

Archaeological Evaluation
Muirpark Drive
Tranent
EAST LOTHIAN
TR01

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MUIRPARK DRIVE
TRANENT
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Illustration 1: Site location plan

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ABSTRACT

Alder Archaeology Ltd was commissioned by Mansell Partnership Homes to undertake an archaeological evaluation on a green field site at Muirpark Drive, Tranent, East Lothian (NGR NT 41500 72340), required in advance of residential development. The development site is in an area with nearby prehistoric sites and where coal mining has taken place since at least the late 17th century. The requirement was to evaluate 5% of the available area of 3.5ha. The evaluation, Alder site code TR01 took place during the period 26-28 April 2010. Twenty trenches were excavated and recorded. The trenches revealed modern ploughsoil over a thin layer of subsoil over mixed deposits of glacial till/boulder clay. Several phases of 19th- or 20th-century field drains were recorded dating to the period of Agricultural Improvement. No archaeological evidence of any settlement or agricultural activity predating the insertion of the field drains was revealed and no significant finds were recovered. It appears that any evidence of such earlier activity, if indeed it had existed, must have been quite shallow and subsequently eradicated by modern ploughing.

1 Background

1.1 Introduction

Mansell Partnership Homes commissioned Alder Archaeology to undertake an archaeological evaluation on a green field site at Muirpark Drive, Tranent. The work (TR01) was undertaken during the period 26-28 April 2010 in good weather conditions. The requirement was to evaluate 5% of the available area of 3.5ha, that is 1,750m². In the event 20 evaluation trenches were excavated, each approximately 50 X 20m giving an overall evaluated area of 2,000m².

The work was designed to satisfy the archaeological condition on development application reference 09/00616/FUL.

The OASIS entry for this report is alderarc1 - 71773

1.2 Aims and Objectives

The main aim of this investigation was to establish the presence/absence, date, character and quality of any archaeological remains surviving within the proposed development area.

1.3 Reporting

The present document has been prepared as the final report on this evaluation. Copies will be sent to the client, The Royal Commission on the Ancient and Historical Monuments of Scotland and East Lothian Council Historic Environment Record..

1.4 Planning and Curatorial Issues

This evaluation is the final part of a programme of archaeological work designed to satisfy the outstanding archaeological condition on the planning consent for this development.

1.5 Acknowledgements

Alder Archaeology wishes to thank Alan Arnott, Design Manager, Mansell Partnership Homes, and Andrew Robinson Archaeology Officer, East Lothian Council Archaeology Service for their assistance and guidance throughout this project. The evaluation was entirely funded by Mansell Partnership Homes.

2 Details of Work

2.1 The Site (Illus 1)

The proposed development area is an agricultural field 3.5ha in size, located on the south-eastern edge of Tranent on the south side of the A199, centred on National Grid Reference NT 41500 72340. The site slopes gently down to the south-east from Ordnance Datum 97.95m to 96.09m. At the time of the evaluation it contained the remains of last season's stubble. It is bounded on the north by the A199 Haddington Road with a mortared revetting wall; on the east by the remains of a hedge and a post and wire fence; on the south by a band of immature trees and on the east by a ploughed field. The site measures approximately 300m north to south and 122m east to west. It

contains the fenced off site of a backfilled coal mine shaft located closed to the south-west corner of the field.

2.2 Archaeological Potential

It was considered that the site had good to moderate archaeological potential due to the fact that it lies in an area with nearby prehistoric sites. The prehistoric sites are a possible barrow to the north of Muirpark, shown as a cropmark, MEL592, located at NT 4213 7251 to the northeast, and a possible cursus at Kingslaw to the north, MEL2124, located at NT 417 725 and identified as a cropmark in 1981. Nearby to the east, cropmarks MEL 2762 which could be agricultural or geological have been recorded on oblique aerial photographs at NT 418 721. Also to the east is Muirpark Steading MEL 8742 likely to date to the 18th century. Coal mining has taken place in the immediate area since at least the late 17th century, if not earlier, and an 'old coal pit' is shown on the site on the OS 'First Edition' (now fenced off).

To the south-west of the proposed development, AOC Archaeology carried out an investigation at West Windygoul Farm in advance of a new housing development. A flint tool was found indicating prehistoric activity in the area.

2.3 Archaeological Method

Twenty evaluation trenches were excavated using a tracked 13 tonne 360 degrees (hymac) digger equipped with a toothless ditching bucket. Trenches were 2m wide and varied in length between 49m and 53m giving a combined evaluated area of 2,000m². Trenches were backfilled at the end of each day. All excavation was monitored by an archaeologist, and archaeological features exposed were cleaned by hand and recorded. Modern features such as field drains were not all photographed. The locations of the trenches were recorded using a tablet PC running Penmap connected to a total station. The vast majority of features encountered were field drains from the modern period and as these were not considered archaeologically significant they were described and located but not recorded in detail photographically.

2.4 Results of Investigations (Illus 2 and 3)

Trench 01

Topsoil in this trench and all of the other trenches was a dark brown/black silty loam averaging 0.25-0.30m thick. Below topsoil eight field drains were recorded. Four field drains were aligned N-S and the remainder E-W. The drains were mainly backfilled with silt containing stone fragments with red ceramic pipes at the bottom. Natural was reached at a depth of approximately 0.37m and comprised mixed sand silt and clay with some patches of coal flecks in silt.

Trench 02

Topsoil was 0.20m thick, with a mid brown clayey silt subsoil 0.10m thick. The trench contained 12 ceramic field drains mainly crossing in an E-W direction. At the S end of

the trench was a shallow rectangular feature 1.15m wide which contained broken ceramic field drain pipe, interpreted as the start of a field drain extending in a NW-SE direction. The N end of the trench was extended to 55m as it contained a large cut feature backfilled with redeposited boulder clay. Excavation here extended to a depth of 2.10m and the feature was not bottomed. Due to its excessive depth and lack of stratigraphy this feature was interpreted as modern, quite likely a backfilled geo-environmental test pit.

Trench 03

Trench 03 topsoil was 0.55m thick over a subsoil 0.26m thick. Two ceramic field drains were noted in this trench aligned NNW-SSE and NW-SE.

Trench 04

Trench 04 topsoil was 0.20-0.30m thick. The trench contained 15 field drains, thirteen of which were aligned E-W and the remainder N-S and NW-SE. Natural boulder clay was reached at a depth of 0.40m. A sondage at the N end of the trench reached a depth of 0.90m into boulder clay. One drain, fill 0415, was of particular interest as it contained a fill of scallop shells with a few mussel shells, but no ceramic pipe was apparent. This type of field drain fill using abundant scallop shell was also seen in many of the other trenches.

Trench 05

Topsoil in trench 05 was 0.22-0.33m in thick, over subsoil 0.08-0.18m thick. At the W end of the trench were two parallel features, cuts 04 and 06, 0.35m apart extending NW-SE diagonally across the trench. They had the same dimensions and virtually identical fills, but cut 06 it did not contain a ceramic drain. These cuts and fills were however considered contemporary. At the E end of the trench field drain cut 08 contained rubble and broken ceramic pipe, aligned NE-SW. Also at the E end was a NW-SE aligned field drain.

Trench 06

Topsoil in trench 06 varied in depth between 0.18-0.25m. There were 11 field drains in this trench, nine of which were standard ceramic pipes. Field drain fill 0611, cut 0612 contained vertical slabs of fragmented sandstone. Field drain fill 0619, cut 0620 contained abundant scallop shells with some mussel shells as fill 0415 in trench 04.

Trench 07

Topsoil in trench 07 varied in depth between 0.18-0.25m. Subsoil was between 0.02-0.13m thick. At 16.50m from the S end of the trench a cast iron pipe with a diameter of 0.17m, was found in cut 0708. The top of the pipe was at a depth of 0.65m and crossed the trench in a NW-SE direction. Seven field drains crossed the trench in a NE-SE direction; one of these was a rubble field drain which also contained fragments of red ceramic field drain pipe.

Trench 08

Topsoil in trench 08 varied in depth between 0.17-0.22m. There were nine field drains two of which, fills 0815 and 0816, contained abundant scallop shells. The drains with the scallop shell fill contained pipes that were '∩' shaped with an open base, set on the natural and surrounded with shell.

Trench 09

Trench 09 contained topsoil varying in depth between 0.15-0.22m. This trench contained 13 field drains, mainly on an E-W alignment. A pair of seemingly identical parallel cuts, 0908 and 0913, 0.30m apart were aligned SW-NE. Cut 0908 contained a ceramic field drain but cut 0913 contained no pipes but did have the a similar fill and dimensions as cut 0908. These features were considered contemporary. The purpose of cut 0913 is unknown; perhaps it was for a field drain but not used or the drain was slightly realigned to the position of cut 0908. Fill 0918 and cut 0919 also contained no field drain and was considered contemporary with the other field drain cuts. Field drain fills 0904 and 0921 contained scallop shells packed over an inverted horseshoe or '∩' shaped ceramic pipes. Cut, 0920, 0.80m, wide for the water pipe found in trench 07 in cut 0708 crossed this trench but the pipe was not exposed.

Trench 10

Trench 10 contained topsoil varying in depth between 0.23-0.35m. Three field drain trenches were found, two of which were aligned NW-SE and one aligned NE-SW. One cut 1009 which had the appearance of being a field drain trench ran parallel to a field drain on its W side but contained no ceramic drain. Cut 1009 was considered to be contemporary with the other field drains in this trench.

Trench 11

Trench 11 contained topsoil varying in depth between 0.24-0.30m. Eight field drains crossed this trench in a NW-SE direction. The water pipe found in trenches 07 and 09 also crossed this trench, located 4m to the S of the trench N end at a depth of 0.65m.

Trench 12

Trench 12 contained topsoil varying in depth between 0.15-0.23m with subsoil 0.10m at the trench W end. There were two field drains in this trench running in a NW-SE direction.

Trench 13

Trench 13 contained topsoil averaging 0.30m in depth. Twelve ceramic pipe field drains were recorded in this trench mainly aligned NW-SE. Two of the field drains ran NE-SW. Field drain, fill 1317 and cut 1318 was different from the rest as the cut was flat bottomed and steep sided. It was 0.37m wide and filled with small-medium rounded and fragmented stone to a depth of 0.24m, there was no ceramic pipe in the cut.

Trench 14

Trench 14 contained topsoil varying in depth between 0.18-0.30m. Eight field drains crossed this trench in a NW-SE direction. One field drain crossed the trench in a N-S direction. At the S end of the trench part of a geo-environmental test pit was recorded.

Trench 15

Trench 15 contained eleven field drains, 10 aligned NW-SE. One field drain, fill 04, cut 05, was aligned NE-SW and contained abundant scallop shells packed over a ceramic pipe. Topsoil in this trench varied between 0.15-0.30m in depth.

Trench 16

Trench 16 had topsoil varying in depth between 0.32-0.36m. The trench contained four field drains, two aligned NW-SE and two aligned N-S. One N-S field drain, fill 1606, cut 1607 contained oyster shell packed over ceramic pipes.

Trench 17

Trench 17 had topsoil varying in depth between 0.24-0.28m. The trench contained 9 field drains. Five drains were aligned NW-SE and four N-S. Two parallel cuts, 1705 and 1707, were aligned NW-SE and only 0.50m apart, cut 1707 contained field drain pipes while cut 1705 contained no field drain pipes. One N-S field drain, fill 1708, contained abundant oyster shell as well as scallop shells.

Trench 18

Trench 18 had topsoil varying in depth between 0.25-0.30m. This trench contained no field drains due to its location close to the N edge of the side and close to the highest part of the site. Shallow modern plough scars were observed cut into the natural boulder clay and filled with black loam topsoil towards the trench N-W end.

Trench 19

Trench 19 had topsoil between 0.17-0.30m in depth. There were 6 field drains in this trench. Three were aligned NW-SE, two aligned N-S and one aligned E-W. One N-S field drain, fill 1906 and cut 1907, was packed with oyster shell but contained no ceramic pipes.

Trench 20

Trench 20 had topsoil averaging 0.26m in depth and a subsoil 0.09 in depth. Three field drains were noted in this trench. Two aligned NNW-SSE and one aligned E-W. The E-W aligned trench, fill 2004, was packed with scallop shells and fragments of field drain pipe over the field drain pipes.

3 Interpretation

- 3.1 As shown by the above descriptions of each of the 20 evaluation trenches, nothing of archaeological significance was found in the evaluation. The large number of field drains attests to the clayey nature of the geological deposits (boulder clay) below the plough soil and the effort expended to achieve well drained soil for maximum crop health and production. It is obvious from the different alignments and physical characteristics of the drains that several episodes of land drainage have taken place over the site. Apart from the occasional cut that was only filled with rubble, the earliest drains would have been of the inverted horseshoe variety open at the base and set upon a ceramic sole.
- 3.2 Of particular interest is the use of scallop, oyster and mussel shells that were used in large quantities to pack out the cuts for some of the drains. The use of shell over inverted horseshoe shaped pipes is one phase of land drainage on this site. Shells are composed of calcium carbonate and as such will neutralize acidity in the soil. It appears that the shell was used to aid percolation of water into the ceramic pipes and also to enhance the quality of the soil. Also of interest, and not fully understood, was

the occasional trench with no drainage pipes parallel and adjacent to one that did contain drainage pipes.

- 3.3 Land drainage of the type encountered on the evaluation is associated with the era of Agricultural Improvement which was getting underway at the the end of the 18th century/ beginning of the 19th century.
- 3.4 The cast iron pipe that was found in trenches 07, 09, and 11 crossed the field diagonally NW-SE and was considered to be a water supply, where it originated and where it is heading is unknown. Whether or not it is still in use is also unknown.

4 Conclusions and Recommendations

- 4.1 The evaluation found no evidence of pre modern settlement, prehistoric or otherwise on the site. Alder Archeology concludes that although the field drains covering the site are of interest in themselves they do not constitute significant archaeological features requiring further study or investigation.

4.2 Recommendations for Further Work

Alder Archaeology recommends that as no archaeologically significant remains were found by the evaluation that further archaeological work is not required on this site. The final decision with regard to the requirement for further work, however, rests with East Lothian Archaeological Service

5 References

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Appendix 1 Context Register

<i>Trench</i>	<i>Ctx No</i>	<i>Description</i>
01	01	Dark brown clayey silt, 0.25m thick (topsoil)
	02	Dark brown slightly clayey silt with abundant large sandstone fragments; rubble field drain (FD) at depth of 0.09m.
	03	Cut for 0103, 0.30m wide.
	04	Brown sandy clay with rubble stones; red ceramic segmented FD began at edge of trench; drain was inverted 'horseshoe' with tile at base; drain 100mm high internally, 130mm high externally.
	05	Cut for 0104.
	06	Dark brown slightly clayey silt with some large sandstone fragments; red ceramic FD at depth of 0.10m.
	07	Cut for 0106, 0.50m wide.
	08	Fill as 0106; red ceramic FD at depth of 0.19m.
	09	Cut for 0108, 0.25m wide.
	10	Fill as 0106; red ceramic FD at depth of 0.36m.
	11	Cut for 0110.
	12	Fill as 0106; red ceramic FD at depth of 0.38m.
	13	Cut for 0112, 0.40m wide.
	14	Fragments of white sandstone and grey/black (shale?) stone fragments in hard greyish brown clayey silt with occ fragments of red brick and frequent small stones. ; FD?
	15	Cut for 0114, 0.25m wide, 0.10m deep; expanded terminal at E end.
	16	Fill as 0106; red ceramic FD at depth of 0.40m.
	17	Cut for 0116, 0.35m wide; possibly a continuation of 0109.
	18	Orange-brown sand with occasional white sandstone fragments, flecks of decayed white sandstone, patches of grey silt (Natural); two areas of very mixed greyish brown sandy silt and orange-brown sand with frequent white sandstone fragments, moderate flecks and medium fragments of coal and patches of grey sandy clay.
02	01	Topsoil, up to 0.30m thick.
	02	Brown clayey silt; subsoil, 0.10m thick.
	03	Loamy silt mixed with redeposited natural and broken field drain fragments.

	04	Rectangular cut for 0203.
	05	Loam with red ceramic FD.
	06	Cut for 0205.
	07	As 0205.
	08	Cut for 0207.
	09	As 0205.
	10	Cut for 0209.
	11	Mid-brown loam with red ceramic FD.
	12	Cut for 0211.
	13	Mottled brown clay and silt loam with red ceramic FD.
	14	Cut for 0213.
	15	Mixed loam and clay with red ceramic FD.
	16	Cut for 0215.
	17	Loamy silt with red ceramic FD.
	18	Cut for 0217.
	19	Mixed brown loam with red ceramic FD.
	20	Cut for 0219, 0.10m wide.
	21	Mid brown loamy clay with red ceramic FD.
	22	Cut for 0221.
	23	Rubble stones with red ceramic FD.
	24	Cut for 0223.
	25	Red ceramic FD
	26	Cut for 0225.
	27	As 0225.
	28	Cut for 0227.
	29	Mixed mid-brown loam and clay with large boulders above red silty clay.
	30	Cut for 0229; possible mine shaft; depth not bottomed and sides not found.
	31	Orange-brown very mixed boulder clay and silts (Natural)

03	01	Topsoil, up to 0.55m thick.
	02	Subsoil, up to 0.35m thick.
	03	Mixed, disturbed very dark grey-brown loam and silt (disturbed ground near mine shaft), up to 0.34m thick.
	04	Red ceramic FD
	05	Cut for 0304
	06	Rich loamy silt with scallop shells and an inverted 'horseshoe' red ceramic FD, no base tile.
	07	Cut for 0306.
	08	Very mixed reddish to purple-brown boulder clay with patches of silt and yellowish silty clay, flecks of coal and occasional large angular and subrounded and weathered boulders (Natural).
04	01	Topsoil, up to 0.30m thick.
	02	Greyish brown clayey silt.
	03	Cut for 0402, 0.12m wide and 0.05m deep (furrow).
	04	As 0402.
	05	Cut for 0404, 0.12m wide and 0.04m deep (furrow).
	06	Greyish brown clayey silt with frequent flecks of white sandstone, occasional flecks of coal, occasional boulders and red ceramic FD at depth of 0.26m.
	07	Cut for 0406, 0.30m wide.
	08	Greyish brown clayey silt with large stone fragments directly above FD; red ceramic FD at depth of 0.30m.
	09	Cut for 0408, 0.30m wide.
	10	Greyish brown clayey silt with layer of scallop shells above FD; red ceramic FD at depth of 0.12m.
	11	Cut for 0410, 0.25m wide.
	12	As 0408; red ceramic FD at depth of 0.18m.
	13	Cut for 0412, 0.3m wide.
	14	Red ceramic segmented FD at base of trench, of inverted 'horseshoe' without base tile.
	15	Scallop shells with some mussel shells in some greyish brown clayey silt; not bottomed because of water.
	16	Cut for 0415, 0.34m wide, at least 0.24m deep.

	17	As 0408; red ceramic FD at depth of 0.24m.
	18	Cut for 0417, 0.40m wide.
	19	Red ceramic FD under scallop shells, at base of trench.
	20	Cut for 0419, 0.24m wide.
	21	As 0419.
	22	Cut for 0421, 0.20m wide.
	23	As 0414.
	24	Cut for 0423, 0.28m wide.
	25	As 0408; red collared ceramic FD at depth of 0.14m.
	26	Cut for 0425, 0.26m wide.
	27	As 0408; red ceramic tubular FD, 0.04m diameter internally; drain 10mm thick.
	28	Cut for 0427, 0.17m wide.
	29	As 0406; red ceramic inverted 'horseshoe' FD at depth of 0.20m; no base tile; drain 15mm thick; external height 0.10m, width (external) 0.10m, (internal) 0.06m.
	30	Cut for 0429, 0.12m wide.
	31	Hard mixed greyish brown and brown sandy clay with frequent small to large sandstone fragments, occasional flecks of clay and small mottles of light grey clay, up to 0.58m thick, over soft yellowish brown and grey sand with black coal lenses (natural).
05	01	Topsoil, up to 0.33m thick.
	02	Yellowish and greyish clayey silt with occasional yellow stones, up to 0.18m thick (subsoil).
	03	Mid-brown-grey slightly clayey silt with frequent coal flecks and red ceramic tubular FD.
	04	Cut for 0503.
	05	Mid-brown-grey slightly clayey silt with frequent coal flecks.
	06	Steep-sided cut for 0505, up to 0.12m wide and up to 0.15m deep; furrow.
	07	Rubble and broken red tiles (FD).
	08	Cut for 0507.
	09	As 0503; small diameter red ceramic FD.
	10	Cut for 0509.
	11	Dark clay (natural).

06	01	Topsoil, up to 0.27m thick.
	02	Subsoil, 0.09m thick.
	03	Red ceramic FD, 0.08m diameter
	04	Cut for 0603, 0.30-0.35m wide.
	05	Red ceramic FD, 0.08m diameter.
	06	Cut for 06.05, 0.30-0.35m wide.
	07	Red ceramic FD, 0.08m diameter.
	08	Cut for 0607, 0.30-0.35m wide.
	09	Red ceramic FD, 0.08m diameter.
	10	Cut for 0609, 0.30-0.35m wide.
	11	Lining of vertical slabs of sandstone with rubble stones infill.
	12	Cut for 0611.
	13	Red ceramic FD, 0.08m diameter.
	14	Cut for 0613, 0.30-0.35m wide.
	15	Red ceramic FD, 0.08m diameter.
	16	Cut for 0615, 0.30-0.35m wide.
	17	Red ceramic FD, 0.08m diameter.
	18	Cut for 0617, 0.30-0.35m wide.
	19	Scallop shells above red ceramic inverted 'horseshoe' FD.
	20	Red ceramic FD, 0.08m wide.
	21	Cut for 0620, 0.30-0.35m wide.
	22	Red ceramic FD, 0.08m wide.
	23	Cut for 0622, 0.30-0.35m wide.
	24	Red ceramic FD, 0.08m wide.
	25	Cut for 0624, 0.30-0.35m wide.
	26	Natural
07	01	Topsoil, up to 0.25m thick.
	02	Subsoil, up to 0.13m thick.

	03	Red ceramic FD, 0.08m wide.
	04	Cut for 0703, 0.30-0.35m wide.
	05	Rubble stones with broken redceramic drain fragments (FD)
	06	Cut for 0705.
	07	Modern iron water main.
	08	Cut for 0707.
	09	Red ceramic FD.
	10	Cut for 0709.
	11	Red ceramic FD, 0.08m wide.
	12	Cut for 0711, 0.30-0.35m wide.
	13	Red ceramic FD, 0.08m wide.
	14	Cut for 0713, 0.30-0.35m wide.
	15	Red ceramic FD, 0.08m wide.
	16	Cut for 0715, 0.30-0.35m wide.
	17	Natural.
08	01	Topsoil, up to 0.22m thick.
	02	Subsoil.
	03	Mid brown clayey silt with red ceramic, inverted 'horseshoe' FD, 0.10m wide, at depth of 0.40m.
	04	Cut for 0803, 0.35m wide.
	05	As 0803; FD at depth of 0.40m.
	06	Cut for 0805, 0.35m wide.
	07	As 0803; FD at depth of 0.50m.
	08	Cut for 0807, 0.35m wide.
	09	As 0803; scallop shells above FD; FD at depth of 0.35m..
	10	Cut for 0809, 0.35m wide.
	11	As 0803, with rubble above FD; FD at depth of 0.60m.
	12	Cut for 0811, 0.35m wide.
	13	As 0803; FD at depth of 0.35m.

	14	Cut for 0813, 0.35m wide.
	15	As 0803, scallop shells and rubble above FD; FD at depth of 0.37m.
	16	Cut for 0815, with northward rubble-filled return at W end.
	17	As 0803; FD at depth of 0.48m.
	18	Cut for 0817, 0.35m wide.
	19	As 0803, with scallop shells above FD.
	20	Cut for 0819.
	21	Natural.
09	01	Topsoil, up to 0.29m thick.
	02	Mid brown clayey silt with red ceramic FD at depth of 0.55m.
	03	Cut for 0902, 0.33m wide.
	04	Greyish mid-brown clayey silt with red ceramic, inverted 'horseshoe' FD, 0.10m wide, with tiles at base, at depth of 0.50m.
	05	Cut for 0904, 0.50m wide.
	06	As 0904; FD at depth of 0.42m.
	07	Cut for 0906.
	08	Mid grey-brown clayey silt with coal flecks; scallop shells above and around red ceramic FD; FD at depth of 0.55m.
	09	Cut for 0908.
	10	As 0904; FD at depth of 0.50m.
	11	Cut for 0910.
	12	Mid-brown silt with stones and crushed scallop shells; no FD apparent.
	13	Cut for 0912, 0.30m wide; at least 0.76m deep (not bottomed).
	14	As 0904; red ceramic FD oval cross-section with flat base, 0.07m wide, 0.09m high, at depth of 0.50m.
	15	Cut for 0914, 0.25m wide.
	16	As 0904, FD at depth of 0.35m.
	17	Cut for 0916.
	18	Greyish mid-brown clayey silt with stones; no FD apparent.
	19	Cut for 0918, at least 0.68m deep (not bottomed).

	20	Blue-orange mottled clay; not excavated.
	21	Cut for 0920; water main trench.
	22	As 0904; scallop shells around FD; FD at depth of 0.40m.
	23	Cut for 0921, 0.40m wide, 0.50m deep.
	24	As 0914.
	25	Cut for 0923.
	26	As 0904; FD 0.40m deep.
	27	Cut for 0926.
	28	As 0904, with scallop shells above and around red ceramic FD; FD at depth of 0.40m.
	29	Cut for 0928.
	30	As 0904; FD, 0.07m wide, at depth of 0.54m.
	31	Cut for 0930, 0.30m wide.
	32	Natural.
10	01	Topsoil, up to 0.35m deep.
	02	Greyish brown clayey silt with moderate coal flecks, moderate fine to medium pebbles and occasional large stones; red ceramic segmented FD at base of trench; drain is elliptical, 0.07m high and 0.04m wide internally and 0.10m high and 0.07m wide externally.
	03	Cut for 1002; cuts 1004.
	04	As 1002, with scallop shells above FD; drain at depth of 0.18m.
	05	Cut for 1004, 0.40m wide.
	06	As 1002; drain at depth of 0.12m.
	07	Cut for 1006, 0.28m wide.
	08	Greyish brown sandy silt, with occasional coal flecks.
	09	Vertical-sided cut for 1008, 0.19m wide, 0.14m deep; furrow?
	10	Mixed orange, reddish brown and brown slightly clayey sand with abundant stone fragments and occasional patches of black coal (Natural).
11	01	Black loam, up to 0.30m thick (topsoil).
	02	Mid-brown clayey silt, up to 0.06m thick.
	03	Cut for 1104.

	04	Orange ceramic FD at depth of 0.40m.
	05	Cut for 1106.
	06	As 1104.
	07	Cut for 1108.
	08	Brown –grey silty clay with flecks of shell; orange ceramic FD at depth of 0.45m.
	09	Cut for 1110.
	10	As 1104; FD at depth of 0.46m.
	11	Natural glacial till mixed with clay and some sand and silt.
	12	Cut for 1113.
	13	As 1104; FD at depth of 0.55m.
	14	Cut for 1115.
	15	As 1104; FD at depth of 0.50m.
	16	Cut for 1117.
	17	As 1104; FD at depth of 0.54m.
	18	Cut for 1119.
	19	As 1104; FD at depth of 0.52m.
	20	Cut for 1121.
	21	Cast iron water main, 0.17m diameter, at depth of 0.65m.
12	01	Topsoil, up to 0.25m thick.
	02	Mid-brown-grey clayey silt (subsoil), 0.10m thick.
	03	Mid-greyish brown clayey silt with frequent coal flecks; red ceramic FD, 0.07m wide, at depth of 0.45m.
	04	Cut for 1203, 0.30m wide.
	05	Grey-brown silty clay with red ceramic FD, 0.07m wide.
	06	Cut for 1205, 0.20m wide.
	07	Natural.
13	01	Topsoil, up to 0.30m thick.
	02	Brown clayey sand with elliptical red ceramic segmented FD, 0.07m wide at base of trench.

	03	Cut for 1302, 0.16m wide.
	04	As 1302; FD at depth of 0.08m.
	05	Cut for 1304, 0.20m wide.
	06	As 1302, with some scallop shells in fill; FD, 0.11m wide, at depth of 0.13m.
	07	Cut for 1106, 0.40m wide.
	08	As 1102, with scallop shells in fill; FD at depth of 0.20m.
	09	Cut for 1308, 0.50m wide.
	10	Brown clayey sand with scallop shells at base; no FD.
	11	Cut for 1310, 0.30m wide, 0.35m deep.
	12	As 1302; FD at depth of 0.22m.
	13	Cut for 1312, 0.30m wide.
	14	Greyish brown sandy silt with moderate flecks and small fragments of coal; subsoil, up to 0.15m thick, at N end of trench.
	15	As 1302; FD at depth of 0.39m.
	16	Cut for 1315, 0.40m wide. Cuts 1314 and 1317.
	17	Loosely packed stone rubble and broken fragments of red ceramic FD in greyish brown silt.
	18	Cut for 1317, 0.33m wide.
	19	Light brown silt with orange ceramic FD at depth of 0.78m.
	20	Cut for 1319, 0.30m wide.
	21	Abundant small stones with ceramic FD at depth of 0.72m.
	22	Cut for 1321, 0.45m wide.
	23	Start of ceramic FD, with a stone at its mouth, at depth of 0.70m.
	24	Cut for 1323, 0.25m wide.
	25	Small to medium stone field stones (FD).
	26	Straight-sided and flat-bottomed cut for 1325, 0.37m wide, 0.78m deep.
	27	Mixed light brown sandy clay and brown clayey sand with stone fragments and patches of coal (Natural).
14	01	Topsoil, up to 0.20m thick.
	02	Natural.

	03	Greyish brown silty sand with red ceramic FD, 0.07m wide, at depth of 0.55m.
	04	Cut for 1403, 0.23m wide.
	05	Mid greyish brown sandy silt with coal flecks; scallop shells above and around rred ceramic FD, 0.12m wide, at depth of 0.60m.
	06	Cut for 1405, 0.40m wide.
	07	Wet grey clay with two large stones.
	08	Cut for 1407 (test trench); not excavated.
	09	As 1403; FD at depth of 0.49m.
	10	Cut for 1409.
	11	As 1405; FD at depth of 0.65m.
	12	Cut for 1411, 0.32m wide; cuts 1413.
	13	As 1403; FD at depth of 0.55m.
	14	Cut for 1413, 0.20m wide.
	15	Mixed topsoil and redeposited natural.
	16	Cut for 1415 (test trench).
	17	Mixed topsoil and redeposited natural clays and stones.
	18	Cut for 1417 (test trench).
	19	As 1403; FD at depth of 0.26m.
	20	Cut for 1419, 0.18m wide.
	21	As 1403; FD at depth of 0.38m.
	22	Cut for 1421, 0.20m wide.
	23	As 1403; FD at depth of 0.32m.
	24	Cut for 1423.
	25	As 1403; FD at depth of 0.50m.
	26	Cut for 1425, 0.17m wide.
15	01	Topsoil, up to 0.30m thick.
	02	Grey clayey silt with coal flecks and stones and red ceramic FD, 0.07m wide, at depth of 0.45m.
	03	Cut for 1502, 0.22m wide.

	04	Grey clayey silt with coal flecks; scallop shells around and above red ceramic FD, 0.12m wide, at depth of 0.50m.
	05	Cut for 1504, 0.35m wide.
	06	As 1502.
	07	Cut for 1506.
	08	As 1502; FD at depth of 0.45m.
	09	Cut for 1508.
	10	As 1502; FD at depth of 0.40m.
	11	Cut for 1510.
	12	As 1502; FD at depth of 0.45m.
	13	Cut for 1512.
	14	As 1502; FD at depth of 0.48m.
	15	Cut for 1514.
	16	As 1502; FD at depth of 0.43m.
	17	Cut for 1516.
	18	As 1502; FD at depth of 0.50m.
	19	Cut for 1518.
	20	As 1504; FD at depth of 0.55m.
	21	Cut for 1520, 0.34m wide.
	22	As 1502; FD at depth of 0.40m.
	23	Cut for 1522.
	24	Greyish brown clayey silt, 0.15m thick (subsoil).
	25	Natural.
16	01	Topsoil, 0.36m at 0m 0.33m at 50m
	02	Ceramic FD, 0.12m below trench base
	03	Cut for 02, 0.22m wide
	04	Stone fragments, water at base FD fill
	05	Cut for 04, 0.36m wide
	06	As for 02 but with layer of scallop shells over drain at depth of 0.15m below base of

		trench
	07	Cut for 06, width 0.32m
	08	As 02 drain at depth of 0.06m below base of trench
	09	Cut for 08, width 0.20m
	10	Natural boulder clay
17	01	Topsoil, 0.28 at 0m, 0.24m at 25m, 0.26 at 50m
	02	Fill for FD located 0.04m below base of trench
	03	Cut for 02, 0.20m wide
	04	Silt with abundant scallop shells
	05	Cut for 04, 0.26m wide 0.08m deep no drain pipes
	06	Silt and red ceramic field drain, flat pedestal base all one piece, , 0.10m high, 0.07m wide
	07	Cut for 06, 0.80 wide and 0.14 deep
	08	As 04, abundant scallop shell and occasionally oyster shell
	09	Cut for 08, 0.18m wide 0.04m deep, no field drain pipes
	10	As 02, drain at 0.19m below trench base
	11	Cut for 10, 0.21m wide
	12	As 02, drain at 0.26m below trench base
	13	Cut for 12, width 0.80m
	14	Fill, loosely packed rounded stone
	15	Cut for 14, 0.30m wide cuts 16
	16	Sandy silt 0.28m thick , cut by 15, top of natural deposit, 0.08m thick at 0.50m
	17	As 02 sandy clay over collard red ceramic drain 0.07m below trench base
	18	Cut for 17, 0.21m wide
	19	As 02, drain at base of cut, inverted horseshoe type, no base tile, 0.12m high, 12mm thick
	20	Cut for 19, 0.23m wide
	21	Loose stone in brown sand , field drain
	22	Cut for 21, 0.21m wide
	23	Natural deposit, boulder clay

18	01	Topsoil, up to 0.30m thick.
	02	Fill of 1803.
	03	Cut for plough scar.
	04	Fill of 1804.
	05	Cut for plough scar.
	06	Fill of 1807.
	07	Cut for plough scar.
	08	Natural.
19	01	Topsoil, up to 0.30m thick.
	02	Greyish brown clayey silt with coal flecks and red ceramic FD, 0.07m wide, at depth of 0.47m.
	03	Cut for 1902, 0.25m wide.
	04	Greyish brown clayey silt with coal flecks; scallop shells at base but no red ceramic FD.
	05	Cut for 1904, 0.35m wide, 0.15m deep.
	06	As 1904.
	07	Cut for 1906, 0.35m wide, 0.15m deep.
	08	Mixed mid-brown clayey silt and stones with red ceramic FD, 0.12m wide, at depth of 0.50m.
	09	Cut for 1908, 0.70m wide.
	10	Mixed rich dark loam with patches of grey-brown clayey silt and charcoal flecks; red ceramic FD at depth of 0.60m.
	11	Cut for 1910, 0.25m wide.
	12	As 1902; FD at depth of 0.48m.
	13	Cut for 1912.
	14	Natural.
20	01	Topsoil, average 0.26m thick
	02	Subsoil 0.09m thick, mid brown silty clay
	03	Cut for field drain 0.36m wide
	04	Fill for 03, scallop shell and some oyster shell and some broken field drain mixed in, top of FD 0.43m below site surface.

	05	Cut for field drain, 0.25m wide
	06	Fill for field drain 05, brown clayey silt, over red ceramic pipe, 0.50m to top of pipe from site surface
	07	Cut for field drain, 0.22m wide
	08	Fill of 07, red ceramic pipe 0.50m from site surface

Appendix 2 Photographic Register

<i>Image No</i>	<i>Description</i>	<i>View</i>
01	Trench 1, general.	SE
02-03	Trench 1, general.	NW
04-05	Trench 2, general.	NE
06	Trench 2, working shot of sondage in Pit 0230.	N
07	Trench 2, general.	SW
08	Trench 2, detail of sondage in Cut 0230.	SW
09	As 007.	SW
010	Trench 3, general.	NW
011	Failed.	
12-13	Trench 3, general.	SE
14	Trench 4, general.	NE
15-16	Trench 4, working shot.	N
17-18	Trench 4, general.	SW
19, 21, 24	Trench 5, working shot.	E
20, 22, 23	Failed.	
25-26	Trench 5, general.	SE
27	Failed.	
28	Trench 6, general.	SE
29-30	Trench 5, general.	NW
31	Failed.	

32	Trench 6, general.	NE
33	Trench 7, general.	NE
34	Trench 7, general.	SW
35	Trench 8, general.	SW
36	Trench 8, general.	NE
37	Trench 8, detail of field drain 0815 (cut 0816) with scallop shells.	SE
38	Trench 8, detail of field drain 0815 (cut 0816) with scallop shells.	NW
39-40	Trench 9, general.	NE
41	Trench 9, general.	SW
42	Trench 10, general.	SE
43	Trench 10, general.	NW
44-46	General of site.	progressively S to E
47	Trench 11, general.	NE
48	Trench 11, general.	N
49	Trench 11, general.	SW
50	Trench 12, general.	SE
51	Trench 12, general.	E
52	Trench 12, general.	NW
53	Trench 13, general.	NE
54	Trench 13, general.	N
55	Trench 13, general.	SW
56-57	Trench 12, general.	SE
58-59	Trench 12, general.	NW
60-61	Trench 13, general.	NE
62-63	Trench 13, general.	SW
64-65	Trench 11, general.	SW
66-67	Trench 11, general.	NE
68	Trench 14, general.	N

69-70	Trench 14, general.	S
71-72	Trench 14, detail of field drain (1426?).	NW
73-74	Trench 15 general from N end	SW
75-76	Trench 15 general from S end	NNE
77-78	Trench 16 general from W end	E
79-80	Trench 16 general from E end	W
81-82	Trench 17 general from W end	E
83-84	Trench 17 general from E end	W
85-86	Trench 18 general from SE end	NW
87-90	Trench 18 general from NW end	SE
91-92	Trench 19 general from E end	W
93-94	Trench 19 general from W end	E
95	Trench 20 general from E end	E
96-97	Trench 20 general from W end	E
98	Trench 20 detail of field drain with shell 2004	SW
99	Trench 20 general of field drain with shell 2004	SW

Appendix 3 Drawing Register

<i>Sheet No.</i>	<i>Description</i>	<i>Scale</i>
1	Trenches 01 and 04	1:100
2	Trenches 02 and 03	1:100
3	Trenches 05 and 07	1:100
4	Trenches 08 and 09	1:100
5	Trenches 10, 12 and 14	1:100
6	Trench 11	1:100
7	Trench 13	1:100
8	Trench 13 (part)	1:100
9	Trenches 15, 18, and 19	1:100

10	Trenches 16 and 17	1:100
11	Trench 20	1:100

Appendix 4 Finds Register

TR01 Finds List

Context	Material type	Species	Details
0306	Mollusc shell	Queen Scallop (<i>Aequipecten opercularis</i>)	4 upper valves; 4 lower valves 1 hinge fragment; 3 other fragments
0306	Coal		1 fragment
1704	Mollusc shell	unidentified	1 fragment, possibly Oyster Shell
1712	Animal bone	Sheep/goat	L mandible; Age at death 4-6 years
1716	Iron		1 nail shaft
1716	CBM		1 fragment field tile
1716	Mortar		2 fragments
1716	Glass		1 shard window glass; moderate surface denaturing
1719	Mollusc shell	unidentified	1 abraded fragment; probable beach sand inclusion

The faunal remains

C Smith

Excavation of field drain systems at Muir Park, Tranent, revealed numerous scallop shells, some in Context 0306. A sample of these shells was identified as the Queen Scallop (*Aequipecten opercularis*). Both upper and lower valves from this bivalve mollusc were noted, all in an excellent state of preservation. The outer surfaces of almost all of the shells were encrusted by barnacles and tubules of serpulid worms. However, the inner surfaces were free of encrustations and it is thus assumed that the molluscs were collected fresh from the sea, rather than as dead shells scavenged from the shore. Scallops are of course edible and it is likely that the flesh was eaten or alternatively, used as fishing bait.

The source of the scallops may have been the thriving sea fisheries of Cockenzie, Port Seton and Prestonpans on the Firth of Forth. Vast quantities of oysters were brought ashore here in the late 18th and 19th centuries (*OSA* x, 86-7, *NSA* ii, 289). The name 'scallop' is not mentioned in the list of mollusca traded through these fishing villages, however, 'clams' are

recorded at Prestonpans (*OSA* xvii, 70) and it is likely that this is a reference to scallops: 'Buckies, clams, sea-urchins, star-fish, and corse-fish, are found in the oyster beds' (*ibid*).

Little is documented about shell fisheries prior to the period of the First Statistical Account (*OSA*) and thus most of the early evidence for the practice comes from archaeology (Coull 1996, 224). The landed fishery for Scottish scallops is not recorded before the 1930s, although in this case the species is the Great Scallop (*Pecten maximus*) (Fisheries Research Service).

The function of the shells surrounding and within the field drains was probably to increase drainage capacity; elsewhere in Scotland, stones, turf, straw, brushwood, rushes or heather were sometimes laid above box drains to provide a permeable layer through which excess water in the ploughsoil could percolate (Cox 2004).

Appendix 5 Discovery & Excavation in Scotland Entry

LOCAL AUTHORITY:	East Lothian Council
PROJECT TITLE/SITE NAME:	Muirpark Drive, Tranent East Lothian,
PROJECT CODE:	TR01
PARISH:	Tranent
NAME OF CONTRIBUTOR(S):	Ray Cachart
NAME OF ORGANISATION:	Alder Archaeology Ltd
TYPE(S) OF PROJECT:	Evaluation
NMRS NO(S):	None on this site
SITE/MONUMENT TYPE(S):	Possible prehistoric or later
SIGNIFICANT FINDS:	19 th and 20 th century field drains
NGR (2 letters, 8 or 10 figures)	NT 41500 72340
START DATE	26 th April 2010
END DATE	28 th April 2010
PREVIOUS WORK (incl. <i>DES</i> ref.)	None on this site
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	Alder Archaeology Ltd was commissioned to undertake an archaeological evaluation on a green field site at Muirpark Drive, Tranent, East Lothian (NGR NT 41500 72340), required in advance of residential development. The development site is in an area with nearby prehistoric sites and where coal mining has taken place since at least the late 17th century. The requirement was to evaluate 5% of the available area of 3.5ha. The evaluation, Alder site code TR01 took place during the period 26-28 th April 2010. Twenty trenches were excavated and recorded. The trenches revealed modern ploughsoil over a thin layer of subsoil over mixed deposits of glacial till/boulder clay. Several phases of 19/20 th century field drains were recorded dating the period of Agricultural Improvement. No archaeological evidence of any settlement or agricultural activity predating the insertion of the field drains was revealed and no significant finds were recovered. It appears that any evidence of such earlier activity, if indeed it had existed, must have been quite shallow and subsequently eradicated by modern ploughing.
PROPOSED FUTURE WORK:	None
SPONSOR OR FUNDING BODY:	Mansell Partnership Homes
CAPTIONS FOR ILLUSTRS	None

ADDRESS OF MAIN CONTRIBUTOR:	Alder Archaeology Ltd, 55 South Methven Street, Perth PH1 5NX
ARCHIVE LOCATION (intended)	NMRS
EMAIL ADDRESS:	Director@AlderArchaeology.co.uk

Appendix 6 Standard Terms of Reference for all Fieldwork

6.1 Recording Methodology

Alder Archaeology employs a Single Context Recording System that allows full cross-referencing of stratigraphy, finds and environmental samples, as well as site-wide phasing. All features will be planned at scale 1:20, and sections drawn at scale 1:10. Sections and profiles will be drawn and all features will be photographed with metric scale included. Environmental samples will be taken from archaeologically significant contexts, if the analysis of these samples would aid significantly in the interpretation of any features identified.

6.2 Human Remains

If human remains are encountered they will be left in situ and the local police will be informed. If removal is required this will take place in compliance with Historic Scotland's Policy Paper *The Treatment of Human Remains in Archaeology*.

6.3 Products and Reporting

A Data Structure Report will normally be prepared within a period agreed within the Written Scheme of Investigation/ Project Design, after the completion of the fieldwork. This forms the basic level of reporting. Further reporting may be required on the basis of discoveries made during excavations.

A copy of the report and the project archive will be deposited in the NMRS. Further copies will be sent to the client, LAAO and others, as appropriate.

6.4 Artefacts

Finds of objects will be subject to the Scots Laws of Treasure Trove and *Bona Vacantia*. We will report such finds, if recovered, with supporting documentation to the Secretariat of the Treasure Trove Panel for disposal to the appropriate museum.

6.5 Discovery and Excavation in Scotland

A brief summary of the results will be submitted to *Discovery and Excavation in Scotland*.

6.6 General Conditions and Health and Safety

We adhere to the Code of Conduct of the Institute for Archaeologists.

Alder Archaeology Ltd has public liability insurance of £2,000,000. Details of this can be provided on request.

We operate a strict health and safety policy and conforms to the Health and Safety at Work Act. We undertakes Risk Assessments on all fieldwork carried out.

Alder Archaeology representatives will at all times wear protective footwear, high visibility clothing and other appropriate clothing. Hard hats will be worn if there is active plant on site or at all times if the site is deemed a hard hat area.

If lightly contaminated deposits are uncovered disposable boiler suits and gloves will be worn. A source of clean water will be made available for staff to clean hands with. If the health risk posed by site contamination is felt to be too high all further archaeological work will stop in that area.