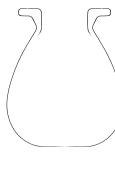
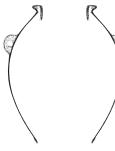
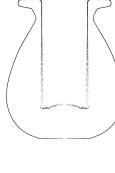
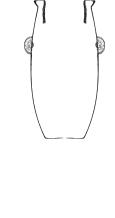
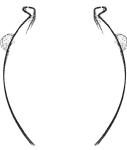
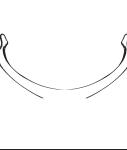
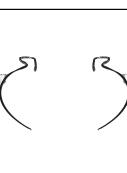
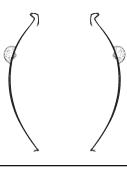
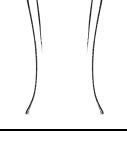


# Artifact Catalogue - Ranked By Precision Score

Find detailed description of the precision score metric, page 4.

Artifact		Precision Score	Collection	References
		PV001 Red Granite 1905 Full: 980 Exterior: 1905 Interior: 705	In private collection of Adam Young	Report Publication Precision overview, see page 5
		PV006 Dark grey granite 621 Full: 521 Exterior: 621 Interior: 152	In private collection	Report Publication Precision overview, see page 6
		MV014 Basalt 219 Full: 5 Exterior: 3 Interior: 219	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 21
		MV008 Diorite 191 Full: 98 Exterior: 191 Interior: 15	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 16
		MV005 Limestone 111 Full: 80 Exterior: 111 Interior: 10	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 13
		RV001 Red Granite 84 Full: 17 Exterior: 84 Interior: 2.42	In private collection	Report Publication Precision overview, see page 7
		MV004 Basalt 68 Full: 64 Exterior: 68 Interior: 34	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 12
		RV002 Diorite 47 Full: 13 Exterior: 47 Interior: 2.23	In private collection	Report Publication Precision overview, see page 8
		MV017 Limestone 29 Full: 23 Exterior: 29 Interior: 4	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 24

		MV015 Black & White Syenite, perhaps Hornblende Diorite	24 Full: 18 Exterior: 24 Interior: 4	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 22
		MV003 Andesite Porphyry	22 Full: 21 Exterior: 22 Interior: 16	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 11
		MV013 Diorite	20 Full: 9 Exterior: 20 Interior: 5	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 20
		MV007 Granite	19 Full: 18 Exterior: 19 Interior: 8	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 15
		MV009 Diorite	16 Full: 14 Exterior: 16 Interior: 13	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 17
		MV019 Porphyry	14 Full: 7 Exterior: 14 Interior: 2.00	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 26
		MV018 Diorite	12 Full: 12 Exterior: 12 Interior: 8	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 25
		MV021 Grey Basalt	10 Full: 10 Exterior: 10 Interior: 33	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 28
		MV006 Basalt	9 Full: 3 Exterior: 9 Interior: 1.48	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 14
		MV020 Basalt	9 Full: 9 Exterior: 9 Interior: 32	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 27
		MV012 Basalt	5 Full: 6 Exterior: 5 Interior: 12	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 19

		MV016 Basalt	<b>2.08</b> Full: 2.06 Exterior: 2.08 Interior: 1.57	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 23
		MV001 Pottery	<b>1.93</b> Full: 1.92 Exterior: 1.93 Interior: 1.85	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 10
		RV003 Marble breccia	<b>1.52</b> Full: 0.80 Exterior: 1.52 Interior: 0.51	In private collection	Report Publication Precision overview, see page 9
		MV010 Calcite (Egyptian Alabaster)	<b>1.12</b> Full: 0.64 Exterior: 1.12 Interior: 0.20	Petrie Museum of Egyptian Archaeology	Report Publication Precision overview, see page 18

## Precision Score Of The Artifact

To enable valid comparison of the manufacturing precision of different artifacts, a metric that robustly quantifies the overall precision of the object is required. The considerations for such a metric will be explored in this section.

Based on these considerations, a *Precision Score* metric will be defined.

For an object to be described as having been manufactured with high precision, several qualities must be present *concurrently*, and throughout the *entire* geometry of the final object. A given object may exhibit high levels of one or more *components* of precision, but be lacking in others. For example:

- An object may present high levels of coaxialility, but lack circularity.
- An object may exhibit good circularity, but show imperfections in the surface structure.
- An object may be smoothed to perfection *without* any circularity or coaxiality.
- An object may exhibit high levels of all of the above metrics in *some* areas, but not in others.

Therefore, a precision score metric **must** account for *all* aspects of the individual, underlying precision metrics (circularity, concentricity, coaxiality and surface variability) throughout the *entire* surface area of the object.

The composite high order polynomial model, used to generate the surface variability map (detailed in the full report) is the best continuous mathematical representation of the object available to us (lacking any original design plans, as would normally be available in metrological analysis). This idealized model encompasses all of the above component metrics.

In the creation of the model, all scan data-points are taken into account (excluding areas with extensive damage), making it the best possible idealized representation we can achieve. When this model has been accurately created, the deviation between the model and the scanned data-points can be calculated over the non-discretized polynomials, *without* the need for an “original” CAD model (and importantly, unless such a CAD model *actually* corresponded to the original design intent, it would be an insufficient comparison basis).

Within the context of defining a valid, overall precision metric, this approach satisfies the incorporation of all of the necessary metrics:

- **Circularity:** Because the reconstructed polynomial model is revolved around the Z-plane, the idealized representation is perfectly circular, and thus incorporates the circularity component.
- **Concentricity and coaxiality:** Because the Z-axis (datum axis) is the center axis of the model, it incorporates the concentricity and coaxiality components.
- **Surface variability:** Because the model is continuous and non-discretized, it can be used accurately for all points of the scan data, and incorporates the surface variability component.

The level of precision ultimately achieved in a physical object does not share a linear relationship with its manufacturing requirements. Since continuously higher levels of final precision becomes progressively harder to achieve, an overall precision metric must take this relationship into account.

A robust statistical metric that satisfies this requirement is the *Mean Squared Deviation* (MSD or MSE). Here specifically, we can utilize the mean square of the deviations between the model ( $\hat{y}$ ) and the data-points ( $y_i$ ).

Combining all of the above considerations, we can express a well-defined *Precision Score* metric, that provides an immediately accessible way to understand the overall precision of an object, while being statistically valid. Since the Mean Squared Deviation tends towards zero as the overall precision increases, the inverse of the Mean Squared Deviation is taken to obtain a precision score metric that increases as precision increases<sup>1</sup>:

$$\text{Precision Score} = \frac{n}{\sum_{i=1}^n (y_i - \hat{y})^2}$$

A precision score will be calculated separately for:

- The exterior surface
- The interior surface
- The full surface

As most scans do not include sufficient scan data for the interior surface, the exterior surface will be used for calculating the precision score in most cases. In the rare case that the scan data is more complete for the *interior* surface, this will be used instead.

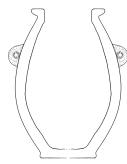
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<sup>1</sup>The precision score unit is  $\frac{1}{\text{mm}^2}$

# PV001



Artifact Foundation



## Artifact Precision Report, version 01.11

Material	Red Granite
Description	Egyptian Early Dynastic Granite Amphora Jar, 2nd-3rd Dynasty, c. 2900-2600 B.C.
Collection	In private collection of Adam Young
Provenance	Previously in collection of Mr. David Lewis, London UK, acquired in 1980s
Precision Score	1905

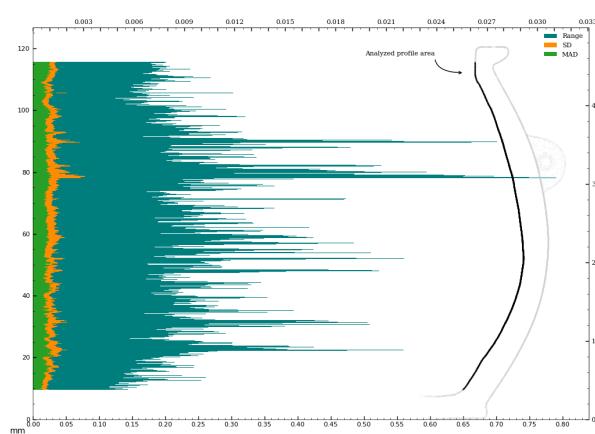
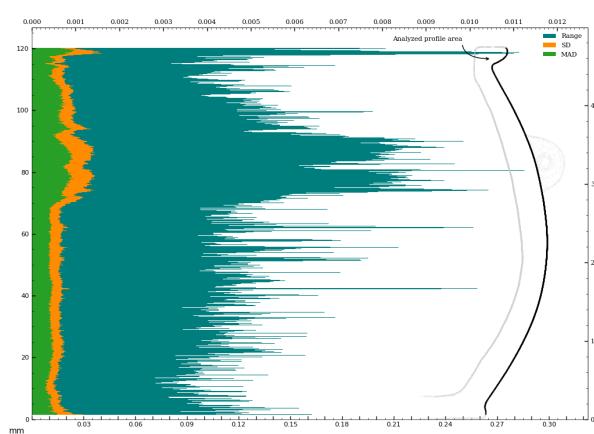
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

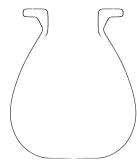
Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.0005	0.023	0.023	0.014	0.017	0.435	-0.218	0.217	931467
Interior	0.0014	0.038	0.038	0.023	0.028	1.023	-0.320	0.704	1158520
in <sup>2</sup>									
Exterior	0.000001	0.0009	0.0009	0.0005	0.0007	0.0171	-0.0086	0.0086	931467
Interior	0.000002	0.0015	0.0015	0.0009	0.0011	0.0403	-0.0126	0.0277	1158520

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	0.126	0.072	0.307	0.018	0.012	0.042	0.002	0.007	0.025	1190	0.100
Interior	0.235	0.103	0.800	0.033	0.019	0.081	0.002	0.011	0.036	1065	0.100
in											
Exterior	0.0050	0.0028	0.0121	0.0007	0.0005	0.0016	0.0001	0.0003	0.0010	1190	0.0039
Interior	0.0092	0.0041	0.0315	0.0013	0.0008	0.0032	0.0001	0.0005	0.0014	1065	0.0039



# PV006



## Artifact Precision Report, version 01.11

Material Dark grey granite  
 Description Artifact in private collection.  
 Collection In private collection  
 Provenance Unknown  
 Precision Score 621

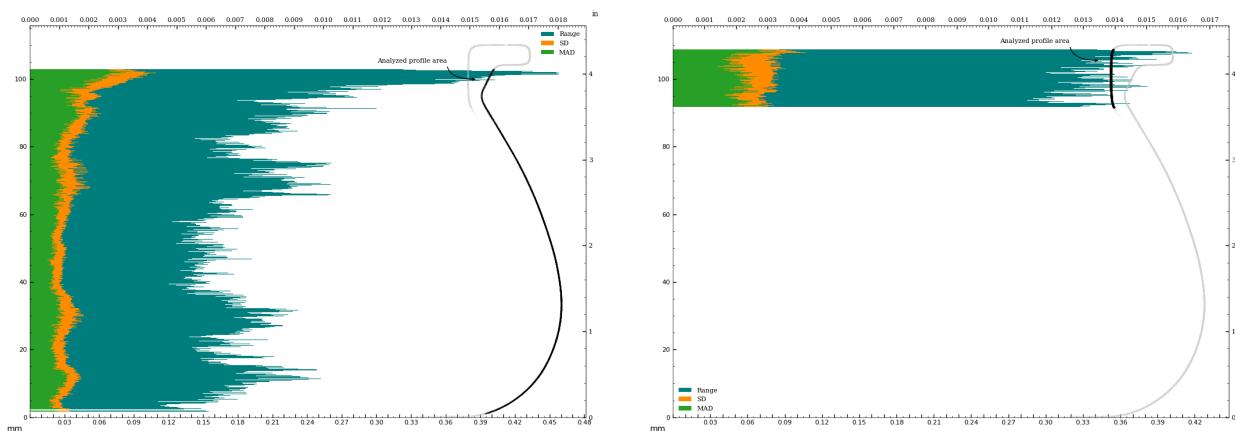
Selected measurements shown below, see full artifact report for further details.

### Surface Variability

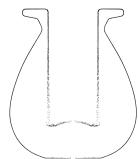
Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	
Exterior	0.0016	0.040	0.040	0.025	0.031	0.485	-0.247	0.238	511433
Interior	0.0066	0.081	0.081	0.058	0.067	0.461	-0.264	0.197	34263
	in <sup>2</sup>	in	in	in	in	in	in	in	
Exterior	0.000002	0.0016	0.0016	0.0010	0.0012	0.0191	-0.0097	0.0094	511433
Interior	0.000010	0.0032	0.0032	0.0023	0.0026	0.0182	-0.0104	0.0078	34263

### Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		
Exterior	0.182	0.111	0.458	0.036	0.024	0.109	0.004	0.015	0.087	1013	0.100
Interior	0.342	0.285	0.426	0.081	0.068	0.107	0.006	0.036	0.086	172	0.100
	in	in	in	in	in	in	in	in	in		
Exterior	0.0072	0.0044	0.0180	0.0014	0.0010	0.0043	0.0001	0.0006	0.0034	1013	0.0039
Interior	0.0135	0.0112	0.0168	0.0032	0.0027	0.0042	0.0003	0.0014	0.0034	172	0.0039



# RV001



## Artifact Precision Report, version 01.11

Material	Red Granite
Description	Modern CNC machined replica of vessel PV006, dimensions have been altered.
Collection	In private collection
Provenance	NA
Precision Score	84

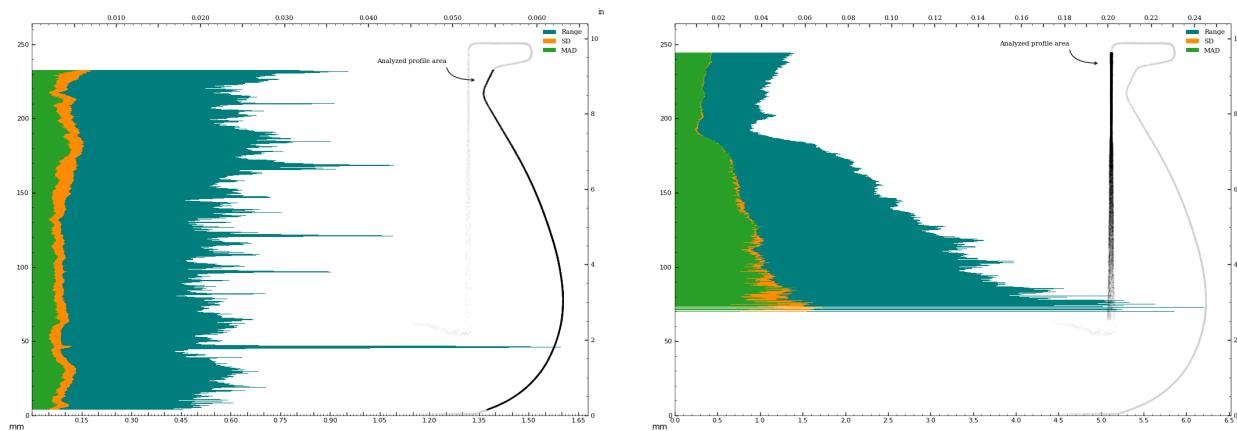
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

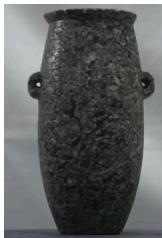
Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	
Exterior	0.0120	0.109	0.109	0.074	0.087	1.793	-1.374	0.418	7140709
Interior	0.4125	0.642	0.642	0.426	0.513	8.951	-2.142	6.809	914259
	in <sup>2</sup>	in	in	in	in	in	in	in	
Exterior	0.000019	0.0043	0.0043	0.0029	0.0034	0.0706	-0.0541	0.0165	7140709
Interior	0.000639	0.0253	0.0253	0.0168	0.0202	0.3524	-0.0843	0.2681	914259

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm
Exterior	0.588	0.428	1.598	0.105	0.079	0.177	0.008	0.049	0.135	2294	0.100
Interior	2.333	0.850	6.212	0.738	0.256	1.752	0.258	0.224	1.520	1735	0.100
	in	in	in	in	in	in	in	in	in		in
Exterior	0.0231	0.0168	0.0629	0.0041	0.0031	0.0070	0.0003	0.0019	0.0053	2294	0.0039
Interior	0.0919	0.0334	0.2446	0.0290	0.0101	0.0690	0.0102	0.0088	0.0598	1735	0.0039



# RV002



Scientists Against Myths



## Artifact Precision Report, version 01.00

Material	Diorite
Description	Modern replica - Produced by Olga Vdovina and Yulia Gukasova in collaboration with Scientists Against Myths
Collection	In private collection
Provenance	NA
Precision Score	47
Scan note	Mesh density is very low compared to other vessel scans

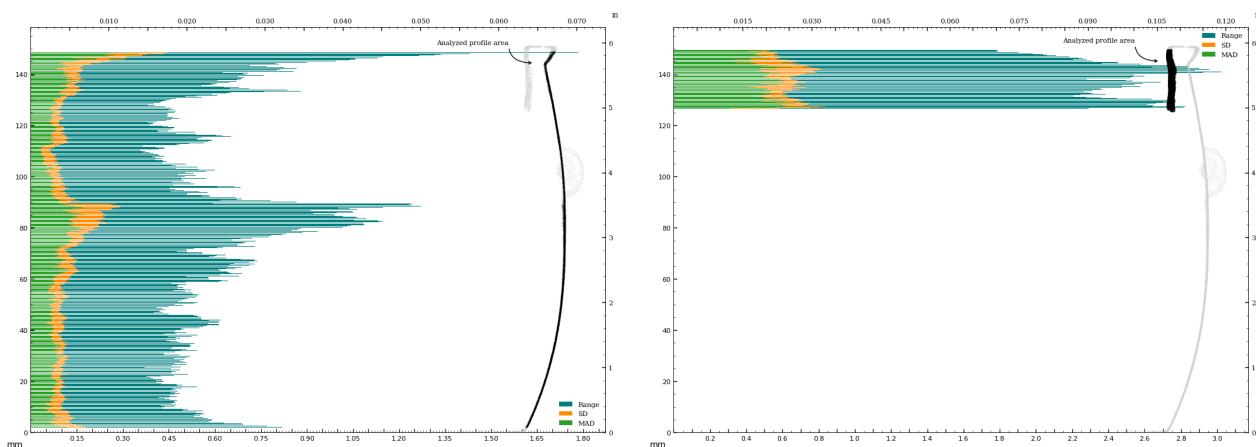
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	
Exterior	0.0214	0.146	0.146	0.088	0.110	1.668	-1.082	0.586	184586
Interior	0.4486	0.670	0.670	0.546	0.573	3.305	-1.364	1.940	27794
	in <sup>2</sup>	in	in	in	in	in	in	in	
Exterior	0.000033	0.0058	0.0058	0.0035	0.0043	0.0657	-0.0426	0.0231	184586
Interior	0.000695	0.0264	0.0264	0.0215	0.0226	0.1301	-0.0537	0.0764	27794

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		
Exterior	0.533	0.302	1.784	0.112	0.058	0.446	0.014	0.026	0.351	980	0.150
Interior	2.477	1.702	3.022	0.666	0.514	0.855	0.052	0.295	0.875	153	0.150
	in	in	in	in	in	in	in	in	in		
Exterior	0.0210	0.0119	0.0702	0.0044	0.0023	0.0176	0.0005	0.0010	0.0138	980	0.0059
Interior	0.0975	0.0670	0.1190	0.0262	0.0202	0.0337	0.0021	0.0116	0.0344	153	0.0059



# RV003



Scientists Against Myths



## Artifact Precision Report, version 01.00

Material	Marble breccia
Description	Modern replica - Produced by Olga Vdovina and Yulia Gukasova in collaboration with Scientists Against Myths
Collection	In private collection
Provenance	NA
Precision Score	1.52

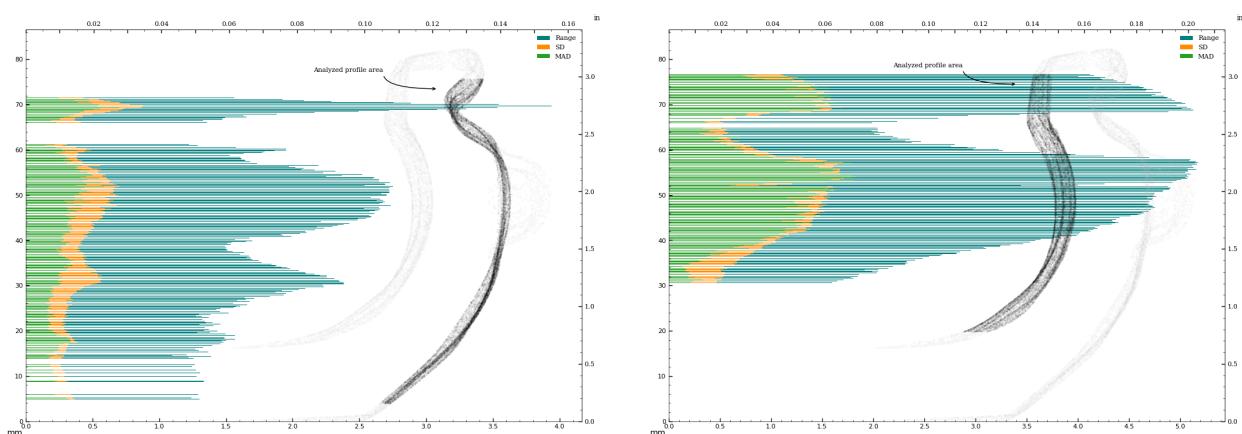
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.6592	0.812	0.812	0.414	0.596	5.015	-2.469	2.545	107617
Interior	1.9506	1.397	1.395	1.107	1.186	6.586	-3.768	2.818	90346
in <sup>2</sup>									
Exterior	0.001022	0.0320	0.0320	0.0163	0.0235	0.1974	-0.0972	0.1002	107617
Interior	0.003023	0.0550	0.0549	0.0436	0.0467	0.2593	-0.1483	0.1110	90346

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	1.830	1.096	3.968	0.439	0.235	0.918	0.068	0.150	0.700	271	0.200
Interior	4.267	1.594	5.179	1.333	0.427	1.760	0.381	0.129	1.840	225	0.200
in											
Exterior	0.0720	0.0431	0.1562	0.0173	0.0093	0.0362	0.0027	0.0059	0.0276	271	0.0079
Interior	0.1680	0.0627	0.2039	0.0525	0.0168	0.0693	0.0150	0.0051	0.0724	225	0.0079



# MV001



Petrie Museum, CC BY-NC-SA



## Artifact Precision Report, version 01.00

Material	Pottery
Description	Decorated pot, type D 2 k; wavy handled. From Hu tomb U 78.
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology
Precision Score	1.93

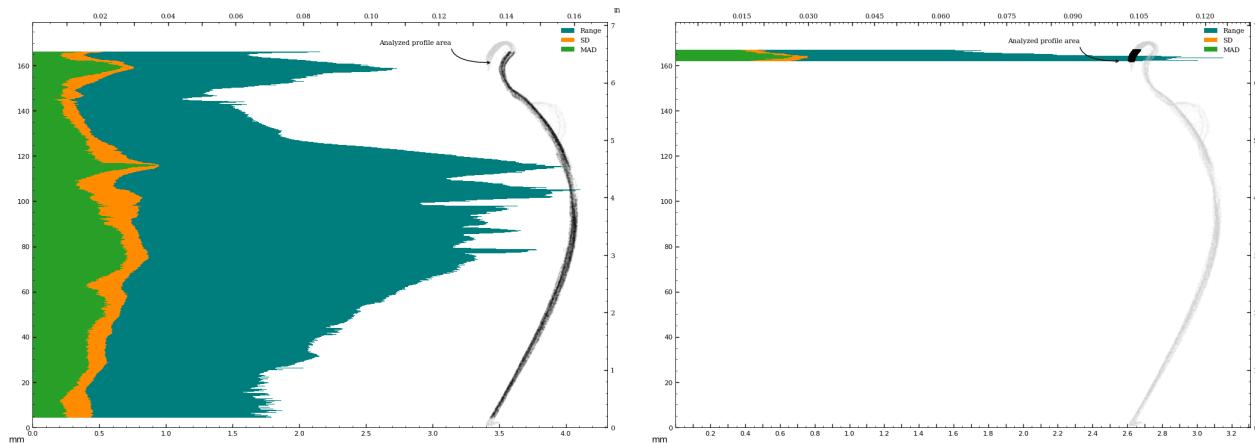
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	
Exterior	0.5195	0.721	0.721	0.507	0.582	6.565	-3.374	3.190	12132819
Interior	0.5405	0.735	0.735	0.658	0.647	3.610	-1.700	1.910	656834
	in <sup>2</sup>	in	in	in	in	in	in	in	
Exterior	0.000805	0.0284	0.0284	0.0200	0.0229	0.2584	-0.1328	0.1256	12132819
Interior	0.000838	0.0289	0.0289	0.0259	0.0255	0.1421	-0.0669	0.0752	656834

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		
Exterior	2.361	1.091	4.108	0.610	0.256	0.961	0.104	0.152	0.927	3243	0.050
Interior	2.366	1.584	3.152	0.668	0.468	0.762	0.090	0.367	0.677	100	0.050
	in	in	in	in	in	in	in	in	in		in
Exterior	0.0930	0.0429	0.1617	0.0240	0.0101	0.0378	0.0041	0.0060	0.0365	3243	0.0020
Interior	0.0931	0.0624	0.1241	0.0263	0.0184	0.0300	0.0036	0.0144	0.0267	100	0.0020



# MV003



## Artifact Precision Report, version 01.00

Material	Andesite Porphyry
Description	Andesite porphyry barrel vase with two lug handles, perforated horizontally, and flat base. Rim chipped.
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	22

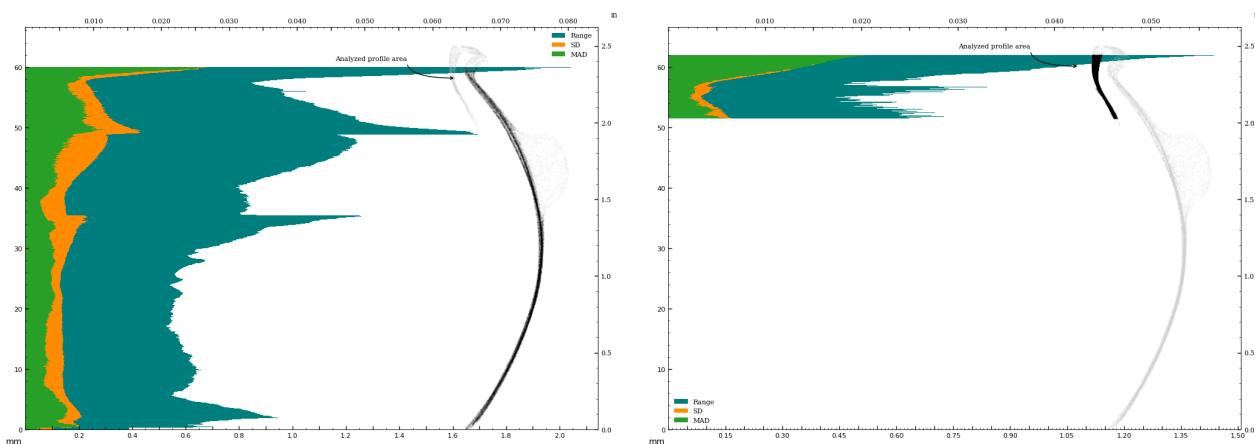
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

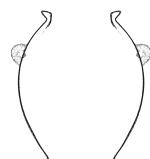
Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.0452	0.213	0.213	0.114	0.158	2.499	-0.966	1.533	1833180
Interior	0.0642	0.253	0.253	0.137	0.192	1.475	-0.709	0.766	163490
in <sup>2</sup>									
Exterior	0.000070	0.0084	0.0084	0.0045	0.0062	0.0984	-0.0380	0.0604	1833180
Interior	0.000099	0.0100	0.0100	0.0054	0.0075	0.0581	-0.0279	0.0302	163490

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	0.787	0.376	2.042	0.161	0.100	0.675	0.106	0.054	0.691	1199	0.050
Interior	0.630	0.414	1.436	0.143	0.081	0.504	0.124	0.056	0.524	210	0.050
in											
Exterior	0.0310	0.0148	0.0804	0.0064	0.0039	0.0266	0.0042	0.0021	0.0272	1199	0.0020
Interior	0.0248	0.0163	0.0565	0.0056	0.0032	0.0199	0.0049	0.0022	0.0206	210	0.0020



# MV004



## Artifact Precision Report, version 01.00

Material	Basalt
Description	Basalt barrel vase, with two lug handles perforated horizontally, flat base, rim chipped.
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	68

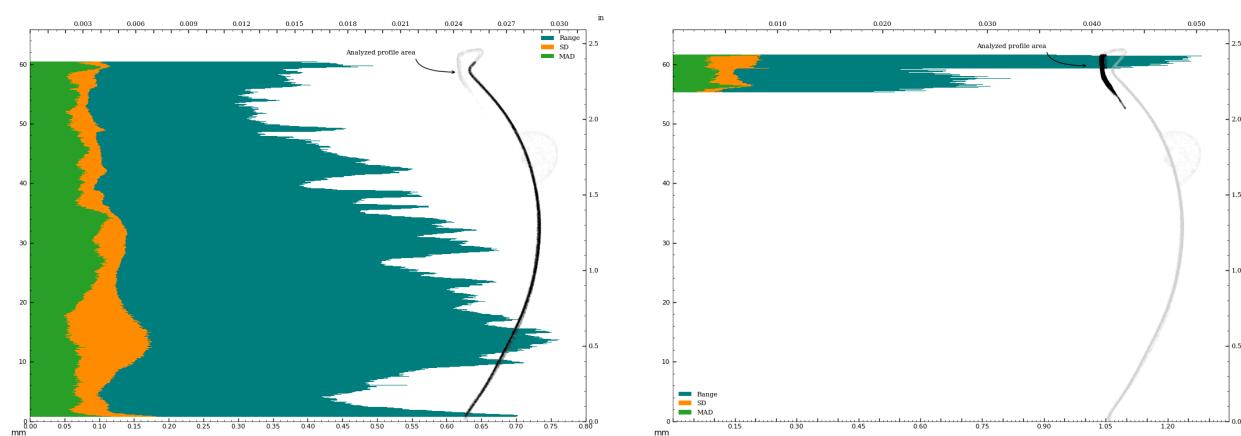
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

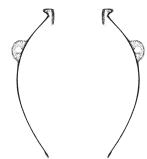
Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.0148	0.122	0.122	0.082	0.096	0.928	-0.451	0.478	1597813
Interior	0.0295	0.172	0.172	0.107	0.144	1.351	-0.384	0.967	86325
in <sup>2</sup>									
Exterior	0.000023	0.0048	0.0048	0.0032	0.0038	0.0366	-0.0177	0.0188	1597813
Interior	0.000046	0.0068	0.0068	0.0042	0.0057	0.0532	-0.0151	0.0381	86325

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	0.524	0.294	0.762	0.115	0.079	0.182	0.009	0.046	0.120	1194	0.050
Interior	0.706	0.470	1.284	0.168	0.099	0.233	0.010	0.057	0.205	124	0.050
in											
Exterior	0.0206	0.0116	0.0300	0.0045	0.0031	0.0072	0.0004	0.0018	0.0047	1194	0.0020
Interior	0.0278	0.0185	0.0505	0.0066	0.0039	0.0092	0.0004	0.0022	0.0081	124	0.0020



# MV005



## Artifact Precision Report, version 01.00

Material	Limestone
Description	White-veined grey limestone barrel vase; two cylindrical handles and flat base. Rim chipped.
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	111

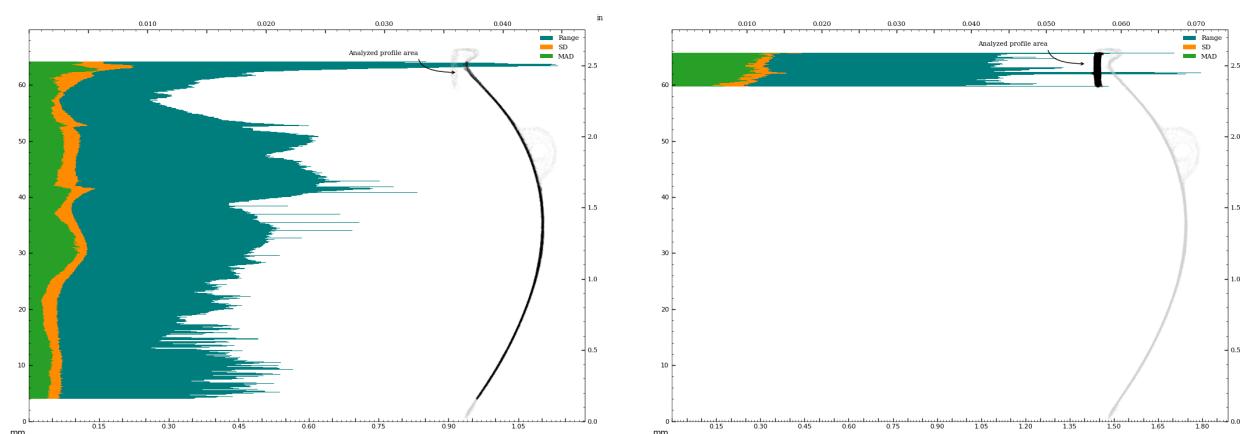
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.0090	0.095	0.095	0.059	0.073	1.252	-0.734	0.518	1658300
Interior	0.1006	0.317	0.317	0.252	0.266	1.939	-1.106	0.833	65551
in <sup>2</sup>									
Exterior	0.000014	0.0037	0.0037	0.0023	0.0029	0.0493	-0.0289	0.0204	1658300
Interior	0.000156	0.0125	0.0125	0.0099	0.0105	0.0763	-0.0435	0.0328	65551

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	0.454	0.257	1.135	0.093	0.056	0.225	0.015	0.025	0.150	1204	0.050
Interior	1.114	0.989	1.797	0.319	0.223	0.441	0.026	0.113	0.392	120	0.050
in											
Exterior	0.0179	0.0101	0.0447	0.0037	0.0022	0.0088	0.0006	0.0010	0.0059	1204	0.0020
Interior	0.0439	0.0389	0.0707	0.0126	0.0088	0.0174	0.0010	0.0044	0.0154	120	0.0020



# MV006



## Artifact Precision Report, version 01.00

Material	Basalt
Description	Basalt cylinder vase, tapering at base, rim damaged
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	9

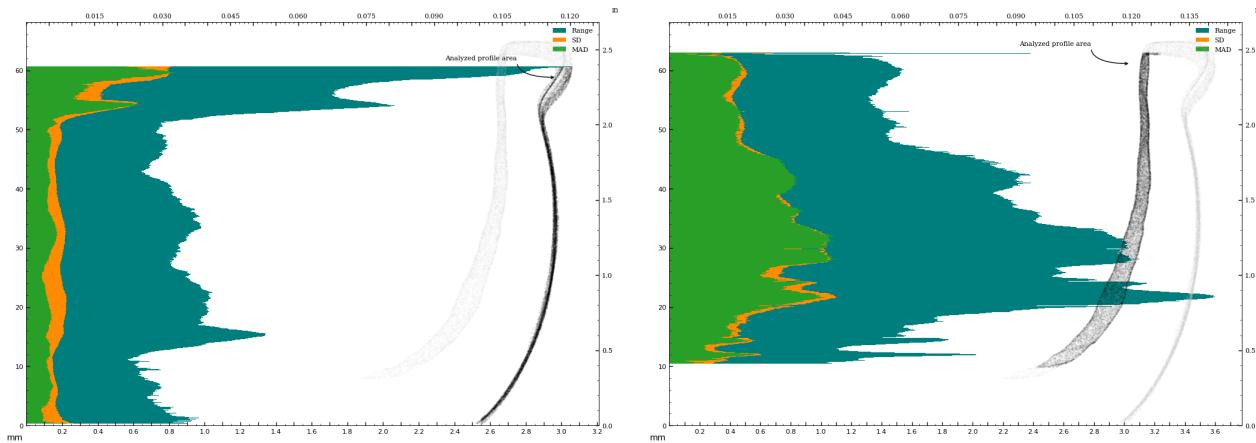
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	
Exterior	0.1113	0.334	0.334	0.149	0.223	2.905	-1.594	1.311	2333160
Interior	0.6771	0.823	0.823	0.623	0.690	3.994	-2.012	1.982	1460933
	in <sup>2</sup>	in	in	in	in	in	in	in	
Exterior	0.000173	0.0131	0.0131	0.0059	0.0088	0.1144	-0.0628	0.0516	2333160
Interior	0.001050	0.0324	0.0324	0.0245	0.0272	0.1572	-0.0792	0.0780	1460933

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		
Exterior	0.860	0.567	3.058	0.195	0.143	0.807	0.012	0.070	0.830	1207	0.050
Interior	2.016	0.559	3.597	0.640	0.148	1.101	0.179	0.085	1.104	1057	0.050
	in	in	in	in	in	in	in	in	in		in
Exterior	0.0339	0.0223	0.1204	0.0077	0.0056	0.0318	0.0005	0.0028	0.0327	1207	0.0020
Interior	0.0794	0.0220	0.1416	0.0252	0.0058	0.0434	0.0071	0.0033	0.0435	1057	0.0020



# MV007



## Artifact Precision Report, version 01.00

Material	Granite
Description	Black and white granite squat brim vase. Part upper missing
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology
Precision Score	19

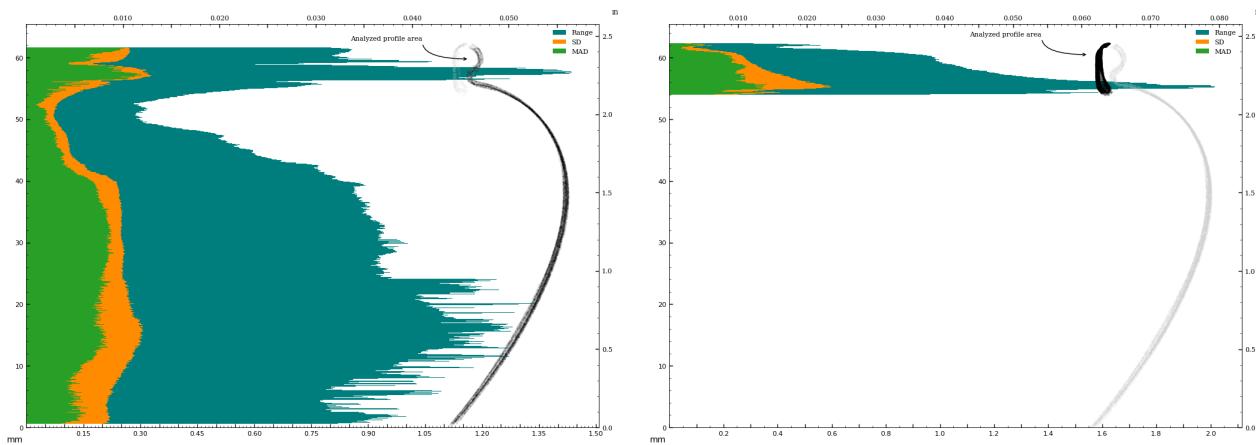
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	
Exterior	0.0531	0.230	0.230	0.151	0.185	1.750	-0.883	0.868	1953525
Interior	0.1315	0.363	0.363	0.202	0.277	2.175	-0.778	1.396	98017
	in <sup>2</sup>	in	in	in	in	in	in	in	
Exterior	0.000082	0.0091	0.0091	0.0059	0.0073	0.0689	-0.0348	0.0342	1953525
Interior	0.000204	0.0143	0.0143	0.0080	0.0109	0.0856	-0.0306	0.0550	98017

## Circularity measurements

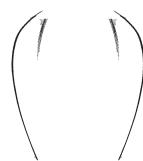
Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		
Exterior	0.908	0.276	1.436	0.248	0.071	0.331	0.038	0.024	0.304	1221	0.050
Interior	1.098	0.310	2.016	0.327	0.079	0.596	0.033	0.035	0.360	166	0.050
	in	in	in	in	in	in	in	in	in		in
Exterior	0.0357	0.0109	0.0565	0.0098	0.0028	0.0130	0.0015	0.0010	0.0120	1221	0.0020
Interior	0.0432	0.0122	0.0794	0.0129	0.0031	0.0235	0.0013	0.0014	0.0142	166	0.0020



# MV008



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## Artifact Precision Report, version 01.00

Material	Diorite
Description	Black spotted white diorite vase. Rim area broken away
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	191

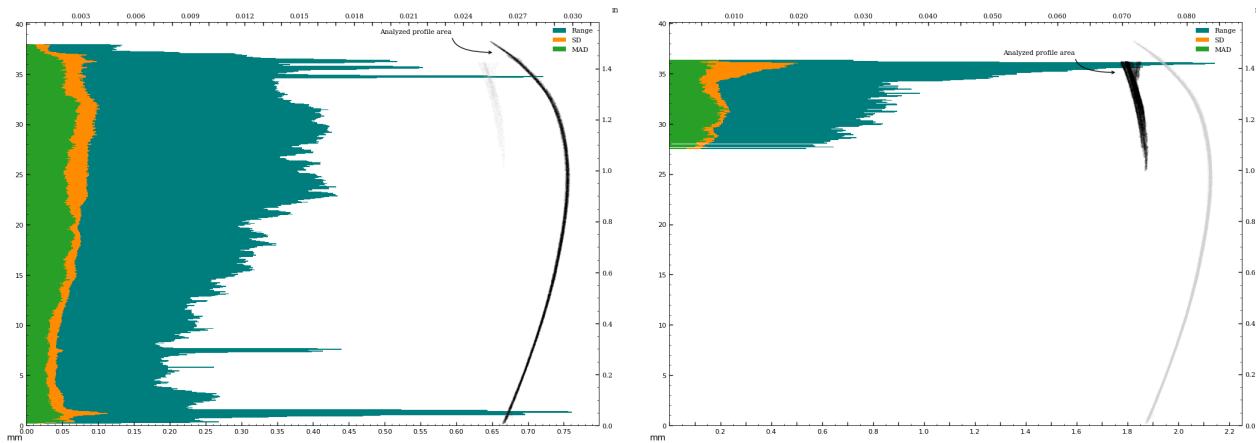
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	
Exterior	0.0052	0.072	0.072	0.048	0.057	1.071	-0.446	0.625	684999
Interior	0.0650	0.255	0.255	0.148	0.189	2.147	-0.907	1.240	61790
	in <sup>2</sup>	in	in	in	in	in	in	in	
Exterior	0.000008	0.0029	0.0029	0.0019	0.0022	0.0422	-0.0176	0.0246	684999
Interior	0.000101	0.0100	0.0100	0.0058	0.0074	0.0845	-0.0357	0.0488	61790

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		
Exterior	0.316	0.096	0.761	0.072	0.020	0.113	0.010	0.011	0.076	756	0.050
Interior	0.819	0.537	2.143	0.203	0.123	0.504	0.022	0.066	0.228	170	0.050
	in	in	in	in	in	in	in	in	in		in
Exterior	0.0125	0.0038	0.0300	0.0028	0.0008	0.0044	0.0004	0.0004	0.0030	756	0.0020
Interior	0.0323	0.0211	0.0844	0.0080	0.0049	0.0198	0.0009	0.0026	0.0090	170	0.0020



# MV009



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## Artifact Precision Report, version 01.00

Material	Diorite
Description	Banded grey Diorite gneiss bowl, part of rim missing.
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	16

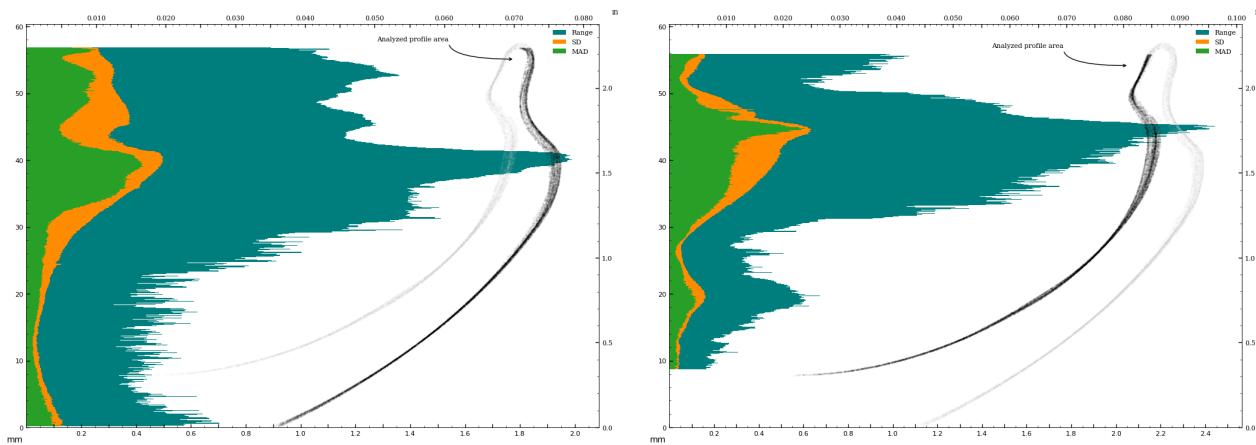
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	
Exterior	0.0644	0.254	0.254	0.092	0.169	2.036	-1.218	0.818	4270487
Interior	0.0754	0.275	0.275	0.090	0.175	3.098	-1.133	1.964	3565497
	in <sup>2</sup>	in	in	in	in	in	in	in	
Exterior	0.000100	0.0100	0.0100	0.0036	0.0067	0.0801	-0.0479	0.0322	4270487
Interior	0.000117	0.0108	0.0108	0.0036	0.0069	0.1219	-0.0446	0.0773	3565497

## Circularity measurements

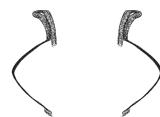
Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm
Exterior	0.938	0.268	1.989	0.165	0.035	0.499	0.051	0.022	0.426	1133	0.050
Interior	0.665	0.151	2.442	0.141	0.036	0.634	0.058	0.020	0.604	944	0.050
	in	in	in	in	in	in	in	in	in		in
Exterior	0.0369	0.0105	0.0783	0.0065	0.0014	0.0197	0.0020	0.0009	0.0168	1133	0.0020
Interior	0.0262	0.0059	0.0961	0.0055	0.0014	0.0250	0.0023	0.0008	0.0238	944	0.0020



# MV010



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## Artifact Precision Report, version 01.00

Material	Calcite (Egyptian Alabaster)
Description	Calcite (Egyptian alabaster) keeled vase, from the lower chamber in the tomb of the governor May at Qau (tomb no. 1456). Calcite (Egyptian alabaster) keeled vase, from the lower chamber in the tomb of the governor May at Qau (tomb no. 1456).
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	1.12

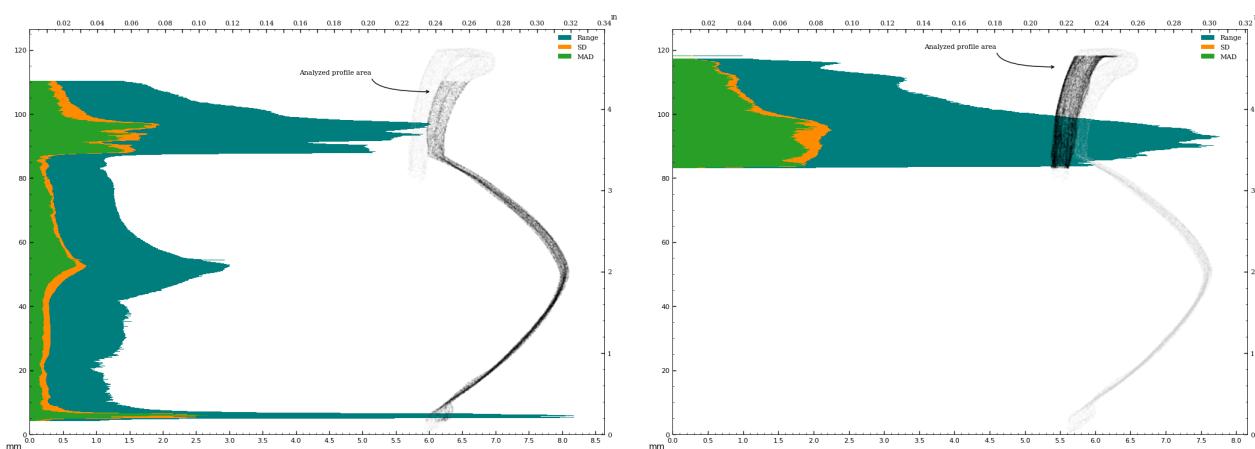
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.8937	0.945	0.945	0.390	0.638	7.808	-4.079	3.729	10926151
Interior	5.0225	2.241	2.240	2.005	1.972	8.562	-3.753	4.809	2155152
in <sup>2</sup>									
Exterior	0.001385	0.0372	0.0372	0.0153	0.0251	0.3074	-0.1606	0.1468	10926151
Interior	0.007785	0.0882	0.0882	0.0789	0.0776	0.3371	-0.1478	0.1893	2155152

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		
Exterior	1.451	0.772	8.226	0.373	0.199	2.726	0.096	0.077	2.779	2127	0.050
Interior	4.855	0.876	7.772	1.391	0.215	2.287	0.514	0.129	2.071	685	0.050
	in	in	in	in	in	in	in	in	in		in
Exterior	0.0571	0.0304	0.3238	0.0147	0.0078	0.1073	0.0038	0.0030	0.1094	2127	0.0020
Interior	0.1912	0.0345	0.3060	0.0548	0.0085	0.0900	0.0203	0.0051	0.0815	685	0.0020



# MV012



## Artifact Precision Report, version 01.00

Material	Basalt
Description	Basalt cylinder jar with flared base, one large chip on rim, several smaller on base. Otherwise intact.
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology
Precision Score	5

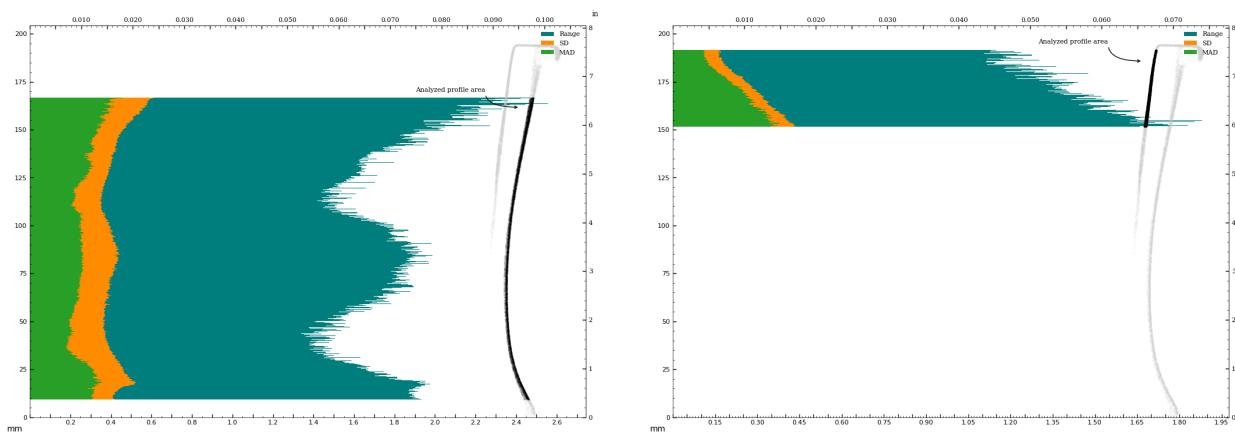
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	
Exterior	0.1890	0.435	0.435	0.278	0.352	2.961	-1.789	1.173	7010727
Interior	0.0809	0.285	0.285	0.207	0.234	2.073	-1.037	1.036	2864187
	in <sup>2</sup>	in	in	in	in	in	in	in	
Exterior	0.000293	0.0171	0.0171	0.0110	0.0139	0.1166	-0.0704	0.0462	7010727
Interior	0.000125	0.0112	0.0112	0.0081	0.0092	0.0816	-0.0408	0.0408	2864187

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm
Exterior	1.724	1.323	2.613	0.403	0.340	0.618	0.038	0.165	0.456	3151	0.050
Interior	1.370	1.038	1.881	0.284	0.157	0.438	0.077	0.103	0.392	800	0.050
	in	in	in	in	in	in	in	in	in		in
Exterior	0.0679	0.0521	0.1029	0.0159	0.0134	0.0243	0.0015	0.0065	0.0180	3151	0.0020
Interior	0.0539	0.0408	0.0741	0.0112	0.0062	0.0173	0.0030	0.0041	0.0154	800	0.0020



# MV013



## Artifact Precision Report, version 01.00

Material	Diorite
Description	Slender diorite cylinder jar with sharply flared base and protruding rim. Large chip on base and approximately one third of rim missing.
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	20

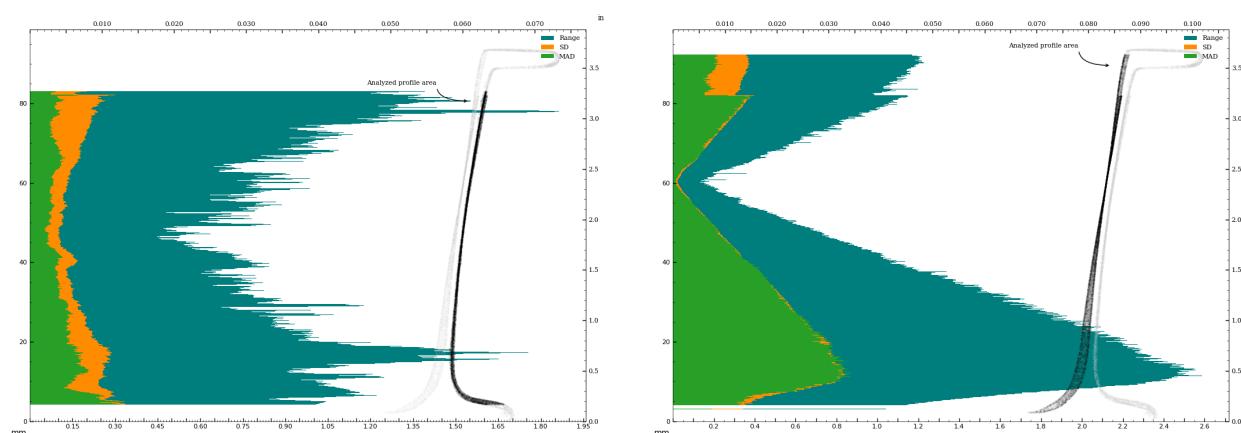
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.0501	0.224	0.224	0.119	0.167	1.963	-1.097	0.865	2233412
Interior	0.1846	0.430	0.430	0.253	0.327	2.663	-1.332	1.330	1826963
in <sup>2</sup>									
Exterior	0.000078	0.0088	0.0088	0.0047	0.0066	0.0773	-0.0432	0.0341	2233412
Interior	0.000286	0.0169	0.0169	0.0100	0.0129	0.1048	-0.0525	0.0524	1826963

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	0.871	0.444	1.865	0.174	0.098	0.335	0.026	0.049	0.327	1579	0.050
Interior	1.081	0.128	2.589	0.346	0.021	0.852	0.156	0.014	0.872	1769	0.050
in											
Exterior	0.0343	0.0175	0.0734	0.0069	0.0038	0.0132	0.0010	0.0019	0.0129	1579	0.0020
Interior	0.0425	0.0050	0.1019	0.0136	0.0008	0.0335	0.0061	0.0005	0.0343	1769	0.0020



# MV014



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## Artifact Precision Report, version 01.00

Material	Basalt
Description	Black basalt bowl. Distinct drill marks on interior base. Rim chipped but otherwise intact.
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	219
Scan note	The scanned exterior surface of the vessel contains a high number of faulty scan datapoints, this will distort circularity measurements of the object.

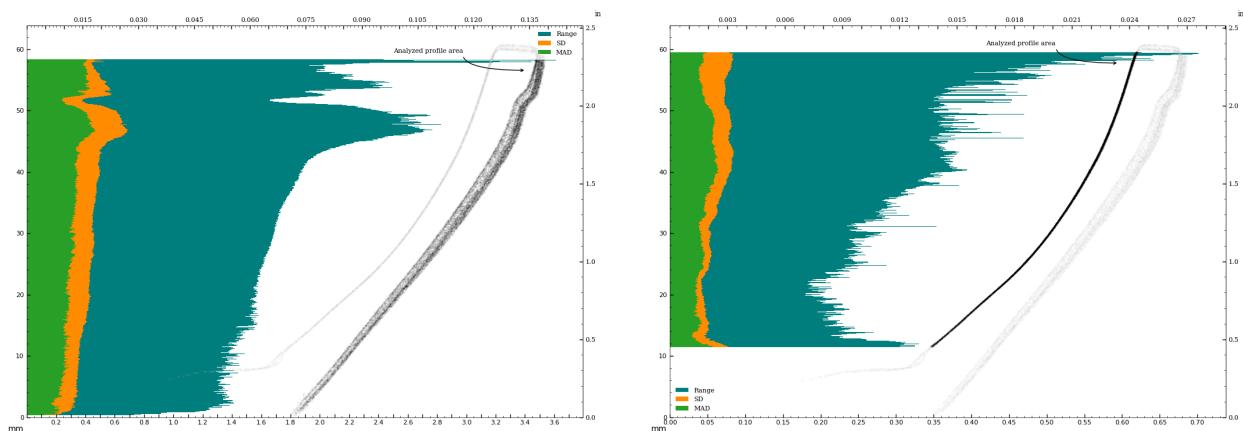
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.3196	0.565	0.565	0.377	0.470	4.053	-2.644	1.409	6364209
Interior	0.0046	0.068	0.068	0.046	0.054	2.576	-0.345	2.231	2941013
in <sup>2</sup>									
Exterior	0.000495	0.0223	0.0223	0.0148	0.0185	0.1596	-0.1041	0.0555	6364209
Interior	0.000007	0.0027	0.0027	0.0018	0.0021	0.1014	-0.0136	0.0878	2941013

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	1.671	0.733	3.613	0.445	0.196	0.688	0.041	0.124	0.467	1160	0.050
Interior	0.306	0.171	0.702	0.067	0.041	0.085	0.006	0.027	0.065	960	0.050
in											
Exterior	0.0658	0.0289	0.1423	0.0175	0.0077	0.0271	0.0016	0.0049	0.0184	1160	0.0020
Interior	0.0120	0.0067	0.0277	0.0026	0.0016	0.0034	0.0002	0.0011	0.0026	960	0.0020



# MV015



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## Artifact Precision Report, version 01.00

Material	Black & White Syenite, perhaps Hornblende Diorite
Description	Stone vase, identified in museum register as black and white syenite, perhaps hornblende diorite (?), barrel-shaped type 39. From Naqada Tomb T 16
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology
Precision Score	24

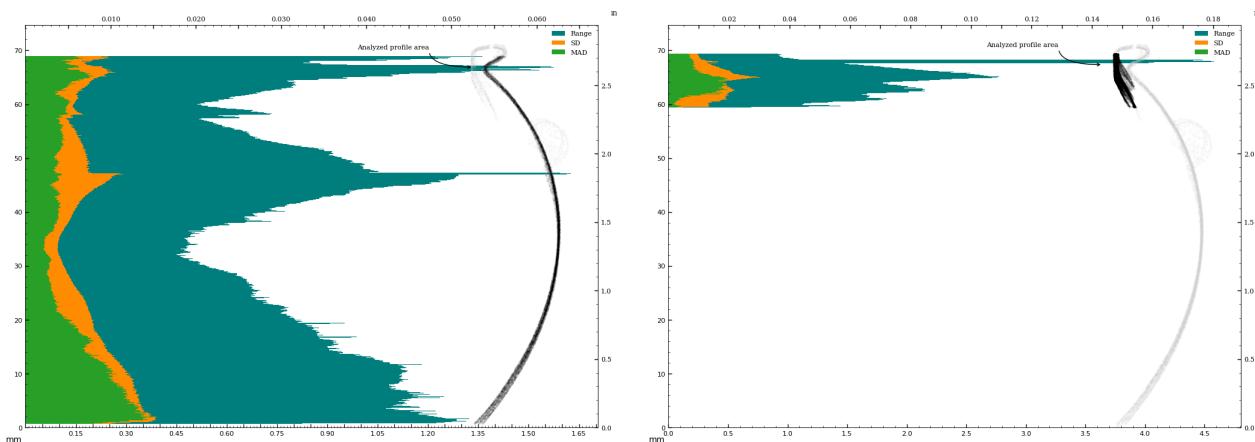
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.0423	0.206	0.206	0.117	0.157	2.219	-1.260	0.959	2291636
Interior	0.2734	0.523	0.523	0.320	0.405	5.144	-1.044	4.100	155128
in <sup>2</sup>									
Exterior	0.000066	0.0081	0.0081	0.0046	0.0062	0.0874	-0.0496	0.0377	2291636
Interior	0.000424	0.0206	0.0206	0.0126	0.0159	0.2025	-0.0411	0.1614	155128

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	0.807	0.444	1.625	0.181	0.092	0.391	0.028	0.051	0.375	1366	0.050
Interior	1.812	0.695	4.577	0.472	0.119	0.770	0.120	0.041	0.495	199	0.050
in											
Exterior	0.0318	0.0175	0.0640	0.0071	0.0036	0.0154	0.0011	0.0020	0.0148	1366	0.0020
Interior	0.0713	0.0274	0.1802	0.0186	0.0047	0.0303	0.0047	0.0016	0.0195	199	0.0020



# MV016



## Artifact Precision Report, version 01.00

Material	Basalt
Description	Stone vase, basalt, barrel shaped, type 55. From Naqada Tomb T 16
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	2.08

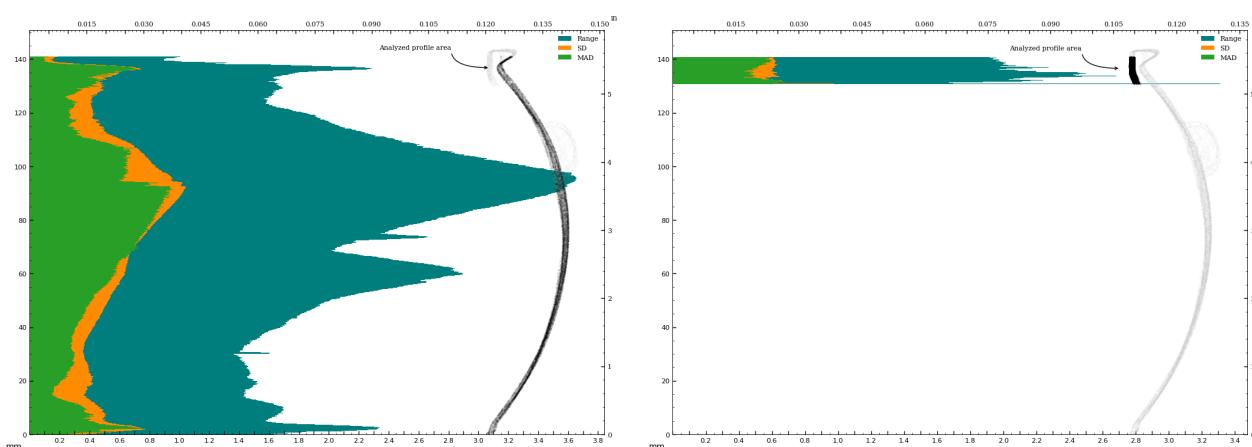
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.4804	0.693	0.693	0.492	0.567	3.710	-2.184	1.525	7543183
Interior	0.6365	0.798	0.798	0.707	0.699	3.180	-1.327	1.853	279952
in <sup>2</sup>									
Exterior	0.000745	0.0273	0.0273	0.0194	0.0223	0.1460	-0.0860	0.0601	7543183
Interior	0.000987	0.0314	0.0314	0.0278	0.0275	0.1252	-0.0522	0.0729	279952

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	2.002	0.843	3.660	0.520	0.136	1.047	0.149	0.084	0.969	2825	0.050
Interior	2.044	1.537	3.312	0.614	0.505	0.975	0.052	0.403	0.684	200	0.050
in											
Exterior	0.0788	0.0332	0.1441	0.0205	0.0054	0.0412	0.0059	0.0033	0.0382	2825	0.0020
Interior	0.0805	0.0605	0.1304	0.0242	0.0199	0.0384	0.0020	0.0158	0.0269	200	0.0020



# MV017



## Artifact Precision Report, version 01.00

Material	Limestone
Description	Vase of hard limestone, type 43, barrel shape, rim damaged. From Naqada Tomb 743.
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	29

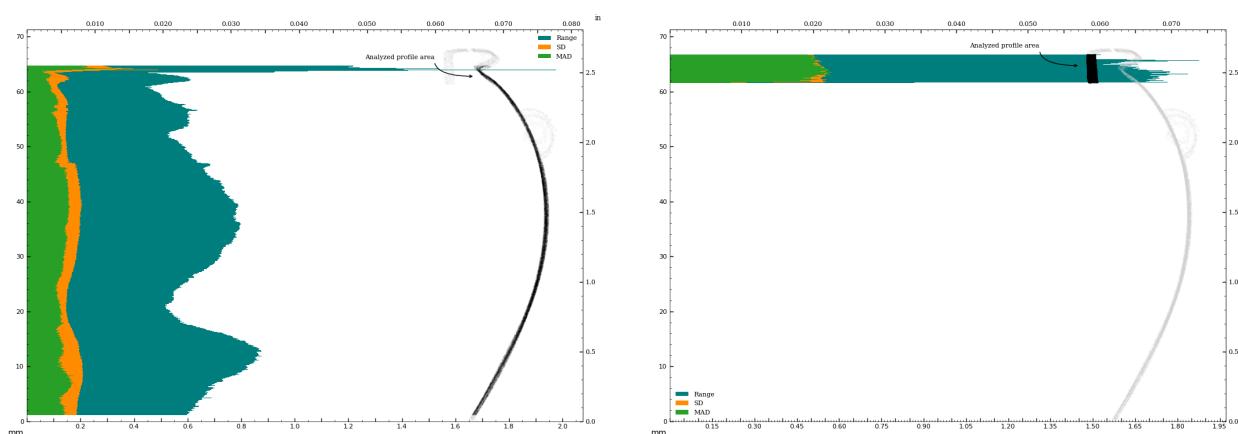
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.0346	0.186	0.186	0.133	0.149	3.245	-0.953	2.292	1973351
Interior	0.2810	0.530	0.530	0.517	0.471	1.963	-0.883	1.080	69990
in <sup>2</sup>									
Exterior	0.000054	0.0073	0.0073	0.0052	0.0058	0.1277	-0.0375	0.0902	1973351
Interior	0.000436	0.0209	0.0209	0.0203	0.0185	0.0773	-0.0348	0.0425	69990

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	0.664	0.409	1.976	0.182	0.093	0.489	0.014	0.058	0.330	1272	0.050
Interior	1.673	0.867	1.877	0.534	0.273	0.567	0.017	0.216	0.575	102	0.050
in											
Exterior	0.0262	0.0161	0.0778	0.0072	0.0036	0.0193	0.0006	0.0023	0.0130	1272	0.0020
Interior	0.0659	0.0341	0.0739	0.0210	0.0107	0.0223	0.0007	0.0085	0.0226	102	0.0020



# MV018



## Artifact Precision Report, version 01.00

Material	Diorite
Description	Vase of diorite, squat, type 15, rim and one handle broken. From Naqada Cemetery T Tomb 20
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	12

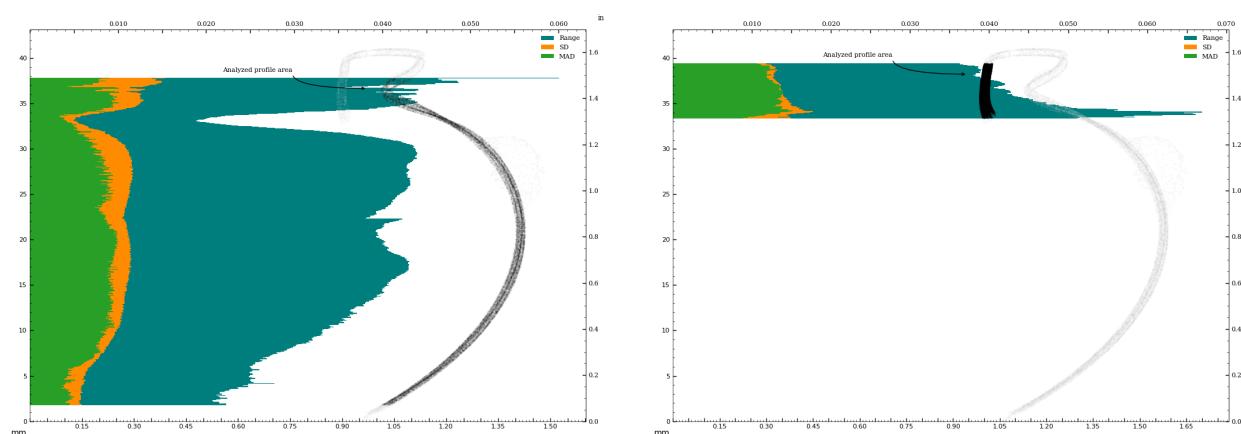
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.0840	0.290	0.290	0.188	0.218	3.550	-0.736	2.814	1665759
Interior	0.1244	0.353	0.353	0.324	0.314	1.730	-0.684	1.046	114304
in <sup>2</sup>									
Exterior	0.000130	0.0114	0.0114	0.0074	0.0086	0.1398	-0.0290	0.1108	1665759
Interior	0.000193	0.0139	0.0139	0.0127	0.0124	0.0681	-0.0269	0.0412	114304

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	1.007	0.476	1.526	0.274	0.122	0.391	0.024	0.082	0.257	721	0.050
Interior	1.074	0.920	1.701	0.346	0.299	0.449	0.021	0.206	0.387	120	0.050
in											
Exterior	0.0396	0.0187	0.0601	0.0108	0.0048	0.0154	0.0009	0.0032	0.0101	721	0.0020
Interior	0.0423	0.0362	0.0670	0.0136	0.0118	0.0177	0.0008	0.0081	0.0152	120	0.0020



# MV019



## Artifact Precision Report, version 01.00

Material	Porphyry
Description	Stone vase, type 99, porphyry, rim damaged. From Naqada Cemetery B Tomb 99
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	14

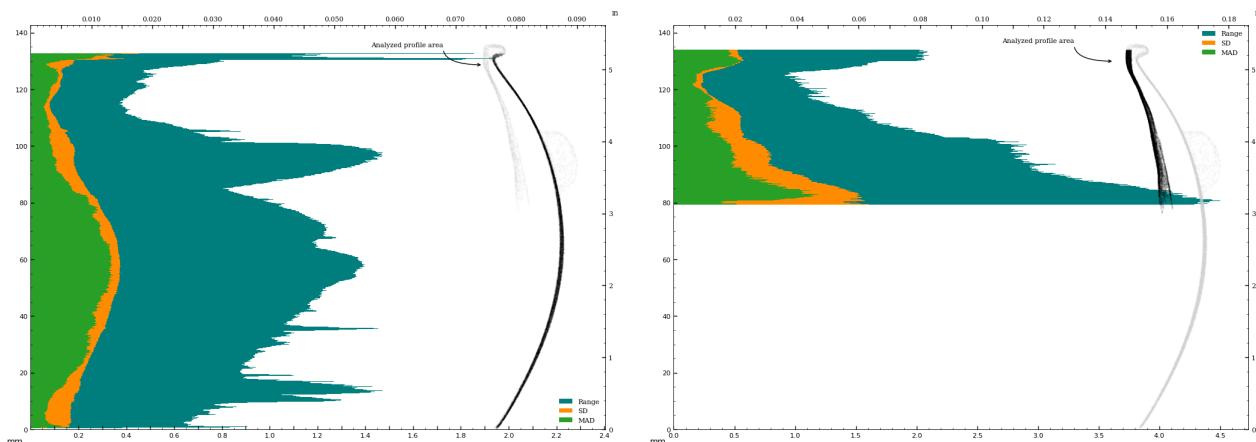
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.0726	0.270	0.270	0.176	0.214	4.129	-2.409	1.720	7017114
Interior	0.4998	0.707	0.707	0.387	0.535	4.934	-1.840	3.095	1319804
in <sup>2</sup>									
Exterior	0.000113	0.0106	0.0106	0.0069	0.0084	0.1625	-0.0948	0.0677	7017114
Interior	0.000775	0.0278	0.0278	0.0152	0.0210	0.1943	-0.0724	0.1218	1319804

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	1.070	0.302	2.291	0.228	0.053	0.470	0.093	0.032	0.378	2645	0.050
Interior	2.026	0.891	4.509	0.555	0.219	1.605	0.139	0.150	1.200	1094	0.050
in											
Exterior	0.0421	0.0119	0.0902	0.0090	0.0021	0.0185	0.0037	0.0013	0.0149	2645	0.0020
Interior	0.0797	0.0351	0.1775	0.0219	0.0086	0.0632	0.0055	0.0059	0.0472	1094	0.0020



# MV020



## Artifact Precision Report, version 01.00

Material	Basalt
Description	Stone vase, basalt, type B 37. from Naqada Tomb 100.
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	9

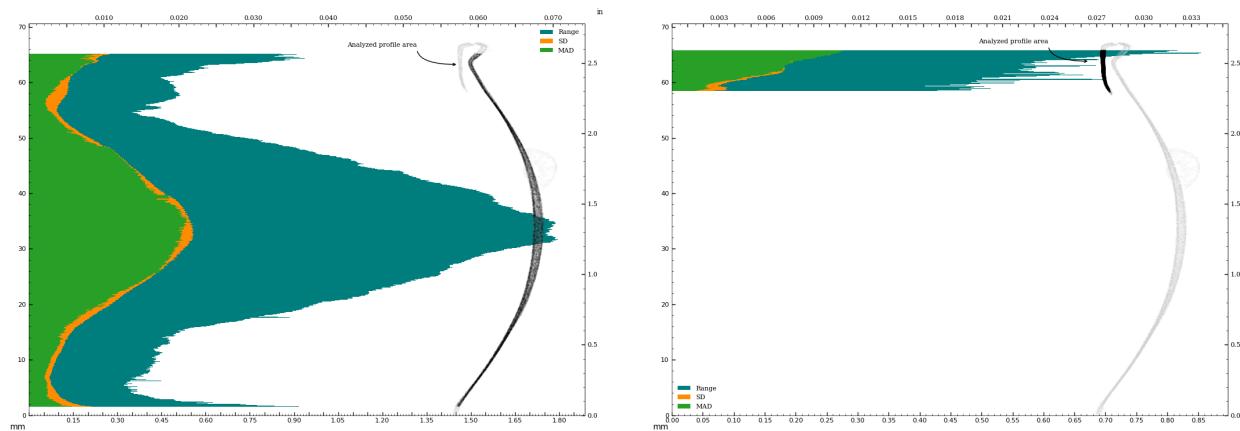
Selected measurements shown below, see full artifact report for further details.

## Surface Variability

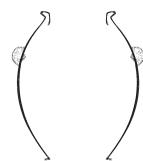
Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	mm	
Exterior	0.1113	0.334	0.334	0.188	0.257	1.852	-0.877	0.975	1816139
Interior	0.0311	0.176	0.176	0.138	0.149	0.938	-0.456	0.482	121233
	in <sup>2</sup>	in	in	in	in	in	in	in	
Exterior	0.000173	0.0131	0.0131	0.0074	0.0101	0.0729	-0.0345	0.0384	1816139
Interior	0.000048	0.0069	0.0069	0.0054	0.0059	0.0369	-0.0180	0.0190	121233

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm
Exterior	0.857	0.310	1.797	0.232	0.068	0.560	0.124	0.048	0.548	1315	0.050
Interior	0.577	0.275	0.855	0.178	0.049	0.278	0.056	0.032	0.277	146	0.050
	in	in	in	in	in	in	in	in	in		in
Exterior	0.0337	0.0122	0.0707	0.0091	0.0027	0.0221	0.0049	0.0019	0.0216	1315	0.0020
Interior	0.0227	0.0108	0.0336	0.0070	0.0019	0.0109	0.0022	0.0013	0.0109	146	0.0020



# MV021



## Artifact Precision Report, version 01.00

Material	Grey Basalt
Description	Grey basalt vase with two perforated handles. From Naqada Tomb 1207
Collection	Petrie Museum of Egyptian Archaeology
Provenance	Petrie Museum of Egyptian Archaeology (London), recovered by Flinders Petrie
Precision Score	10

Selected measurements shown below, see full artifact report for further details.

## Surface Variability

Area	MSD	RMSD	SD	Mean AD	Median AD	Range	Min	Max	Sample size
mm <sup>2</sup>									
Exterior	0.1034	0.322	0.322	0.240	0.269	1.486	-0.666	0.820	3508139
Interior	0.0301	0.174	0.173	0.134	0.144	1.624	-0.900	0.725	186315
in <sup>2</sup>									
Exterior	0.000160	0.0127	0.0127	0.0094	0.0106	0.0585	-0.0262	0.0323	3508139
Interior	0.000047	0.0068	0.0068	0.0053	0.0057	0.0639	-0.0354	0.0285	186315

## Circularity measurements

Area	Range			Standard Deviation			Median Absolute Deviation			Slices	Slice height
	Median	Min.	Max.	Median	Min.	Max.	Median	Min.	Max.		
mm											
Exterior	0.977	0.426	1.467	0.299	0.109	0.458	0.074	0.059	0.373	1800	0.050
Interior	0.643	0.430	1.231	0.166	0.115	0.291	0.027	0.073	0.197	165	0.050
in											
Exterior	0.0385	0.0168	0.0578	0.0118	0.0043	0.0181	0.0029	0.0023	0.0147	1800	0.0020
Interior	0.0253	0.0169	0.0485	0.0065	0.0045	0.0114	0.0011	0.0029	0.0077	165	0.0020

