

Contract No.	F13512	Method	Machine Excavated	Coordinates	-
Project	Galeacre School, Liverpool	Equipment	JCB 3CX	Ground Level	-
Client	Liverpool City Council	Logged by	SB	Date Started	30/07/2004
Consultant	WSP			Date Completed	30/07/2004

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
TOPSOIL.		0.10		D1 B2	0.10 - 0.70 0.10 - 0.70
MADE GROUND: Dark brown clayey sand with occasional angular coarse gravel sized fragments of brick and fabric.		0.70		D3 B4	0.70 - 1.00 0.70 - 1.00
MADE GROUND: Dark reddish orangish brown clayey sand with frequent angular coarse gravel sized fragments of pottery and brick.		1.00		B7	1.00 - 3.00
MADE GROUND: Dark grey ashy domestic refuse including bottles, shoes and cooking utensils.				D5	1.50
				D6	2.50
				B8	3.00
		3.80		B9	3.80
Trial pit complete at 3.80 m					

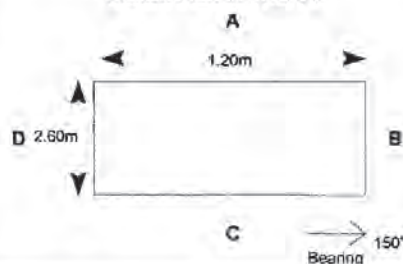
Stability Stable

Shoring None used

Groundwater None encountered

Remarks Sample B8 is of slag. Sample B9 contains artifacts from waste.

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

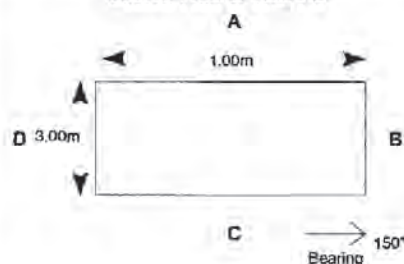
Contract No.	F13512	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool				-
		Equipment	JCB 3CX	Ground Level	-
Client	Liverpool City Council			Date Started	30/07/2004
		Logged by	SB	Date Completed	30/07/2004
Consultant	WSP				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
TOPSOIL		0.10		D1 B2	0.10 - 0.80 0.10 - 0.80
MADE GROUND: Pale orangish brown clayey sand with angular fine to coarse gravel sized fragments of brick and sandstone. — at 0.40m becoming very orange and very gravelly		0.80		D3 B4 B5	0.80 - 1.80 0.80 - 1.80 0.80 - 1.80
MADE GROUND: Greyish orange becoming grey ashy domestic refuse including glass bottles, boxes and shoes. — at 1.50m strong rotting odour				D6 B7	1.80 - 2.80 1.80 - 2.80
				D8 B9	2.80 - 4.00 2.80 - 4.00
— at 3.00m several shoes					
Trial pit complete at 4.00 m.		4.00			

Stability	Stable
Shoring	None used
Groundwater	None encountered

Remarks

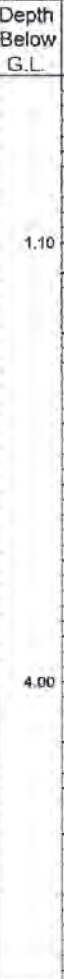
Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13512	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool				-
		Equipment	JCB 3CX	Ground Level	-
Client	Liverpool City Council			Date Started	30/07/2004
		Logged by	SB	Date Completed	30/07/2004
Consultant	WSP				

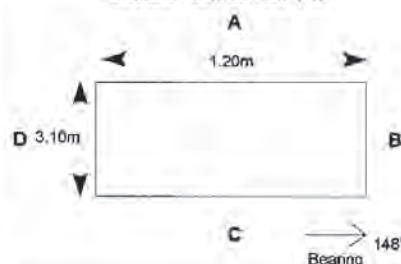
Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Topsoil dark orangish brown slightly clayey sand with occasional gravel sized fragments of sandstone and brick.				D1 B2 0.00 - 1.10 0.00 - 1.10	
				D3 B4 1.10 - 2.10 1.10 - 2.10	
MADE GROUND: Dark grey ashy domestic waste including bottles, pottery, bones and shoes.				D5 B6 2.10 - 3.10 2.10 - 3.10	
				D7 B8 3.10 - 4.00 3.10 - 4.00	
Trial pit complete at 4.00 m.					

Stability Stable

Shoring None used

Groundwater None encountered

Sketch Plan of Trial Pit



Remarks

NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13512	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool				-
		Equipment	JCB 3CX	Ground Level	-
Client	Liverpool City Council			Date Started	30/07/2004
		Logged by	SB	Date Completed	30/07/2004
Consultant	WSP				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
TOPSOIL		0.10		D1 0.10 - 0.25 B2 0.10 - 0.25 D3 0.25	
MADE GROUND: Brownish red slightly clayey coarse sand with subrounded medium gravel sized fragments of brick and sandstone.					
Brownish orange clayey fine SAND.		0.95			
Pale orangish brown slightly clayey fine to medium SAND.		2.00	B4 2.00 D5 2.00		
Weak locally very weak purplish red coarse grained thinly bedded SANDSTONE. Highly weathered. Recovered as gravel and cobbles.		3.20	B6 3.20 D7 3.20		
Trial pit complete at 3.60 m.		3.60	B8 3.60		

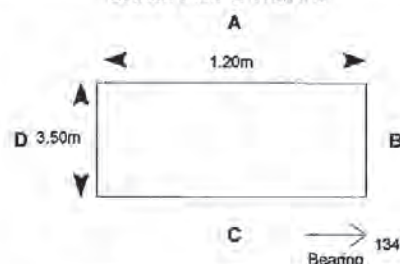
Stability Stable

Shoring None used

Groundwater None encountered

Remarks Sandstone too strong to proceed below 3.60m

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13512	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool	Equipment	JCB 3CX	Ground Level	-
Client	Liverpool City Council	Logged by	SB	Date Started	30/07/2004
Consultant	WSP			Date Completed	30/07/2004

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Dark reddish brown slightly clayey sand.		1.00		D1 B2 0.00 - 1.00 0.00 - 1.00	
MADE GROUND: Dark brown locally reddish brown clayey sand with frequent loose bricks.				D3 B4 1.00 - 2.00 1.00 - 2.00	
MADE GROUND: Grey locally black ashy domestic refuse.		2.00		D5 B6 2.00 - 3.50 2.00 - 3.50	
Pale orangish brown slightly clayey fine to medium SAND.		3.50			
Trial pit complete at 4.50 m.		4.50			

Stability	Stable to 3.50m spalling from 3.50m to 4.50m	Sketch Plan of Trial Pit
Shoring	None used	
Groundwater	None encountered	
Remarks	All depths refer to face B. See sketch for further information.	

NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13512	Method	Machine Excavated	Coordinates	-
Project	Galeacre School, Liverpool				-
		Equipment	JCB 3CX	Ground Level	-
Client	Liverpool City Council			Date Started	30/07/2004
		Logged by	SB	Date Completed	30/07/2004
Consultant	WSP				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Reddish brown clayey sand with frequent angular coarse gravel sized fragments of brick and sandstone.				D1 B2 0.00 - 1.20 0.00 - 1.20	
MADE GROUND: Dark orangish grey becoming grey ashy domestic waste.		1.20		D3 B4 1.20 - 2.20 1.20 - 2.20	
Moderately weak locally very weak thinly bedded reddish orange medium to coarse grained SANDSTONE.		2.20			
Trial pit complete at 2.80 m.		2.80			

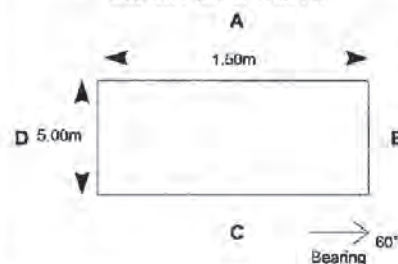
Stability Stable

Shoring None used

Groundwater None encountered

Remarks See sketch for further details

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13512	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool				-
		Equipment	JCB 3CX	Ground Level	-
Client	Liverpool City Council			Date Started	30/07/2004
		Logged by	SB	Date Completed	30/07/2004
Consultant	WSP				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Reddish brown clayey sand.				D1 B2 0.00 - 1.20 0.00 - 1.20	
MADE GROUND: Dark grey ashy decomposed domestic waste.		1.20		D3 B4 1.20 - 1.80 1.20 - 1.80	
Reddish brown angular coarse SAND (Deconstructed sandstone).		1.80			
Trial pit complete at 3.00 m.		3.00			

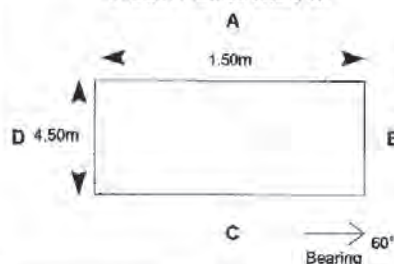
Stability Stable

Shoring None used

Groundwater None encountered

Remarks Excavation becoming unmanageable at 3.00m. See sketch for further details.

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
 See legend sheet for key to symbols and abbreviations.
 All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13512	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool				
		Equipment	JCB 3CX	Ground Level	-
Client	Liverpool City Council			Date Started	30/07/2004
		Logged by	SB	Date Completed	30/07/2004
Consultant	WSP				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Topsoil.		0.10		D1 B2	0.10 - 0.80 0.10 - 0.80
MADE GROUND: Reddish brown clayey gravel with frequent cobbles (100mm to 150mm diameter) of sandstone and occasional brick.		0.80			
Orangish brown slightly clayey angular coarse SAND.					
---from 1.00m increasingly gravelly. Gravel is angular medium to coarse of sandstone		2.20			
—at 1.70m becoming very weak highly weathered sandstone					
—at 2.20m moderately weak orangish purple coarse grained sandstone					
Trial pit complete at 2.20 m.					

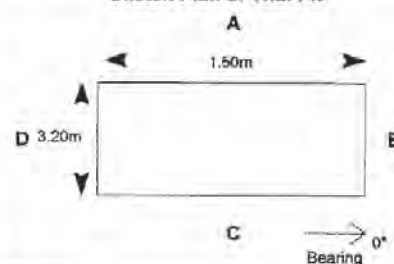
Stability Stable

Shoring None used

Groundwater None encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2005

Contract No.	F13931	Method	Machine Excavated	Coordinates	914.21 E
Project	Gateacre School				1002.31 N
		Equipment	Tracked Mini Excavator	Ground Level	58.90m AOD
Client	Liverpool City Council			Date Started	14/04/2005
		Logged by	ML	Date Completed	14/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling		Remarks
MADE GROUND: Turf and greyish brown sandy topsoil with occasional gravel sized fragments of brick and sandstone.				ES1	0.30	
MADE GROUND: Dark greyish brown sandy gravel sized fragments of ash and clinker with occasional glass, metal sheet, rubber tyre, shoes and brick . —at 1.60m with some brick. —from 1.70m dark grey with occasional timber and bone. Trial pit complete at 2.00 m.		0.80	58.10	ES2	1.00	
				ES3	1.50	
		2.00	55.90	ES4	2.00	

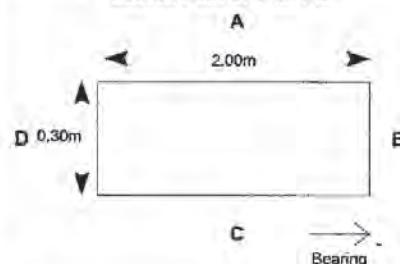
Stability Stable

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	APRAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	937.61 E
Project	Gateacre School				959.07 N
		Equipment	Tracked Mini Excavator	Ground Level	58.80m AOD
Client	Liverpool City Council			Date Started	14/04/2005
		Logged by	ML	Date Completed	14/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Turf and greyish brown sandy topsoil with occasional gravel sized fragments of sandstone and brick.		0.35	58.45	ES1 0.30	
				ES2 0.50	
MADE GROUND: Reddish brown fine to coarse gravelly sand. Gravel sized fragments are of brick.		0.65	58.15		
				ES3 1.00	
				ES4 1.50	
MADE GROUND: Dark greyish brown sandy gravel sized fragments of ash with occasional bricks, some bottles, paper, comb and wellington. — 1.3m to 1.7m orange brown — at 1.5m with a little straw — below 1.7m dark grey with purple including make-up.		2.00	56.80	ES5 2.00	
Trial pit complete at 2.00 m.					

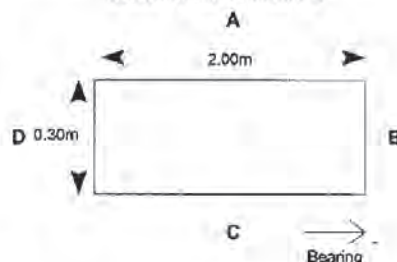
Stability Generally stable some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	959.76 E
Project	Gateacre School				919.87 N
		Equipment	Tracked Mini Excavator	Ground Level	58.82m AOD
Client	Liverpool City Council			Date Started	14/04/2005
		Logged by	ML	Date Completed	14/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Turf and brown sandy topsoil with occasional gravel sized fragments of brick, sandstone and pot.				ES1 0.30	
MADE GROUND: Dark brown sandy gravel sized fragments of ash with glass bottles, timber, sacking, cloth, tights, metal fence posts and occasional bone.		0.80	58.02	ES2 1.00	
				ES3 1.50	
* MADE GROUND: Black sand sized fragments of ash with occasional thin strands of plastic. (Hydrocarbon odour). *		1.90 2.00	56.92 56.82	ES4 2.00	
Trial pit complete at 2.00 m.					

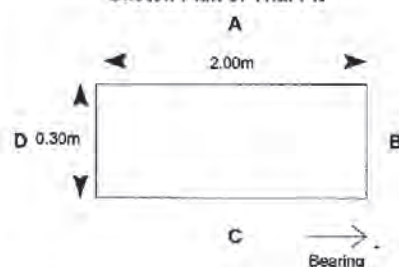
Stability Stable

Shoring None

Groundwater None encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2005

Contract No.	F13931	Method	Machine Excavated	Coordinates	980.93 E
Project	Gateacre School				884.65 N
		Equipment	Tracked Mini Excavator	Ground Level	58.86m AOD
Client	Liverpool City Council			Date Started	14/04/2005
		Logged by	ML	Date Completed	14/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling		Remarks
MADE GROUND: Turf and brown sandy topsoil.		0.30	58.56	ES1	0.20	
MADE GROUND: Brown slightly clayey silty fine to medium sand.				ES2	0.50	
MADE GROUND: Dark grey and orangish brown sandy gravel sized fragments of ash and clinker with some bottles, occasional electric cable, paper, bone and tights.		0.80	58.06	ES3	1.00	
				ES4	1.50	
				ES5	2.00	
Trial pit complete at 2.00 m.		2.00	56.86			

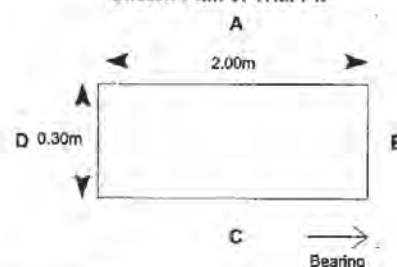
Stability Stable

Shoring None

Groundwater Not Encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	1006.81 E
Project	Galeacre School				834.73 N
		Equipment	Tracked Mini Excavator	Ground Level	58.83m AOD
Client	Liverpool City Council			Date Started	15/04/2005
		Logged by	ML	Date Completed	15/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling		Remarks
MADE GROUND: Turf and brown sandy topsoil with occasional gravel sized fragments of brick.		0.40	58.43	ES1	0.30	
MADE GROUND: Brown clayey sand with occasional gravel sized fragments of brick and sandstone with occasional cobble sized fragments of bricks.		0.70	58.13	ES2	0.50	
MADE GROUND: Black sandy pot and gravel sized fragments of ash with fragments of glass.		0.90	57.93	ES3	1.00	
MADE GROUND: Dark brown slightly gravelly clayey fine to coarse sand with occasional cobbles. Gravel sized fragments are of brick and sandstone. Cobble sized fragments are of sandstone with occasional brick.		1.80	57.03	ES4	1.50	
MADE GROUND: Paper, cloth, shoe and metal with a little ash.		2.00	56.83	ES5	2.00	
Trial pit complete at 2.00 m.						

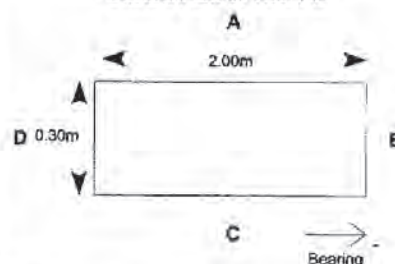
Stability Generally stable some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/12/2006

creosote odour/LF



Norwest Holst Soil Engineering Ltd.

TRIAL PIT LOG

Note ID
TP6
Sheet 1 of 1

Contract No.	F13931	Method	Machine Excavated	Coordinates	1003.82 E
Project	Gateacre School				808.27 N
		Equipment	Tracked Mini Excavator	Ground Level	58.72m AOD
Client	Liverpool City Council			Date Started	15/04/2005
		Logged by	ML	Date Completed	15/04/2005
Consultant	William Saunders Partnership				

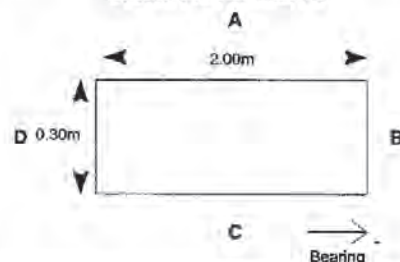
Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Turf and greyish brown sandy topsoil with occasional gravel sized fragments of brick.		0.20	58.52	ES1 0.20	
				ES2 0.50	
MADE GROUND: Brown sand with some gravel of ash, brick, pot and sandstone.		0.80	57.92		
MADE GROUND: Greyish brown sand with slight gravel sized fragments of ash, brick, pot and sandstone.		1.10	57.62	ES3 1.20	
MADE GROUND: Black sand and fine gravel sized fragments of ash. (Chemical/ creosote odour).		1.50	57.22	ES4 1.50	
MADE GROUND: Dark grey sandy gravel sized fragments of ash with some glass bottles, plastic, slate, timber, cobbles, shoes, bike tyres and small metal sheet. Trial pit complete at 2.00 m.		2.00	56.72	ES5 2.00	

Stability Stable

Shoring None

Groundwater Not encountered

Sketch Plan of Trial Pit



Remarks

NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	974.84 E
Project	Gateacre School				861.54 N
		Equipment	Tracked Mini Excavator	Ground Level	58.73m AOD
Client	Liverpool City Council			Date Started	15/04/2005
Consultant	William Saunders Partnership	Logged by	ML	Date Completed	15/04/2005

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling		Remarks
MADE GROUND: Turf and greyish brown sandy topsoil with occasional gravel sized fragments of sandstone.		0.50	58.23	ES1	0.20	
MADE GROUND: Dark grey sandy gravel sized fragments of ash with some glass bottles, paving slab, brick, bone and occasional teapot.				ES2	0.60	
				ES3	1.00	
				ES4	1.50	
—below 1.5m with paper and timber						
Trial pit complete at 2.00 m.		2.00	56.73	ES5	2.00	

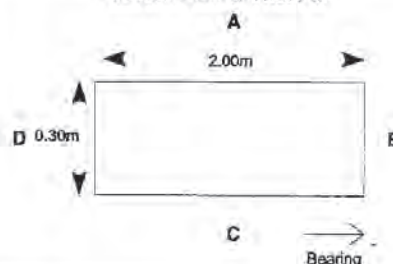
Stability Some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form ARIAL TP LOG

Version 3.05

Revised 15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	954.04 E
Project	Gateacre School				901.91 N
		Equipment	Tracke Mini Excavator	Ground Level	58.76m AOD
Client	Liverpool City Council			Date Started	15/04/2005
		Logged by	ML	Date Completed	15/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Turf and greyish brown sandy topsoil with occasional gravel sized fragments of pot and brick.		0.20	58.58	ES1 0.10	
				ES2 0.50	
				ES3 1.00	
				ES4 1.50	
MADE GROUND: Greyish brown and brown sandy gravel sized fragments of ash with some glass, bone, cobbles, paper and sandstone.					
		1.80	58.98		
MADE GROUND: Dark grey sandy gravel sized fragments of ash with frequent glass, wire, occasional paper and bone.		2.00	56.75	ES5 2.00	
Trial pit complete at 2.00 m.					

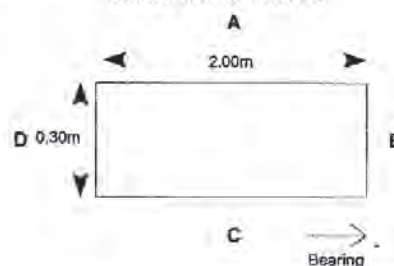
Stability Stable

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	933.64 E
Project	Gateacre School				940.19 N
		Equipment	Tracked Mini Excavator	Ground Level	58.69m AOD
Client	Liverpool City Council			Date Started	15/04/2005
		Logged by	ML	Date Completed	15/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Turf and brown sandy topsoil.		0.30	58.39	ES1 0.20	
MADE GROUND: Brown sandy gravel sized fragments of ash with some glass, timber and cloth and with occasional plastic and rubber.				ES2 0.50	
—below 1.30m grey brown and clayey.				ES3 1.00	
MADE GROUND: Dark grey / black clayey sized ash with paper and timber. Trial pit complete at 2.00 m.		1.70 2.00	56.99 56.69	ES4 1.80	

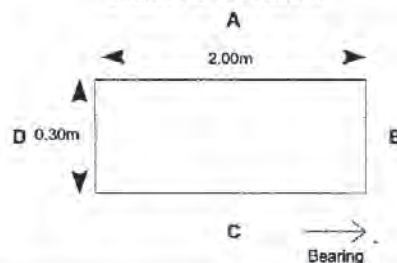
Stability Some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks Plastic drain at 0.40m

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2005

Contract No.	F13931	Method	Machine Excavated	Coordinates	916.12 E
Project	Gateacre School				977.44 N
		Equipment	Tracked Mini Excavator	Ground Level	58.66m AOD
Client	Liverpool City Council			Date Started	15/04/2005
		Logged by	ML	Date Completed	15/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Turf and topsoil with occasional gravel sized fragments of brick.				ES1 0.20	
MADE GROUND: Brown ashy fine to coarse sand with occasional gravel sized fragments of brick, sandstone and ash.		0.40	58.26	ES2 0.50	
MADE GROUND: Dark grey and black clayey sandy gravel sized fragments of ash with some glass bottles and with paper, straw, bedding, metal cooking pot, shoes and tights. <i>34</i>		0.90	57.76	ES3 1.00	
				ES4 1.50	
		2.00	56.66	ES5 2.00	
Trial pit complete at 2.00 m.					

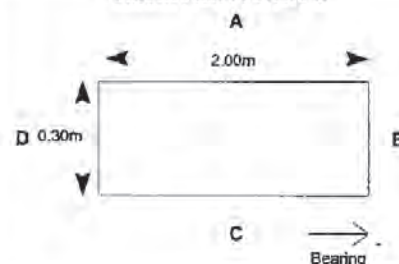
Stability Some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	982.48 E
Project	Gateacre School				987.66 N
		Equipment	Tracked Mini Excavator	Ground Level	58.56m AOD
Client	Liverpool City Council			Date Started	15/04/2005
		Logged by	ML	Date Completed	15/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling		Remarks
MADE GROUND: Turf over brown slightly gravelly sandy topsoil. Gravel sized fragments are of sandstone.		0.30	58.26	ES1	0.30	
		0.40	58.15	ES2	0.40	
MADE GROUND: Brown silty fine to coarse sand with occasional gravel sized fragments of ash and bricks.						
MADE GROUND: Dark grey and black sandy gravel sized fragments of ash with some bottles, shoes, timber, metal, glasses and occasional pockets of yellow brown sand.		1.40	57.15	ES3	1.40	
Very soft light grey with dark grey lenses of sandy SILT.		2.00	56.56	ES4	2.00	
Trial pit complete at 2.00 m.						

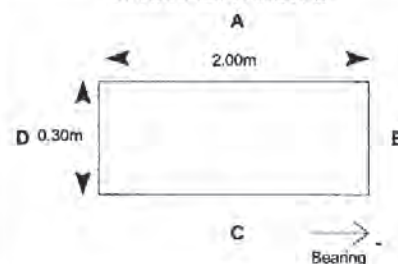
Stability Unstable

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

creosote odour noted



Norwest Holst Soil Engineering Ltd.

TRIAL PIT LOG

Hole ID,
TP12
Sheet 1 of 1

Contract No.	F13931	Method	Machine Excavated	Coordinates	909.02 E
Project	Gateacre School				954.27 N
		Equipment	Tracked Mini Excavator	Ground Level	58.60m AOD
Client	Liverpool City Council			Date Started	18/04/2005
		Logged by	ML	Date Completed	18/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling		Remarks
MADE GROUND: Turf and greyish brown sandy topsoil with occasional subangular to subrounded gravel.		0.25	58.35	ES1	0.10	
		0.40	58.20	ES2	0.50	
MADE GROUND: Reddish brown silty fine to coarse sand.				ES3	1.00	
MADE GROUND: Black orangish brown and greyish brown sandy gravel sized fragments of ash with glass bottles, carpet, paper, string, metal wire, timber, shoes and a little straw near base.		1.80	57.00	ES4	1.70	
MADE GROUND: Grey clayey fine to coarse sand with some seed pods, cloth and straw. (Creosote odour).		2.00	56.60	ES5	2.00	
Trial pit complete at 2.00 m.						

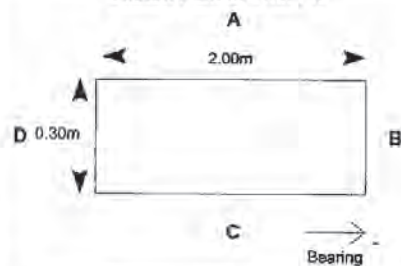
Stability Some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	926.58 E
Project	Gateacre School				919.00 N
		Equipment	Tracked Mini Excavator	Ground Level	58.57m AOD
Client	Liverpool City Council			Date Started	18/04/2005
		Logged by	ML	Date Completed	18/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Turf and brown sandy topsoil with occasional gravel sized fragments of pot.		0.30	58.27	ES1 0.10	
MADE GROUND: Dark greyish brown and orangish brown clayey sandy gravel sized fragments of ash with glass, paper and timber. —below 0.80m with pockets of dark grey silty fine to medium sand				ES2 0.50	
		1.20	57.37	ES3 1.00	
MADE GROUND: Black sand and gravel sized fragments of ash with paper, timber, glass, pot, bedsprings, metal sheet and occasional shoes.				ES4 1.50	
Trial pit complete at 2.00 m.		2.00	56.57	ES5 2.00	

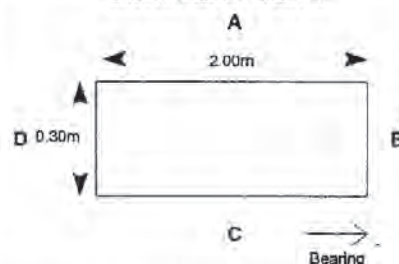
Stability Some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	947.13 E
Project	Gateacre School				873.23 N
		Equipment	Tracked Mini Excavator	Ground Level	58.62m AOD
Client	Liverpool City Council			Date Started	18/04/2005
		Logged by	ML	Date Completed	18/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Turf and greyish brown sandy topsoil with occasional gravel sized fragments of brick.		0.30	58.32	ES1 0.20	
				ES2 0.50	
				ES3 1.00	
				ES4 1.50	
		2.00	56.62	ES5 2.00	
MADE GROUND: Dark grey and black sandy gravel sized fragments of ash with some glass bottles, paper, wood shavings, thin wood strips and occasional bricks.					
—at 2.00m pocket of reddish brown sand					
Trial pit complete at 2.00 m.					

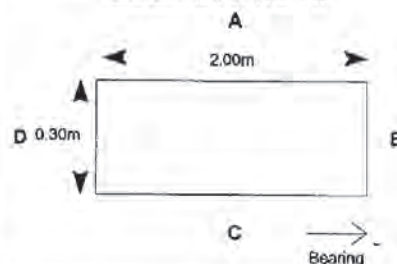
Stability Some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	969.10 E
Project	Gateacre School				833.60 N
		Equipment	Tracked Mini Excavator	Ground Level	58.68m AOD
Client	Liverpool City Council			Date Started	18/04/2005
		Logged by	ML	Date Completed	18/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Turf and greyish brown sandy topsoil with occasional subangular gravel.		0.30	58.38	ES1 0.10	
MADE GROUND: Reddish brown fine to coarse sand with occasional gravel sized fragments of brick and sandstone.		0.50	58.18	ES2 0.50	
MADE GROUND: Dark grey and black sand and gravel sized fragments of ash with occasional bottles and timber. —below 1.00m with creosote odour *		1.30	57.38	ES3 1.00	
Brown silty fine to medium SAND, clayey in pockets (Possible Made Ground).		1.70	56.98	ES4 1.50	
Reddish brown sandy fine to coarse GRAVEL of sandstone (Possible Highly Weathered Sandstone). Trial pit complete at 2.00 m.		2.00	56.68	ES5 2.00	

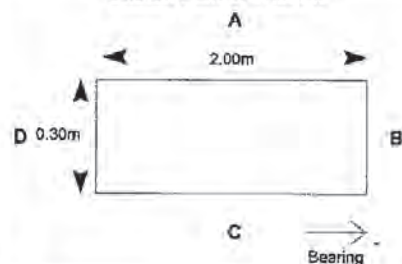
Stability Some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks Plastic land drain at 0.40m

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	923.11 E
Project	Gateacre School				888.33 N
		Equipment	Tracked Mini Excavator	Ground Level	58.61m AOD
Client	Liverpool City Council			Date Started	18/04/2005
		Logged by	ML	Date Completed	18/04/2005
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Turf and greyish brown sandy topsoil with occasional subrounded gravel.		0.20	58.41	ES1 0.10	
MADE GROUND: Brown silty fine to coarse sand with occasional gravel sized fragments of ash.		0.40	58.21	ES2 0.50	
MADE GROUND: Dark grey sandy gravel sized fragments of ash with some bottles, occasional metal post, brick, timber, pottery, back seat and newspaper from Sunday 1st May 1955.		1.40	57.21	ES3 1.00	
Reddish brown and light yellowish brown silty fine to medium SAND with occasional gravel of sandstone (possible rockhead).		2.00	56.61	ES4 1.50	
Trial pit complete at 2.00 m.				ES5 2.00	

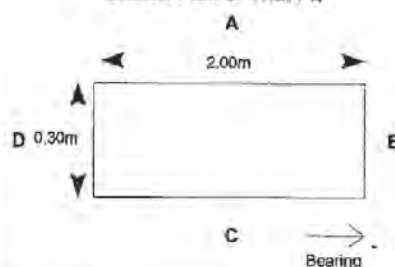
Stability Some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks Plastic land drain at 0.45m.

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form ARIAL TP LOG

Version 3.05

Revised 15/02/2006

Contract No.	F13931	Method	Machine Excavated	Coordinates	901.71 E
Project	Gateacre School				937.02 N
		Equipment	Tracked Mini Excavator	Ground Level	58.48m AOD
Client	Liverpool City Council			Date Started	-
		Logged by	ML	Date Completed	-
Consultant	William Saunders Partnership				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
MADE GROUND: Greyish brown sandy topsoil with occasional subrounded gravel.		0.25	58.23	ES1 0.20	
MADE GROUND: Dark greyish brown and orange brown sand and gravel sized fragments of ash with some glass, shoes and carpet.				ES2 0.50	
				ES3 1.00	
MADE GROUND: Dark grey sandy gravel sized fragments of ash with some glass and burnt timber		1.50	58.98	ES4 1.70	
Reddish brown sandy subangular fine to coarse GRAVEL of sandstone.		1.90	56.58	ES5 2.00	
Trial pit complete at 2.00 m.		2.00	56.48		

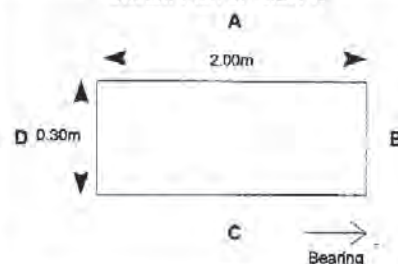
Stability Some spalling of pit walls

Shoring None

Groundwater Not encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

LF at - 5m bgl.

Contract No.	F14221	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool				-
		Equipment	Mini Excavator	Ground Level	-
Client	Liverpool City Council			Date Started	27/10/2005
		Logged by	OG	Date Completed	27/10/2005
Consultant	Wm Saunders Partnership LLP				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
TOPSOIL		0.25		ES1 0.25	
MADE GROUND: Brown occasionally black gravelly sand. Gravel sized fragments are angular to subangular fine to coarse of brick, glass and ceramics.		0.80		ES2 0.80	
MADE GROUND: Brown and black ashy gravelly sand with occasional angular boulder sized fragments of sandstone. Also with angular cobbles of timber, pipe, bones and brick. Gravel sized fragments are angular to subangular fine to coarse of cloth, glass, plastics, parts of shoes, brick, porcelain, timber, brick and sandstone.		1.30		ES3 1.30	
Trial pit complete at 2.10 m.		2.10		ES4 2.00	

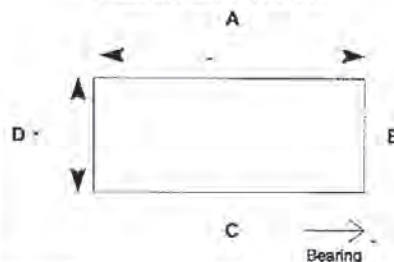
Stability Collapse in face B

Shoring None

Groundwater None encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

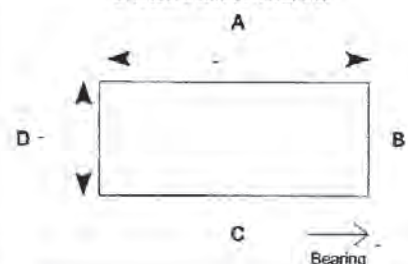
Contract No. F14221 Method Machine Excavated Coordinates -
Project Gateacre School, Liverpool
Equipment Mini Excavator Ground Level -
Client Liverpool City Council Date Started 27/10/2005
Logged by OG Date Completed 27/10/2005
Consultant Wm Saunders Partnership LLP

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
TOPSOIL.				ES1 0.25	
MADE GROUND: Reddish brown fine to medium sand.		0.40 0.50			Yellow pipe in face A
MADE GROUND: Brown and black gravelly sand. Gravel sized fragments are angular to subangular fine to coarse of glass, porcelain, rubber, sandstone, plastic, shoes, cloth and ceramics.				ES2 1.00	
Weak red SANDSTONE. Recovered as gravelly sand. Trial pit complete at 1.81 m.		1.80 1.81			

Stability Stable
Shoring None
Groundwater None encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form APRIAL TP LOG
Version 3.05
Revised 15/02/2006

Hydrocarbon odour at 1.4m bgl

Contract No.	F14221	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool	Equipment	Mini Excavator	Ground Level	-
Client	Liverpool City Council	Logged by	OG	Date Started	27/10/2005
Consultant	Wm Saunders Partnership LLP			Date Completed	27/10/2005

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
TOPSOIL.					
MADE GROUND: Brown slightly clayey gravelly sand with angular sized cobbles of brick and sandstone. Gravel sized fragments are angular to subangular fine to coarse of brick, glass, coal and sandstone.		0.25		ES1 0.25	
				ES2 0.75	
		1.00		ES3 1.00	
MADE GROUND: Black ashy gravelly sand. Gravel sized fragments are angular to subangular fine to coarse of glass, porcelain, metal, sandstone and brick. Pungent aroma (hydrocarbon).		1.40		ES4 1.40	
Trial pit complete at 1.40 m.					

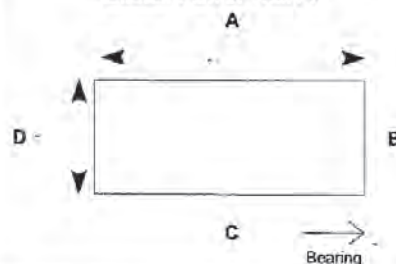
Stability Stable

Shoring None

Groundwater None encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

hyd. odour at 1m approx.



Norwest Holst Soil Engineering Ltd.

TRIAL PIT LOG

Hole ID.
TP21
Sheet 1 of 1

Contract No.	F14221	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool				-
		Equipment	Mini Excavator	Ground Level	-
Client	Liverpool City Council			Date Started	27/10/2005
		Logged by	OG	Date Completed	27/10/2005
Consultant	Wm Saunders Partnership LLP				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
TOPSOIL.				ES1 0.25	
MADE GROUND: Brown slightly silty gravelly sand. Gravel sized fragments are angular to subangular fine to coarse of glass and porcelain.		0.40			
		0.80		ES2 1.00	
MADE GROUND: Black and brown ashy gravelly sand with angular cobble sized fragments of brick, bones and springs. Gravel sized fragments are angular to subangular fine to coarse of porcelain, glass, brick, metal, timber and plastic. Strong odour (possible hydrocarbon)				ES3 1.80	
				ES4 2.50	
		3.00			
Trial pit complete at 3.00 m.					

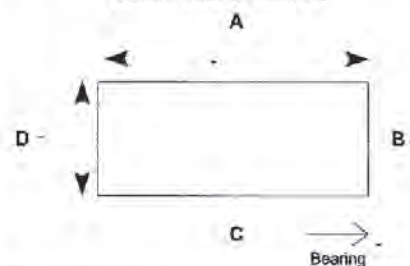
Stability Stable

Shoring None

Groundwater None encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

imp. odour at 2mbg l.



Norwest Holst Soil Engineering Ltd.

TRIAL PIT LOG

Hole ID.
TP22
Sheet 1 of 1

Contract No.	F14221	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool				-
		Equipment	Mini Excavator	Ground Level	-
Client	Liverpool City Council			Date Started	27/10/2005
		Logged by	OG	Date Completed	27/10/2005
Consultant	Wm Saunders Partnership LLP				

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
TOPSOIL.		0.25		ES1 0.25	
MADE GROUND: Brown slightly gravelly sand. Gravel sized fragments are angular to subangular fine to coarse of brick, glass and ceramics.		0.70		ES2 0.70	
MADE GROUND: Black ashy gravelly sand with occasional boulders of concrete. Also with angular cobble sized fragments of brick, bones and metal. Gravel sized fragments are angular to subangular fine to coarse of brick, glass, porcelain and sandstone. Strong hydrocarbon odour.		1.40		ES3 1.40	
Trial pit complete at 2.00 m.		2.00		ES4 2.00	

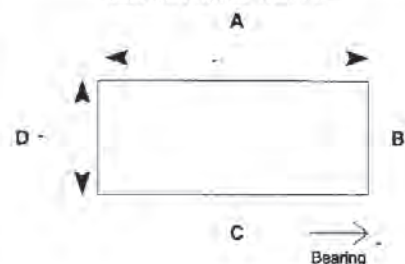
Stability Stable

Shoring None

Groundwater None encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F14221	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool	Equipment	Mini Excavator	Ground Level	-
Client	Liverpool City Council	Logged by	QG	Date Started	27/10/2005
Consultant	Wm Saunders Partnership LLP			Date Completed	27/10/2005

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
TOPSOIL.					
MADE GROUND: Brown slightly gravelly clayey sand. Gravel sized fragments are angular to subangular fine to coarse of glass, sandstone, ceramics and brick.		0.50		ES1 0.50	
MADE GROUND: Orangish brown and dark brown slightly clayey gravelly sand. With angular cobbles of sandstone. Gravel sized fragments are angular to subangular fine to coarse of brick, glass, metal and sandstone.		1.00		ES2 1.00	
MADE GROUND: Brown and black gravelly sand. Gravel sized fragments are angular to subangular fine to coarse of glass, plastic, cloth, metal, ceramics, timber, inner tyre tube (bike) and paper.		2.00		ES3 1.50	
Weak red SANDSTONE. Recovered as sandy angular gravel.		2.30		ES4 2.00	
Trial pit complete at 2.31 m.		2.31			

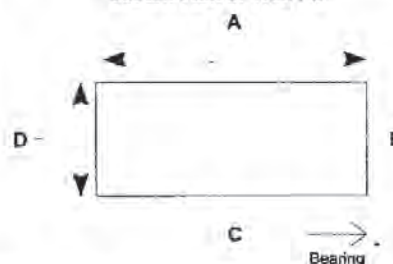
Stability Collapse in face B

Shoring None

Groundwater None encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

Contract No.	F14221	Method	Machine Excavated	Coordinates	-
Project	Gateacre School, Liverpool	Equipment	Mini Excavator	Ground Level	-
Client	Liverpool City Council	Logged by	OG	Date Started	27/10/2005
Consultant	Wm Saunders Partnership LLP			Date Completed	27/10/2005

Description of Strata	Legend	Depth Below G.L.	Datum Level	Sampling	Remarks
TOPSOIL.		0.50		ES1 0.25	
MADE GROUND: Reddish brown slightly silty slightly gravelly fine to medium sand. Gravel sized fragments are angular to subrounded fine to coarse of sandstone.		1.30		ES2 0.90	
Weak red MUDSTONE. Recovered as sand and gravel.		3.00		ES3 1.50	
Trial pit complete at 3.00 m.					

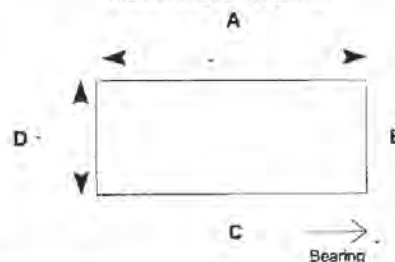
Stability Stable

Shoring None

Groundwater None encountered

Remarks

Sketch Plan of Trial Pit



NOTES: All depths in metres, all soil strengths in kPa.
See legend sheet for key to symbols and abbreviations.
All bearings given relate to magnetic North

Form	ARIAL TP LOG
Version	3.05
Revised	15/02/2006

APPENDIX VII
CHEMICAL TESTING RESULTS



Scientific Analysis Laboratories is a
limited company registered in England and
Wales (No 2514788) whose address is at
Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Hadfield House
Hadfield Street
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Report Number: 324321-1

Date of Report: 16-Apr-2013

Customer: Resource Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Salford
M50 2UE

Customer Contact: Mr Simon Howard

Customer Job Reference: 44808

Customer Site Reference: Former Gateacre High School

Date Job Received at SAL: 09-Apr-2013

Date Analysis Started: 10-Apr-2013

Date Analysis Completed: 16-Apr-2013

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22



1549

Report checked
and authorised by :
Mr Ross Walker
Customer Services Manager
(Land)

Issued by :
Mr Ross Walker
Customer Services Manager
(Land)

SAL Reference: 324321 Project Site: Former Gateacre High School Customer Reference: 44808 Soil Analysed as Soil Total and Speciated USEPA16 PAH											
SAL Reference				324321 012	324321 028	324321 032	324321 034	324321 035	324321 039	324321 041	
Customer Sample Reference				WS105 4.70	WS111 0.40	WS113 0.70	WS114 0.50	WS115 0.30	WS117 0.60	WS118 0.60	
Date Sampled				04-APR-2013	05-APR-2013	05-APR-2013	05-APR-2013	08-APR-2013	08-APR-2013	08-APR-2013	
Determinand	Method	Test Sample	LOD	Units							
Naphthalene	T149	AR	0.01	mg/kg	0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	T149	AR	0.01	mg/kg	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene	T149	AR	0.01	mg/kg	<0.01	0.07	<0.01	0.01	<0.01	<0.01	<0.01
Fluorene	T149	AR	0.01	mg/kg	<0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	T149	AR	0.01	mg/kg	0.01	1.0	0.01	0.02	0.01	0.01	0.01
Anthracene	T149	AR	0.01	mg/kg	<0.01	0.41	<0.01	0.01	<0.01	<0.01	<0.01
Fluoranthene	T149	AR	0.01	mg/kg	0.03	4.5	0.01	0.01	0.03	0.01	0.01
Pyrene	T149	AR	0.01	mg/kg	0.03	4.9	0.01	0.01	0.03	0.01	0.01
Benzo(a)Anthracene	T149	AR	0.01	mg/kg	0.02	2.5	0.01	0.01	0.02	0.01	0.01
Chrysene	T149	AR	0.01	mg/kg	0.02	2.5	0.01	<0.01	0.02	0.02	0.01
Benzo(b/k)Fluoranthene	T149	AR	0.01	mg/kg	0.02	5.9	0.01	<0.01	0.02	0.02	0.01
Benzo(a)Pyrene	T149	AR	0.01	mg/kg	0.01	3.4	<0.01	<0.01	0.01	0.01	<0.01
Indeno(123-cd)Pyrene	T149	AR	0.01	mg/kg	0.01	1.7	<0.01	<0.01	0.01	0.01	<0.01
Dibenzo(ah)Anthracene	T149	AR	0.01	mg/kg	<0.01	0.47	<0.01	<0.01	<0.01	0.01	<0.01
Benzo(ghi)Perylene	T149	AR	0.01	mg/kg	0.01	1.8	<0.01	<0.01	0.01	0.01	<0.01
PAH(total)	T149	AR	0.01	mg/kg	0.17	29	0.06	0.07	0.16	0.12	0.06

SAL Reference: 324321 Project Site: Former Gateacre High School Customer Reference: 44808 Soil Analysed as Soil REC Suite C (Banded TPH C5-C35)												
SAL Reference				324321 002	324321 007	324321 008	324321 011	324321 012	324321 014	324321 017	324321 022	
Customer Sample Reference				WS101 1.70	WS103 3.50	WS103 4.70	WS105 2.70	WS105 4.70	WS106 0.90	WS107 1.50	WS108 4.40	
Date Sampled				04-APR-2013	04-APR-2013	04-APR-2013	04-APR-2013	04-APR-2013	04-APR-2013	04-APR-2013	05-APR-2013	
Determinand	Method	Test Sample	LOD	Units								
TPH (C5-C6)	T54	AR	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C6-C8)	T54	AR	0.10	mg/kg	<0.10	0.62	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10)	T54	AR	0.10	mg/kg	<0.10	140	<0.10	0.34	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12)	T8	AR	1	mg/kg	<1	320	<1	12	<1	<1	8	<1
TPH (C12-C16)	T8	AR	1	mg/kg	<1	1400	<1	78	<1	3	9	<1
TPH (C16-C21)	T8	AR	1	mg/kg	2	950	<1	130	<1	10	31	<1
TPH (C21-C35)	T8	AR	1	mg/kg	8	410	<1	310	12	47	200	3

SAL Reference: 324321 Project Site: Former Gateacre High School Customer Reference: 44808 Soil Analysed as Soil REC Suite C (Banded TPH C5-C35)											
SAL Reference				324321 026	324321 028	324321 032	324321 034	324321 035	324321 039	324321 041	
Customer Sample Reference				WS110B 0.20	WS111 0.40	WS113 0.70	WS114 0.50	WS115 0.30	WS117 0.60	WS118 0.60	
Date Sampled				05-APR-2013	05-APR-2013	05-APR-2013	05-APR-2013	08-APR-2013	08-APR-2013	08-APR-2013	
Determinand	Method	Test Sample	LOD	Units							
TPH (C5-C6)	T54	AR	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C6-C8)	T54	AR	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C8-C10)	T54	AR	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TPH (C10-C12)	T8	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1
TPH (C12-C16)	T8	AR	1	mg/kg	<1	<1	<1	<1	<1	<1	<1
TPH (C16-C21)	T8	AR	1	mg/kg	2	2	<1	<1	<1	<1	<1
TPH (C21-C35)	T8	AR	1	mg/kg	4	21	<1	<1	3	<1	<1

SAL Reference: 324321 Project Site: Former Gateacre High School Customer Reference: 44808 Soil Analysed as Soil REC TPH (CWG)						
SAL Reference				324321 007	324321 021	
Customer Sample Reference				WS103 3.50	WS108 3.30	
Date Sampled				04-APR-2013	05-APR-2013	
Determinand	Method	Test Sample	LOD	Units		
Benzene	T54	AR	0.001	mg/kg	⁽¹³⁾ 0.089	⁽¹³⁾ 0.007
Toluene	T54	AR	0.001	mg/kg	0.53	0.004
EthylBenzene	T54	AR	0.001	mg/kg	6.9	⁽¹¹⁰⁾ <0.003
M/P Xylene	T54	AR	0.001	mg/kg	15	⁽¹¹⁰⁾ <0.003
O Xylene	T54	AR	0.001	mg/kg	14	⁽¹¹⁰⁾ <0.003
Methyl tert-Butyl Ether	T54	AR	0.001	mg/kg	⁽¹⁰⁰⁾ <0.005	⁽¹¹⁰⁾ <0.003
TPH (C5-C6 aliphatic)	T54	AR	0.010	mg/kg	⁽¹⁰⁰⁾ <0.050	⁽¹¹⁰⁾ <0.030
TPH (C6-C8 aliphatic)	T54	AR	0.010	mg/kg	0.12	⁽¹¹⁰⁾ <0.030
TPH (C8-C10 aliphatic)	T54	AR	0.010	mg/kg	21	⁽¹¹⁰⁾ <0.030
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	⁽⁹⁾ <10	<1
TPH (C12-C16 aliphatic)	T8	AR	1	mg/kg	52	1
TPH (C16-C21 aliphatic)	T8	AR	1	mg/kg	37	20
TPH (C21-C35 aliphatic)	T8	AR	1	mg/kg	11	470
TPH (Aliphatic) total	T85	AR		mg/kg	100	490
TPH (C6-C7 aromatic)	T54	AR	0.010	mg/kg	0.089	⁽¹¹⁰⁾ <0.030
TPH (C7-C8 aromatic)	T54	AR	0.010	mg/kg	0.53	⁽¹¹⁰⁾ <0.030
TPH (C8-C10 aromatic)	T54	AR	0.010	mg/kg	270	⁽¹¹⁰⁾ <0.030
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	170	<1
TPH (C12-C16 aromatic)	T8	AR	1	mg/kg	980	<1
TPH (C16-C21 aromatic)	T8	AR	1	mg/kg	810	4
TPH (C21-C35 aromatic)	T8	AR	1	mg/kg	490	85
TPH (Aromatic) total	T85	AR		mg/kg	2500	89
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/kg	2600	580

Customer Reference: 44808

SAL Reference					324321 002	324321 007	324321 011	324321 014	324321 017	324321 021	324321 026
Customer Sample Reference					WS101 1.70	WS103 3.50	WS105 2.70	WS106 0.90	WS107 1.50	WS108 3.30	WS110B 0.20
Date Sampled					04-APR-2013	04-APR-2013	04-APR-2013	04-APR-2013	04-APR-2013	05-APR-2013	05-APR-2013
Determinand	Method	Test Sample	LOD	Units							
1,2,4-Trichlorobenzene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	T16	AR	0.1	mg/kg	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chloronaphthalene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methyl phenol	T16	AR	0.1	mg/kg	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	T16	AR	0.1	mg/kg	0.2	120	1.3	0.8	1.0	0.4	<0.1
2-Nitroaniline	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitrophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3-Nitroaniline	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3/4-Methylphenol	T16	AR	0.1	mg/kg	<0.1	<0.1	2.7	0.1	1.7	<0.1	<0.1
4-Bromophenyl phenylether	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloroaniline	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chlorophenyl phenylether	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitroaniline	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitrophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T16	AR	0.1	mg/kg	<0.1	530	0.6	0.1	0.3	<0.1	<0.1
Acenaphthylene	T16	AR	0.1	mg/kg	<0.1	370	0.2	<0.1	0.1	<0.1	<0.1
Anthracene	T16	AR	0.1	mg/kg	0.1	31	1.7	0.2	0.6	<0.1	<0.1
Azobenzene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	0.2	12	3.0	0.4	0.8	0.1	<0.1
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	<0.1	31	2.3	0.3	0.7	<0.1	<0.1
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	0.2	41	4.8	0.8	1.6	0.1	<0.1
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	<0.1	9.0	1.1	0.2	0.4	<0.1	<0.1
Bis (2-chlor											

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Nickel	T6	AR	1	mg/kg	U	002,007,011,014,017,021,026,028,032,034-035,039,041
Zinc	T6	AR	1	mg/kg	U	002,007,011,014,017,021,026,028,032,034-035,039,041
pH	T7	AR			U	002,007,011,014,017,021,026,028,032,034-035,039,041
SO4(Total)	T6	AR	0.01	%	N	002,007,011,014,017,021,026,028,032,034-035,039,041
SO4(2:1)	T6	AR	0.1	g/l	N	002,007,011,014,017,021,026,028,032,034-035,039,041
Cyanide(Total)	T4	AR	1	mg/kg	U	002,007,011,014,017,021,026,028,032,034-035,039,041
Phenols(Mono)	T4	AR	1	mg/kg	U	002,007,011,014,017,021,026,028,032,034-035,039,041
Chromium VI	T6	AR	1	mg/kg	N	002,007,011,014,017,021,026,028,032,034-035,039,041
TPH (C5-C6)	T54	AR	0.10	mg/kg	N	002,007-008,011-012,014,017,022,026,028,032,034-035,039,041
TPH (C6-C8)	T54	AR	0.10	mg/kg	N	002,007-008,011-012,014,017,022,026,028,032,034-035,039,041
TPH (C8-C10)	T54	AR	0.10	mg/kg	N	002,007-008,011-012,014,017,022,026,028,032,034-035,039,041
TPH (C10-C12)	T8	AR	1	mg/kg	U	002,007-008,011-012,014,017,022,026,028,032,034-035,039,041
TPH (C12-C16)	T8	AR	1	mg/kg	U	002,007-008,011-012,014,017,022,026,028,032,034-035,039,041
TPH (C16-C21)	T8	AR	1	mg/kg	U	002,007-008,011-012,014,017,022,026,028,032,034-035,039,041
TPH (C21-C35)	T8	AR	1	mg/kg	U	002,007-008,011-012,014,017,022,026,028,032,034-035,039,041
Methyl tert-Butyl Ether	T54	AR	0.001	mg/kg	U	007,021
TPH (C5-C6 aliphatic)	T54	AR	0.010	mg/kg	N	007,021
TPH (C6-C8 aliphatic)	T54	AR	0.010	mg/kg	N	007,021
TPH (C8-C10 aliphatic)	T54	AR	0.010	mg/kg	N	007,021
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	N	007,021
TPH (C12-C16 aliphatic)	T8	AR	1	mg/kg	N	007,021
TPH (C16-C21 aliphatic)	T8	AR	1	mg/kg	N	007,021
TPH (C21-C35 aliphatic)	T8	AR	1	mg/kg	N	007,021
TPH (Aliphatic) total	T85	AR		mg/kg	N	007,021
TPH (C6-C7 aromatic)	T54	AR	0.010	mg/kg	N	007,021
TPH (C7-C8 aromatic)	T54	AR	0.010	mg/kg	N	007,021
TPH (C8-C10 aromatic)	T54	AR	0.010	mg/kg	N	007,021
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	N	007,021
TPH (C12-C16 aromatic)	T8	AR	1	mg/kg	N	007,021
TPH (C16-C21 aromatic)	T8	AR	1	mg/kg	N	007,021
TPH (C21-C35 aromatic)	T8	AR	1	mg/kg	N	007,021
TPH (Aromatic) total	T85	AR		mg/kg	N	007,021
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/kg	N	007,021
1,2,4-Trichlorobenzene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
1,2-Dichlorobenzene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
1,3-Dichlorobenzene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
1,4-Dichlorobenzene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2,4,5-Trichlorophenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2,4,6-Trichlorophenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2,4-Dichlorophenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2,4-Dimethylphenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2,4-Dinitrophenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2,4-Dinitrotoluene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2,6-Dinitrotoluene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2-Chloronaphthalene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2-Chlorophenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2-methyl phenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2-Methylnaphthalene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2-Nitroaniline	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
2-Nitrophenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
3-Nitroaniline	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
3/4-Methylphenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
4-Bromophenyl phenylether	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
4-Chloro-3-methylphenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
4-Chloroaniline	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
4-Chlorophenyl phenylether	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
4-Nitroaniline	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
4-Nitrophenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Acenaphthene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Acenaphthylene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Anthracene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Azobenzene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Bis (2-chloroethoxy) methane	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Bis (2-chloroethyl) ether	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Bis (2-chloroisopropyl) ether	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Bis (2-ethylhexyl)phthalate	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Butyl benzylphthalate	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Carbazole	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Chrysene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Di-n-butylphthalate	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Di-n-octylphthalate	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Dibenzofuran	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Diethyl phthalate	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Dimethyl phthalate	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Fluoranthene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Fluorene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Hexachlorobenzene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Hexachlorobutadiene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Hexachlorocyclopentadiene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Hexachloroethane	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Isophorone	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Naphthalene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Nitrobenzene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Pentachlorophenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Phenanthrene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Phenol	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Pyrene	T16	AR	0.1	mg/kg	U	002,007,011,014,017,021,026
Naphthalene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Acenaphthylene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Acenaphthene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Fluorene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Phenanthrene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Anthracene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Fluoranthene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Pyrene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Benzo(a)Anthracene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Chrysene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Benzo(b/k)Fluoranthene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Benzo(a)Pyrene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Indeno(123-cd)Pyrene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Dibenzo(ah)Anthracene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
Benzo(ghi)Perylene	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
PAH(total)	T149	AR	0.01	mg/kg	U	012,028,032,034-035,039,041
1,1,1,2-Tetrachloroethane	T54	AR	0.005	mg/kg	U	002,007,011,021
1,1,1-Trichloroethane	T54	AR	0.005	mg/kg	U	002,007,011,021
1,1,2,2-Tetrachloroethane	T54	AR	0.005	mg/kg	U	002,007,011,021
1,1,2-Trichloroethane	T54	AR	0.005	mg/kg	U	002,007,011,021
1,1,2-Trichloroethylene	T54	AR	0.005	mg/kg	U	002,007,011,021
1,1-Dichloroethane	T54	AR	0.005	mg/kg	U	002,007,011,021
1,1-Dichloroethylene	T54	AR	0.005	mg/kg	U	002,007,011,021
1,1-Dichloropropene	T54	AR	0.005	mg/kg	U	002,007,011,021
1,2,3-Trichloropropane	T54	AR	0.005	mg/kg	U	002,007,011,021
1,2,4-Trimethylbenzene	T54	AR	0.005	mg/kg	U	002,007,011,021
1,2-dibromoethane	T54	AR	0.005	mg/kg	U	002,007,011,021
1,2-Dichlorobenzene	T54	AR	0.005	mg/kg	U	002,007,011,021
1,2-Dichloroethane	T54	AR	0.005	mg/kg	U	002,007,011,021
1,2-Dichloropropane	T54	AR	0.005	mg/kg	U	002,007,011,021
1,3,5-Trimethylbenzene	T54	AR	0.005	mg/kg	U	002,007,011,021
1,3-Dichlorobenzene	T54	AR	0.005	mg/kg	U	002,007,011,021
1,3-Dichloropropane	T54	AR	0.005	mg/kg	U	002,007,011,021
1,4-Dichlorobenzene	T54	AR	0.005	mg/kg	U	002,007,011,021
2,2-Dichloropropane	T54	AR	0.005	mg/kg	U	002,007,011,021
2-Chlorotoluene	T54	AR	0.005	mg/kg	U	002,007,011,021
4-Chlorotoluene	T54	AR	0.005	mg/kg	U	002,007,011,021
Benzene	T54	AR	0.001	mg/kg	U	002,007,011,021
Bromobenzene	T54	AR	0.005	mg/kg	U	002,007,011,021
Bromochloromethane	T54	AR	0.005	mg/kg	U	002,007,011,021
Bromodichloromethane	T54	AR	0.005	mg/kg	U	002,007,011,021
Bromoform	T54	AR	0.005	mg/kg	U	002,007,011,021
Bromomethane	T54	AR	0.005	mg/kg	U	002,007,011,021
Carbon tetrachloride	T54	AR	0.005	mg/kg	U	002,007,011,021
Chlorobenzene	T54	AR	0.005	mg/kg	U	002,007,011,021
Chlorodibromomethane	T54	AR	0.005	mg/kg	U	002,007,011,021
Chloroethane	T54	AR	0.005	mg/kg	U	002,007,011,021

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Chloroform	T54	AR	0.005	mg/kg	U	002,007,011,021
Chloromethane	T54	AR	0.005	mg/kg	U	002,007,011,021
Cis-1,2-Dichloroethylene	T54	AR	0.005	mg/kg	U	002,007,011,021
Cis-1,3-Dichloropropene	T54	AR	0.005	mg/kg	U	002,007,011,021
Dibromomethane	T54	AR	0.005	mg/kg	U	002,007,011,021
Dichlorodifluoromethane	T54	AR	0.005	mg/kg	U	002,007,011,021
Dichloromethane	T54	AR	0.050	mg/kg	N	002,007,011,021
EthylBenzene	T54	AR	0.001	mg/kg	U	002,007,011,021
Isopropyl benzene	T54	AR	0.005	mg/kg	U	002,007,011,021
M/P Xylene	T54	AR	0.001	mg/kg	U	002,007,011,021
n-Propylbenzene	T54	AR	0.005	mg/kg	U	002,007,011,021
O Xylene	T54	AR	0.001	mg/kg	U	002,007,011,021
p-Isopropyltoluene	T54	AR	0.005	mg/kg	U	002,007,011,021
S-Butylbenzene	T54	AR	0.005	mg/kg	U	002,007,011,021
Styrene	T54	AR	0.005	mg/kg	U	002,007,011,021
T-Butylbenzene	T54	AR	0.005	mg/kg	U	002,007,011,021
Tetrachloroethene	T54	AR	0.005	mg/kg	U	002,007,011,021
Toluene	T54	AR	0.001	mg/kg	U	002,007,011,021
Trans-1,2-Dichloroethene	T54	AR	0.005	mg/kg	U	002,007,011,021
Trans-1,3-Dichloropropene	T54	AR	0.005	mg/kg	U	002,007,011,021
Trichlorofluoromethane	T54	AR	0.005	mg/kg	U	002,007,011,021
Vinyl chloride	T54	AR	0.005	mg/kg	U	002,007,011,021





Scientific Analysis Laboratories is a
limited company registered in England and
Wales (No 2514788) whose address is at
Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Hadfield House
Hadfield Street
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Report Number: 324577-1

Date of Report: 17-Apr-2013

Customer: Resource Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Salford
M50 2UE

Customer Contact: Mr Simon Howard

Customer Job Reference: 44808

Date Job Received at SAL: 10-Apr-2013

Date Analysis Started: 11-Apr-2013

Date Analysis Completed: 17-Apr-2013

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22



1549

Report checked
and authorised by :
Mr Ross Walker
Customer Services Manager
(Land)

Issued by :
Mr Ross Walker
Customer Services Manager
(Land)

Soil	Analysed as Soil
REC Ltd 002S	

SAL Reference: 324577									
Customer Reference: 44808									
Soil		Analysed as Soil							
Total and Speciated USEPA16 PAH									
SAL Reference					324577 002	324577 005	324577 010	324577 013	324577 014
Customer Sample Reference					TP102 0.4	TP105 0.8	TP110 1.2	TP117 0.3	TP121 2.5
Date Sampled					08-APR-2013	08-APR-2013	08-APR-2013	08-APR-2013	08-APR-2013
Determinand	Method	Test Sample	LOD	Units					
Naphthalene	T149	AR	0.01	mg/kg	0.02	0.23	0.04	0.08	2.1
Acenaphthylene	T149	AR	0.01	mg/kg	<0.01	0.04	0.01	0.08	0.43
Acenaphthene	T149	AR	0.01	mg/kg	0.01	0.19	0.02	0.03	2.7
Fluorene	T149	AR	0.01	mg/kg	0.01	0.17	0.01	0.03	1.9
Phenanthrene	T149	AR	0.01	mg/kg	0.08	0.94	0.18	0.23	7.3
Anthracene	T149	AR	0.01	mg/kg	0.02	0.30	0.07	0.07	1.7
Fluoranthene	T149	AR	0.01	mg/kg	0.19	1.3	0.86	0.46	2.5
Pyrene	T149	AR	0.01	mg/kg	0.18	1.2	0.86	0.47	3.4
Benzo(a)Anthracene	T149	AR	0.01	mg/kg	0.07	0.62	0.32	0.22	0.86
Chrysene	T149	AR	0.01	mg/kg	0.07	0.58	0.29	0.20	1.2
Benzo(b/k)Fluoranthene	T149	AR	0.01	mg/kg	0.11	1.0	0.56	0.34	0.77
Benzo(a)Pyrene	T149	AR	0.01	mg/kg	0.06	0.61	0.32	0.21	0.53
Indeno(123-cd)Pyrene	T149	AR	0.01	mg/kg	0.04	0.33	0.18	0.12	0.19
Dibenzo(ah)Anthracene	T149	AR	0.01	mg/kg	0.01	0.13	0.07	0.04	0.08
Benzo(ghi)Perylene	T149	AR	0.01	mg/kg	0.04	0.38	0.20	0.13	0.23
PAH(total)	T149	AR	0.01	mg/kg	0.91	8.0	4.0	2.7	26

SAL Reference: 324577 Customer Reference: 44808 Soil Analysed as Soil REC TPH (CWG)					
SAL Reference				324577 019	
Customer Sample Reference				TP130 1.5	
Date Sampled				09-APR-2013	
Determinand	Method	Test Sample	LOD	Units	
Benzene	T54	AR	0.001	mg/kg	(13,110) <0.002
Toluene	T54	AR	0.001	mg/kg	0.002
EthylBenzene	T54	AR	0.001	mg/kg	(110) <0.002
M/P Xylene	T54	AR	0.001	mg/kg	0.004
O Xylene	T54	AR	0.001	mg/kg	0.002
Methyl tert-Butyl Ether	T54	AR	0.001	mg/kg	(110) <0.002
TPH (C5-C6 aliphatic)	T54	AR	0.010	mg/kg	(110) <0.020
TPH (C6-C8 aliphatic)	T54	AR	0.010	mg/kg	(110) <0.020
TPH (C8-C10 aliphatic)	T54	AR	0.010	mg/kg	0.025
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	(9) <10
TPH (C12-C16 aliphatic)	T8	AR	1	mg/kg	(9) <10
TPH (C16-C21 aliphatic)	T8	AR	1	mg/kg	15
TPH (C21-C35 aliphatic)	T8	AR	1	mg/kg	37
TPH (Aliphatic) total	T85	AR		mg/kg	52
TPH (C6-C7 aromatic)	T54	AR	0.010	mg/kg	(110) <0.020
TPH (C7-C8 aromatic)	T54	AR	0.010	mg/kg	(110) <0.020
TPH (C8-C10 aromatic)	T54	AR	0.010	mg/kg	0.022
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	(9) <10
TPH (C12-C16 aromatic)	T8	AR	1	mg/kg	(9) <10
TPH (C16-C21 aromatic)	T8	AR	1	mg/kg	(9) <10
TPH (C21-C35 aromatic)	T8	AR	1	mg/kg	13
TPH (Aromatic) total	T85	AR		mg/kg	13
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/kg	65

SAL Reference: 324577 Customer Reference: 44808														
Soil Miscellaneous					Analysed as Soil									
SAL Reference					324577 002	324577 005	324577 010	324577 013	324577 014	324577 015	324577 019	324577 021	324577 022	324577 023
Customer Sample Reference					TP102 0.4	TP105 0.8	TP110 1.2	TP117 0.3	TP121 2.5	TP125 2.4	TP130 1.5	TP134 0.8	TP136 1.2	TP140 0.8
Date Sampled					08-APR-2013	08-APR-2013	08-APR-2013	08-APR-2013	08-APR-2013	08-APR-2013	09-APR-2013	09-APR-2013	09-APR-2013	09-APR-2013
Determinand	Method	Test Sample	LOD	Units										
Asbestos ID	T27	AR			N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Organic Carbon	T21	AR	0.1	%	-	-	-	-	-	-	14	-	-	-

Index to symbols used in 324577-1

Value	Description
AR	As Received
N.D.	Not Detected
110	LOD raised due to low internal standard recovery.
9	LOD raised due to dilution of sample
13	Results have been blank corrected.
S	Analysis was subcontracted
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T16	GC/MS
T85	Calc
T7	Probe
T21	OX/IR
T8	GC/FID
T149	GC/MS (SIR)
T54	GC/MS (Headspace)
T27	PLM
T6	ICP/OES
T4	Colorimetry

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Asbestos ID	T27	AR			SU	002,005,010,013-015,019,021-023
Total Organic Carbon	T21	AR	0.1	%	N	019
Arsenic	T6	AR	1	mg/kg	U	002,005,010,013,015,019,021-023
Cadmium	T6	AR	1	mg/kg	U	002,005,010,013,015,019,021-023
Chromium	T6	AR	1	mg/kg	U	002,005,010,013,015,019,021-023
Lead	T6	AR	1	mg/kg	U	002,005,010,013,015,019,021-023
Mercury	T6	AR	1	mg/kg	U	002,005,010,013,015,019,021-023
Selenium	T6	AR	3	mg/kg	U	002,005,010,013,015,019,021-023
Copper	T6	AR	1	mg/kg	U	002,005,010,013,015,019,021-023
Nickel	T6	AR	1	mg/kg	U	002,005,010,013,015,019,021-023
Zinc	T6	AR	1	mg/kg	U	002,005,010,013,015,019,021-023
pH	T7	AR			U	002,005,010,013,015,019,021-023
SO4(Total)	T6	AR	0.01	%	N	002,005,010,013,015,019,021-023
SO4(2:1)	T6	AR	0.1	g/l	N	002,005,010,013,015,019,021-023
Cyanide(Total)	T4	AR	1	mg/kg	U	002,005,010,013,015,019,021-023
Phenols(Mono)	T4	AR	1	mg/kg	U	002,005,010,013,015,019,021-023
Chromium VI	T6	AR	1	mg/kg	N	002,005,010,013,015,019,021-023
TPH (C5-C6)	T54	AR	0.10	mg/kg	N	002,005,010,013-015,020-023
TPH (C6-C8)	T54	AR	0.10	mg/kg	N	002,005,010,013-015,020-023
TPH (C8-C10)	T54	AR	0.10	mg/kg	N	002,005,010,013-015,020-023
TPH (C10-C12)	T8	AR	1	mg/kg	U	002,005,010,013-015,020-023
TPH (C12-C16)	T8	AR	1	mg/kg	U	002,005,010,013-015,020-023
TPH (C16-C21)	T8	AR	1	mg/kg	U	002,005,010,013-015,020-023
TPH (C21-C35)	T8	AR	1	mg/kg	U	002,005,010,013-015,020-023

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Benzene	T54	AR	0.001	mg/kg	U	019
M/P Xylene	T54	AR	0.001	mg/kg	U	019
O Xylene	T54	AR	0.001	mg/kg	U	019
Methyl tert-Butyl Ether	T54	AR	0.001	mg/kg	U	019
TPH (C5-C6 aliphatic)	T54	AR	0.010	mg/kg	N	019
TPH (C6-C8 aliphatic)	T54	AR	0.010	mg/kg	N	019
TPH (C8-C10 aliphatic)	T54	AR	0.010	mg/kg	N	019
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	N	019
TPH (C12-C16 aliphatic)	T8	AR	1	mg/kg	N	019
TPH (C16-C21 aliphatic)	T8	AR	1	mg/kg	N	019
TPH (C21-C35 aliphatic)	T8	AR	1	mg/kg	N	019
TPH (Aliphatic) total	T85	AR		mg/kg	N	019
TPH (C6-C7 aromatic)	T54	AR	0.010	mg/kg	N	019
TPH (C7-C8 aromatic)	T54	AR	0.010	mg/kg	N	019
TPH (C8-C10 aromatic)	T54	AR	0.010	mg/kg	N	019
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	N	019
TPH (C12-C16 aromatic)	T8	AR	1	mg/kg	N	019
TPH (C16-C21 aromatic)	T8	AR	1	mg/kg	N	019
TPH (C21-C35 aromatic)	T8	AR	1	mg/kg	N	019
TPH (Aromatic) total	T85	AR		mg/kg	N	019
TPH (Aliphatic+Aromatic) (sum)	T85	AR		mg/kg	N	019
1,2,4-Trichlorobenzene	T16	AR	0.1	mg/kg	U	015,019
1,2-Dichlorobenzene	T16	AR	0.1	mg/kg	U	015,019
1,3-Dichlorobenzene	T16	AR	0.1	mg/kg	U	015,019
1,4-Dichlorobenzene	T16	AR	0.1	mg/kg	U	015,019
2,4,5-Trichlorophenol	T16	AR	0.1	mg/kg	U	015,019
2,4,6-Trichlorophenol	T16	AR	0.1	mg/kg	U	015,019
2,4-Dichlorophenol	T16	AR	0.1	mg/kg	U	015,019
2,4-Dimethylphenol	T16	AR	0.1	mg/kg	U	015,019
2,4-Dinitrophenol	T16	AR	0.1	mg/kg	U	015,019
2,4-Dinitrotoluene	T16	AR	0.1	mg/kg	U	015,019
2,6-Dinitrotoluene	T16	AR	0.1	mg/kg	U	015,019
2-Chloronaphthalene	T16	AR	0.1	mg/kg	U	015,019
2-Chlorophenol	T16	AR	0.1	mg/kg	U	015,019
2-methyl phenol	T16	AR	0.1	mg/kg	U	015,019
2-Methylnaphthalene	T16	AR	0.1	mg/kg	U	015,019
2-Nitroaniline	T16	AR	0.1	mg/kg	U	015,019
2-Nitrophenol	T16	AR	0.1	mg/kg	U	015,019
3-Nitroaniline	T16	AR	0.1	mg/kg	U	015,019
3/4-Methylphenol	T16	AR	0.1	mg/kg	U	015,019
4-Bromophenyl phenylether	T16	AR	0.1	mg/kg	U	015,019
4-Chloro-3-methylphenol	T16	AR	0.1	mg/kg	U	015,019
4-Chloroaniline	T16	AR	0.1	mg/kg	U	015,019
4-Chlorophenyl phenylether	T16	AR	0.1	mg/kg	U	015,019
4-Nitroaniline	T16	AR	0.1	mg/kg	U	015,019
4-Nitrophenol	T16	AR	0.1	mg/kg	U	015,019
Acenaphthene	T16	AR	0.1	mg/kg	U	015,019
Acenaphthylene	T16	AR	0.1	mg/kg	U	015,019
Anthracene	T16	AR	0.1	mg/kg	U	015,019
Azobenzene	T16	AR	0.1	mg/kg	U	015,019
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	U	015,019
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	U	015,019
Benzo(b,k)Fluoranthene	T16	AR	0.1	mg/kg	U	015,019
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	U	015,019
Bis (2-chloroethoxy) methane	T16	AR	0.1	mg/kg	U	015,019
Bis (2-chloroethyl) ether	T16	AR	0.1	mg/kg	U	015,019
Bis (2-chloroisopropyl) ether	T16	AR	0.1	mg/kg	U	015,019
Bis (2-ethylhexyl)phthalate	T16	AR	0.1	mg/kg	U	015,019
Butyl benzylphthalate	T16	AR	0.1	mg/kg	U	015,019
Carbazole	T16	AR	0.1	mg/kg	U	015,019
Chrysene	T16	AR	0.1	mg/kg	U	015,019
Di-n-butylphthalate	T16	AR	0.1	mg/kg	U	015,019
Di-n-octylphthalate	T16	AR	0.1	mg/kg	U	015,019
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	U	015,019
Dibenzofuran	T16	AR	0.1	mg/kg	U	015,019
Diethyl phthalate	T16	AR	0.1	mg/kg	U	015,019
Dimethyl phthalate	T16	AR	0.1	mg/kg	U	015,019
Fluoranthene	T16	AR	0.1	mg/kg	U	015,019
Fluorene	T16	AR	0.1	mg/kg	U	015,019
Hexachlorobenzene	T16	AR	0.1	mg/kg	U	015,019

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Hexachlorobutadiene	T16	AR	0.1	mg/kg	U	015,019
Hexachlorocyclopentadiene	T16	AR	0.1	mg/kg	U	015,019
Hexachloroethane	T16	AR	0.1	mg/kg	U	015,019
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	U	015,019
Isophorone	T16	AR	0.1	mg/kg	U	015,019
Naphthalene	T16	AR	0.1	mg/kg	U	015,019
Nitrobenzene	T16	AR	0.1	mg/kg	U	015,019
Pentachlorophenol	T16	AR	0.1	mg/kg	U	015,019
Phenanthrene	T16	AR	0.1	mg/kg	U	015,019
Phenol	T16	AR	0.1	mg/kg	U	015,019
Pyrene	T16	AR	0.1	mg/kg	U	015,019
Naphthalene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Acenaphthylene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Acenaphthene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Fluorene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Phenanthrene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Anthracene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Fluoranthene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Pyrene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Benzo(a)Anthracene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Chrysene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Benzo(b/k)Fluoranthene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Benzo(a)Pyrene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Indeno(123-cd)Pyrene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Dibenzo(ah)Anthracene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
Benzo(ghi)Perylene	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
PAH(total)	T149	AR	0.01	mg/kg	U	002,005,010,013-014,020-023
1,1,1,2-Tetrachloroethane	T54	AR	0.005	mg/kg	U	019
1,1,1-Trichloroethane	T54	AR	0.005	mg/kg	U	019
1,1,2,2-Tetrachloroethane	T54	AR	0.005	mg/kg	U	019
1,1,2-Trichloroethane	T54	AR	0.005	mg/kg	U	019
1,1,2-Trichloroethylene	T54	AR	0.005	mg/kg	U	019
1,1-Dichloroethane	T54	AR	0.005	mg/kg	U	019
1,1-Dichloroethylene	T54	AR	0.005	mg/kg	U	019
1,1-Dichloropropene	T54	AR	0.005	mg/kg	U	019
1,2,3-Trichloropropane	T54	AR	0.005	mg/kg	U	019
1,2,4-Trimethylbenzene	T54	AR	0.005	mg/kg	U	019
1,2-dibromoethane	T54	AR	0.005	mg/kg	U	019
1,2-Dichlorobenzene	T54	AR	0.005	mg/kg	U	019
1,2-Dichloroethane	T54	AR	0.005	mg/kg	U	019
1,2-Dichloropropane	T54	AR	0.005	mg/kg	U	019
1,3,5-Trimethylbenzene	T54	AR	0.005	mg/kg	U	019
1,3-Dichlorobenzene	T54	AR	0.005	mg/kg	U	019
1,3-Dichloropropane	T54	AR	0.005	mg/kg	U	019
1,4-Dichlorobenzene	T54	AR	0.005	mg/kg	U	019
2,2-Dichloropropane	T54	AR	0.005	mg/kg	U	019
2-Chlorotoluene	T54	AR	0.005	mg/kg	U	019
4-Chlorotoluene	T54	AR	0.005	mg/kg	U	019
Bromobenzene	T54	AR	0.005	mg/kg	U	019
Bromochloromethane	T54	AR	0.005	mg/kg	U	019
Bromodichloromethane	T54	AR	0.005	mg/kg	U	019
Bromoform	T54	AR	0.005	mg/kg	U	019
Bromomethane	T54	AR	0.005	mg/kg	U	019
Carbon tetrachloride	T54	AR	0.005	mg/kg	U	019
Chlorobenzene	T54	AR	0.005	mg/kg	U	019
Chlorodibromomethane	T54	AR	0.005	mg/kg	U	019
Chloroethane	T54	AR	0.005	mg/kg	U	019
Chloroform	T54	AR	0.005	mg/kg	U	019
Chloromethane	T54	AR	0.005	mg/kg	U	019
Cis-1,2-Dichloroethylene	T54	AR	0.005	mg/kg	U	019
Cis-1,3-Dichloropropene	T54	AR	0.005	mg/kg	U	019
Dibromomethane	T54	AR	0.005	mg/kg	U	019
Dichlorodifluoromethane	T54	AR	0.005	mg/kg	U	019
Dichloromethane	T54	AR	0.050	mg/kg	N	019
EthylBenzene	T54	AR	0.001	mg/kg	U	019
Isopropyl benzene	T54	AR	0.005	mg/kg	U	019
n-Propylbenzene	T54	AR	0.005	mg/kg	U	019
p-Isopropyltoluene	T54	AR	0.005	mg/kg	U	019
S-Butylbenzene	T54	AR	0.005	mg/kg	U	019
Styrene	T54	AR	0.005	mg/kg	U	019

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
T-Butylbenzene	T54	AR	0.005	mg/kg	U	019
Tetrachloroethene	T54	AR	0.005	mg/kg	U	019
Toluene	T54	AR	0.001	mg/kg	U	019
Trans-1,2-Dichloroethene	T54	AR	0.005	mg/kg	U	019
Trans-1,3-Dichloropropene	T54	AR	0.005	mg/kg	U	019
Trichlorofluoromethane	T54	AR	0.005	mg/kg	U	019
Vinyl chloride	T54	AR	0.005	mg/kg	U	019





Scientific Analysis Laboratories is a
limited company registered in England and
Wales (No 2514788) whose address is at
Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Hadfield House
Hadfield Street
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Report Number: 327056-1

Date of Report: 29-Apr-2013

Customer: Resource Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Salford
M50 2UE

Customer Contact: Mr Simon Howard

Customer Job Reference: 44808

Customer Site Reference: Former Gateacre High School

Date Job Received at SAL: 25-Apr-2013

Date Analysis Started: 26-Apr-2013

Date Analysis Completed: 29-Apr-2013

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs
All results have been reviewed in accordance with QP22



1549

Report checked
and authorised by :
Mr Ross Walker
Customer Services Manager
(Land)

Issued by :
Mr Ross Walker
Customer Services Manager
(Land)

SAL Reference: 327056 Project Site: Former Gateacre High School Customer Reference: 44808 Leachate Analysed as Water REC TPH Ali/Aro C5-C35					
SAL Reference				327056 001	
Customer Sample Reference				WS103 3.50 (324321/007)	
Date Sampled				04-APR-2013	
Determinand	Method	Test Sample	LOD	Units	
TPH (C5-C6 aliphatic)	T215	10:1	10	µg/l	<10
TPH (C6-C8 aliphatic)	T215	10:1	10	µg/l	<10
TPH (C8-C10 aliphatic)	T215	10:1	10	µg/l	<10
TPH DW(C10-C12 aliphatic)	T81	10:1	10	µg/l	25
TPH DW(C12-C16 aliphatic)	T81	10:1	10	µg/l	71
TPH DW(C16-C21 aliphatic)	T81	10:1	10	µg/l	⁽¹⁰⁰⁾ <20
TPH DW(C21-C35 aliphatic)	T81	10:1	10	µg/l	⁽¹⁰⁰⁾ <20
TPH (Aliphatic) total	T85	10:1		µg/l	90
TPH (C6-C7 aromatic)	T215	10:1	10	µg/l	<10
TPH (C7-C8 aromatic)	T215	10:1	10	µg/l	<10
TPH (C8-C10 aromatic)	T215	10:1	10	µg/l	43
TPH DW(C10-C12 aromatic)	T81	10:1	10	µg/l	150
TPH DW(C12-C16 aromatic)	T81	10:1	10	µg/l	1100
TPH DW(C16-C21 aromatic)	T81	10:1	10	µg/l	200
TPH DW(C21-C35 aromatic)	T81	10:1	10	µg/l	⁽¹⁰⁰⁾ <20
TPH (Aromatic) total	T85	10:1		µg/l	1500
TPH (Aliphatic+Aromatic) (sum)	T85	10:1		µg/l	1600

SAL Reference: 327056 Project Site: Former Gateacre High School Customer Reference: 44808 Leachate Analysed as Water Miscellaneous					
SAL Reference				327056 001	
Customer Sample Reference				WS103 3.50 (324321/007)	
Date Sampled				04-APR-2013	
Determinand	Method	Test Sample	LOD	Units	
Total Organic Carbon	T21	10:1	1000	µg/l	18000

Index to symbols used in 327056-1

Value	Description
10:1	Leachate
100	LOD determined by sample aliquot used for analysis
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T81	GC/FID (LV)
T21	OX/IR
T85	Calc
T215	GC/MS (Headspace)(LV)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Total Organic Carbon	T21	10:1	1000	µg/l	U	001
TPH (C5-C6 aliphatic)	T215	10:1	10	µg/l	N	001
TPH (C6-C8 aliphatic)	T215	10:1	10	µg/l	N	001

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
TPH (C8-C10 aliphatic)	T215	10:1	10	µg/l	N	001
TPH DW(C10-C12 aliphatic)	T81	10:1	10	µg/l	N	001
TPH DW(C12-C16 aliphatic)	T81	10:1	10	µg/l	N	001
TPH DW(C16-C21 aliphatic)	T81	10:1	10	µg/l	N	001
TPH DW(C21-C35 aliphatic)	T81	10:1	10	µg/l	N	001
TPH (Aliphatic) total	T85	10:1		µg/l	N	001
TPH (C6-C7 aromatic)	T215	10:1	10	µg/l	N	001
TPH (C7-C8 aromatic)	T215	10:1	10	µg/l	N	001
TPH (C8-C10 aromatic)	T215	10:1	10	µg/l	N	001
TPH DW(C10-C12 aromatic)	T81	10:1	10	µg/l	N	001
TPH DW(C12-C16 aromatic)	T81	10:1	10	µg/l	N	001
TPH DW(C16-C21 aromatic)	T81	10:1	10	µg/l	N	001
TPH DW(C21-C35 aromatic)	T81	10:1	10	µg/l	N	001
TPH (Aromatic) total	T85	10:1		µg/l	N	001
TPH (Aliphatic+Aromatic) (sum)	T85	10:1		µg/l	N	001



Client: Norwest Holst Soil Engineering Ltd.
Parkside Lane
Dewsbury Road
Leeds
West Yorkshire
LS11 5SX

FAO: Paul Rodgers

Analytical Report Number: R045049

Client project name: Gateacre School, Liverpool

Client project number: F13512

Client order number: F13512

Order receipt date: 24-Nov-2004

Reporting date: 17-Dec-2004

If you have any queries regarding this report please contact our Customer Services Manager

■ ECOS ENVIRONMENTAL
Low Moor Business Park, Common Road, Bradford BD12 0NB
Tel: 01274 691122 - Fax: 01274 608100
www: soil-engineering.co.uk
E-mail: info@ecos.co.uk

A Division of Norwest Holst Soil Engineering Ltd
Registered in England No.980795
Registered Office: Parkside Lane, Dewsbury Road, Leeds LS11 5SX



ECoS ENVIRONMENTAL

Low Moor Business Park, Common Road, Bradford BD12 0NB
Tel: 01274 691122 Fax: 01274 608100 Info@ecos.co.uk

Client project name: Gateacre School, Liverpool Client: Norwest Holst Soil Engineering Ltd.
Project number: F13512 Reporting date: 17-Dec-2004

Comments:

All analyses are carried out using the laboratories standard methods, unless otherwise agreed.
The test results in this report refer only to the actual samples on which testing has been carried out.
Any opinions and/or interpretations expressed herein are outside the scope of the laboratories accreditation.
This test report shall not be reproduced, except in full, without the testing laboratories written approval.
This test laboratory cannot be held responsible for the condition or suitability of samples submitted for testing by a third party or for the competency of personnel other than its own staff.

Soil samples

Results are expressed based on air-dried mass @30°C or less, unless otherwise stated.
Stones (for example inert flints and inorganic materials) >2mm are removed prior to analysis

Results are expressed without correction for recovery factors.

Key

Accreditation:

MCERTS	This test is accredited to the British Standard BS EN ISO/IEC 17025:2000 and the Environment Agency MCERTS for soil standard.
17025	This test is accredited to the British Standard BS EN ISO/IEC 17025:2000
None	This test is currently not on our scope of accreditation

Sample pre-treatment (appended to method of detection):

D =	Air dried @ less than 30°C
R =	As-received

Sample type:

B =	Bulk disturbed sample	P =	Piston sample
C =	Core sample	U =	Undisturbed sample - open drive
D =	Small disturbed sample	W =	Water sample

Sample results:

Test not completed, please see notes on last page

Signed: 

For and on behalf of ECoS Environmental

Approved signatories:

Name	Position
Jack Stoddart	Technical Manager
Paul Richardson	Quality Manager
Elizabeth Dewell	Production Manager
Rob Brown	Customer Services Manager

ECOS ENVIRONMENTAL

Low Moor Business Park, Common Road, Bradford BD12 0NB

Tel: 01274 691122 Fax: 01274 608100 info@ecos.co.uk

Client project name: Gateacre School, Liverpool

Client:

Norwest Holst Soil Engineering Ltd.

Project number: F13512

Reporting date:

17-Dec-2004

Soil/Leachate methods of analysis:

Determinand	Method of detection/Sample preparation	Limit of detection	Accreditation	Sub contracted	Result date
Soil samples :-					
Total Organic Carbon	Colorimetry analysis/D	0.10%	None	No	02/12/2004
BTEX	HS-GC-FID analysis/R	0.1 mg/kg	ISO17025	No	10/12/2004
PCB's (7 congeners)	GC-ECD analysis/D	0.1 mg/kg	None	No	07/12/2004
Mineral Oil	GC-FID analysis/D	0.1 mg/kg	ISO17025	No	10/12/2004
PAH (total)	GC-MS analysis/D	0.1 mg/kg	ISO17025	No	15/12/2004
pH	pH meter/D	N/A	ISO17025	No	03/12/2004
Leachate samples :-					
Arsenic	AAS-Hydride analysis	0.001 mg/l	ISO17025	No	10/12/2004
Barium	ICP-OES analysis	0.01 mg/l	None	No	15/12/2004
Cadmium	GF-AAS analysis	0.0001 mg/l	ISO17025	No	15/12/2004
Chromium	ICP-OES analysis	0.01 mg/l	ISO17025	No	15/12/2004
Copper	ICP-OES analysis	0.01 mg/l	ISO17025	No	15/12/2004
Mercury	AAS-Hydride analysis	0.0001 mg/l	ISO17025	No	02/12/2004
Molybdenum	ICP-OES analysis	0.01 mg/l	None	No	15/12/2004
Nickel	ICP-OES analysis	0.01 mg/l	ISO17025	No	15/12/2004
Lead	ICP-OES analysis	0.03 mg/l	ISO17025	No	15/12/2004
Antimony	ICP-OES analysis	0.01 mg/l	None	No	15/12/2004
Selenium	AAS-Hydride analysis	0.001 mg/l	ISO17025	No	15/12/2004
Zinc	ICP-OES analysis	0.01 mg/l	ISO17025	No	15/12/2004
Chloride	Ion Chromatography analysis	1 mg/l	ISO17025	No	14/12/2004
Fluoride	Ion Chromatography analysis	1 mg/l	None	No	14/12/2004
Sulphate	Ion Chromatography analysis	1 mg/l	ISO17025	No	14/12/2004
Total dissolved solids	Calculation from conductivity analysis	5 mg/l	None	No	02/12/2004
Phenol index	Distillation followed by colorimetric analysis	0.01 mg/l	ISO17025	No	15/12/2004
Dissolved organic carbon	Proprietary LabTOC analyser	0.1 mg/l	None	No	15/12/2004

Preparation of soil samples in accordance with BS12457 falls outside the scope of the testing laboratory's UKAS accreditation.

ECOS ENVIRONMENTAL

Low Moor Business Park, Common Road, Bradford BD12 0NB
Tel: 01274 691122 Fax: 01274 608100 info@ecos.co.uk

Client project name: Gateacre School, Liverpool

Client:

Norwest Holst Soil Engineering Ltd.

Project number: F13512

Reporting date:

17-Dec-2004

BH/TP	TP08	Sample/Leachate preparation details :-	
Top depth (m)	1.10	Mass of laboratory sample used (kg)	1.43
Bottom depth (m)		Preparation details air drying, sieved to 4mm after jaw crushing crushed material was coned and quartered to the correct mass.	
Customer ID	4		
Sample type	B		
Date sampled			
Receipt date	24-Nov-04		
ECoS sample ID	S0446375	Mass of test portion (kg)	0.175
Matrix type	Soil	Moisture Content Ratio (%) of sample	42.25
Parameters for solid waste:-		Date of test for leachate production	25-Nov-04
		Volume of leachant added for first extraction (L)	0.35
		Volume of leachant added for second extraction (L)	1.40
	Units		
Total Organic Carbon	% (w/w)	7.7	
BTEX	mg/kg	<0.1	
PCB's (7 congeners)	mg/kg	<0.1	
Mineral Oil	mg/kg	268.7	
PAH (total)	mg/kg	12.2	
pH	value	7.2	

Immediate measurements of leachate test using BS EN 12457 part 3 : 2002 :-

	Units	L/S = 2	L/S = 8
pH	value	8.03	7.81
Electrical conductivity	µS/cm	2616	1596
Temperature	°C	17.15	16.65

Parameters for compliance leachate test using BS EN 12457 part 3 : 2002 :-

Parameter	Units	L/S = 2	L/S = 8	Units	L/S = 2	L/S = 10
Arsenic	mg/l	0.002	0.001	mg/kg	0.005	0.02
Barium	mg/l	0.04	0.04	mg/kg	0.08	0.40
Cadmium	mg/l	<0.0001	<0.0001	mg/kg	<0.0002	<0.001
Chromium	mg/l	<0.01	<0.01	mg/kg	<0.02	<0.1
Copper	mg/l	<0.01	<0.01	mg/kg	<0.02	<0.1
Mercury	mg/l	<0.0001	0.000	mg/kg	<0.0002	0.00
Molybdenum	mg/l	<0.01	0.03	mg/kg	<0.02	0.25
Nickel	mg/l	0.01	0.01	mg/kg	0.02	0.10
Lead	mg/l	<0.03	<0.03	mg/kg	<0.06	<0.3
Antimony	mg/l	<0.01	<0.01	mg/kg	<0.02	<0.1
Selenium	mg/l	<0.001	<0.001	mg/kg	<0.002	<0.01
Zinc	mg/l	0.11	<0.01	mg/kg	0.22	0.19
Chloride	mg/l	7	1	mg/kg	14	20
Fluoride	mg/l	<1	<1	mg/kg	<2	<10
Sulfate	mg/l	1524	771	mg/kg	3048	9001
Total dissolved solids	mg/l	1261	767	mg/kg	2522	8517
Phenol index	mg/l	0.13	0.02	mg/kg	0.26	0.39
Dissolved Organic Carbon	mg/l	12	2	mg/kg	24	37

ECoS ENVIRONMENTAL

Low Moor Business Park, Common Road, Bradford BD12 0NB
Tel: 01274 891122 Fax: 01274 608100 info@ecos.co.uk

Client project name: Gateacre School, Liverpool

Client:

Norwest Holst Soil Engineering Ltd.

Project number: F13512

Reporting date: 17-Dec-2004

BH/TP	TP08	Sample/Leachate preparation details :-	
Top depth (m)	3.1	Mass of laboratory sample used (kg)	1.17
Bottom depth (m)	0	Preparation details	air drying, sieved to 4mm after jaw crushing crushed material was coned and quartered to the correct mass.
Customer ID	8		
Sample type	B		
Date sampled		Mass of test portion (kg)	0.175
Receipt date	24-Nov-04		
ECoS sample ID	S0446377	Moisture Content Ratio (%) of sample	28.3
Matrix type	Soil	Date of test for leachate production	25-Nov-04
Parameters for solid waste:-		Volume of leachant added for first extraction (L)	0.35
	Units	Volume of leachant added for second extraction (L)	1.40
Total Organic Carbon	% (w/w)		
BTEX	mg/kg		
PCB's (7 congeners)	mg/kg		
Mineral Oil	mg/kg		
PAH (total)	mg/kg		
pH	value		

Immediate measurements of leachate test using BS EN 12457 part 3 : 2002 :-

	Units	L/S = 2	L/S = 8
pH	value	7.90	7.69
Electrical conductivity	µS/cm	2958	2375
Temperature	°C	16.85	16.65

Parameters for compliance leachate test using BS EN 12457 part 3 : 2002 :-

Parameter	Units	L/S = 2	L/S = 8	Units	L/S = 2	L/S = 10
Arsenic	mg/l	0.002	0.002	mg/kg	0.005	0.02
Barium	mg/l	0.04	0.06	mg/kg	0.08	0.57
Cadmium	mg/l	<0.0001	<0.0001	mg/kg	<0.0002	<0.001
Chromium	mg/l	<0.01	<0.01	mg/kg	<0.02	<0.1
Copper	mg/l	<0.01	<0.01	mg/kg	<0.02	<0.1
Mercury	mg/l	0.000	0.001	mg/kg	0.00	0.01
Molybdenum	mg/l	<0.01	<0.01	mg/kg	<0.02	<0.1
Nickel	mg/l	0.03	0.02	mg/kg	0.06	0.22
Lead	mg/l	<0.03	<0.03	mg/kg	<0.06	<0.3
Antimony	mg/l	<0.01	<0.01	mg/kg	<0.02	<0.1
Selenium	mg/l	<0.001	<0.001	mg/kg	<0.002	<0.01
Zinc	mg/l	0.20	0.12	mg/kg	0.400	1.34
Chloride	mg/l	6	1	mg/kg	12	19
Fluoride	mg/l	<1	<1	mg/kg	<2	<10
Sulfate	mg/l	1900	1488	mg/kg	3800	15586
Total dissolved solids	mg/l	1423	1155	mg/kg	2846	12009
Phenol index	mg/l	0.21	0.26	mg/kg	0.42	2.51
Dissolved Organic Carbon	mg/l	19	4	mg/kg	39	64

ECOS ENVIRONMENTAL

Low Moor Business Park, Common Road, Bradford BD12 0NB
Tel: 01274 691122 Fax: 01274 608100 info@ecos.co.uk

Client project name: Gateacre School, Liverpool

Client:

Norwest Holst Soil Engineering Ltd.

Project number: F13512

Reporting date:

17-Dec-2004

Notes and preservation details :-

None

ECOS



Client: Norwest Holst Soil Engineering Limited
Parkside Lane
Dewsbury Road
LEEDS
West Yorkshire
LS11 5SX

FAO: Mr S Kirk

Analytical Report Number: R04/5011

Client Project Name:	Gateacre School, Liverpool
Client Project Number:	F13512
Your Order Number:	None Specified
Order Receipt Date:	22/11/04
Reporting Date:	Monday 13 December 2004

If you have any queries regarding this report please contact our Customer Services Manager

R04/5011 : Page 1 of 7

■ **ECOS ENVIRONMENTAL**
Low Moor Business Park, Common Road, Bradford BD12 0NB
Tel: 01274 691122 - Fax: 01274 608100
www: soil-engineering.co.uk
E-mail: info@ecos.co.uk

A Division of Norwest Holst Soil Engineering Ltd
Registered in England No.980795
Registered Office: Parkside Lane, Dewsbury Road, Leeds LS11 5SX



AGS

ASSOCIATION OF
GEO-TECHNICAL
SPECIALISTS





ECoS Environmental
Low Moor Business Park,
Common Road, Bradford BD12 8ND
Tel: 01274 691122 Fax: 01274 608100

Client Project Name: Gateacre School, Liverpool
Project Number: F13512

Client: Norwest Holst Soil Engineering Limited
Reporting Date: Monday 13 December 2004

Comments

All analyses are carried out using the laboratory's standard methods unless otherwise agreed.
The test results in this report refer only to the actual samples on which testing has been performed.
Any opinions and/or interpretations expressed herein are outside the scope of the testing laboratory's UKAS accreditation.
The test report shall not be reproduced, except in full, without the testing laboratory's written approval.
This testing laboratory cannot be held responsible for the condition or suitability of samples submitted for testing by a third party or for the competency of personnel other than its own staff.

Soil Samples

Results are expressed based on air dried mass @ 30°C unless otherwise stated.
See key in Notes section for explanation of numerical categories for asbestos results, if applicable
Stones (for example inert flints and inorganic minerals) >10mm are removed prior to analysis. Unless otherwise stated, results have not been corrected for this loss.
Samples submitted for leachate determination were prepared using agreed procedures and analysed using UKAS accredited methodology where appropriate.
Results are expressed without correction for recovery factors.

Key:

Accreditation:

MCERTS = This test is accredited to the British Standard BS EN ISO/IEC 17025:2000 and the Environment Agency MCEFTS for soil standard.
17025 = This test is accredited to the British Standard BS EN ISO/IEC 17025:2000.
None = This test is currently not on our scope of accreditation.

Sample Pretreatment (Appended to Method of Detection)

= Air Dried @ 30°C R = As Received

Sample Type

B = Bulk disturbed sample P = Piston sample
C = Core Sample U = Undisturbed sample - open drive
D = Small disturbed sample W = Water Sample

Sample Results

Analysis not requested
*** Test not completed. Please see notes on last page

Signed: _____

For and on behalf of ECoS Environmental

Approved signatories:

Name	Position
J R Brown	Customer Services Manager
E Dewell	Production Manager
P Richardson	Quality Manager
J Stoddart	Technical Manager



EC&S Environmental

Low Moor Business Park,
Common Road, Bradford BD12 8ND
Tel: 01274 691122 Fax: 01274 608100

Client Project Name: Gateacre School, Liverpool

Project Number: F13512

Client: Norwest Holst Soil Engineering Limited

Reporting Date: Monday 13 December 2004

Soil Samples

Method Statement

Determinand	Method of Detection	Sample Pretreatment	Limit of Detection	Accreditation	Sub-Contracted	Result Date
Arsenic	ICP-OES	D	1.0 mg/kg	17025	No	02/12/04
Boron (water soluble)	ICP-OES	D	0.5 mg/kg	17025	No	03/12/04
Cadmium	ICP-OES	D	0.2 mg/kg	17025	No	02/12/04
Chromium (total)	ICP-OES	D	0.2 mg/kg	17025	No	02/12/04
Lead	ICP-OES	D	0.5 mg/kg	17025	No	02/12/04
Mercury	ICP-OES	D	0.1 mg/kg	17025	No	02/12/04
Selenium	ICP-OES	D	0.1 mg/kg	17025	No	04/12/04
Vanadium	ICP-OES	D	0.2 mg/kg	None	No	02/12/04
Copper	ICP-OES	D	0.2 mg/kg	17025	No	02/12/04
Nickel	ICP-OES	D	0.2 mg/kg	17025	No	02/12/04
Zinc	ICP-OES	D	0.2 mg/kg	17025	No	02/12/04
TPH	GC-FID	D	0.1 mg/kg	17025	No	06/12/04
Cyanide (free)	Colorimetry	R	2.0 mg/kg	17025	No	01/12/04
Sulphate (water soluble)	HPLC-IC	D	0.001 g/l SO ₄	17025	No	08/12/04
Sulphide	Colorimetry	R	2.0 mg/kg	17025	No	01/12/04
Sulphur (total)	ICP-OES	D	10 mg/kg	17025	No	02/12/04
pH	pH-meter	D	N/A	17025	No	02/12/04
Nitrate	HPLC-IC	D	2.0 mg/kg	None	No	08/12/04
PAH (total)	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Naphthalene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Acenaphthylene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Acenaphthene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Fluorene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Phenanthrene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Anthracene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Fluoranthene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Pyrene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Benzo(a)anthracene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Chrysene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Benzo(b)fluoranthene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Benzo(k)fluoranthene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Benzo(a)pyrene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Indeno(1,2,3-cd)pyrene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Dibenz(a,h)anthracene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Benzo(g,h,i)perylene	GC-MS	D	0.1 mg/kg	17025	No	09/12/04
Resorcinol	HPLC-EC	R	0.1 mg/kg	17025	No	10/12/04
Catechol	HPLC-EC	R	0.1 mg/kg	17025	No	10/12/04
Phenol	HPLC-EC	R	0.1 mg/kg	17025	No	10/12/04
Cresols	HPLC-EC	R	0.1 mg/kg	17025	No	10/12/04
Xylenols	HPLC-EC	R	0.1 mg/kg	17025	No	10/12/04
Napthol	HPLC-EC	R	0.1 mg/kg	17025	No	10/12/04
Trimethylphenol	HPLC-EC	R	0.1 mg/kg	17025	No	10/12/04



ECoS Environmental

Low Moor Business Park,
Common Road, Bradford BD12 8ND
Tel: 01274 691122 Fax: 01274 608100

Client Project Name: Gateacre School, Liverpool

Project Number: F13512

Client: Norwest Holst Soil Engineering Limited

Reporting Date: Monday 13 December 2004

Determinand	Method of Detection	Sample Pretreatment	Limit of Detection	Accreditation	Sub-Contracted	Result Date
Phenols (total)	HPLC-EC	R	0.1 mg/kg	17025	No	10/12/04
PCB 28	GC-ECD	D	0.1 mg/kg	None	No	06/12/04
PCB 52	GC-ECD	D	0.1 mg/kg	None	No	06/12/04
PCB 101	GC-ECD	D	0.1 mg/kg	None	No	06/12/04
PCB 118	GC-ECD	D	0.1 mg/kg	None	No	06/12/04
PCB 138	GC-ECD	D	0.1 mg/kg	None	No	06/12/04
PCB 153	GC-ECD	D	0.1 mg/kg	None	No	06/12/04
CB 180	GC-ECD	D	0.1 mg/kg	None	No	06/12/04

The Asbestos analysis in this report was sub-contracted to a laboratory holding UKAS accreditation for Asbestos identification.



ECoS Environmental

Low Moor Business Park,
Common Road, Bradford BD12 8ND
Tel: 01274 691122 Fax: 01274 608100

Client Project Name: Gateacre School, Liverpool

Project Number: F13512

Client: Norwest Holst Soil Engineering Limited

Reporting Date: Monday 13 December 2004

BH/TP		TP3	TP7	TP9	TP12
Top Depth / m		0.30	2.80	2.00	1.20
Bottom Depth / m					
Customer ID		003	008	005	003
Sample Type					
Date Sampled					
Receipt Date					
ECoS Sample ID		S0445944	S0445945	S0445946	S0445947
Matrix Type		Soil	Soil	Soil	Soil
Determinand	Units				
Arsenic	mg/kg	<1.0	137.9 *	<1.0	77.6 *
Boron (water soluble)	mg/kg	<0.5	4.9	<0.5	<0.5
Cadmium	mg/kg	<0.2	<0.2	<0.2	1.3
Chromium (total)	mg/kg	9.5	53.6	7.0	29.9
Lead	mg/kg	27.2	753.2	16.6	354.7
Mercury	mg/kg	0.1	0.9	0.1	0.5
Selenium	mg/kg	0.2	0.5	<0.1	2.4
Vanadium	mg/kg	26.1	129.0	18.3	63.0
Copper	mg/kg	12.1	494.2 *	5.8	855.3 *
Nickel	mg/kg	9.6	179.7	4.2	77.8
Zinc	mg/kg	34.0	533.6	14.5	374.8
TPH * Check PPM by	mg/kg	16.3	530.4 *	2.7	235.7
Cyanide (free)	mg/kg	<2.0	<2.0	<2.0	<2.0
Sulphate (water soluble)	g/l SO4	0.011	2.233	0.072	0.180
Sulphide	mg/kg	<2.0	22.9	<2.0	<2.0
Sulphur (total)	mg/kg	111	11874	127	1051
pH	N/A	5.7	7.4	6.9	7.5
Nitrate	mg/kg	17.4	70.9	2.1	72.7
PAH (total)	mg/kg	<0.1	5.1	<0.1	2.9
Naphthalene	mg/kg	<0.1	0.3	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	0.9	<0.1	0.4
Anthracene	mg/kg	<0.1	0.2	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	1.6	<0.1	0.9
Pyrene	mg/kg	<0.1	1.2	<0.1	0.8
Benzo(a)anthracene	mg/kg	<0.1	0.4	<0.1	0.4
Chrysene	mg/kg	<0.1	0.5	<0.1	0.3
Benzo(b)fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	<0.1	<0.1	<0.1



ECoS Environmental

Low Moor Business Park,
Common Road, Bradford BD12 8ND
Tel: 01274 691122 Fax: 01274 608100

Client Project Name: Gateacre School, Liverpool

Project Number: F13512

Client: Norwest Holst Soil Engineering Limited

Reporting Date: Monday 13 December 2004

BH/TP		TP3	TP7	TP9	TP12
Top Depth / m		0.30	2.80	2.00	1.20
Bottom Depth / m					
Customer ID		003	008	005	003
Sample Type					
Date Sampled					
Receipt Date					
ECoS Sample ID		S0445944	S0445945	S0445946	S0445947
Matrix Type		Soil	Soil	Soil	Soil
Determinand	Units				
Resorcinol	mg/kg	<0.1	<0.1	<0.1	<0.1
Catechol	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenol	mg/kg	<0.1	<0.1	<0.1	<0.1
Cresols	mg/kg	<0.1	<0.1	<0.1	<0.1
Xylenols	mg/kg	<0.1	<0.1	<0.1	<0.1
Napthol	mg/kg	<0.1	<0.1	<0.1	<0.1
Trimethylphenol	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenols (total)	mg/kg	<0.1	<0.1	<0.1	<0.1
PCB 28	mg/kg	<0.1	<0.1	<0.1	<0.1
PCB 52	mg/kg	<0.1	<0.1	<0.1	<0.1
PCB 101	mg/kg	<0.1	<0.1	<0.1	<0.1
PCB 118	mg/kg	<0.1	<0.1	<0.1	<0.1
PCB 138	mg/kg	<0.1	<0.1	<0.1	<0.1
PCB 153	mg/kg	<0.1	<0.1	<0.1	<0.1
PCB 180	mg/kg	<0.1	<0.1	<0.1	<0.1
Chrysotile (white)	Category	ND	ND	ND	ND
Amosite (brown)	Category	ND	ND	ND	ND
Eriondolite (blue)	Category	ND	ND	ND	ND
Anthrophyllite	Category	ND	ND	ND	ND
Actinolite	Category	ND	ND	ND	ND
Tremolite	Category	ND	ND	ND	ND



ECOS Environmental

Low Moor Business Park,
Common Road, Bradford BD12 8ND
Tel: 01274 691122 Fax: 01274 608100

Client Project Name: Gateacre School, Liverpool

Project Number: F13512

Client: Norwest Holst Soil Engineering Limited

Reporting Date: Monday 13 December 2004

Notes and Preservation Details

ASBESTOS BULK MATERIAL ANALYSIS

Samples analysed using polarised light optical microscopy with dispersion staining in accordance with a documented in-house procedure based on HSE Method MDHS 77 - Asbestos in Bulk Materials.

KEY TO ASBESTOS RESULTS

The standard analytical method used for asbestos identification cannot give an accurate quantitative value for percentage asbestos content. The following numerical categories however may be used to assess the approximate quantity of asbestos present in the sample as submitted to the laboratory:

- ND - No fibres detected (based on a detection limit of 0.01% by volume)
- 1 - Fibres detected - greater than 0.01% but less than 2% by volume
- 2 - Fibres detected - greater than 2% but less than 50% by volume
- 3 - Fibres detected - more than 50% by volume
- P - Non - asbestos fibres present

Quantitative estimates, to which the above numerical categories apply, are outside the scope of the laboratory's UKAS accreditation which covers asbestos identification only.

ECAS REPORT NO. 180512221										Gower School, F18031									
DATE ISSUED 18/06/05										THIS IS AN INTERIM REPORT ONLY. FURTHER RESULTS TO FOLLOW ON COMPLETION OF DEPENDENT OPTIONS**									
SAMPLE ID REF E51-4										TP1									
SAMPLE TYPE										TP2									
DATE SAMPLED										TP3									
RECEIPT DATE										TP4									
OUR REF S0512225										TP5									
MATERIAL										TP6									
										TP7									
										TP8									
										TP9									
										TP10									
										TP11									
										TP12									
										TP13									
										TP14									
										TP15									
										TP16									
										TP17									
										TP18									
										TP19									
										TP20									
										TP21									
										TP22									
										TP23									
										TP24									
										TP25									
										TP26									
										TP27									
										TP28									
										TP29									
										TP30									
										TP31									
										TP32									
										TP33									
										TP34									
										TP35									
										TP36									
										TP37									
										TP38									
										TP39									
										TP40									
										TP41									
										TP42									
										TP43									
										TP44									
										TP45									
										TP46									
										TP47									
										TP48									
										TP49									
										TP50									
										TP51									
										TP52									
										TP53									
										TP54									
										TP55									
										TP56									
										TP57									
										TP58									
										TP59									
										TP60									
										TP61									
										TP62									
										TP63									
										TP64									
										TP65									
										TP66									
										TP67									
										TP68									
										TP69									
										TP70									
										TP71									
										TP72									
										TP73									
										TP74									
										TP75									
										TP76									
										TP77									
										TP78									
										TP79									
										TP80									
										TP81									
										TP82									
										TP83									
										TP84									
										TP85									
										TP86									
										TP87									
										TP88									
										TP89									
										TP90									
										TP91									
										TP92									
										TP93									
										TP94									
										TP95									
										TP96									
										TP97									
										TP98									
										TP99									
										TP100									
										TP101									
										TP102									
										TP103									
										TP104									
										TP105									
										TP106									
										TP107									
										TP108									
										TP109									
										TP110									
										TP111									
										TP112									
										TP113									
										TP114									
										TP115									
										TP116									
										TP117									
										TP118									
										TP119									
										TP120									
										TP121									
										TP122									
										TP123									
										TP124									
										TP125									
										TP126									
										TP127									
										TP128									
										TP129									
										TP130									
										TP131									
										TP132									
										TP133									
										TP134									
										TP135									
										TP136									
										TP137									
										TP138									
										TP139									
										TP140									
										TP141									
										TP142									
										TP143									
										TP144									
										TP145									
										TP146									
										TP147									
										TP148									
										TP149									
										TP150									
										TP151									
										TP152									
										TP153									
										TP154									
										TP155									
										TP156									
										TP157									
										TP158									
										TP159									
										TP160									
										TP161									
										TP162									
										TP163									
										TP164									
										TP165									
										TP166									
										TP167									
										TP168									
										TP169									
										TP170									
										TP171									
										TP172									
										TP173									
										TP174									
										TP175									
										TP176									
										TP177									
										TP178									
										TP179									
										TP180									
										TP181									
										TP182									
										TP183									
										TP184									
										TP185									
										TP186									
										TP187									
										TP188									
										TP189									
										TP190									
										TP191									
										TP192									
										TP193									
										TP194									
										TP195									
										TP196									
										TP197									
										TP198									
										TP199									
										TP200									
										TP201									
										TP202									
										TP203									
										TP204									
										TP205									
										TP206									
										TP207									
										TP208									
										TP209									
										TP210									
										TP211									
										TP212									
										TP213									
										TP214									
										TP215									
										TP216									
										TP217									
										TP218									
										TP219									
										TP220									
										TP221									
										TP222									
										TP223									
										TP224									
										TP225									
										TP226									
										TP227									
										TP228									
										TP229									
										TP230									
										TP231									
										TP232									
										TP233									
										TP234									
										TP235									
										TP236									
										TP237									
										TP238									
										TP239									
										TP240									
										TP241									
										TP242									
										TP243									
										TP244									
										TP245									
										TP246									
										TP247									
										TP248									
										TP249									
										TP250									
										TP251									
										TP252									
										TP253									
										TP254									
										TP255									
										TP256									
										TP257									
										TP258									
										TP259									
										TP260									
										TP261									
										TP262									
										TP263									
										TP264									
										TP265									
										TP266									
										TP267									
										TP268									
										TP269									
										TP270									
										TP271									
										TP272									
										TP273									
										TP274									
										TP275									
										TP276									
										TP277									
										TP278									
										TP279									
										TP280									
										TP281									
										TP282									
										TP283									
										TP284									
										TP285									
										TP286									
										TP287									
										TP288									
										TP289									
										TP290									
										TP291									
										TP292									
										TP293									
										TP294									
										TP295									
										TP296									
										TP297									
										TP298									
										TP299									
										TP300									
										TP301									
										TP302									
										TP303									
										TP304									
										TP305									
										TP306									
										TP307									
										TP308									
										TP309									
										TP310									
										TP311									
										TP312									
										TP313									
										TP314									
										TP315									
										TP316									
										TP317									
										TP318									
										TP319									
										TP320									
										TP321									
										TP322									
										TP323									
										TP324									
										TP325									
										TP326									
										TP327									
										TP328									
										TP329									
										TP330									
										TP331									
										TP332									
										TP333									
										TP334									
										TP335									
										TP336									
										TP337									
										TP338									
										TP339									
										TP340									
										TP341									
										TP342									
										TP343									
										TP344									
										TP345									
										TP346									
										TP347									
										TP348									
										TP349									
										TP350									
										TP351									
										TP352									
										TP353									
										TP354									
										TP355									
										TP356									
										TP357									
										TP358									
										TP359									
										TP360									
										TP361									
										TP362									
										TP363									
										TP364									
										TP365									
										TP366									
										TP367									
										TP368									
										TP369									
										TP370									
										TP371									
										TP372									
										TP373									
										TP374									
										TP375									
										TP376									
										TP377									
										TP378									
										TP379									
										TP380									
										TP381									
										TP382									
										TP383									
										TP384									
										TP385									
										TP386									
										TP387									
										TP388									
										TP389									
										TP390									
										TP391									
										TP392									
										TP393									
										TP394									
										TP395									
										TP396									
										TP397									
										TP398									
										TP399									
										TP400									
										TP401									
										TP402									
										TP403									
										TP404									
										TP405									
										TP406									
										TP407									
										TP408									
										TP409									
										TP410									
										TP411									
										TP412									
										TP413									
										TP414									
										TP415									
										TP416									
										TP417									
										TP418									
										TP419									
										TP420									
										TP421									
										TP422									
										TP423									
										TP424									
										TP425									
										TP426									
										TP427									
										TP428									
										TP429									
										TP430									
										TP431									
										TP432									
										TP433									
										TP434									
										TP435									
										TP436									
										TP437									
										TP438									
										TP439									
										TP440									
										TP441									
										TP442									
										TP443									
										TP444									
										TP445									
										TP446									
										TP447									
										TP448									
										TP449									
										TP450									
										TP451									
										TP452									
										TP453									
										TP454									
										TP455									
										TP456									
										TP457									
										TP458									
										TP459									
										TP460									
										TP461									
										TP462									
										TP463									
										TP464									
										TP465									
										TP466									
										TP467									
										TP468									
										TP469									
										TP470									
										TP471									
										TP472									
										TP473									
										TP474									
										TP475									
										TP476									
										TP477									
										TP478									
										TP479									
										TP480									
										TP481									
										TP482									
										TP483									
										TP484									
										TP485									
										TP486									
										TP487									
										TP488									
										TP489									
										TP490									
										TP491									
										TP492									
										TP493									
										TP494									



Norwest Holst Soil Engineering Ltd
Parkside Lane
Dewsbury Road
Leeds
LS11 5SX

ATTN: Nicholas Dewell

CERTIFICATE OF ANALYSIS

Date: 24 November, 2005
Our Reference: 05/16055/02/01
Your Reference: F14221
Location: GATEACRE SCHOOL

A total of 22 samples was received for analysis on Saturday, 29 October 2005 and completed on Monday, 21 November 2005. 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.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials- whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Signed

Diane Whittlestone
Environmental Chemist
Analytical Services

Compiled By

Jon Hutchinson



ALcontrol Geochem TEST SCHEDULE

JOB NUMBER : 05/16055/02

CLIENT : Norwest Holst Soil Engineering Ltd

CONTACT : Nicholas Dewell

DATE OF RECEIPT : 29/10/05

LOCATION : GATEACRE SCHOOL

BATCH NUMBER : 1

CLIENT REF/CODE : F14221

ORDER NUMBER : STC/0120

TURNAROUND : 10 days

Numeric values indicate
additional scheduling

* Indicates test subcontracted

Sample Number	Sample Identity	P / V	Depth (m)	Sample Type	ISO 17025 Accredited ?		Metals ICP. 9 (S)	Boron Water Soluble (S)	Chromium VI (S)	Cyanide Total (S)	Cyanide Free (S)	Thiocyanate (S)	Sulphate Total (S)	Sulphur Total (S)	Sulphide Acid Soluble (S)	pH (S)	Phenols Total HPLC (S)	PAH Spec MS (S)	C6-40 (Band 2) EZ (S)	EPH CWG GC (S)	GRO CWG GC (S)	Take Volatile (S)	Dry + Crush (S)	NRA Leach	Metals ICP-MS 9 (NRA)	Mercury (NRA) (CVAA)	Chromium VI (NRA)	Cyanide Total (NRA)	Cyanide Free (NRA)	Thiocyanate (NRA)	
1	TP18 ES01	1 kg	0.25	SOIL			X	X					X	X	X	X	X	X	X												X
2	TP18 ES01	TUB	0.25	SOIL			X	X					X	X	X	X	X	X	X			2									X
3	TP18 ES03	1 kg	1.30	SOIL			X	X					X	X	X	X	X	X	X			2									X
4	TP18 ES03	TUB	1.30	SOIL			X	X					X	X	X	X	X	X	X			2									X
5	TP19 ES01	1 kg	0.25	SOIL			X	X					X	X	X	X	X	X	X												X
6	TP19 ES01	TUB	0.25	SOIL			X	X					X	X	X	X	X	X	X												X
7	TP19 ES02	1 kg	1.00	SOIL			X	X					X	X	X	X	X	X	X												X
8	TP19 ES02	TUB	1.00	SOIL			X	X					X	X	X	X	X	X	X												X
9	TP20 ES03	1 kg	1.00	SOIL			X	X					X	X	X	X	X	X	X												X
10	TP20 ES03	TUB	1.00	SOIL			X	X					X	X	X	X	X	X	X			2									X
11	TP21 ES02	1 kg	1.00	SOIL			X	X					X	X	X	X	X	X	X			2									X
12	TP21 ES02	TUB	1.00	SOIL			X	X					X	X	X	X	X	X	X			2									X
13	TP22 ES01	1 kg	0.25	SOIL			X	X					X	X	X	X	X	X	X												X
14	TP22 ES01	TUB	0.25	SOIL			X	X					X	X	X	X	X	X	X												X
15	TP22 ES03	1 kg	1.40	SOIL			X	X					X	X	X	X	X	X	X												X
16	TP22 ES03	TUB	1.40	SOIL			X	X					X	X	X	X	X	X	X												X
17	TP23 ES02	1 kg	1.00	SOIL			X	X					X	X	X	X	X	X	X												X
18	TP23 ES02	TUB	1.00	SOIL			X	X					X	X	X	X	X	X	X												X
19	TP23 ES04	1 kg	2.00	SOIL			X	X					X	X	X	X	X	X	X												X
20	TP23 ES04	TUB	2.00	SOIL			X	X					X	X	X	X	X	X	X												X
21	TP24 ES02	1 kg	0.90	SOIL			X	X					X	X	X	X	X	X	X												X

24/11/05 14:42

ALcontrol Geochem TEST SCHEDULE

JOB NUMBER : 05/16055/02

BATCH NUMBER : 1

CLIENT : Norwest Holst Soil Engineering Ltd CLIENT REF/CODE : F14221

CONTACT : Nicholas Dewell

ORDER NUMBER : STC/0120

DATE OF RECEIPT : 29/10/05

TURNAROUND : 10 days

LOCATION : GATEACRE SCHOOL

Numeric values indicate
additional scheduling
* Indicates test subcontracted

Sample Number	Sample Identity	P / V	Depth (m)	Sample Type	ISO 17025 Accredited ?															
					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	TP18 ES01	1 kg	0.25	SOIL																
2	TP18 ES01	TUB	0.25	SOIL																
3	TP18 ES03	1 kg	1.30	SOIL																
4	TP18 ES03	TUB	1.30	SOIL																
5	TP19 ES01	1 kg	0.25	SOIL																
6	TP19 ES01	TUB	0.25	SOIL																
7	TP19 ES02	1 kg	1.00	SOIL																
8	TP19 ES02	TUB	1.00	SOIL																
9	TP20 ES03	1 kg	1.00	SOIL																
10	TP20 ES03	TUB	1.00	SOIL																
11	TP21 ES02	1 kg	1.00	SOIL																
12	TP21 ES02	TUB	1.00	SOIL																
13	TP22 ES01	1 kg	0.25	SOIL																
14	TP22 ES01	TUB	0.25	SOIL																
15	TP22 ES03	1 kg	1.40	SOIL																
16	TP22 ES03	TUB	1.40	SOIL																
17	TP23 ES02	1 kg	1.00	SOIL																
18	TP23 ES02	TUB	1.00	SOIL																
19	TP23 ES04	1 kg	2.00	SOIL																
20	TP23 ES04	TUB	2.00	SOIL																
21	TP24 ES02	1 kg	0.90	SOIL																

24/11/05 14:42

Matrix [Units] : NRA-LEACH [ug/l]

☒

ISO 17025 accredited
M MCERTS accredited
* Subcontracted test
» Shown on prev. report

Matrix: SOLID

Location: GATECRE SCHOOL

Client Contact: Nicholas Dewell

All results expressed on a dry weight basis.

Date 24.11.2005

- # ISO 17025 accredited
- M MCERTS accredited
- * Subcontracted test
- » Shown on prev. report

Client Contact: Nicholas Dewell

[illegible]

Page 13 of 23

☒

☐ Yes ☐ No ☐ Don't know	☐ Yes ☐ No ☐ Don't know
--	--

» Shown on prev. report

Client Contact: Nicholas Dewell

All results expressed on a dry weight basis.

Date 24.11.2005

390 mg/kg = Date _____
 39 mg/kg / (0.54)

Job Number: 05/16055/02/01

Matrix: LEACHATE

Client: Norwest Holst Soil Engineering Ltd

Location: GATEACRE SCHOOL

Client Ref. No.: F14221

Client Contact: Nicholas Dewell

[illegible]

Date 24.11.2005

165 mg/l.

Table Of Results - Appendix

05/16055/02/01

Norwest Holst Soil Engineering Ltd

F14221

Report Key :

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03×10^{-7}

* Subcontracted test

» Result previously reported (Incremental reports only)

M MCERTS Accredited

EC Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control.

Summary of Method Codes contained within report :

[illegible]

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

APPENDIX VIII
ORIGIN OF TIER I VALUES

ORIGIN OF REC TIER I VALUES

Constituent	Origin of Risk Assessment Value
Arsenic	2009 SGV
Cadmium	LQM CIEH 2 nd Edition 2009
Chromium	LQM CIEH 2 nd Edition 2009
Lead	Residential Half 2003 EA SGV based on planned target blood lead level reduction to 5µg/l. Commercial Calculated using commercial exposure equation within lead SGV 2003 with revised input data from HPA and taking proposed blood lead levels into account.
Mercury	2009 SGV
Nickel	2009 SGV
Selenium	Soil guideline value, DEFRA/Environment Agency
Copper	LQM CIEH 2 nd Edition 2009
Zinc	LQM CIEH 2 nd Edition 2009
Cyanide - Total	CLEA 1.06 Derived Value
Phenols - Total.	LQM CIEH 2 nd Edition 2009 – 1% SOM
Naphthalene	General Assessment Criteria (GAC) developed by CIEH / LQM the using CLEA 1-06 with supporting data from SR3, SR7 and existing Tox report where applicable. 1% SOM
Acenaphthylene	
Acenaphthene	
Fluorene	
Phenanthrene	
Anthracene	
Fluoranthene	
Pyrene	
Benzo(a)Anthracene ⁽ⁱ⁾	
Chrysene	
Benzo(b/k)Fluoranthene ⁽ⁱⁱⁱ⁾	
Benzo(a)Pyrene	
Indeno(123-cd)Pyrene	
Dibenzo(a,h)Anthracene	
Benzo(ghi)Perylene	
TPH C ₅ -C ₆ (aliphatic)	
TPH C ₆ -C ₈ (aliphatic)	
TPH C ₈ -C ₁₀ (aliphatic)	
TPH C ₁₀ -C ₁₂ (aliphatic)	
TPH C ₁₂ -C ₁₆ (aromatic)	
TPH C ₁₆ -C ₂₁ (aromatic)	
TPH C ₂₁ -C ₃₅ (aromatic)	

APPENDIX IX
GEOTECHNICAL TESTING RESULTS



LABORATORY REPORT



4043

Contract Number: PSL13/1170

Client's Reference:

Report Date: 19 April 2013

Client Name: REC Resource & Environmental Consultants Ltd
Osprey House
Pacific Quay
Broadway
Manchester
M50 2UE

For the attention of: Simon Howard

Contract Title: Former Gateacre High School, Liverpool

Date Received: 10/4/2013

Date Commenced: 10/4/2013

Date Completed: 19/4/2013

Notes: Observations and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

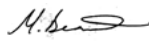
R Gunson
(Director)

A Watkins
(Director)


M Beastall
(Laboratory Manager)

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Depth m	Description of Sample
TP101		B	1.50	Reddish brown gravelly very silty SAND.
TP103		B	2.00	MADE GROUND reddish brown sandy slightly silty gravel with cobbles.
TP104		B	0.80	Brown very gravelly clayey silty SAND.
TP105		B	2.00	MADE GROUND dark brown very sandy silty gravel.
TP115		B	3.50	Reddish brown very sandy slightly silty GRAVEL.
TP128		B	2.50	MADE GROUND dark brown silty SAND AND GRAVEL.
TP129		B	4.00	MADE GROUND dark brown very sandy slightly clayey silty gravel.
TP132		B	0.60	Brown very gravelly silty SAND.
TP134		B	1.70	Reddish brown very sandy silty SAND.
TP140		B	1.00	Reddish brown very gravelly silty SAND.
TP144		B	1.00	Reddish brown sandy slightly silty GRAVEL with cobbles.

 Professional Soils Laboratory	Compiled by	Date	Checked by	Date	Approved by	Date
		19/04/13		19/04/13		19/04/13
	FORMER GATEACRE HIGH SCHOOL, LIVERPOOL.				Contract No:	PSL13/1170
					Client Ref:	44808/13/268/sh

Particle Size Distribution Test

BS1377 : Part 2 : 1990

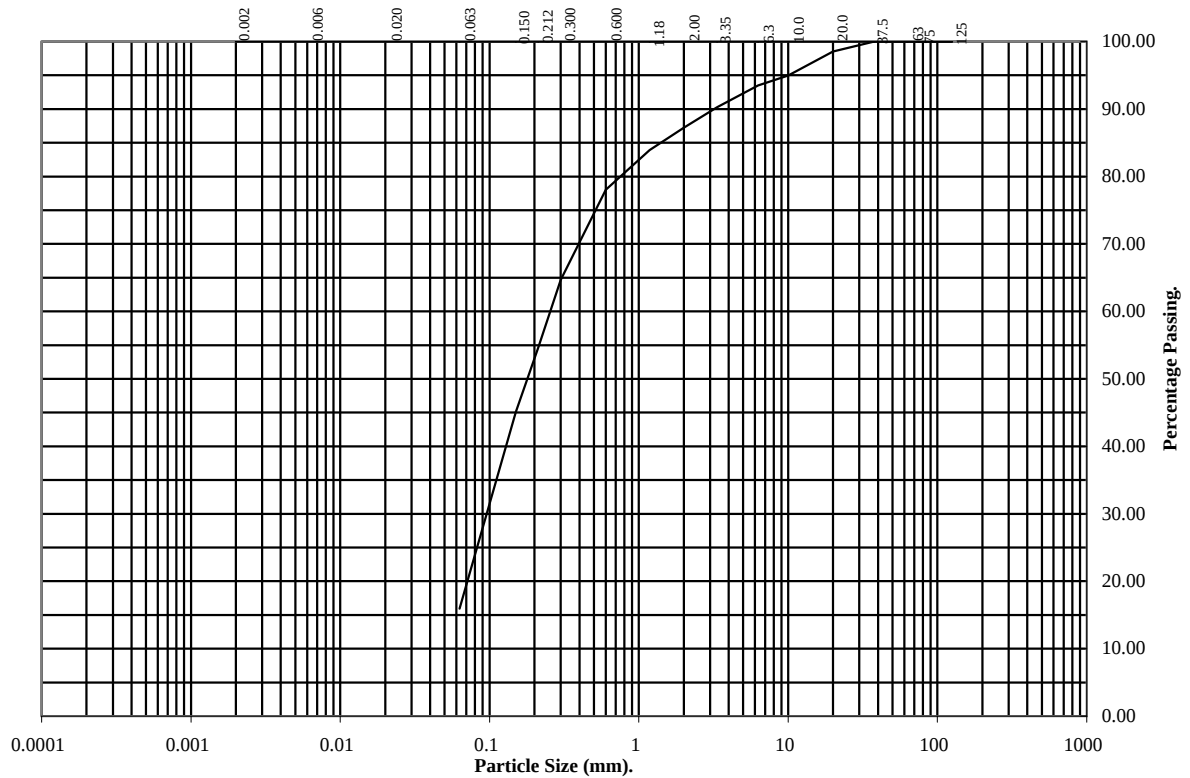
Wet Sieve, Clause 9.2

Hole Number: TP101

Depth (m): 1.50

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	99
10	95
6.3	94
3.35	90
2	87
1.18	84
0.6	78
0.3	65
0.212	55
0.15	45
0.063	16

Soil Fraction	Total Percentage
Cobbles	0
Gravel	13
Sand	71
Silt / Clay	16

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. S.</i>	19/04/13	<i>H. S.</i>	19/04/13

PSL
Professional Soils Laboratory

FORMER GATEACRE HIGH SCHOOL,
LIVERPOOL.

Contract No.:
PSL13/1170

Particle Size Distribution Test

BS1377 : Part 2 : 1990

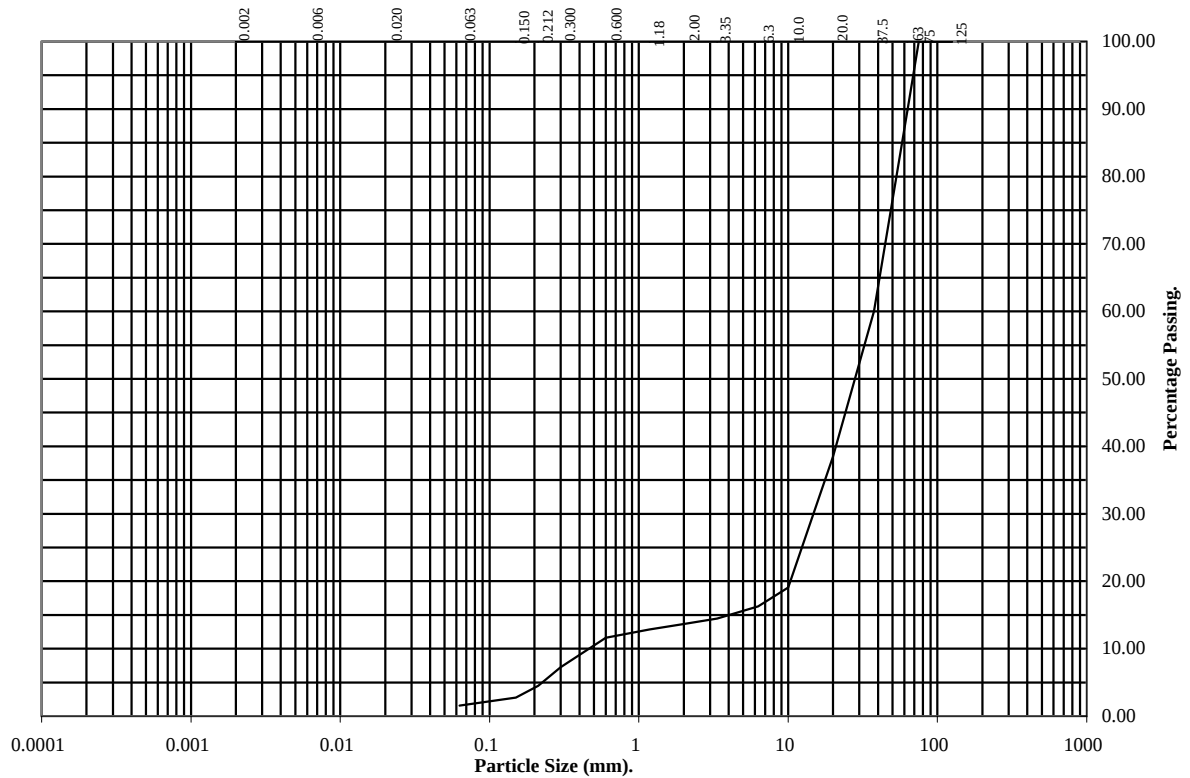
Wet Sieve, Clause 9.2

Hole Number: TP103

Depth (m): 2.00

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	90
37.5	60
20	38
10	19
6.3	16
3.35	14
2	14
1.18	13
0.6	12
0.3	7
0.212	5
0.15	3
0.063	2

Soil Fraction	Total Percentage
Cobbles	10
Gravel	76
Sand	12
Silt / Clay	2

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. Jones</i>	19/04/13	<i>H. Jones</i>	19/04/13

PSL Professional Soils Laboratory	FORMER GATEACRE HIGH SCHOOL, LIVERPOOL.	Contract No.: PSL13/1170
---	--	-----------------------------

Particle Size Distribution Test

BS1377 : Part 2 : 1990

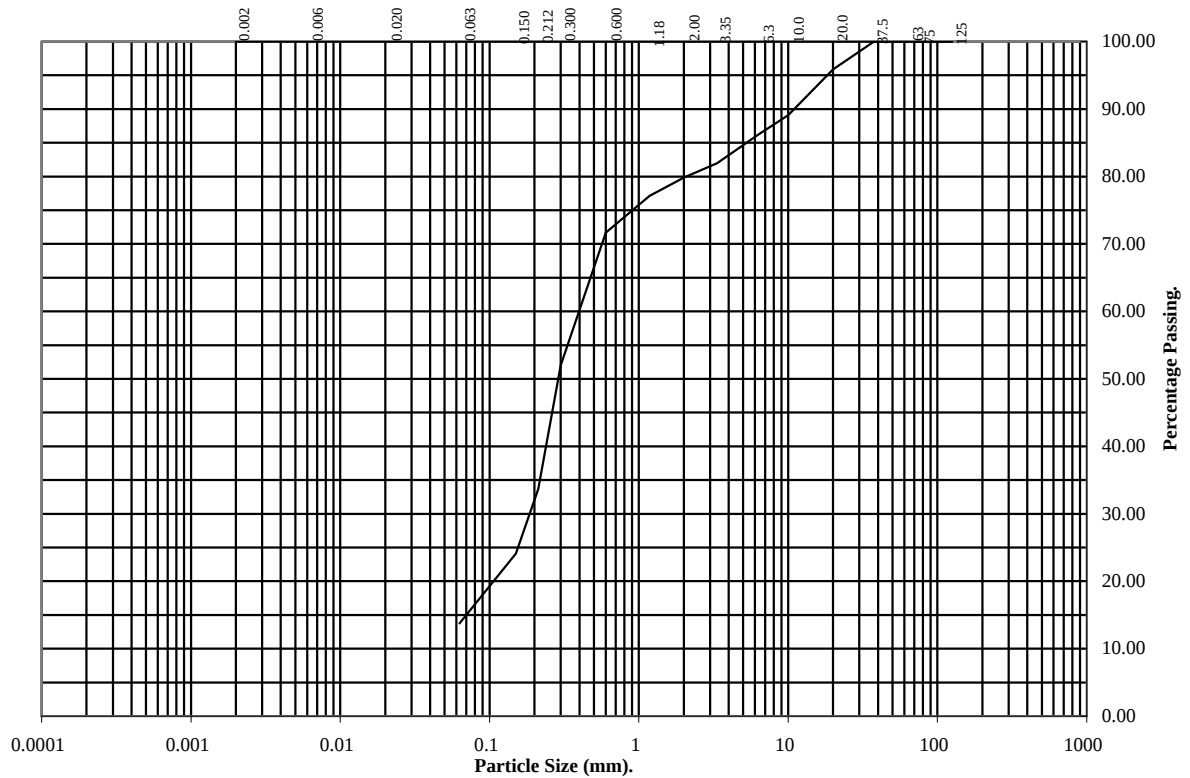
Wet Sieve, Clause 9.2

Hole Number: TP104

Depth (m): 0.80

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	96
10	89
6.3	86
3.35	82
2	80
1.18	77
0.6	72
0.3	52
0.212	34
0.15	24
0.063	14

Soil Fraction	Total Percentage
Cobbles	0
Gravel	20
Sand	66
Silt / Clay	14

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. S.</i>	19/04/13	<i>H. S.</i>	19/04/13

PSL Professional Soils Laboratory	FORMER GATEACRE HIGH SCHOOL, LIVERPOOL.	Contract No.: PSL13/1170
---	--	-----------------------------

Particle Size Distribution Test

BS1377 : Part 2 : 1990

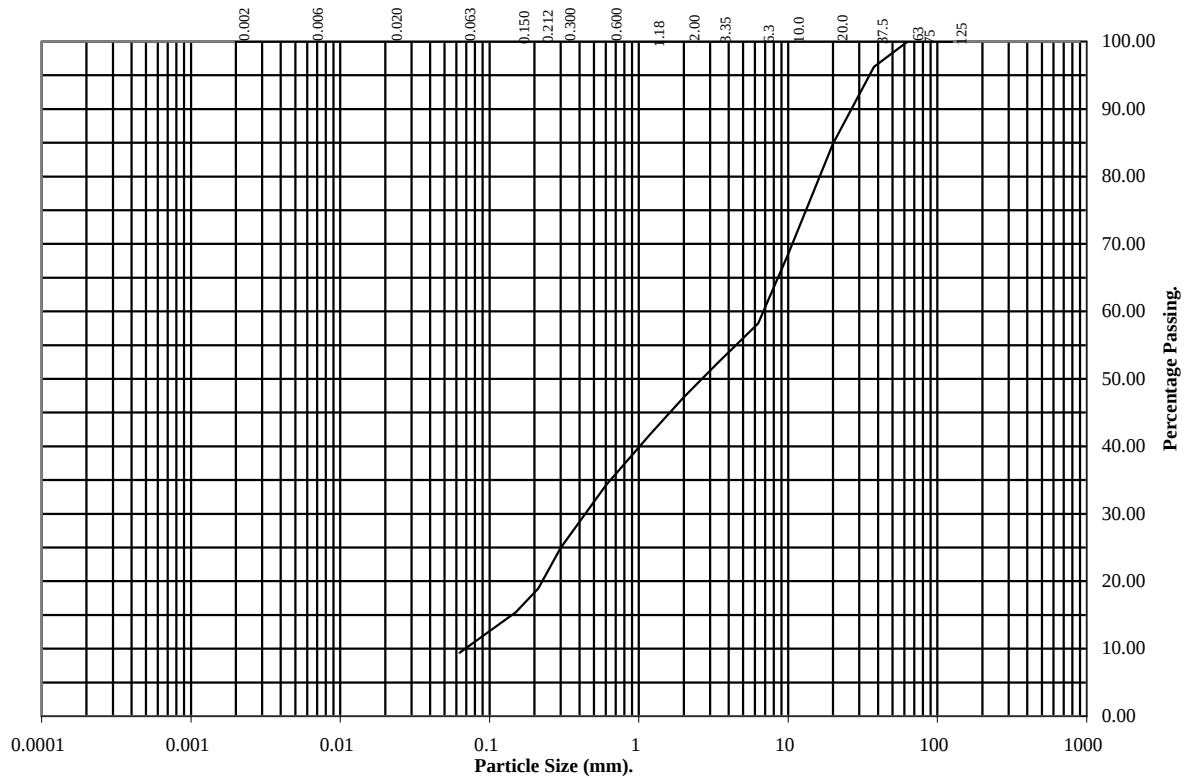
Wet Sieve, Clause 9.2

Hole Number: TP105

Depth (m): 2.00

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	96
20	85
10	68
6.3	58
3.35	52
2	47
1.18	42
0.6	34
0.3	25
0.212	19
0.15	15
0.063	9

Soil Fraction	Total Percentage
Cobbles	0
Gravel	53
Sand	38
Silt / Clay	9

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. S.</i>	19/04/13	<i>H. S.</i>	19/04/13

PSL
Professional Soils Laboratory

FORMER GATEACRE HIGH SCHOOL,
LIVERPOOL.

Contract No.:
PSL13/1170

Particle Size Distribution Test

BS1377 : Part 2 : 1990

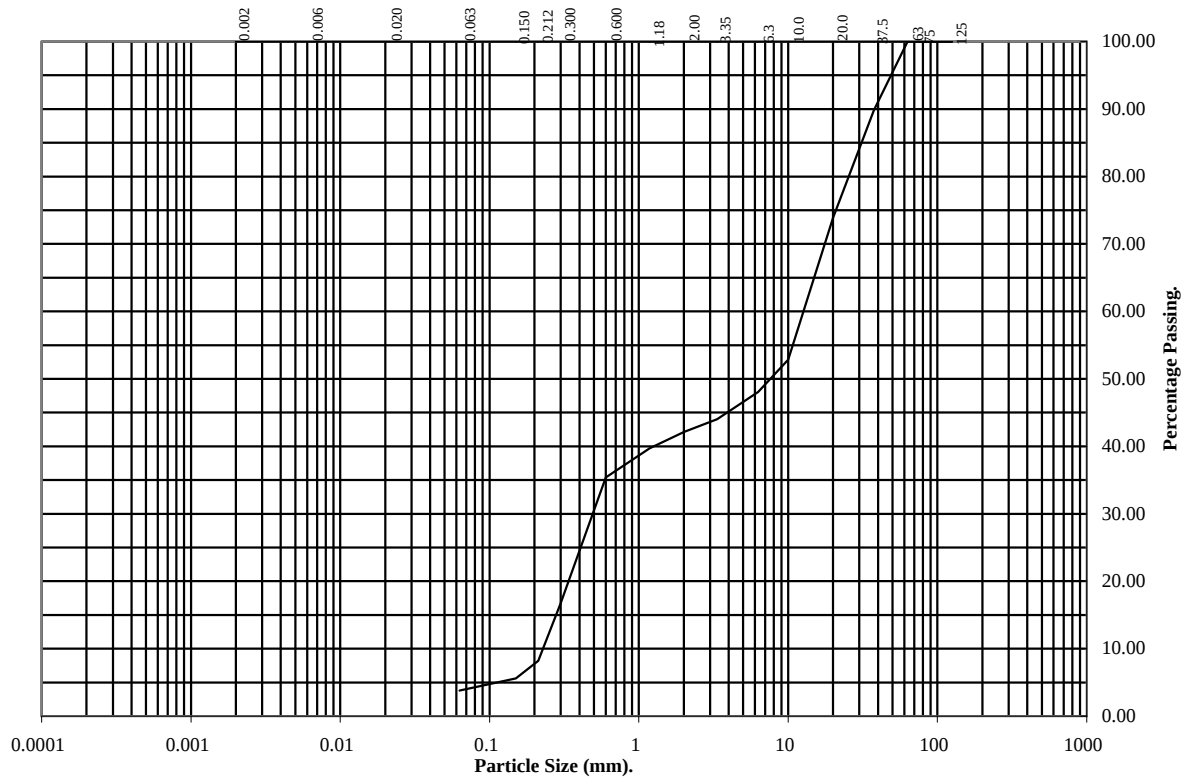
Wet Sieve, Clause 9.2

Hole Number: TP115

Depth (m): 3.50

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	90
20	74
10	53
6.3	48
3.35	44
2	42
1.18	40
0.6	35
0.3	17
0.212	8
0.15	6
0.063	4

Soil Fraction	Total Percentage
Cobbles	0
Gravel	58
Sand	38
Silt / Clay	4

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. S.</i>	19/04/13	<i>H. S.</i>	19/04/13

PSL Professional Soils Laboratory	FORMER GATEACRE HIGH SCHOOL, LIVERPOOL.	Contract No.: PSL13/1170
---	--	-----------------------------

Particle Size Distribution Test

BS1377 : Part 2 : 1990

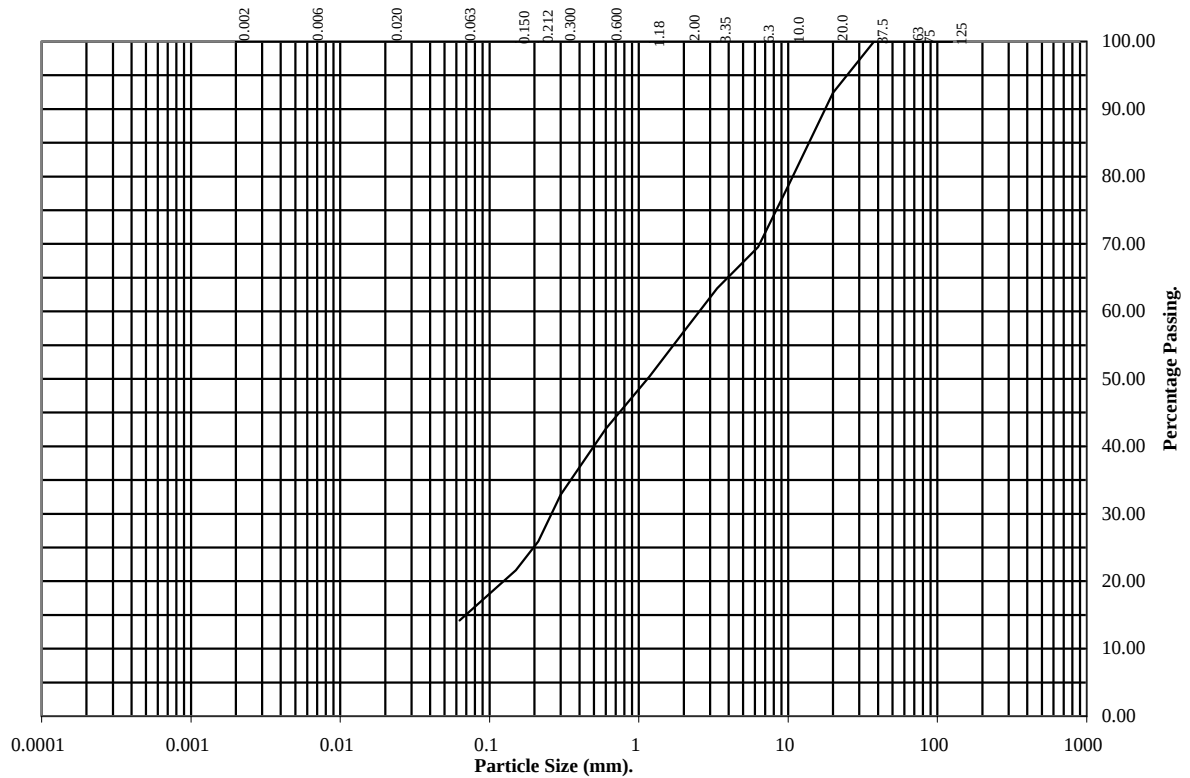
Wet Sieve, Clause 9.2

Hole Number: TP128

Depth (m): 2.50

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	92
10	79
6.3	70
3.35	63
2	57
1.18	50
0.6	43
0.3	33
0.212	26
0.15	22
0.063	14

Soil Fraction	Total Percentage
Cobbles	0
Gravel	43
Sand	43
Silt / Clay	14

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. S.</i>	19/04/13	<i>H. S.</i>	19/04/13

PSL Professional Soils Laboratory	FORMER GATEACRE HIGH SCHOOL, LIVERPOOL.	Contract No.: PSL13/1170
---	--	-----------------------------

Particle Size Distribution Test

BS1377 : Part 2 : 1990

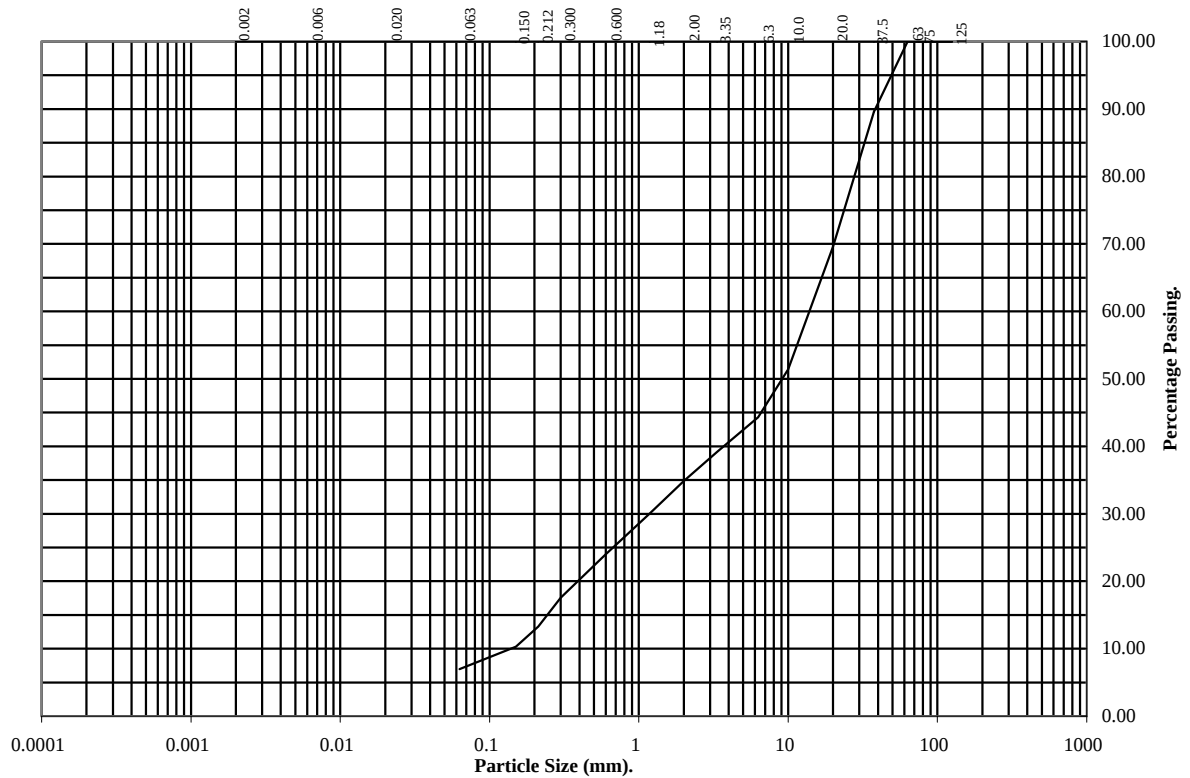
Wet Sieve, Clause 9.2

Hole Number: TP129

Depth (m): 4.00

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	90
20	70
10	51
6.3	44
3.35	39
2	35
1.18	30
0.6	24
0.3	18
0.212	13
0.15	10
0.063	7

Soil Fraction	Total Percentage
Cobbles	0
Gravel	65
Sand	28
Silt / Clay	7

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. S.</i>	19/04/13	<i>H. S.</i>	19/04/13

PSL
Professional Soils Laboratory

FORMER GATEACRE HIGH SCHOOL,
LIVERPOOL.

Contract No.:
PSL13/1170

Particle Size Distribution Test

BS1377 : Part 2 : 1990

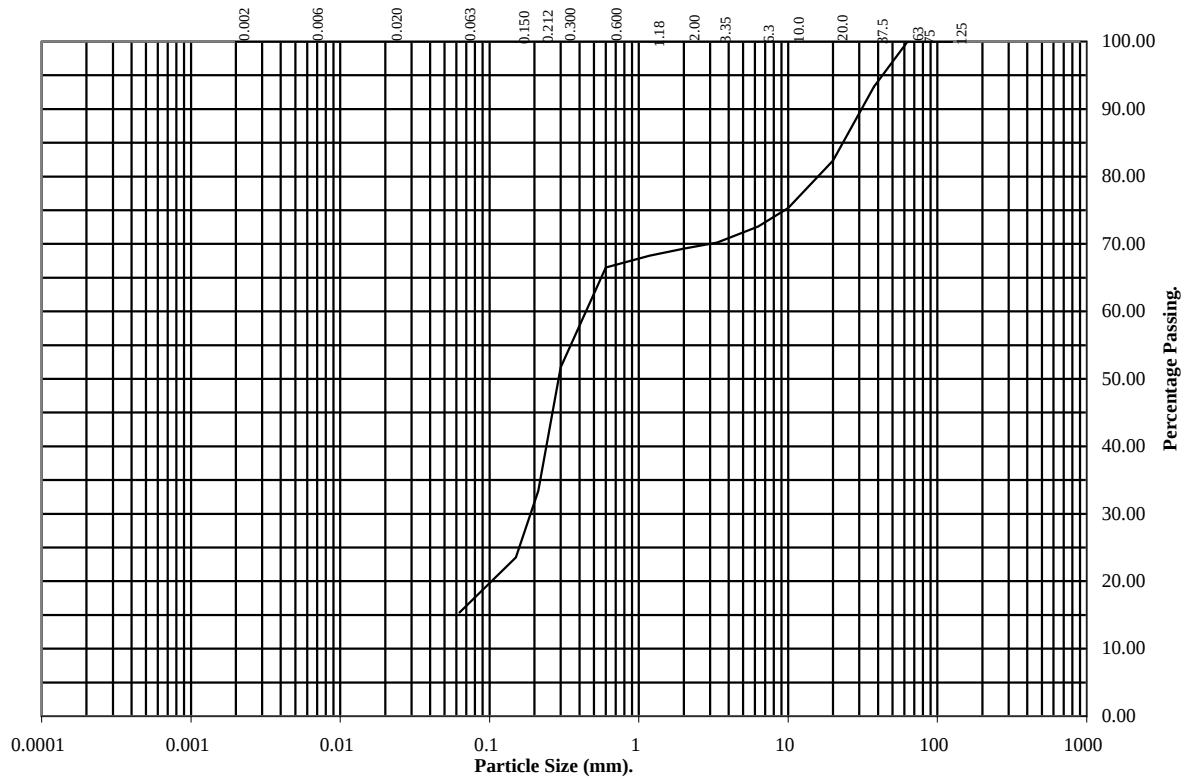
Wet Sieve, Clause 9.2

Hole Number: TP132

Depth (m): 0.60

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	93
20	82
10	75
6.3	73
3.35	70
2	69
1.18	68
0.6	67
0.3	52
0.212	33
0.15	24
0.063	15

Soil Fraction	Total Percentage
Cobbles	0
Gravel	31
Sand	54
Silt / Clay	15

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. S.</i>	19/04/13	<i>H. S.</i>	19/04/13

PSL
Professional Soils Laboratory

FORMER GATEACRE HIGH SCHOOL,
LIVERPOOL.

Contract No.:
PSL13/1170

Particle Size Distribution Test

BS1377 : Part 2 : 1990

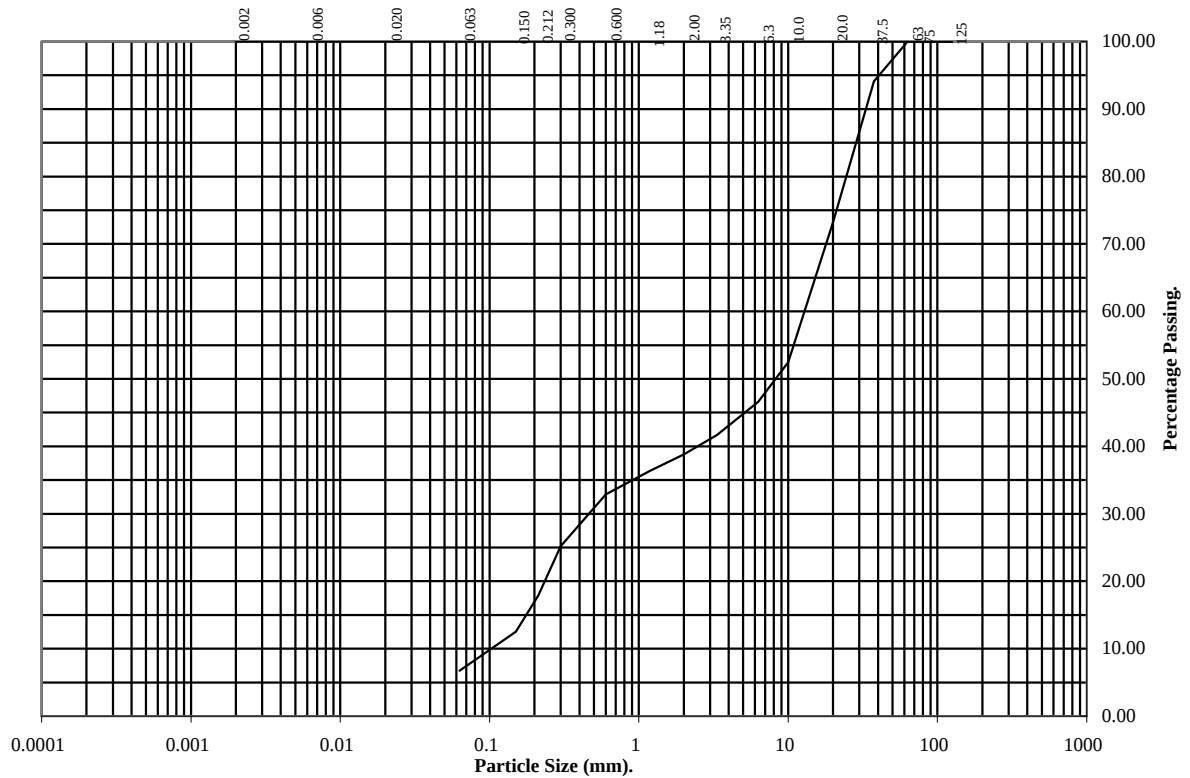
Wet Sieve, Clause 9.2

Hole Number: TP134

Depth (m): 1.70

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	94
20	73
10	52
6.3	47
3.35	42
2	39
1.18	36
0.6	33
0.3	25
0.212	18
0.15	13
0.063	7

Soil Fraction	Total Percentage
Cobbles	0
Gravel	61
Sand	32
Silt / Clay	7

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. S.</i>	19/04/13	<i>H. S.</i>	19/04/13

PSL
Professional Soils Laboratory

FORMER GATEACRE HIGH SCHOOL,
LIVERPOOL.

Contract No.:
PSL13/1170

Particle Size Distribution Test

BS1377 : Part 2 : 1990

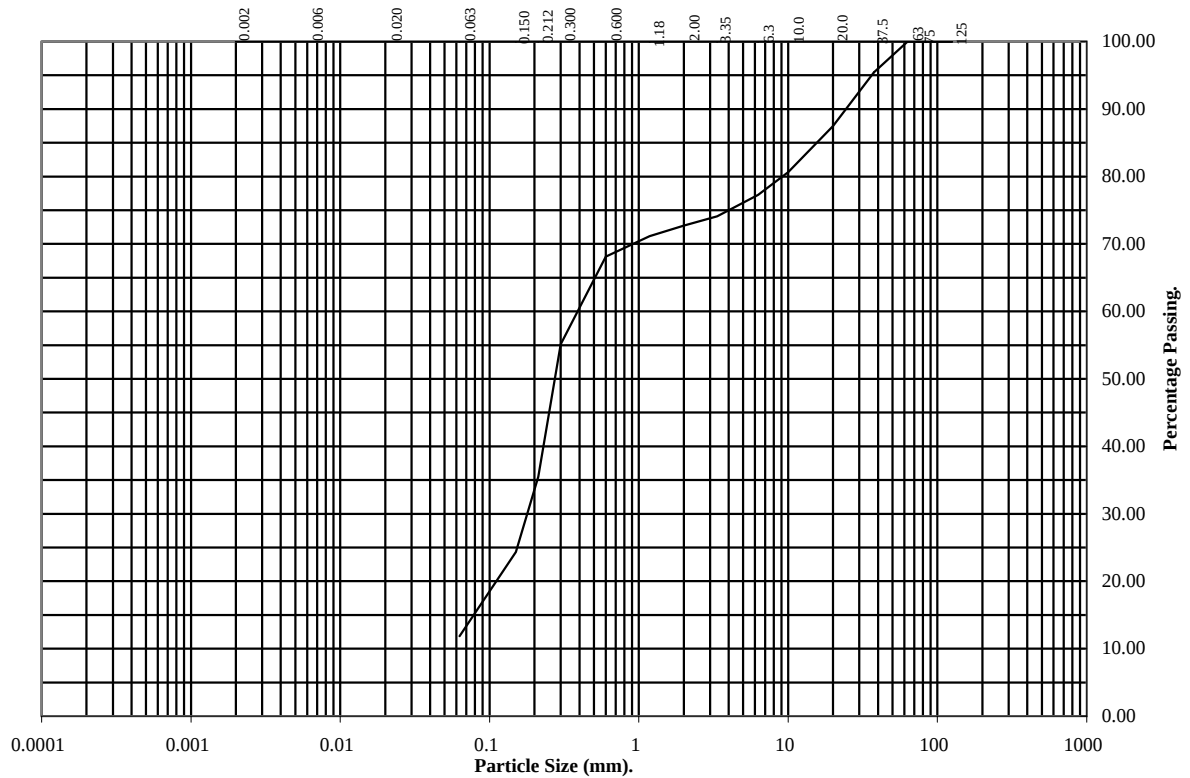
Wet Sieve, Clause 9.2

Hole Number: TP140

Depth (m): 1.00

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	95
20	87
10	81
6.3	77
3.35	74
2	73
1.18	71
0.6	68
0.3	55
0.212	36
0.15	24
0.063	12

Soil Fraction	Total Percentage
Cobbles	0
Gravel	27
Sand	61
Silt / Clay	12

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. S.</i>	19/04/13	<i>H. S.</i>	19/04/13

PSL Professional Soils Laboratory	FORMER GATEACRE HIGH SCHOOL, LIVERPOOL.	Contract No.: PSL13/1170
---	--	-----------------------------

Particle Size Distribution Test

BS1377 : Part 2 : 1990

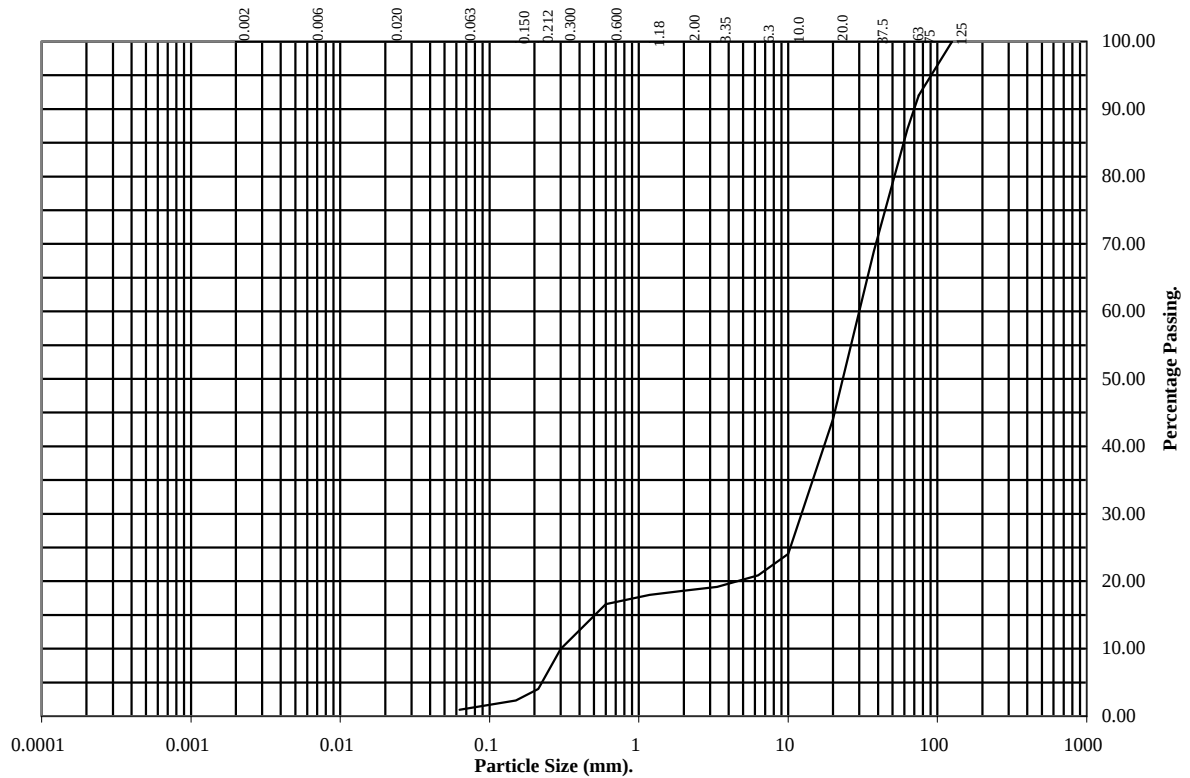
Wet Sieve, Clause 9.2

Hole Number: TP144

Depth (m): 1.00

Sample Number:

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	92
63	87
37.5	69
20	44
10	24
6.3	21
3.35	19
2	19
1.18	18
0.6	17
0.3	10
0.212	4
0.15	2
0.063	1

Soil Fraction	Total Percentage
Cobbles	13
Gravel	68
Sand	18
Silt / Clay	1

Remarks:

See summary of soil descriptions.

Checked By	Date	Approved By	Date
<i>H. S.</i>	19/04/13	<i>H. S.</i>	19/04/13

PSL
Professional Soils Laboratory

FORMER GATEACRE HIGH SCHOOL,
LIVERPOOL.

Contract No.:
PSL13/1170

Falling Head Test**Borehole: WS104****Test No: 1**

Contract No: 44808

Casing Diameter: (m)

0.05

Contract Title: Gateacre High School

Height of Casing:

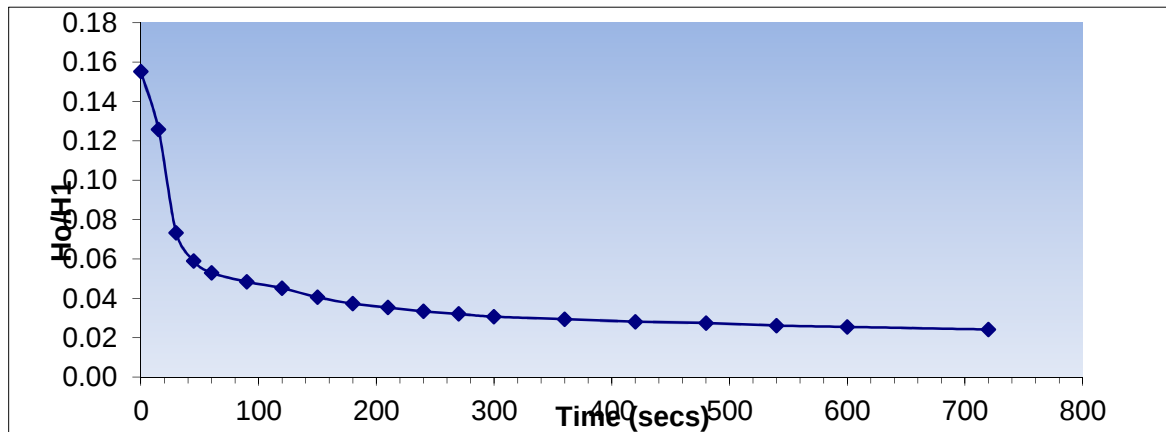
0

Date of Test: 17/04/2013

Depth of Borehole: (m)

1.53

Recorded Time			Total Time (secs)	Depth (m)		H/Ho
Hours	Minutes	Seconds				
0	0	0	0	1.29	0	0.1552
0	0	15	15	1.335	15	0.1257
0	0	30	30	1.415	30	0.0733
0	0	45	45	1.437	45	0.0589
0	1	0	60	1.446	60	0.0530
0	1	30	90	1.453	90	0.0485
0	2	0	120	1.458	120	0.0452
0	2	30	150	1.465	150	0.0406
0	3	0	180	1.47	180	0.0373
0	3	30	210	1.473	210	0.0354
0	4	0	240	1.476	240	0.0334
0	4	30	270	1.478	270	0.0321
0	5	0	300	1.48	300	0.0308
0	6	0	360	1.482	360	0.0295
0	7	0	420	1.484	420	0.0282
0	8	0	480	1.485	480	0.0275
0	9	0	540	1.487	540	0.0262
0	10	0	600	1.488	600	0.0255
0	12	0	720	1.49	720	0.0242



General Approach

 k = permeability of soil F = Intake Factor (figures 6 & 7, BS5930:1999) H_1 = variable head measured at time t_1 after commencement of test H_2 = variable head measured at time t_2 after commencement of test A = Cross sectional area of borehole casing or standpipe as appropriate.

$$k = \frac{A}{F(t_2 - t_1)} \log_e \frac{H_1}{H_2}$$

$$H_1 = 0.0589$$

$$H_2 = 0.0255$$

$$t_1 = 45$$

$$t_2 = 600$$

$$F = 0.1375$$

 $A = 0.00196349 \text{ m}^2$ **Coefficient of Permeability, $k = 0.000162 \text{ m/s}$**

Falling Head Test**Borehole: WS117****Test No: 1**

Contract No: 44808

Casing Diameter: (m)

0.05

Contract Title: Gateacre High School

Height of Casing:

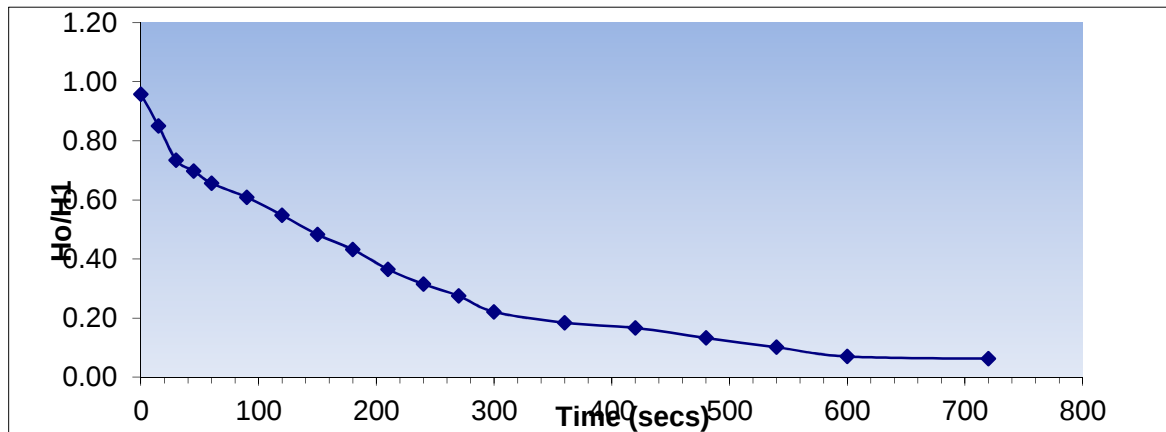
0

Date of Test: 17/04/2013

Depth of Borehole: (m)

1.03

Recorded Time			Total Time (secs)	Depth (m)		H/Ho
Hours	Minutes	Seconds				
0	0	0	0	0.043	0	0.9580
0	0	15	15	0.153	15	0.8507
0	0	30	30	0.272	30	0.7346
0	0	45	45	0.31	45	0.6976
0	1	0	60	0.352	60	0.6566
0	1	30	90	0.401	90	0.6088
0	2	0	120	0.463	120	0.5483
0	2	30	150	0.53	150	0.4829
0	3	0	180	0.582	180	0.4322
0	3	30	210	0.651	210	0.3649
0	4	0	240	0.702	240	0.3151
0	4	30	270	0.743	270	0.2751
0	5	0	300	0.798	300	0.2215
0	6	0	360	0.836	360	0.1844
0	7	0	420	0.854	420	0.1668
0	8	0	480	0.889	480	0.1327
0	9	0	540	0.921	540	0.1015
0	10	0	600	0.953	600	0.0702
0	12	0	720	0.961	720	0.0624



General Approach

k = permeability of soil

F = Intake Factor (figures 6 & 7, BS5930:1999)

H₁ = variable head measured at time t₁ after commencement of testH₂ = variable head measured at time t₂ after commencement of test

A = Cross sectional area of borehole casing or standpipe as appropriate.

$$k = \frac{A}{F(t_2 - t_1)} \log_e \frac{H_1}{H_2}$$

$$H_1 = 0.6976$$

$$H_2 = 0.0624$$

$$t_1 = 45$$

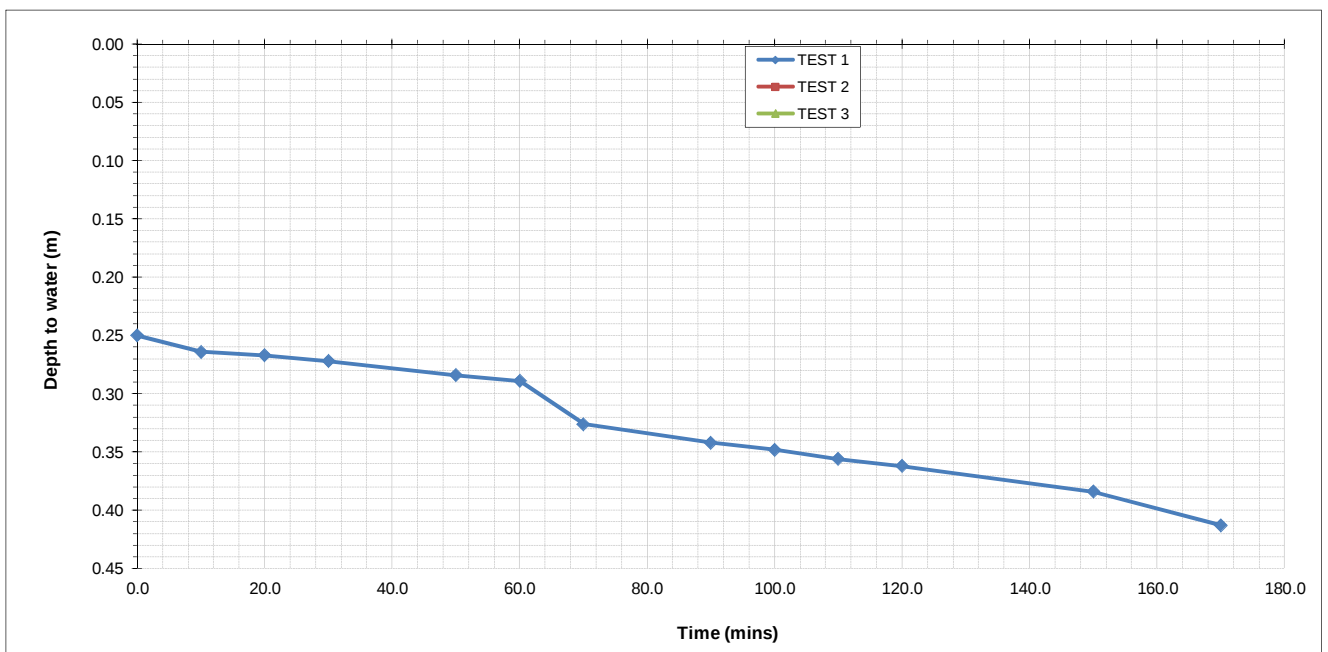
$$t_2 = 720$$

$$F = 0.1375$$

A = 0.00196349 m²**Coefficient of Permeability, k = 0.000643 m/s**

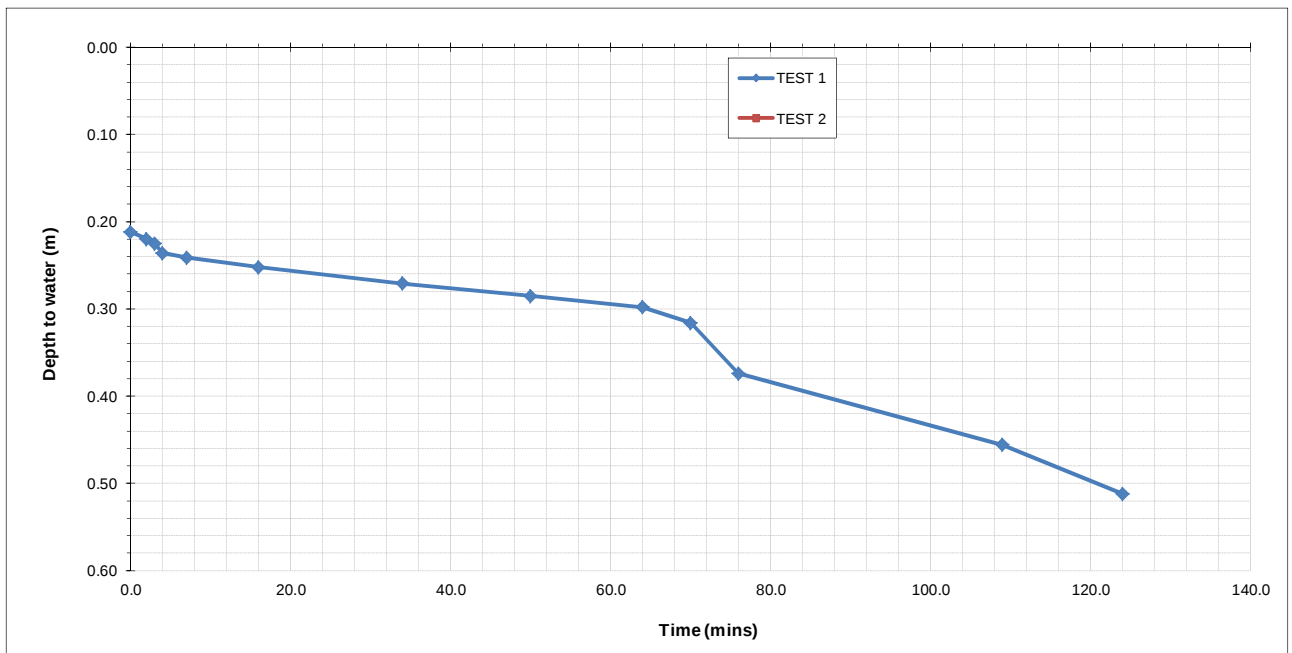
Remarks	TEST 1		TEST 2		TEST 3	
	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)
No significant infiltration was observed during the test Strata 0.00m - 0.30m MG Clayey sand 0.30m - 1.20m Gravelly SAND	0	0.250				
	10	0.264				
	20	0.267				
	30	0.272				
	50	0.284				
	60	0.289				
	70	0.326				
	90	0.342				
	100	0.348				
	110	0.356				
	120	0.362				
	150	0.384				
	170	0.413				
Effective Storage Depth	m	0.95				
75% Effective Storage Depth	m	0.71				
(i.e. depth below GL)	m	0.49				
25% Effective Storage Depth	m	0.24				
(i.e. depth below GL)	m	0.96				
Effective Storage Depth 75%-25%	m	0.48				
Time to fall to 75% effective depth	mins	N/A				
Time to fall to 25% effective depth	mins	N/A				
V (75%-25%)	m3					
a (50%)	m2					
t (75%-25%)	mins					
SOIL INFILTRATION RATE	m/s	N/A				

DESIGN SOIL INFILTRATION RATE, f **0.00E+00**



 REC Resource & Environmental Consultants Ltd		Site Gateacre High School Job Number 44808 Date of Test 10/04/2013		Trial Pit Number TP145 Length..... 0.85 m Width..... 0.65 m Depth..... 1.30 m Groundwater Level..... Not encountered m	
Remarks	TEST 1		TEST 2		TEST 3
No significant infiltration was observed during the test Strata 0.00m - 0.30m Asphalt / Concrete 0.30m - 0.50m Clayey SAND 0.50m - 1.3m Gravelly SAND	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)	Time(min)
	0	0.212			
	2	0.220			
	3	0.225			
	4	0.236			
	7	0.241			
	16	0.252			
	34	0.271			
	50	0.285			
	64	0.298			
	70	0.316			
	76	0.374			
	109	0.456			
	124	0.512			
Effective Storage Depth	m	1.09			
75% Effective Storage Depth	m	0.82			
(i.e. depth below GL)	m	0.48			
25% Effective Storage Depth	m	0.27			
(i.e. depth below GL)	m	1.03			
Effective Storage Depth 75%-25%	m	0.54			
Time to fall to 75% effective depth	mins	109			
Time to fall to 25% effective depth	mins	N/A			
V (75%-25%)	m3				
a (50%)	m2				
t (75%-25%)	mins				
SOIL INFILTRATION RATE	m/s	N/A	N/A	N/A	N/A

DESIGN SOIL INFILTRATION RATE, f	0.00E+00
---	-----------------



CD CONTAINING
ENVIRONMENTAL & GEOLOGICAL DATA
HISTORICAL MAPPING
COMPLETE PDF COPY OF REC REPORT
