

### Test Report

<b>Client :</b> Indian Ocean Sands [REDACTED]	<b>Project Number :</b> 2426
<b>Report Date :</b> 17/04/2026	<b>Project Details :</b> [REDACTED]
	<b>Order/Request Number :</b>
	<b>Report Number :</b> 242667

#### Sample Details

<b>Sample ID / Name / Number</b>	Sand IOSS
<b>Soil Description</b>	Yellow Backfill Sand
<b>Sampled by</b>	Client
<b>Sample Type</b>	Bulk
<b>Date Received</b>	8/4/2026

#### Dry Density / Moisture Relationship (AS 1289.5.1.1) - As determined on report 242666.

<b>Maximum Dry Density (t/m<sup>3</sup>)</b>	1.74
<b>Optimum Moisture Content (% Dry Weight)</b>	13.0

#### Thermal Conductivity (ASTM D5334) - Moisture Content (AS 1289.2.1.1)

Test Date	Preparation Method	Specimen	Moisture Content (%)	Test Duration (s)	Initial Temp. (°C)	Test Power (W/m)	Thermal Conductivity W/(m·K)	Thermal Resistivity (Km/W) *
11/04/2026	Compacted. % of MDD. OMC	80%	12.6%	600.0	20.44	21.40	1.54	0.65
		85%	12.8%	500.0	20.59		1.69	0.59
		90%	12.8%	500.0	20.26		1.85	0.54
		95%	12.9%	500.0	20.10		2.00	0.50
16/04/2026	Compacted. % of MDD. Fully Dry	80%	0.0%	600.0	19.17	20.30	0.57	1.75
		85%	0.0%	600.0	19.22		0.67	1.49
		90%	0.0%	500.0	18.89		0.73	1.37
		95%	0.0%	500.0	18.91		0.79	1.27

Specimen	Av. Length (mm)	Av. Diameter (mm)	Mass (g)	Dry Density (kg/m <sup>3</sup> )
80%	177	73	1036.2	1400
85%	177	73	1102.6	1490
90%	177	73	1162.7	1570
95%	177	73	1227.3	1660

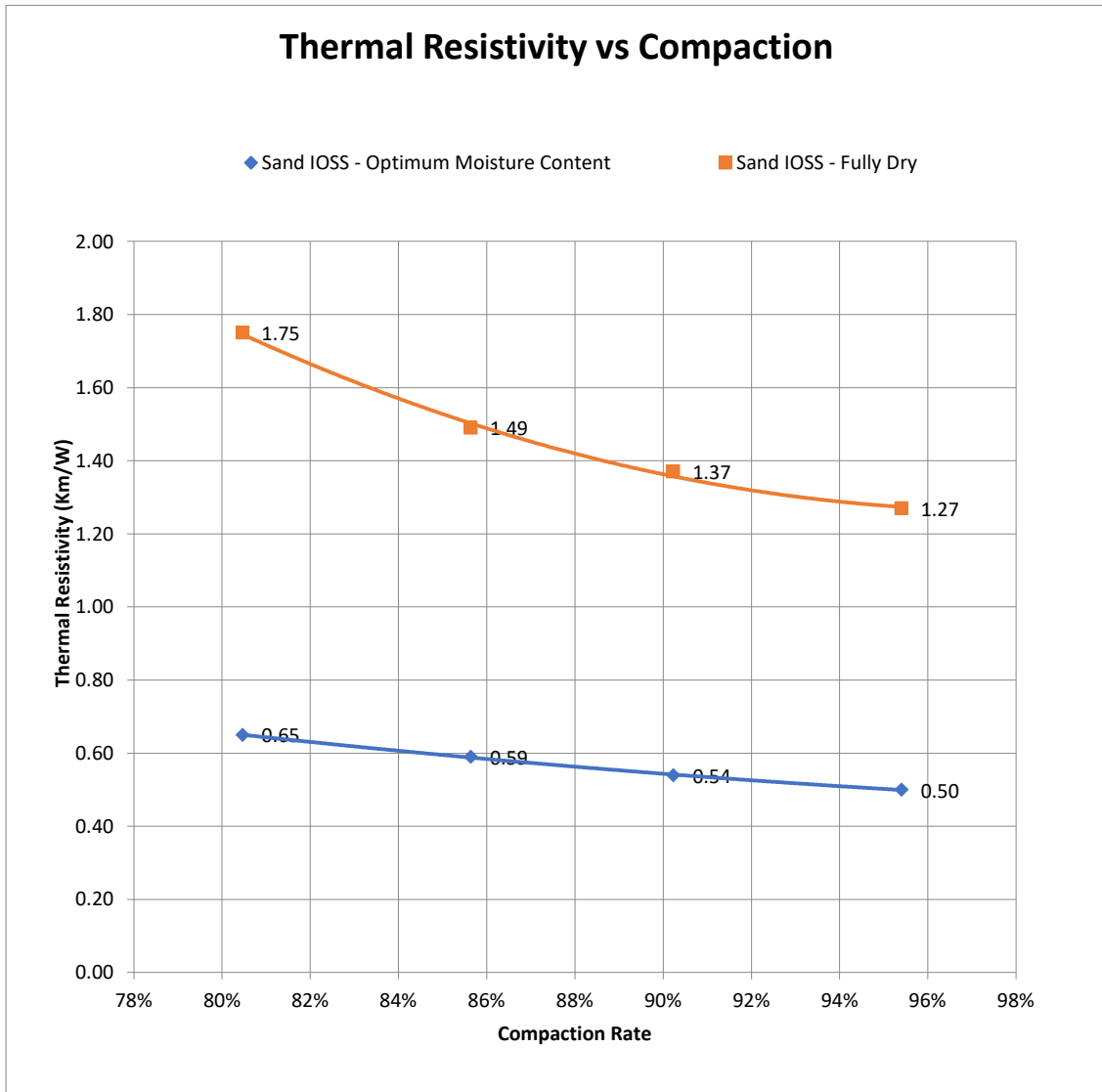
#### Notes

- The Temperature values above are expressed in degrees Celsius. Per the standard, temperature values are expressed in Kelvin, where Kelvin = 273.15 + Celsius.
- \*Per the standard, report values are in thermal conductivity (W/(m·K)). For convenience, thermal resistivity (Km/W) is also provided, where resistivity = 1/conductivity.
- All testing undertaken at Geotherm's Hornsby Laboratory, unless noted.
- Specimens prepared by BL. Wet specimens tested by AM. Dry specimens tested by ZB
- Probe dimensions used for the above testing - Diameter = 3.2mm and/or 6.0mm - Length 120mm and/or 250mm.
- The above samples will be discarded after 2 weeks.
- Changes to the density will affect the thermal results.

**Brett Hobson**

Approved Signatory





**Geotherm Australasia Pty Ltd**

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