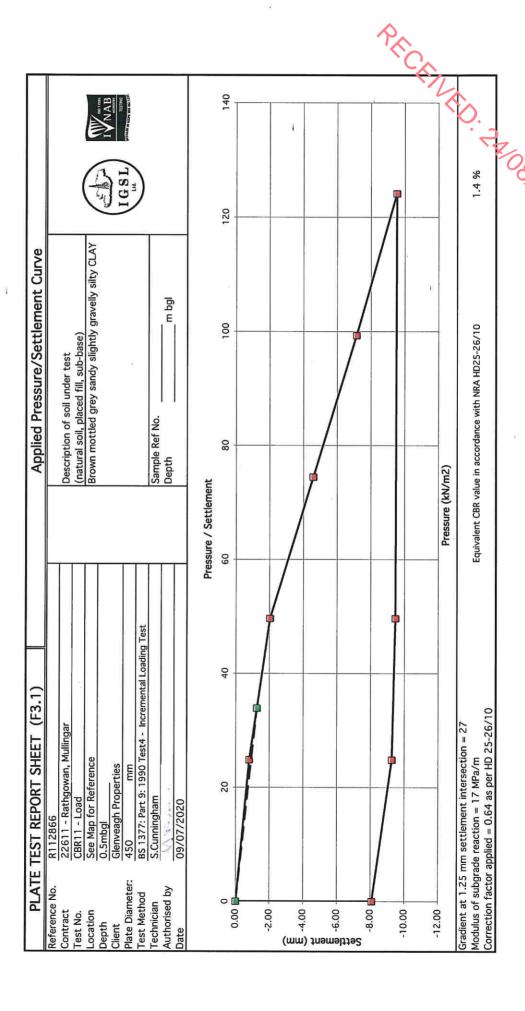
	G S L	120 140 140 1.3 % 1.3 %	
Applied Pressure/Settlement Curve		60 100 120 Fressure / Settlement 80 100 120 Pressure (kN/m2) Equivalent CBR value in accordance with NRA HD25-26/10	Page 2 of 2
PLATE TEST REPORT SHEET (F3.1)	Reference No. R112865 Contract 22611 - Rathgowan, Mullingar Test No. CBR10 - Reload Location See Map for Reference Depth 0.5mbgl Client Glenveagh Properties Plate Diameter: 450 mm Test Method BS 1377: Part 9: 1990 Test 4 - Incremental Loading Test Counningham Authorised by 09/07/2020	-2.00	



	IGS I	120 140	2.9 %	
Applied Pressure/Settlement Curve	Description of soil under test (natural soil, placed fill, sub-base) Brown mottled grey sandy slightly gravelly silty CLAY Sample Ref No. Depth	Pressure / Settlement 80 100 1	Pressure (kN/m2) Equivalent CBR value in accordance with NRA HD25-26/10	Page 2 of 2
PLATE TEST REPORT SHEET (F3.1)	Reference No. R112866 Contract Test No. 22611 - Rathgowan, Mullingar Test No. CBR11 - Reload Location See Map for Reference Depth O.5mbgl Client Glenveagh Properties Plate Diameter: 450 mm Test Method BS 1377: Part 9: 1990 Test4 - Incremental Loading Test Technician S.Cunningham Authorised by A.T. 2020	20 40	-0.50 to the feeth of the feeth of the feeth of the feeth of subgrade reaction = 27 MPa/m Correction factor applied = 0.64 as per HD 25-26/10	

PRCHINED: PAIOSIONS

Appendix IV BRE Digest 365 Tests

Soakaway Design f -value from field tests (F2C) IGSI Contract No: Contract: Rathgowan, Mullingar 22611 Test No. SA01 - Cycle 1 Client Glenveagh Properties 05/07/2020 Date: Summary of ground conditions from Ground water to Description TOPSOIL 0.00 0.25 0.25 0.80 Grey mottled brown sandy gravelly SILT/CLAY 0.80 1.50 Light brown sandy gravelly SILT/CLAY Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth of Pit (D) Depth to Elapsed 1.50 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.50 m 0.97 0.00 Initial depth to Water = 0.97 m 0.97 1.00 Final depth to water = 1.00 m 0.97 2.00 Elapsed time (mins)= 60.00 0.97 3.00 0.98 4.00 Top of permeable soil m 0.98 5.00 Base of permeable soil 0.98 10.00 0.98 15.00 0.99 20.00 0.99 25.00 0.99 30.00 Base area= 0.9 m2 0.99 35.00 *Av. side area of permeable stratum over test period 2.163 m2 1.00 40.00 3.063 Total Exposed area = m2 1.00 50.00 1.00 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.00015 m/min 2.449E-06 m/sec or Depth of water vs Elapsed Time (mins) 70.00 _ഇ60.00 ₹50.00 <u>≒</u>40.00 **8**30.00 <u>=</u>20.00 10.00 0.00 0.97 0.98 0.97 0.98 0.99 0.99 1.00 1.00 1.01 Depth to Water (m)

f -value from field tests (F2C) IGSI Soakaway Design Contract No: Contract: Rathgowan, Mullingar 22611 SA01 - Cycle 2 Test No. Client Glenveagh Properties Date: 05/07/2020 Summary of ground conditions Ground water from to Description 0.00 0.25 0.25 0.80 Grey mottled brown sandy gravelly SILT/CLAY Light brown sandy gravelly SILT/CLAY 0.80 1.50 Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth of Pit (D) 1.50 Depth to Elapsed m Width of Pit (B) 0.60 Water Time m (min) Length of Pit (L) 1.50 (m) m 1.15 0.00 Initial depth to Water = 1.15 m 1.15 1.00 Final depth to water = 1.18 m 2.00 60.00 1.15 Elapsed time (mins)= 1.15 3.00 Top of permeable soil 1.15 4.00 m 1.15 5.00 Base of permeable soil 10.00 1.15 1.16 15.00 1.16 20.00 1.16 25.00 0.9 1.17 30.00 Base area= m2 1.407 m2 1.17 35.00 *Av. side area of permeable stratum over test period Total Exposed area = 2.307 m2 1.17 40.00 1.18 50,00 1.18 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time 0.0002 m/min 3.251E-06 m/sec or Depth of water vs Elapsed Time (mins) 70.00 _{ള്}60.00 Ē50.00 <u>,</u>540.00 E 830.00 <u>പ്</u>20.00 10.00 0.00 1.17 1.17 1.18 1.18 1.15 1.16 1.16 1.19 1.15 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract: Rathgowan, Mullingar Contract No: 22611 Test No. SA02 - Cycle 1 Glenveagh Properties Client Date: 08/07/2020 Summary of ground conditions from to Description Ground water 0.00 TOPSOIL 0.25 0.25 0.80 Grey mottled brown sandy gravelly SILT/CLAY 0.80 1.50 Light brown sandy gravelly SILT/CLAY 2 Cycles Carried Out Notes: CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 m (min) (m) Length of Pit (L) 1.10 m 0.71 0.00 Initial depth to Water = 0.71 m 0.75 1.00 Final depth to water = 1.08 m 0.77 2.00 Elapsed time (mins)= 60.00 0.79 3.00 0.80 4.00 Top of permeable soil m 0.82 5.00 Base of permeable soil 0.87 10.00 0.90 15.00 0.92 20.00 0.95 25.00 0.98 30.00 Base area= 0.66 m2 1.00 35.00 *Av. side area of permeable stratum over test period 2.057 m2 1.03 40.00 Total Exposed area = 2.717 m2 1.06 50.00 1.08 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time 0.0015 m/min f= 2.497E-05 m/sec or Depth of water vs Elapsed Time (mins) 70.00 <mark>ഇ</mark>60.00 Ē50.00 <u>,</u>€40.00 E 00.00g <u>=</u>20.00 10.00 0.00 0.00 0.20 0.40 0.60 0.80 1.00 1.20 Depth to Water (m)

Soakaway Design f -value from field tests (F2C) IGSI Contract: Rathgowan, Mullingar Contractolo: 22611 Test No. SA02 - Cycle 2 Client Glenveagh Properties Date: 08/07/2020 Summary of ground conditions from Description to Ground water 0.00 0.25 TOPSOIL 0.25 0.80 Grey mottled brown sandy gravelly SILT/CLAY 0.80 1.50 Light brown sandy gravelly SILT/CLAY Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.10 0.44 0.00 Initial depth to Water = 0.44 m 0.47 1.00 Final depth to water = 0.93 m 2.00 0.49 Elapsed time (mins)= 60.00 0.51 3.00 0.53 4.00 Top of permeable soil m 0.54 5.00 Base of permeable soil 0.60 10.00 0.66 15.00 0.70 20.00 0.75 25.00 0.78 30.00 Base area= 0.66 m2 0.82 35.00 *Av. side area of permeable stratum over test period 2.771 m2 0.85 40.00 Total Exposed area = 3.431 m2 0.88 50.00 0.93 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.00157 m/min 2.618E-05 m/sec or Depth of water vs Elapsed Time (mins) 70.00 <mark>ഇ</mark>60.00 ₹50.00 <u>,</u>≝40.00 Ε 00.08 <u>=</u>20.00 10.00 0.00 0.00 0.20 0.40 0.60 0.80 1.00 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract: Rathgowan, Mullingar Contract No: 22611 Test No. SA03 - Cycle 1 Client Glenveagh Properties Date: 03/07/2020 Summary of ground conditions from to Description Ground water 0.00 0.30 TOPSOIL 0.30 1.50 Firm brown very sandy very gravelly SILT/CLAY with a low cobble cor Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.30 m 0.99 0.00 Initial depth to Water = 0.99 m 1.01 1.00 Final depth to water = 1.43 m 1.02 2.00 Elapsed time (mins)= 60.00 1.03 3.00 1.04 4.00 Top of permeable soil m 1.06 5.00 Base of permeable soil 1.10 10.00 1.14 15.00 20.00 1.20 1.23 25.00 1.27 30.00 Base area= 0.78 m2 1.31 35.00 *Av. side area of permeable stratum over test period 1.102 m2 1.35 40.00 Total Exposed area = 1.882 m2 1.39 50.00 1.43 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.00304 m/min 5.066E-05 m/sec or Depth of water vs Elapsed Time (mins) 70.00 <mark>ഇ</mark>60.00 ₹50.00 40.00<u>ق</u> Ε 00.0E <u>=</u>20.00 10.00 0.00 0.00 0.50 1.00 1.50 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract: Rathgowan, Mullingar Contract No: 22611 Test No. SA03 - Cycle 2 Client Glenveagh Properties Date: 03/07/2020 Summary of ground conditions from to Description Ground water 0.00 0.30 TOPSOIL 0.30 1.50 Firm brown very sandy very gravelly SILT/CLAY with a low cobble cor Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.30 m 0.83 0.00 Initial depth to Water = 0.83 m 0.85 1.00 Final depth to water = 1.27 m 0.86 2.00 Elapsed time (mins)= 60.00 0.88 3.00 0.90 4.00 Top of permeable soil m 0.92 5.00 Base of permeable soil 0.97 10.00 1.04 15.00 1.09 20.00 1.13 25.00 1.17 30.00 Base area= 0.78 m2 1.20 35.00 *Av. side area of permeable stratum over test period 1.71 m2 1.23 40.00 Total Exposed area = 2.49 m2 1.25 50.00 1.27 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time 0.0023 m/min f= 3.829E-05 m/sec or Depth of water vs Elapsed Time (mins) 70.00 <mark>ഇ</mark>60.00 Ē50.00 <u></u>≛40.00 Ε 830.00 **=**20.00 10.00 0.00 0.00 0.20 0.40 0.60 0.80 1.00 1.20 1.40 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract: Rathgowan, Mullingar 22611 Contract No: Test No. SA04 - Cycle 1 Client Glenveagh Properties Date: 03/07/2020 Summary of ground conditions from Description Ground water to N. 1000 0.00 0.25 TOPSOIL 0.25 1.60 Firm grey mottled brown slightly sandy gravelly SILT/CLAY Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.60 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.10 m 0.89 0.00 Initial depth to Water = 0.89 m 0.89 1.00 Final depth to water = 0.93 m 0.90 2.00 Elapsed time (mins)= 60.00 0.90 3.00 0.90 4.00 Top of permeable soil m 5.00 0.90 Base of permeable soil 0.90 10.00 0.90 15.00 0.91 20.00 0.91 25.00 0.91 30.00 Base area= 0.66 m2 0.92 35.00 *Av. side area of permeable stratum over test period 2.3545 m2 0.92 40.00 Total Exposed area = 3.0145 m2 0.92 50.00 0.93 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.00016 m/min 2.737E-06 m/sec or Depth of water vs Elapsed Time (mins) 70.00 ശ്ശ60.00 ₹50.00 <u></u>40.00 Ε 00.0E **=**20.00 10.00 0.00 0.88 0.89 0.90 0.91 0.92 0.93 0.94 Depth to Water (m)

f -value from field tests (F2C) IGS Soakaway Design Contract: Rathgowan, Mullingar Contract No: 22611 Test No. SA04 - Cycle 2 Client Glenveagh Properties Date: 03/07/2020 Summary of ground conditions from to Description Ground water Disk Of Dollars 0.00 TOPSOIL 0.25 0.25 1.60 Firm grey mottled brown slightly sandy gravelly SILT/CLAY 2 Cycles Carried Out Notes: CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.60 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.10 m 0.48 0.00 Initial depth to Water = 0.48 m 0.48 1.00 Final depth to water = 0.52 m 0.49 2.00 Elapsed time (mins)= 60.00 0.49 3.00 0.49 4.00 Top of permeable soil m 0.49 5.00 Base of permeable soil 0.49 10.00 0.50 15.00 20.00 0.50 0.51 25.00 0.51 30.00 Base area= 0.66 m2 0.51 35.00 *Av. side area of permeable stratum over test period 3.74 m2 0.52 40.00 Total Exposed area = 4.4 m2 0.52 50.00 0.52 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.0001 m/min 1.667E-06 m/sec or Depth of water vs Elapsed Time (mins) 70.00 ശ്ശ0.00 ₹50.00 <u>.</u>≝40.00 Ε **8**30.00 <u>#</u>20.00 10.00 0.00 0.47 0.48 0.49 0.50 0.51 0.52 0.53 Depth to Water (m)

Soakaway Design f -value from field tests (F2C) IGSI Contract: Rathgowan, Mullingar Contractilo: 22611 Test No. SA05 - Cycle 1 Client Glenveagh Properties Date: 03/07/2020 Summary of ground conditions Description from to Ground water 0.00 TOPSOIL 0.25 0.25 0.95 Brown mottled grey sightly sandy slightly gravelly CLAY. 0.95 1.50 Firm grey slightly sandy gravelly SILT/CLAY 2 Cycles Carried Out Notes: CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.20 1.12 0.00 Initial depth to Water = 1.12 m 1.12 1.00 Final depth to water = 1.13 m 1.12 2.00 Elapsed time (mins)= 60.00 1.12 3.00 1.12 4.00 Top of permeable soil m 5.00 1.12 Base of permeable soil 1.12 10.00 1.13 15.00 1.13 20.00 1.13 25.00 1.13 30.00 Base area= 0.72 m2 1.13 35.00 *Av. side area of permeable stratum over test period 1.35 m2 1.13 40.00 Total Exposed area = 2.07 m2 1.13 50.00 1.13 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0 m/min 0 m/sec or No fall in water after 10 minutes - test failed Depth of water vs Elapsed Time (mins) 70.00 ള60.00 Ē50.00 <u>=</u>40.00 E 930.00 830.00 <u>a</u>20.00 10.00 0.00 1.12 1.12 1.12 1.12 1.13 1.13 1.13 1.13 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract: Rathgowan, Mullingar Contract No: 22611 Test No. SA05 - Cycle 2 Client Glenveagh Properties Date: 03/07/2020 Summary of ground conditions from to Description Ground water No OS DOS 0.00 0.25 TOPSOIL 0.25 Brown mottled grey sightly sandy slightly gravelly CLAY. 0.95 0.95 1.50 Firm grey slightly sandy gravelly SILT/CLAY Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.20 0.81 0.00 Initial depth to Water = 0.81 m 0.81 1.00 Final depth to water = 0.82 m 0.81 2.00 Elapsed time (mins)= 60.00 3.00 0.81 0.81 4.00 Top of permeable soil m 0.81 5.00 Base of permeable soil m 0.81 10.00 15.00 0.81 0.82 20.00 0.82 25.00 0.82 30.00 Base area= 0.72 m2 0.82 35.00 *Av. side area of permeable stratum over test period 2.466 m2 0.82 40.00 Total Exposed area = 3.186 m2 0.82 50.00 0.82 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time 3.8E-05 m/min 6.277E-07 m/sec or No fall in water after 20 minutes - test failed Depth of water vs Elapsed Time (mins) 70.00 _ഇ60.00 Ē50.00 <u>:</u>≛40.00 g30.00 **=**20.00 10.00 0.00 0.81 0.81 0.81 0.81 0.82 0.82 0.82 0.82 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract: Rathgowan, Mullingar Contract No: 22611 Test No. SA06 - Cycle 1 Client Glenveagh Properties Date: 04/07/2020 Summary of ground conditions from Description Ground water to 0.00 0.30 TOPSOIL 0.30 0.80 Brown mottled grey sightly sandy slightly gravelly CLAY. 0.80 1.50 Firm grey slightly sandy gravelly SILT/CLAY Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.10 m Initial depth to Water = 0.93 0.00 0.93 m 0.93 1.00 Final depth to water = 0.97 m 0.93 2.00 Elapsed time (mins)= 60.00 0.93 3.00 0.93 4.00 Top of permeable soil m 0.93 5.00 Base of permeable soil 0.94 10.00 0.94 15.00 0.94 20.00 0.94 25.00 0.95 30.00 Base area= 0.66 m2 0.95 35.00 *Av. side area of permeable stratum over test period 1.87 m2 0.96 40.00 Total Exposed area = 2.53 m2 0.96 50.00 0.97 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.00017 m/min 2.899E-06 m/sec or Depth of water vs Elapsed Time (mins) 70.00 <mark>ഇ</mark>60.00 ₹50.00 <u>,</u>540.00 Ε **8**30.00 <u>=</u>20.00 10.00 0.00 0.92 0.93 0.94 0.96 0.95 0.97 0.98 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract: Rathgowan, Mullingar Contractilo: 22611 Test No. SA06 - Cycle 2 Client Glenveagh Properties Date: 04/07/2020 Summary of ground conditions from Description to Ground water 0.00 0.30 TOPSOIL 0.30 0.80 Brown mottled grey sightly sandy slightly gravelly CLAY. 0.80 1.50 Firm grey slightly sandy gravelly SILT/CLAY Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.10 0.68 0.00 Initial depth to Water = 0.68 m Final depth to water = 0.68 1.00 0.72 m 0.68 2.00 Elapsed time (mins)= 60.00 0.68 3.00 0.68 4.00 Top of permeable soil m 5.00 0.68 Base of permeable soil 0.69 10.00 0.69 15.00 0.69 20.00 0.70 25.00 0.70 30.00 Base area= 0.66 m2 0.70 35.00 *Av. side area of permeable stratum over test period 2.72 m2 0.71 40.00 Total Exposed area = 3.38 m2 0.71 50.00 0.72 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.00013 m/min 2.17E-06 m/sec or Depth of water vs Elapsed Time (mins) 70.00 ശ്ശ60.00 Ē50.00 <u>.</u>⊑40.00 E 1 g30.00 <u>=</u>20.00 10.00 0.00 0.69 0.67 0.68 0.70 0.71 0.72 0.73 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract: Rathgowan, Mullingar Contract No: 22611 Test No. SA07 - Cycle 1 Client Glenveagh Properties Date: 10/07/2020 Summary of ground conditions from Description to Ground water 0.00 0.30 TOPSOIL 0.30 0.80 Brown mottled grey sightly sandy slightly gravelly CLAY. 0.80 1.50 Firm grey slightly sandy gravelly SILT/CLAY 2 Cycles Carried Out Notes: CAT Scanned prior to excavation Pit drained before 60minutes. - high permeability - see photographs Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 (m) (min) Length of Pit (L) 1.40 m 1.04 0.00 Initial depth to Water = 1.04 m 1.05 1.00 Final depth to water = 1.50 1.06 2.00 Elapsed time (mins)= 60.00 1.07 3.00 1.08 4.00 Top of permeable soil m 1.09 5.00 Base of permeable soil 1.13 10.00 1.16 15.00 1.20 20.00 1.25 25.00 1.30 30.00 Base area= 0.84 m2 1.34 35.00 *Av. side area of permeable stratum over test period 0.92 m2 1.38 40.00 Total Exposed area = 1.76 m2 1.46 50.00 1.50 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.00366 m/min 6.098E-05 m/sec or Depth of water vs Elapsed Time (mins) 70.00 ശ്ശ60.00 Ē50.00 <u>,</u>540.00 Ε g30.00 <u>=</u>20.00 10.00 0.00 0.50 0.00 1.00 1.50 2.00 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract: Rathgowan, Mullingar Contract No: 22611 Test No. SA07 - Cycle 2 Client Glenveagh Properties Date: 10/07/2020 Summary of ground conditions from to Description Ground water TOPSOIL 0.00 0.30 0.30 0.80 Brown mottled grey sightly sandy slightly gravelly CLAY. 0.80 1.50 Firm grey slightly sandy gravelly SILT/CLAY 2 Cycles Carried Out Notes: CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.40 m 0.87 0.00 Initial depth to Water = 0.87 m 0.88 1.00 Final depth to water = 1.09 m 0.89 2.00 Elapsed time (mins)= 60.00 0.89 3.00 0.90 4.00 Top of permeable soil m 5.00 0.90 Base of permeable soil 0.92 10.00 0.94 15.00 0.97 20.00 0.98 25.00 1.00 30.00 Base area= 0.84 m2 1.01 35.00 *Av. side area of permeable stratum over test period 2.08 m2 1.02 40.00 Total Exposed area = 2.92 m2 50.00 1.05 1.09 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.00105 m/min 1.758E-05 m/sec or Depth of water vs Elapsed Time (mins) 70.00 <mark>ഇ</mark>60.00 Ē50.00 ,E40.00 E g30.00 <u>=</u>20.00 10.00 0.00 0.20 0.40 0.80 0.00 0.60 1.00 1.20 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract: Rathgowan, Mullingar Contract No: 22611 Test No. SA08 - Cycle 1 Client Glenveagh Properties Date: 05/07/2020 Summary of ground conditions from to Description Ground water TOPSOIL 0.00 0.25 0.25 0.80 Brown mottled grey sightly sandy slightly gravelly CLAY. 0.80 1.50 Firm greyish brown slightly sandy gravelly SILT/CLAY Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth to Depth of Pit (D) Elapsed 1.50 m Water Time Width of Pit (B) 0.60 m (m) (min) Length of Pit (L) 1.10 1.06 0.00 Initial depth to Water = 1.06 m 1.07 1.00 Final depth to water = 1.15 m 1.07 2.00 Elapsed time (mins)= 60.00 1.07 3.00 1.07 4.00 Top of permeable soil m 1.08 5.00 Base of permeable soil 1.09 10.00 1.09 15.00 1.10 20.00 1.10 25.00 1.11 30.00 Base area= 0.66 m2 1.12 35.00 *Av. side area of permeable stratum over test period 1.343 m2 1.13 40.00 Total Exposed area = 2.003 m2 1.14 50.00 1.15 60.00 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.00049 m/min 8.238E-06 m/sec or Depth of water vs Elapsed Time (mins) 70.00 _ഇ60.00 Ē50.00 40.00 Ε g30.00 <u>=</u>20.00 10.00 0.00 1.08 1.04 1.06 1.10 1.12 1.14 1.16 Depth to Water (m)

f -value from field tests Soakaway Design (F2C) IGSI Contract No: 22611 Contract: Rathgowan, Mullingar Test No. SA08 - Cycle 2 Client Glenveagh Properties Date: 05/07/2020 Summary of ground conditions from Description Ground water to DISTRICT OF THE PARTY OF THE PA 0.00 TOPSOIL 0.25 0.25 0.80 Brown mottled grey sightly sandy slightly gravelly CLAY. 0.80 Firm greyish brown slightly sandy gravelly SILT/CLAY 1.50 Notes: 2 Cycles Carried Out CAT Scanned prior to excavation Field Data Field Test Depth to Elapsed Depth of Pit (D) 1.50 m Water Time Width of Pit (B) 0.60 m Length of Pit (L) 1.10 (m) (min) m 0.83 0.00 Initial depth to Water = 0.83 m 0.84 1.00 Final depth to water = 0.99 m 2.00 Elapsed time (mins)= 0.84 60.00 0.85 3.00 0.86 4.00 Top of permeable soil m 5.00 0.87 Base of permeable soil 0.88 10.00 0.89 15.00 0.90 20.00 0.91 25.00 30.00 0.66 0.92 Base area= m2 2.006 0.94 35.00 *Av. side area of permeable stratum over test period m2 0.96 40.00 Total Exposed area = 2.666 m2 0.97 50.00 60.00 0.99 Infiltration rate (f) = Volume of water used/unit exposed area / unit time f= 0.00066 m/min 1.1E-05 m/sec or Depth of water vs Elapsed Time (mins) 70.00 ള60.00 Ē50.00 <u>≒</u>40.00 E 930.00 830.00 <u>=</u>20.00 10.00 0.00 0.80 0.85 0.90 0.95 1.00 Depth to Water (m)

PRICHNED: 24/08/2023

Appendix V Slit Trench

Report No.

22611

Crew: S.C & NGH

SLIT TRENCH RECORD

FACING DIRECTION:





Project: Rathgowan, Mullingar		
Engineer: Glenveagh Properties		Easting (
Client: Tobins C.E	Start of Trench	642421.

Sit Trench No. Survey Northing (m) Elevation (mOD) Sheet 753415.569 Start of Trench 642421.157 100.195 Date Commenced End of Trench 642421.78

753423.2

1 of 1

10/07/2020 10/07/2020

Ground	Cond	itions	

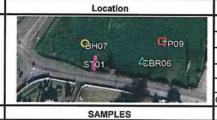
Γ	Soil Description	To (m)	From (m)	
-	TOPSOIL	0.3	0	
	MADE ODOLIND B. W. J.	2	0.3	
	MADE GROUND - Possible backfill material - Firm brown sandy gravelly CLAY with wood fragments			
-				
				_
١			1	



100.1 Date Contoleled

	Trench Dimension
LHS of Trench (m)	0.0
RHS of Trench (m)	10.0
Trench Depth (m)	2.0
Trench Width (m)	0.6
	4

North



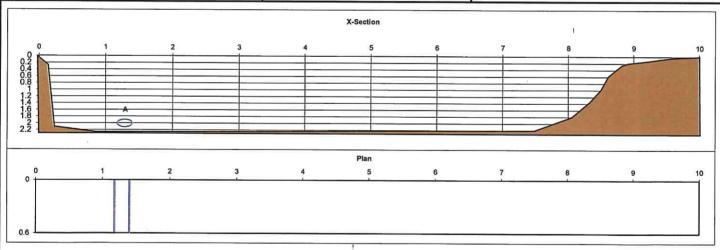
Excavation Quantities								
Surface	Length (m)	Material						
Road								
Path (LHS)								
Path (RHS)								
Grass Verge (LHS)								
Grass Verge (RHS)	10	MG						
Other								
Total Length	10.0							

Execution Quantities

Facing Direction Facing Features Groundwater

None: Dry

Zero Metres Taken As: Hedge, RHS



	Diameter (mm)	Material	Description	Distance (m)	Depth to crown (m)	Angle (deg.)
Service A	225	PVC	Orange PVC Duct - Foul Sewer - Duct was surrounded in P-Gravel which came in at 1.8mbgl.	1.3	1.9	90
Service B						
Service C						
Service D						
Service E						
Service F						
Service G						
Service H						
Service I						7
Service J						
Service K						
Service L						
Service M						

PRICHINED: PAIOSIONS

Appendix VI Dynamic Probes



REPORT NUMBER

22611

កខ	1515									• •	
CONT	RACT Mullingar , Co.Westmeath						BE NO.		DP01		
co-o	RDINATES					SHE			Sheet 1		
CDO	IND LEVEL (OD)	HAMMER MASS (kg) 50				E DRILLI		30/09/20 05/10/20			
	JND LEVEL (mOD)	INCREMENT SIZE (mr	m)	100		DATE LOGGED 05/10/2020					
CLIEN ENGIN		FALL HEIGHT (mm)	11)	500		PRO	BE TYPE	٠,٧	DPH		
2,10,1	TODRIS C.L.	TALL HEIGHT (HIIII)		300							
Depth (m)	Geotechnical Description		Pegend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphi Red	c Proba	73
1.0	End of Probe at 1.30 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10	0 1 3 3			
2.0											-
3.0											
4.0											
GROU	INDWATER OBSERVATIONS								t	£	

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20



REPORT NUMBER

CONTRACT						PE NO		DDCC	
CONTRACT Mullingar , Co.Westmeath					SHE!	BE NO.		DP02 Sheet 1 of 1	
CO-ORDINATES	HAMMED MASS (I)		F 0			DEIL		30/09/2020	
	HAMMER MASS (kg) INCREMENT SIZE (mn	m)	50 100		DATE	LOGGE		05/10/2020	
Gronn Gag. Thomas	FALL HEIGHT (mm)	11)	500		PRO	BE TYPE	<u> </u>	DPH	
Geotechnical Description		Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)		Graphic P Record	obe 20 25
7.0						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80 2.90 3.00 3.10	0 0 3 3 4 6 6 6 6 6 6 5 6 4 4 6 5 7 10 9 9 9 6 10 8 7 11 15 15 15 16 16 17 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19		
4.0									
GROUNDWATER OBSERVATIONS									
REMARKS									

CONTRACT Mullingar		**** I		***************************************										
Sheet 1 of 1 CO-ORDINATES GROUND LEVEL (mOD) HAMMER MASS (kg) 50 INCREMENT SIZE (mm) 100 PROBE TYPE DPH	J.S	31	DY	NAMIC PROBE	RECO	RD				RE				
CO-ORDINATES GROUND LEVEL (mOD) HAMMER MASS (kg) 50 DATE DIFFELED 05/10/2020 05/10	CONT	RACT	Mullingar , Co.Westmeath		·								of '	•
CLIENT Glenveagh Homes INCREMENT SIZE (mm) 100 FALL HEIGHT (mm) 500 PROBE TYPE DPH	co-o	RDINAT	ES							 P				
Company Comp		***************************************	APPROXIMATION OF THE PROPERTY					DAT	E LOGGE		05/	10/2	020	
0.0	1				-			PRO	BE TYPE	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\). _[OPH		
1.0 0.10 2 0.20 1 0.30 3 0.40 2 0.50 1 0.60 1 0.60 1 0.90 0 1.10 0 0.90 0 1.10 0 0.90 0 1.10 0 0 1.10 0 0 0 0.10 0 0 0.10 0 0 0.10 0 0.10 0 0.10 0 0.10 0 0.10 0 0.10 0 0.10 0 0.1	Depth (m)		Geotechnical Descri	otion	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	0 !	R	ecor	ď
┝ ▕ ▍▕▕▕▕▕▕▕▕▕ ▍ ┝ ▄╺ᢤ┉┿┉┿ ╌┈		End of	f Probe at 2.70 m						0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50	1 1 1 0 0 0 1 3 8 19 11 7 5 4 5 6 10 7 10 10 10 10 10 10 10 10 10 10 10 10 10	TO TO THE TOTAL OF			

GROUNDWATER OBSERVATIONS

IGSL DP LOG 100MM INCREMENTS 226118,GPJ IGSL,GDT 7/10/20

BEWASH

AND SELECT 7/10/20



REPORT NUMBER

22611

1997								$oldsymbol{ol}}}}}}}}}}}}}}}}}}$			
CONTRACT	Mullingar , Co.Westmeath					PRO SHE	RE NO.		DP04 Sheet		
CO-ORDINAT	ES						E DPALL		30/09/2		
GROUND LEV	/EL (mOD)	HAMMER MASS (kg)		50			E LOGGE		05/10/2		
CLIENT	Glenveagh Homes	INCREMENT SIZE (m	m)	100					^		
ENGINEER	Tobins C.E	FALL HEIGHT (mm)		500	<u> </u>	PRO	BE TYPI		ノ・DPH 广	······································	
Depth (m)	Geotechnical Des	cription	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)		hic Frok ecord	<i>γ</i> 2.
3.0	f Probe at 2.20 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.20 1.30 1.40 1.50 1.70 1.80 2.00 2.10	0 1 4 6 5 5 6 6 6 8 7 10 10 11 15 16 16 17 18 25			
GROUNDWA'	TER OBSERVATIONS				akumanuman nacamu						
GROUNDWA											



REPORT NUMBER

	13r	D	YNAMIC PROBE	RECOI	אט					22611				
CON	TRACT	Mullingar , Co.Westmeath						RE NO.		DP05				
co-o	RDINA	res					— SHE	E DRILLE	D	Sheet 1 of 1 2 30/09/2020				
		VEL (mOD)	HAMMER MASS (kg		50		DATI	E LOGGE	0					
CLIE		Glenveagh Homes Tobins C.E	INCREMENT SIZE (r FALL HEIGHT (mm)	INCREMENT SIZE (mm) 100 FALL HEIGHT (mm) 500			PRO	BE TYPE	· \	DPH				
									£	R				
					coat.	Elevation (mOD)			Probe Readings (Blows/Increment)	Graphic Pro	he			
Depth (m)		Geotechnical Desc	ription	Pue	Depth (m)	ation	₩.	Depth (m)	e Rea	Graphic Pro Record	0			
				Legend	Dept	Elev	Water	Dept	Prob (Blov	0 5 10 15	20 25			
0.0	į.							0.00 0.10	1 2					
-								0.20 0.30 0.40	2 3 4 3					
-								0.50 0.60	7 8					
								0.70	17 18					
1.0								0.90 1.00 1.10	18 24 25					
-	End o	f Probe at 1.20 m												
-										\vdash	+-			
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2.0											+			
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-											44			
3.0														
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GRO	UNDWA	TER OBSERVATIONS			l				l		1 1			
GRO	ADVC													
REMA	ARKS													
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REPORT NUMBER

								RE NO.	-	DDOC		
	RACT	Mullingar , Co.Westmeath					SHE			DP06 Sheet 1	of 1	
CO-O	RDINAT	ES							ED	30/09/2020		
	****	/EL (mOD)		HAMMER MASS (kg) 50						05/10/20)20	
CLIEN		Glenveagh Homes Tobins C.E		INCREMENT SIZE (mm) 100					PROBE TYPE OPH			
ENGI	VEEK	TODITIS C.E	FALL HEIGHT (mm)		500				ı	, 5		
						í í			Probe Readings (Blows/Increment)	×	20	
<u>_</u>		Geotechnical De	scription		2	Elevation (mOD)		=	edir Icren	Graph	ic Prob	·b
Depth (m)				pue	Depth (m)	ation	ē	Depth (m)	ws/lr	Re	ecord	Q)
Dep				Legend	Dep	Eje	Water	Dep	P Sel	0 5 10	15 2	0 25
0.0	•							0.00 0.10	0			
								0.20	2	3		
								0.30	2 2 2 3 2			
				:				0.50	4	3		
								0.70 0.80	1 2			
1.0								0.90 1.00	2 2 3 6			
				}				1.10 1.20	7			
								1.30 1.40	7 18		<i>11111</i>	
	End of	Probe at 1.60 m			-			1.50	25			
										-		
2.0										_	_	H
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GRO	FAWDML	TER OBSERVATIONS										
REMA	ARKS											
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REPORT NUMBER

าอลา		THAMIC PROBER	LCOI	\D		•			22611	
CONTRAC	Mullingar , Co.Westmeath					PIRO SHE	BE NO.		DP07 Sheet 1 of 1	
GROUND CLIENT ENGINEER	LEVEL (mOD) Glenveagh Homes	HAMMER MASS (kg) INCREMENT SIZE (mr) FALL HEIGHT (mm)	INCREMENT SIZE (mm) 100		DATI	E DRILLE E LOGGE BE TYPI	(D)	30/09/2020		
Depth (m)	Geotechnical Des	cription	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Proba Record	
	d of Probe at 2.40 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30	0		
4.0										
GROUNDA	WATER OBSERVATIONS									



DYNAMIC PROBE RECORD

REPORT NUMBER

CONT	TRACT Mullingar , Co.Westmeath					PIKO	BE NO.		DP08		
CO-0	RDINATES				=====	SHE			Sheet 1		
GRO	JND LEVEL (mOD)	HAMMER MASS (kg)		50		DATE LOGGED 30/09/2020 05/10/2020					
CLIE		INCREMENT SIZE (mr	n)	100		PROBE TYPE DPH					
ENGI	NEER Tobins C.E	FALL HEIGHT (mm)		500		PRO	BE TYP	E	DPH		
Depth (m)	Geotechnical Description	n	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)			ic Probecord	7 5
1.0	End of Probe at 2.60 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.20 1.30 1.40 1.50 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50	0 0 1 1 2 2 4 4 5 6 6 5 9 4 6 8 8 11 11 22 2 4 4 5 6 8 10 11 11 11 11 11 11 11 11 11 11 11 11			
3.0											
B.GPJ IGSL.GDT 7/10/20	INDWATER OBSERVATIONS								-		
IGSL DP LOG 100MM INCREMENTS 226118.GPJ IGSL.GDT 771020 B M M O O O O O O O O O O O	ARKS										



REPORT NUMBER

1 वर	<u>u</u> /					•			22611
CONTRA	ACT Mullingar , Co.Westmeath		***************************************			PRO SHE	BE NO.		DP09
CO-ORE	DINATES		· I					ED.	Sheet 1 of 1 30/09/2020
GROUN	D LEVEL (mOD)	HAMMER MASS (kg)	HAMMER MASS (kg) 50						05/10/2020
CLIENT	Glenveagh Homes	INCREMENT SIZE (m	m)	100			· ·		<u> </u>
ENGINE		FALL HEIGHT (mm)	1	500		PRO	BE TYP	E	DPH
Depth (m)	Geotechnical Des	críption	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Probe Record
1.0 E	end of Probe at 1.90 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.10 1.20 1.30 1.40 1.50 1.60 1.70	1 1 2 2 7 10 8 10 12 13 16 17 8 8 10 15 18 20 25	
3.0									
4.0				The state of the s	T TOTAL TOTA				
GROUNI	DWATER OBSERVATIONS		and the second	a marine					
REMARI	KS								



REPORT NUMBER

	इ. ।									1	228		
CONT	RACT Mullingar	, Co.Westmea	ath					PRC	β€ NO.	!	DP10		
CG-OI	RDINATES							}	SHEET Sheet 1			of 1	
00-01	ROMATES								E DKILL		30/09/2		
GROU	JND LEVEL (mOD)			HAMMER MASS (50		DAT	E LOGGI		05/10/2	020	**********
CLIEN	•	gh Homes	i	INCREMENT SIZE		100		DDO	or Type	, \\). Day		
ENGIN	NEER Tobins C.	E		FALL HEIGHT (mi	n)	500		PRO	BE TYP	E	DPH	***************************************	
Depth (m)		Geotechnicał [Description		Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)		nic Prolecord	7
0.0	4						m	<u> </u>	0.00	0	0 5 10	15	20 25
1.0	End of Probe at 1.	90 m							0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70	0 1 1 7 8 8 6 6 7 6 4 4 6 5 6 25			
3.0													
		VATIONS				***************************************			***************************************				



REPORT NUMBER

0	GST /		TNAMIC PROBER	(LCO)	\D				226	11
	NTRACT							BE NO.	DP11 Sheet 1 c	f 1
	-ORDINA		HANNED MACC (Ice)		50		DAT	E DRILLE	D 30/09/202	20
		EVEL (mOD)	HAMMER MASS (kg)		50		DAT	E LOGG	05/10/202	20
A 1000 - 1000 - 1000	ENT SINEER	Glenveagh Homes Tobins C.E	INCREMENT SIZE (m FALL HEIGHT (mm)	im)	100 500		PRO	BE TYPE	DPH	
		(Vicentical State	111111111111111111111111111111111111111							
Depth (m)		Geotechnical Desc	ription	Legend	Depth (m)	Elevation (mOD)	Water		Probe Readings (Blows/Increment) Blows/Increment) Blows/Increment) Blows/Increment)	Probe ord 15 20 25
1.0		of Probe at 2.20 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.100 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10	0 1 2 6 12 17 13 10 7 11 6 7 6 12 6 8 14 14 14 17 22 20 25	
3.0										
4.0										
REMENTS 22611B.G	DUNDWA	TER OBSERVATIONS								
GSL DP L										



REPORT NUMBER

/ IGST									220		
CONTRACT Mullingar , Co.V	Vestmeath					PRO SHE	BE NO.		DP12 Sheet 1 c	£ 1	
CO-ORDINATES GROUND LEVEL (mOD) CLIENT Glenveagh Hom ENGINEER Tobins C.E	nes	HAMMER MASS (kg) 50 INCREMENT SIZE (mm) 100 FALL HEIGHT (mm) 500			DATI	E DIVILLE E LOGGE BE TYPE	D D	30/09/2020			
Depth (m)	chnical Description	•	Legend	Legend Depth (m)		Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Rec	Probe- cord	25
2.0 End of Probe at 3.60 m							0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80 2.90 3.10 3.20 3.30 3.40 3.50	0 1 2 1 2 2 2 3 2 4 4 2 0 0			
4.0									-		
GROUNDWATER OBSERVATIO	NS										
REMARKS											



REPORT NUMBER

1927						^			Z		
CONTRACT	Mullingar , Co.Westmeath						ZE NO.		DP13		
CO-ORDINATI GROUND LEV CLIENT ENGINEER		HAMMER MASS (kg) INCREMENT SIZE (mi	INCREMENT SIZE (mm) 100			DATI	E DIVILLE E LOGGE BE TYPE	D	Sheet 1 of 1 30/09/2020 05/10/2020		
Depth (m)	Geotechnical Des	cription	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Prohe Record		
2.0 End of	Probe at 2.30 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20	0 2 1 3 4 4 2 1 2			
4.0											
GROUNDWAT	ER OBSERVATIONS			<u> </u>			<u> </u>				



REPORT NUMBER

Je	GL/	AWIIC PROBE R	ECOI	ΧD					226	11	
CONT	RACT Mullingar , Co.Westmeath					PRO SHE	BE NO.		DP14 Sheet 1 o	f 1	
	9,000	HAMMER MASS (kg) INCREMENT SIZE (mi FALL HEIGHT (mm)	m)	50 100 500		DATE	E DRILLE E LOGGE BE TYPE	p (05/10/202 DPH	20	
Depth (m)	Geotechnical Description		Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Rec	Prebe ord	25
1.0						4	0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.10 1.20 1.30 1.40 1.50 1.60 1.70	0 2 2 2 2 2 1 1 2 3 5 4 7 8 8 4 9 5 4 4 4 4 4 4 4 4 7 8 8 4 7 8 8 7 8 7 8 8 7 8 8 7 8 7			_
3.0	End of Droke at 2 50 m						1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80 2.90 3.10 3.20 3.30 3.40	4 4 4 5 6 4 5 4 7 9 8 8 8 9 9 19 25			
4.0	End of Probe at 3.50 m										
GROL	NDWATER OBSERVATIONS										
GROU	RKS										



REPORT NUMBER

	331	DYI	IAMIC PROBE R	ECOF	RD					22611	
CON	TRACT	Mullingar , Co.Westmeath					PKO SHE	BE NO.		DP15	
CO-C	RDINAT	ES					DAT	E DRILLE		Sheet 1 of 1 30/09/2020	
		VEL (mOD)	HAMMER MASS (kg)		50		DAT	E LOGGE	17/	05/10/2020	
CLIE	NT NEER	Glenveagh Homes Tobins C.E	INCREMENT SIZE (m FALL HEIGHT (mm)	m)	100 500		PRO	BE TYPE		DPH	
Depth (m)		Geotechnical Descript		Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Pro	be
2.0 -3.0	End o	f Probe at 3.70 m			Q .	В	×.	0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 2.20 2.30 2.40 2.20 2.30 2.40 2.50 2.70 2.80 2.70 2.80 3.30 3.40 3.50 3.60	d 0 0 5 6 4 3 4 3 2 3 4 4 8 8 10 10 12 11 8 8 10 9 8 6 8 6 8 8 6 10 10 9 8 16 4 19 25	0 5 10 15	20 25
CREMENTS 22611B.G	UNDWA	TER OBSERVATIONS									
IGSL DP LC											

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REPORT NUMBER

/13	SL/								2201	1
CONT	RACT Mullingar , Co.Westmeath						BE NO.		DP16	
CO-OF	RDINATES					SHE DATI	E DRUCE		Sheet 1 of 30/09/2020	
GROU	ND LEVEL (mOD)	HAMMER MASS (kg)		50			E LOGC		05/10/2020	
CLIEN	S .	INCREMENT SIZE (mr	n)	100		PRO	BE TYPE		DPH	
ENGIN	EER Tobins C.E	FALL HEIGHT (mm)		500		1	JE			the sake
Depth (m)	Geotechnical Description	n	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Reco	5 20 25
2.0	End of Probe at 4.00 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80 2.90 3.10 3.20 3.30 3.40 3.50 3.60 3.70 3.80 3.90	7 3 2		
-										
GROU	NDWATER OBSERVATIONS									

REPORT NUMBER

22611

102	75												
CONTR	ACT	Mullingar , Co.Westmeatl	ħ	A CONTRACTOR OF THE CONTRACTOR				PAC SHE	BE NO.		DP17		
CO-OR	DINATES	3							E DRUKŲ	<u>*</u> D	Sheet 30/09/		
GROUN	ND LEVE	L (mOD)	н	AMMER MASS (kg)		50			LOGG		05/10/		
CLIENT		Glenveagh Homes	IN	CREMENT SIZE (m	m)	100							
ENGINE	EER	Tobins C.E	FA	ALL HEIGHT (mm)	1	500		PRO	BE TYP	E .	DPI	1	
Depth (m)		Geotechnical D	escription		Pegend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)		ohic Fre Record	20 25
2.0	End of P	robe at 1.80 m							0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.10 1.20 1.30 1.40 1.50 1.70	1342121000026510125			
GROUN	NDWATE	R OBSERVATIONS			1	j	•		1	.		<u> </u>	
GROUN	RKS												

REPORT NUMBER DYNAMIC PROBE RECORD 22611 1551 PROBE NO. **DP18** CONTRACT Mullingar, Co.Westmeath SHEET Sheet 1 of 1 **CO-ORDINATES** DATE DRILLED 30/09/2020 DATE LOGGED 05/10/2020 HAMMER MASS (kg) 50 **GROUND LEVEL (mOD)** INCREMENT SIZE (mm) 100 CLIENT Glenveagh Homes PROBE TYPE DPH Tobins C.E ENGINEER FALL HEIGHT (mm) 500 Probe Readings (Blows/Increment) Elevation (mOD) Graphic Pebe Geotechnical Description Depth (m) Depth (m) Depth (m) Record Legend Water 10 15 20 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 0.0 0 0 2 1 2 3 2 1 0 0 4 8 8 7 11 13 14 16 1.0 1.40 1.50 1.60 1.70 1.80 1.90 2.00 25 End of Probe at 2.10 m 3.0 4.0 IGSL DP LOG 100MM INCREMENTS 226118,GPJ IGSL,GDT 7/10/20 **GROUNDWATER OBSERVATIONS** REMARKS

REPORT NUMBER

22611

1927											
CONTRACT	Mullingar , Co.Westmeath					PKO SHE	BE NO.		DP19 Sheet 1	of 1	
CO-ORDINA	TES						E DRILL		30/09/2		
GROUND LE	VEL (mOD)	HAMMER MASS (kg)		50			E LOGG		05/10/2		
CLIENT	Glenveagh Homes	INCREMENT SIZE (n	ım)	100							***************************************
ENGINEER	Tobins C.E	FALL HEIGHT (mm)		500		PRO	BE TYPI	E <	DPH		
Depth (m)	Geotechnical De	escription	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	1		hic Prolectord	(2)
3.0	of Probe at 1.60 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 1.00 1.10 1.20 1.30 1.40 1.50	0 1 1 1 1 2 0 0 0 0 0 7 10 225			
GROUNDWA	TER OBSERVATIONS			!	<u> </u>	<u> </u>		ı	<u> </u>	<u> </u>	
GROUNDWA											



REPORT NUMBER

1 -	13U /									22611
CON	TRACT	Mullingar , Co.Westmeath					t //	BE NO.		DP20
CO-C	RDINAT	ES	<u> </u>				SHE			Sheet 1 of 1
		/EL (mOD)	HAMMER MASS (kg)		50			E DRILLE E LOGGE		30/09/2020 05/10/2020
CLIE		Glenveagh Homes	INCREMENT SIZE (m	m)	100				*	
	NEER	Tobins C.E	FALL HEIGHT (mm)	T	500		PRO	BE TYPE		DPH
Depth (m)		Geotechnical Desc	ription	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)		Graphic Probe Record
1.0	End of	f Probe at 2.90 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.20 1.30 1.40 1.50 1.70 1.80 1.90 2.10 2.20 2.30 2.40 2.50 2.70 2.80	11 2 2 2 6 5 6 6 5 6 3 5 4 3 4 4 4 4 5 4 4 4 8 11 25	
REMENIS 220118.0	UNDWA [*]	TER OBSERVATIONS								



REPORT NUMBER

/DG	igt/									22011
CONT	RACT	Mullingar , Co.Westmeath						BE NO.		DP21
co-o	RDINAT	ES					SHE DATI	E DRIKU	ED.	Sheet 1 of 1 30/09/2020
GROU	JND LEV	/EL (mOD)	HAMMER MASS (kg)		50			E LOGG		05/10/2020
CLIEN		Glenveagh Homes	INCREMENT SIZE (m	m)	100		PRO	BE TYP		DPH
ENGI	NEER	Tobins C.E	FALL HEIGHT (mm)		500		Irko	DE ITT		T D
Depth (m)		Geotechnical Descript	ion	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Probe Record
1.0	End of	Probe at 2.20 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.10 1.20 1.30 1.40 1.70 1.80 1.90 2.10	1	
	UNDWA	TER OBSERVATIONS		N				I		
2										



REPORT NUMBER

22611

1996										
CONTRACT Mullingar , Co.Westmeath					PRO SHE	BE NO. ET		DP22 Sheet 1	of 1	
CLIENT Glenveagh Homes	HAMMER MASS (kg) INCREMENT SIZE (mr FALL HEIGHT (mm)	n)	50 100 500		DATE	E DRIZLE E LOGGE BE TYPE	D	30/09/20 05/10/20 DPH	20	
(E) Geotechnical Description		Legend	Depth (m)	Elevation (mOD)	Water	1 1	Probe Readings (Blows/Increment)	Graph Re		4 5
2.0						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 2.20 2.30 2.40 2.50 2.70 2.80 2.70 2.80 2.90 3.10 3.20 3.30 3.40 3.50	4			
GROUNDWATER OBSERVATIONS REMARKS							•			

REPORT NUMBER DYNAMIC PROBE RECORD 22611 1331 PAOBE NO. CONTRACT Mullingar, Co.Westmeath DP23 SHEET Sheet 1 of 1 **CO-ORDINATES** DATE DRILLED 30/09/2020 DATE LOGGED 05/10/2020 HAMMER MASS (kg) 50 GROUND LEVEL (mOD) **INCREMENT SIZE (mm)** 100 CLIENT Glenveagh Homes PROBE TYPE DPH ENGINEER Tobins C.E. FALL HEIGHT (mm) 500 Probe Readings (Blows/Increment) Elevation (mOD) Graphic Probe Geotechnical Description Depth (m) Depth (m) Depth (m) Record Legend Water 10 15 20 25 0.0 0.00 0 0 1 1 2 1 1 1 0 0 0 2 2 3 3 12 13 15 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.20 1.30 1.0 1.40 1.50 1.60 1.70 1.80 1.90 15 17 2.00 2.10 2.20 2.0 20 End of Probe at 2.30 m 3.0 4.0 IGSL DP LOG 100MM INCREMENTS 22611B,GPJ IGSL.GDT 7/10/20 **GROUNDWATER OBSERVATIONS** REMARKS

REPORT NUMBER DYNAMIC PROBE RECORD 22611 Jest PROBE NO. DP24 CONTRACT Mullingar, Co.Westmeath SHEET Sheet 1 of 1 **CO-ORDINATES** DATE DRILLED 30/09/2020 DATE LOGGED HAMMER MASS (kg) 50 05/10/2020 GROUND LEVEL (mOD) **INCREMENT SIZE (mm)** 100 CLIENT Glenveagh Homes PROBE TYPE DPH **ENGINEER** FALL HEIGHT (mm) Tobins C.E. 500 Probe Readings (Blows/Increment) Elevation (mOD) Graphic Probe Geotechnical Description Depth (m) Depth (m) Depth (m) Record Legend Water 20 0.00 0.10 0.20 0.30 0.0 01223973465457689 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.0 1.50 1.60 1.70 1.80 1.90 2.00 22 2.0 End of Probe at 2.10 m 3.0 4.0 IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20 **GROUNDWATER OBSERVATIONS**



REPORT NUMBER

1	igr /		YNAMIC PROBE F	KECOI	ν υ					22611
CONT	TRACT	Mullingar , Co.Westmeath					PKO SHE	BE NO.		DP25 Sheet 1 of 1
CO-O	RDINAT	ES						E DRILLE	.D	30/09/2020
		VEL (mOD)	HAMMER MASS (kg)		50		DATI	LOGG	7	05/10/2020
CLIEN		Glenveagh Homes Tobins C.E	INCREMENT SIZE (m FALL HEIGHT (mm)	ım)	100 500		PRO	BE TYPE		DPH
LIVOII	NCEK	TODITIS C.E	PALE REIGHT (IIIII)		500				_	12
Depth (m)		Geotechnical Desc	ription	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Probe Record
1.0	End o	f Probe at 3.10 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.10 1.20 1.30 1.40 1.50 1.70 1.80 1.90 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80 2.90 3.00	1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1	
GROU		TER OBSERVATIONS								



DYNAMIC PROBE RECORD

REPORT NUMBER

_	33/												
CONT		Mullingar , Co.Westmeath	i I					PRO SHE	BE NO.		DP26 Sheet 1	of 1	
CO-OI	RDINAT	ES							E DRIZLE		30/09/20		
GROU	JND LEV	/EL (mOD)		HAMMER MASS (kg)		50		DATE	LOGG		05/10/20	20	
CLIEN		Glenveagh Homes	1	INCREMENT SIZE (mr	n)	100		PPO	BE TYPI		DPH		
ENGIN	NEER	Tobins C.E		FALL HEIGHT (mm)		500		Tiko		-			
Depth (m)		Geotechnical De	escription		Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphi Re	c Prob	4
1.0					_				0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20	0		15 2	
3.0	End of	Probe at 2.30 m											
4.0													
GROL		TER OBSERVATIONS			I	1			ı			1	L-J-

133L		DYNAMIC PROB	E RECOF	RD				RE	2261	
CONTRACT	Mullingar , Co.Westmeath		2000				BE NO.		DP27	(4)
CO-ORDINA	TES EVEL (mOD)	HAMMER MASS	(kg)	50			ET E DRIZLE E LOGGE	<i>y</i> b	Sheet 1 of 30/09/2020 05/10/2020)
CLIENT ENGINEER	Glenveagh Homes Tobins C.E	INCREMENT SIZ FALL HEIGHT (n		100 500		PRO	BE TYPE		DPH	
Depth (m)	Geotechnical De		pueßen	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Reco	Probe rd 15 20 2
3.0	of Probe at 1.70 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.30 1.40 1.50 1.60	0 1 1 1 2 2 1 0 0 0 0 0 4 2 8 16 25		
REMARKS										



REPORT NUMBER

22611

100	192										
CONT	TRACT Mullingar , Co.Westmeath					PRO — SHE	BE NO.		DP28 Sheet 1		
co-o	RDINATES					DATI	E DRIZLE	D	30/09/2		
GROU	JND LEVEL (mOD)	HAMMER MASS (kg)		50		DATI	E LOGO		05/10/2	020	
CLIEN	[INCREMENT SIZE (mi	m)	100		PRO	BE TYPE		DPH		
ENGI	NEER Tobins C.E	FALL HEIGHT (mm)		500					\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ 		_
Depth (m)	Geotechnical Description	ו	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)			hic Prote ecord	3
1.00	End of Probe at 2.40 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 1.00 1.10 1.20 1.30 1.40 1.50 1.70 1.80 2.10 2.20 2.30				
IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GGT 7/10/20 B B C M M M M M M M M M M M M	JINDWATER OBSERVATIONS ARKS										
189											



REPORT NUMBER

22611

	RACT	Mullingar , Co.Westmeath					PRO SHE	BE NO.		DP29 Sheet		
	RDINAT						DATI	E DRILL		30/09/2	2020	
		/EL (mOD)	HAMMER MASS (kg)		50		DATI	E LOGO		05/10/2	2020	
CLIEN		Glenveagh Homes Tobins C.E	INCREMENT SIZE (m FALL HEIGHT (mm)	im)	100 500		PRO	BE TYP	E	O DPH	ĺ	
Depth (m)	······································	Geotechnical Des		Legend	Depth (m)	Elevation (mOD)	ter	Depth (m)	Probe Readings (Blows/Increment)	Grap	hic Fig	(S)
10054				Peg	Del	Ele	Water		Pro (Big	0 5	10 15	20 25
1.0	End o	f Probe at 2.50 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 1.00 1.10 1.20 1.30 1.40 1.50 1.80 1.90 2.00 2.10 2.20 2.30 2.40	0			
3.0	End of	Tribbe at 2.30 III										
4.0												
GROU		TER OBSERVATIONS									, 1	

1351		DYNAMIC PROBE	RECOF	RD				REP	окт NUMBE 22611	
CONTRACT						SHE			DP30 Sheet 1 of 1	
	EVEL (mQD)	HAMMER MASS (I	(a)	50			DRILLE LOGGE		30/09/2020 05/10/2020	
CLIENT	Glenveagh Homes	INCREMENT SIZE		100						
ENGINEER	Tobins C.E	FALL HEIGHT (mn	n)	500		PRO	BE TYPE		DPH	
Depth (m)	Geotechnical Des	ecription	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Property Record	20 2
1.0 End	of Probe at 1.30 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.10 1.20	0 1 5 4 5 7 8 18 19 19 19 125		
4.0										
GROUNDW.	ATER OBSERVATIONS									

1531	DY	NAMIC PROBE R	ECOF	RD	1964-1-100-186-196-196-196-196-196-196-196-196-196-19			REPC	DRT NUMBER	
CONTRACT						PRC SHE	BE NO.		P31 heet 1 of 1	
	VEL (mOD)	HAMMER MASS (kg)		50		DAT	E DRILLE E LOGCE	D 36	0/09/2020 5/10/2020	
CLIENT ENGINEER	Glenveagh Homes Tobins C.E	INCREMENT SIZE (mi	m)	100 500		PRO	BE TYPE	10	DPH	
Depth (m)	Geotechnical Descrip		Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Probe Record	7
2.0 End 6	of Probe at 2.70 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.10 2.20 2.30 2.40 2.50 2.60	1 2 1 5 3 2 2 2 2 1 0 1 2 2 2 2 3 5 4 8 9 7 9 9 11 20 7 19 25		
4.0										
	ATER OBSERVATIONS		I .				<u> </u>	L	_1	1
REMARKS										



REPORT NUMBER

\ le	BINA	WIIC FRODE R	LCOI	ער					226	11	
CON	TRACT Mullingar , Co.Westmeath					PRO SHE	BE NO.		DP32 Sheet 1 c	of 1	
CO-C	RDINATES						E DRILLE		30/09/20		
GRO	JND LEVEL (mOD)	HAMMER MASS (kg)		50			LOGGE		05/10/20		
CLIE		INCREMENT SIZE (mr	n)	100		l			$\overline{}$		
	NEER Tobins C.E	FALL HEIGHT (mm)		500		PRO	BE TYPE	` ' <	DPH		
Depth (m)	Geotechnical Description		Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Rec	c Protection	ζ
							0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.10 2.20 2.30 2.40 2.50 2.70 2.80	0 1 1 2 3 1 0 0 0 0 0 1 2 5 4 5 5 5 7 5 8 4 7 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5			
3.0	End of Probe at 3.20 m						2.90 3.00 3.10	21 19 25			
GRO	JNDWATER OBSERVATIONS			•						****	
GRO	ARKS										



DYNAMIC PROBE RECORD

REPORT NUMBER

									_		
	RACT	Mullingar , Co.Westmeath					PRO SHE	BE NO. ET		DP33 Sheet 1 c	of 1
CO-0	RDINAT	ES			2500			E DRILLI		30/09/202	
		/EL (mOD)	HAMMER MASS (kg)		50		DATI	E LOGO		05/10/202	20
CLIEN		Glenveagh Homes	INCREMENT SIZE (m	m)	100		PRO	BE TYP	E	DPH	
ENGI	NEEK	Tobins C.E	FALL HEIGHT (mm)		500	l					
Depth (m)		Geotechnical Desc	iption	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)		15 20 25
1.0	End of	f Probe at 2.80 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.20 1.30 1.40 1.50 2.00 2.10 2.20 2.30 2.40 2.50 2.70	0 0 0 2 1 1 2 2 2 3 4 5 4 5 6 6 7 7 8 8 8 15 18 12 12 15 15 15 15 15 15 15 15 15 15 15 15 15		
GROU		TER OBSERVATIONS									

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22611

Mullingar , Co.Westmeath					1 /	<i>-</i>				
TES EVEL (mOD) Glenveagh Homes	·	m)			DATE	E DRILLE E LOGGE	IT/	30/09/2 05/10/2	2020 2020	
Tobins C.E	FALL HEIGHT (mm)		500		PRO	BEITPE	=	DPH		
Geotechnical Desc	cription	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)				4
of Probe at 1.60 m						0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.100 1.20 1.30 1.40 1.50	1 2 1 0	_		
ATER OBSERVATIONS										
	Glenveagh Homes Tobins C.E Geotechnical Description of Probe at 1.60 m	EVEL (mOD) Glenveagh Homes Tobins C.E Geotechnical Description Geotechnical Description of Probe at 1.60 m	EVEL (mOD) Glenveagh Homes Tobins C.E Geotechnical Description Geotechnical Description Of Probe at 1.60 m	SEVEL (mOD) Glenveagh Homes Tobins C.E Geotechnical Description Geotechnical Description Geotechnical Description Geotechnical Description Geotechnical Description Geotechnical Description Geotechnical Description	SVEL (mOD) Glenveagh Homes Tobins C.E Geotechnical Description Geotechnical Description	SHELL (mOD) Glenveagh Homes Tobins C.E Geotechnical Description Geo	SHEET ATE DRIVE Clenveagh Homes Tobins C.E. Geotechnical Description Geotechnical Descriptio	SHEET DATE DRIVE DATE DRIVE DATE DRIVE DATE LOGGED DATE LOGGED DATE LOGGED DATE LOGGED DATE LOGGED DATE LOGGED PROBE TYPE TO DATE LOGGED PROBE TYPE DATE DRIVE DATE LOGGED PROBE TYPE PROBE TYPE	Sheet Shee	SHEET



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୍ରାପ୍ତ		AIVIIC PROBE R	LCOI	\D					22611
CONTRA	ACT Mullingar , Co.Westmeath					PKO SHE	BE NO.		DP35 Sheet 1 of 1
CO-ORD	DINATES						E DRULLE	D	30/09/2020
GROUN	D LEVEL (mOD)	HAMMER MASS (kg)		50			LOGGE		05/10/2020
CLIENT	Glenveagh Homes	INCREMENT SIZE (mr	n)	100		PRO	BE TYPE		DРН
ENGINE	ER Tobins C.E	FALL HEIGHT (mm)		500	1	11110			
Depth (m)	Geotechnical Description	1	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Probe Record
1.0							0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.20 1.30 1.40 1.50 1.70 1.80 1.90 2.10 2.20 2.30 2.40 2.50 2.60 2.70	0 0 1 1	
4.0	End of Probe at 3.40 m						2.80 2.90 3.00 3.10 3.20 3.30	11 10 12 16 22 25	
GROUN	DWATER OBSERVATIONS KS								

DYNAMIC PROBE RECORD

REPORT NUMBER

J 3								······································		······	
CONT	**	Mullingar , Co.Westmeath					PRC — SHE	BE NO. EY		DP36 Sheet 1 of 1	
CO-O	RDINAT	ES						E DRIZLI		30/09/2020	······································
GROU	IND LEV	/EL (mOD)	HAMMER MASS (kg)		50			E LOGC		05/10/2020	
CLIEN		Glenveagh Homes	INCREMENT SIZE (m	ım)	100						
ENGIN		Tobins C.E	FALL HEIGHT (mm)		500		PRO	BE TYP	E <	DPH	
Depth (m)	1980	Geotechnical De	escription	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)	Probe Readings (Blows/Increment)	Graphic Proof Record	4
3.0	End of	Probe at 2.60 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.20 1.30 1.40 1.50 2.00 2.10 2.20 2.30 2.40 2.50	0 0 1 1 1 1 5 2 3 2 3 1 1 1 2 3 4 4 7 9 8 1 1 4 4 25		
GROU		TER OBSERVATIONS									

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19	دد											
CONT	RACT	Mullingar , Co.Westmeath					PRO SHE	BE NO.		DP37 Sheet		
CO-O	RDINATI	ES					DAT	E DRILL		30/09/		
GROU	ND LEV	'EL (mOD)	HAMMER MASS (kg		50			E LOGG		05/10/		
CLIEN		Glenveagh Homes	INCREMENT SIZE (n		100		PPA	BE TYP		DPI		
ENGIN	IEER	Tobins C.E	FALL HEIGHT (mm)	··T	500		1.00	JE 1171			·	
Depth (π)		Geotechnical Des	cription	Legend	Depth (m)	Elevation (mOD)	Water	Depth (m)		Graj	phic P Record	25
1.0	End of	Probe at 2.30 m						0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.50 1.60 1.70 1.80 2.10 2.20	0 1 2 3 3 3 2 2 2 3 4 4 4 4 4 5 13 14 1 10 15 1 25			
GROU		ER OBSERVATIONS							**************************************			
GROU												



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F) Plegend	50 100 500 (m) UpdaQ		DAT	DBE TYP (E) 4100 0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 2.20 2.30 2.40 2.50	Probe Readings (Blows/Increment)	DP38 Sheet 1 of 30/09/2020 05/10/2020 DPH Graphic F Recor	0
	100 500		PRO	(E) Had 0.00 0.10 0.20 0.30 0.40 0.50 0.60 1.00 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.10 2.20 2.30 2.40 2.50	E Probe Readings 1 5 1 1 0 1 1 1 2 2 4 2 2 9 2 9 2 9 1 2 1 1 0 1 1 1 2 2 4 2 2 9 2 9 2 9 1 3 1 3 6 1 5 8 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1	05/10/2020 DPH Graphic F Recor	
	100 500		PRO	0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 2.00 2.10 2.20 2.30 2.40 2.50	Probe Readings (Blows/Increment)	DPH Graphic F Recor	
	500			0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 1.00 1.20 1.30 1.40 1.50 1.60 1.70 2.00 2.10 2.20 2.30 2.40 2.50	Probe Readings 8 19 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Graphic F Recor	
Pregend				0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 1.00 1.20 1.30 1.40 1.50 1.60 1.70 2.00 2.10 2.20 2.30 2.40 2.50	Probe Readings 8 19 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Graphic F Recor	
Legend	Depth (m)	Elevation (mOD)	Water	0.00 0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.20 1.30 1.40 1.50 1.60 1.70 2.00 2.10 2.20 2.30	1 1 1 1 1 1 1 1 2 5 4 5 5 6 5 6 5 9 10 9 11 13 6 13 6 14 6 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16		
				0.10 0.20 0.30 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.20 1.30 1.40 1.50 1.60 1.70 1.80 2.00 2.10 2.20 2.30 2.40 2.50	2 1 1 0 1 1 1 2 5 4 5 5 6 5 6 5 9 10 9 13 6 12 8 13 6 14 8 15 16 16 16 16 16 16 16 16 16 16 16 16 16		
	-		W 5	2.60 2.70 2.80 2.90 3.00 3.10 3.20 3.30 3.40	4 5 6 8 9 12 14 14 25		



REPORT NUMBER

133	7	AMIC PROBE R	RECOI	RD					22611	
CONTR	RACT Mullingar , Co.Westmeath					FRO SHE	BE NO.		P39	
GROUN		HAMMER MASS (kg) INCREMENT SIZE (m		50 100		DATE	E DR'(1 E) LOGGE	05	neet 1 of 1 1/09/2020 5/10/2020 DPH	
1.0	Geotechnical Description	FALL HEIGHT (mm)	Legend	Depth (m)	Elevation (mOD)	Water		robe Readings Slows/Increment)	Graphic Pr Record	20 25
4.0								-		
GROUN	IDWATER OBSERVATIONS									

REPORT NUMBER DYNAMIC PROBE RECORD 22611 1331 PROBE NO. CONTRACT Mullingar, Co.Westmeath DP40 SHEET Sheet 1 of 1 **CO-ORDINATES** DATE DRILLED 30/09/2020 GROUND LEVEL (mOD) HAMMER MASS (kg) 50 DATE LOGGED 05/10/2020 **INCREMENT SIZE (mm)** 100 CLIENT Glenveagh Homes PROBE TYPE DPH ENGINEER Tobins C.E FALL HEIGHT (mm) 500 Probe Readings (Blows/Increment) Elevation (mOD) Graphic Prope Geotechnical Description Depth (m) Depth (m) Depth (m) Record Legend Water 10 15 20 25 0.0 0.00 0.10 0.20 0.30 0 2 2 2 0.40 0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 2.00 2.10 2.20 1.0 8 8 13 12 9 10 9 10 13 16 2.0 17 25 End of Probe at 2.30 m 3.0 4.0 DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20 **GROUNDWATER OBSERVATIONS**

PRICHINED: PAIOSIONS

Appendix VII Laboratory

a. Geotechnical

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Test Report	Determination of Moisture Content, Liquid & Plastic Limits	Tested in accordance with BS1377:Part 2:1990, clauses 3.2*, 4.3, 4.4 & 5.3
IGSL Ltd	Unit J5, M7 Business Park	Co. Kildare
Materials Laboratory	Newhall, Naas	045 846176



Contract No. R113992 Report No.

Customer Tobins C.E

22611

Contract Name:

Mullingar, Co.Westmeath

	Description
	Classification
	ition Liquid Limit
	Prepara
	%
	Plasticity
8/20	Plastic
20/08/20	Liquid
ited:	Moisture
Date lested:	Sample
27/07/20	Lab. Ref
scelved: 27/	pth
Samples Received:	Sample No. Depth (m)
	BH/TP

Sample Moisture Liquid Plastic Plasticity % Preparation Liquid Limit Classification Description Type Content % Limit % Limit % Index <425μm Clause Clause	24 NP	B 10 26 NP 66 WS 4.4 Brown slightly sandy, pravelly, SULT with some cobbles	Brown sandy gravelly StLT Brown sandy gravelly StLT	B 16 27 NP 64 WS 4.4 Brown slightly sandy, slightly gravetly, SILT	B 20 37 NP 59 WS 4.4 Brown sandy gravelly SILT	B 12 24 NP 51 WS 4.4 Brown sandy gravelly SILT	B 12 23 15 8 56 WS 4.4 C.L Brown sandy gravelly CLAY					Sample Type: B - Bulk Disturbed Remarks:	urbed				e method Opinions and interpretations are outside the scope of accreditation. The results relate to the specimens tested. Any remaining material will be retained for one month.	e method If method Persons authorized to approve reports	e method it method Persons authorized to approve reports
Lab. Ref	1.1 A20/3699	2.4 A20/3701	1.2 A20/3702	1.7 A20/3703	1.5 A20/3705	2.3 A20/3706	0.8 A20/3708					WS - Wet sieved	AR - As received	NP - Non plastic		4.3 Cone Penetrometer definitive metrod	.3 Cone Penetrometer definitive ma .4 Cone Penetrometer one point ma	4.3 Cone Penetrometer definitive method4.4 Cone Penetrometer one point method	Clause: 4.4 Cone Penetrometer delimitive me Clause: 4.4 Cone Penetrometer one point m
BH/TP Sample No. Depth (m)	TP01 AA134352	TP03 AA134356	TP04 AA134370	TP05 AA134362	TP07 AA134365	TP08 AA134390	TP11 AA134374					Notes: Preparation: W	₹	Z	A time! I bino!			Clause: 4.	Clause: 4.

02/10
e E
ă
Tmp:

R113993.BH.PIB

Unit J5, M7 Business Park Materials Laboratory Newhall, Naas Co. Kildare 045 846176 IGSL Ltd



Determination of Moisture Content, Liquid & Plastic Limits

Test Report

Tested in accordance with BS1377:Part 2:1990, clauses 3.2*, 4.3, 4.4 & 5.3

Mullingar, Co.Westmeath

Contract Name:

22611

Contract No.

R113993

Report No.

Customer Tobins C.E

Date Tested: 27/07/20 Samples Received:

19/08/20

Preparation Liquid Limit Classification Description		C L Brown sandy gravelly CLAY	Brown signify sears; slightly gravely; S.R.T. with same cooksides	Brown sandy gravelly SILT	C L Brown sandy gravelly CLAY	Brown sandy gravelly SILT
Classification (Research	(22222)	CL			70	
Liquid Limit	Clause	4.4	4.4	4.4	4.4	4.4
Preparation		SM	SM	SM	MS	SM
%	<425µm	48	20	51	62	53
Plastic Plasticity	Index	13	dΝ	dN	16	dN
Plastic	Limit % Limit %	14	dN	dN	14	dN
Liquid	Limit %	27	24	29	30	28
Lab. Ref Sample Moisture	Type Content %	14	9.8	16	14	14
Sample	Type	83	В	8	æ	В
Lab. Ref		A20/3672	A20/3673	A20/3674	A20/3675	A20/3676
Depth (m)		1.0	3.0	0.9	2.0	1.0
BH/TP Sample No. Depth (m)		AA130924	AA130926	AA130929	AA130920	AA130130
BH/TP		BH01	BH01	BH01	BH02	BH03

Description		Brown sandy gravelly CLAY	Brown styliff sword, stiphtly gravely, St.T with same coboles	Brown sandy gravelly SILT	Brown sandy gravelly CLAY	Brown sandy gravelly SILT	Brown slightly sandy, gravelly, SiLT	Brown sandy gravelly SILT	Brown sandy gravelly SILT	Brown silty, sandy, GRAVEL with many cobbles	Brown sandy gravelly SILT	Brown slightly sandy, gravelly, SILT	Brown sandy gravelly SILT	Brown sandy gravelly SILT	Brown slightly sandy, gravelly, SILT	Brown sandy gravelly CLAY
Classification	(2222)	CL			CL											CL
Preparation Liquid Limit	Clause	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Preparation		SM	SM	SM	MS	SM	SM	WS	MS	SM	WS	SM	SM	SM	SM	SM
%	<425µm	48	20	51	62	53	09	42	42	41	29	39	52	82	38	38
Plasticity	Index	13	dN	dN	16	dN	dΝ	ďΝ	ΝP	dN	В	dN	dN	dN	dΝ	16
Plastic	Limit %	14	dN	dN	14	ΦN	dΝ	ΑN	ď	ďN	ďN	dN	ď	dN	₽	15
Liquid	Limit %	27	24	29	30	28	5 8	24	53	27	28	24	53	46	53	31
Moisture	Content %	14	9.8	16	14	14	15	1	12	7.3	12	9.8	12	29	12	8.1
Sample	Type	В	æ	8	В	æ	æ	В	В	В	В	В	В	В	В	В
Lab. Ref		A20/3672	A20/3673	A20/3674	A20/3675	A20/3676	A20/3677	A20/3678	A20/3679	A20/3680	A20/3681	A20/3682	A20/3683	A20/3685	A20/3686	A20/3687
Depth (m)		1.0	3.0	6.0	2.0	1.0	2.0	5.0	2.0	4.0	2.0	4.0	1.0	1.0	3.0	2.0
Sample No. Depth (m)		AA130924	AA130926	AA130929	AA130920	AA130130	AA131710	AA131713	AA130936	AA130938	AA130946	AA130948	AA130941	AA135920	AA135922	AA135925
BH/TP		BH01	вноя	BH01	BH02	BH03	BH03A	BH03A	BH04	BH04	BH05	BH05	90HB	BH07	BH07	BH08

Sample Type: B - Bulk Disturbed U - Undisturbed 4.3 Cone Penetrometer definitive method AR - As received Preparation: WS - Wet sieved NP - Non plastic Liquid Limit

Notes:

4.4 Cone Penetrometer one point method Clause:

IGSL Ltd Materials Laboratory

Approved by H Byrne (Laboratory Manager) Persons authorized to approve reports

The results relate to the specimens tested. Any remaining material will be retained for emonth.

NOTE: *Clause 3.2 of BS1377 is a "withdrawn" standard due to publication of ISO17892-#2014

Results apply to the sample as received.

Remarks:

Opinions and interpretations are outside the scope of accreditation.

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28/66/20 Date

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IGSL Ltd Materials Laboratory	oratory						F	Test Report	ort					
Unit J5, M7 Bu Newhall, Naas	Unit J5, M7 Business Park Newhall, Naas	~		1	Deter	mination	of Moistu	Determination of Moisture Content, Liquid & Plastic Limits	nt, Liquic	1 & Plast	ic Limits		***************************************	IWNAB KREIDER
Co. Kildare 045 846176					Tested in	accordance	e with BS10	Tested in accordance with BS1377:Part 2:1990, clauses 3.2*, 4.3, 4.4 & 5.3	1990, clau	Ises 3.2*, 4	.3, 4.4 & 5.	6.	***************************************	DETALLED IN SCOPE AGO NO. 1371
·	Report No.	R113994		Contract No.		22611		Contract Name:		Mullingar,	Mullingar , Co.Westmeath	eath		
-	Customer	Tobins C.E												
**************************************	Samples Received:	eeived:	27/07/20	Date Tested:	sted:	20/08/20								
ВН/ТР	Sample No. Depth (m)	Depth (m)	Lab. Ref	Sample	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity	% <425µm	Preparation Liquid Limit Clause		Classification (BS5930)	Description	
BH09	AA135916	1.0	A20/3689	В	17	34	15	 	54	SM	4.4	CL	Brown sandy gravelly CLAY	
BH10	AA135901	1.0	A20/3691	В	27	38	g	ď	49	MS	4.4		Brown sandy gravelly SILT	
BH11	AA135904	2.0	A20/3692	В	24	29	18	11	53	MS	4.4	CL	Brown slightly sandy, slightly gravelly, CLAY	y gravelly, CLAY
BH12	AA135907	1.0	A20/3694	В	15	32	ďΝ	MP	54	MS	4.4		Brown sandy gravelly SILT	
BH12	AA135909	3.0	A20/3695	В	9.5	56	ΜÞ	NP	53	MS	4.4		Brown slightly sandy, gravelly, SILT with some cobbles	th some cobbies
BH13	AA135912	1.0	A20/3697		13	30	dN	NP	52	MS	4.4		Brown sandy gravelly StLT	
			Maturian)											

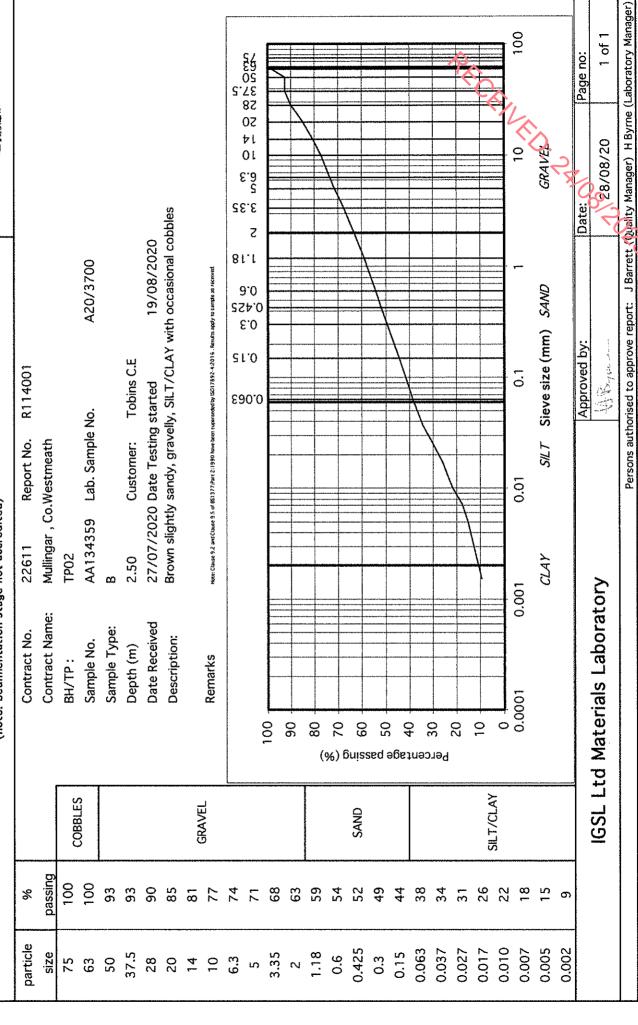
														and the same of th
Notes:	Preparation:	WS - Wet sieved			Sample Type: B - Bulk Disturbed	B - Bulk Distu		Remarks:						P
		AR - As received	_			U - Undisturbed		Results apply to the sample as received.	to the samp	ole as receive	j.			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
		NP - Non plastic						NOTE: *Claus	se 3.2 of BS	1377 is a "wii	hdrawn" stan	dard due to p	NOTE: "Clause 3.2 of BS1377 is a "withdrawn" standard due to publication of ISO17892-772014	7207
	Liquid Limit	4.3 Cone Penetrometer definitive method	ometer definitive	e method				Opinions and interpretations are outside the scope of accreditation.	interpretatio	ons are outsic	le the scope o	of accreditation	scope of accreditation.	diam'r.
	Clause:	4.4 Cone Penetrometer one point method	ometer one poir	ון שפנוסם			7	The results relate to the specimens tested.	sale to me s	Approved let	sec. Any ren	ાવા પાણી પાવાલ	Date Dage	e monun.
	W C+ - 10:	IGSI 1 td Materials I aboratory	horatory		Persons authorized to approve reports	rized to appro	ive reports			Approved by	Š		1	`
		מנטומוס במ	toolatory			H Byrne (L.	H Byrne (Laboratory Manager)	/anager)			g 626		28/08/20	1 01 1
- Annual Control			mental difference of the control of										000	
												<u>ر</u> ئ م		
							R113994.BH.PIC	BH.PIC)		Tmp: PI.II Rev 02/10

Determination of Particle Size Distribution TEST REPORT

Tested in accordance with: BS1377:Part2:1990 , clause 9.2 & 9.5 (note: Sedimentation stage not accredited)





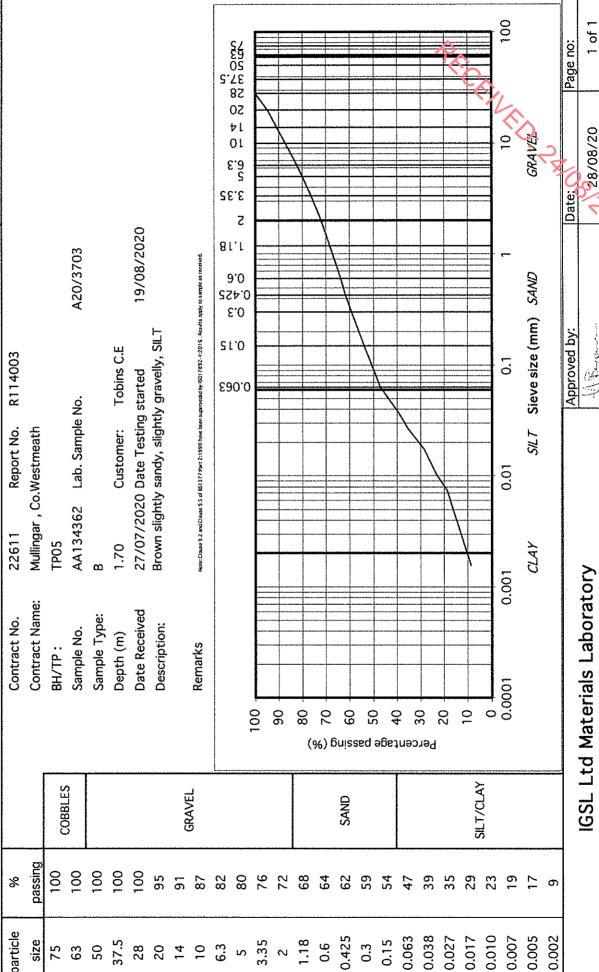


Determination of Particle Size Distribution Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 (note: Sedimentation stage not accredited) TEST REPORT



			(note:	(note: Sedimentation stage not accredited)	ge not accredite	3d)			DETALLE IN SECUPE REGINES, 1937	
particle	%		-	Contract No.	22611	Report No.	R114002			
size	passing		 -	Contract Name:	Mullingar, C	Mullingar, Co.Westmeath				
7.5	100	COBBLES		BH/TP:	TP03					
63	88	2000		Sample No.	AA134356	Lab. Sample No.		A20/3701		
50	85			Sample Type:	82					
37.5	62			Depth (m)	2.40	Customer:	Tobins C.E			
28	73			Date Received	27/07/202	27/07/2020 Date Testing started	started	20/08/2020		
20	99			Description:	Brown slight	ly sandy, gravell	Brown slightly sandy, gravelly, SILT with some cobbles	copples		
14	62	GP AVE								
10	58	3,45	_	Remarks	Note: Clause 9.2 and Clause 9.1	s of 6S1377 Part 2:1990 have been su	Note: Classe 9.2 and Classe 9.5 of 651377 Part 2:1990 have been superseched by 16017692 4:2016 . Results apply to sample as received.	y to sartale as received.	Sample size did not meet the requirenents of BS1377	
6.3	52						SI	SZ	1	S'.
ហ	20		(0.0	4.0 0.0) 1 19 24	52 25 25 25 25
3.35	47		<u> </u> 							
2	42		 06							
1.18	38		80 ~							
9.0	34		2 %)6							
0.425	33	SAND	Suiss							
0.3	31		bed a							
0.15	28									
0.063	23							1		
0.038	20									
0.027	18									Ĉ.
0.017	15	SII T/CI AV	10		1					
0.010	13		4 0					,		
0.007	-		0.0001	0.001	101	0.01	0.1		10	00
0.005	თ				CLAY	SILT	Sieve size (mm) SAND	SAND	GRAVEL	
0.002	9				A THE RESERVE THE PROPERTY OF					
			4				Approved by:		Date:	Page no:
		165L L	td Materii	IGSL Ltd Materials Laborato	Ž.		H. Ryan.	***************************************	28/08/20	1 of 1
		AND THE STREET STREET,				Persons author	Persons authorised to approve report:		J Barrett (Quality Manager) H Byrne (Laboratory Manager)	aboratory Manager)

A20/3703 Customer: Tobins C.E R114003 Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 AA134362 Lab. Sample No. Determination of Particle Size Distribution Report No. Mullingar, Co.Westmeath (note: Sedimentation stage not accredited) 22611 **IP05** 1.70 TEST REPORT Contract Name: Sample Type: Contract No. Sample No. Depth (m) BH/TP: COBBLES passing 100 100 00 particle

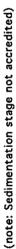


J Barrett (Quality Manager) H Byrne (Laboratory Manager)

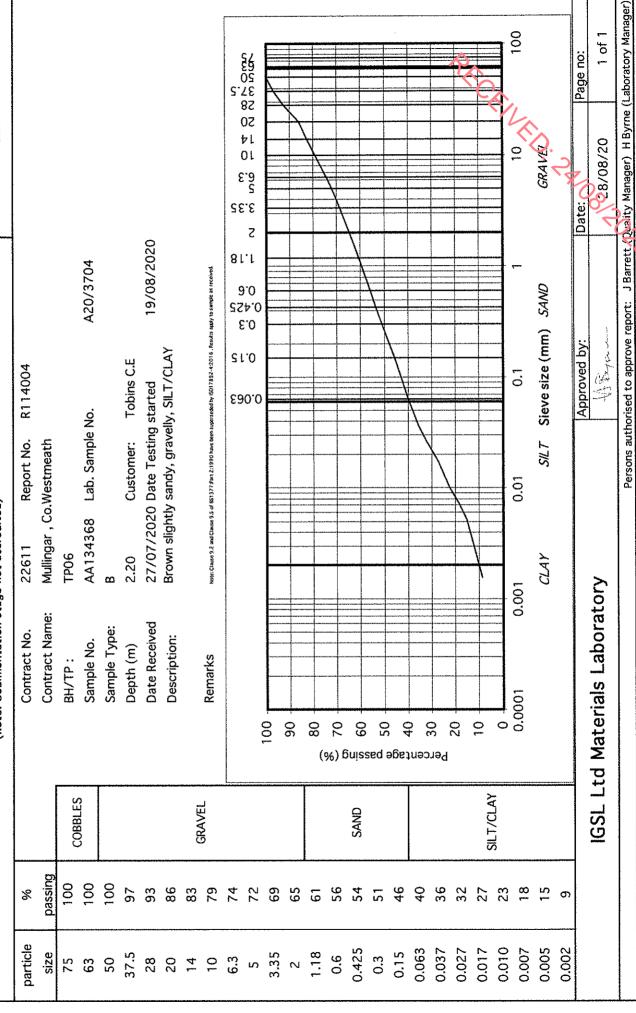
Persons authorised to approve report:

Determination of Particle Size Distribution TEST REPORT

Tested in accordance with: BS1377:Part2:1990 , clause 9.2 & 9.5







Determination of Particle Size Distribution Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 (note: Sedimentation stage not accredited) TEST REPORT





Second				(note: Sedimentation stage	tation stage	not accredited)	ed)			OCIMACIO IN SCOPE, REGINO, 1357	21321
Contract Name: Mullingar , Co.Westmeath BH/TP: TP09	particle	%		Contract	No.	22611	Report No.	R114325			
85 COBBLES 87 Sample No. AA134387 Lab. Sample No. A200 88 Sample No. AA134387 Lab. Sample No. A200 88 Sample Type: 89 Depth (m) 2.30 Customer: Tobins C.E. 90 Depth (m) 2.30 Customer: Tobins C.E. 91 Depth (m) 2.30 Customer: Tobins C.E. 92 Depth (m) 2.30 Customer: Tobins C.E. 93 Description: 94 Description: 95 SanD 96 Society Society Started 96 Society Society Started 97 Society Society Started 98 Society Society Society Started 99 Society Socie	size	passing		Contract	Name:	Mullingar, C	o.Westmeath				
Sample No. AA134387 Lab. Sample No. A200 85 87 885 886 887 888 888 889 980 680 680 680 680	7.5	85	CORBLES	BH/TP:		TP09					
Sample Type: B Sample Type: B Depth (m) 2.30 Customer: Tobins CE Date Received 27/07/2020 Date Testing started Description: Brown slightly sandy, slightly gravelly, SILT/CLAY v Remarks second slightly sandy, slightly gravelly, SILT/CLAY v Sample Type: B GRAVEL Remarks second slightly gravelly, SILT/CLAY v Sample Type: B GRAVEL Remarks second slightly gravelly, SILT/CLAY v Sample Type: B Description: Brown slightly gravelly, SILT/CLAY v Sample Type: B CLAY SILT/CLAY v Approved by: Remarks second suppose report: A Approved by: Remarks second suppose report: A Description: B Sample Type: B CLAY SILT/CLAY v Approved by: Remarks second suppose report: A Remarks second se	63	82		Sample N	<u>o</u> .	AA134387	Lab. Sample	No.	A20/3707		
85 GRAVEL Remarks Brown slightly sandy, slightly gravelly, SILT/CLAY v Description: Brown slightly sandy, slightly gravelly, SILT/CLAY v SLT Sieve size (mm) SAN III Materials Laboratory Reisons authorised to approve report:	20	82		Sample T	ype:	8					
SAND SAND See SAND	37.5	82		Depth (m	(·	2.30	Customer:	Tobins C.E			
81 Remarks Brown slightly sandy, slightly gravelly, SILT/CLAY v (SRAVEL Remarks SAND) (SPAND SPAND SPA	28	82		Date Rec	eived	27/07/202	0 Date Testing	y started	20/08/2020	0	
76 GRAVEL Remarks Increased and approve report. 100 CLAY SILT Sieve size (mm) SAA II.1 Sieve size (mm) SAA III.1 Sieve size (mm) SAA	20	81		Descriptic	on:	Brown slight	tly sandy, slight	ily gravelly, SILT,	'CLAY with some	s cobbles	
71	4	92	GRAVEL								
65 65 65 65 65 65 66 65 66 65 66 65 66 65 66 65 66 65 66 66	10	71		Remarks		Note: Clause 9.2 and Clause 9.	.5 of BS1 377 Part 2:1990 have been	supersected by 1503 7892-4:2016 - Resu	ts apply to sample as received.	Sample size 44 not ment the requirements of 85137.	4
65 65 6.0 c 0.0 c	6.3	29							9 SZ	t (S'.
59 57 58 68 68 69 69 69 69 69 70 89 69 70 69 89 69 70 69 89 69 89 69 89 69 89 69 89 69 89 69 89 69 89 69 89 69 89 69 89 69 89 89 89 89 89 89 89 89 89 89 89 80 80 80 80 80 80 80 80 80 80 80 80 80	ιΩ	65		(4.0 9.0	14 21 2 2 3 3	55 25 37 37
53 SAND Sign	3.35	29		001							
SAND SAND SAND SAND SAND SAND SAND SAND	2	59		06							
53 SAND Single Formula Single Formula SAND SAND Single Formula SAND SA	1.18	22									
53 SAND sign 60	9.0	54									
51	0.425	53	SAND								
44 44 48 39 36 31 31 31 31 31 31 31 31 31 31 31 31 31	0.3	51									
31 SILT/CLAY 0 0.001 0.001 0.01 0.1 22 18 18 14 Materials Laboratory Persons authorised to approve report:	0.15	49									
39 36 31 31 27 27 28 18 18 19 10 0.0001 0.001 0.001 0.01 0.11 11 12 13 14 15 16SL Ltd Materials Laboratory Persons authorised to approve report:	0.063	44					\				
36 31 31 31 31 10 0.0001 0.001 0.001 0.01 18 18 19 10 10 10 10 11 11 12 13 14 15 16SL Ltd Materials Laboratory Persons authorised to approve report:	0.037	39									
31 SILT/CLAY 0 0.001 0.001 0.01 22	0.027	36		50		1					Ç
27 3CT CA	0.017	33	\\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	10		\					
18 CLAY SILT Sieve size (mm) SAA 11 Approved by: IGSL Ltd Materials Laboratory Persons authorised to approve report:	0.010	27	25.7.7.	0							
11 SILT Sieve size (mm) SAA 11 Approved by: IGSL Ltd Materials Laboratory Persons authorised to approve report:	0.007	22		0.0001	0.00		0.01	0.1	,	01	100
11 Approved by: IGSL Ltd Materials Laboratory Approved by:	0.005	18				CLAY	SILT	Sieve size (mm) SAND	GRAVE	
Approved by: ARTERIAL STATES Persons authorised to approve report:	0.002	ţ		MH 5-11-1	TO THE PERSON NAMED OF THE	DEFECTION TO THE PROPERTY OF T	***************************************) N	
Persons authorised to approve report:								Approved by:		Date:	Page no:
í .			IGSL L	td Materials Lai	borator	>		一年多年		31/08/20	1 of 1
		***************************************					Persons aut	horised to approve	í .	(Quelity Manager) H Byrne	ie (Laboratory Manae

Determination of Particle Size Distribution Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 (note: Sedimentation stage not accredited) TEST REPORT



State Stat				(no)	(note: Sedimentation stage	ge not accredited)	ıted)			45 SCDPL ##G HQ 15 50	
100 COBBLES Sample No. TP13 TP13 Sample No. Sample No. TP13 Sample No. TP13 Sample No. Sample Type: B	particle	%			Contract No.	22611	Report No.	R114005			
100 COBBLES BH/TP : TP13 Sample No.	size	passing			Contract Name:	Mullingar,	Co.Westmeath				
100 Sample No. AA134376 Lab. Sample No. AA204 AA207	75	100	CORRIFS		BH/TP:	TP13					
100 Sample Type: B Depth (m) 0.80 Customer: Tobins C.E 84	63	100	2		Sample No.	AA13437		No.	A20/3709		
93 Depth (m) 0.80 Customer: Tobins C.E Date Received 27/07/2020 Date Testing started 20/07/2020 Date Testing started 20/07/202	20	100			Sample Type:	Ω					
SAND	37.5	93			Depth (m)	0.80	Customer:	Tobins C.E			
GRAVEL Remarks Remar	28	84			Date Received	27/07/20)20 Date Testin	g started	20/08/2020		
SAND	20	75			Description:	Brown clay	/ey/silty, very sa	andy, GRAVEL			
100 100	4	65	GRAVEL		c						
25 29 20 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	10	26			Remarks	Note: Clause 9.2 and Clau	se 9.5 of 851377 Part 2:1990 have been	1 superseded by 1501 7892 - 4:2016 .	Results apply to sample as received.		
35 29 25 20 100 18 SAND 100 100 100 100 100 100 100 100 100 10	6.3	44							SZ) () ()	S'
35 29 25 20 100 18 SAND 100 18 SILT/CLAY 10 0.0001 0.0001 0.	ľV	40		,					₽.0 1.0	3	5/ 5/ 5/ 5/ 5/ 5/ 5/ 5/ 5/ 5/ 5/ 5/ 5/ 5
25 20 20 21 28 20 30 30 30 30 30 30 30 30 30 30 30 30 30	3.35	35		100							
25 20 20 18 18 SAND Sign of Control of Contr	2	53		06							
20 18 18 SAND 16 16 17 8 8 8 10 10 10 0.0001 0.001 0.01 0.01 0	1.18	25									
18 SAND Sign of the second control of	9.0	50									
16	0.425	8	SAND								
12 20 20 20 20 20 20 20	0.3	16									
SILT/CLAY	0.15	12									
20 0 0.001 0.001 0.01 0.1 0.1 0.1 0.1 0.1	0.063	∞									
10 0.001 0.01 0.1 0.1 0.1 0.1 0.1 0.1 0.											
0.00 0.1 0.01 0.1 0.1 CLAY SILT Sieve size (mm) SAN CLAY SILT Sieve size (mm) SAN Approved by: A				97							
1.0 0.1 1.4Y S/LT Sieve size (mm) S4N Approved by: Approved by: Approved by:			SILT/CLAY	6 0							
Approved by: Approved by:		·		ò		01	0.01	0.1		10	100
Approved by:						CLAY	SILT	Sieve size (m	ım) <i>SAND</i>	GRAVE	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Persons authorised to approve report:								Approved by		Date:	Page no:
ı			IGSL L1	td Mate	rials Laborato	Jr.y				98/08/20	1 of 1
					William to the state of the sta		Persons aut	horised to appro-	ı	Doolity Manager) H Byrne	(Laboratory Manager

Persons authorised to approve report: J Barrett (Manager) H Byrne (Laboratory Manager) 1 of 1 Page no: 14 20 82 37.5 53 53 10 28/08/20 GRAVE 01 5.3 3:32 Date: S 19/08/2020 81.1 A20/3710 hore: Clause 9.2 and Clause 9.5 of 881377 Part 2:1990 have been supersocked by 18017892-4:2016 . Results apply to sample as received 9.0 Sieve size (mm) SAND 0.455 6.0 Approved by: 21.0 Customer: Tobins C.E Brown clayey/silty, very gravelly, SAND R114006 27/07/2020 Date Testing started €90.0 Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 AA134377 Lab. Sample No. Determination of Particle Size Distribution SILT Report No. Mullingar, Co.Westmeath 0.01 (note: Sedimentation stage not accredited) 22611 TP13 2.00 CLAY TEST REPORT 0.001 **IGSL Ltd Materials Laboratory** Contract Name: Date Received Sample Type: Contract No. Description: Sample No. Depth (m) BH/TP: Remarks 0.0001 100 90 80 9 9 50 40 30 Percentage passing (%) SILT/CLAY COBBLES GRAVEL SAND passing 90 9 9 300 97 93 90 90 90 81 74 46 61 34 27 27 22 18 particle 75 63 50 37.5 28 20 1.14 1.0 6.3 5 3.35 2 2 2 2 2 0.6 0.6

Determination of Particle Size Distribution TEST REPORT

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 (note: Sedimentation stage not accredited)





	Sample No. 22611 Report No. R13995				(note: Sedimentation stage not accredited)	redited)	OCHARLID IN SCIPPE RFG NO. 1355	भद्धा ३५ त
Sample No. AA130926 Lab. Sample No. AA20826 Lab.	Sample No.	particle	%			Report No.		
83 COBBLES 84 Sample No. AA130926 Lab. Sample No. A200 73 Sample Type: B Sample No. Date Received 27/07/2020 Date Testing started 19/ 61 GRAVEL Remarks Received 27/07/2020 Date Testing started 19/ 61 GRAVEL Remarks Received 27/07/2020 Date Testing started 19/ 62 Date Received 27/07/2020 Date Testing started 19/ 63 Sand Date Received 27/07/2020 Date Testing started 19/ 64 Secretarials Sand Date Received 27/07/2020 Date Testing started 19/ 65 Sand Date Received 27/07/2020 Date Testing started 19/ 65 Sand Date Received 27/07/2020 Date Testing started 19/ 66 Caracterials Laboratory Reports	83 COBBLES Sample No. AA130926 Lab. Sample No. A203026 Lab. Sample No. AA130926 Lab. Sample No. Customer: Tobins C.E Depth (m) 3.00 Customer: Tobins C.E Depth (m) 19/ Brown slightly gardely. SLI with so a secretarion: Brown slightly sandy, slightly gardely. SLI with so a secretarion sample No. AA130926 Lab. AA130926 Lab. Sample No. AA130926 Lab. AA1	size	passing			ar , Co.Westmeath		
833 Sample No. AA130926 Lab. Sample No. A2030 Customer: Tobins C.E Depth (m) 3.00 Customer: Tobins C.E Date Received 27/07/2020 Date Testing started 199/ 190/ 190/ 190/ 190/ 190/ 190/ 190/	83 Sample Type: B Sample No. AA130926 Lab. Sample No. A200 Customer: Tobins C.E Depth (m) 3.00 Custome	75	83	CORRIES				
Sample Type: B Customer: Tobins C.E Date Received 27/07/2020 Date Testing started 19/ GHAVEL Remarks Remarks Remarks Slightly gravelly, SlLT with so SAND Remarks	Sample Type: B Sample Type: B Sample Type: B Depth (m) 3.00 Customer: Tobins C.E	63	83	CORRECT		Lab. Sample No.	3673	
64 GRAVEL Remarks Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravely, SILT with so Description: Brown slightly gravely, slightly gravely, SILT with so Description: Brown slightly gravely, slightly gra	GRAVEL GRAVEL Remarks 3.00 Customer: Tobins C.E. GRAVEL Remarks SLT/07/2020 Date Testing started 19/ GRAVEL Remarks Succession of the standard stand	20	73					
GRAVEL GRAVEL Remarks Brown slightly sandy, slightly gravelly, SLT with so Description: Brown slightly sandy, slightly gravelly, SLT with so Description: Brown slightly sandy, slightly gravelly, SLT with so Description: Brown slightly sandy, slightly gravelly, SLT with so Description: Brown slightly gravelly, SLT Sieve size (mm) SAM Approved by: CAAY SLT Sieve size (mm) SAM Description: Brown report: CAAY SLT Sieve size (mm) SAM Description: CAAY SLT SIEve size (mm)	GRAVEL GRAVEL Remarks Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly sandy, slightly gravelly, SILT with so Description: Brown slightly gravelly, SILT with so Description: Grave Descrip	37.5	69					
64 GRAVEL Remarks Recognition: Brown slightly sandy, slightly gravelly, SILT with so a second strange of the s	GRAVEL Remarks Brown slightly gravelly, SILT with so	28	29			/2020 Date Testing started 19/	08/2020	
GRAVEL GRAVEL Remarks Near Chart 2 and Chart 3	GRAVEL GRAVEL Remarks Nuccessity and properties SAND	20	64			slightly sandy, slightly gravelly, SILT with so	ne cobbles	
55 54 41 58ND single passing 60 60 0.15 0.04 0.00 0.15 0.00 0.	55 58 48 48 48 49 60 60 60 60 60 60 60 60 60 60	4 0	10 0	GRAVEL		of Chase 6 Col (SCL2776art 2-199) Issue how connected to (GT) \$492-47016. Excits anticle centries		776
55 55 60 67 67 67 67 67 67 67 67 67 67 67 67 67	SAND SAND SAND SAND SAND SAND SAND SAND	6.3	57			\$3	5:	S
SSAND SAND Sign of the second	52 48 45 48 45 48 48 49 40 90 80 90 90 90 90 90 24 21 18 SILT/CLAY 9 10 0.0001 0.001 0.01 0.01 0.01 0.01 0	'n	52			ſ.0 €.0 §₽.0	3.3 3.3 5.3 10 10 10	52 28 32 32 02
48 45 41 39 SAND SanD SanD SanD SanD SanD SanD SanD San	39 SAND	3.35	52		000			
39 SAND Sign 60 Figure 10	39 SAND in	2	48		06			
33 SAND Single Form Single Form SAND	39 SAND Find 60 Find 6	1.18	45					
33 SAND	33 SAND	9.0	4					1
33 29 24 21 18 SILT/CLAY 0 0.0001 0.0001 0.001 0.01 0.01 0.01 0	33	0.425	39	SAND				
33	33	0.3	37					
29 24 21 18 SILT/CLAY 0 0.0001 0.0001 0.001 0.01 CLAY SILT Sieve size (mm) SAM Approved by: GSL Ltd Materials Laboratory	29	0.15	33					
24 21 18 SILT/CLAY 0 0.0001 0.001 0.01 CLAY SILT Sieve size (mm) SAA Approved by: IGSL Ltd Materials Laboratory Persons authorised to approve report:	24 21 18 SILT/CLAY 0 0.0001 0.001 0.01 0.1 GLAY SILT Sieve size (mm) S4A CLAY SILT Sieve size (mm) SAA Approved by: Appro	0.063	53					
18 SILT/CLAY	21 18 SILT/CLAY 0 0.0001 0.001 0.01 9 6 IGSL Ltd Materials Laboratory Persons authorised to approve report:	0.038	24					
18 SILT/CLAY 0 0.001 0.001 0.01 12 0.00001 0.001 0.01 6 CLAY SILT Sieve size (mm) SAA 6 Approved by: 1GSL Ltd Materials Laboratory Persons authorised to approve report:	18 SILT/CLAY 0 0 0.001 0.001 0.01 12 0.00001 0.001 0.01 6 CLAY SILT Sieve size (mm) SAA 6 Approved by: 1GSL Ltd Materials Laboratory Persons authorised to approve report:	0.027	21		50			
15 32.7 CLAY S/LT Sieve size (mm) S/A/CLAY S/LT Sieve by: 6 Approved by: 1GSL Ltd Materials Laboratory Persons authorised to approve report:	15 3.2.7 0 0.00 12 0.0001 0.001 0.01 6 6 6 6 Approved by: 1GSL Ltd Materials Laboratory Persons authorised to approve report:	0.017	18	CII T/CI AV	10			
12 0.0001 0.001 0.11 9 CLAY SILT Sieve size (mm) SAA 6 Approved by: 1GSL Ltd Materials Laboratory Persons authorised to approve report:	12 0.0001 0.001 0.11 9 CLAY SILT Sieve size (mm) SAA 6 Approved by: 1GSL Ltd Materials Laboratory Persons authorised to approve report:	0.010	15	SEL (CE)				
6 GLAY S/L7 Sieve size (mm) S/AA 6 Approved by: 1GSL Ltd Materials Laboratory Persons authorised to approve report:	6 6 Approved by: IGSL Ltd Materials Laboratory Persons authorised to approve report:	0.007	12				0	1000
6 Approved by: IGSL Ltd Materials Laboratory Approved by:	GSL Ltd Materials Laboratory Approved by: App	0.005	თ		CLAY			
Approved by: IV Persons authorised to approve report:	Approved by:	0.002	9				25	
FY Persons authorised to approve report:	Persons authorised to approve report:				-	Approved by:	Date:	Page no:
i	1 I			IGSL L	td Materials Laboratory	Warmen -	4 28/08/20	1 of 1
	ł .		1			i	J Barrett (Quality Manager) H By	ne (Laboratory Manager)

Determination of Particle Size Distribution Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 (note: Sedimentation stage not accredited) TEST REPORT



Particle % Accountract No. 2.611 Report No. R113996				(note: Sedimentation stage not accredited)	OCCUPATION OF SCORE PERSONAL STATE
100 COBBLES Sample No. BH/TP: BH03A 100 Sample No. AA131710 Lab. Sample No. A20/100 100 Sample No. AA131710 Lab. Sample No. A20/100 100 Sample Type: B Sample No. AA131710 Lab. Sample No. AA131710	particle	%		22611 Report No.	
100 COBBLES Sample No. AA131710 Lab. Sample No. A200 Sample No. AA131710 Lab. Sample No. AA131710 AA13171	size	passing			
100 Sample No. AA131710 Lab. Sample No. AA231710 Lab. Sample No. AA207 AA2	75	100	CORRIFC		
100 Sample Type: B Depth (m) 2.00 Customer: Tobins C.E 194 Depth (m) 2.00 Customer: Tobins C.E 194 Description: Brown slightly sandy, gravelly, SILT SANE SAND Electron Sample Type: Brown slightly sandy, gravelly, SILT SAND Electron Sample Type: Brown slightly sandy, gravelly, SILT SAND Electron Sample Type: Brown slightly sandy, gravelly, SILT Sample Type: Brown supproved by: Brown s	63	100	CORRECT	AA131710 Lab. Sample No.	
100 100 100 100 100 100 100 100	20	100			
SRAVEL Remarks Brown slightly sandy, gravelly, SILT SRAVEL Remarks Brown slightly sandy, gravelly, SILT SanD Size Size SanD	37.5	100		2.00 Customer:	
SRAVEL Remarks Brown slightly sandy, gravelly, SLT	28	95		27/07/2020 Date Testing started	
SAND	50	91			
Second S	4-	87	GRAVEI		
52 54 554 50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10	82	5	-	
59 59 50 50 50 50 50 50 50 50 50 50 50 50 50	6.3	75		81 9 9 9 82 8 8	: (
59 SAND Sign of the first state	Ŋ	72		0.00) I () () () () () () () () () () () () () (
63 59 54 54 58 59 60 70 70 70 70 70 70 70 70 70 70 70 70 70	3.35	29			
Sand Signature Sand Sand Sand Sand Sand Sand Sand Sand	2	63		06	
SAND Since Sand Since Sand Since Sand Since Si	1.18	59			
52 SAND	9.0	54			
50 46 41 32 28 28 29 20 10 0.0001 0.001 0.001 0.01 0.01 0.01	0.425	52	SAND		
46 41 32 28 28 29 20 10 10 0.0001 0.001 0.01 0.01 14 18 1GSL Ltd Materials Laboratory Persons authorised to approve report:	0.3	20			
41	0.15	46			
32 28 29 29 20 17 10 0.0001 0.001 0.01 14 18 1GSL Ltd Materials Laboratory Persons authorised to approve report:	0.063	4			
28 24 SILT/CLAY 0 0.0001 0.0001 0.01 17 14 18 8 CLAY SILT Sieve size (mm) SAN Reproved by: Approved by: Approved by: Approved by: Resons authorised to approve report:	0.037	32			
24 SILT/CLAY 0 0.001 0.001 0.1 17 0.0001 0.001 0.01 18 CLAY SILT Sieve size (mm) SAM 8 Approved by: IGSL Ltd Materials Laboratory Persons authorised to approve report:	0.027	28		50	
20 3L/7CM 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.017	24	VA 17/ T 112		
17 0.0001 0.001 0.01	0.010	50	מרוזכראו		
14 CLAY SILT Sieve size (mm) SAN 8 Approved by: IGSL Ltd Materials Laboratory Persons authorised to approve report:	0.007	17		0.001	
S Approved by: IGSL Ltd Materials Laboratory Approved by:	0.005	14		ZIFL	GRAVEL
Approved by: (并含化。————————————————————————————————————	0.002	∞) X
M. R. Comment of the second of				Approved by:	Page no:
			IGSL LT	- History	<u></u>
				Persons authorised to approve report: J Barrett (Quality M	danager) H Byrne (Laboratory Manager)

Persons authorised to approve report: J Barrett (Quality Manager) H Byrne (Laboratory Manager) 100 1 of 1 88 37.5 50 53 53 7 Page no: Sample size did not meet the requirements of BS1377 SO ÞΙ 91/08/20 9 GRAVEL 01 3,35 5.3 6.3 Date: S 20/08/2020 81.1 A20/3680 Hoter Clause 9.2 and Clause 9.5 of BG1377 Part 2:1990 have been supersected by ISO17892-4:2016 . Results sypty to sample as received 9.0 Sieve size (mm) SAND 0.425 €.0 3rown silty, sandy, GRAVEL with many cobbles Approved by: 世界 51.0 Customer: Tobins C.E R114326 27/07/2020 Date Testing started 590.0 Tested in accordance with: BS1377:Part2:1990 , clause 9.2 & 9.5 AA130938 Lab. Sample No. Determination of Particle Size Distribution SILT Report No. Mullingar, Co.Westmeath 0.01 (note: Sedimentation stage not accredited) 22611 BH04 4.00 CLAY TEST REPORT 0.001 **IGSL Ltd Materials Laboratory** Contract Name: Date Received Sample Type: Contract No. Description: Sample No. Depth (m) BH/TP: Remarks 0.0001 100 90 20 30 80 2 9 4 Percentage passing (%) SILT/CLAY COBBLES GRAVEL SAND passing 55 50 43 40 35 30 26 22 20 particle 75 63 50 37.5 28 20 114 10 6.3 5 3.35 2 2 2 1.18 0.6

Determination of Particle Size Distribution TEST REPORT

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5





Particle 9% Contract No. 22611 Report No. R.114327 Report No. R.114327				(note: Sedimentation stage not accredited)	OCIANZO IN SECULO MOLISTO
100 COBBLES Sample No. BH/TP: BH05 Sample No. A20, 100 Sample No. A330948 Lab. Sample No. A430948 Lab. Sample No. A430948 Lab. Sample No. A500 Customer: Tobins CE Sample Type: B Depth (m) A400 Customer: Tobins CE Comparison of the c	particle	%		22611 Report No.	
100 COBBLES Sample No. AA130948 Lab. Sample No. AA20948 Lab. Sample No. AA130948 Lab. Sample No. ADDITIONAL COLUMN AUGUSTA CORP. AUGUSTA	size	passing			
100 Sample No. AA130948 Lab. Sample No. AA200 Lab. Sample No. AA130948 Lab. Sample No. AA200 Lab. Samp	75	100	COBBLES		
100 Sample Type: B Brown slightly sandy, gravelly, SILT 100 Depth (m) 4.00 Customer: Tobins C.E Date Received 27/07/2020 Date Testing started 20/ 27/07/2020 Date Te	63	100		AA130948 Lab. Sample No.	
93	20	100			
84 GRAVEL Remarks Brown slightly sandy, gravelly, SILT Description: Brown slightly sandy, gravelly, SILT Remarks Brown slightly sandy, gravelly, SILT A Materials Laboratory Gravelly, SILT Description: Brown slightly sandy, gravelly, SILT A Persons authorised to approve report: Persons authorised to approve report:	37.5	93		4.00 Customer:	
80 Brown slightly sandy, gravelly, SILT Remarks rescription: Brown slightly sandy, gravelly, SILT Remarks rescription: Brown slightly sandy, gravelly, SILT Silt CLAY Silve size (mm) SAN GLAY Silt Sieve size (mm) SAN Persons authorised to approve report.	28	84		27/07/2020 Date Testing started	20
74 GRAVEL Remarks Numeromatic Mainton and university Superior Sup	20	80			
70 100	4	74	CDAVE		
55 48 42 48 42 36 37 38 38 38 39 58 59 60 60 60 60 60 60 60 60 60 60 60 60 60	10	20	1		
55 48 42 48 42 36 37 38 38 39 60 60 60 60 60 60 60 60 60 60 60 60 60	6.3	29		3 3 3 3 3	58
SS 48 48 48 40 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	'n	59		90.0	3.5
34 SAND Single Sand Sand	3.35	55			
36 38 38 39 39 39 30 30 30 30 30 30 30 30 30 30 30 30 30	2	48		066	
34 SAND	1.18	42			
32 SAND	9.0	36			
32 28 29 20 20 17 18 19 10 0.0001 0.0001 0.001 0.01 0.01 0.0	0.425	34	SAND		
28 29 20 17 18 17 29 18 18 19 19 19 10 10 10 10 10 10 10 10 10 10 10 10 10	0.3	32			
22 20 20 17 14 12 18 17 SILT/CLAY 0 0.0001 0.001 0.01 6 16 16 16 17 SILT/CLAY 0 0.0001 0.001 0.01 0.1 CLAY S/LT Sieve size (mm) SAN 6 16 16 17 Sieve size (mm) SAN 17 Sieve size (mm) SAN 18 Persons authorised to approve report:	0.15	28			
22 20 20 17 18 19 10 0.0001 0.001 0.01 0.01 0.01 0.01	0.063	24			
20 17 18 19 10 0.0001 0.001 0.01 0.01 0.01 0.01	0.037	22			
17 SILT/CLAY	0.027	20		50	
14 3.1.7.2.7 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.017	17	VA 17/T ID	0	
12 0.0001 0.001 0.1 9 CLAY SIEVE SIZE (mm) SAN 6 Approved by: IGSL Ltd Materials Laboratory Persons authorised to approve report:	0.010	4	777		
6 Approved by: IGSL Ltd Materials Laboratory Persons authorised to approve report:	0.007	12		0.001	
6 Approved by: IGSL Ltd Materials Laboratory Approved by: IGSL Ltd Materials Laboratory Approved by: Persons authorised to approve report:	0.005	თ		SILT	GRAVEL
Approved by: WRycom Persons authorised to approve report:	0.002	9			J.
Persons authorised to approve report:			0		
			IGSL L		
				Persons authorised to approve report: J Barre	t (Noelity Manager) H Byrne (Laboratory Manager)

Determination of Particle Size Distribution Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 TEST REPORT



DETALLS IN SCOPE ING NO. 1351											S	10 20 20 20 20 20 20 20 20 20 20 20 20 20													001	VE		Page no:	3/20 1 of 1	J Barrett (Quality Manager) H Byrne (Laboratory Manager)
0£1A4.C							20				SE	S						\								GRAVE	X	Date:	131/08/20	t (Quality Manage
				A20/3676			20/08/2020			sults apply to sample as received.	SZ	0 0							\ \ \					,		n) SAND				
	R114328			No.		Tobins C.E	3 started	elly, SILT/CLAY		Hare: Clause 9.2 and Clause 9.5 of 861377 Fut 2:1990 have been superseched by 5017892-4:2016 . Results apply to sample as received.	S 1 E9	.°0													-	Sieve size (mm) SAND		Approved by:	48 pm-	Persons authorised to approve report:
(pe	Report No.	Mullingar, Co.Westmeath		Lab. Sample No.		Customer:	27/07/2020 Date Testing started	Brown slightly sandy, gravelly, SILT/CLAY		9.5 of 851.377 Part 2:1990 have been															0.0	SILT				Persons aut
age not accredit	22611	Mullingar, C	90H8	AA130943	82	3.00	27/07/202	Brown sligh		Note: Clause 9.2 and Clause 5															0.001	CLAY		· •	ory	
(note: Sedimentation stage not accredited)	Contract No.	Contract Name:	BH/TP:	Sample No.	Sample Type:	Depth (m)	Date Received	Description:		Remarks																	HANDE THE PROPERTY OF THE PROP	4 0 4 0 1	s Laborat	
(note: Se	ŭ	ŏ	故	ŝ	SS	ă	Õ	ď		Re		(202	06	80	2 %) f	inies 60	Sed a				07	2		0.0001		#PARTICLE CONTRACTOR SANDANCE CONTRACTOR SANDA	La Matain	lost Ltd Materiais Laboratory	
			CORRIES	CORPLE			· • · · · · · · · · · · · · · · · · · ·		GRAVEI	i :	<u> </u>						SAND						SII T/CI AY	; ;				+	ופאר רנ	
	%	passing	100	100	100	95	95	87	82	78	7.1	29	62	56	51	45	43	4	36	31	27	24	22	19	16	13	8			
	particle	size	75	63	50	37.5	28	20	7	10	6.3	Ŋ	3.35	2	1.18	9.0	0.425	0.3	0.15	0.063	0.037	0.027	0.017	0.010	0.007	0.005	0.002			

20 82 37.5 50 53 53 bι 01 5 6.3 3.35 7 20/08/2020 81,1 A20/3686 Note: Classe 9.2 and Clause 9.5 of 851377 Part 2:1990 have been suppresented by ISO17892-4-2016 . Results apply to sumple as inclound 9.0 SS⊅.0 6.0 91.0 Customer: Tobins C.E R114329 27/07/2020 Date Testing started 3rown slightly sandy, gravelly, SILT 590.0 Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 AA135922 Lab. Sample No. Determination of Particle Size Distribution Report No. Mullingar, Co.Westmeath (note: Sedimentation stage not accredited) 22611 BH07 3.00 TEST REPORT Contract Name: Date Received Sample Type: Contract No. Description: Sample No. Depth (m) BH/TP: Remarks 0.0001 00 90 80 2 9 50 40 30 Percentage passing (%) SILT/CLAY COBBLES GRAVEL SAND passing 100 00 84 78 72 65 62 57 21 47 43 4 38 34 29 24 22 particle 75 63 50 37.5 28 20 114 10 6.3 5 3.35 2 2 2 2 0.6 0.425 0.3 0.063 0.037 0.017 0.010 0.027

Persons authorised to approve report: J Barrett (Qbality Manager) H Byrne (Laboratory Manager)

1 of 1

91/09/20

Page no:

Date:

Approved by:

IGSL Ltd Materials Laboratory

10

GRAVE

Sieve size (mm) SAND

21/5

CLAY

0.005 0.002

0.007

0.01

0.001

Persons authorised to approve report: J Barrett (Quality Manager) H Byrne (Laboratory Manager) 100 1 of 1 82 37.5 50 63 53 Page no: 50 Sample size did not meet the requirements of BS1377 Þι 91/09/20 10 GRAVEL 01 5.3 Date: 3:32 7 20/08/2020 81.1 A20/3688 hate: Clause 9.2 and Clause 9.5 of 851377 Part 2:1990 have been supersetted by 15017892-4:2016. Results apply to sample as recoived. Brown clayey/silty, sandy, GRAVEL with some cobbles 9.0 Sieve size (mm) SAND 0.425 £.0 Approved by: 0.15 Customer: Tobins C.E R114330 27/07/2020 Date Testing started £90.0 Tested in accordance with: BS1377:Part2:1990 , clause 9.2 & 9.5 AA135926 Lab. Sample No. Determination of Particle Size Distribution SILT Report No. Mullingar, Co.Westmeath 0.01 (note: Sedimentation stage not accredited) 22611 **BH08** 3.00 CLAY TEST REPORT 0.001 **IGSL Ltd Materials Laboratory** Contract Name: Date Received Sample Type: Contract No. Description: Sample No. Depth (m) BH/TP: Remarks 0.0001 90 8 70 9 50 6 30 Percentage passing (%) SILT/CLAY COBBLES GRAVEL SAND passing 82 82 78 64 43 34 31 27 24 57 47 particle 75 63 50 37.5 28 20 11 10 6.3 5 3.35 2 2 2 2 0.6 0.6

Persons authorised to approve report: J Barrett (Quality Manager) H Byrne (Laboratory Manager) 100 1 of 1 28.5 50 53 63 53 75 Page no: 20 bl 10 28/08/20 01 GRAVE 5 6.3 3:32 Date: Z 19/08/2020 81.1 A20/3690 Note: Clause 9.2 and Clause 9.5 of 851377 Part 2:1990 have been supersoched by 15017892-4:2016 . Results apply to sample as received. 9.0 Sieve size (mm) SAND 254.0 £.0 Approved by: 91'0 Customer: Tobins C.E Brown clayey/silty, very sandy, GRAVEL 0.1 R113997 27/07/2020 Date Testing started £90.0 Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 AA135918 Lab. Sample No. Determination of Particle Size Distribution SILT Report No. Mullingar, Co.Westmeath 0.01 (note: Sedimentation stage not accredited) 22611 BH09 3.00 CLAY TEST REPORT 0.001 IGSL Ltd Materials Laboratory Contract Name: Date Received Contract No. Sample Type: Description: Sample No. Depth (m) BH/TP: Remarks 0.0001 100 90 10 20 30 80 70 9 40 Percentage passing (%) SILT/CLAY COBBLES GRAVEL SAND passing 100 82 73 67 59 59 50 50 38 32 29 27 87 particle 75 63 50 37.5 28 20 11 10 6.3 5 3.35 2 2 2 2 0.6 0.425 0.3

Determination of Particle Size Distribution Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 TEST REPORT



			(note: Sedin	(note: Sedimentation stage not accredited)	not accredite	(þa			DETALLO BY SCOPE, RFG HO. 1539	13.20
particle	%	•	Contr	Contract No.	22611	Report No.	R113998			
size	passing		Contr	Contract Name:	Mullingar, C	Mullingar, Co.Westmeath				
75	100	COBBLES	BH/TP:	<u>ب</u> .:	BH11					
63	100		Samp	Sample No.	AA135904	Lab. Sample No.	.07	A20/3692		
20	100		Samp	Sample Type:	8					
37.5	86		Depti	Depth (m)	2.00	Customer:	Tobins C.E			
28	96		Date	Date Received	27/07/202	27/07/2020 Date Testing started	started	19/08/2020		
20	95		Desci	Description:	Brown slight	ly sandy, slightly	Brown slightly sandy, slightly gravelly, CLAY			
14	87	GRAVEL								
0	83		Remarks	ırks	Note: Clause 9.2 and Clause 9.	5 of BS13775at 2:1990 have been su	hore. Clause 9.2 and Clause 9.5 of [81377-9/Rt 2:1990) have been suppresented by 1801 7892-4.2016 . Read is uppy to sample as received.	apply to sample as received.		
6.3	79			7 77 77 77 77 77 77 77 77 77 77 77 77 7			51 89	SS	t (5.4
Ŋ	27		(00		50 1 10 10 10 10 10 10 10 10 10 10 10 10	25 25 25 25 25 25 25 25 25 25 25 25 25 2
3.35	73		202							
2	89		06							
1.18	64		80							
9.0	09		02 %) f							
0.425	57	SAND	Suiza 9							
0.3	55									
0.15	20						\ \			
0.063	42					\ 				
0.037	38									
0.027	34		97							
0.017	53	SII T/C! AY	10		\ \					
0.010	25		0							
0.007	22		0.0001	0.001	-	0.01	r.o		2	001
0.005	18				CLAY	SILT	Sieve size (mm) SAND	SAND	GRAVE	
0.002	10								<u>ئ</u> بىر	
				-			Approved by:		Date:	Page no:
		IGSL L1	IGSL Ltd Materials Laboratory	Laborato	<u>></u>		4 Eyen		28/08/20	1 of 1
						Persons auth	Persons authorised to approve report:		J Barrett (Quality Manager) H Byrne (Laboratory Manager)	e (Laboratory Manag
								3		

Persons authorised to approve report: J Barrett (Malager) H Byrne (Laboratory Manager) 100 1 of 1 20 37.5 50 53 53 53 Page no: bι 91/09/20 10 GRAVE 01 3.35 5.3 6.3 Date: Z 20/08/2020 81.1 A20/3693 More: Clouse 9.2 and Clouse 9.5 of 201277 Part 2:1990 have been supproceed by 15017892-4:2016 . Results apply to sample as received. 9.0 Sieve size (mm) SAND 224.0 8.0 Approved by: 51.0 Customer: Tobins C.E 3rown clayey/silty, very sandy, GRAVEL R114331 0.7 27/07/2020 Date Testing started 690.0 Tested in accordance with: BS1377:Part2:1990 , clause 9.2 & 9.5 (note: Sedimentation stage not accredited) AA135906 Lab. Sample No. Determination of Particle Size Distribution SILT Report No. Mullingar, Co.Westmeath 0.01 22611 BH11 4,00 CLAY TEST REPORT 0.001 **IGSL Ltd Materials Laboratory** Contract Name: Date Received Sample Type: Contract No. Description: Sample No. Depth (m) BH/TP: Remarks 0.0001 001 90 88 70 9 50 4 30 Percentage passing (%) SILT/CLAY COBBLES GRAVEL SAND passing 100 86 84 78 71 71 67 60 52 45 35 24 particle 75 63 50 37.5 28 20 114 10 6.3 5 3.35 2 2 2 2 0.6 0.6

Determination of Particle Size Distribution TEST REPORT

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5





Genalla by Stope Reg No. 1351										Sample size did not ment the requirements of RS1377	1	3.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5													100	GRAVEL	2	Date: Page no:	3vrne (Laborat
tage not accredited)	22611 Report No. R113999	Mullingar, Co.Westmeath	BH12	AA135909 Lab. Sample No. A20/3695	8	3.00 Customer: Tobins C.E	27/07/2020 Date Testing started 19/08/2020	Brown slightly sandy, gravelly, SILT with some cobbles		Hote:Chase 9.2 and Chase 9.5 of ISS 1377-9 or 2,1990 have been suppressed by ISO 17692-4.20 16. Assults apply to sample as received.	93 93 93 91	90.0 1.0 5.0 6.4.0													0.001 0.01 0.1 1	CLAY S/LT Sieve size (mm) SAND		Approved by:	Persons authorised to approve report:
(note: Sedimentation stage not accredited)	Contract No.	Contract Name:	CORRIES BH/TP:	Sample No.	Sample Type:	Depth (m)	Date Received	Description:	GRAVE	Remarks		((000	06	08 (20/ %) f	SAND 60	cr.				707	10	0	0.0001		AND INCOMPANIES AND THE SAME SHOULD BE SEEN AND AND AND AND AND AND AND AND AND AN	IGSL Ltd Materials Laboratory	
	%	passing	82	82	82	69	65	64	59	57	54	52	49	45	42	38	36	34	31	27	25	22	20	17	4	12	∞		
	particle	size	75	63	50	37.5	28	20	4	0	6.3	Ŋ	3.35	2	1.18	9.0	0.425	0.3	0.15	0.063	0.037	0.027	0.017	0.010	0.007	0.005	0.002		

Persons authorised to approve report: J Barrett (Dhality Manager) H Byrne (Laboratory Manager) 100 1 of 1 20 37.5 50 50 53 53 Page no: Sample size old not most the requirements of ES1377 b١ 10 91/09/20 GRA VE Oι 5 6.3 Date: 3.35 7 20/08/2020 81,1 A20/3696 Note: Clause 9.2 and Clause 9.5 of 851377 that 2:1990 have been superseded by ISO17892-4:2016. Results apply to sample as received. 3rown clayey/silty, sandy, GRAVEL with many cobbles 9.0 Sieve size (mm) SAND 254.0 8.0 Approved by: 91.0 Customer: Tobins C.E R114332 0.1 27/07/2020 Date Testing started £90'0 Tested in accordance with: BS1377:Part2:1990 , clause 9.2 & 9.5 AA135911 Lab. Sample No. Determination of Particle Size Distribution Report No. 21/T Z Mullingar, Co.Westmeath 0.01 (note: Sedimentation stage not accredited) 22611 BH12 5.00 CLAY TEST REPORT 0.001 **IGSL Ltd Materials Laboratory** Contract Name: Date Received Sample Type: Contract No. Jescription: Sample No. Depth (m) BH/TP: Remarks 0.0001 001 90 8 20 9 20 40 30 Percentage passing (%) SILT/CLAY COBBLES GRAVEL SAND passing 42 39 35 32 28 54 49 44 24 20 61 75 63 50 37.5 28 20 14 10 6.3 5 3.35 2 2 2 2 0.6 0.6 0.425 0.3 particle

20 37.5 50 53 53 53 54 bί 10 3.35 5.3 Brown slightly sandy, gravelly, SILT/CLAY with occasional cobbles S 19/08/2020 81.1 A20/3698 View Classe 9.2 and Classe 9.5 of 181377 Part 2:1990 have been supersected by 15017892-4:2016 . Beaults apply to sample as received. 9.0 SS4,0 £.0 91.0 Customer: Tobins C.E R114000 27/07/2020 Date Testing started £90.0 Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5 AA135914 Lab. Sample No. Determination of Particle Size Distribution Report No. Mullingar, Co.Westmeath (note: Sedimentation stage not accredited) 22611 BH13 3.00 TEST REPORT Contract Name: Date Received Sample Type: Contract No. Description: Sample No. Depth (m) BH/TP: Remarks 0.0001 90 80 20 30 40 9 50 Percentage passing (%) SILT/CLAY COBBLES GRAVEL SAND passing 79 75 71 65 59 63 42 39 54 50 46 44 34 particle 0.010 75 63 50 37.5 28 20 14 10 6.3 5 3.35 2 2 1.18 0.6 0.063 0.037 0.017 0.027

Persons authorised to approve report: J Barrett (Qhality Manager) H Byrne (Laboratory Manager)

1 of 1

28/08/20

Page no:

Date:

Approved by:

IGSL Ltd Materials Laboratory

10

GRA VEL

Sieve size (mm) SAND

SILT

CLAY

0.01

0.001

0.007 0.005 0.002

PRCHINED: PAIOSONS

Appendix VII Laboratory b. Environmental



eurofins

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL

NO020023

Fel: 01638 606070 Email: in o@chemtest.com

Final Report

Report No.:

20-20040-1

Initial Date of Issue:

12-Aug-2020

Client

IGSL

Client Address:

M7 Business Park

Naas

County Kildare

Ireland

Contact(s):

Darren Keogh

Project

22611 Mullingar Westmeath (Tobin)

Quotation No.:

Q19-18246

Date Received:

31-Jul-2020

Order No.:

Date Instructed:

31-Jul-2020

No. of Samples:

7

Turnaround (Wkdays):

Results Due:

10-Aug-2020

Date Approved:

12-Aug-2020

Approved By:

Details:

Glynn Harvey, Technical Manager

Results - Leachate

(II)
Tob
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511 MR
ct: 22
Prole

Client: IGSL			Che	Chemtest Job No.:	op No.:	20-20040	20-20040
Quotation No.: Q19-18246)	Chemte	Chemtest Sample ID.:	ple ID.:	1041460	1041463
Order No.:			Clie	Client Sample Ref.:	le Ref.:	AA134354	AA134371
			Š	Sample Location:	cation:	TP03	TP10
				Sampl	Sample Type:	SOIL	SOIL
				Top Deg	Top Depth (m):	09'0	09:0
			Bot	Bottom Depth (m):	oth (m):	09'0	09:0
Determinand	Accred. SOP	SOP	Type	Units LOD	COD		
hd	n	1010	10:1		N/A	8.4	8.2
Ammonium	n	1220	10:1	l/6m	0.050	0.15	0.051
Ammonium	Z	1220	10:1	mg/kg	0.10	1.7	0.55
Boron (Dissolved)	n	1450	10:1	mg/kg	0.20	< 0.20	< 0.20
Benzo[]]fluoranthene	Z	1800	10:1	l/gri	0.010	< 0.010	< 0.010

PRICEINED: 241082023

Project: 22611 Mullingar Westmeath (Tobin)	uigo										
Client: IGSL		Ch.	amtest	Chemtest Job No.:	20-20040	20-20040	20-20040	20-20040	20-20040	20-20040	20-20040
Quotation No.: Q19-18246		Chem	test Sai	Chemtest Sample ID.:	1041459	1041460	1041461	1041462	1041463	1041464	1041465
Order No.:		ĊĬ	ent San	Client Sample Ref.:	74	AA134354	AA134367	AA134388	AA134371	AA134374	AA134379
		3,	Sample	Sample Location:	TP01	TP03	TP06	TP08	TP10	TP11	TP14
		1	Sam	Sample Type:	SOIL						
			Top D	Top Depth (m):	L	09:0	1.60	0.45	09.0	0.80	0.40
		8	ottom D	Bottom Depth (m):	1.10	09:0	1.60	0.45	09:0	0.80	0.40
			Asbe	Asbestos Lab:		COVENTRY			COVENTRY		
Determinand	Accred.	SOP	799	007							
ACM Type	ח	2192		Ϋ́Ν		7			1		
Asbestos Identification	>	2192	%	0.001		No Asbestos	·		No Asbestos		
ACM Detection Stade	=	2192		Δ/N		nanana			מבוכרוכה י		
Asbestos By Fibre Counting)	2192	1	0.001		3					
Moisture	z	2030	%	0.020	11	7.8	10	22	13	8.9	19
pH (2.5:1)	z	2010		4.0	[A] 8.6		[A] 8.5	[A] 8.2		[A] 8.4	[A] 8.1
Boron (Hot Water Soluble)	<u> </u>	2120	mg/kg	0.40		< 0.40			< 0.40		
Magnesium (Water Soluble)	z	2120	/6 	0.010	< 0.010		< 0.010	< 0.010		< 0.010	< 0.010
Sulphate (2:1 Water Soluble) as SO4	_	2120	<u></u>	0.010	< 0.010		< 0.010	< 0.010		< 0.010	< 0.010
Total Sulphur	Π	2175	%	0.010	[A] 0.037		[A] 0.024	[A] 0.026		[A] 0.038	[A] 0.029
Sulphur (Elemental)	n	2180	mg/kg	1.0		[A] 1.1			[A] < 1.0		
Chloride (Water Soluble)	n ·	2220		ļ	[A] < 0.010		[A] < 0.010	[A] < 0.010		[A] < 0.010	[A] < 0.010
Nitrate (Water Soluble)	z	2220	<u> </u>	0.010	< 0.010		< 0.010	< 0.010		< 0.010	< 0.010
Cyanide (Total)	n	2300	Ε			[A] < 0.50			[A] < 0.50		
Sulphide (Easily Liberatable)	z	2325		[[A] 8.7			[A] 7.8		
Ammonium (Water Soluble)	n	2120			< 0.01		< 0.01	< 0.01		< 0.01	< 0.01
Sulphate (Acid Soluble)	n	2430	%	0.010	[[A] 0.018	[A] 0.018	[A] 0.017	[A] < 0.010	[A] 0.011	[A] 0.024	[A] 0.011
Arsenic	n	2450	mg/kg	1.0		9.8			11		
Barium	n l	2450		10		12	:		18		
Cadmium	n	2450		0.10		1.0			4.1		
Chromium	n	2450		1.0		7.7			ų		
Molybdenum	n	2450	mg/kg	2.0		< 2.0			< 2.0		
Antimony	Z	2450	mg/kg	2.0		< 2.0			< 2.0		
Copper	n	2450	mg/kg			16			19		
Mercury	n	2450	mg/kg	0.10		0.13			0.12		
Nickel	n	2450	mg/kg			41			42		
Lead	n	2450	mg/kg			13			10		
Selenium	n	2450	mg/kg	0.20		75.0			0.47		
Zinc	n	2450		<u> </u>		57			89		
Chromium (Trivalent)	z	2490				7.7			11		
Chromium (Hexavalent)	z	2490		0.50		< 0.50			< 0.50		
Mineral Oil	z	2670	mg/kg	10		< 10			< 10		
Aliphatic TPH >C5-C6	z	2680	mg/kg	L		[A] < 1.0			[A] < 1.0		
Aliphatic TPH >C6-C8	z	2680		L	-	[A] < 1.0			[A] < 1.0		
Aliphatic TPH >C8-C10	Э	2680		L		[A] < 1.0			[A] < 1.0		
Aliphatic TPH >C10-C12	2	2680				[A] < 1.0			[A] < 1.0		
Aliphatic TPH >C12-C16	Э	2680				[A] < 1.0			[A] < 1.0		
											0.

Page 3 of 11

Quotation No.: Q19-18246 Chem Order No.: Cli Determinand Accred. SOP Alighatic TPH > C16-C21 U 2680 Alighatic TPH > C21-C35 U 2680 Alighatic TPH > C25-C7 N 2680 Aromatic TPH > C35-C44 N 2680 Aromatic TPH > C35-C4 N 2680 Aromatic TPH > C35-C3 U 2680 Aromatic TPH > C40-C12 U 2680 Aromatic TPH > C10-C12 U 2680 Aromatic TPH > C10-C12 U 2680 Aromatic TPH > C15-C16 U 2680 Aromatic TPH > C15-C16 U 2680 Aromatic TPH > C16-C21 U 2680 Aromatic TPH > C35-C44 N 2680 Detail Petroleum Hydrocarbons U 2760 Diklene U 2760 <tr< th=""><th>est Sample LC Sample LC Sample LC Sample LC Top Del To</th><th></th><th>1041459 1041460 AA134352 AA134354 TP01 TP03</th><th>1041461 AA134367</th><th>1041462</th><th>1041463</th><th>1041464</th><th>1041465</th></tr<>	est Sample LC Sample LC Sample LC Sample LC Top Del To		1041459 1041460 AA134352 AA134354 TP01 TP03	1041461 AA134367	1041462	1041463	1041464	1041465
Accred SG 286 286 286 286 286 286 286 286 286 286	Sample Loca Sample Depth Top Depth Bottom Depth Asbestos DP Units L 80 mg/kg 180 mg/k		-	AA134367				
	Sample Locz Sample Depth Top Depth Bottom Depth Asbestos Bo mg/kg				AA134388	AA134371	AA134374	AA134379
				TP06	TP08	TP10	TP11	TP14
			SOIL SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			1.10 0.60	1.60	0.45	09:0	0.80	0.40
		OD 00 00 00 00 00 00 00 00 00 00 00 00 00	1.10 0.60	1.60	0.45	0.60	0.80	0.40
	Units mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	000000	COVENTRY			COVENTRY		
	mg/kg mg/kg mg/kg mg/kg mg/kg	00000				16 (60 SE 105 SE 10		(8) 128 (8) 120 A
	24/kg mg/kg	0 0 0 0	[A] < 1.0			[A] < 1.0		
	mg/kg mg/kg mg/kg mg/kg	0.00	[A] < 1.0			A < 1.0		
	mg/kg mg/kg mg/kg	0.0	[A] < 1.0			[A] < 1.0		
	mg/kg mg/kg mg/kg	0,	[A] < 5.0			[A] < 5.0		
	mg/kg mg/kg		[A] < 1.0			[A] < 1.0		
	mg/kg	1.0	[A] < 1.0			[A] < 1.0		
	ma//ra	1.0	[A] < 1.0			[A] < 1.0		
	22.5	1.0	[A] < 1.0			[A] < 1.0		
	mg/kg	1.0	IA] < 1.0			[A] < 1.0		
DZZZZD	mg/kg	1.0	[A] < 1.0			[A] < 1.0		
Z Z Z ⊃ ⊃ =	mo/ka	10	[A] < 1.0			[A] < 1.0		
Z Z ⊃ ⊃ =	mo/ka	10	[A] < 1.0			[A] < 1.0		
z > > =	ma/ka	5.0	141<50			[0] < 5.0		
	mo/ka	10.0	(A1 < 10			[A] < 10		
	0//20	20 7	101 < 10			101 < 10		
	23/23		2 2			27.5		
	54.61	2 0	2			2. (1.)		
s :	LG/Kg	2),	[A] < 1.0			(A) < 1.0		
lene U	рg/kg	1.0	[A] < 1.0			[A] < 1.0		
ח	μg/kg	1.0	[A] < 1.0			[A] < 1.0		
Methyl Tert-Butyl Ether U 2760	ng/kg	1.0	[A] < 1.0			[A] < 1.0		
Naphthalene N 2800	mg/kg	0.010	[A] < 0.010			[A] < 0.010		
Acenaphthylene N 2800	mg/kg	0.010	[A] < 0.010			[A] < 0.010		
Acenaphthene 2800	mg/kg	0.010	[A] < 0.010			[A] < 0.010		
Fluorene N 2800	mg/kg	0.010	[A] < 0.010			[A] < 0.010		
Phenanthrene N 2800	т.д/кд	0.010	[A] < 0.010			[A] < 0.010		
Anthracene N 2800	mg/kg	0.010	[A] < 0.010			[A] < 0.010		
Fluoranthene N 2800	mg/kg	0.010	[A] < 0.010			[A] < 0.010		
Pyrene N 2800	mg/kg	0.010	[A] < 0.010			[A] < 0.010		\chi_
Benzolalanthracene N 2800	ma/ka	0.010	[A] < 0.010			[A] < 0.010		
	mg/kg	0.010	[A] < 0.010			[A] < 0.010		
noranthene	ma/ka	0.010	[A] < 0.010			[A] < 0.010		
Benzolkifluoranthene N 2800	mg/kg	0.010	[A] < 0.010			[A] < 0.010		
	mg/kg	0.010	[A] < 0.010			[A] < 0.010		
)Pyrene	ща/ka	0.010	[A] < 0,010			[A] < 0.010		
Z	ma/ka	0.010	[A] < 0.010					
2	ma/ka	0.010	[A] < 0.010			[A] < 0.010		
2	ma/ka	0.010	[A] < 0.010			[A] < 0.010		
DALIA		2000	2007			0.0.0		1

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Client: IGSL		Che	mtest J	Chemtest Job No.:	20-20040	20-20040	20-20040	20-20040	20-20040	20-20040	20-20040
Quotation No.: Q19-18246		Chemte	st Sam	Chemtest Sample ID.:	1041459	1041460	1041461	1041462	1041463	1041464	1041465
Order No.:		Clie	nt Sam	Client Sample Ref :	AA134352	AA134354	AA134367	AA134388	AA134371	AA134374	AA134379
		ľ	ample L	Sample Location:	TP01	TP03	TP06	TP08	1P10	TP11	TP14
			Samp	Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top De	Top Depth (m):	1.10	09:0	1.60	0.45	09:0	0.80	0.40
		Bo	ttom De	Bottom Depth (m):	1.10	09'0	1.60	0.45	09'0	0.80	0.40
			Asbes	Asbestos Lab:		COVENTRY			COVENTRY		,
Determinand	Accred.	SOP	SOP Units	GO7					STATE OF THE PARTY		
Total Of 17 PAH's	z	2800	2800 mg/kg	0.20		[A] < 0.20			[A] < 0.20	-	
PCB 28	z	2815	mg/kg 0.0010	0.0010		[A] < 0.0010			[A] < 0.0010		
PCB 52	Z	2815	2815 mg/kg 0.0010	0.0010		[[A] < 0.0010			[A] < 0.0010		
PCB 90+101	Z	2815	mg/kg	mg/kg 0.0010		[A] < 0.0010			[A] < 0.0010		
PCB 118	z	2815	2815 mg/kg 0.0010	0.0010		[A] < 0.0010			[A] < 0.0010		
PCB 153	z	2815	mg/kg	2815 mg/kg 0.0010		[A] < 0.0010			[A] < 0.0010		
PCB 138	z	2815	2815 mg/kg	0.0010		[A] < 0.0010			[A] < 0.0010		
PCB 180	z	2815	2815 mg/kg 0.0010	0.0010		[A] < 0.0010			[A] < 0.0010		
Total PCBs (7 congeners)	z	2815	2815 mg/kg	0.0010		[A] < 0.0010			[A] < 0.0010		
Total PCBs (7 congeners)	z	2815	2815 mg/kg	0.0010		[A] < 0.0010			[A] < 0.0010		
Total Phenois	Э	2920	2920 mg/kg	0.30		< 0.30			< 0.30		

PRICEINED: 24002025

Project: 22611 Mullingar Westmeath (Tobin)

Chemtest Job No:	20-20040				Landfill	Landfill Waste Acceptance Criteria	e Criteria
Chemtest Sample ID:	1041460					Limits	
Sample Ref:	AA134354					Stable, Non-	
Sample ID:	ļ					reactive	
Sample Location:	TP03				ŧ	hazardous	Hazardous
Top Depth(m):	09.0				Inert Waste	waste in non-	Waste
Bottom Depth(m):	09:0				Landfill	hazardous	Landfill
Sampling Date:						Landfill	
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	P	%	[A] 0.28	9	5	9
Loss On Ignition	2610	⊃	%	1.0			40
Total BTEX	2760	n	mg/kg	[A] < 0.010	9		1
Total PCBs (7 congeners)					1	-	1
TPH Total WAC (Mineral Oil)	2670	n	mg/kg	[A] < 10	200	5	
Total (of 17) PAHs					100		**
ЬН	2010	Π		8.5		9×	**
Acid Neutralisation Capacity	2015	Z	mol/kg	060.0		To evaluate	To evaluate
Eluate Analysis			10:1 Eluate	10:1 Eluate	Limit values	Limit values for compliance leaching test	eaching test
			mg/l	mg/kg	using B	using BS EN 12457 at L/S 10 l/kg	3 10 l/kg
Arsenic	1450	Λ	< 0.0010	< 0.050	0.5	2	25
Barium	1450	Ω	0.0047	< 0.50	20	100	300
Cadmium	1450	n	< 0.00010	< 0.010	0.04	-	5
Chromium	1450	Ω	< 0.0010	< 0.050	0.5	10	7.0
Copper	1450	n	< 0.0010	< 0.050	2	90	100
Mercury	1450	Π	< 0.00050	< 0.0050	0.01	0.2	2
Molybdenum	1450	n	< 0.0010	< 0.050	0.5	10	30
Nickel	1450	Ω	< 0.0010	< 0.050	0.4	10	40
Lead	1450	n	< 0.0010	< 0.010	0.5	10	50
Antimony	1450	n	< 0.0010	< 0.010	90.0	0.7	5
Selenium	1450	n	< 0.0010	< 0.010	1.0	0.5	7
Zinc	1450	n	0.0016	< 0.50	4	90	200
Chloride	1220	n	< 1.0	< 10	008	15000	25000
Fluoride	1220	7	0.21	2.1	01	150	200
Suiphate	1220	n	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	Z	640	6400	4000	60000	100000
Phenol Index	1920	n	< 0.030	< 0.30	1	-	1
Dissolved Organic Carbon	1610	n	3.6	< 50	500	800	1000

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Page 6 of 11

(Tobin)	
estmeath	
fullingar W	
22611 N	
Project:	

Chemtest Sample ID: 10 Sample Ref: A-A-Sample ID: Sample ID: Sample ID: Sample ID: TF Top Depth(m): 0.0 Sampling Date: 0.0 Sampling Date: 0.0 Cotal Organic Carbon Icos On Ignition Icos On Icos Icos Icos Icos Icos Icos Icos Icos	1041463 AA134371 TP10 0.60 0.60 2625 2610 2760					Limits Stable, Non-	
n): arbon ngeners) (Mineral Oil) 1s	AA134371 PP10 J.60 J.60 SOP 2625 2610 2760					Stable, Non-	1 change 1
n): arbon ngeners) (Mineral Oil) ts	P10).60).60 SOP 2625 2610 2760						Почетов
n): arbon ngeners) (Mineral Oil) 1s	P10).60).60 SOP 2625 2610 2760					reactive	Lateral
n): arbon nngeners) (Mineral Oil) 1s on Capacity	50P SOP 2625 2610 2760					hazardous	שלמוממהם
n): arbon mgeners) (Mineral Oil) 1s on Capacity	30P SOP 2625 2610 2760				Inert Waste	waste in non-	Waste
Sampling Date: Determinand Total Organic Carbon Loss On Ignition Total BTEX Total PCBs (7 congeners) TPH Total WAC (Mineral Oil) PH Acid Neutralisation Capacity Flude Analysis	SOP 2625 2610 2760		-		Landfill	hazardous	Landfill
Determinand Total Organic Carbon Loss On Ignition Total BTEX Total BTEX Total WAC (Mineral Oil) Total (of 17) PAHs PH Acid Neutralisation Capacity Fluate Analysis	SOP 2625 2610 2760					Landfill	
Total Organic Carbon Loss On Ignition Total BTEX Total PCBs (7 congeners) TPH Total WAC (Mineral Oil) OH Total (of 17) PAHs PH Acid Neutralisation Capacity Fluate Analysis	2625 2610 2760	Accred.	Units				
Loss On Ignition Total BTEX Total BTEX Total VAC (Mineral Oil) Total (of 17) PAHs PH Acid Neutralisation Capacity Fluate Analysis	2610 2760	n	%	[A] 0.23	3	5	9
Total BTEX Total PCBs (7 congeners) Total PCBs (7 congeners) Total (of 17) PAHs Pdi Acid Neutralisation Capacity Finale Analysis	2760	n	%	1.3		•	10
Total PCBs (7 congeners) TPH Total WAC (Mineral Oil) Total (of 17) PAHs PH PH PH Full (of 10) PAHs Fluate Analysis		n	mg/kg	[A] < 0.010	ထ	-	
TPH Total WAC (Mineral Oil) Total (of 17) PAHs pH Acid Neutralisation Capacity Fluate Analysis					•	ı	
Total (of 17) PAHs pH Acid Neutralisation Capacity Fluate Analysis	2670	n	mg/kg	[A] < 10	500	ì	
pH Acid Neutralisation Capacity Flusto Analysic					100	-	ţ
Acid Neutralisation Capacity	2010	n		8.4	1	9^	
Fluste Analysis	2015	Z	mol/kg	0.057	;	To evaluate	To evaluate
			10:1 Eluate	10:1 Eluate	Limit values	Limit values for compliance leaching test	aching test
			mg/l	mg/kg	using B	using BS EN 12457 at L/S 10 l/kg	10 l/kg
Arsenic	1450	Ŋ	< 0.0010	< 0.050	0.5	2	25
Barium	1450	n	0.0053	< 0.50	20	100	300
Cadmium	1450	n	< 0.00010	< 0.010	0.04	1	t)
Chromium	1450	n	< 0.0010	< 0.050	0.5	10	70
Copper	1450	n	0.0021	< 0.050	2	50	100
Mercury	1450	Ŋ	< 0.00050	< 0.0050	0.01	0.2	2
Molybdenum	1450	n	0.0016	< 0.050	0.5	10	30
Nickel	1450	U	< 0.0010	< 0.050	9.0	10	40
Lead	1450	Ú	< 0.0010	< 0.010	0.5	10	20
Antimony	1450	ດ	< 0.0010	< 0.010	90:0	2.0	5
Selenium	1450	n	< 0.0010	< 0.010	0.1	0.5	7
Zinc	1450	n	0.0020	< 0.50	4	20	200
Chloride	1220	n	< 1.0	< 10	008	15000	25000
Fluoride	1220	n	0.28	2.8	10	150	500
Sulphate	1220	n	< 1.0	< 10	1000	20000	20000
Total Dissolved Solids	1020	Z	120	1200	4000	00009	100000
Phenol Index	1920	Э	< 0.030	< 0.30	+	_	1
Dissolved Organic Carbon	1610	þ	-	110	009	800	1000

	0.090	13
Solid Information	Dry mass of test portion/kg	Moisture (%)

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, car be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited by the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1041459	AA134352		TP01		А	Amber Glas
1041459	AA134352		TP01		Α	Plastic Tub 500g
1041460	AA134354		TP03		A	Amber Glass 250ml
1041460	AA134354		TP03		Α .	Plastic Tub 500g
1041461	AA134367		TP06		A	Amber Glas 250ml
1041461	AA134367		TP06		А	Plastic Tub 500g
1041462	AA134388		TP08		А	Amber Glas 250ml
1041462	AA134388		TP08		Α	Plastic Tub 500g
1041463	AA134371		TP10		A	Amber Glas 250ml
1041463	AA134371		TP10		А	Plastic Tub 500g
1041464	AA134374		TP11		A	Amber Glas 250ml
1041464	AA134374		TP11		А	Plastic Tub 500g
1041465	AA134379		TP14		А	Amber Glas 250ml
1041465	AA134379		TP14		А	Plastic Tub 500g

Test Methods

SOP	T:25 _	Beer and a second as a second	
	Title	Parameters included	Method summary
1010	pH Value of Waters	pΗ	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	рН	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measuremernt by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.

Test Methods

SOP	Title	Parameters included	Method summary
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6-C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8-C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5-C6, >C6-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44Aromatics: >C5-C7, >C7-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dirnethylphenols, 1- Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

PRICEINED: 2410012023 Key **UKAS** accredited М MCERTS and UKAS accredited Ν Unaccredited This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for S this analysis This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited SN for this analysis T This analysis has been subcontracted to an unaccredited laboratory I/S Insufficient Sample U/S Unsuitable Sample N/E not evaluated "less than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

"greater than"

- A Date of sampling not supplied
- B Sample age exceeds stability time (sampling to extraction)
- C Sample not received in appropriate containers
- D Broken Container
- E Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt All water samples will be retained for 14 days from the date of receipt Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to: customerservices@chemtest.com



💸 eurofins

Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070

Email: info@chemtest.com

Final Report

Report No.:

20-20044-1

Initial Date of Issue:

13-Aug-2020

Client

IGSL

Client Address:

M7 Business Park

Naas

County Kildare

Ireland

Contact(s):

Darren Keogh

Project

22611 Mullingar Westmeath (Tobin)

Quotation No.:

Q20-19951

Date Received:

31-Jul-2020

Order No.:

Date Instructed:

31-Jul-2020

No. of Samples:

11

Turnaround (Wkdays):

Results Due:

10-Aug-2020

Date Approved:

13-Aug-2020

Approved By:

Details:

Glynn Harvey, Technical Manager

Results - Leachate

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Client (GS)	The state of the s			A STATE OF THE PARTY OF THE PAR	The second second	The state of the s			* * * * * * * * * * * * * * * * * * * *
	A COLUMN TO SERVICE STATE OF SERVICES	168 VA.	Che	mtest Jc	ON OC	Chemtest Job No.: 20-20044	20-20044	40-20044	20-20044
Quotation No.: Q20-19951)	Shemte	Chemtest Sample ID.:	ole ID.:	1041476	1041479	1041481	1041484
Order No.:			Clie	Client Sample Ref.:	le Ref∴	AA130924	AA130935	AA130941	AA135903
			Sį	Sample Location:	cation:	BH01	PH04	90H8	BH11
				Sample	Sample Type:	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	th (m):	1.00	1.00	1.00	1.00
Determinand	Accred. SOP		Type	Units	007			5	
Hd	n	1010	10:1		N/A	8.2	8.2	8.2	8.2
Ammonium	n	1220	10:1	l/gm	0.050	990'0	< 0.050	0.062	990.0
Ammonium	Z	1220	10:1	mg/kg	0.10	0.72	0.42	99.0	0.72
Boron (Dissolved)	n	1450	10:1	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo[j]fluoranthene	Z	1800	10:1	l/6rl	0.010	< 0.010	< 0.010	< 0.010	< 0.010

PRICHNED: PAIOSPORS

Client: IGSL		0	hemtes	Chemtest Job No.:	20-20044	20-20044	20-20044	20-20044	20-20044	20-20044	20-20044	20-20044	20-20044
Quotation No.: Q20-19951		che	mtest S.	Chemtest Sample ID.:	1041476	1041477	1041478	1041479	1041480	1041481	1041482	1041483	1041484
Order No.:		ľ	Client Sa	Client Sample Ref ::	AA130924	AA130920	AAA13130	AA130935	AA130946	AA130941	AA135920	AA135916	AA135903
			Sample	Sample Location:	ВНО1	BH02	BH03	BH04	BH05	BH06	BH07	BH09	BH11
			Sar	Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			dοL	Top Depth (m):	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
			Asb	Asbestos Lab:	COVENTRY			COVENTRY		COVENTRY			COVENTRY
Determinand	Accred.	SOP	P Units	001 s									
ACM Type	n	2192	2	N/A	1			-		•			-
Asbestos Identification	n	2192	2 %	0.001	No Asbestos Detected			No Asbestos Detected		No Asbestos Defected			No Asbestos Detected
ACM Detection Stage	5	2192	2	Υ×				1					
Moisture	z	2030	%	0.020	8.7	13	13	14	8.2	9.6	21	20	10
pH (2.5:1)	z	2010		4.0		[A] 8.6	[A] 8.4	***************************************	[A] 8.3		[A] 7.9	[A] 8.3	
Boron (Hot Water Soluble)	2	2120	0 mg/kg		< 0.40			< 0.40		< 0.40			< 0.40
Magnesium (Water Soluble)	z	2120	0 g/	0.010		< 0.010	< 0.010		< 0.010		< 0.010	< 0.010	
Sulphate (2:1 Water Solubte) as SO4	5	2120		0.010		< 0.010	< 0.010		< 0.010		< 0.010	< 0.010	
Total Sulphur	5	2175	2 %	0.010		[A] 0.052	[A] 0.036		[A] 0.054		[A] 0.021	[A] 0.021	
Sulphur (Elemental)	5	2180	0 mg/kg		[A] 1.2			[A] < 1.0		[A] < 1.0"			[A] < 1.0
Chloride (Water Soluble)	5	2220	, 6	0.010		[A] < 0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	
Nitrate (Water Soluble)	z	2220		_		< 0.010	< 0.010		< 0.010		< 0.010	< 0.010	
Cyanide (Total)	⊃	2300	0 mg/kg		[A] < 0.50			[A] < 0.50		[A] < 0.50			[A] < 0.50
Sulphide (Easily Liberatable)	z	2325	5 mg/kg		[A] 8.1			[A] 9.6		[A] 10			[A] 9.2
Ammonium (Water Soluble)	n	2120	0 0	0.01		< 0.01	< 0.01		< 0.01		< 0.01	< 0.01	
Sulphate (Acid Soluble)	Ð	2430	%	0.010	[A] 0.028	[A] 0.026	[A] 0.013	[A] 0.023	[A] 0.019	[A] 0.018	[A] < 0.010	[A] 0.023	[A] 0.017
Arsenic	⊃	2450	0 mg/kg		18			14		18			18
Barium	D	2450	0 mg/kg	g 10	13			23		20			18
Cadmium	⊃	2450	0 mg/kg		0.66			1.1		0.91			1.2
Chromium	<u> </u>	2450	0 mg/kg		8.1			11		14			11
Molybdenum	n	2450	0 mg/kg	9 2.0	< 2.0			< 2.0		< 2.0			< 2.0
Antimony	z	2450	0 mg/kg		< 2.0			< 2.0		< 2.0			< 2.0
Copper	>	2450	0 mg/kg	_	10			16		16			14
Mercury	D	2450	0 mg/kg		0.14			0.14		0.11			0.10
Nickel	⊃	2450	0 mg/kg	g 0.50	24			33		42			34
Lead	-	245	0 mg/kg		8.4			11		9.5			8.8
Selenium	⊃	2450	0 mg/kg	g 0.20	< 0.20			0.21		< 0.20			< 0.20
Zinc	D	2450	0 mg/kg		35			58		63			49
Chromium (Trivalent)	z	2490	0 mg/kg	1.0	8.1			11		14			7
Chromium (Hexavalent)	z	2490	0 mg/kg		< 0.50			< 0.50		< 0.50			< 0.50
Mineral Oil	Z	2670	0 mg/kg	g 10	< 10			< 10		< 10			< 10
Aliphatic TPH >C5-C6	2	2680	0 mg/kg	9 1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0		S	[A] < 1.0
Aliphatic TPH >C6-C8	z	2680	0 mg/kg	g 1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0).	[A] < 1.0
Aliphatic TPH >C8-C10	ח	2680	0 mg/kg	g 1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0		9	[A] < 1.0
Aliphatic TPH >C10-C12	n	2680	0 mg/kg	9 1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Aliphatic TPH >C12-C16	n	2680	0 mg/kg	g 1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0	C	ر ر	[A] < 1.0
Aliphatic TPH >C16-C21	n	2680	0 mg/kg	g 1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0	0\V		[A] < 1.0
Aliphatic TPH >C21-C35	ח	2680	0 mg/kg	g 1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
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Page 3 of 16

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Cilont: 1GS1		5	emtest	Chemiest Job No	*1 20.2004	1 20=2004	PPUUCTUC	POLOGORA	20-20044	PROUCTUG	20.20044	20.20044	PO-2004
Quotation No.: Q20-19951		Chem	test Sa	Chemtest Sample ID.	_	1041477	1041478	1041479	1041480	1041481	1041482	1041483	1041484
Order No.:		Ö	ent Sar	Client Sample Ref.		AA130920	AAA13130	AA130935	AA130946	AA130941	AA135920	AA135916	AA135903
			Sample	Sample Location:	_	BH02	BH03	BH04	BH05	BH06	BH07	8H09	BH11
			Sarr	Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	Nos	SOIL	SOIL
			Top E	Top Depth (m);	<u> </u>	2.00	1.00	1:00	2.00	1.00	1.00	1.00	1.00
			Asbe	Asbestos Lab:	o: COVENTRY			COVENTRY		COVENTRY			COVENTRY
Determinand	Accred.	SOP	Units	COD					B1 02 050 000 000				
Aliphatic TPH >C35-C44	Z	2680	mg/kg	1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Total Aliphatic Hydrocarbons	z	2680	mg/kg	5.0	[A] < 5.0			[A] < 5.0		[V] < 5.0			[A] < 5.0
Aromatic TPH >C5-C7	z	2680	mg/kg	1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Aromatic TPH >C7-C8	Z	2680	mg/kg	1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Aromatic TPH >C8-C10	D.	2680	mg/kg	1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Aromatic TPH >C10-C12	n	2680	mg/kg		[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Aromatic TPH >C12-C16	n	2680	mg/kg		[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Aromatic TPH >C16-C21	n	2680	mg/kg		[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Aromatic TPH >C21-C35	Ω	2680	mg/kg	1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Aromatic TPH >C35-C44	Z	2680	mg/kg	Ш	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Total Aromatic Hydrocarbons	z	2680	mg/kg	2.0	[A] < 5.0			[A] < 5.0		[A] < 5.0			[A] < 5.0
Total Petroleum Hydrocarbons	z	2680	mg/kg	10.0	{A] < 10			[A] < 10		[A] < 10			[A] < 10
Benzene	ח	2760		1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Toluene	n	2760	µg/kg		[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Ethylbenzene	ח	2760	þg/kg	1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
m & p-Xylene	⊃	2760	µg/kg	Ц	[[A] < 1.0			[A] < 1.0		[A] < 1.0			(A) < 1.0
o-Xylene	n	2760	µg/kg	1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Methyl Tert-Butyl Ether	n	2760	µg/kg	1.0	[A] < 1.0			[A] < 1.0		[A] < 1.0			[A] < 1.0
Naphthalene	z	2800	mg/kg	0.010				[A] < 0.010		[A] < 0.010			[A] < 0.010
Acenaphthylene	z	2800	mg/kg					[A] < 0.010		[A] < 0.010			[A] < 0.010
Acenaphthene	z	2800	mg/kg					[A] < 0.010		[A] < 0.010			[A] < 0.010
Fluorene	z	2800			\dashv			[A] < 0.010		[A] < 0.010			[A] < 0.010
Phenanthrene	z	2800						[A] < 0.010		[A] < 0.010			[A] < 0.010
Anthracene	z	2800	mg/kg		[A] < 0.010			[A] < 0.010		[A] < 0.010			[A] < 0.010
Fluoranthene	z	2800	mg/kg	_				[A] < 0.010		[A] < 0.010			[A] < 0.010
Pyrene	z	2800	mg/kg	_				[A] < 0.010		[A] < 0.010			[A] < 0.010
Benzo[a]anthracene	z	2800						[A] < 0.010		[A] < 0.010			[A] < 0.010
Chrysene	z	2800	mg/kg		_			[A] < 0.010		[A] < 0.010			[A] < 0.010 C
Benzo[b]fluoranthene	z	2800	mg/kg					[A] < 0.010		[A] < 0.010			[A] < 0.019
Benzo[k]fluoranthene	z	2800	mg/kg	0.010	_			[A] < 0.010		[A] < 0.010			[A] > 0.010
Benzo[a]pyrene	z	2800	mg/kg	0.010	-			[A] < 0.010		[A] < 0.010			[A] < 0.010
Indeno(1,2,3-c,d)Pyrene	N	2800	mg/kg		[[A] < 0.010			[A] < 0.010		[A] < 0.010		Ç	(A) < 0.010
Dibenz(a,h)Anthracene	z	2800	mg/kg					[A] < 0.010		[A] < 0.010		Z	[A] < 0.010
Benzo[g,h,i]perylene	Z	2800	mg/kg	_	M			[A] < 0.010		[A] < 0.010). ·	[A] < 0.010
Coronene	z	2800	mg/kg	0.010	[A] < 0.010			[A] < 0.010		[A] < 0.010		<u>م</u> رد	(A) < 0.010
Total Of 17 PAH's	z	2800	mg/kg					[A] < 0.20		[A] < 0.20		7	[A] < 0.20
Total Of 17 PAH's	Z	2800	mg/kg					[A] < 0.20		[A] < 0.20		ń	[A] < 0.20
PCB 28	z	2815	mg/kg	0.0010	0 [A] < 0.0010			[A] < 0.0010		[A] < 0.0010	2		[A] < 0.0010
PCB 52	z	2815	mg/kg					[A] < 0.0010		[A] < 0.0010			A] < 0.0010
						1)-		

Client: IGSL	Service State of the service of	Chemtes	Chemtest Job No.:	20-20044	20-20044	20-20044	20-20044	20-20044	20-20044	20-20044	20-20044	20-20044
Quotation No.: Q20-19951		Chemtest Sample ID.:	ample ID.:	1041476	1041477	1041478	1041479	1041480	1041481	1041482	1041483	1041484
Order No.:		Client Sa	Client Sample Ref.:	AA130924	AA130920	AAA13130	AA130935	AA130946	AA130941	AA135920	AA135916	AA135903
		Sample	Sample Location:	BH01	BH02	BH03	BH04	BH05	90H8	BH07	BH09	BH11
		Sar	Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top	Top Depth (m):	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
		Asb	Asbestos Lab.	COVENTRY			COVENTRY		COVENTRY			COVENTRY
Determinand	Accred.	SOP Units LOD	1007 S									
PCB 90+101	z	2815 mg/kg 0.0010	g 0.0010	[A] < 0.0010			[A] < 0.0010		[A] < 0.0010			[A] < 0.0010
PCB 118	z	2815 mg/kg	mg/kg 0.0010	[A] < 0.0010			[A] < 0.0010		[A] < 0.0010			TAI < 0.0010
PCB 153	z	2815 mg/kg 0.0010	3 0.0010	[A] < 0.0010			[A] < 0.0010		[A] < 0.0010			[A] < 0.0010
PCB 138	Z	2815 mg/kg 0.0010	3 0.0010	[A] < 0.0010			[A] < 0.0010		[A] < 0.0010			IAI < 0.0010
PCB 180	Z	2815 mg/kg 0.0010	3 0.0010	[A] < 0.0010			[A] < 0.0010		[A] < 0.0010			[A] < 0.0010
Total PCBs (7 congeners)	Z	2815 mg/kg 0.0010	3 0.0010	[A] < 0.0010			[A] < 0.0010		[A] < 0.0010			[A] < 0.0010
Total PCBs (7 congeners)	Z	2815 mg/kg 0.0010	3 0.0010	[A] < 0.0010			[A] < 0.0010		[A] < 0.0010			[A] < 0.0010
Total Phenois	-	2920 ma/kg	0.30	08.0 >			05.0.>		08.0.2			660

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Citation Con			JE MILEST	Chemiest Job No.:	71-707-44	
Quotation No.: Q20-19951		Chem	est San	Chemtest Sample ID.:	1041485	1041486
Order No.:		ð	ent Sam	Client Sample Ref :	AA135907	AA135912
		ľ	ample I	Sample Location:	BH12	BH13
			Sam	Sample Type:	SOIL	SOIL
			Top De	Top Depth (m):	1.00	1.00
			Asbes	Asbestos Lab:		
Determinand	Accred.	SOP	Units	100		
ACM Type	כ	2192		N/A		
Asbestos Identification	⊃	2192	%	0.001		
ACM Detection Stage	כ	2192		N/A		
Moisture	z	2030	%	0.020	12	12
pH (2.5:1)	Z	2010		4.0	[A] 8.4	[A] 8.3
Boron (Hot Water Soluble)	⊃	2120	mg/kg	0.40		ì
	z	2120	g/l	0.010	< 0.010	< 0.010
Sulphate (2:1 Water Soluble) as SO4	⊃	2120	ģ	0.010	< 0.010	< 0.010
Total Sulphur	Ð	2175	%	0.010	[A] 0.034	790.0 [V]
Sulphur (Elemental)	n	2180	mg/kg	1.0		
Chloride (Water Soluble)	n	2220	g/l	0.010	[A] < 0.010	[A] < 0.010
Nitrate (Water Soluble)	Z	2220	l/b	0.010	0.011	< 0.010
Cyanide (Total)	Ω	2300	mg/kg	0.50		
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50		
Ammonium (Water Soluble)	n	2120	l/6	0.01	< 0.01	< 0.01
Sulphate (Acid Soluble)	n	2430	%	0.010	[A] 0.021	[A] 0.027
Arsenic	D	2450	mg/kg	1.0		
Barium	Ü	2450	mg/kg	10		
Cadmium	ח	2450	mg/kg	0.10		
Chromium	U	2450	mg/kg	1.0		
Molybdenum	U	2450	mg/kg	2.0		
Antimony	z	2450	mg/kg	2.0		
Copper	U	2450	mg/kg	0.50		
Mercury	U	2450	mg/kg	0.10		
Nickel	n	2450	mg/kg	0.50		
ead	U	2450	mg/kg	0.50		
Selenium	U	2450	mg/kg	0.20		
Zinc	n	2450	mg/kg	0.50		
Chromium (Trivalent)	z	2490	mg/kg	1.0		
Chromium (Hexavalent)	N	2490	mg/kg	0.50		
Mineral Oil	z	2670	mg/kg	10		
Aliphatic TPH >C5-C6	Z	2680	mg/kg	1.0		
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0		
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0		
Aliphatic TPH >C10-C12	n	2680	mg/kg	1.0		
Aliphatic TPH >C12-C16	n	2680	mg/kg	1.0		
Aliphatic TPH >C16-C21	ר	2680	mg/kg	1.0		

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Clent: Gol			emest	Chemiest Job No.:	45555	
Quotation No.: Q20-19951		Chem	test Sar	Chemtest Sample ID.:	Ь	1041486
Order No.:		Ci	ent Sarr	Client Sample Ref.:	AA135907	AA135912
		0,	Sample	Sample Location:	BH12	BH13
			Sam	Sample Type:	SOIL	SOIL
	***************************************		Top D	Top Depth (m):	1.00	1.00
			Asbe	Asbestos Lab:		
Determinand	Accred.	SOP	Units	GOT		
Aliphatic TPH >C35-C44	z	2680	mg/kg	1.0		
Total Aliphatic Hydrocarbons	z	2680	mg/kg			
Aromatic TPH >C5-C7	Z	2680				
Aromatic TPH >C7-C8	Z	2680		1.0		
Aromatic TPH >C8-C10	n	2680	mg/kg	1.0		
Aromatic TPH >C10-C12	n	2680	mg/kg	1.0		
Aromatic TPH >C12-C16	n	2680	mg/kg	1.0		
Aromatic TPH >C16-C21	n	2680	mg/kg	1.0		
Aromatic TPH >C21-C35	Ŋ	2680	mg/kg	1.0		
Aromatic TPH >C35-C44	z	2680	mg/kg	1.0		
Total Aromatic Hydrocarbons	z	2680	mg/kg			
Total Petroleum Hydrocarbons	z	2680	mg/kg	10.0		
Benzene	n	2760	µg/kg	1.0		
Toluene	n	2760	_	1.0		
Ethylbenzene	n	2760		1.0		
m & p-Xylene	ο	2760		1.0		
o-Xylene	>	2760		1,0		
Methyl Tert-Butyl Ether	⊃	2760	µg/kg	1.0		
Naphthalene	z	2800				
Acenaphthylene	z	2800	mg/kg			
Acenaphthene	z	2800	mg/kg			
Fluorene	Z	2800	mg/kg	0.010		
Phenanthrene	z	2800	mg/kg	0.010		
Anthracene	z	2800	mg/kg	0.010		
Fluoranthene	z	2800	mg/kg	0.010		
Pyrene	z	2800	mg/kg	0.010		
Benzo[a]anthracene	z	2800	mg/kg	0.010		
Chrysene	z	2800	mg/kg	0.010		
Benzo[b]fluoranthene	z	2800	mg/kg	0.010		
Benzo[k]fluoranthene	z	2800	mg/kg	0.010		
Benzo[a]pyrene	Z	2800	mg/kg	0.010		
Indeno(1,2,3-c,d)Pyrene	z	2800	mg/kg	0.010		
Dibenz(a,h)Anthracene	Z	2800		0.010		
Benzo[g,h,i]perylene	z	2800	mg/kg	0.010		
Coronene	z	2800	mg/kg	0.010		
Total Of 17 PAH's	z	2800	mg/kg	0.20		
Fotal Of 17 PAH's	z	2800	mg/kg			
00 400		2700	-	0.000		
PCB 28	z	7815	2815 mg/kg	0.00.0		

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Project: 22611 Mullingar Westmeath (Tobin)	(niq					
Client: IGSL		ຣ໌	emtest.	Chemtest Job No.:	20-20044	20-20044
Quotation No.: Q20-19951		Chem'	est Sar	Chemtest Sample ID.:	1041485	1041486
Order No.:		Ü	ent Sarr	Client Sample Ref.:	AA135907	AA135912
_		37	ample	Sample Location:	BH12	BH13
			Sam	Sample Type:	TIOS	TIOS
			Top D	Top Depth (m):	1.00	1.00
:			Asbe	Asbestos Lab:		
Determinand	Accred.	SOP	Units	SOP Units LOD		
PCB 90+101	Z	2815	mg/kg	2815 mg/kg 0.0010		
PCB 118	Z	2815	mg/kg	0.0010		
PCB 153	Z	2815	ga/gm	0.0010		
PCB 138	z	2815	mg/kg	mg/kg 0.0010		
PCB 180	Z	2815	mg/kg	mg/kg 0.0010		
Total PCBs (7 congeners)	Z	2815	mg/kg	mg/kg 0.0010		
Total PCBs (7 congeners)	Z	2815	mg/kg	mg/kg 0.0010		
Total Phenols	n	2920	2920 [mg/kg	0.30		

Chemtest Joh No.	20-20044				I sadfill t	andfill Wasto Accontance Critoria	Critoria
Chemtest Sample ID:	1041476					Limits	
Sample Ref:	AA130924					Stable, Non-	
Sample ID:						reactive	
Sample Location:	BH01					hazardous	Hazardous
Top Depth(m):	1.00				Inert Waste	waste in non-	Waste
Bottom Depth(m):					Landfill	hazardous	Landfill
Sampling Date:						Landfili	
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	n	%	[A] 0.34	3	5	9
Loss On Ignition	2610	n	%	1.0	**	I	10
Total BTEX	2760	n	mg/kg	[A] < 0.010	9		F
Total PCBs (7 congeners)		,			_	1	**
TPH Total WAC (Mineral Oil)	2670	n	mg/kg	[A] < 10	200	1	
Total (of 17) PAHs					100	ı	1
Ha	2010	n		8.2	ı	92	+
Acid Neutralisation Capacity	2015	N	mol/kg	0.24	-	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate	10:1 Eluate	Limit values	Limit values for compliance leaching test	eaching test
			mg/l	mg/kg	using B	using BS EN 12457 at L/S 10 l/kg	3 10 l/kg
Arsenic	1450	n	< 0.0010	< 0.050	0.5	2	25
Barium	1450	n	0.0046	05.0 >	20	100	300
Cadmium	1450	n	< 0.00010	< 0.010	0.04	1	5
Chromium	1450	n	< 0.0010	090'0 >	0.5	10	70
Copper	1450	n	0.0010	< 0.050	2	90	100
Mercury	1450	n	< 0.00050	0500'0 >	0.01	0.2	2
Molybdenum	1450	U	< 0.0010	< 0.050	0.5	10	30
Nickel	1450	n	< 0.0010	< 0.050	0.4	10	40
Lead	1450	n l	< 0.0010	< 0.010	0.5	10	90
Antimony	1450	U	< 0.0010	< 0.010	90.0	0.7	ខ
Selenium	1450	Ŋ	< 0.0010	< 0.010	0.1	0.5	<i>L.</i>
Zinc	1450	n	< 0.0010	< 0.50	4	50	200
Chloride	1220	n	< 1.0	< 10	900	15000	25000
Fluoride	1220	n	0.23	2.3	10	150	200
Sulphate	1220	n	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	Z	120	1200	4000	00009	100000
Phenol Index	1920	n	< 0.030	< 0.30	***	-	1
Dissolved Organic Carbon	1640		9.6	03 /	003	000	4000

	0.090	8.7	
Solid Information	Dry mass of test portion/kg		

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Project: 22611 Mullingar Westmeath (Tobin)

March Marc	Chemtest Job No:	20-20044				Landfill V	Landfill Waste Acceptance Criteria	e Criteria
Ref. AA130935 Stable, Non-cation: Reactive practicus proteins: PH04 PH04 Peactive practicus proteins: Innert Waste in non-navate in non-nava	Chemtest Sample ID:	1041479					Limits	
Decided Control BH04 Parameters PH04 Parameters PH06 PH06	Sample Ref:	AA130935					Stable, Non-	
Part	Sample ID:						reactive	
Paperhtm 1,00 Paperhtm	Sample Location:	BH04		-			hazardous	Hazardous
Page	Top Depth(m):	1.00				Inert Waste	waste in non-	Waste
Participation SOP Accred. Units Factored. Units Factor	Bottom Depth(m):					Landfill	hazardous	Landfill
eard SOP Accred. Units (A) (A) (B)	Sampling Date:						Landfill	
anii Carbon 2625 U	Determinand	SOP	Accred.	Units				
Section Sect	Total Organic Carbon	2625	n	%	[A] 0.30	က	5	9
XX 2760 U mg/kg [A] < 010 6 — I WAC (Mineral Oil) 2670 U mg/kg [A] < 10	Loss On Ignition	2610	n	%	1.5	**	:	10
1	Total BTEX	2760	n	mg/kg	[A] < 0.010	9	1	-
IVAC (Mineral Oii) 2670 U mg/kg [A] < 100 C	Total PCBs (7 congeners)					, -	1	ı
17) PAHS	TPH Total WAC (Mineral Oil)	2670	n	mg/kg	[A] < 10	500	-	
realisation Capacity 2010 U molking 0.024 >- >- nalysis N molking 0.024 To evaluate nalysis 10:1 Eluate 10:1 Eluate Limit values for compliance lear nalysis 1450 U <.0.050 20 100 100 100	Total (of 17) PAHs					100	1	-
trailsestion Capacity 2015 N mol/kg 0.024	Hd	2010	n		8.4	-	9<	***
nalysis 10:1 Eluate 10:1 Eluate mg/f mg/f mg/f n 1450 U < 0.0010	Acid Neutralisation Capacity	2015	z	mol/kg	0.024	-	To evaluate	To evaluate
mg/ld mg/ld mg/ld 1450 U < 0.0010	Eluate Analysis			10:1 Eluate	10:1 Eluate	Limit values	for compliance le	eaching test
1450 U < 0,0010 < 0,050 0.5 2 1450 U 0,0033 < 0,50				mg/l	mg/kg	using B.	S EN 12457 at L/S	3 10 l/kg
t 1450 U 0.0033 < 0.50 20 100 100 n 1450 U < 0.00010 < 0.010 0.04 1 n 1450 U < 0.0010 < 0.050 0.5 10 10 n 1450 U < 0.0012 < 0.050 0.04 10 0.0 n 1450 U < 0.0010 < 0.050 0.4 10 0.0 n 1450 U < 0.0010 < 0.050 0.4 10 0.0 n 1450 U < 0.0010 < 0.010 0.5 10 0.7 0.7 n 1450 U < 0.0010 < 0.010 0.05 0.7 0.7 0.7 n 1450 U < 0.0010 < 0.010 0.05 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 <	Arsenic	1450	n	< 0.0010	< 0.050	0.5	2	25
In 1450 U < 0.0010 < 0.010 0.04 1 In 1450 U < 0.0010	Barium	1450	n	0.0033	< 0.50	20	100	300
n 1450 U < 0.0010 < 0.050 2 10	Cadmium	1450	n	< 0.00010	< 0.010	0.04	1	5
vum 1450 U < 0.0010 < 0.050 2 50 FO vum 1450 U < 0.0050	Chromium	1450	n	< 0.0010	< 0.050	0.5	10	70
Num 1450 U < 0.0050 < 0.01 0.01 0.02 0.01 0.02 0.05 0.01 0.02 0.05 0.05 0.05 0.05 0.05 10 10 0.05 0.05 0.05 0.05 10 0.05 10 0.05<	Соррег	1450	n	< 0.0010	< 0.050	2	50	100
num 1450 U 0.0012 < 0.050 0.5 10 10 1450 U < 0.0010	Mercury	1450	n	< 0.00050	< 0.0050	0.01	0.2	2
1450 U < 0.0010 < 0.050 0.4 10 1450 U < 0.0010	Molybdenum	1450	n	0.0012	< 0.050	0.5	10	30
1450 U < 0,0010 < 0.010 0.5 10 1450 U < 0,0010	Nickel	1450	n	< 0.0010	< 0.050	0.4	10	40
1450 U < 0,0010 < 0.010 0.06 0.7 1450 U < 0,0010	Lead	1450	n	< 0.0010	< 0.010	0.5	10	50
1450 U < 0.0010 < 0.1 0.5 1450 U < 0.0010	Antimony	1450	n	< 0.0010	< 0.010	90.0	0.7	. 5
1450 U < 0.0010 < 0.50 4 50 1220 U < 1.0	Selenium	1450	n	< 0.0010	< 0.010	0.1	0.5	7
1220 U < 1,0 < 10 800 15000 1220 U 0.29 2.9 10 150 1220 U < 1,0	Zinc	1450	n	< 0.0010	< 0.50	4	90	200
1220 U 0.29 2.9 10 150 1220 U < 1,0	Chloride	1220	n	< 1.0	< 10	800	15000	25000
1220 U < 1.0 1000 20000 Solved Solids 1020 N 120 4000 60000 idex 1920 U < 0.030	Fluoride	1220	n	0.29	2.9	10	150	500
1020 N 1200 4000 60000 1920 U < 0.030	Sulphate	1220	n	< 1.0	< 10	1000	20000	20000
1920 U <0.030 <0.30 1 - 10.030 1 - 10.030 1 1 1610 U 4.7 < 50 500 800	Total Dissolved Solids	1020	Z	120	1200	4000	00009	100000
1610 U 4.7 < 50 500 800	Phenol Index	1920	n	< 0.030	< 0.30	_	-	1
	Dissolved Organic Carbon	1610	n	4.7	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg 0.090	0.090
Moisture (%)	14

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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BH06	Chemtest Job No:	20-20044				Landfill	Landfill Waste Acceptance Criteria	e Criteria
BHO6	Chemiest Sample IU:	104 148 1					LIMITS	
Diese bester Diese bester Diese bester	Sample Ref:	AA130941					Stable, Non-	
Part	Sample ID:						reactive	
Depth(m): 1.00 Landfill Lan	Sample Location:	90HB					hazardous	Hazardous
Particular Par	Top Depth(m):	1.00				Inert Waste	waste in non-	Waste
Part	Bottom Depth(m):					Landfill	hazardous	Landfill
milliand SOP Accred. Units (A) 0.35 3 5 On Gradinicactarbon 2625 U % 13.3 On Gradinicactarbon 2625 U mg/kg (A) < 0.010	Sampling Date:						Landfill	
Organic Carbon 2225 U % [A] 0.35 3 5 On Intition 2610 U % I.3 — — Drightilion 2610 U mg/kg [A] < 0.010 — — PCBs (7 congeners) 2760 U mg/kg [A] < 0.010 — — Total WAC (Mineral Oil) 2670 U mg/kg [A] < 10 — — Total WAC (Mineral Oil) 2670 U mg/kg [A] < 10 — — Naturalisation Capacity 2010 U mg/kg [A] < 10 — — Naturalisation Capacity 2015 U mg/kg Intitution of 0.0 — — — Naturalisation Capacity 2015 U — Mg/kg Intitution of 0.0 — <	Determinand	SOP	Accred.	Units				
Displacements 2610 U % 13 ETEX	Total Organic Carbon	2625	n	%	[A] 0.35	3	\$	9
PCBS (Z congeners)	Loss On Ignition	2610	Þ	%	1.3		_	10
PCBs (7 congeners) PCB (7 congeners) PCBs (7 congeners) PCB (7 congeners) PCB (7 co	Total BTEX	2760	n	mg/kg	[A] < 0.010	9	Į	***
Total WAC (Mineral Oil) £670 U mg/kg [A] < 10 — (of 17) PAHs 2010 U 8.3 — >6 (of 17) PAHs 2010 U 8.3 — >6 Neutralisation Capacity 2015 N mol/kg 0.20 — To evaluate Analysis 1450 U 40.010 <0.050	Total PCBs (7 congeners)					1	**	400
(of 17) PAHs (of 17) PAHs 100 — Neutralisation Capacity 2010 U mol/kg 0.20 — >6 Neutralisation Capacity 2015 N mol/kg 0.20 — >6 Neutralisation Capacity 2015 N mol/kg 0.20 — >6 in Mark Mark </td <td>TPH Total WAC (Mineral Oil)</td> <td>2670</td> <td>n</td> <td>mg/kg</td> <td>[A] < 10</td> <td>500</td> <td>:</td> <td>Ŀ</td>	TPH Total WAC (Mineral Oil)	2670	n	mg/kg	[A] < 10	500	:	Ŀ
Neutralisation Capacity 2010 U mol/kg 0.20 — >6 Neutralisation Capacity 2015 N mol/kg 0.20 — To evaluate ic 4 Analysis Inc.	Total (of 17) PAHs					100	1	1
Neutralisation Capacity 2015 N mol/kg 0.20 ————————————————————————————————————	Hd	2010	n		8.3	1	9,	-
te Analysis 10:1 Eluate 10:1 Eluate 10:1 Eluate nic 1450 U < 0.0010	Acid Neutralisation Capacity	2015	Z	mol/kg	0.20	-	To evaluate	To evaluate
mic mg/lq mg/lq mic 450 U <0.0010	Eluate Analysis			10:1 Eluate	10:1 Eluate	Limit values	for compliance	eaching test
nic 1450 U < 0.0010				mg/l	mg/kg	using B	S EN 12457 at L/S	s 10 i/kg
mm 1450 U 0.0050 < 0.50 20 nium 1450 U < 0.0010	Arsenic	1450	Ω	< 0.0010	< 0.050	0.5	2	25
nium 1450 U < 0.00010 < 0.010 0.04 nium 1450 U < 0.0010 < 0.050 0.5 er 1450 U < 0.0010 < 0.050 2 uy 1450 U < 0.0050 < 0.01 0.01 Jabenum 1450 U < 0.0017 < 0.050 0.05 Interpretation 1450 U < 0.0010 < 0.050 0.05 Interpretation 1450 U < 0.0010 < 0.010 0.05 Interpretation 1450 U < 0.0010 < 0.010 0.05 Interpretation 1220 U < 0.0010 < 0.010 0.05 0 Interpretation 1220 U < 0.0010 < 0.010 < 0.050 4 0 Interpretation 1220 U < 1.0 < 1.0 < 0.50 0 0 Interpretation Interpretation Interpretation Interpretation Interpretation Interpre	Barium	1450	ñ	0.0050	< 0.50	20	100	300
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er 1450 U < 0.0010 < 0.050 2 Lury 1450 U < 0.0050	Сһготіит	1450	n	< 0.0010	< 0.050	0.5	10	0.2
Lary 1450 U < 0.0050 < 0.0050 0.01 Adenum 1450 U 0.0017 < 0.050	Copper	1450	n	< 0.0010	< 0.050	2	90	100
odenum 1450 U 0.0017 < 0.050 0.5 only 1450 U < 0.050	Mercury	1450	n	< 0.00050	< 0.0050	0.01	0.2	2
III 1450 U < 0.0010 < 0.050 0.4 Nony 1450 U < 0.0010	Molybdenum	1450	n	0.0017	< 0.050	0.5	10	30
tony 1450 U < 0.0010 < 0.010 0.5 sium 1450 U < 0.0010	Nickel	1450	Ω	< 0.0010	< 0.050	0.4	10	05
Nony 1450 U < 0.0010 < 0.010 0.06 Nium 1450 U < 0.0010	Lead	1450	n	< 0.0010	< 0.010	0.5	10	90
inium 1450 U < 0.0010 < 0.010 0.1 ide 1220 U < 0.001	Antimony	1450	n	< 0.0010	< 0.010	0.06	0.7	2
ide 1450 U < 0.0010 < 0.50 4 ide 1220 U < 1.0	Selenium	1450	n	< 0.0010	< 0.010	0.1	0.5	7
1220 U < 1.0 < 1.0 800 1220 U 0.29 2.9 10 1220 U < 1.0	Zinc	1450	Λ	< 0.0010	< 0.50	4	50	200
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1220 U <1.0 1000 1020 N 120 4000 1920 U <0.030 <0.30 1 1610 U 3.3 <50 500	Fluoride	1220	n	0.29	2.9	10	150	200
1020 N 1200 4000 1920 U <0.030 <0.30 1 1610 U 3.3 <50 500	Sulphate	1220	n	< 1.0	< 10	1000	20000	20000
1920 U <0.030 <0.30 1 1610 U 3.3 <50 500	Total Dissolved Solids	1020	Z	120	1200	4000	00009	100000
1610 U 3.3 < 50 500	Phenol Index	1920	n	< 0.030	< 0.30	1	•	•
	Dissolved Organic Carbon	1610	Ω	3.3	> 50	500	800	1000

Dry mass of test portion/kg	0.090
(Moisture (%)	9.6

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Page 11 of 16

1735903	Sop Accreed Units Inert Waste Accreed National Plant Inert Waste Inert	Section	Stable, Non- reactive hazardous waste in non- hazardous Landfill 5
10	Second Part	Sample No. Sam	reactive hazardous waste in non- hazardous Landfill 5
10 10 10 10 10 10 10 10	Interference Performance	Sample Location: BH11 Heart Waste Heart Waste Hazardous Sample Location: BH11 Heart Waste Hazardous Hazardous Sample Location: Supple Location: 1,00 Accree Units P. (A) 2.0 3 5 6 Op Definition: Companies C	hazardous hazardous hazardous Landfill 5
11 1 1 1 1 1 1 1 1	The Control of Contr	Total Description	waste in non-hazardous Landfill 5
Columbia	Interference 1,000	Instrumentation	waste in non-hazardous Landfill 5
SOP Accred. Units Landfill Inaudfill Landfill 2625 U % 1.2 — 1.0 2650 U % 1.2 — 1.0 2760 U mg/kg [A]<	Particular Par	State Debtion State State Debtion State State Debtion State State State Debtion State St	Landfill 5
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2610 U mg/kg A < 0.010 E E E E E E E E E	1.00	Control	6 10 500 10 100 10 100 10 imit vatues for compliance leaching te using BS EN 12457 at L/S 10 l/kg 0.5 2 25 20 100 300 0.01 5 5
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2670 U mg/kg [A <10 500	Oigh (Part) Carrent (A)	Table Public Table Public Public Table Public Public Table Public Public Public Table Public Pu	100
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101	Total control contro	Comparison Capacity	imit values for compliance leaching te using BS EN 12457 at L/S 10 i/kg 20 100 100 100 100 100 100 100 100 100
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	D.C.	D.C.	50
Page 12 of 16			່ວ.
Page 12 of 16			

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, car be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited by the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1041476	AA130924		BH01		A	Amber Glass 250ml
1041476	AA130924		BH01		А	Plastic Tub 500g
1041477	AA130920		BH02		A	Amber Glass 250ml
1041477	AA130920		BH02		Α	Plastic Tub 500g
1041478	AAA13130		ВН03		Α	Amber Glass 250ml
1041478	AAA13130		вноз		А	Plastic Tub 500g
1041479	AA130935		BH04		A	Amber Glass 250ml
1041479	AA130935		BH04		A	Plastic Tub 500g
1041480	AA130946		BH05		A	Amber Glass 250ml
1041480	AA130946		BH05		Α	Plastic Tub 500g
1041481	AA130941		BH06		A	Amber Glass 250ml
1041481	AA130941		BH06		А	Plastic Tub 500g
1041482	AA135920		BH07		Α	Amber Glass 250ml
1041482	AA135920		BH07		Α	Plastic Tub 500g
1041483	AA135916		BH09		A	Amber Glass 250ml
1041483	AA135916		BH09		А	Plastic Tub 500g
1041484	AA135903		BH11		Α	Amber Glass 250ml
1041484	AA135903		BH11		A	Plastic Tub 500g
1041485	AA135907		BH12		Α	Amber Glass 250ml
1041485	AA135907		BH12		А	Plastic Tub 500g
1041486	AA135912		BH13		Α	Amber Glass 250ml
1041486	AA135912		BH13		A :	Plastic Tub 500g

Test Methods

600	****. <u>**</u>	I Barrell Control	T
SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	determination by inductively coupled plasma
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	рН	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measurememt by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Suiphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakern 600' Discrete Analyser using 1,5-diphenylcarbazide.

Test Methods

SOP	Title	Parameters included	Method summary
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the propertion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6-C40); optional carbon banding, e.g. 3-band GRO, DRO & LRO*TPH C8-C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5-C6, >C6-C8,>C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21- C35, >C35- C44Aromatics: >C5-C7, >C7-C8, >C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35-C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1- Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

	PECEL CONTRACTOR OF THE CONTRA
Key	
U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A Date of sampling not supplied
- B Sample age exceeds stability time (sampling to extraction)
- C Sample not received in appropriate containers
- D Broken Container
- E Insufficient Sample (Applies to LOI in Trommel Fines Only)

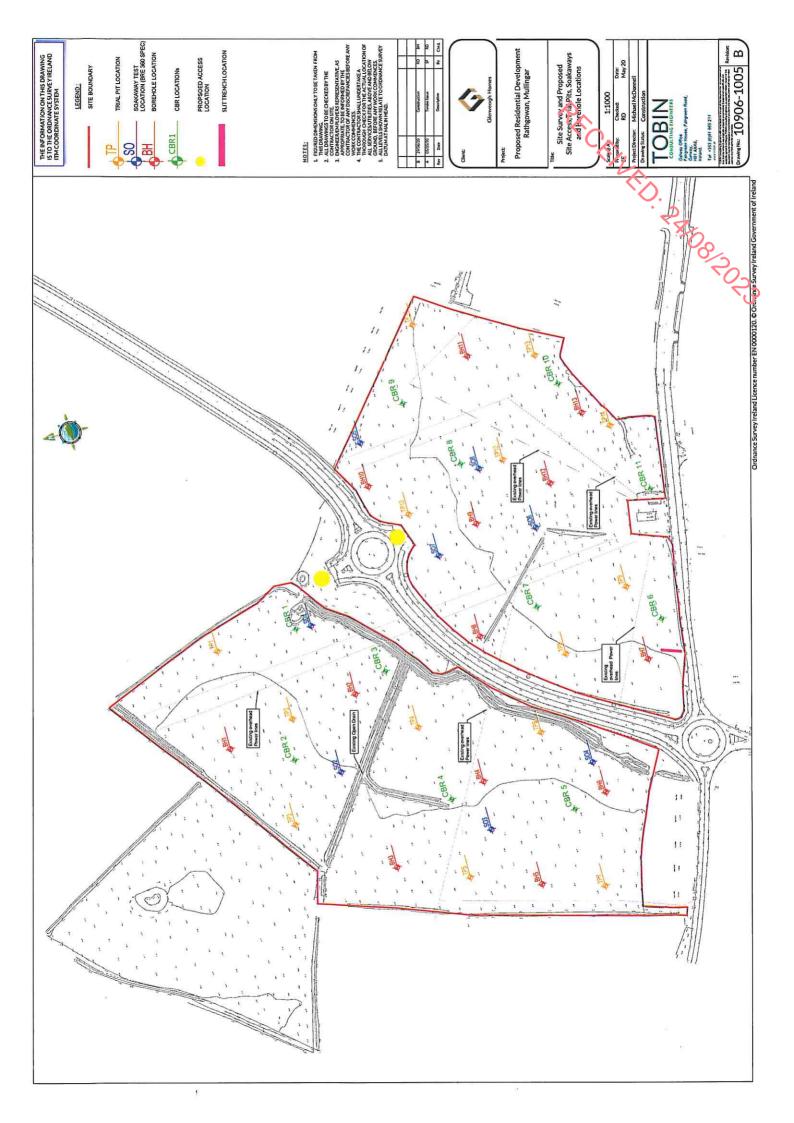
Sample Retention and Disposal

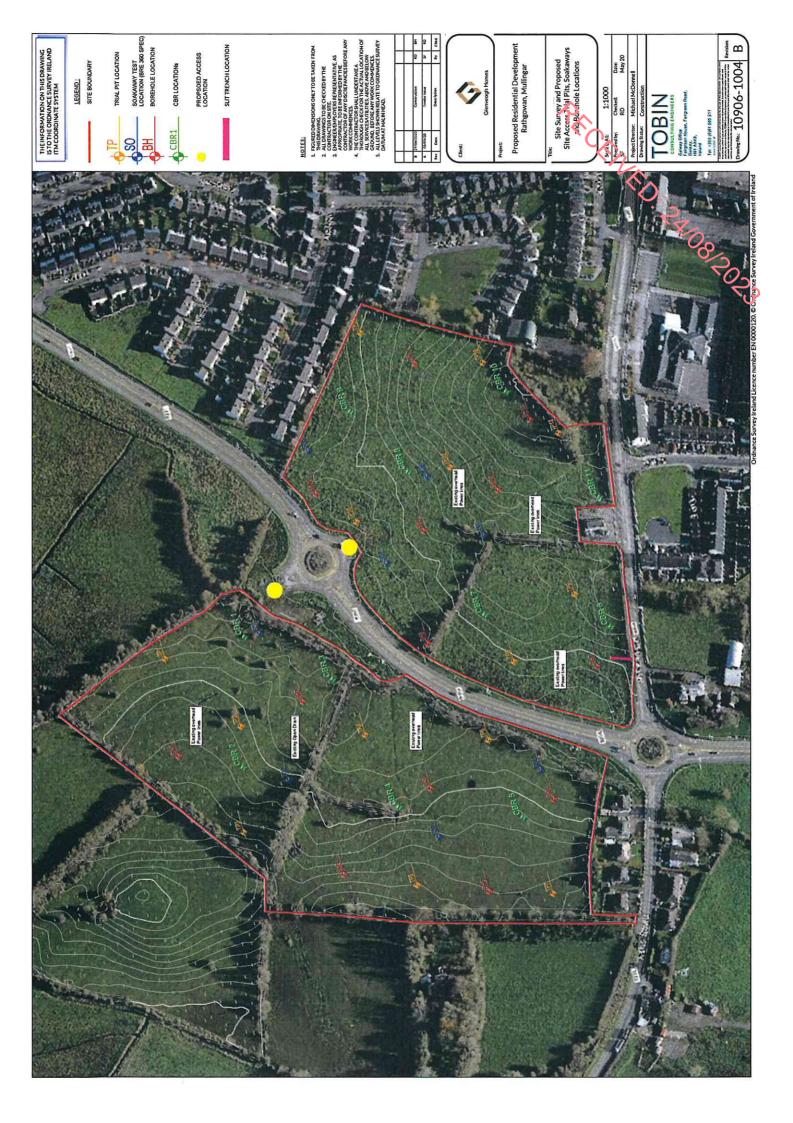
All soil samples will be retained for a period of 45 days from the date of receipt All water samples will be retained for 14 days from the date of receipt Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to: <u>customerservices@chemtest.com</u>

PRICEINED: PAIOS 2023

Appendix VIII. Site Plans







Glenveagh Homes Probes

Scale: 1:2750.