



**Mogden Sewage Treatment Works**

**TW Site Inspection**

<b>Date of inspection:</b> Friday 26 <sup>th</sup> July 2019 (08:00am)	
<b>Attendees:</b> Mr I Inman (London Borough of Hounslow) and Mr W Janjua & Ms E Philogene (Thames Water)	
<b>LB Hounslow Observation</b>	<b>Thames Water Action / Response</b>
<p><b><u>Storm Water Storage Tanks (SWST)</u></b></p> <p><b>Tank 1A</b> was empty but had dry crust across 30% of the tanks surface (hopper end). Hopper 1 was approx 50% full, hopper 2 was &gt;30% full and hopper 3 was 25%, all required draining down.</p> <p><b>Tank 1B</b> was empty and clean. Hoppers 1 &amp; 2 were both empty, hopper 3 was 25% full and required draining down.</p> <p><b>Tank 2A</b> was empty and clean. Hopper 1 was &gt;70% full, hoppers 2 &amp; 3 were both 50% full, all required draining down.</p> <p><b>Tank 2B</b> was empty and clean except for surface grit at the far end of the tank. Hoppers 1 &amp; 2 were both 50% full, hopper 3 was &gt;30% full, all required draining down.</p> <p><b>Tank 3A</b> was empty and clean. Hoppers 1 &amp; 2 were both approx 30% full, hopper 3 was 50% full, all required draining down.</p> <p><b>Tank 3B</b> was empty and clean. Hoppers 1 &amp; 3 were both 50% full, hopper 2 was &gt;30% full, all required draining down.</p>	

**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 empty and clean. Hoppers 1, 2 & 3 were all >25% full, all required draining down.

**Tank 6B** was empty and clean. Hoppers 1, 2 & 3 were all drained down to their lowest point.

**Tank 7A** was dirty with grit and sludge across 50% of the tanks surface. Hoppers 1, 2 & 3 (shallow hoppers) were all full of grit and black sludge that required cleaning.

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

**Tank 8A** was dirty with grit and sludge across 50% of the tanks surface. Hoppers 1, 2 & 3 were all full and overflowing, all required draining down.

**Tank 8B** was dirty with grit and sludge across 50% of the tanks surface. Hoppers 1, 2 & 3 were all >70% full, all required draining down.

**Feed Channel** - The level of effluent in both feed channels was low along its entire length. However, there was thick scum and sludge on the surface along large sections of the channel.

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.

### **Complaints**

The Council has received 2 complaints by Email (1 from MRAG) in the preceding week.

On 22<sup>nd</sup> July at 11:58am an Email complaint was received from MRAG stating “horrendous odour during the weekend”. No specific times mentioned other than to say residents were driven to contact TW on 21<sup>st</sup> July at 21:04.

On 23<sup>rd</sup> July at 13:00 an Email was received from MRAG, that has been sent to them at 19:17 on 22<sup>nd</sup> July from resident of Weavers Close, Isleworth. The email stated odour had been bad over the weekend.

The historic odour monitor trends showed no excessive spikes around the times stated in the emails. However, Thames Water advised a gear box fault on PST10 had led to a build-up of sludge & crust on the tanks surface that may have been the possible cause of odour complaints.

**Odour Monitors**

The odour readouts (H<sub>2</sub>S) for all of the monitors, which were providing data at time of inspection: Friday 26<sup>th</sup> July 2019 at 07:52.

Monitor 1	0.006	ppm	07:52
Monitor 2	0.005	ppm	07:52
Monitor 3	0.000	ppm	07:52
Monitor 4	0.000	ppm	07:52
Monitor 5	0.000	ppm	07:52
Monitor 6	0.000	ppm	07:52
Monitor 7	0.000	ppm	07:52
Monitor 8	0.000	ppm	07:52
Monitor 9	0.000	ppm	07:52
Monitor 10	0.000	ppm	07:52
Monitor 11	0.000	ppm	07:52
Monitor 12	0.000	ppm	07:52
Monitor 13	-0.003	ppm	07:52
Wind Speed	3.474	mph	07:52
Wind Direction	204.906	°	07:52

**Odour Log (Thames)**

**Thursday 18<sup>th</sup> July 2019**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Cloudy w/sunny spells.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** OM2 spiked between 07:20-07:34, max 0.023ppm <15mins duration.

**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.** OM5 0.018ppm 01:09-01:24, 0.017ppm 02:39-02:54.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Occasional odour detected from PAS area. Tom has checked water traps on the overflows for the reactors and heat exchangers. No spills.

**Friday 19<sup>th</sup> July 2019**

**DAY SHIFT**

**Temp.** Cool.

**Weather.** Rain.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** OM2 spiked at 11:37-11:47, max 0.20ppm <15mins duration.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Rain.

**Odour Readings.** All OMU's in use.

**Time:** 05:30.

**Observations / Customer Complaint.** OM2 0.015ppm at 01:44-02:01.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

**Saturday 20<sup>th</sup> July 2019**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Sunny w/patchy clouds.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** Blank.

**Operational issues / causes observed.** No odours found or reported.

**Actions Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Overcast night.

**Odour Readings.** All OMU's in operation.

**Time:** Blank.

**Observations / Customer Complaint.** Blank.

**Operational issues / causes observed.** No odours found or reported.

**Actions taken.** Blank.

**Sunday 21<sup>st</sup> July 2019**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Cloudy w/sunny spells.

**Odour Readings.** All OMU's in operation.

**Time:** 17:30.

**Observations / Customer Complaint.** OM1 spiked between 15:11-15:43, max 0.019ppm.

**Operational issues / causes observed.** Returning storm tanks.

**Actions Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Cool.

**Weather.** Overcast night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** No odour issues.  
**Operational issues / causes observed.** Blank.  
**Actions Taken.** Blank.

**Monday 22<sup>nd</sup> July 2019**

**DAY SHIFT**

**Temp.** Very not.

**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.** Hot.

**Weather.** Clear night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** Blank.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

**Tuesday 23<sup>rd</sup> July 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.

**Actions Taken.** Blank

**NIGHT SHIFT**

**Temp.** Hot.

**Weather.** Clear night.

**Odour Readings.** All OMU's in operation.

**Time:** 05:30.

**Observations / Customer Complaint.** OM5 spiked at 23:11 but <15mins duration max 0.015ppm. OM2 spiked at 02:50-03:04 <15mins

duration, max 0.026ppm.

**Operational issues / causes observed.** Blank.

**Actions Taken.** Blank.

**Wednesday 24<sup>th</sup> July 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.** OM2 spiked very briefly at 21:00, max 0.015ppm.

**Operational issues / causes observed.** Blank.

**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 <sup>3</sup>					
OMP limit	500					
21/07/2019	0	595	61	656	3074	3730
22/07/2019	39	1091	0	1130	456	1586
23/07/2019	20	661	305	986	2737	3723

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.

### **Imported Sludge**

There have been 30 imports of sludge over the last week.  
10 on Sunday 21<sup>st</sup>, 10 on Monday 22<sup>nd</sup> & 10 on Tuesday 23<sup>rd</sup> July.

### **No.5 Pumping Station**

The doors and windows of No.5 pumping station were open at the time of the inspection but no odour was present.

### **Raw Sludge Screening House**

The large roller shutter door of the Raw Sludge Screening building was closed at the time of the inspection.

### **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 good dry crusty seals.

**Digester 7** was in use and had a wet sloppy seal that was bubbling off small amounts of gas. The bell was high and there was evidence of an overflow and spitting by the gas mixing compressor.

**Digester 8** was in use and had a good dry seal.

**Digester 9** was in use and had a fairly dry seal.

**Digester 10** was out of service.

**Digesters 11 & 12** were both in use and had a fairly dry seals.

**Digester 13** was in use but had a very high seal that was wet and sloppy and bubbling off large amounts of gas.

**Digesters 14, 15 & 16** were all out of service.

**Digesters 17 & 18** were both in use and had good dry seals.

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

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.

The area around all digesters was much improved with no evidence of recent or historical sludge spills. Thames advised they have been actively undertaking regular clean-ups of this area of the works.

**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 the tanks surfaces.

### **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 was empty and one was approx 25% full but covered with a tarpaulin.

In the area next to STW 1A there was an open 8yd skip that contained large pieces of hardcore.

On the West side there was one 40yds closed bulk contained that was empty.

### **East Side Screen House**

The doors to the screen house building were all closed at the time of the inspection. TW advised all screens were in operation.

### **Return Activated Sludge Channel**

The nearside RAS channel (which runs in the ground between FST's 61-64 & 65-67) was clogged along 70% 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 primary settlement tanks (PST)**

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

Circular PSTs 10, & 12 were both out of service, PST 10 was being hosed down and cleaned at the time of the inspection.  
PST's 9 & 11 were both in use and had fat free surfaces.  
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 5 streams were currently 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)**

No issues appeared evident at the new inlet works.

**Odour Control Unit (OCU) performance monitoring: 23/07/2019**

<b>Plant</b>	<b>Reading (ppm)</b>	<b>Action Level (ppm)</b>	<b>Compliant</b>
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	Blank	Unknown	Unknown
Sludge reception outlet	Blank	0.8	Yes
Thickening plant inlet	Blank	O/S	O/S
Thickening plant outlet	0.00 0.00 0.00	O/S	O/S
Transfer PS inlet	Blank	Unknown	Unknown
Transfer PS outlet	0.01 0.01 0.00	0.6	Yes
New West inlet (OCU 11)	0.00 0.00 0.00	0.5	Yes
Pasteurisation (OCU 12)	0.00 0.00 0.00	0.5	Yes