



Site Condition Report

Environmental Permit Variation and Consolidation Support

Feralco (UK) Ltd

Ditton Road, Widnes, Cheshire, WA8 0PH

Prepared by:

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	Click to enter a date.			

Basis of Report

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 Geotechnical Ltd (Report ref. CCG-C-22-13352), September 2022**



1.0 Introduction

SLR Consulting Limited (SLR) has been instructed by Feralco (UK) Limited (Feralco) to prepare an Environmental Permit (EP) variation application for their manufacturing facility located at Ditton Road, Widnes, Cheshire, WA8 0PH (the site). The EP variation application will be submitted to the Environment Agency (EA) for determination.

SLR understands that a variation application to the EP, reference WP3630WV (for ferric sulphate and ferrous sulphate production) is required due to the installation of a new production line, including additional reactor vessels and storage tanks, to increase the production of ferric sulphate. An additional water scrubber abatement system is also to be installed to treat gaseous emissions from the reactor.

The EP boundary is to be modified, as additional land is being added for the new production line. Additionally, existing Part A installation EPs BP3833LA and PP3733LX are to be consolidated into EP WP3630WV. Please refer to Drawing 002 for the proposed EP Boundary.

This Site Condition Report (SCR) is solely for the additional land and separate to the unattainable SCR which was previously completed for the initial permit application.

The facility is a Part A(1) activity as described in the Environmental Permitting (England and Wales) Regulations (EPR) 2016) for the following listed activity:

- Section 4.2 Part A(1)(a)(iv) – producing inorganic chemicals such as salts (for example ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate, cupric acetate, ammonium phosphomolybdate)

This SCR aims to record and describe the condition of the land prior to the commencement of any operations within the proposed EP boundary.

This SCR will provide a point of reference and baseline environmental data so that when the EP is surrendered it can be demonstrated that there has been no deterioration in the condition of the land as a result of the Installation operations and ensure that the condition of the land is in a 'satisfactory state'.

The location of the site is illustrated in Drawing 001. The Proposed Site Layout; EP boundary and Emission Points is presented on Drawing 002.

Sections 1 to 3 of the Environment Agency's SCR template¹ have been completed within this document and comprise the following aspects:

- site details;
- condition of the land at permit issue;
- geology;
- hydrology;
- hydrogeology;
- pollution history;
- evidence of historic contamination; and
- permitted activities.

¹ <https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report> accessed June 2023



Sections 4 to 7 of the SCR template (refer Section 2) will be maintained during the life of the permit and Sections 8 to 10 (refer Section 3) will be completed and submitted in support of any future application to surrender the EP.

The following sources have been utilised in the preparation of this SCR:

- Multi Agency Geographical Information for the Countryside²
- Landmark Envirocheck Report (reference 310040129_1_1 dated 18 April 2023; Appendix A).
- British Geological Survey³
- Environment Agency. Flood map for planning⁴
- European Chemicals Agency Substance Information⁹
- Water Framework Directive Environment Agency Confirmed Hazardous Substances List¹⁰

1.1 Site Details

1.0 SITE DETAILS	
Name of the applicant	Feralco (UK) Ltd
Activity address	Ditton Road, Widnes, Cheshire, WA8 0PH
National grid reference (centre of site)	SJ 49984 84814
Document reference and dates for Site Condition Report at permit application and surrender	Site Condition Report – 410.064958.00001_SCR dated August 2024.
Document references for site plans (including location and boundaries)	<ul style="list-style-type: none"> • Drawing 001 - Site Location. • Drawing 002 – Proposed Site Layout, EP boundary & Emission Points. • Drawing 003 – Site Plan for Permits to be Consolidated • Drawing 004 – Site Plan for Cease of Permit Activities • Drawing 005A – Local Receptors • Drawing 005B – Natural & Cultural Heritage

² Multi-Agency Geographical Information for the Countryside Map, available at www.magic.defra.gov.uk, accessed in June 2023.

³ British Geological Survey, available at <http://www.bgs.ac.uk>, accessed in June 2023.

⁴ Flood map for planning, available at <https://flood-map-for-planning.service.gov.uk>, accessed in June 2023.



Note:

In Part A of the application form you must give us details of the site's location and provide us with a site plan. We need a detailed site plan (or plans) showing:

- Site location, the area covered by the site condition report, and the location and nature of the activities and/or waste facilities on the site.
- Locations of receptors, sources of emissions/releases, and monitoring points.
- Site drainage.
- Site surfacing.

If this information is not shown on the site plan required by Part A of the application form, then you should submit the additional plan or plans with this Site Condition Report.

1.2 Condition of the Land at Permit Issue

2.0 CONDITION OF THE LAND AT PERMIT ISSUE	
<p>Environmental setting including:</p> <ul style="list-style-type: none"> • geology; • hydrogeology; and • surface water 	<p>The site is situated at Ditton Road, Widnes, Cheshire, WA8 0PH. The National Grid Reference (NGR) for the centre of the site is SJ 49984 84814. To the north of the site lies Ditton Road, and open land beyond at approximately 60m north. Commercial properties lie adjacent to the east and west of the permit boundary. A railway line lies approximately 30m south of the site.</p> <p>The site is accessed via Ditton Road to the north-east and north-west corners of the site.</p> <p>Geology</p> <p>A review of the British Geological Survey (BGS) map⁵ reveals that the site is underlain by Wilmslow Sandstone Formation. This sedimentary bedrock was formed between 252.2 and 247.1 million years ago during the Triassic period.</p> <p>Regarding superficial deposits the site is underlain by Tidal Flat Deposits comprising of clay, silt and sand. These sedimentary superficial deposits were formed between 11.8 thousand years ago and the present during the Quaternary period.</p> <p>Hydrogeology</p> <p>Aquifer Designations</p> <p>Multi Agency Geographical Information for the Countryside (MAGIC)⁶ Map identifies the bedrock as a</p>

⁵ British Geological Survey map, available at www.bgs.ac.uk, accessed in June 2023

⁶ Multi Agency Geographical Information for the Countryside Map (MAGIC), available at <https://magic.defra.gov.uk/MagicMap.aspx>, accessed in June 2023



	<p>Principal aquifer. The Tidal Flat Deposits are defined as a Secondary (undifferentiated) aquifer.</p> <p>The Secondary Bedrock Aquifer is classified as having High Vulnerability in the Envirocheck report (Appendix A).</p> <p>Source Protection Zones</p> <p>The site does not fall within a Source Protection Zone.</p> <p>Hydrology</p> <p>Surface Water Features</p> <p>A review of the MAGIC map reveals that Steward’s Brook has been identified to be within 500m of the site boundary. The brook is approximately 10m east of the site boundary flowing in a southerly direction where it meets the River Mersey.</p> <p>Flood Risk</p> <p>The Flood Map for Planning⁷ reveals that the site lies within Flood Zone 3 and has a high probability of flooding from rivers and the sea.</p> <p>The extent of flooding from surface water has been identified as a very low risk and signifies that the area has a chance of flooding of less than 0.1% each year.</p> <p>The Long-Term Flood Risk Assessment⁸ indicates that the site is at ‘very low risk’ of flooding from surface water. Very low risk means that this area has a chance of flooding of less than 0.1% each year. Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding.</p>
<p>Pollution history including:</p> <ul style="list-style-type: none"> • Pollution incidents that may have affected land • Historical land-uses and associated contaminants • Any visual/olfactory evidence of existing contamination • Evidence of damage to pollution prevention measures 	<p>Summary of historical and pollution data from Envirocheck (Appendix A)</p> <p>Site Land Use</p> <ul style="list-style-type: none"> • From the earliest map of approximately 1849 and until 1892, the site appeared to be predominantly open ground. • In approximately 1894, the site became a Vitriol Works and featured four unspecified buildings. Additionally, a railway line (Garston and Warrington Line) was present towards the southern part of the site, and there is evidence of land excavation proven by the pits and uneven surfacing. In approximately

⁷ Flood Map for Planning, available at <https://flood-map-for-planning.service.gov.uk/>, accessed in June 2023.

⁸ Long Term Flood Risk Assessment – Available at Check the long-term flood risk for an area in England – GOV.UK (www.gov.uk), accessed June 2023.



	<p>1907, the Vitriol Works was replaced with a Mica works.</p> <ul style="list-style-type: none">• Until approximately 1926 the site remained unchanged.• In approximately 1927, the Mica works changed to an Alumina Works, also seeing an increase in the number of buildings on site. The site then remained unchanged until approximately 1936.• Between approximately 1937 and 1949 the previously excavated land had been infilled and the site was later confirmed to be a chemical works in approximately 1971. The site also featured two tanks (with unknown contents) in the top corner (north-east) of the site, and by 1979 the works had expanded, reaching the south of the permit boundary.• In approximately 1993, the railway line was no longer part of the site, and was converted to open ground. Between 1994 and 2023 the site remained unchanged. In 2005 Feralco (UK) Ltd was established.• The Envirocheck Report (Appendix A) has highlighted a Local Authority Recorded Landfill Site within the site boundary. <p>Surrounding Land Use</p> <ul style="list-style-type: none">• From approximately 1849 to 1892, the 500m area surrounding the site comprised primarily of marshland (Ditton Marsh and Widnes Marsh) and open ground. Steward's Brook approximately 10m east of the site boundary has also been identified flowing in a southerly direction. A railway line (passing through site boundary), and road links e.g. Moor Lane were also present.• Between approximately 1893 and 1926, the surrounding land use became increasingly industrial with an increased prevalence of railway lines. These railway lines include:<ul style="list-style-type: none">• Garston & Warrington Line;• Aston, Runcorn & Ditton Line (approximately 50m south);• Sheffield & Midland Joint Railway (approximately 100m south); and• Sheffield & Midland Joint Railway (approximately 400m north)• Additionally, the following works have also been identified:<ul style="list-style-type: none">• Liver Alkali Works (approximately 100m west);
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- Mathieson Chemical Works (approximately 250m south-east)
- Chemical works (approximately 250m south-west);
- Satinite Works (approximately 270m south-east);
- Widnes Iron Works (approximately 330m east);
- Widnes Metal Works (approximately 450m east);
- Ditton Copper Works (approximately 500m west);
- The 1908 map also featured a disused gasometer approximately 100m north-west of the site.
- Between approximately 1927 and 1956 the landscape was altered and featured an increased amount of shingle surfaces, rough pastures, and furzes.

The following features were also identified:

- Newfoundland Timber Yard (approximately 90m west);
- Broughton Timber Works (approximately 430m west)
- Between approximately 1957 and 1962 two pits were identified north-west of the site boundary. These include:
 - Lime Pits (approximately 230m north-west); and
 - Unspecified pit with non-coniferous trees (approximately 350m north-west)
- Between 1963 and 1969, two refuse tips were identified northwest of the site, with the closest being approximately 185m north-west of the site boundary. There are also two sludge beds adjacent. The closest refuse tips were then resurfaced with shingle (approximately 1982), with a works being developed in approximately 1983.

The following features were also identified on the 1983 map:

- St Michael Jubilee Golf course (approximately 200m north-west); and
- Timber yard (approximately 200m south-west)
- Between approximately 1984 and 2016, the timber yard relocated and is now approximately 800m west of the site boundary. Additionally, Speke Road (A562) is approximately 300m north of the site boundary.
- The surrounding land use then remained unchanged to the present day.

Pollution History



	<ul style="list-style-type: none">• The Landmark Envirocheck Report included in Appendix A identifies the following events and consents within a 1000m radius of the site. <p>Two contaminated land register entries and notices are described as followed:</p> <ul style="list-style-type: none">• In May 2013 at St. Michael’s Golf Course, Widnes (303m north from site) the following notice type was issued: Remediation Statement – Remediation Work Completed.• In March 2007 at Dundalk Road, Widnes (442m north from site) the following notice type was issued: Special Site. <p>Three discharge consents on site have been reported and are described as followed:</p> <ul style="list-style-type: none">• In May 1996 at Feralco (UK) Ltd a discharge consent for trade discharges (process water) was surrendered.• In January 1995 at Alcan Aluminium UK Ltd, a discharge consent for trade discharges (process water) was revoked.• In May 1995 at Alcan Aluminium UK Ltd, a discharge consent for trade discharges (process water) was revoked. <p>Seventy-seven additional trade discharge consents within 1000m have also been reported, with the closest three are described as followed:</p> <ul style="list-style-type: none">• In February 1982 at Mckechnie Chemicals Ltd, a discharge consent was revoked which referred to trade discharges (cooling water). This discharge consent was located 3m northeast of the site.• In April 1984 at Alcan Aluminium UK Ltd, a discharge consent was issued which referred to sewage discharges (final and treated). This discharge consent was located 32m west of the site.• In May 1994 at Alcan Aluminium UK Ltd, a discharge consent was issued which referred to a septic tank. This discharge consent was located 35m southwest of the site. <p>One prosecution relating to controlled water, and is described as follows:</p> <ul style="list-style-type: none">• In June 2003, there was a court hearing referring to the discharging of effluent into the river Mersey that did not meet with the standards outlined by their license. The offenders were identified as guilty, and the offence took place 3m southeast of the site.
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Ninety-five integrated pollution controls have been identified, and the nearest three are as followed:

- In March 2002, at Tessenderlo UK Ltd, an IPC minor (non-substantial) permit variation referring to processes involving Halogens within the Chemical Industry was superseded. This integrated control was located 347m south-east of the site.
- In May 2002, at Tessenderlo UK Ltd, an IPC minor (non-substantial) permit variation referring to processes involving Halogens within the Chemical Industry was superseded. This integrated control was located 421m south-east of the site.
- In May 1999, at Tessenderlo UK, an IPC minor (non-substantial) permit variation referring to manufacture and use of organic chemicals within the chemical industry was superseded. This integrated control was located 605m south-east of the site.

Forty-three integrated pollution prevention and controls have been identified, and the nearest three are on site, and are as followed:

- In April 2020 at Feralco (UK) Ltd (permit reference: MP3400BS), a permit variation was implemented to include 4.2 A(1) (A) (IV) (inorganic chemicals; salts e.g. Ammonium Chloride). The status of this measure is: Effective.
- In November 2014 at Feralco (UK) Ltd (permit reference: WP3630WV), a permit application referring to 4.2 (A)(1) (A) (IV) (inorganic chemicals; salts e.g. Ammonium Chloride) was superseded by variation.
- In June 2006 at Feralco (UK) Ltd (permit reference: BP3533LC), a permit application referring to 4.2 (A)(1) (A) (IV) (inorganic chemicals; salts e.g. Ammonium Chloride) was submitted. The status of this measure is: Effective.

Two Local Authority Integrated Pollution Prevention and Control and are described as follows:

- Widnes Galvanising is located 345m east of the site and is related to the production and processing of metals (galvanising of steel). Widnes Galvanising have been permitted to carry out their operations.
- Anglo Blackwells is located 850m east of the site and is related to the production and processing of metals (aluminium alloy). The status of this measure is "revoked"

Thirty-one Local Authority Pollution Prevention and Controls have been recorded, with the nearest three described as followed:



	<ul style="list-style-type: none">• Grundy & Co (Excavation) Ltd (5m north of the site), relating to PG3/16 Mobile screening and crushing processes. The status of this measure is “permitted”.• M & J Burns Ltd (19m north of the site), relating to PG2/1 Furnaces for the extraction of non-ferrous metal from scrap. The status of this measure is “permitted”.• Birchfield Haulage (41m northwest of the site), relating to general mineral processes. The status of this measure is “revoked”. <p>One Local Authority Pollution Prevention and Control Enforcements and is described as follows:</p> <ul style="list-style-type: none">• Air Pollution Control Enforcement Notice at Desoto Road, Widnes following emissions causing offensive odour to pass the process boundary. This offence occurred 713m southeast from the site. <p>Forty-six Pollution Incidents to Controlled Waters, and eight within 500m of the site are as followed:</p> <ul style="list-style-type: none">• Incident reference: 94741831, in August 1994, liquid nitrogen from a leaking tank caused a category 3 minor incident to water within the Ditton Brook catchment area. The incident occurred on site.• Incident reference: 94740725, in April 1994, a miscellaneous pollutant (tip leachate) caused a category 2 significant incident to water within the catchment area: Ditton Brook. The incident occurred on site.• Incident reference: 94740444, in March 1994, inorganic chemicals from land runoff caused a category 3 minor incident to water within the catchment area: Ditton Brook. The incident occurred 46m north-west of the site.• Incident reference: 97741183, in July 1997, unknown chemicals caused a category 3 minor incident to water within the catchment area: Mersey. The incident occurred 231m west of the site.• Incident reference: 94741728, in July 1994, acid chemicals caused a category 3 minor incident to water within the catchment area: Ditton Brook. The incident occurred 265m southeast of the site.• Incident reference: 95741228, in May 1995, a miscellaneous pollutant caused a category 3 minor incident to water within the catchment area: Ditton Brook. The incident occurred 309m southwest of the site.• Incident reference: 96741700, in July 1996, a miscellaneous pollutant (tip leachate) caused a category 2 significant incident to water within the
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	<p>catchment area: Ditton Brook. The incident occurred 328m southwest of the site.</p> <ul style="list-style-type: none">• Incident reference: 96740941, in May 1996, oils caused a category 3 minor incident to water within the catchment area: Ditton Brook. The incident occurred 353m northwest of the site. <p>Three substantiated pollution incident registers have been reported and are as followed:</p> <ul style="list-style-type: none">• Incident reference: 82187, in May 2002, inorganic chemicals caused a category 2 (significant impact) to water. The incident occurred 714m southeast of the site.• Incident reference: 237735, in May 2004, contaminated water caused a category 2 (significant impact) to water. The incident occurred 749m southwest of the site.• Incident reference: 1245631, in June 2014, an unknown pollutant caused a category 2 (significant impact) to air. The incident occurred 974m northwest of the site. <p>Waste Management Activities</p> <p>Twenty licensed waste management facilities lie within 1000m of the site, the closest three of which is described as follows:</p> <ul style="list-style-type: none">• Philip Bannon Haulage Ltd (Licence Number: 50122) located 6m west of the site, which treats inert and excavation waste. The licence was issued on 18th December 2002 and its status is modified.• M & J Burns Ltd (Licence number: 53910) located 73m northwest of the site was a mixed metal recycling site. The licence was issued on 12th July 1990 and expired on 12th July 1995.• Fallon Brothers Ltd (Licence number: 104765) located 108m east of the site was categorised as a metal recycling, vehicle storage and depollution site. The licence was issued on 22nd April 2013. <p>Landfill Activities</p> <p>Three BGS Recorded Landfill Sites within 500m of the site's vicinity have been recorded and are described as follows:</p> <ul style="list-style-type: none">• McKechnie Chemicals Ltd (Ditton Road, Widnes) and was located 15m north of the site.• Widnes Municipal Building (Widnes) and was located 326m south of the site.• Dundalk Road (Widnes) and was located 448m northeast of the site.
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	<p>Four Registered Landfill Sites within 500m of the site's vicinity have been recorded and are described as follows:</p> <ul style="list-style-type: none">• McKechnie Chemicals Ltd (Licence Reference: Z 60308, dated 25th June 1979) was located 126m northeast of the site, and was authorised for the depositing of between 10,000 and 25,000 tonnes of waste per year. The licence status is: "Surrendered".• Halton B.C. (Licence Reference: Z 60308A, dated 24th September 1981) was located 223m north of the site, and was authorised for the depositing of waste equal or greater than 250,000 tonnes per year. The licence status is "Surrendered".• The Alumina Co Ltd (Licence Reference: X60384, dated 29th March 1982) was located 268m west of the site, and was authorised for the depositing of waste less than 10,000 tonnes per year. The licence status is "Surrendered".• Hutchinson Est. & Doc Co (Licence Reference: Z 60381, dated 14th June 1977) was located 357m south of the site, and was authorised for the depositing of waste less than 10,000 tonnes per year. The licence status is "Surrendered". <p>Eight Registered Waste Transfer Sites within 1000m and the closest three are as follows:</p> <ul style="list-style-type: none">• Harrie (Halton Recycling Project) (Licence Reference: X61620) was located 505m west of the site and was classified as a very small waste transfer site (less than 10,000 tonnes per year). Authorised waste includes cardboard, drinks cans, newspaper, office waste paper, plastics.• Cleanaway Ltd (Licence Reference: 60863) was located 540m west of the site and was classified as a very small waste transfer site (less than 10,000 tonnes per year). Authorised waste includes Acids and compounds.• West Bank Waste (Licence Reference: X60815A) was located 739m southeast of the site and was classified as a medium waste transfer site (equal to or greater than 25,000 and less than 75,000 tonnes per year). Authorised waste includes Asbestos, Construction Ind. Wastes, Domestic & Commercial Waste and Dry Ind. Non-Haz Waste. <p>Sixteen Registered Waste Treatment or Disposal Sites within 1000m of the site and the closest five are as follows:</p> <ul style="list-style-type: none">• Birchfield Haulage (Licence Reference: 61772) is located 30m northwest of the site and was classified as a small storage site (equal to or greater than
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	<p>10,000 and less than 25,000 tonnes per year). Authorised waste includes uncontaminated concrete and excavated material. The Licence Status is: "Operational".</p> <ul style="list-style-type: none"> • Grundy & Co (Excavations) Ltd (Licence Reference: 80059) is located 213m west of the site and was classified as a small treatment site (equal to or greater than 10,000 and less than 25,000 tonnes per year). Authorised waste includes Solid Non-Haz. Crushed concrete and Solid Non-Haz. Inert Soils. The Licence Status is: "Operational". • M & J Burns Ltd (Licence Reference: 60945) is located 237m west of the site and was classified as a small scrapyard (equal to or greater than 10,000 and less than 25,000 tonnes per year). Authorised waste includes Batteries, Ferrous Metal Scrap and Non-Ferrous Metal Scrap. The Licence Status is: "Operational". • M & C Aluminium Alloys Ltd (Licence Reference: X61541) was located 292m northeast of the site and was classified as a scrapyard. Authorised waste included: Batteries and Non-Ferrous Metals. The Licence Status is "Surrendered". • Snowflake (Mersey) Ltd (Licence Reference: X61629) was located 386m southeast of the site and was classified as a very small storage site (less than 10,000 tonnes per year). Authorised waste included wood shavings/ sawdust. The Licence Status is: "Exempt". <p>Historical Landfills</p> <p>The Envirocheck report (Appendix A) illustrates that seven historical landfills have been identified within 500m of the site and are described below:</p> <ul style="list-style-type: none"> • The Alumina Company Ltd (onsite) deposited inert, industrial and special waste up until 25th August 1992 at Alumina Factory. The Provider Reference was: EAHLD16981. • McKechnie Chemicals Limited (located approximately 15m north) deposited inert, industrial and special waste and liquid up until 30th June 1981 at McKechnie Chemistry Factory. The Provider Reference was: EAHLD16970. • Waste Management Limited (located approximately 268m south) deposited inert, industrial, commercial, household and special waste and liquid sludge up until 31st October 1987 at West Bank Dock Estate. The Provider Reference was: EAHLD16990.
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	<ul style="list-style-type: none"> • Industrial Waste was deposited at St Michael's Golf Course (approximately 282m northwest of the site). The Provider Reference was: EAHL35500. • Industrial Waste was deposited at Ditton Marsh (approximately 377m southwest of the site). The Provider Reference: was EAHL35495. • Inert, Industrial, Commercial and Special Waste was deposited at St. Michael's Golf Course (approximately 390m northeast of the site) up until 31st December 1973. The Provider Reference was: EAHL31934. • Hutchinson Estate and Dock Company Widnes Limited (approximately 447m south of the site) deposited Industrial Waste at Dock site. The Provider Reference was: EAHL16992. <p>A further fourteen historical landfills within 500m to 1000m of the site have also been recorded.</p> <p>Visual / Olfactory Evidence of Existing Contamination</p> <p>There is no current evidence of visual or olfactory contamination at the site.</p> <p>Evidence of Damage to Pollution Prevention Measures</p> <p>There is no evidence of damage to pollution prevention measures.</p>
<p>Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)</p>	<p>Ground Investigation for Feralco, Widnes September 2022 CC Geotechnical Ltd (Report ref. CCG-C-22-13352), September 2022, Appendix B.</p> <p>Prior to occupation on site, infilling of the land took place (between 1937 and 1949) and therefore, this infilled land may comprise 'Made Ground' and historical potential unknown contaminants (Envirocheck Report).</p> <p>Feralco (UK) Ltd operate under an environmental management system with planned preventative maintenance in place including regular integrity testing of the tanks. There are no records of spills onsite during the facilities history.</p>
<p>Baseline soil and groundwater reference data</p>	<p>Ground Investigation for Feralco, Widnes September 2022 CC Geotechnical Ltd (Report ref. CCG-C-22-13352), September 2022, Appendix B.</p> <p><i>Note: this site investigation report provides baseline data for the land associated with the new production line, which also encompasses additional land as part of the variation.</i></p> <p>Previous ground investigation for geotechnical information regarding the selection and design of</p>



foundations for a new light industrial building had been completed in September 2022.

Boreholes “BH01”, “BH02”, “BH03”, “BH04” “BH05”, “BH06”, “BH07”, “BH08”, “BH09”, “BH10” and “BH11” are within the proposed permit boundary (blue lined area) and the report reference is CCG-C-22-13352.

As a result of ground investigation on the above borehole samples, the following relevant analysis for this site condition report include:

- Metals;
- pH; and
- Anions/inorganics

From the soil analysis, it was confirmed that all results (except BH08 and BH09) were below their respective threshold values. This indicates that no risk is posed to operatives in short term transient contact with the site soils in areas other than the southwest corner of the existing permit boundary.

The two exceedances (BH08 at 1m depth and BH09 at 0.5m depth) were both for Arsenic, however the site does not utilise Arsenic in its manufacturing activities and therefore these 2 elevated results can be disregarded for the purpose of this site condition report.

Groundwater was not sampled and analysed as part of this site investigation.

The following pH results from the analysed soil samples are shown in Table 1a and 1b below:

Table 1a. pH results of analysed samples.

Borehole	BH01	BH02	BH03	BH04	BH05	BH06
Depth (m)	0.7	1.3	2.3	0.3	2.8	0.6
pH	7.8	5.6	7.0	7.4	8.2	8.6

Table 1b. pH results of analysed samples.

Borehole	BH07	BH08	BH09	BH10	BH11
Depth (m)	0.2	1.0	0.5	0.5	1.5
pH	8.3	7.6	7.8	7.3	7.0

The water soluble sulphate (g/l) results from analysed soil samples are shown below in Table 2a and 2b:



Table 2a. Water soluble sulphate concentrations of analysed samples.

Borehole	BH01	BH02	BH03	BH04	BH05	BH06
Depth (m)	0.7	1.3	2.3	0.3	2.8	0.6
g/l	<1.0	5.1	<1.0	<1.0	192	n/t

Table 2b. Water soluble sulphate concentrations of analysed samples.

Borehole	BH07	BH08	BH09	BH10	BH11
Depth (m)	0.2	1.0	0.5	0.5	1.5
g/l	n/t	<1.0	5.1	4.9	<1.0

Where n/t = not tested.

A full summary of the soil assessment can be found within Appendix B.

Raw materials

The raw materials used in the ferric sulphate production line are as follows:

- Magnetite powder;
- 35% Hydrogen peroxide;
- 96% Sulphuric acid
- Water; and
- Ferric sulphate (liquid product)

The following sources have been utilised in the Relevant Hazardous Substances (RHS) Assessment for the raw materials:

- ECHA: European Chemicals Agency Substance Information⁹; and
- Water Framework Directive Environment Agency Confirmed Hazardous Substances list¹⁰.

It was confirmed from the sources that the raw materials listed above are not classified as RHS.

Additionally, liquid raw materials on site are stored in bunded bulk storage vessels, and the powdered raw material is stored in a dedicated building reducing the likelihood of any leaks to soil or groundwater as a result of unplanned emissions.

Feralco (UK) Ltd operate under an environmental management system with planned preventative



	<p>maintenance in place including regular integrity testing of the tanks.</p> <p>There are no records of spills onsite during the facilities history.</p>
Supporting information	<ul style="list-style-type: none"> • Landmark Envirocheck Report (Appendix A) • Ground Investigation for Feralco, Widnes September 2022 CC Geotechnical Ltd (Report ref. CCG-C-22-13352), September 2022 (Appendix B). • ECHA: European Chemicals Agency Substance Information. • Water Framework Directive Environmental Agency Confirmed Hazardous Substances list.

1.3 Permitted Activities

3.0 PERMITTED ACTIVITIES	
Permitted activities	<p>The facility is permitted under Schedule 1, Part A1 of the Environmental Permitting (England and Wales) Regulations (EPR) 2016 (as amended), as follows:</p> <ul style="list-style-type: none"> • Section 4.2 Part A(1)(a)(iv) – producing inorganic chemicals such as salts (for example ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate, cupric acetate, ammonium phosphomolybdate) <p>Directly Associated Activities include:</p> <ul style="list-style-type: none"> • air abatement; • storage and handling of raw materials; and • storage and handling of waste materials

⁹ ECHA: European Chemicals Agency Substance Information. Accessed at: Homepage – ECHA (Europa.eu). Accessed in August 2024.

¹⁰ Water Framework Directive Environment Agency Confirmed Hazardous Substances List. Accessed at '2018 01 31 Confirmed. Accessed at '[2018 01 31 Confirmed hazardous substances list_0.pdf \(wfd.uk.org\)](#)'. Accessed in August 2024.



<p>Non-permitted activities undertaken</p>	<p>No non-permitted activities to be undertaken regarding EP WP3630WV. The EP boundary is shown in drawing 002.</p> <p>Feralco wish to retain the land associated with EP BP3533LC but to surrender the activity. The land is part of a warehouse building and is to be used for the production of alumina products involving non-permittable activities of milling and mixing. This area forms part of the new overall permit boundary as is shown in drawing 002. The current permit boundary for EP BP3533LC is shown in drawing 004.</p>
<p>Document references for:</p> <ul style="list-style-type: none"> • plan showing activity layout; and • environmental risk assessment. 	<ul style="list-style-type: none"> • Drawing 002 - Proposed Site Layout, EP boundary & Emission Points • Drawing 004 – Site Plan for Cease of Permit Activities • Environmental Risk Assessment – 410.064958.00001_ERA.

Note:

In Part B of the application form you must tell us about the activities that you will undertake at the site. You must also give us an environmental risk assessment. This risk assessment must be based on our guidance (Environmental Risk Assessment - EPR H1) or use an equivalent approach.

It is essential that you identify in your environmental risk assessment all the substances used and produced that could pollute the soil or groundwater if there were an accident, or if measures to protect land fail.

These include substances that would be classified as ‘dangerous’ under the Control of Major Accident Hazards (COMAH) regulations and also raw materials, fuels, intermediates, products, wastes and effluents.

If your submitted environmental risk assessment does not adequately address the risks to soil and groundwater, we may need to request further information from you or even refuse your permit application.

2.0 Maintained During the Lifetime of the Permit

<p>4.0 Changes to the activity</p>	
<p>Have there been any changes to the activity boundary?</p>	<p>Please refer to Drawing 002 Proposed Site Layout, Permit Boundary + Emission Points</p>



<p>Have there been any changes to the permitted activities?</p>	<p>The EP variation will not alter any of the activities already set out in the permit but will allow for increased production of ferric sulphate through site expansion and the installation of a second production line including additional reactor vessels, storage tanks and water scrubber abatement system.</p> <p>The existing reactor vessel on ferric sulphate production line 1, RTK01, is also being replaced. The existing reactor is made from polypropylene and is being replaced with a rubber lined carbon steel vessel of equivalent size.</p>
<p>Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?</p>	<p>No additional dangerous substances have been used or produced as a result of the permitted activities.</p>
<p>Checklist of supporting information</p>	<p>BATOT (ref.410.064958.00001)</p>

5.0 Measures taken to protect land



Storage of raw materials

Magnetite powder – delivered in bulk loads and stored on hardstanding in a dedicated magnetite storage and handling building. A front loader is used to transfer magnetite powder to a hopper which feeds a conveyor system.

96% sulphuric acid – delivered by tanker and stored in three 100m³ bunded storage tanks on hardstanding. Sulphuric acid is pumped to the process (reactors and oxidation tanks) as required. Note: there are three sulphuric acid storage tanks onsite but only two of these serve the existing ferric sulphate production line (T11) and the new ferric sulphate production line (T13).

35% hydrogen peroxide – delivered by tanker and stored in a bunded bulk tank on hardstanding. Hydrogen peroxide is pumped to the process as required.

Bunds

Bunds are provided for all tanks containing liquids whose spillage could be harmful to the environment. Containment bunds are provided to make sure that any leaks/spillages are contained in the event of a leak of the primary containment. The containment measures comprise of the following:

- bunds on site are capable of containing at least 110% of the volume of the largest tank within the bund;
- bunds are constructed of materials which are impermeable (reinforced concrete coated with resin) and resistant to the stored materials in accordance with relevant safety data sheets (SDS).;
- bunds are constructed to the appropriate British Standard and Health and Safety Executive (HSE) guidance;
- of a type suitable for the containment of the materials in the event of leak or spill;
- pipework will be routed within bunded areas so that no penetration of walls or base of the bund takes place; and
- connection points will be located within the bund

Bunds are visually inspected monthly to check the integrity and to determine if there is any damage. Any maintenance this is required is promptly carried out.

Checklist of supporting information	Ref. 410.064958.00001_BATOT Ref. 410.064958.00001_ERA
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6.0 Pollution incidents that may have had an impact on land, and their remediation

To date there have been no pollution incidents that could have impacted the soil and groundwater.

Checklist of supporting information	
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7.0 Soil gas and water quality monitoring (where undertaken)	
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Checklist of supporting information	





Appendix A Landmark Envirocheck Maps & Report

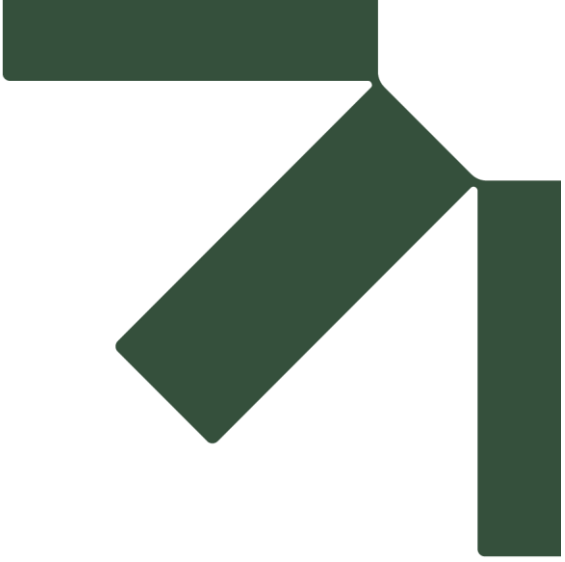
Site Condition Report

Environmental Permit Variation and Consolidation Support

Feralco (UK) Ltd

SLR Project No.: 410.064958.00001

20 August 2024



Appendix B Ground Investigation for Feralco, Widnes September 2022 CC Geotechnical Ltd (Report ref. CCG-C-22- 13352), September 2022

Site Condition Report

Environmental Permit Variation and Consolidation Support

Feralco (UK) Ltd

SLR Project No.: 410.064958.00001

20 August 2024

