

Roadstone Dublin Ltd.

Inert Waste Recovery Facilities Milverton Quarry, Co. Dublin.

Factual Report on Trial Pit Excavations and Soil Chemical Testing

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January 2009



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Prepared for :

Roadstone Dublin Ltd.
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CONTENTS

- 1 INTRODUCTION
 - 1.1 Purpose of Site Investigations
 - 1.2 Site Description
- 2 REGIONAL GEOLOGY
 - 2.1 Quaternary Subsoil Geology
 - 2.2 Solid Geology
- 3 GROUND INVESTIGATION - TRIAL PIT SURVEYS
- 4 LABORATORY TEST DATA

FIGURES

- Figure 1. Milverton Site Location Map (1:50,000)
- Figure 2. Milverton Trial Pit Locations (1:2,500)

APPENDICES

- Appendix A Milverton Trial Pit Logs and Photographs
- Appendix B Results of Soil Chemical Analysis

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1 INTRODUCTION

This factual report was prepared for Roadstone Dublin Ltd. by SLR Consulting Ireland (formerly John Barnett and Associates Ltd.) and presents the findings of trial pit excavations undertaken by our staff across part of Roadstone Dublin's existing landholding at Milverton.

1.1 Purpose of Site Investigations

The purpose of site investigation was to determine the shallow geology at the site for the preparation of a waste licence for the recovery of inert soil material at the site. The trial pits allowed the existing shallow subsoil geology to be identified and described. Soil samples were also taken for chemical analysis in order to characterise the existing soils at the site. Two soil samples were forwarded to an independent laboratory for chemical analysis.

1.2 Site Description

The site at Milverton is located within the existing Roadstone Dublin's existing landholding, located approximately 1.5km west of Skerries town on the R127 Regional Road between Lusk and Skerries, see Figure 1. The site is a worked-out quarry, see Figure 2. Until recently, there was also a concrete production facility and retail paving centre at the site. These activities were suspended at the site in late summer 2008.

The subsoil material has have been removed to facilitate quarrying at the site and are stockpiled around the site perimeter and in the northern area of the site. Some of the glacial till was reused beneath the yard and readymix plant area on the north western side of the site, and some of the material was used to build the access ramp to the quarry floor.

2 REGIONAL GEOLOGY

2.1 Quaternary Subsoil Geology

The Teagasc Subsoil map (2004) for the area indicates that the area immediately to the east of the site on the top of the hill is characterised by outcropping bedrock at the surface, while the areas around the hill are characterise by glacial till material of Irish Sea Basin origin. The quaternary soils east of the site and the rail line comprise *Sand and Gravel of Lower Palaeozoic sandstone and shale* origin. *Alluvium* is identified along Mill Stream located approximately 0.5km north of the site.

The glacial till subsoil material at the application area has largely been removed to facilitate quarrying and makes up the bulk of the soil stockpiles at the site. There are only minor exposures of subsoil material around the top of the quarry, as faces are heavily vegetated.

2.2 Solid Geology

The site at Milverton is underlain by bioclastic limestone of the Holmpatrick Formation. Some oolite occurs in the older, lower rocks in this formation. The Holmpatrick Formation forms part of the Milverton Group which is believed to be of Carboniferous (Visean) age (approximately 330 million years old).

The bedrock is exposed in the existing quarry faces at the site.

3 GROUND INVESTIGATION - TRIAL PIT SURVEYS

A series of trial pit surveys were undertaken at Milverton on the 3rd December 2008. The objective of the trial pit survey was to:

- i. identify the nature of any the soils and subsoils at the site;
- ii. identify, as far as possible, the depth to bedrock;
- iii. obtain subsoil samples for chemical analysis to establish baseline subsoil quality; and
- iv. establish the depth to groundwater (where encountered).

A total of six trial pits were conducted at Milverton, trial pits MTP1, MTP2, MTP3, MTP4, MTP5 and MTP6 as indicated on Figure 2.

Trial pits MTP1 and MTP2 were conducted on the floor of the existing quarry, see Figure 2. The trial pits encountered between 0.4m and 0.9m of Made Ground comprising crushed aggregate material overlying limestone bedrock.

Trial pits MTP3 and MTP4 were conducted around the existing site infrastructure area and indicate made ground comprising crushed rock fines, crushed aggregate and gravelly clay. No bedrock was encountered in these trial pits, but an examination of the exposed faces in the quarry void indicates that the gravelly clay material underlying the site infrastructure area may be up to c. 4-5m in thickness.

Trial pits MTP5 and MTP6 were conducted on the upper benches of the quarry and only encountered limestone bedrock.

Soil samples taken at trial pits MTP4 and MTP5 were forwarded to a test laboratory for soil quality analysis. The sample from trial pit MTP4 was from glacial till subsoil material which had been placed beneath the concrete production plant and yard area. The sample from MTP5 was from subsoil at or close to the upper weathered bedrock. The results of the soil chemical analyses are presented in Section 4 of this report.

Trial pit logs and photographs of trial pit excavations at Milverton are provided in Appendix A.

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4 LABORATORY TEST DATA

Soil chemical test results from two samples taken from trial pits MTP4 and MTP5 are shown in Table 1 below:

Parameter	Unit	Detection Limit	Leaching Limit Value (10l/kg)*	MTP4	MTP5
				B06577/01	B06577/01
				03/12/2008	03/12/2008
Total Dissolved Solids (CEN 10:1 Leachate)	mg/kg	<350	4,000	<350	1020
Natural Moisture Content	%	<0.1		8.5	6.8
Fluoride as F (CEN 10:1 Leachate)	mg/kg	<1	10	3	3
Chloride as Cl (CEN 10:1 Leachate)	mg/kg	<10	800	15	17
Sulphate (CEN 10:1 Leachate)	mg/kg	<30	1000	41	<30
Antimony as Sb (Low CEN 10:1 Leach)	mg/kg	<0.01	0.06	<0.01	<0.01
Arsenic as As (Low CEN 10:1 Leach)	mg/kg	<0.01	0.5	<0.01	<0.01
Barium as Ba (Low CEN 10:1 Leach)	mg/kg	<0.01	20	1.61	1.43
Cadmium as Cd (Low CEN 10:1 Leach)	mg/kg	<0.004	0.04	<0.004	<0.004
Chromium as Cr (Low CEN 10:1 Leach)	mg/kg	<0.01	0.5	<0.01	0.01
Copper as Cu (Low CEN 10:1 Leach)	mg/kg	<0.01	2	0.06	0.1
Lead as Pb (Low CEN 10:1 Leach)	mg/kg	<0.01	0.5	<0.01	<0.01
Molybdenum Mo (Low CEN 10:1 Leach)	mg/kg	<0.01	0.5	0.09	0.63
Mercury as Hg (Low CEN 10:1 Leach)	mg/kg	<0.0005	0.01	<0.0005	<0.0005
Nickel as Ni (Low CEN 10:1 Leach)	mg/kg	<0.01	0.4	<0.01	<0.01
Selenium as Se (Low CEN 10:1 Leach)	mg/kg	<0.01	0.1	<0.01	<0.01
Zinc as Zn (Low CEN 10:1 Leach)	mg/kg	<0.01	4	0.15	0.12
Coronene	mg/kg	<0.001		<0.001	<0.001
PCB Total of 7 Congeners	mg/kg	<0.001	1	<0.001	<0.001
Total Phenols in CEN 10:1 Leach	mg/kg	<0.1		<0.1	<0.1
Mineral Oil by GC	mg/kg	<1	500	<1	<1
Petrol Range Organics C5-C9	mg/kg	<0.01		<0.01	<0.01
Petrol Range Organics C10+	mg/kg	<0.01		<0.01	<0.01
Benzene	mg/kg	<0.01	6	<0.01	<0.01
Toluene	mg/kg	<0.01	6	<0.01	<0.01
Ethylbenzene	mg/kg	<0.01	6	<0.01	<0.01
Total Xylene	mg/kg	<0.01	6	<0.01	<0.01
Total 17 EPA PAHs	mg/kg	<0.001	2	<0.001	<0.001
Total 6 EPA PAHs	mg/kg	<1.6		<1.6	<1.6
Dissolved Organic Carbon (CEN 10:1 Leachate)	mg/kg	<20	500	26	27
Total Organic Carbon	%	<0.2%	30000	0.2	<0.2

* Section 2.1.2.1 'Establishing criteria and procedures for the acceptance of waste at Landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC'.

Table 1 Milverton Trial Pit Soil Chemical Test Results.

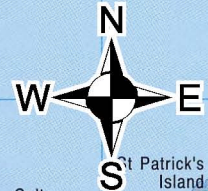
The soil chemical test results from trial pits MTP4 and MTP5 indicate that contaminant levels in the laboratory derived soil leachate are generally below limits set for waste acceptance at inert landfill facilities set by EU Council Decision 2003/33/EC dated 19th December 2002, establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to the Directive 1999/31/EC'.

Molybdenum levels in the sample from trial pit MTP5 are 0.63 mg/kg while the limit for the acceptance of waste at landfills under the EU Directive discussed above is 0.5 mg/kg. Molybdenum is used in industry in high strength steel alloys and is also used in high pressure and temperature resistant greases; both these sources could be responsible for the presence of molybdenum detected in the sample.

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FIGURES

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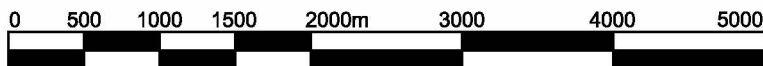


LEGEND

— Applicant's Land Interest (c.8.6 ha)

NOTES

1. Extract from Ordnance Survey Discovery Map No. 43
2. Ordnance Survey Ireland Licence No. SU 0000709 (c)
Ordnance Survey Ireland / Government of Ireland



Metres
1:50,000

0059.00015.18.FIG 1.0.SITE LOC PLAN

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WINDY ARBOUR
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**ROADSTONE DUBLIN LTD.
WASTE LICENCE APPLICATION**

**WASTE RECOVERY FACILITY,
MILVERTON, SKERRIES, CO. DUBLIN**

SITE LOCATION PLAN

FIGURE 1

Scale 1:50,000 @ A4	Date AUGUST 2009
------------------------	---------------------

NOTES

- Based on OSI 25inch Dublin Sheet No. 5 & 5a
- Ordnance Survey of Ireland Licence No. SU 0000709 (c) Ordnance Survey of Ireland & Government of Ireland

LEGEND

- Applicant's Land Interest (c. 8.6ha)
- Waste Licence Application Area (c. 7.9ha)
- Monitoring Well Locations
- Trial Pit Locations

roadstone

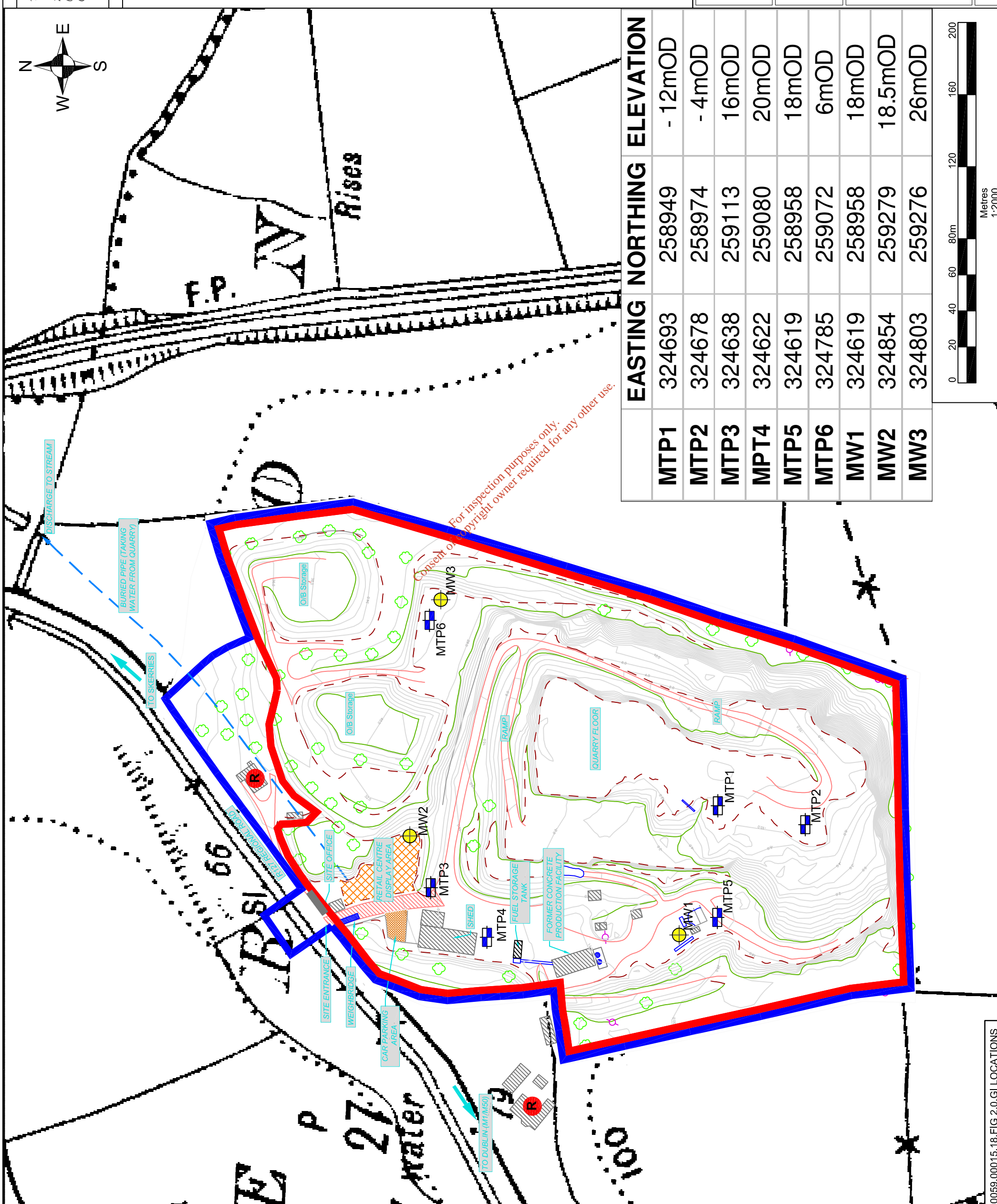
ROADSTONE DUBLIN LTD.
FORTUNEASTOWN
TALLAGHT
DUBLIN 24

SLR

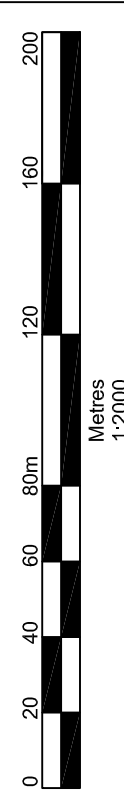
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WASTE LICENCE APPLICATION
WASTE RECOVERY FACILITY,
MILVERTON, SKERRIES, CO. DUBLIN

GROUND INVESTIGATION LOCATIONS



	EASTING	NORTHING	ELEVATION
MTP1	324693	258949	- 12mOD
MTP2	324678	258974	- 4mOD
MTP3	324638	259113	16mOD
MPT4	324622	259080	20mOD
MTP5	324619	258958	18mOD
MTP6	324785	259072	6mOD
MW1	324619	258958	18mOD
MW2	324854	259279	18.5mOD
MW3	324803	259276	26mOD



0059.00015.18.FIG 2.0.GI LOCATIONS

FIGURE 2

Scale 1:2,000 @ A3
Date AUGUST 2009

APPENDICES

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APPENDIX A
MILVERTON TRIAL PIT LOGS AND PHOTOGRAPHS

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 www.slrconsulting.com

Trialpit No

MTP1

Sheet 1 of 1

Date

14/11/2008

Co-ords: 324689E - 258953N

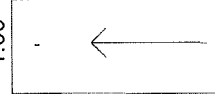
Level: -

Dimensions: 1.00

Scale

1:25

Depth
1.00m



Logged By

PG

Project Name: RDL Fassaroe/Belgard/Milverton

Location:

Client: Roadstone Dublin Ltd.

SLR Project No. 501-059-021

Samples & In Situ Testing				Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Waterstrike	Results				
0.90				1.00	1		grey crushed aggregate fill compacted by site traffic. Rock breaker required to break through top 300mm. (MADE GROUND)
1							LIMESTONE (BEDROCK)
Trialpit Complete at 1.00 m							
2							
3							
4							

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Remarks:

Groundwater:
Small ingress of shallow groundwater on pit floor

Stability:
Pit sides stable

Shoring:
None

MTP1



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Trialpit No
MTP2
 Sheet 1 of 1

Co-ords: 324677E - 258925N
 Level: -

Date
 14/11/2008

Project Name: RDL Fassaroe/Belgard/Milverton

Dimensions: 1.00

Scale
 1:25

Location:

Depth
 0.50m



Logged By

Client: Roadstone Dublin Ltd.

SLR Project No. 501-059-021

Samples & In Situ Testing				Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Waterstrike	Results				
				0.40			Grey crushed aggregate compacted by site traffic. Rock breaker required to advance through top 300mm. (MADE GROUND)
				0.50			LIMESTONE (BEDROCK)
							Trialpit Complete at 0.50 m
1							
2							
3							
4							

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Remarks:

Groundwater:
 None

Stability:
 Pit sides stable

Shoring:
 None

MTP2



SLR Consulting Ireland

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Trialpit No

MTP3

Sheet 1 of 1

Co-ords: 324641E - 259119N
 Level: -

Date
 14/11/2008

Project Name: RDL Fassaroe/Belgard/Milverton

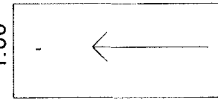
Dimensions: 1.00

Scale
 1:25

Location:

Depth
 2.50m

1.00



Logged By
 PG

Client: Roadstone Dublin Ltd.

SLR Project No. 501-059-021

Samples & In Situ Testing				Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Waterstrike	Results				
				0.70			Crushed aggregate fill (MADE GROUND)
				2.40			Crushed Rock Fines (CRF) (MADE GROUND)
				2.50			Brown gravelly CLAY (placed material on ramp to quarry floor). (MADE GROUND)
							Trialpit Complete at 2.50 m

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Remarks:

Groundwater:
 None

Stability:
 Pit sides stable

Shoring:
 None

MTP3

Co-ords: 324616E - 259081N
Level: -

Date
14/11/2008

Project Name: RDL Fassaroe/Belgard/Milverton

Dimensions: 1.00

Scale
1:25

Location:

Depth
2.20m

1.00



Logged By

Client: Roadstone Dublin Ltd.

SLR Project No. 501-059-021

Samples & In Situ Testing				Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Waterstrike	Results				
				0.70			Crushed Rock Fines (CRF) (MADE GROUND)
				1.20			Crushed Aggregate fill material (MADE GROUND)
				2.20			Brown gravelly CLAY (MADE GROUND)
							Trialpit Complete at 2.20 m

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Remarks:

Groundwater:
None

Stability:
Pit sides stable

Shoring:
None

MTP4

Co-ords: 324626E - 258953N
Level: -

Date
14/11/2008

Project Name: RDL Fassaroe/Belgard/Milverton

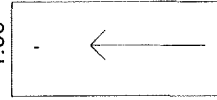
Dimensions: 1.00

Scale
1:25

Location:

Depth
0.30m

1.00



Logged By

Client: Roadstone Dublin Ltd.

SLR Project No. 501-059-021

Samples & In Situ Testing				Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Waterstrike	Results				
				0.20			Weathered LIMESTONE with brown clayey infill material (WEATHERED LIMESTONE)
				0.30			LIMESTONE (BEDROCK)
							Trialpit Complete at 0.30 m
-1							
-2							
-3							
-4							

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Remarks:

Groundwater:
None

Stability:
Pit sides stable

Shoring:
None

MTP5



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Trialpit No

MTP6

Sheet 1 of 1

Date

14/11/2008

Co-ords: -

Level: -

Project Name: RDL Fassaroe/Belgard/Milverton

Dimensions: 1.00

Depth

0.10m

1.00



Scale

1:25

Logged By

PG

Location:

Client: Roadstone Dublin Ltd.

SLR Project No. 501-059-021

Samples & In Situ Testing				Depth (m)	Level (m AOD)	Legend	Stratum Description
Depth (m)	Type	Waterstrike	Results				
0.10				0.10			LIMESTONE (LIMESTONE BEDROCK) Trialpit Complete at 0.10 m
1				1			
2				2			
3				3			
4				4			

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Remarks:

Groundwater:
NoneStability:
StableShoring:
None**MTP6**

<p>Project Name: Milverton Ground Investigation. Location: Milverton Date: December 2008</p>	<p>Trial Pit No. MTP1</p>
	
	
<p>Remarks: Refer to Figure 2 for Trial Pit Locations.</p>	<p>MTP1</p>

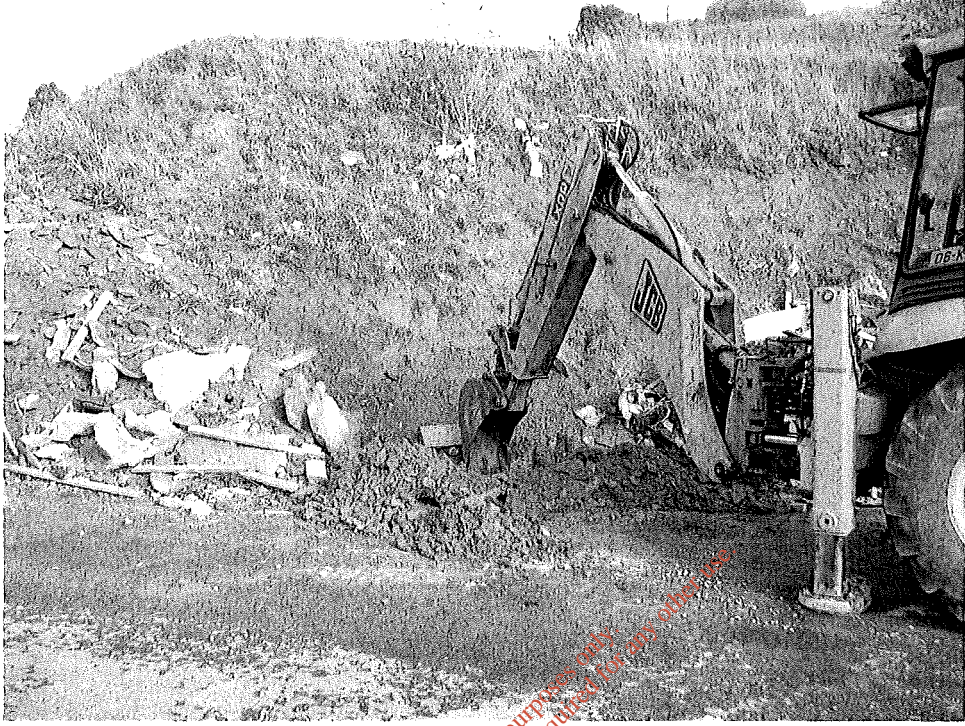
Project Name: Milverton Ground Investigation.
Location: Milverton **Date:** December 2008


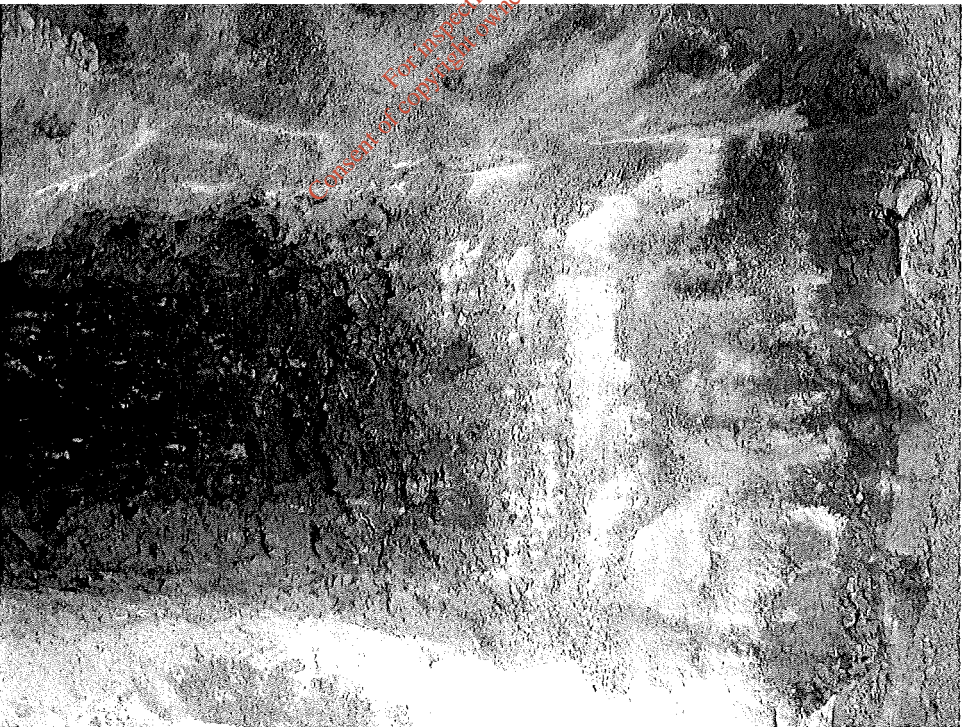
Trial Pit No.
MTP2





Remarks: Refer to Figure 2 for Trial Pit Locations.

MTP2

<p>Project Name: Milverton Ground Investigation. Location: Milverton Date: December 2008</p>	<p>Trial Pit No. MTP3</p>
	
	
<p>Remarks: Refer to Figure 2 for Trial Pit Location</p>	<p>MTP3</p>

<p>Project Name: Milverton Ground Investigation. Location: Milverton Date: December 2008</p>	<p>Trial Pit No. MTP4</p>
	
	
<p>Remarks: Refer to Figure 2 for Trial Pit Locations</p>	<p>MTP4</p>

<p>Project Name: Milverton Ground Investigation. Location: Milverton Date: December 2008</p>	<p>Trial Pit No. MTP5</p>
	
	
<p>Remarks: Refer to Figure 2 for Trial Pit Locations</p>	<p>MTP5</p>

<p>Project Name: Milverton Ground Investigation. Location: Milverton Date: December 2008</p>	<p>Trial Pit No. MTP6</p>
	
	
<p>Remarks: Refer to Figure 2 for Trial Pit Locations</p>	<p>MTP6</p>

APPENDIX B
ALCONTROL SOIL CHEMICAL TEST RESULTS
MILVERTON - ALCONTROL B06577/01

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CERTIFICATE OF ANALYSIS

Client: SLR (Dublin) JBA
CSA House
Unit 7
Dundrum Business Park
Windy Harbour
Dublin14
Ireland

Attention: Peter Glanville

Date: 19 December, 2008

Our Reference: 08-B06577/02

Your Reference: Milverton ELS

Location:

A total of 3 samples was received for analysis on Wednesday, 3 December 2008. Accredited laboratory tests are defined in the log sheet, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation. We are pleased to enclose our final report, it was a pleasure to be of service to you, and we look forward to our continuing association.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Signed

Dylan Halpin

Dylan Halpin
Team Leader Project Co-ordination

Lorraine McNamara

Lorraine McNamara
General Manager

Compiled By

Mark Butler
.....
Mark Butler



ALcontrol Laboratories Ireland

Test Schedule

Ref Number: 08-B06577/02
 Client: SLR (Dublin) JBA
 Date of Receipt: 03/12/2008

Sample Type: SOIL
 Location:
 Client Contact: Peter Glanville
 Client Ref: Milverton ELS

Detection Method				CV AA	ELTRA	GC	GC	GC	GC	GC	GC	GC FID/CALC	GCMS	GCMS	GCMS	GCMS	GCMS
UKAS Accredited [Testing Laboratory] No. 1291						✓	✓	✓	✓	✓							
ALcontrol Reference	Sample Identity	Other ID	P / V	Dissolved Mercury Low GEN 10:1 Leachate	Total Organic Carbon	Benzene	Ethylbenzene	Petrol Range Organics C6-C9	Petrol Range Organics C10-12	Toluene	Total Xylene	Mineral Oil by GC	PCB Congener 101	PCB Congener 118	PCB Congener 138	PCB Congener 153	PCB Congener 180
08-B06577-S0017-A01	MTP5	14/11/08	Plastic tub	X	X	-	-	-	-	-	-	X	X	X	X	X	X
08-B06577-S0017-A15	MTP5	14/11/08	Non-ALcontrol Volatile Vial	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-B06577-S0017-A16	MTP5	14/11/08	Volatile Vial	-	-	X	-	X	X	X	X	-	-	-	-	-	-
08-B06577-S0018-A01	MTP4	14/11/08	Plastic tub	X	X	-	-	-	-	-	-	X	X	X	X	X	X
08-B06577-S0018-A15	MTP4	14/11/08	Non-ALcontrol Volatile Vial	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-B06577-S0018-A16	MTP4	14/11/08	Volatile Vial	-	-	X	X	X	X	X	X	-	-	-	-	-	-

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Notes : NUMERIC VALUES INDICATE ADDITIONAL SCHEDULING

ALcontrol Laboratories Ireland

Test Schedule

Ref Number: 08-B06577/02
 Client: SLR (Dublin) JBA
 Date of Receipt: 03/12/2008

Sample Type: SOIL
 Location:
 Client Contact: Peter Glanville
 Client Ref: Milverton ELS

UKAS Accredited [Testing Laboratory] No. 1291				Detection Method	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	
Alcontrol Reference	Sample Identity	Other ID	P / V	PCB Congener 28	PCB Congener 52	PCB Total of 7 Congeners	Total 6 PAHs	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)+Benzo(k)fluoranthene	Benzo(ghi)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene
08-B06577-S0017-A01	MTP5	14/11/08	Plastic tub	X	X	X	X	-	-	-	-	-	-	-	-	-	-
08-B06577-S0017-A15	MTP5	14/11/08	Non-Alcontrol Volatile Vial	-	-	-	-	X	X	X	X	X	-	X	X	X	X
08-B06577-S0017-A16	MTP5	14/11/08	Volatile Vial	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-B06577-S0018-A01	MTP4	14/11/08	Plastic tub	X	X	X	X	-	-	-	-	-	-	-	-	-	-
08-B06577-S0018-A15	MTP4	14/11/08	Non-Alcontrol Volatile Vial	-	-	-	-	X	X	X	X	X	-	X	X	X	X
08-B06577-S0018-A16	MTP4	14/11/08	Volatile Vial	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Notes : NUMERIC VALUES INDICATE ADDITIONAL SCHEDULING

ALcontrol Laboratories Ireland

Test Schedule

Ref Number: 08-B06577/02
 Client: SLR (Dublin) JBA
 Date of Receipt: 03/12/2008

Sample Type: SOIL
 Location:
 Client Contact: Peter Glanville
 Client Ref: Milverton ELS

Detection Method				GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GRAVIMETRIC	GRAVIMETRIC	HPLC	ICP MS	ICP MS	ICP MS
UKAS Accredited [Testing Laboratory] No. 129]				✓	✓	✓	✓	✓	✓									
ALcontrol Reference	Sample Identity	Other ID	P / V	Fluorene	Indeno(1,2,3cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total 16 EPA PAHs	Total 17 PAHs	Coronene	Natural Moisture Content	Total Dissolved Solids In GEN 10:1 Leachate	Total Phenols In GEN 10:1 Leachate	Dissolved Chromium Low GEN 10:1 Leach	Dissolved Nickel Low GEN 10:1 Leach	Dissolved Copper Low GEN 10:1 Leach	
08-B06577-S0017-A01	MTP5	14/11/08	Plastic tub	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-B06577-S0017-A15	MTP5	14/11/08	Non-Alcohol Volatile Vial	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
08-B06577-S0017-A16	MTP5	14/11/08	Volatile Vial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-B06577-S0018-A01	MTP4	14/11/08	Plastic tub	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-B06577-S0018-A15	MTP4	14/11/08	Non-Alcohol Volatile Vial	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-
08-B06577-S0018-A16	MTP4	14/11/08	Volatile Vial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Notes : NUMERIC VALUES INDICATE ADDITIONAL SCHEDULING

ALcontrol Laboratories Ireland

Test Schedule Summary

Ref Number: **08-B06577/02**
 Client: SLR (Dublin) JBA
 Date of Receipt: 03/12/2008

Sample Type: **SOIL**
 Location:
 Client Contact: Peter Glanville
 Client Ref: Milverton ELS

* SUBCONTRACTED TO OTHER LABORATORY / ** SAMPLES ANALYSED AT THE CHESTER LABORATORY

SCHEDULE	METHOD	TEST NAME	TOTAL
X	CEN 10:1 Leach	CEN 10:1 Leachate Test	2
X	CV AA	Dissolved Mercury Low Level in CEN 10:1 Leachate	2
X	ELTRA	Total Organic Carbon	2
X	GC	PRO & BTEX	2
X	GC FID/CALC	Mineral Oil by GC	2
X	GCMS	Coronene	4
X	GCMS	PAH EPA (16)	4
X	GCMS	PAH Total (17) GCMS (Solid)	4
X	GCMS	PAH Total (6) GCMS <1.6mg/kg (Solid)	2
X	GCMS	PCB 7 Congeners	2
X	GRAVIMETRIC	Natural Moisture Content	2
X	GRAVIMETRIC	Total Dissolved Solids Gravimetric CEN 10:1	2
X	HPLC	Total Phenols by HPLC in CEN 10:1 Leachate	2
X	ICP MS	Dissolved Antimony Low CEN 10:1 Leach	2
X	ICP MS	Dissolved Arsenic Low CEN 10:1 Leach	2
X	ICP MS	Dissolved Barium Low CEN 10:1 Leach	2
X	ICP MS	Dissolved Cadmium Low CEN 10:1 Leach	2
X	ICP MS	Dissolved Chromium Low CEN 10:1 Leach	2
X	ICP MS	Dissolved Copper Low CEN 10:1 Leach	2
X	ICP MS	Dissolved Lead Low CEN 10:1 Leach	2
X	ICP MS	Dissolved Molybdenum Low CEN 10:1 Leach	2
X	ICP MS	Dissolved Nickel Low CEN 10:1 Leach	2
X	ICP MS	Dissolved Selenium Low CEN 10:1 Leach	2
X	ICP MS	Dissolved Zinc Low CEN 10:1 Leach	2
X	IR	Dissolved Organic Carbon in CEN 10:1 Leachate	2
X	KONE	Chloride in CEN 10:1 Leachate	2
X	KONE	Fluoride in CEN 10:1 Leachate	2
X	KONE	Sulphate in CEN 10:1 Leachate	2

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APPENDIX

APPENDIX

1. Results are expressed as mg/kg dry weight (dried at 30°C) on all soil analyses except for the following: NRA Leach tests, flash point, and ammoniacal N₂ by the BRE method, VOC, PRO, Cyanide, Acid Soluble Sulphide, TPH by IR, OFGs and SEM.
2. Samples will be run in duplicate upon request, but an additional charge may be incurred.
3. A sub sample of all samples received will be retained free of charge for one month for soils and one month for waters (sample size permitting), but may then be discarded unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage.
4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.
5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.
6. When requested, an asbestos screen is done in-house on soils and if no fibres are found will be reported as NFD – no fibres detected. If fibres are detected, then identification and quantification is carried out by ALcontrol Technichem or Alcontrol Shutlers in the UK. If a sample is suspected of containing asbestos, then drying and crushing will be suspended on that sample until the asbestos results are known. If asbestos is present, then no analysis requiring dry sample are undertaken.
7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample – similarly, if a headspace is present in the volatile sample.
8. NDP – No Determination Possible due to insufficient/unsuitable sample.
9. Metals in water are performed on a filtered sample, and therefore represent dissolved metals – total metals must be requested separately.
10. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

Last updated February 2005