



Headquarters
P.O. Box 3000
Johnstown Castle Estate
County Wexford
Ireland.

**INTEGRATED POLLUTION PREVENTION & CONTROL LICENCE
Recommended Determination**

Licence Register Number:	P0519-03
Licensee:	Gypsum Industries Limited
CRO Number:	11815
Location of Installation:	Mining Operation: Knocknacran, Magheracloone, Drummond, Derrynascobe, Derrynaglah, Ballycartlan, Enagh Carrickmacross, County Monaghan. Processing Operation: Lisnabow, Kilmainhamwood, Kells, County Meath.

INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

Gypsum Industries Limited operates a gypsum mine near Carrickmacross, Co. Monaghan. The mine produces between 300,000 and 500,000 tonnes of gypsum (calcium sulphate dihydrate) per annum. Activities at the mine site include a crushing plant, lorry loading facilities, workshop, storage silos, office buildings and a water lagoon system. Extracted gypsum is processed into gypsum plaster and plasterboard at the company's processing site at Kilmainhamwood, Co. Meath.

The mining activity falls under Class 1.3 of the EPA Acts 1992 to 2013. Activities at the mine and plasterboard production sites have been the subject of an IPC licence since 2002. A revised licence was issued in 2005 which itself was the subject of three subsequent technical amendments.

Until July 2009, the licensee operated a landfill which is a specified activity under Category 5.4 of Annex I of the IPPC Directive. The licence was brought into compliance with the requirements of the IPPC Directive in 2006.

The licence sets out in detail the conditions under which Gypsum Industries Ltd., will operate and manage this installation. It authorises the importation of waste plasterboard for recycling at the installation. The licence will ensure that the landfill is closed in full accordance with the Landfill Directive.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Acts 1992 to 2011 and Waste Management Acts 1996 to 2011, unless otherwise defined in the section.

Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Agreement	Agreement in writing and "agreed" shall be construed accordingly.
Annually	All or part of a period of twelve consecutive months.
Application	The application by the licensee for this licence.
Appropriate Facility	A waste management facility, duly authorised under relevant law and technically suitable.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
BAT	Best Available Techniques.
Biannually	At approximately six – monthly intervals.
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand (without nitrification suppression).
CBOD	5 day Carbonaceous Biochemical Oxygen Demand (with nitrification suppression).
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
COD	Chemical Oxygen Demand.
Compliance Point	The point (location, depth) at which a compliance value should be met. Generally it is represented by a borehole or monitoring well from which representative groundwater samples can be obtained.
Compliance Value	The concentration of a substance and associated compliance regime that, when not exceeded at the compliance point will prevent pollution and/or achieve water quality objectives at the receptor.
Characterisation of waste	The sampling and analysis of waste to determine, amongst other things, its nature and composition, including the proportions of biodegradable, recyclable and other materials in the waste.

Classification of waste	The classification of waste as inert, non-hazardous or hazardous for the purpose of article 4 of Council Directive (1999/31/EC) on the landfill of waste.
Coding of waste	The allocation of a European Waste Catalogue/Hazardous Waste List code and a concise/standardised description of the waste, including information on the source of the waste, e.g. municipal, industrial, construction and demolition etc.
Construction and demolition (C&D) waste	Wastes that arise from construction, renovation and demolition activities: Chapter 17 of the EWC or as otherwise may be agreed.
Cover Material	Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other similar natural materials or other cover material, the use of which has been agreed with the Agency.
Containment boom	A boom that can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
CRO Number	11815
Daily	During all days of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.
Daytime	0700hrs to 1900hrs.
dB(A)	Decibels (A weighted).
DO	Dissolved oxygen.
Documentation	Any report, record, results, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
Emission limits	Those limits, including concentration limits and deposition rates, established in <i>Schedule B: Emission Limits</i> , of this licence.
EMP	Environmental Management Programme.
Environmental damage	As defined in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.

Evening Time	1900hrs to 2300hrs
Extractive Waste	As defined in regulation 3(2) of the Waste Management (Management of Waste from the Extractive Industries) Regulations, 2009, S.I. No. 566 of 2009.
Facility	Any site or premises used for the purpose of the recovery of disposal or waste:
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
Gas Oil	Gas Oil as defined in Council Directive 1999/32/EC and meeting the requirements of S.I. No. 119 of 2008.
GC/MS	Gas chromatography/mass spectroscopy.
ha	Hectare.
Heavy metals	This term is to be interpreted as set out in "Parameters of Water Quality, Interpretation and Standards" published by the Agency in 2001. ISBN 1-84095-015-3.
HFO	Heavy Fuel Oil as defined in Council Directive 1999/32/EC and meeting the requirements of S.I. No. 119 of 2008.
Hours of operation	The hours during which the installation is authorised to be operational.
Hours of waste acceptance	The hours during which the installation is authorised to accept waste.
ICP	Inductively coupled plasma spectroscopy.
Incident	The following shall constitute as incident for the purposes of this licence: <ul style="list-style-type: none"> (i) an emergency; (ii) any emission which does not comply with the requirements of this licence; (iii) any trigger level specified in this licence which is attained or exceeded; and, (iv) any trigger level specified in this licence which is attained or exceeded; and, (v) any indication that environmental pollution has, or may have, taken place.
Installation	A stationary technical unit or plant where the activity concerned referred to in the First Schedule of EPA Acts 1992 to 2011 is or will be carried on, and shall be deemed to include any directly associated activity, which has a technical connection with the activity and is carried out on the site of the activity.
Industrial waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2011.

Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Initial development works	Such works, actions or constructions as may be specified, which for the purposes of environmental protection and safe construction and operation of the facility, have to be carried out in the initial stages of site development, and in any case in advance of the commencement of construction of the landfill cells.
Intermediate Cover	Refers to placement of suitable, adequate and stable material (minimum of 300mm if soil is used) over deposited waste for a period of time prior to temporary capping in uncapped areas other than daily cover.
IPPC	Integrated Pollution Prevention & Control.
K	Kelvin.
kPa	Kilopascals.
Landfill Directive	Council Directive 1999/31/EC.
Landfill footprint	The area of the facility where waste is deposited.
L_{eq}	Equivalent continuous sound level.
L_{eqT}	The equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample time period (T).
L_{Ar,T}	The Rated Noise Level, equal to the LA _{eq} during a specified time interval (T), plus specified adjustments for tonal character and/or impulsiveness of the sound.
Licensee	Gypsum Industries Ltd., Unit 14, Park West Industrial Park, Dublin 12. CRO Number 11815.
Lighting-up time	30 minutes after sun set.
Liquid waste	Any waste in liquid form and containing less than 2% dry matter.
List I	As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.
List II	As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.
Local Authority	Monaghan County Council (Mining Operations) Meath County Council (Process Operations)

Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function adequately.
Mass flow limit	An emission limit value expressed as the maximum mass of a substance that can be emitted per unit time.
Mass flow threshold	A mass flow rate above which a concentration limit applies.
Monthly	A minimum of 12 times per year, at intervals of approximately one month.
Night-time	2300hrs to 0700hrs.
Noise-sensitive location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Oil separator	Device installed according to the International Standard I.S. EN 858-2:2003 (Separator system for light liquids, (e.g. oil and petrol) – Part 2: Selection of normal size, installation, operation and maintenance).
Pollution Reduction Plan	Plan established in accordance with Part V of the European Communities Environmental Objectives (Surface Waters) Regulations S.I No. 272 of 2009 for the reduction of pollution from priority substances or the ceasing or phasing out of emissions, discharges and losses of priority hazardous substances.
PRTR	Pollutant Release and Transfer Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Recovered material	Material that has been recovered and/or prepared from waste and is fit for purpose for the closure, remediation and after-care of the landfill.
Sample(s)	Unless the context of this licence indicates to the contrary, the term samples shall include measurements taken by electronic instruments.
Sanitary effluent	Wastewater from facility toilet, washroom and canteen facilities.
SOP	Standard operating procedure.
Source segregated waste	Waste which is separated at source; meaning that the waste is sorted at the point of generation into a recyclable fraction(s) for separate collection (e.g., paper, metal, glass, plastic, bulk dry recyclables, biodegradables, etc.) and a residual fraction. The expression 'separate at source' shall be construed accordingly.
Specified emissions	Those emissions listed in <i>Schedule B: Emission Limits</i> , of this licence.
Standard method	A National, European or internationally recognised procedure (e.g. I.S. EN, ISO, CEN, BS or equivalent); or an in-house documented procedure based on the above references; a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater" (prepared

and published jointly by A.P.H.A., A.W.W.A. & W.E.F.), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or an alternative method as may be agreed by the Agency.

Storm water	Rain water run-off from roof and non-process areas.
TA Luft	Technical Instructions on Air Quality Control – TA Luft in accordance with art. 48 of the Federal Immission Control Law (BImSchG) dated 15 March 1974 (BGBl. I p 721). Federal Ministry for Environment, Bonn 1986, including the amendment for Classification of Organic Substances according to section 3.1.7 TA. Luft, published in July 1997.
The Agency	Environmental Protection Agency.
TOC	Total organic carbon.
Trade effluent	Trade effluent has the meaning given in the Water Services Act, 2007.
Treatment/pre-treatment	In relation to waste, any manual, thermal, physical, chemical or biological processes that change the characteristics of waste in order to reduce its volume or hazardous nature or facilitate its handling, disposal or recovery.
Trigger level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Waste disposal operation	Means any of the operations included in the Third Schedule to the Waste Management Act 1996.
Waste recovery operation	Means any of the operations included in the Fourth Schedule to the Waste Management Act 1996.
Waste facility	As defined in regulation 3(2) of the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009.
Water Services Authority	Monaghan County Council (Mining Operations) Meath County Council (Process Operations)
Weekly	During all weeks of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement in any one week.
WWTP	Waste water treatment plant.

Decision & Reasons for the Decision

The Environmental Protection Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 83(5) of the Environmental Protection Agency Acts 1992 to 2013.

In reaching this decision the Environmental Protection Agency has considered the application and supporting documentation received from the applicant, all submissions received from other parties and the report of its inspector.

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Environmental Protection Agency Acts 1992 to 2013, the Agency proposes to determine the review of the existing licence (Reg. No. P0519-02) granted to:

Gypsum Industries Ltd., Unit 14, Park West Industrial Park, Dublin 12,

under Section 90(2) of the said Acts to carry on the following activities:

- Class 1.3 The extraction and processing (including size reduction, grading and heating) of minerals within the meaning of the Minerals Development Acts 1940 to 1999, where an activity involves -

any other operation where either the level of extracted or processed minerals is greater than 200,000 tonnes per annum or the total operational yield is greater than 1,000,000 tonnes, and storage of related mineral waste.

- Class 11.1 **The recovery or disposal of waste in a facility, within the meaning of the Act of 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.**

at Knocknacran, Magheracloone, Drummond, Derrynascobe, Derrynaglah, Ballycartlan, Enagh and Carrickmacross, County Monaghan, and at Lisnabow, Kilmainhamwood and Kells, County Meath.

Part II Schedule of Activities Refused

None of the proposed activities as set out in the licence application have been refused.

Part III Conditions

Condition 1. Scope

- 1.1 IPPC activities shall be restricted to those listed and described in *Part I Schedule of Activities Licensed*, and shall be as set out in the licence application or as modified under Condition 1.4 of this licence and subject to the conditions of this licence.
- 1.2 Activities at this installation shall be limited as set out in *Schedule A: Limitations*, of this licence.
- 1.3 For the purposes of this licence, the installation authorised by this licence are the areas of land outlined in red on Drawing No. 165a – 24 – 99 (Mine site) and Drawing No. KCENVMN17 (processing site) of the application. Any reference in this licence to “installation” shall mean the areas thus outlined in red. The licensed activities shall be carried on only within the areas outlined.
- 1.4 No alteration to, or reconstruction in respect of, the activity, or any part thereof, that would, or is likely to, result in
- (i) a material change or increase in:
 - the nature or quantity of any emission;
 - the abatement/treatment or recovery systems;
 - the range of processes to be carried out;
 - the fuels, raw materials, intermediates, products or wastes generated, or
 - (ii) any changes in:
 - installation management, infrastructure or control with adverse environmental significance;
- shall be carried out or commenced without prior notice to, and without the agreement by, the Agency.
- 1.5 The installation shall be controlled, operated and maintained, and emissions shall take place as set out in the licence. All programmes required to be carried out under the terms of this licence become part of this licence.
- 1.6 This licence is for the purpose of IPPC licensing under the EPA Acts 1992 to 2013 only and nothing in this licence shall be construed as negating the licensee’s statutory obligations or requirements under any other enactments or regulations.
- 1.7 **This licence has been granted in substitution for the licence granted to the licensee on 18th February 2005. The previous IPPC licence (Register No. P0519-02) is superseded by this revised IPPC licence (Register No P0519-03).**

Reason: *To clarify the scope of this licence.*

Condition 2. Management of the Installation

- 2.1 Installation Management
- 2.1.1 The licensee shall employ a suitable qualified and experienced installation manager who shall be designated as the person in charge. The installation manager or a nominated, suitably qualified and experienced deputy shall be present on the installation at all times during its operation or as otherwise required by the Agency.
- 2.1.2 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience as required and shall be aware of the requirements of this licence.

2.2 Environmental Management System (EMS)

2.2.1 The licensee shall **maintain** an Environmental Management System (EMS). The EMS shall be updated on an annual basis.

2.2.2 The EMS shall include, as a minimum, the following elements:

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall **maintain** a Schedule of Environmental Objectives and Targets. The schedule shall, as a minimum, provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology, cleaner production, production related carbon footprint, and the prevention, reduction and minimisation of waste and shall include waste reduction targets. The schedule shall include time frames for the achievement of set targets and shall address a five-year period as a minimum. The schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall **maintain** an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. Once agreed the EMP shall be maintain by the licensee. It shall include:

- designation of responsibility for targets;
- the means by which they may be achieved;
- the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report.

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

(i) The licensee shall **maintain** an environmental management documentation system which shall be to the satisfaction of the Agency.

(ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall **maintain** procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for persons initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.2.2.6 Awareness and Training

The licensee shall **maintain** procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.7 Communications Programme

(i) The licensee shall maintain a Public Awareness and Communications Programme to ensure that members of the public

are informed concerning the environmental performance of the installation.

- (ii) The licensee shall **maintain** to the satisfaction of the Agency a forum for a multi-agency committee to provide for an integrated approach to operational review.

2.2.2.8 Maintenance Programme

The licensee shall maintain a programme for maintenance of all plant and equipment based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel (see Condition 2.1 above).

2.2.2.9 Efficient Process Control

The licensee shall maintain a programme to ensure there is adequate control of processes under all modes of operation. The programme shall identify the key indicator parameters for process control performance, as well as identifying methods for measuring and controlling these parameters. Abnormal process operating conditions shall be documented, and analysed to identify any necessary corrective action.

Reason: *To make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.*

Condition 3. Infrastructure and Operation

- 3.1 The licensee shall establish and maintain, for each component of the installation, all infrastructure referred to in this licence in advance of the commencement of the licensed activities in that component, or as required by the conditions of this licence. Infrastructure specified in the application that relates to the environmental performance of the installation and is not specified in the licence, shall be installed in accordance with the schedule submitted in the application.
- 3.2 Installation Notice Board
 - 3.2.1 The licensee shall maintain an Installation Notice Board on the installation so that it is legible to persons outside the main entrance to the installation. The minimum dimensions of the board shall be 1200 mm by 750 mm. The notice board shall be maintained thereafter.
 - 3.2.2 The board shall clearly show:
 - (i) the name and telephone number of the installation;
 - (ii) the normal hours of operation;
 - (iii) the name of the licence holder;
 - (iv) an emergency out of hours contact telephone number;
 - (v) the licence reference number; and
 - (vi) where environmental information relating to the installation can be obtained.
- 3.3 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.

3.4 In the case of composite sampling of aqueous emissions from the operation of the installation a separate composite sample or homogeneous sub-sample (of sufficient volume as advised) shall be refrigerated immediately after collection and retained as required for EPA use.

3.5 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency. The requirement with regard to off-site points is subject to the prior agreement of the landowner(s) concerned.

3.6 Tank, Container and Drum Storage Areas

3.6.1 All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).

3.6.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:

- (i) 110% of the capacity of the largest tank or drum within the bunded area; or
- (ii) 25% of the total volume of substance that could be stored within the bunded area.

3.6.3 All drainage from bunded areas shall be treated as hazardous waste unless it can be demonstrated to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal.

3.6.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.

3.6.5 All tanks, containers and drums shall be labelled to clearly indicate their contents.

3.7 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the installation. Once used, the absorbent material shall be disposed of at an appropriate facility.

3.8 Silt Traps and Oil Separators

The licensee shall, within six months of date of grant of this licence, install and maintain silt traps and oil separators at the installation:

- (i) Silt traps to ensure that all storm water discharges, other than from roofs, from the installation pass through a silt trap in advance of discharge;
- (ii) An oil separator on the storm water discharge from yard areas.

The silt traps and separator shall be in accordance with I.S. EN-858-2: 2003 (separator systems for light liquids).

3.9 Fire-water Retention

3.9.1 The licensee shall carry out a risk assessment to determine if the activity should have a fire-water retention facility. The licensee shall submit the assessment and a report to the Agency on the findings and recommendations of the assessment within six months of the date of grant of this licence.

3.9.2 In the event that a significant risk exists for the release of contaminated fire-water, the licensee shall, based on the findings of the risk assessment, prepare and implement, with the agreement of the Agency, a suitable risk management programme. The risk management programme shall be fully implemented within three months of date of notification by the Agency.

3.9.3 In the event of a fire or a spillage to storm water, the installation storm water shall be diverted to a containment pond. The licensee shall examine, as part of the response programme in Condition 3.9.2 above, the provision of automatic diversion of storm water to the containment pond. The licensee shall have regard to any guidelines issued by the Agency with regard to firewater retention.

3.9.1 The licensee shall have regard to the Environmental Protection Agency Draft Guidance Note to Industry on the Requirements for Fire-Water Retention Facilities when implementing Conditions 3.9.1 and 3.9.1 above.

- 3.10 All pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separators, shall be fitted with high liquid level alarms (or oil detectors as appropriate) **within six months** from the date of grant of this licence.
- 3.11 The provision of a catchment system to collect any leaks from flanges and valves of all over-ground pipes used to transport material other than water shall be examined. This shall be incorporated into a Schedule of Environmental Objectives and Targets set out in Condition 2 of this licence for the reduction in fugitive emissions.
- 3.12 All wellheads shall be adequately protected to prevent contamination or physical damage.
- 3.13 The licensee shall maintain in a prominent location on the installation a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the installation.
- 3.14 The licensee shall maintain and operate the weather monitoring station on the installation at the currently agreed location, which records conditions of wind speed and wind direction.
- 3.15 The licensee shall maintain a wastewater treatment system at the installation for the treatment of sanitary effluent arising on-site. Any wastewater treatment system and percolation area shall satisfy the criteria set out in the *Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses (p.e ≤ 10)*, published by the Environmental Protection Agency.
- 3.16 The licensee shall maintain adequate written procedures for the de-sludging and maintenance of the on-site sanitary effluent treatment system, settlement ponds, holding tanks and leachate lagoons.
- 3.17 **Specified Engineering Works (SEW)**
- 3.17.1 The licensee shall submit proposals for any Specified Engineering Works, as defined in *Schedule D: Specified Engineering Works*, of this licence, to the Agency for its agreement at least two months in advance of the intended date of commencement of any such works. No such works shall be carried out without the prior agreement by the Agency.
- 3.17.2 All specified engineering works shall be supervised by an appropriately qualified person, and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 3.17.3 Following the completion of any specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall, as appropriate, include the following information:
- (i) A description of the works;
 - (ii) As-built drawings of the works;
 - (iii) Records and results of all tests carried out (including failures);
 - (iv) Drawings and sections showing the location of all samples and tests carried out;
 - (v) Name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
 - (vi) Records of any problems and the remedial works carried out to resolve those problems; and
 - (vii) Any other information requested in writing by the Agency.
- 3.18 **Waste Gypsum Storage Area**
- The licensee shall provide and maintain a waste gypsum storage area at the processing site. This infrastructure shall at a minimum comprise the following:
- 3.18.1 An impermeable concrete slab; and,
- 3.18.2 Collection and disposal infrastructure for all runoff.

3.19 Waste Inspection and Quarantine Areas

- 3.19.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the processing site.
- 3.19.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be clearly identified and segregated from each other.
- 3.19.3 Drainage from these areas shall be directed to the settling lagoons.

3.20 Weighbridge

The licensee shall maintain a weighbridge at the processing site.

- 3.21 Natural gas or biodiesel meeting CEN standard EN14214 shall be used in the boilers at the installation. In the event of an interruption to the supply of natural gas or biodiesel, an alternative fuel such as gas oil may be used with the prior written agreement of the Agency.

Reason: *To provide for appropriate operation of the installation to ensure protection of the environment.*

Condition 4. Interpretation

- 4.1 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:
- 4.1.1 Continuous Monitoring
- (i) No 24 hour mean value shall exceed the emission limit value.
 - (ii) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value.
 - (iii) No 30 minute mean value shall exceed twice the emission limit value.
- 4.1.2 Non-Continuous Monitoring
- (i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
 - (ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.
 - (iii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
 - (iv) Mass flow thresholds refer to a rate of discharge expressed in units of kg/h, above which the concentration emission limit value applies. Mass flow threshold rates shall be determined on the basis of a single 30 minute measurement (i.e. the concentration determined as a 30 minute average shall be multiplied by an appropriate measurement of flow and the result shall be expressed in units of kg/h).
 - (v) Mass flow limits shall be calculated on the basis of the concentration, determined as an average over the specified period, multiplied by an appropriate measurement of flow. No value, so determined, shall exceed the mass flow limit value.
- 4.2 The concentration and volume flow limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of:
- 4.2.1 From non-combustion sources:

Temperature 273K, Pressure 101.3 kPa (no correction for oxygen or water content):

- 4.2.2 From combustion sources:
Temperature 273K, Pressure 101.3 kPa, dry gas; 3% oxygen for liquid and gas fuels, 6% oxygen for solid fuels.
- 4.3 Emission limit values for emissions to waters in this licence shall be interpreted in the following way:
- 4.3.1 Continuous Monitoring
- (i) No flow value shall exceed the specific limit.
 - (ii) No pH value shall deviate from the specified range.
 - (iii) No temperature value shall exceed the limit value.
- 4.3.2 Composite Sampling
- (i) No pH value shall deviate from the specified range.
 - (ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual results similarly calculated shall exceed 1.2 times the emission limit value.
- 4.3.3 Discrete Sampling
- For parameters other than pH and temperature, no grab sample value shall exceed 1.2 times the emission limit value.
- 4.4 Limit values for a point of compliance in the receiving water shall be interpreted in the following way:-
- 4.4.1 Continuous monitoring:
- (i) No conductivity value shall exceed the limit value.
- 4.4.2 Non-Continuous Monitoring:
- (i) With the exception of conductivity, 95% of daily mean concentrations or mass emission values calculated on the basis of flow proportional composite sampling shall not exceed the limit value. No individual concentration or mass emission similarly calculated shall exceed 1.5 times the limit value.
 - (ii) For parameters, other than conductivity, no grab sample value shall exceed 1.5 times the limit value.
- 4.5 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.
- 4.6 Noise
- 4.6.1 Off-site noise, vibration & air overpressure
- (i) Noise from the installation shall not give rise to sound pressure levels (Leq, T) measured at the boundary of the installation which exceed the limit value(s).
 - (ii) Vibration levels measured at noise sensitive locations shall not exceed the specified limit values.
 - (iii) Air overpressure levels measured at noise sensitive locations shall not exceed the specified limit values.
- 4.7 Dust and Particulate Matter
- Dust and particulate matters from the activity shall not give rise to deposition levels which exceed the limit value.

Reason: To clarify the interpretation of limit values fixed under the licence.

Condition 5. Emissions

- 5.1 No specified emission from the installation shall exceed the emission limit values set out in *Schedule B: Emission Limits*, subject to Condition 4, of this licence. There shall be no other emissions of environmental significance.
- 5.2 No emissions, including odours, from the activities carried on at the installation shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary.
- 5.3 No substance shall be discharged in a manner, or at a concentration, that, following initial dilution, causes tainting of fish or shellfish.
- 5.4 There shall be no discharge of mine water at the mine site or of process water or leachate at the processing site to the sanitary effluent treatment system.
- 5.5 The licensee shall ensure that all or any of the following:
- Mud
 - Dust
 - Litter

associated with the activity do not result in an impairment of, or an interference with, amenities or the environment at the installation or beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary. Any method used by the licensee to control or prevent any such impairment/interference shall not cause environmental pollution.

- 5.6 Trucks or other vehicles used for transport of excavated or crushed materials from the installation shall be covered to prevent the creation of nuisance on public roads.
- 5.7 No blast or combination of simultaneous blasts shall give rise to a vibration level at any noise sensitive location which exceeds a peak particle velocity of 7.5 mm/second, as measured in three mutually orthogonal directions about a fixed point.
- 5.8 No blast or combination of simultaneous blasts shall give rise to an air-overpressure level at any noise sensitive location which exceeds 125 dB (lin) max peak.
- 5.9 There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive location other than when blasting occurs or when a siren is used to give blast warnings.
- 5.10 There shall be no blasting on Sundays and public holidays and outside the hours 09.00 to 18.00 except in the case of an emergency. The following records shall be maintained at the facility:
- (i) date and time of any blasting,
 - (ii) location of the charges,
 - (iii) amount and type of explosive used,
 - (iv) maximum instantaneous charge,
 - (v) air overpressure and vibration monitoring results,
- and reported to the Agency quarterly. A summary table of the quantity of explosive used and blast monitoring results shall be **submitted on a quarterly basis to the Agency.**
- 5.11 The licensee shall establish and maintain a documented blast design system to provide for the control of blast impact on noise sensitive locations.
- 5.12 Vibration and air overpressure monitoring.
- 5.12.1 The licensee shall maintain air overpressure and vibration monitoring facilities at the **currently agreed locations at the installation and at any additional location as may be required the Agency.**
- 5.12.2 Monitoring of air overpressure and vibration shall take place during each blast.

Reason: *To provide for the protection of the environment by way of control and limitation of emissions.*

Condition 6. Control and Monitoring

6.1 Test Programme

6.1.1 The licensee shall prepare to the satisfaction of the Agency, a test programme for abatement equipment installed to abate emissions to atmosphere. This programme shall be submitted to the Agency in advance of implementation.

6.1.2 The programme, following agreement with the Agency, shall be completed within three months of the commencement of operation of the abatement equipment.

6.1.3 The criteria for the operation of the abatement equipment as determined by the test programme, shall be incorporated into the standard operating procedures.

The test programme shall as a minimum:

(i) establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in this licence; and

(ii) assess the performance of any monitors on the abatement system and establish a maintenance and calibration programme for each monitor.

6.1.4 A report on the test programme shall be submitted to the Agency within one month of completion.

6.2 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control & Monitoring*, of this licence.

6.2.1 Analyses shall be undertaken by competent staff in accordance with documented operating procedures.

6.2.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics shall be determined.

6.2.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.

6.2.4 Where any analysis is sub-contracted it shall be to a competent laboratory.

6.3 The licensee shall ensure that:

(i) sampling and analysis for all parameters listed in the Schedules to this licence; and

(ii) any reference measurements for the calibration of automated measurement systems;

shall be carried out in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards that will ensure the provision of data of an equivalent scientific quality shall apply.

6.4 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. The use of alternative equipment, other than in emergency situations, shall be as agreed by the Agency.

6.5 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission/discharge (or ambient conditions where that is the monitoring objective).

6.6 All treatment/abatement and emission control equipment shall be calibrated and maintained in accordance with the instructions issued by the manufacturer/supplier or installer.

- 6.7 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.
- 6.8 The licensee shall prepare a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions using an appropriate combination of best available techniques. This programme shall be included in the Environmental Management Programme.
- 6.9 The integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 6.10 The drainage system (i.e., gullies, manholes, any visible drainage conduits and such other aspects as may be agreed) and bunds, silt traps and oil separators shall be inspected weekly and desludged as necessary. All sludge and drainage from these operations shall be collected for safe disposal. The drainage system, bunds, silt traps and oil interceptors shall be properly maintained at all times.
- 6.11 Process Effluent
- 6.11.1 The acute toxicity of the undiluted final effluent to at least four aquatic species from different trophic levels shall be determined by standardised and internationally accepted procedures and carried out by a competent laboratory. The name of the laboratory and the scope of testing to be undertaken shall be submitted, in writing, to the Agency, within three months of the date of grant of this licence. Once the testing laboratory and the scope of testing have been agreed by the Agency, the Agency shall decide when this testing is to be carried out and copies of the complete reports shall be submitted by the licensee to the Agency within six weeks of completion of the testing.
- 6.11.2 Having identified the most sensitive species outlined in Condition 6.11.1, subsequent compliance toxicity monitoring on the two most sensitive species shall be carried out by the laboratory identified in Condition 6.11.1. The Agency shall decide when this testing is to be carried out and copies of the complete reports shall be submitted by the licensee to the Agency within six weeks of completion of the testing.
- 6.11.3 A representative sample of effluent shall be screened for the presence of organic compounds. Such screening shall be repeated at intervals as requested by the Agency thereafter.
- 6.12 An inspection for leaks on all flanges and valves on over-ground pipes used to transport materials other than water shall be carried out weekly. A log of such inspections shall be maintained.
- 6.13 Emissions to water
- 6.13.1 Receiving surface water shall be monitored as set out in *Schedule C.6 Receiving Water Monitoring* of this licence. Results of the monitoring shall be submitted quarterly for the mine site and biannually for the processing site. A summary of river monitoring results shall be submitted as part of the AER.
- 6.13.2 The licensee shall carry out an **annual** biological impact assessment in relation to discharges from the installation. A report on this assessment shall be included in the AER.
- 6.13.3 The licensee shall **maintain to the satisfaction of the Agency** a quality control system to ensure that the empirical relationship established between conductivity and sulphate levels in water is valid on an on-going basis. The quality control system shall include a response programme for exceedances of warning and action limits.

- 6.14 The licensee shall review the Pollution Reduction Plan for the river basin district and shall, where appropriate, implement applicable measures or controls in order to reduce emissions of priority substances and/or cease or phase out emissions, discharges and losses of priority hazardous substances. The licensee shall submit a report on such measures as part of the Annual Environmental Report (AER).
- 6.15 Storm Water
- 6.15.1 A visual examination of the storm water discharges shall be carried out daily. A log of such inspections shall be maintained.
- 6.15.2 No environmentally polluting substance or matter shall be permitted to discharge to off-site surface waters or off-site storm water drains.
- 6.15.3 The licensee shall maintain the programme for reduction of sulphate levels in storm water discharges at the processing site.
- 6.15.4 The licensee shall maintain warning and action levels for contamination of storm water with sulphate. The licensee shall implement the current response programme when responding to exceedences of the sulphate warning and action levels.
- 6.16 Ground Water
- 6.16.1 Within eighteen months of the date of the grant of this licence, the licensee shall carry out a risk screening and where necessary a technical assessment in accordance with the *Guidance on the Authorisation of Discharges to Groundwater*, published by the Environmental Protection Agency. A report on the outcome of the screening and where relevant the recommendations of the technical assessment in relation to the setting of groundwater compliance points and values, shall be included in the next AER. Any actions required to demonstrate compliance with the European Communities Environmental Objectives (Groundwater) Regulations 2010, shall be agreed by the Agency and implemented before 22nd December 2015. Groundwater monitoring results shall be submitted annually or as required in the Schedules to this licence.
- 6.16.2 Where agreed by the Agency, the licensee may utilise existing groundwater monitoring boreholes and quality data in order to meet the requirements of condition 6.16.1.
- 6.16.3 No environmentally polluting substance or matter shall be permitted to discharge to ground or groundwater under the installation.
- 6.16.4 All groundwater monitoring points shall be included in the installation's maintenance programme.
- 6.16.5 Groundwater monitoring boreholes arising from the conditions of this licence or otherwise required by the Agency shall be constructed to a standard and at locations to be agreed by the Agency.
- 6.16.6 All monitoring borehole wellheads at the installation shall be labelled for identification and adequately sealed to prevent surface contamination from entering the borehole.
- 6.16.7 The licensee shall ensure that groundwater monitoring well sampling equipment is available on-site and is fit for purpose at all times. The sampling equipment shall be to Agency specifications.
- 6.16.8 The licensee shall assess annually the impact of activities at the installation on groundwater both temporally and spatially by reviewing monitoring data. A report on this assessment shall be included in the AER.
- 6.17 The licensee shall review, when received, any groundwater or surface water monitoring data. In the event that any analyses or observations made on the quality or appearance of surface water runoff or groundwater should indicate that contamination has taken place, the licensee shall:
- (i) Carry out an immediate investigation to identify and isolate the source of the contamination;

- (ii) Put in place measures to prevent further contamination and to minimise the effects of any contamination on the environment; and,
- (iii) Notify the Agency as soon as is practicable.

6.18 Noise

The licensee shall carry out a noise survey of the installation operations annually. The survey programme shall be undertaken in accordance with the methodology specified in the 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' as published by the Agency. The licensee shall consult with the Agency on the timing of the survey. A record of the survey results shall be available for inspection by any authorised persons of the Agency at all reasonable times and a summary report of this record shall be included as part of the AER.

6.19 Emissions to atmosphere

6.19.1 The licensee shall maintain nine dust deposition sampling stations at the currently agreed locations in the vicinity of the mine site and processing site and at any other location as may be required by the Agency.

6.19.2 The licensee shall maintain an on-going programme for improved containment of dusts in the externally-located material loading, storage and conveying systems at the installation. This programme shall be included in the EMP.

6.19.3 Dust emissions from exposed earthworks, on-site roads and other services shall be minimised. Mobile bowsers shall be employed to dampen such surfaces during dry weather conditions.

6.19.4 Machinery operating on-site shall be switched off when not in use. Where this is not possible, diesel engines shall be throttled down to minimise exhaust emissions.

6.20 Pollutant Release and Transfer Register (PRTR)

The licensee shall prepare and report a PRTR for the installation. The substance and/or wastes to be included in the PRTR shall be as agreed by the Agency each year by reference to EC Regulations No. 166/2006 concerning the establishment of the European Pollutant Release and Transfer Register. The PRTR shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted electronically in specified format and as part of the AER.

6.21 The licensee shall, within six months of the date of grant of this licence, develop and establish a Data Management System for collation, archiving, assessing and graphically presenting the monitoring data generated as a result of this licence.

Reason: *To provide for the protection of the environment by way of treatment and monitoring of emissions.*

Condition 7. Resource Use and Energy Efficiency

7.1 The licensee shall, as required by the Agency, carry out an audit of the energy efficiency of the installation. The audit shall be carried out in accordance with the guidance published by the Agency, "Guidance Note on Energy Efficiency Auditing".

7.2 The licensee shall identify all practicable opportunities for energy use reduction and efficiency and these shall be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.

7.3 The licensee shall identify opportunities for reduction in the quantity of water used at the installation including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets.

7.4 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where

improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.

Reason: *To provide for the efficient use of resources and energy in all site operations.*

Condition 8. Materials Handling

8.1 Recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.

8.2 Extractive Waste Management Plan

8.2.1 The licensee shall draw up a Waste Management Plan (to be known as an Extractive Waste Management Plan) for the minimisation, treatment, recovery and disposal of extractive waste. This Plan shall, where appropriate, meet the requirements of Regulation 5 of the Waste Management (Management of Waste from the Extractive Industries) Regulations, 2009. The Plan shall be submitted for agreement by the Agency within six months of the date of grant of this licence. The Plan shall be reviewed at least once every five years thereafter in a manner agreeable to the Agency and amended where there are substantial changes to the operation of the waste facility or to the waste accumulated or deposited. Any amendments shall be notified to the Agency.

8.2.2 All extractive waste shall be managed in accordance with the Extractive Waste Management Plan. A report on the implementation of the Extractive Waste Management Plan shall be provided in the AER.

8.3 Excavation voids

8.3.1 Unless otherwise agreed with the Agency, only extractive waste shall be placed in excavation voids.

8.3.2 When placing extractive waste into excavation voids for rehabilitation and construction purposes, the licensee shall, in accordance with Regulations 10 and 13(5) of the Waste Management (Management of Waste from the Extractive Industries) Regulations, 2009, and the Extractive Waste Management Plan:

- (i) Secure the stability of the waste;
- (ii) Put in place measures to prevent pollution of soil, surface water and ground water; and,
- (iii) Carry out monitoring of the extractive waste and excavation void.

8.4 Extractive Waste Facilities

- (i) No new waste facility may be developed or an existing waste facility modified unless agreed by the Agency.
- (ii) The licensee shall ensure that all existing waste facilities are managed and maintained to ensure their physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater.
- (iii) The licensee shall ensure that all new waste facilities are constructed, managed and maintained to ensure their physical stability and to prevent pollution or contamination of soil, air, surface water or groundwater.
- (iv) Operational measures shall be continuously employed to prevent damage to waste facilities from personnel, plant or equipment.
- (v) The licensee shall establish and maintain a system for regular monitoring and inspection of the waste facilities.

(vi) **All records of monitoring and inspection of waste facilities, as required under the licence, shall be maintained on-site in order to ensure the appropriate handover of information in the event of a change of operator or relevant personnel.**

8.5 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported from the site of the activity to the site of recovery/disposal only in a manner that will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.

8.6 The licensee shall ensure that, in advance of transfer to another person, waste shall be classified, packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.

8.7 The loading and unloading of materials shall be carried out in designated areas protected against spillage and leachate run-off.

8.8 Waste shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. The waste shall be clearly labelled and appropriately segregated.

8.9 No waste classified as green list waste in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended) shall be consigned for recovery without the agreement of the Agency.

8.10 Unless agreed in writing, in advance, by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any other non-hazardous waste.

8.11 The licensee shall neither import waste into the State nor export waste out of the State except in accordance with the relevant provisions of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14th June 2006 on shipments of waste and associated national regulations.

8.12 **Landfill**

8.12.1 **No waste shall be disposed of at the on-site landfill.**

8.12.2 **The licensee shall maintain and implement the currently agreed Landfill Operational Plan until such time as the CRAMP for the landfill (as required by condition 10.3.1 of this licence) is agreed by the Agency. Thereafter, activities and monitoring at the landfill shall be in accordance with the agreed CRAMP or as otherwise agreed by the Agency.**

8.12.3 As part of the Landfill Operational Plan the licensee shall set warning and action levels for the concentration of hydrogen sulphide, **methane and carbon dioxide** recorded in any monitoring point external to the landfilled wastes. The licensee shall immediately notify the Agency of any instance where an action level is exceeded. Such notification shall be accompanied by an investigative and/or remedial strategy to identify the source of, and resolve, the migration hazard.

8.12.4 No remedial pollution control/monitoring works other than those necessary in an emergency shall be effected on any part of the landfill unless agreed by the Agency.

8.12.5 Each landfill area shall have at least three points at which leachate head can be measured at the base of the cell.

8.12.6 Leachate generated in the landfill shall not be permitted by the licensee to result in significant environmental pollution as a consequence of controlled or uncontrolled migration.

8.12.7 The licensee shall divert all leachate-containing streams in the vicinity of the landfill away from surface water drains at the installation and into the settling lagoons.

8.12.8 The licensee shall submit annually a landfill status report to the Agency as part of the AER.

8.13 **Waste Acceptance**

- 8.13.1 Waste shall only be accepted at the processing site from local authority waste collection or transport vehicles or holders of valid waste collection permits, unless exempted or excluded, issued under the Waste Management (Collection Permit) Regulations 2007, or as may be amended.
- 8.13.2 Within one month of the date of grant of this licence, the licensee shall submit to the Agency for its agreement written procedures for the acceptance, handling and processing of waste.
- 8.13.3 Documentation relating to waste arriving at the processing site shall be checked at the point of entry to the licensed installation and subject to this verification, such waste shall be weighed and recorded. Waste that is deemed unsuitable for recovery at the processing site shall be directed to the waste quarantine area or returned directly to the supplier.
- 8.13.4 No hazardous wastes shall be accepted at the processing site.
- 8.13.5 The licensee shall ensure that any waste acceptance testing required by this licence shall be carried out by competent laboratories in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards or alternative methods shall apply with agreement by the Agency.

Reason: *To provide for the appropriate handling of material and the protection of the environment.*

Condition 9. Accident Prevention and Emergency Response

- 9.1 The licensee shall ensure that a documented Accident Prevention Procedure is in place that addresses the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.2 The licensee shall ensure that a documented Emergency Response Procedure is in place that addresses any emergency situation which may originate on-site. This procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.3 Incidents
 - 9.3.1 In the event of an incident the licensee shall immediately:
 - (i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - (ii) isolate the source of any such emission;
 - (iii) evaluate the environmental pollution, if any, caused by the incident;
 - (iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
 - (v) identify the date, time and place of the incident;
 - (vi) notify the Agency and other relevant authorities.
 - 9.3.2 The licensee shall provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency, to:
 - (i) identify and put in place measures to avoid recurrence of the incident; and
 - (ii) identify and put in place any other appropriate remedial actions.

Reason: *To provide for the protection of the environment.*

Condition 10. Decommissioning & Residuals Management

- 10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the installation in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery any soil, subsoil, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.
- 10.2 Decommissioning Management Plan (DMP)
- 10.2.1 The licensee shall maintain, to the satisfaction of the Agency, a fully detailed and costed plan for the closure, decommissioning and rehabilitation of the installation or part thereof.
- 10.2.2 The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented unless agreed by the Agency.
- 10.2.3 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Condition 10.2.1 above.
- 10.2.4 The Decommissioning Management Plan shall include, as a minimum, the following:
- (i) a scope statement for the plan;
 - (ii) the criteria that define the successful decommissioning of the activity or part thereof, which ensures minimum impact on the environment;
 - (iii) a programme to achieve the stated criteria;
 - (iv) where relevant, a test programme to demonstrate the successful implementation of the decommissioning plan;
 - (v) a programme to address any remaining licence obligations; and
 - (vi) details of the costs for the plan and the financial provisions to underwrite those costs.
- 10.2.5 The licensee shall carry out closure, decommissioning and rehabilitation of the installation in accordance with the plan. No deviation from the plan shall be allowed unless agreed by the Agency.
- 10.2.6 The licensee shall carry out such tests, investigations or submit such certification, as may be requested by the Agency, to confirm that individual tasks of the plan are being progressed or have been completed
- 10.2.7 A final validation report to include a certificate of completion for the Decommissioning Management Plan, for all or part of the installation as necessary, shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.
- 10.3 Closure, Restoration and Aftercare Management Plan (CRAMP)
- 10.3.1 The licensee shall maintain, to the satisfaction of the Agency, a fully detailed and costed plan for the closure, restoration and long-term aftercare of the landfill (CRAMP). **The CRAMP shall, where appropriate, ensure closure of the landfill in accordance with the requirements of the Landfill Directive.**
- 10.3.2 The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented unless agreed by the Agency.
- 10.3.3 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Condition 10.3.1 above.
- 10.3.4 The CRAMP shall include, as a minimum, the following:

- (i) a scope statement for the plan;
- (ii) the criteria, including those specified in this licence, that define the successful closure and restoration of the landfill and which ensures minimum impact on the environment;
- (iii) a programme to achieve the stated criteria;
- (iv) where relevant, a test programme to demonstrate the successful implementation of the plan;
- (v) details of the long-term supervision, monitoring, control, maintenance and reporting requirements for the restored landfill; and
- (vi) details of the costings for the plan and the financial provisions to underwrite those costs.

10.3.5 Unless otherwise agreed by the Agency, the landfill shall be closed within two years of the date of the grant of this licence.

10.3.6 Subject to prior agreement by the Agency the licensee may use recovered materials for closure and aftercare at the landfill.

10.3.7 A final validation report to include a certificate of completion for the CRAMP shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

Reason: *To make provision for the proper closure of the activity ensuring protection of the environment.*

Condition 11. Notification, Records and Reports

11.1 The licence shall notify the Agency by both telephone and facsimile, if available, to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:

- (i) any release of environmental significance to atmosphere from any potential emissions point including bypasses;
- (ii) any emission that does not comply with the requirements of this licence;
- (iii) any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control and Monitoring*, of this licence which is likely to lead to loss of control of the abatement system; and
- (iv) any incident with the potential for environmental contamination of surface water or groundwater, or posing an environment threat to air or land, or requiring an emergency response by the Local Authority.

The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions:

11.2 In the case of any incident relating to discharges to water, the licensee shall notify the Local and Water Services Authority and Inland Fisheries Ireland as soon as practicable after such an incident.

11.3 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall, as soon as practicable following incident notification, submit to the Agency the incident record.

11.4 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant (if provided), and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.

11.5 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the installation.

11.6 The licensee shall as a minimum keep the following documents at the installation:

- (i) the licences relating to the installation;
- (ii) the current EMS for the installation;
- (iii) the previous year's AER for the installation;
- (iv) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the installation;
- (v) relevant correspondence with the Agency;
- (vi) up-to-date installation drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points;
- (vii) up-to-date Standard Operational Procedures for all processes, plant and equipment necessary to give effect to this licence or otherwise to ensure that standard operation of such processes, plant or equipment does not result in unauthorised emissions to the environment;
- (viii) any elements of the licence application or EIS documentation referenced in this licence.

This documentation shall be available to the Agency for inspection at all reasonable times.

11.7 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at the installation. This record shall as a minimum contain details of the following:

- (i) the tonnages and EWC Code for the waste materials imported and/or sent off-site for disposal/recovery;
- (ii) the names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number);
- (iii) details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required;
- (iv) written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site;
- (v) details of all waste consigned abroad for Recovery and classified as 'Green' in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended). The rationale for the classification must form part of the record;
- (vi) details of any rejected consignments;
- (vii) details of any approved waste mixing;
- (viii) the results of any waste analyses; and
- (ix) the tonnage and EWC Code for the waste materials recovered on-site.

11.8 The licensee shall, in addition to the records maintained under condition 11.7, maintain a written record for each load of waste arriving at the processing site. The licensee shall record the following:

- (i) the date and time of the waste arrival;
- (ii) the trailer, skip or other container unique identification number (where relevant);
- (iii) the name of the producer(s)/collector(s) of the waste as appropriate;
- (iv) the name of the waste facility (if appropriate) or source from which the load originated including the waste licence or waste permit register number (if appropriate);
- (v) details of the treatment(s) to which the waste has been subjected, if any;

- (vi) the classification and coding of the waste;
 - (vii) the name of the person checking the load; and,
 - (viii) where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed.
- 11.9 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule E: Annual Environmental Report*, of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.
- 11.10 Waste Gypsum Recovery Report**
- The licensee shall as part of the Annual Environmental Report for the installation submit a report on the recovery of waste gypsum at the processing site.
- 11.11 The licensee shall submit report(s) as required by the conditions of this licence to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency.
- 11.12 All reports shall be certified accurate and representative by the installation manager or a nominated, suitably qualified and experienced deputy.
- 11.13 The licensee shall notify in writing the Agency and residents at noise sensitive locations of any change in the blasting regime associated with development and operation of the underground mine. This notification shall be issued to the Agency and the residents of noise sensitive locations three weeks and two weeks respectively, prior to the planned change in blasting regime.

Reason: To provide for the collection and reporting of adequate information on the activity.

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

- 12.1.1 The licensee shall pay to the Agency an annual contribution of €17,087, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Environmental Protection Agency Acts 1992 to 2013. The first payment shall be a pro-rata amount for the period from the date of grant of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of grant of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Environmental Protection Agency Acts 1992 to 2013 and all such payments shall be made within one month of the date upon which demanded by the Agency.
- 12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased, the licensee shall contribute such sums as determined by the Agency to defray its costs in regard to items not covered by the said annual contribution.

12.2 Environmental Liabilities

- 12.2.1 The licensee shall as part of the AER, provide an annual statement as to the measures taken or adopted at the installation in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure) or accidents/incidents, as may be associated with the carrying on of the activity.

- 12.2.2 The licensee shall arrange for the completion, by an independent and appropriate qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA) which addresses the liabilities from past and present activities. The assessment shall include those liabilities and costs identified in Condition 10 for execution of the DMP and CRAMP. A report on this assessment shall be submitted to the Agency for agreement. The ELRA shall be reviewed as necessary to reflect any significant change at the installation, and in any case every three years following initial agreement. Review results are to be notified as part of the AER.
- 12.2.3 As part of the measures identified in Condition 12.2.1 the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities associated with the operation (including closure, restoration and aftercare). The amount of indemnity held shall be reviewed and revised as necessary, but at least annually. Proof of renewal or revision of such financial indemnity shall be included in the annual 'Statement of Measures' report identified in Condition 12.2.1.
- 12.2.4 The licensee shall revise the cost of closure, restoration and aftercare annually and any adjustments shall be reflected in the financial provision made under Condition 12.2.3.
- 12.2.5 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Conditions 12.2.2 and 12.2.3 above.

Reason: *To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.*

SCHEDULE A: Limitations

A.1 Waste Activities

The following waste activities are authorised:

1. Storage and recovery of non-hazardous waste gypsum-based construction materials including waste plasterboard.
2. Closure and aftercare of the landfill.

No addition to these activities is permitted unless agreed in advance by the Agency.

A.2 Waste Acceptance

Table A.1 Waste Categories and Quantities

Waste Type (EWC Code 170802)	Maximum (Tonnes Per Annum)
Non-hazardous gypsum-based construction materials (EWC Code 17 08 02) <small>Note 1:</small>	18,000

Note 1: Any proposals to accept other compatible non-hazardous waste types must be agreed in advance by the Agency.

SCHEDULE B: Emission Limits

B.1 Emissions to Air

Emission Point Reference No:

AE-1

Location:

Processing site

Volume to be emitted:

Maximum in any one day: 324,000,000 m³

Maximum rate per hour: 135,000 m³

Minimum discharges height:

29m above ground

Parameter	Emission Limit Value	
	mg/m ³	Kg/hr
Nitrogen oxides (as NO ₂)	130	7.3
Particulate	50	2.8

Emission Point Reference No: AE-8
Location: Processing site: Kettle 6
Volume to be emitted: Maximum in any one day: 1,243,176 m³
 Maximum rate per hour: 51,799 m³

Minimum discharges height: 27m above ground

Parameter	Emission Limit Value
Nitrogen oxides (as NO ₂)	130 mg/m ³
Particulate	50 mg/m ³



Emission Point Reference No: AE-9
Location: Processing site: Raymond Mill 5
Volume to be emitted: Maximum in any one day: 765,216 m³
 Maximum rate per hour: 31,884 m³

Minimum discharges height: 26m above ground

Parameter	Emission Limit Value
Nitrogen oxides (as NO ₂)	130 mg/m ³
Particulate	50 mg/m ³



Emission Point Reference No: AE-10
Location: Processing site: Plaster Mill
Volume to be emitted: Maximum in any one day: 600,000 m³
 Maximum rate per hour: 25,000 m³

Minimum discharges height: 21m above ground

Parameter	Emission Limit Value
Nitrogen oxides (as NO ₂)	50 mg/m ³
Particulate	20 mg/m ³



Emission Point Reference No: BE-1
Location: Processing site: Board plant Dryer exhaust
Volume to be emitted: Maximum in any one day: 3,326,400 m³
 Maximum rate per hour: 138,600 m³

Minimum discharges height: 14.5m above ground

Parameter	Emission Limit Value
Nitrogen oxides (as NO ₂)	130 mg/m ³



Emission Point Reference No: BE-4, BE-5, BE-6
Location: Processing site: Plaster mill calciner exhausts
Volume to be emitted: Maximum in any one day: 141,600 m³
 Maximum rate per hour: 5,900 m³

Minimum discharges height: BE-4: 22m above ground
 BE-5: 22m above ground
 BE-6: 24m above ground

Parameter	Emission Limit Value ^{Note 1}
Nitrogen oxides (as NO ₂)	200 mg/m ³

Note 1: Emission limit value applies to each vent separately.

B.2 Emissions to Water

Emission Point Reference No: MSE-1 (Mine site)
Name of Receiving Waters: River Bursk
Location: Discharge from final holding tank
 Grid Reference: 281489E 299140N

Volume to be emitted: Maximum in any one day: 12,240 m³
 Maximum in any one hour: 510 m³

Parameter ^{Note 1}	Emission Limit Value
Temperature	1.5 °C (max increase) ^{Note 2}
pH	6 - 9
	mg/l
BOD	2.6
COD	40
Suspended Solids	25
Settleable solids	5 ml/l
Total Ammonia (as N)	0.14
Molybdate Reactive Phosphorus (as P)	0.075
Total Phosphorus (as P)	0.062
Copper	0.03
Manganese	0.25
Chromium	0.0047
Nickel	0.02
Mineral oil	0.3
Chlorides	200

Note 1: In the case of metals the limit refers to the dissolved concentration (i.e. the dissolved fraction of a water sample obtained by filtration through a 0.45 µm filter or by any equivalent pretreatment).

Note 2: Not greater than a 1.5°C rise in ambient temperature outside the mixing zone.

Compliance Point Reference No: CPI
Location: 70m downstream of discharge to River Bursk
 Grid Reference: 282041E 298746N

Parameter	Limit Value
	mg/l
Conductivity	1000 µS/cm
Sulphate (as SO ₄)	200
Barium	0.1

Emission Point Reference No:
Name of Receiving Waters:
Location:

S14 (Processing Site)
 Drainage channel and thence to River Lagan
 Grid Reference: 279012E 292474N

Parameter	Emission Limit Value
Temperature	25 °C ^{Note 1}
pH	6 - 9
Conductivity (µS/cm)	2000
	mg/l
BOD	5
COD	30
Suspended Solids	25
Sulphate (as SO₄)	1500
Total sulphide (as S)	0.2
Total Ammonia (as N)	0.14
Molybdate Reactive Phosphorus (as P)	0.075
Total Phosphorus (as P)	0.3

Note 1: This limit applies to the effluent as discharged.

◆

B.3 Emissions to Sewer

There shall be no process effluent emissions to sewer.

◆

B.4 Noise Limits ^{Note 1}

Daytime dB LAr, T (30 minutes)	Evening dB LAr, T (30 minutes)	Night-time dB LAeq, T (15-30 minutes)
55	50	45

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise-sensitive location.

◆

B.5 Dust Deposition Limit

Limit (mg/m ² /day)
350 ^{Note 1}

Note 1: Applies to a 30 day composite sample with the results expressed as mg/m²/day.

SCHEDULE C: Control & Monitoring

C.1.1 Control of Emissions to Air

Emission Point Reference No: AE-1
 Description of Treatment: Bag filter

Control Parameter	Monitoring	Key Equipment ^{Note 1}
HT Voltage	Continuous	Meter
Current	Continuous	Meter
Visual inspection of bag filter	Weekly	N/A

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

Emission Point Reference No: AE-8
 Description of Treatment: Bag filter

Control Parameter	Monitoring	Key Equipment ^{Note 1}
HT Voltage	Continuous	Meter
Current	Continuous	Meter

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

Emission Point Reference No: AE-9
 Description of Treatment: Bag filter

Control Parameter	Monitoring	Key Equipment ^{Note 1}
HT Voltage	Continuous	Meter
Current	Continuous	Meter

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

Emission Point Reference No: AE-10
 Description of Treatment: Bag filter

Control Parameter	Monitoring	Key Equipment ^{Note 1}
HT Voltage	Continuous	Meter
Current	Continuous	Meter

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

C.1.2 Monitoring of Emissions to Air

Emission Point Reference No: AE-1

Parameter	Monitoring Frequency	Analysis Method/Technique
NOx (as NO₂)	Annually	Flue gas analyser
Particulate	Continuous	Iso-kinetic/Gravimetric
Visual assessment of plume	Daily	Not applicable



Emission Point Reference No: AE-8, AE-9, AE-10

Parameter	Monitoring Frequency	Analysis Method/Technique
NOx (as NO₂)	Annually	Flue gas analyser
Particulate	Annually	Iso-kinetic/Gravimetric
Visual assessment of plume	Daily	Not applicable



Emission Point Reference No: BE-1

Parameter	Monitoring Frequency	Analysis Method/Technique
NOx (as NO₂)	Biannually	Flue gas analyser
CO	Biannually	Flue gas analyser
Particulate	Biannually	Iso-kinetic/Gravimetric
Visual assessment of plume	Daily	Not applicable



Emission Point Reference No: BE-4, BE-5, BE-6

Parameter	Monitoring Frequency	Analysis Method/Technique
NOx (as NO₂)	Annually	Flue gas analyser
Particulate	Annually	Iso-kinetic/Gravimetric
Visual assessment of plume	Daily	Not applicable



C.2.1 Control of Emissions to Water

Emission Point Reference No:

MSE-1 (Mine Site)

Description of Treatment:

Settlement lagoon and holding tank

Control Parameter	Monitoring	Key Equipment ^{Note 1}
Water level	Water level in lagoon and holding tank	Water level meter High level alarm

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.



Emission Point Reference No:

S14 (Processing Site)

Description of Treatment:

Settlement lagoon

Control Parameter	Monitoring
Water level	Water level in lagoon - Weekly visual check



C.2.2 Monitoring of Emissions to Water

Emission Point Reference No:

MSE-1

Control Parameter	Monitoring Frequency	Key Equipment/Technique
Flow	Continuous	On-line flow meter with recorder
Temperature	Monthly	Temperature probe
pH	Monthly	pH electrode/meter with recorder
Conductivity	Continuous	Conductivity meter with recorder
Dissolved Oxygen	4 times per month	DO meter with recorder
Biochemical Oxygen Demand	Monthly	Standard Method
Chemical Oxygen Demand	Monthly	Standard Method
Suspended Solids	4 times per month ^{Note 4}	Gravimetric
Settleable Solids	4 times per month ^{Note 4}	Standard Method
Sulphate	Daily	Empirical relationship with conductivity
	Monthly	Standard Method
Total Ammonia (as N)	Monthly	Standard Method
Nitrates (as N)	Monthly	Standard Method
MRP (as P)	Monthly	Standard Method
Total Phosphorus (as P)	Monthly	Standard Method
Copper	Bi-annually	Standard Method
Manganese	Monthly	Standard Method
Chromium	Bi-annually	Standard Method
Nickel	Bi-annually	Standard Method
Mineral oil	Monthly	Standard Method
Chlorides	Monthly	Standard Method
Total heavy metals ^{Note 5}	Bi-annually	Atomic Absorption/ICP
Toxicity ^{Note 6}	As may be required	To be agreed by the Agency

Note 1: The licensee shall maintain a composite sampler on the emission point. All samples shall be collected on a 24 hour flow proportional composite sampling basis.

Note 2: Total effluent discharged over the 24 hour period in which the composite sample is collected shall be recorded.

Note 3: Screening for priority pollutant list substances (such as US EPA volatile and/or semi-volatile compounds). This analysis shall include those organic solvents in use in the process, which are likely through normal process operators to be diverted to the wastewater streams.

Note 4: There shall be no greater than 10 days and no less than 4 days between samples taken.

Note 5: The sum of antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, tellurium, thallium and tin

Note 6: The number of toxic units (Tu) = 100/x hour EC/LC₅₀ in percentage vol/vol so that higher Tu values reflect greater levels of toxicity. For test regimes where species death is not easily detected, immobilisation is considered equivalent to death.

Emission Point Reference No:

S14

Control Parameter	Monitoring Frequency	Key Equipment/Technique
Flow	Continuous	On-line flow meter with recorder
Temperature	Monthly when discharge is occurring	On-line temperature probe with recorder
pH	Monthly when discharge is occurring	pH electrode/meter with recorder
Conductivity	Weekly when discharge is occurring	On-line TOC meter with recorder
Biochemical Oxygen Demand	Monthly when discharge is occurring	Standard Method
Chemical Oxygen Demand	Monthly when discharge is occurring	Standard Method
Suspended Solids	Weekly when discharge is occurring	Standard Method
Settleable Solids	Weekly when discharge is occurring	Gravimetric
Sulphate (as SO ₄)	Monthly when discharge is occurring	Standard Method
Total sulphide (as S)	Monthly when discharge is occurring	Standard Method
Ammonia (as N)	Monthly when discharge is occurring	Standard Method
Total Phosphorus (as P)	Monthly when discharge is occurring	Standard Method
MRP (as P)	Monthly when discharge is occurring	Standard Method
Mineral oil	Monthly when discharge is occurring	Standard Method
Copper	Monthly when discharge is occurring	Standard Method
Total Heavy Metals ^{Note 1}	Monthly when discharge is occurring	Atomic Absorption/ICP
Oils, fats and greases	Monthly when discharge is occurring	Standard Method
Toxicity ^{Note 2}	As may be required	To be agreed by the Agency

Note 1: The sum of antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, tellurium, thallium and tin

Note 2: The number of toxic units (Tu) = 100/x hour EC/LC₅₀ in percentage vol/vol so that higher Tu values reflect greater levels of toxicity. For test regimes where species death is not easily detected, immobilisation is considered equivalent to death.

C.3 Monitoring of Storm Water Emissions

Emission Point Reference No:

MSW-1 (Mine Site)

Grid Reference: 280582E 299637N

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Quarterly	pH electrode/meter
Temperature	Quarterly	Standard method
BOD	Quarterly	Standard method
Calcium	Quarterly	Standard method
Sulphate	Quarterly	Standard method
Total Phosphorous (as P)	Quarterly	Standard method
Total Nitrogen	Quarterly	Standard method
Conductivity	Quarterly	Standard method
Visual Inspection	Weekly	Sample and examine for colour and odour.

C.4 Dust Deposition Monitoring

Monitoring Locations:

At all agreed locations and any additional locations as may be required by the Agency.

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust deposition	Continuous	VDI 2119 (Bergerhoff method)

C.5. Groundwater Monitoring

Monitoring Locations:

All boreholes at the mine site and any additional boreholes as may be required by the Agency.

Parameter	Monitoring Frequency ^{Note 1}	Analysis Method/Technique
Water Level	Biannually	Dip meter
pH	Biannually	pH electrode/meter
Conductivity	Biannually	Conductivity meter
Calcium	Biannually	Standard Method
Sulphate	Biannually	Standard Method
Ammonia	Biannually	Standard Method
Nitrate	Biannually	Standard Method
Chloride	Biannually	Standard Method
Sodium	Biannually	Standard Method
Potassium	Biannually	Standard Method
Magnesium	Biannually	Standard Method
Alkalinity	Biannually	Standard Method
Other ^{Note 1}	To be agreed with the Agency	To be agreed with the Agency

Note 1: The frequency may be amended as required by the Agency.

Note 2: Other parameters as may be agreed by the Agency.



Monitoring Locations:

All boreholes at the processing site and any additional boreholes as may be required by the Agency.

Parameter	Monitoring Frequency ^{Note 1}	Analysis Method/Technique
Water Level	Quarterly	Dip Meter
pH	Quarterly	pH meter
Conductivity	Quarterly	Conductivity meter
COD	Quarterly	Standards Methods
Calcium	Quarterly	Standards Methods
Sulphate	Quarterly	Standards Methods
Ammonia	Quarterly	Standards Methods
Chloride	Quarterly	Standards Methods
Manganese	Quarterly	Standards Methods
Barium	Quarterly	Standards Methods
Other ^{Note 2}	Quarterly	To be agreed with the Agency

Note 1: The frequency may be amended as required by the Agency.

Note 2: Other parameters as may be agreed by the Agency.

C.6 Receiving Water Monitoring

Monitoring Location:

Mine site: B (upstream of MSE-1)
Grid reference: 281991E 298912N

Parameter	Monitoring Frequency	Analysis Method/Technique
Conductivity	Monthly	Conductivity meter
Nitrate	Monthly	Standard Method
Suspended solids	Monthly	Standard Method
Sulphate (as SO ₄)	Monthly	Standard Method
BOD	Annually	Standard Method
Ammonia (as N)	Annually	Standard Method
MRP (as P)	Annually	Standard Method
Total Phosphorous (as P)	Annually	Standard Method
Heavy metals ^{Note 1}	Annually	Standard Method

Note 1: The sum of antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, tellurium, thallium and tin.



Monitoring Location:

Mine site: CP1 (downstream of MSE-1)
Grid reference: 282041E 298746N

Parameter	Monitoring Frequency	Analysis Method/Technique
Conductivity	Continuous	Conductivity meter and recorder
Nitrate	Monthly	Standard Method
Suspended solids	Monthly	Standard Method
Sulphate (as SO ₄)	Daily	Empirical relationship with Conductivity
	Monthly	Standard Method
BOD	Annually	Standard Method
Ammonia (as N)	Annually	Standard Method
MRP (as P)	Annually	Standard Method
Total Phosphorous (as P)	Annually	Standard Method
Heavy metals ^{Note 1}	Annually	Standard Method

Note 1: The sum of antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, tellurium, thallium and tin.



Monitoring Locations:

Processing site:

S5 (upstream of S14) Grid reference: 279109E 292084N

S3 (downstream of S14) Grid reference: 279015E 292642N

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Bi-annually	pH electrode/meter
Conductivity	Bi-annually	Conductivity meter
Temperature	Bi-annually	Thermometer
DO	Bi-annually	Standard Method
BOD	Bi-annually	Standard Method
Suspended solids	Bi-annually	Standard Method
Nitrate	Bi-annually	Standard Method
Nitrite	Bi-annually	Standard Method
Ammonia (as N)	Bi-annually	Standard Method
MRP (as P)	Bi-annually	Standard Method
Total Phosphorous (as P)	Bi-annually	Standard Method
Sulphate	Bi-annually	Standard Method
Chloride	Bi-annually	Ion selective chromatography
Heavy metals ^{Note 1}	Bi-annually	Standard Method

Note 1: The sum of antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, tellurium, thallium and tin.

Monitoring Locations:

Processing site:

S1 Grid reference: 27861E 29215N

S2 Grid reference: 27911E 29207N

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Annually	pH electrode/meter
Conductivity	Annually	Conductivity meter
Temperature	Annually	Thermometer
DO	Annually	Standard Method
BOD	Annually	Standard Method
Suspended solids	Annually	Standard Method
Nitrate	Annually	Standard Method
Nitrite	Annually	Standard Method
Ammonia (as N)	Annually	Standard Method
MRP (as P)	Annually	Standard Method
Total Phosphorous (as P)	Annually	Standard Method
Sulphate	Annually	Standard Method
Chloride	Annually	Ion selective chromatography
Heavy metals	Annually	Standard Method

Note 1: The sum of antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, tellurium, thallium and tin.

SCHEDULE D: Specified Engineering Works

Specified Engineering Works
<p>Construction of Waste Gypsum Storage Area.</p> <p>Construction of Waste Inspection Area and Waste Quarantine Area.</p> <p>Closure of the landfill.</p> <p>Any other works notified in writing by the Agency.</p>

SCHEDULE E: Annual Environmental Report

Annual Environmental Report Content ^{Note 1}
<p>Emissions from the installation.</p> <p>Blast size and vibration and overpressure monitoring summary.</p> <p>Waste management record.</p> <p>Landfill status report.</p> <p>Waste gypsum recovery report.</p> <p>Resource consumption summary.</p> <p>Complaints summary.</p> <p>Schedule of Environmental Objectives and Targets.</p> <p>Environmental management programme – report for previous year.</p> <p>Environmental management programme – proposal for current year.</p> <p>Pollutant Release and Transfer Register – report for previous year.</p> <p>Pollutant Release and transfer Register – proposal for current year.</p> <p>Noise monitoring report summary.</p> <p>Groundwater monitoring summary.</p> <p>Groundwater impact assessment.</p> <p>Receiving water monitoring summary.</p> <p>Biological impact assessment (every two years).</p> <p>Dust deposition monitoring summary.</p> <p>Bund integrity testing report.</p> <p>Tank and pipeline testing and inspection report.</p> <p>Complaints and reported incidents summary.</p> <p>Energy efficiency audit report summary (where requested).</p> <p>Report on the assessment of the efficiency of use of raw materials in processes and the reduction in waste generated.</p> <p>Report on progress made and proposals being developed to minimise water demand and the volume of trade effluent discharges.</p> <p>Reports on financial provision made under this licence, management and staffing structure of the installation and a programme for public information.</p> <p>Review of the Decommissioning Management Plan and of the Closure, Restoration & Aftercare Management Plan.</p> <p>Statement of measures in relation to prevention of environmental damage and remedial actions (Environmental Liabilities).</p> <p>Environmental Liabilities Risk Assessment Review (every three years or more frequently as dictated by relevant on-site changes including financial provisions).</p> <p>Any other items specified by the Agency.</p>

Note 1: Content may be revised subject to agreement by the Agency.

Sign off for Proposed Determinations/Decisions

Signed on behalf of the said Agency _____
On the xx day of xxxxx, 200X xxxxxxxxxxxx **Authorised Person**

Sign Off for Final Licences/Decisions

Sealed by the seal of the Agency on this the ** day of ** 201*

**PRESENT when the seal of the Agency
Was affixed hereto:**

XXXX Director/Authorised Person