TUNGSTEN WEST

Site Condition Report

Hemerdon Mineral Processing Facility- MFE

15th September 2026

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Site Condition Report

Hemerdon Mineral Processing Facility - MFE

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Acronyms and Abbreviations

Name	Description
BGS	British Geological Survey
EA	Environment Agency
EPR	Environmental Permitting (England and Wales) Regulations 2016 (as amended)
LoW	List of Waste
MPF	Mineral Processing Facility
MFE	Mobile Front End
SCR	Site Condition Report
DAA	Directly Associated Activity

1. INTRODUCTION

This Application Site Condition Report (ASCR) has been prepared by Sol Environment Ltd on the behalf of Drakelands Restoration Limited, ('*DRL*' hereafter) in support of an installation permit variation application under *The Environmental Permitting (England and Wales) Regulations 2016 (as amended)* for their site located at Hemerdon Mine, Drakelands, Plympton, Plymouth, Devon, PL7 5BW (National Grid Reference: SX 56897 58966).

This document represents the ASCR submitted to the Environment Agency (EA) as part of the permit application package and relies on information supplied by the site and various third-party information sources (See Section 2).

DRL's Mineral Processing Facility (MPF) is currently permitted under the conditions established by Environmental Permit no. EPR/AP3203ML.

The MPF is permitted as an Installation under the following Schedule References:

- Section 2.1 Part A(1)(a) '*Roasting or sintering metal ore, including sulphide pre, or any mixture of iron ore with or without other minerals'*;
- Section 5.4 Part A(a)(ii) *'Treatment of non-hazardous waste in a plant with a capacity of more than 50 tonnes per day by physio-chemical treatment'*; and
- Section 3.5 Part B(a) *'Crushing, grinding or other size reduction of any designated minerals or mineral product*'.

The site is also permitted to carry out a number of Directly Associated Activities (DAA) as well as holding several separate Environmental Permits.

The most recent variation is proposed to include the proposed Mobile Front End (MFE) crushing and screening operations and to extend the site's Installation Boundary to incorporate the MFE. The MFE is proposed to initially process pre-existing stockpiles and soft in-situ ore, following which freshly mined ore or extractive residues classed as resources will be processed. The MFE will generate fine and coarse ore material into limited stages of the MPF.

The MFE is proposed to be regulated under the current permitted Activity *Section 3.5 Part B (a) – crushing, grinding or other size reduction of any designated mineral or mineral product*.

Full permitted activities are detailed within Section 4 of this SCR.

This document has been prepared in accordance with the Environment Agency's (EA's) Guidance Document H5 Site Condition Reports Guidance and Templates (Version 5.0, dated October 2014). This report provides baseline information in relation to the site.

2. SITE DETAILS

Table 2.1 – Site Details

Name of the Applicant:	Drakelands Restoration Limited
Activity Address:	Hemerdon Mine, Drakelands, Plympton, Plymouth, Devon, PL7 5BW
Grid Reference:	SX 56897 58966

Document References:	EP Variation Application Site Condition Report, Drakelands Restoration Limited Document reference and date: SOL_26_P104_TUN – 15th September 2026
Annexes:	Annex A: Site Plans Annex B: Groundsure 2026 Report Annex C: Previous Phase I and II Reports Annex D: Other Previous Site Condition Reports Annex E: CAR Report 18.06.26 Annex F: Hazardous MSDS

2.1 Site Location

The site is located at Hemerdon Mine, Drakelands, Plympton, Plymouth, Devon, PL7 5BW.

The National Grid Reference for the centre of the site is SX 56897 58966.

The site is an irregularly shaped area covering approximately 14.15 hectares, located off the B3417 (Plympton to Lee Moor road) approximately 3.8 km north of the A38 Langage Interchange and 10.0 km north-east of Plymouth City Centre.

The site currently comprises of the existing Mineral Processing Facility with associated ancillary infrastructure as part of the wider Hemerdon Mine site. The site layout is provided in Figure 2.3 below.

The location of the proposed development is provided overleaf in Figure 2.1.

The proposed site Installation Boundary is provided overleaf in Figure 2.2.

The proposed MFE layout is provided overleaf in Figure 2.3.

2.2 Context

The site is located within the boundary of the wider Hemerdon Mine with the northern part of the site extending into the MWF Environmental Permit boundary.

The site surroundings are summarised in Table 2.2 overleaf.

The MPF was formerly operated by Wolf Minerals Ltd between August 2015 and October 2018, and is part of a larger mining operation, including a large open pit mine to the south-east and a Mining Waste Facility (MWF) (tailings impoundment) to the north-west. These two areas are outside the permit boundary of the MPF.

Immediately to the south of the MPF lies the open face pit. The wider area is characterised by historic and current quarrying and mining operations.

The large city of Plymouth is located approximately 10km to the south west of the site's boundary, with the suburban towns of Plympton and Chaddlewood, approximately 2km southwest and the rural villages of Hemerdon, Sparkwell, Lutton and Wotter.

The land surrounding the site is rural with isolated residential properties and farm buildings. A number of previously used residential properties within 500m of the site are subject to a Section 52 Agreement and as such cannot be used for residential purposes. The nearest residential receptor is located approximately 460m to the south west, called Galva House.

Table 2.2 – Site Setting

Direction	Description
North	Adjacent to the north of the site is the MWF and wider mine site.
East	Adjacent to the east is the wider mine site. Beyond is historical Smallhanger China Clay Works and a series of surface water ditches, ponds and drains associated with the works. Various pockets of open ground and woodland are to the east of the site.
South	Adjacent to south is the open pit and beyond open/agricultural land and Galva Road.
West	Adjacent to the west is the wider mine site and beyond is open/agricultural land and woodland areas. The access road, B3417 is to the west of the site.



Figure 2.1 – Site Location

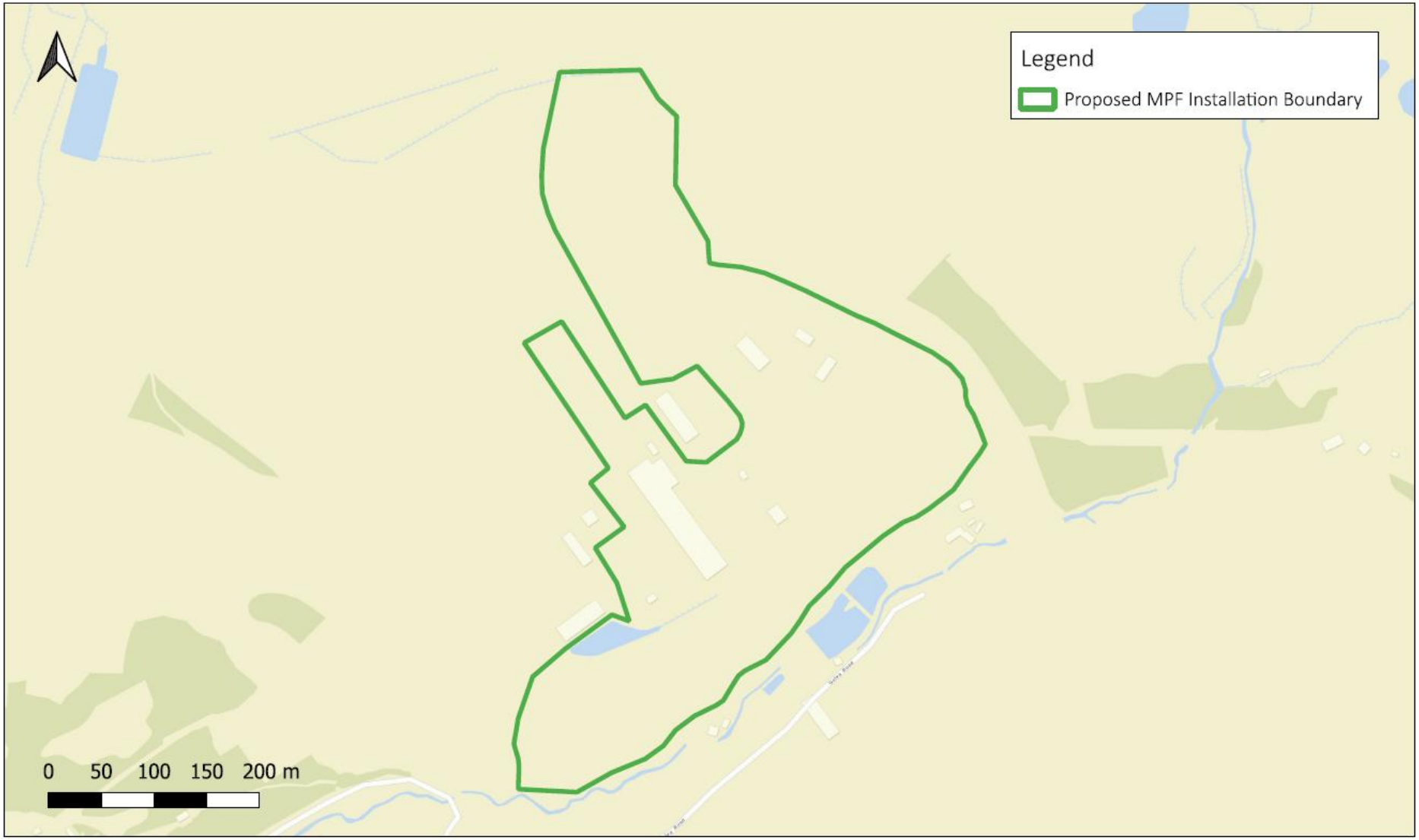


Figure 2.2 – Proposed MPF Installation Boundary

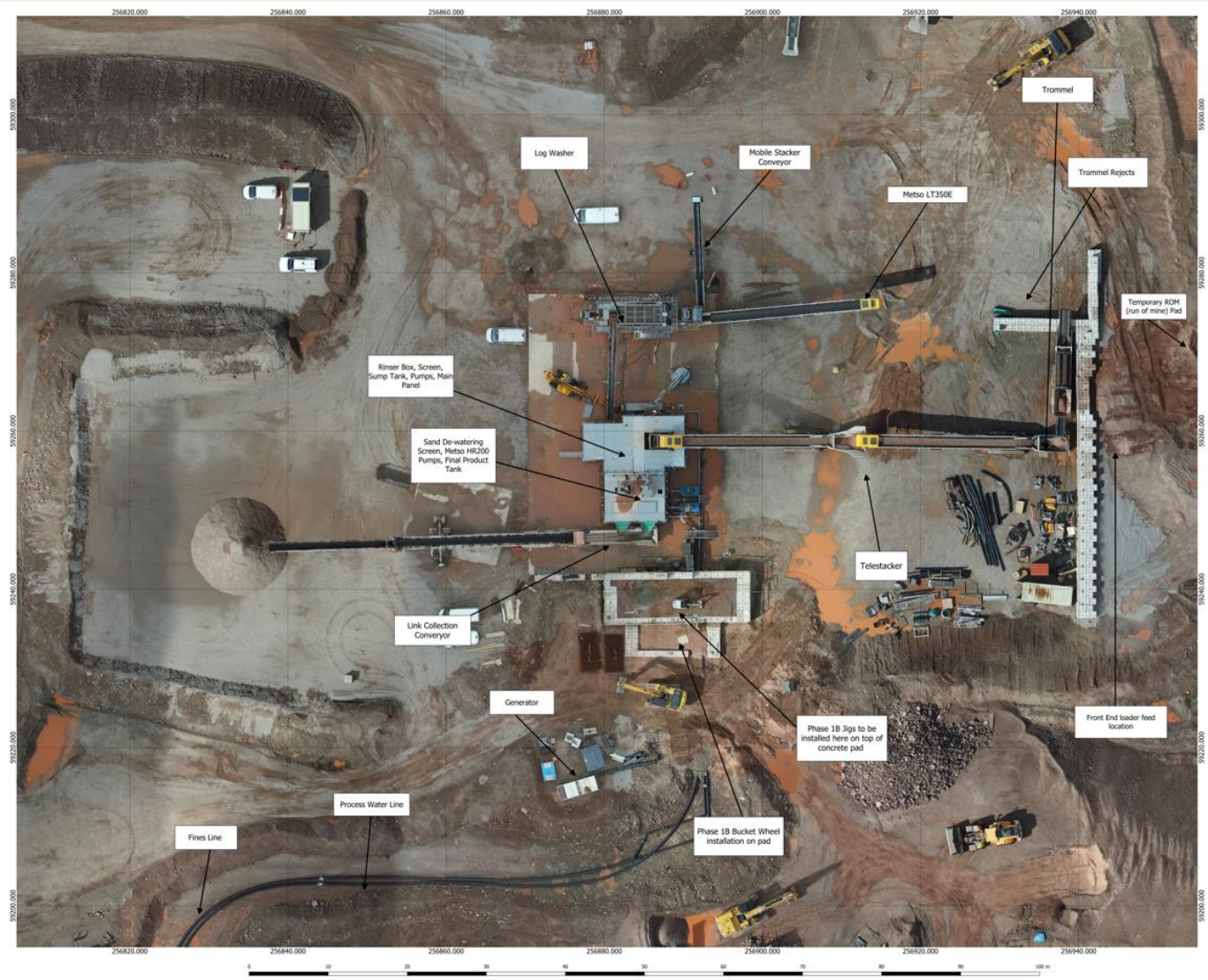


Figure 2.3 – MFE Layout Plan

3. CONDITION OF LAND AT PERMIT ISSUE

3.1 Environmental Setting

Desk-based research of the local geology, hydrogeology and surface waters has been carried out in order to establish the potential for migration of contamination onto or away from the Site, and to assess the surface water and groundwater sensitivity of the site area. Information was obtained from a number of sources, namely:

- Environment Agency Flood Risk Map;
- Information provided by Groundsure Report (*Annex B*);
- Information outlined within the previous Ground Consultants Limited Report and Wolf Minerals Limited Report (*Annexes C&D*);
- Geological maps produced by the British Geological Survey (BGS) and the BGS Geology of Britain Viewer (http://maps.bgs.ac.uk/geologyviewer);
- MAGIC (http://magic.defra.gov.uk); and
- BGS Borehole Record Viewer (http://www.bgs.ac.uk/data/boreholescans/home.html).

3.1.1 Geology

According to BGS Geological Mapping the site is not underlain by superficial deposits.

The BGS records the underlying bedrock is split between the following geologies:

- *Upper Devonian Slates-Hornfelsed slate*. This is described in the BGS Lexicon as '*Slate with subsidiary hornfelsed slate and trace mudstone.*'
- The southwestern part of the site is underlain by bedrock geology consisting of *Upper Devonian Slates-Metabasaltic-rock*. This is described in the BGS Lexicon as '*Slate with subsidiary hornfelsed slate and trace mudstone.*'

Off-site, three outcrops of the Dartmoor Intrusion, comprising granite, are located 199m north-east and an outlier 241m south, with a smaller outlier 263m south-east. The outlier 241m south contains the mineralised orebody that is being mined at Hemerdon.

Further details are provided in the 2014 SLR Site Condition Report (*Annex D*) listed in Section 1.2 which states that "*the Killas are altered to dense, extremely hard, dark grey siliceous hornfels (thermally metamorphosed slate), with prominent white quartz veins and some replacement by fine-grained quartz-tourmaline rock. Towards the south the slates are light grey and micaceous, in places showing the effects of argillic (clay) alteration and of weathering. The effects of pervasive weathering can be seen down to 20m or so below surface. A series of north dipping east-west striking quartz veins penetrate the Killas. The major joint system associated with the Killas is sub parallel to these veined structures. Basic igneous rocks occur within the valley of the Smallhanger Brook and may underlie the Killas on Crownhill Down. The basic igneous rocks are fine-grained or aphanitic basalt. The basalt is hard and fine-grained, with a distinct shear fabric and spotting due to thermal metamorphism.*

"The surface profile comprises disturbed or made ground, topsoils, residual soils and the bedrock weathering profile.

The combined thickness of topsoils, disturbed or made ground, and residual soil is typically 2m to 2.5m with locally deeper zones. The thickest areas of disturbed ground are associated with the historical tin streaming activities on Crownhill Down. The valleys of the Tory Brook and Smallhanger Brook are covered by accumulations of unconsolidated and poorly sorted rock fragments, sand, silt and clay. The thickness of these 'head' deposits is unlikely to exceed beyond 2m to 3m depth in the lower parts of the valleys."

The site is not located in area that may be affected by coal mining.

Made Ground

There is no Made Ground present on site.

Radon Potential

According to UKradon and the Groundsure Report, the highest radon potential on site is between 10% and 30%. Full radon protection measures are therefore considered necessary.

Shrink Swell

The maximum shrink swell hazard rating identified on the application site is negligible.

Landslides

The maximum landslide hazard rating identified on the application site is very low.

Soluble Rocks

The maximum soluble rock hazard rating identified on the application site is negligible.

Compressible Ground

The maximum compressible ground hazard rating identified on the application site is negligible.

Collapsible Rocks

The maximum collapsible rocks hazard rating identified on the application site is very low.

Running Sands

The maximum running sand hazard rating identified on the application site is negligible.

Mining Records

There is 1 mining or ground working record onsite for vein mineral. The likelihood of this affecting the area is described as potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This identified mining is operated by DRL and linked to the MPF operations.

3.1.2 Hydrogeology

The hydrogeological characteristics of the geological groups identified are summarised below:

- The bedrock *Upper Devonian Slates* is classed as a Secondary 'A' Aquifer. This is described as "*Permeable layers capable of supporting water supplies at a local rather than strategic scale,*

and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers."

The site is not located within a Source Protection Zone (SPZ).

The groundwater vulnerability at the site is classified as high.

The groundwater flood risk on site is classified as negligible.

The groundwater lies within the *Tamar* WFD groundwater catchment (ID GB40802G806700). The catchment has a poor overall rating with poor chemical rating and good quantitative rating.

The site is not located within a Nitrate Vulnerable Zone (NVZ). Nitrate Vulnerable Zones (NVZs) are areas designated as being at risk from agricultural nitrate pollution. The designations are made in accordance with the Nitrate Pollution Prevention Regulations 2015.

There are 4 groundwater abstractions within 2km of the site. These are shown in Table 3.1 below.

Table 3.1 – Groundwater Abstractions Within 2km of the Site

Distance & Direction	Name	Licence no.	Details
1m S	Lobb Farm	15/47/002/G/034	General farming and domestic - Historical
269m SE	Drakelands Restoration Limited	SW/047/0002/020	Dewatering – Active – start date: 23/11/2022
537m NE	Sibelco UK Ltd	SW/047/0001/006	Process water – Active – start date: 04/11/2022
1,042m SE	Daw	15/47/001/G/005	General farming and domestic - Historical

The site sensitivity in relation to groundwater is considered to be Moderate.

3.1.3 Surface Waters

There are 2 watercourses on site, a drain and a pond in the southwest corner of the site. The nearest significant surface water feature is the *Smallhanger Brook* that runs northeast to southwest of the site within 2m. There are 35 records of surface water features within 250m of the site, including *Drakelands Trout Lake* located 26m southeast of the site.

The site is within the *Tory Brook* WFD water body catchment (ID GB108047003640). The catchment has a moderate ecological rating.

The majority of the site has the lowest risk from surface water flooding. However, a small area along the southwest boundary of the site is within a Flood Zone 3, with 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

There are 10 surface water abstractions within 2km of the site. These are shown in Table 3.2 below.

Table 3.2 – Surface Water Abstractions within 2km of the Site

Distance & Direction	Name	Licence no.	Details
On site	Wolf Minerals UK Limited	SW/047/0002/006	Process water - Historical
50m S	Wolf Minerals UK Limited	SW/047/0002/007	Process water - Historical
77m SE	Cobbold	15/47/002/S/003	General farming and domestic - Historical
972m W	Wolf Minerals UK Limited	SW/047/0002/001	Process water - Historical

1,104m W	Drakelands Restoration Limited	SW/047/0002/022	Mineral washing – Active – start date: 21/02/2023
1,176m W	Wolf Minerals UK Limited	SW/047/0002/001	Mineral washing - Historical
1,201m NW	Tory Brook Hydro Limited	SW/047/0002/008	Hydroelectric Power Generation – Active – start date: 16/12/2013
1,441m NE	Sibelco UK Ltd	15/47/001/S/029	Process water – Active – start date: 30/09/1967
1,616m N	Tory Brook Hydro Limited	SW/047/0002/009	Hydroelectric Power Generation – Active – start date: 16/12/2023
1,939m W	Rendell	15/47/002/S/023	Spray irrigation - Historical

There are 2 potable water abstractions within 2km of the site but both of these are historical.

The site is considered to be in an area of moderate sensitivity regarding surface water due to the proximity of the watercourse.

3.1.4 Designated Sites

Environment Agency H1 and H5 guidance states that the potential impacts of the site should be assessed for the following habitat sites.

Within 10km of the Installation:

- Special Areas of Conservations (SACs) and candidate SACs (cSACs) designated under the EC Habitats Directive;
- Special Protection Areas (SPAs) and potential SPAs designated under the EC Birds Directive; and
- Ramsar Sites designated under the Convention of Wetlands of International Importance.

Within 2km of the Installation:

- Sites of Special Scientific Interest (SSSI) established by the 1981 Wildlife and Countryside Act;
- National Nature Reserves (NNR);
- Local Nature Reserves (LNR);
- Local Wildlife Sites (LWS), County Wildlife Sites (CWS) and potential wildlife sites (PWS);
- Sites of Importance for Nature Conservation (SINC); and
- Ancient Woodland.

Information from the Multi Agency Geographic Information for the Countryside (MAGIC) website (http://magic.defra.gov.uk/), and the Groundsure Report (*Annex B*) has been used to obtain the following information.

The designated sites and other ecological receptors relevant to this study are presented in Table 3.3 below and Figure 3.1.

Table 3.3 – Sensitive Ecological Receptors

Receptor	Type	Direction and Distance
The Tamar Estuaries Complex	Special Protection Areas	9,500m Northwest
South Dartmoor Woods	Special Areas of Conservation	3,900m Northwest
Dartmoor	Special Areas of Conservation	3,050m Northeast
Tory Brook and Smallhanger Brook	Water Bodies	Tory Brook runs adjacent to the west of the site Smallhanger Brook runs through the site between the Pit and MPF
Bottle Hill Spring	Spring	Adjacent West
Plymouth Sound and Estuaries (two areas identified within 10km)	Special Areas of Conservation	8,500m Southwest and west
Various Local Wildlife Sites - Brockhold and Binicliff woods - Truelove - Crownhill Down - Higher Lee - Hooksbury Wood - Blackalder Tor - The Ruts - Smallhangar Waste - Knowle Wood - Shaugh Moor - Ridding Down - Headon Down - Great Shaugh and Cann Woods	Local Wildlife Sites	Various LWS within 2km to the west, southwest, north and east
Various Ancient Woodland - Three areas of unnamed areas of ancient and semi natural woodland - Hatsholl / Holt Woods - Brockhole / Binicliff Woods - Fernhill Wood - Hooksbury Wood – Ancient replanted - Higher Lee Woods – Ancient and Semi-natural - Coleland – Ancient Replanted	Ancient Woodland	Various AW within 2km to the west, north and southwest

The site is not located within an Air Quality Management Area.

Potential fugitive emissions from site operations are managed in accordance with the site's Dust Minimisation Management Plan (refer to *Annex D – Dust and Emissions Minimisation Management Plan* of the Environmental Permit Application), and therefore it is the conclusion of this assessment that there will be no direct or indirect effects on any of the statutory sites described above.

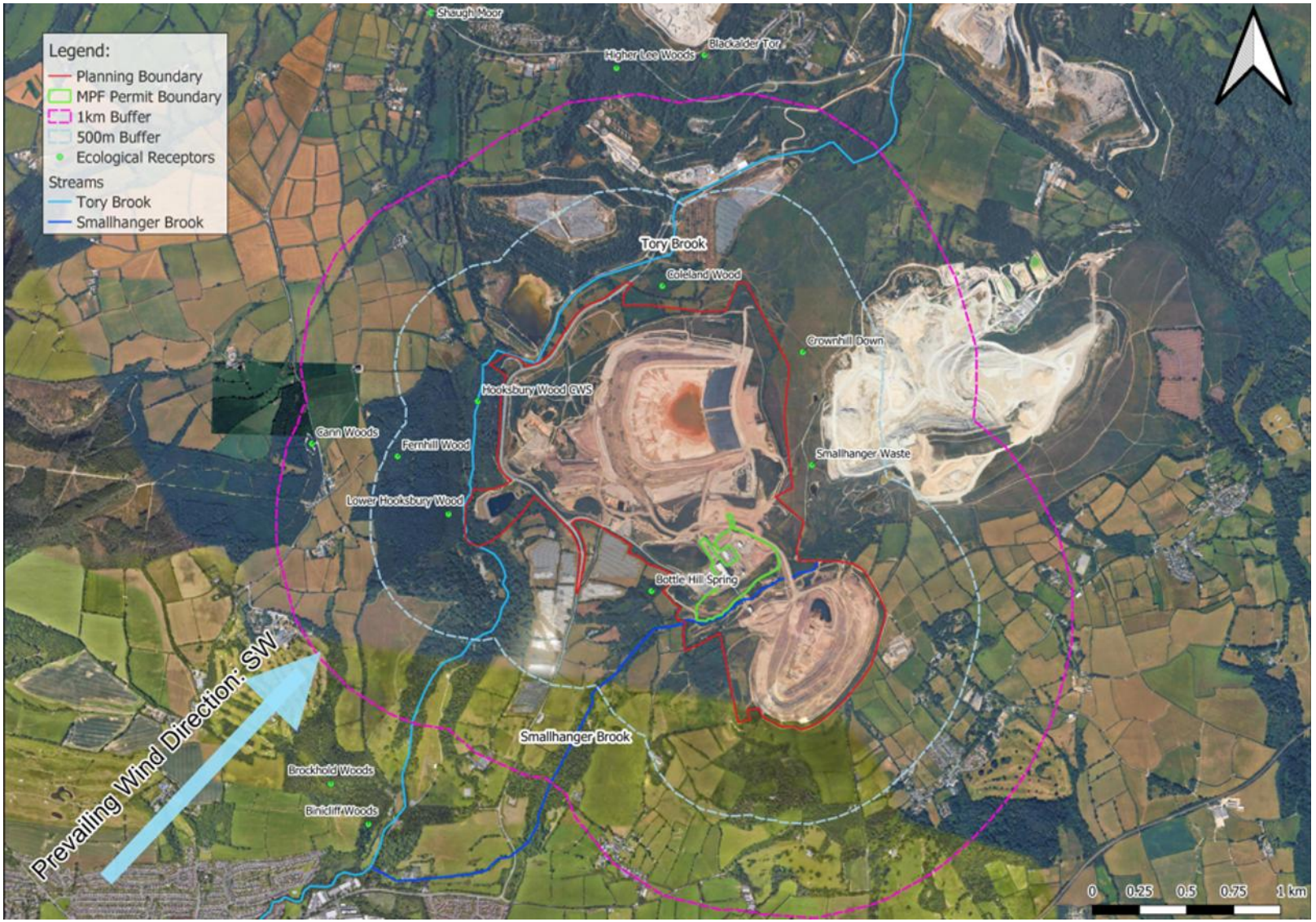


Figure 3.1 - Sensitive Ecoloigcal Receptors

3.1.5 Other Sensitive Receptors

The nearest residential dwelling is located at Galva House 460m southwest of the site.

Due to the proximity of the nearest residents, the site is not considered to be sensitive in relation to potential amenity issues such as emissions of odour, dust or noise. Table 3.4 below identifies sensitive human receptors within 1km of the site. This is also presented in Figure 3.2.

Table 3.4 – Locations of Sensitive Human Receptors

ID	Receptor	Type	Distance & Direction
R1	Scrap Yard	Business	380m south
R2	Mumford Cottage	Residential	890m northeast
R3	Portworthy	Residential	230m west
R4	Heath Farm	Residential	780m west
R5	Animal Welfare Centre / Heathdown Cottage	Residential	735m west
R6	Stantec	Business	820m south
R7	Galva House	Residential	460m southwest
R8	Golden Clay Shoot	Business	410m south
R9	WindWhistle / The Barn	Residential	1km southwest
R10	Newnham Home Farm	Residential	1km south
R11	Truelove	Residential	930m northwest
R12	Broadoak Cottages	Residential	1km north
R13	Goodamoor Cottage	Residential	280m east
R14	Headon Gate	Residential	850m east
R15	Houndall Farm	Residential	695m east
R16	Birchland	Residential	280m southeast
R17	Sparkwell Farm	Residential	525m south
R18	Hemerdon House	Residential	675m south
R19	All Saints Church	Place of Worship	622m southeast
R20	Hemerdon	Residential	950m south
R21	Dartmoor Domes Campsite	Residential	380m west
R22	Solar Farms	Commercial / Business	Various distances to the north and south
R23	Elfordleigh Hotel and Golf Club	Business / recreational / residential	1.1km west
R24	Delta Force Paintball	Recreational	550m south
R25	Goodamoor Farm	Non-residential / Barns	50m east
R26	Dartmoor Zoo	Business / recreational	280m east
R27	Village of Sparkwell	Residential	540m south
R28	Deer Park	Business / recreational	550m west
R29	Farm Buildings	Residential	950m south
R30	Welbeck Manor Golf Club	Business / recreational / residential	900m southeast
R31	Houndall Wood Cottage	Residential	1km east

R32	Dog Park	Business	Adjacent south
R33	Imery's Minerals	Business / commercial	Various pocked of land, closest adjacent north



Figure 3.2 – Sensitive Human Receptors

3.2 Pollution History

3.2.1 Environmental Database Records

The following information has been obtained from a search of a publicly available database of environmental information (Groundsure Report obtained is provided in *Annex B*).

The database contains records of information from public registers held by environmental regulatory authorities and can be used to assess the site's sensitivity, the potential for neighbouring activities to pose a risk to the site and to determine whether specific records of pollution relate to the subject site.

3.2.2 Pollution Incidents

There are 2 recorded pollution incidents within 500m of the site. These are summarised in the table below.

Table 3.5 – Recorded Pollution Incidents Within 500m of the Site

Distance & Direction	Details	Pollutant Description	Impact
14m SE	Date: 14/08/2001 Incident ID: 21865	Not identified	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
106m SE	Date: 14/05/2015 Incident ID: 1337111	Contaminated water	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

3.2.3 Potentially Contaminative Industrial Sites

There are 5 potentially contaminative industrial uses on site, and 2 recorded potentially contaminative industrial sites within 250m. These are detailed in Table 3.6 below.

Table 3.6 – Potentially Contaminative Industrial Sites Within 100m of the Site

Company / feature	Distance & Direction	Activity	Category
Electricity sub station	On site	Electrical features	Infrastructure and facilities
Electricity sub station	On site	Electrical features	Infrastructure and facilities
Wolf Minerals Ltd	On site	Ore mining	Extractive Industries
Electricity sub station	On site	Electrical features	Infrastructure and facilities
Electricity sub station	On site	Electrical features	Infrastructure and facilities
Electricity sub station	18m NW	Electrical features	Infrastructure and facilities
Quarry (Disused)	243m S	Electrical features	Infrastructure and facilities

There are 9 records of current or recent tanks within 250m of the site. 8 of these are on site.

3.2.4 Landfills and Waste Sites

There are no active or historical landfills on site or within 500m of the site boundary.

There are no records of active or historical waste sites on site. However, there are 2 recorded active waste sites within 500m of the site.

There are no licensed waste exemptions on site. However, there are 2 licensed waste exemptions within 500m of the site.

Those records within 100m of the site are summarised in Table 3.7 below.

Table 3.7 – Current and Historical Waste Sites Within 100m of the Site

Company / feature	Distance & Direction	Activity Description	Reference
Hemerdon Mine	79m SE	Mining Waste	EA/EPR/JB3209MD
Higher Drakelands Farm	33m SE	Disposing of waste exemption – Deposit of waste from dredging of inland waters	EPR/DF0736P U/A001
Drakelands Mine	86m SE	Treating waste Exemption - Screening and blending of waste	WEX241396

3.2.5 Discharge Consents

There are 4 licenced discharges to controlled waters within 500m of the site. Those records within 100m of the site are summarised in Table 3.8 below.

Table 3.8 – Licensed Discharges to Controlled Waters within 100m of the Site

Company / feature	Distance & Direction	Activity Description	Reference
Hemerdon Mine	On site	Trade discharge to Smallhanger Brook	EPRQP3420XX
Drakelands Mine	26m SE	Trade discharge to Smallhanger Brook	EPRDB3290RH
Drakelands Site Office	55m NW	Sewage discharge to groundwater	EPRAB3991VL
Drakelands Site Office	63m NW	Sewage discharge to groundwater	EPRWB3893DT

3.2.6 Authorised or Permitted Processes

There are no records of Licensed industrial activities (Part A(1)) on site. However, there are 2 records within 500m. These are outlined in Table 3.9 below.

Table 3.9 – Environmental Permits within 500m of the Site

Operator and Installation name	Process	Permit no.	Status
Wolf Minerals (UK) Limited: Drakelands Mineral Processing 19m SE	Mineral Activities Ferrous Metals Disposal of non-hazardous waste Associated Processes	EPR/GP3531EX	Revoked
Drakelands Restoration Limited: Hemerdon Mine 440m SE	Mineral Activities Ferrous Metals Disposal of non-hazardous waste Associated Processes	EPR/AP3203ML	Effective

There are no current or recent petrol station within 500m of the site.

There are no Control of Major Accident Hazards (COMAH) site within 500m of the site.

There are no records of Licensed pollutant release (Part A(2)/B) within 500m of the site.

There are no other permitted processes within 500m of the site.

3.2.7 Radioactive Substance Authorisations

There are no radioactive substance authorisations within 500m of the site.

3.2.8 Historical Land Uses

A review of historical maps has been conducted to establish the historical land use and development of the site and its surroundings and any potentially associated contaminants, along with recent aerial photography provided by Groundsure.

Earliest available historical mapping covering the site dates back to 1865. Historical land uses are summarised in the table below.

Table 3.10 – Summary of Historical Land Use

Date	On site	Within 500m
1865-67	The site is undeveloped, comprising areas of rough grazing and assumed agricultural use between Crownhill Down (to the north) and Smallhanger Brook (to the south and south-east). A leat crosses the site from north-east to south-west.	A shaft is mapped 20m west with a tramway leading west from it to Bottle Hill Tin Mine, 200m-400m west. An old shaft is 80m west. An isolated chimney, possibly an arsenic stack, is mapped 270m west. Areas of hummocky ground beyond 100m north, with an old tin mine (Wheal Florence) and shaft beyond, 280m north. Hemerdon and Smallhanger China clay works including settling tanks, 160m – 300m east. Buildings, assumed agricultural/residential, at Drakeland Corner, 30m-60m south-east.
1886-87	Discrete areas of hummocky ground present on the site.	Shaft 20m west and tramway no longer shown. Bottle Hill tin mine shown as disused. Extensive hummocky ground shown to north of site.
1906-07	No significant changes.	Smallhanger China clay works has expanded to the south-east.
1914-44	-	According to the Ecospan Phase 2 report, a processing plant with a 400 ton per day capacity was first established on the Hemerdon Mine site (south-east of the current site) during the First World War but closed in 1919 having only processed 16,000 tonnes of ore. During the Second World War, mining recommenced with the establishment of a 250 ton per day plant in 1939-1941. A new 3,000 ton per day plant was completed in 1943 and ran for less than a year before being closed down.
1951-54	Leat no longer shown.	Hemerdon Mine (Wolfram and Tin) including industrial buildings, tips, ponds, a large circular tank, other tanks and

		aerial cables, mapped between 100m-500m south-east of site, with opencast workings beyond.
1965	No significant changes.	No significant changes.
1977-81	No significant changes.	Small scale mapping shows Hemerdon Mine and Smallhanger China clay works as disused.
1989-92	No significant changes.	Buildings reconfigured at Hemerdon Mine 200m southeast.
1999	Agricultural building in east of site. The remainder appears as pastureland and moorland.	Buildings at Hemerdon Mine appear abandoned with surrounding area covered by scrub.
2001-03	Building, assumed agricultural, in south-west corner of site.	No significant changes.
2005-10	No significant changes.	No significant changes.
2015	Wolf Minerals Ltd Drakelands Mine operations underway from 2014. All previous development has been cleared. A mineral processing facility and conveyors aligned north-west to south-east crosses the centre of the site. Temporary buildings and laydown area occupying north-east part of the site. Large rectangular water tank in south-west corner of site. Strip of ground along south-eastern Boundary remains largely undeveloped but traversed by several haul roads with earthworks operations evident.	Former Hemerdon Mine buildings to south-east cleared and area covered with tipped material and lagoons. Open pit excavations underway between 300m-750m south-east. Extensive mining waste (tailings dam) facility constructed 250m- 800m north-west including embanked revetments and basal liner. Offices, car park and raised tip present abutting site to west. Workshop and storage area abutting site north-west of mineral processing facility. Haul road abutting north-east boundary of site.
2017-18	Several areas on the Site have stockpiled bulk bags of material present, (identified by Devon CC in 2021 as partially processed tungsten). Landscape/tree planting visible on strip of ground parallel to south-eastern boundary.	Open pit deepened. Tailings in mining waste facility covering western part of basal liner.
2019-22	Wolf Minerals ceased operating in 2018. Stockpiled bulk bags removed from some areas of site. No other significant activity evident.	No significant activity evident.
2026	No significant changes.	No significant changes.

There is a significant amount of historical industrial development around the site, however, the main developments and land uses that could have potentially contaminated the site are from mining processes.

Contaminants associated with the MPF can include:

- Flocculants;
- Coagulant;
- Ferrosilicon;
- Magnetite;
- Sulphuric acid;
- Ferric sulphate;
- Hydrated lime putty;
- Hydrogen peroxide; and
- Diesel fuel.

The above list is not exhaustive. Other stocks of minerals and chemicals may have been held on site at various times.

3.3 Evidence of Historic Contamination

A number of ground investigations have been undertaken prior to the recent development of the site. These include:

- Ecospan Environmental Ltd Phase 1 Risk Assessment – 2011;
- Ecospan Environmental Ltd Phase 2 Investigation Contamination Survey – 2013 ;
- Ground Consultants Ltd Phase 1 Baseline Site Condition Investigation – 2025;
- Ground Consultants Ltd Phase 2 Baseline Site Condition Investigation- MPF – 2026; and
- Ground Consultants Ltd Phase 2 Baseline Site Condition Investigation – MFE – 2026;

Findings from these are summarised in the sections below.

3.3.1 Ecospan Environmental Ltd Phase I Risk Assessment – 2011

A desk-based study and site walkover was carried out by Ecospan Environmental Ltd in February 2011. The report highlighted various significant potential pollutant linkages as a result of their risk assessment and determined that it was likely the site was contaminated.

This was primarily due to the presence of spoil heaps, slimes, and settling ponds from past mining activity across the site but may also arise from other sources such as fuel oil, solvents, paints, or chemicals used in the processing plant. The report speculates that these are heavily contaminated with heavy metals and toxic metalloids such as arsenic but the extent was unknown.

Many of the buildings on site were observed to be littered with broken asbestos sheeting and fragments, and suspected to have been used for disposal of unwanted materials.

3.3.2 Ecospan Environmental Ltd Phase II Investigation Contamination Survey – 2013

This report was carried out as a follow-up Phase II investigation by Ecospan Environmental Ltd to their 2011 report. This included intrusive sampling to further assess potential contamination issues identified in the Phase I report.

The fieldwork investigations were conducted in November 2012 to assess contamination by sampling a combination of soil and water in four targeted areas:

- The area occupied by the old mine buildings;
- The area of old mine workings settlement ponds etc.;
- Crownhill Down; and
- The proposed site of the new plant and associated structures, including site for possible roaster.

The results and sampling methodology can be seen in the report included in *Annex C* of this report. However, the conclusions are summarised below.

- This investigation identified a number of contaminants present at Hemerdon mine site;
- VOC and SVOC contamination was only found at significant levels in soil samples from probehole 1. The analysis identified the majority of the contamination present in this sample was xylene with some additional tetra-chloroethane, Ethyl benzene and Naphthalene.

  Comparing against the worst-case EA soil guideline value (SGV) for xylene (2600 mg/kg), it was concluded that the levels present in probehole 1 do not pose any risk;
- Total petroleum hydrocarbons were present in a number of samples with a maximum level 348 mg/kg found in the soil sample from probehole 12. The TPH values measured on site were relatively low and in all cases were below the Generic Assessment Criteria values (GACs) determined by Land Quality Management (LQM) of 2100 mg/kg.

  As no split was available from the TPH analysis, it was assumed that the TPHs were alphatic and that soil organic matter was 1% (i.e. the worst-case). As a result of this, the TPH contamination found was not considered to represent a risk at these concentrations;
- For metals on commercial land use, the GAC value for chromium, copper and zinc are very high being 30,400, 71,700 and 66,500 mg/kg respectively. The levels found in the soil on the site were therefore of no concern with concentrations being several orders of magnitude below these values.

  The only remaining concern would be if the heavy metals were to migrate into any of the water bodies on the site. However, water analysis undertaken from the settlement tanks and brook found all metals to be near or below the level of detection. The highest copper value found of 18 µg/l is above the freshwater EQS for copper in soft water ($CaCO_3$ 0-10 mg/l) which is just 1 µg/l. However, this level was from the Smallhanger brook upstream of the Hemerdon mine site. It was therefore concluded that Hemerdon mine site was not adding to the copper burden of this stream.
- The arsenic in commercial soils SGV is 640 mg/kg. The arsenic found in the majority of samples at around Hemerdon mine is below this level. However, soil concentrations found in probeholes 21 and 22 exceed this SGV (655 and 1,395 mg/kg respectively). In addition to this all the arsenic values found in the soil from the proposed new plant site exceed this SGV with the maximum being over 5 times this value (3,608 mg/kg). The cause of these elevated values

is uncertain, but it is likely that some unrecorded historic mining activity took place in this vicinity. The historic site of the Bottle tin mine is close to this area and this was known to produce arsenic as well as tin and copper. It could therefore be the source of the contamination found.

At the time, it was Wolf Minerals' view that the arsenic is present due to the rock type in this vicinity (the plant site) being greenstone, which is high in As i.e. it is natural occurring contamination.

The maximum arsenic concentration in the water samples taken was 19 µg/l which is below the freshwater EQS of 50 µg/l.

3.3.3 Ground Consultants Ltd Phase I Baseline Site Condition Investigation – 2025

A desk-based study and site walkover was carried out by Ground Consultants Ltd in December 2025. The report also reviewed the previous site investigations. The report is included in *Annex C* of this report but the conclusions are summarised below.

- Between 2014 and 2018 the site was developed and operated as part of the Wolf Minerals Ltd Drakelands Mine, containing a Mineral Processing Facility (MPF), construction laydown and mobile plant areas, and an area of landscaping.

  Mineral processing involved the use of a range of chemicals together with physical processing to concentrate minerals from crushed ores.

  Hydrocarbons, particularly diesel fuel, were used in the MPF and mobile plant areas.
- Wolf Minerals Ltd operations ceased in 2018. A large quantity of bagged, partially concentrated minerals were left stockpiled on external areas of the MPF site; these were mostly removed by 2022.
- In 2023 a localised hydrocarbon impact resulted from overflow from a mobile plant washdown area, which was contained and removed from the site.
- Groundwater beneath the site is monitored in two boreholes installed as part of the Mining Waste Facility monitoring system and the data from this monitoring programme can be used to determine the site condition with respect to groundwater.

3.3.4 Ground Consultants Ltd Phase II Baseline Site Condition Investigation – MPF – 2026

This report was carried out as a follow-up Phase II investigation by Ground Consultants Ltd to their 2025 report. This included intrusive sampling using exploratory holes specifically in the MPF area of the site to further assess potential contamination issues identified in the Phase I report.

The fieldwork investigations were conducted in January 2026 to assess contamination by sampling a combination of soil and water in several exploratory locations planned to give overall coverage of the site area and to target known areas of previous intensive industrial areas.

Exploratory hole logs, in-situ test data/ results and associated photographs are contained in Appendices A-B of the report included in *Annex C* of this report. However, the conclusions are summarised below.

- Made Ground was identified in various exploratory holes to a confirmed depth of 0.50mBGL and was described as containing mudstone gravel with other mixed lithologies;
- Material described as reworked natural soil was noted across the site at the surface or beneath Made Ground to depths of 1.80mBGL. Generally speaking, the material may be described as a reddish brown slightly clayey sandy gravel.

  This material was noted within exploratory holes within the northernmost area of the site;
- Groundwater was not encountered in any of the exploratory holes during the investigation. However, during the return visit for groundwater monitoring, groundwater was noted within DS09 at 0.41mBGL and DS02 at 1.36mBGL. DS08 was dry;
- Metals analysed consisted of antimony, arsenic, beryllium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, tungsten, vanadium and zinc. Detectable concentrations of all these metals were recorded with the exception of mercury;

  The presence of the metal species recorded is in generally consistent with the highly mineralised nature of the bedrock in the area and no evidence of locally artificially elevated concentrations of metals is considered to be demonstrated, with the possible exception of arsenic;
- Arsenic concentrations in some samples are significantly elevated; this may be due to known locally high arsenic concentrations in the mineralised bedrock but may also have been affected by airborne deposition of arsenic from historical arsenic calcining at the historical (pre 1900s) Bottle Hill tin mine to the west of the current site;
- No detectable concentrations of PAH or BTEX were noted in any of the soil samples tested. No detectable concentrations of TPH fractions were recorded, with the exception of the >C21-C35 aliphatic fraction, where a single sample recorded a trace concentration of 14 mg/kg, slightly above the limit of detection;
- Of the three groundwater wells installed during the baseline investigation, it was only possible to obtain a single sample, from DS09 (located to the west of the mineral processing building). DS09 was a shallow installation and is likely to represent a shallow or perched groundwater horizon;
- Two deep groundwater wells (MW11R and MW23), located to the west of the Mineral Processing Facility, are monitored on a regular basis by Tungsten West. Results from samples from these wells taken roughly at the same time as the sample from DS09 have been compared with the results from the sample from DS09.

  Six determinands, all metal species, show results consistently above the limits of detection for the laboratory analysis (arsenic, cadmium, copper, iron, nickel, and zinc) and the results for these determinands are compared in Appendix E of the report;
- All three attainable groundwater samples show levels of these metals consistent with the mineralisation of the underlying bedrock. The arsenic concentration in the sample from DS09 is notably higher than that in the deeper samples from MW11R and MW23, likely reflecting the high levels of arsenic recorded in soil samples from the site as discussed above; and
- No detectable concentrations of TPH, VOCs (including BTEX) and SVOCs were noted in the water sample from DS09, however a high Chemical Oxygen Demand (COD) of 2000 mg/l was recorded. Detectable

concentrations of the PAH compounds phenanthrene (0.03 ug/l), fluoranthene (0.05 ug/l), pyrene (0.06 ug/l), benzo(a)anthracene (0.03 ug/l) and chrysene (0.04 ug/l) were recorded.

3.3.5 Ground Consultants Ltd Phase II Baseline Site Condition Investigation - MFE – 2026

Ground Consultants Ltd were also commissioned in July 2026 to conduct a Phase II investigation to include intrusive sampling specifically in the MFE area of the site.

The fieldwork investigations were conducted in July 2026 to assess contamination by sampling a combination of soil and water in 5 trial pits across the MFE area.

Exploratory hole logs, in-situ test data/ results and associated photographs are contained in Appendices A-B of the report included in *Annex C* of this report, and are considered to provide baseline ground condition data. The conclusions are summarised below.

- Made/Reworked Ground was identified in all except one exploratory hole to a confirmed depth of between 1.0m and 2.5m. The Made Ground was described as comprising reddish and greyish-brown slightly clayey sandy gravel with cobbles. The cobbles were present at sizes up to 500mm, comprising mudstone. Rare anthropogenic components of plastic were observed in TP01;
- Bedrock was not recorded in any trial pits but is assumed to be present at refusal in 4 of the 5 locations;
- Groundwater was not encountered in any of the exploratory holes during the investigation;
- Metals analysed consisted of antimony, arsenic, beryllium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, tungsten, vanadium and zinc. Detectable concentrations of all these metals were recorded with the exception of mercury.

  The presence of the metal species recorded is in general consistent with the highly mineralised nature of the bedrock in the area and no evidence of locally artificially elevated concentrations of metals is considered to be demonstrated, with the possible exception of arsenic;
- Arsenic concentrations in some samples are significantly elevated; this may be due to known locally high arsenic concentrations in the mineralised bedrock but may also have been affected by airborne deposition of arsenic from historical arsenic calcining at the historical (pre 1900s) Bottle Hill tin mine to the west of the current site; and
- No detectable concentrations of TPH fractions or BTEX compounds were noted in any of the soil samples tested. Non-detectable or trace concentrations of PAH were noted in the samples analysed.

3.4 Supporting Information

The supporting documentation consists of:

- Figures detailing the location, boundary and layouts of the Installation are shown in *Annex A*;
- Groundsure Report, 2026 is provided in *Annex B*;
- Previous Phase I and II Reports are provided in *Annex C;*
- Other Previous Site Condition Reports and UXO Report are provided in *Annex D*;
- EPR Compliance Assessment Report – PO5 approval is provided in *Annex E;*
- Hazardous MSDS are provided in *Annex F*.

4. PERMITTED ACTIVITIES

4.1 Activities Undertaken at the Installation

4.1.1 Process Description

DRL's Mineral Processing Facility (MPF) is located at Hemerdon Mine, Drakelands, Plympton, Plymouth, Devon. The MPF site is currently permitted under the conditions established by Environmental Permit, EPR/AP3203ML. The MPF Installation Environmental Permit requires a permit variation for operations to recommence on site.

The facility is for the production of tungsten and tin ore concentrates, which are produced from primary base mineral extracted from a separately authorised nearby surface mining/extraction operation. The Hemerdon Mine complex comprises the following operations:

- Hard rock open pit;
- Mineral Processing Facility; and
- Mining Waste Facility (MWF) including integral surface water discharges.

In summary, the MPF will process ore to produce a non-ferrous mineral concentrate. The concentrate will be exported overseas for subsequent processing into non-ferrous metal. Mined mineral will be crushed and then it will enter the main process building, which will house a series of physical processes including dense media separation and froth flotation. These processes will reduce and separate the mineral to produce a mineral concentrate. The concentrate will then undergo heat treatment (reduction) to enable final separation by magnetic processes into the different product streams.

DRL is making this application to carry out a '*substantial*' variation of their existing MPF EPR permit under The Environmental Permitting (England and Wales) Regulations 2018 (as amended) in order to include the Mobile Front End (MFE) crushing and screening operations and to extend the site's Installation Boundary to incorporate the MFE.

A Local Enforcement Position (LEP) has been granted by the EA for the temporary crushing and screening operations associated with the MFE Phase one operations. The MFE is proposed to initially process pre-existing stockpiles and soft in-situ ore, following which freshly mined ore or extractive residues classed as resources will be processed. The MFE will generate fine and coarse ore material into various stages of the MPF.

This variation will result in an extension to the site's Installation Boundary to incorporate the MFE operations.

4.1.2 Drainage System

There will be no direct process emissions to controlled water arising from the Installation.

There will be no changes to emissions to controlled water as a result of the permit variation. As currently permitted, all process effluent from the MPF that is not re-used within the process (i.e. recirculated via the onsite water treatment plant) will be discharged to the Mining Waste Facility (MWF).

The site's Surface Water Management Plan (SWMP) has been updated to incorporate the MFE operations and the management and control of surface water within the proposed MFE area. Surface water runoff from

within the MFE area will drain into a new catchpit (catchpit 24) and then gravity drain through the current surface water management system prior to discharge from Tory Pond. Discharges to surface water will be controlled in accordance with the MWF Permit, EPRJB3209MD.

The surface water plan is provided in *Annex A – Figures.*

4.1.3 Hardstanding

All areas internally within the MPF are entirely sealed hardstanding with a fully contained and sealed drainage system.

No waste water from inside the building will be discharged to the surface water management system. Waste water will be recirculated via the water treatment plant or discharged to the MWF.

All site infrastructure (roads, drainage systems, concrete hardstanding and buildings) are inspected on a weekly basis by a competent person. Any faults and repairs will be carried out as soon as practicable and recorded on site.

4.1.4 Tanks And Bunds

All storage tanks will be installed with secondary containment and be designed to comply with the following standards and guidance requirements;

- Environment Agency Pollution Prevention Guideline Note 2: Above Ground Oil Tanks (PPG2);
- Environment Agency Pollution Prevention Guideline Note 11: Preventing Pollution on Industrial Sites (PPG11);
- Environment Agency Pollution Prevention Guideline Note 26: Pollution Prevention in the Storage and Handling Drums and Intermediate Bulk Containers (IBC's);
- CIRIA 736: Design of Containment Systems for the prevention of pollution;
- CIRIA C958: Chemical Storage Tank Systems – Good Practice;
- CIRIA 738: Design of Containment Systems for the Prevention of Water Pollution from Industrial Sites;

4.1.5 Potential for Fugitive Releases to Soil, Groundwater and Surface Water

Stage 1 – 3 Assessment

Stage 1

The table below identifies all potentially hazardous substances utilised onsite. Material Safety Data Sheets for each substance below (where applicable) are provided in *Annex F* of this report.

Table 4.1 – Raw Materials Utilised on Site

Reagent	Use	Hazard Statement Codes	Average Annual Consumption	Storage Method	Maximum Quantity Stored on Site
Ferric Sulphate	Water Treatment	H290 – Metal Corr. 1 H302 – Acute Tox. 4	160,963L	Bulk liquid stored in specialist tanks	21,000L

(30-60% Solution)	Plant coagulant	H315 – Skin Irrit. 2 H318 – Eye Dam. 1			
Ferrosilicon	Process	H261 – Flam. Wat.	125.97t	1 tonne bags	20t
Hydrogen Peroxide (~35% Solution)	Water Treatment Plant oxidiser	H302 – Acute Tox. 4 H315 – Skin Irrit. 2 H318 - Eye Dam. 1 H332 – Acute Tox. 4 H335 – Resp. Irrit.	34.99m^3	1m^3 IBC stored in shed / container	9,000L
Diesel	MPF – concentrate pre dryer, kiln burners, kiln reductant, incinerator, tin dryer.	H226 – Flam. Liq. 3 H304 – Resp. Irrit. 1 H315 – Skin Irrit. 2 H319 – Eye Dam. 2B H336 – STOT SE 3 H350 – Carc. 2 H411 – Aq. Chro. 2	2,764,368L	Self-bunded containerised diesel tank	160,000L[1]
Diesel	MFE	H226 – Flam. Liq. 3 H304 – Resp. Irrit. 1 H315 – Skin Irrit. 2 H319 – Eye Dam. 2B H336 – STOT SE 3 H350 – Carc. 2 H411 – Aq. Chro. 2	730,000L	Self-bunded containerised diesel tank	2 x 9000L
Sulphuric Acid (35% Solution)	ASTP pH Control	H314 – Skin Corr. 1A	230,947L	Bulk liquid stored in specialist tanks	8,500L
Grinding Media	Primary and Regrind Milling	N/A	232.35t	1L Steel drums, stored externally	20 drums
Flocculant	Process	N/A	69.98t	750kg bulk delivery	15t
Copper Sulphate	Process	H302 – Acute Tox. 4 H315 – Skin Irrit. 2 H319 – Eye Irrit. 2 H400 – Aq. Acute 1 H401 – Aq. Chro. 1	0.56t	50kg bag storage	100kg
Potassium Amyl Xanthate	Process	H228 – Flam. Sol. 2 H302 – Acute Tox. 4 H312 – Acute Tox. 4	1.12t	Bulk chemical storage area	300kg

[1] Combined volume of the kiln diesel tank and the storage diesel tank on site.

		H315 - Skin Irrit. 2 H319 - Eye Dam. 2 H332 – Acute Tox. 4			
Frother – Interfroth	Process	N/A	56.55L	Bulk chemical storage area	60L
Hydrated Lime Putty (43%)	Process	H315 – Skin Irrit. 2 H318 – Eye Dam. 1 H335 – STOT SE 3 H350i – Carc. 1A H372 – STOT RE 1	31.49t	Bulk chemical storage area	10t
Raw Water	Top up & process	N/A	936,000L	Flat bottom Steel tank	150m^3
Process Water	Process	N/A		Flat bottom Steel tank	2800m^3
LPG	Various	H220 – Flam. Gas 1 H280 – Press. Gas	1	86 & 34KG bottles held in the bottle store	86kg bottles – 4 bottles 34kg bottles – 5 bottles
Lubricating Oil	Various	N/A	3	25L and 205L drums in the Bunded oil store	Various in small quantities
Hydraulic Oil	Various	N/A	2.5	25L and 205L drums in the Bunded oil store	Various in small quantities

Stage 2

Relevant hazardous materials from Table 4.2 above have been identified. These are materials and substances which may have potential to cause ground or groundwater contamination if not managed effectively. Those that are incapable of contaminating soil and groundwater have been discounted from further assessment. These and a justification for their exclusion are provided below:

- Grinding media – unknown hazardous properties but likely to be metal so highly unlikely to impact groundwater or soil;
- Raw water – non-hazardous; and
- LPG - hazardous properties not relevant to soil and groundwater.

The materials and substances used in the activity are not considered to have significant potential to cause ground or groundwater contamination under general storage or operating procedures.

The following measures have been incorporated into the design of the activity to protect groundwater and soil from installation substances;

- All liquids are stored in specialist tanks that meet the standards as described in Section 4.1.4 above with secondary containment;
- The site benefits from a Water Balance Model, accounting for all water on site;
- The site has a Surface Water Management Plan (SWMP) in place to manage all emissions to surface water;
- Emergency Spill kits will be provided throughout the site and strategically placed in locations;
- All hazardous materials storage areas will be located on impermeable concrete slabs; and
- There will be no subsurface infrastructure used for the storage or transfer of hazardous waste.

When constructed and operated in the manner described above the operations will not introduce any sub surface or potentially polluting activities to the site.

Stage 3

Due to the protection measures mentioned above, the risk to soil and groundwater from the development is considered to be LOW as summarised in the Conceptual Site Model (CSM) below. In the unlikely event that any of the above measures fail, due to all activities being carried out internally on impermeable hard standing, there would be no impact to soil, groundwater and surface water.

Table 4.2 – Conceptual Site Model

Contaminant Source	Contaminants of Concern	Receptor	Exposure Pathway Present?	Likelihood of Risk
Historical ground contamination from previous site use	Flocculants, coagulants, chemicals, metals, minerals, fuels and oils	Construction Workers	No – no groundworks are anticipated on site.	Negligible – Should groundworks be proposed, use of control measures during construction work including appropriate PPE will minimise potential exposure.
		Future Site Users	Yes – Areas of soft landscaping and without hardstanding are present in the wider site area.	Low – Hardstanding covers the operational areas of the site, site SWMP.
		Groundwater	Yes – Leaching of contaminants (if present) by infiltrating rainfall is possible in areas without hardstanding.	Low – However, leaching of contaminants within soils by infiltrating rainfall will be minimal due to presence of hardstanding in majority of operational areas and drainage system.
		Surface Water	Yes – Areas of soft landscaping and no hardstanding are present in the wider site area allowing dissolution of contaminants into surface water run-off.	Low – Hardstanding covers operational areas of the site and SWMP in place.
Substances either stored on site, used or	As above and in Table 4.2	Future site users	Yes – Workers at the MPF may come into contact with potentially hazardous materials	Low

generated from use			(namely fuels, chemicals, minerals), however internal management systems will be place to mitigate any risks.	
		Soil and groundwater	No – All materials onsite shall be stored and processed as described in Stage 2 of this assessment. Site drainage has the ability to be isolated in the event of any spillages.	Low
		Surface Water	Minor – due to the proximity to surface waters in the area and the SWMP.	Low
Natural geology	Radon gas, metals	Future site users	Radon - Yes - Ingress into proposed buildings. Metals - Yes - Dermal contact, soil and dust ingestion and inhalation	Low radon protection measures will be put in place for new construction. Hardstanding covers the operational areas of the site, site SWMP.
		Site flora and fauna	No – naturally occurring	Very Low - No evidence of impact from this source has been observed in the results from the baseline investigations
Airborne deposition from historical ore calcining (off-site)	Metals, chemicals, minerals	Future site users	Yes - Dermal contact, soil and dust ingestion and inhalation	Very Low - No evidence of impact from this source has been observed in the results from the baseline investigations
		Site flora and fauna	Yes – Disturbance from site workings resuspending particles	Very Low - No evidence of impact from this source has been observed in the results from the baseline investigations

The site will be operated in accordance with corporate standards and procedures as part of an Environmental Management System (EMS). The system has been designed to meet the requirements of ISO 14001 with the aim of certification by Q3 2027.

All assets owned and operated by DRL will be operated in accordance with a suite of procedures, policies and controls. All aspects of the site operations will be managed in accordance with the management system through a lifecycle approach.

The EMS and procedures have been written to ensure that the environmental risk and impact of the normal running of the site activities are documented and minimised

Based on this assessment, the potential for the varied site to impact on soil and groundwater underlying the installation is considered to be low.

4.2 Non-permitted Activities

There are no non-permitted activities undertaken on site.

4.3 Site Plan

The MFE layout plan is provided in **Section 2** of this SCR report and *Annex A* of this report.

4.4 Environmental Risk Assessment

A full Environmental Risk Assessment was undertaken as part of the recent permit variation.

The risk assessment is held and maintained by DRL and will be regularly reviewed and updated when necessary.

5. CHANGES TO THE ACTIVITY

This section will be updated in accordance with any required permit variations.

The previous SCR for the site has been superseded by this document. This new SCR has been produced to reflect DRL making an application to carry out a 'substantial' variation of their existing EPR permit under The Environmental Permitting (England and Wales) Regulations 2016 (as amended) to include the Mobile Front End (MFE) crushing and screening operations and to extend the site's Installation Boundary to incorporate the MFE.

The permitted Activities at site are detailed within Table 5.1 below.

Table 5.1 - Listed Activities

Activity Listed in Schedule 1 of the EP Regulations	Description of Specified Activity	Limits of Specified Activity
AR1 Section 2.1 A(1)(a) - Roasting or sintering metal ore, including sulphide ore, or any mixture of iron ore with or without other minerals	The thermal treatment and chemical reduction of ore pre-concentrate in a rotary reduction kiln using diesel or LPG fuel to produce a reduced mixed ore concentrate.	From receipt of dried ore pre-concentrate, reductant and fuel to the collection of reduced ore concentrate, discharge of kiln flue gases via a cyclone, thermal oxidiser, heat recovery exchanger and alkali scrubber system and transfer of spent scrubber liquor to the waste water treatment plant.
AR2 Section 5.4 A(1)(a)(ii) - Treatment of non-hazardous waste in a plant with a capacity of more than 50 tonnes per day by physico-chemical	Continuous treatment of process water in a waste water treatment plant by oxidation, coagulation, flocculation and filtering to remove solids and contaminants so that cleaned water can be returned to the process and the de-watered solids made suitable for disposal.	From receipt of contaminated process water and water treatment chemicals to return of cleaned water to the process and removal of dewatered sludge cake from the facility and transported to the Mining Waste Facility (Permit reference EPR/JB3209MD).
AR3 Section 3.5 Part B (a) - Crushing, grinding or other size reduction of any designated mineral or mineral product.	Crushing and size reduction of base mineral material extracted from the mining operation so that it can be suitably processed in subsequent stages of the ore separation process.	From receipt of 'run of mine' base mineral ore to the transfer of crushed and graded material to subsequent stages of the main mineral separation process.
Directly Associated Activities		
AR4 Dense Media Separation (DMS)	Aqueous treatment of suspended ore solids according to density by cyclones, screening and gravity separation.	From receipt of crushed ore to transfer to subsequent separation treatment processes and temporary storage and removal of waste material to the mining waste facility (Permit reference EPR/JB3209MD).

AR5 X-Ray transmission ore sorting	X-Ray transmission ore sorting of ore solids to reject barren ore.	From receipt of crushed ore to transfer to subsequent separation treatment processes and temporary storage and removal of reject material to the mining waste facility (Permit reference EPR/JB3209MD) or transferred off site.
AR6 Grinding, Fines and Floatation separation	Aqueous separation processes to produce an enriched ore pre-concentrate for subsequent drying and ore processing in the Reduction Kiln.	From receipt of material from the DMS ore processing stage to production of de-watered ore filter cake for processing in the pre concentrate dryer.
AR7 Pre concentrate dryer	Drying of ore pre concentrate in a rotary dryer utilising heat from by the combustion of diesel or LPG.	Drying of de-watered ore filter cake to emission of dryer flue gas via a bag filter abatement plant.
AR8 Magnetic separation	Separation of the tungsten and tin fractions of the reduced ore concentrate produced in the Reduction Kiln utilising the magnetic properties of the magnetite (iron) ore concentrate that contains the tungsten.	Two stage magnetic separation of ore concentrate supplied from the Reduction Kiln to storage of final tungsten ore concentrate and transfer of tin ore concentrate for further processing.
AR9 Ore concentrate separation and final tin concentrate drying	Further separation, concentration and drying of the tin ore concentrate fraction from the reduction kiln in a rotary dryer utilising heat from the combustion of diesel or LPG.	Vacuum filtration and drying of resultant ore concentrate to the discharge of dryer flue gas via a bag filter abatement plant.
AR10 Storage of excavated material and crushed ore	Storage of excavated material and crushed ore pending.	From receipt of excavated material or crushed ore, to transfer to subsequent treatment processes. All excavated material and crushed ore shall be stored on an impermeable surface with a sealed drainage system.
AR11 Storage of ore sorter rejects	R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).	From receipt of ore sorter reject to transfer to the Mining Waste Facility (EPR/JB3209MD) or transferred off site. The material shall be stored on an impermeable surface with a sealed drainage system.
AR12 Raw Material Storage	Storage of raw materials including lubrication oil, antifreeze, diesel.	From the receipt of raw materials to despatch for use within the facility.

AR13 Surface Water collection and storage	Collection and storage of roof and site surface water in attenuation ponds.	From the collection of roof and site surface water to re-use within the facility or discharge off-site through the surface water discharge permitted activity EPR/QP3420XX or EPR/JB3209MD.

6. MEASURES TAKEN TO PROTECT LAND

The site has a number of pollution prevention and mitigation measures in place, and has implemented the following measures to protect the land:

- Sealed, impermeable hardstanding covering the MPF to prevent any accidental or incidental releases of contaminates to land.
- The site is subject to regular inspections by the site manager to ensure the concrete hardstanding remains in good condition and, where signs of degradation are detected, the necessary repairs will be undertaken. This is to ensure the site surface remains impermeable to contaminants, therefore preventing contamination of land.
- A comprehensive spills and leakages procedure is in operation on site to clean up any minor or major spills or leaks that may occur.
- All tanks will be bunded and installed with secondary containment which are designed to comply with EA guidance and CIRIA 736 and CIRIA C598.

This section will be updated throughout the life of the permit with any pollution and mitigation measures that have been implemented on site.

7. POLLUTION INCIDENTS AND REMEDIATION

This section will be completed throughout the life of the permit following any pollution incidents.

Currently there have been no pollution incidents or remediation work onsite.

8. SOIL, GAS AND WATER QUALITY MONITORING

This section will be completed throughout the life of the permit with any soil, gas and water quality monitoring. Previous site investigations are summarised above in Section 3.3 Evidence Of Historic Contamination.

8.1 Ecospan Environmental Ltd Phase II Investigation Contamination Survey – 2013

Full details of the soil and water investigations can be found in *Annex C* of this report.

Soil

The only substance above any of the associated GACs or SGVs was arsenic. Soil concentrations found in probeholes 21 and 22 exceed the SGV (655 and 1,395 mg/kg respectively). In addition to this all the arsenic values found in the soil from the proposed new plant site exceed this SGV with the maximum being over 5 times this value (3,608 mg/kg).

However, it has been established in all the previous site investigations that the cause of these elevated values is uncertain, but it is likely that locally high arsenic concentrations occurs naturally in the mineralised bedrock, and may also have been affected by airborne deposition of arsenic from historical arsenic calcining at the historical (pre 1900s) Bottle Hill tin mine to the west of the current site.

Water Quality

The only substance found to be above the associated GACs or SGVs was copper. The highest copper value found of 18 µg/l is above the freshwater EQS for copper in soft water (CaCO3 0-10 mg/l) which is just 1 µg/l. However, this level was from the Smallhanger brook upstream of the Hemerdon mine site. It was therefore concluded that Hemerdon mine site was not adding to the copper burden of this stream.

8.2 Ground Consultants Ltd Phase II Baseline Site Condition Investigation – MPF – 2026

Full details of the soil and water investigations can be found in *Annex C* of this report.

Site investigations was undertaken in February 2026 and comprised of the following:

- Nine Dynamic Sample Boreholes, designated DS01 – DS11 of depths between 0.40mBGL and 1.80mBGL;
- Representative soil samples were taken at regular intervals for chemical analysis;
- Two Hand Excavated Trial Pits designated DS05 and DS06, to depths of 0.30m and 0.35m; and
- Exploratory holes DS02, DS08 and DS09 were fitted with groundwater monitoring standpipes.

Soil

No substances were found to be above the associated GACs or SGVs with the exception of arsenic. Metals analysed consisted of antimony, arsenic, beryllium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, tungsten, vanadium and zinc. Detectable concentrations of all these metals were recorded with the exception of mercury.

The presence of the metal species recorded is in general consistent with the highly mineralised nature of the bedrock in the area and no evidence of locally artificially elevated concentrations of metals is considered to be demonstrated, with the possible exception of arsenic.

Arsenic concentrations in some samples are significantly elevated, but as discussed previously, this may be due to known locally high arsenic concentrations in the mineralised bedrock and may also have been affected by airborne deposition of arsenic from historical arsenic calcining at the historical (pre 1900s) Bottle Hill tin mine to the west of the current site.

No detectable concentrations of PAH or BTEX were noted in any of the soil samples tested.

No detectable concentrations of TPH fractions were recorded, with the exception of the >C21-C35 aliphatic fraction, where a single sample recorded a trace concentration of 14 mg/kg, slightly above the limit of detection.

Water Quality

Of the three groundwater wells installed during the baseline investigation, it was only possible to obtain a single sample, from DS09 (located to the west of the MPF). Of the two other wells, DS02 had insufficient water to allow recovery of a sample and DS08 was dry. DS09 was a shallow installation and is likely to represent a shallow or perched groundwater horizon.

Additionally, as part of the monitoring system for the MWF, two deep groundwater wells (MW11R and MW23), located to the west of the MPF are monitored on a regular basis by DRL. Results from samples from these wells taken roughly at the same time as the sample from DS09 and have been compared with the results from the sample from DS09. Six determinands, all metal species, show results consistently above the limits of detection for the laboratory analysis (arsenic, cadmium, copper, iron, nickel and zinc).

All three samples show levels of these metals consistent with the mineralisation of the underlying bedrock. The arsenic concentration in the sample from DS09 is notably higher than that in the deeper samples from MW11R and MW23, likely reflecting the high levels of arsenic recorded in soil samples from the site as discussed above.

No detectable concentrations of TPH, VOCs (including BTEX) and SVOCs were noted in the water sample from DS09, however a high Chemical Oxygen Demand (COD) of 2000 mg/l was recorded. Detectable concentrations of the PAH compounds phenanthrene (0.03 ug/l), fluoranthene (0.05 ug/l), pyrene (0.06 ug/l), benzo(a)anthracene (0.03 ug/l) and chrysene (0.04 ug/l) were recorded.

8.3 Ground Consultants Ltd Phase II Baseline Site Condition Investigation - MFE – 2026

Full details of the soil and water investigations can be found in *Annex C* of this report.

Site investigations was undertaken in July 2026 and comprised of the following:

- Five Trial Pits of depths of between 1.40 mBGL and 4.00 mBGL

Soil

As in the MPF area, no substances were found to be above the associated GACs or SGVs with the exception of arsenic. Metals analysed consisted of antimony, arsenic, beryllium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, tungsten, vanadium and zinc. Detectable concentrations of all these metals were recorded with the exception of mercury.

The presence of the metal species recorded is in general consistent with the highly mineralised nature of the bedrock in the area and no evidence of locally artificially elevated concentrations of metals is considered to be demonstrated, with the possible exception of arsenic. Arsenic concentrations in some samples are

significantly elevated; this may be due to known locally high arsenic concentrations in the mineralised bedrock but may also have been affected by airborne deposition of arsenic from historical arsenic calcining at the historical (pre 1900s) Bottle Hill tin mine to the west of the current site.

No detectable concentrations of TPH fractions or BTEX compounds were noted in any of the soil samples tested. Non-detectable or trace concentrations of PAH were noted in the samples analysed.

Water Quality

Groundwater was not observed in any of the trial pits.

9. DECOMMISSIONING AND REMOVAL OF POLLUTION RISK

This section will be completed upon site surrender.

10. REFERENCE DATA AND REMEDIATION

This section will be completed upon site surrender.

11. STATEMENT OF SITE CONDITION

This section will be completed upon site surrender.

APPENDIX A SITE PLANS

APPENDIX B GROUNDSURE REPORT 2026

APPENDIX C PREVIOUS PHASE I AND II REPORTS

APPENDIX D OTHER PREVIOUS SITE RPEORTS

APPENDIX E CAR REPORT – PO5

APPENDIX F HAZARDOUS MATERIAL SAFETY DATA SHEETS