



Mogden Sewage Treatment Works

TW Site Inspection

Date of inspection: 17 th January 2019	
Attendees: Mr Steven Maunders and Mr Manzoor Hussein (Thames Water)	
LB Hounslow Observation	Thames Water Action / Response
<p><u>Storm Water Storage Tanks (SWST)</u></p> <p>Tank 1A – Tank empty and flushed – recently returned - approximately 25% of tank covered by grit and sludge – requires further flushing. Hoppers 2 & 3 drained down to bottom level & Hopper 1 60% full - requires draining/over-pumping.</p> <p>Tank 1B – Tank empty and flushed - approximately 10% of tank covered by grit – requires further flushing. Hoppers 1, 2 & 3 approximately 50% full - requires draining/over-pumping.</p> <p>Tank 2A – Tank empty and flushed clean. Hoppers 1, 2 & 3 approximately 75% full - requires draining/over-pumping.</p> <p>Tank 2B – Tank recently returned – approx. 20% of tank covered by grit and sludge – requires further flushing. Hoppers 1, 2 & 3 approximately 60% full - requires draining/over-pumping.</p> <p>Tank 3A – Tank empty and flushed clean. Hopper 1 approx. 20% full – requires draining/over-pumping. Hoppers 2 & 3 drained down to bottom level.</p>	

Tank 3B – Tank recently returned – approximately 50% of tank covered by grit and sludge – requires further flushing. Hopper 1 approximately 75% full – requires draining/over-pumping – Hoppers 2 & 3 drained down to bottom level.

Tanks 4A, 4B, 5A & 5B which are covered and odour controlled were all empty - unable to gauge condition as lighting system still not working.

Tank 6A – Tank empty and flushed clean. Hoppers 1 & 2 full – Hopper 3, 50 % full - requires draining/over-pumping.

Tank 6B – Tank empty and flushed - approximately 40% of tank covered by grit and sludge – requires further flushing. Hoppers 1 & 2 approximately 50% full - requires draining/over-pumping – Hopper 3 drained down to bottom level.

Tank 7A – Tank recently returned – approximately 60% of tank covered by grit and sludge – requires further flushing. Hoppers 1, 2 & 3 full – requires draining/over-pumping.

Tank 7B – Tank recently returned – approximately 50% of tank covered by grit and sludge – requires further flushing. Hoppers 1, 2 & 3 full – requires draining/over-pumping.

Tank 8A – Tank recently returned – approx. 40% of tank covered by grit and sludge – requires further flushing. Hoppers 1, 2 & 3 drained down to bottom level.

Tank 8B – Tank empty and flushed - approximately 5% of tank covered by grit and sludge – requires further flushing. Hoppers 1, 2 & 3 full - requires draining/over-pumping.

Feed Channel - The level of effluent in both feed channels was low – almost bottomed out – no local odours.

Complaints

The Council directly received no complaints by telephone in the

preceding week.

The Council directly received no complaints by email in the preceding week.

The Council received no complaints by email from MRAG.

Thames Water controller advised that they had received no direct complaints in the preceding week (although this contradicts Odour Log).

Odour Monitors

The odour readouts (H₂S) for all of the monitors, which were providing data at time of inspection:

Monitor 1	0.005	ppm	12:34
Monitor 2	0.008	ppm	12:34
Monitor 3	0.006	ppm	12:34
Monitor 4	0.006	ppm	12:34
Monitor 5	0.006	ppm	12:34
Monitor 6	0.005	ppm	12:34
Monitor 7	0.006	ppm	12:34
Monitor 8	0.006	ppm	12:34
Monitor 9	0.009	ppm	12:34
Monitor 10	0.007	ppm	12:34
Monitor 11	0.007	ppm	12:34
Monitor 12	0.006	ppm	12:34
Monitor 13	0.008	ppm	12:34
Wind Speed	4	mph	12:34
Wind Direction	68°		12:34

Odour Log (Thames) - Photocopies of log entries taken

Thursday 10th January 2019

AM – Cool – Cloudy.

All OMU's in use.

Observations/Complaints: None noted.

Operational Issues/Causes: None noted.

Actions: None noted.

PM – Cool – Overcast Night.

All OMU's in use.

Observations/Complaints: "OM3 spiked throughout the night."

Operational Issues/Causes: "OCU 11."

Actions: None noted.

Friday 11th January 2019

AM – None noted.

All OMU's in use.

Observations/Complaints: None noted.

Operational Issues/Causes: None noted.

Actions: None noted.

PM – Cold – Clear Night.

All OMU's in use.

Observations/Complaints: "OM3 multiple spikes/breaches throughout night shift. OM4 two spikes 0.016ppm & 0.015ppm. Both under 15 minutes."

Operational Issues/Causes: "OCU11 chemical dosing not in range. No odour issues overnight."

Actions: None noted.

Saturday 12th January 2019

AM – Cool – Cloudy.

All OMU's in use.

Observations/Complaints: "OM3 High all shift."

Operational Issues/Causes: "OCU 11."

Actions: None noted.

PM – Cold – Clear Night.

All OMU's in use.

Observations/Complaints: "OM3 Multiple spikes OM8 two spikes 0.020ppm 00.28-00.42 0.026 ppm 02.29-02.44."

Operational Issues/Causes: "OCU11 ongoing issues. Area investigated around monitor 8. No odour detected. First spike less than 15 minutes."

Actions: None noted.

Sunday 13th January 2019

AM – Cool – Cloudy w/Sunny Spells.

All OMU's in use.

Observations/Complaints: "OM 3."

Operational Issues/Causes: "OCU11."

Actions: None noted.

PM – Cool – Clear Night.

All OMU's in use.

Observations/Complaints: "OM3 spikes throughout night shift. OM8 five spikes throughout shift. 4 under 15 minutes. One breach 0.049ppm 04.13-04.43."

Operational Issues/Causes: "OCU11 ongoing issues Odour detected around monitor 8 from PAS area. Unable to identify exact source of odour. No sludge spills in area and no signs of sludge overflow from heat exchangers or reactors. OCU 12 running normally. Low odour from stack 0.3ppb."

Actions: None noted.

Monday 14th January 2019

AM – Cool – Sunny w/Patchy Clouds.

All OMU's in use.

Observations/Complaints: "OM3 Spiking throughout shift, max 0.028ppm. OM4 Spiking at 1645-1659 max 0.022, OM8 spiked multiple times during shift, max 0.051 ppm."

Operational Issues/Causes: "OCU 11 not performing."

Actions: "Odour investigation carried out in Pasteurisation/thickening area."

PM – Cold – Clear Night.

All OMU's in use.

Observations/Complaints: "OM3 Spiking throughout shift, max 0.030ppm OM5 one spike peaked 0.037ppm. Less than 15 minutes."
Operational Issues/Causes: "OCU11 issues. No odour detected in area."
Actions: None noted.

Tuesday 15^h January 2019

AM – Cool – Cloudy.

All OMU's in use.

Observations/Complaints: "OM3 Spiking all shift, max 0.33ppm, OM 5 spiked at 0747 but <15 mins duration max 0.026 ppm."

Operational Issues/Causes: "OCU 11 Not Performing."

Actions: "Reported."

PM – Warm – Cloudy.

All OMU's in use.

Observations/Complaints: "OM3 Showing odour 0.032 @ 02:00 onward".

Operational Issues/Causes: "OCU 11 issues."

Actions: None noted.

Wednesday 16th January 2019

AM – Cold – Rain.

All OMU's in use.

Observations/Complaints: "OM3 Spiking all shift until 1600 max 0.026, OM8 spiking 1544-59 max 0.028."

Operational Issues/Causes: "OCU 11 issues."

Actions: None noted.

PM – Cold – Overcast Night.

All OMU's in use.

Observations/Complaints: "OM5 00.30 TILL 01:00 MAX 0.036."

Operational Issues/Causes: "Pas smelling."

Actions: None noted.

Sludge Dip Records

Date	West PSTs 1	West PSTs 2	West PSTs 3	West Total	East PSTs	Grand Total
	All units in m ³					
OMP limit	500					
14/01/19	135	1963	244	2342	3267	5609
15/01/19	88	1007	328	1423	2233	3656
16/01/19	59	1922	206	2187	2418	4605

The sludge stock levels for the West side circular primary settlement tank 1 were **compliant** with the OMP trigger level (500m³) for all of the dates for which data has been provided.

There are no limits for the East side primary settlement tanks as these are covered and odour controlled. Thames is required by the terms of the abatement notice agreed in 2005 to notify LBH on the next working day of any such exceedance and notify LBH within three working days of any appropriate remedial measure taken.

Digesters

Digesters 1-4 – Out of use (permanent) – noticeable quantity of water accumulated to the brim of these tanks which is thick with algae – requires draining. Long term project currently initiated to bring these units back into service – will require significant investment.

Digester 5 - in use – seal level approx. 2ft below coping stones – good seal – evidence of recent spill – requires anti-foam and clean-up.

Digester 6 - in use – seal level approx. 2ft below coping stones – seal weak and bubbling.

Digester 7 - in use – seal level approx. 2ft below coping stones – seal weak and bubbling - Ongoing spitting/spill – requires anti-foam and clean-up – Bell height high – requires draw down of biogas.

Digester 8 – in use – seal level approx. 2ft below coping stones – seal weak and bubbling – evidence of recent spill – requires anti-foam and clean-up.

Digester 9 - in use – seal level approx. 1ft below surface of coping stones – seal weak and bubbling. Ongoing spitting/spill – requires anti-foam and clean-up.

Digester 10 – in use – seal level approx. 1ft below surface of coping stones – seal weak and bubbling – evidence of recent spill – requires anti-foam and clean-up – Bell height high – requires draw down of biogas.

Digester 11 - in use – seal level approx. 1ft below surface of coping stones – seal weak and bubbling– evidence of recent spill – requires anti-foam and clean-up.

Digester 12 - in use – seal level approx. 1ft below coping stones – seal weak and bubbling.

Digester 13 - out of use – empty and clean – contractor on site undertaking maintenance.

Digester 14 - out of use – empty and clean – contractor on site undertaking maintenance.

Digester 15 - out of use – empty and clean – contractor on site undertaking maintenance

Digester 16 - out of use – empty and clean – contractor on site undertaking maintenance.

Digester 17 - in use – seal level approx. 3ft below coping stones – seal weak and bubbling.

Digester 18 - in use – seal level approx. 3ft below coping stones – seal weak and bubbling.

Digester 19 - in use – seal level approx. 2ft below coping stones – seal

weak and bubbling.

Digester 20 - in use – seal level approx. 3ft below coping stones – good seal.

GENERAL

Sludge Screening House

All doors open at time of inspection – TW advised that this is a Management decision to improve internal working environment for staff – odour monitors deployed in vicinity to determine whether local odours increase as a consequence.

Imported Sludge

Estimated average of ten imports daily for preceding seven days.

Final Settlement Tanks East Side of Works

The 8 circular tanks previously used as PSTs are now being used as final tanks (71-78). Green Algae on 100% of surface of Tanks 73 & 74.

Skips

1x large enclosed skip containing waste metals and 1x large open general waste skip located in Service Road by Storm Water Tanks.

1x partially filled small grit slips by Sludge Screening House.

1x open skip in use for transfer materials from mobile screening plant located by Pasteurisation Plant.

2x large enclosed grit/rag skips located by PST's 9-12 – elevated at one end to drain liquid from within as exceed safe carriage weight for vehicles – advised that management of fluids draining from within requires improvement as currently ponding within areas of broken hard-

standing where currently located.

1x Enclose general waste skip in service road by Power House.

2x General waste skips in service road at rear of Sludge Screening House.

East Side Raw Sludge Screen House

Doors closed at time of inspection.

West side primary settlement tanks (PST)

Rectangular PSTs – no issues

Circular PST's 9, 10, 11 & 12 all in use. Currently installing trial of odour control "mistlers" on Tank 10 – pipe installed around tank top tail with nozzle sprays at regular intervals which can be utilised to create a plume of deodoriser (same as current mobile units on site) – intention to roll this out to all "odorous areas" on site if proves effective during trial period – initial testing has proven successful to date – trial ongoing.

Pasteurisation Plant

Pasteurisation plant 4/7/9 currently out of service - All remaining pasteurisation plant in service and fully operational.

West Side Aeration Lanes (Old)

Battery C aeration feed channel approximately 25% obstructed in one channel – requires jetting.

New Works (West Side)

Feed Channel for Aeration Lanes 21-24 obstructed and requires jetting.

"Fluffy" coverage across surface returned across 100% of tank –

thickened up so as to obscure internal dividing walls within tank.

Odour Control Unit (OCU) performance monitoring – (15/01/19)

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station inlet	0.01 0.01 0.01	Unknown	Unknown
Main pumping station outlet	0.00 0.00 0.00	0.2	Yes
East OCU	0.00 0.00 0.00	0.05	Yes
West inlet OCU	0.00 0.00 0.00	0.05	Yes
Sludge reception inlet	No data	Unknown	Unknown
Sludge reception outlet	No data	0.8	Yes
Thickening plant inlet	No data	Unknown	Unknown
Thickening plant outlet	0.00 0.00 0.00	0.6	Yes
Transfer PS inlet	No Data	Unknown	Unknown
Transfer PS outlet	0.00 0.00 0.00	0.6	Yes
New West inlet (OCU 11)	0.00 0.00 0.00	0.5	Yes
OCU 12 (Pasteurisation Plant)	0.00 0.00 0.00	0.5	Yes