

Appendix 5

Groundwater Monitoring Borehole Logs

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Glover Site Investigations Ltd		Site		Borehole Number				
SCOTCH CORNER LANDFILL, LICENCE COMPLIANCE		1AR						
Boring Method	Dates	Client		Sheet				
Shell & Auger	23/10/02 - 23/10/02	MONAGHAN COUNTY COUNCIL		1/1				
Hole Diameters	Location	Engineer		Ground Level (mOD)				
200mm Cased to 2.80m	E274925 N325218	M. C. O'SULLIVAN & CO. LTD		129.25				
Description	Depth m (Thickness)	Legend	Level (mOD)	Samples / Tests			Water Level	Daily Progress
				Depth (m)	Sample	Test		
TOPSOIL	(0.20) 0.20		128.05					
MADE GROUND: Red brick and stone	(0.90)							
Firm grey slightly sandy gravelly CLAY containing some cobbles and boulders	1.10 (1.50)		127.15					Seepage at 1.10m.
Broken SANDSTONE	2.60 (0.20) 2.80		125.65 125.45					1.10m:23/10/02
END OF BOREHOLE 2.8m								
Remarks			SAMPLE / TEST KEY			Scale	Logged By	
Chiselling from 2.60m to 2.80m for 1 hour.			J Disturbed Sample B Bulk Sample U Undisturbed Core Sample P Piston Sample V Field Vane Test W Water Sample SPT Standard Penetration Test CPT Cone Penetration Test () Penetration < 300mm			1:50	RB	
						Figure No. 4524-1AR		
						Borehole Number 1AR		

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Glover Site Investigations Ltd

Site	SCOTCH CORNER LANDFILL, LICENCE COMPLIANCE	Borehole Number	1AR
Client	MONAGHAN COUNTY COUNCIL	Job Number	4824
Engineer	M. C. O'SULLIVAN & CO. LTD	Sheet	1/1

Installation Type	GAS/GROUNDWATER STANDPIPE	Dimensions	Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 200 mm
Location	E274925 N325218	Ground Level (mOD)	128.25

Legend	Inst. [A]	Level (mOD)	Depth (m)	Description	Groundwater Strikes during Drilling											
					Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)		
		128.15	0.10	Concrete			1.10		Seepage							
		127.75	0.50	Bentonite Seal	Groundwater Observations During Drilling											
		127.45	0.80	Gravel Filter	Start of Shift					End of Shift						
					Date	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	
					23/10/02							2.80		1.10	127.15	
					Instrument Groundwater Observations											
					Instrument [A]			Remarks								
					Date	Time	Depth (m)	Level (mOD)								
					23/10/02		1.10	127.15								
		125.45	2.80	Slotted Standpipe												

Remarks
Upright lockable cover installed.
0.2m "stick up" of standpipe.

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Glover Site Investigations Ltd				Site		Borehole Number			
Machine : KLEMM		Dates		SCOTCH CORNER LANDFILL, LICENCE COMPLIANCE		5A			
Flush : AIR		17/10/02 - 17/10/02		Client		Sheet			
Bit Size : 150.00mm		Location		MONAGHAN COUNTY COUNCIL		1/1			
Method : ROTARY DTH		E275111 N325405		Engineer		Ground Level (mOD)			
				M. C. O'SULLIVAN & CO. LTD		123.50			
Description	Depth m (Thickness)	Legend	Level (mOD)	Samples / Tests				Water Level	Daily Progress
				Depth (m)	TCR	SCR	RQD		
FILL: Clay, Sandstone and cobbles	(7.00)								
Brown sandy gravelly CLAY containing cobbles and boulders	7.00 (0.70)		116.50						
SHALE	7.70 (0.30)		115.80						
END OF BOREHOLE 8.0m	8.00		115.50						
Remarks								Scale	Logged By
								1:50	RB
								Figure No.	
								4824.5A	
								Borehole Number	5A

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Glover Site Investigations Ltd

Site	SCOTCH CORNER LANDFILL, LICENCE COMPLIANCE	Borehole Number	5A
Client	MONAGHAN COUNTY COUNCIL	Job Number	4824
Engineer	M. C. O'SULLIVAN & CO. LTD	Sheet	1/1

Installation Type GAS/GROUNDWATER STANDPIPE	Dimensions	Ground Level (mOD)
	Location	

Internal Diameter of Tube [A] = 50 mm	Ground Level (mOD)
Diameter of Filter Zone = 150 mm	123.50
Location	
E275111 N325405	

Legend	Inst. [A]	Level (mOD)	Depth (m)	Description
		123.30	0.20	Bentonite Seal
		123.00	0.50	Concrete
				Gravel Filter
		122.50	1.00	
				Slotted Standpipe
		116.50	7.00	
		115.50	8.00	Bentonite Seal

Groundwater Strikes during Drilling										
Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)	
					5 min	10 min	15 min	20 min		

Groundwater Observations During Drilling										
Date	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	End of Shift				
						Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)

Instrument Groundwater Observations

Instrument [A]				Remarks
Date	Time	Depth (m)	Level (mOD)	

Remarks
Upright lockable cover installed.
0.5m "stick up" of standpipe.

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Well Log

Project Scotch Corner				Hole No BH7A	
Job No: i143/z1	Date 09-03-15 09-03-15	Ground Level (m) 126.84	Co-Ordinates () E 275,335.0 N 325,161.8		
Contractor Dempsey Drilling Ltd				Sheet 1 of 1	

STRATA						
Reduced Level	Depth (Thickness)	Casing Details	Backfill	PIPE SIZE & TYPE	Strata	Strata Description
	(2.00)	Bentonite Backfill		Plain PVC Casing (0 - 2m) 90mm diameter		Dark brown organic sandy silt/clay
124.84	2.00					Pale grey clay with subangular cobbles & boulders
		Gravel Backfill		Slotted PVC Casing (2 - 5m) 90mm diameter		Weathered rock with occasional clay filled fissures. Water strike at 2mbgl.
121.84	5.00					

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RPS WELL LOG BH10.GPJ AGS 3_1.GDT 30/6/15

GENERAL REMARKS	

All dimensions in metres Scale 1:37.5	Client Monaghan County Council	Method/ Plant Used	Logged By Gerry Baker
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Well Log

Project Scotch Corner				Hole No BH8A	
Job No i143/zl	Date 03-03-15 03-03-15	Ground Level (m) 128.45	Co-Ordinates (E 275,320.3 N 325,319.9		
Contractor Dempsey Drilling Ltd				Sheet 1 of 1	

STRATA						
Reduced Level	Depth (Thickness)	Casing Details	Backfill	PIPE SIZE & TYPE	Strata	Strata Description
	(1.00)	Bentonite Backfill				soft brown slightly sandy CLAY with occasional gravels.
127.45	1.00					
	(1.50)	Gravel Backfill		Plain PVC Casing (0 - 1.5m) 90mm diameter		soft brown slightly sandy CLAY with occasional large cobbles.
126.95	1.50					
	(3.00)			Slotted PVC Casing (1.5 - 4.5m) 90mm diameter		soft dark brown CLAY with frequent fine gravels and occasional medium to large.
						Waste. Mainly black plastic, strong hydrocarbon odour.
						stiff grey CLAY with pale brown mottling.
123.95	4.50					

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RPS WELL LOG BH10.GPJ_AGS 3_1.GDT 7/7/15

GENERAL REMARKS	
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All dimensions in metres Scale 1:50	Client Monaghan County Council	Method/ Plant Used	Logged By Niamh Rogan
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Appendix 6

Site Walkover Checklist & Photographs

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Walkover Survey Checklist – 25th April 2018

Information	Checked	Comment (include distances from site boundary)
1. What is the current land use?	√	The site is vegetated with trees and grassland and can be classified currently under agricultural use.
2. What are the neighbouring land uses?	√	Agricultural fields surround the site to the west, south and east with local road R184 bounding the site to the north.
3. What is the size of the site?	√	The site occupies approximately 4.5 hectares.
4. What is the topography?	√	The topography can be split into two profiles. The eastern half is flat and the western half is built up with mounds of stockpiled material and is considered undulating.
5. Are there potential receptors (if yes, give details)?	√	Surface water drainage channels and stream to the north within licenced landfill. The groundwater aquifer is an additional receptor.
Houses	√	There are no houses within 1km of the site boundary.
Surface water features (if yes, distance and direction of flow)	√	A tributary of the River Fane is located approximately 250m north and flows east along the northern boundary of the licenced facility.
Any wetland or protected areas	√	None.
Public water supplies	√	None.
Private wells	√	One private well (W7) located north-west of the licenced facility boundary.
Services	√	Overhead wires along the local road boundary to the north of the historic site.
Other buildings	√	MCC office buildings and material recovery facility (MRF) located within 100m of the historic site boundary.
Other	√	N/A

Information	Checked	Comment (include distances from site boundary)
6. Are there any potential sources of contamination (if yes, give details)?	√	Leachate being redirected from Old G1 sump and spread over surface of eastern portion of historic landfill via. manifold system.
Surface waste (if yes, what type?)	√	No
Surface ponding of leachate	√	No
Leachate seepage	√	No
Landfill gas odours	√	No
7. Are there any outfalls to surface water? (If yes, are there discharges and what is the nature of discharge?)	√	Yes. To the west of the historic site, MCC have designed a surface water recirculating system which directs surface water to centre the site
8. Are there any signs of impact on the environment? (If yes, take photographic evidence)	√	No
Vegetation die off, bare ground	√	No
Leachate seepages	√	No
Odours	√	No
Litter	√	No
Gas bubbling through water	√	No
Signs of settlement	√	No
Subsidence, water logged areas	√	No subsidence. Extensive area of rushes in flat lying eastern portion of the site indicating poor drainage.
Drainage or hydraulic issues	√	No

Downstream water quality appears poorer than upstream water quality	√	Anecdotal evidence of ongoing monitoring indicates landfill impacting on downstream water quality.
9. Are there any indications of remedial measures? (Provide details)	√	Yes. Recirculated surface water from G5 sump to percolation area within the centre of site. The objective of these measures is to reduce the contaminant concentration (particularly ammonia) via infiltration through subsoil before discharging to surface water.
Capping	√	No.
Landfill gas collection	√	No.
Leachate collection	√	Yes. Any leachate collected at the site is pumped from the Old G1 sump and directed to a manifold system consisting of 4 no. distribution valves and spread across the surface in the eastern portion of the historic site.
10. Describe fences and security features (if any)	√	Low security mesh fencing surrounds the perimeter of the historic landfill.
Any other relevant information?	√	Since September 2017, MCC have altered the leachate collection from the historic site which previously was directed to the leachate lagoon within the licenced facility.





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