

This form will report compliance with your permit as determined by an NRW officer

Site	Bryn Posteg Landfill	Permit Ref	BU77661C		
Operator/Permit holder	Sundorne Products (Ilanidloes) Ltd				
Regime	Installations				
Date of assessment	10/07/2018	Time in	11:30	Out	15:40
Assessment type	Site Inspection				
Parts of the permit assessed	Leachate treatment plant and emissions to sewer.				
Lead officer's name	Ellis, Rhys				
Accompanied by	McGregor-Andrew, Sian				
Recipient's name/position	David Williams/ Technical manager	Date issued	30/07/2018		

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations or the licence under the Water Resources Act 1991 as amended by the Water Act 2003. A detailed explanation is captured in "Compliance Assessment Report Detail" (Section 2) and any actions you may need to take are given in the "Action(s)" (section 4). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS Scores can be consolidated or suspended where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

Permit conditions and compliance summary	CCS Category	Condition(s) breached
B1 - Infrastructure - Engineering for prevention and control of emissions	C2	3.1.1
B5 - Infrastructure - Plant and equipment	C3	1.1.1
C1 - General Management - Staff competency/training	C2	1.1.1
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	C3	1.1.1
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	C3	4.3.1

KEY: See Section 5 for breach categories, suspended scores will be indicated as such.

A = Assessed or assessed in part (no evidence of non-compliance), **X** = Action only,

O = Ongoing non-compliance, not scored.

Number of breaches recorded	5	Total compliance score (see section 5 for scoring scheme)	74
------------------------------------	----------	---	----

If the Number of breaches recorded is greater than zero, please see Section 3 for our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- The part(s) of the permit that were assessed (eg. Maintenance, training, combustion plant, etc)
- Where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- Any non-compliances identified
- Any non-compliances with directly applicable legislation
- Details of any multiple non-compliances
- Information on the compliance score accrued inc.
- Details of advice given
- Any other areas of concern
- Any actions requested
- Any examples of good practice
- A reference to photos taken

Present in the meeting today were Regulatory officer Rhys Ellis and Sian McGregor-Andrew of Natural Resources Wales (NRW), Andrew Morgan (Commercial Waste Advisor) of Seven Trent and David Williams (Technical Manager) and Tony Webber (Site Manager).

The main purpose of the inspection today was cover:

- The recent breaches of the Trade effluent discharge consent to sewer network (consent reference 006247V) regulated by Severn Trent water limited,
- Breaches of environmental permit in relation to point source emission to sewer,
- Performance of the Leachate Treatment Lagoon,
- The general infrastructure of the Leachate Treatment Lagoon,
- Operational procedures relating to the Leachate Treatment Lagoon; and the
- Leachate Management Plan

E4 – Emission to sewer

G1 – Monitoring of emissions and the environment

Andrew Morgan discussed the last 12 months compliance history. In summary:

- The main concern currently is Chemical Oxygen Demand (COD) exceedances (specifically hard COD)
- There was 10 non-conformance results for COD between 11/07/17 and 11/07/18 (7 of them being since 23/04/18)
- Seven Trents microbiological report identifies hard COD as an issue at Llanidloes STW.
- In relation to ammonia- 2 non-conformance results were noted between 11/07/17 to 11/07/18
- Bryn Posteg is a high percentage of dry weather flow at Llanidloes.
- In relation to suspended solids there have been a few good results, but there have been instances where results have been very high.
- There has also been 7 non-conformance for pH between 11/07/17 and 11/07/18

Severn Trent's concerns have been exacerbated by the fact that recent investigations have confirmed that the high exceedances noted at Bryn Posteg's trade discharge consent (specifically in relation to COD) is having an effect on the performance of Llanidloes Sewage Treatment works as demonstrated in a recent Urban Waste Water Treatment Directive exceedance at the works.

The same emissions limits are set in the Environmental permit regulated by NRW specifically for (COD, Suspended Solids, pH, Ammonia, Sulphate, soluble CH₄, temperature)

Andrew Morgan referenced a Severn Trent document containing previous and on going actions tracked and agreed in relation to taking measures to improve compliance at Bryn Posteg. David Williams has a copy of this tracking sheet.

Amongst the actions implemented are COD analysis to be undertaken on site and checklist of daily maintenance tasks etc. However, there are currently outstanding actions, some of which are crucial that require action as a matter of urgency. These include:

ACTION1 :

Although the Siemens MAG 6000 flow meter is working, the instantaneous flow measurement does not relay to the SCADA system and therefore flow data is not recorded and captured. It was agreed that this would be actioned as a matter of priority with a resolution by the end of September at the latest.

In addition to this being a requirement under your trade discharge consent, it is also a requirement for the site's flow meter to be recorded via the SC1000 system under your Leachate Management Plan, the site is currently breaching permit condition 1.1.1 by not adhering to key elements of the Leachate Management Plan. Conversely, real time data allows the operator to provide actual 'raw data' of the flow measurements which provides crucial information and evidence of trends and patterns in the profile of the

effluent discharged, this helps to increase reliability of data and makes interpretation of data more convenient.

As a result of this non conformance, a **CCS 3 breach** has been noted under sub criteria G1.

It is also strongly recommended that the site considers calibration of the flow meter in accordance with the manufactures specification.

ACTION 2 : Flow measurements are at the moment only recorded daily (Monday-Friday), and do not include weekends. Readings should be inputted for both Saturday and Sundays and recorded on the spreadsheet. The same should also be for the recording of COD analysis results. Please action this with immediate effect.

ACTION 3: The actual meter reading should be recorded for each day in addition to the daily running total. Please action this with immediate effect.

David Williams also advised that other actions are being undertaken on site in order to improve COD compliance. This in summary included:

Consultants will be on site on the 24th July 2018 to trial tweaks to the DAF unit on the leachate treatment system. This could possibly involve pH adjustment to the process and add another discharge tank with an additional dosing unit and monitoring probe prior discharging to sewer.

ACTION 4: Site to provide full report on the above findings and details of any proposed improvements by 29th August 2018.

Mixed liquor and suspended solids (MLSS)

MLSS is an important part of the activated sludge process to ensure that there is a sufficient quantity of active biomass available to consume the applied quantity of organic pollutant at any time and helps in removing COD and BOD.

David Williams advised that the MLSS has recently improved, however this is only monitored on a monthly basis. The operator plans to purchase a hand-held monitor which will be able to give in – suite readings of results and better control on the MLSS ratio, this in turn providing better control of BOD and COD removal.

ACTION 5.

Site to provide progress report on this no later than 29th August 2018

Relationship between Leachate in Treatment Plant and site leachate

We discussed with the operator what field measurements are undertaken in relation to incoming leachate. It was explained by David Williams that monthly analysis of leachate is undertaken of each individual landfill cell on site. Recently COD has been added as an additional determinant being analysed. David Williams provided a summary of results for 31st May 2018 (See Table 1).

Table 1

Leachate sump	COD
LCP 1	-
LCP 2	3400
LCP 3	4650
LCP 4	1670
LCP 5	2080
LCP 6	2970
9A	3200
9B	3500
9C	4500
9D	13,300
Sludge return in lagoon	5520 (1HR)
Treated leachate post DAF	11700 total
Treated leachate post DAF	1050 Filtered
	1040 1hr settled
	1110 Total

It was noted that leachate from 9D is significantly higher in COD than the other cells. These results could indicate that this might be a contributing factor for the COD issues experienced on site.

You have subsequently stated that following the visit you have determined that the leachate being pumped from Sump 9X (An intermediate pumping station) was going directly into the leachate treatment lagoon. This has now been routed into the balancing lagoon. [Sump 9X receives the leachate/condensate from the pneumatic pumps around the south flank of Bryn Posteg, including 9D where you have recently installed the extra pumps].

ACTION 6.

- This high COD should be investigated further, and trends monitored closely. Please keep NRW updated on this matter.
- Site to detail in a formal response the contingency plan in the event leachate from 9D (or another leachate source in the field) is affecting leachate treatment plant efficiency. The Leachate Management Plan should be updated to reflect this. This should include details of what staff awareness and training has been provided to reflect this and details of procedures amended.
- Site to confirm what leachate is discharged into each lagoon. Drawing 2232.02 of the Leachate management plan should be updated to reflect this.
- You advised that you are expecting the June lab results very shortly, this will confirm if the 9D leachate still has high COD. Please can you advise NRW immediately of the results with a summary of actions taken.
- Leachate Management Plan to be updated to reflect the increased leachate monitoring regime/programme that the site are undertaking in the individual cells on site including details of procedures for analysing, interpreting and actioning results.

Site to action the above and update the leachate management plan no later than 29th August 2018

Leachate Treatment Plan Infrastructure

B1 – Engineering to control emissions

It was noted that there was leachate leaking from the treatment lagoon in the vicinity of the southern bank of the lagoon. This is currently leaking to ground. The sump collecting some of this leachate outbreak is also leaking as there was tears and holes in the plastic silage sheeting (See photographs below).

In a correspondence letter dated 19th May 2017 from Caulmert it was stated that this collection sump was installed during the investigation carried out following a previous spillage incident in early May 2017 and was used to return leachate from the spillage to the storage lagoon, operated via a control panel with float controlled electric pump. You advised that the sump would remain for a period of 6 months (to 31st December 2017) as a control measure to ensure that the escaped leachate is captured as far as possible and to check that there is no further escape via this pathway (i.e. the remediation of the leak has been successful). It was confirmed during the visit that there is further escape of leachate.

The integrity of the de-sludging chamber which forms part of the leachate treatment lagoon was also discussed and it was agreed that this requires further investigation on integrity.

Due to this point source emission to land (and potentially surface water) a breach of permit condition 3.1.1 is noted. Due to the emission being highly polluting (untreated leachate containing high concentration of polluting matters and hazardous polluting substances) the risk of pollution is significant and for this reason a **CCS score of 2** is applied under sub criteria B1.

ACTION : 7

Investigate the source of leachate currently escaping from the leachate treatment lagoon into the emergency sump. The operator should complete a full report detailing the investigations (completed by a suitably qualified engineer) including details of the integrity of the overall leachate treatment storage structure.

This report should detail proposed actions to remediate the leakages and also confirm the structural integrity of the lagoon.

Site to propose timescales for the submission to NRW of the full report in regards to the above no later than 14th August 2018.

ACTION: 8

As an interim to the above the integrity of the actual sump should be investigated and operator should ensure that the sump is completely contained and there are no leaks to ground from this sump with immediate effect. Operator to confirm when this has been completed.

ACTION 9

Inspect the integrity of the de-sludging chamber by a suitably qualified engineer. (You advised that this will require thorough cleaning and jetting first). A full report should be submitted to NRW on the conclusions and any actions required.

Site to propose timescales for this and a date for a submission to NRW of a full report in regards to the above no later than 14th August 2018

ACTION 10

Please forward the design specifications, including drawings for the Leachate Treatment Lagoon by 14th August 2018.

ACTION 11

Please forward the CQA report for the leachate balancing lagoon by 14th August 2018.

It was also noted that there is currently no secondary containment for the Heat transfer pipes flowing into and out of the balancing

lagoon (pipes are currently laid on impermeable ground with no secondary containment). It was established that in a worst case scenario if these were to fail there would be a period of 24 hours where any leaks / failures would not be identified.

ACTION 12

Site to provide details of how they will ensure that secondary containment will be provided for these pipes. Consideration should be given to any pipes that would also be going into the Leachate Treatment Lagoon no later than 14th August 2018.

B5 – Plant and equipment

Table 6.1 of your Leachate Management Plan stipulates that the lagoons on site should have a continuous level monitor with alarm. It was implied by the operator that these are currently either not working or non-existent.

ACTION 13.

Site to investigate this and submit proposals of actions to be taken (with timescales) to ensure that the continual level alarm on both lagoons are in place. This proposal should be submitted no later than 29th August 2018.

It was also confirmed that the CCTV cameras for the leachate treatment lagoon is not working. It was also agreed that a CCTV camera to cover the balancing lagoon is also required.

ACTION 14

Site to ensure that adequate CCTV coverage is in place for both lagoons on site. Site to investigate this and submit proposals of actions to be taken to ensure satisfactory CCTV coverage are in place for both lagoons (with timescales) by 29th August 2018.

The above are essential equipment required to ensure the safe management of leachate on site which are also referenced in your Leachate Management Plan. The required CCTV and continuous level monitors with alarm are either not working or not in existence on site and therefore breaching permit condition 1.1.1 of your permit under sub criteria B5. A **CCS score of 3** has been applied for this breach.

G4 – Reporting and notifications to NRW.

Condition 4.3.1 stipulates that in the event of a breach of any permit condition the operator must immediately –

- i) Inform NRW; and
- ii) Take the measures necessary to ensure that compliance is restored within the shortest possible time

It must be noted that NRW were not made aware of the breaches of permit, examples include –

- The notified breaches of emissions to sewer made aware to the operator by Severn Trent Water.
- Leachate treatment lagoon is still leaking.
- No continual flows on the Siemens MAG 6000 on site; and

The necessary measures to ensure that compliance is restored within the shortest possible time is also breaches, examples include taking measures to stop the leak of leachate into ground.

For this reason, a **CCS score of 3** is applied.

ACTION 15.

Site to formally notify NRW of breaches of permit in accordance with condition 4.3.1. and refer to Actions 1 to 14 with immediate effect.

C1- General Management – Staff competency/ training

Permit condition 1.1.1 stipulates that the operator shall manage and operate the activities in accordance with a written management system and using sufficient competent persons and resources. The permit breaches noted in this compliance assessment report form raise concerns about the awareness of permit conditions, management systems and associated procedures and plans by the directors and relevant site personnel. There appears to be a failure to follow relevant procedures resulting in breaches of permit conditions which have in some cases led to pollution of environment and the risk of further pollution

- Failure to notify NRW of permit breaches
- Failure to follow key elements of the Leachate Treatment Plan
- Failure to take appropriate measures to reduce pollution to ground from the leachate treatment treatment lagoon
- Failure to raise and action this as part of daily and monthly checks in regard to integrity of the lagoon
- Failure by site staff in completing the necessary checklists on site.

Actions to be taken – Refer to Action 1 – 14.

As a result, a **CCS score of 2** has been applied on this occasion.

Leachate Management Plan.

It was noted during the visit that there are areas of the leachate treatment plan that require improving and updating. Amongst some of the areas requiring immediate updating is drawing 2233.02. This drawing does not reflect the current leachate treatment process on site and needs a full review. Examples include;

- the plan needs to include DAF plant and associated dosing locations,
- location of sampling points,
- details of the network of incoming leachate flow into both lagoons,
- De-sludging line for the aeration lagoon: and
- Emergency sump for balancing lagoon.

Other comments highlighted during the audit in regards to the Leachate Management Plan are included in Appendix A. It would also be prudent to refer also to James McClymont's responses to Requirement 5 of Regulation 61(1) Notice which will also have additional comments.

Leachate Treatment Lagoon capacity and odour.

Due to the recent pollution incidents associated with the storage capacity of the Leachate Treatment Plant (Recent being January 2018) it was explained on site that NRW have concerns on the capacity of the leachate treatment plant. Paragraph 3.4.2 of your LMP acknowledges this stating " limits to the amount of leachate managed at the site currently relate to the treatment plant throughput rather than the extraction system".

It also must be emphasised that in events where full capacity of the leachate treatment lagoon has been reached, diverting the problem elsewhere by reducing or stopping leachate pumping from the landfill is not considered to be best practice as this leads to other operational issues on site such as breach of leachate heads, gas quality and collection issues and risk of pollution to ground etc.

It was also noticed that an odour was detected deriving from the lagoon.

Further comments/concerns in relation to the Leachate Treatment Lagoon and its capacity and its impact on off site odour have been highlighted in Appendix A and also in James McClymont's responses to Requirement 5 of Regulation 61(1) Notice.

The operator must look into the capacity of the lagoon in more detail to ensure that for present and future purposes the plant has adequate capacity to effectively and efficiently treat leachate on site without impacting the environment.

Photographs.



Leachate outbreak from southern bank of Sump full of leachate |

Leachate treatment Lagoon



Hole in lining of sump

Example of where lining has failed on the sump



EPR Compliance Assessment Report

**Report ID:
CAR_NRW0033657**

This form will report compliance with your permit as determined by an NRW officer

Site	Bryn Posteg Landfill	Permit Ref	BU7766IC
Operator/Permit holder	Sundorne Products (Ilanidloes) Ltd	Date	10/07/2018

Section 3 – Enforcement Response

You must take immediate action to rectify any non-compliance and prevent repetition. Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

We will now consider what enforcement action is appropriate and notify you, referencing this form.

Section 4 – Action(s)

This section summarises the actions identified during the assessment along with the timescales for when they will need to be completed.

Criteria Ref.	CCS Category	Action required/advised	Due Date
See Section 1 above			
B5	C3	Refer to actions 1, 13 and 14	29/08/2018
G1	C3	Refer to Action 1, 2 and 3	30/09/2018
C1	C2	Refer to Action 1 - 14	29/08/2018
B1	C2	See actions 7-10	14/08/2018
G4	C3	Refer to Action 15	30/07/2018

Section 5 – Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- Advise on corrective actions verbally or in writing
- Require you to take specific actions verbally or in writing
- Issue a notice
- Require you to review your procedures or management system
- Change some of the conditions of your permit
- Decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.
- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and/or suspension or revocation of the permit.

See our Enforcement and Civil Sanctions guidance for further information

This report does not relieve the site operator of the responsibility to

- Ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- Ensure you comply with other legislative provisions which may apply

Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance that could have a major environmental effect	60
C2	A non-compliance which could have a significant environmental effect	31
C3	A non-compliance which could have a minor environmental effect	4
C4	A non-compliance which has no potential environmental effect	0.1

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

Section 6 – General information

Data protection notice

The information on this form will be processed by the Natural Resources Wales (NRW) to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s). The NRW may also use and/or disclose it in connection with:

- Offering/providing you with its literature/services relating to environmental matters
- Consulting with the public, public bodies and other organisations (eg. Health and Safety Executive, local authorities) on environmental issues
- Carrying out statistical analysis, research and development on environmental issues
- Providing public register information to enquirers
- Investigating possible breaches of environmental law
- Assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Regulations request

The NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

The NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within fifteen working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with officer's line managers using the informal appeals procedure. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 0300 065 3000 (Mon to Fri 08.00 – 18.00) and ask for the Customer Contact team or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on 0845 607 0987.

Welsh Language

If you would like this form in Welsh please contact your Regulatory Officer.