Schedule 1

Notification of Unauthorised Release

Operator: Tata Steel UK Ltd

Authorisation: BS3905IP

Location: Llanwern Works
Newport
South Wales
NP19 4QZ

Date Submitted: 22/02/2023

PART B

- **Further details of the release and results of any investigations carried out**

This Part B is a follow-up to the 4 x Part A Notifications for a breach of permit conditions at Llanwern W1 consent point. The breach was elevated suspended solids in effluent. Levels were in excess of 100mg/l limit. Information from external off-site influences, inlet and outlet drains and Tata weather station data was used for the investigation.

Part A - S5N 22 84A – 15th December 2022

Levels in excess of the 100 mg/l limit were recorded on the 15th December 2022, with a measured value of 1,285 mg/l (1,258 mg/l for original result and 1,312 mg/l for the retest).
This result has elevated the weekly average above the permit limit, with a weekly average of 223.57 mg/l (measured value).
The weekly average emission value was 187.57 mg/l after the 36 mg/l uncertainty of measurement was subtracted.
Results in days prior to and after the 15th December 2022:

11/12/2022: 98 mg/l
12/12/2022: 72 mg/l
13/12/2022: 34 mg/l
14/12/2022: 32 mg/l
15/12/2022: 1,285 mg/l
16/12/2022: 22 mg/l
17/12/2022: 22 mg

Elevation was around a period of dry and cold weather. 2 days prior to the breach, drain 6 outlet saw elevated suspended solids (Influenced by north drainage ditch from off-site stormwater, ground water, surface water run-off and backflow from drain 5 north and the hot mill (in mothball status)). Drain 6 outlet sample point is very deep and retrieving controlled samples can be difficult when flow and water levels are low. Wetlands saw an elevation of suspended solids on the 13th December 2022 (2 days prior to breach) and very low suspended solids on the 14th December 2022.

Information provided by environmental consultants on behalf of St Modwen's who discharge into drain 5 north, drain 2 south and drain 4 south.

	Drain 2 South SS at 105c (mg/l)	Drain 2 South TDS (mg/l)	Drain 4 South SS at 105c (mg/l)	Drain 4 South TDS (mg/l)	Drain 5 North
13th Dec 22	31	720	21	590	No sample taken
14th Dec 22	33	650	39	780	No sample taken
15th Dec 22 day of breach	22	640	no sample taken	no sample taken	No sample taken

Part A – S5N 22 87A – 24th December 2022

Levels in excess of the 100 mg/l limit were recorded on the 24th December 2022, with a measured
value of 743 mg/l (678 mg/l for original result and 808 mg/l for the retest).
This result has elevated the weekly average above the permit limit, with a weekly average of 148 mg/l (measured value).
The weekly average emission value was 112 mg/l after the 36 mg/l uncertainty of measurement was subtracted.
Results in days prior to and after the 24th December 2022 have been below the limit:

18/12/2022: 26 mg/l
19/12/2022: 30 mg/l
20/12/2022: 58 mg/l
21/12/2022: 24 mg/l
22/12/2022: 60 mg/l
23/12/2022: 98 mg/l
24/12/2022: 743 mg/l

Elevation was around a period of heavy rainfall in the days prior to the 24th December 2022. Data taken from Tata weather station and also from information provided by environmental consultants on behalf of St Modwen's (see chart below for SMD- Drain 2 field record)

Date	Tubidity	pH (hand probe)	Other visual or olfactory evidence of c	Notes on Weather conditions
19/12/2022	High Suspended Solids	8.9	High Water Level	High rainfall over three days
20/12/2022	Medium - High Suspended Solids	8.7	High Water Level	Overcast
21/12/2022	High Suspended Solids	8.73	High Water Level	Heavy rain fall
22/12/2022	High Suspended Solids	7.97	High Water Level	Misty and drizzly
23/12/2022	Medium Low Suspended Solids	8.2	High Water Level	Raining, cloudy.

Suspended solids results from drain 2,4 and 5 provided by environmental consultants on behalf of St Modwens. Data only available for the 21st December 2022 for drain 5, (3 days prior to the breach.)
Table below:drain 5

Order No:: .			Client Sample Ref.:		TATA EQS	DS-C	DS-N	DS-S	DS-C	DS-N	DS-S	DS-N	DS-C	DS-S
			Sample Type:			WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
			Date Sampled:			23/11/2022	23/11/2022	23/11/2022	08/12/2022	08/12/2022	08/12/2022	21/12/2022	21/12/2022	21/12/2022
Determinand	Accred.	SOP	Units	LOD										
pH	U	1010		N/A	10	9.30	8.60	8.00	9.30	8.30	10.00	9.0	8.0	9.7
Electrical Conductivity	U	1020	µS/cm	1		650.00	620.00	590.00	720.00	310.00	1000.00	680	760	660
Suspended Solids At 105C	U	1030	mg/l	5	50	63.00	46.00	210.00	39.00	28.00	60.00	29	62	25
Total Dissolved Solids	N	1020	mg/l	1		420.00	400.00	380.00	470.00	200.00	670.00	440	490	430

	Drain 2 South SS at 105c (mg/l)	Drain 2 South TDS (mg/l)	Drain 4 SS at 105c (mg/l)	Drain 4 TDS (mg/l)	Drain 5 North
22nd Dec 22	21	120	14	370	No sample taken
23rd Dec 22	9	380	no sample taken	no sample taken	No sample taken
24th Dec 22 day of breach	no sample taken	no sample taken	no sample taken	no sample taken	No sample taken

Suspended solids analysis from outlet drains 6, 7, 8, 9 outlets (south) and Wetlands showed no unusual results in the 2 days run up to the breach date on the 24th December.(mg/l)

	Drain 6 South	Drain 7 South	Drain 8 South	Drain 9 South	Wetlands
22nd Dec 22	100	70	32	34	26
23rd Dec 22	6	22	6	2	14

Part A – S5N 23 01A – 2nd January 2023

Levels in excess of the 100 mg/l limit were recorded on the 2nd January 2023, with a measured value of 209 mg/l (212 mg/l for original result and 206 mg/l for the retest).
The emission value was 173 mg/l after the 36 mg/l uncertainty of measurement was subtracted.
Results in days prior to and after the 2nd January 2023 have been below the limit:

29/12/2022: 70 mg/l
30/12/2022: 2 mg/l
31/12/2022: 34 mg/l
01/01/2023: 26 mg/l
02/01/2023: 212 mg/l
03/01/2023: 62 mg/l
04/01/2023: 30 mg/

Elevation was around a period of heavy rainfall in the days prior to the 2nd January 2023. Data taken from Tata weather station.

No samples were taken by environmental consultants on behalf of St Modwens in the run up to the breach on the 2nd January 2023 to enable Tata to analyse other potential influences from drain 2, 4 and 5.

Suspended solids analysis from outlet drains 6, 7, 8, 9 South and Wetlands showed no unusual results in the 2 days run up to the breach date on the 2nd January 2023. (mg/l)

	Drain 6 South	Drain 7 South	Drain 8 South	Drain 9 South	Wetlands
31st Dec 22	8	6	4	12	4
1st Jan 23	2	6	6	2	4

Part A – S5N 23 05A – 24th January 2023

Levels in excess of the 100 mg/l limit were recorded on the 24th January 2023, with a measured value of 195 mg/l (184 mg/l for original result and 206 mg/l for the retest). The emission value was 159 mg/l after the 36 mg/l uncertainty of measurement was subtracted.

Elevations was around a period of dry cold weather in the days prior to the 24th January 2023. Data taken from Tata weather station and also from information provided by environmental consultants on behalf of St Modwen's (see chart below for SMD- Drain 2 field record)

Date	Tubidity	pH (hand probe)	Other visual or olfactory evidence of contamination	Notes on Weather conditions
21/01/2023	Low Suspended Solids	8.21	Medium Water Level	Dry, clear
23/01/2023	Clear - Low turbidity	8.34	Low water level, half way up penstock pipe	Clear, frosted morning
24/01/2023	Clear - Low turbidity	8.37	Low water level, half way up penstock pipe	Clear, frosted morning

It was noted, in the days prior to the 24th January, the inlet (north) drains 6,8 & 9 from the north ditch had high elevated suspended solids (mg/l), as shown in table below. North ditch is influenced by off-site activities.

	North Inlet drains			
	Drain 6	Drain 7	Drain 8	Drain 9
21st Jan	1624	50	702	42
22nd Jan 23	4034	74	358	70
23rd Jan 23	1810	134	1128	462

Suspended solids analysis from outlet drains 6, 7, 8, 9 South and Wetlands showed no unusual results, nor results from SMD outlet drains 2 and 4 south.

	Interim results		Interim results	
	Drain 2 South	Drain 2 South	Drain 4	Drain 4
	SS at 105c (mg/l)	TDS (mg/l)	SS at 105c (mg/l)	TDS (mg/l)
22nd Jan 23	19	No data	No data	No data
23rd Jan 23	18	No data	<0.5	No data
24th Jan 23 day of breach	13	No data	9	No data

- **Measures taken or intended to be taken to prevent a recurrence of the incident**

- Continue to monitor inlet and outlet drains and offsite influences. Plans are being firmed up to de-silt lagoon 14 to increase capacity for improved settlement of suspended solids.
- Collaboration with St Modwens to increase monitoring of their discharge to the MEWD.

• **Measures taken, or intended to be taken, to: rectify, limit or prevent any pollution of the environment or harm which has been caused by the emission** • Continue to monitor inlet and outlet drains and offsite influences. Plans are being firmed up to de-silt lagoon 14 to increase capacity for improved settlement of suspended solids. • Collaboration with St Modwens to increase monitoring of their discharge to the MEWD.
- **The dates of any PART A notifications within the previous 24 months** - 24th January 2023 - Suspended Solids W1 consent point - 2nd January 2023 - Suspended Solids W1 consent point - 24th December 2022 - Suspended Solids W1 consent point - 15th December 2022 - Suspended Solids W1 consent point - 5th December 2022 – Copper W1 consent point - 25th October 2022 **–** Suspended Solids W1 consent point - 8th August 2022 – Hydrocarbons W1 consent point - 2nd June 2022 – Suspended Solids W1 consent point - 29th January 2022 – Suspended Solids W1 consent point - 21st January 2022 – Suspended Solids W1 consent point - 28th December 2021 – Failure to analyse effluent waters for a 1 day period. - 26th September 2021 – Suspended Solids W1 consent point - 29th July 2021 – Failure to analyse Mercury - 20th June 2021 – Hydrocarbons W1 consent point - 29th Dec 2020 – Suspended Solids W1 consent point

Name: [redacted]
Position: Environmental Engineer

Signature: [redacted]

[Signed on behalf of Tata Steel UK]