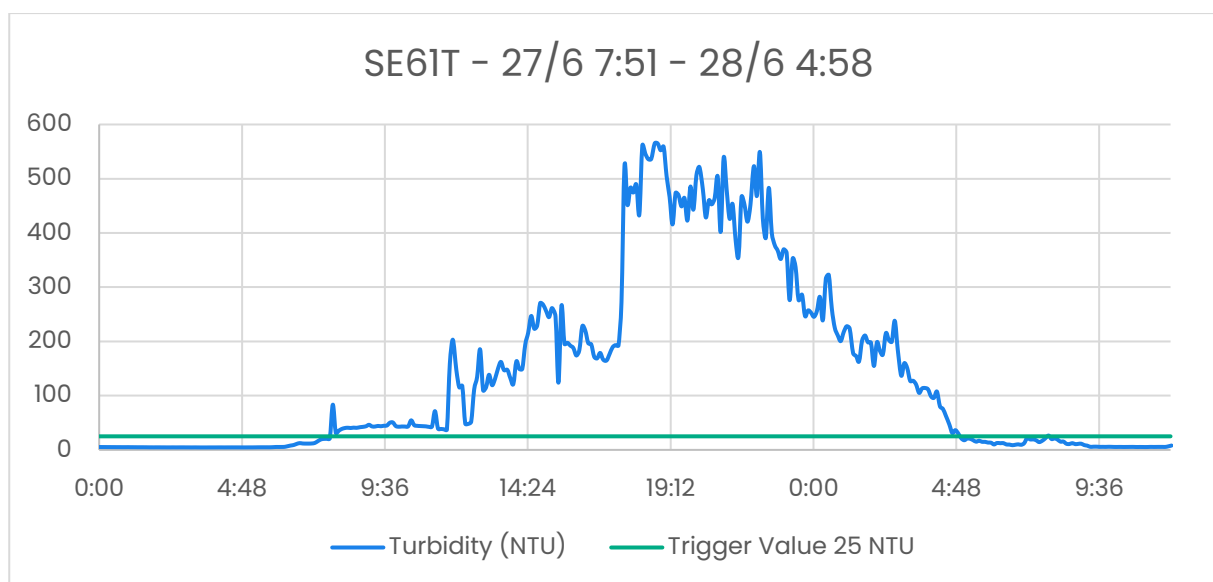


Figure 26 – SE61T 27th June

Field notes provided by Alcoa are included below.

‘Local turbidity monitor SE61T recorded a turbidity event exceeding 25 NTU for more than 1 hour on 27th June 2026. The event was recorded from 27 June 7:51 AM to 28 June 4:58 AM, with a duration of 21 hours and 7 minutes. The average turbidity value during

the event was 229.51 NTU, with a peak of 555.13 NTU. There was 24.5mm of rainfall recorded in the 24 hours preceding the event. The data trend shows sharp, near-vertical inclines and declines, with extreme turbidity values recorded during the event. This pattern suggests a strong sensor interference from organic debris, however, turbidity values remained elevated above 38 NTU throughout the duration of the event indicating that elevated background turbidity levels likely also have contributed to the exceedance. The SE61T monitoring site and associated catchment area was inspected, no evidence of erosion, sediment mobilisation, drainage control failure, or other mining-related contributions to stream turbidity was identified.

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.25 HUN-2606-0076

SE59T

The turbidity exceedance event occurred at monitoring location SE59T between 9:00 AM and 10:48 AM on 27 June 2026. A total of 24.7 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 27) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 29 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by multiple peaks and a sustained period of elevated turbidity, indicating successive inputs of sediment-laden runoff into the waterbody. The gradual recession following the peak is consistent with the settling and dispersal of suspended sediments and supports the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

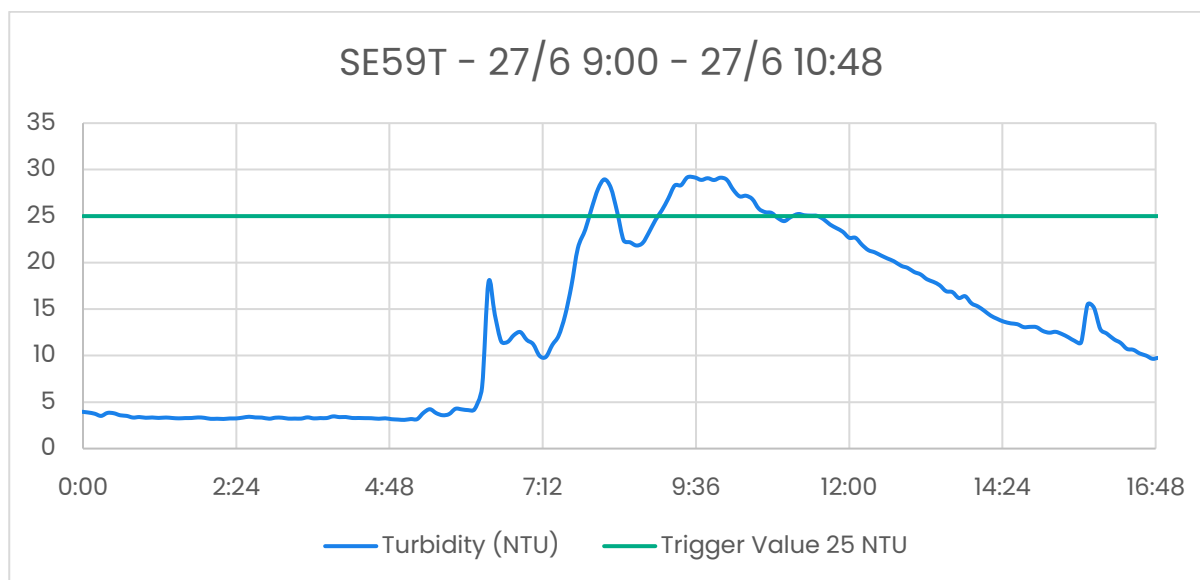


Figure 27 – SE59T 27th June

Field notes provided by Alcoa are included below.

" Compliance turbidity monitoring site SE59T recorded a turbidity event exceeding 25 NTU for more than 1 hour on 27 June 2026. The event was recorded on 27 June 2026, from 9:00 AM to 10:48 AM, with a duration of 1 hour and 48 minutes. The average turbidity value during the event was 27.6 NTU, with a peak of 29.18 NTU. there was 24.7mm of rainfall recorded in the 24 hours preceding the event. The data trend shows several sharp turbidity spikes preceding the event, followed by a short-lived, gradual rise above 25 NTU. Turbidity levels then gradually declined despite further rainfall. The SE59T turbidity monitoring site and associated catchment were inspected following the event. Stream flow was elevated due to recent rainfall; however, no evidence of erosion, sediment mobilisation, drainage control failure, or other mining-related contributions to stream turbidity was identified."

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.26 HUN-2606-0077

DB03T

The turbidity exceedance event occurred at monitoring location DB03T between 4:38 PM and 6:03 PM on 27 June 2026. A total of 28.7 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 28) displays a response pattern consistent with a genuine turbidity event, with turbidity gradually increasing above the 25 NTU trigger value and reaching a peak of approximately 26 NTU before declining

towards baseline levels. The substantial rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The smooth rise and subsequent recession in turbidity are characteristic of a rainfall-driven runoff response, indicating the mobilisation and subsequent settling of suspended sediments within the waterbody. This response is consistent with a genuine environmental event and does not suggest instrument malfunction.

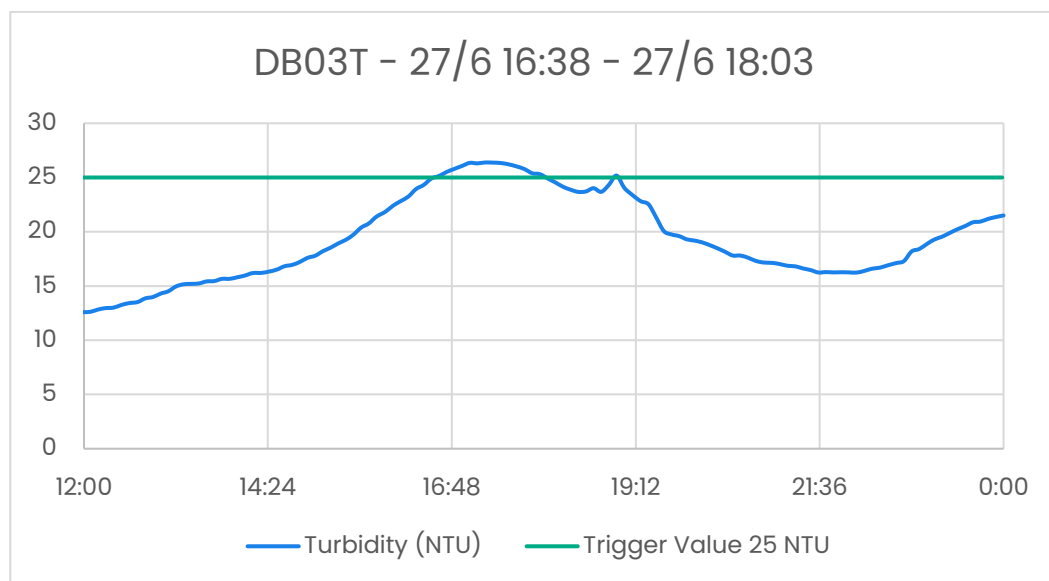


Figure 28 – DB03T 27th June

Field notes provided by Alcoa are included below.

"Compliance turbidity monitoring site DB03T recorded a turbidity event exceeding 25 NTU for >1 hour on 27 June 2026. The event was recorded on 27 June 2026 from 4:38 PM to 27 June 2026 6:03 PM, with a duration of 1 hour and 25 minutes. The average turbidity was 25.91, with a peak of 26.38. There was 28.7mm rainfall recorded in the 24 hours preceding the event.

The data trend indicates a gradual increase and decrease in turbidity aligned with a rainfall event. DB03T monitoring site was inspected on 29 June 2026. The stream was observed to be slightly turbid and rapidly flowing.

The DB03T catchment was inspected, and no evidence of mining related contribution or drainage control failure was identified. "

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.27 HUN-2606-0078

SE61T

The turbidity exceedance event occurred at monitoring location SE61T between 12:18 AM and 8:12 AM on 30 June 2026. A total of 19.2 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 29) displays a response pattern consistent with a genuine turbidity event, with turbidity rising rapidly above the 25 NTU trigger value shortly after midnight and reaching a peak of approximately 57 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by a distinct rise in turbidity followed by a prolonged recession, reflecting the mobilisation and subsequent settling of suspended sediments within the waterbody. This response is consistent with a rainfall-driven runoff event and supports the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

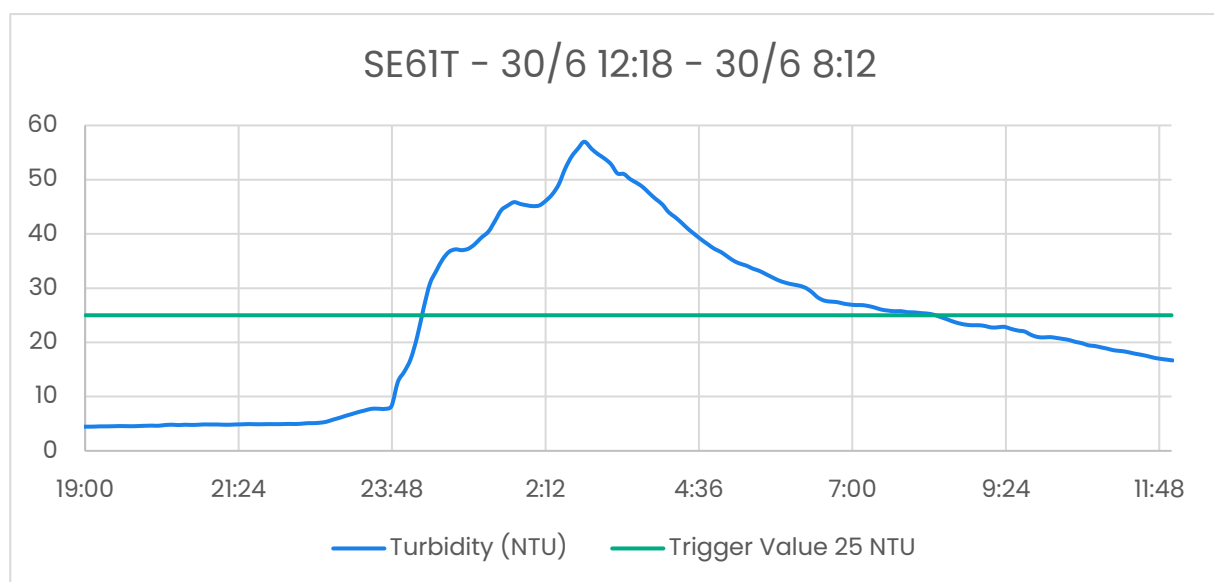


Figure 29 – SE61T 30th June

Field notes provided by Alcoa are included below.

'Local turbidity monitoring site SE61T recorded a turbidity event exceeding 25 NTU for >1 Hour on 30/06/2026, for 7 hours and 54 minutes. The average turbidity value during the event was 37.95 NTU, with a peak of 56.99 NTU. There was 19.2mm of rainfall recorded in the 24 hours preceding the event. The data trend shows a relatively sharp incline in turbidity values following a period of intense rainfall, during which time approximately 13.9mm of rainfall was recorded in ~4.5 hours. After reaching a peak of 56.99 NTU and cessation of rainfall, turbidity values gradually declined. The monitoring site was inspected on 4/07/2026, during which time strong stream flow was observed, resulting in and turbulent conditions around the sensor. The adjacent forest track and surrounding forest are shedding ground water. The SE61T catchment area was inspected, no evidence of mining related contribution was found.'

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.28 HUN-2606-0081

SE52T

The turbidity exceedance event occurred at monitoring location SE52T between 12:36 AM and 2:48 AM on 30 June 2026. A total of 19.2 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 30) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 51 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by multiple peaks during the rising limb, indicating successive pulses of sediment-laden runoff entering the waterbody. The subsequent gradual recession in turbidity levels is consistent with the settling and dispersal of suspended sediments following a rainfall-driven runoff event and supports the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

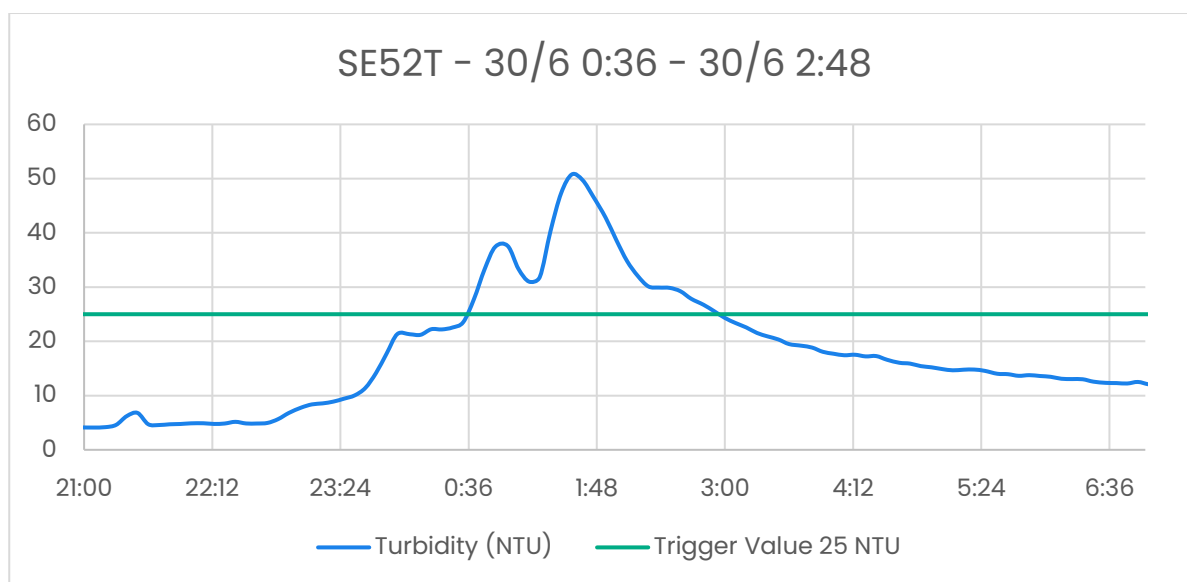


Figure 30 – SE52T 30th June

Field notes provided by Alcoa are included below.

"Compliance turbidity monitoring site SE52T recorded a turbidity exceedance event of >25 NTU for more than one hour on 30 June 2026. The event occurred between 12:36 AM and 2:48 AM, with a duration of 2 hours and 11 minutes. The average turbidity during the

event was 35.43 NTU, with a peak value of 50.77 NTU. A total of 19.2 mm of rainfall was recorded in the 24 hours preceding the event. The turbidity trend shows a relatively sharp increase that closely mirrors the recorded rainfall pattern, followed by several distinct peaks and a gradual decline. Turbidity values remained slightly elevated for approximately 12 hours following the event, ranging between 8 and 12 NTU, before returning to pre-event background levels.

The SE52T monitoring site was inspected on 3 July 2026. Strong stream flow was observed, with organic debris caught around the monitoring equipment; however, the debris was not impacting sensor at the time of inspection.

The SE52T catchment was inspected, with no evidence of mining-related contributions identified."

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.29 HUN-2606-0082

PD01T

The turbidity exceedance event occurred at monitoring location PD01T between 2:18 AM and 4:36 AM on 30 June 2026. A total of 20.8 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 31) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 43 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by a sustained increase in turbidity, with several minor fluctuations occurring during the rising limb before peak turbidity was reached. The subsequent gradual recession in turbidity levels is consistent with the settling and dispersal of suspended sediments following a rainfall-driven runoff event and supports the interpretation of the exceedance as a genuine environmental event rather than an instrument anomaly.

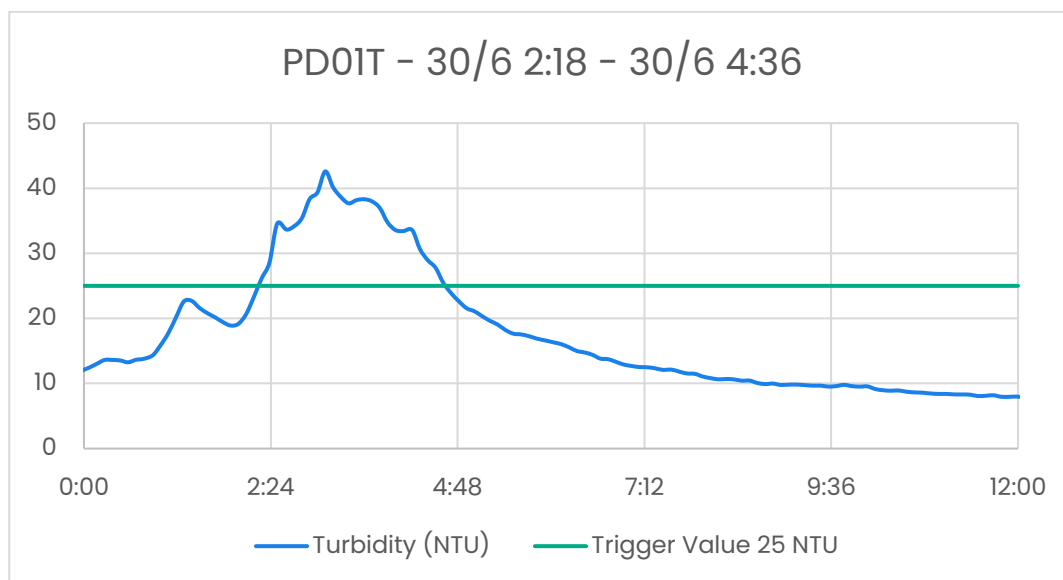


Figure 31 – PD01T 30th June

Field notes provided by Alcoa are included below.

‘Compliance turbidity monitoring site PD01T recorded a turbidity event exceeding 25NTU for >1 hour on the 30 June 2026. The event was recorded on 30 June 2026, from 2:18 AM to 4:36 AM, with a total duration of 2 hours and 18 minutes. The average turbidity value during the event was 34.54 NTU, with a peak of 42.59 NTU. There was 20.8mm of rainfall recorded in the 24 hours preceding the event.

The data trend indicates a gradual incline in turbidity values which coincides with increasing rainfall. Turbidity values then gradually decline following cessation of rainfall. The PD01T turbidity monitoring site and associated catchment area were inspected, no evidence of mining related contribution was found.

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.30 HUN-2606-0083

SE03T

The turbidity exceedance event occurred at monitoring location SE03T between 2:24 AM and 5:18 AM on 30 June 2026. A total of 20.6 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 32) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 31 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by a steady rise in

turbidity followed by a gradual recession, indicative of the mobilisation and subsequent settling of suspended sediments associated with rainfall-driven runoff. This response is consistent with a genuine environmental event and does not indicate sensor malfunction.

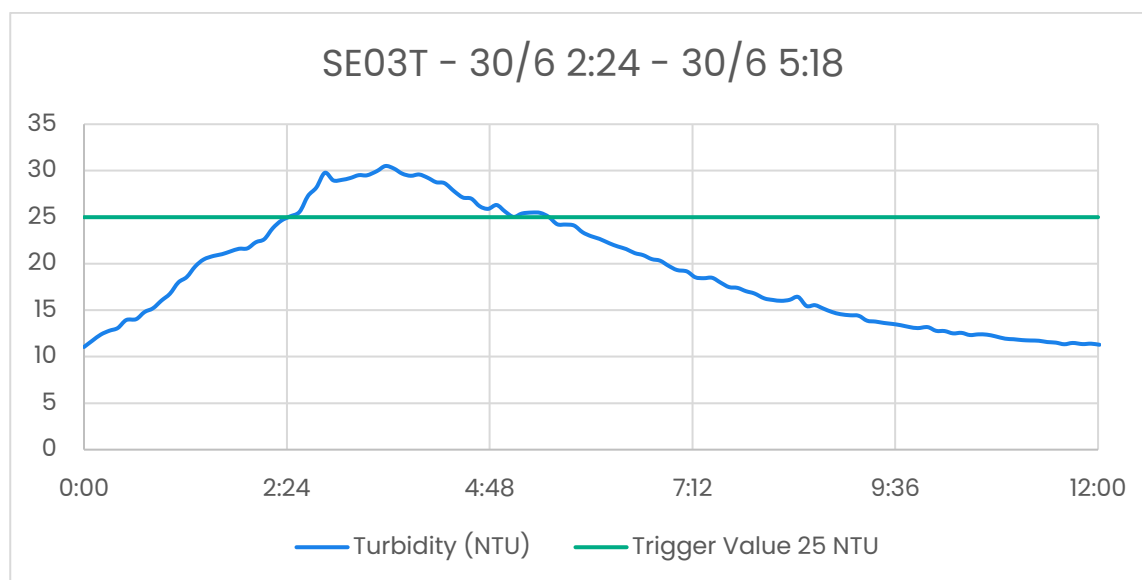


Figure 32 – SE03T 30th June

Field notes provided by Alcoa are included below.

Local turbidity monitoring site SE03T recorded a turbidity event exceeding 25 NTU for more than 1 hour on 30 June 2026, from 2:24 AM to 5:18 AM (duration 2 hours 53 minutes). The average turbidity value during the event was 27.85 NTU, with a peak of 30.5 NTU. There was 20.6mm of rainfall recorded in the 24 hours preceding the event. The data trend shows a gradual incline and decline coinciding with rainfall. The SE03T monitoring site and associated catchment area were inspected, no evidence of mining related contribution was found.

Based on the comments provided by Alcoa this event is considered ‘True’, however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.31 HUN-2606-0085

SE59T

The turbidity exceedance event occurred at monitoring location SE59T between 3:12 AM and 4:54 AM on 30 June 2026. A total of 19.0 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 33) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 35 NTU before gradually declining

towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by a steady increase in turbidity followed by a gradual recession, indicative of the mobilisation and subsequent settling of suspended sediments associated with rainfall-driven runoff. This response is consistent with a genuine environmental event and does not indicate sensor malfunction.

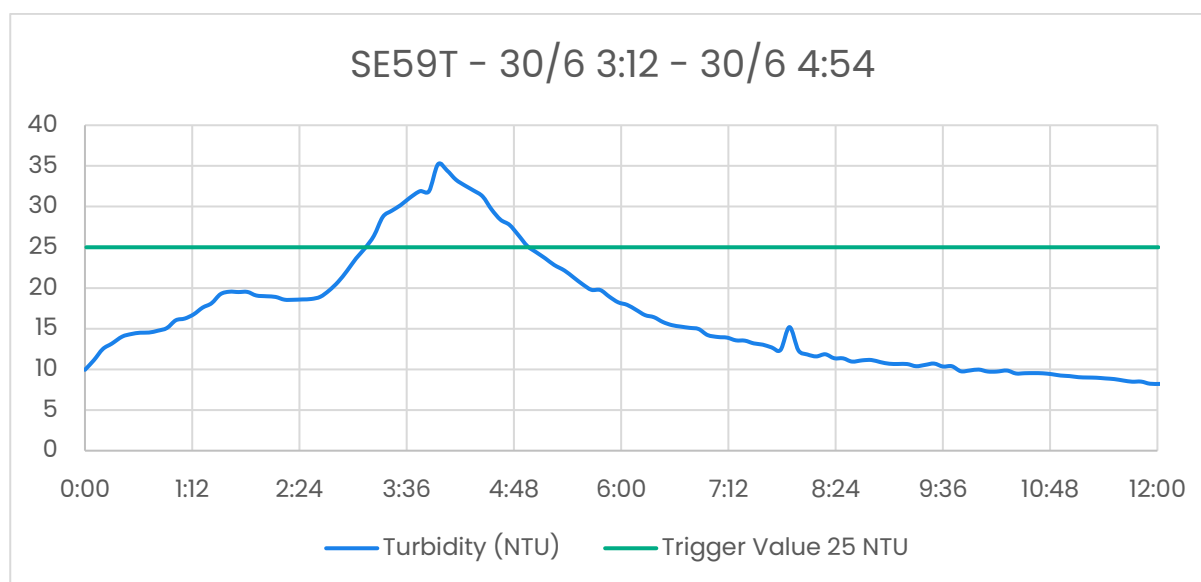


Figure 33 – SE59T 30th June

Field notes provided by Alcoa are included below.

"Compliance turbidity monitoring site SE59T recorded a turbidity exceedance event of >25 NTU for more than one hour on 30 June 2026. The event occurred between 3:12 AM and 4:54 AM, with a total duration of 1 hour and 42 minutes. The average turbidity during the exceedance was 30.33 NTU, with a peak value of 35.21 NTU. A total of 19 mm of rainfall was recorded in the 24 hours preceding the event.

A review of the turbidity data shows a gradual rise in turbidity, corresponding with the measured rainfall trend. Following the peak turbidity value of 35.21 NTU and the cessation of rainfall, turbidity levels gradually declined, returning to pre-event background conditions approximately 15 hours later.

The monitoring site was inspected on 2 July 2026. Strong stream flow was observed, with turbulent water and air bubbles surrounding the sensor. Despite these conditions, the stream water remained clear, with a measured turbidity value of 3.2 NTU at the time of inspection.

An inspection of the SE59T catchment found no evidence of mining-related contributions to the turbidity event."

Based on the comments provided by Alcoa this event is considered 'True', however no evidence of mining related contributions to the turbidity exceedance.

5.2.1.32 HUN-2606-0086

DB03T

The turbidity exceedance event occurred at monitoring location DB03T between 5:06 AM and 10:00 AM on 30 June 2026. A total of 19.4 mm of rainfall was recorded during the 24 hours preceding the event, providing a plausible mechanism for increased sediment mobilisation and transport within the monitored waterbody. The turbidity graph (Figure 34) displays a response pattern consistent with a genuine turbidity event, with turbidity rising above the 25 NTU trigger value and reaching a peak of approximately 32 NTU before gradually declining towards baseline levels. The rainfall recorded prior to the event is considered the most likely cause of the observed increase in turbidity. The event is characterised by a gradual increase in turbidity followed by a broad peak and a sustained recession, indicative of the mobilisation and subsequent settling of suspended sediments associated with rainfall-driven runoff. This response is consistent with a genuine environmental event and does not indicate sensor malfunction.

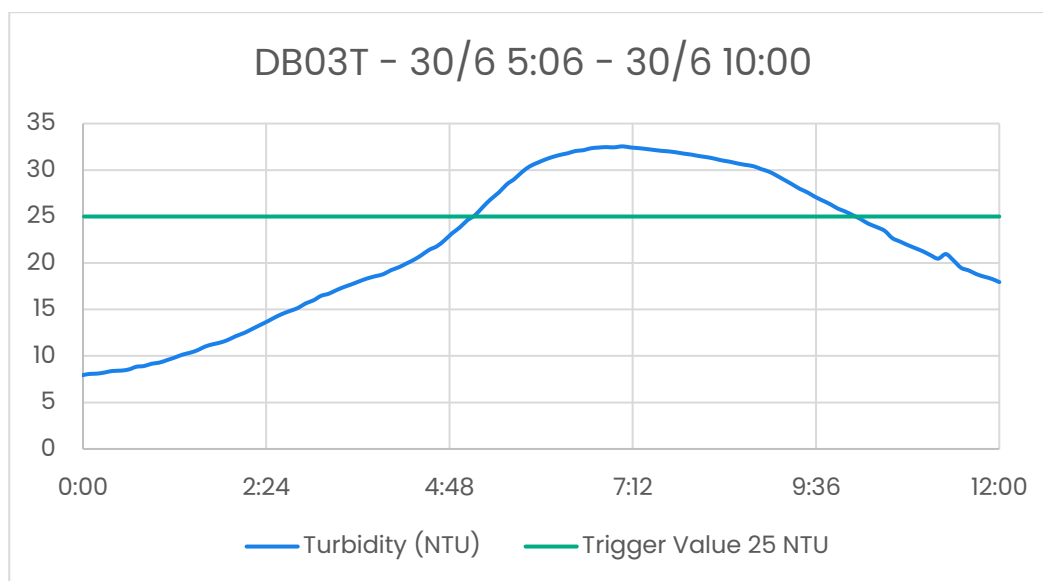


Figure 34 – DB03T 30th June

Field notes provided by Alcoa are included below.

"Compliance turbidity monitoring site DB03T recorded a turbidity exceedance event of >25 NTU for more than one hour on 30 June 2026. The event occurred between 5:06 AM and 10:00 AM, with a duration of 4 hours and 54 minutes. The average turbidity during the event was 30.04 NTU, with a peak value of 32.55 NTU. A total of 19.4 mm of rainfall was recorded in the 24 hours preceding the event.

The turbidity trend shows a gradual, rounded increase and decline, with values exceeding 25 NTU approximately three hours after rainfall had eased.

The DB03T monitoring site was inspected on 30 June 2026. At the time of inspection, stream depth had increased and strong stream flow was observed at the downstream bridge crossing. Stream observations indicated moderately turbid conditions, with a measured turbidity value of 20.88 NTU.

Inspection of the DB03T catchment commenced on 30 June 2026. Alcoa observed turbid water pooling north of the Warburton rehabilitation stream crossing. Turbid water was also present within several adjacent contour rip lines; however, there was no evidence of rip-line failure. At the time of inspection, a small diversion of stream flow from the main channel was contributing to waterlogging in the area. Further investigations identified a number of potential turbidity sources within the upstream catchment including neighbouring properties and public accessed areas. Subsequent inspections of the Warburton stream crossing found no evidence of failure of rehabilitation drainage controls or containment infrastructure. Based on the available evidence, no drainage incident was verified; however, the specific source of the elevated turbidity could not be conclusively determined. Ongoing catchment monitoring will continue to improve understanding of turbidity contributions within the catchment

This one should be classified as a True event, with an undetermined source (we can't confidently say mining or non-mining related).."

Based on the comments provided by Alcoa this event is considered 'True', with an undetermined source contributing to the turbidity exceedance.

5.2.2 False Event(s)

Fifty-four (54) 'False' events were identified during the reporting period. Rationale on potential causes is summarised below.

Table 3: False Events Rationale

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-002	SE52T	The event is marked with erratic behaviour, with frequent, rapid fluctuations. This is indicative of a false event	Data trend indicates false event, showing erratic turbidity values prior to the event, followed by a gradual incline and sharp decline. Further fluctuating turbidity values occurred following the event. The trend is consistent interference caused by debris. Data trends indicate false event, showing erratic turbidity values prior and during the event, followed by a sharp decline after a field visit and clean (01/06/2026). The high max NTU and fluctuating jumps in NTU during the event further clarify false event, caused by debris build on the lense.
HUN-2606-006	SE06T	This event is marked by a gradual increase and rapid decrease in turbidity. This is indicative of a false event.	SE06T site was visited on 06 June 2026 and the stream is very shallow and flowing clear. The sensor is being impacted by stream bed sediment and organic matter due to the very shallow water depth. Data trend has data spikes whilst inclining with a rapid decline, indicating likely organic matter impacted the sensor.
HUN-2606-009	SE03INV1	This event is marked by a gradual increase and rapid decrease in turbidity. This is indicative of a false event.	Site visit of SE03INV1 was carried out on the 03 June 2026. The stream was flowing, low and clear. Sensor is very close to the stream bed due to depth and was being impacted by organic matter, stream bed sediment and algae. Data trend of gradual incline commencing after 25 mm rainfall event with rapid decline when sensor was cleaned. Turbidity NTU pre clean was 96.1 and post clean 3.6 NTU.

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-010	SE06T	The event is marked with several irregular oscillations. This is indicative of a false event	"SE06T site was visited on 06 June 2026 and the stream is very shallow and flowing clear. The sensor is being impacted by stream bed sediment and organic matter due to the very shallow water depth. No rainfall during this event and the data trend was slowly inclining, indicating stream bed sediment was impacting the sensor. Turbidity NTU on arrival 27.8657 and post clean, 2.1869 NTU."
HUN-2606-011	SE06T	The event is marked with several irregular oscillations. This is indicative of a false event	"SE06T site was visited on 06 June 2026 and the stream is very shallow and flowing clear. The sensor is being impacted by stream bed sediment and organic matter due to the very shallow water depth. No rainfall during this event and the data trend was slowly inclining, indicating stream bed sediment was impacting the sensor. Turbidity NTU on arrival 27.8657 and post clean, 2.1869 NTU."

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-013	DB02T	Although the turbidity graph displays a response pattern consistent with a genuine exceedance event, field observations recorded during the monitoring period identified the event as a false exceedance	DB02T is heavily impacted by reeds. A site visit on the 10/06 saw the NTU reading reduce from 72.68 to 1 post clean. The event was initially suspected as a true event, as the initial rise was correlated with rainfall. Further data trends displays a false turbidity event, such as, no bell curve, sustained NTU even post rain, gradual incline over large period of time, data spikes. A catchment inspection was completed and further provided evidence that there was no mining influence, only the organic matter surrounding the sensor.
HUN-2606-014	DB02T	This event is marked progressively increasing turbidity, interspersed with several abrupt spikes and fluctuations. This is indicative of a false event.	DB02T is heavily impacted by reeds. A site visit on the 10/06 saw the NTU reading reduce from 72.68 to 1 post clean. The event was initially suspected as a true event, as the initial rise was correlated with rainfall. Further data trends displays a false turbidity event, such as, no bell curve, sustained NTU even post rain, gradual incline over large period of time, data spikes. A catchment inspection was completed and further provided evidence that there was no mining influence, only the organic matter surrounding the sensor.
HUN-2606-016	SE59T	This event is marked by a rapid increase and decrease in turbidity with multiple sporadic peaks. This is indicative of a false event.	SE59T site was visited on the 10/06, after a suspected True event and comms failure. In-field download confirmed Pi. Probe was heavily impacted by mud within the protective casing. Once cleaned, Ntu dropped from +600 to 2NTU. Catchment inspection completed regardless, nothing identified

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-022	SE03T	The event is marked by abrupt step changes, isolated high-magnitude spikes. This is indicative of a false event	SE03T turbidity site was visited on the 12/06. The probe was found submerged in mud within the flow cell. Cleaning the probe saw an instant drop of NTU to <5.
HUN-2606-024	SE53T	The turbidity graph displays a rise-and-fall pattern consistent with a genuine exceedance event.	NTU was sitting at a constant 20 before and after event, displaying false evidence. Data analysis of the trend does not display a true trend
HUN-2606-028	SE48T	This event is marked by a rapid increase and decrease in turbidity. This is indicative of a false event.	A site inspection was completed on the 7/06/2026 after a rainfall event (34.4mm in the preceding 24 hours. The inspection identified the stream as dry, however, the float switch updated to flowing on the 8th prior to this event >25 NTU on the 8/06/2026. The data trend has a sharp incline from 15 NTU to 52NTU, following by a sharp decline to 2.0 NTU, indicating stream bed sediment and organic matter was likely impacting the sensor when the stream began to flow
HUN-2606-029	SE36T	This event is marked by a rapid increase and decrease in turbidity. This is indicative of a false event.	Data trends display false trend, extreme incline and decline, and no tailing. Infield inspection on the 13/06 found mud within the flowcell. The stream is ponded and not yet flowing under the crossing.
HUN-2606-030	SE03INV3	This event is marked by a rapid increase and decrease in turbidity with multiple sporadic peaks. This is indicative of a false event.	SE03INV3 site was inspected on 21 June 2026. Stream was flowing, clear and shallow and float switch activated to flowing on the 08/06/2026 at 04:48PM. This false event was due to the sensor only being partially submerged and the stream is heavily impacted by leaf litter during this initial flush.

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-031	SE03INV3	The event is marked by a gradual increase in turbidity followed by a rapid decrease. This is indicative of a false event.	SE03INV3 site was inspected on 21 June 2026. Stream was flowing, clear and shallow and float switch activated to flowing on the 08/06/2026 at 04:48PM. This false event was due to the sensor only being partially submerged and the stream is heavily impacted by leaf litter during this initial flush.
HUN-2606-032	SE03INV3	This event is marked by a rapid increase and decrease in turbidity with multiple sporadic peaks. This is indicative of a false event.	SE03INV3 site was inspected on 21 June 2026. Stream was flowing, clear and shallow and float switch activated to flowing on the 08/06/2026 at 04:48PM. This false event was due to the sensor only being partially submerged and the stream is heavily impacted by leaf litter during this initial flush.
HUN-2606-033	SE03INV3	This event is marked by a rapid increase and decrease in turbidity with multiple sporadic peaks. This is indicative of a false event.	SE03INV3 site was inspected on 21 June 2026. Stream was flowing, clear and shallow and float switch activated to flowing on the 08/06/2026 at 04:48PM. This false event was due to the sensor only being partially submerged and the stream is heavily impacted by leaf litter during this initial flush.
HUN-2606-038	SE06T	The event is marked with several irregular oscillations. This is indicative of a false event	"SE06T site was visited on 18 June 2026. Due to the shallow stream, the sensor is being impacted by the stream bed sediment and organic matter. The data trend has rapid inclines and declines, indicating stream bed sediment and organic matter was impacting the sensor. Turbidity NTU on arrival of site visit was 19.6460 NTU and post clean, 2.98 NTU."

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-039	SE06T	This event is marked by a rapid increase and decrease in turbidity. This is indicative of a false event.	"SE06T site was visited on 18 June 2026. Due to the shallow stream, the sensor is being impacted by the stream bed sediment and organic matter. The data trend has a sharp incline after 5.8mm of rainfall, continues exceeding with erratic data before a sharp decline, indicating organic matter was impacting the sensor and then cleared. Turbidity NTU on arrival of site visit was 19.6460 NTU and post clean, 2.98 NTU."
HUN-2606-040	SE06T	This event is marked by a rapid increase and decrease in turbidity with multiple sporadic peaks. This is indicative of a false event.	"SE06T site was visited on 18 June 2026. Due to the shallow stream, the sensor is being impacted by the stream bed sediment and organic matter. No rainfall event coincides with this exceedance. The data trend has a sharp incline which then rapidly fluctuates between 21NTU and 50 NTU for several hours before a rapid decline, indicating stream bed sediment and organic matter was impacting the sensor. Turbidity NTU on arrival of site visit was 19.6460 NTU and post clean, 2.98 NTU."

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-041	SE06T	This event is marked by a rapid increase and decrease in turbidity with multiple sporadic peaks. This is indicative of a false event.	"SE06T site was visited on 18 June 2026. Due to the shallow stream, the sensor is being impacted by the stream bed sediment and organic matter. No rainfall event coincides with this exceedance. The data trend has a sharp incline which then rapidly fluctuates between 21NTU and 50 NTU for several hours before a rapid decline, indicating stream bed sediment and organic matter was impacting the sensor. Turbidity NTU on arrival of site visit was 19.6460 NTU and post clean, 2.98 NTU."
HUN-2606-042	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-043	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-044	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-045	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-046	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-047	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-048	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-049	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-050	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-051	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-052	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-053	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-054	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines then declines indicating a false event. The monitor was inspected on the 13th and 18th of June. The inspection found the sensor was impacted by built up organic debris.
HUN-2606-055	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines & declines, indicating a false event. Heavy vegetation within the stream likely temporarily impacted the sensor.
HUN-2606-056	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines & declines, indicating a false event. Heavy vegetation within the stream likely temporarily impacted the sensor.
HUN-2606-057	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines & declines, indicating a false event. Heavy vegetation within the stream likely temporarily impacted the sensor.
HUN-2606-058	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines & declines, indicating a false event. Heavy vegetation within the stream likely temporarily impacted the sensor.

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-059	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines & declines, indicating a false event. Heavy vegetation within the stream likely temporarily impacted the sensor.
HUN-2606-060	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines & declines, indicating a false event. Heavy vegetation within the stream likely temporarily impacted the sensor.
HUN-2606-061	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines & declines, indicating a false event. Heavy vegetation within the stream likely temporarily impacted the sensor.
HUN-2606-062	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines & declines, indicating a false event. Heavy vegetation within the stream likely temporarily impacted the sensor.
HUN-2606-063	SE36T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	The Turbidity data trend is erratic, with continuous rapid inclines & declines, indicating a false event. Heavy vegetation within the stream likely temporarily impacted the sensor.
HUN-2606-064	SE51T	This event is marked by a rapid increase and decrease in turbidity. This is indicative of a false event.	SE51T site was visited on 21 June 2026. Stream was clear and evident depth has dropped as the sensor was only partially submerged on arrival. There was no rainfall event associated with this exceedance.
HUN-2606-065	SE51T	This event is marked by a minor oscillations in turbidity. This is indicative of a false event.	SE51T site was visited on 21 June 2026. Stream was clear and evident depth has dropped as the sensor was only partially submerged on arrival. There was no rainfall event associated with this exceedance.

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-066	SE06T	This event is marked by a progressive increase in turbidity, interspersed with frequent abrupt spikes and fluctuations and a rapid decrease in turbidity. This is indicative of a false event.	Data trend analysis shows an erratic trend that significantly spikes then drops, indicating a false event. Stream inspected 29/06/2026. The stream is flowing and clear, with a low water level. The stream bed has built up sediment and red algae that was visible on the on the sensor. On arrival 6.38NTU and post clean 2.14NTU.
HUN-2606-067	SE09T	This event is marked a series of abrupt step increases and rapid decreases in turbidity	Turbidity data trend is erratic, spiking from 5 NTU to 61 NTU within 10 minutes, then from 102 NTU to 5 NTU also within 10 minutes, indicating the sensor was likely temporarily impacted by vegetation or passing debris.
HUN-2606-068	SE03INV1	This event is marked by a progressive increase in turbidity, and a rapid decrease in turbidity. This is indicative of a false event.	"Site visit of SE03INV1 was carried out on the 24 June 2026. Stream is flowing, low and clear. Sensor is very close to the stream bed due to low depth and was being impacted by organic debris and algae. No rainfall in the preceding 24 hours of this exceedance commencing although 8mm of rainfall recorded on the 21 July 2026. Data trend of a very gradual incline up to 151 NTU with a rapid decline from 151 NTU to 2.33 NTU indicates false event."
HUN-2606-069	SE06T	The event is marked with several irregular oscillations. This is indicative of a false event	Data trend analysis shows an erratic trend that significantly spikes then drops, indicating a false event. Stream inspected 29/06/2026. The stream is flowing and clear, with a low water level. The stream bed has built up sediment and red algae that was visible on the on the sensor. On arrival 6.38NTU and post clean 2.14NTU.

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-070	DB02T	The event is marked with several irregular oscillations. This is indicative of a false event	The DB02T site was inspected 29/06/2026. The stream was clear, level had risen and velocity had increased due to recent rainfall (36.6mm in the proceeding 24hrs). The sensor was heavily impacted by reeds and when re-positioned, turbidity significantly dropped from 33.06 NTU to 1.78 NTU, supporting a false event. Data trend analysis shows spikes where the trend rapidly increases & declines, further supporting the sensor was likely impacted by the reeds. The data trend remains <2NTU consistently post inspection.
HUN-2606-072	SE03T	The event is marked with several irregular oscillations. This is indicative of a false event	"Turbidity data erratically spiking and falling over periods of time. Monitor site was inspected on the 28/06, identified mud caught in the probe cap, causing the turbidity. Stream flowing clear and strong. No evidence of mining sediments"
HUN-2606-073	SE03T	This event is marked by a rapid increase and decrease in turbidity with multiple sporadic peaks. This is indicative of a false event.	"Turbidity data erratically spiking and falling over periods of time. Monitor site was inspected on the 28/06, identified mud caught in the probe cap, causing the turbidity. Stream flowing clear and strong. No evidence of mining sediments"

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
HUN-2606-079	SE34T	This event is marked by a rapid increase and decrease in turbidity. This is indicative of a false event.	SE34T site visited on 01 July 2026, stream flowing and clear. Extensive organic debris was observed caught under the sensor and around the nearby platform legs. When the debris was removed the turbidity NTU significantly reduced from 14.2685 NTU to 2.3947 NTU. Float activated to flowing on 28/06/2026 at 6:36:01 PM. Data trend has rapid incline and decline spikes with extreme peak indicating sensor was impacted by organic debris during this initial stream flush.
HUN-2606-080	SE62T	This event is marked by a rapid increase and decrease in turbidity. This is indicative of a false event.	SE62T site visited on 01 July 2026 and stream flowing. Level float switched to flowing on 30/06/2026 at 7:48:01 PM. There was minimal rainfall of 0.8 mm in the preceding 24 hours of this exceedance. The data trend has rapid incline and decline spikes supporting organic debris impact during initial flush for the stream.
HUN-2606-084	SE06T	This event is marked a rapid increases and series of step decreases in turbidity	"SE06T site was visited on 03 July 2026. Due to the shallow stream, the sensor is being impacted by the stream bed sediment and organic matter. The data trend has a sharp incline to 1238 NTU followed by a two stepped rapid decline, indicating stream bed sediment and organic matter was impacting the sensor. "

5.2.3 Excluded WQMS Units

Twenty-eight WQMS Units were excluded from analysis due to inaccurate data. Alcoa confirmed the invalidity of data recorded from these units and provided commentary on the condition of each.

Table 4: Excluded WQMS Units

WQMS ID	Comment
DB01T	Unit removed from the field 19/05/2026 for planned DBCA prescribed burn.
FPWR1	Stream dry as of 12/11/2025
ND04T	Stream dry as of 31/3/2026
ND06T	Unit removed from the field 19/05/2026 for planned DBCA prescribed burn. Reinstallation completed on 24/06/2026
ND07T	Unit removed from the field 19/05/2026 for planned DBCA prescribed burn.
ND12T	Stream dry as of 15/12/2025. Unit removed from the field 19/03/2026 for planned DBCA prescribed burn.
ND13T	Unit removed from the field 19/03/2026 for planned DBCA prescribed burn. Reinstallation completed on 30/06/2026
ND14T	Unit removed from the field 19/05/2026 for planned DBCA prescribed burn. Reinstallation completed on 24/06/2026
SE03INV3	Stream commenced flowing 8/6/2026
SE04T	New monitoring site installed 20/11/2025, stream dry at time of installation.
SE07T	Stream commenced flowing 8/6/2026
SE11T	Stream dry as of 3/11/2025
SE12INV	Stream dry as of 12/11/2025
SE12T	Stream dry as of 3/12/2025
SE15T	Equipment reinstated on 12/02/2026, the stream was dry at the time of installation.
SE22T	Stream dry as of 1/12/2025
SE23T	Stream dry as of 3/10/2025
SE24T	Stream dry as of 12/11/2025
SE25T	Stream dry as of 12/11/2025
SE26T	Stream dry as of 28/09/2025
SE34T	Stream commenced flowing 28/6/2026
SE36T	Stream commenced flowing 8/6/2026
SE48T	Stream commenced flowing 8/6/2026
SE60T	Equipment reinstated on 5/02/2026, the stream was dry at the time of installation.
SE62T	Stream dry as of 17/12/2025
SN07T	Stream dry as of 31/01/2026

5.2.4 Missing Data

Periods of missing data are detailed in Table 5.

Table 5: Missing Data Summary

WQMS ID	Data Notes
ND06T	Unit removed from the field on 19/05/2026 due to a DBCA prescribed burn. Reinstallation completed on 24/6//2026
ND13T	Unit removed from the field on 19/03/2026 due to a DBCA prescribed burn. Reinstalled 30/6/26
ND14T	Unit removed from the field on 19/03/2026 due to a DBCA prescribed burn. Reinstalled 24/6/26. Data gap from 30/6/2026 10:24AM to 30/6/2026 1:18 PM due to Maintenance
SE03INV1	Data gap from 13/6/2026 12:41PM to 14/6/2026 3:48AM
SE03INV3	Stream commenced flowing on 8/6/2026
SE05T	Data gap from 2/6/2026 12:38PM to 2/6/2026 5:18PM
SE06T	Data gap from 5/6/2026 4:21PM to 14/6/2026 9:04PM, 17/6/2026 1:47 to 17/6/2026 1:01PM and 18/6/2026 7:00AM to 18/6/2026 11:11AM due to batter issues.
SE07T	Stream commenced flowing 8/6/2026
SE08T	Data gap from 4/6/2026 9:56AM to 10/6/2026 2:42PM
SE09T	Data gaps on 30/06/2026 from 3:55 AM to 7:04 AM, and 7:16 AM to 9:58 AM due to system power failure
SE34T	Stream commenced flowing 28/6/2026
SE36T	Stream commenced flowing 8/6/2026. Data gap from 11/6/2026 9:30AM to 11/6/2026 2:15PM
SE48T	Stream commenced flowing 8/6/2026. Data gap from 11/6/2026 9:20AM to 11/6/2026 2:09PM
SE51T	Data gap from 8/6/2026 12:53PM to 8/6/2026 5:36PM
SE52T	Data gap from 18/6/2026 11:44AM to 18/6/2026 4:30PM
SE53T	Data gap from 8/6/2026 9:12AM to 8/6/2026 2:03PM
SE61T	Data gap from 1/6/2026 12:00AM to 3/6/2026 9:15AM, 4/6/2026 4:45AM to 8:59AM, 4/6/2026 9:49PM to 5/6/2026 9:10AM, 6/6/2026 3:02AM to 8:52AM, 6/6 8:29PM to 7/6/2026 8:51AM, 7/6/2026 22:54 to 9:10AM, 8/6/2026 9:54PM to 9/6/2026 10:17AM and 10/6/2026 12:19AM to 8:57AM due to batter issues.

6. Huntly Raw WQMS Data

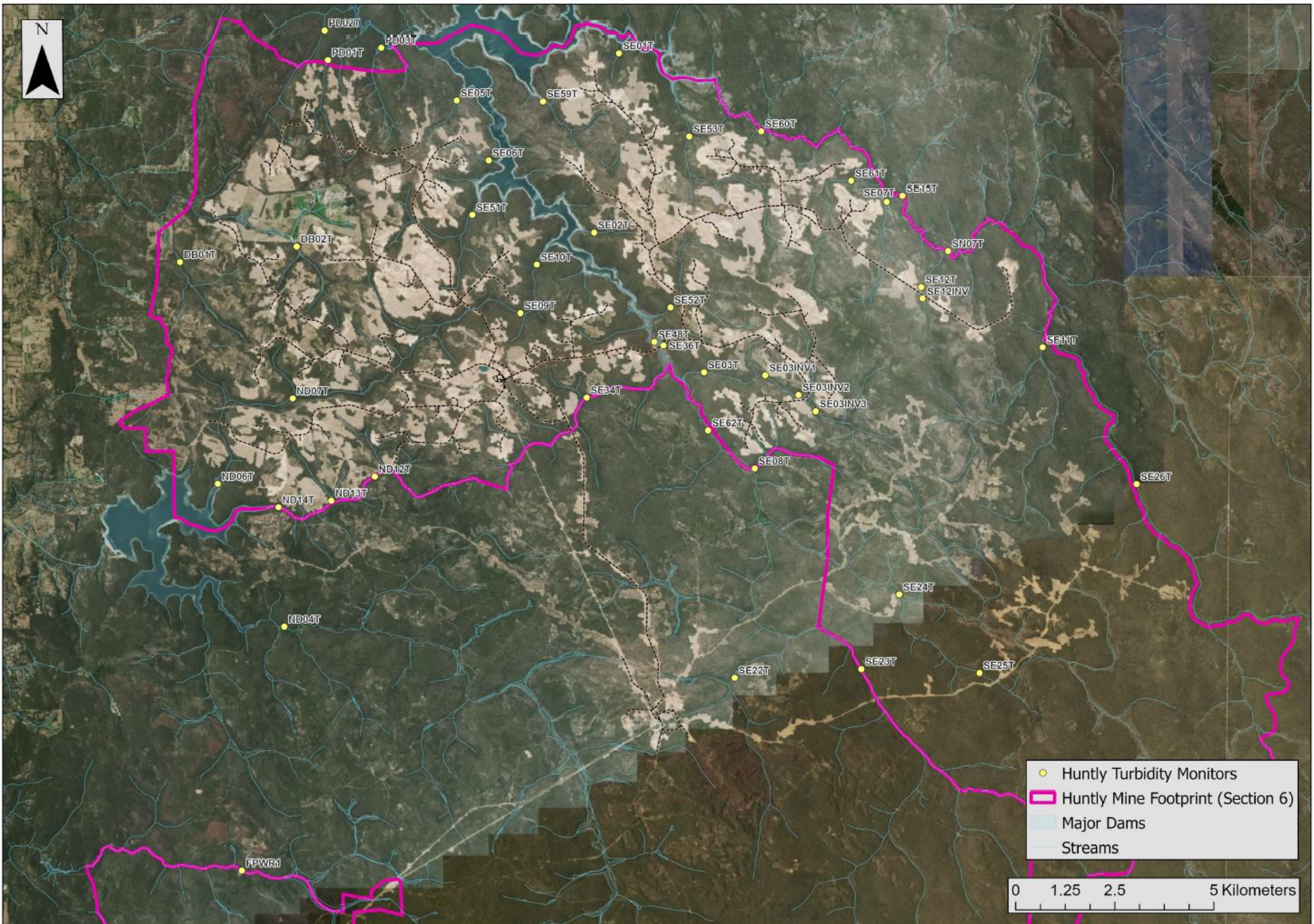
Date	Huntly WQMS Data – June 2026 - Events with turbidity > 25 NTU for an hour or more											
	DB01T	DB02T	DB03T	FPWR1	ND06T	ND07T	ND12T	ND13T	ND14T	PD01T	PD02T	PD03T
1/06/2026												
2/06/2026												
3/06/2026												
4/06/2026												
5/06/2026												
6/06/2026												
7/06/2026												
8/06/2026		2xFalse	1xTrue							1xTrue		
9/06/2026												
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24/06/2026												
25/06/2026												
26/06/2026												
27/06/2026			1xTrue									
28/06/2026		1xFalse										
29/06/2026												
30/06/2026			1xTrue							1xTrue		

Huntly WQMS Data – June 2026 - Events with turbidity > 25 NTU for an hour or more												
Date	SE01T	SE02T	SE03INV1	SE03INV3	SE03T	SE04T	SE05T	SE06T	SE07T	SE08T	SE09T	SE10T
1/06/2026			1xTrue 1xFalse		1xTrue		1xTrue	1xFalse				
2/06/2026												
3/06/2026												
4/06/2026												
5/06/2026												
6/06/2026								1xFalse				
7/06/2026												
8/06/2026		1xTrue	1xTrue		1xTrue		1xTrue	1xFalse				
9/06/2026					1xFalse		1xTrue					
10/06/2026												
11/06/2026								1xFalse				
12/06/2026												
13/06/2026								1xFalse				
14/06/2026				2xFalse			1xTrue	1xFalse				
15/06/2026				2xFalse								
16/06/2026												
17/06/2026												
18/06/2026												
19/06/2026			1xFalse									
20/06/2026												
21/06/2026											1xFalse	
22/06/2026												
23/06/2026								1xFalse				
24/06/2026												
25/06/2026								1xFalse				
26/06/2026							1xTrue					
27/06/2026					2xFalse		1xTrue					
28/06/2026												
29/06/2026								1xFalse				
30/06/2026					1xTrue							

Huntly WQMS Data – June 2026 - Events with turbidity > 25 NTU for an hour or more												
Date	SE11T	SE12T	SE12INV	SE15T	SE23T	SE24T	SE25T	SE26T	SE34T	SE36T	SE48T	SE51T
1/06/2026												1xTrue
2/06/2026												
3/06/2026												
4/06/2026												
5/06/2026												
6/06/2026												
7/06/2026												
8/06/2026										1xFalse	1xFalse	1xTrue
9/06/2026												
10/06/2026												
11/06/2026												
12/06/2026												
13/06/2026										2xFalse		
14/06/2026												
15/06/2026												
16/06/2026										3xFalse		
17/06/2026										5xFalse		2xFalse
18/06/2026										4xFalse		
19/06/2026										4xFalse		
20/06/2026										3xFalse		
21/06/2026												
22/06/2026												
23/06/2026												
24/06/2026										1xFalse		
25/06/2026												
26/06/2026												
27/06/2026												
28/06/2026												
29/06/2026												
30/06/2026									1xFalse			

Huntly WQMS Data – June 2026 - Events with turbidity > 25 NTU for an hour or more							
Date	SE52T	SE53T	SE59T	SE60T	SE61T	SE62T	SN07T
1/06/2026	1xFalse	1xTrue	1xTrue				1xFalse
2/06/2026							
3/06/2026							
4/06/2026							
5/06/2026							
6/06/2026							
7/06/2026							
8/06/2026	1xTrue	1xTrue 1xFalse	1xFalse		1xTrue		
9/06/2026							
10/06/2026							
11/06/2026							
12/06/2026							
13/06/2026							
14/06/2026							
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20/06/2026							
21/06/2026							
22/06/2026							
23/06/2026							
24/06/2026							
25/06/2026							
26/06/2026					1xTrue		
27/06/2026	1xTrue		1xTrue		1xTrue		
28/06/2026							
29/06/2026							
30/06/2026	1xTrue		1xTrue		1xTrue		

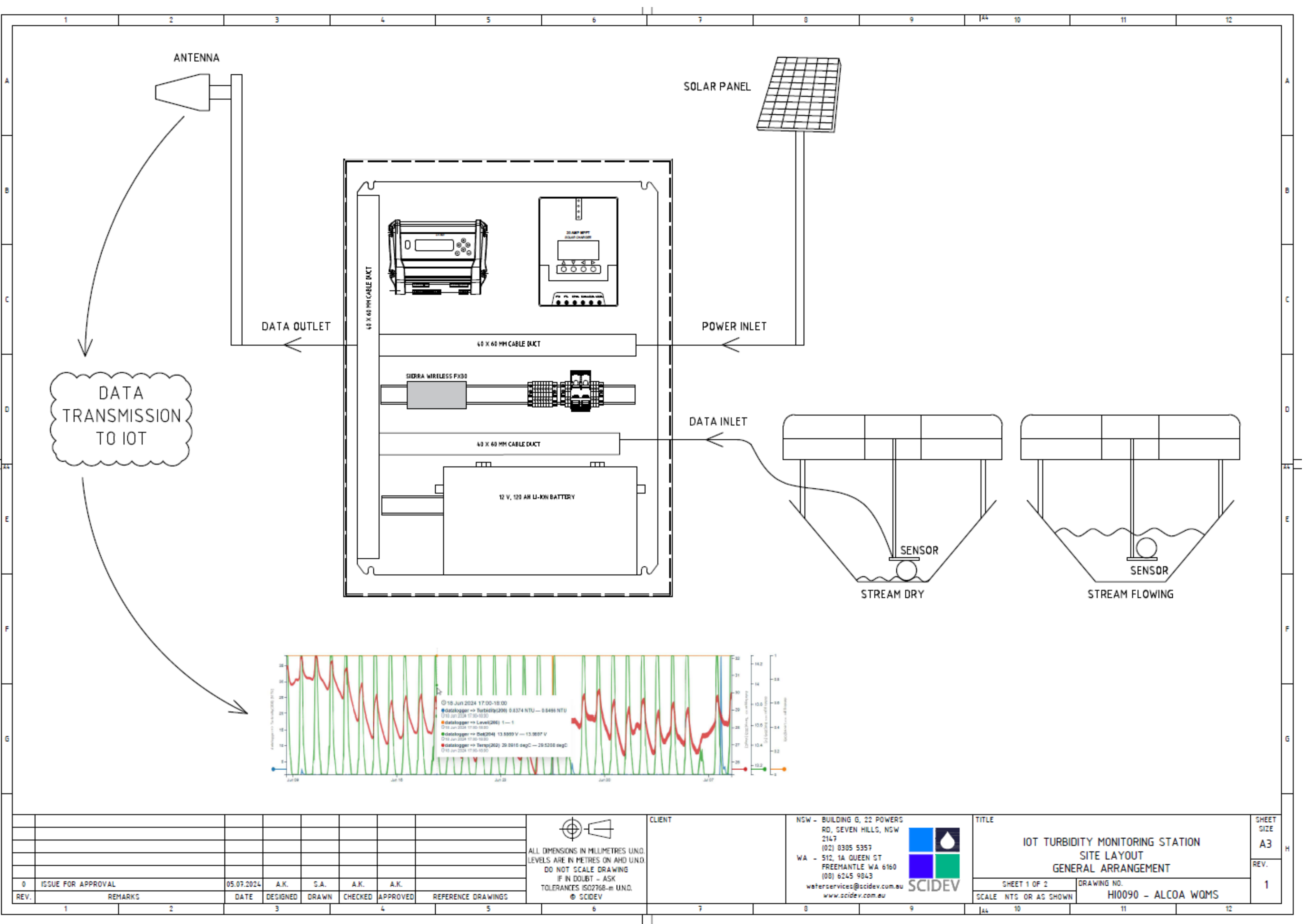
Appendix A Huntly WQMS Locations



- Huntly Turbidity Monitors
- ▬ Huntly Mine Footprint (Section 6)
- Major Dams
- Streams

0 1.25 2.5 5 Kilometers

Appendix B WQMS General Arrangement



0	ISSUE FOR APPROVAL	05.07.2024	A.K.	S.A.	A.K.	A.K.		
REV.	REMARKS	DATE	DESIGNED	DRAWN	CHECKED	APPROVED	REFERENCE DRAWINGS	
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2								

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TITLE

IOT TURBIDITY MONITORING STATION
SITE LAYOUT
GENERAL ARRANGEMENT

SHEET 1 OF 2
SCALE NTS OR AS SHOWN

DRAWING NO.
HI0090 - ALCOA WQMS

SHEET
SIZE
A3
REV.
1

WQMS Data Review

Willowdale Bauxite Mine

JUNE 2026



Document Control

Document Control			
Rev.	Data Analysis	Approved By	Date
A	Wendy Spinner	Nick O'Reilly	30/7/2026
0	Wendy Spinner	Nick O'Reilly	19/8/2026

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1. Executive Summary

SciDev conducted an analysis of turbidity data collected from Water Quality Monitoring Systems (WQMS) operating across Alcoa's Willowdale bauxite mining operations for June 2026. The purpose of this assessment was to evaluate data quality, identify genuine turbidity exceedance events, and support compliance with the *Environmental Protection (Darling Range Bauxite Mining Proposal) Exemption Order 2023*.

The review focused on events where turbidity exceeded 25 NTU for at least one hour. Events were evaluated in accordance with Alcoa's Turbidity Event Classification Guidelines and classified as either "true" exceedances, representing genuine increases in turbidity, or "false" exceedances resulting from environmental or operational interferences.

Key outcomes of the analysis were:

- **Excluded Units:** One (1) WQMS units were excluded from the analysis due to invalid data caused by equipment faults or environmental interference.
- **False Events:** Two (2) turbidity exceedances were identified as false, commonly caused by debris, sensor obstruction, or hydraulic disturbances.
- **True Events:** Zero (0) "True" turbidity exceedance event were recorded following detailed assessment.

Data gaps were also identified due to system outages, maintenance, and unexpected shutdowns. These have been documented to maintain transparency in reporting.

Overall, while turbidity exceedance events were recorded during June 2026, the assessment found no evidence that any true turbidity exceedance event was caused by mining activities.

2. Scope

SciDev were engaged by Alcoa to analyse turbidity data collected from the Willowdale Water Quality Monitoring Systems (WQMS). The primary objective of this engagement is to assess the quality of the collected data and identify potential “true” turbidity events. This analysis supports Alcoa’s reporting obligations under *Schedule 1, Division 2, Clause 6 of the Environmental Protection (Darling Range Bauxite Mining Proposal) Exemption Order 2023*.

3. Introduction

3.1 Background

Alcoa of Australia Ltd (Alcoa) operates two bauxite mines, Huntly and Willowdale, approximately 100 km southeast of Perth, Western Australia. These mining operations are subject to environmental controls mandated by the *Environmental Protection (Darling Range Bauxite Mining Proposal) Exemption Order 2023*.

Under this Exemption Order, Alcoa is required to implement drainage control measures and monitor effectiveness in water bodies within and downstream of mining operations. Turbidity, a critical water quality parameter, is monitored using Water Quality Monitoring Systems (WQMS), to detect deviations and identify high-turbidity events.

Alcoa is obligated to report monthly on-stream turbidity, including the identification and classification of any “true” high-turbidity exceedance events. (Refer to Appendix B for the site map showing WQMS locations.)

3.2 Monitoring Requirements

Environmental Protection (Darling Range Bauxite Mining Proposal) Exemption Order 2023 specifies that a drainage incident occurs when:

- a. Runoff from a disturbance area enters the surrounding environment, resulting in surface water turbidity of at least 25 NTU for a duration of at least one hour; or
- b. a discharge from containment infrastructure includes, or may include, environmentally hazardous material.

Trigger levels for drainage incidents are outlined in Schedule 1 of the Exemption Order. To meet these requirements, Alcoa has developed “Turbidity Event Classification Guidelines” which define a true turbidity exceedance event as a WQMS recording turbidity levels of at least 25 NTU for a period exceeding one hour.

3.3 Water Quality Management System (WQMS)

During the June 2026 monitoring period, four (4) WQMS units were deployed to monitor turbidity levels in streams subject to surface water runoff within and downstream of Willowdale mining operations.

Each WQMS unit consists of the following components:

Aquas SMR10 Turbidity Probe

Positioned at a 90-degree angle to water flow, each probe is equipped with an automatic lens wiper and a guard to protect against larger debris.

Data Taker DT82 Logger

Records data locally every six seconds, with six-minute averages transmitted via IoT-enabled modems to a cloud-based platform.

Float Switch

Detects whether the sensor is submerged, or the stream is dry.

3.4 Purpose

This report aims to analyse turbidity data collected during June 2026, focusing on the identification and classification of "true" turbidity exceedance events based on Alcoa's Turbidity Event Classification Guidelines.

3.5 Exclusions

This report is not intended as:

An assessment of the WQMS network or Alcoa's compliance with relevant legislation and requirements.

An evaluation of the suitability of the trigger levels or event classification procedures adopted by Alcoa.

3.6 Abbreviations

	Term
IoT	Internet of Things
NTU	Nephelometric Turbidity Units
WQMS	Water Quality Management System

4. Methodology

4.1 WQMS Locations

A site map showing the WQMS locations is provided in Appendix B.

4.2 Data Review

Data recorded by the WQMS Units was reviewed and potential events where turbidity levels exceeded 25 NTU for at least one hour. Each potential event was categorised as either 'true' or 'false'.

4.2.1 True Turbidity Exceedance Events

These events are caused by an actual increase in stream turbidity. Per Alcoa's "Turbidity Event Classification Guidelines" true exceedance events typically exhibit:

A sharp, sudden incline in turbidity levels.

A return to baseline turbidity levels in a pattern resembling a normal (Gaussian) distribution.



Figure 1 Typical 'True' exceedance event.

4.2.2 False Turbidity Exceedance Events

These events are caused by factors unrelated to actual turbidity increase, such as:

Organic debris (e.g., leaves, sticks, algae) obstructing the sensor

Air bubbles or water turbulence near the sensor

Fluctuating water levels intermittently covering and uncover the sensor lens.

False events typically exhibit sharp inclines and declines without the characteristic bell curve shape of true events

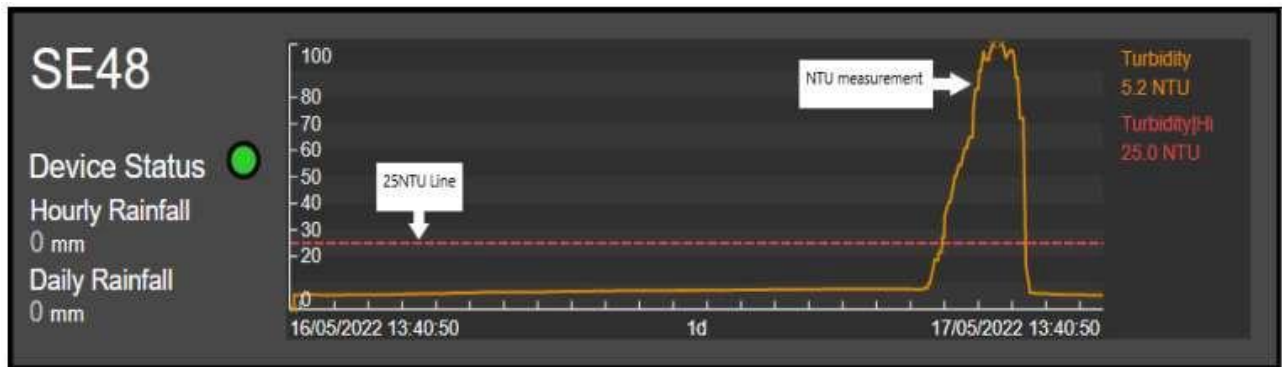


Figure 2 Typical 'false' exceedance event.

4.2.3 Missing Data

Missing data occurs when a WQMS unit fails to record information, this can occur from unexpected system logoffs, equipment faults, or unplanned shutdowns.

5. Results and Discussion

5.1 Events

Table 1 provides a summary of identified events. Table 2 offers detailed information about each event.

Table 1: Events Summary

Category	# of events
Total events	2
True events	0
False events	2
Caused by mining related activity	0

It was found that:

- a. There were Zero (0) True events.
- b. One (1) units remained dry with no presence of water.
- c. One (1) unit that was previously dry, now has water present
- d. Two (2) units remained flowing throughout the month.

Note:

A True event is recorded when there is water present within the water way, and, that the probe has not been affected by any external sources.

Table 2: Events Details

Event ID	Monitor	False Event (Y/N)	Event Start Date	Event Start Time	Event End Date	Event End Time	Event Duration	Ave. Turbidity (NTU)	Peak Turbidity (NTU)
WDL-2606-001	RHB2	Y	27/06/2026	06:10	27/06/2026	07:11	1 hour	172.34	542.45
WDL-2606-002	RHB3	Y	28/06/2026	19:07	28/06/2026	20:38	1 hour 30 min	2084.30	4212.6

5.2 Event Assessment Outcomes

5.2.1 True Events

Zero true events occurred during June.

5.2.2 False Event(s)

Two (2) 'False' events were identified during the reporting period. Rationale on potential causes is summarised below.

Table 3: False Events Rationale

Event ID	Monitor	SciDev Rationale	Alcoa Field Comments
WDL-2606-001	RHB2	This event is marked by a rapid increase and decrease in turbidity. This is indicative of a false event.	Compliance monitor RHB2 recorded a turbidity event exceeding 25NTU for > 1 hour on 27/06/2026 between 06:10am and 07:11am, with an average reading of 172.34NTU and a peak of 542.45NTU. An inspection of the monitor was undertaken on 27/06/2026, the stream was flowing and clear, however debris had built up around the probe and a leaf was obscuring the sensor. Sensor was cleaned and the readings dropped back to >5NTU immediately. Classified as a false event
WDL-2606-002	RHB3	This event is marked by a rapid increase and decrease in turbidity with multiple sporadic peaks. This is indicative of a false event.	Stream inspected on 29/06/2026 at 8:30am. Turbidity reading on arrival was 2.38NTU. The stream was flowing with gusto and clear at the time of inspection. Vegetation debris build-up was noted on the exterior of the probe and on the stream bed. The probe was removed, cleaned and returned to the stream. Approx. 15.6mm rainfall was recorded within the 24 hours preceding the event. The shape of the turbidity graph (sudden and extreme increases and decreases) is not indicative of a true turbidity event. Classified as false events.

5.2.3 Excluded WQMS Units

One (1) WQMS Units were excluded from analysis due to inaccurate data. Alcoa confirmed the invalidity of data recorded from these units and provided commentary on the condition of each.

Table 4: Excluded WQMS Units

WQMS ID	Status	Comment
HV07T	Dry/flowing	Unit dry most of month. Started flowing from 26/06/2026 8:30am.
HV49T	Dry	Stream dry.

5.2.4 Missing Data

Periods of missing data are detailed in Table 5.

Table 5: Missing Data Summary

WQMS ID	Data Notes
RHB2	Equipment faults between 1/06/2026 5:01 to 1/06/2026 20:25 and 7/06/2026 14:12 to 7/06/2026 17:01. Data unavailable during these periods.
RHB3	Equipment fault between 11/06/2026 16:48 to 13/06/2026 11:24, 16/06/2026 2:18 to 17/06/2026 10:22 and 22/06/2026 0:34 to 24/06/2026 9:50. Data unavailable during this period.

Appendix A Willowdale Raw WQMS Data

Willowdale WQMS Data – June 2026 - Events with turbidity > 25 NTU for an hour or more				
Date	HV07T	HV49T	RHB2	RHB3
1/06/2026				
2/06/2026				
3/06/2026				
4/06/2026				
5/06/2026				
6/06/2026				
7/06/2026				
8/06/2026				
9/06/2026				
10/06/2026				
11/06/2026				
12/06/2026				
13/06/2026				
14/06/2026				
15/06/2026				
16/06/2026				
17/06/2026				
18/06/2026				
19/06/2026				
20/06/2026				
21/06/2026				
22/06/2026				
23/06/2026				
24/06/2026				
25/06/2026				
26/06/2026				
27/06/2026			1 x False	
28/06/2026				1 x False
30/06/2026				

Appendix B Willowdale WQMS Locations



RHB2●

RHB3●

HV07T●

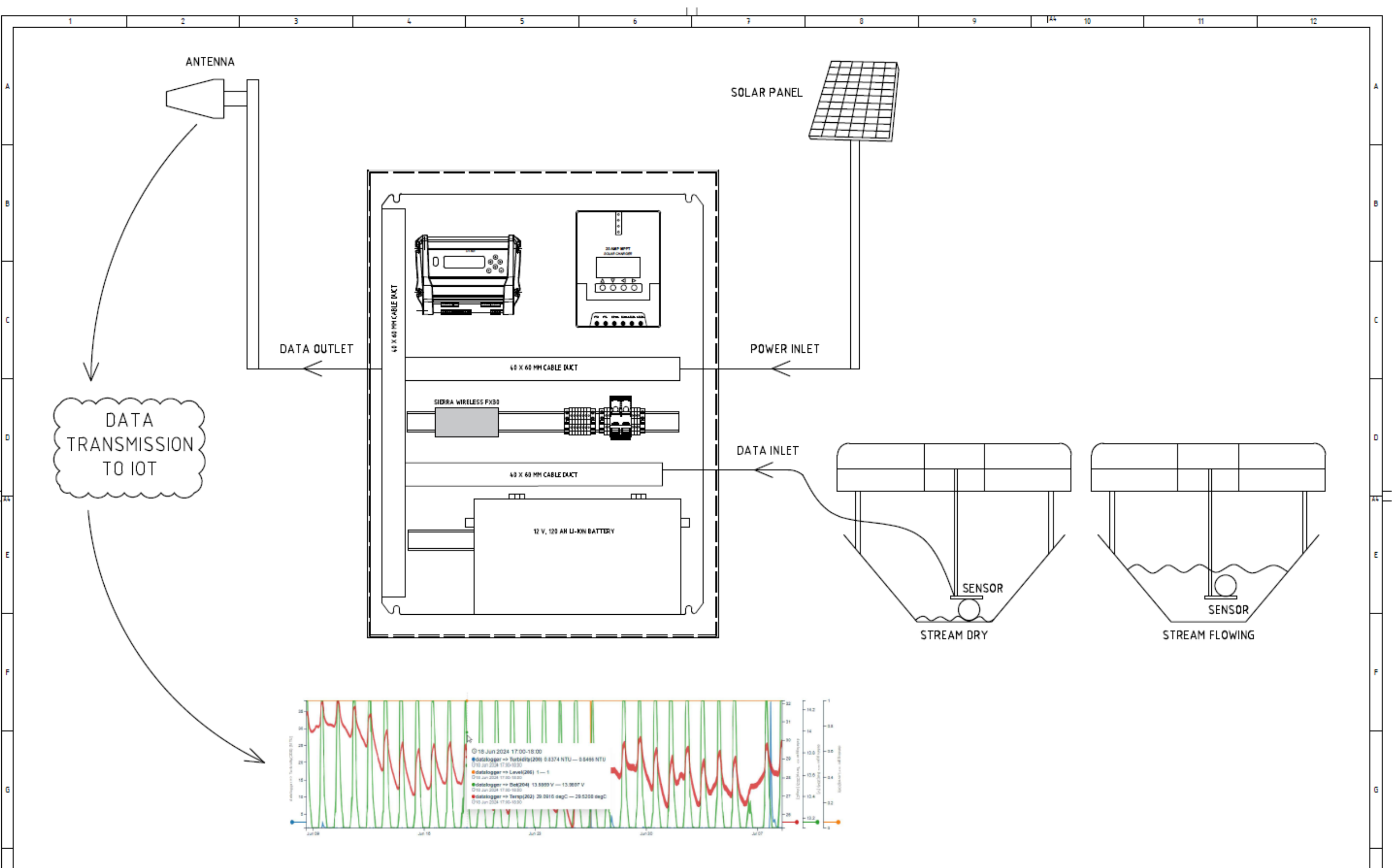
HV49T●

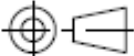
- Willowdale Turbidity Monitors
- Major Dams
- Streams
- Willowdale Mine Footprint (Section 6)

0 0.3 0.65 1.3 2 2.6

Kilometers

Appendix C WQMS General Arrangement



								 ALL DIMENSIONS IN MILLIMETRES UNO. LEVELS ARE IN METRES ON AHD UNO. DO NOT SCALE DRAWING IF IN DOUBT - ASK TOLERANCES ISO2768-m UNO. © SCIDEV	CLIENT	NSW - BUILDING G, 22 POWERS RD, SEVEN HILLS, NSW 2147 (02) 0305 5357 WA - 512, 1A QUEEN ST FREEMANTLE WA 6160 (08) 6245 9043 waterservices@scidev.com.au www.scidev.com.au		TITLE IOT TURBIDITY MONITORING STATION SITE LAYOUT GENERAL ARRANGEMENT	SHEET SIZE A3	H																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	