

Thirstone Quarry, South Lanarkshire: Archaeological Mitigation

Data Structure Report

by Peter Klemen and Douglas Gordon

issued 31st January 2012



Rathmell

Archaeology Ltd

Quality Assurance

This report covers works which have been undertaken in keeping with the issued brief as modified by the agreed programme of works. The report has been prepared in keeping with the guidance of Rathmell Archaeology Limited on the preparation of reports. All works reported on within this document have been undertaken in keeping with the Institute of Field Archaeology's Standards and Policy Statements and Code of Conduct.

Signed

Date

In keeping with the procedure of Rathmell Archaeology Limited this document and its findings have been reviewed and agreed by an appropriate colleague:

Checked

Date

Copyright Rathmell Archaeology Limited. All rights reserved.

No part of this report may be copied or reproduced by any means without prior written permission from Rathmell Archaeology Limited. If you have received this report in error, please destroy all copies in your possession or control and notify Rathmell Archaeology Limited.

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by Rathmell Archaeology Limited, no other party may use, make use of or rely on the contents of the report. No liability is accepted by Rathmell Archaeology Limited for any use of this report, other than the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of Rathmell Archaeology Limited using due skill, care and diligence in preparation of the same and no explicit warranty is provided as to their accuracy. It should be noted and it is expressly stated that no independent verification of any of the documents or information supplied to Rathmell Archaeology Limited has been made.

Contents

Introduction	3
Archaeological and Historical Background.....	3
Project Works.....	5
Findings.....	5
Discussion	8
Recommendations	8
Conclusion	11
References	11
Documentary	11
Cartographic.....	11
Appendix 1: Trench Details.....	12
Appendix 2: Registers.....	13
Context Register	13
Photographic Register	14
Drawing Register.....	15
Appendix 3: Discovery & Excavation in Scotland	16
Contact Details	17

Introduction

1. This Data Structure Report outlines the work carried during the archaeological evaluation in respect to the proposed extension and ongoing extraction of sand & gravel at Thirstone Quarry, South Lanarkshire, and has been prepared for Johnson, Poole & Bloomer Ltd on behalf of Loudounhill Contracts Ltd. The archaeological works are designed to mitigate the impact on the archaeological remains within the extraction area.
2. South Ayrshire Council required a programme of archaeological works to be undertaken as a requirement of the issued planning consent (CL/11/0257). The character of these works was defined by the West of Scotland Archaeology Service who advises South Ayrshire Council on archaeological matters, and their structure has been outlined in a Written Scheme of Investigation (Rees 2011).
3. Rathmell Archaeology Limited has been appointed by Johnson, Poole & Bloomer Ltd on behalf of Loudounhill Contracts Ltd to undertake the development and implementation of archaeological mitigation works during the initial stages of extraction works at Thirstone Quarry, South Lanarkshire.

Archaeological and Historical Background

4. The proposed extension to the extraction area at Thirstone Quarry overlies an area of rough pasture which does not, according to the West of Scotland Archaeology Service and Royal Commission on the Ancient & Historical Monuments of Scotland, contain any known archaeological sites.
5. An evaluation at a 5% sample intensity was undertaken prior to the re-opening of Thirstone Quarry for sand and gravel extraction in 2007 by GUARD (WoSAS Event: 3724). This evaluated the ground within the then proposed extraction area that had not been previously subject to extraction. This study evidenced a topsoil depth varying from 0.15 to 0.5m overlying a variable sand and gravel subsoil; within an area of impeded drainage in the southwest peat extending to 0.7m depth was exposed. However, the evaluation did not locate any significant archaeological features or recover any finds.
6. The closest known site is the record of a group of 19 small cairns up to 3m in diameter by 0.5m high spread in a random manner on the southwest slopes of White Rig at 295m OD (centred on NGR: 28990 62620; WoSAS Site: 12657). This site lies some 350m southeast of the proposed extraction area. The surveyor who located these cairns also noted that the two largest and most northerly cairns of the group were removed by quarrying operations for the M74 road (T, Ward 1990). Approximately 1km to the northwest lies Thirstone Stone Circle (NGR: 288200 627160; WoSAS site 10049) to the east on Knock Leaven Hill a cairn is recorded (NGR: 29085 626055; WoSAS site 1054) and approximately 2km to the southeast on Black Hill there are a number of burial cairns recorded and an unenclosed settlement (NGR: 903 241; WoSAS 10520), all prehistoric in date have been recorded. Although no archaeological features have been recorded within the development area, the presence of a number of features in the surrounding area demonstrates the potential for the recovery of significant archaeological features.
7. A review of the available historical mapping also failed to locate any additional sites of archaeological interest. When mapped in the mid 18th century by Roy's Military Survey of Scotland (1747-55) the proposed extraction area is marked as unused hill ground (see Figure 1a) lying to the east of the Sanquhar to Lanark road, running north from Crawfordjohn. The area remains throughout the Ordnance Survey historic mapping as rough pasture to the north-east of Thirstone, with a small farm mapped from the mid nineteenth century. At the same time the road running north from Crawfordjohn peters out immediately north of Thirstone, suggesting this route has been supplanted by newer roads. By the 3rd edition Ordnance Survey the farm has a number of associated small enclosures and sheepfolds (see Figure 1b). However, none of this activity comes close to the proposed extension area and these structures are still identifiable on the modern Ordnance Survey mapping (see map underlying information on Figure 2).

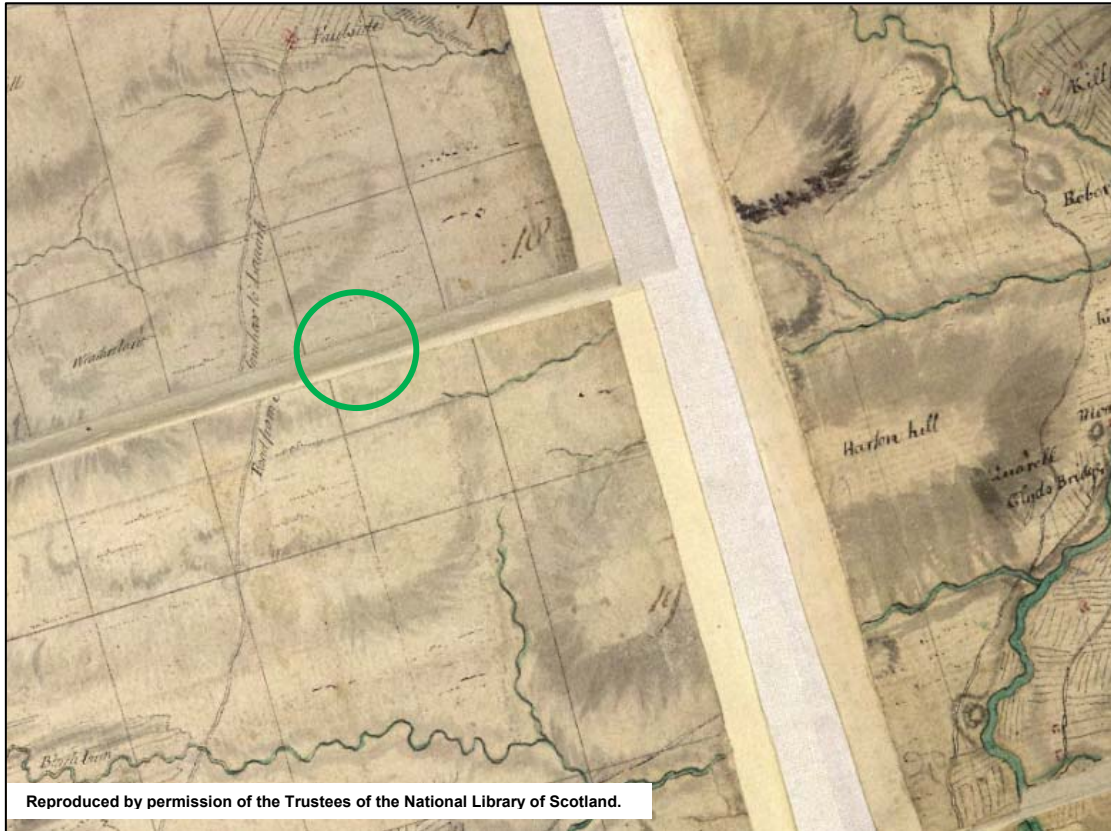


Figure 1a: Roy's Military Map 1747-55.

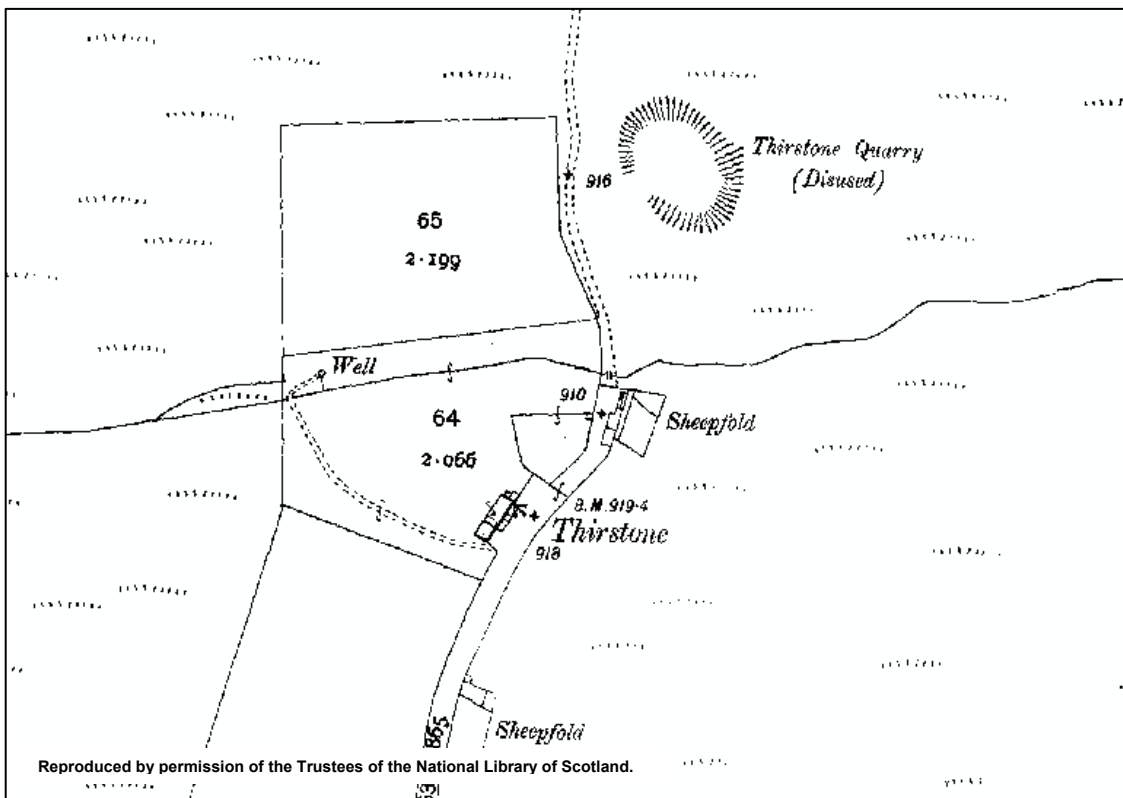


Figure 1b: Third edition Ordnance Survey c. 1920s.

Project Works

8. A programme of evaluation works was undertaken on the 10th-11th January 2012 and comprised of a 5% sample of the core area of the extension (roughly 1.72 ha so minimum of 860m² of trenching) by means of a series of linear trenches. The positioning of the trenches was largely in keeping with the Written Scheme of Investigation (Rees 2011) though some trenches were shuffled slightly to avoid unsafe slopes. In total 890.80 m² of trenching was excavated, slightly exceeding the required 5% sample.
9. A Daewoo 140 LCV 360° excavator with a smooth 2m ditching bucket was used to remove the topsoil under direct supervision from an experienced archaeologist, down to the level of the uppermost archaeological horizon or subsoil. Any exposed features were investigated and evaluated by hand cleaning to determine their archaeological significance.
10. The development area and surrounding landscape is rough pasture with a surrounding topography of rounded hills and the M74 located approximately 200m to the north. The topography within the development area consists of localised raised areas forming three winding ridges, no greater than 5 metres in height, composed of sand and gravel. Their formation is attributed to glacial activity and referred to as 'Eskers' with an appearance similar to that of a railway embankment. The immediate landscape surrounding the raised areas is waterlogged with a vegetation of long sedges and grasses associated with such conditions. The relatively large size, shape and location of the waterlogged area, one that surrounds the raised areas, may represent the remains of a silted up loch.
11. All works were conducted in accordance with the West of Scotland Archaeology Service Standard Conditions, the Institute for Archaeologists' Standards and Policy Statements and Code of Conduct and Historic Scotland Policy Statements.

Findings

12. Nine evaluation trenches were opened across the development area (Figure 2). Full descriptions of each are contained in the appendices at the end of this report. Included below is a synthesis of the findings and interpretation from these.
13. The topsoil across the site (001) ranged between 100 to 360mm in depth and was composed of a dark brown black, loamy silt. All of the trenches were excavated down to the top of the underlying subsoil to allow for examination of any surviving archaeological features. The natural subsoil was moderately compact and predominantly a mixture of sand and gravel (002)/ (004)/ (006)/ (007). A light orangey brown sand was present (005) in trench 9 with a clay subsoil (003) also present in trenches 1 and 7.
14. No significant archaeological features were observed during the course of the evaluation works. Any potentially significant archaeological features were investigated and recorded according to the terms of the Written Scheme of Investigation (Rees 2011). However, after investigation the only features uncovered in the course of the evaluation works could be attributed to natural causes such as bioturbation and silted up rivulets. Which were present in Trenches 1, 7 and 9.
15. No significant archaeological artefacts were uncovered in the course of the evaluation. It was also noted that none of the normal background modern detritus was present in the topsoil.

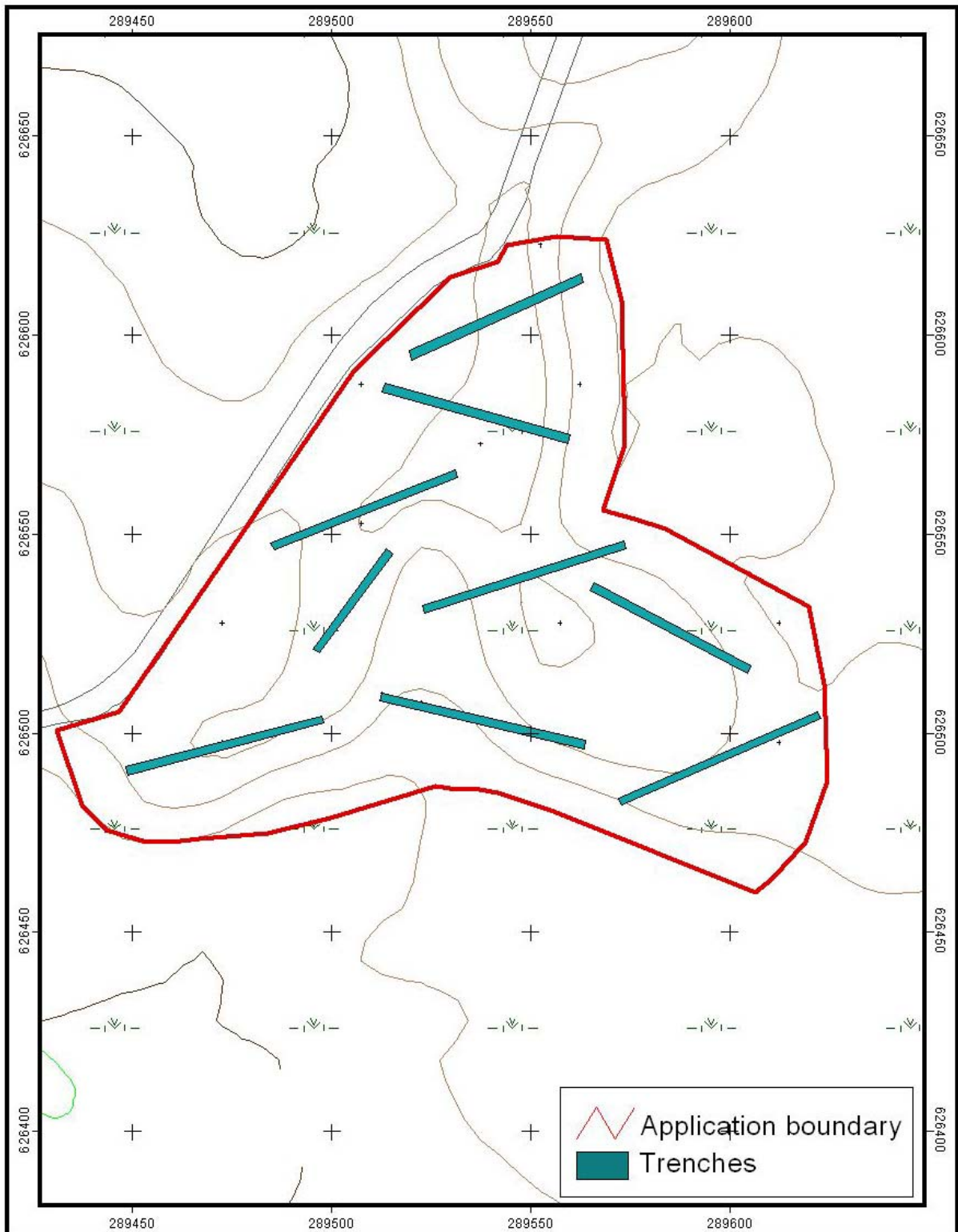


Figure 2: Trench Layout; trenches depicted in green and all are 50m by 2m except for one 30m trench.



Figure 3a: Vegetation and topography to the south within the proposed area for extension and extraction.



Figure 3b: Vegetation and topography to the east. The boggy area in the foreground may represent the remains of a small silted loch.

Discussion

16. No significant archaeological remains or artefacts were uncovered in the course of the evaluation works. The lack of any archaeology being present on site may be due to the lack of usable area, on the top of the raised topography. The raised topography being Eskers which are winding ridges of sand and gravel that were glacial deposits. The top of the Esker may not have had any activity focused on them or activity was for such a limited period of time that no evidence was left or survived.
17. Those features which were uncovered in the course of the evaluation were due to bioturbation, in the form of animal burrows there were a large number of mole hills present on the ground. Other features investigated had been from water run off which had formed silted rivulets which were also visible on the surface.
18. The site also showed no evidence of modern material in the form of ceramics such as white glazed ware, modern drainage works, or any ploughsoil/ploughmarks that would be indicative of modern agricultural works aimed at improving the soil.

Recommendations

19. No significant archaeological remains were located within the development area. On balance, given the lack of significant archaeological material recovered in the course of the evaluation works, Rathmell Archaeology Ltd recommends that no further archaeological work be carried out within this development area. In addition, due to the convincingly modern nature of all of the archaeology exposed we recommend that there is no value in post-excavation analysis of any of the material recovered.
20. The appropriateness and acceptability of our recommendations rest with South Lanarkshire Council and their advisors, West of Scotland Archaeology Service.



Figure 4a: Trench 1 from the east-north-east.



Figure 4b: Trench 4 from the north-east, trench 5 in the background.



Figure 5a: Trench 6 from the west



Figure 5b: Trench 7 from the west.

Conclusion

21. A programme of archaeological works was required by Johnson, Poole & Bloomer Ltd on behalf of Loudounhill Contracts Ltd in respect to the proposed extension and ongoing extraction of sand & gravel at Thirstone Quarry, South Lanarkshire, planning consent (CL/11/0257). The archaeological works were designed to mitigate the impact on the archaeological remains within the development area.
22. The archaeological investigative works consisted of an intrusive evaluation which was designed to assess a 5% sample of the proposed development area. All of the trenches excavated reached archaeologically sterile natural soil and all potential archaeological features were examined. No significant archaeological deposits and no anthropic material was uncovered in the course of the archaeological works. We have therefore recommended that no further works are required.

References

Documentary

- | | | |
|----------|------|--|
| Rees, T | 2009 | <i>Thirstone Quarry, South Lanarkshire: Archaeological Mitigation: Written Scheme of Investigation.</i> Unpublished commercial report by Rathmell Archaeology Ltd. |
| Swann, D | 2007 | <i>Thirstone Quarry, South Lanarkshire, Archaeological Evaluation Data Structure Report.</i> Discovery and Excavation Scotland, Vol 8, pp 186. |
| Ward, T | 1990 | <i>Survey: Clydesdale A74 and M74 road development routes.</i> Discovery and Excavation Scotland, pp 37-8. |

Cartographic

- | | | |
|---------|-----------------|---|
| 1747-55 | Roy | Military Survey of Scotland |
| 1920 | Ordnance Survey | 3 rd edition Ordnance Survey |

Appendix 1: Trench Details

Within this appendix a standardised set of data pertaining to the evaluation trenches is presented.

All measurement distances quoted along the trench measure based on the quoted orientation of the trench. See Figure 2 for trench locations.

Trench	Orientation	Size	Topsoil Depth	Subsoil Character	Modern Features	Significant Features	Artefacts
1	East to West	2m by 50.20m 100.40m ²	220 to 190mm	Light orange brown, sand and gravel (002) present until +32.30m before changing to grey clay and highly abundant roots/rootlets and waterlogged (003).	None.	None	None
2	West-north-west to East-south-east	2m by 50m 100m ²	220 to 300mm	Dark orange brown, sandy gravel (004) present for whole trench +50m.	None	None	None
3	East to West	2m by 51.50m 103m ²	250 to 270mm	Dark orange brown, sandy gravel (004) present until +31.60 before changing to grey clay, with highly abundant roots/rootlets (003) until +39m. At this point changes back to (004) up to +51.50.	None	None	None
4	Northeast to Southwest	2m by 31m 62m ²	200 to 290mm	Dark orange brown, sandy gravel (004) present for whole trench +31m.	None	None	None
5	East-north-east to West-south-west	2m by 53m 106m ²	260 to 330mm	Dark orange brown, sandy gravel (004) present for whole trench +53m.	None	None	None
6	East-north-east to West-north-west	2m by 54m 108m ²	220 to 240mm	Dark orange brown, sandy gravel (004) present for whole trench +54m.	None	None	None
7	East to West	2m by 53m	360 to 290mm	Light orange brown, sand and gravel (002) present until +13m before changing to mottled orange and grey,	None	None	None

Trench	Orientation	Size	Topsoil Depth	Subsoil Character	Modern Features	Significant Features	Artefacts
		106m ²		sand and gravel (006). At +36.50m changes to grey clay with abundant roots (003). From +41.10m to +49.60 is heavily waterlogged. At this point changes back to (006).			
8	East to West	2m by 46.50m 93m ²	160 to 250mm	Brown grey sandy gravel (007) present for whole trench +46.50m	None	None	None
9	Southwest-Northeast	2m by 56.20m 112.40m ²	150 to 300mm	Dark orange brown, sandy gravel (004) present until +21.90m before changing to light orange brown sand (005) until +37.90. Changes to mottled orange/grey sand and gravel (006) until +46.60m before changing back to (005).	None	None	None

Appendix 2: Registers

Within this appendix are all registers pertaining to works on-site during the evaluation.

Context Register

Context No.	Area/ Trench	Type	Description	Interpretation
001	All	Topsoil	Moderately compact dark brown black loamy silt clay with frequent roots and rootlets. Ranging from 100 to 360mm across site.	Topsoil
002	1,7	Subsoil	Moderately compact light orange brown, sand and gravel.	Natural subsoil
003	1,3	Subsoil	Moderately compact grey clay, with highly abundant roots/rootlets and waterlogged.	Natural subsoil
004	2,3,4,5,6,9	Subsoil	Moderately compact dark orange brown, sandy gravel.	Natural subsoil
005	9	Subsoil	Moderately compact light orangey brown sand.	Natural subsoil

Context No.	Area/ Trench	Type	Description	Interpretation
006	7,9	Subsoil	Moderately compact mottled orange grey, sand and gravel.	Natural subsoil
007	8	Subsoil	Moderately compact brown grey, sandy gravel.	Natural subsoil

Photographic Register

Image No.	Print		Slide		Digital	Description	From	Date
	Film No.	Neg. No.	Film No.	Neg. No.				
1	1	1	1	3	1	Trench 1, looking WSW. Approximately 5m from the ENE end	ENE	09/01/12
2			1	4		As above, retaken on side camera only	ENE	09/01/12
3	1	2			2	Trench 2, looking WNW, approximately 11m from ESE end	ESE	09/01/12
4	1	3			3	Trench 3, looking W	E	09/01/12
5	1	4			4	Trench 4 looking SW	NE	09/01/12
6	1	5	1	5	5	Trench 5, looking W.	E	09/01/12
7	1	6	1	6	6	Trench 5, looking E.	W	09/01/12
8	1	7	1		7	Trench 6, looking E.	W	09/01/12
9	1	8	1	7	8	Trench 9, looking ENE.	WSW	09/01/12
10	1	9	1	8	9	Trench 9, looking WSW.	ENE	09/01/12
11	1	10			10	Trench 8, looking NW.	SE	09/01/12
12					11	General shot of landscape to east.	W	09/01/12
13					12	General shot of landscape to south.	N	09/01/12
14					13	Plant operating.	S	09/01/12
15					14	Shot to north over M74 and area where propose to extend.	S	09/01/12

Image No.	Print		Slide		Digital	Description	From	Date
	Film No.	Neg. No.	Film No.	Neg. No.				
16					15	Shot to west over and area where propose to extend.	E	09/01/12
17					16	Trenches 1, 2, 3 with quarry in background.	NE	09/01/12
18	1	11			17	Trench 7, looking east.	W	09/01/12

Drawing Register

Drawing No.	Sheet No.	Area/ Trench	Drawing Type	Scale	Description	Drawer	Date
1	1	1	Plan	1:100	Plan of Trench 1	PK	09/01/12
2	1	2	Plan	1:100	Plan of Trench 2	PK	09/01/12
3	1	3	Plan	1:100	Plan of Trench 3	PK	09/01/12
4	1	4	Plan	1:100	Plan of Trench 4	PK	10/01/12
5	1	5	Plan	1:100	Plan of Trench 5	PK	10/01/12
6	1	6	Plan	1:100	Plan of Trench 6	PK	10/01/12
7	1	9	Plan	1:100	Plan of Trench 9	PK	10/01/12
8	1	8	Plan	1:100	Plan of Trench 6	PK	10/01/12
9	2	7	Plan	1:100	Plan of Trench 9	PK	10/01/12

Appendix 3: Discovery & Excavation in Scotland

LOCAL AUTHORITY:	South Lanarkshire
PROJECT TITLE/SITE NAME:	Thirstone Quarry
PROJECT CODE:	RA11023
PARISH:	Crawfordjohn
NAME OF CONTRIBUTOR:	Douglas Gordon and Peter Klemen
NAME OF ORGANISATION:	Rathmell Archaeology Limited
TYPE(S) OF PROJECT:	Evaluation
NMRS NO(S):	None
SITE/MONUMENT TYPE(S):	None
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	NS 8953 2656 (centred on)
START DATE (this season)	10 th January 2012
END DATE (this season)	11 th January 2012
PREVIOUS WORK (incl. <i>DES</i> ref.)	GUARD (DES 2007 volume 8 pp.186)
MAIN (NARRATIVE) DESCRIPTION: (may include information from other fields)	<p>A programme of archaeological works was required by Johnson, Poole & Bloomer Ltd on behalf of Loudounhill Contracts Ltd in respect to the proposed extension and ongoing extraction of sand & gravel at Thirstone Quarry, South Lanarkshire, planning consent (08/01548/FUL). The archaeological works were designed to mitigate the impact on the archaeological remains within the development area.</p> <p>The archaeological investigative works consisted of an intrusive evaluation which was designed to assess a 5% sample of the proposed development area. All of the trenches excavated reached archaeologically sterile natural soil and all potential archaeological features were examined. No significant archaeological deposits and no anthropic material was uncovered in the course of the archaeological works. We have therefore recommended that no further works are required.</p>
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	Loudounhill Contracts Ltd
ADDRESS OF MAIN CONTRIBUTOR:	Unit 8 Ashgrove Workshops, Kilwinning, Ayrshire KA13 6PU
EMAIL ADDRESS:	contact@rathmell-arch.co.uk
ARCHIVE LOCATION (intended/deposited)	Report to West of Scotland Archaeology Service and archive to RCAHMS Collections.

Contact Details

23. Rathmell Archaeology can be contacted at our Registered Office or through the web:
- | | |
|---------------------------|--|
| Rathmell Archaeology Ltd | www.rathmell-arch.co.uk |
| Unit 8 Ashgrove Workshops | |
| Kilwinning | t.: 01294 542848 |
| Ayrshire | f.: 01294 542849 |
| KA13 6PU | e.: contact@rathmell-arch.co.uk |
24. The West of Scotland Archaeology Service can be contacted at their office or through the web:
- | | |
|--------------------------------------|--|
| West of Scotland Archaeology Service | www.wosas.org.uk |
| Charing Cross Complex | |
| 20 India Street | t.: 0141 287 8332/3 |
| Glasgow | f.: 0141 287 9259 |
| G2 4PF | e.: enquiries@wosas.glasgow.gov.uk |

End of Document