

Stockpile volume survey

Westmoor Quarry, month-end reconciliation



Site	Westmoor Quarry, Kiln Lane, Westmoor
Client	Westmoor Minerals Ltd
Report reference	RK-2026-0439
Survey date	31 Mar 2026
Surveyor	Marcus Feld

Purpose

month-end reconciliation

Sample report

Document control

Status code: S2

Revision	Date	Status	Description	Author	Checked	Approved
P01	01 Apr 2026	Draft	Draft for internal check	MF	EW	
A	02 Apr 2026	Issued	First issue to client	MF	EW	EW

Distribution

Name	Organisation	Copies
Westmoor Minerals Ltd	Westmoor Minerals Ltd	1

This report has been prepared for the client named on the cover and may not be relied upon by any other party without the written agreement of Report Kit 360. The issue table above records every revision; the latest row is the current issue.

Contents

Document control	3
1 Summary	5
2 Methodology	6
3 Results	7
4 Reconciliation	10
5 Accuracy and uncertainty statement	11
6 Limitations	12
7 Deliverables	13
Appendix A — Orthomosaic	14
Appendix B — Ground control report	15
Appendix C — Flight log	16
Declaration	17

1 Summary

Survey

Site	Westmoor Quarry, Kiln Lane, Westmoor	Client	Westmoor Minerals Ltd
Survey date and time	31 Mar 2026	Surveyor	Marcus Feld
Report reference	RK-2026-0439	Purpose	month-end reconciliation
Number of stockpiles measured	6		

Total net volume

#CIRC! m³

Total tonnage

#CIRC! t

Combined volumetric uncertainty

#CIRC! ±m³

Six stockpiles in the north yard were surveyed by drone on 31 March 2026 for the month-end stock reconciliation. The combined net volume is about 26,500 m³ (about 45,000 tonnes at the agreed bulk densities), an increase of about 1,700 m³ on the February survey, consistent with the March delivery and sales records. The loader was working P05 during the flight; that pile was flown last and the figure is as at 11:20. Densities are those supplied by the client and have not been verified; the volumetric uncertainty is about 1.5% per pile.

2 Methodology

Capture

Platform and sensor	DJI Mavic 3 Enterprise RTK, 20 MP	Positioning	RTK + GCPs
Ground control points (count and placement)	6	Control RMSE (m)	0.02
Flight height (m AGL)	80	Ground sample distance (cm/px)	2.10
Image overlap (front / side)	80% / 70%	Processing software and version	Pix4Dmatic 1.60
Coordinate reference system and datum	OSGB36 / British National Grid (EPSG:27700), ODN heights	Check-shot residuals	Not applicable

Processing steps

Item	Result	Note
Images aligned and dense cloud generated	✓ Pass	
Vehicles, plant and vegetation filtered from DSM to DTM	✓ Pass	
Stockpile toes digitised and reviewed	✓ Pass	
Base surfaces defined per pile	✓ Pass	
Volumes computed and sanity-checked against previous survey	✓ Pass	
Control check-shots compared	✓ Pass	

No departures from the standard method. Base surfaces were triangulated from the digitised toe for all piles except P04, which sits on a sloping concrete pad and uses a fitted plane, and P06, which is on uneven ground and uses the lowest toe point.

3 Results

Table 3.1 — Stockpile volumes and tonnages

Pile ID	Material / product	Base surface	Footprint (m²)	Cut (m³)	Fill (m³)	Net (m³)	Density (t/m³)	Bulking	Tonnage (t)	Accuracy (±%)	Accuracy (±m³)	GSD (cm/px)
P01	Type 1 sub-base	triangulated	1,842.0	6,218.4	12.6	3,875.9	1.95	1.00	3,732.1	1.5	36.1	2.1
P02	20 mm clean limestone	triangulated	1,210.5	3,884.1	8.2	2,407.8	1.55	1.00	7,739.7	1.5	76.4	2.1
P03	10 mm clean limestone	triangulated	866.3	2,412.7	4.9	5,091.9	1.52	1.00	12,553.4	1.5	117.7	2.1
P04	Limestone dust	triangulated	1,455.8	5,107.3	15.4	7,845.9	1.60	1.00	2,029.5	1.5	16.9	2.1
P05	6F2 recycled	triangulated	2,130.2	7,866.9	21.0	1,127.5	1.80	1.00	#CIRC!	1.5	#CIRC!	2.1
P06	Topsoil	triangulated	640.1	1,130.6	3.1	#CIRC!	1.30	1.00	#CIRC!	1.5	#CIRC!	2.1
Total			#CIRC!	#CIRC!	#CIRC!	#CIRC!			#CIRC!		#CIRC!	

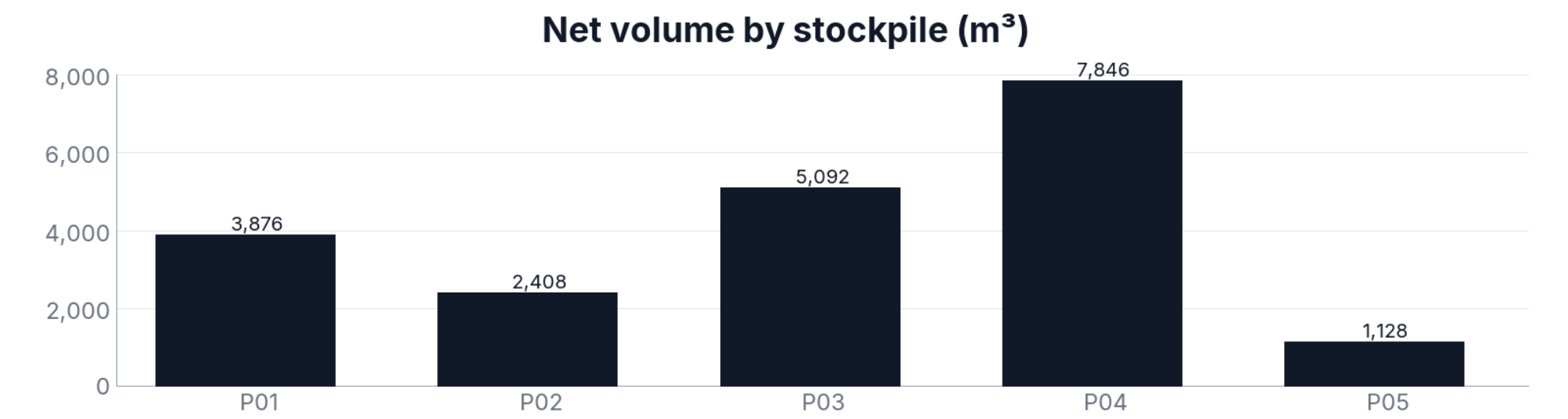




Figure 3.1 — Cut and fill heat map against the February surface



Figure 3.2 — Cross-sections through P01 and P05

4 Reconciliation

The comparison is against the survey of 27 February 2026, using the same toe lines and base surface methods. The increase in P05 reflects crushed site arisings added during the month; the reduction in P02 reflects drawdown for the bypass contract.

Table 4.1 — Reconciliation against previous survey or design surface

Pile ID	Previous survey	Previous net (m ³)	Current net (m ³)	Δ volume (m ³)	Δ (%)	Note
P01	2026-02-27	5,810.2	6,205.8	-226.7	-550.0%	Deliveries in March
P02	2026-02-27	4,102.6	3,875.9	17.8	70.0%	Drawn down for the bypass contract
P03	2026-02-27	2,390.0	2,407.8	103.8	210.0%	
P04	2026-02-27	4,988.1	5,091.9	1,425.5	2,220.0%	
P05	2026-02-27	6,420.4	7,845.9	-12.7	-110.0%	Crushed site arisings added
P06	2026-02-27	1,140.2	1,127.5	#CIRC!	#CIRC!	
Total		#CIRC!	#CIRC!	#CIRC!		

5 Accuracy and uncertainty statement

The survey was controlled by RTK + GCPs with 6 ground control points; the control check gave a root-mean-square error of 0.018 m. Model accuracy is estimated at 0.03 m and the ground sample distance is 2.1 cm per pixel. Volumetric uncertainty for each pile is estimated at $\pm 1.5\%$ of the net volume; the combined figure is shown in the summary.

Surface-based uncertainty estimate (total footprint $\times$ model accuracy)

#CIRC! $\pm m^3$

Accuracy figures are estimates based on the control and the model; they are not guarantees. Volumes depend on the base surface chosen and on the toe line digitised for each pile.

6 Limitations

Volumes are computed from the photogrammetric surface visible to the sensor. Material hidden by occlusions, water, vegetation, plant or overhangs is not measured. The base surface beneath each pile is assumed from the chosen method and may differ from the true ground. Densities and bulking factors are supplied by the client or the material library and are not verified by weighing. Tonnages are therefore indicative unless stated otherwise.

The loader was working P05 during the flight. Vegetation on the north toe of P06 was filtered. The haul road crosses the toe of P01 and the toe there was interpolated over about 6 m.

7 Deliverables

Supplied with this report

Item	Result	Note
Orthomosaic (GeoTIFF)	✓ Pass	
Digital surface model (GeoTIFF)	✓ Pass	
Digital terrain model (GeoTIFF)	✓ Pass	
Point cloud (LAS / LAZ)	✓ Pass	
Textured mesh (OBJ)	N/A	
Contours and toe lines (DXF)	✓ Pass	
Volumes table (CSV / XLSX)	✓ Pass	
KML / KMZ	✓ Pass	
Web viewer link	✓ Pass	

Appendix A – Orthomosaic



Figure A.1 — Orthomosaic with stockpile IDs

Appendix B – Ground control report

Table B.1 — Ground control points and residuals

GCP	Easting	Northing	Height	Residual (m)	Type
GCP-1	398,412.21	412,876.05	84.31	0.01	Control

Appendix C – Flight log

Date	Flight	Remote pilot	Aircraft	Duration	Height (m)	Images
2026-03-31	F1 north yard grid	Marcus Feld	DJI Mavic 3 Enterprise RTK	22 min	80	486
2026-03-31	F2 obliques P05	Marcus Feld	DJI Mavic 3 Enterprise RTK	9 min	60	118

Declaration

I confirm that the survey was captured and processed as described and that the volumes reported are a true record of the model on the survey date.

Prepared by

Marcus Feld

GVC, BSc (Hons) Surveying

Report Kit 360

Date: 02 Apr 2026

Checked by

Eleanor Whitcombe

BSc (Hons) MRICS

Report Kit 360

Date: 02 Apr 2026