Thirstone Quarry, South Lanarkshire: Archaeological Mitigation

Data Structure Report

by Diane Gorman & Douglas Gordon

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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 for Archaeologists' 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 ……..…..

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Introduction

1. This Data Structure Report has been prepared for Johnson, Poole & Bloomer Ltd on behalf of Loudounhill Contracts Ltd in respect to the proposed extension to the ongoing extraction of sand and gravel at Thirstone Quarry, South Lanarkshire. The archaeological works were designed to mitigate the impact on the archaeological remains within the extraction area.

2. South Lanarkshire Council required a programme of archaeological works to be undertaken as a requirement of the issued planning consent (CL/12/0392). The West of Scotland Archaeology Service who advise South Lanarkshire Council on archaeological matters provided guidance on the structure of archaeological works required on site during extraction works.

3. Rathmell Archaeology Limited were appointed by Johnson, Poole & Bloomer Ltd on behalf of Loudounhill Contracts Ltd to undertake the development and implementation of archaeological mitigation works prior to the development of the site. The project works were outlined in the Written Scheme of Investigation (Rees 2012), which was agreed with the West of Scotland Archaeology Service.

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 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. A further evaluation at the 5% sample intensity was undertaken for the extension of Thirstone Quarry by Rathmell Archaeology in January 2012. This evaluated ground to the immediate west of the M74. This study evidenced a topsoil depth varying from 0.1 to 0.4m overlying a variable sand and gravel subsoil. The evaluation did not locate any significant archaeological features or recover any finds.

7. 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 Pin: 12657; Canmore ID: 74545). 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 Pin 10049; Canmore ID: 46425) to the east on Knock Leaven Hill a cairn is recorded (NGR: 29085 626055; WoSAS Pin 1054; Canmore ID; 22864) 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 Pin 10520; Canmore ID; 47435), 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.

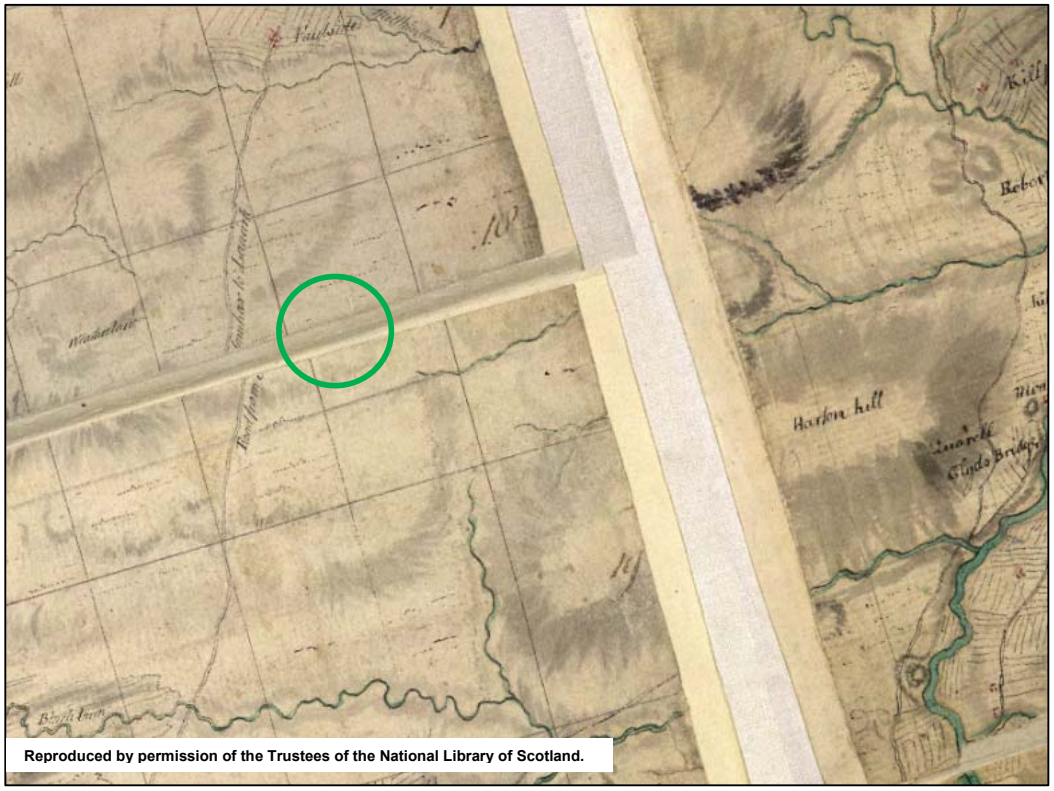

Figure 1a: Roy's Military Map 1747-55.

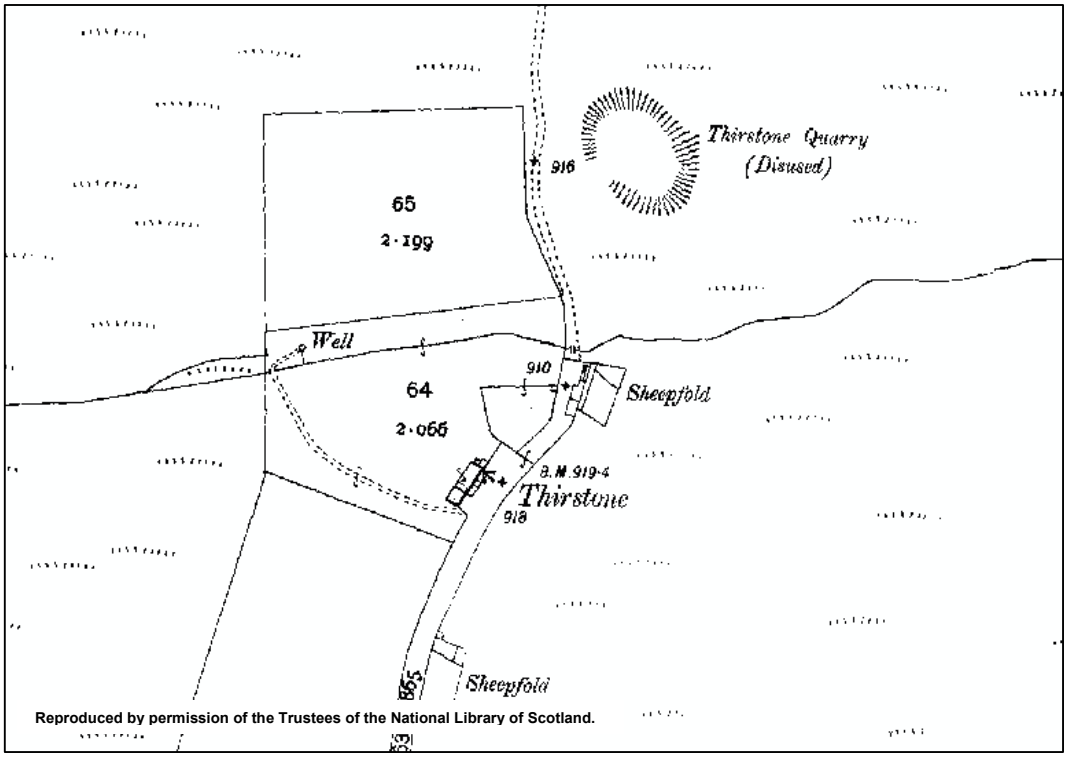

Figure 1b: Third edition Ordnance Survey c. 1920s

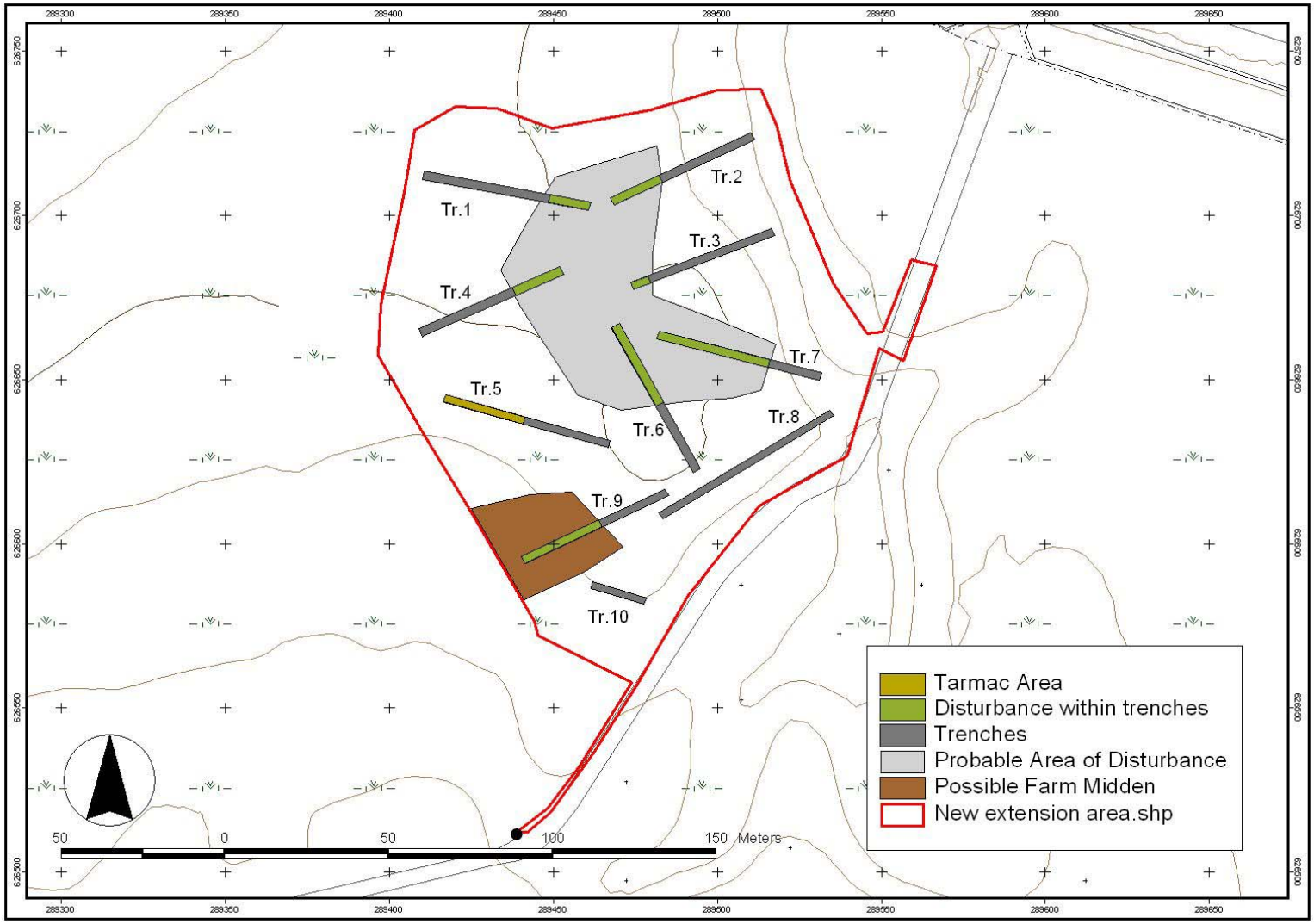

Figure 2: Post-excavation trench layout, showing disturbed areas.

8. 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 (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 (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.

Project Works

9. An archaeological evaluation was undertaken between the 27th and the 28th November 2012, which was carried out in keeping with the methods outlined in the Written Scheme of Investigation (Rees 2012). This evaluation consisted of the excavation of a series of intrusive trenches to expose a 5% sample of the development area (roughly 1.85 ha, a minimum of 925m^2) to be archaeologically examined.

10. The positioning of the trenches was largely in keeping with the agreed trench plan; the exception is Trench 8, which was moved 2m to the south-west due to ground conditions on site. In total 977m^2 of trenching was excavated, slightly exceeding the required 5% sample. The position of the trenches is shown on the site plan (Figure 2).

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. Ten evaluation trenches were excavated across the development area, using a 360° mechanical excavator with a toothless 2m ditching bucket. The details of the trenches can be found in Appendix 1 within this report. As excavation of the trenches commenced, it became clear that the ground was waterlogged and peat had replaced the topsoil across various parts of the site, the character of which was considerably varied according to location.

13. Topsoil (001) consisted of turf and long grass covering dark brown slightly sandy silt, and contained frequent roots and rare small to medium sub-rounded and sub-angular stones. This topsoil was found covering only Trench 1, and ranged in thickness across the trench from 0.27m to 0.38m. Topsoil (001) covered natural subsoil (002), which was light to mid brown (tinged orange) silty sand and contained abundant small to medium angular, sub-angular and sub-rounded stones. This deposit also included occasional natural blonde sandstone and occasional outcrops of naturally occurring bedrock.

14. From +40m (Trench 1, ESE end), the trench was characterised by a disturbed, backfill deposit (003), excavated to 1m thickness. This was a mixture of light brown to very dark brown and black peat, which contained abundant roots, in addition to moss and inclusions of grey, orange and brown sand. Deposit (003) replaces topsoil in this area of the trench where natural subsoil was not exposed, due to the thickness and instability of (003).

15. Peat (003) was also exposed at the south-west end of Trench 2, where it also replaces the topsoil. Natural subsoil was not exposed until +1.3m, up to this point the trench was characterised by (003), which was 0.84m thickness. After +1.3m, natural subsoil (004) was exposed below (003); deposit (004) was light to mid brown (tinged orange), silty sand and contained frequent small to medium angular, sub-angular and sub-rounded stones. This deposit also contained occasional naturally occurring blonde sandstone and occasional outcrops of natural bedrock.

Figure 3a: Post-excavation shot, Trench 3

Figure 3b: Post-excavation shot, Trench 4

Figure 4a: Tarmac (010); W end Trench 5

Figure 4b: Post-excavation shot, Trench 6

16. The backfilled peat (003) was present until +15m from the south-west end of Trench 2, after which it is replaced by (005) above subsoil (004) for the remainder of the trench. Deposit (005) was very dark brown to black peat containing abundant root inclusions, and looked to be natural and undisturbed. This replaced topsoil in this area, and ranged in thickness from 0.24m to 0.33m across the trench.

17. Natural peat (005) continues to the south of this area, forming the uppermost deposit along the majority of Trench 3 (Figure 3a), replacing the topsoil. It ranges in thickness from 0.2m to 1m, and sits above natural subsoil (002) and (004) exposed in the base of the trench. Backfilled deposit (003) is present again at +42.7m, for the remainder of the trench, and was excavated to 1m thickness.

18. To the west of Trench 3 in Trench 4, topsoil changes to (006) that covered the entirety of Trench 4 (Figure 3b). Topsoil (006) consisted of a layer of turf over dark brown to black clayey silt, with high water content, and ranged from 0.2m to 0.54m thickness across the length of the trench. The backfilled peat (003) is present until +4m from the north-east end of Trench 4, below topsoil (006). Natural subsoil was not exposed in the base of the trench in this area. After +4m, (003) gives way to a backfilled subsoil deposit (007) until +5.8m. This deposit was exposed both in the base and the section of the trench.

19. Deposit (007) was abundant gravel in a mid-brown and grey silty sand matrix, with the gravel consisting of small to medium angular and sub-angular stones, with apparent fragments of plastic. This deposit was excavated to a depth of 0.54m thickness; natural subsoil was not exposed below (007). From +5.8m until +10.3m, Trench 4 was characterised by (005); natural subsoil was not exposed below this deposit. Natural subsoil was exposed from +10.3m for the remainder of the trench; deposit (007) was present above natural subsoil until +15m. The character of the natural subsoil exposed in Trench 4 varies to include (002), (004) and (008). Subsoil (008) was very light brown fine sand (tinged purple), containing frequent small to medium rounded, sub-rounded and angular and sub-angular stones.

20. The nature of the topsoil changes again in the area south of Trench 4, within Trench 5, to (009). This consisted of a layer of turf over dark brown to black clayey silt, and contained frequent root inclusions and small to medium rounded, sub-rounded and sub-angular stones. This topsoil covered all of Trench 5, ranging in thickness from 0.14m to 0.3m across the trench. At the west end of the trench, immediately below topsoil (009), the backfill deposit (007) was exposed, ranging in thickness from 0.19m to 0.5m, up to +26m. Below (007) was a deposit of modern tarmac (010); below this was found type 1 gravel (011) (Figure 4a). Deposits (010) and (011) were visible up to +24.5m, at which point natural subsoil (008) was exposed below (007); (007) is visible until +26m. After this point, excavation exposed natural subsoil (002) and (008) below (009) for the remainder of the trench.

21. Topsoil (009) covers the entirety of Trench 6 (Figure 4b), which was located to the east of Trench 5. Subsoil (002) and (008) were exposed in the SSE end of the trench, immediately below topsoil (009). At +20m, backfill deposit (007) is once again present, below (009) and above subsoil (008). Deposit (007) is present for the remainder of the trench, varying in thickness from 0.2m to 0.73m, and in places sits immediately above natural subsoil (002).

22. At the centre point of Trench 6 at +25m, topsoil (009) sits above (007); below (007) is 0.1m thickness of deposit (013) and below that is natural subsoil (012). Deposit (013) was friable black clay and contained occasional small stone inclusions. This deposit was exposed in section and in the base of the trench from +25m to +28m. Subsoil (012) was gravel in orange sand matrix, the gravel consisting of small to medium sub-rounded and sub-angular stones. The NNW end of the trench showed evidence of heavy disturbance from recent activity in the area; the remainder of the trench from +33.9m was characterised by (003), which was found below 0.35m thickness of (007) (Figure 5a). Deposit (003) was excavated to 0.5m thickness, and was seen to include a massive fragment of modern concrete piping, along with modern plastic debris.

Figure 5a: Deposit (007) above (003); SE facing section Trench 6 (SE end)

Figure 5b: Post-excavation shot, Trench 7

23. Further disturbance of the site was evident after excavation of Trench 7 (Figure 5b), which was located to the east of Trench 6. Topsoil (009) covers all of Trench 7, ranging in depth from 0.17m to 0.34m thickness. The trench was characterised by deposit (014) until +14.5m (from the west), which was found immediately below topsoil (009) (Figure 6a). Deposit (014) was gravel in a mid-brown and grey silty sand matrix, the same as (007), but tinged purple. This deposit also contained steel wire and plastic inclusions, and ranged in thickness from 0.29m to 1.2m. A cut for a modern plastic drainpipe [015] truncated deposit (014) at +3.5m and +11.5m, and covered the majority of the width of the trench. Deposit (014) and cut [015] were excavated to a depth of 1.2m from the top of the trench. Natural subsoil was not found at this depth.

24. After +14.5m, the base of the trench was characterised by (017), which was below (014). Deposit (017) consisted of a mixture of (014) and black silty clay; it contained such modern construction detritus as red bricks, plastic drainpipes and massive chunks of bitumen. This deposit was 0.22m to 0.3m thickness where found across the trench. Deposits (014) and (017) remain present in the trench until +34.9m; at this point, they give way to natural subsoil (004) and (016) for the remainder of the trench. A cut [019] through natural subsoil (016) was apparent in the south facing section at +34.9m (Figure 6b), which looks to have been filled with (014) and (017). Natural subsoil (016) was very light brown, fine to medium grained sand and contained frequent stone flecks and small to medium rounded, sub-rounded and sub-angular stones.

25. To the south, Trench 8 was characterised by natural subsoil, covered by topsoil (006); this ranged in thickness across the trench from 0.22m to 0.33m. The base of the trench exposed subsoil (002), (004) and (016).

26. To the west of this, Trench 9 was covered entirely by topsoil (009), which ranges in thickness from 0.22m to 0.44m. The north-east end of this trench was characterised by natural subsoil (002) until +20m. After this point, the remainder of the trench shows heavy disturbance of the area, characterised by deposit (017). This was found immediately below topsoil (009), and ranges in thickness from 0.45m to 0.6m across the remainder of the trench. Two massive chunks of concrete (018) were removed from within this deposit, in addition to other modern detritus plastic, large chunks of bitumen, rags).

27. The most southern trench, Trench 10, was covered in its entirety by topsoil (009), which ranges in thickness from 0.1m to 0.5m. The subsoil exposed throughout in the base of the trench was (016), found immediately below topsoil (009).

Discussion

28. The results of the evaluation trenching yielded no evidence of significant archaeological remains within the development area. However, the excavations did reveal substantial areas of modern disturbance, which are likely to be the result of a number of recent activities. The nature of these deposits would seem to indicate a mixture of backfilled material, midden/landfill waste and construction deposits. The disturbance was within the central and south-western area of the site (Figure 2).

29. The majority of the peat exposed around Trenches 1, 2, 3, 4 and 6, was disturbed, and looked to be the result of redeposition. This is further supported by the presence of the massive modern concrete pipe fragment which was removed from this deposit at the NNW end of Trench 6. It is possible the widespread disturbance of the peat in this area can be attributed to works in the nearby quarry, or from works on the adjacent M74 motorway in the 70s and 80s.

30. The *in situ* tarmac found at the west end of Trench 5 seems likely to be a stretch of tarmac road, which probably extends outwith the limits of this investigation. Given the proximity of (010) to the quarry, it is possible this is an access road leading to a compound for previous works in the adjacent quarry. It was mentioned by staff at the current quarry that a compound and road were once located in this area. The probable redeposited natural deposits of (007) and (014) seem most likely to originate from works relating to the quarry.

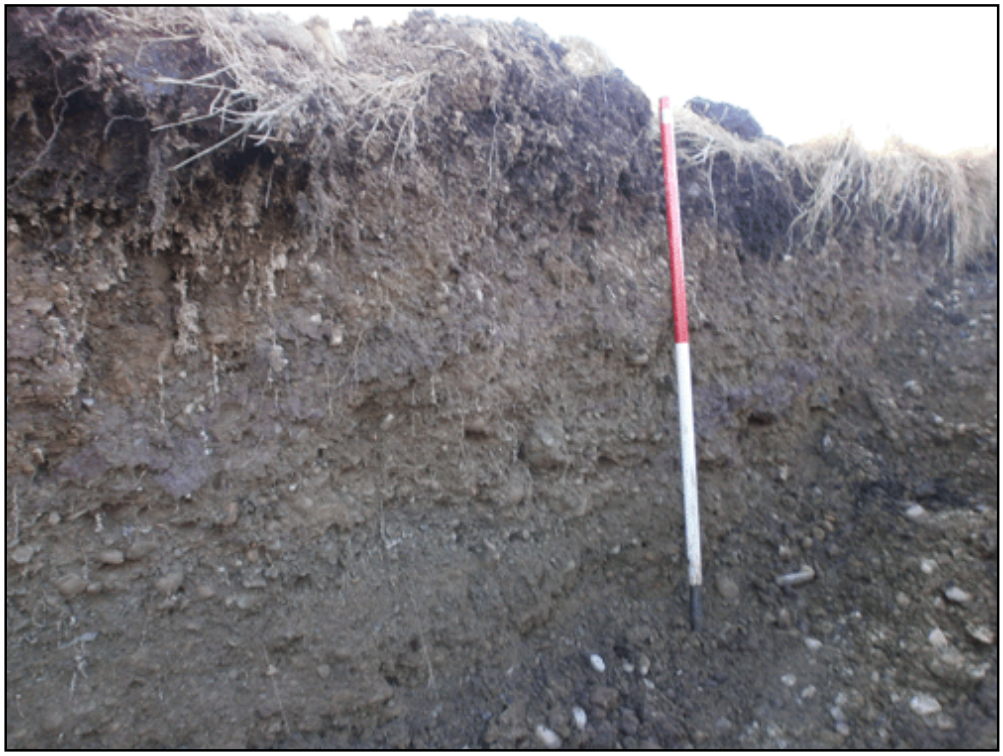

Figure 6a: Deposit (014); N facing section Trench 7 (NW end)

Figure 6b: Cut [019] through (016) SF section Trench 7 (E end)

31. Deposit (017) that characterised the central stretch of Trench 7 looks like it is mixed with a dump of construction debris, such as red bricks, plastic drainpipes and massive chunks of bitumen (1m x 0.8m x 0.7m). This is most probably a result of the construction of the M74 to the east, given the bitumen inclusions. In addition, the location of (017) below (014) would seem to represent several dumps of material. The cut visible in the south-facing section [019] demonstrates truncation of the natural subsoil (016) in order to dump materials (014) and (017). It is possible the material removed during this actibity was later redeposited elsewhere on site, and is possibly represented by (007) and (014).

32. The material within Trench 9 at the south side of the site looks to be the result of more general household waste, and as such, it is possible this is the location of a midden or landfill from nearby farms. However, the massive chunks of concrete within this deposit are demonstrative of how widespread the M74 construction debris is across the site. It is probable the material within on site has resulted from a combination of both, in addition to activity from the nearby quarry.

33. Those areas of trenching where natural subsoil (002), (004), (008) and (016) were exposed did not reveal any archaeological features. No significant archaeological remains or artefacts were found during the course of the evaluation works. However the works did serve to prove that a large portion of the site has been subject to heavy modern disturbance. As such, it is unlikely any further archaeological remains survive at lower depths.

Recommendations

34. The archaeological mitigation works exposed only modern interference within the extension of the quarry. No significant archaeological material was recovered during the course of these works.

35. Given the lack of significant archaeological remains recovered during the course of the evaluation works, Rathmell Archaeology Ltd recommends no further archaeological work be carried out within this phase of the development area, relating to planning consent (CL/12/0392). 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.

36. The appropriateness and acceptability of our recommendations rest with South Lanarkshire Council and their advisors, West of Scotland Archaeology Service.

Conclusion

37. 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/12/0392). The archaeological works were designed to mitigate the impact on the archaeological remains within the development area.

38. The archaeological investigative works consisted of an intrusive evaluation which was designed to assess a 5% sample of the proposed development area.

39. Within the portion of trenches where archaeologically sterile natural subsoil was reached, no archaeological features were exposed. Those areas where subsoil was not reached were excavated to as substantial depth through made-up ground, indicating that potential surviving remains of important archaeology is unlikely. Based on this, we have recommended that no further works are required within this area of the development.

Acknowledgements

40. The authors would like to thank the West of Scotland Archaeology Service for their guidance on the structure of these archaeological works. They would also like to thank Claire Williamson for her edits of this report, in addition to Briony Carswell for her help with the appendices within this report.

References

Documentary

Rees, T	2012	*Thirstone Quarry, South Lanarkshire: Archaeological Mitigation: Written Scheme of Investigation*. Unpublished commercial report by Rathmell Archaeology Ltd.
Swann, D	2007	*Thirstone Quarry, South Lanarkshire, Archaeological Evaluation Data Structure Report.* Discovery and Excavation Scotland, Vol 8, pp 186.
Ward, T	1990	*Survey: Clydesdale A74 and M74 road development routes.* Discovery and Excavation Scotland, pp 37-8.

Cartographic

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

Trench	Orientation	Size	Topsoil Depth	Subsoil Character	Modern Features	Significant Features	Artefacts
1	WNW-ESE	2m by 52.9m 105.8m^2	370 to 280mm (100mm of peat (003) at ESE end	Waterlogged until +5.4m, then turns to light to mid brown (tinged orange), silty sand with abundant small to medium stones natural subsoil (002) which is present until +29.8m, where it is waterlogged until +31.7m. It then changes back to (002) until +39.9m, where it changes to disturbed peat deposit (003) for the remainder of the trench.	None.	None	None
2	SW-NE	2m by 49m 98m^2	330 to 240mm 840mm of peat (003) at SW end	Disturbed peat deposit (003) until +1.3m, where it changes to light to mid brown (tinged orange) silty sand with frequent small to medium stones natural subsoil (004) for the remainder of the trench.	None.	None.	None.
3	NE-SW	2m by 49m 98m^2	250-200mm (100mm of peat (003) at SW end)	Light to mid brown (tinged orange) silty sand with frequent small to medium stones natural subsoil (004) until +28.6m. It then changes to light to mid brown (tinged orange) silty sand with abundant small to medium stones natural subsoil (002) until +42.7m. At this point it changes to disturbed peat deposit (003) on the south-east side of the trench, and undisturbed peat (005) on the south-west side of the trench for the remainder of the trench.	None.	None.	None.

Trench	Orientation	Size	Topsoil Depth	Subsoil Character	Modern Features	Significant Features	Artefacts
4	NE-SW	2m by 50m 100m^2	200mm (540mm of peat (003) at NE end)	Disturbed peat (003) present until +4m, where it changes to gravel in mid-brown and grey silty sand matrix, containing plastic pieces (007). This continues until +5.8m, where it changes to undisturbed peat (005) until +10.3m. It then changes to light to mid brown (tinged orange) silty sand with frequent small to medium stones natural subsoil (004) until +12.7m, where it changes to very light brown fine sand natural subsoil (008) until +16.3m. It then changes to light to mid brown (tinged orange), silty sand with abundant small to medium stones natural subsoil (002) until +32m, where it changes back to (008) for the remainder of the trench.	None.	None.	None.
5	W-E	2m by 51.5m 103m^2	140 to 300mm	Modern tarmac (010) present across entire width of trench until +4.7m; after this it is obscured by redeposited material (007) across most of the width of the trench until +11.6m. At this point it gives way to modern type 1 gravel (011), which lies below the tarmac (010) and is present until +24.5m. After this, subsoil changes to very light brown fine sand natural subsoil (008) until +38.0m, where it changes to light to mid brown (tinged orange), silty sand with abundant small to medium stones natural subsoil	None.	None.	None.

Trench	Orientation	Size	Topsoil Depth	Subsoil Character	Modern Features	Significant Features	Artefacts
				(002) until +41m. It then changes back to (008) until +43.8m, where it reverts back to (002) for the remainder of the trench.			
6	SSE-NNW	2m by 51.4m 102.8m^2	300 to 140mm	Light to mid brown (tinged orange), silty sand with abundant small to medium stones natural subsoil (002) present until +7.4m, where it changes to very light brown fine sand natural subsoil (008) until +24m. It then changes to gravel in orange sand matrix natural subsoil (012) until +26.1m, where it changes to black clay natural subsoil (013) until +28m. It then changes back to (002) until +33.9m, where it changes to disturbed peat (003) until for the remainder of the trench.	None.	None.	None.
7	W-E	2m by 55m 110m^2	400 to 170mm	Disturbed backfilled material (014) present until +14.5m. It then changes to the backfilled deposit of (017) until +34.8m. It then changes to very light brown fine to medium grained sand natural subsoil (016) until +40.5m, where it changes to light to mid brown (tinged orange) silty sand with frequent small to medium stones natural subsoil (004) for the remainder of the trench.	Cut and fill [015] of modern plastic drainpipe cuts through (014) at +3.5m and +11.5m and covers the majority of the width of the trench.	None.	None.
8	NE-SW	2m by 62.6m 125.2m^2	330 to 220mm	Very light brown fine to medium grained sand natural subsoil (016) present until +25m, with a patch of light to mid brown (tinged orange) silty sand with frequent small to	None.	None.	None.

Trench	Orientation	Size	Topsoil Depth	Subsoil Character	Modern Features	Significant Features	Artefacts
				medium stones natural subsoil (004) at +12m to +14.5m on the western half of the trench. It then changes to light to mid brown (tinged orange), silty sand with abundant small to medium stones natural subsoil (002) until +30.2m, where it changes back to (016) for the remainder of the trench.			
9	NE-SW	2m by 50.1m 100.2m^2	440 to 220mm	Light to mid brown (tinged orange) silty sand with abundant small to medium stones natural subsoil (002) present until +19.8m, where it changes to backfilled deposit (017) until +30.4m where a massive concrete fragment (018) obscures the base of the trench until +32m. (017) is then visible again until +35.7m, where the base of the trench is obscured by another massive concrete fragment until +37.8m, where (017) is visible again for the remainder of the trench.	None.	None.	None.
10	WNW-ESE	2m by 17m 34m^2	500 to 100mm	Very light brown fine to medium grained sand natural subsoil (016) covers the entirety of the trench.	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	Tr 1	Deposit	Turf and Marram grass and topsoil; dark brown, slightly sandy silt. Contains frequent roots, rare small to medium sub-rounded and sub-angular stones.	Topsoil
002	Tr 1, 3, 4, 5, 6, 8, 9	Deposit	Light to mid brown (tinged orange), silty sand. Contains abundant small to medium angular, sub-angular and sub-rounded stones, occasional natural blonde sandstone fragments, occasional bedrock inclusions.	Natural subsoil.
003	Tr 1, 3, 4, 5, 6	Deposit	Peat. Colour ranges from light brown to very dark brown/black. Contains abundant roots and moss. This deposit also contains areas of grey and orangey brown sand with angular stones; it is possible this is redeposited natural subsoil (004).	Disturbed material, containing redeposited peat (005) and natural subsoil (002) or (004). Forms topsoil at ESE end of trench 1 and SW end of trench 3.
004	Tr 2, 3, 4, 7, 8	Deposit	Light to mid brown (tinged orange), silty sand. Contains frequent small to medium angular, sub-angular and sub-rounded stones, occasional natural blonde sandstone fragments and occasional bedrock inclusions.	Natural subsoil.
005	Tr 2, 3, 4, 6	Deposit	Peat; very dark brown/black, abundant root inclusions.	Peat, forming topsoil in many waterlogged places across the site.
006	Tr 4, 8	Deposit	Dark black/brown clayey silt; high water content.	Topsoil.
007	Tr 4, 5, 6	Deposit	Exposed in section and base of trench 4; abundant gravel in a mid-brown and grey silty sand matrix. Gravel consists of small to medium angular and sub-angular stones. Also contains modern plastic pieces.	Disturbed material, looks to be redeposited.
008	Tr 4, 5, 6	Deposit	Very light brown fine sand (tinged purple in some areas), containing frequent small to medium rounded, sub-rounded and angular and sub-angular stones.	Natural subsoil.
009	Tr 5, 6, 7, 8, 9, 10	Deposit	Dark brown/black clayey silt and turf. Contains frequent root inclusions and occasional small to medium rounded, sub-rounded	Topsoil.

Context No.	Area/ Trench	Type	Description	Interpretation
			and sub-angular stones.	
010	Tr 5	Deposit	Deposit of tarmac, present in section until 14.6m.	Tarmac deposit, of uncertain origin; likely associated with modern works in the area, possibly the adjacent M74.
011	Tr 5	Deposit	Deposit of reddish-pink Type 1 gravel, exposed below tarmac (010).	Deposit of modern Type 1 gravel of uncertain origin; likely to be associated with modern works in the area, possibly the adjacent M74.
012	Tr 6	Deposit	Gravel in orange sand matrix. Gravel consists of small to medium sub-rounded and sub-angular stones.	Natural subsoil.
013	Tr 6	Deposit	Friable, black clay containing occasional small stone inclusions.	Natural subsoil.
014	Tr 7	Deposit	Looks to be the same as disturbed deposit (007), but tinged purple. Steel wire was removed from this deposit.	Disturbed backfilled material, found in trench 7. Likely to be related to [015].
015	Tr 7	Cut and Fill	Cut and fill associated with modern plastic grey drainpipe within trench 7. Fill is (014) and redeposited (007). The cut for the pipe is 0.12m diameter as a visible, but exceeds limits of trench at north side.	Cut and fill of modern plastic drainpipe, showing disturbance in the area.
016	Tr 7, 8, 10	Deposit	Very light brown fine to medium grained sand. Contains frequent stone flecks in addition to small to medium rounded, sub-rounded and sub-angular stones.	Natural subsoil.
017	Tr 7, 9	Deposit	This deposit is a mixture of (014) and black silty clay. It contains red brick fragments and plastic pipe pieces, with massive chunks of bitumen.	Disturbed deposit, possibly relating to recent backfilling of the area. Again, possibly relating to use of the land during construction of M74.
018	Tr. 9	Deposit	Massive lumps of concrete, present within trench 9, which extends west and east out with the boundaries of the trench.	Large fragments of modern concrete, associated with modern backfilling or works in the area, possibly relating to M74 works.
019	Tr. 7	Cut	Cut through (016) in south facing section of trench 7	Cut through natural subsoil to dump material (014) and (017)

Photographic Register

Image No.	Print		Slide		Digital	Description	From	Date
	Film No.	Neg. No.	Film No.	Neg. No.				
001	-	-	-	-	001	Post-excavation shot of trench 1	ESE	28/11/12
002	-	-	-	-	002	Post-excavation shot of trench 2	NE	28/11/12
003	-	-	-	-	003	Post-excavation shot of trench 3	NE	28/11/12
004	-	-	-	-	004	Trench 2 (west end) south-west facing section, showing disturbed deposit (003)	SW	28/11/12
005	-	-	-	-	005	Trench 2 (west end) north-east facing section, showing disturbed deposit (003)	NE	28/11/12
006	-	-	-	-	006	General shot of disturbed deposit (003), east end of trench 1	NW	28/11/12
007	-	-	-	-	007	Oblique shot of (003), north-east facing section, east end of trench 1.	NE	28/11/12
008	-	-	-	-	008	Oblique shot of (003), south-west facing section, east end of trench 1.	SW	28/11/12
009	-	-	-	-	009	Oblique shot of (003), north-east facing section, south end of trench 3.	N	28/11/12
010	-	-	-	-	010	Oblique shot of (003), north-east facing section, south end of trench 3.	NE	28/11/12
011	-	-	-	-	011	Post-excavation shot of trench 4	NE	28/11/12
012	-	-	-	-	012	North-east facing section of trench 4, showing (007), east end of trench 4.	S	28/11/12
013	-	-	-	-	013	South-west facing section of trench 4, showing (007), east end of trench 4)	NW	28/11/12
014	-	-	-	-	014	Tarmac (010), west end of trench 5	W	28/11/12
015	-	-	-	-	015	Post-excavation shot of trench 5	W	28/11/12
016	-	-	-	-	016	Post-excavation shot of trench 6	SSE	28/11/12

Image No.	Print		Slide		Digital	Description	From	Date
	Film No.	Neg. No.	Film No.	Neg. No.				
017	-	-	-	-	017	South-east facing section, showing disturbance, north end of trench 6.	SE	28/11/12
018	-	-	-	-	018	South-east facing section, showing disturbance, north end of trench 6.	S	28/11/12
019	-	-	-	-	019	Post-excavation shot of trench 7	W	28/11/12
020	-	-	-	-	020	Base of trench 7, north-west end, showing disturbed area of (014) and modern piping.	W	28/11/12
021	-	-	-	-	021	North facing section, showing disturbed deposit (014), trench 7.	NE	28/11/12
022	-	-	-	-	022	Oblique shot of cut through natural (016), south facing section of east end of trench 7.	S	28/11/12
023	-	-	-	-	023	Post-excavation shot of trench 8.	SW	28/11/12
024	-	-	-	-	024	Stock photo.	/	28/11/12
025	-	-	-	-	025	Stock photo.	/	28/11/12
026	-	-	-	-	026	Working shot.	/	28/11/12
027	-	-	-	-	027	Post-excavation shot of trench 9.	SW	28/11/12
028	-	-	-	-	028	Post-excavation shot of trench 10.	NW	28/11/12

Drawing Register

Drawing No.	Sheet No.	Area/ Trench	Drawing Type	Scale	Description	Drawer	Date
1	1	Tr. 1	Plan	1:100	Post-excavation plan of trench 1	DiG	28/11/12
2	1	Tr. 2	Plan	1:100	Post-excavation plan of trench 2	DiG	28/11/12
3	1	Tr. 3	Plan	1:100	Post-excavation plan of trench 3	DiG	28/11/12

Drawing No.	Sheet No.	Area/ Trench	Drawing Type	Scale	Description	Drawer	Date
4	1	Tr. 4	Plan	1:100	Post-excavation plan of trench 4	DiG	28/11/12
5	1	Tr. 5	Plan	1:100	Post-excavation plan of trench 5	DiG	28/11/12
6	1	Tr. 6	Plan	1:100	Post-excavation plan of trench 6	DiG	28/11/12
7	2	Tr. 7	Plan	1:100	Post-excavation plan of trench 7	DiG	28/11/12
8	2	Tr. 8	Plan	1:100	Post-excavation plan of trench 8	DG/DiG	28/11/12
9	2	Tr. 9	Plan	1:100	Post-excavation plan of trench 9	DG/DiG	28/11/12
10	2	Tr. 10	Plan	1:100	Post-excavation plan of trench 10	DG/DiG	28/11/12

Appendix 3: Discovery & Excavation in Scotland

LOCAL AUTHORITY:	South Lanarkshire
PROJECT TITLE/SITE NAME:	Thirstone Quarry
PROJECT CODE:	RA11023
PARISH:	Crawfordjohn
NAME OF CONTRIBUTOR:	Diane Gorman and Douglas Gordon
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 89463 26677
START DATE (this season)	27th November 2012
END DATE (this season)	28th November 2012
PREVIOUS WORK (incl. *DES* ref.)	GUARD (DES 2007 volume 8 pp.186) Thirstone Quarry, South Lanarkshire: Archaeological Mitigation; *Data Structure Report, Klemen P & Gordon D Jan 2012* (not yet published in DES)
MAIN (NARRATIVE) DESCRIPTION: (may include information from other fields)	A programme of archaeological works was required by Johnson, Poole & Bloomer on behalf of Loudounhill Contracts Ltd in respect to the proposed extension and ongoing extraction of sand and gravel at Thirstone Quarry, South Lanarkshire (planning consent (CL/12/0392). The archaeological works were designed to mitigate the impact on the archaeological remains within the development area. The mitigation works consisted of an intrusive evaluation designed to assess a 5% sample of the proposed development area. Within the portion of trenches where archaeologically sterile natural subsoil was reached, no archaeological features were exposed. Those areas where subsoil was not reached were excavated to substantial depth through made-up ground of modern material, indicating that potential surviving remains of important archaeology are unlikely. Based on this we have recommended that no further works are required within this area of the development.
PROPOSED FUTURE WORK:	Uncertain
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

41. Rathmell Archaeology can be contacted at our Registered Office or through the web:

Rathmell Archaeology Ltd
Unit 8 Ashgrove Workshops
Kilwinning
Ayrshire
KA13 6PU

www.rathmell-arch.co.uk

t.: 01294 542848
f.: 01294 542849
e.: contact@rathmell-arch.co.uk

42. The West of Scotland Archaeology Service can be contacted at their office or through the web:

West of Scotland Archaeology Service
Charing Cross Complex
20 India Street
Glasgow
G2 4PF

www.wosas.org.uk

t.: 0141 287 8332/3
f.: 0141 287 9259
e.: enquiries@wosas.glasgow.gov.uk

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