ORCA
Orkney Research Centre for Archaeology

Condensate Pipeline
Sullom Voe
Laggan-Tormore
Shetland

Archaeological Watching Brief Data Structure Report

August 2014

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CONDENSATE PIPELINE

SULLOM VOE

LAGGAN-TORMORE

SHETLAND

ZE2 9TU

WATCHING BRIEF DATA STRUCTURE REPORT

PROJECT NO: 452

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CLIENT: TOTAL E&P UK LTD
J MURPHY AND SONS LTD

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This document has been prepared in accordance with ORCA standard operating procedures and IfA standards	
Authorised for Distribution by:R Aitken MIfA	Date:08 August 2014

EXECUTIVE SUMMARY

This report sets out the results of a watching brief undertaken by Orkney Research Centre for Archaeology (ORCA) on the site of Sullom Voe, Delting, Shetland relating to the Laggan Tormore Project, in particular the Condensate Pipe Line.

Following the requirements as set out in the Shetland Islands Council Planning Conditions and in consultation with the Shetland Island's Council Regional Archaeologist, Dr. Val Turner, pipeline interventions were monitored between 18th September 2013 and 14th February 2014*.*

The results of the watching brief found no indication of archaeological finds or features present within the excavated trench for the condensate pipeline. However, the stratigraphic sequence of the site shows a series of post-glacial activity, one of which may be a fill of a palaeochannel as well as post-glacial peat formation.

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FIGURES

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1 INTRODUCTION

This report was commissioned by J Murphy and Sons Ltd on behalf of Total E&P UK Ltd and forms the Data Structure Report (DSR) for an archaeological watching brief carried out on the site of the Condensate Pipeline at Sullom Voe, Delting (hereafter referred to as 'the site', National Grid Reference (NGR): HU 40500 76250). This archaeological watching brief was undertaken in connection with the archaeological input required for further developments around Sullom Voe relating to the Laggan Tormore Project. Archaeological monitoring was undertaken during the excavation of a 610 metre stretch of the Condensate Pipeline associated with the Total E & P UK operated section of the Shetland Gas Terminal (See Figure 1). The Condensate Pipeline here originated at the Shetland Gas Plant (SGP) and extended south, then a south-eastern direction terminating at the boundary to the BP aspect of the plant.

The work was undertaken in order to discharge the Shetland Islands Council (SIC) Planning Conditions Ref 2013/093/PPF as well as the stipulations defined by Dr. Val Turner, Shetland Islands Council Regional Archaeologist.

A previous Written Scheme of Investigation was prepared (ORCA 2013a). The WSI set out the legislation framework and planning background in detail.

The works monitored include:

- Two test trenches located adjacent to the Murphy's compound at National Grid References HU40618 75925 and HU 40577 75948; and
- The excavated trench for the installation of the condensate pipeline.

This report summarises the results of the archaeological watching brief on those groundworks undertaken on behalf of Total E&P UK Ltd. The concurrent watching brief undertaken on those groundworks undertaken on behalf of BP PLC and IKM Consulting are subject to separate reporting (ORCA 2014).

The fieldwork was carried out between 18th September 2013 and 14th February 2014.

This report has been prepared in accordance with the Standards and guidance specified by the Institute for Archaeologists (IfA 2008).

2 SITE LOCATION, TOPOGRAPHY AND GEOLOGY

The site is situated at Sullom Voe, Delting, Shetland (NGR HU 40500 76250) and lies on the western slope of the Hill of Crooksetter, to the north of the Sullom Voe Terminal. The Crooksetter Burn runs to the south and west of the site of the condensate pipeline into the Orka Voe *c.* 700 metres to the west.

The site lies within an area of gently rolling hills with elevations ranging from sea level to 116m above sea level at the Hill of Crooksetter. The topography consists of undulating peatland that varies in depth from 0.5m to 6m (ORCA 2011).

The subsoils are dominated by a series of peaty deposits that overlay more silty layers. The drift geology consists of a layer of glacial till overlaying the solid geology that consists of psammite, metamorphic sedimentary bedrock (Total E&P UK 2009).

3 ARCHAEOLOGICAL BACKGROUND

The general area of the Condensate Pipeline has been the subject of a detailed desk-based assessment and walkover survey (Total E&P UK 2009) as well as a gradiometer survey and a geoarchaeological coring programme (ORCA 2010a) that has established a baseline of archaeological evidence and the reader is referred to those documents. However a brief summary is presented here.

3.1 PREHISTORIC PERIOD

There are two heel-shaped burial cairns near the top of the Hill of Crooksetter, to the east of the Condensate Pipeline. Neolithic and Bronze Age structures have also been recorded to the north of the Sullom Voe Terminal, *c.* 175m to the east of the Condensate Pipeline. These structures consisted of a sub-circular building, a heel-shaped cairn, several possible cists and a substantial stone dyke. Subsequent peat stripping around this area revealed a patch of carbon rich deposits within the sub-peat layers close to the remains of a substantial dyke. A large area of *in situ* fired clay and substantial quantities of carbonised organic material was also encountered. This was interpreted as representing an ancient land surface that was altered by a significant burning event. The anthropogenic nature of this event was confirmed by a large quantity of artefacts, including bone, from the layers and deposits (ORCA 2011).

3.2 NORSE, MEDIEVAL PERIOD

There is evidence that the Township of Crooksetter is at least medieval in date and could even have earlier Norse origins. A document from 1431 AD shows that the township of Crooksetter was already in existence by this time (Ballantyne and Smith 1999).

3.3 POST MEDIEVAL/ MODERN PERIOD

The farmstead of Crooksetter, located *c.* 455m to the north, northeast of the Condensate Pipeline, consisted of at least three ruined croft houses, associated

outbuildings, yards, field systems and a hill dyke (Total E&P UK 2009). The farmstead, field systems and hill dyke survive within the landscape.

There is evidence of mills and water management features present along the banks of the Burn of Crooksetter. The aforementioned document of 1431 AD references the people of Crooksetter to build their own mill separate from that of the Caldbeck township mill, although it is not known if this was ever undertaken (Ballantyne and Smith 1999)

3.4 PREVIOUS INVESTIGATIONS

Numerous archaeological and geophysical work has been previously undertaken within the area of the Condensate Pipeline that show this to be a landscape of prehistoric activity.

In 2010 an archaeological evaluation was undertaken over two earthworks: the Garth Hill Dyke and the Crooksetter Hill Dyke, prior to the construction of a gas pipeline processing plant at Sullom Voe, *c.* 157m to the northeast of the condensate pipeline. A survey of the Hill of Crooksetter hill dyke was also undertaken. The excavation of the hill dykes provided evidence of the method of construction for the features that appear to have been built from cut turf and peat (ORCA 2010b).

In 2011 the University of Stirling produced a detailed reconstruction of the landscape history of the Garth's Voe hinterland affected by the Laggan-Tormore project. Two peat/sediment cores were obtained: one from the Burn of Crooksetter and the other from the Quoys of Garth. The pollen records showed that around *c.* 10200Cal years BP the Burn of Crooksetter had areas of open grassland with sedges in the more humid areas and scrubby Birch. By 9900 Cal years BP the open grassland environment continued but there was in increase in tall herbs that favoured damp ground. Between 8100-4800 Cal years BP there was a pronounced reduction in effective moisture levels with an increase in arboreal and shrub cover. Drier environmental conditions were also suggested by the reduction of sedges. There was a rapid reduction in arboreal and shrub cover across all taxa between *c.* 4800-3350 Cal years BP. The tree and shrub cover was replaced by a mixture of grassland as well as the expansion of heather. The driving mechanism behind the dramatic shift in the landscape may be attributed to the early people that were exploiting the landscape that may have reduced the permeability of the soils and/or the removal of the shrub and wood cover. This may have also been accelerated by a shift in climate change. Between 3350 Cal years BP to present there was a rapid expansion and then the continued dominance of the heather clad blanket mire. Around *c.* 1250 Cal years BP there was a reduction in heather cover as evidenced by the increase of plantains and sedges possibly due to an increased grazing pressure on the slopes of Crooksetter Hill (University of Stirling 2011).

In 2011 an archaeological excavation was undertaken to the north of Sullom Voe terminal in order to investigate an archaeological feature (Site 003) that was discovered during archaeological monitoring of large-scale peat stripping along the western slopes of the Hill of Crooksetter. This programme of work was undertaken as part of a second phase of investigation following the excavation of Site 002, located *c.* 20m to the south-west, which uncovered a series of Neolithic and Bronze Age structures (see 3.1 above).

An archaeological evaluation was undertaken in 2012 on land to the east of the Sullom Voe Oil Terminal, *c.* 235m to the east of the condensate pipeline, in order to investigate a series of geophysical anomalies that were identified in a magnetometry survey of the area undertaken in 2010. The evaluation revealed a spread of cobbles thought to be prehistoric in date as well as a probable prehistoric ditch and two post-medieval walls (ORCA 2012).

An archaeological excavation was undertaken in 2013 that investigated a feature that was discovered during the large-scale peat stripping at the Shetland Gas Plant, *c.* 64m to the south and east of the condensate pipeline. The excavation found evidence of an enclosure present on the western slopes of the Hill of Crooksetter *c.* 100m to the west of the aforementioned Neolithic and Bronze Age remains. The date of the enclosure was uncertain but it was thought that the enclosure was located within a similar sequence as the nearby prehistoric sites and was likely to be of similar date (ORCA 2013b).

4 FIELDWORK AIMS AND OBJECTIVES

In consultation with Dr. Val Turner, Shetland Islands Council Regional Archaeologist, a watching brief was undertaken on all ground-breaking works associated with the laying of the condensate pipeline in order to record any archaeological deposits present thereby mitigating the impact of the works by way of 'preservation by record.'

5 FIELDWORK METHODOLOGY

All works were carried out in accordance with the WSI for the works (ORCA 2013a) and the ORCA Standard operating procedures as set out in the ORCA fieldwork Manual (*in prep)*.

The location of the pipeline and the extent of the (battered back) trench edges were marked out by Total E&P UK/Murphy and Sons Ltd prior to the excavation commencing. The excavation progressed with two excavators at one working front. The top layer of peat was excavated with the turves stored according to the project's Peat Management Plan (Murphy 2013). The excavator removed the top layer of peat along the centre of the pipeline area to 1 metre each side of the proposed edge of the trench for a 5 metre stretch. The second machine excavated the full depth of the trench. Once one 5 metre stretch of pipeline route was excavated, the process began again along the next 5 metre long section until the entire length of the excavation was achieved.

Archaeological deposits, features and naturally derived deposits were recorded in the monitored areas using a handheld Garmin Oregon 550t GPS, with an accuracy of +/- 3m, and was then documented on ORCA's *pro forma* recording system (See Appendix 1). Any archaeological features, if encountered, identified were hand cleaned, photographed and drawn at appropriate scales on drawing film. A photographic record of each trench was created using high resolution digital images and including appropriate scales (see Appendix 2).

Environmental samples were taken from archaeological features that contained dateable material (see Appendix 3).

6 FIELDWORK RESULTS

6.1 TEST PIT 1

A test trench for the condensate pipeline was excavated adjacent to the Murphy's compound at HU 40618 75925. The test trench measured *c.* 5m in length by 3m in width at the top of the trench and *c.*0.3m at the base of the trench with steep banked sides. The glacial till **6504** was noted in the test trench at a depth of *c.* 2.1m below ground level (bgl). Overlying the glacial till was a deposit of orangey brown peat **6503** noted at a depth of 1.9m bgl and was 0.35m thick. The brown peat layer **6503** was overlain by a greyish brown humified peat **6502** noted at a depth of 1.9m. This was in turn overlain by a deposit of brown peat **6501** that was noted to a depth of 1.7m. Disturbed/redeposited topsoil **6505** was noted overlying **6501**. The topsoil **6500** was overlying this to a depth of 0.2m.

6.2 TEST PIT 2

Test Pit 2 measured 6m by 2.6m and was excavated to a depth of 2m. Located to the south east of Test Pit 1 (at NGR: HU 40577, 75984) this test pit was excavated down to natural sands and gravel from 1.4m depth to 2m depth (glacial till **6504** as above). Above this lay a homogenous, orangey-brown peat containing root fragments (**6501**) from 0.2m below ground level to 1.4m below ground level (ie 1.20m thickness). Above this lay a 0.20m thickness of disturbed dark brown/ black soft peat (**6505**).

6.3 CONDENSATE PIPELINE

The condensate pipeline originated within the Shetland Gas Plant in the north and extended southwards, downslope from the Water Treatment Area (WTA) then past the MEG Treatment Area, the pipeline turned south east and ran parallel to the Security Perimeter Fence downslope for the Control Technical Area (CTA) (see Figure 1).

The earliest deposits present on site within the excavation for the condensate pipeline comprised a layer of grey silty sand (**6510**) located between HU 40612 75937 and HU 40625 75921, recorded at a depth of 2.0m-2.5m at the base of the excavated trench and a structured stoney sand located to the west of the WTA, thought to be weathered bedrock. Overlying this layer was the natural glacial till **6504**, which was recorded at varying depths across the extent of the monitored area and, up to 3.8m below ground level at the stretch of pipeline to the west of the WTA platform.

For the most part the sequence of deposits across site was similar (as per the sequence in the Test Pits 1 and 2), with the peat deposit **6503** overlying the glacial till **3504**. Overlying deposit **6503** was a deposit of dark greyish brown peat (**6502**) that contained a greater degree of humification, its maximum thickness was recorded at 1.25m. Deposit **6502** was overlain by the brown peat **6501**, the depth of this deposit varied across the site and was noted at a minimum of 0.5m bgl to a maximum of 3.5m bgl. Overlying deposit **6501**, was the heather clad peaty topsoil **6500**. This

topsoil deposit consisted of a very dark brown peat that was present across the site at varying depths. Overlying **6500** within the area of the MTA platform, was a deposit of mixed peat and topsoil **6505**. This deposit was the material used for landscaping the base of the platform batter following the construction of the MTA and WTA platform.

On the west side of the WTA platform (between HU 40464 76151 and HU 40671 76244) above the weathered bedrock in this area, the sandy silt deposit **6506** was noted at a depth of *c.* 0.1m and lay below peat deposit **6502**.

Within the area of excavation downslope from the MEG Treatment Area (MTA) Platform (between HU 40469 76050 and HU 40463 76064) a very mixed sandy deposit **6508** was recorded at a depth of 3.2m-3.3m below ground level (bgl).This deposit contained a large amount of stone and coarse gravel inclusions. The extent of this deposit was noted at the base of the excavations and therefore was not fully excavated. Overlying **6508** at this location, was a deposit of humified peat **6507**, noted at a depth of *c.* 3m-3.2m. Within this area **6507** contained inclusions of wood, thought to be that of birch at this stage, as this was noted during previous excavations for the MTA/WTA Platforms (ORCA 2014). The humified peat **6507** was noted at a depth of *c.* 2.4m-2.5m and was below peat deposit **6501** (see Plate 1).

7 DISCUSSION

7.1 ORIGINAL RESEARCH AIMS

The aims of the watching brief were to record any archaeological deposits present and mitigate the archaeological impact of the ground breaking works associated with the installation of the Condensate Pipeline at Sullom Voe. Various deposits of peat were recorded throughout the excavated trench.

7.2 DISCUSSION

The earliest deposit noted within the excavated trench for the condensate pipeline was the layer of grey silty sand **6510**. This layer was recorded at a depth of 2.0-2.5m bgl and was beneath the glacial till. It is most likely that **6510** is a post-glacial deposit, such as a fill for a palaeochannel. However this may have just been a variation within the glacial till.

Deposit (**6508**) contained a large amount of stone with coarse gravel inclusions and appeared disorganized. This deposit may represent a single deposition event such as a landslide- the absence of marine shell inclusions recorded within the deposit seem to indicate that it is not from the Storegga Slide that occurred off the coast of Norway 8200 years ago, and represented elsewhere in this region of Shetland. The Storegga Slide has been identified at Sullom Voe and Garths Voe. Geoarchaeological coring also found evidence of this event at the Quoys of Garth. No evidence of this event was recorded at the Burn of Crooksetter (University of Stirling 2011). Analysis of a bulk soil sample taken from deposit **6508** confirmed that this deposit was not tsunami related and appeared sterile in nature (*pers. Comm.* Dr. Scott Timpany). It is possible that this deposit could represent a landslide event.

Also overlying the glacial till was a deposit of orangey brown peat **6503**. This may represent a post glacial peat formation as evidenced by the location of the deposit at the very base of the peat profile.

Deposit **6506**, a dark greyish brown firm sandy silt, was noted overlying the glacial till along the base of the WTA platform. This deposit was similar in composition and stratigraphic location to deposits noted elsewhere on site and is likely to be a buried soil deposit or ancient land surface. This deposit (**6506**) was noted overlying a deposit likely to be weathered bedrock (**6509**) within the area to the west of the WTA platform.

One of the most recent deposits on site is that of **6505**, redeposited material that consisted of a mixture of peat and topsoil that was used for landscaping around the base of the platform batter for the MTA and WTA platforms.

7.3 INTERPRETATIVE ISSUES

A number of interpretative issues prevented full characterisation of the archaeological deposits encountered during the watching brief. Firstly the narrow base of the monitored trenches made health and safety an issue in some areas, meaning that some deposits could not be examined in detail *in situ*. Secondly, there was no conclusive dating evidence retrieved from any of the monitored areas, which prevented full assessment of the significance of those features recorded.

8 CONCLUSIONS AND RECOMMENDATIONS

The watching brief undertaken during the excavation of the trench for the condensate pipeline found no archaeological finds or features present. The stratigraphic sequence noted across the site is one of various deposits of peat overlying the glacial till. The earliest deposits noted within the area of the condensate pipeline were noted beneath the glacial till and were thought to represent a post-glacial deposit. The looser less consolidated nature of the deposit compared to the majority of the rest of the till combined with the similar compositions of confirmed palaeochannels within the vicinity (ORCA 2010c) indicated that this deposit may likely be the fill of a palaeochannel.

A deposit that is likely to represent a landslide event was also noted. Post-glacial peat formation was also recorded within a test trench, but not within the larger excavated area for the condensate pipeline.

The final decision as to the requirement for further work on the site rests with the Regional Planning Archaeologist.

9 PUBLICATION AND ARCHIVING

Given the limited nature of the archaeological remains and the low significance of finds a short report to *Discovery and Excavation Scotland*, as generated by the OASIS form will suffice.

Archive preparation and deposition will be undertaken with reference to the appropriate repository guidelines and standards, and, where necessary, the Museums and Galleries Commission (MGC) and the United Kingdom Institute for Conservation (UKIC) standards and guidelines. The project archive containing the original site records will be submitted to the RCAHMS or the Orkney SMR, as appropriate.

No materials were recovered from the investigation.

Findings have been submitted to the national record via the OASIS system (see Section 12), and a short report for *Discovery and Excavation Scotland* will be generated.

Information on the results of the report will be made public in digital form so as to be included in any further research into the archaeology, history and development of Shetland

10 ACKNOWLEDGEMENTS

The author would like to thank Total E&P UK Ltd for commissioning the work. Thank you also to Murphy and Sons Ltd, the contractors on site, and the Shetland Islands Council Regional Archaeologist, Dr. Val Turner.

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12 NMRS OASIS FORM

OASIS DATA COLLECTION FORM: Scotland

OASIS ID: orkneyre1-183816

Project details

Project name	Condensate Pipeline, Sullom Voe, Laggan-Tormore, Shetland
Short description of the project	A watching brief was undertaken for the condensate pipeline at Sullom Voe relating to the Laggan Tormore project. No archaeological finds or features were identified. The stratigraphic sequence indicates a number of post glacial deposits.
Project dates	Start: 18-09-2013 End: 14-02-2014
Previous/future work	Yes / Not known
Type of project	Recording project
Site status	None
Current Land use	Heather Moorland
Monument type	NONE None
Monument type	NONE None
Significant Finds	NONE None
Significant Finds	NONE None
Investigation type	"Watching Brief"
Prompt	Direction from Local Planning Authority - PAN42 Article 4 Direction

Project location

Country	Scotland
Site location	SHETLAND ISLANDS DELTING Sullom Voe, Delting, Shetland
Postcode	ZE2 9TU

Project creators

Name of Organisation	Orkney Research Centre for Archaeology

Project brief originator	Local Planning Authority (with/without advice from County/District Archaeologist)
Project design originator	Orkney Research Centre for Archaeology
Project director/manager	Nick Card
Project supervisor	Jocelyn Strickland
Type of sponsor/funding body	Oil Company
Name of sponsor/funding body	Total E&P UK Ltd, J Murphy and Sons Ltd

Project archives

Physical Archive Exists?	No
Digital Archive recipient	ORCA
Digital Media available	"GIS","Images raster / digital photography"
Paper Archive recipient	ORCA
Paper Media available	"Context sheet","Diary","Notebook - Excavation',' Research',' General Notes","Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Condensate Pipeline, Sullom Voe, Laggan-Tormore, Shetland
Author(s)/Editor(s)	Strickland, J
Other bibliographic details	ORCA Report Number 452
Date	2014
Issuer or publisher	ORCA

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Description	This is a bound report with colour plates and figures.
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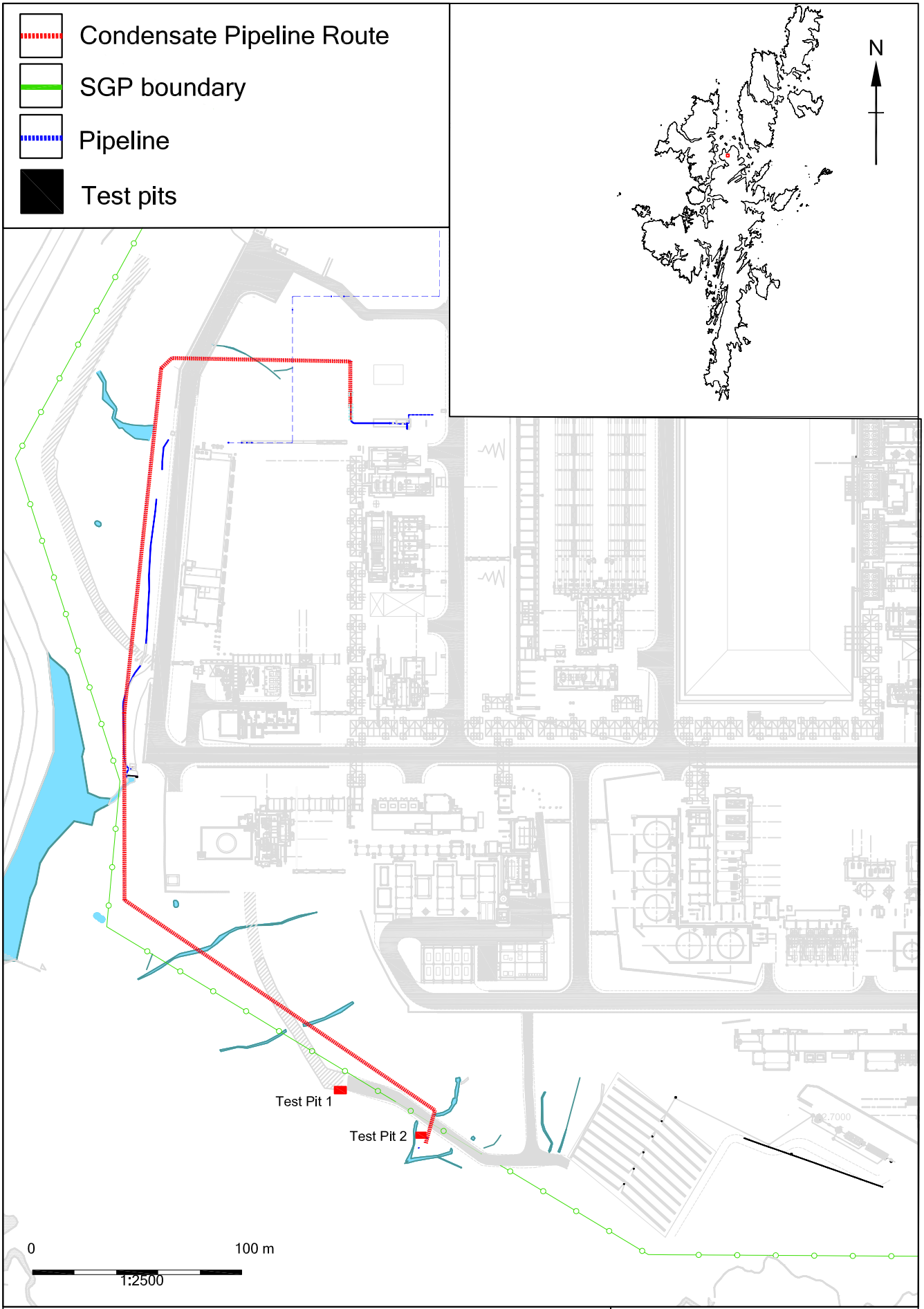

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Figure.1: Location of Watching Brief

Project Name:	Condensate Pipeline	
Project No: 452	**Scale:**	1:2,500 @ A4
07/2014	JDS	Rev. No. 1

X:\ORCA\ORCA Projects\SHETLAND\13024452_Condensate_Pipeline\Geomatics\CAD\Current\Figure_1_2014-07-14.dwg(ORCA FIG 1 A4)***** 08 Aug 2014

Plate 1: Shot of trench for Condensate Pipeline at the MEG Treatment Area, looking west

Appendix 1 CONTEXT REGISTER

Context	Description		Depth (m bgl)
6500	Topsoil	Heather clad, peaty topsoil that consisted of dark brown peat. Present over the majority of the site except where landscaping for the SGP had obscured it.	0-0.4
6501	Deposit	Brown peat noted throughout the site. Occasionally interspersed with bands of darker brown more humic peat.	0.5-3.5
6502	Deposit	Dark greyish brown peat with a greater degree of humification to deposits sealing it. This deposit merged with **6501** and **6503** that this deposit sealed.	1.25 (max)
6503	Deposit	Brown peat sealed by humified peat layer **6502**. Present in a limited area. This deposit generally overlies and seals the glacial till (**6504**).	1.9
6504	Natural	Glacial till	
6505	Deposit	Mixed peat and topsoil that had been redeposited during recent landscaping activity. Consisted of very rooty dark brown peat that contained stone inclusions and disorganized.	0.6
6506	Deposit	Dark greyish brown firm sandy silt; humic in appearance. Sealed by humified peat **6502** and overlying **6504**.	
6507	Deposit	Dark greyish brown humified peat, same composition as **6502** and sealed by **6501**. Overlies deposit **6508**. Contained frequent inclusions of wood.	
6508	Deposit	Mixed sandy deposit that was overlain by **6507**. The top of this layer was at the limit of excavation.	3.5
6509	Layer	Cemented yellowish brown stony sand that was overlain by **6506** and by **6500** in some locations. Depth of deposit not known as it was encountered at the limit of excavation.	3.5
6510	Layer	Stony cemented grey silty sand. Overlain by **6504**. Thickness of deposit not known as it was the limit of excavation.	2.0-2.5

Appendix 2 PHOTOGRAPHIC REGISTER

Frame	Description	Direction of shot	Taken By	Date
DSC_1	Excavations for CPL at MTA	W	RB	18/10/2013
DSC_12	Excavations for CPL at MTA	W	GS	20/10/2013
DSC_13	Excavations for CPL at MTA	E	GS	20/10/2013
DSC_14	Excavations for PSF at MTA	SE	SW	20/10/2013
DSC_15	Excavations for CPL at MTA	NE	GS	21/10/2013
DSC_21	Excavations for CPL at MTA	W	GS	23/10/2013
DSC_23	Excavations for CPL at MTA	NE	GS	23/10/2013
DSC_24	Excavations for CPL at MTA	NE	GS	23/10/2013
DSC_26	Landscape shot - Cairn at Crooksetter Hill	E	SR	28/10/2013
DSC_27	Landscape shot - Cairn at Crooksetter Hill	E	SR	28/10/2013
DSC_28	Landscape shot - Cairn at Crooksetter Hill	NW	SR	28/10/2013
DSC_29	Landscape shot - Cairn at Crooksetter Hill	NW	SR	28/10/2013
DSC_30	Landscape shot - Cairn at Crooksetter Hill	W	SR	28/10/2013
DSC_31	Landscape shot - Cairn at Crooksetter Hill	W	SR	28/10/2013
DSC_32	Landscape shot - Cairn at Crooksetter Hill	E	SR	28/10/2013
DSC_33	Excavations for CPL at MTA	E	SW	02/11/2013
DSC_34	Excavations for CPL at MTA	E	SW	02/11/2013
DSC_219	Excavations for CPL at HU 40522 75993	SW	GS	13/12/2013
DSC_220	Excavations for CPL at HU 40522 75993	NW	SW	07/02/2014
DSC_221	Excavations for CPL at WTA	NW	SW	22/02/2014
DSC_222	Excavations for CPL at WTA	NW	SW	22/02/2014
DSC_223	Excavations for CPL at WTA	NW	SW	22/02/2014
DSC_224	Excavations for CPL at WTA	NW	SW	22/02/2014
DSC_225	Excavations for CPL at WTA	?	SW	22/02/2014
DSC_226	Excavations for CPL at WTA	NW	SW	22/02/2014
DSC_227	Excavations for CPL at WTA	W	SW	22/02/2014
DSC_228	Excavations for CPL at WTA	W	SW	22/02/2014
DSC_229	Excavations for CPL at WTA	SW	SW	22/02/2014
DSC_230	General shot of Sullom Voe Terminal	SW	SW	23/02/2014
DSC_231	General shot of Sullom Voe Terminal	SW	SW	23/02/2014
DSC_232	General shot of Sullom Voe Terminal	SW	SW	23/02/2014
DSC_233	General shot of Sullom Voe Terminal	SW	SW	23/02/2014
DSC_234	General shot of Sullom Voe Terminal	W	SW	23/02/2014
DSC_235	General shot of Sullom Voe Terminal	W	SW	23/02/2014
DSC_236	General shot of Sullom Voe Terminal	W	SW	23/02/2014
DSC_237	General shot of Sullom Voe Terminal	SW	SW	23/02/2014
DSC_238	General shot of Sullom Voe Terminal	SW	SW	23/02/2014
DSC_239	General shot of Sullom Voe Terminal	SW	SW	23/02/2014
DSC_240	General shot of Sullom Voe Terminal	SW	SW	23/02/2014

Frame	Description	Direction of shot	Taken By	Date
DSC_241	Excavations for IKM (fence post holes) at HU 40637 75897	N/A	SW	28/02/2014
DSC_242	Excavations for IKM (fence post holes) at HU 40637 75897	N/A	SW	28/02/2014
DSC_243	Excavations for IKM (fence post holes) at HU 40637 75897	N/A	SW	28/02/2014
DSC_244	Excavations for IKM (fence post holes) at HU 40637 75897	N/A	SW	28/02/2014
DSC_245	Excavations for IKM (fence post holes) at HU 40637 75897	N/A	SW	28/02/2014
DSC_246	Excavations for IKM (fence post holes) at HU 40637 75897	N/A	SW	28/02/2014
DSC_247	General shot	NW	SW	02/03/2014
DSC_248	General shot	NW	SW	02/03/2014

Appendix 3 SAMPLES REGISTER

Sample No.	Sample Type	Context No.	Reason for Sampling
600	Bulk	6580	Possible Tsunami Deposit
601	Spot	6507	Wood sample for ID (taken at HU 40467 76053