



London Borough of Hounslow

Mogden Sewage Treatment Works

TW Site Inspection

Date of inspection: Thursday 29 th August 2019 (9:15am)	
Attendees: Mr I Inman (London Borough of Hounslow) and Mr D Chowin (Thames Water)	
LB Hounslow Observation	Thames Water Action / Response
<p><u>Storm Water Storage Tanks (SWST)</u></p> <p>Tank 1A was dry empty and clean. Hoppers 1, 2 & 3 were all approx 30% full and required further draining down.</p> <p>Tank 1B was dry empty and clean. Hoppers 1 & 2 were both approx 25% full, hopper 3 was approx 50% full, all required further draining down.</p> <p>Tank 2A was mostly empty and clean but had grit at the hopper end of the tank. Hoppers 1, 2 & 3 were all full, all required draining down.</p> <p>Tank 2B was mostly empty and clean except for surface grit at the far end of the tank. Hoppers 1, 2 & 3 were all approx 30% full and required draining down.</p> <p>Tank 3A was mostly empty and clean except for surface grit at the far end of the tank. Hoppers 1, 2 & 3 were all approx 25% full and required draining down.</p> <p>Tank 3B was mostly empty and clean except for surface grit along the left side of the tank. Hoppers 1, 2 & 3 were all approx 50% full and</p>	

required draining down.

Tanks 4A, 4B, 5A & 5B All tanks are covered and odour controlled. Unable to gauge condition as lighting system still not working.

Tank 6A was dry empty and clean. Hopper 1 was full, hoppers 2 & 3 were both 50% full and required draining down.

Tank 6B was dry empty and clean. Hoppers 1, 2 & 3 were all approx 25% full and all required draining down.

Tank 7A was dirty with grit and sludge across 25% of the tanks surface at the hopper end. Hoppers 1, 2 & 3 (shallow hoppers) were all full of grit and black sludge that required cleaning, the hoppers were noticeably odourous.

Tank 7B was dirty with grit and sludge across 50% of the tanks surface at the hopper end. Hoppers 1, 2 & 3 (shallow hoppers) were all full of grit and black sludge that required cleaning, the tank and hoppers were noticeably odourous.

Tank 8A was dry, empty and clean. Hopper 1 was full, hoppers 2 & 3 were both 70% full, all required draining down.

Tank 8B was mostly empty and clean but had grit at the hopper end of the tank. Hoppers 1, 2 & 3 were all full and required draining down.

Feed Channel - The level of effluent in both feed channels was low along its entire length.

Thames advised of planned works to replace all of the hopper valves to prevent back flow of effluent, Scheduled to begin towards the end of April and lasting approx 3 months.

They are still also awaiting parts in order to bring the wash water pump system back into operation.

Complaints

The Council has received no complaints in the preceding week.

Odour Monitors

The odour readouts (H₂S) for all of the monitors, which were providing data at time of inspection: Thursday 29th August 2019 at 10:17.

Monitor 1	0.004	ppm	10:17
Monitor 2	0.003	ppm	10:17
Monitor 3	0.004	ppm	10:17
Monitor 4	0.003	ppm	10:17
Monitor 5	0.004	ppm	10:17
Monitor 6	0.003	ppm	10:17
Monitor 7	0.004	ppm	10:17
Monitor 8	0.006	ppm	10:17
Monitor 9	0.003	ppm	10:17
Monitor 10	0.000	ppm	10:17
Monitor 11	0.000	ppm	10:17
Monitor 12	0.004	ppm	10:17
Monitor 13	0.000	ppm	10:17
Wind Speed	1.495	mph	10:17
Wind Direction	257.213	°	10:17

Odour Log (Thames)

Wednesday 21st August 2019

DAY SHIFT

Temp. Warm.

Weather. Sunny.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. No odour issues.

Operational issues / causes observed. Blank.

Actions Taken. Blank.

NIGHT SHIFT

Temp. Cool.

Weather. Clear night.

Odour Readings. All OMU's in operation.

Time: 05:30.

Observations / Customer Complaint. OM2 0.015 at 19:50-20:27 to 0.06 at 00:41-01:02.

Operational issues / causes observed. East inlet area checked, no odours found.

Actions Taken. Blank.

Thursday 22nd August 2019

DAY SHIFT

Temp. Warm.

Weather. Sunny w/patchy clouds.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. OM2 0.066ppm 13:18-13:42, 0.027ppm 14:31-14:52.

Operational issues / causes observed. No odour identified after site walk around.

Actions Taken. Blank.

NIGHT SHIFT

Temp. Cool

Weather. Clear night.

Odour Readings. All OMU's in use.

Time: 05:30.

Observations / Customer Complaint. OM2 0.015 at 02:33-03:24.

Operational issues / causes observed. East inlet area checked, no odours found.

Actions Taken. Blank.

Friday 23rd August 2019

DAY SHIFT

Temp. Hot.

Weather. Sunny.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. OM2 0.016ppm 11:38-11:53.
0.016ppm at 13:27-13:33. 0.022ppm at 14:55-15:07.

Operational issues / causes observed. Multi spikes from monitor 2
<15 minutes duration. No odours found.

Actions Taken. Blank.

NIGHT SHIFT

Temp. Warm.

Weather. Clear night.

Odour Readings. All OMU's in operation.

Time: 22:00.

Observations / Customer Complaint. OM2 0.017ppm at 21:15 <15
minutes and 0.083ppm at 00:00 < 15 minutes.

OM10 max 0.025ppm 04:35

Operational issues / causes observed. Customer complaint from
Weavers Close. Area checked at all inlets Tech 1. No obvious odours
detected.

Actions taken. Inlet area washed down as a matter of course.

Saturday 24th August 2019

DAY SHIFT

Temp. Hot.

Weather. Sunny.

Odour Readings. All OMU's in operation.

Time: 17:45.

Observations / Customer Complaint. OM10 0.016ppm 06:00-07:50.
OM2 0.025ppm 15:37-16:06.

Operational issues / causes observed. East inlet and digester area
checked. No odour identified.

Actions Taken. Blank.

NIGHT SHIFT

Temp. Warm.

Weather. Clear night.

Odour Readings. All OMU's in operation.

Time: 05:30.

Observations / Customer Complaint. OM3 0.021ppm 22:21-23:03.
OM5 0.02ppm 21:42-00:26.

OM11 0.021ppm 23:31-01:15.

Operational issues / causes observed. Sludge spill in sludge

thickening area No3 drum feed pump.
Actions Taken. Area cleaned up by Sludge Tech 1, pump isolated.

Sunday 25th August 2019

DAY SHIFT

Temp. Hot.

Weather. Sunny.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. OM11 0.019ppm 06:01-07:00.

Operational issues / causes observed. No odour detected in Digester area.

Actions Taken. Blank.

NIGHT SHIFT

Temp. Warm.

Weather. Clear night.

Odour Readings. All OMU's in operation.

Time: Blank.

Observations / Customer Complaint. OM3 max 0.055ppm 00:34-01:20.

OM4 max 0.044ppm 23:54-00:56.

OM5 max 0.062ppm multiple through shift.

OM8 max 0.034ppm 00:34-01:08.

Operational issues / causes observed. Area checked around main drive, powerhouse and digester area and no obvious odours detected.

Actions Taken. Blank.

Monday 26th August 2019

DAY SHIFT

Temp. Very hot.

Weather. Sunny.

Odour Readings. All OMU's in operation.

Time: 17:00.

Observations / Customer Complaint. OM2 max 0.018ppm 16:06-16:23.

OM1 trend stopped working 12:00-16:11.

Operational issues / causes observed. East inlet works checked and no abnormal odours detected.

Actions Taken. Blank

NIGHT SHIFT

Temp. Warm.

Weather. Clear night.

Odour Readings. All OMU's in operation.

Time: Blank.

Observations / Customer Complaint. OM2 max 0.051ppm 20:51-00:23.

OM5 max 0.075ppm 20:42-04:42.

OM10 max 0.03ppm 03:04-03:34.

Operational issues / causes observed. Area checked, East inlet washed down by Tech 1, no odours detected in area.

Actions Taken. Blank.

Tuesday 27th August 2019

DAY SHIFT

Temp. Very hot.

Weather. Sunny.

Odour Readings. All OMU's in operation.

Time: 17:30.

Observations / Customer Complaint. No odour issues.

Operational issues / causes observed. Blank.

Action Taken. Blank.

NIGHT SHIFT

Temp. Warm.

Weather. Clear night.

Odour Readings. All OMU's in operation.

Time: 05:30.

Observations / Customer Complaint. OM8 spiked <15 minutes 03:5404:05.

Operational issues / causes observed. No odour detected on site.

Actions Taken. Blank.

Wednesday 28th August 2019

DAY SHIFT

Temp. Hot.

Weather. Sunny w/patchy clouds.

Odour Readings. All OMU's in operation.

Time: 05:30.

Observations / Customer Complaint. OM2 max 0.037ppm 08:30-10:15.

Operational issues / causes observed. Blank.

Action Taken. East E, C inlets hosed down. No:7A storm tank pumped out.

NIGHT SHIFT

Temp. Cool.

Weather. Clear night.

Odour Readings. All OMU's in operation.

Time: 05:30.

Observations / Customer Complaint. OM2 0.022ppm 19:39-19:51, 0.021ppm 23:24-23:34, 0.029ppm 22:23-22:39.

OM8 0.015ppm 04:53-05:06.

Operational issues / causes observed. East inlet checked. Confirmed all hatches and doors closed. No odour detected. Occasional odour from PAS area detected. No sludge spills or venting from heat exchangers or reactors.

Actions Taken. Blank.

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					
21/08/2019	0	389	61	450	2603	3053
23/08/2019	39	0	740	779	1601	2380
28/08/2019	0	618	183	801	1568	1648
					1398*	2199*

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.

***Incorrect total entered on Thames Water paperwork**

Imported Sludge

There have been 20 imports of sludge over the last week (10 on Friday 23rd & 10 on Wednesday 28th August).

No.5 Pumping Station

The doors and windows of No.5 pumping station were closed at the time of the inspection.

Raw Sludge Screening House

The large roller shutter door of the Raw Sludge Screening building was open at the time of the inspection due to ongoing maintenance.

Digesters

Digesters 1-4 Out of use (permanent). Thames advised of a long term project currently initiated to bring these units back into service that will require significant investment.

Digesters 5 & 6 were both in use and had wet seals with only minimal gas bubbling off.

Digester 7 was out of service.

Digester 8 was in service but had a wet seal that was bubbling off gas. It was also noted that the bell was very high and the seal was less than 40cm below the top of the coping stone.

Digesters 9, 10, 11 & 12 were all in use but had wet seals that were all bubbling off gas. It was also noted that the bells of Digesters 9 & 10 were both very high.

Digester 13 was in service and had a wet seal that was bubbling off gas. It was also noted that the bell was very high and the seal was less than 50cm below the top of the coping stone.

Digesters 14 & 15 were out of service.

Digesters 16 & 17 were both in use but had wet seals that were bubbling off gas.

Digester 18 was out of service.

Digesters 19 & 20 were both in use but had wet sloppy seals that were bubbling off gas.

There was evidence of anti-foaming agent in use and TW advised that this is applied daily to all of the digesters that are operational.

GENERAL

Final Settlement Tanks East Side of Works

The 8 circular tanks previously used as PSTs are now being used as final tanks (71-78).

All tanks were operational at the time of the inspection but green algae was evident across large areas of tanks 75, 76 & 78.

Skips

On the East side there was one 20yds open bulk carrier that contained general inert rubbish (wooden crates). Also present were two open 8yd skips. One contained general non-inert rubbish and one was approx 25% full of rag and covered with a tarpaulin.

Also present was a closed 14yds contained

In the area next to STW 1A there was an open 14yds skip that contained scrap metal pumps.

On the West side there were no skips.

East Side Screen House

The doors to the screen house building were closed at the time of the inspection. TW advised all screens were operational but only 3, 5 & 6 were being used.

Return Activated Sludge Channel

The nearside RAS channel (which runs in the ground between FST's 61-64 & 65-67) was clogged along 50% of the nearside channel.

Very small insects were clearly visible on top of crusty sections of the blockage.

TW were advised this needed to be rectified to avoid potential insect problems.

West Side Aeration Lanes (Old)

It was noted that lanes 17 & 18 had large floating deposits on the tanks surface that appeared to be hindering the process?

West side primary settlement tanks (PST)

Rectangular PSTs are now covered and odour controlled. TW advised no issues.

Circular PSTs 9 & 12 were both out of service.

PST10 had surface scum/fat across 25% of the tanks surface.

The new odour suppression system around the perimeter of PST-10 is currently out of operation due to a faulty water main.

Pasteurisation Plant

The pasteurisation plant is in service. TW advised 4 streams (8, 9, 10 & 12) were out of service.

Section 106 agreement

There have been no breaches of the s106 agreement in the last week.

West Side Aeration Lanes (New)

All of the aeration tanks were much improved. The tops of the internal dividing walls were clearly visible and liquid inside the tanks appeared free flowing.

Nearly all of the sprinklers appeared to be in operation.

The mixed liquor feed channel serving E-Battery was clear of debris and free flowing along its entire length.

TW advised a tanker crew is regularly on site undertaking clearance of any clogged areas and Celvac was on site at the time of the inspection doing so.

New Inlet Works (West Side)

There appeared to be a problem with wash-pacter 13 that had no bulk contained attached.

Odour Control Unit (OCU) performance monitoring: 27/08/2019

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station inlet	0.256 0.252 0.236	Unknown	Unknown
Main pumping station outlet	0.00 0.00 0.00	0.2	Yes
East OCU	7.64ppb 8.20ppb 8.18ppb	0.05	No
West inlet OCU	4.88ppb 4.28ppb 4.34ppb	0.05	Yes
Sludge reception inlet	0.00ppb 0.00ppb 0.00ppb	Unknown	Unknown
Sludge reception outlet	0.00ppb 0.00ppb 0.00ppb	0.8	Yes
Thickening plant inlet	O/S	O/S	O/S
Thickening plant outlet	O/S	O/S	O/S
Transfer PS inlet	0.126 0.148 0.140	Unknown	Unknown
Transfer PS outlet	0.00 0.00 0.00	0.6	Yes

New West inlet (OCU 11)	4.90	0.5	Yes
	4.71		
	4.71		
Pasteurisation (OCU 12)	0.00	0.5	Yes
	0.00		
	0.00		