Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Synthite Limited

Mold Chemicals (Alyn Works)
Alyn Works
Denbigh Road
Mold
Flintshire
CH7 1BT

Variation number

EPR/BU2349IL/V008

Permit number

EPR/BU2349IL

Mold Chemicals (Alyn Works)
Permit number EPR/BU2349IL

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

This permit authorises the Operator to operate part of an installation carrying out activities as described in Schedule 1, Part 2 of Environmental Permitting (England and Wales) Regulations 2016:

- Section 4.1 Part A(1)(a)(ii) – Producing organic chemicals such as – organic compounds containing oxygen
- Section 4.1 Part A(1)(a)(iv) – Producing organic chemicals such as – organic compounds containing nitrogen
- Section 4.1 Part A(1)(a)(viii) – Producing organic chemicals such as – plastic materials
- Section 4.2 Part A(1)(a)(iv) – Producing inorganic chemicals such as – salts
- Section 5.4 Part A(1)(a)(i) – Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day by biological treatment

Mold Chemicals (Alyn Works) is a multi-operator installation. Synthite Limited is the major component and the original site owner since 1950. Making up the integrated stationary technical unit is TS Resins Limited which has operated on the site since 1995. The site is located near Rhyd-y-goleu to the north west of Mold, Flintshire and has been industrial for over 200 years starting with cotton milling then tinplating prior to chemical manufacture. The site is approximately triangular in shape and bounded to the south and west by the A541 Denbigh Road; to the north by the River Alyn (which ultimately flows into the River Dee) and to the east a recreational area developed by Flintshire County Council. The site is approximately 4 hectares. The installation primarily manufactures formaldehyde from methanol via separate silver catalyst and mixed iron and molybdenum oxide (mixed oxide) processes. The silver catalyst process is one of oxidation/dehydrogenation of a rich methanol/air mixture to produce formaldehyde, hydrogen, carbon monoxide and water. The reaction products are quenched and exit gases scrubbed to leave hydrogen and carbon monoxide gas, which is burned in a gas boiler. The silver process is capable of producing a strong formaldehyde solution of up to 82 % for paraformaldehyde power/prill production in addition to the standard formalin product of 50 – 55 %. The mixed oxide process oxidises a lean methanol/air mixture to produce a solution of up to 57 % formaldehyde and water. Heat is recovered via a heat transfer fluid and condenser to generate steam for use on site. The exit gas stream containing low levels of formaldehyde, methanol, dimethyl ether, and carbon monoxide are oxidised in a Noble metal catalyst emission control system to carbon dioxide and water.

The installation also produces formaldehyde derivatives such as triazines, hemiacetals, formals, resole acetate and chemical blends such as urea in water and paraformaldehyde in butanol and as well as ammonium salts of organic acids. The emulsions production process has been removed from the permit in 2021 as it has been redundant for over seventeen years. The most environmentally significant chemicals stored are formaldehyde, methanol, ammonia and the mixed oxide process heat transfer fluid (70 % diphenyl ether and 30 % biphenyl).

There are 16 permitted point source emissions to air, of which 12 are abated. Two point source emissions to air were removed from the permit in 2020 as they were no longer in use. A combination of abatement technologies are employed, the selection of which is dependent on the chemical and physical nature of the emissions, the abatement technologies include catalytic oxidation, wet scrubbing, filtration, adsorption, and thermal oxidation. The exit gas boiler stack, the three natural gas fired boilers' combined stack and the two methanol storage tanks have no abatement. The installation also has one 1.5 MW_{th} (rated thermal input) natural gas fuelled boiler which is a new Medium Combustion Plant (MCP), this plant is permitted as a standard rules permit, SR2018 No7, the MCP was added to the site in 2020.

The installation discharges trade effluent from a secondary effluent treatment plant to Dŵr Cymru / Welsh Water foul sewer under the terms of a trade effluent consent. This flows to Mold Wastewater Treatment Works which discharges into a tributary of the River Alyn. The installation abstracts water from two boreholes in order to provide process cooling water, and as part of site flood protection arrangements. Unused/untreated water abstracted for flood protection is sent directly to the River Alyn in addition, surface water runoff from adjacent fields and Denbigh Road is collection in Parry's Ditch and pumped into the same River Alyn discharge line. Used cooling water undergoes effluent treatment and is therefore discharged to foul sewer as outlined above.

Running approximately west to east at a depth of 4 – 5 metres (similar level to River Alyn) is an underground culvert, a relic of historical site activities. The culvert has been capped at both ends within the site and acts as a general site drain for surface water soakaway. Ingress by groundwater is reduced by the borehole regime. The culvert is stone lined except along its base and is partially pumped out via lagoons to the effluent treatment plant to prevent site flooding. There are no direct or indirect emissions from the installation to groundwater of hazardous substances either directly or indirectly as set out in the Environmental Permitting (England and Wales) Regulations 2016. There are areas of unmade ground on the site and the potential for soakaway contamination to groundwater/River Alyn exists. A concrete barrier wall 2 – 3 metre deep constructed in 1993-4, between the site and the River Alyn on the northern boundary is considered to offer improved protection as have improvements in bunding and increased hardstanding.

A Climate Change Agreement has been held with the Chemical Industry Association since August 2001. The installation has 4 boilers capable of providing process heat, in addition to the new MCP. Under normal operating conditions one boiler operates, burning the hydrogen-containing exit gas from the silver catalyst process. The other three boilers on site are on hot standby (natural gas fuelled), and only provide backup heat (typically <50 d/y each) to supplement/replace process derived heat. The mixed oxide process is also a net exporter of steam, which is used as a heat source within the manufacturing process. In addition to process gases combusted on site, process wastes are segregated into liquid and solid waste streams and stored in bunded waste compounds.

TS Resins primarily manufactures urea, melamine and phenol formaldehyde resins and operates under a separate EPR permit: EPR/UP3831ES. TS Resins is however supplied with raw materials formaldehyde, steam and provision for surface water management and weak effluent treatment by Synthite. TS Resins also use emission point A7 as listed in this permit to discharge vent emissions from bulk ammonia storage.

Under the Control of Major Accident Hazards Regulations 2015 (COMAH), Synthite is classified as a Higher Tier and TS Resins a Lower Tier and collectively as a Domino site.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	**Date**	**Comments**
Application for new permit BU2349IL received	29/08/2003	Duly made 03/10/2003
Request for Determination Extension (RDE) issued	22/12/2003	
Request for Further Information (RFI) issued	01/06/2004	
Response to first RFI received	24/06/2004	
RFI issued	02/08/2004	
Response to second RFI received	06/08/2004	
Additional information submitted in support of the application	01/09/2004	
Application for a new permit determined and permit BU2349IL issued	05/10/2004	
Variation application EPR/BU2349IL/V002 received	24/09/2008	Duly made 01/12/2008
RDE issued	24/02/2009	Confirmation received 27/02/2008
Variation application determined and variation notice EPR/BU2349IL/V002 issued	21/04/2009	
Variation application EPR/BU2349IL/V003 received	21/09/2016	Duly made 21/09/2016
Variation application determined and variation notice EPR/BU2349IL/V003 issued	24/11/2016	
Regulation 61 Notice sent to the Operator	06/07/2018	Issue of a Notice under Regulation 61(1) of the EPR. Natural Resources Wales initiated review and variation to vary the permit following the publication of the revised Best Available Techniques (BAT) Reference Document (BRef) for Production of Large Volume Organic Chemicals.
Regulation 61 Notice Response	22/02/2019, 26/03/2019, 27/03/2019, 13/11/2019 and	Response received from the Operator.

	17/12/2019	
Variation application EPR/BU2349IL/V004	Duly made 01/04/2020	Variation application to add a standard rules MCP within current installation boundary
Variation determined EPR/BU2349IL/V004	01/04/2020	Varied permit issued to Synthite Limited
Variation application EPR/BU2349IL/V005	Duly made 21/05/2020	Minor technical variation to vary point source emissions to air including monitoring requirements
Variation determined EPR/BU2349IL/V005	04/06/2020	Varied permit issued to Synthite Limited
Variation application EPR/BU2349IL/V006	Duly made 25/02/2021	Variation to amend operating techniques table
Variation determined EPR/BU2349IL/V006	22/03/2021	Varied permit issued to Synthite Limited
NRW initiated variation determined EPR/BU2349IL/V007	01/11/2021	Varied and consolidated permit issued to Synthite Limited. Natural Resources Wales initiated review and variation to vary the permit following the publication of the revised Best Available Techniques (BAT) Reference Document (BRef) for Production of Large Volume Organic Chemicals.
Variation application EPR/BU2349IL/V008	Duly made 13/05/2022	Minor technical variation to amend various monitoring standards or methods, parameters and limits and to remove expired schedules.
Variation determined EPR/BU2349IL/V008	09/11/2022	Variation part refused. Varied permit issued to Synthite Limited

Other Part A installation permits relating to this installation		
Operator	**Permit number**	**Date of issue**
TS Resins Limited	EPR/UP3831ES	13/03/2014

End of introductory note.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number
EPR/BU2349IL

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BU2349IL/V008 authorising

Synthite Limited ("the operator"),

whose registered office is

Alyn Works
Denbigh Road
Mold
Flintshire
CH7 1BT

company registration number **00164640**

to operate an installation at

Mold Chemicals (Alyn Works)
Denbigh Road
Mold
Flintshire
CH7 1BT

to the extent authorised by and subject to the conditions of this permit.

Under regulation 27(2) of the Regulations, standard rules **SR2018 No7** are conditions of this permit.

Signed	Date
Holly Noble	**09/11/2022**

Authorised on behalf of Natural Resources Wales

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.2 Energy efficiency

1.2.1 The operator shall:

(a) take appropriate measures to ensure that energy is used efficiently in the activities;

(b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) take any further appropriate measures identified by a review.

1.3 Efficient use of raw materials

1.3.1 The operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

(a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and

(b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

(c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

1.5 Multiple operator installations

1.5.1 Where the operator notifies Natural Resources Wales under condition 4.3.1 (a) or 4.3.1 (c), the operator shall also notify without delay the other operator(s) of the installation of the same information.

2 Operations

2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in red on the site plan at schedule 7 to this permit, with the exception of groundwater abstraction from Borehole B, identified in red. The area identified by black hatching on the site plan represents the extent of the installation covered by that/those of the other operator(s) of the installation.

2.3 Operating techniques

2.3.1 (a) The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by Natural Resources Wales.

(b) If notified by Natural Resources Wales that the activities are giving rise to pollution, the operator shall submit to Natural Resources Wales for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan , and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

2.3.2 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.3 The operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.3.4 The operator shall ensure that where waste produced by the activities is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by Natural Resources Wales.

2.4.2 Except in the case of an improvement which consists only of a submission to Natural Resources Wales, the operator shall notify Natural Resources Wales within 14 days of completion of each improvement.

2.5 Pre-operational conditions

2.5.1 The activities shall not be brought into operation until the measures specified in schedule 1 table S1.4 have been completed.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air, or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2 and S3.3.

3.1.2 The limits given in schedule 3 shall not be exceeded.

3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

(a) if notified by Natural Resources Wales that the activities are giving rise to pollution, submit to Natural Resources Wales for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

(a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to odour, submit to Natural Resources Wales for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

(b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.4 Noise and vibration

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of Natural Resources Wales, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

(a) if notified by Natural Resources Wales that the activities are giving rise to pollution outside the site due to noise and vibration, submit to Natural Resources Wales for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by Natural Resources Wales.

3.5 Monitoring

3.5.1 The operator shall, unless otherwise agreed in writing by Natural Resources Wales, undertake the monitoring specified in the following tables in schedule 3 to this permit:

(a) point source emissions specified in tables S3.1, S3.2 and S3.3;

(b) surface water or groundwater specified in table S3.4;

3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by Natural Resources Wales.

3.5.4 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, S3.2 ,S3.3 and S3.4 unless otherwise agreed in writing by Natural Resources Wales.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by Natural Resources Wales, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) off-site environmental effects; and

(ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by Natural Resources Wales.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to Natural Resources Wales using the contact details supplied in writing by Natural Resources Wales.

4.2.2 A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

(b) the annual production / treatment data set out in schedule 4 table S4.2; and

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by Natural Resources Wales, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4 ; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to Natural Resources Wales, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.3 Notifications

4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—

(i) inform Natural Resources Wales,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) in the event of a breach of any permit condition the operator must immediately—

(i) inform Natural Resources Wales, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where Natural Resources Wales has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform Natural Resources Wales when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to Natural Resources Wales at least 14 days before the date the monitoring is to be undertaken.

4.3.4 Natural Resources Wales shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

(a) any change in the operator's name or address; and

(b) any steps taken with a view to the dissolution of the operator.

In any other case:

(a) the death of any of the named operators (where the operator consists of more than one named individual);

(b) any change in the operator's name(s) or address(es); and

(c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) Natural Resources Wales shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

4.3.6 Natural Resources Wales shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.3.7 Where the operator has entered into a climate change agreement with the Government, Natural Resources Wales shall be notified within one month of:

(a) a decision by the Secretary of State not to re-certify the agreement;

(b) a decision by either the operator or the Secretary of State to terminate the agreement; and

(c) any subsequent decision by the Secretary of State to re-certify such an agreement.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “immediately” or “without delay”, in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
A1	S4.1 A1(a)(ii) Producing organic chemicals such as organic compounds containing oxygen	Production of formaldehyde and paraformaldehyde as described in the application	From receipt of raw materials to despatch of finished product
A2	S4.1 A1(a)(ii) Producing organic chemicals such as organic compounds containing oxygen	Production of formaldehyde derivatives and chemical blends	From receipt of raw materials to despatch of finished product, subject to meeting the requirements of the MPP
A3	S4.1 A(1)(a)(iv) Producing organic chemicals such as organic compounds containing nitrogen	Production of formaldehyde derivatives and chemical reactions	From receipt of raw materials to despatch of finished product, subject to meeting the requirements of the MPP
A4	S4.1 A(1)(a)(viii) Producing organic chemicals such as plastic materials	Production of formaldehyde derivatives	From receipt of raw materials to despatch of finished product, subject to meeting the requirements of the MPP
A5	S4.2 A(1)(a)(iv) Producing inorganic chemicals such as salts	Production of salts and solutions.	From receipt of raw materials to despatch of finished product, subject to meeting the requirements of the MPP This activity has been mothballed and the activity shall not be operated until the completion of Pre-operational measure 1 (PO1) has been completed as confirmed in writing by Natural Resources Wales
A6	S5.4 A(1)(a)(i) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving biological treatment	Effluent Treatment Plant – biological treatment	Treatment of liquid effluent including that from TS Resins Limited and discharge to sewer
Directly Associated Activity			
A7	Directly associated activity	Steam raising plant <20 MWth input	Operation of three natural gas standby boilers. 5.2 MWth input each, 15.6 MWth aggregated.
A8	Directly associated activity	Steam raising plant <20 MWth input	Operation of one silver catalyst process exit gas and foul gas boiler (5.2 MWth input)
A9	Directly associated activity	Maintenance of equipment and engineering workshop	From receipt of raw materials to despatch of finished product
A10	Directly associated activity	Quality control laboratories	From receipt of raw materials to despatch of finished product

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity**	**Limits of specified activity**
A11	Directly associated activity	Packed product storage	From receipt of raw materials to despatch of finished product
A12	Directly associated activity	Water abstraction and use	Abstraction from boreholes A and B for use as cooling water and for the prevention of site flooding by managed pumping and discharge via W1

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Application for permit BU2349IL	The response to questions 2.1 and 2.2 and multi-product protocol given in pages 8-55 and appendices of the application	29/07/2004
Schedule 4 Notice	The responses to questions 2 and 3	24/06/2004
Additional information		01/09/2004
Application for variation	The response to question 2, given in BU2349_VAR_SECC2	24/09/2008
Additional information	All	02/12/2008
Additional information	Air Protekt Report and BU2349-2016-04 Non-technical summary of application to replace A7 scrubber with a catalytic oxidiser	21/09/2016
Application for variation EPR/BU2349IL/V005	All	22/01/2020
Application for variation EPR/BU2349IL/V004	All	20/02/2020
Additional information EPR/BU2349IL/V004	All	02/03/2020
Additional information EPR/BU2349IL/V005	Response to request for more information – all	15/05/2020
Letter forming part of EPR/BU2349IL/V006	Letter received from Synthite Limited confirming that they remain the Operator of the formaldehyde production operations at the site in accordance with RGN 1	13/11/2020
Letters	Letters of agreement between Synthite Limited and TS Resins Limited for ventilation of ammonia emissions through emission point A7 (EPR-BU2349IL). Part 1: Ammonia solution Emissions dated 08.12.2020 Part 2: Ammonia solution application letter from Synthite dated 15.12.2020	09/12/2020 and 15/12/2020
Response to Regulation 61(1) Notice requiring information dated 06/07/2018	All	22/02/2019, 26/03/2019, 27/03/2019, 13/09/2019, 18/09/2019, 13/11/2019 and 17/12/2019
Letter	Letter received from Operator for minor operational change. RE: request for minor operational change dated 20/05/2021	20/05/2021

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Additional information	Additional information received from Operator via E-mails during BREF review - all	28/05/2021, 02/06/2021, 04/06/2021, 09/06/2021, 28/06/2021, 05/07/2021 and 13/09/2021
E-mail	E-mail received from Operator regarding minor operational change	02/07/2021

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
1 – 21	Conditions 1 – 21 are complete	N/A
22	The Operator shall forward a full commissioning report of the new reactor R6, to include the monitoring detailed in response to question 2.10.1 of the Application (in BU2349_Var_SecC2.)	Complete
23	The Operator shall provide an updated drainage plan diagram showing the interconnection with Parry's Ditch and the position of the proposed filter and meter, technical specifications of the filter and meter and details of the revised MCERTS programme of certification	Complete
IC24	The Operator shall submit a written report to Natural Resources Wales for written approval on the baseline conditions of soil and groundwater at the installation. The report shall contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities provided for in Article 22(3) of the IED and provided in accordance with the European Commission Guidance concerning the baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions. The report shall contain information, supplementary to that already provided in the application Site Condition Report, needed to meet the information requirements of Article 22(2) of the IED.	30 June 2022 or as otherwise agreed in writing with Natural Resources Wales
IC25	The operator shall submit a written report to Natural Resources Wales for written approval containing information on priority hazardous substances and any other relevant substances, for all discharges to surface waters. The emissions monitoring for these substances should be carried out using the methods and standards described in the M18 guidance on "Monitoring of discharges to water and sewer". With reference to the risk assessment guidance on the gov.uk website entitled "Surface water pollution risk assessment for your environmental permit the Operator is to carry out the following assessments: – Screening tests for priority hazardous pollutants and any other relevant priority hazardous substances. – For any substance which is not screened out by the screening tests you will need to carry out modelling, as described in the risk assessment guidance "Surface water pollution risk assessment for your environmental permit". The report shall contain the results from the emissions monitoring, the results from the screening tests and the results from any modelling and any other information considered relevant.	30 June 2022 or as otherwise agreed in writing with Natural Resources Wales

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC26	The operator shall submit to Natural Resources Wales for written approval (a) written procedure(s) describing how they intend to meet the following BAT requirements in accordance with requirements specified within BAT Conclusions of The Production of Large Volume Organic Chemicals BREF Document (EU 2017): • BAT 14 Emissions to water • BAT 18 & BAT 19 Equipment Malfunction and other than normal operating conditions	6 December 2021 or otherwise agreed in writing with Natural Resources Wales
IC27	The Operator shall carry out a programme of monitoring emissions to air as specified in Table S3.1 Note 2, the monitoring will be completed over a period agreed with Natural Resources Wales. The Operator shall submit a written report to Natural Resources Wales for written approval with an analysis of whether the emissions of certain parameters can be considered stable. Monitoring frequencies of certain parameters may be reviewed and reduced following Natural Resources Wales' review of the monitoring results as communicated to the operator in writing.	30 September 2022 or as otherwise agreed in writing with Natural Resources Wales
IC28	The Operator shall carry out a programme of total volatile organic carbon (TVOC) monitoring on certain emissions to air as specified in Table S3.1 Note 3. The monitoring will be completed over a period and frequency agreed with Natural Resources Wales to EN12619 standard. The Operator shall submit a written report to Natural Resources Wales for written approval including all monitoring results with an analysis of whether the TVOC emissions can be considered stable and low. Emission limit values may be reviewed and reduced following Natural Resources Wales' review of the monitoring results as communicated to the operator in writing.	30 September 2022 or as otherwise agreed in writing with Natural Resources Wales
IC29	The Operator shall carry out a programme of monitoring emissions to air as specified in Table S3.1 Note 5, the monitoring will be completed over a period agreed with Natural Resources Wales. The Operator shall submit a written report to Natural Resources Wales for written approval with an analysis of whether the emissions of certain parameters can be considered stable. Monitoring frequencies of certain parameters may be reviewed and reduced following Natural Resources Wales' review of the monitoring results as communicated to the operator in writing.	30 September 2022 or as otherwise agreed in writing with Natural Resources Wales
IC30	The operator shall submit to Natural Resources Wales for written approval a written procedure(s) describing how they intend to meet the following BAT requirements in accordance with requirements specified within BAT Conclusions of Common waste water and waste gas treatment / management systems in the chemical sector (EU 2016): • BAT 5 BAT is to periodically monitor diffuse VOC emissions to air from relevant sources by using an appropriate combination of the techniques I-III or, where large amounts of VOC are handled, all of the techniques I-III (i) Sniffing methods (e.g. with portable instruments according to EN 15446) associated with correlation curves for key equipment (ii) Optical gas imaging methods (iii) Calculation of emissions based on emissions factors, periodically validated (e.g. once every two years) by measurements	6 December 2021 or otherwise agreed in writing with Natural Resources Wales

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC31	The Operator shall submit a written report to Natural Resources Wales for written approval. The report shall address process monitoring for the emission abatement employed on emission points A10, A11 and A12. The report shall include; • a review of the current process monitoring techniques employed • a review of the requirement for process monitoring techniques in line with Best Available Techniques (BAT) including 'how to comply with your environmental permit' (2014) and industry best practice to ensure the ongoing efficacy of operation of the abatement plants • identification of any process monitoring improvements required to ensure BAT and a timetable for their implementation as necessary Any improvements required shall be implemented in accordance with an implementation timetable approved in writing by Natural Resources Wales.	31 March 2022 or otherwise agreed in writing with Natural Resources Wales

Table S1.4 Pre-operational measures	
Reference	**Pre-operational measures**
PO1	At least 12 weeks before restarting operation of the inorganic ammonium salts production activity (activity reference A5 in Table S1.1), the Operator shall submit a written report to NRW for written approval that details how the relevant and latest BAT conclusions including both narrative BAT and BAT-AEL for that activity are achieved. NRW will only issue approval to the report when it is satisfied that all BAT requirements have been met.

Schedule 2 - Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
None set	-

Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements

Emission point ref. & location Note 1	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 NGR: SJ 2338 6498	Wet scrubber – Formaldehyde derivatives storage	Dimethylamine	5 mg/m^3	Periodic	Quarterly	BS CEN TS 13649
A3 NGR: SJ 2311 6501	Adsorption – Propionic acid storage	No parameters set	No limit set	-	-	-
A4 NGR: SJ 2312 6501	Adsorption – Formic acid storage	No parameters set	No limit set	-	-	-
A5 NGR: SJ 2311 6501	Adsorption – Agricultural product storage	No parameters set	No limit set	-	-	-
A6 NGR: SJ 2311 6501	Adsorption – Agricultural product storage	No parameters set	No limit set	-	-	-
A7 NGR: SJ 2337 6487	Scrubber vent from R1, R2, R3, R4, R5 reactors and catalytic oxidiser from R6 reactor – Ammonium salts and formaldehyde derivatives plus venting emissions from TS Resins	Formaldehyde	2 mg/m^3	Periodic	Quarterly Note 2	BS CEN TS 13649 or US EPA Method 316 or CEN TS 17337
		Ammonia	10 mg/m^3	Periodic	Quarterly Note 2	EN ISO 21877 or CEN TS 17337
		Total volatile organic carbon (TVOC)	30 mg/m^3 Note 3	Periodic	Quarterly Note 2	EN 12619
A8 NGR: SJ 2337	Wet scrubber – RV10, AR2 and AR1 reactors – formaldehyde derivatives	Formaldehyde	5 mg/m^3	Periodic	Quarterly Note 2	BS CEN TS 13649 or US EPA Method 316 or CEN TS 17337

6488		Total volatile organic carbon (TVOC)	30 mg/m^3 Note 3	Periodic	Quarterly Note 2	EN 12619
A10 NGR: SJ 2321 6500	Fabric filters – Fine powder manufacture	Formaldehyde	5 mg/m^3	Periodic	Quarterly Note 2	BS CEN TS 13649 or US EPA Method 316 or CEN TS 17337
		Total volatile organic carbon (TVOC)	30 mg/m^3 Note 3	Periodic	Quarterly Note 2	EN 12619
		Dust	No limit set	Periodic	Monthly Note 5	EN 13284-1
A11 NGR: SJ 2322 6499	Wet scrubber – Fine powder manufacture	Ammonia	10 mg/m^3	Periodic	Quarterly Note 2	EN ISO 21877 or CEN TS 17337
		Formaldehyde	5 mg/m^3	Periodic	Quarterly Note 2	BS CEN TS 13649 or US EPA Method 316 or CEN TS 17337
		Total volatile organic carbon (TVOC)	30 mg/m^3 Note 3	Periodic	Quarterly Note 2	EN 12619
		Dust	No limit set	Periodic	Monthly Note 5	EN 13284-1
A12 NGR: SJ 2323 6494	Fabric filters – Paraformaldehyde production	Formaldehyde	5 mg/m^3	Periodic	Quarterly Note 2	BS CEN TS 13649 or US EPA Method 316 or CEN TS 17337
		Total volatile organic carbon (TVOC)	30 mg/m^3 Note 3	Periodic	Quarterly Note 2	EN 12619
		Dust	No limit set	Periodic	Monthly Note 5	EN 13284-1
A13 NGR: SJ 2332 6494	Methanol storage (no abatement)	No parameters set	No limit set	-	-	-
A14 NGR: SJ 2333 6494	Methanol storage (no abatement)	No parameters set	No limit set	-	-	-
A15 NGR: SJ 2336 6491	Wet scrubber – Tanker loading of formalin	Formaldehyde	5 mg/m^3	Periodic	Quarterly Note 2	BS CEN TS 13649 or US EPA Method 316 or CEN TS 17337
		Total volatile organic	30 mg/m^3 Note 3	Periodic	Quarterly Note 2	EN 12619

		carbon (TVOC)				
A16 NGR: SJ 2318 6497	Combustion of silver process exit gas (no abatement)	Formaldehyde	5 mg/m^3	Periodic	Once every six months	BS CEN TS 13649 or US EPA Method 316 or CEN TS 17337
		Total volatile organic carbon (TVOC)	40 mg/m^3	Periodic	Once every six months	EN 12619
		Oxides of nitrogen (NO and NO_2 expressed as NO_2)	50 mg/m^3	Periodic	Once every six months	EN 14792
A17 NGR: SJ 2319 6496	Three natural gas fired boilers (no abatement)	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	Periodic	Once every six months	EN 14792
		Carbon monoxide (CO)	No limit set	Periodic	Once every six months	EN 15058
		Sulphur dioxide (SO_2) Note 4	No limit set	Periodic	Once every six months	EN 14792
A18 NGR: SJ 2321 6497	Catalytic oxidation – Mixed oxide plant emission control system vent	Formaldehyde	5 mg/m^3	Periodic	Quarterly Note 2	BS CEN TS 13649 or US EPA Method 316 or CEN TS 17337
		Total volatile organic carbon (TVOC)	30 mg/m^3 Note 3	Periodic	Quarterly Note 2	EN 12619

Note 1: Refer to Emission points plan: 'Synthite – MAP 5 – REV2 Emission Points October 2004' in Schedule 7

Note 2: The minimum monitoring frequency for periodic measurements may be reduced to once every year if the emission levels are proven to be sufficiently stable. Subject to written approval by Natural Resources Wales and completion of Improvement Condition IC27.

Note 3: The ELV for TVOC may be reduced by written notice from Natural Resources Wales upon completion of Improvement Condition IC28.

Note 4: In the case of combustion of gaseous fuels and/or oil with a known sulphur content and where no flue-gas desulphurisation is carried out periodic monitoring can be replaced by calculation ensuring the provision of data of an equivalent scientific quantity.

Note 5: The minimum monitoring frequency for periodic measurements may be reduced to once every year if the emission levels are proven to be sufficiently stable. Subject to written approval by Natural Resources Wales and completion of Improvement Condition IC29.

Table S3.2 Point Source emissions to water (other than sewer) and land – emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
W1 [Point W1 on emissions points plan in Schedule 7] emission to River Alyn	Groundwater abstraction from Boreholes A and B to prevent site flooding and off-site surface water drainage via Parry's Ditch to prevent site flooding	pH	Minimum 6, Maximum 8.5	Instantaneous	Weekly	pH Meter
		Biological oxygen demand	10 mg/L	Instantaneous	Monthly	BS EN 1899
		Total suspended solids	20 mg/L	Instantaneous	Monthly	BS EN 872
		Formaldehyde	0.25 mg/L	Instantaneous	Weekly	DNPH/HPLC
		Total Ammonia (as nitrogen)	5 mg/L	Instantaneous	Weekly	BS EN ISO 11732
		Temperature	25 °C	Instantaneous	Weekly	Calibrated Thermometer
		Volumetric flow rate Note 2	700 m^3/day	Instantaneous	Weekly	Flow Meter Method (that meets MCertS)

Note 2: Not to exceed 30 m^3/hour

Table S3.3 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements						
Emission point ref. & location	**Source**	**Parameter**	**Limit (including unit)**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
S1 [Point S1 on emissions points plan in Schedule 7] emission to Dŵr Cymru Welsh Water Mold Industrial Estate Wastewater Treatment Works	Waste water from site (process, surface, culvert, cooling etc.) and selected waste water from TS Resins upon agreement	Total Ammonia (as nitrogen)	50 mg/L	Instantaneous	3 times per week	Ion Selective Electrode
		Temperature	43 °C	Instantaneous	3 times per week	Calibrated thermometer

Table S3.4 Surface water and groundwater monitoring requirements				
Location or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Groundwater reference points B/H1, B/H8, B/H9, B/H10, B/HA, B/HB, SP4	Groundwater level (m)	Monthly	Electronic Dip Tape	None
	Formaldehyde (mg/L)	Monthly	DNPH/HPLC	None
	Total ammonia (as nitrogen) (mg/L)	Monthly	BS EN ISO 11732	None
Sample culvert at culvert pump as identified on MAP6 Drainage Diagram	Formaldehyde (mg/L)	Weekly	DNPH/HPLC	None
	Total ammonia (as nitrogen) (mg/L)	Weekly	BS EN ISO 11732	None
River Alyn sampled downstream at NGR: SJ 2363 6487	Formaldehyde (mg/L)	Weekly	DNPH/HPLC	None
	Total ammonia (as nitrogen) (mg/L)	Weekly	BS EN ISO 11732	None
	pH	Weekly	pH Meter	None

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Emissions to air Parameters as required by condition 3.5.1.	A1, A7, A8, A10, A11, A12, A15, A16, A17, A18	Every 3 months	1 January, 1 April, 1 July, 1 October
Emissions to water Parameters as required by condition 3.5.1	W1	Every 3 months	1 January, 1 April, 1 July, 1 October
Emissions to sewer Parameters as required by condition 3.5.1	S1	Every 3 months	1 January, 1 April, 1 July, 1 October
Surface water and ground water monitoring Parameters as required by condition 3.5.1	Borehole Reference Points B/H1, B/H8, B/H9, B/H10, B/HA, B/HB, SP4 Sample culvert at culvert pump as identified on MAP6 Drainage Diagram River Alyn sampled downstream at NGR: SJ 2363 6487	Every 3 months	1 January, 1 April, 1 July, 1 October

Table S4.2: Annual production/treatment

Parameter	Units
Formaldehyde produced	tonnes
Formaldehyde derivatives produced	tonnes
Chemicals produced	tonnes

Table S4.3 Performance parameters

Parameter	Frequency of assessment	Units
Water usage	Annually	tonnes
Energy usage	Annually	MWh
Waste disposal and/or recovery	Annually	tonnes
Total raw material used	Annually	tonnes

Table S4.4 Reporting forms

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by Natural Resources Wales	09/11/2022
Water and Land	Form water 1 or other form as agreed in writing by Natural Resources Wales	09/11/2022

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Sewer	Form sewer 1 or other form as agreed in writing by Natural Resources Wales	09/11/2022
Water usage	Form water usage 1 or other form as agreed in writing by Natural Resources Wales	09/11/2022
Energy usage	Form energy 1 or other form as agreed in writing by Natural Resources Wales	09/11/2022
Surface water and groundwater	Form surface water and groundwater 1 or other form as agreed in writing by Natural Resources Wales	09/11/2022
Waste disposal and recovery	Form waste 1 or other form as agreed in writing by Natural Resources Wales	09/11/2022
Other performance indicators	Form performance 1 or other form as agreed in writing by Natural Resources Wales	09/11/2022

Schedule 5 - Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	**EPR/BU2349IL**
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any activity that gives rise to an incident or accident which significantly affects or may significantly affect the environment	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a permit condition	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	**Notification period**

(c) In the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment:	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 - Interpretation

"accident" means an accident that may result in pollution.

"application" means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

"authorised officer" means any person authorised by Natural Resources Wales under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

"building" means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter.

*"disposal" or "D" m*eans any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

"DNPH" – 2,4-dinitrophenylhydrazine

"emissions to land" includes emissions to groundwater.

"EP Regulations" means The Environmental Permitting (England and Wales) Regulations SI 2016 No.1154 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

"emissions of substances not controlled by emission limits" means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit**.**.

"groundwater" means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"hazardous property" has the meaning in Annex lll of the Waste Framework Directive

"hazardous waste" has the meaning given in the Hazardous Waste (Wales) Regulations 2005 (as amended)

"hazardous substance" means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008

"HPLC" – High Performance Liquid Chromatography

"Industrial Emissions Directive" means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

"MPP" means Multi Product Protocol

"quarter" means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

"recovery" or "R" means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

"Waste code" means the six digit code referable to a type of waste in accordance with the list of wastes established by Commission Decision 2000/532/EC as amended from time to time (the 'List of Wastes Decision') and in relation to hazardous waste, includes the asterisk.

"Waste Framework Directive" or *"WFD"* means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste

“year” means calendar year ending 31 December.

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

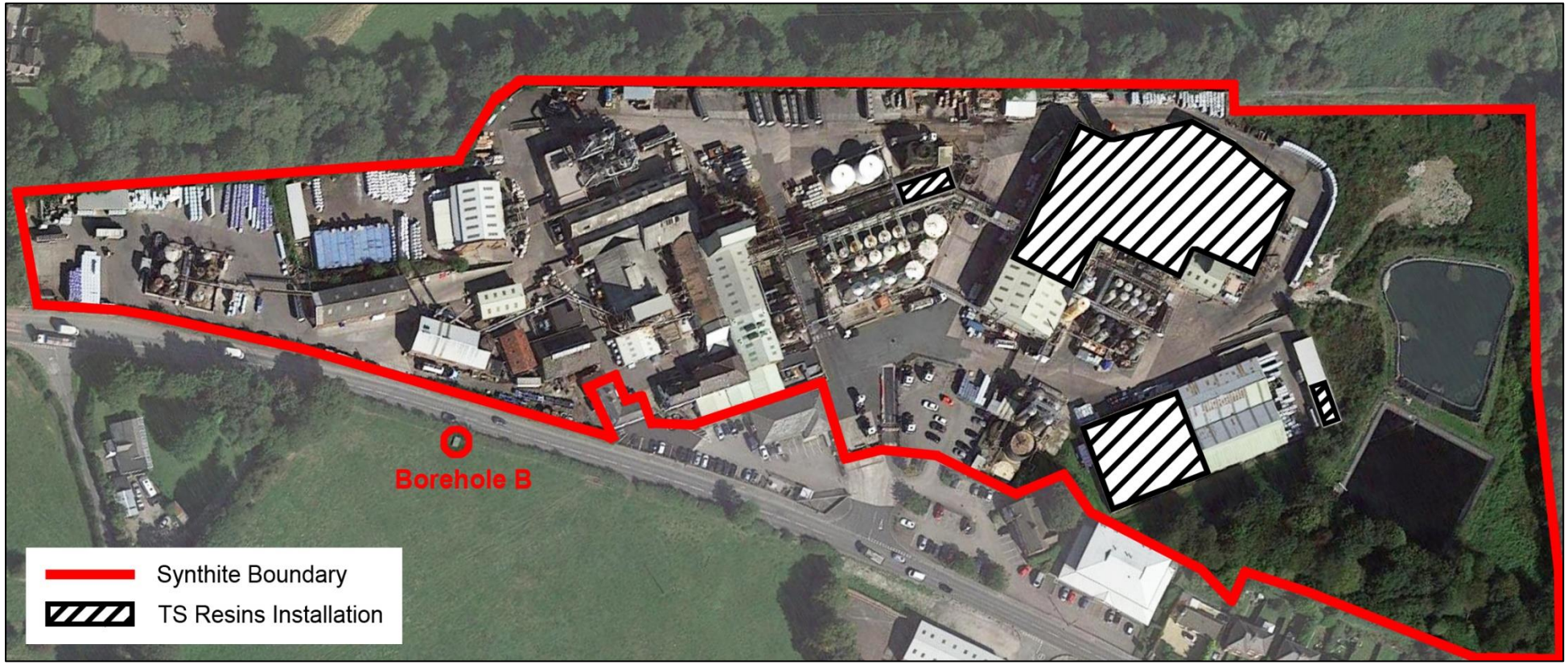
(a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273 K, at a pressure of 101.3 kPa and with an oxygen content of 3 % dry for liquid and gaseous fuels

(b) in relation to emissions of TVOC and formaldehyde to air from the installation, expressed as mass of emitted substance per volume of waste gas under standard conditions - dry gas at temperature of 273.15 K, and a pressure of 101.3 kPa, no correction for oxygen content.

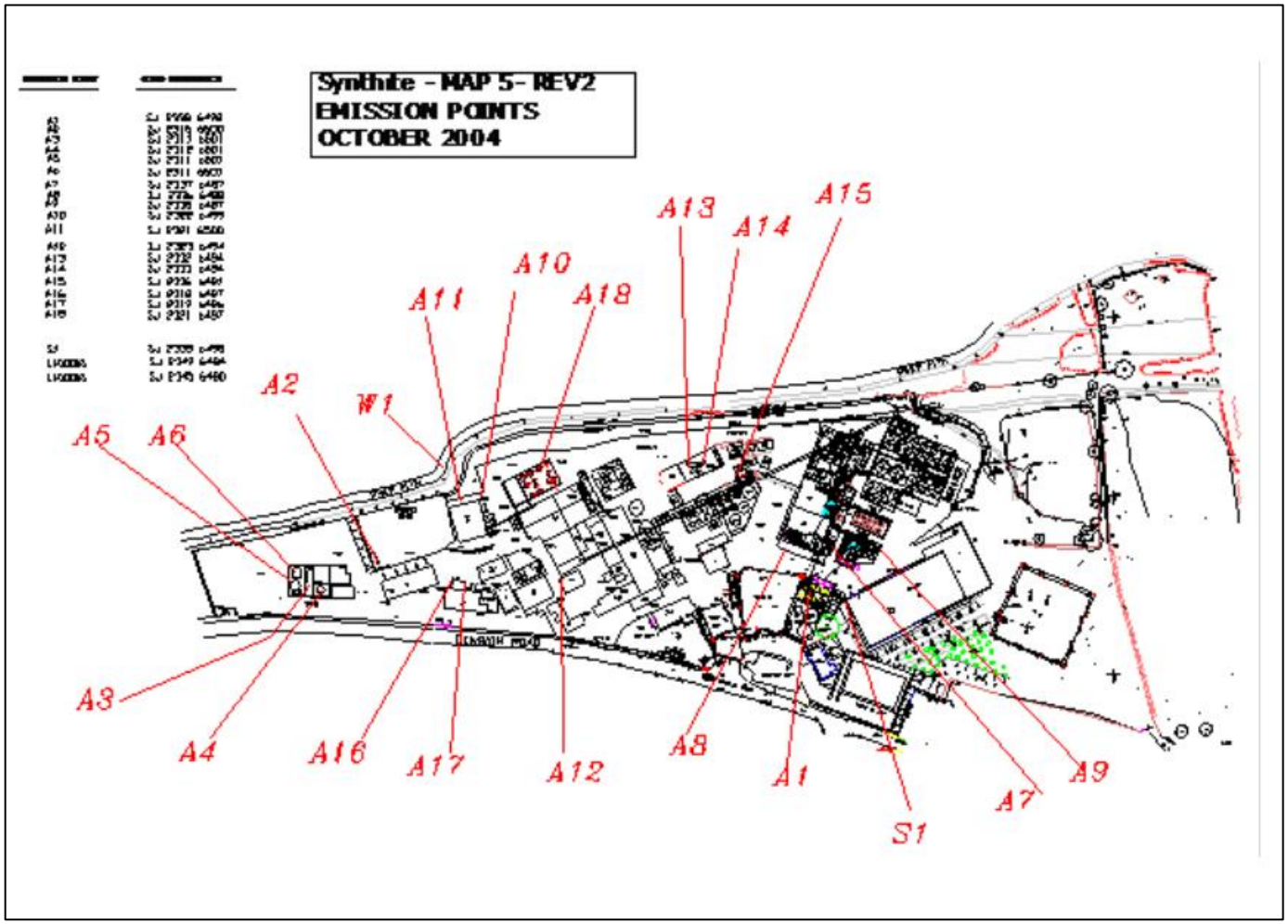
(c) Unless otherwise stated, in relation to emissions from non-combustion sources, the concentration at a temperature of 273 K and at a pressure of 101.3 kPa, with no correction for water vapour content.

Schedule 7 - Site plan

Site Plan



Emission points plan: 'Synthite – MAP 5 – REV2 Emission Points October 2004



END OF PERMIT