

Geological Report and Mineral Resource Assessment

Brickworth Quarry Phase 9, Wiltshire

June 2025



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Appendices

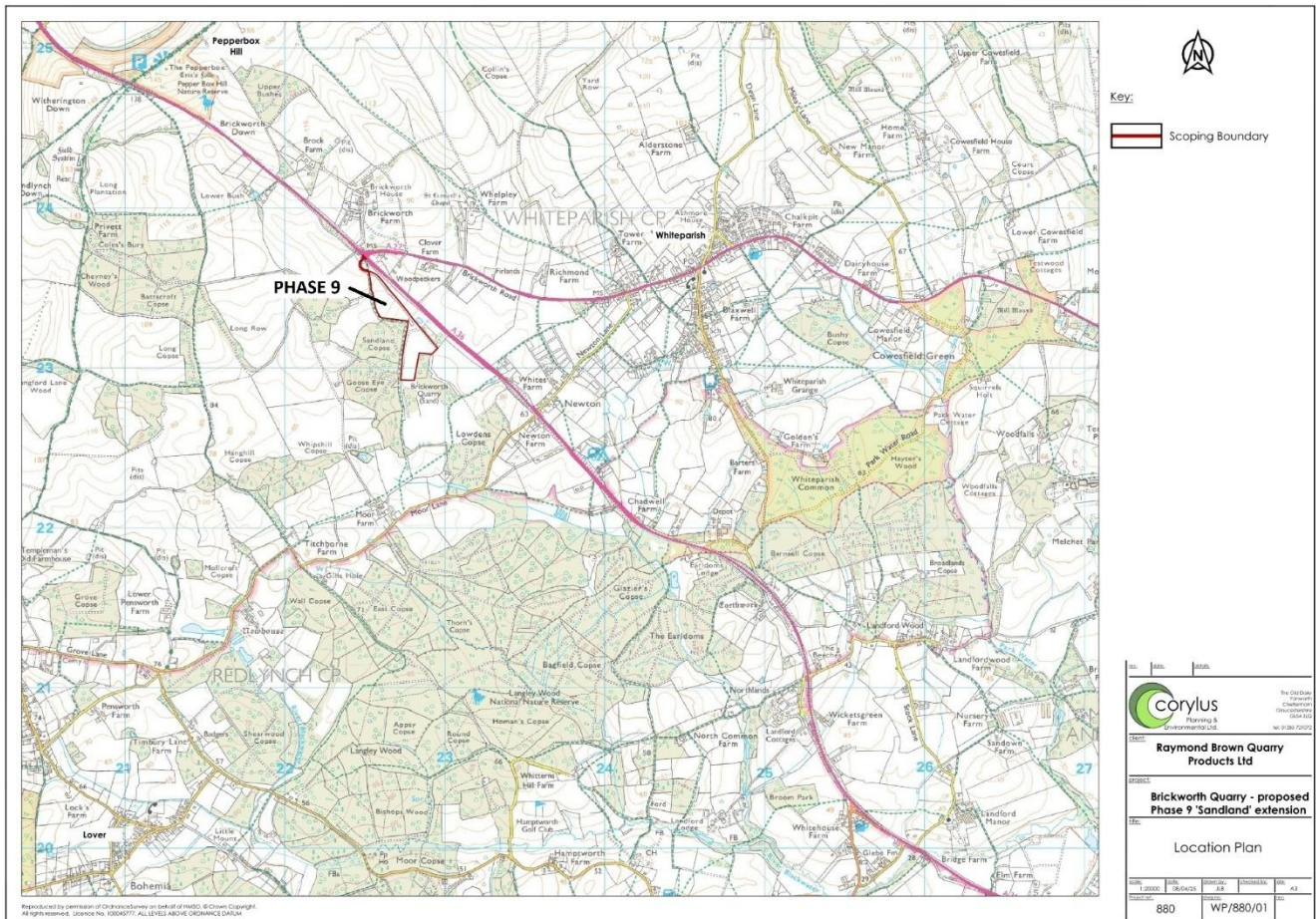
TGSL BQ 001 Borehole and Trial Pit Locations (accurate to 1:2500 scale if printed at A3)

TGSL BQ 002 Resource Design Concept (accurate to 1:2500 scale if printed at A3)

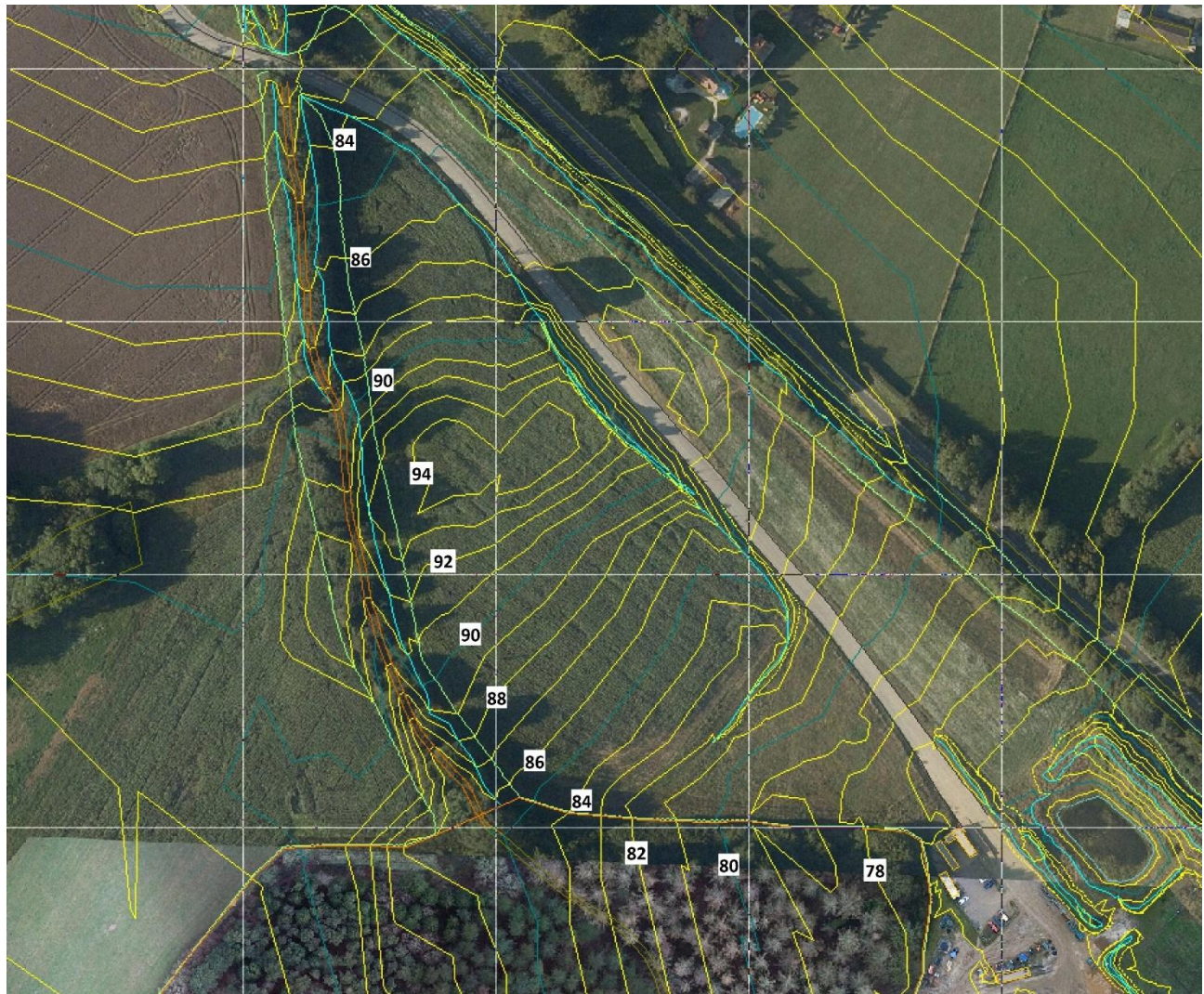
Borehole Logs

1.0 Introduction

1.1 Raymond Brown Quarry Products Ltd, has commissioned Touchstone Geological Services Ltd (TGSL) to undertake a mineral resource assessment (MRA) on the proposed Phase 9 at Brickworth Quarry, Hampshire:



1.2 The land comprises an elongate, arable field of approximately 3.0 hectares. The topography reaches an elevation of approximately 94mAOD in northern central parts of the site and falls gently north and south to 84mAOD and 77mAOD respectively:



Proposed Phase 9 topography; contour markers in mAOd; grid squares at 100m centres

2.0 General Geology

2.1 The British Geological Survey's on-line Geology Viewer of Britain indicates that the site is largely underlain by the Reading Formation sand of Palaeogene age; this rests on an undulating bedrock surface formed by the Portsdown Chalk Formation, indeed the Portsdown Chalk Formation is mapped as outcropping in the extreme north of the proposed phase:

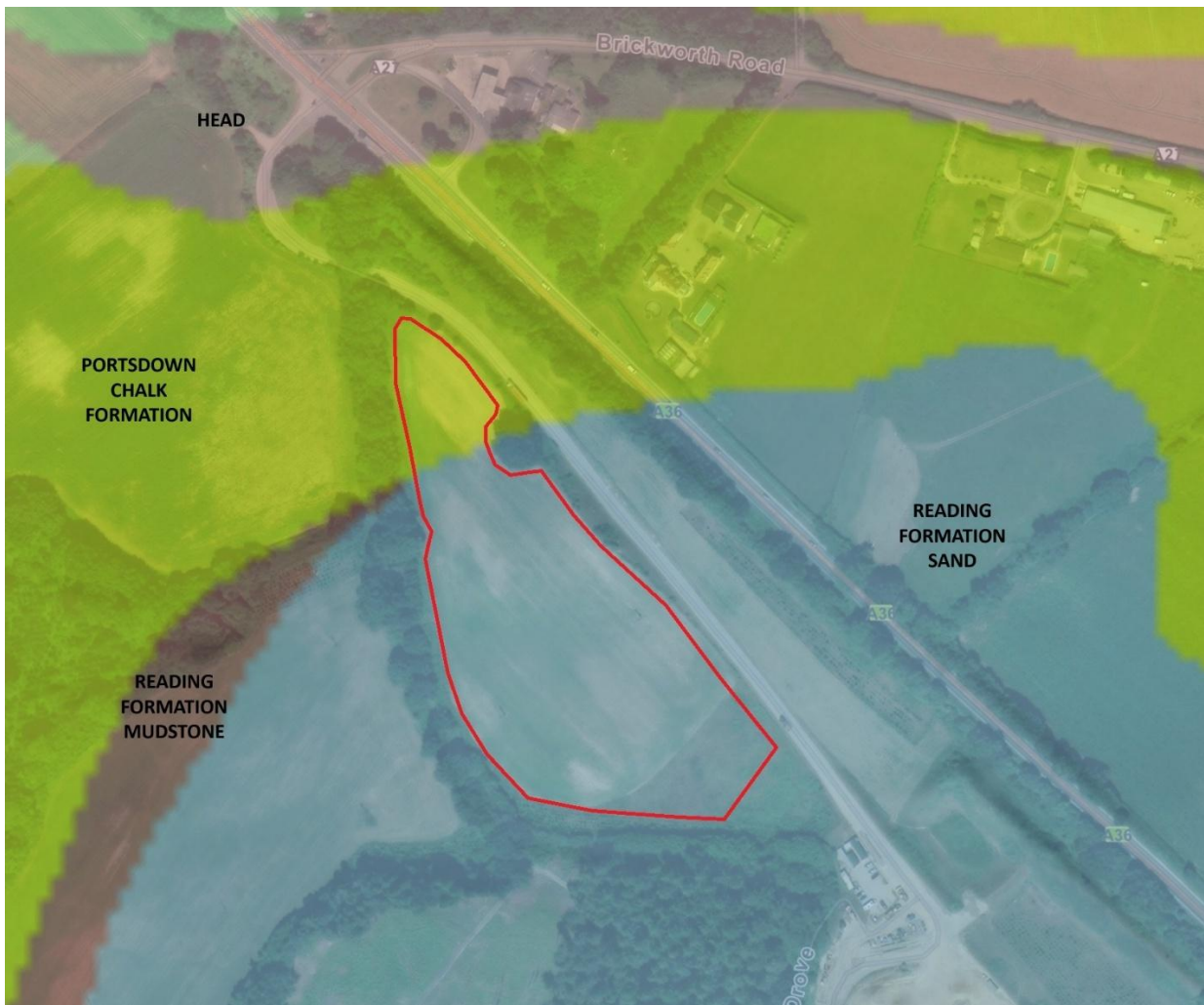


Image: British Geological Survey On-line Geoviewer; red line depicts approximate extraction boundary

2.2 The Portsdown Chalk Formation has undergone karstic weathering in the geological past and in places, narrow collapse features oriented WNW-ESE have formed into which significant thicknesses of Reading Formation sand has accumulated.

3.0 Exploration and Detailed Geology

- 3.1 The quarry and surrounds have been extensively explored. In 2016 the GWP Partnership Ltd supervised the drilling of 32No. 8" diameter flight auger boreholes.

During December 2021, TGSL supervised Hughes Exploration and Environmental Ltd in the sinking of 13No. 8" diameter, intermittent flight auger boreholes (BQ2021-001 to 013) across the remaining phases of extraction with an emphasis on the recently stripped Phase 5. Three trial pits up to 80m in length were also excavated in Phase 5.

Most recently in 2025 the company supervised the drilling of two piezometers, one at either end of the proposed Phase 9, and eleven trial pits within the site. A borehole and trial pit location plan is appended – TGSL BQ 001.

- 3.2 The boreholes confirm the undulating surface in the underlying Portsdown Chalk Formation dipping gently from 80mAOD in the north corner to 77mAOD in the southeast corner of the proposed Phase 9. The base of Reading Formation sand in the recent piezometer in the south at 68mAOD is at approximately the same base level as that found in the ancient karstic collapse features and it is considered that the southern quarter of the proposed Phase 9 will encounter another of these narrow features.
- 3.3 The mineral thickness ranges from 4.0m (northern and southern ends) to 14.0m in northern central sections. On average the mineral is 8.0m thick.
- 3.4 Although the geological map indicates the Portsdown Chalk Formation outcropping in the northernmost parts of the site, trial pits and a piezometer installation log indicate Reading Formation sands here; the latter is interpreted as hill-wash 'Head' deposits of sand from the higher ground to the south.
- 3.5 The Reading Formation is renowned for its variability due primarily to its depositional setting; the formation was laid down in rapidly alternating, near-coast fluvial, estuarine, and marine environments. Deposits therefore vary from thin, intermittent red-brown clays to clean, yellow and orange-brown sands of variable grade. Boreholes and trial pits demonstrate the sand is of identical quality to that worked in previous and current phases.
- 3.6 Exploration results, consistent with those from previous working phases, indicates the mineral will be dry with the possibility of only minor, perched water tables.
-

4.0 Quality of the Deposits

4.1 Samples collected from the drilling/pitting investigations have been analysed by ACS Testing Ltd under BS EN 933-1:2012

4.2 Please refer to Table 1 below which presents the gradings of the sand.

These results provide an indication of the material a processing plant would need to contend with. Note that some samples are very silty, and some are clean (<5% fines) to slightly silty (5-10% fines). All samples were carefully collected however the silty samples are ones where it was impossible to record and separate numerous individual thin silt/clay bands. It is assumed that piano-wire screens would normally remove these contaminants. It is however a useful gauge in conjunction with measurable sections of clay/silt to help quantify waste.

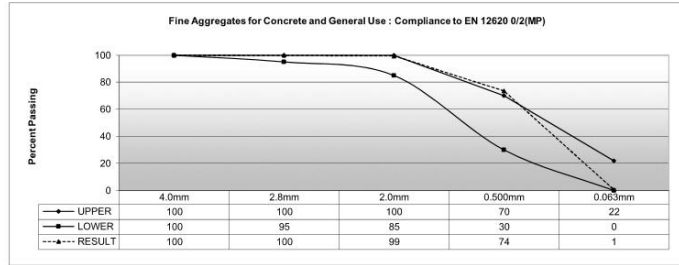
SITE NAME: BRICKWORTH EXPLORATION 2021-2025

BOREHOLE NUMBER	DEPTH (m) From To		PROCESSED SAND (PERCENTAGE PASSING)								% GRAVEL (ABSOLUTE)				OVERALL SUMMARY				TABLE 1 Sand Clean's
			4.0 mm	2.8 mm	2.0 mm	1.0 mm	0.500 mm	0.250 mm	0.125 mm	0.063 mm	40+ mm	20/40 ^b mm	10/20 ^b mm	4/10 ^b mm	O Size mm	Gravel %	Sand %	Fines %	
2025-011	0.0	4.0	100	99	99	98	93	27	4	1	0	0	0	0	0	0	93	7	s silty
2025-012	0.0	4.0	100	100	99	97	65	12	5	1	0	0	0	0	0	0	95	5	s silty
2025-015	0.0	4.0	100	100	100	100	90	8	2	0	0	0	0	0	0	0	97	3	clean
2025-016	0.0	4.0	100	100	100	99	59	6	1	0	0	0	0	0	0	0	96	4	clean
2025-017	0.0	4.0	100	100	99	98	54	11	2	0	0	0	0	0	0	0	96	4	clean
2025-019	0.0	4.0	100	100	100	99	81	14	3	1	0	0	0	0	0	0	93	7	s silty
WEIGHTED AVERAGE	-	-	100	100	99	98	74	13	3	1	0	0	0	0	0	0	95	5	s silty
MAXIMUM	-	-	100	100	100	100	93	27	5	1	0	0	0	0	0	0	97	7	s silty
MINIMUM	-	-	100	99	99	97	54	6	1	0	0	0	0	0	0	0	93	3	clean

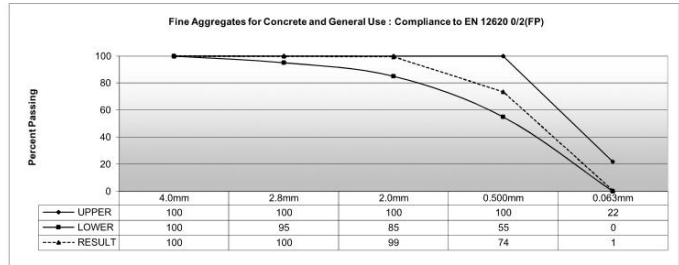
NOTE: Sand Plant simulation assumes that the amount of fines (<63µm) removed is 90 %

4.3 When washed and screened, the sand will comply with BS EN 12620 for 0/2 (FP) fine aggregates for concreting and general use, and with minor beneficiation to BS EN 12620 for 0/1 (FP), 0/2 (MP), and BS EN 13139 (MP) for Masonry Mortar:

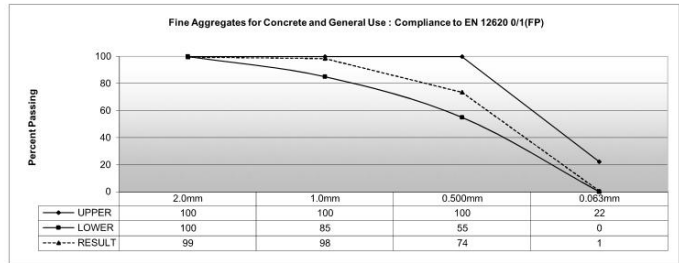
FINE AGGREGATES FOR CONCRETE AND GENERAL USE : COMPLIANCE TO EN 12620 0/2(MP)					
GRADING ENVELOPE	LOWER	UPPER	RESULT	COMPLIANCE	FAILS %
4.0mm	100	100	100	PASS	-
2.8mm	95	100	100	PASS	-
2.0mm	85	100	99	PASS	-
0.500mm	30	70	74	TOO FINE	4
0.063mm	f _{category}		1	f 3	-
GRADING TOLERANCES	MIN	MAX	AVE		
1.0mm tolerance 'Ave' ± 20	97	100	98	PASS	-
0.250mm tolerance 'Ave' ± 25	6	27	13	PASS	-
0.063mm tolerance 'Ave' ± 5	0	1	1	PASS	-



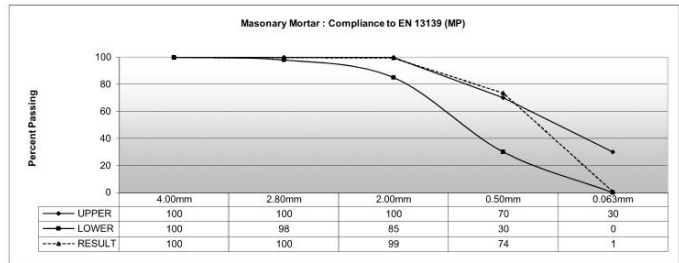
FINE AGGREGATES FOR CONCRETE AND GENERAL USE : COMPLIANCE TO EN 12620 0/2(FP)					
GRADING ENVELOPE	LOWER	UPPER	RESULT	COMPLIANCE	FAILS %
4.0mm	100	100	100	PASS	-
2.8mm	95	100	100	PASS	-
2.0mm	85	100	99	PASS	-
0.500mm	55	100	74	PASS	-
0.063mm	f _{category}		1	f 3	-
GRADING TOLERANCES	MIN	MAX	AVE		
1.0mm tolerance 'Ave' ± 20	97	100	98	PASS	-
0.250mm tolerance 'Ave' ± 25	6	27	13	PASS	-
0.063mm tolerance 'Ave' ± 5	0	1	1	PASS	-



FINE AGGREGATES FOR CONCRETE AND GENERAL USE : COMPLIANCE TO EN 12620 0/1(FP)					
GRADING ENVELOPE	LOWER	UPPER	RESULT	COMPLIANCE	FAILS %
2.0mm	100	100	99	TOO COARSE	1
1.0mm	85	100	98	PASS	-
0.500mm	55	100	74	PASS	-
0.063mm	f _{category}		1	f 3	-
GRADING TOLERANCES					
	MIN	MAX	AVE		
0.250mm tolerance 'Ave' ± 25	6	27	13	PASS	-
0.063mm tolerance 'Ave' ± 5	0	1	1	PASS	-



MASONRY MORTAR : COMPLIANCE TO EN 13139 (MP)					
	LOWER	UPPER	RESULT	COMPLIANCE	FAILS %
4.00mm	100	100	100	PASS	-
2.80mm	98	100	100	PASS	-
2.00mm	85	100	99	PASS	-
0.50mm	30	70	74	TOO FINE	4
0.063mm (category 2)	category		1	category 1	-



5.0 Overburden Volumes and Mineral Resources

51 The following volumetric analyses are based upon exploration results imported into the industry standard quarry design software LSS. This software uses point triangulation to create surfaces such as the topographic survey from which base of overburden and base of deposit models are created. 3-D triangulation between these surfaces allows accurate and precise volumes to be derived.

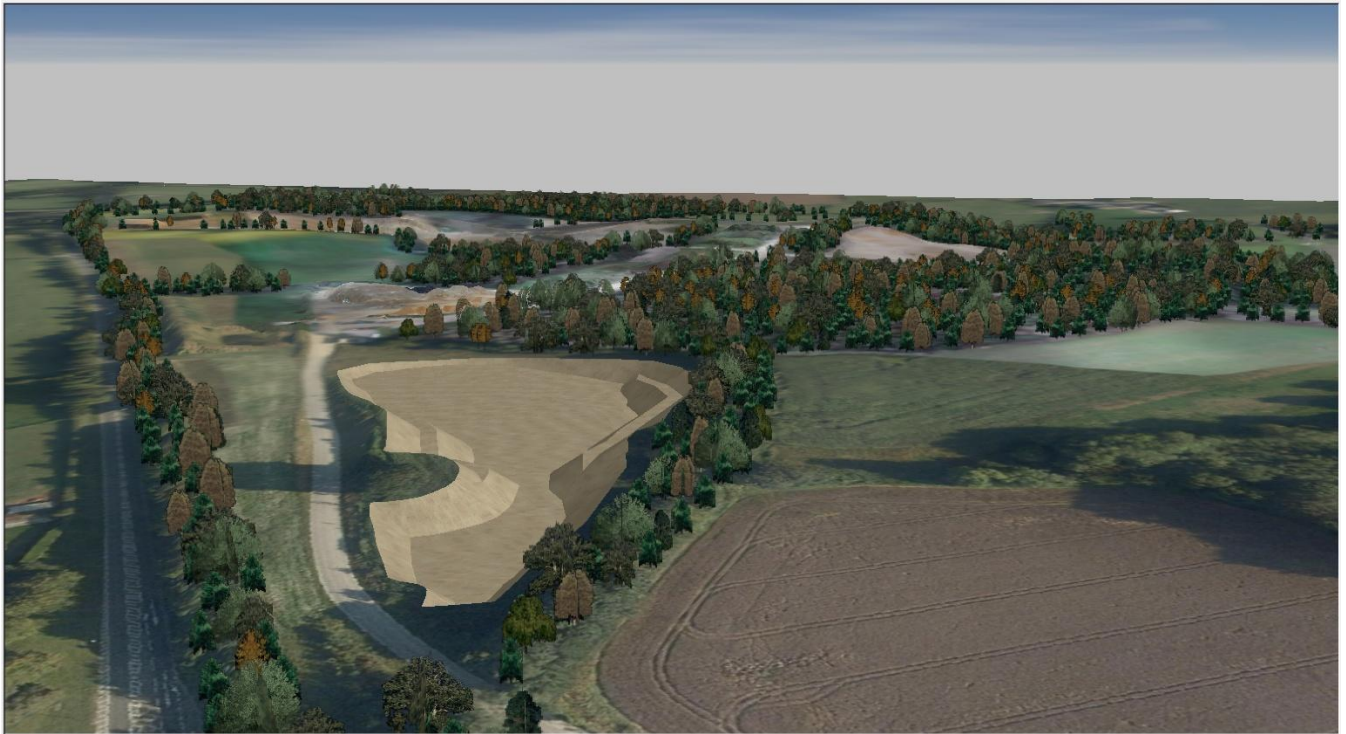
5.2 The following parameters have been assumed:

1. The extraction perimeter as shown on the map excerpt below including 10m standoffs from woodland and road boundaries.
2. Batter angles of minimum 1v:1.5h through both overburden and mineral and a 5m wide intermediate bench where the mineral face exceeds 7.5m in height.
3. A conversion factor of 1.6 tonnes/m³ for the mineral.
4. A waste factor of 20% to account for inherent silt and thin silt/clay interburdens.
5. A basal standoff of 0.1m to avoid basal clay contamination.



5.3 Measured Resources of mineral (as defined by PERC Standard 2021) are therefore calculated to be **207,000 saleable tonnes** released by the removal of **24,000m³** of overburden.

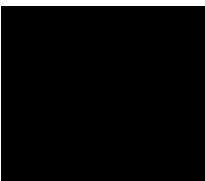
5.4 A 3D visualisation (looking south) of the proposed development is provided below:



5.5 The design concept as presented is considered a non-significant hazard based on the batter angles, intermediate benching, and the free-draining nature of the mineral.

6.0 Conclusions

- 6.1 Exploration drilling and geological modelling of the proposed Phase 9 at Brickworth Quarry, Hampshire, has measured a resource of **207,000 saleable tonnes** of sand resting beneath an **overburden of 24,000m³**.
- 6.2 The resource is a slightly silty, fine to fine/medium grained sand.
- 6.3 Considering the whole deposit, when blended, washed and screened the sand will comply with **BS EN 12620 for 0/2 (FP) fine aggregates for concreting and general use**, and with minor beneficiation to **BS EN 12620 for 0/1 (FP), 0/2 (MP), and BS EN 13139 (MP) for Masonry Mortar**



Eddie Bailey BSc CGeol FGS EurGeol FIQ

Director, Touchstone Geological Services Ltd

Statement of Competency

Eddie Bailey is a Chartered Geologist and European Geologist with over 36 years UK and international experience and expertise in construction, industrial, horticultural, and landscaping and decorative aggregates, and dimensional stone geology, including mineral exploration of all aggregate deposit types, geological resource modelling, quarry design and development, mineral reserve and resource assessment, mineral quality and economic analysis, mineral safeguarding, geodiversity, the Aggregate Levy, and project management.

Eddie graduated from Exeter University in 1989 with a 2:1 honours degree in Geology. He began his career as Assistant Geologist with English China Clays Quarries Ltd (1986-87) before joining Tarmac plc in July 1989, becoming Geological Manager – South in February 1995 and Group Head of Geology in 2004 where he was responsible for the geological teams and delivery of the geological and geotechnical workload across the UK and international businesses including Turkey, Germany, Poland, Czech Republic, Spain, Romania, France, Ireland, UAE, Oman and China. Reporting through Exco his role included setting departmental and company policy in Health and Safety - in particular geotechnics and the application of the Quarries Regulations 1999 including training for quarry operators, the Geologists Safe System of Work, H&S training for geological and land survey Staff, and reserve and resource management to the PERC Standard. In April 2008 Eddie joined Aggregate Industries to establish a geological function in the southern half of the company before becoming Head of Geology AIUK in January 2012. In this role he led the development and implementation of the company geotechnical policy and protocol, and in conjunction with Leicester University delivered geotechnical and reserve and resource modules for the Holcim Aggregate Managers Diploma.

In August 2018 Eddie left AIUK to set up Touchstone Geological Services Ltd to continue to offer expert consultation and exploration services to the extractive industry, to developers, to MPAs, and other interested parties.

Eddie was a founder member of the Pan-European Reserves and Resources Reporting Committee in 2006 (PERC) and sat as Chair from 2014 to 2018; in so doing he concurrently served as representative for Europe on CRIRSCO, the Committee for Reserves and Resources International Reporting Standards, presenting in China, Colombia, Mongolia and Kazakhstan.

Eddie has advised Group companies on many major Due Diligence exercises including the Tarmac-Wimpey asset swap, the AngloAmerican sale of Tarmac to Lafarge, the acquisition of Foster Yeoman, the Holcim acquisition of CEMEX Australia, the merger of Holcim and Lafarge, the NI 43-101 Competent Person Report on construction aggregates for the Hemerdon Mine Project for Tungsten West, and the

acquisition of the Johnston Quarry Group by SigmaRoc Ltd. Eddie has also acted as an advisor to the Welsh Assembly on sand and gravel resources and was regularly invited to represent the aggregates sector by the All Party Parliamentary Group On Earth Sciences 2004-2008.

Eddie served on the Chartership Panel of the Geological Society from 2006 to 2018 and currently serves as a Scrutineer. He has lectured on construction aggregates and economic geology at Cardiff University and Leicester University and at numerous national and international conferences.

Appendices:

Contract Name BLACKWORTH QUARRY

Contract No

Date MONDAY 17TH MARCH 2025

Sheet 1 of 1 Working Day 1

APEX DRILLING SERVICES

DAILY DRILLING LOG

Tel: 01656 749149

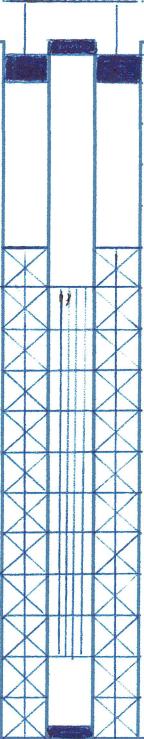
E-mail: admin@apex-drilling.com

Client RAYMOND BARRON AGGREGATES

Order No MARK PENNULT

Drill Crew PETER LONGER AND RICHARD LONGER

Rig Type KLEMM KB802-1

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason	INSTALLATION DETAILS
					Mobilise to site		
					Complete site specific safety induction 1 hour		
					Move to Borehole 01 and set up		
01	0.00	8.50	8.50		SAND		
	8.50	12.00	3.50		CHALK		
		12.00			LASE BOREHOLE		
	12.00	50.00	38.00		CHALK		
					ALIM LIFT BOREHOLE FROM TO INSTALLATION 30 MINS		
					EXTRACT DRILL STRING AND INSTALL PIEZOMETER		
					AS INSTALLED / DETAILED		
					FIT RAISED COVER TOGETHER WITH A POST / RAIL		
					BOREHOLE GUARDING		
					END OF SHIFT - BOREHOLE COMPLETE		

Site Moves	1 (No)	Casing	12 m	Core Boxes	(No)	Fixed Plant	RIG COMPRESSOR AND DAMPER AND
Bore Moves	1 (No)	Open Hole	50 m	Core Liner	m	Water	BOUSE
Return Moves	(No)	W. Samples	m	SPT/CPT	(No)	Standing Times	AS DETAILED (hrs)
Security	YES / NO	Coring	m	Installation	50 m	Breakdown	NOT APPLICABLE (hrs)

Signed by Apex	Signed by Client	Date	Cover Type	RAISED / FLUSH
			Water Level	m
			Remarks	POST AND RAIL



Blue - Client's Copy Yellow - QS Copy White - Site Copy

Contract Name BACKEWORTH QUARRY

Contract No

Date TUESDAY 18TH MARCH 2025

Sheet 1 of 1 Working Day 2



DAILY DRILLING LOG

Tel: 01656 749149

E-mail: admin@apex-drilling.com

Client RAYMOND BROWN AGGREGATES

Order No MARK REMOULT

Drill Crew PETER LONGDON AND RICHARD COOPER

Rig Type KLEMM KR802-1

Bore Hole	Top Depth	Base Depth	Thickness	Recovery	Strata Description	Standing Time — Reason	INSTALLATION DETAILS
					MOVE TO BOREHOLE 02 AND SET UP		Borehole 02
15402	0.00	3.00	3.00		SAND		
	3.00	3.50	0.50		CHALK		
		3.50			CASE BOREHOLE		
	3.50	50.00	46.50		CHALK		
					DIA. LIFT BOREHOLE FROM TO INSTALLATION 30 MINS.		
					EXTRACT SMALL STUNG AND CONSTRUCT PIEZOMETER		
					AS INSTALLED / DETAILED		
					FIT RAISED COVER TOGETHER WITH A POST / RAIL		
					BOREHOLE SURROUND		
					END OF SHIFT - BOREHOLE COMPLETE		

QUANTITIES	Site Moves.....(No)	Casing.....3.50 m	Core Boxes.....(No)	Fixed Plant <u>N/G COMPRESSOR AND PUMPER</u>
	Bore Moves.....1 (No)	Open Hole.....50 m	Core Liner.....m	<u>AND WITH REEF</u>
	Return Moves.....(No)	W. Samples.....m	SPT/CPT.....(No)	Standing Times <u>AS DETAILED</u> (hrs)
	Security YES / <u>(NO)</u>	Coring.....m	Installation <u>50</u> m	Breakdown <u>NOT APPLICABLE</u> (hrs)

Diameter UPPER 53MM x 50MM Ø
Well Casing 6.6 - 22 MET / 6.9 - 50 MET m
Well Screen 22 METS - 49 METS m
Gravel 28 METS m
Bentonite 22 METS m
Gas Bung.....(No)
End Cap X 2 (No)
Cover Type RAISED / FLUSH
Water Level.....m
Remarks POST AND RAIL



Signed
by Apex

Signed
by Client

Date

Blue - Client's Copy Yellow - QS Copy White - Site Copy

Contract Name BACKWORTH RAMP

Contract No

Date WEDNESDAY 19TH MARCH 2025

Sheet 1 of 1 Working Day 3



DAILY DRILLING LOG

Tel: 01656 749149

E-mail: admin@apex-drilling.com

Client RAYMOND BROWN AGGREGATES

Order No. MARK RENDOLT

Drill Crew PETER LOWRIE AND NICHOLAS LOWRIE

Rig Type KLEMM KA802-2[illegible]

QUANTITIES



Signed
by Apex

Signed
by Client

Date

Diameter Ø

Well Casing.....m

Well Screenm

Gravelm

Bentonitem

Gas Bung(No)

End Cap (No)

Cover Type	RAISED / FLUSH
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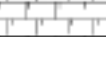
Water Level.....m

Remarks

Blue – Client's Copy Yellow – QS Copy White – Site Copy

Blue – Client's Copy Yellow – QS Copy White – Site Copy

 GWP consultants Upton House Market Street Charlbury, Oxford, OX7 3PJ			Borehole Log			Borehole No. BH26 Sheet 1 of 1	
Project Name: Brickworth Quarry			Project No. BRCKPLAN		Co-ords: (NGR) 422637E - 423376N		Hole Type BH
Location: Whiteparish, Wiltshire			Hole Inclination 90°		Level: 86.85		Scale 1:100
Client: Raymond Brown Minerals and Recycling Ltd			Hole Orientation 0°		Dates: 16/02/2016		Logged By MT

Depth (m)	Thickness (m)	Level (mAOD)	Legend	Stratum Description	Installation Details		
0.5	1.00	85.85		Orange medium SAND.			
1.0				Orange slightly silty, medium to coarse SAND.			
1.5			1.00	84.85			
2.0		Orange fine SAND.					
2.5	1.00	83.85		Orange slightly silty fine SAND.			
3.0				Brown/Orange slightly clayey medium SAND. Clay is soft.			
3.5			1.00	80.85			
4.0		Orange/Grey clayey fine SAND. Clay is stiff and nodular.					
4.5	1.00	78.85		Brown/White clayey CHALK.			
5.0			1.00	77.85			
5.5						End of Borehole at 10.00m	
6.0	1.00	76.85					
6.5							
7.0							
7.5							
8.0							
8.5							
9.0							
9.5							
10.0							
10.5							
11.0							
11.5							
12.0							
12.5							
13.0							
13.5							
14.0							
14.5							
15.0							
15.5							
16.0							
16.5							
17.0							
17.5							
18.0							
18.5							
19.0							

Drilling Contractor: APEX DRILLING		Remarks:	Total Depth 10.00m
Drilling Method Used: Non-Continuous Flight Auger			