



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

13696

CONTRACT Dublin Central Development - Draft	DRILLHOLE NO RC08
	SHEET Sheet 18 of 33
CO-ORDINATES (_)	GROUND LEVEL (m)
	CORE DIAMETER (mm) 102
CLIENT Dublin Central Developments Ltd.	INCLINATION -90
ENGINEER AGL Consulting Engineers	FLUSH Polymer Gel
	DATE STARTED 13/09/2008
	DATE COMPLETED 14/09/2008
	DRILLED BY Millennium
	LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
17	17.00							Stiff brown sandy gravelly CLAY (gravel is predominantly fine, angular to sub-rounded and locally rounded)	17.05				N = 55/31 mm (25, 45, 55)
		100	0	0									

REMARKS					INSTALLATION REMARKS				
Hand dug inspection pit to 1.2m.					Headworks.				
INSTALLATION DETAILS					GROUNDWATER DETAILS				
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
14-09-08	13.00	6.00	13.00	50mm SP					
14-09-08	32.50	26.50	32.50	50mm SP					

IGSL RC NEWLOG 1M PER PG 13696 GPJ IGSL GDT 11/11/08



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13696

CONTRACT Dublin Central Development - Draft

DRILLHOLE NO RC08
SHEET Sheet 19 of 33

CO-ORDINATES (_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 13/09/2008
DATE COMPLETED 14/09/2008

CLIENT ENGINEER Dublin Central Developments Ltd.
AGL Consulting Engineers

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
18	18.00				0 250 500			Stiff brown sandy gravelly CLAY (gravel is predominantly fine, angular to sub-rounded and locally rounded) <i>(continued)</i>				N = 50/20 mm (25, 50, 50)	
		100	0	0									
	18.50												

IGSL RC NEWLOG IM PER PG 13696 GPJ IGSL GDT 11/11/08

REMARKS
Hand dug inspection pit to 1.2m.

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
14-09-08	32.50	26.50	32.50	50mm SP

INSTALLATION REMARKS
Headworks.

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments



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REPORT NUMBER

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CONTRACT Dublin Central Development - Draft	DRILLHOLE NO RC08
	SHEET Sheet 20 of 33
CO-ORDINATES (_)	GROUND LEVEL (m)
	CORE DIAMETER (mm) 102
CLIENT Dublin Central Developments Ltd.	DATE STARTED 13/09/2008
ENGINEER AGL Consulting Engineers	DATE COMPLETED 14/09/2008
	DRILLED BY Millennium
INCLINATION -90	LOGGED BY A. Mahony
FLUSH Polymer Gel	

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
19					0 250 500			Stiff brown sandy gravelly CLAY (gravel is predominantly fine, angular to sub-rounded and locally rounded) <i>(continued)</i>					
	100	0	0						19.40				
								Firm (19.4-19.6) to soft green brown SILT					
									19.90				
19.90								Firm slightly gravelly green brown CLAY					
	100	0	0						20.00				

REMARKS				
Hand dug inspection pit to 1.2m.				
INSTALLATION DETAILS				
Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
14-09-08	32.50	26.50	32.50	50mm SP

INSTALLATION REMARKS				
Headworks.				
GROUNDWATER DETAILS				
Date	Hole Depth	Casing Depth	Depth to Water	Comments

IGSL RC NEWLOG IM PER PG 13696 GPJ IGSL GDT 11/11/08



GEOTECHNICAL CORE LOG RECORD

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CONTRACT Dublin Central Development - Draft		DRILLHOLE NO RC08
		SHEET Sheet 21 of 33
CO-ORDINATES (_)	GROUND LEVEL (m)	DATE STARTED 13/09/2008
	CORE DIAMETER (mm) 102	DATE COMPLETED 14/09/2008
CLIENT ENGINEER Dublin Central Developments Ltd. AGL Consulting Engineers	INCLINATION -90	DRILLED BY Millennium
	FLUSH Polymer Gel	LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
20	20.00							Mottled brown black clayey, very gravelly SAND (medium grained) with local cobbles. Gravel is predominantly coarse and rounded to sub-angular.	20.80	Discontinuities are smooth and planar and clay smeared. Dips are sub-10°.			N = 39/30 mm (25, 61, 39)
		100	31	26									

IGSL RC NEWLOG 1M PER PG 13696 GPJ IGSL GDT 11/11/08

REMARKS Hand dug inspection pit to 1.2m.					INSTALLATION REMARKS Headworks.				
GROUNDWATER DETAILS									
Date	Hole Depth	Casing Depth	Depth to Water	Comments					
14-09-08	13.00	6.00	13.00	50mm SP					
14-09-08	32.50	26.50	32.50	50mm SP					
INSTALLATION DETAILS									
Date	Tip Depth	RZ Top	RZ Base	Type					
14-09-08	13.00	6.00	13.00	50mm SP					
14-09-08	32.50	26.50	32.50	50mm SP					



GEOTECHNICAL CORE LOG RECORD

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CONTRACT Dublin Central Development - Draft	DRILLHOLE NO RC08 SHEET Sheet 22 of 33
CO-ORDINATES (_)	GROUND LEVEL (m) CORE DIAMETER (mm) 102
CLIENT Dublin Central Developments Ltd. ENGINEER AGL Consulting Engineers	INCLINATION -90 FLUSH Polymer Gel
	DATE STARTED 13/09/2008 DATE COMPLETED 14/09/2008 DRILLED BY Millennium LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
21					0 250 500			Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining. <i>(continued)</i>		Discontinuities are smooth and planar and clay smeared. Dips are sub-10°. <i>(continued)</i>			
21.50													
								Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally	21.87	Discontinuities are smooth and planar, and clay smeared throughout. Dips are sub-10° with hairline and insipient clay smeared fractures throughout.			

REMARKS	INSTALLATION REMARKS
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Hand dug inspection pit to 1.2m.	Headworks.
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GROUNDWATER DETAILS				
Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS				
Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
14-09-08	32.50	26.50	32.50	50mm SP

IGSL RC NEWLOG 1M PER PG. 13696.GPJ IGSL.GDT 11/11/08



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CONTRACT Dublin Central Development - Draft

DRILLHOLE NO RC08
SHEET Sheet 23 of 33

CO-ORDINATES (_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 13/09/2008
DATE COMPLETED 14/09/2008

CLIENT Dublin Central Developments Ltd.
ENGINEER AGL Consulting Engineers

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
22		100	0	0				moderately weathered. Pyrite dispersed. Incipient fractures common. Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally moderately weathered. Pyrite dispersed. Incipient fractures common. <i>(continued)</i>		Discontinuities are smooth and planar, and clay smeared throughout. Dips are sub-10° with hairline and insipient clay smeared fractures throughout. <i>(continued)</i>			
22.80		100	0	0									

IGSL RC NEWLOG TM PER PG 13696 GPJ IGSL.GDT 11/11/08

REMARKS

Hand dug inspection pit to 1.2m.

INSTALLATION REMARKS

Headworks.

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
14-09-08	32.50	26.50	32.50	50mm SP



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REPORT NUMBER

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CONTRACT Dublin Central Development - Draft

DRILLHOLE NO RC08
SHEET Sheet 24 of 33

CO-ORDINATES(_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 13/09/2008
DATE COMPLETED 14/09/2008

CLIENT Dublin Central Developments Ltd.
ENGINEER AGL Consulting Engineers

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
23					0 250 500							
	23.10					Non-intact zones (shaded)	Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally moderately weathered. Pyrite dispersed. Incipient fractures common. <i>(continued)</i>		Discontinuities are smooth and planar, and clay smeared throughout. Dips are sub-10° with hairline and insipient clay smeared fractures throughout. <i>(continued)</i>			
		100	57	50			Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining.	23.46	Discontinuities are smooth and planar. Dips are sub-10° with local sub-70° calcite fracture.			

REMARKS

Hand dug inspection pit to 1.2m.

INSTALLATION REMARKS

Headworks.

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
14-09-08	32.50	26.50	32.50	50mm SP

IGSL RC NEW LOG 1M PER PG 13696.GPJ IGSL.GDT 11/11/08



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CONTRACT Dublin Central Development - Draft

DRILLHOLE NO **RC08**

SHEET Sheet 25 of 33

CO-ORDINATES (_)

GROUND LEVEL (m)

CORE DIAMETER (mm) 102

DATE STARTED 13/09/2008

DATE COMPLETED 14/09/2008

CLIENT Dublin Central Developments Ltd.
ENGINEER AGL Consulting Engineers

INCLINATION -90

FLUSH Polymer Gel

DRILLED BY Millennium

LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
24					0 250 500			Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining. <i>(continued)</i>	24.37	Discontinuities are smooth and planar. Dips are sub-10° with local sub-70° calcite fracture. <i>(continued)</i>			
								Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally moderately weathered. Pyrite dispersed. Incipient fractures common.	24.49	Discontinuities are smooth and planar and locally clay smeared. Dips are sub-10° with hairline fractures.			
24.60		100	0	0				Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining.	24.80	Discontinuities are smooth and planar and clay smeared. Dips are sub-10°.			
24.80								Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally moderately weathered. Pyrite dispersed. Incipient fractures common.		Discontinuities are smooth and planar and clay smeared. Dips are sub-10°.			

REMARKS

Hand dug inspection pit to 1.2m.

INSTALLATION REMARKS

Headworks.

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
14-09-08	32.50	26.50	32.50	50mm SP

IGSL RC NEWLOG 1M PER PG 13696.GPJ IGSL_GDT 11/11/08



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CONTRACT Dublin Central Development - Draft	DRILLHOLE NO RC08
	SHEET Sheet 26 of 33
CO-ORDINATES(_)	GROUND LEVEL (m)
	CORE DIAMETER (mm) 102
CLIENT Dublin Central Developments Ltd.	INCLINATION -90
ENGINEER AGL Consulting Engineers	FLUSH Polymer Gel
	DRILLED BY Millennium
	LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
25					0 250 500			Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally moderately weathered. Pyrite dispersed. Incipient fractures common. <i>(continued)</i>	25.21	Discontinuities are smooth and planar and clay smeared. Dips are sub-10°. <i>(continued)</i>			
								Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining.	25.72	Discontinuities are smooth and planar and clay smeared. Dips are sub-10°.			
		100	75	45				Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining.		Discontinuities are smooth and planar and clay smeared. Dips are sub-10°.			

REMARKS Hand dug inspection pit to 1.2m.	INSTALLATION REMARKS Headworks.															
	GROUNDWATER DETAILS															
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IGSL RC NEW LOG 1M PER PG 13696.GPJ IGSL.GDT 11/11/08



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

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CONTRACT Dublin Central Development - Draft	DRILLHOLE NO RC08
	SHEET Sheet 27 of 33
CO-ORDINATES (_)	GROUND LEVEL (m)
	CORE DIAMETER (mm) 102
CLIENT Dublin Central Developments Ltd.	DATE STARTED 13/09/2008
ENGINEER AGL Consulting Engineers	DATE COMPLETED 14/09/2008
	INCLINATION -90
	FLUSH Polymer Gel
	DRILLED BY Millennium
	LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
26					0 250 500					Discontinuities are smooth and planar and clay smeared. Dips are sub-10°. <i>(continued)</i>			
								Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally moderately weathered. Pyrite dispersed. Incipient fractures common.	26.11	Discontinuities are smooth to slightly rough and planar. Dips are sub-10°.			
26.30		100	30	0				Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining.	26.32	Discontinuities are smooth and planar and slightly clay smeared. Dips are sub-10° with iron oxide stained sub-vertical fracture.			
26.60													

IGSL RC NEWLOG 1M PER PG 13696 GPJ IGSL GDT 11/11/08

REMARKS Hand dug inspection pit to 1.2m.	INSTALLATION REMARKS Headworks.															
	GROUNDWATER DETAILS															
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Date	Tip Depth	RZ Top	RZ Base	Type												
14-09-08	13.00	6.00	13.00	50mm SP												
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GEOTECHNICAL CORE LOG RECORD

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CONTRACT Dublin Central Development - Draft	DRILLHOLE NO RC08 SHEET Sheet 28 of 33
CO-ORDINATES (_)	GROUND LEVEL (m) CORE DIAMETER (mm) 102
CLIENT Dublin Central Developments Ltd. ENGINEER AGL Consulting Engineers	INCLINATION -90 FLUSH Polymer Gel
	DATE STARTED 13/09/2008 DATE COMPLETED 14/09/2008 DRILLED BY Millennium LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
27		100	61	7				Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining. <i>(continued)</i>	27.52	Discontinuities are smooth and planar and slightly clay smeared. Dips are sub-10° with iron oxide stained sub-vertical fracture. <i>(continued)</i>			
								Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally moderately weathered. Pyrite dispersed. Incipient fractures common.		Discontinuities are smooth and planar and clay smeared. Dips are sub-10°.			

REMARKS
Hand dug inspection pit to 1.2m.

INSTALLATION REMARKS
Headworks.

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
14-09-08	32.50	26.50	32.50	50mm SP

IGSL RC NEW LOG 1M PER PG 13696.GPJ IGSL.GDT 11/11/08



GEOTECHNICAL CORE LOG RECORD

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CONTRACT Dublin Central Development - Draft

DRILLHOLE NO **RC08**
SHEET Sheet 29 of 33

CO-ORDINATES(_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 13/09/2008
DATE COMPLETED 14/09/2008

CLIENT Dublin Central Developments Ltd.
ENGINEER AGL Consulting Engineers

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
28	28.00				0 250 500			Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally moderately weathered. Pyrite dispersed. Incipient fractures common. <i>(continued)</i>		Discontinuities are smooth and planar and clay smeared. Dips are sub-10°. <i>(continued)</i>			
		100	58	0									
	28.40							Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout.	28.42	Discontinuities are smooth and planar. Dips are sub-10°.			
		100	83	69									

REMARKS

Hand dug inspection pit to 1.2m.

INSTALLATION REMARKS

Headworks.

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
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CONTRACT Dublin Central Development - Draft

DRILLHOLE NO **RC08**
SHEET Sheet 30 of 33

CO-ORDINATES (_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 13/09/2008
DATE COMPLETED 14/09/2008

CLIENT Dublin Central Developments Ltd.
ENGINEER AGL Consulting Engineers

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
29					0 250 500					Discontinuities are smooth and planar. Dips are sub-10°. (continued)			
								Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally moderately weathered. Pyrite dispersed. Incipient fractures common.	29.17	Discontinuities are smooth and planar and clay smeared. Dips are sub-10°.			
								Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout.	29.28	Discontinuities are smooth and planar and clay smeared. Dips are sub-10°.			
								Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout.	29.46	Discontinuities are smooth to slightly rough and clay smeared. Non-intact.			
29.50								Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout.	29.79	Discontinuities are smooth and slightly undulose. Dips are sub-10°.			
		100	27	27				Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout.		Discontinuities are smooth and planar. Dips are sub-10° with undulose sub-vertical fracture.			

REMARKS
Hand dug inspection pit to 1.2m.

INSTALLATION REMARKS
Headworks.

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
14-09-08	32.50	26.50	32.50	50mm SP

IGSL RC NEW LOG 1M PER PG. 13696.GPJ IGSL.GDT 11/11/08



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DRILLHOLE NO **RC08**
SHEET Sheet 31 of 33

CO-ORDINATES (_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 13/09/2008
DATE COMPLETED 14/09/2008

CLIENT Dublin Central Developments Ltd.
ENGINEER AGL Consulting Engineers

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
30					0 250 500			Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. <i>(continued)</i>		Discontinuities are smooth and planar. Dips are sub-10° with undulose sub-vertical fracture. <i>(continued)</i>			
	30.10							Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly and locally moderately weathered. Pyrite dispersed. Incipient fractures common.	30.26	Discontinuities are smooth and planar with local clay gravel infill (30.32-30.34m, 30.47-30.48m). Dips are sub-10°.			
		100	76	58				Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining.	30.51	Discontinuities are smooth and planar, slightly clay smeared. Dips are sub-10°.			
									30.95				

REMARKS

Hand dug inspection pit to 1.2m.

INSTALLATION REMARKS

Headworks.

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
14-09-08	32.50	26.50	32.50	50mm SP

IGSL RC NEW LOG 1M PER PG 13696.GPJ IGSL.GDT 11/11/08



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DRILLHOLE NO RC08

SHEET Sheet 32 of 33

CO-ORDINATES(_)

GROUND LEVEL (m)

CORE DIAMETER (mm) 102

DATE STARTED 13/09/2008

DATE COMPLETED 14/09/2008

CLIENT Dublin Central Developments Ltd.
ENGINEER AGL Consulting Engineers

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
31	31.00				0 250 500			Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. <i>(continued)</i>	31.02	Discontinuities are smooth to slightly rough and clay smeared. Non-intact.			
		100	17	0				Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout.	31.19	Discontinuities are smooth and planar. Dips are sub-10° with undulose sub-vertical calcite vein fracture.			
								Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout.	31.42	Discontinuities are smooth and planar. Dips are sub-10° with undulose sub-vertical calcite vein fracture.			
	31.70							Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining.	31.72				
								Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining.	31.99				

REMARKS

Hand dug inspection pit to 1.2m.

INSTALLATION REMARKS

Headworks.

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-08	13.00	6.00	13.00	50mm SP
14-09-08	32.50	26.50	32.50	50mm SP

IGSL RC NEWLOG 1M PER PG 13696.GPJ IGSL.GDT 11/11/08



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DRILLHOLE NO **RC08**
SHEET Sheet 33 of 33

CO-ORDINATES (_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 13/09/2008
DATE COMPLETED 14/09/2008

CLIENT Dublin Central Developments Ltd.
ENGINEER AGL Consulting Engineers

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
32		100	50	50				Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining. <i>(continued)</i>	32.11	Discontinuities are smooth and planar. Dips are sub-10°. <i>(continued)</i>			
								Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining.	32.35	Discontinuities are smooth and planar. Dips are sub-10°.			
								Strong to moderately strong, thin to medium bedded, dark grey to black, fine grained ARGILLACEOUS LIMESTONE. Fresh to slightly and locally moderately weathered. Pyrite dispersed throughout. Local calcite veining.	32.50				
32.50								End of Corehole at 32.5 (m)					

IGSL RC NEWLOG TM PER PG 13696 GPJ IGSL GDT 11/11/08

REMARKS Hand dug inspection pit to 1.2m.					INSTALLATION REMARKS Headworks.				
INSTALLATION DETAILS					GROUNDWATER DETAILS				
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
14-09-08	13.00	6.00	13.00	50mm SP					
14-09-08	32.50	26.50	32.50	50mm SP					



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DRILLHOLE NO RC16
SHEET Sheet 1 of 15

CO-ORDINATES(_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 18/11/2008
DATE COMPLETED

CLIENT Dublin Central Developments Ltd
ENGINEER AGL Consulting Ltd

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY 19/11/2008 Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX OPEN HOLE DRILLING: Observed by driller as returns of fill (concrete, brick, black/brown clay)					
1								SYMMETRIX OPEN HOLE DRILLING: Observed by driller as returns of clayey gravelly cobbles	1.20				

REMARKS
18/11/08- 6¾hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.

INSTALLATION REMARKS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
19-11-08	8.00	4.50	8.00	50mm SP
19-11-08	25.00	20.00	25.00	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

IGSL RC NEW LOG 2M PER PG 13696 GPJ IGSL_GDT 28/11/08



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DRILLHOLE NO RC16

SHEET Sheet 2 of 15

CO-ORDINATES(_)

GROUND LEVEL (m)

CORE DIAMETER (mm) 102

DATE STARTED 18/11/2008

DATE COMPLETED

CLIENT Dublin Central Developments Ltd
ENGINEER AGL Consulting Ltd

INCLINATION -90

FLUSH Polymer Gel

DRILLED BY 19/11/2008 Millennium

LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
2					0 250 500			<p>SYMMETRIX OPEN HOLE DRILLING: Observed by driller as returns of clayey gravelly cobbles <i>(continued)</i></p>	2.50				N = 4 (20, 5, 1, 1, 1, 1)
3								<p>SYMMETRIX OPEN HOLE DRILLING: Observed by driller as returns of gravelly clay</p>					

REMARKS
18/11/08- 6¼hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.

INSTALLATION REMARKS

GROUNDWATER DETAILS				
Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
19-11-08	8.00	4.50	8.00	50mm SP
19-11-08	25.00	20.00	25.00	50mm SP

IGSL RC NEW LOG 2M PER PG 13696.GPJ | IGSL_GDT_28/11/08



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CLIENT Dublin Central Developments Ltd		DATE STARTED 18/11/2008
ENGINEER AGL Consulting Ltd		DATE COMPLETED 19/11/2008
GROUND LEVEL (m)		DRILLED BY Millennium
CORE DIAMETER (mm) 102		LOGGED BY A. Mahony
INCLINATION -90		
FLUSH Polymer Gel		

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
4					0 250 500			SYMMETRIX OPEN HOLE DRILLING: Observed by driller as returns of gravelly clay (continued)				[Standpipe Diagram]	N = 22 (1, 12, 8, 6, 1, 7)
5												[Standpipe Diagram]	N = 45 (1, 4, 7, 9, 12, 17)

REMARKS 18/11/08- 6¾hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.					INSTALLATION REMARKS				
					GROUNDWATER DETAILS				
					Date	Hole Depth	Casing Depth	Depth to Water	Comments
INSTALLATION DETAILS									
Date	Tip Depth	RZ Top	RZ Base	Type					
19-11-08	8.00	4.50	8.00	50mm SP					
19-11-08	25.00	20.00	25.00	50mm SP					

IGSL RC NEW LOG 2M PER PG 13696.GPJ IGSL.GDT 28/11/08



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DRILLHOLE NO RC16
SHEET Sheet 4 of 15

CO-ORDINATES(_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 18/11/2008
DATE COMPLETED

CLIENT Dublin Central Developments Ltd
ENGINEER AGL Consulting Ltd

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
6					0 250 500			<p>SYMMETRIX OPEN HOLE DRILLING: Observed by driller as returns of gravelly clay (continued)</p>					<p>N = 41 (1, 2, 2, 4, 15, 20)</p>
7													

REMARKS
18/11/08- 6¼hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.

INSTALLATION REMARKS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
19-11-08	8.00	4.50	8.00	50mm SP
19-11-08	25.00	20.00	25.00	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

IGSL RC NEW LOG 2M PER PG 13696.GPJ IGSL GDT 28/11/08



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DRILLHOLE NO RC16

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CO-ORDINATES(_)

GROUND LEVEL (m)

DATE STARTED 18/11/2008

CORE DIAMETER (mm) 102

DATE COMPLETED

CLIENT Dublin Central Developments Ltd
ENGINEER AGL Consulting Ltd

INCLINATION -90

DRILLED BY Millennium

FLUSH Polymer Gel

LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
8					0 250 500			SYMMETRIX OPEN HOLE DRILLING: Observed by driller as returns of gravelly clay <i>(continued)</i>					N = 46 (2, 4, 8, 10, 12, 16)
									10.00				

REMARKS
 18/11/08- 6¼hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.

INSTALLATION REMARKS

GROUNDWATER DETAILS				
Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
19-11-08	8.00	4.50	8.00	50mm SP
19-11-08	25.00	20.00	25.00	50mm SP

IGSL RC NEWLOG 2M PER PG 13696.GPJ IGSL GDT 28/11/08



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DRILLHOLE NO RC16
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CO-ORDINATES(_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 18/11/2008
DATE COMPLETED

CLIENT Dublin Central Developments Ltd
ENGINEER AGL Consulting Ltd

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY 19/11/2008 Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
10	10.00				0 250 500			Clayey GRAVEL (rounded and coarse).	10.20				N = 50 (2, 3, 3, 11, 17, 19)
		87	0	0				Dark brown, firm, sandy gravelly CLAY. Gravel is rounded and medium grained.	10.85				
	10.40							Dark brown, slightly gravelly (fine) SAND (medium to fine)	11.10				
11		100	0	0				Dark brown, firm to stiff, slightly sandy, gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded.	11.90				
	11.90												

REMARKS

18/11/08- 6¼hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.

INSTALLATION REMARKS

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
19-11-08	8.00	4.50	8.00	50mm SP
19-11-08	25.00	20.00	25.00	50mm SP

IGSL RC NEW LOG 2M PER PG 13696.GPJ IGSL.GDT 28/11/08



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CO-ORDINATES(_)		SHEET Sheet 7 of 15
CLIENT Dublin Central Developments Ltd ENGINEER AGL Consulting Ltd		DATE STARTED 18/11/2008 DATE COMPLETED 19/11/2008
GROUND LEVEL (m)		DRILLED BY Millennium
CORE DIAMETER (mm) 102		LOGGED BY A. Mahony
INCLINATION -90		
FLUSH Polymer Gel		

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
12		100	0	0				Dark brown, firm to stiff, slightly sandy, gravelly CLAY with occasional cobbles. Gravel is fine to coarse, sub-angular to sub-rounded. Loss of recovery 0.2m. (continued)					
	12.30							Very clayey (brown/black) gravelly cobbles of argillaceous LIMESTONE (probable moderate to highly weathered bedrock).	12.60				
13		100	41	9				Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly weathered with incipient fractures.		Discontinuities are smooth and planar. Clay smeared and slightly iron oxide stained (13.51m-13.7m) Dips are sub-10°.			
								Strong to locally moderately strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly weathered.	13.70	Discontinuities are smooth to slightly rough and planar. Iron oxide stained 13.7m-13.9m. Heavily clay smeared 13.9m-14.02m. Dips are sub-10°.			
	13.90												

REMARKS					INSTALLATION REMARKS				
18/11/08- 6¾hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.					GROUNDWATER DETAILS				
INSTALLATION DETAILS									
Date	Tip Depth	RZ Top	RZ Base	Type					
19-11-08	8.00	4.50	8.00	50mm SP					
19-11-08	25.00	20.00	25.00	50mm SP					

IGSL RC NEW LOG 2M PER PG. 13696.GPJ IGSL.GDT 28/11/08



GEOTECHNICAL CORE LOG RECORD

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CO-ORDINATES (_)		SHEET Sheet 8 of 15
CLIENT Dublin Central Developments Ltd		DATE STARTED 18/11/2008
ENGINEER AGL Consulting Ltd		DATE COMPLETED
GROUND LEVEL (m)		DRILLED BY 19/11/2008 Millennium
CORE DIAMETER (mm) 102		LOGGED BY A. Mahony
INCLINATION -90		
FLUSH Polymer Gel		

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
14					0 250 500	Non-intact zones (shaded)	Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to slightly weathered with incipient fractures.	14.02	Non-Intact. Discontinuities are smooth and planar and heavily clay smeared. Dips are sub-10° with variable fractures.			
							Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh.	14.28	Discontinuities are smooth and planar. Dips are sub-10°.			
		100	43	29			Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh	14.48	Discontinuities are smooth and planar. Clay smeared 14.48m-14.71m. Dips are sub-10°.			
							Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh to locally slightly weathered.	14.90	Discontinuities are smooth and planar. Clay smeared 15.01m. Dips are sub-10°.			
15							Strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to slightly weathered. Pyrite lense 15.25m.	15.01	Discontinuities are smooth to slightly rough and planar. Dips are sub-10°.			
							Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh. Pyrite lense 15.36m.	15.28	Discontinuities are smooth and planar. Dips are sub-10°.			
	15.40							15.84	Discontinuities are smooth and planar. Dips are sub-10°.			

REMARKS					INSTALLATION REMARKS				
18/11/08- 6¾hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.									
	Date	Hole Depth	Casing Depth	Depth to Water	Comments				
INSTALLATION DETAILS									
	Date	Tip Depth	RZ Top	RZ Base	Type				
	19-11-08	8.00	4.50	8.00	50mm SP				
	19-11-08	25.00	20.00	25.00	50mm SP				

IGSL RC NEW LOG 2M PER PG. 13696.GPJ IGSL.GDT 28/11/08



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DRILLHOLE NO RC16

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CO-ORDINATES(_)

GROUND LEVEL (m)

CORE DIAMETER (mm) 102

DATE STARTED 18/11/2008

DATE COMPLETED

CLIENT Dublin Central Developments Ltd
ENGINEER AGL Consulting Ltd

INCLINATION -90

DRILLED BY Millennium

FLUSH Polymer Gel

LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
16		100	94	82				Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh to locally slightly weathered. (continued)		Discontinuities are smooth and planar. Dips are sub-10°. (continued)			
17	17.10							Strong to locally moderately strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE with argillaceous zones. Slightly weathered with sub-vertical calcite vein throughout.	17.20	Discontinuities are smooth to slightly rough and planar. Dips are sub-10° with sub-vertical calcite fracture throughout.			

REMARKS
18/11/08- 6¼hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.

INSTALLATION REMARKS

GROUNDWATER DETAILS				
Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS				
Date	Tip Depth	RZ Top	RZ Base	Type
19-11-08	8.00	4.50	8.00	50mm SP
19-11-08	25.00	20.00	25.00	50mm SP

IGSL RC NEWLOG 2M PER PG 13696.GPJ IGSL.GDT 28/11/08



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DRILLHOLE NO RC16
SHEET Sheet 10 of 15

CO-ORDINATES(_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 18/11/2008
DATE COMPLETED

CLIENT Dublin Central Developments Ltd
ENGINEER AGL Consulting Ltd

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY 19/11/2008 Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
18					0 250 500	[Brick pattern]		Strong to locally moderately strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE with argillaceous zones. Slightly weathered with sub-vertical calcite vein throughout. <i>(continued)</i>		Discontinuities are smooth to slightly rough and planar. Dips are sub-10° with sub-vertical calcite fracture throughout. <i>(continued)</i>			
18.20		100	100	91		[Brick pattern]			18.92				
19						[Brick pattern]		Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE (slightly siliceous). Fresh to locally slightly weathered. Pyrite lense 19.39m.		Discontinuities are smooth and planar. Dips are sub-10° with sub-vertical fractures 19.14m-19.39m.			
19.00		100	43	33		[Brick pattern]			19.68				
19.80						[Brick pattern]		Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh to locally slightly weathered. Incipient fractures common.	19.80	Discontinuities are smooth and planar. Dips are sub-10°.			
						[Brick pattern]				Discontinuities are smooth to slightly rough and planar. Dips are sub-10°.			

REMARKS
18/11/08- 6¼hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.

INSTALLATION REMARKS

GROUNDWATER DETAILS				
Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS				
Date	Tip Depth	RZ Top	RZ Base	Type
19-11-08	8.00	4.50	8.00	50mm SP
19-11-08	25.00	20.00	25.00	50mm SP

IGSL RC NEW LOG 2M PER PG. 13696.GPJ | IGSL.GDT 28/11/08



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

13696

CONTRACT Dublin Central Development - Draft

DRILLHOLE NO RC16
SHEET Sheet 11 of 15

CO-ORDINATES(_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 18/11/2008
DATE COMPLETED

CLIENT Dublin Central Developments Ltd
ENGINEER AGL Consulting Ltd

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
20					0 250 500			Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE, locally argillaceous zones. Fresh. (continued)	20.41	Discontinuities are smooth to slightly rough and planar. Dips are sub-10°. (continued)			
	100	59	57					Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh to locally slightly weathered.	20.88	Discontinuities are smooth and planar. Dips are sub-10° with sub-vertical fractures 20.7m-20.88m.			
21								Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh. Pyrite lense 20.93 & 21.14m.	21.14	Discontinuities are smooth to slightly rough and planar. Dips are sub-10° with sub-vertical fracture 20.88m-20.97m.			
	21.20							Moderately strong to moderately weak, thinly bedded, black, calcareous SHALE. Fresh to locally slightly weathered with incipient fractures.	21.42	Discontinuities are smooth and planar. Black clay infilled 21.2m-21.24m. Dips are sub-10°.			
								Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh to locally slightly weathered.		Discontinuities are smooth and planar. Dips are sub-10° with sub-vertical fractures 21.51-21.68m, 21.76m-21.92m and 22.45m-22.69m-clay smeared.			

REMARKS
18/11/08- 6 3/4hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.

INSTALLATION REMARKS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
19-11-08	8.00	4.50	8.00	50mm SP
19-11-08	25.00	20.00	25.00	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

IGSL RC NEW LOG 2M PER PG 13696.GPJ IGSL.GDT 28/11/08



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER
13696

CONTRACT Dublin Central Development - Draft		DRILLHOLE NO RC16
CO-ORDINATES (_)		SHEET Sheet 12 of 15
CLIENT Dublin Central Developments Ltd ENGINEER AGL Consulting Ltd		DATE STARTED 18/11/2008 DATE COMPLETED 19/11/2008 DRILLED BY Millennium LOGGED BY A. Mahony
GROUND LEVEL (m)		FLUSH Polymer Gel
CORE DIAMETER (mm) 102		
INCLINATION -90		

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
22		100	55	47				Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh to locally slightly weathered. (continued)		Discontinuities are smooth and planar. Dips are sub-10° with sub-vertical fractures 21.51-21.68m, 21.76m-21.92m and 22.45m-22.69m-clay smeared. (continued)			
									22.70				
								Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh to locally slightly weathered.		Discontinuities are smooth to slightly rough and planar. Dips are sub-10°.			
22.90													
23		100	100	87									
									23.50				
								Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh to locally slightly weathered. Pyrite lense 23.95m.		Discontinuities are smooth and planar. Clay smeared 23.5m-23.58m. Dips are sub-10°.			
23.50													
									23.99				

REMARKS					INSTALLATION REMARKS																			
18/11/08- 6½hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.					<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5">GROUNDWATER DETAILS</th> </tr> <tr> <th>Date</th> <th>Hole Depth</th> <th>Casing Depth</th> <th>Depth to Water</th> <th>Comments</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>					GROUNDWATER DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments					
										GROUNDWATER DETAILS														
Date	Hole Depth	Casing Depth	Depth to Water	Comments																				
INSTALLATION DETAILS																								
Date	Tip Depth	RZ Top	RZ Base	Type																				
19-11-08	8.00	4.50	8.00	50mm SP																				
19-11-08	25.00	20.00	25.00	50mm SP																				

IGSL RC NEW LOG 2M PER PG 13696.GPJ IGSL.GDT 28/11/08



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

13696

CONTRACT Dublin Central Development - Draft

DRILLHOLE NO RC16
SHEET Sheet 13 of 15

CO-ORDINATES(_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 18/11/2008
DATE COMPLETED

CLIENT ENGINEER Dublin Central Developments Ltd
AGL Consulting Ltd

INCLINATION -90
FLUSH Polymer Gel

DRILLED BY 19/11/2008
Millennium
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
24		100	91	73				Moderately strong to moderately weak, thinly bedded to laminated, black, calcareous SHALE. Fresh (continued)	24.21	Discontinuities are smooth and planar. Dips are sub-10°. (continued)			
								Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh to locally slightly weathered. Pyrite lense 24.35m & 24.8m.		Discontinuities are smooth and planar. Dips are sub-10°.			
24.90									25				
		100	100	95				Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh.	25.21	Discontinuities are smooth to slightly rough and planar. Dips are sub-10°.			
									26.00				

REMARKS
18/11/08- 6¼hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.

INSTALLATION REMARKS

GROUNDWATER DETAILS				
Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS				
Date	Tip Depth	RZ Top	RZ Base	Type
19-11-08	8.00	4.50	8.00	50mm SP
19-11-08	25.00	20.00	25.00	50mm SP

IGSL RC NEW LOG 2M PER PG 13696.GPJ IGSL.GDT 28/11/08



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

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CONTRACT Dublin Central Development - Draft

DRILLHOLE NO **RC16**
SHEET Sheet 14 of 15

CO-ORDINATES(_)

GROUND LEVEL (m)
CORE DIAMETER (mm) 102

DATE STARTED 18/11/2008
DATE COMPLETED

CLIENT Dublin Central Developments Ltd
ENGINEER AGL Consulting Ltd

INCLINATION -90
FLUSH Polymer Gel

19/11/2008
Millennium
DRILLED BY
LOGGED BY A. Mahony

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
26					0 250 500			Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh.	26.22	Discontinuities are smooth and planar. Dips are sub-10°.			
								Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh.	26.50	Discontinuities are smooth to slightly rough and planar. Dips are sub-10°.			
								Moderately strong to moderately weak, thinly bedded, black, calcareous SHALE. Fresh	26.56	Discontinuities are smooth and planar. Dips are sub-10°.			
								Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE with interbedded siliceous limestone. Fresh. Pyrite lense 27.0m.	27.25	Discontinuities are smooth and planar. Dips are sub-10°.			
		100	97	87				Moderately strong to moderately weak, thinly bedded, black, calcareous SHALE. Fresh	27.44	Discontinuities are smooth and planar. Dips are sub-10°.			
								Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh.	27.78	Discontinuities are smooth and planar. Dips are sub-10°.			
								Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh.		Discontinuities are smooth to slightly rough and planar. Dips are sub-10°.			

REMARKS
18/11/08- 6¼hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.

INSTALLATION REMARKS

GROUNDWATER DETAILS				
Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS				
Date	Tip Depth	RZ Top	RZ Base	Type
19-11-08	8.00	4.50	8.00	50mm SP
19-11-08	25.00	20.00	25.00	50mm SP

IGSL RC NEW LOG 2M PER PG 13696 GPJ IGSL GDT 28/11/08



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER
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CONTRACT Dublin Central Development - Draft		DRILLHOLE NO RC16
CO-ORDINATES (_)		SHEET Sheet 15 of 15
CLIENT Dublin Central Developments Ltd ENGINEER AGL Consulting Ltd		DATE STARTED 18/11/2008 DATE COMPLETED 19/11/2008 DRILLED BY Millennium LOGGED BY A. Mahony
GROUND LEVEL (m)		FLUSH Polymer Gel
CORE DIAMETER (mm) 102		INCLINATION -90

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing (mm)	Legend	Non-intact zones (shaded)	Description	Depth (m)	Discontinuities	Elevation	Standpipe Details	SPT (N Value)
28									28.10	Discontinuities are smooth and planar. Dips are sub-10°.			
	28.10							Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh.	28.48	Discontinuities are smooth and planar. Dips are sub-10°.			
								Moderately strong to moderately weak, thinly bedded, black, calcareous SHALE. Fresh	28.70	Discontinuities are smooth to slightly rough and planar. Dips are sub-10°.			
		100	86	74				Strong to very strong, thin to medium bedded, grey to dark grey, fine grained SILICEOUS LIMESTONE. Fresh.	29.25	Discontinuities are smooth and planar. Dips are sub-10°.			
29								Strong to moderately strong, thin to medium bedded, dark grey, fine grained ARGILLACEOUS LIMESTONE. Fresh to locally slightly weathered.	29.80	Discontinuities are smooth and planar. Dips are sub-10°.			
	29.80							End of Corehole at 29.8 (m)					

REMARKS 18/11/08- 6¼hrs Unload sludge tanks, load & erect fencing, dig inspection pit (widened due to pipe) and move equipment onto location.					INSTALLATION REMARKS				
					GROUNDWATER DETAILS				
					Date	Hole Depth	Casing Depth	Depth to Water	Comments
INSTALLATION DETAILS									
Date	Tip Depth	RZ Top	RZ Base	Type					
19-11-08	8.00	4.50	8.00	50mm SP					
19-11-08	25.00	20.00	25.00	50mm SP					

IGSL RC NEW LOG 2M PER PG 13696.GPJ IGSL.GDT 28/11/08

APPENDIX 3

Soil Sampling Protocol



STANDARD OPERATING PROCEDURE

SOIL SAMPLING

The soil sampling technique described below will be followed to ensure that soil samples are representative of the environment which they are intended to characterise.

1.0 SAMPLING

- (A) Locate the soil sampling station in accordance with the workplan which will specify the number and type of samples to be taken. Place a wooden stake into the ground one metre from the sample location and record sample location on the stake.
- (B) Record the location in the field logbook and, if possible, photograph the location.
- (C) Collect soil samples from the depth specified in the workplan and record the depth in the field notebook. Describe the colour and texture of each sample and record in notebook.
- (D) Wear appropriate level of protection when taking samples (gloves, safety glasses, hard hat etc.) as specified in the workplan. Collect soil samples as specified in the workplan using decontaminated stainless steel trowel, soil corer, or similar device. Collect discrete soil samples from each station.
- (E) If required by the workplan, composite discrete soil samples by placing equal volumes of soil into the container and mixing thoroughly to a homogenous mixture. Samples may be hand picked, if necessary, to remove larger materials, such as leaves, sticks, gravel, rocks etc., if specified in the workplan. Record in notebook the nature of any materials removed from soil samples.
- (F) Deposit each soil sampled into a (clean, pre-washed) container. At the time of collection, the sample bottle will be filled to the top with soil sample.
- (G) Fill out labels with waterproof ink and attach to the sample container. The following information will be recorded on each sample label: -
 - Client/Site Name
 - Date Collected
 - Time Collected
 - Analysis
 - Preservative
 - Sample Identification Number

- (H) Decontaminate sampling equipment as described below unless otherwise specified in the site workplan. When using stainless steel sampling equipment: -
- wash with non-phosphate detergent in potable water,
 - rinse sequentially in potable water, methanol, acetone, methanol and D1 water and;
 - allow to air dry in a containment free area.
- (I) Wrap the decontaminated sampling equipment in aluminium foil which has been decontaminated in accordance with Section H.

2.0 FIELD DOCUMENTATION

Record sample information in the field notebook. Provide a complete description of the sample location, and a photograph, if necessary. Describe the soil appearance, especially if the presence of oil or an odour is noted. Document the sample bottle lot numbers in the field notebook. Record weather conditions at the time of sampling. The Field Team Leader will initial the logbook entries for correctness.

3.0 FIELD QA/QC SAMPLES

See the separate SOP on Field QA/QC samples for appropriateness and preparation of D1 Water Field Blanks, Cross-contamination Field Blanks, Trip Blanks and Field Duplicate Samples.

4.0 PACKAGING AND TRANSPORT

Check to be sure that all necessary information is on the sample container label. Complete the chain-of custody form. Package, label and transport the samples to the testing laboratory in accordance with requirements for packing, shipping and labelling environmental samples.

END.

APPENDIX 4

Groundwater Sampling Protocol



STANDARD OPERATING PROCEDURE

GROUNDWATER SAMPLING

The primary objective of groundwater sampling is to evaluate whether the potential contaminant sources at a site have impacted the quality of the groundwater in the underlying aquifer. The additional objective is to measure hydraulic gradient, or slope, of the water table in the shallow aquifer in an effort to evaluate the direction of groundwater flow.

The purpose of this procedure is to ensure that representative samples of groundwater are collected and documented using consistent methods to ensure sample integrity.

1.0 SAMPLING PROCEDURES

1.1 Well Operating and Purging Procedures

All groundwater sampling will be conducted after the installed and developed wells have been allowed to equilibrate for at least 2 to 3 days. A Field Data Sheet for Well Sampling will be completed for each well.

Groundwater sampling teams will use the following procedure for approaching, opening, purging and sampling all wells unless directed otherwise by the workplan.

- 1) Prior to placing any equipment into the well, decontaminate the sampling equipment according to standard decontamination protocol.
- 2) Approach the well with a working FID/PID, a well key, and a depth-to-water meter.
- 3) Unlock and open the well cap just enough to insert the probe of the PID/FID. Take and record a reading. A decision to upgrade PPE may be necessary based on the FID/PID readings in the breathing zone.
- 4) Where practical, the surface water column will be visually examined for the presence of hydrocarbons, if present or suspected, the thickness of the hydrocarbon layer will be measured using an oil/water interface probe prior to taking the depth-to-water measurement.
- 5) Insert the water level probe into the well and measure and record the static water level to the nearest 0.01 m with respect to the established survey point on top of the well casing.

- 6) Decontaminate the water level probe with DDI water (Do not rinse with any solvents unless product was encountered).
- 7) Calculate and record the minimum volume of water to be purged according to the following conversion factors: -

1 well volume	=	water column in metres x litres/linear metre
2 inch casing	=	2.0 LPM
4 inch casing	=	8.1 LPM
6 inch casing	=	18.2 LPM
8 inch casing	=	32.4 LPM

- 8) Purge the well of at least 3 casing volumes by pumping using a peristaltic pump with flow controller or bailing with a decontaminated submersible pump or PVC bailer equipped with a bottom filling check valve (if the purge volume is low, generally less than 100 litres, the sampling team might find it more efficient to purge with a bailer than a pump). Use a graduated bucket to track the amount of water removed from the well. The determination of purging and sampling will depend on parameters being analysed. Where VOCs or SVOCs are required it is recommended that slow purging using peristaltic pumping be undertaken. Periodically determine the pH, temperature and specific conductance of the purged water. Continue purging until the well has been completely evacuated or until the pH and specific conductance measurements have stabilised for at least one well volume. Wells that become dewatered prior to producing three casing volumes will be sampled as soon as practical once they recover sufficiently.
- 9) Dispose of purge water collected in the graduated bucket by dumping onto the ground at a distance of 50 to 60 metres from the vicinity of the well. If the water is known or suspected to be significantly contaminated, it may be necessary to store the purge water in a secure container, such as a drum, pending proper disposal.
- 10) Be aware and record any unusual occurrence during purging such as cascading (a shallow water entry zone that trickles into the borehole).

1.2 Field Parameter Measurement

Measurements of field parameters of pH, temperature and electrical conductivity are collected and organic vapour screening is conducted while the well is purged. To facilitate the collection of basic field parameters, the field team needs to: -

- Purge three well volumes of water from the well and measure field parameters for each well volume removed.
- Collection of water samples should take place after stabilisation of the following parameters: -
 - Temperature +/- 1°C
 - pH (meter or paper) +/- 0.2 units
 - Specific conductivity +/- 5%

- If the aforementioned parameters do not stabilise within three purge volumes, the well will be purged up to a maximum of six borehole volumes unless two consecutive sets of stabilised parameters are obtained.
- Note any observations in the field logbook.

1.3 Collection of Water Samples

All samples for chemical analysis will be placed in laboratory prepared bottles. The types of sample containers and preservative required for each type of analysis are described in the workplan. Where product layers are present a procedure and rationale for the collection of such layers should be outlined in the site specific work plan. If required, preservatives will be placed in the sample containers prior to collecting the samples.

The following procedure will be used to sample a well: -

- 1) After the well has been purged and allowed to recover, sample the well using a properly decontaminated or dedicated disposable bailer. Gently lower the bailer into the water column. Allow the bailer to sink and fill with a minimum of surface disturbance.
- 2) Slowly raise the bailer out of the well. Do not allow the bailer line to contact the ground, either by coiling it on a clean plastic sheet or by looping it from arm to arm as the line is extracted from the well.
- 3) Samples will be collected for VOCs analysis immediately after purging is complete and before other samples are collected. Pour the samples slowly into the laboratory prepared 40 ml glass vial. Overfill each vial slightly to eliminate air bubbles, a convex meniscus should be present at the top of the vial. Ensure that the Teflon liner of the septum cap is facing inward and that no bubbles are entrapped. After capping securely, turn bottle upside-down, tap it against your other hand, and observe sample water for bubbles. If bubbles are observed, remove the cap, overfill the vial and reseal. Repeat this step for each vial until the samples with no bubbles are obtained.
- 4) Place a label on the container and enter the following information: -
 - Client/Site Name
 - Date Collected
 - Time Collected
 - Analysis
 - Preservative
 - Sample Identification Number
- 5) Record pertinent information in the field logbook and on the Field Data Sheet for Well Sampling. Complete chain-of-custody form.
- 6) Place custody seals on the container caps. As soon as possible, place sample containers in a cooler with bagged ice and maintain at 4°C until extraction. Surround the bottles with vermiculite.

- 7) Obtain the semi-volatile compound/pesticides/PCBs sample(s) by transferring the water to a laboratory prepared 1000 ml amber glass bottle with Teflon-lined cap. Fill the bottle to the bottom of the neck and follow steps 4, 5 and 6 above.
- 8) Dissolved metals (if necessary) requires the team to filter the sample water through a .45 micron filter. The water is collected in a 1 litre, unpreserved, plastic or glass bottle with HNO₃ preservative. Filtering must be done within 15 minutes of sample collection.
- 9) Obtain the total metals sample by directly transferring the water from the bailer into a laboratory prepared 1000 ml plastic or glass bottle with HNO₃ preservative.
- 10) Be sure the pH of the metals sampled is less than 2 by pouring off an aliquot in a clean jar and testing for pH using litmus paper. Dispose of this water and rinse the jar.
- 11) Collect and prepare Field QA/QC samples in accordance with separate SOP.
- 12) Be sure to record all data required on the Field Data Sheet or Well Sampling and appropriate entries into the field logbook.
- 13) Secure the well cap and replace the locking cover.
- 14) Decontaminate all sampling equipment according to procedure.
- 15) Decontaminate submersible pumps as follows: -

Scrub pump and cord in a tub of Liquinox/or similar and potable water
Pump at least 80 litres of soapy water through pump
Rinse with potable water
Pump at least 80 litres of rinse water through the pump
Rinse with D1 water before lowering pump into the next well.

END.

DCC PLAN NO 2862/21
RECEIVED: 01/06/2021

APPENDIX 5

Laboratory Results