



**Mogden Sewage Treatment Works**

**TW Site Inspection**

**Date of inspection:** Wednesday 5<sup>th</sup> August 2020 (12:00am)

**Attendees:** Mr Z.Kadri (London Borough of Hounslow) and Ms C Page (Thames Water)

**LB Hounslow Observation**

**Thames Water Action / Response**

**Storm Water Storage Tanks (SWST)**

**Tank 1A** was empty and clean however slight grit across the surface at hopper end. Hoppers 1, 2 and 3 were all full and required draining down. Effluent back filling through cracks - observed

**Tank 1B** was empty and clean however slight grit across the surface at hopper end. Hoppers 1, 2 and 3 were all full and required draining down.

**Tank 2A** was empty and clean however slight grit across the surface at hopper end. Hoppers 1, 2 and 3 were all full and required draining down.

**Tank 2B** was empty and clean however slight grit across the surface at hopper end. Hoppers 1, 2 and 3 were all full and required draining down.

**Tank 3A** was empty and clean however slight grit across the surface at hopper end. Hoppers 1, 2 and 3 were all full and required draining down.

**Tank 3B** was empty and clean however slight grit across the surface at hopper end. Hoppers 1, 2 and 3 were all full and 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 empty and clean however slight grit across the surface at hopper end. Hoppers 1, 2 and 3 were all full and required draining down.

**Tank 6B** was empty and clean however slight grit across the surface at hopper end. Hoppers 1, 2 and 3 were all full and required draining down.

**Tank 7A** was empty and clean however slight grit across the surface at hopper end. Hoppers 1, 2 and 3 were all full and required draining down. (shallow hoppers).

**Tank 7B** was empty and clean however slight grit across the surface at hopper end. Hoppers 1, 2 and 3 were all full and required draining down. (shallow hoppers).

**Tank 8A** was empty and clean. Hoppers 1, 2 and 3 were all full of stagnant green algae water and require draining down. TW advised all 3 hoppers are currently blocked.

**Tank 8B** was empty and clean. Hoppers 1, 2 and 3 were all full of stagnant green algae water and require draining down. TW advised all 3 hoppers are currently blocked.

**Feed Channel** - The level of effluent in both feed channels was low and murky along its entire length. Some deposits of fat across the surface

### **Complaints**

The Council received One complaint by telephone in the preceding week.

On the 2<sup>nd</sup> of August 2020 at approx. 14:30 a complaint was received via the Council's call centre from a resident of Steele Road, Isleworth (ref: A02536).The complainant confirmed at 14:59 that that the strong odour was apparent. A monitoring visit was made by the on call duty officer at 15:36 to undertake an odour assessment and H2S reading. There was

no nuisance witnessed by the attending officer and the H2S levels were reading at 0.00ppm between 15:36pm - 16:07pm.

I was unable to gain access to historic monitoring trends for the time stated in the complaint as two out of the four monitors were out of operation.

**Odour Monitors**

The odour readouts (H<sub>2</sub>S) for all monitors that were providing data at the time of the inspection are below:

Monitor 1	0.000	ppm	12.11pm
Monitor 2	0.004	ppm	12.11pm
Monitor 3	0.000	ppm	12.11pm
Monitor 4	0.000	ppm	12.11pm
Monitor 5	0.000	ppm	12.11pm
Monitor 6	0.004	ppm	12.11pm
Monitor 7	0.000	ppm	12.11pm
Monitor 8	0.000	ppm	12.11pm
Monitor 9	0.003	ppm	12.11pm
Monitor 10	0.004	ppm	12.11pm
Monitor 11	0.000	ppm	12.11pm
Monitor 12	0.000	ppm	12.11pm
Monitor 13	0.000	ppm	12.11pm
Wind Speed	207.761	mph	12.11pm
Wind Direction	13.361		12.11pm

**Odour Log (Thames)**

**Thursday 30<sup>th</sup> July 2020**

**DAY SHIFT**

**Temp.** Hot

**Weather.** Sunny.

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

**Time:** 17:30.

**Observations / Customer Complaint.** OM2 spiked at 10:50-11:07 maximum 0.030ppm.

**Operational issues / causes observed.** East inlet area has skip juice present around the skip.

**Actions Taken.** Area around skips hosed down.

**NIGHT SHIFT**

**Temp.** Warm.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM5 spiked at 23:37- 00:07 maximum 0.023ppm.

**Operational issues / causes observed.** Odour detected from PAS stream area.

**Actions Taken.** Confirmed no sludge spill in the area and the OCU12 is running.

**Friday 31<sup>st</sup> July 2020**

**DAY SHIFT**

**Temp.** Very Hot

**Weather.** Sunny.

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

**Time:** 17:30.

**Observations / Customer Complaint.** OM2 spiked at 11:07-11:22 maximum 0.034ppm.

**Operational issues / causes observed.** No odours detected.

**Actions Taken.** North FSTs No 76/78 having surface sludge broken up around this time but unlikely to be source of odour spike.

**NIGHT SHIFT**

**Temp.** Hot.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM2 spiked at 02:23-02:36 maximum 0.06ppm.

**Operational issues / causes observed.** No obvious odours found.

**Actions Taken.** Blank.

**Saturday 1<sup>st</sup> of August 2020**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Sunny w/ Patchy clouds .

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

**Time:** 17:30.

**Observations / Customer Complaint.** OM3 multiple spikes:

@ 06:50-07:07 0.038ppm max

@ 08:37- 08:52 0.023ppm max

@ 09:37-09:52 0.018ppm max

@ 13:05- 13:22 0.023ppm max

@ 12:37-12:52 0.024ppm max

**Operational issues / causes observed.** Checked area around monitors and immediate vicinity. No obvious odour source found. OCU11 chemical dosing out of range.

**Actions Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Warm.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM3 spiking all shift max 0.1ppm.

**Operational issues / causes observed.** OCU11 outlet showing high

**Actions taken.** Area checked No odours found

**Sunday 2<sup>nd</sup> August 2020**

**DAY SHIFT**

**Temp.** Warm.

**Weather.** Sunny w/patchy.

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

**Time:** 17:30.

**Observations / Customer Complaint.** OM3 spiked at 09:55-10:08 max 0.039ppm.

**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.** OM3 spiked at 20:54-21:08 maximum 0.017ppm.  
**Operational issues / causes observed.** Blank.  
**Actions Taken.** Blank.

**Monday 3<sup>rd</sup> August 2020**

**DAY SHIFT**

**Temp.** Hot.  
**Weather.** Sunny.  
**Odour Readings.** All OMU's in operation.  
**Time:** 17:30.  
**Observations / Customer Complaint.**  
No dour 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.** OM3 spiked max 0.018ppm <15 minute duration.  
**Operational issues / causes observed.** OCU11 discharging odour from stack 475ppb – chemical dosing out of range.  
**Actions Taken.** Blank.

**Tuesday 4<sup>th</sup> of August 2020**

**DAY SHIFT**

**Temp.** Hot  
**Weather.** Sunny w/patchy.  
**Odour Readings.** All OMU's in operation.  
**Time:** 17:30.  
**Observations / Customer Complaint.** OM3 spiked at 13:23-13:36 max 0.025ppm.

OM3 spiked at 10:53- 11:06 max 0.024ppm.  
OM2 spiked at 11:06- 11:23 max 0.049ppm.  
**Operational issues / causes observed.** OCU11 high ppb output.

**Actions Taken.** Blank

**NIGHT SHIFT**

**Temp.** Warm.

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.** OM2 spiked at 21:05- 21:23 max 0.045ppm.

**Operational issues / causes observed.** East inlet and immediate vicinity checked, no obvious source of spike found.

**Actions Taken.** Blank.

**Wednesday 5<sup>th</sup> August 2020**

**DAY SHIFT**

**Temp.** Hot.

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

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

**Time:** 17:30.

**Observations / Customer Complaint.** OM2 spiked at 13:52 – 14:07 max 0.017ppm.

OM2 spiked at 12:22 – 12:52 max 0.020ppm.

OM2 spiked at 09:22 – 10:07 max 0.036ppm.

**Operational issues / causes observed.** East inlet checked , no source found.

**Action Taken.** Blank.

**NIGHT SHIFT**

**Temp.** Warm

**Weather.** Clear night.

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

**Time:** 05:30.

**Observations / Customer Complaint.**

OM3 spiked at 20:08-20:23 max 0.035ppm

OM3 spiked at 23:40-00:10 max 0.083ppm

OM3 spiked at 01:35-01:53 max 0.041ppm

**Operational issues / causes observed.** OCU11 stack outlet 520ppb (exceeding trigger level value). Chemical dosing out of range.

<b>Actions Taken.</b> Reported to Site Management.	
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### **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					
31/07/2020	0	577	244	821	2257	3078
03/08/2020	88	366	-	454	2257	2711
05/08/2020	0	206	305	511	1937	2448

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 has been an average of 19 imports of sludge daily (3 per week) over the last week. TW assisting South region and using excess sludge imports to thicken current sludge stock.

### **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.

**Digester 5** was in service and had a wet seal. No evidence of previous sludge spillage – clean coping stones. Overall good seal.

**Digester 6** was in service and had a wet seal. No evidence of previous sludge spillage – clean coping stones. Overall good seal.

**Digester 7** is currently out of service.

**Digester 8** was in service and had a wet seal. No evidence of previous sludge spillage – clean coping stones. Overall good seal.

**Digester 9** was in service and had a good wet seal. There was evidence of previous spillage and TW reminded to sweep up the crust around part of Digester.

**Digesters 10, 11, 12 and 13** were all in service and had good dry (crusty) seals. No sign of sludge spillage. Good low seal.

**Digester 14** is currently out of service.

**Digester 15** is currently out of service.

**Digester 16** was in service and had a wet seal. No sign of sludge spillage. Good low seal.

**Digester 17** was in service and had a wet seal. No sign of sludge spillage. Good low seal.

**Digester 18** was out of service.

**Digesters 19 and 20** were both in service and had wet seals. No sign of sludge spillage. Good low seal.

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/ large amounts of algae growth on top of the surface. Sprinklers were in operation.

**Skips**

There were NO skips at the Screening House.

There was 1 x 16 yard skip which was empty – located at the East side grit yard

**East Side Screen House**

The doors at both ends of the screen house building were open due to a fire alarm contractors on site.

**Return Activated Sludge Channel**

The nearside RAS channel (which runs in the ground between FST's 61-64 & 65-67) was free flowing and clear.

The far side channel was partly clogged throughout much of its length, the surface was visibly crusty in areas and had weeds growing out of it.

**West side primary settlement tanks (PST)**

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

Circular PST's 9, 10 and 12 were all in service except PST 11 this was out of service. All PST's had relatively fat free surfaces however some algae growth across the surface. No odours detected

**Pasteurisation Plant**

The pasteurisation plant is in service. TW advised 9 streams out of twelve are currently operational.

**Section 106 agreement**

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

**West Side Aeration Lanes (New)**

All lanes are now much improved and appeared to be free flowing, with the internal dividing walls being visible again.

The sprinkler systems were in operation and floating debris had been removed.

The mixed liquor feed channel serving aeration lanes 22 to 25 of E-Battery was partially clogged with thick dark scum.

**New Inlet Works (West Side)**

No issues appeared evident at the new inlet works.

**Odour Control Unit (OCU) performance monitoring: 04/08/2020**

Plant	Reading (ppm)	Action Level (ppm)	Compliant
Main pumping station inlet	Blank	Unknown	Unknown

Main pumping station outlet	Blank	0.2	Unknown
East OCU	0.00	0.05	Yes
	0.00		
	0.00		
West inlet OCU	0.00	0.05	Yes
	0.00		
	0.00		
Sludge reception inlet	Blank	Unknown	Unknown
Sludge reception outlet	Blank	0.8	Unknown
Thickening plant inlet	Blank	Unknown	Unknown
Thickening plant outlet	0.00	0.6	Yes
	0.00		
	0.00		
New West inlet (OCU 11)	3.89	0.5	No
	3.70		
	3.40		
	Ave:3.66		
Pasteurisation (OCU 12)	0.00	0.5	Yes
	0.00		
	0.00		
Transfer PS inlet	5.71	Unknown	Unknown
	4.67		
	4.19		
	Ave:4.85		
Transfer PS outlet	0.00	0.6	Yes
	0.00		
	0.00		