Annual Environmental Report (AER)

2022

Company Name: Saint Gobain Construction Products (Ireland) Ltd.

Licence Number: P0519-04

Address:

Process Operation: Lisnabow, Kilmainhamwood, Kells, Co. Meath and

Mining Operation: Knocknacran, Magheracloone, Drummond, Derrynascobe, Derrynalagh, Ballycartlan, Enagh, Carrickmacross, Co. Monaghan

Class of Activity[1]:

Class 1 Minerals and other materials & Class 11 Waste

[1] See Appendix I

Purpose of this Report

One of the functions of the Environmental Protection Agency (EPA) is to licence and regulate the activities[2] of large scale industrial (e.g. chemical, food processors, power plants) and waste facilities. Submitting an Annual Environmental Report (AER) is a requirement of all EPA licences.

An AER is a public document. To this end, this format has been developed for industrial and waste licence holders (other than the intensive agriculture sector) to use as a template. This is to assist any member of the public to interpret and understand the environmental performance of the licensed facility.

The AER is a **summary** of environmental information for a given year. It includes:

- Details of the licence holder's environmental goals achieved, goals to maintain compliance and/or improve their environmental performance;
- Answers to questions regarding their facility's activities;
- Tables of results from monitoring emissions such as air, water, noise, and odour; and
- Details of waste generated, accepted and treated.

An AER does **not** provide detailed technical data. Such information is available in three ways:

1) Contacting the licence holder directly. The Contact Us section of this template enables the licence holder to provide details of where a member of the public can obtain further information on topics reported in this document.

[2] See Appendix I

2) Some documents[3] are available on the EPA website via the licence details page for each individual licence. This can be found by browsing either the http://www.epa.ie/licensing/ or http://www.epa.ie/enforcement/ pages of the EPA website.

3) All formal enforcement correspondence exchanged between the EPA and a licence holder during the regulatory process is available for public viewing by appointment at any EPA Office.

If you have a question or query about an AER or an individual EPA licensed facility see the EPA's website or contact the relevant EPA office. See http://www.epa.ie/about/contactus/ for contact details.

[3] This includes EPA site inspection and compliance monitoring reports, licence holders' self-monitoring reports, AERs and special reports

Contents

Glossary

Abatement Equipment	Technology used to reduce pollution
AER	Annual Environmental Report.
Beyond Compliance	Beyond compliance is concept to help deliver greater organisational performance and long-term value for the environment, society and the economy.
CRAMP	Closure, Restoration and Aftercare Management Plan.
ELRA	Environmental Liability Risk Assessment.
Emission Limit Value	Limits set for specified emissions, typically outlined in Schedule B of an EPA licence.
EMS	Environmental Management System.
Environmental Goal	An objective or target set by a licensee as part of an environmental management system (EMS).
Environmental Pollutant	Substance or material that due to its quantity and/or nature has a negative impact on the environment.
Facility	Any site or premises that holds an EPA industrial or waste licence.
FP	Financial Provision.
GJ	Giga joules, an international unit of energy measurement.

Groundwater	All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
Incident	As defined by an EPA industrial or waste licence.
Inert Waste	Is waste that will not undergo physical, chemical or biological change thereby, is unlikely to cause environmental pollution or harm human health.
List of Wastes (LoW)	A list of wastes drawn up by the European Commission and published as Commission Decision 2014/955/EU.
Noise Sensitive Location	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.
Non-Renewable Resource	A resource of economic value that cannot be replaced at the same rate it is being consumed e.g. coal, peat, oil and natural gas.
Oil Separator	Separator system for light liquids (e.g. oil and petrol).
PRTR	Pollutant Release and Transfer Register.
Renewable Resource	Wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases.
Sanitary Waste	Waste water from toilet, washroom and canteen facilities.

Storm Water	Rain water run-off from roof and non-process areas.
Surface Water	Lakes, rivers, streams, estuaries and coastal waters.
Trigger Level	A value set for a specific parameter, the achievement or exceedance of which requires certain actions to be taken by the licence holder.
Volatile Organic Compounds	Gases produced from solids or liquids that evaporate readily in ambient conditions.
Waste	Any substance or object which the holder discards or intends or is required to discard.

Disclaimer

These are **not** legal definitions. Legal definitions can be found in the corresponding legislation.

Declaration

I, Kevin Breslin, EHS Partner, confirm that by ticking the box below, all information in this report is truthful and accurate to the best of my knowledge and belief.

In addition, I confirm that all monitoring and performance reporting required by our EPA licence and summarised herein is available for inspection by the EPA.

Tick here [x]

1) Introduction

See below a brief description of our facility and a summary of our environmental performance this year.

Saint-Gobain Construction Products (Ireland) Limited. (SGCPI) operate a gypsum underground mine and open cast quarry in Magheracloone.

The gypsum rock is transported by road to a gypsum processing facility at Lisnabo, Kilmainhamwood, Co. Meath just outside town of Kingscourt, Co. Cavan.

The gypsum rock is processed to produce a range of plasterboard and bagged plaster. Both the gypsum mine and gypsum processing facilities operated under EPA licence P0519-04 in 2022. These facilities have been licensed to operate by the EPA since 2002.

The gypsum mine and gypsum processing facilities operate an environmental management system that is accredited to ISO14001.

SGCPI allocate significant resources to environmental management and on limiting the impacts of its activities on the environment. This AER summaries the environmental performance in 2022.

Contact Us

If you have any questions or would like further information on any aspect of our licensed activity, please contact us directly.

See below details:

Kevin Breslin, EHS Partner
Kevin.Breslin@saint-gobain.com

2) How we Manage our Facility

Environmental Management System

Explanation
To ensure our facility's activities do not cause environmental pollution we are required to have detailed documentation systems in place to help us manage and track our environmental performance. These systems are referred to as Environmental Management Systems (EMS). We review our EMS every year and set up-to-date **environmental goals** to continually improve our environmental performance.

The information below sets out the environmental goals for our facility to help us prevent environmental pollution and reduce our impact on the environment. Target dates for completing each goal and progress towards achieving the goal are outlined in Table 1.

Table 1 Environmental Goals

Environmental Goal	Target Date	Progress
Energy & Resource Efficiency: Reduction in Scope 1 (Gas) related CO2 emissions Vs 2022	2023	In 2022 we achieved a total reduction of 4.74% from 5 CO2 reduction Projects. For 2023 our target is 2.5% based on the CO2 projects planned.
Energy & Resource Efficiency: Plaster mill Gas Usage - (kWh/tonne)	2026	Plan is to achieve a 18.5% reduction by 2026 based on 2022 usage.
Energy & Resource Efficiency: Reduction in Standard Board Weight. Plan is to reduce board-weight, this will reduce water input and energy demand in turn (less water lower drying temperature/ time)	2027	Establishing baseline in 2022, target is to reduce by 2.4 % (based on 2022) in 2027
Reduction in Water Consumption:	2026	Comprehensive metering programme in place on

Project Water Gauge: Reduce water input to stucco production		production line. From 2019 to 2022 production have reduced their water gauge from an average of 86% to 75%. Target is to reduce to 68% by 2026.
Process Site Drainage & Segregation of clean storm water: Rationalisation and upgrades to Storm and Foul drainage arrangements at Process Site	2023	Site has developed a plan to upgrade and remediate drainage at our process site. Preparation of Specimen Design to be completed in 2023. Specimen design to include foul water sewer modifications and storm water drainage modifications. The intention is to complete the tender process for these works. It is hoped these works can be progressed as Specified Engineering Works (SEW) under our existing IED licence.
Mine Site Drainage & Segregation of clean storm water: Mine Site completed a drainage survey in 2022 as well as a revised Firewater Retention Assessment	2023	These works took into consideration most recent EPA guidance. This work is to aid in developing the sites drainage network to include addition of a further oil interceptor this year.
Cleaner Production: Kettle 4 had been identified in previous energy efficiency surveys as being inefficient. It was decided to rebuild this kettle during 2022 and the renovations were completed in December 2022.	2022	Project Completed in 2022
Cleaner Production: During 2022 an engineering project was instigated to reconfigure ducting that will bring down the electrical consumption of the dust collector	2023	Engineers appointed, works scheduled for Easter Shutdown 2023

Cleaner Technology/ Cleaner production: CO2 reduction based on 2017 baseline (tonnes Co2 generated)	2026	Plan is to reduce CO2 emissions by 26% based on 2017 baseline. Metering programme in place.
Dust & Noise Management: Achieve 100% compliance with Dust and Noise Levels with IED Licence limits as outlined in Schedules B & C	2023	Dust & Noise levels at both Mine and process site achieved 100% compliance in 2022.
Prevention, reduction & minimisation of waste including Waste Reduction Targets: Increase recycled content of plasterboard product from 12% to 25% by Dec 2025	2025	Site achieved 12% by Dec 2022.
Prevention, reduction & minimisation of waste including Waste Reduction Targets: Increase acceptance of Gypsum Recyclables onto site for inclusion in plasterboard production	2023	2,622T received and processed in 2022. Target 3,800T of PRS to be received and processed in 2023.
Material & Waste Storage: Reduce recycled gypsum inventory onsite	2024	Site Achieved target of <4000tonnes held on site at year end 2022. Plan is to retain less than 2,000tonnes onsite at year end 2023 and manage materials at 1,000 tonnes thereafter
Material & Waste Storage: Reduce number of Gypsum Stockpiles onsite	2024	Plan is to eliminate Stockpile 5 by Year end 2024. This material can't be processed without blending with dryer materials.
Impacts from eventual decommissioning of the Process Sites Closed Landfill	2023	Site continues to manage and monitor the closed gypsum landfill. Site intends to Review/ Revise Landfill Closure Restoration and Aftercare Management Plan (CRAMP) last revised in 2020.

Impacts from eventual decommissioning at Mine Site. Mine has completed an Environmental Impact Assessment for development of the Site in coming Years. This includes a phased closure of the current facility	2023	Site is engaged with Monaghan County Council in a planning Process. It is likely a decision will be made in 2023 and Licence Review Process will be initiated.

Comment

Saint-Gobain Construction Products Ireland has a very ambitious Environmental Management Plan or Programme as summarised in the table above. There are 16 goals identified here.

Beyond Compliance

Explanation
We are legally required to comply with our environmental licence. However, the EPA realise that some sites go further than just complying with their environmental licence requirements. Some projects carried out at facilities can have long term positive impacts on the environment and local communities.
The EPAs beyond compliance initiative is encouraging us to identify and report on these environmental and sustainability projects. For example, the project could involve renewable energy, biodiversity, water conservation or exemplar community engagement.

Did any project completed on your site in the reporting year go beyond your licence requirements?

Yes [X] No [ ]

If yes, provide details of one case study in Appendix III that demonstrates how the project went beyond compliance of your licence.

3) Energy & Water

Energy

Explanation
Fossil fuels such as coal, gas and oil are non-renewable resources. As a result, our EPA licence requires that we measure our energy use and set targets to improve the energy efficiency of our activities and reduce our overall use, where possible. Where we have the means and technology on-site to generate energy, this is also captured in this report.

The information below summarises the energy used this year compared to the previous year and includes renewable and non-renewable energy types.

Table 2 Energy Used

Energy Used	Quantity (GJ)	% Increase/ decrease on previous year
Electricity	78,159	2.4% Increase
Light Fuel Oil	11,137	40.9% Decrease
Natural Gas	703,757	3.9% Increase
LPG	1449.7	New energy input introduced in 2022
Total Energy Used	794,503	2.9% Increase

Comment

In 2022 production on site increased by 6% on 2021 production, however energy use increased by just 2.9%. This illustrates the benefits of energy saving initiatives introduced in 2022and Environmental Goals listed in Table 1.

Light Fuel Oil or LFO decreased significantly. The Process Site introduced LPG as a fuel source for Forklift Trucks, this has significantly reduced the LFO used onsite.

The information below summarises the energy we generated on our site this year with specific focus on renewable energy generation.

Table 3 Energy Generated

Energy Generated	**Quantity (GJ)**	**% Increase/ decrease on previous year**
Renewable Energy	0	N/A
Total Energy Generated	0	N/A

Comment

No energy generated on site

Water

Explanation
Water is a natural resource, and we are required by our EPA licence to identify ways to reduce our use where possible. Water used in industry can be extracted from groundwater, rivers and lakes (surface water), taken from public water supplies (Irish Water), recycled from the facility's processes or harvested from rainwater.

The information below summarises and compares the quantity of water used this year compared to the previous year.

Table 4 Water Used

Source of Water Used	Quantity (m^3/year)	% Increase/ decrease on previous year
Groundwater	6,456	-25% (Decrease)
Surface Water	49,775	+20% (Increase)
Public Supply	898	-5.4% (Decrease)
Recycled Water	0	N/A
Rainwater	71,935	-29.4% (Decrease)
Total Water Used	129,064	-15% (Decrease)

Comment

In 2022 production on site increased by 6% on 2021, however water usage reduced by 15%. This illustrates the benefits of improved water metering implemented on site in 2021 and 2022. The sites Environmental Management Plan (EMP) also confirms the site is actively engaged in reducing the water requirement in production.

4) Environmental Complaints

Explanation
Our EPA licence requires that activities do not cause environmental nuisance such as odour, dust or noise. Our licence also requires that we have procedures in place to record, investigate and respond to environmental complaints if or when they arise.
We have an environmental complaints procedure in place where you can contact us[4] directly. You can also contact the EPA[5] if you wish to make an environmental complaint, confidentially or not.

See the information below for a summary of **all** the environmental complaints relating to our activities made directly to us and to the EPA this year.

Table 5 Summary of All Environmental Complaints Received in

Type of Complaint	Number of Complaints	Number Closed
Odour / Smells	2	2
Noise	3	3
Dust	1	1
Water Quality	0	
Air Quality	0	
Waste	0	
Litter	0	
Vermin/Flies/Birds	0	
Soil Contamination	0	
Vibration	0	
Other	0	

[4] See Section 1, Introduction – Contact Us

[5] If you wish to contact the EPA to make an environmental complaint about an EPA licenced facility, please go to https://lema.epa.ie/complaints

Comment

As shown in the table above there were 6 complaints received in 2022.

Three complaints were related to noise in the environs of the mine site. These complaints were anonymously made to EPA who contacted the facility in turn. These incidences were investigated, and the responses were issued to EPA.

Three complaints were received by the process site, two related to odour and a single complaint related to dust. The complaints were investigated and complainants were responded to.

In all instances operational reviews were performed and actions taken to minimise potential for our activities to cause environmental nuisance

5) Environmental Incidents

Explanation
It is our responsibility as an EPA licensed facility to ensure we have systems in place to prevent incidents that have the potential to cause environmental pollution. If an incident occurs, we are required to report it to the EPA, investigate the cause and fix the problem.
The EPA classify environmental incidents into 5 categories based on the potential impact on the environment:

- Minor
- Limited
- Serious
- Very Serious
- Catastrophic

See Table 6 for the number of the environmental incidents we reported to the EPA this year.

Table 6 Number of Environmental Incidents

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Abatement Equipment Offline					
Breach of Ambient ELV					
Breach of Emission Limit	3				
Explosion					
Fire	1				
Monitoring Equipment Failure					
Odour					
Spillage	1				
Breach of trigger Level					
Uncontrolled Release					

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Other					

Comment

The five incidents reported in the table above were reported to the EPA through EDEN. Four of the events were investigated and subsequently closed by the Agency. A single incident in relation to total phosphorus in our MSE1 discharge at the mine site is ongoing and is being monitored closely.

Below is a summary of the incidents in chronological order:

10th March 2022

Phosphorus (Total) ELV Exceedance (0.1mg/l vs 0.062mg/l ELV) at MSE1 in Monthly sample taken 10/03/2022. There have been a number of exceedances in 2022 since the initial exceedance in March, these were reported to EPA on an ongoing basis.

Considering the incidents, SGCPI commissioned an external environmental consultancy, to investigate the cause. This investigation concluded that the cause of the exceedances in Total Phosphorus were likely associated with diffuse sources in the greater catchment and therefore not associated with activities at the Drummond mine and quarry.

The site continues to monitor the discharge closely, the focus of which is comparing the quality of water upstream and downstream. The results to date confirm the discharge from the mine is not adversely affecting phosphorus levels in the receiving water catchment.

7th April 2022

There was an isolated exceedance of Suspended Solids ELV at MSE-1 (Mine Site) in sample taken 08/06/2022. There were no other exceedances of Suspended Solids and the results returned to compliance immediately with sample taken 15/06/2022 This incident was closed by the EPA in 2022.

11th April 2022

Oily water was noted entering our lagoon network at the mine site. The site immediately initiated a response team who closed the sites drainage infrastructure upstream of our lagoon network and prior to any off-site discharge. It is likely the oily water arose as minor residues as the site had undertaken a clean and survey of the drainage system in days/ weeks prior. A sampling programme was carried out to confirm the lagoons had not been adversely impacted, additional drainage infrastructure was added to the site's drainage network and an additional oil interceptor is to be added in 2023 as outlined in Table 1 above. The EPA closed the incident in 2022.

23rd September 2022

At our process site, a Mobile Screener which is in an isolated area of site had flames coming from the vent. Fire department were called and arrived onsite within minutes. The fire department managed the fire, the sites Emergency Response Plan was actioned, and the drainage network was closed (bunged) to prevent firewater reaching our lagoon network and prior to our discharge. All firewater was removed from site by an appropriately permitted haulier to a licensed facility for disposal. The EPA closed the incident in 2022.

29th November 2022

At our mine site, we carry out a programme of dust monitoring. One of our depositional dust monitoring points (MS2), recorded an exceedance in November 2022. The external laboratory was contacted immediately on receipt of result. Site strongly believes this was an isolated incident, likely attributable to lab handling error/ procedural error. Photos are taken of samples prior to submission. Visual of sample suggests this is a lab error as little/ no visual dust present in sample. EPA closed the incident in early 2023

6) Our Environmental Emissions

Explanation

We are required to ensure the emissions from our activities do not cause environmental pollution.

We are required to monitor any of the following emissions that we make:

- Storm water
- Waste water
- Air
- Groundwater
- Noise

We regularly test any such emissions for specific pollutants and materials to ensure they do not contain levels of pollution that exceed emission limit values (ELVs) or cause environmental pollution. If monitoring of an emission indicates an ELV is exceeded, we are required to report this to the EPA[6].

The next sub-sections of this report summarise our compliance with any ELVs set in our EPA licence. Some emissions monitored do not have specific ELVs, but we still carry out monitoring and report all incidents that may give rise to environmental pollution.

[6] See section 5, Incidents

Storm Water

Explanation
Storm water is rainwater run-off from roof and non-process areas of a facility, e.g. carparks, and generally shall not contain any pollution.
Storm water is usually released into a local water body after a basic form of treatment. Our EPA licence requires that we manage storm water to ensure no polluting substances or materials are released into the environment.

The information below summarises how the storm water from our facility is treated, where it is released and the results of monitoring this year.

1. **Storm water from our facility is managed prior to release by:**

Stormwater passes through a series of settling lagoons before discharge to the receiving waterbody at both the mine site and process facility (Kingscourt).

At the gypsum processing site, much of the collected stormwater is re-used in the manufacturing process on site after it passes through the settling lagoons.

2. **Storm water from our facility is released into the following water bodies:**

Stormwater from the gypsum quarry and mine is released into the River Bursk as licensed emission MSE1.

Stormwater from the gypsum processing site is either reused in the manufacturing process or discharged to a small receiving stream, which is a tributary of the River Lagan, at licensed emission point S14.

Tables 7-15 Summary of Storm Water Monitoring in 2022

MSE1 stormwater emission – Gypsum Mine and Quarry

Parameter measured	No. of Samples	% Compliant[7]	Comment
Suspended Solids	48	97.9	1 exceedance (June 2022) Raised as an incident, investigated, and closed
Settleable Solids	48	100	Emission Limit Value Applies
pH	50	100	
Temperature	50	100	
Ammonia	12	100	
Nitrate	12	100	
BOD	12	100	
COD	12	100	
Molybdenum Reactive Phosphate (MRP)	12	100	
Total Phosphorus	28	64.3	The site is required to monitor monthly but undertook additional monitoring as we continue to monitor the discharge closely, the focus of which is comparing the quality of water upstream and downstream. The results to date confirm the discharge from the mine is not adversely affecting phosphorus levels in the receiving water catchment. Raised as an incident with EPA, see section 5 of this AER.
Mineral Oil	12	100	Emission Limit Value Applies
Manganese	12	100	
Chloride	12	100	
Conductivity	50		An Emission Limit Value is not in place, but ongoing monitoring carried out
Sulphate	12		
Antimony	2		
Arsenic	2		
Cadmium	2		
Chromium	2	100	Emission Limit Value Applies
Copper	2	100	
Lead	2		An Emission Limit Value is not in place, but ongoing monitoring carried out
Mercury	2		
Nickle	2	100	Emission Limit Value Applies
Selenium	2		An Emission Limit Value is not in place, but ongoing monitoring carried out
Tellurium	2		

[7] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Thallium	2		
Tin	2		An Emission Limit Value is not in place, but ongoing monitoring carried out
TPH	4		

Comment

MSE1 is the licensed stormwater emission from the gypsum mine/quarry to the River Bursk. Stormwater passes through a series of settling lagoons and two large holding tanks before MSE-1 and final discharge. Water quality is also monitored approximately 70 metres downstream of the MSE-1 discharge at CP-1. Results of CP-1 monitoring follow.

Monitoring Point CP1 – Gypsum Mine and Quarry

Parameter measured	No. of Samples	% Compliant[8]	Comment
Sulphate	59	100	Emission Limit Value Applies
Conductivity	60	100	
Barium	12	100	
Temperature	60		An Emission Limit Value is not in place, but ongoing monitoring carried out
Nitrate	12		
Suspended Solids	12		
BOD	1		
Ammonia (as N)	1		
Total Phosphorus	1		
MRP	1		
Total Heavy Metals	1		
Antimony	1		
Arsenic	1		
Cadmium	1		An Emission Limit Value is not in place, but ongoing monitoring carried out
Chromium	1		
Copper	1		
Lead	1		
Mercury	1		
Nickle	1		
Selenium	1		
Tellurium	1		
Thallium	1		
Tin	1		

Comment

[8] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

CP1 is a compliance monitoring point 70m downstream of the MSE1 emission point on the River Bursk.

Monitoring Point B – Gypsum Mine and Quarry

Parameter measured	No. of Samples	% Compliant[9]	Comment
Nitrate	12		Monitoring Point rather than a compliance point. Used to assess water quality upstream of facility and its discharge
Conductivity	12		
Suspended Solids	12		
Sulphate	12		
BOD	1		
Total Ammonia	1		
MRP	1		
Total Phosphorus	1		
Total Heavy Metals	1		
Antimony	1		
Arsenic	1		
Cadmium	1		
Chromium	1		
Copper	1		
Lead	1		
Mercury	1		
Nickel	1		
Selenium	1		
Tellurium	1		
Thallium	1		
Tin	1		

Comment

Monitoring point B is upstream of the MSE1 emission on the River Bursk

[9] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Monitoring Point DMO1 – Gypsum Mine and Quarry

Parameter measured	No. of Samples	% Compliant[10]	Comment
Dissolved Oxygen	12		Site has a Water Management Plan. A significant aspect of the water management plan is understanding water quality of the various source waters (water inputs) to MSE-1 to help manage compliance with final discharge
Conductivity	12		
Suspended Solids	12		
Sulphate	12		
BOD	12		
Total Ammonia	12		
Nitrate	12		
Conductivity	12		
pH	12		
Temperature	12		
BOD	12		
COD	12		
Total Phosphorus	12		
Mineral Oils	12		
Manganese	12		
Chloride	12		
Total Heavy Metals	4		
Antimony	4		
Arsenic	4		
Cadmium	4		
Chromium	4		
Copper	12		
Lead	4		
Mercury	4		
Nickel	4		
Selenium	4		
Tellurium	4		
Thallium	4		
Tin	4		

Comment

DMO1 is water that is directed from the Drummond mine to the lagoon and holding tank system prior to discharge at MSE1.

[10] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

S14 stormwater emission – Gypsum Processing Site

Parameter measured	No. of Samples	% Compliant[11]	Comment
Suspended Solids	17	100	Emission Limit Value Applies
Settleable Solids	15		An Emission Limit Value is not in place, but ongoing monitoring carried out
Conductivity	16	100	Emission Limit Value Applies
pH	8	100	
Temperature	5	100	
Ammonia	8	71.43	2 exceedances of ammonia. The drainage network at process site is part of a project as outlined in the Environmental Management Plan (Table 1 of this AER).
BOD	7	100	Emission Limit Value Applies
COD	7	100	
Sulphate	7	100	
Sulphide	7	100	
MRP	7	100	
Total Phosphorus	7	100	
Mineral Oils	6		An Emission Limit Value is not in place, but ongoing monitoring carried out
Oils, Fats & Grease	7		
Total Heavy Metals	6		
Antimony	6		
Arsenic	6		
Cadmium	6		
Chromium	6		
Copper	6		
Lead	6		
Mercury	6		
Nickle	6		
Selenium	6		
Tellurium	6		
Thallium	6		
Tin	6		

Comment

S14 is the licensed stormwater emission from the gypsum process site to stream (a tributary of the River Lagan). S14 is a downstream discharge of waters collected in the sites lagoon system. For large durations of the year, stormwater is consumed in the production process on site and does not discharge to S14.

[11] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Monitoring Point S3 – Gypsum Processing Site

Parameter measured	No. of Samples	% Compliant[12]	Comment
Suspended Solids	2		
Settleable Solids	2		
COD	2		
Sulphate	2		
Total Phosphorus	2		
Oils, Fats & Grease	2		
pH	2		
Conductivity	2		
Dissolved Oxygen	2		
MRP	2		
Nitrate	2		
Nitrite	2		
Ammonia	2		An Emission Limit Value is not in place, but ongoing monitoring carried out
Chloride	2		
BOD	2		
TPH	2		
Total Heavy Metals	2		
Antimony	2		
Arsenic	2		
Cadmium	2		
Chromium	2		
Copper	2		
Lead	2		
Mercury	2		
Nickel	2		
Selenium	2		
Tellurium	2		
Thallium	2		
Tin	2		

Comment

S3 is the downstream monitoring point on the stream that receives the S14 discharge. This stream is a tributary of the River Lagan. Stormwater passes through a series of settling lagoons before discharge.

[12] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Monitoring Point S5 – Gypsum Processing Site

Parameter measured	No. of Samples	% Compliant[13]	Comment
pH	2		
Conductivity	2		
Dissolved Oxygen	2		
MRP	2		
Nitrate	2		
Nitrite	2		
Ammonia	2		
Chloride	2		
BOD	2		
TPH	2		An Emission Limit Value is not in place, but ongoing monitoring carried out
Total Heavy Metals	2		
Antimony	2		
Arsenic	2		
Cadmium	2		
Chromium	2		
Copper	2		
Lead	2		
Mercury	2		
Nickel	2		
Selenium	2		
Tellurium	2		
Thallium	2		
Tin	2		

Comment

S5 is the upstream monitoring point on the stream that receives the S14 discharge. This point is up-stream of the S14 emission point.

[13] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Monitoring Point S1 – Gypsum Processing Site

Parameter measured	No. of Samples	% Compliant[14]	Comment
pH	1		An Emission Limit Value is not in place, but ongoing monitoring carried out
Conductivity	1		
Temperature	1		
Dissolved Oxygen	1		
BOD	1		
Suspended Solids	1		
MRP	1		
Nitrate	1		
Nitrite	1		
Ammonia	1		
Sulphate	1		
Chloride	1		
Total Phosphorus	1		
Total Heavy Metals	1		
Antimony	1		
Arsenic	1		
Cadmium	1		
Chromium	1		
Copper	1		
Lead	1		
Mercury	1		
Nickel	1		
Selenium	1		
Tellurium	1		
Thallium	1		
Tin	1		

Comment

S1 is off-site and upstream of the gypsum processing facility.

[14] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Monitoring Point S2 – Gypsum Processing Site

Parameter measured	No. of Samples	% Compliant[15]	Comment
pH	1		An Emission Limit Value is not in place, but ongoing monitoring carried out: This point is upstream of discharge
Conductivity	1		
Temperature	1		
Dissolved Oxygen	1		
BOD	1		
Suspended Solids	1		
MRP	1		
Nitrate	1		
Nitrite	1		
Ammonia	1		
Sulphate	1		
Chloride	1		
Total Phosphorus	1		
Total Heavy Metals	1		
Antimony	1		
Arsenic	1		
Cadmium	1		
Chromium	1		
Copper	1		
Lead	1		
Mercury	1		
Nickel	1		
Selenium	1		
Tellurium	1		
Thallium	1		
Tin	1		

Comment

S2 is a monitoring point on-site and upstream of the S14 emission point.

[15] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Monitoring Point TA1 – Gypsum Processing Site

Parameter measured	No. of Samples	% Compliant[16]	Comment
pH	4		An Emission Limit Value is not in place, but ongoing monitoring carried out:
Conductivity	4		
Temperature	2		
BOD	4		
Calcium	2		
Sulphate	4		
Ammonia	4		
Total Phosphorus	2		
Total Nitrogen	2		

Comment

TA1 is a monitoring point added surface water monitoring point on the gypsum processing site. The sample is taken at a V Notch weir a minor stream near the Technical Academy. This surface water flow is formed by off-site groundwater and stormwater from the gypsum processing site. It is part of the River Lagan catchment and is upstream of the S14 stormwater emission point. This monitoring point was added to the licence in December 2021.

[16] % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Waste Water

Explanation

There are two types of waste water that can be produced:

- Process waste water produced from the activities and;
- Sanitary waste water from toilets, washrooms and canteens.

Our EPA licence requires us to manage our waste water on or off-site and ensure that it does not cause environmental pollution when discharged into the environment.

The information below summarises how we treat the waste water produced from our activities, where it is released and the results of monitoring this year.

1. **Waste water produced by our activities is treated as follows before discharge to a receiving waterbody**;

No wastewater is discharged to waterbodies.

Mine Site Domestic Wastewater

Domestic wastewater from the mine site administration building is treated in a septic tank on site which percolates to the ground. Domestic wastewater from the underground mine toilets and canteen is held in a large tank and removed by a licensed waste contractor for treatment at Monaghan County Council wastewater treatment Plant (Discharge Licence D0061)

Process Site Domestic Wastewater

There is an on-site domestic WWTP at the gypsum processing site. The treated wastewater from this WWTP percolates into a stoned area.

Both the septic tank at the mine site and the WWTP at the process site are inspected and serviced regularly.

2. **Treated waste water from our facility is released into the following water bodies:**

No wastewater is discharged to waterbodies.

Table 16 Summary of Waste Water Monitoring

Parameter measured	No. of Samples	% Compliant	Comment
N/A			

Add rows as necessary

Comment

No wastewater is discharged to waters.

Air

Explanation
Generally, three types of air emissions are monitored from industry in Ireland: gases, dust (particulates) and odour. Our EPA licence requires us to ensure that any air emissions from our activities do not cause air pollution or create an odour nuisance.

The information below details the number of air emission points we monitor, the results from testing the air emissions and any odour assessments carried out by us and the EPA this year.

1. **We monitor air emissions from the following number of emission points at our facility.**

IED Licence P0519-04 lists a total of 8 air emission points.
Of the 8 points, Emission Point BE1 is monitored bi-annually
6 Emission Points are monitored annually as per IED licence requirements.
One emission point (BE6) did not run or emit in 2022.

Table 17 Summary of Air Emissions Monitoring in 2022

Parameter measured	No. of Samples	% Compliant	Comment
Particulates	8	100%	
Carbon Monoxide	2		No ELV
NOx	8	100%	

Add rows as necessary

Comment

No ELV for Carbon monoxide applies.

Table 18 Summary of Odour Assessments Carried Out in 2022

Assessment Conducted By	No. of Odour Assessments	% Compliant[17]	Comment
Process Site Personnel	4	4	See Comments below

Add rows where necessary

Comment

The site conducted four odour assessments in 2022. Two odour assessments were carried out on receipt of two odour complaints received but no odour was detected at time of assessment beyond site boundary. 2 further assessments were carried out during site operations. One assessment was completed on a day drain cleaning was in progress at the process site and another instance when stockpiled materials were being moved and there was potential for odours to be detected off-site. No odour was detected off-site on either occasion

[17] A compliant odour assessment is based on EPA Odour Impact Assessment Guidance available at http://www.epa.ie/pubs/advice/air/emissions/ag5-odourassessment.html

Fugitive Solvent Emissions

Are you required to monitor fugitive solvent air emissions from your facility?

Yes [ ] No [x]

Explanation
The use of solvents is regulated under Irish and European Union (EU) Regulations[18]. Solvents are chemicals that, by their nature, are volatile (evaporate readily under ambient conditions). Solvents can be found in many inks, glues and cleaning agents. Due to the volatility of solvents some emissions may be released into the atmosphere during our activities before being captured in our air treatment system. This type of emission is called a **fugitive solvent emission**.

The information below summarises the quantity of solvents used this year, the percentage of fugitive solvent emissions (% of total quantity used) and whether the percentage complied with the targets set in the EU Regulations.

Table 19 Summary of Fugitive Solvent Emissions

Quantity of Solvents Used (Kg)	% Fugitive Solvent Emissions	Compliant
N/A		

Comment

The processes onsite do not require the use of solvents

[18] See Annex VII of the Industrial Emissions Directive
https://ec.europa.eu/environment/industry/stationary/ied/legislation.htm

Groundwater

Explanation
Groundwater is an important and sensitive resource in Ireland. Our EPA licence requires that we monitor groundwater to ensure our activities do not cause groundwater pollution.
Understanding how groundwater flows through soil and rock layers and eventually into surface and coastal waters is a complex science. Sometimes groundwater pollution that occurred in the past can take years and even decades to disappear. Therefore, it is important that experts help us monitor and interpret results from groundwater monitoring and testing.

The information below is a basic summary of the condition of the groundwater this year.

1. **Do you have a groundwater monitoring programme in place?**

Yes [x] No [ ]

2. **Have the groundwater monitoring results over the last 5 years indicated the presence of groundwater pollution?**

Yes [x] No [ ]

Table 20 List of Groundwater Pollutants Identified

Pollutants
Petroleum Hydrocarbons

Add rows as necessary

3. Give details of the investigations and subsequent actions taken, where applicable, to manage the groundwater pollution.

Through our ongoing Groundwater monitoring programme. Petroleum hydrocarbons have been detected in four groundwater boreholes at the mine site. These are boreholes MW6-P1, MW5-P1 and MW3-P1 and MW1-P2.

A Qualitative Risk Assessment (QRA) in line with EPA guidance was completed and a Risk Evaluation Process was completed in 2021.

In line with this report's recommendations, additional monitoring was performed in 2021 and 2022.

The results were reviewed again in Q3 2022 when it was recommended to continue with an increased sampling frequency at the impacted boreholes.

The report confirmed that as water is pumped from the mine workings it creates a strong hydrogeological cone of depression toward the mine rather than migration to off-site receptors. It also concludes that the analysis of water samples taken from the mines holding tank show no evidence of hydrocarbon moving from groundwater to surface water.

As advised by external consultants, increased monitoring of groundwater monitoring wells and the MSE-1 holding tank will continue in 2023.

Comment

All groundwater investigation reports have been shared with EPA.

;

Noise

Explanation
Our EPA licence requires that we monitor noise emissions from our facility. Noise monitoring can be conducted at the boundary of our facility and/or at locations beyond the boundary referred to as “noise sensitive locations”. Noise monitoring requires the use of special noise monitoring equipment. Our EPA licence requires that noise produced by our facility shall not exceed the noise limit values and/or give rise to nuisance.

The information below gives a summary of when and where we conducted noise monitoring this year and if results complied with our EPA licence limits.

1. **We conducted noise monitoring on the following dates in 2022:**

15th March 14th and 15th June and 14th July

2. **Was the noise monitoring carried out at:**
   - i. **the boundary of our facility,**
   - ii. **noise sensitive locations off-site, or**
   - iii. **both?**

Both

3. **Were measured noise levels compliant with your EPA licence limits?**

Yes [X] No [ ]

If no, we took the following actions to address the noise level exceedances?

Comment

Noise monitoring is conducted over day, evening and night time hours as outlined in Schedule B.4 of licence P0519-04.

7) Waste

Waste Generated

Explanation
Our EPA licence requires us to manage the waste we generate in a manner that does not cause environmental pollution.
We manage, store and record hazardous, non-hazardous and inert waste we generate in accordance with our licence. We ensure that this waste is subsequently treated or disposed of in accordance with the relevant waste Regulations.

The information in Table 14 is a summary of waste we generated this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste generated that was reused, recycled or recovered.

Table 21 Waste Generated

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Hazardous	1175.06	-33.13%	98.53%
Non-Hazardous	523.96	15.88%	87.60%
Inert	671.02	61.01%	100
Total Tonnes	2620.41	-5.61%	98.53%

Comment

Hazardous Waste

In 2021 there was significant remedial works of drainage infrastructure. Approx 1,042 tonnes of gypsum material was removed from the networks and sweepings. Drainage cleaning works are routine in 2022 and approx. 637 tonnes were removed in 2022.

Non-Hazardous Waste

Significant difference was 75 tonnes of Septic tank waste was removed in 2022. 117 tonnes were removed in 2021.

Inert Waste

Significant difference was removal of C&D waste. 946 tonnes were removed in 2022 vs 671 tonnes in 2021. The site has made significant upgrades to hardstanding areas around site.

Waste Accepted

Did you accept waste onto your facility for storage, treatment, recovery or disposal this year?

Yes [x] No [ ]

Explanation
Our EPA licence requires us to manage the waste we accept in a manner that does not cause environmental pollution.
We manage, store and record all incoming and outgoing hazardous, non-hazardous and inert waste. The waste we accept may be treated, recovered, disposed or stored at our facility depending on our licence requirements.

The information in Table 15 provides a summary of waste we accepted this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste accepted that was reused, recycled or recovered.

Table 22 Waste Accepted

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	% Recovery
Non-Hazardous	2,623	+26.7%	100%
Total Tonnes	2,623	+26.7%	

Comment

2,623 tonnes received through plasterboard recycling scheme in 2022. This represents an increase from 1,922 which were recycled in 2021. As noted in Table 1, part of our Environmental Management Plan is to increase the percentage of recycled gypsum materials into our plaster products.

8) Financial Provision

Explanation
Our EPA licence requires us to assess the risk our activities pose to the environment if we cease our activities or if an incident occurred. If we are identified as a high-risk facility[19] by the EPA, we are required to put provision in place such as a financial bond or insurance to cover the cost of restoring our site to a satisfactory condition. This financial provision can then be used to cover the cost of managing the restoration or clean up should such an event occur.

1. Are you required to have an agreed financial provision in place?

   Yes [x] No [ ]

2. What year was your Closure, Restoration and Aftercare Management Plan (CRAMP) last agreed by the Agency?

Revised CRAMP submitted to Agency in 2021

3. What year was your Environmental Liability Assessment Report (ELRA) agreed by the Agency?

2023

4. Has there been any significant changes on your site since the last agreements?

   Yes [ ] No [x]

   If yes, have you submitted details to the EPA?

   Yes [ ] No [ ] N/A [x]

[19] See Appendix II

Appendix I

Class of Activity

Industrial and waste facilities are classed into different sectors depending on the nature of their activity and its potential impact on the environment. The EPA Act 1992 as amended, outlines these as follows:

Class 1	Minerals and other materials
Class 2	Energy
Class 3	Metals
Class 4	Mineral fibres and glass
Class 5	Chemicals
Class 6	Intensive Agriculture[20]
Class 7	Food and drink
Class 8	Wood, paper, textiles and leather
Class 9	Fossil fuels
Class 10	Cement, lime and magnesium oxide
Class 11	Waste
Class 12	Surface Coatings
Class 13	Other Activities

[20] This reporting template is not applicable to the **intensive agriculture sector**. Their annual environmental reporting structure is different and can be found at Compliance & Enforcement: Licensees: Reporting Publications | Environmental Protection Agency (epa.ie)

Appendix II

High Environmental Risk Categories

If an industrial or waste licence falls into one of these categories it is deemed, by the EPA, as a high environmental risk. As a result, the licence holder is required to have financial provision in place. See section 8, Financial Provision.

1. Landfills
2. Non-Hazardous Waste Transfer Station
3. Incineration and Co-Incineration Waste Facilities
4. Category A – Extractive Waste Facilities
5. Upper and Lower Tier Seveso Facilities
6. Hazardous Waste Transfer Stations
7. High Risk Contaminated Land
8. Exceptional Circumstances

NOTE:

This list is subject to change.

See the link below for further information.

Compliance & Enforcement: Financial Provisions Publications | Environmental Protection Agency (epa.ie)

Appendix III

Beyond Compliance

The case study below shows how we went beyond the requirements of our licence in the reporting year.

The site is required to have an Environmental Management System in Place. However, the mine and process site both hold ISO14001:2015 Accreditation independently.

Both sites and undergo an intensive annual programme of internal and four external audits per annum.

A number of Mine and Process Staff received Integrated Management Systems (IMS) training at all levels of the business in 2022. In addition, a number of key personnel received training to enable them to facilitate our internal audit programme.

The site has also resourced an upgrade in our document control system, and this will be further rolled out in 2023.

Saint-Gobain Construction Products Ireland is also committed to its BES6001 certification. This is a standard which assesses the management practices of the organisation, and the nature, sources and make-up of the various component materials in the product. To meet this Standard, organisations must satisfy certain compulsory elements.

The standard is broken down into three sections: Organisational Management Requirements. Supply Chain Management Requirements. Requirements related to the management of sustainable development.