ATLANTIC58

Comhairle nan Eilean Siar
Ag Obair Còmhla Airson nan Eilean

SPACEPORT ONE: CONSTRUCTION ENVIRONMENTAL REPORT

Client	CnES
Project/Proposal No;	P58
Version	V1
Date	31 January 2025

Document information

Project Name:	Spaceport One Enabling Construction Project
Document Title:	Construction Environmental Manager Report to Planning
Client Name:	CnES
Author:	Gareth Gentles
Reviewed:	Laura Carse
Approved:	
Date:	31 January 2025
Version:	V1
Project / Proposal Number:	P58

Version No.	Date	Authored	Reviewed	Approved	Notes
0.1	31/01/25	G.Gentles			Draft
0.1	10/03/25		L Carse		

CONTENTS

1 Outline

Visit	Details
Start Date/Time	07/01/2025
Completed Date/Time	31/01/2024
Site	Spaceport One
Works	Enabling construction
Weather	Wet, windy with wintery conditions
Temperature	Min -3°C Max 7°C

2 Site Comments/Observations

2.1 Activities

2.1.1.1 A temporary dam, made up of multiple layers of sandbags with an integrated Visqueen barrier, has been installed between the upper and lower sections of Loch Scolpaig, and dewatering of the loch bed has begun (Photo 1). The existing submerged culvert in the causeway between the upper and lower sections of Loch Scolpaig has been replaced with a larger box culvert (Photo 2). The widened causeway will be protected with rock armour to prevent erosion.

2.1.1.2 Dewatering is being carried out using a pumping system connected to desilters (Photo 3), with the water being discharged through additional silt bags. Coir logs have been added to capture and hold back surface water flows, allowing any residual suspended solids to settle. Independent UKAS-accredited lab results from water samples taken from the upper and lower sections of the loch show results below the limit of detection for suspended solids. Water quality sampling was conducted after the new culvert was installed and water was allowed to re-enter the dammed area. Additional pH testing was performed to check the impact of the poured concrete foundation from the culvert works, with no impact on baseline metrics. Further information and sample results are available in Section 2.5 Water Quality.

2.1.1.3 Elsewhere on the site, the access track has been widened, and laybys have been created. A hardstanding area adjacent to the farm buildings has been established to allow vehicles to turn and to provide storage and additional parking for the future site (Photo 4). A new access track, approximately 102 m long, has been constructed between the existing farm buildings and the hardstanding area, linking to the next phase of construction for the spaceport infrastructure and launch pad. For detailed site drawings showing the location of the works, refer to Section 5 Site Plan.

2.2 General Comments

2.2.1.1 All works have been completed in accordance with planning conditions, the Written Scheme of Investigation (WSI), the Construction Environmental Management Plan (CEMP), and environmental and construction industry best practice.

2.2.1.2 Noise, vibration, and dust are being minimized through construction best practices, and the site complies with the Construction Traffic Management Plan. For health and safety reasons, in line with HSG151 Protecting the Public[1], access remains restricted to the general public and will be reopened once safe access is possible.

2.2.1.3 Water runoff and silt mitigation measures are regularly inspected, and weekly water quality monitoring is conducted to ensure control measures are effective. All results remain within the baseline testing parameters, with no impact on the overall water quality of the surrounding loch.

2.2.1.4 During the removal of the existing culvert, an unexpected and unrecorded population of European eel (*Anguilla anguilla*) was observed near the old culvert and relocated to the adjacent loch. Site observations indicate a sustained and thriving population within the loch, with examples of different life stages (elver, yellow eel, and silver eel) observed by site personnel.

2.2.1.5 Site personnel have received a series of toolbox talks with subject matter ranging from Archaeology, Water Pollution Prevention (fuel and oil), Stripping Sub Soils (management and planning), Water Pollution Prevention (silt) and Ecological Constraints (otter). Toolbox talks to cover ornithological constraints will be delivered ahead of the breeding bird season.

2.3 Environmental incidences

2.3.1.1 A minor area of asbestos fragments were observed within arisings of the hardstanding construction area between the farmhouse and byres. The suspected asbestos material appears to be visually similar to asbestos debris recorded within the Asbestos Refurbishment and Demolition Survey (appended to the CEMP) undertaken ahead of the construction phase. Identified areas have been segregated with heras fencing and appropriate warning signs installed. It is anticipated the material will be removed from site and disposed of as special waste.

2.4 Compound and infrastructure

2.4.1.1 The site compound is powered by a diesel generator situated within a bunded area, equipped with plant nappies and spill kits. All fuel bowsers are double-bunded and placed on plant nappies. Additional plant nappies are available to facilitate the refuelling of plant and machinery as needed, with spares stored on-site. The inspection of storage facilities, including bunded COSHH stores, was satisfactory, adhering to best practices. Additional tool and material storage facilities are located adjacent to the causeway in a newly created layby. Site welfare facilities are serviced via a foul waste tank.

2.4.1.2 A diesel generator, supplied by double-bunded fuel cubes on plant nappies, is located on the far side of the causeway, more than 50 m from the shore. This generator powers an electric pumping system for dewatering, with both mechanical units positioned on a raised drip tray system within a bunded containment area, which includes a large-capacity spill kit (Photo 5).

2.5 Water Quality

2.5.1.1 To mitigate construction surface water runoff, extensive silt fencing and coir logs have been installed between the construction works and Loch Scolpaig (Photo 6). Dewatering of the dammed area has been completed using 6-inch and 3-inch cowled pumps (Photo 7), with discharge routed through two large desilter units and pumped uphill to a discharge point via silt bags. Additional coir logs have been

[1] https://www.hse.gov.uk/pubns/books/hsg151.htm

installed to manage overland water flows around the pumping location, which is situated more than 50 m from the loch shore.

2.5.1.2 General site pollution prevention measures are in place, with all machines using plant nappies when not in use and equipped with spill kits.

2.5.1.3 Weekly water samples are collected from both the upper (north) and lower (south) sections of Loch Scolpaig to monitor water quality as construction progresses. The results, displayed in Table 1, indicate no adverse impacts on water quality so far. Construction runoff is being effectively managed with silt containment and discharge through vegetation, ensuring no visible impact on Loch Scolpaig water quality, as evidenced by turbidity samples.

2.5.1.4 Although turbidity *(ntu)* is not a direct measure of suspended solids, it serves as a valuable tool for rapidly assessing water quality and the effectiveness of control measures onsite. Additional water quality samples have been sent to the laboratory for further analysis and comparison to baseline metrics of suspended solids (mg/L) to calibrate turbidity readings and demonstrate project compliance and the effectiveness of control measures.

2.5.1.5 The water sampling analysis from the independent UKAS accredited laboratory in water quality testing (see Appendix 1) demonstrates that suspended solids (mg/L) within the analysed water samples from the upper (north) and lower (south) sections of Loch Scolpaig are below the limit of detection for suspended solids, indicating negligible impact on Loch Scolpaig's water quality. Further testing will be undertaken once the dam structure has been removed from the loch.

Table 1 Water Quality Results

Water Quality Sample Point / Date	Baseline Suspended Solids (mg/L) UKAS Lab	Baseline Turbidity (*ntu*)	Baseline pH	Loch Scolpaig Recorded Turbidity (*ntu*)	Loch Scolpaig Recorded pH
North Loch (08/01/25)	<10	29.05	7.30	4.38	(9.32) 8.32*
South Loch (08/02/25)	<10	20.59	7.27	8.67	(9.72) 8.72*
North Loch (15.01/25)	<10	29.05	7.30	12.48	8.06
South Loch (15/01/25)	<10	20.59	7.27	16.99	8.42
North Loch (20/01/25)	<10	29.05	7.30	24.52	8.08
South Loch (20/01/25)	<10	20.59	7.27	27.21	8.30
North Loch (30/01/25)	<10	29.05	7.30	34.12	8.11
South Loch (30/01/25)	<10	20.59	7.27	39.65	8.19

* Adjusted following a control sample using distilled water.

2.6 Cultural Heritage

2.6.1.1 Headland Archaeology (UK) Ltd was commissioned by Comhairle nan Eilean Siar to undertake a programme of archaeological excavation and construction integrated recording work at Spaceport One, Scolpaig Farm, North Uist, between November 5th and 18th 2024, to fulfil planning conditions for Spaceport One.

2.6.1.2 The excavations focused on three areas, revealing significant findings related to local history and building practices. The project involved a detailed investigation of archaeological remains and aimed to record and preserve these findings for future research.

2.6.1.3 The excavation uncovered a Hebridean blackhouse in Area 1, likely associated with the nineteenth century Ardanroin township. The structure measured 11.5 m by 6.3 m externally and featured stone walls and a hearth. Area 2 revealed a cobblestone floor and wall fragments, interpreted as part of an early byre that was later reduced in size. Additionally, a stone field boundary wall was excavated and recorded in Area 3, identified as part of a cattlefold. Finds from the site included pottery, iron objects, and glass dating from the post-medieval to modern periods.

2.6.1.4 Environmental analysis of a sample from the blackhouse hearth revealed burnt peat/turf/soil and heather stem fragments, indicating the materials used for fuel and construction. The double skin wall construction, the squared internal corners and presence of a hearth built into the end wall rather than located in the middle of the floor indicate a later nineteenth century date for the structure at Scolpaig. The resulting archive will be deposited in the National Record of the Historical Environment (NRHE).

2.6.1.5 The planned archaeological work for the enabling works construction phase has now concluded, with all identified cultural heritage features protected by heras fencing (Photo 8), The final report setting out the results of the Excavation and Construction Integrated Recording was issued by the contractor in February 2025. The final report accompanies this CEM Report. All site personnel have been briefed with a toolbox talk and will notify the Construction Environmental Manager of any additional areas of interest.

2.7 Otter Protection Plan

2.7.1.1 Preconstruction otter surveys have been conducted, and mitigation measures have been incorporated into an Otter Protection Plan. General ecological construction mitigation measures are included in the Construction Environmental Management Plan and have been implemented onsite. Speed limit signs of 10 mph have been installed on the access road for construction traffic. A site-specific ecological toolbox talk (focused on otters) has been delivered to site personnel.

2.8 Breeding Bird Protection Plan

2.8.1.1 Construction activities are currently outwith the breeding bird season. Preconstruction breeding bird surveys will be conducted according to seasonal requirements, with specific mitigation measures implemented as part of the Corncrake Habitat Management Plan. This phase of construction is expected to continue until 4 April 2025. Site personnel will receive a toolbox talk on ornithological constraints before the breeding season begins.

2.9 Waste Management

2.9.1.1 MacAulay Askernish Ltd is ensuring all waste is removed from the site in accordance with their waste carriers licence. There are no skips currently on site. Asbestos waste notes have been received for the

preconstruction removal works at Byre number 3 and for areas with identified debris within the farm complex, as recorded in the Asbestos Refurbishment and Demolition report published within the CEMP.

3 Visit Photographs

Photo 1 Dam to upper loch

Photo 2 Box culvert

Photo 3 Desilter units

Photo 4 Hardstanding area

Photo 5 Pump generator containment systems

Photo 6 Silt mitigation measures

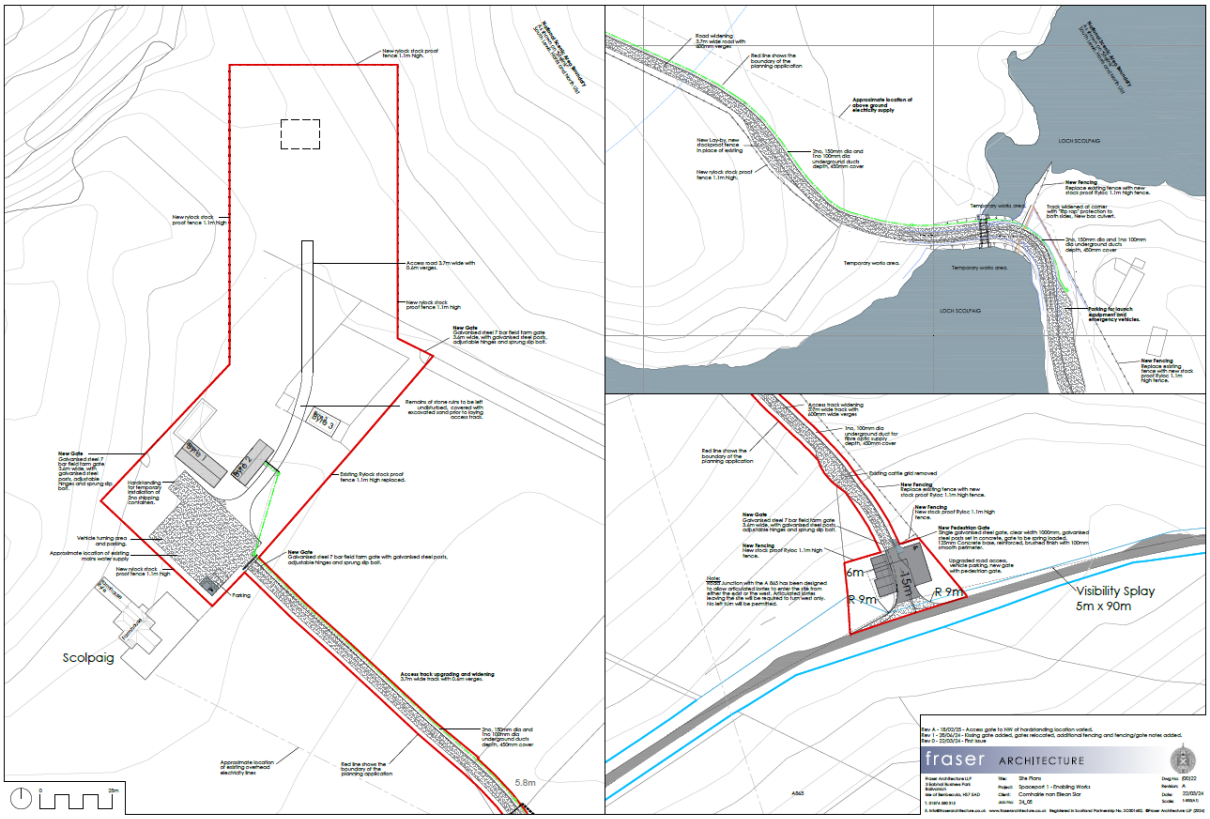
Photo 7 Pump heads and cowl system

Photo 8 Cultural heritage features excluded from the work zone using heras fencing

4 Actions

Non-Conformance	Corrective Action
The site team has swiftly and professionally resolved any identified issues.	N/A

5 Site Plan


Scolpaig
Visibility Splay
5m x 90m
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R 9m
fraser ARCHITECTURE

6 Appendix 1

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 25/00656
Issue Number: 1 **Date:** 31 January, 2025

Client: Atlantic58 Ltd.
UHI Stornoway
Stornoway
Outer Hebrides
HS2 0XR

Project Manager: Gareth Gentles
Project Name: Space Port 1
Project Ref: N/A
Order No: N/A
Date Samples Received: 24/01/25
Date Instructions Received: 28/01/25
Date Analysis Completed: 31/01/25

Approved by:

Richard Wong
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 25/00656

Client Project Name: Space Port 1

Client Project Ref: N/A

Lab Sample ID	25/00656/1	25/00656/2						Units	Limit of Detection	Method ref
Client Sample No	001	002								
Client Sample ID	North Loch	South Loch								
Depth to Top	0.30	0.30								
Depth To Bottom										
Date Sampled	21-Jan-25	21-Jan-25								
Sample Type	WATER - EW	WATER - EW								
Sample Matrix Code	N/A	N/A								
Total Suspended Solids (w)$_A^{\#}$	<10	<10						mg/l	10	A-T-036w

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.
Quantification: Generally a 2 stage process including visual identification, hand picking and weighing, and fibre counting. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres). "TRACE" will be reported as a quantification result.
PLEASE INFORM THE LABORATORY IF YOU WOULD LIKE THE STAGE 3 SEDIMENTATION PROCESS CARRIED OUT. Note this will be subcontracted.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Atlantic58 Ltd. , UHI Stornoway, Stornoway, Outer Hebrides, HS2 0XR

Project No: 25/00656

Date Received: 28/01/2025 (am)

Project: Space Port 1

Cool Box Temperatures (°C): 5.5

Clients Project No: N/A

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	25/00656/1	25/00656/2
Client Sample No	001	002
Client Sample ID/Depth	North Loch 0.30m	South Loch 0.30m
Date Sampled	21/01/25	21/01/25
A-T-036w	31/01/2025	31/01/2025

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

ATLANTIC58

Atlantic58 Ltd

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Company Number: SC594983
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