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Dynamic Percussion with Rotary Core Follow-on

Borehole No. BH04 Sheet 2 of 3

Project Name:	Kraft Phase 2		**Co-ords:**	445043E, 241538N	**Hole Type:** DNP+RC
Location:	Banbury	**Project No.** C161279	**Ground Level:**	97.90m OD	**Scale:** 1:50
Client:	db symmetry		**Date (s):**	06/06/16 - 08/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Rotary Coring Depth (m)	TCR	SCR	RQD	FI	Depth (m)	Level (m OD)	Legend	Stratum Description
		10.00-11.50	100	100	100	0				*Between 10.50m bgl and 11.00m bgl: Abundant limestone lithorelicts / concretions.*
							11.30	86.60		Weak grey thinly laminated MUDSTONE with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)
		11.50-13.00	100	100	100	0				
		13.00-14.50	100	100	100	0				
		14.50-16.00	100	100	100	0				
		16.00-17.50	100	100	100	0				
		17.50-19.00	77	77	77	0				
		19.00-20.00	100	100	100	0				
							19.80	78.10		Strong grey LIMESTONE with abundant shells and fossils.
										Continued on Next Sheet

11.0 12.0 13.0 14.0 15.0 16.0 17.0 18.0 19.0 20.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Percussive drilling to 4.0m bgl. Rotary drilling to 20.0m bgl. 3) SPT at 5.50m bgl, 32. SPT at 7.00m bgl, 50/280mm. SPT at 8.50m bgl, 50/160mm. SPT at 10.0m bgl, 50/160mm, SPT at 11.50m bgl, 50/190mm, SPT at 13.0m bgl, 50/160mm, SPT at 14.50m bgl, 50/160mm, SPT at 16.0m bgl, 49/125mm, SPT at 17.50m bgl, 50/105mm, SP at 19.0m bgl, 50/65mm, SPT at 20.0m bgl, 50/45mm. 4) Backfilled with bentonite.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Dynamic Percussion with Rotary Core Follow-on

Borehole No. BH04 Sheet 3 of 3

Project Name:	Kraft Phase 2		**Co-ords:**	445043E, 241538N	**Hole Type:** DNP+RC
Location:	Banbury	**Project No.** C161279	**Ground Level:**	97.90m OD	**Scale:** 1:50
Client:	db symmetry		**Date (s):**	06/06/16 - 08/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Rotary Coring Depth (m)	TCR	SCR	RQD	FI	Depth (m)	Level (m OD)	Legend	Stratum Description
							20.07	77.83		(CHARMOUTH MUDSTONE FORMATION) End of Borehole at 20.09m

21.0 22.0 23.0 24.0 25.0 26.0 27.0 28.0 29.0 30.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Percussive drilling to 4.0m bgl. Rotary drilling to 20.0m bgl. 3) SPT at 5.50m bgl, 32. SPT at 7.00m bgl, 50/280mm. SPT at 8.50m bgl, 50/160mm. SPT at 10.0m bgl, 50/160mm, SPT at 11.50m bgl, 50/190mm, SPT at 13.0m bgl, 50/160mm, SPT at 14.50m bgl, 50/160mm, SPT at 16.0m bgl, 49/125mm, SPT at 17.50m bgl, 50/105mm, SP at 19.0m bgl, 50/65mm, SPT at 20.0m bgl, 50/45mm. 4) Backfilled with bentonite.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Windowless Sampler

Borehole No. WS01

Sheet 1 of 2

Project Name: Kraft Phase 2		**Co-ords:** 445189E, 241374N	**Hole Type:** WLS
Location: Banbury	**Project No:** C161279	**Ground Level:** 95.75m OD	**Scale:** 1:25
Client: db symmetry		**Date(s):** 07/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.32	95.43		ASPHALT. (MADE GROUND)
		0.40	ES					Yellowish brown slightly sandy fine to coarse, subangular to angular limestone and sandstone GRAVEL. (MADE GROUND)
		1.00	ES					*From 0.90m bgl: More clayey.*
					1.10	94.65		
		1.20	SPT	N=4 (2,1/0,1,1,2)				Firm locally soft grey CLAY with some remnant rootlets and a very mild organic odour. Rare fine subrounded mudstone and coal gravel. (ALLUVIUM)
		1.20-1.65	D					
		1.20-1.90	B					
		2.00	SPT	N=6 (1,0/1,2,1,2)	2.00	93.75		*Between 1.90m bgl and 2.0m bgl: Sand lens.*
		2.00-2.45	D					Firm locally soft blueish grey CLAY with some purple remant rootlets. (ALLUVIUM)
		2.00-3.00	B					
		3.00	SPT	N=14 (1,2/2,3,4,5)				
		3.00-3.45	D					
					3.50	92.25		Very weak thinly laminated grey MUDSTONE with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)
		4.00	SPT	N=21 (2,3/4,5,5,7)				
		4.00-4.45	D					
		5.00	SPT	N=22 (2,3/4,6,6,6)				
		5.00-5.45	D					Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Groundwater and gas monitoring pipe installed to 5.0m bgl. Response zone between 1.0m and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Windowless Sampler

Borehole No. WS01

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445189E, 241374N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	95.75m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	07/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					5.45	90.30		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Groundwater and gas monitoring pipe installed to 5.0m bgl. Response zone between 1.0m and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS03 Sheet 1 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445205E, 241383N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	95.63m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	07/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.20	ES		0.30	95.33		Brown sandy slightly gravelly CLAY. Gravel is fine to coarse, subangular to subrounded concrete, flint and brick. (MADE GROUND)
		0.60	ES					Greyish brown gravelly CLAY. Gravel is fine to coarse, subangular to angular brick, sandstone and concrete. (MADE GROUND)
		0.80-1.50	B		0.80	94.83		Firm locally soft blueish grey slightly gravelly CLAY. Gravel is fine to coarse, subangular to angular sandstone and rare concrete. (MADE GROUND)
		1.20	SPT	N=6 (1,1/1,1,2,2)				
		1.20-1.65	D					
		1.70-2.40	B		1.70	93.93		Firm greenish grey CLAY with some remnant rootlets and reeds with a mild organic odour and rare subrounded to rounded flint gravel. (ALLUVIUM)
		2.00	SPT	N=11 (1,2/2,2,3,4)				*At 2.10m bgl: Soft.*
		2.00-2.45	D					
		2.60	D		2.50	93.13		Soft brownish orange slightly gravelly sandy CLAY. Gravel is fine to medium, subangular to subrounded flint. (RIVER TERRACE DEPOSITS)
		3.00	SPT	N=25 (3,6/7,6,6,6)	3.00	92.63		Orange slightly clayey gravelly SAND. Gravel is subrounded to rounded flint. (RIVER TERRACE DEPOSITS)
		3.00-3.45	D					
		4.00	SPT	N=5 (2,1/0,1,1,3)	3.80	91.83		Firm grey locally soft CLAY with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)
		4.00-4.45	D					
		4.60	D		4.50	91.13		Very stiff grey CLAY with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)
		5.00	SPT	N=28 (3,4/5,7,8,8)				
		5.00-5.45	D					Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Groundwater and gas monitoring pipe installed to 5.0m bgl. Response zone between 2.0m and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS03

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445205E, 241383N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	95.63m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	07/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	90.18		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Groundwater and gas monitoring pipe installed to 5.0m bgl. Response zone between 2.0m and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS04

Sheet 1 of 1

Project Name:	Kraft Phase 2		**Co-ords:**	445255E, 241432N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	95.63m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	07/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.21	95.42		CONCRETE. (MADE GROUND)
		0.30	ES					Soft greenish grey CLAY with occasional brick gravel. (MADE GROUND)
		0.60	ES					
		0.70	D					
					0.90	94.73		End of Borehole at 0.90m

1.0
2.0
3.0
4.0
5.0

Remarks: 1) Hand dug pit terminated at 0.90m bgl on concrete. 2) Backfilled with arisings.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS05

Sheet 1 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445167E, 241361N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	96.14m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	08/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.10	ES					Soft orangish brown with pockets of grey gravelly sandy CLAY. Gravel is fine to coarse, subangular to angular sandstone, rare concrete and coal. (MADE GROUND)
		0.20	D					
					0.40	95.74		
		0.50	ES					Firm friable orangish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse, subrounded to rounded sandstone, mudstone and quartz. (RIVER TERRACE DEPOSITS)
		1.00	ES					
		1.20	SPT	N=14 (2,1/2,3,3,6)				
		1.20-1.65	D		1.30	94.84		
		1.60	D					Firm greenish grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse, subrounded to rounded quartz, and mudstone with a mild organic odour. (ALLUVIUM)
					1.80	94.34		
		2.00	SPT	N=4 (1,1/1,1,1,1)				Firm orange mottled grey slightly sandy slightly gravelly CLAY. Gravel is coarse, subrounded to rounded mudstone and quartz. (RIVER TERRACE DEPOSITS)
		2.00-2.45	D					
		2.20	D		2.20	93.94		Soft orange mottled grey sandy CLAY. (RIVER TERRACE DEPOSITS)
					2.80	93.34		*Between 2.70m bgl and 2.80m bgl: Very sandy and very soft.*
		3.00	SPT	N=4 (1,0/0,2,1,1)				Very loose to loose blueish grey slightly clayey SAND. (RIVER TERRACE DEPOSITS)
		3.00-3.45	D					
					3.20	92.94		Soft blueish grey CLAY. (CHARMOUTH MUDSTONE FORMATION)
		3.80	D					
		4.00	SPT	N=7 (1,3/3,1,2,1)				
		4.00-4.45	D					
					4.30	91.84		Very weak blueish grey MUDSTONE with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)
		5.00	SPT	N=15 (4,2/2,3,4,6)				Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Casing refusal at 4.50m bgl. 3) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS05

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445167E, 241361N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	96.14m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	08/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	90.69		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Casing refusal at 4.50m bgl. 3) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS07 Sheet 1 of 1

Project Name: Kraft Phase 2		**Co-ords:** 445069E, 241356N	**Hole Type:** WLS
Location: Banbury	**Project No:** C161279	**Ground Level:** 97.38m OD	**Scale:** 1:25
Client: db symmetry		**Date(s):** 08/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.10 0.10	D ES					Soft orangish brown sandy slightly gravelly CLAY. Gravel is fine to coarse, subrounded to subangular flint. (TOPSOIL)
		0.30-1.00 0.40	B ES		0.30	97.08		Soft brown sandy CLAY with rare subrounded to subangular quartz, and mudstone gravel. (RIVER TERRACE DEPOSITS)
		1.10 1.20 1.20-1.65	ES SPT D	N=6 (1,1/1,1,2,2)	1.00	96.38		Soft yellowish brown sandy CLAY with some fine coal fragments. (RIVER TERRACE DEPOSITS)
		1.70	D		1.50	95.88		Firm orange locally grey mottled CLAY with some iron staining. (RIVER TERRACE DEPOSITS)
		2.00 2.00-2.45	SPT D	N=12 (2,2/2,3,3,4)				
		2.50	D					*Between 2.70m bgl and 3.10m bgl: Very sandy and soft.*
		3.00 3.00-3.45	SPT D	N=0 (0,0/0,0,0,0)	3.10	94.28		Very soft grey very sandy CLAY. (RIVER TERRACE DEPOSITS)
		3.50	D					
		4.00 4.00-4.45	SPT D	N=12 (2,2/1,3,4,4)	3.90	93.48		Orange slightly gravelly clayey SAND. Gravel is fine to coarse, subangular to angular quartz. (RIVER TERRACE DEPOSITS)
					4.50	92.88		End of Borehole at 4.50m

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Casing refusal at 4.50m bgl, no recovery assumed, mudstone. 3) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS08

Sheet 1 of 1

Project Name:	Kraft Phase 2		**Co-ords:**	445094E, 241419N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	95.95m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	08/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES		0.20	95.75		ASPHALT. (MADE GROUND)
					0.50	95.45		Yellow clayey sandy fine to coarse, subangular to angular limestone and sandstone GRAVEL. (MADE GROUND)
								End of Borehole at 0.50m

1.0
2.0
3.0
4.0
5.0

Remarks: 1) Hand dug pit terminated at 0.50m bgl due to refusal. 2) Backfilled with arisings.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS09

Sheet 1 of 2

Project Name: Kraft Phase 2		**Co-ords:** 445014E, 241457N	**Hole Type:** WLS
Location: Banbury	**Project No:** C161279	**Ground Level:** 96.50m OD	**Scale:** 1:25
Client: db symmetry		**Date(s):** 08/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.20	ES		0.18	96.32		CONCRETE. (MADE GROUND)
	▼							Grey slightly sandy fine to coarse, subangular to angular asphalt, limestone and sandstone GRAVEL. (MADE GROUND)
		1.00	SPT	N=21 (2,2/4,5,6,6)	1.00	95.50		Stiff grey thinly laminated CLAY. (CHARMOUTH MUDSTONE FORMATION)
		1.00-2.00	B					
		1.10	ES					
		1.20-1.65	D					
		1.70	D		1.60	94.90		Very weak thinly laminated grey MUDSTONE with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)
		2.00	SPT	N=35 (5,8/12,10,7,6)				*At 2.00m bgl: Abundant shell fragments.*
		2.00-2.45	D					
		3.00	SPT	N=35 (3,5/6,8,9,12)				
		3.00-3.45	D					
		4.00	SPT	N=41 (3,7/9,10,10,12)				
		4.00-4.45	D					
		5.00	SPT	N≥50 (6,9/50 for 240mm)				Continued on Next Sheet
		5.00-5.45	D					

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Gas and groundwater monitoring pipe installed to 5.0m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: Perched groundwater encountered at 0.90m bgl.

Logged: NT **Checked:** SC

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Borehole No. WS09 Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445014E, 241457N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	96.50m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	08/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					5.39	91.11		End of Borehole at 5.39m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Gas and groundwater monitoring pipe installed to 5.0m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: Perched groundwater encountered at 0.90m bgl.

Logged: NT **Checked:** SC

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Borehole No. WS11 Sheet 1 of 1

Project Name:	Kraft Phase 2		**Co-ords:**	445200E, 241435N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	96.86m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	02/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.30	96.56		CONCRETE. (MADE GROUND)
		0.40	ES		0.60	96.26		Orange clayey fine to coarse, angular to subangular mudstone, concrete and sandstone GRAVEL. (MADE GROUND)
		0.80	ES					Firm orange sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular ironstone and sandstone. (MADE GROUND)
		1.20	SPT	N=35 (4,10/7,8,8,12)				
		1.20-1.65	D					
		2.00	SPT	N=27 (5,7/8,8,6,5)				
		2.00-2.45	D					
		2.70	D		2.60	94.26		Firm grey gravelly CLAY with a mild organic odour. Gravel is fine to medium, subangular to angular flint. (ALLUVIUM)
		3.00	SPT	N=12 (1,1/2,3,3,4)	2.80	94.06		Firm orange gravelly CLAY. Gravel is fine to coarse, subangular to angular sandstone with some iron staining. (ALLUVIUM)
		3.00-3.45	D					
					3.90	92.96		Soft grey sandy CLAY with rare remnant reeds/grass/roots. (ALLUVIUM)
					4.00	92.86		End of Borehole at 4.00m

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Collpase between 3.50m bgl to 4.00m bgl. 3) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS12 Sheet 1 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445132E, 241444N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	96.86m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	03/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.20	96.66		CONCRETE. (MADE GROUND)
		0.30	ES					Orangish brown clayey sandy fine to coarse, subangular to angular limestone and rare concrete GRAVEL. (MADE GROUND)
		0.50-1.30	B		0.50	96.36		Medium dense orangish brown sandy slightly clayey fine to coarse subangular to angular limestone, sandstone and limestone GRAVEL. (MADE GROUND)
		0.60	ES					
		0.80	D					
		1.00	SPT	N=14 (3,3/3,4,3,4)				
		1.00-1.45	D					
					1.30	95.56		Firm greenish grey CLAY with a mild organic odour and some remnant rootlets. (ALLUVIUM)
		1.40	D					
		1.70	D					
					1.80	95.06		Firm brownish orange locally grey mottled sandy CLAY. (ALLUVIUM)
		2.00	SPT	N=11 (2,3/3,2,3,3)				*Between 1.80m and 2.10m bgl: Rare flint gravel.*
		2.00-2.45	D					
		3.00	SPT	N=6 (1,1/1,1,2,2)				
		3.00-3.45	D		3.10	93.76		Soft light grey slightly sandy CLAY. (ALLUVIUM)
					3.40	93.46		Very soft light grey CLAY. (ALLUVIUM)
	▼	4.00	SPT	N=3 (0,0/0,0,0,3)				
		4.00-4.45	D					
					4.60	92.26		Brown slightly gravelly SAND. Gravel is fine to coarse subangular to angular quartz. (RIVER TERRACE DEPOSITS)
					4.80	92.06		Very soft grey CLAY. (CHARMOUTH MUDSTONE FORMATION)
		5.00	SPT	N=15 (1,0/2,3,4,6)				
		5.00-5.45	D					Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 0.70m bgl. 2) Cased to 5.00m bgl. 3) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: Groundwater encountered at 3.94m bgl falling to 5.17m bgl after 20 minutes.

Logged: NT **Checked:** SC

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Borehole No. WS12

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445132E, 241444N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	96.86m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	03/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					5.10	91.76		Stiff grey CLAY with some silt sized selenite crystals. (CHARMOUTH MUDSTONE FORMATION)
					5.45	91.41		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 0.70m bgl. 2) Cased to 5.00m bgl. 3) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: Groundwater encountered at 3.94m bgl falling to 5.17m bgl after 20 minutes.

Logged: NT **Checked:** SC

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Borehole No. WS13 Sheet 1 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445174E, 241491N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	98.86m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	02/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
								CONCRETE. (MADE GROUND)
		0.20-0.40	B		0.20	98.66		Orangish brown clayey sandy fine to coarse, subangular to angular limestone and sandstone GRAVEL. (MADE GROUND)
		0.30	ES					
		0.60	ES					
		0.80-1.20	B		0.80	98.06		Compact orangish brown sandy slightly clayey fine to coarse, subangular to angular limestone, sandstone and ironstone GRAVEL. (MADE GROUND)
		1.20	SPT	N=24 (4,4/6,6,6,6)				
		1.50	D					
		2.00	SPT	N=10 (1,2/2,2,3,3)	2.00	96.86		Soft to firm dark grey slightly sandy CLAY with some remnant rootlets and a mild organic odour. (ALLUVIUM)
		2.10	D					
					2.30	96.56		Firm locally soft orangish brown locally grey mottled slightly gravelly CLAY. Gravel is fine, angular limestone. (ALLUVIUM)
		3.00	SPT	N=11 (2,1/2,2,3,4)				
		3.30	D					
					3.60	95.26		Orange clayey SAND. (ALLUVIUM)
					3.70	95.16		Firm grey sandy CLAY. (ALLUVIUM)
					3.90	94.96		Orange sandy fine to medium, angular to subangular flint GRAVEL. (RIVER TERRACE DEPOSITS)
		4.00	SPT	N=3 (2,2/0,1,1,1)	4.00	94.86		Orange clayey SAND. (RIVER TERRACE DEPOSITS)
					4.20	94.66		Very soft grey CLAY with rare subrounded to rounded flint gravel. (RIVER TERRACE DEPOSITS)
		4.30	D					
	▼							
					4.80	94.06		Stiff grey CLAY with some silt sized selenite crystals. (CHARMOUTH MUDSTONE FORMATION)
		4.90	D					
		5.00	SPT	N=19 (2,2/3,5,5,6)				

Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Cased to 5.00m bgl. 3) Gas and groundwater pipe installed to 5.00m bgl. Response zone between 2.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: Groundwater encountered at 4.60m bgl.

Logged: NT **Checked:** SC

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Borehole No. WS13

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445174E, 241491N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	98.86m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	02/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					5.45	93.41		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Cased to 5.00m bgl. 3) Gas and groundwater pipe installed to 5.00m bgl. Response zone between 2.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: Groundwater encountered at 4.60m bgl.

Logged: NT **Checked:** SC

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Borehole No. WS14

Sheet 1 of 2

Project Name: Kraft Phase 2		**Co-ords:** 445103E, 241472N	**Hole Type:** WLS
Location: Banbury	**Project No:** C161279	**Ground Level:** 98.86m OD	**Scale:** 1:25
Client: db symmetry		**Date(s):** 03/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.17	98.69		CONCRETE. (MADE GROUND)
					0.27	98.59		ASPHALT. (MADE GROUND)
								Light brown slightly clayey slightly sandy coarse angular limestone and sandstone GRAVEL. (MADE GROUND)
					0.80	98.06		
		0.90	ES					Stiff, brownish orange locally iron stained and grey mottled CLAY with rare fine to coarse subangular flint gravel. (ALLUVIUM)
		1.00	SPT	N=17 (3,3/3,4,5,5)				
		1.00-1.45	D					
		1.20	ES					
		1.20-2.00	B					
		2.00	SPT	N=12 (1,2/3,3,2,4)				
		2.00-2.45	D					*From 2.10m bgl: Firm.*
		2.50	D					
					2.80	96.06		Firm grey locally iron stained CLAY. (CHARMOUTH MUDSTONE FORMATION)
		3.00	SPT	N=23 (2,3/4,5,6,8)				
		3.00-3.45	D					
					3.50	95.36		Very weak locally iron stained MUDSTONE with rare silt sized selenite crystals and rare shell fragements. (CHARMOUTH MUDSTONE FORMATION)
		3.70	D					
		4.00	SPT	N=25 (2,3/5,5,7,8)				
		4.00-4.45	D					
		5.00	SPT	N=29 (4,4/5,6,9,9)				
		5.00-5.45	D					

Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 0.70m bgl. 2) Gas and groundwater monitoring pipe installed to 5.00m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS14

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445103E, 241472N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	98.86m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	03/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	93.41		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 0.70m bgl. 2) Gas and groundwater monitoring pipe installed to 5.00m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS15

Sheet 1 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445089E, 241527N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	98.86m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	06/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.22	98.64		CONCRETE. (MADE GROUND)	
		0.30	ES					Brown sandy fine to coarse, subangular to angular limestone and concrete GRAVEL. (MADE GROUND)	
					0.50	98.36		Orangish brown gravelly SAND. Gravel is fine to coarse, subangular to angular mudstone and sandstone (RIVER TERRACE DEPOSITS)	
		0.60	ES						
					0.90	97.96		Firm grey locally iron stained CLAY. (CHARMOUTH MUDSTONE FORMATION)	1.0
		1.00	SPT	N=8 (1,2/1,2,2,3)					
		1.00-1.45	D						
		1.60	D						
		2.00	SPT	N=9 (1,1/1,2,2,4)					2.0
		2.00-2.45	D						
					2.30	96.56		Stiff grey thinly laminated CLAY. (CHARMOUTH MUDSTONE FORMATION)	
		2.40	D						
					2.80	96.06		Very weak grey MUDSTONE with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)	
		3.00	SPT	N=11 (2,1/2,2,3,4)					3.0
		3.00-3.45	D						
		4.00	SPT	N=12 (1,2/2,2,4,4)					4.0
		4.00-4.45	D						
		5.00	SPT	N=21 (2,2/4,4,6,7)					5.0
		5.00-5.45	D						
								Continued on Next Sheet	

Remarks: 1) Hand dug pit to 0.65m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS15

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445089E, 241527N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	98.86m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	06/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	93.41		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 0.65m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS16 Sheet 1 of 2

Project Name: Kraft Phase 2		**Co-ords:** 445044E, 241457N	**Hole Type:** WLS
Location: Banbury	**Project No:** C161279	**Ground Level:** 98.86m OD	**Scale:** 1:25
Client: db symmetry		**Date(s):** 03/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.26	98.60		CONCRETE. (MADE GROUND)
		0.30	ES					Brown clayey slightly sandy fine to coarse, subangular to angular limestone, sandstone and rare brick GRAVEL. (MADE GROUND)
					0.55	98.31		Stiff grey CLAY with some silt sized selenite crystals. (CHARMOUTH MUDSTONE FORMATION)
		0.70	ES					
		0.80	D					
		1.00	SPT	N=15 (2,2/3,3,4,5)				*At 1.00m bgl: Mudstone lithorelic with pyrite along fractures.*
		1.00-1.45	D		1.10	97.76		Very weak thinly laminated grey MUDSTONE with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)
		2.00	SPT	N=16 (2,1/2,4,4,6)				
		2.00-2.45	D					
		3.00	SPT	N=26 (4,4/6,6,7,7)				
		3.00-3.45	D					
		4.00	SPT	N=26 (3,3/5,6,6,9)				
		4.00-4.45	D					
		5.00	SPT	N=39 (4,6/7,9,11,12)				
		5.00-5.45	D					Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 0.50m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS16

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445044E, 241457N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	98.86m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	03/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	93.41		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 0.50m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS18

Sheet 1 of 2

Project Name: Kraft Phase 2		**Co-ords:** 445096E, 241545N	**Hole Type:** WLS
Location: Banbury	**Project No:** C161279	**Ground Level:** 96.69m OD	**Scale:** 1:25
Client: db symmetry		**Date(s):** 09/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.30	ES		0.35	96.34		Soft friable very sandy gravelly CLAY. Gravel is fine to coarse, subangular to subrounded chalk, brick fragments and concrete. (MADE GROUND)
		1.20	SPT	N=4 (0,0/1,1,1,1)	1.20	95.49		Soft friable very sandy gravelly CLAY. Gravel is fine to coarse, subangular to subrounded chalk. (ALLUVIUM) *From 0.50m bgl: Becoming very sandy.*
		1.60	D					Firm locally soft brown mottled grey CLAY with occasional fine angular ironstone gravel. (RIVER TERRACE DEPOSITS) *Between 1.65m bgl and 1.75m bgl: Becoming very gravelly.*
		2.00	SPT	N=11 (1,2/3,2,3,3)	1.85	94.84		Stiff grey mottled brown gravelly CLAY. Gravel is fine to coarse, angular to subangular mudstone. (CHARMOUTH MUDSTONE FORMATION) *Between 2.30m and 2.40m: Very gravelly CLAY.*
		2.60	D					
		3.00	SPT	N=20 (2,2/4,4,5,7)				
		3.60	D		3.55	93.14		Very weak weathered grey mottled browinsh grey MUDSTONE. (CHARMOUTH MUDSTONE FORMATION)
		4.00	SPT	N=20 (2,3/4,4,6,6)				
		4.60	D					
		5.00	SPT	N=21 (2,2/4,5,6,6)				Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Gas and groundwater monitoring pipe installed to 5.0m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: WS **Checked:** SC

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Borehole No. WS18

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445096E, 241545N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	96.69m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	09/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	91.24		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Gas and groundwater monitoring pipe installed to 5.0m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: WS **Checked:** SC

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Borehole No. WS19 Sheet 1 of 2

Project Name: Kraft Phase 2		**Co-ords:** 445047E, 241576N	**Hole Type:** WLS
Location: Banbury	**Project No:** C161279	**Ground Level:** 97.32m OD	**Scale:** 1:25
Client: db symmetry		**Date(s):** 09/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.00-4.00	B					Firm friable brown very sandy gravelly CLAY with abundant rootlets. Gravel is fine to coarse, angular to subrounded concrete, flint, occasional brick and rare plastic. (MADE GROUND)
		0.30	D					
		0.30	ES		0.40	96.92		
		0.40-1.00	B					Firm friable light brown mottled grey sandy gravelly CLAY. Gravel is fine to coarse, angular to subrounded ironstone. (ALLUVIUM)
		0.50	D					
		0.50	ES					
		1.00	D					
		1.00	ES					
		1.20	SPT	N=13 (1,2/3,3,3,4)	1.20	96.12		Firm brown slightly sandy CLAY with some relic rootlets. Mottled red along rootlets. (ALLUVIUM)
		1.50	D					*Between 1.60m bgl and 1.70m bgl: Becoming predominantly grey.*
					1.80	95.52		Soft locally very soft brown mottled grey very sandy slightly gravelly CLAY. (ALLUVIUM)
		2.00	SPT	N=3 (0,0/1,1,0,1)				
		2.50	D					
					2.80	94.52		Firm dark grey mottled brown gravelly CLAY. Gravel is angular, fine to coarse, angular weak mudstone. (CHARMOUTH MUDSTONE FORMATION)
		3.00	SPT	N=11 (1,2/1,2,4,4)				
		3.50	D					
					3.55	93.77		Stiff dark grey very gravelly CLAY. Gravel is fine to coarse, angular weak mudstone. (CHARMOUTH MUDSTONE FORMATION)
		3.90	D					
		4.00	SPT	N=20 (2,3/4,4,5,7)				
	▼	5.00	SPT	N=32 (4,5/6,8,9,9)				

Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Gas and groundwater monitoring pipe installed to 5.0m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: Groundwater encountered at 5.00m bgl.

Logged: WS **Checked:** SC

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Borehole No. WS19

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445047E, 241576N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	97.32m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	09/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	91.87		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Gas and groundwater monitoring pipe installed to 5.0m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: Groundwater encountered at 5.00m bgl.

Logged: WS **Checked:** SC

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Borehole No. WS20 Sheet 1 of 2

Project Name: Kraft Phase 2		**Co-ords:** 445021E, 241585N	**Hole Type:** WLS
Location: Banbury	**Project No:** C161279	**Ground Level:** 97.98m OD	**Scale:** 1:25
Client: db symmetry		**Date(s):** 09/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.25	ES		0.30	97.68		Firm friable brown sandy gravelly CLAY with rootlets. Gravel is fine to coarse, angular to subrounded flint. (TOPSOIL)
		0.40	ES		0.50	97.48		Firm friable light brown slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to subrounded flint. (ALLUVIUM)
		0.60	ES					Firm friable slightly sandy dark grey mottled brown CLAY. (ALLUVIUM)
		0.90	ES					1.0
		1.20	SPT	N=9 (0,1/2,2,2,3)	1.40	96.58		Firm greenish greck locally speckled black CLAY with a mild organic odour. (ALLUVIUM)
		1.70	D					
		2.00	SPT	N=5 (0,1/1,1,2,1)	2.00	95.98		Firm dark brown mottled grey locally speckled black sandy CLAY. (ALLUVIUM)
					2.50	95.48		Soft light grey CLAY. (ALLUVIUM)
					2.60	95.38		Firm light brown mottled grey slightly silty CLAY. (CHARMOUTH MUDSTONE FORMATION)
		3.00	SPT	N=9 (1,1/2,2,2,3)				3.0
		3.60	D					*Between 3.50 and 3.90m bgl: Weak mudstone gravel.*
		4.00	SPT	N=21 (2,3/3,5,6,7)	3.90	94.08		Stiff dark grey very gravelly CLAY. Gravel is fine to coarse, angular, very weak mudstone. (CHARMOUTH MUDSTONE FORMATION)
		4.60	D					4.0
		5.00	SPT	N=27 (2,5/5,7,7,8)				5.0
								Continued on Next Sheet

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: WS **Checked:** SC

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Borehole No. WS20

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445021E, 241585N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	97.98m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	09/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	92.53		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: WS **Checked:** SC

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Borehole No. WS21

Sheet 1 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	444987E, 241555N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	98.76m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	09/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.30	ES		0.40	98.36		Firm friable brown sandy gravelly CLAY. Gravel is fine to coarse, subangular to subrounded flint. (TOPSOIL)
		0.70	ES		0.80	97.96		Soft friable brown sandy gravelly CLAY. Gravel is fine to coarse, subangular to subrounded flint. (RIVER TERRACE DEPOSITS) *Between 0.40m bgl and 0.80m bgl: Roots and occasional brick fragments and concrete.*
		1.00	ES					Firm light brown mottled light grey sandy gravelly CLAY. Gravel is fine to coarse, angular to subrounded flint. (RIVER TERRACE DEPOSITS)
		1.20	SPT	N=7 (1,1/2,1,2,2)	1.20	97.56		Firm grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse, angular to subrounded ironstone. (RIVER TERRACE DEPOSITS) *From 1.30m bgl: Relic roots present.* *From 1.50m bgl: Fine to medium shell fragments present.* *From 1.60m bgl: Becoming slightly sandy.*
		1.50	D					
		2.00	SPT	N=7 (1,1/1,2,2,2)	1.80	96.96		Stiff friable grey CLAY. (CHARMOUTH MUDSTONE FORMATION) *Between 1.80m bgl and 2.50m bgl: Soft.*
		2.40	D					
		3.00	SPT	N=20 (2,2/4,5,5,6)				*From 3.30m bgl: Becoming stiff and grey.*
		3.65	D					
		4.00	SPT	N=16 (2,2/2,4,4,6)				
		4.80	D					
		5.00	SPT	N=19 (2,3/3,5,5,6)				Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: WS **Checked:** SC

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Borehole No. WS21

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	444987E, 241555N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	98.76m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	09/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	93.31		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: WS **Checked:** SC

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Borehole No. WS22

Sheet 1 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445003E, 241523N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	99.72m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	06/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.05	99.67		ASPHALT. (MADE GROUND)
					0.30	99.42		Yellowish slightly sandy fine to coarse, subangular to angular sandstone and concrete GRAVEL. (MADE GROUND)
		0.40	ES					Firm orange locally grey mottled CLAY with some iron staining. (RIVER TERRACE DEPOSITS)
		0.70	ES					*From 0.80m bgl: Stiff.*
		1.20	SPT	N=17 (2,2/3,4,5,5)				
		1.20-1.65	D					
		1.80	D		1.80	97.92		Very stiff grey CLAY with abundant iron staining and silt sized selenite crystals. (CHARMOUTH MUDSTONE FORMATION)
		2.00	SPT	N=24 (2,4/5,6,7,6)				
		2.00-2.45	D					
		2.40	D					
					2.65	97.07		Very weak thinly laminated grey MUDSTONE with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)
		3.00	SPT	N=16 (2,2/3,4,4,5)				
		3.00-3.45	D					
		3.90	D					
	▼	4.00	SPT	N=27 (3,2/4,6,5,12)				
		4.00-4.45	D					
		5.00	SPT	N=21 (2,2/4,5,5,7)				
		5.00-5.45	D					Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: Groundwater encountered at 4.00m bgl.

Logged: NT **Checked:** SC

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Borehole No. WS22

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445003E, 241523N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	99.72m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	06/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	94.27		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: Groundwater encountered at 4.00m bgl.

Logged: NT **Checked:** SC

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Borehole No. WS23

Sheet 1 of 2

Project Name: Kraft Phase 2		**Co-ords:** 444987E, 241467N	**Hole Type:** WLS
Location: Banbury	**Project No:** C161279	**Ground Level:** 101.65m OD	**Scale:** 1:25
Client: db symmetry		**Date(s):** 06/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.05	101.60		ASPHALT. (MADE GROUND)
		0.20	ES					Yellowish brown sandy fine to coarse, subangular to angular sandstone and concrete GRAVEL. (MADE GROUND)
		0.70	ES					
					0.90	100.75		Firm grey mottled orange CLAY with some iron staining. (RIVER TERRACE DEPOSITS)
		1.20	SPT	N=17 (2,3/3,5,4,5)				
		1.20-1.65	D					
		1.50	D					
		2.00	SPT	N=27 (2,4/5,6,7,9)				*Between 2.0m bgl and 2.20m bgl: Abundant iron staining.*
		2.00-2.45	D					
		2.50	D					
					2.70	98.95		Stiff grey CLAY, locally iron stained with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)
		3.00	SPT	N=27 (4,7/6,7,7,7)				
		3.00-3.45	D					
		3.50	D					
		4.00	SPT	N=21 (2,2/4,4,6,7)				
		4.00-4.45	D					
					4.50	97.15		Very weak grey MUDSTONE with some shell fragments. (CHARMOUTH MUDSTONE FORMATION)
		5.00	SPT	N=28 (3,5/6,6,7,9)				
		5.00-5.45	D					Continued on Next Sheet

1.0 2.0 3.0 4.0 5.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS23

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	444987E, 241467N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	101.65m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	06/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	96.20		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Backfilled with arisings on completion.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS25

Sheet 1 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	444943E, 241473N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	102.68m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	07/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
		0.10	ES					Brown gravelly SAND. Gravel is fine to coarse, subangular to angular concrete, flint, brick and very rare aspahlt gravel. (MADE GROUND)
		0.30-0.80	B		0.30	102.38		
		0.40	ES					Brownish orange sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular quartz, sandstone and mudstone. (RIVER TERRACE DEPOSITS)
					0.80	101.88		Firm orange locally grey mottled CLAY with some iron staining and rare mudstone gravel. (RIVER TERRACE DEPOSITS)
		1.20	SPT	N=10 (1,2/2,2,3,3)				1.0
		1.20-1.65	D					
		1.20-2.00	B					
		1.40	D					
		2.00	SPT	N=13 (2,1/2,3,4,4)				2.0
		2.00-2.45	D		2.10	100.58		Stiff blueish grey CLAY with some iron staining. (CHARMOUTH MUDSTONE FORMATION)
		2.00-3.00	B					*Between 2.20m bgl and 2.70m bgl: Abundant iron staining.*
		2.80	D					
					2.90	99.78		Very weak grey MUDSTONE with abundant iron staining. (CHARMOUTH MUDSTONE FORMATION)
		3.00	SPT	N=21 (3,4/5,4,6,6)				3.0
		3.00-3.45	D					
		3.00-4.00	B					
					3.90	98.78		Very weak grey MUDSTONE with some silt sized selenite crystals. (CHARMOUTH MUDSTONE FORMATION)
		4.00	SPT	N=30 (3,5/6,7,8,9)				4.0
		4.00-4.45	D					
		4.00-5.00	B					
		5.00	SPT	N=30 (3,4/6,6,8,10)				5.0
		5.00-5.45	D					Continued on Next Sheet

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Gas and gorundwater monitoring pipe installed to 5.0m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS25

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	444943E, 241473N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	102.68m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	07/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					5.45	97.23		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Gas and gorundwater monitoring pipe installed to 5.0m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS26

Sheet 1 of 2

Project Name: Kraft Phase 2		**Co-ords:** 445008E, 241406N	**Hole Type:** WLS
Location: Banbury	**Project No:** C161279	**Ground Level:** 100.15m OD	**Scale:** 1:25
Client: db symmetry		**Date(s):** 06/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m OD)	Legend	Stratum Description
					0.05	100.10		ASPHALT. (MADE GROUND)
		0.20	ES					Yellowish brown sandy fine to coarse, subangular to angular sandstone and concrete GRAVEL. (MADE GROUND)
		0.40-0.60	B		0.40	99.75		Firm grey locally orange mottled CLAY with some iron staining and very rare limestone gravel. (RIVER TERRACE DEPOSITS)
		0.50	ES					
		0.80	D					
		0.80-1.00	B					
		1.20	SPT	N=9 (2,1/2,1,3,3)				
		1.20-1.65	D					
		1.20-2.00	B					
		2.00	SPT	N=15 (2,1/2,4,4,5)				
		2.00-2.45	D					
		3.00	SPT	N=22 (3,4/5,5,5,7)				
		3.00-3.45	D					
		4.00	SPT	N=8 (2,2/2,1,2,3)				
		4.00-4.45	D					
					4.20	95.95		Very weak grey MUDSTONE with some silt sized selenite crystals. (CHARMOUTH MUDSTONE FORMATION)
		4.80	D					
		5.00	SPT	N=31 (2,3/6,6,8,11)				
		5.00-5.45	D					

1.0 2.0 3.0 4.0 5.0

Continued on Next Sheet

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Gas and groundwater monitoring pipe installed to 5.0m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

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Borehole No. WS26

Sheet 2 of 2

Project Name:	Kraft Phase 2		**Co-ords:**	445008E, 241406N	**Hole Type:** WLS
Location:	Banbury	**Project No:** C161279	**Ground Level:**	100.15m OD	**Scale:** 1:25
Client:	db symmetry		**Date(s):**	06/06/16	**Hole Diameter:** 110mm

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	94.70		End of Borehole at 5.45m

6.0
7.0
8.0
9.0
10.0

Remarks: 1) Hand dug pit to 1.20m bgl. 2) Gas and groundwater monitoring pipe installed to 5.0m bgl. Response zone between 1.0m bgl and 5.0m bgl.

B = Bulk Sample
D = Disturbed Sample
U = Undisturbed Sample
UT = Undisturbed Sample (Thin Wall)
ES = Environmental Sample
W = Water Sample
PID = Photoionization Detector (ppm)
SPT = Standard Penetration Test
AB = Asbestos Bulk Sample

Groundwater: None encountered.

Logged: NT **Checked:** SC

Appendix C

Geotechnical Test Results and SPT Depth plots

TEST CERTIFICATE

Determination of Moisture Content

Tested in Accordance with BS 1377-2:1990: Clause 3.2

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02,07,08/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	07/05/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

Test results

Laboratory Reference	Sample Reference	Location	Depth Top [m]	Depth Base [m]	Sample Type	Description	Moisture Content [%]
591033	B	WS01	1.2	1.9	B	Yellowish brown slightly gravelly CLAY	20
591034	D	WS01	3	3.45	D	Greyish brown silty CLAY	24
591036	D	WS03	4	4.45	D	Greyish brown slightly gravelly CLAY	25
591037	D	WS05	2.2	Not Given	D	Yellowish brown to grey slightly gravelly slightly sandy silty CLAY	25
591038	B	WS07	0.3	1	B	Brown slightly gravelly sandy CLAY	17
591039	B	WS07	2	3	B	Yellowish brown slightly sandy silty CLAY	22
591040	D	WS07	3.5	Not Given	D	Yellowish brown to grey silty CLAY	29
591041	B	WS09	1.2	2	B	Greyish brown CLAY	19
591042	D	WS11	1.2	1.65	B	Orange slightly gravelly slightly sandy CLAY	22
591043	D	WS11	2.7	Not Given	D	Yellowish brown to grey slightly gravelly CLAY	34

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Moisture Content

Tested in Accordance with BS 1377-2:1990: Clause 3.2

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02,03,06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

Test results

Laboratory Reference	Sample Reference	Location	Depth Top [m]	Depth Base [m]	Sample Type	Description	Moisture Content [%]
591044	D	WS12	2	2.45	D	Yellowish brown to grey slightly sandy CLAY	21
591045	D	WS12	3	3.45	D	Yellowish brown sandy CLAY	16
591047	D	WS13	3.3	Not Given	D	Yellowish brown to grey slightly gravelly CLAY	17
591048	D	WS13	4.9	Not Given	D	Brownish grey silty CLAY	25
591049	B	WS14	1.2	2	B	Yellowish brown slightly gravelly slightly sandy CLAY	20
591050	D	WS14	2.5	Not Given	D	Yellowish brown slightly gravelly CLAY	21
591051	D	WS20	4	4.45	D	Greyish brown silty CLAY	20
591052	D	WS15	1	1.45	D	Yellowish brown to grey CLAY	22
591053	D	WS15	2	2.45	D	Yellowish brown to brownish grey silty CLAY	29
591054	D	WS25	4	4.45	D	Greyish brown CLAY	20

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Moisture Content

Tested in Accordance with BS 1377-2:1990: Clause 3.2

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	03,06,09/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

Test results

Laboratory Reference	Sample Reference	Location	Depth Top [m]	Depth Base [m]	Sample Type	Description	Moisture Content [%]
591055	D	WS16	0.8	Not Given	D	Brownish grey slightly gravelly silty CLAY	24
591056	D	WS16	3	3.45	D	Greyish brown CLAY	22
591057	D	WS18	1.6	Not Given	D	Yellowish brown to brown slightly gravelly silty CLAY	25
591058	D	WS19	1.5	Not Given	D	Yellowish brown CLAY	30
591059	D	WS19	2.5	Not Given	DD	Yellowish brown slightly sandy silty CLAY	33
591060	D	WS20	1.7	Not Given	D	Yellowish brown to grey CLAY	27
591061	D	WS20	3.6	Not Given	D	Yellowish brown to grey CLAY	27
591062	D	WS21	1.5	Not Given	D	Orange slightly gravelly CLAY	36
591063	D	WS22	1.2	1.65	D	Yellowish brown to grey slightly gravelly silty CLAY	25
591064	D	WS22	2	2.45	D	Brownish grey CLAY	24

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Moisture Content

Tested in Accordance with BS 1377-2:1990: Clause 3.2

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	31/05,02,06,07/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06, 05/07/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

Test results

Laboratory Reference	Sample Reference	Location	Depth Top [m]	Depth Base [m]	Sample Type	Description	Moisture Content [%]
591065	D	WS23	1.2	1.65	D	Yellowish brown to grey slightly sandy CLAY	24
591066	D	WS23	2.5	Not Given	D	Yellowish brown to grey CLAY	29
591078	D	BH02	1.3	Not Given	D	Brown slightly sandy CLAY with roottlets	37
591085	B	BH02	0.5	0.8	B	Brown gravelly sandy CLAY	28
591089	B	BH03	8	8.4	B	Grey CLAY	22
591093	B	BH04	0.7	Not Given	B	Brown gravelly slightly sandy silty CLAY	23
591094	B	BH04	1.2	Not Given	B	Yellowish brown to grey silty CLAY	29
591095	U	BH04	2	2.45	U	Yellowish brown to grey silty CLAY	27
591096	U	BH04	4	4.45	U	Greyish brown silty CLAY	21
591097	C	BH04	6	6.3	U	Greyish brown CLAY	19

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Moisture Content

Tested in Accordance with BS 1377-2:1990: Clause 3.2

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

4041

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06, 05/07/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

Test results

Laboratory Reference	Sample Reference	Location	Depth Top [m]	Depth Base [m]	Sample Type	Description	Moisture Content [%]
591098	C	BH04	9	9.4	U	Greyish brown CLAY	21
591099	C	BH04	12	12.4	U	Greyish brown silty CLAY	17
591100	C	BH04	14	14.3	U	Greyish brown silty CLAY	13

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved: Mirosława Pytlik

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

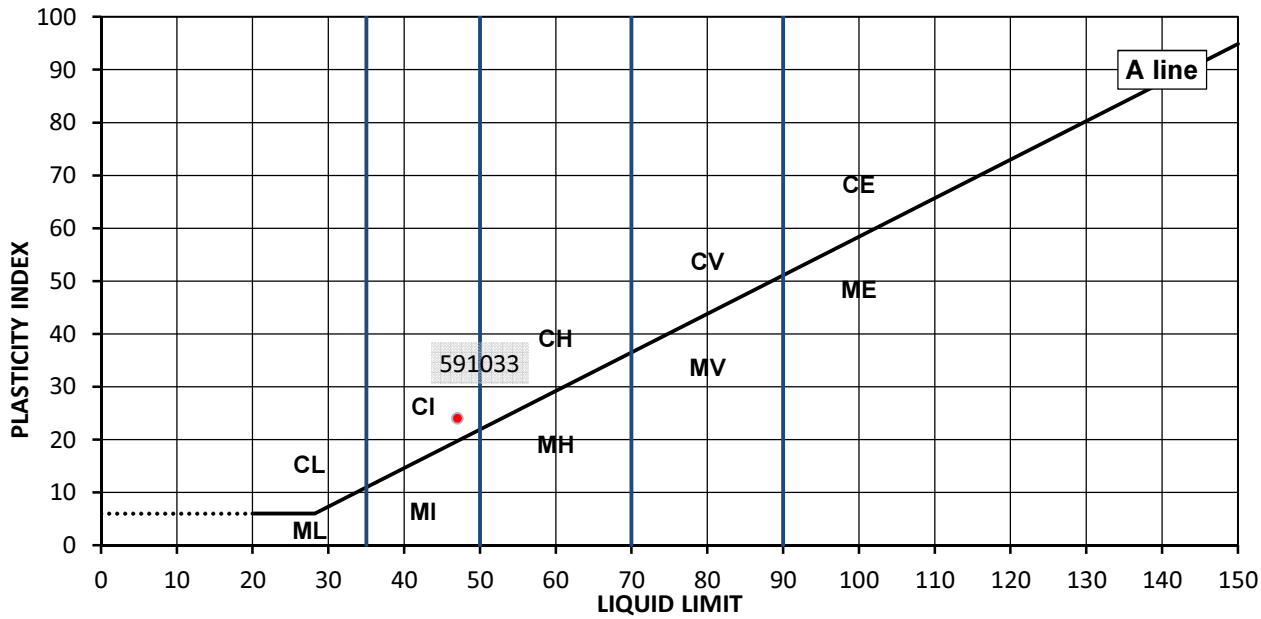
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	07/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591033
Sample Reference: B

Description:	Yellowish brown slightly gravelly CLAY	Sample Type:	B
Location:	WS01	Depth Top [m]:	1.2
Sample Preparation:	Tested after >425um removed by hand	Depth Base [m]:	1.9

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
20	47	23	24	96



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

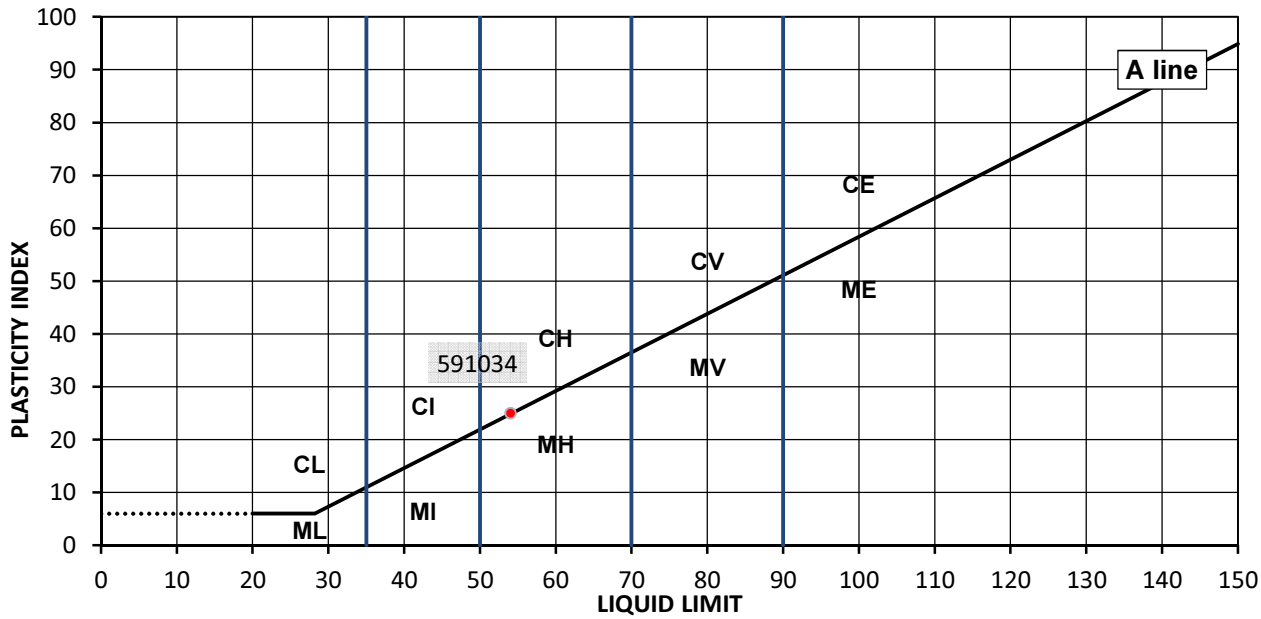
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	07/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591034
Sample Reference: D

Description:	Greyish brown silty CLAY	Sample Type:	D
Location:	WS01	Depth Top [m]:	3
Sample Preparation:	Tested in natural condition	Depth Base [m]:	3.45

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
24	54	29	25	100



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

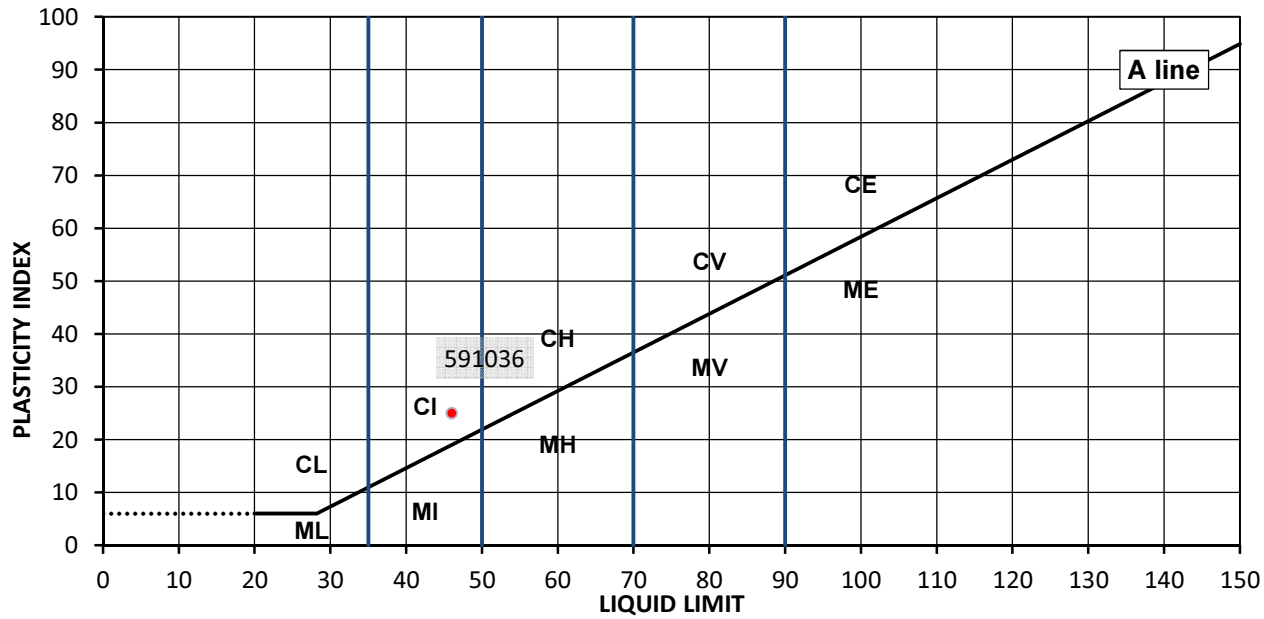
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	07/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591036
Sample Reference: D

Description:	Greyish brown slightly gravelly CLAY	Sample Type:	D
Location:	WS03	Depth Top [m]:	4
Sample Preparation:	Tested after >425um removed by hand	Depth Base [m]:	4.45

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
25	46	21	25	97



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

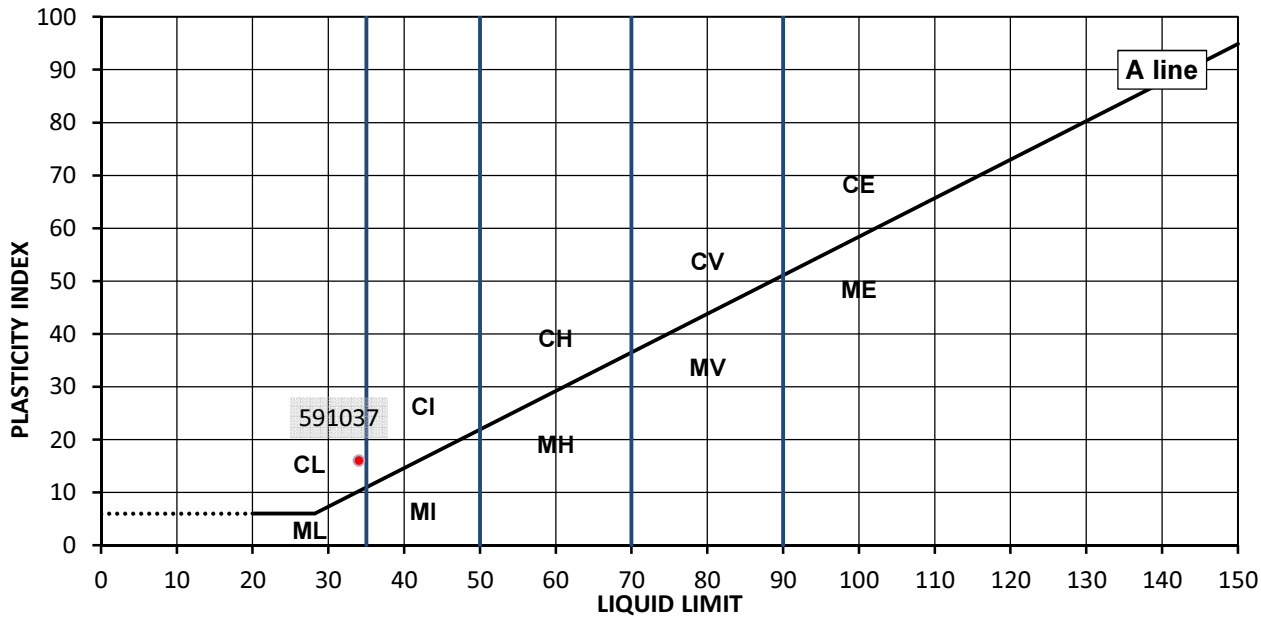
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	08/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591037
Sample Reference: D

Description:	Yellowish brown to grey slightly gravelly slightly sandy silty CLAY	Sample Type:	D
Location:	WS05	Depth Top [m]:	2.2
Sample Preparation:	Tested after >425um removed by hand	Depth Base [m]:	Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
25	34	18	16	95



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

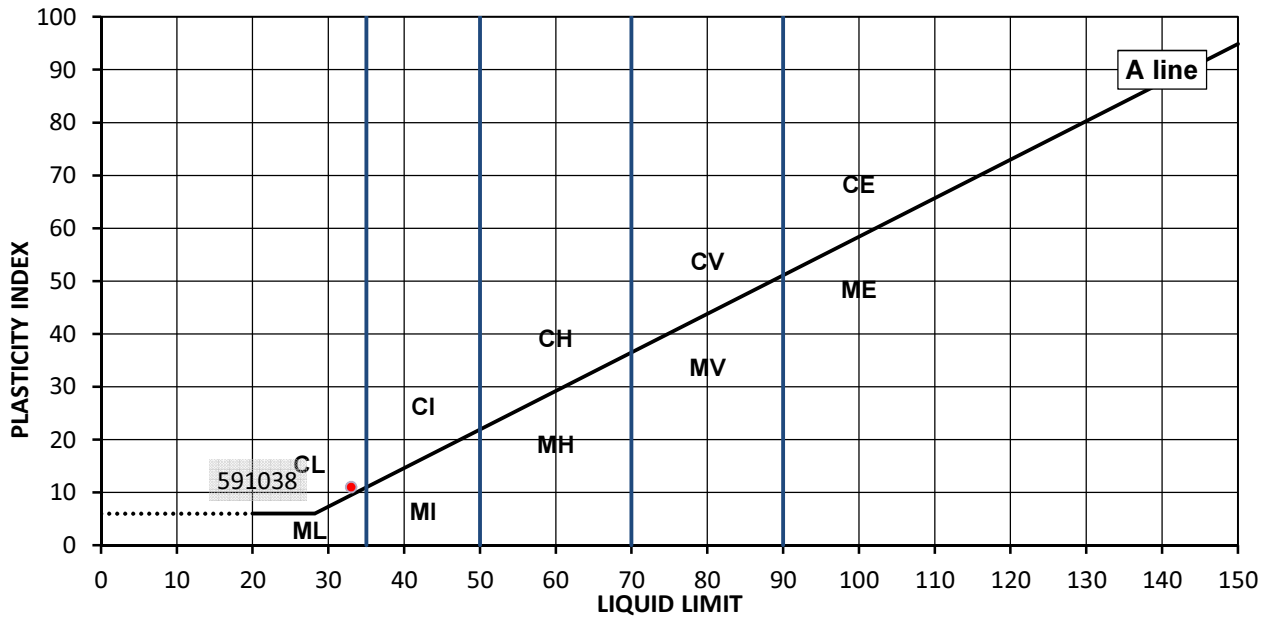
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	08/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591038
Sample Reference: B

Description:	Brown slightly gravelly sandy CLAY	Sample Type:	B
Location:	WS07	Depth Top [m]:	0.3
Sample Preparation:	Tested after >425um removed by hand	Depth Base [m]:	1

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
17	33	22	11	77



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

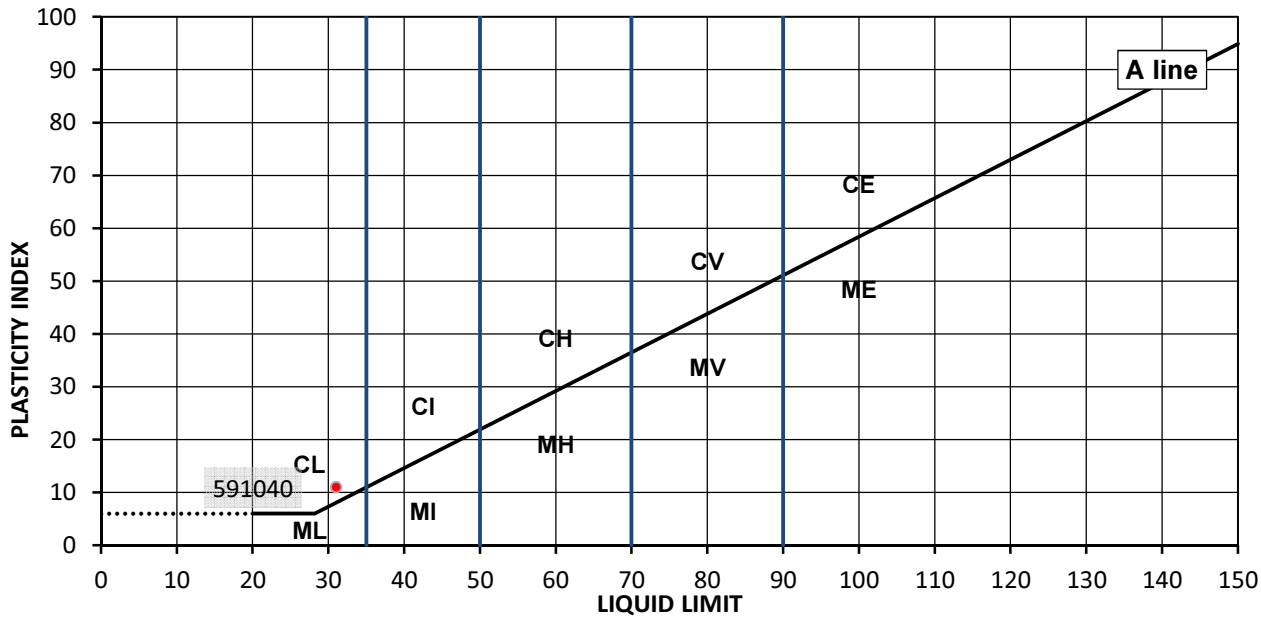
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	08/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591040
Sample Reference: D

Description:	Yellowish brown to grey silty CLAY	Sample Type:	D
Location:	WS07	Depth Top [m]:	3.5
Sample Preparation:	Tested in natural condition	Depth Base [m]:	Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
29	31	20	11	100



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

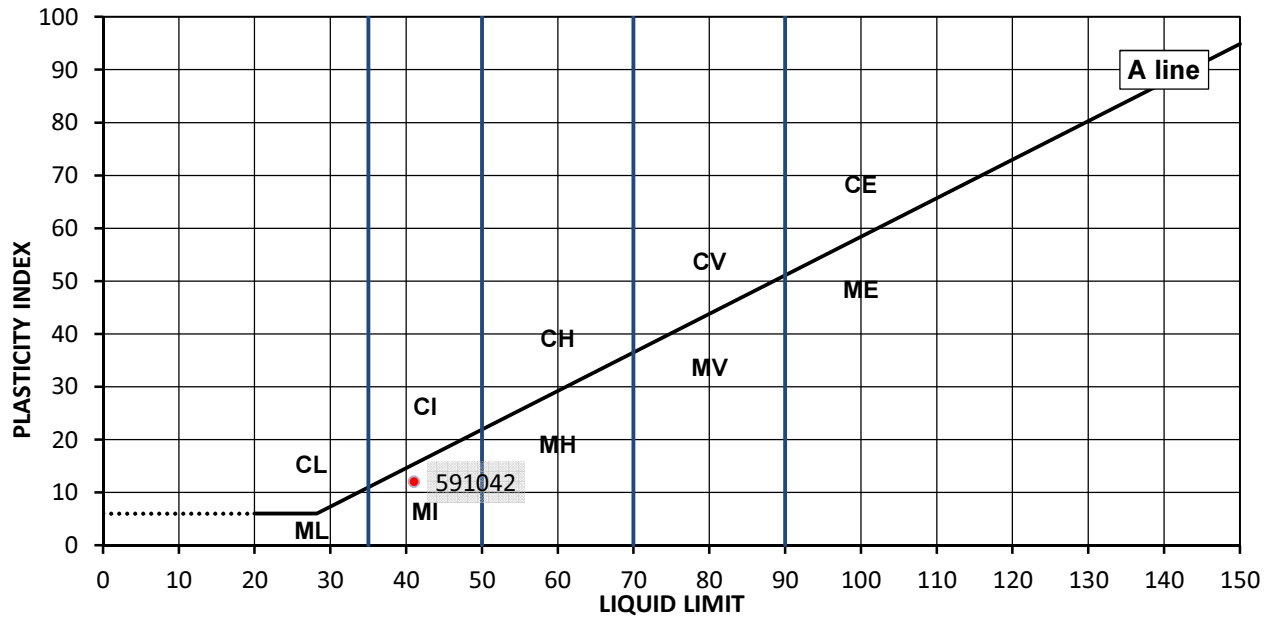
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591042
Sample Reference: D

Description:	Orange slightly gravelly slightly sandy CLAY	Sample Type:	B
Location:	WS11	Depth Top [m]:	1.2
Sample Preparation:	Tested after >425um removed by hand	Depth Base [m]:	1.65

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
22	41	29	12	62



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

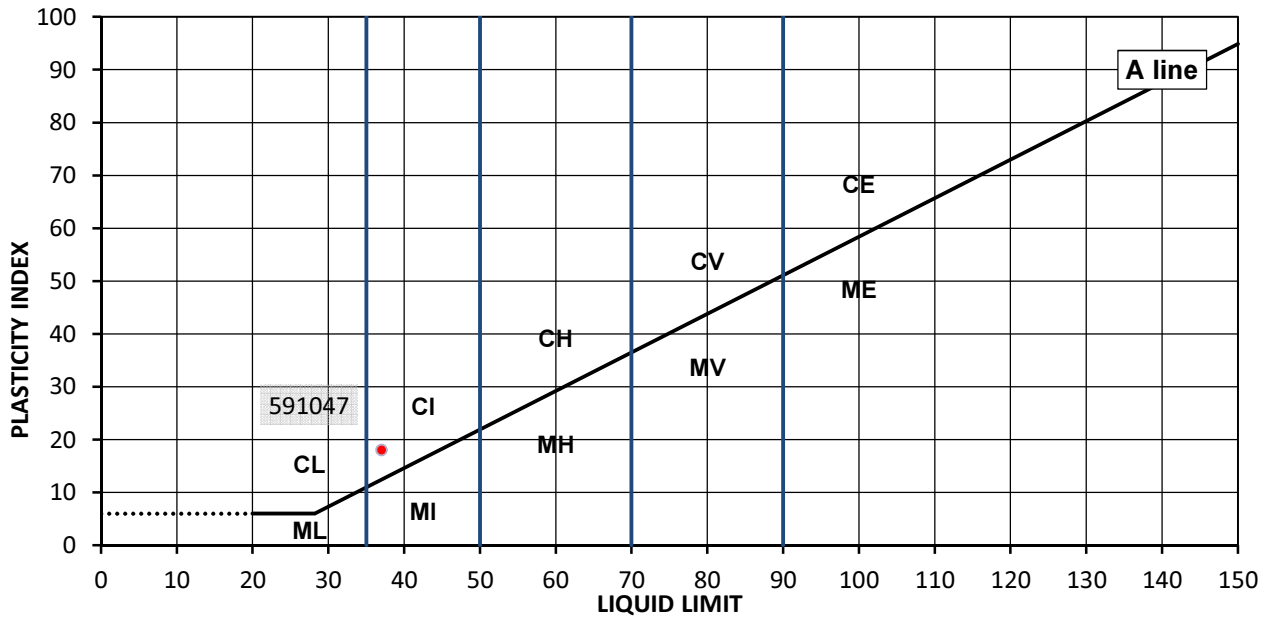
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591047
Sample Reference: D

Description:	Yellowish brown to grey slightly gravelly CLAY	Sample Type:	D
Location:	WS13	Depth Top [m]:	3.3
Sample Preparation:	Tested in natural condition	Depth Base [m]:	Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
17	37	19	18	100



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

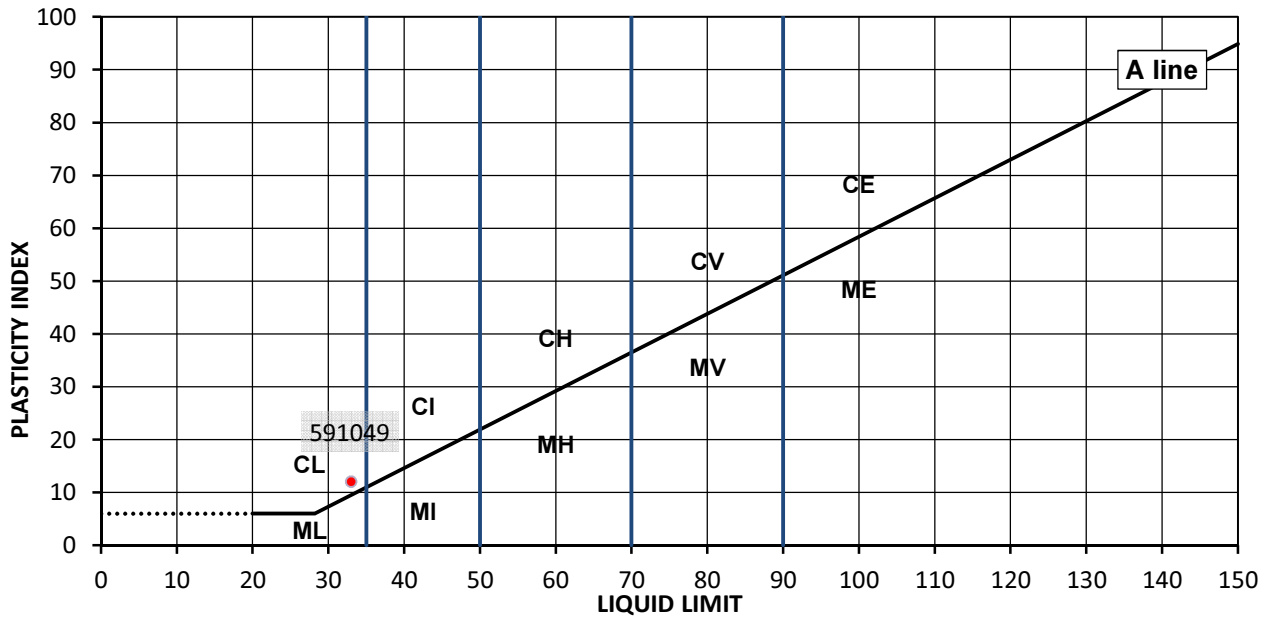
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591049
Sample Reference: B

Description:	Yellowish brown slightly gravelly slightly sandy CLAY	Sample Type:	B
Location:	WS14	Depth Top [m]:	1.2
Sample Preparation:	Tested after >425um removed by hand	Depth Base [m]:	2

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
20	33	21	12	74



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

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PL Head of Geotechnical section
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for and on behalf of i2 Analytical Ltd

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Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

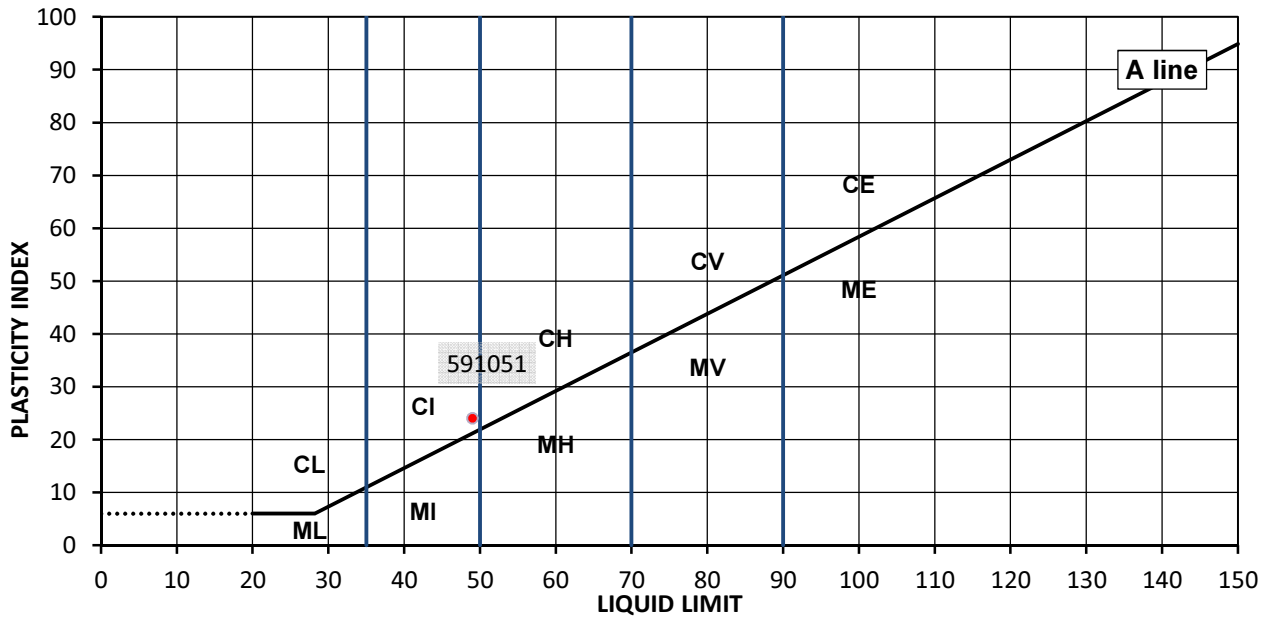
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	03/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591051
Sample Reference: D

Description:	Greyish brown silty CLAY	Sample Type:	D
Location:	WS20	Depth Top [m]:	4
Sample Preparation:	Tested in natural condition	Depth Base [m]:	4.45

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
20	49	25	24	100



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

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PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

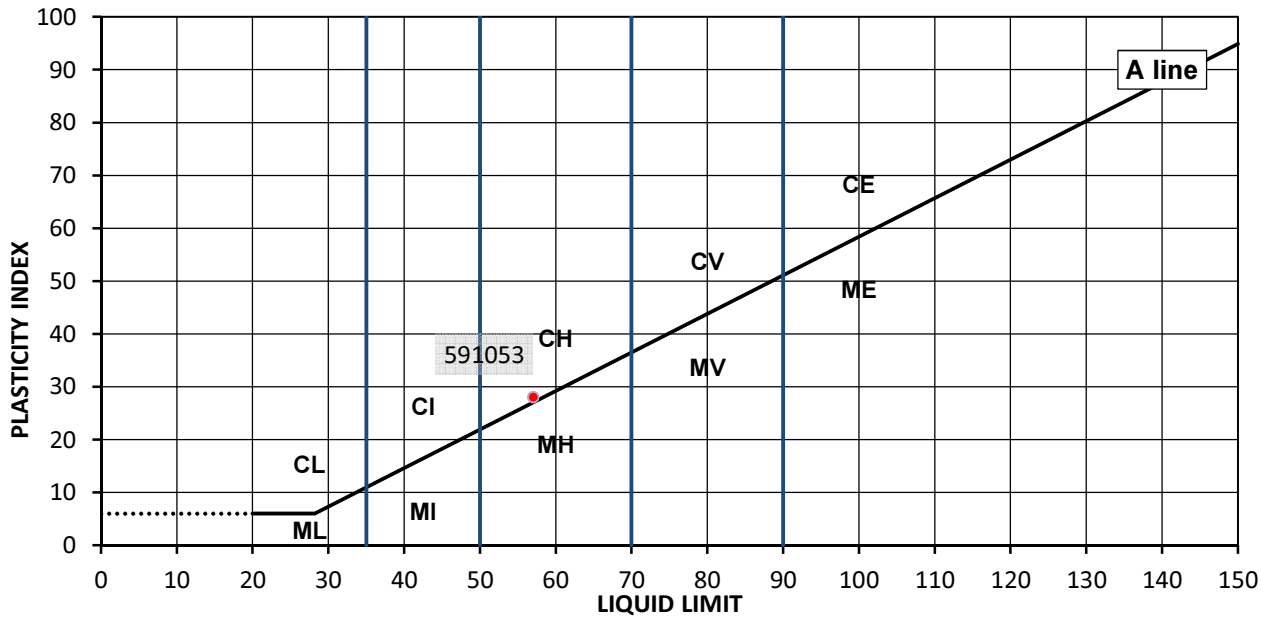
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591053
Sample Reference: D

Description:	Yellowish brown to brownish grey silty CLAY	Sample Type:	D
Location:	WS15	Depth Top [m]:	2
Sample Preparation:	Tested in natural condition	Depth Base [m]:	2.45

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
29	57	29	28	100



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

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PL Head of Geotechnical section
Date Reported: 12/07/2016

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Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

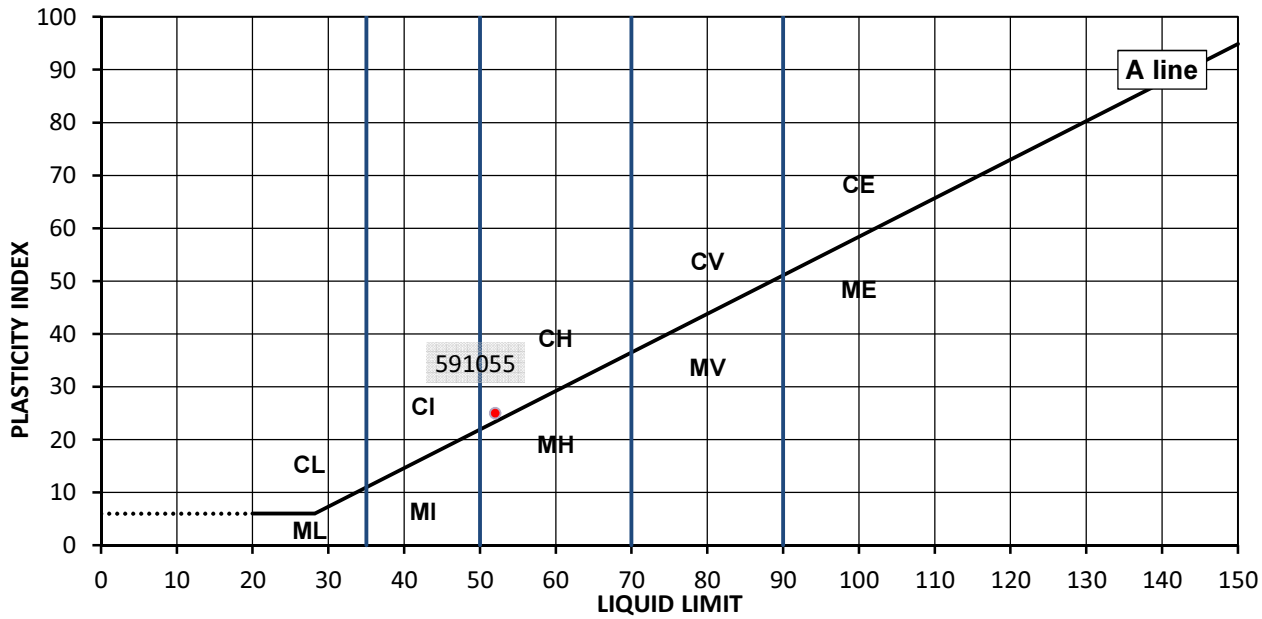
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	03/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591055
Sample Reference: D

Description:	Brownish grey slightly gravelly silty CLAY	Sample Type:	D
Location:	WS16	Depth Top [m]:	0.8
Sample Preparation:	Tested after >425um removed by hand	Depth Base [m]:	Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
24	52	27	25	96



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

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PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

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Geotechnical Manager

for and on behalf of i2 Analytical Ltd

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UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

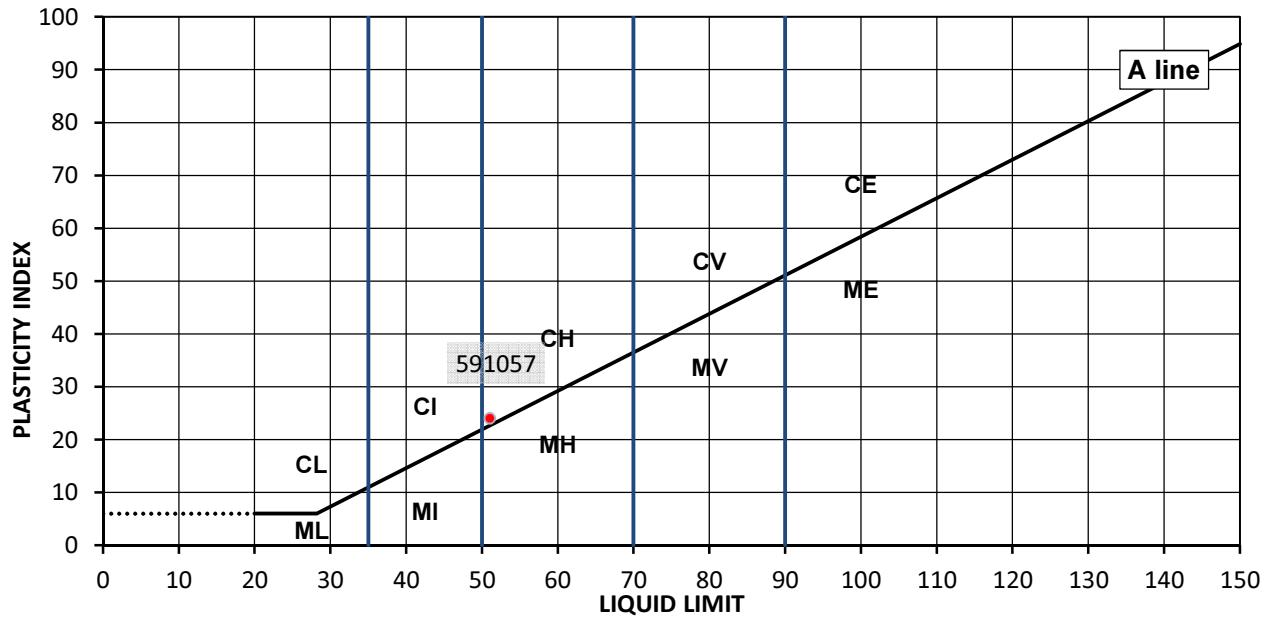
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	09/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591057
Sample Reference: D

Description:	Yellowish brown to brown slightly gravelly silty CLAY	Sample Type:	D
Location:	WS18	Depth Top [m]:	1.6
Sample Preparation:	Tested after washing to remove >425um	Depth Base [m]:	Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
25	51	27	24	73



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

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Approved:

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PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

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i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

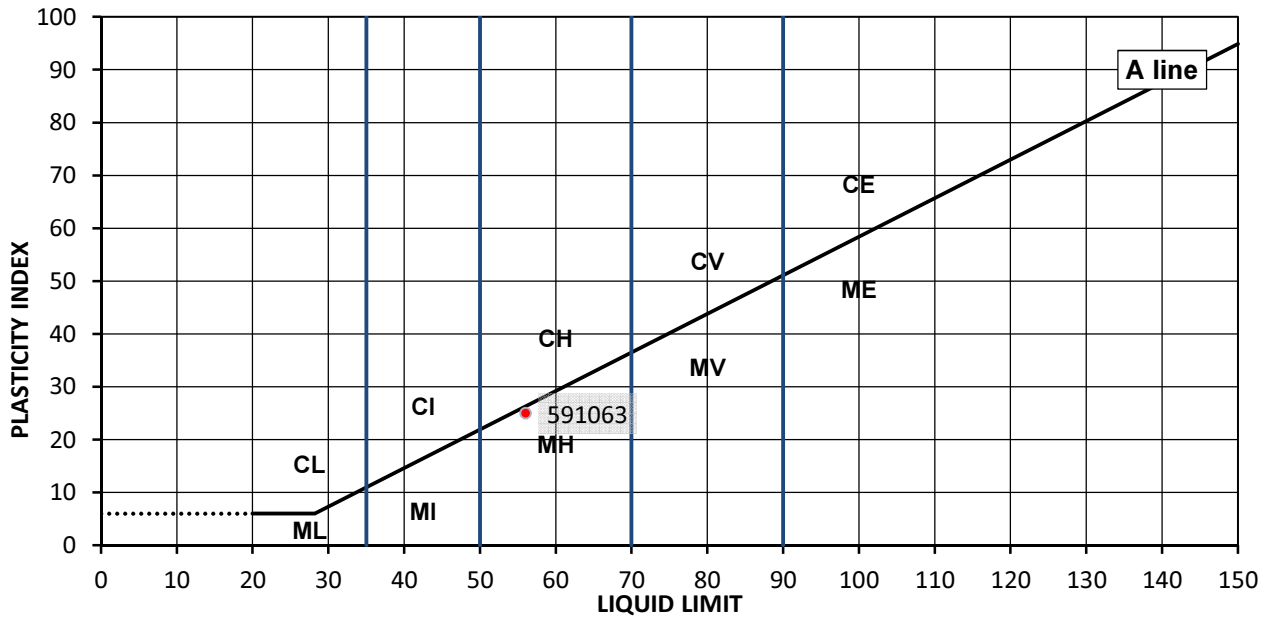
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591063
Sample Reference: D

Description:	Yellowish brown to grey slightly gravelly silty CLAY	Sample Type:	D
Location:	WS22	Depth Top [m]:	1.2
Sample Preparation:	Tested after >425um removed by hand	Depth Base [m]:	1.65

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
25	56	31	25	98



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

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Approved:

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PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

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Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

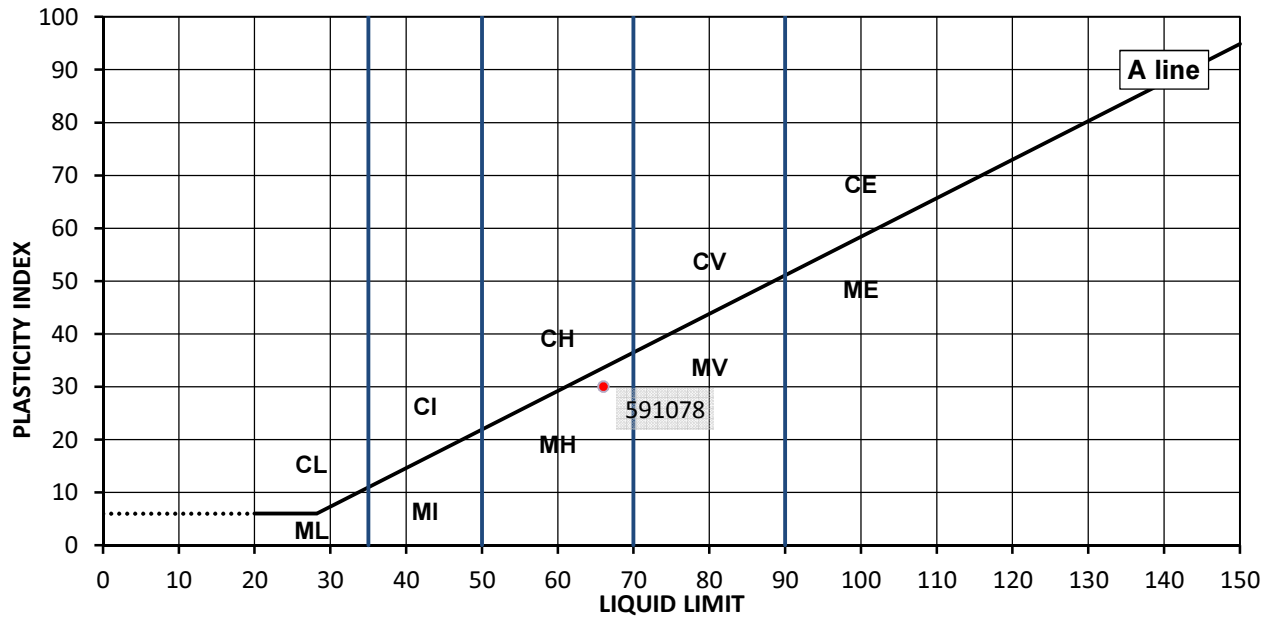
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	31/05/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591078
Sample Reference: D

Description:	Brown slightly sandy CLAY with roottlets	Sample Type:	D
Location:	BH02	Depth Top [m]:	1.3
Sample Preparation:	Tested after >425um removed by hand	Depth Base [m]:	Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
37	66	36	30	99



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

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PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

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Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

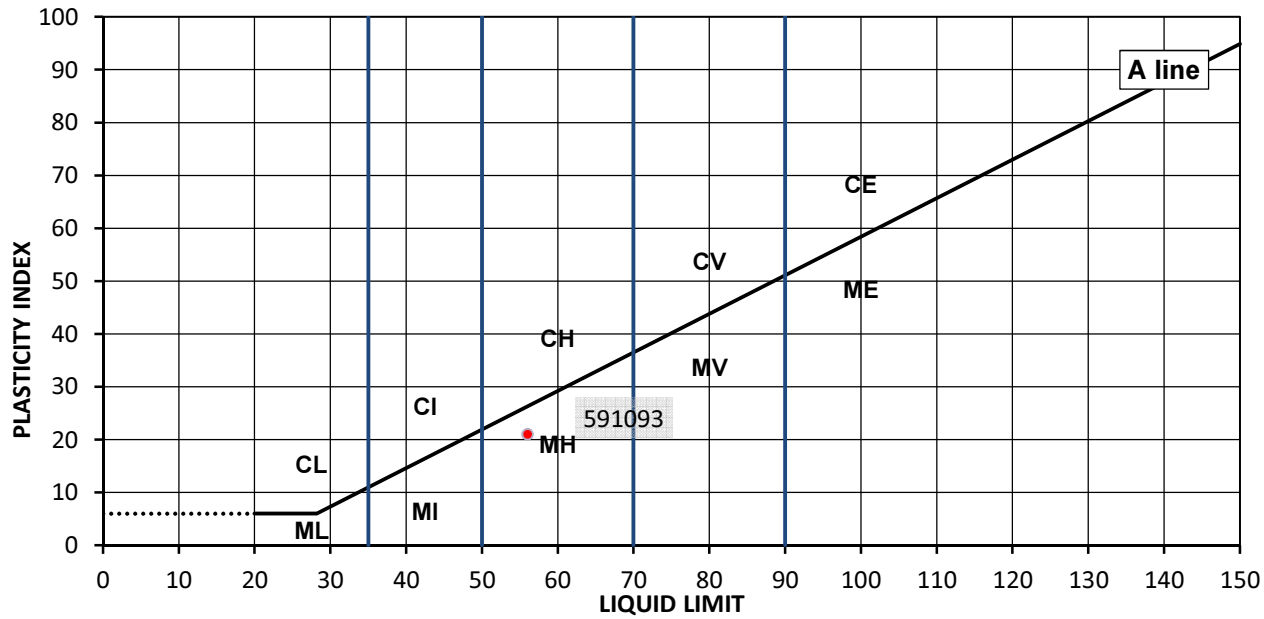
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591093
Sample Reference: B

Description:	Brown gravelly slightly sandy silty CLAY	Sample Type:	B
Location:	BH04	Depth Top [m]:	0.7
Sample Preparation:	Tested after >425um removed by hand	Depth Base [m]:	Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
23	56	35	21	79



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

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PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

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Geotechnical Manager

for and on behalf of i2 Analytical Ltd

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7 Woodshots Meadow
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Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

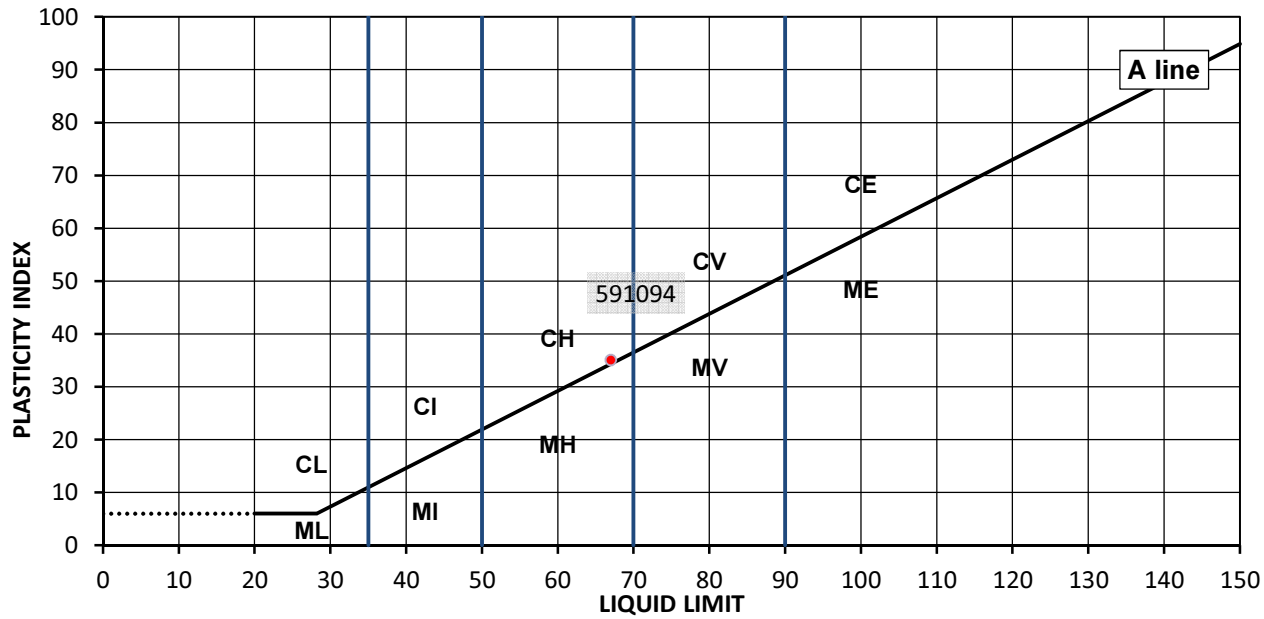
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591094
Sample Reference: B

Description:	Yellowish brown to grey silty CLAY	Sample Type:	B
Location:	BH04	Depth Top [m]:	1.2
Sample Preparation:	Tested in natural condition	Depth Base [m]:	Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
29	67	32	35	100



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:
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Approved:
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PL Head of Geotechnical section
Date Reported: 12/07/2016

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TEST CERTIFICATE

Determination of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

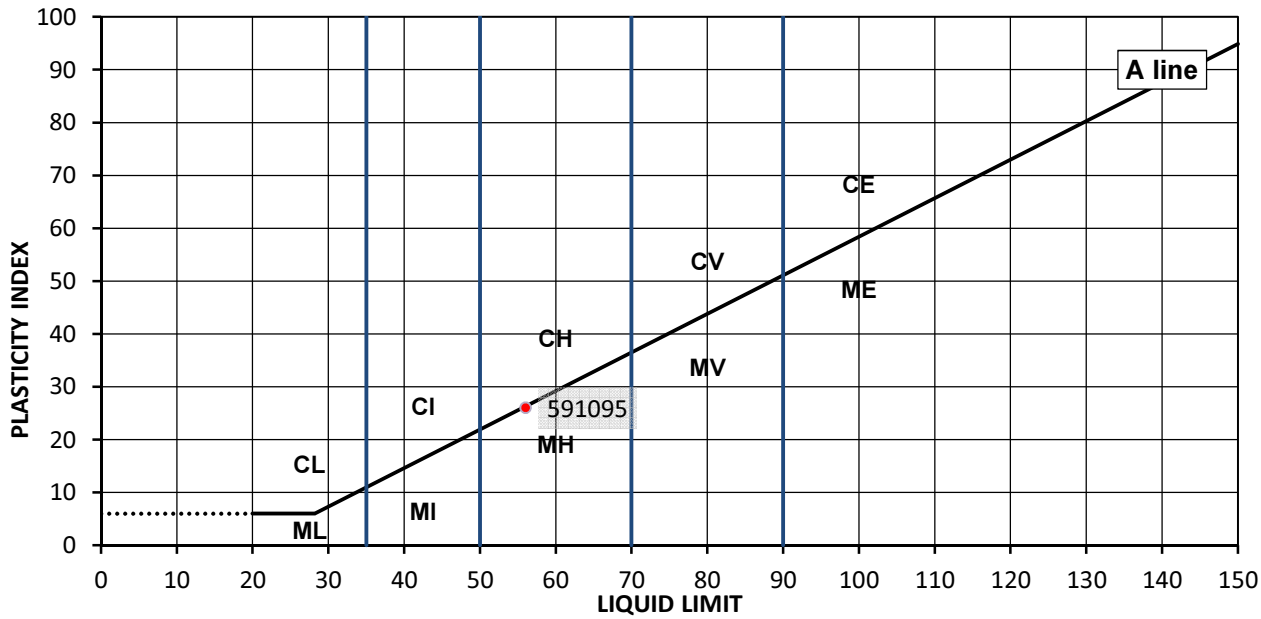
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591095
Sample Reference: U

Description:	Yellowish brown to grey silty CLAY	Sample Type:	U
Location:	BH04	Depth Top [m]:	2
Sample Preparation:	Tested in natural condition	Depth Base [m]:	2.45

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
27	56	30	26	100



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

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Date Reported: 12/07/2016

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for and on behalf of i2 Analytical Ltd

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UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.4 & 5: One Point Method

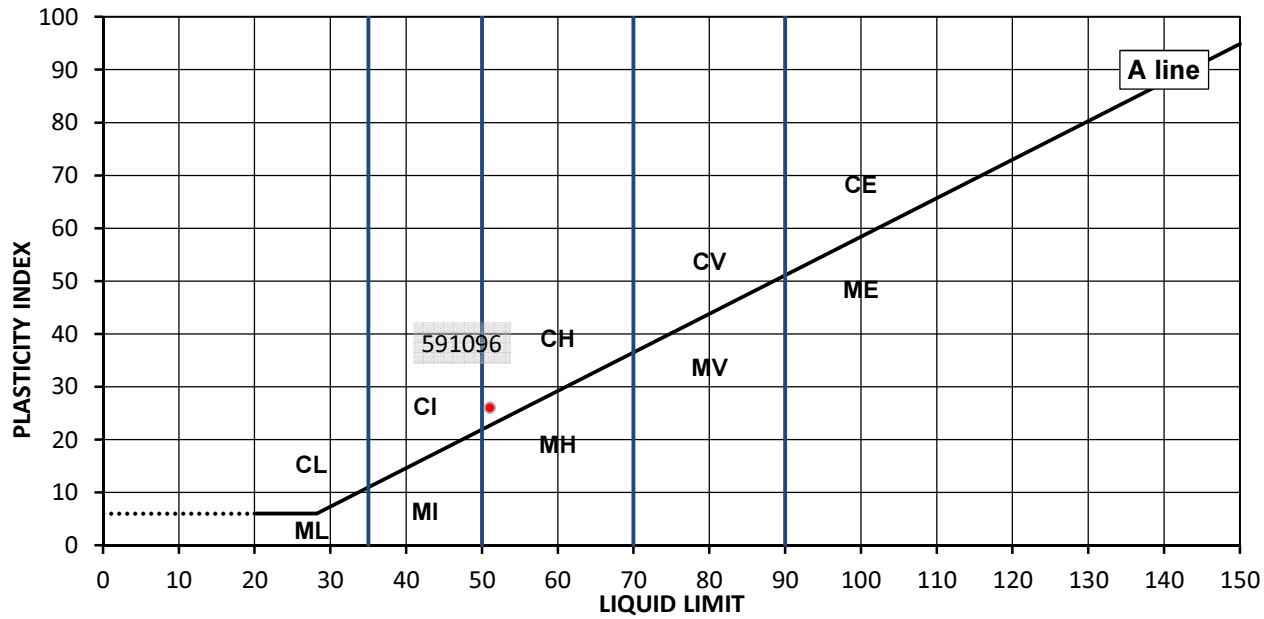
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591096
Sample Reference: U

Description:	Greyish brown silty CLAY	Sample Type:	U
Location:	BH04	Depth Top [m]:	4
Sample Preparation:	Tested in natural condition	Depth Base [m]:	4.45

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
21	51	25	26	100



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

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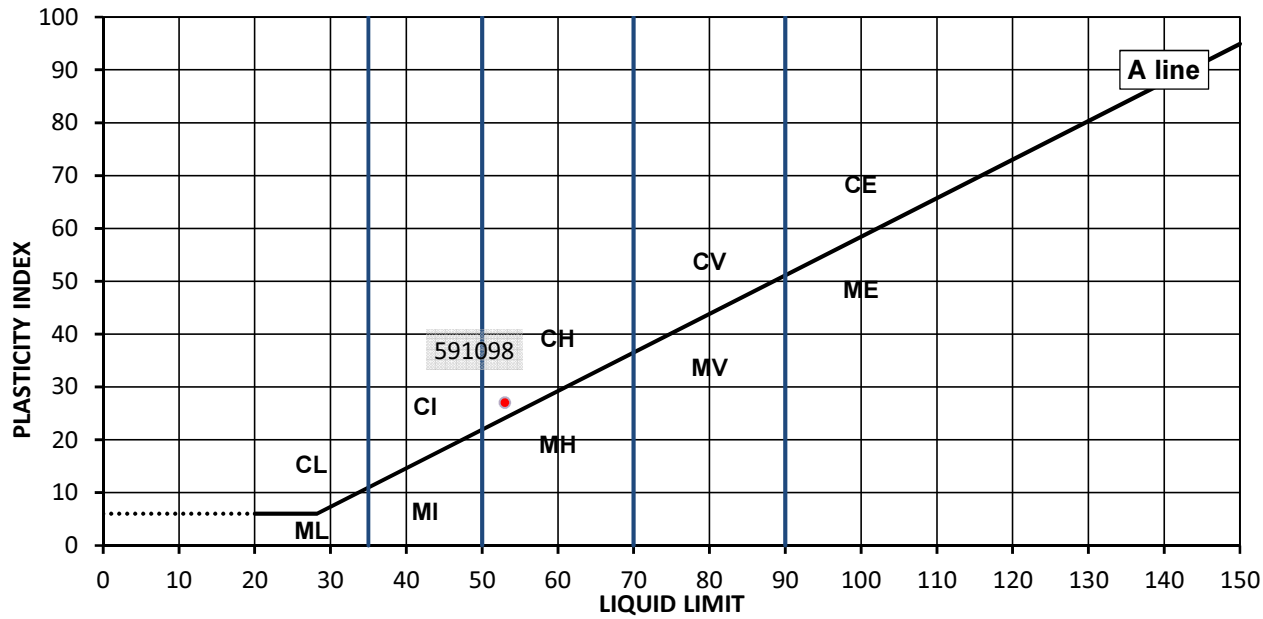
Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference: 591098
Sample Reference: C

Description:	Greyish brown CLAY	Sample Type:	U
Location:	BH04	Depth Top [m]:	9
Sample Preparation:	Tested in natural condition	Depth Base [m]:	9.4

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
21	53	26	27	100



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments:

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Summary of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

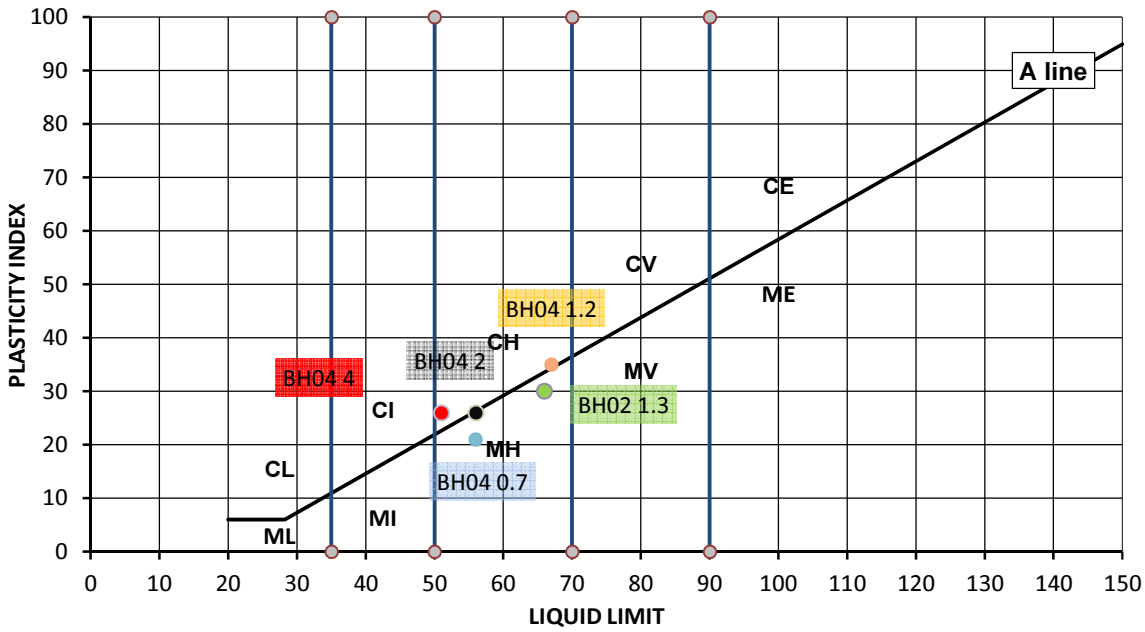
4041

Tested in Accordance with BS1377-2: 1990: Clauses 4.4 & 5: One Point Method

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	31/05,06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Location	Depth [m]	As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
BH02	1.3	37	66	36	30	99
BH04	0.7	23	56	35	21	79
BH04	1.2	29	67	32	35	100
BH04	2	27	56	30	26	100
BH04	4	21	51	25	26	100



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved: Mirosława Pytlik
PL Head of Geotechnical section

Signed: Terry Stafford
Geotechnical Manager

Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Summary of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

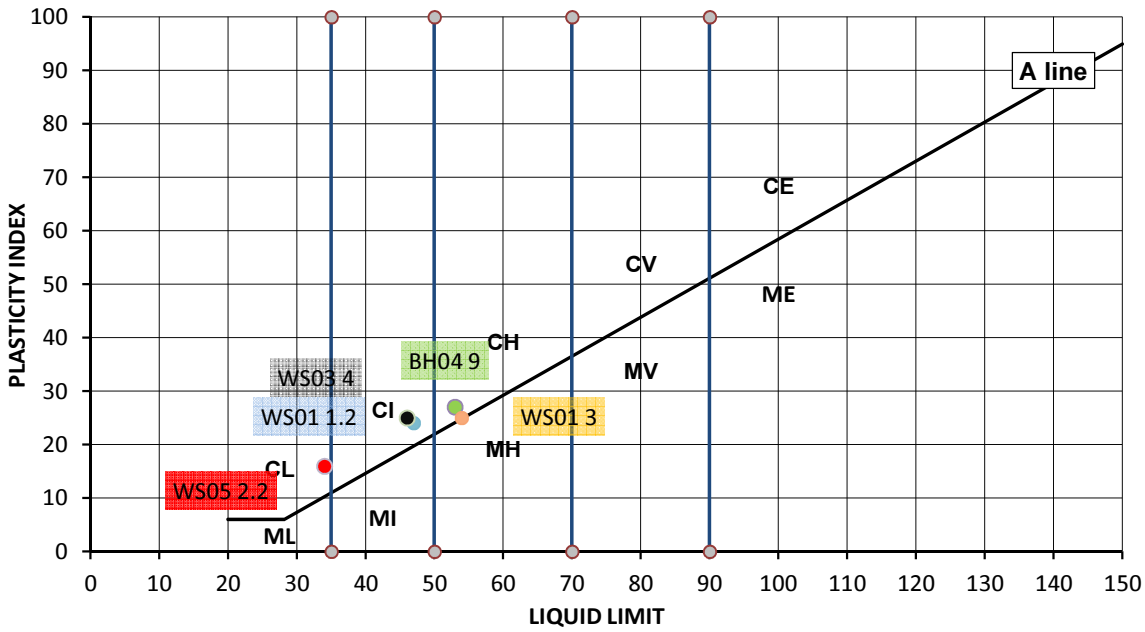
4041

Tested in Accordance with BS1377-2: 1990: Clauses 4.4 & 5: One Point Method

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	06,07,08/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Location	Depth [m]	As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
BH04	9	21	53	26	27	100
WS01	1.2	20	47	23	24	96
WS01	3	24	54	29	25	100
WS03	4	25	46	21	25	97
WS05	2.2	25	34	18	16	95



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved: Mirosława Pytlik
PL Head of Geotechnical section

Signed: Terry Stafford
Geotechnical Manager

Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Summary of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

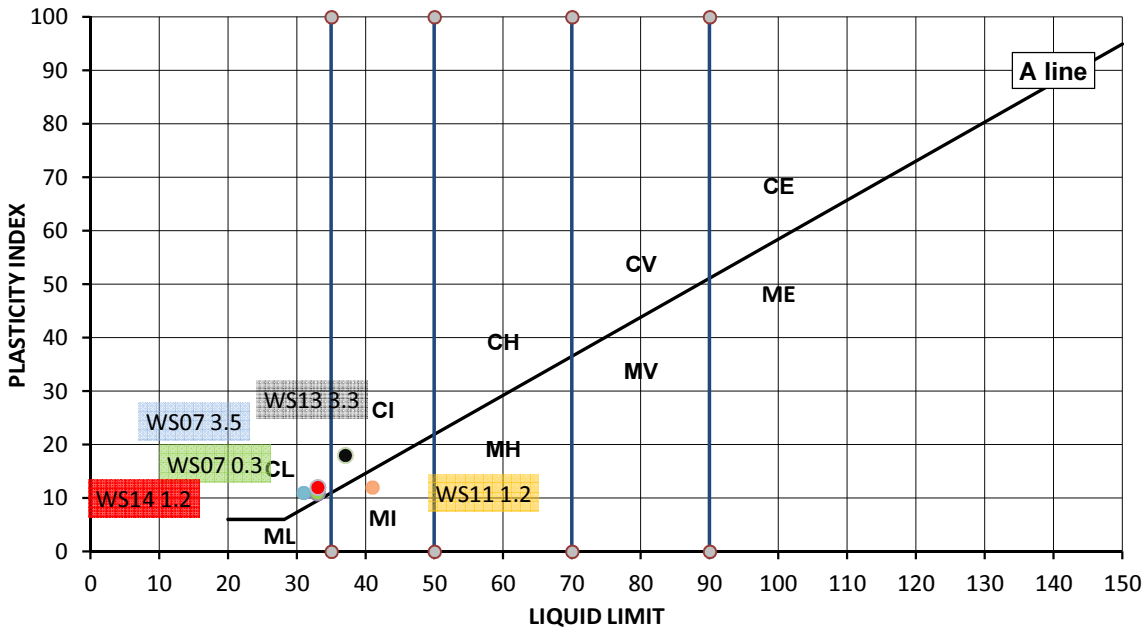
4041

Tested in Accordance with BS1377-2: 1990: Clauses 4.4 & 5: One Point Method

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02,08/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Location	Depth [m]	As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
WS07	0.3	17	33	22	11	77
WS07	3.5	29	31	20	11	100
WS11	1.2	22	41	29	12	62
WS13	3.3	17	37	19	18	100
WS14	1.2	20	33	21	12	74



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved: Mirosława Pytlik
PL Head of Geotechnical section

Signed: Terry Stafford
Geotechnical Manager

Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Summary of Liquid and Plastic Limits

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

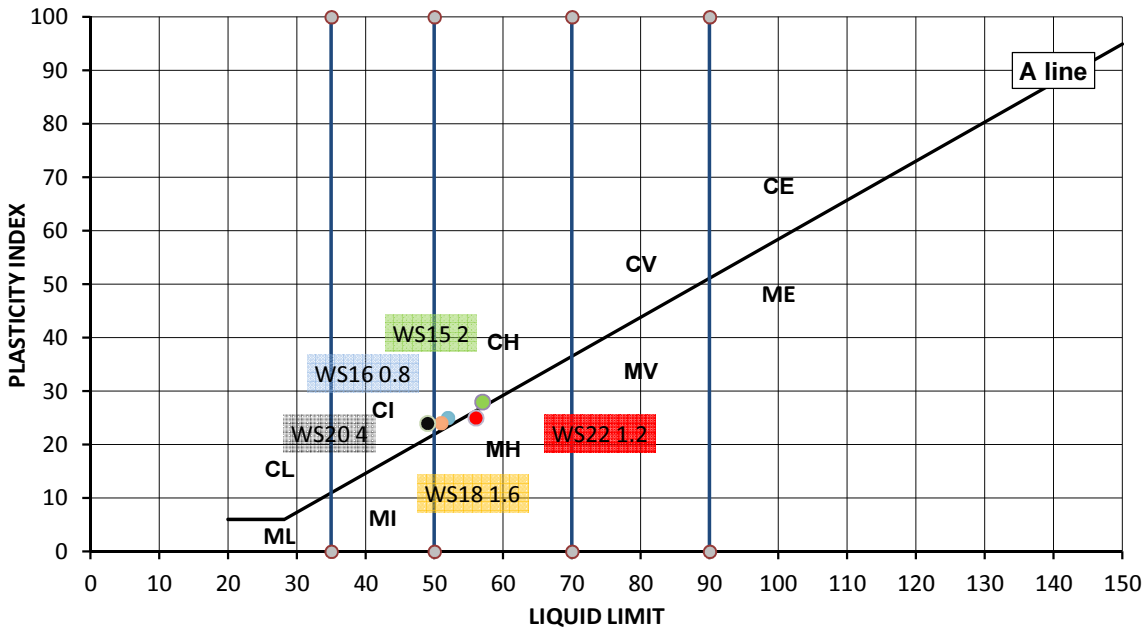
4041

Tested in Accordance with BS1377-2: 1990: Clauses 4.4 & 5: One Point Method

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	03,06,09/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Location	Depth [m]	As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
WS15	2	29	57	29	28	100
WS16	0.8	24	52	27	25	96
WS18	1.6	25	51	27	24	73
WS20	4	20	49	25	24	100
WS22	1.2	25	56	31	25	98



Legend, based on BS 5930:1999 +A2: 2010 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved: Mirosława Pytlik
PL Head of Geotechnical section

Signed: Terry Stafford
Geotechnical Manager

Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

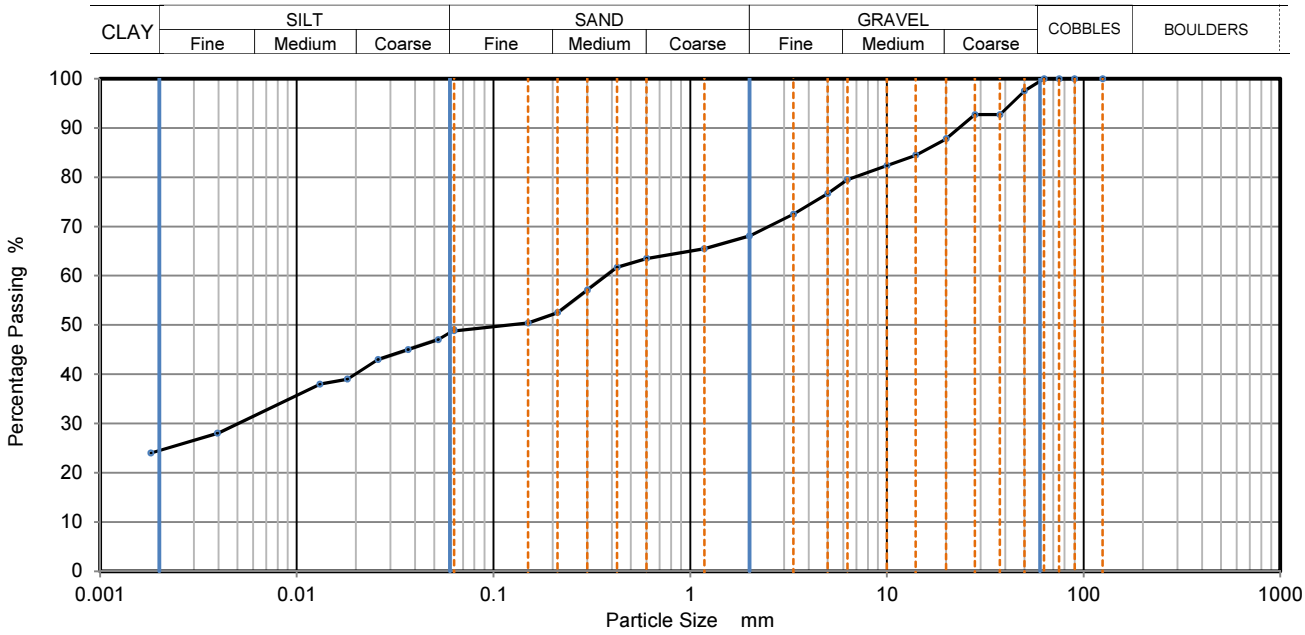
4041

Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	07/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS Laboratory Reference: 591033 Sample Reference: B

Sample description:	Yellowish brown slightly gravelly CLAY	Sample Type:	B
Location:	WS01	Depth Top [m]:	1.2
Supplier:	Not Given	Depth Base [m]:	1.9



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	49
90	100	0.0524	47
75	100	0.0368	45
63	100	0.0259	43
50	98	0.0181	39
37.5	93	0.0131	38
28	93	0.0039	28
20	88	0.0018	24
14	85		
10	82		
6.3	80		
5	77		
3.35	73		
2	68		
1.18	66		
0.6	64	Particle density (assumed)	
0.425	62	2.65 Mg/m3	
0.3	57		
0.212	53		
0.15	50		
0.063	49		

Dry Mass of sample [g]: 3681

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	31.90
Sand	19.30
Silt	23.90
Clay	24.90

Grading Analysis		
D100	mm	63
D60	mm	0.374
D30	mm	0.005
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Insufficient material supplied to be representative in accordance with BS1377 requirements

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

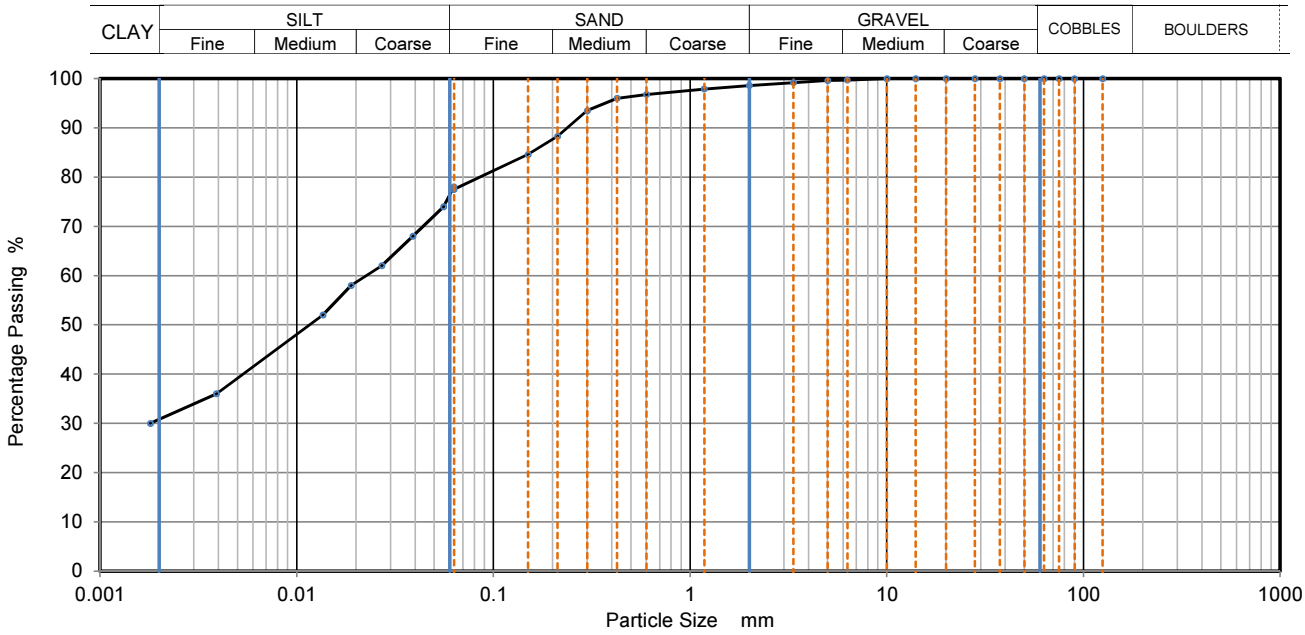
4041

Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	08/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS Laboratory Reference: 591039 Sample Reference: B

Sample description:	Yellowish brown slightly sandy silty CLAY	Sample Type:	B
Location:	WS07	Depth Top [m]:	2
Supplier:	Not Given	Depth Base [m]:	3



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	78
90	100	0.0558	74
75	100	0.0389	68
63	100	0.0271	62
50	100	0.0189	58
37.5	100	0.0136	52
28	100	0.0039	36
20	100	0.0018	30
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	98		
0.6	97	Particle density (assumed)	
0.425	96	2.65 Mg/m3	
0.3	94		
0.212	88		
0.15	85		
0.063	78		

Dry Mass of sample [g]: 1057

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	1.40
Sand	21.10
Silt	46.90
Clay	30.60

Grading Analysis		
D100	mm	10
D60	mm	0.0234
D30	mm	0.00185
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

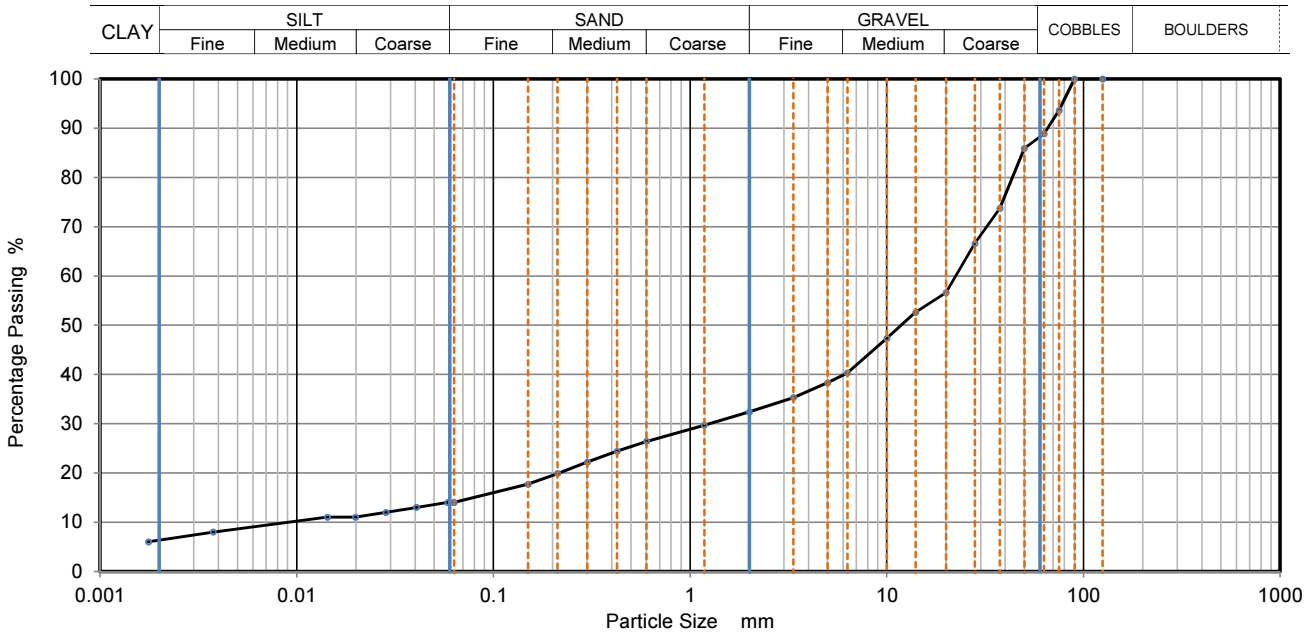
Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	591046	Sample Reference:	B
Sample description:	Yellowish brown sandy clayey fine to coarse GRAVEL	Sample Type:	B
Location:	WS13	Depth Top [m]:	0.5
Supplier:	Not Given	Depth Base [m]:	1.3



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	14
90	100	0.0585	14
75	94	0.0406	13
63	89	0.0284	12
50	86	0.0199	11
37.5	74	0.0143	11
28	67	0.0038	8
20	57	0.0018	6
14	53		
10	47		
6.3	40		
5	38		
3.35	35		
2	32		
1.18	30		
0.6	26	Particle density (assumed)	
0.425	24	2.65	Mg/m3
0.3	22		
0.212	20		
0.15	18		
0.063	14		

Dry Mass of sample [g]: 9192

Sample Proportions	% dry mass
Very coarse	11.10
Gravel	56.40
Sand	18.40
Silt	8.00
Clay	6.10

Grading Analysis		
D100	mm	90
D60	mm	22.4
D30	mm	1.25
D10	mm	0.0114
Uniformity Coefficient		2000
Curvature Coefficient		6.1

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Insufficient material supplied to be representative in accordance with BS1377 requirements

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

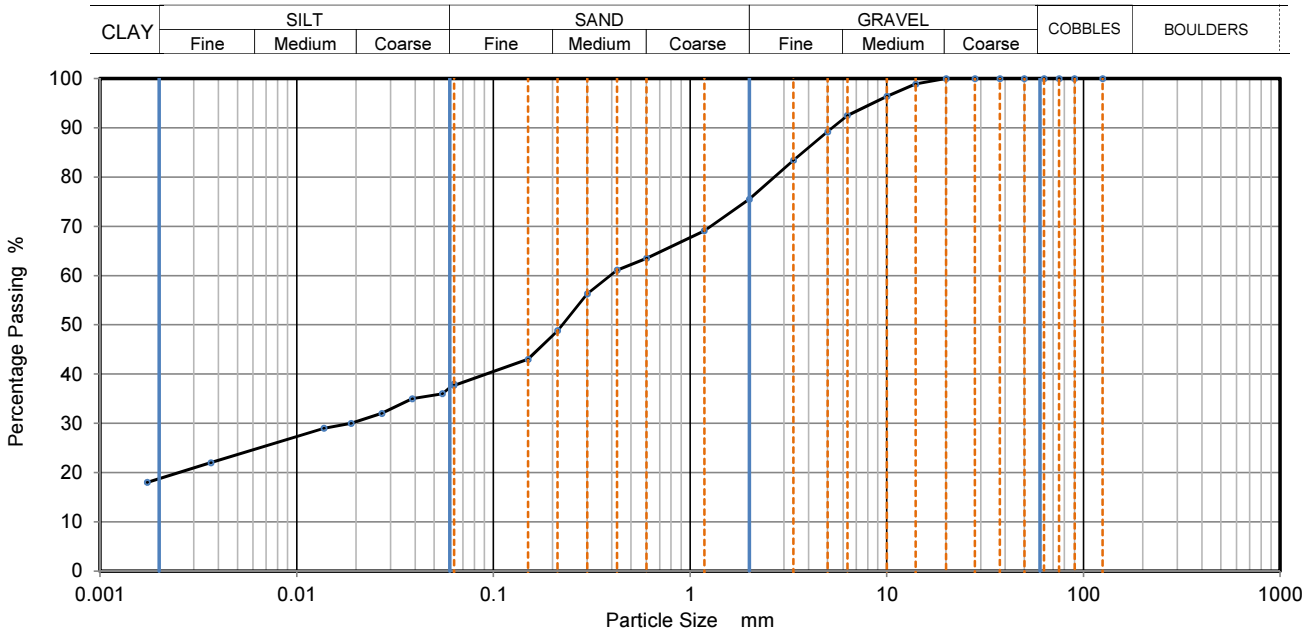
i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

4041

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	591049	Sample Reference:	B
Sample description:	Yellowish brown slightly gravelly slightly sandy CLAY	Sample Type:	B
Location:	WS14	Depth Top [m]:	1.2
Supplier:	Not Given	Depth Base [m]:	2



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	38
90	100	0.0550	36
75	100	0.0387	35
63	100	0.0271	32
50	100	0.0189	30
37.5	100	0.0137	29
28	100	0.0037	22
20	100	0.0017	18
14	99		
10	96		
6.3	93		
5	89		
3.35	83		
2	76		
1.18	69		
0.6	64	Particle density (assumed)	
0.425	61	2.65 Mg/m3	
0.3	56		
0.212	49		
0.15	43		
0.063	38		

Dry Mass of sample [g]: 1159

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	24.50
Sand	37.80
Silt	19.10
Clay	18.60

Grading Analysis		
D100	mm	20
D60	mm	0.393
D30	mm	0.0169
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

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PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

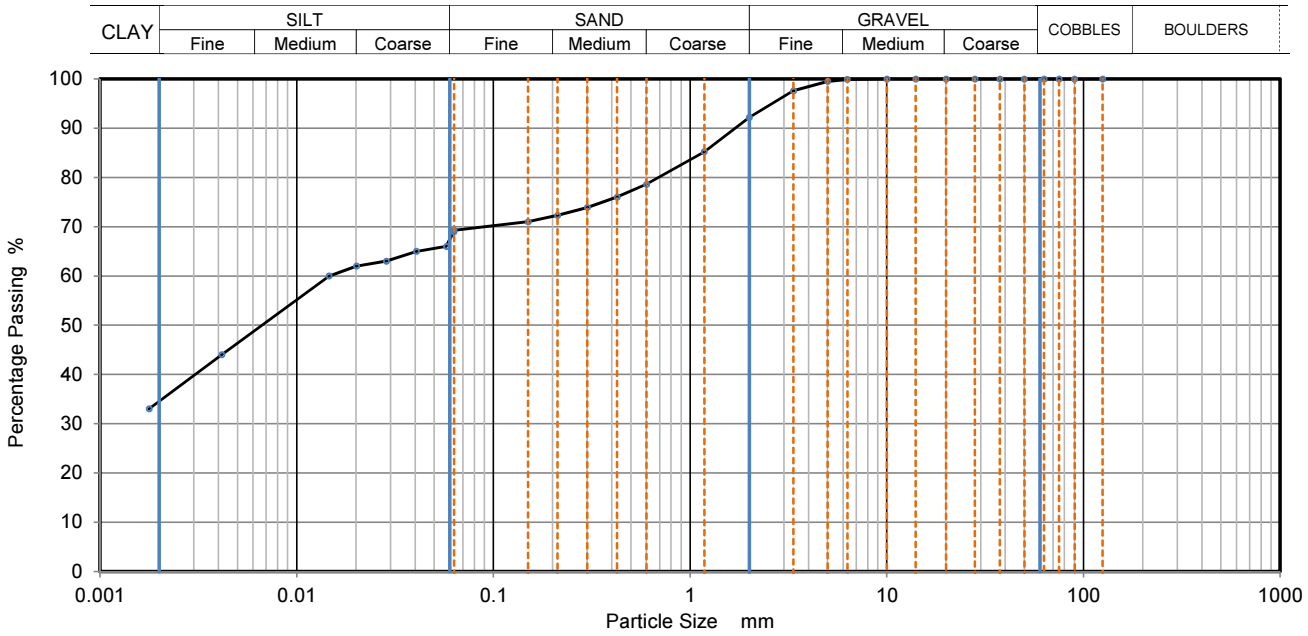
i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

4041

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	07/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	07/01/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	591067	Sample Reference:	D
Sample description:	Yelloiwsh brown slightly gravelly slightly sandy CLAY	Sample Type:	D
Location:	WS25	Depth Top [m]:	1
Supplier:	Not Given	Depth Base [m]:	2



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	69
90	100	0.0577	66
75	100	0.0406	65
63	100	0.0286	63
50	100	0.0201	62
37.5	100	0.0146	60
28	100	0.0042	44
20	100	0.0018	33
14	100		
10	100		
6.3	100		
5	100		
3.35	98		
2	92		
1.18	85		
0.6	79	Particle density (assumed)	
0.425	76	2.65 Mg/m3	
0.3	74		
0.212	72		
0.15	71		
0.063	69		

Dry Mass of sample [g]: 754

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	7.80
Sand	22.90
Silt	34.70
Clay	34.60

Grading Analysis		
D100	mm	10
D60	mm	0.0143
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

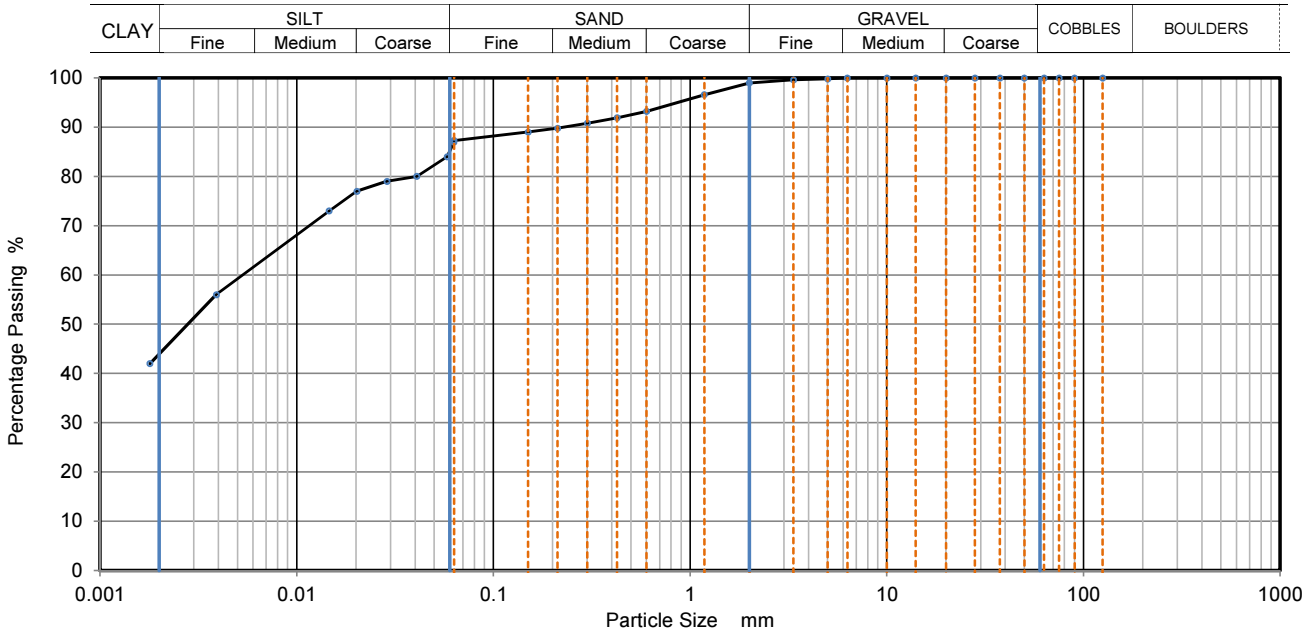
4041

Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	07/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS Laboratory Reference: 591068 Sample Reference: B

Sample description:	Greyish brown slightly sandy CLAY	Sample Type:	B
Location:	WS25	Depth Top [m]:	2
Supplier:	Not Given	Depth Base [m]:	3



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	87
90	100	0.0583	84
75	100	0.0408	80
63	100	0.0287	79
50	100	0.0202	77
37.5	100	0.0146	73
28	100	0.0039	56
20	100	0.0018	42
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	97		
0.6	93	Particle density (assumed)	
0.425	92	2.65 Mg/m3	
0.3	91		
0.212	90		
0.15	89		
0.063	87		

Dry Mass of sample [g]: 926

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	1.00
Sand	11.70
Silt	43.40
Clay	43.90

Grading Analysis		
D100	mm	6.3
D60	mm	0.00533
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

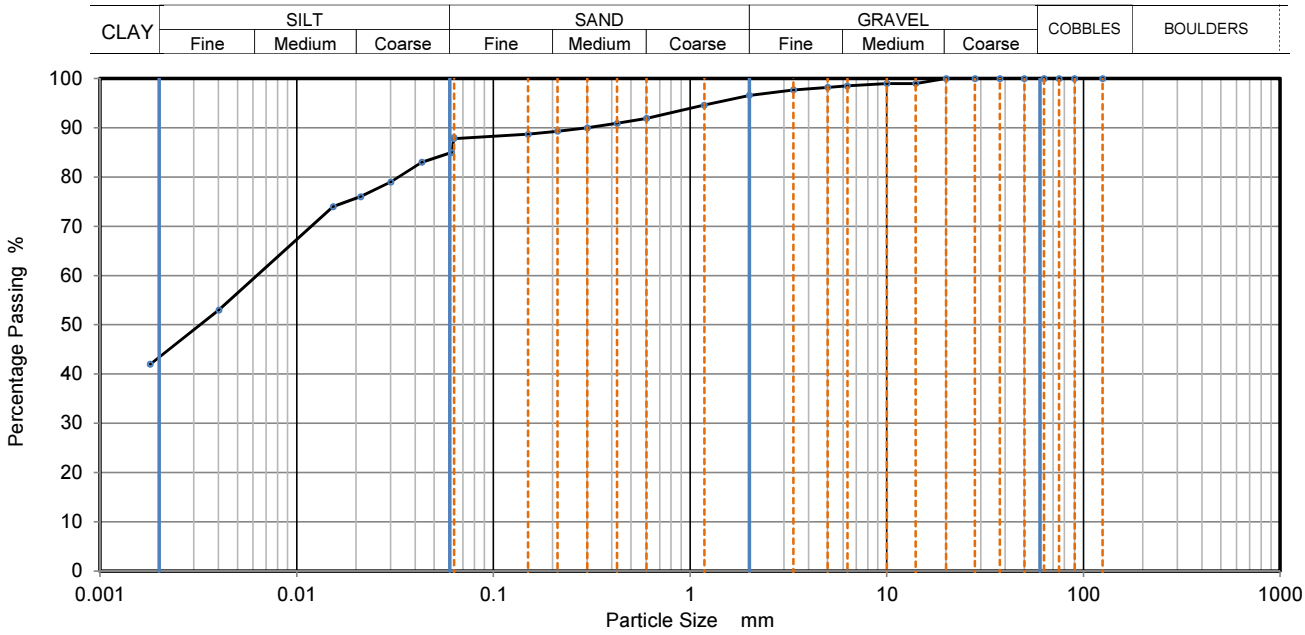
UKAS TESTING 4041

Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	591069	Sample Reference:	B
Sample description:	Greyish brown CLAY with thin laminae of orangish sand	Sample Type:	B
Location:	WS25	Depth Top [m]:	3
Supplier:	Not Given	Depth Base [m]:	4



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	88
90	100	0.0613	85
75	100	0.0432	83
63	100	0.0301	79
50	100	0.0211	76
37.5	100	0.0153	74
28	100	0.0040	53
20	100	0.0018	42
14	99		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	95		
0.6	92	Particle density (assumed)	
0.425	91	2.65 Mg/m3	
0.3	90		
0.212	89		
0.15	89		
0.063	88		

Dry Mass of sample [g]: 886

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	3.40
Sand	8.80
Silt	44.00
Clay	43.80

Grading Analysis		
D100	mm	20
D60	mm	0.00627
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

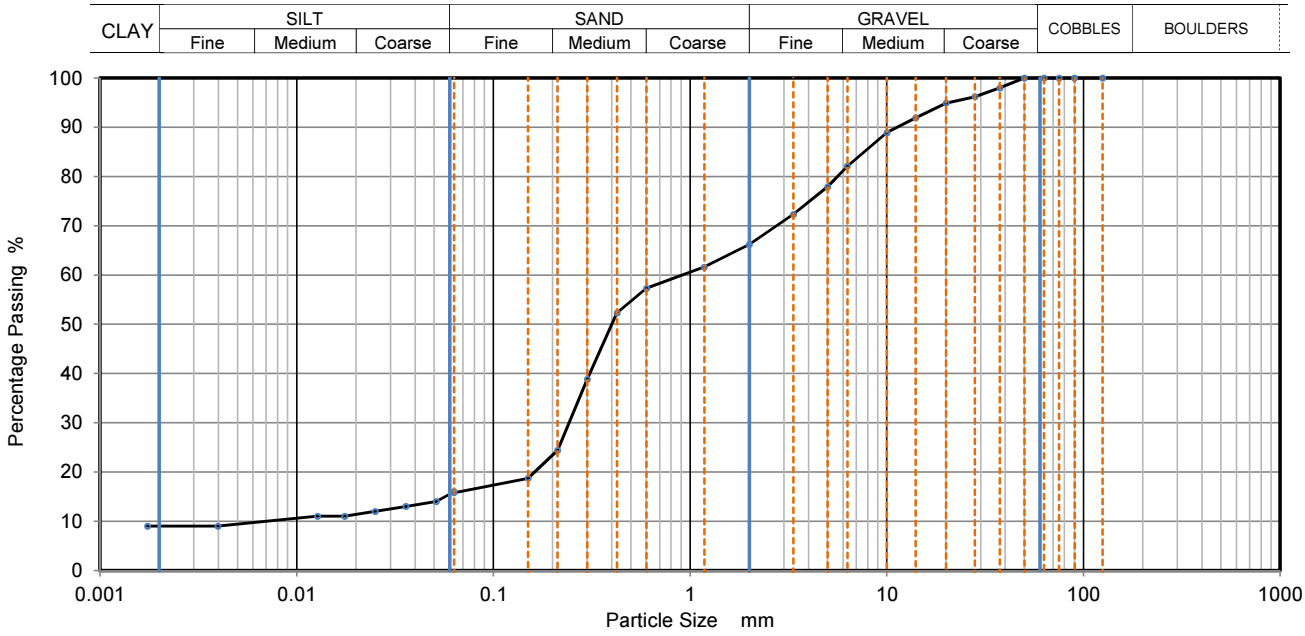
4041

Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	31/05/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	591081	Sample Reference:	B
Sample description:	Yellowish brown very gravelly clayey fine to coarse SAND	Sample Type:	B
Location:	BH02	Depth Top [m]:	3.2
Supplier:	Not Given	Depth Base [m]:	3.7



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	16
90	100	0.0513	14
75	100	0.0358	13
63	100	0.0250	12
50	100	0.0176	11
37.5	98	0.0127	11
28	96	0.0040	9
20	95	0.0017	9
14	92		
10	89		
6.3	82		
5	78		
3.35	72		
2	66		
1.18	62		
0.6	57	Particle density (assumed)	
0.425	52	2.65	Mg/m3
0.3	39		
0.212	24		
0.15	19		
0.063	16		

Dry Mass of sample [g]: 6117

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	33.80
Sand	50.40
Silt	7.10
Clay	8.70

Grading Analysis		
D100	mm	50
D60	mm	0.915
D30	mm	0.243
D10	mm	0.00795
Uniformity Coefficient		120
Curvature Coefficient		8.1

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

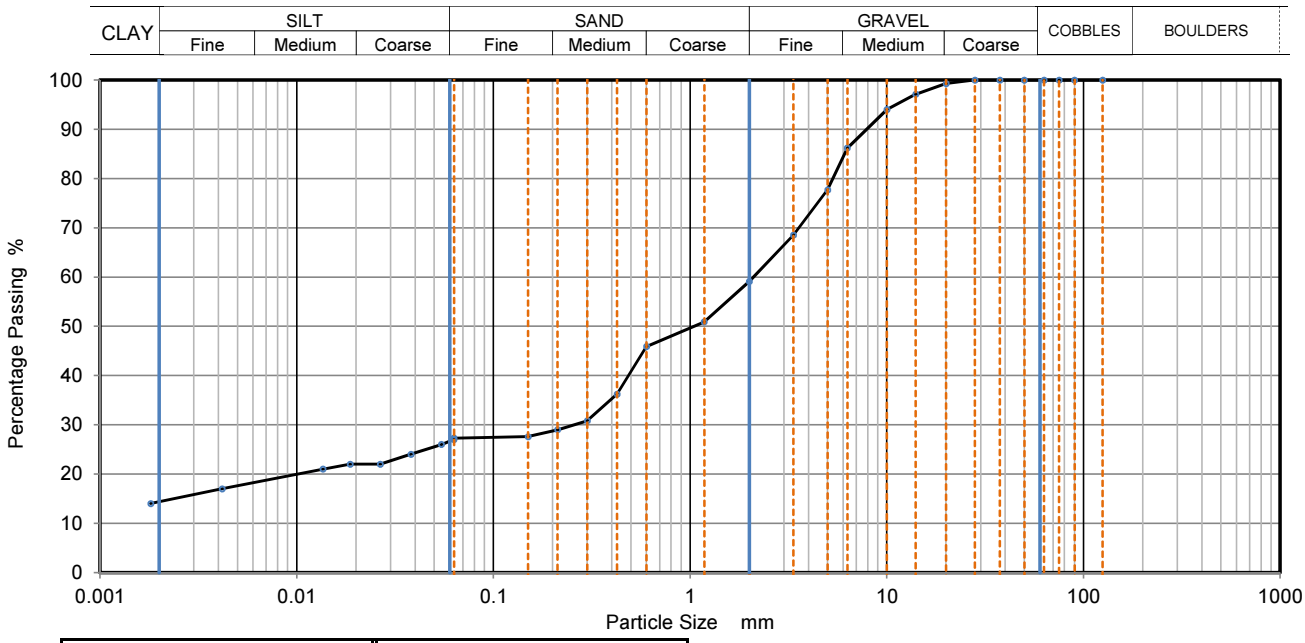
4041

Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	591088	Sample Reference:	B
Sample description:	Yellowish brown very sandy clayey fine to coarse GRAVEL	Sample Type:	B
Location:	BH03	Depth Top [m]:	5.8
Supplier:	Not Given	Depth Base [m]:	6.5



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	27
90	100	0.0544	26
75	100	0.0381	24
63	100	0.0266	22
50	100	0.0187	22
37.5	100	0.0136	21
28	100	0.0042	17
20	99	0.0018	14
14	97		
10	94		
6.3	86		
5	78		
3.35	69		
2	59		
1.18	51		
0.6	46	Particle density (assumed)	
0.425	36	2.65 Mg/m3	
0.3	31		
0.212	29		
0.15	28		
0.063	27		

Dry Mass of sample [g]: 4075

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	40.90
Sand	31.80
Silt	12.60
Clay	14.70

Grading Analysis		
D100	mm	28
D60	mm	2.1
D30	mm	0.257
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

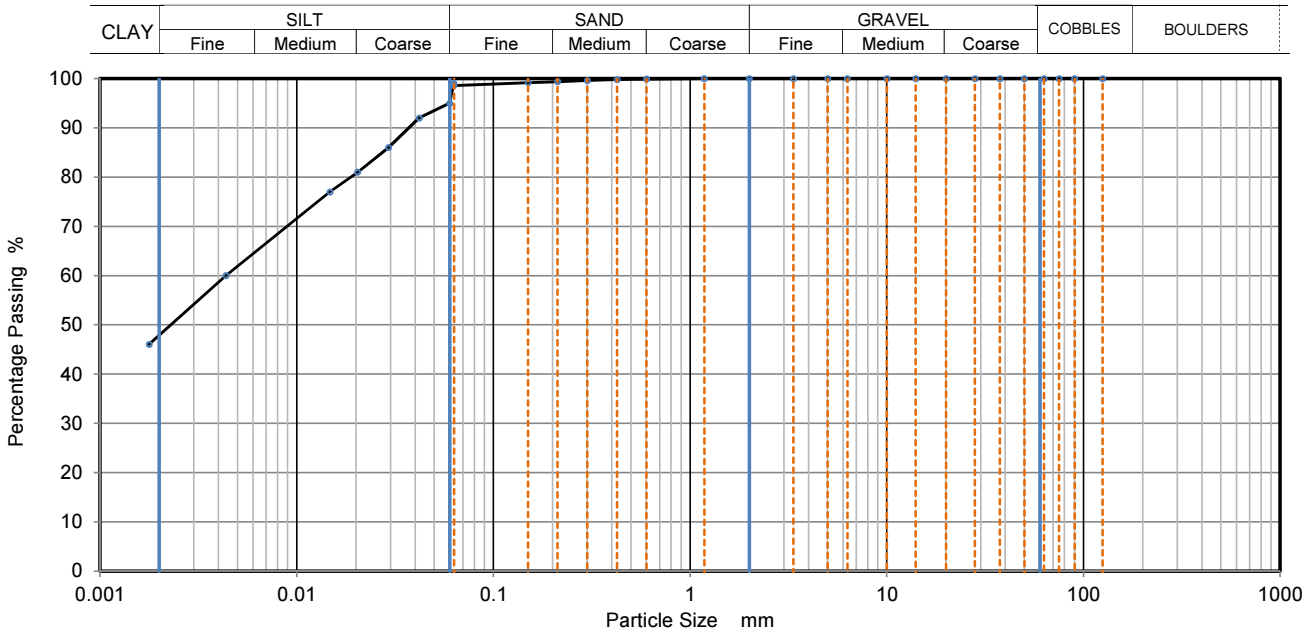
4041

Tested in Accordance with BS1377:Part 2:1990, clauses 9.2 and 9.5

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

TEST RESULTS Laboratory Reference: 591089

Sample description:	Grey CLAY	Sample Reference:	B
Location:	BH03	Sample Type:	B
Supplier:	Not Given	Depth Top [m]:	8
		Depth Base [m]:	8.4



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	99
90	100	0.0598	95
75	100	0.0419	92
63	100	0.0292	86
50	100	0.0204	81
37.5	100	0.0148	77
28	100	0.0044	60
20	100	0.0018	46
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100	Particle density (assumed)	
0.425	100	2.65 Mg/m3	
0.3	100		
0.212	99		
0.15	99		
0.063	99		

Dry Mass of sample [g]: 1281

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	0.00
Sand	1.40
Silt	51.00
Clay	47.60

Grading Analysis		
D100	mm	2
D60	mm	0.0044
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS 1377-4: 1990: Clause 7

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton	Job Number:	16-20746
		Date Sampled:	07/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

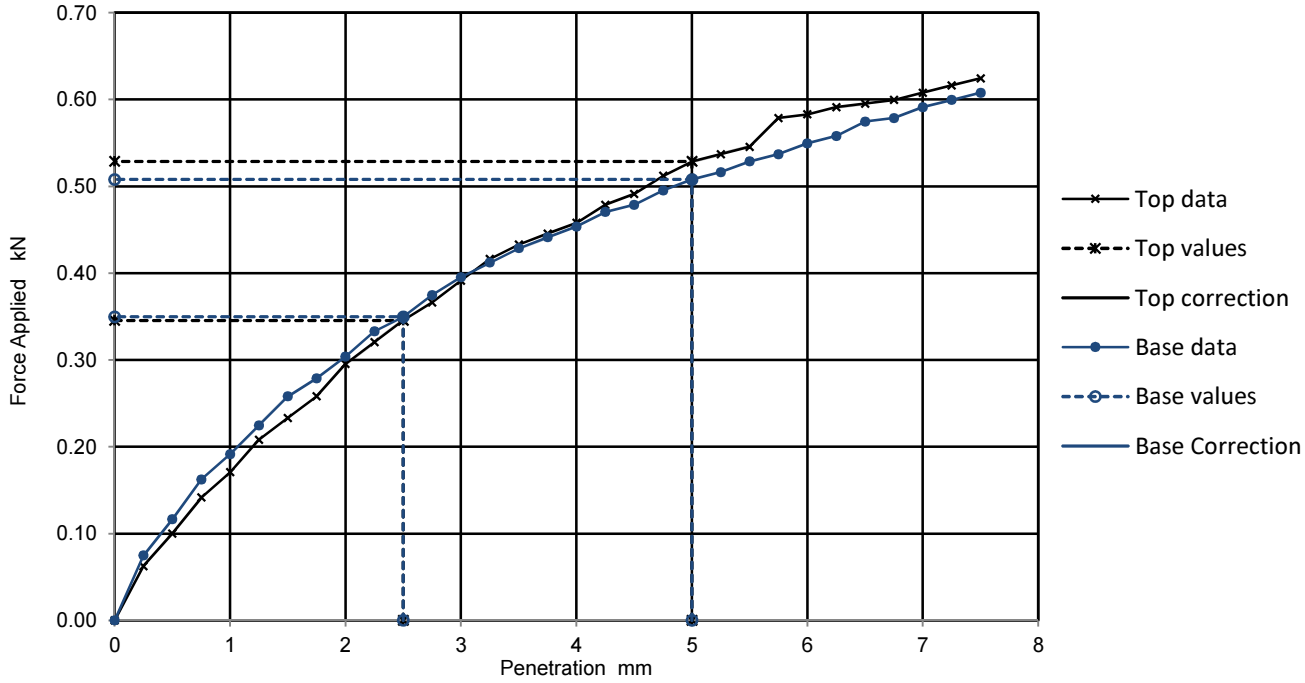
Test Results:

Laboratory Reference:	591035	Sample Type:	B
Sample Reference:	B	Depth Top [m]:	0.8
Location:	WS03	Depth Base [m]:	1.5

Specimen Preparation

Condition	Remoulded			Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking		days
				Time to surface		days
Sample Description:	Brown gravelly sandy CLAY with rootlets			Amount of swell recorded		mm
Material retained on 20mm sieve removed		10	%	Dry density after soaking		Mg/m3
Initial Specimen details	Bulk density	2.02	Mg/m3	Surcharge applied	8	kg
	Dry density	1.63	Mg/m3		4.85	kPa
	Moisture content	24.1	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	2.6	2.6	2.6	2.6	23.6
BASE	No	2.6	2.5	2.6		23.0

General Remarks: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test/ Specimen specific remarks:

Aproved: Mirosława Pytlik

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

4041

Tested in Accordance with BS 1377-4: 1990: Clause 7

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton	Job Number:	16-20746
		Date Sampled:	08/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

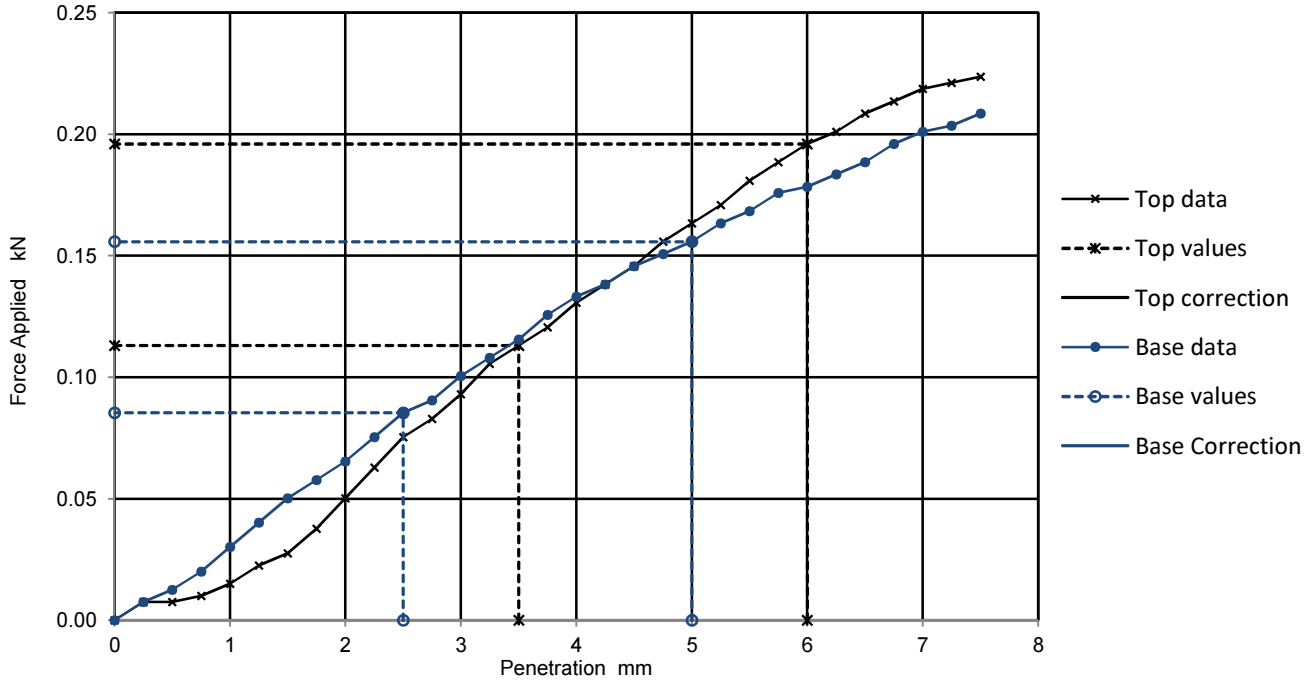
Laboratory Reference:	591038	Sample Type:	B
Sample Reference:	B	Depth Top [m]:	0.3
Location:	WS07	Depth Base [m]:	1

Specimen Preparation

Condition	Remoulded	Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer	Period of soaking	days
		Time to surface	days
Sample Description:	Brown slightly gravelly sandy CLAY	Amount of swell recorded	mm
Material retained on 20mm sieve removed	5 %	Dry density after soaking	Mg/m3

Initial Specimen details	Bulk density	2.02	Mg/m3	Surcharge applied	8	kg
	Dry density	1.64	Mg/m3		4.86	kPa
	Moisture content	23.1	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	Yes	0.9	1.0	1.0		26.1
BASE	No	0.7	0.8	0.8		20.0

General Remarks: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test/ Specimen specific remarks:

Aproved: Mirosława Pytlik

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS 1377-4: 1990: Clause 7

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton	Job Number:	16-20746
		Date Sampled:	08/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

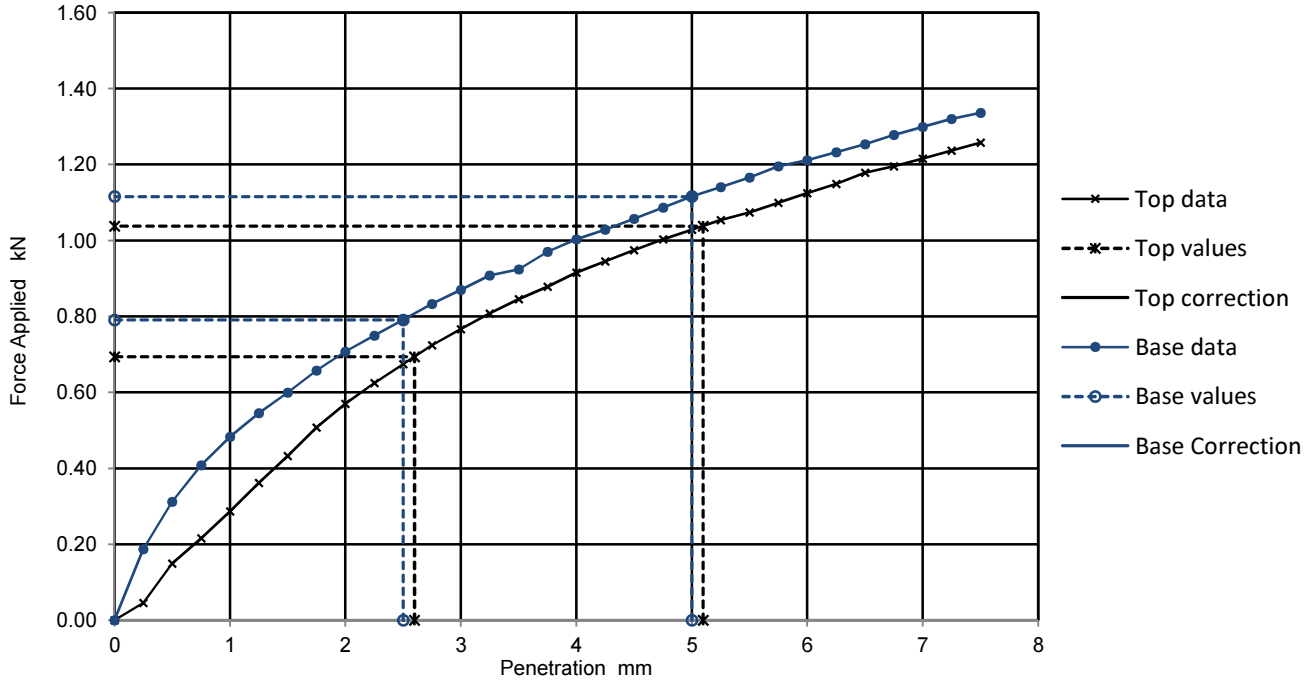
Test Results:

Laboratory Reference:	591041	Sample Type:	B
Sample Reference:	B	Depth Top [m]:	1.2
Location:	WS09	Depth Base [m]:	2

Specimen Preparation

Condition	Remoulded			Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking		days
				Time to surface		days
Sample Description:	Greyish brown CLAY			Amount of swell recorded		mm
Material retained on 20mm sieve removed		2	%	Dry density after soaking		Mg/m3
Initial Specimen details	Bulk density	1.98	Mg/m3	Surcharge applied	8	kg
	Dry density	1.68	Mg/m3		4.86	kPa
	Moisture content	17.9	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	Yes	5.3	5.2	5.3	5.6	20.8
BASE	No	6.0	5.6	6.0		21.2

General Remarks: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test/ Specimen specific remarks:

Aproved: Mirosława Pytlik

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

4041

Tested in Accordance with BS 1377-4: 1990: Clause 7

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

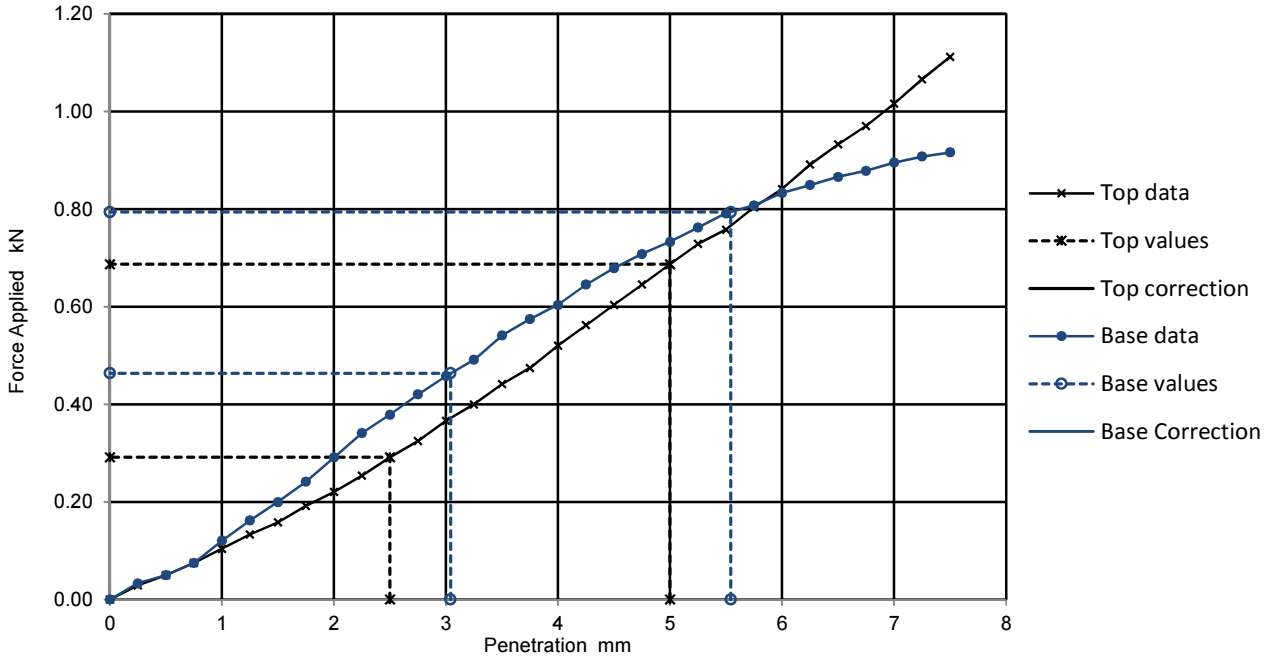
Test Results:

Laboratory Reference:	591046	Sample Type:	B
Sample Reference:	B	Depth Top [m]:	0.5
Location:	WS13	Depth Base [m]:	1.3

Specimen Preparation

Condition	Remoulded			Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking		days
				Time to surface		days
Sample Description:	Yellowish brown sandy clayey fine to coarse GRAVEL			Amount of swell recorded		mm
Material retained on 20mm sieve removed		36	%	Dry density after soaking		Mg/m3
Initial Specimen details	Bulk density	1.46	Mg/m3	Surcharge applied	8	kg
	Dry density	1.18	Mg/m3		3.26	kPa
	Moisture content	24.0	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	2.2	3.4	3.4	3.7	24.1
BASE	Yes	3.5	4.0	4.0		24.4

General Remarks: Test carried out with > 25 % retained on 20mm as per clause 7.2.1.2
Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test/ Specimen specific remarks:

Aproved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS 1377-4: 1990: Clause 7

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	30/06/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

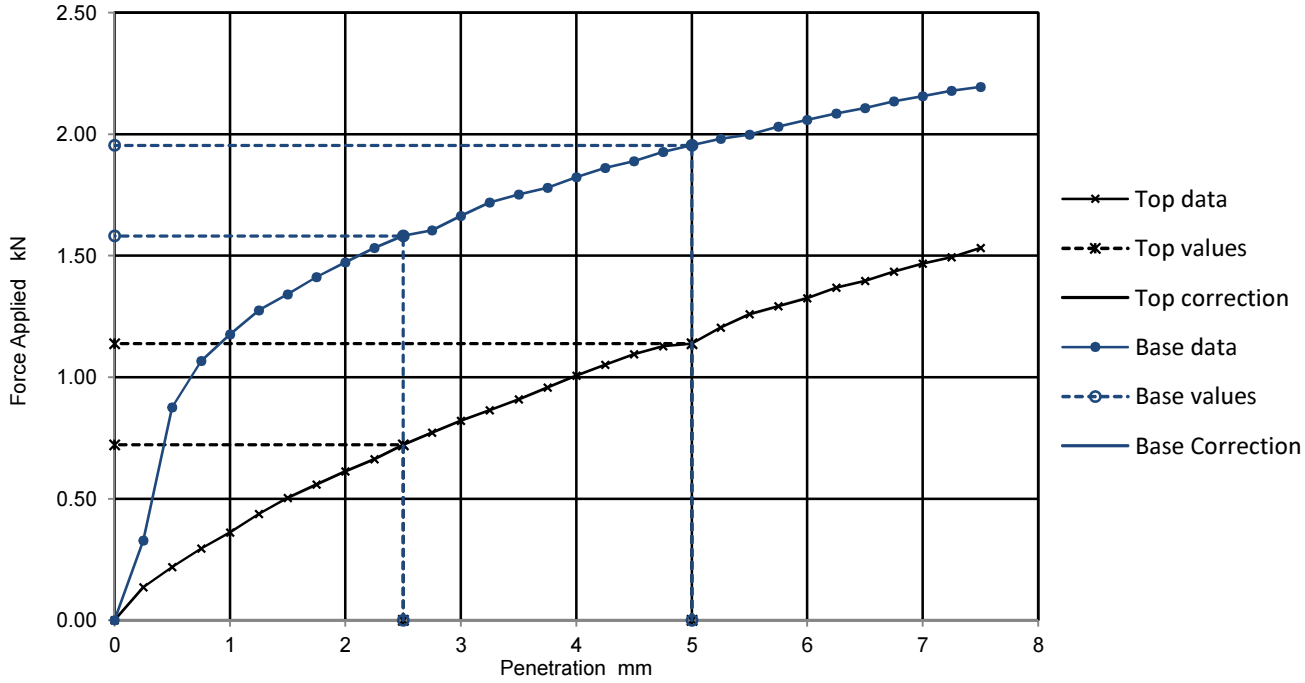
Laboratory Reference:	591049	Sample Type:	B
Sample Reference:	B	Depth Top [m]:	1.2
Location:	WS14	Depth Base [m]:	2

Specimen Preparation

Condition	Remoulded	Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer	Period of soaking	days
		Time to surface	days
Sample Description:	Yellowish brown slightly gravelly slightly sandy CLAY	Amount of swell recorded	mm
Material retained on 20mm sieve removed	0 %	Dry density after soaking	Mg/m3

Initial Specimen details	Bulk density	2.09	Mg/m3	Surcharge applied	8	kg
	Dry density	1.80	Mg/m3		4.86	kPa
	Moisture content	16.1	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	5.5	5.7	5.7		17.4
BASE	No	12.0	9.8	12.0		13.8

General Remarks: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test/ Specimen specific remarks:

Aproved: Mirosława Pytlik

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS 1377-4: 1990: Clause 7

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton	Job Number:	16-20746
		Date Sampled:	07/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	01/07/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

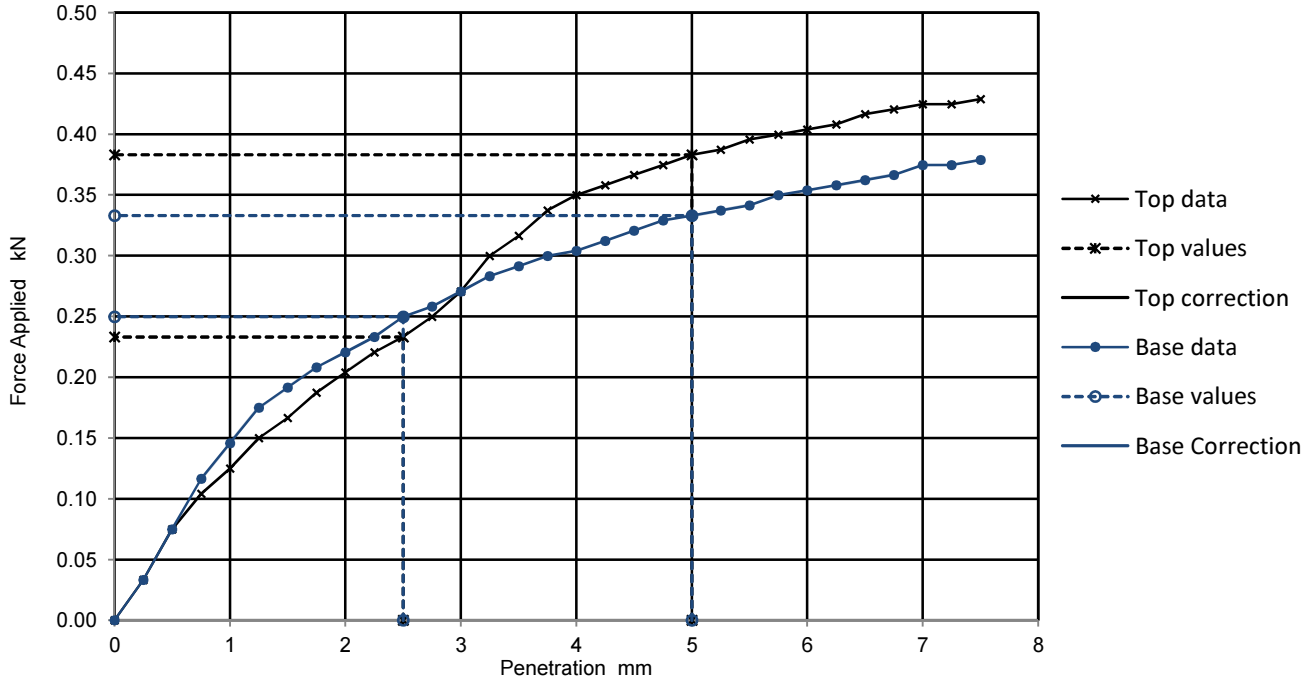
Laboratory Reference:	591067	Sample Type:	D
Sample Reference:	D	Depth Top [m]:	1
Location:	WS25	Depth Base [m]:	2

Specimen Preparation

Condition	Remoulded	Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer	Period of soaking	days
		Time to surface	days
Sample Description:	Yelloiwsh brown slightly gravelly slightly sandy CLAY	Amount of swell recorded	mm
Material retained on 20mm sieve removed	0 %	Dry density after soaking	Mg/m3

Initial Specimen details	Bulk density	1.92	Mg/m3	Surcharge applied	8	kg
	Dry density	1.53	Mg/m3		4.86	kPa
	Moisture content	25.4	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	1.8	1.9	1.9	1.9	29.4
BASE	No	1.9	1.7	1.9		29.1

General Remarks: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test/ Specimen specific remarks:

Aproved: Mirosława Pytlik

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

4041

Tested in Accordance with BS 1377-4: 1990: Clause 7

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	01/07/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

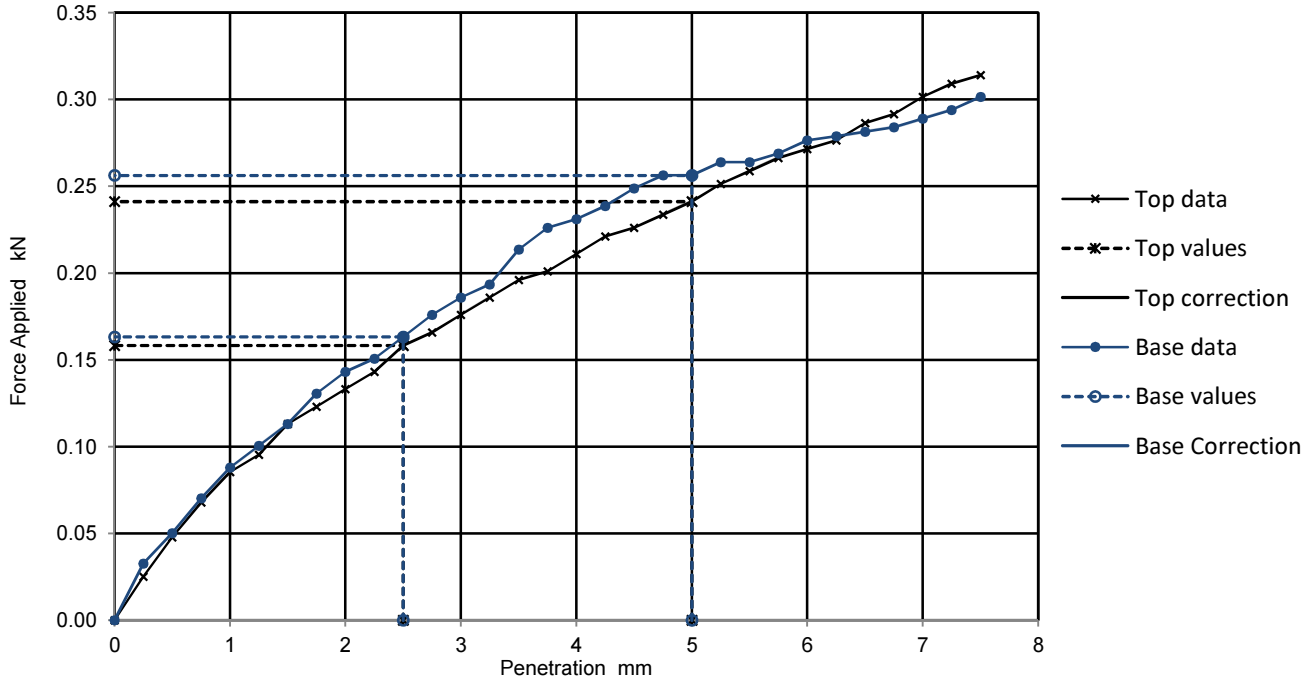
Laboratory Reference:	591070	Sample Type:	B
Sample Reference:	B	Depth Top [m]:	0.4
Location:	WS26	Depth Base [m]:	0.6

Specimen Preparation

Condition	Remoulded	Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer	Period of soaking	days
		Time to surface	days
Sample Description:	Brown gravelly sandy CLAY with rootlets	Amount of swell recorded	mm
Material retained on 20mm sieve removed	2 %	Dry density after soaking	Mg/m3

Initial Specimen details	Bulk density	1.98	Mg/m3	Surcharge applied	8	kg
	Dry density	1.50	Mg/m3		4.84	kPa
	Moisture content	32.0	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	1.2	1.2	1.2	1.2	27.3
BASE	No	1.2	1.3	1.3		27.3

General Remarks: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test/ Specimen specific remarks:

Aproved: Mirosława Pytlik

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

UKAS TESTING 4041

Tested in Accordance with BS 1377-4: 1990: Clause 7

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton	Job Number:	16-20746
		Date Sampled:	06/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	01/07/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

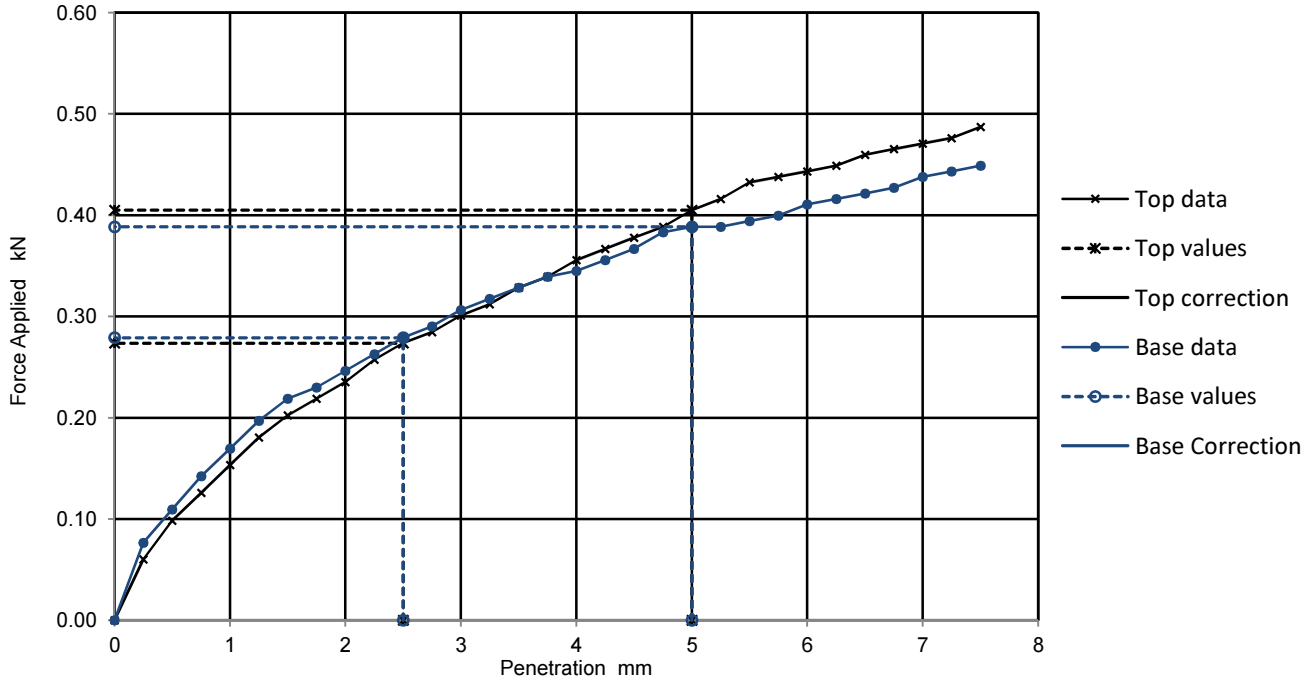
Test Results:

Laboratory Reference:	591071	Sample Type:	B
Sample Reference:	B	Depth Top [m]:	0.8
Location:	WS26	Depth Base [m]:	1

Specimen Preparation

Condition	Remoulded			Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking		days
				Time to surface		days
Sample Description:	Yellowish brown sandy CLAY			Amount of swell recorded		mm
Material retained on 20mm sieve removed		0	%	Dry density after soaking		Mg/m3
Initial Specimen details	Bulk density	1.93	Mg/m3	Surcharge applied	8	kg
	Dry density	1.50	Mg/m3		4.86	kPa
	Moisture content	28.3	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	2.1	2.0	2.1	2.1	30.9
BASE	No	2.1	1.9	2.1		30.3

General Remarks: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test/ Specimen specific remarks:

Aproved: Mirosława Pytlik

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

4041

Tested in Accordance with BS 1377-4: 1990: Clause 7

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton	Job Number:	16-20746
		Date Sampled:	31/05/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	04/07/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

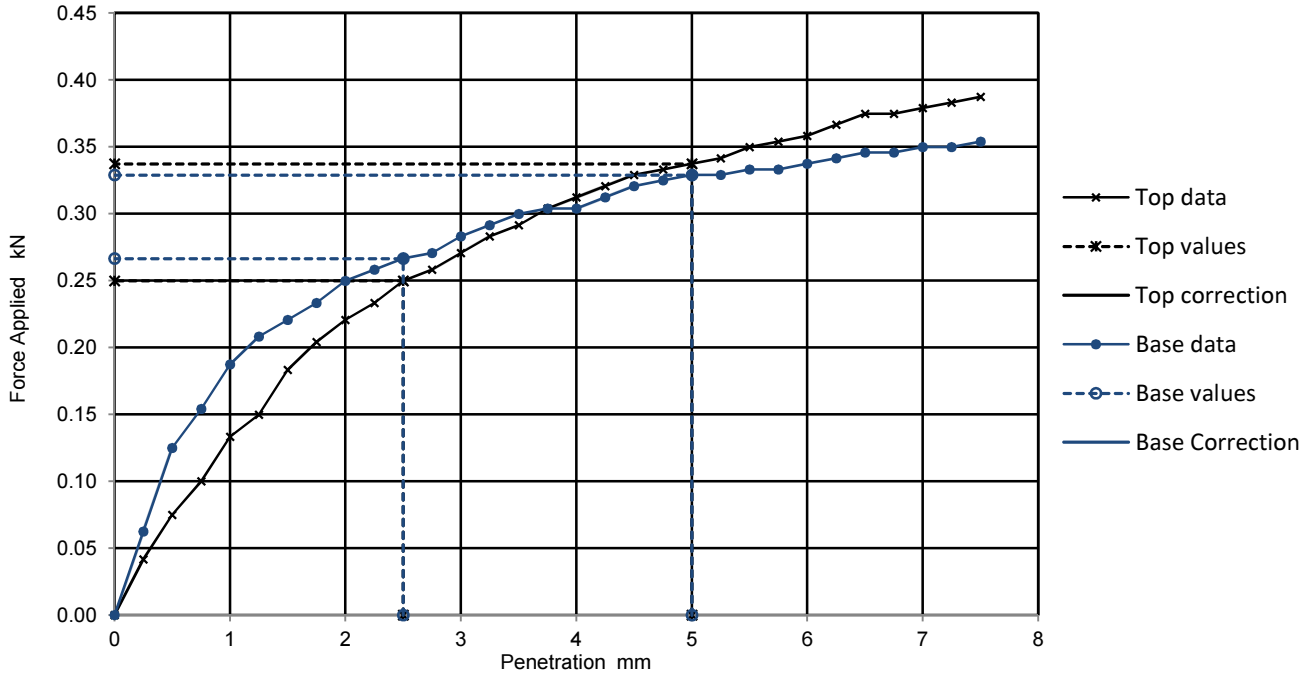
Laboratory Reference:	591080	Sample Type:	B
Sample Reference:	B	Depth Top [m]:	2.6
Location:	BH02	Depth Base [m]:	

Specimen Preparation

Condition	Remoulded	Soaking details	Not soaked
Details	Recompacted with specified standard effort using 2.5kg rammer	Period of soaking	days
		Time to surface	days
Sample Description:	Brown slightly gravelly slightly sandy CLAY with thin laminae of grey clay and rootlets	Amount of swell recorded	mm
Material retained on 20mm sieve removed	0 %	Dry density after soaking	Mg/m3

Initial Specimen details	Bulk density	1.91	Mg/m3	Surcharge applied	8 kg
	Dry density	1.42	Mg/m3		4.84 kPa
	Moisture content	34.3	%		

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	1.9	1.7	1.9	2.0	34.1
BASE	No	2.0	1.6	2.0		32.1

General Remarks: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test/ Specimen specific remarks:

Aproved:

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of California Bearing Ratio

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

4041

Tested in Accordance with BS 1377-4: 1990: Clause 7

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
Contact:	Nathan Thompson / Adam Cheers	Date Tested:	04/07/2016
Site Name:	Kraft Phase 2	Sampled By:	Not Given
Site Address:	Not Given		

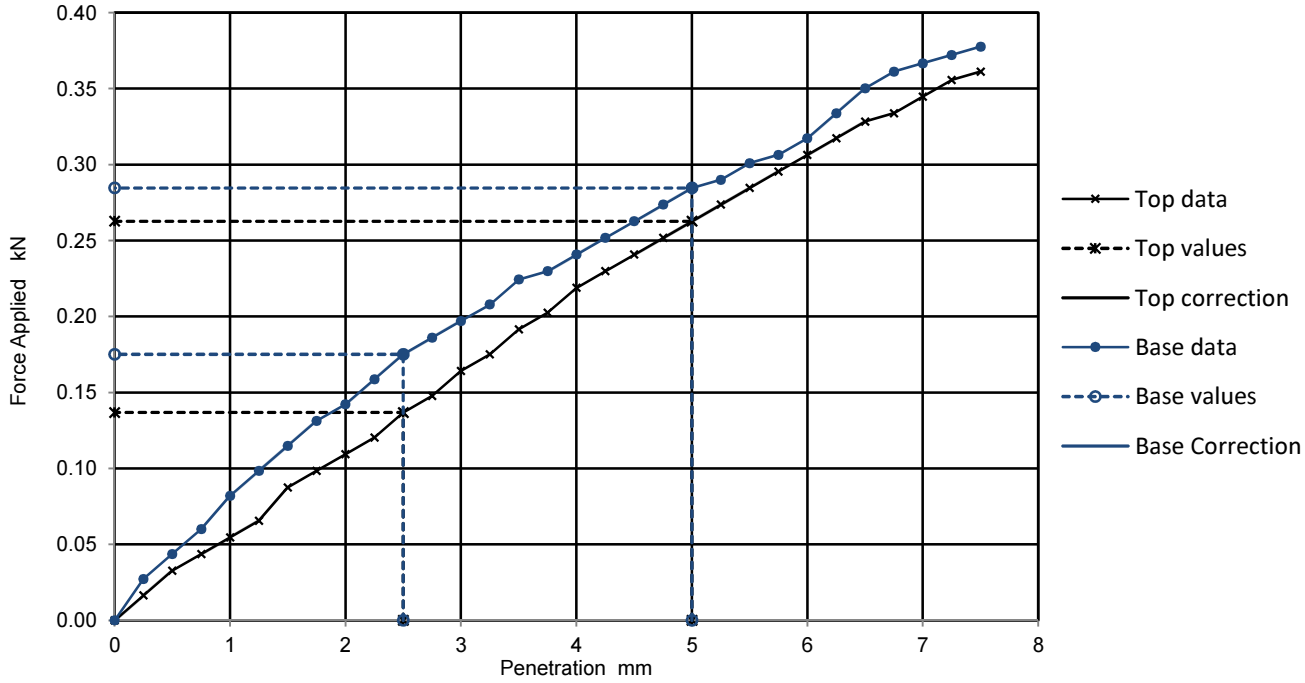
Test Results:

Laboratory Reference:	591085	Sample Type:	B
Sample Reference:	B	Depth Top [m]:	0.5
Location:	BH02	Depth Base [m]:	0.8

Specimen Preparation

Condition	Remoulded			Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer			Period of soaking		days
				Time to surface		days
Sample Description:	Brown gravelly sandy CLAY			Amount of swell recorded		mm
Material retained on 20mm sieve removed		2	%	Dry density after soaking		Mg/m3
Initial Specimen details	Bulk density	1.89	Mg/m3	Surcharge applied	8	kg
	Dry density	1.45	Mg/m3		4.86	kPa
	Moisture content	30.5	%			

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	1.0	1.3	1.3	1.4	29.9
BASE	No	1.3	1.4	1.4		31.2

General Remarks: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test/ Specimen specific remarks:

Aproved: Mirosława Pytlik

Mirosława Pytlik
PL Head of Geotechnical section
Date Reported: 12/07/2016

Signed:

Terry Stafford
Geotechnical Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

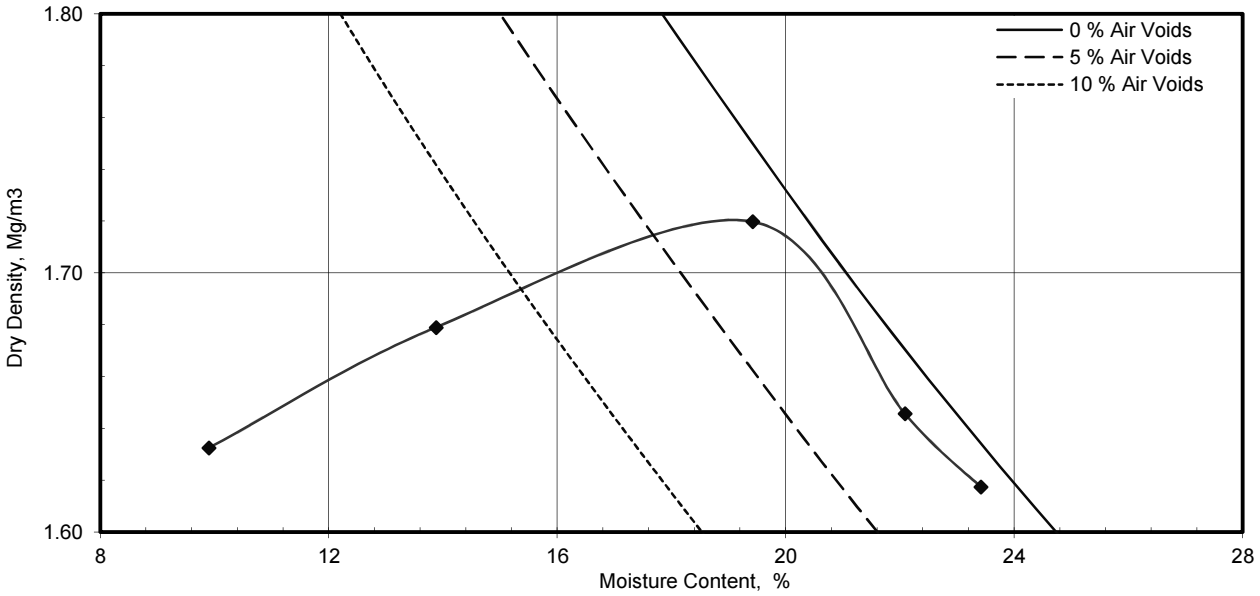
UKAS TESTING 4041

Tested in accordance with BS 1377-4:1990: Clause 3.3 using 2.5kg[light] Rammer

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	08/06/2016
		Date Received:	21/06/2016
		Date Tested:	30/06/2016
Contact:	Nathan Thompson / Adam Cheers	Sampled By:	Not Given
Site Name:	Kraft Phase 2		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	591038		
Sample Reference:	B	Depth Top [m]:	0.3
Location:	WS07	Depth Base [m]:	1
Sample Description:	Brown slightly gravelly sandy CLAY	Sample Type:	B



Preparation		Material used was natural
Mould Type		1 Litre
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	4
Particle Density -	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**1.72**

Optimum Moisture Content	%	**19**

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Aproved: Mirosława Pytlik
PL Head of Geotechnical section

Signed: Terry Stafford
Geotechnical Manager

Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

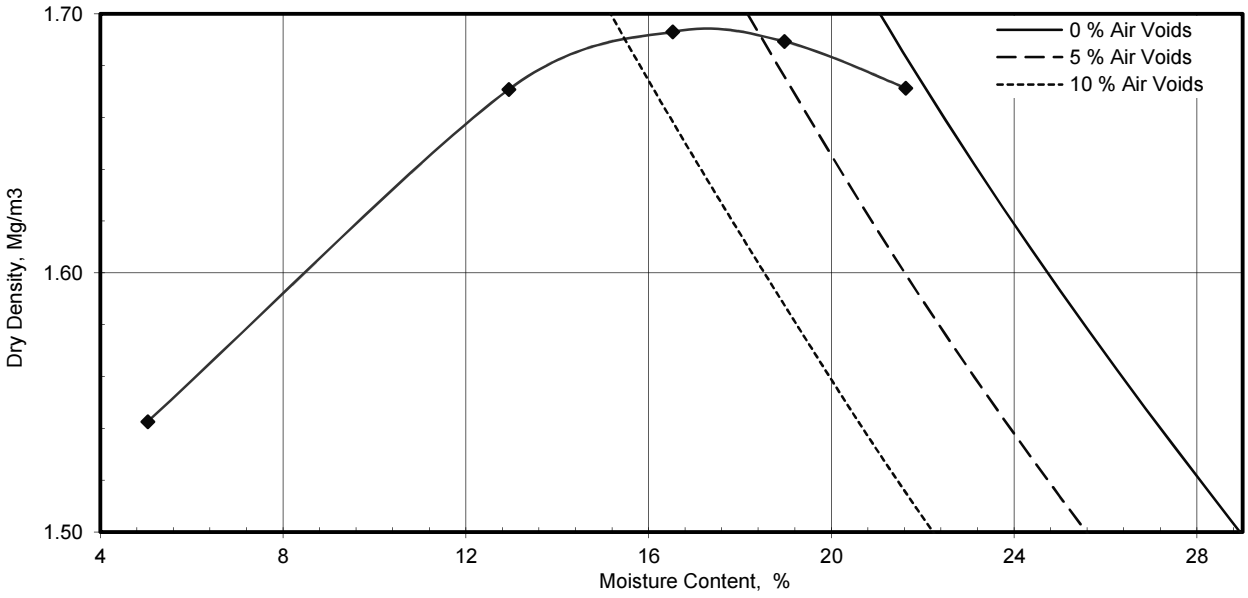
UKAS TESTING 4041

Tested in accordance with BS 1377-4:1990: Clause 3.3 using 2.5kg[light] Rammer

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	08/06/2016
		Date Received:	21/06/2016
		Date Tested:	30/06/2016
Contact:	Nathan Thompson / Adam Cheers	Sampled By:	Not Given
Site Name:	Kraft Phase 2		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	591041		
Sample Reference:	B	Depth Top [m]:	1.2
Location:	WS09	Depth Base [m]:	2
Sample Description:	Greyish brown CLAY	Sample Type:	B



Preparation		Material used was natural
Mould Type		1 Litre
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density -	Mg/m³	2.65

Maximum Dry Density	Mg/m³	**1.69**

Optimum Moisture Content	%	**17**

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Aproved: Mirosława Pytlik — PL Head of Geotechnical section

Signed: Terry Stafford — Geotechnical Manager

Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

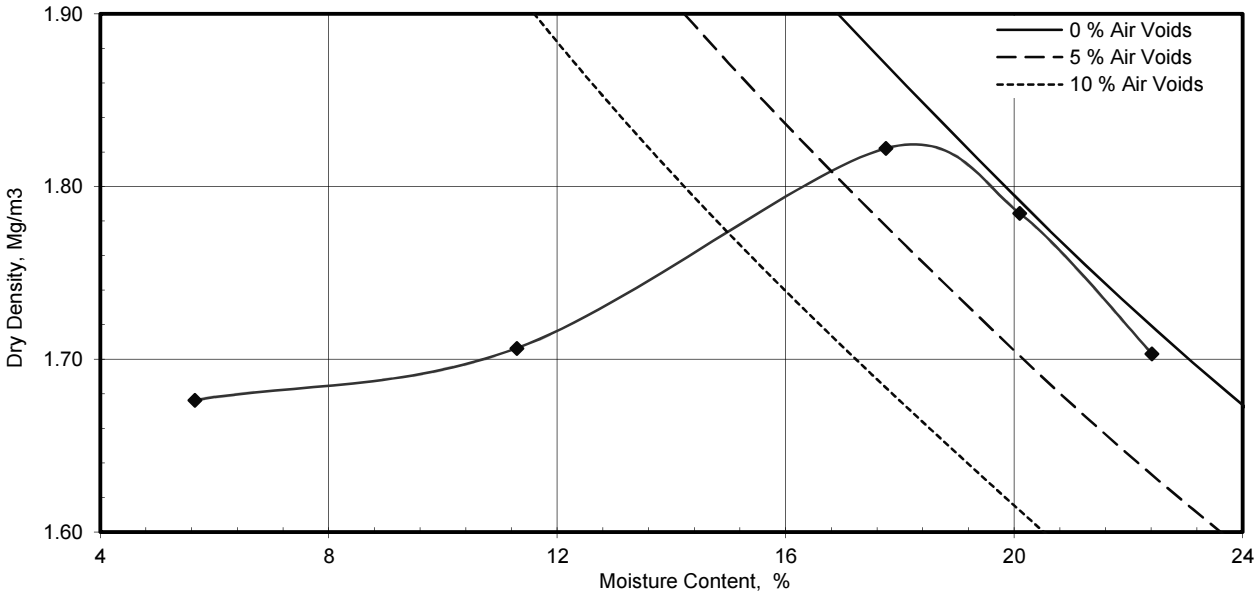
UKAS TESTING 4041

Tested in accordance with BS 1377-4:1990: Clause 3.3 using 2.5kg[light] Rammer

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
		Date Tested:	30/06/2016
Contact:	Nathan Thompson / Adam Cheers	Sampled By:	Not Given
Site Name:	Kraft Phase 2		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	591049		
Sample Reference:	B	Depth Top [m]:	1.2
Location:	WS14	Depth Base [m]:	2
Sample Description:	Yellowish brown slightly gravelly slightly sandy CLAY	Sample Type:	B



Preparation		Material used was natural
Mould Type		1 Litre
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density -	Mg/m³	2.80

Maximum Dry Density	Mg/m³	**1.82**

Optimum Moisture Content	%	**18**

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Aproved: Mirosława Pytlik
PL Head of Geotechnical section

Signed: Terry Stafford
Geotechnical Manager

Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

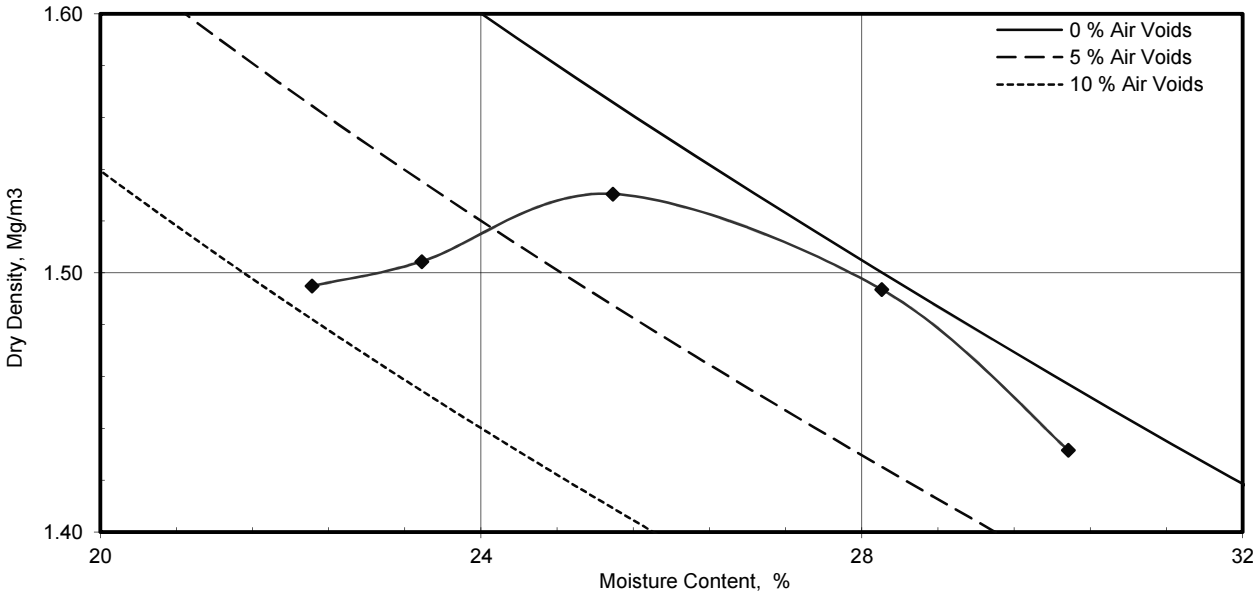
UKAS TESTING 4041

Tested in accordance with BS 1377-4:1990: Clause 3.3 using 2.5kg[light] Rammer

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	02/06/2016
		Date Received:	21/06/2016
		Date Tested:	04/07/2016
Contact:	Nathan Thompson / Adam Cheers	Sampled By:	Not Given
Site Name:	Kraft Phase 2		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	591085		
Sample Reference:	B	Depth Top [m]:	0.5
Location:	BH02	Depth Base [m]:	0.8
Sample Description:	Brown gravelly sandy CLAY	Sample Type:	B



Preparation		Material used was natural
Mould Type		1 Litre
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density -	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.53**

Optimum Moisture Content	%	**25**

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Aproved: Signed:

Mirosława Pytlik
PL Head of Geotechnical section

Terry Stafford
Geotechnical Manager

Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

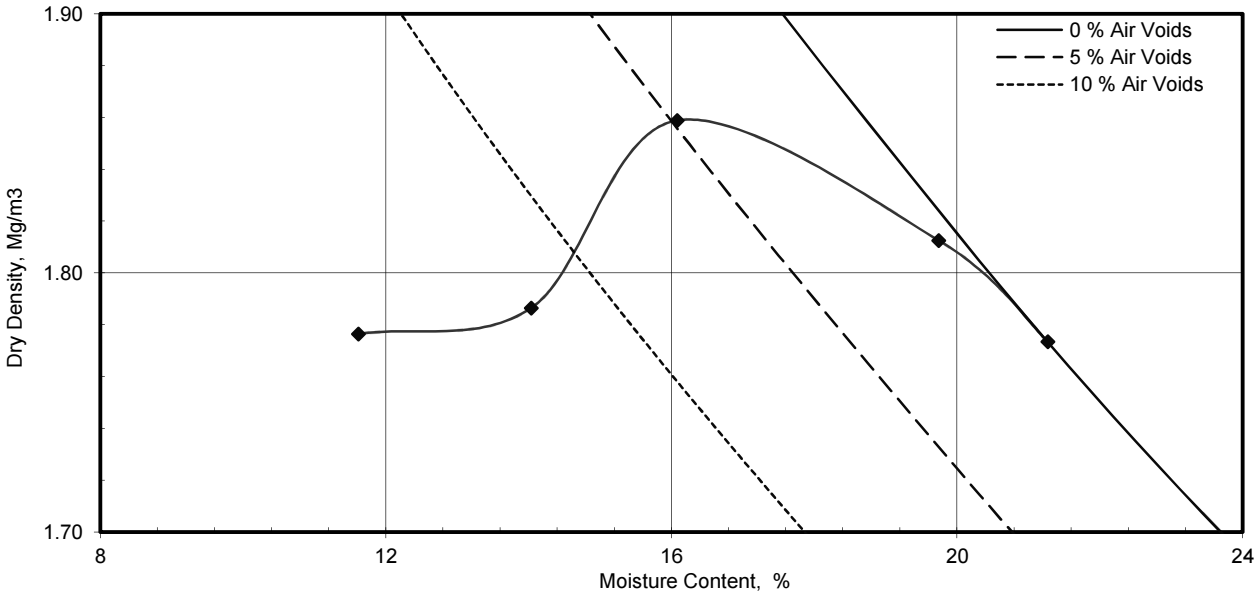
UKAS TESTING 4041

Tested in accordance with BS 1377-4:1990: Clause 3.4 using 2.5kg[light] Rammer

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	Not Given
		Date Received:	21/06/2016
		Date Tested:	01/07/2016
Contact:	Nathan Thompson / Adam Cheers	Sampled By:	Not Given
Site Name:	Kraft Phase 2		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	592608		
Sample Reference:	Not Given	Depth Top [m]:	2
Location:	WS01	Depth Base [m]:	3
Sample Description:	Yellowish brown slightly sandy clayey GRAVEL with glass	Sample Type:	B



Preparation		Material used was natural
Mould Type		CBR
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	13
Material Retained on 20.0 mm Sieve	%	11
Particle Density - Assumed	Mg/m³	2.85

Maximum Dry Density	Mg/m³	**1.86**

Optimum Moisture Content	%	**16**

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Aproved: Signed:

Mirosława Pytlik
PL Head of Geotechnical section

Terry Stafford
Geotechnical Manager

Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

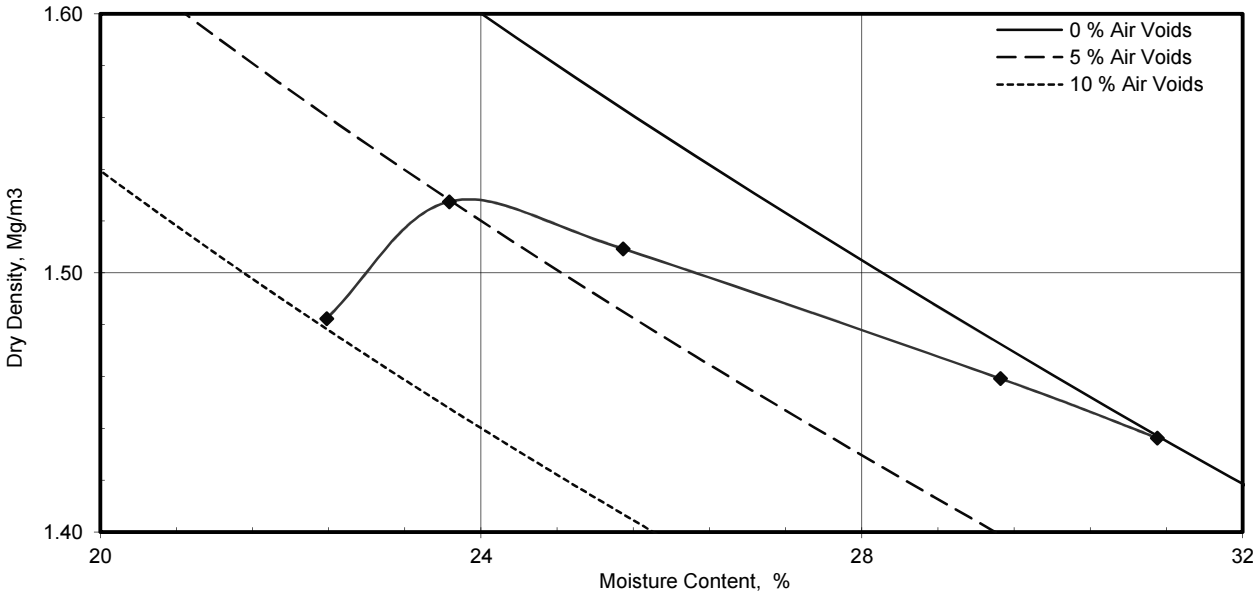
UKAS TESTING 4041

Tested in accordance with BS 1377-4:1990: Clause 3.3 using 2.5kg[light] Rammer

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	Not Given
		Date Received:	21/06/2016
		Date Tested:	01/07/2016
Contact:	Nathan Thompson / Adam Cheers	Sampled By:	Not Given
Site Name:	Kraft Phase 2		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	592609		
Sample Reference:	Not Given	Depth Top [m]:	0.5
Location:	WS18	Depth Base [m]:	1
Sample Description:	Greyish brown sandy CLAY	Sample Type:	B



Preparation		Material used was natural
Mould Type		1 Litre
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.53**

Optimum Moisture Content	%	**24**

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Aproved: Mirosława Pytlik
PL Head of Geotechnical section

Signed: Terry Stafford
Geotechnical Manager

Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Dry Density / Moisture Content Relationship
Light Compaction

i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

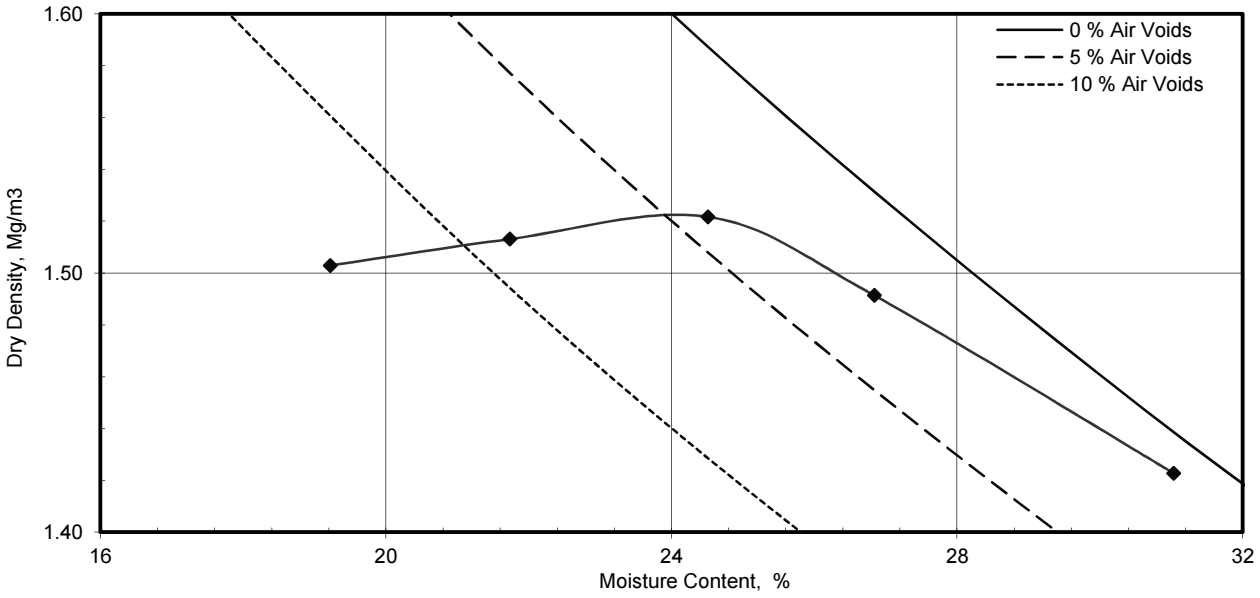
UKAS TESTING 4041

Tested in accordance with BS 1377-4:1990: Clause 3.4 using 2.5kg[light] Rammer

Client:	Hydrock Consultants Ltd	Client Reference:	C161279
Client Address:	2-4 Hawthorne Park Holdenby Road Spratton, Northampton NN6 8LD	Job Number:	16-20746
		Date Sampled:	Not Given
		Date Received:	21/06/2016
		Date Tested:	01/07/2016
Contact:	Nathan Thompson / Adam Cheers	Sampled By:	Not Given
Site Name:	Kraft Phase 2		
Site Address:	Not Given		

TEST RESULTS

Laboratory Reference:	592610		
Sample Reference:	Not Given	Depth Top [m]:	0.3
Location:	WS25	Depth Base [m]:	0.85
Sample Description:	Brown gravelly sandy CLAY with grass and rootlets	Sample Type:	B



Preparation		Material used was natural
Mould Type		CBR
Samples Used		Composite specimens tested
Material Retained on 37.5 mm Sieve	%	1
Material Retained on 20.0 mm Sieve	%	3
Particle Density - Assumed	Mg/m³	2.60

Maximum Dry Density	Mg/m³	**1.52**

Optimum Moisture Content	%	**25**

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Aproved: Mirosława Pytlik
PL Head of Geotechnical section

Signed: Terry Stafford
Geotechnical Manager

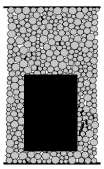
Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

Total Stress Triaxial Compression

Unconsolidated Undrained (Single Stage)

Summary Report

Sample Details				
 *sketch showing specimen location in original sample*	Depth	2.00-2.45		
	Description	Brown slightly sandy CLAY		
	Type	U		
	Initial Sample Length	L_0	(mm)	139.6
	Initial Sample Diameter	D_0	(mm)	69.3
	Initial Sample Weight	W_0	(gr)	971.1
	Bulk Density	ρ_0	(Mg/m3)	1.84
	Particle Density	ρ_s	(Mg/m3)	2.65

Initial Conditions

Initial Cell Pressure	σ_3	(kPa)	40
Strain Rate	m_S	(mm/min)	2.79220
MembraneThickness	m_b	(mm)	0.21
Displacement Input	L_{IP}	(mm)	CH 2
Load Input	N_{IP}	(N)	CH 1
Initial Moisture	$\omega_i\%$	(%)	23
Initial Dry Density	ρ_{d0}	(Mg/m3)	1.49
Initial Voids Ratio	e_0	.	0.77
Initial Degree of Saturation	S_o	(%)	80

Final Conditions

Max Deviator Stress	$(\sigma_1-\sigma_3)_f$	(kPa)	152
MembraneCorrection	m_C	(kPa)	1.145
Strain At Max Stress	$\varepsilon_f\%$	(%)	13.95
Shear Strength	c_U	(kPa)	76
Final Moisture	$\omega_f\%$	(%)	23
Final Dry Density	ρ_{df}	(Mg/m3)	1.49
Final Voids Ratio	e_f	.	0.77
Final Degree of Saturation	S_f	(%)	80.3

Notes

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Failure Sketch

(surface inclination)

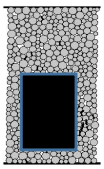
Test Method	BS1377-7 : 1900 Clause 8			Test Name	591079
Database: .\SQLEXPRESS \ 6171-I2 Analytical				Test Date	02/07/2016
Site Reference	Kraft Phase 2			Borehole	BH02
Jobfile	16-20746			Sample	591079
Client	Hydrock Consultants			Depth	2.00-2.45
Operator	bielatowiczs	Checked	pytlikm	Approved	pytlikm

i2 Analytical Limited, 7 Woodshots Meadow, Croxley Green Business Park, Herts WD18 8YS
i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Total Stress Triaxial Compression

Unconsolidated Undrained (Single Stage)

Summary Report

Sample Details				
 *sketch showing specimen location in original sample*	Depth	2.00-2.40		
	Description	Yellowish brown silty CLAY		
	Type	U		
	Initial Sample Length	L_0	(mm)	139.9
	Initial Sample Diameter	D_0	(mm)	68.9
	Initial Sample Weight	W_0	(gr)	1112.0
	Bulk Density	ρ_0	(Mg/m3)	2.13
	Particle Density	ρ_s	(Mg/m3)	2.65

Initial Conditions

Initial Cell Pressure	σ_3	(kPa)	40
Strain Rate	m_S	(mm/min)	2.79700
MembraneThickness	m_b	(mm)	0.28
Displacement Input	L_{IP}	(mm)	CH 2
Load Input	N_{IP}	(N)	CH 4
Initial Moisture	$\omega_i\%$	(%)	30
Initial Dry Density	ρ_{d0}	(Mg/m3)	1.64
Initial Voids Ratio	e_0	.	0.62
Initial Degree of Saturation	S_o	(%)	100

Final Conditions

Max Deviator Stress	$(\sigma_1-\sigma_3)_f$	(kPa)	168
MembraneCorrection	m_C	(kPa)	1.536
Strain At Max Stress	$\varepsilon_f\%$	(%)	18.25
Shear Strength	c_U	(kPa)	84
Final Moisture	$\omega_f\%$	(%)	30
Final Dry Density	ρ_{df}	(Mg/m3)	1.64
Final Voids Ratio	e_f	.	0.62
Final Degree of Saturation	S_f	(%)	100.0

Notes

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Failure Sketch

(surface inclination)

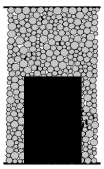
Test Method	BS1377-7 : 1900 Clause 8			Test Name	591086
Database: .\SQLEXPRESS \ 6171-I2 Analytical				Test Date	04/07/2016
Site Reference	Kraft Phase 2			Borehole	BH03
Jobfile	16-20746			Sample	591086
Client	Hydrock Consultants			Depth	2.00-2.40
Operator	bielatowiczs	Checked	pytlikm	Approved	pytlikm

i2 Analytical Limited, 7 Woodshots Meadow, Croxley Green Business Park, Herts WD18 8YS
i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Total Stress Triaxial Compression

Unconsolidated Undrained (Single Stage)

Summary Report

Sample Details				
 *sketch showing specimen location in original sample*	Depth	4.00-4.40		
	Description	Yellowish brown CLAY		
	Type	U		
	Initial Sample Length	L_0	(mm)	139.2
	Initial Sample Diameter	D_0	(mm)	69.1
	Initial Sample Weight	W_0	(gr)	1053.3
	Bulk Density	ρ_0	(Mg/m3)	2.02
	Particle Density	ρ_s	(Mg/m3)	2.65

Initial Conditions

Initial Cell Pressure	σ_3	(kPa)	80
Strain Rate	m_S	(mm/min)	2.78320
MembraneThickness	m_b	(mm)	0.28
Displacement Input	L_{IP}	(mm)	CH 2
Load Input	N_{IP}	(N)	CH 4
Initial Moisture	$\omega_i\%$	(%)	25
Initial Dry Density	ρ_{d0}	(Mg/m3)	1.61
Initial Voids Ratio	e_0	.	0.64
Initial Degree of Saturation	S_o	(%)	100

Final Conditions

Max Deviator Stress	$(\sigma_1-\sigma_3)_f$	(kPa)	74
MembraneCorrection	m_C	(kPa)	1.532
Strain At Max Stress	$\varepsilon_f\%$	(%)	19.95
Shear Strength	c_U	(kPa)	37
Final Moisture	$\omega_f\%$	(%)	25
Final Dry Density	ρ_{df}	(Mg/m3)	1.61
Final Voids Ratio	e_f	.	0.64
Final Degree of Saturation	S_f	(%)	100.0

Notes

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Failure Sketch

(surface inclination)

Test Method	BS1377-7 : 1900 Clause 8			Test Name	591087
Database: .\SQLEXPRESS \ 6171-I2 Analytical				Test Date	04/07/2016
Site Reference	Kraft Phase 2			Borehole	BH03
Jobfile	16-20746			Sample	591087
Client	Hydrock Consultants			Depth	4.00-4.40
Operator	bielatowiczs	Checked	pytlikm	Approved	pytlikm

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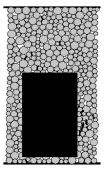
i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Total Stress Triaxial Compression

Unconsolidated Undrained (Single Stage)

Summary Report

Sample Details				
 *sketch showing specimen location in original sample*	Depth	2.00-2.45		
	Description	Yellowish brown to grey silty CLAY		
	Type	U		
	Initial Sample Length	L_0	(mm)	139.7
	Initial Sample Diameter	D_0	(mm)	69.6
	Initial Sample Weight	W_0	(gr)	1032.7
	Bulk Density	ρ_0	(Mg/m3)	1.94
	Particle Density	ρ_s	(Mg/m3)	2.65

Initial Conditions

Initial Cell Pressure	σ_3	(kPa)	40
Strain Rate	m_S	(mm/min)	2.79480
MembraneThickness	m_b	(mm)	0.25
Displacement Input	L_{IP}	(mm)	CH 2
Load Input	N_{IP}	(N)	CH 4
Initial Moisture	$\omega_i\%$	(%)	27
Initial Dry Density	ρ_{d0}	(Mg/m3)	1.52
Initial Voids Ratio	e_0	.	0.74
Initial Degree of Saturation	S_o	(%)	99

Final Conditions

Max Deviator Stress	$(\sigma_1-\sigma_3)_f$	(kPa)	169
MembraneCorrection	m_C	(kPa)	0.932
Strain At Max Stress	$\varepsilon_f\%$	(%)	9.31
Shear Strength	c_U	(kPa)	85
Final Moisture	$\omega_f\%$	(%)	27
Final Dry Density	ρ_{df}	(Mg/m3)	1.52
Final Voids Ratio	e_f	.	0.74
Final Degree of Saturation	S_f	(%)	98.5

Notes

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Failure Sketch

(surface inclination)

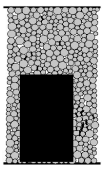
Test Method	BS1377-7 : 1900 Clause 8			Test Name	591095
Database: .\SQLEXPRESS \ 6171-I2 Analytical				Test Date	04/07/2016
Site Reference	Kraft Phase 2			Borehole	BH04
Jobfile	16-20746			Sample	591095
Client	Hydrock Consultants			Depth	2.00-2.45
Operator	bielatowiczs	Checked	pytlikm	Approved	pytlikm

i2 Analytical Limited, 7 Woodshots Meadow, Croxley Green Business Park, Herts WD18 8YS
i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Total Stress Triaxial Compression

Unconsolidated Undrained (Single Stage)

Summary Report

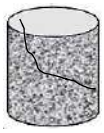
Sample Details				
 *sketch showing specimen location in original sample*	Depth	4.00-4.45		
	Description	Greyish brown silty CLAY		
	Type	U		
	Initial Sample Length	L_0	(mm)	141.0
	Initial Sample Diameter	D_0	(mm)	69.0
	Initial Sample Weight	W_0	(gr)	1103.0
	Bulk Density	ρ_0	(Mg/m3)	2.09
	Particle Density	ρ_s	(Mg/m3)	2.65

Initial Conditions

Initial Cell Pressure	σ_3	(kPa)	80
Strain Rate	m_S	(mm/min)	2.81980
MembraneThickness	m_b	(mm)	0.31
Displacement Input	L_{IP}	(mm)	CH 2
Load Input	N_{IP}	(N)	CH 1
Initial Moisture	$\omega_i\%$	(%)	21
Initial Dry Density	ρ_{d0}	(Mg/m3)	1.73
Initial Voids Ratio	e_0	.	0.53
Initial Degree of Saturation	S_o	(%)	100

Final Conditions

Max Deviator Stress	$(\sigma_1-\sigma_3)_f$	(kPa)	331
MembraneCorrection	m_C	(kPa)	1.697
Strain At Max Stress	$\varepsilon_f\%$	(%)	10.48
Shear Strength	c_U	(kPa)	166
Final Moisture	$\omega_f\%$	(%)	21
Final Dry Density	ρ_{df}	(Mg/m3)	1.73
Final Voids Ratio	e_f	.	0.53
Final Degree of Saturation	S_f	(%)	100.0



Failure Sketch

(surface inclination)

Notes

Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Test Method	BS1377-7 : 1900 Clause 8			Test Name	591096
Database: .\SQLEXPRESS \ 6171-I2 Analytical				Test Date	04/07/2016
Site Reference	Kraft Phase 2			Borehole	BH04
Jobfile	16-20746			Sample	591096
Client	Hydrock Consultants			Depth	4.00-4.45
Operator	bielatowiczs	Checked	pytlikm	Approved	pytlikm

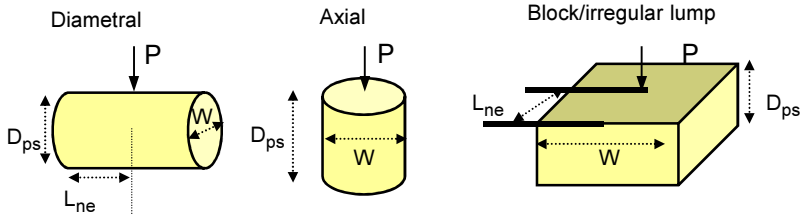
i2 Analytical Limited, 7 Woodshots Meadow, Croxley Green Business Park, Herts WD18 8YS
i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Point Load Strength Index Tests
Summary of Results

Project No.	Project Name
16-20746	Kraft Phase 2

Borehole No.	Sample			Specimen		Rock Type and Test condition	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index		Remarks (including water content if measured)
	Depth	Ref.	Type	Ref.	Depth		Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)	
	m				m					mm	mm	mm	mm	kN	mm	MPa	MPa	
BH01	7.8-8.1	B	B	1		Greyish brown silty CLAY	D	U	YES	55.0	86.0	86.0	68.0	0.2	76.5	0.03	0.04	591073
BH01	11.7-12.0	C	B	1		Greyish brown silty CLAY	D	U	YES	85.0	89.0	89.0	81.0	9.1	84.9	1.26	1.60	591074; stiff sample
BH01	12.9-13.3	C	U	1		Greyish brown silty CLAY	D	U	YES	150.0	86.0	86.0	70.0	0.6	77.6	0.10	0.12	591075
BH01	15.5-15.8	C	U	1		Greyish brown silty CLAY	D	U	YES	85.0	87.0	87.0	70.0	0.5	78.0	0.08	0.10	591076
BH01	17.3-17.8	C	U	1		Greyish brown silty CLAY	D	U	YES	80.0	90.0	90.0	72.0	0.7	80.5	0.11	0.13	591077
BH02	8.0-8.4	C	U	1		Greyish brown silty CLAY	D	U	YES	50.0	90.0	90.0	75.0	0.3	82.2	0.04	0.06	591082
BH02	13.5-13.7	C	U	1		Greyish brown silty CLAY	D	U	YES	70.0	87.0	87.0	74.0	0.4	80.2	0.06	0.08	591083
BH02	17.0-17.3	C	U	1		Greyish brown silty CLAY	D	U	YES	105.0	92.0	92.0	59.0	0.7	73.7	0.13	0.15	591084
BH03	9.0-9.5	C	U	1		Greyish brown gravelly silty CLAY	D	U	YES	50.0	80.0	80.0	52.0	0.1	64.5	0.02	0.03	591090
BH03	13.9-14.2	C	U	1		Greyish brown silty CLAY	D	U	YES	110.0	86.0	86.0	75.0	0.6	80.3	0.09	0.12	591091

Test Type
D - Diametral, A - Axial, I - Irregular Lump, B - Block
Direction
L - parallel to planes of weakness
P - perpendicular to planes of weakness
U - unknown or random
Dimensions
Dps - Distance between platens (platen separation)
Dps' - at failure (see ISRM note 6)
Lne - Length from platens to nearest free end
W - Width of shortest dimension perpendicular to load, P



Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise
Detailed legend for test and dimensions, based on ISRM, is shown above.
Size factor, F = (De/50)0.45 for all tests.

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved: Mirosława Pytlik
PL Head of Geotechnical section

Signed: Terry Stafford
Geotechnical Manager

Date Reported: 12/07/2016

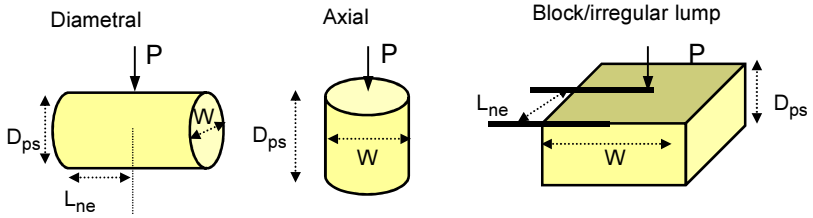
for and on behalf of i2 Analytical Ltd

Point Load Strength Index Tests
Summary of Results

Project No.	Project Name
16-20746	Kraft Phase 2

Borehole No.	Sample			Specimen		Rock Type and Test condition	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index		Remarks (including water content if measured)
	Depth	Ref.	Type	Ref.	Depth		Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)	
	m				m					mm	mm	mm	mm	kN	mm	MPa	MPa	
BH03	17.2-17.5	C	U	1		Greyish brown silty CLAY	D	U	YES	80.0	86.0	86.0	69.0	0.6	77.0	0.10	0.12	591092
BH04	6.0-6.3	C	U	1		Greyish brown CLAY	D	U	YES	120.0	87.0	87.0	59.0	0.4	71.6	0.08	0.09	591097
BH04	9.0-9.4	C	U	1		Greyish brown CLAY	D	U	YES	90.0	87.0	87.0	63.0	0.3	74.0	0.05	0.07	591098
BH04	12.0-12.4	C	U	1		Greyish brown silty CLAY	D	U	YES	110.0	88.0	88.0	64.0	0.3	75.0	0.05	0.06	591099
BH04	14.0-14.3	C	U	1		Greyish brown silty CLAY	D	U	YES	80.0	88.0	88.0	63.0	0.6	74.5	0.11	0.13	591100

Test Type
D - Diametral, A - Axial, I - Irregular Lump, B - Block
Direction
L - parallel to planes of weakness
P - perpendicular to planes of weakness
U - unknown or random
Dimensions
Dps - Distance between platens (platen separation)
Dps' - at failure (see ISRM note 6)
Lne - Length from platens to nearest free end
W - Width of shortest dimension perpendicular to load, P



Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise
Detailed legend for test and dimensions, based on ISRM, is shown above.
Size factor, F = (De/50)0.45 for all tests.

Comments: Re-issue 1 - Format of Point Load Strength Index results changed as per client request

Approved: Mirosława Pytlik
PL Head of Geotechnical section

Signed: Terry Stafford
Geotechnical Manager

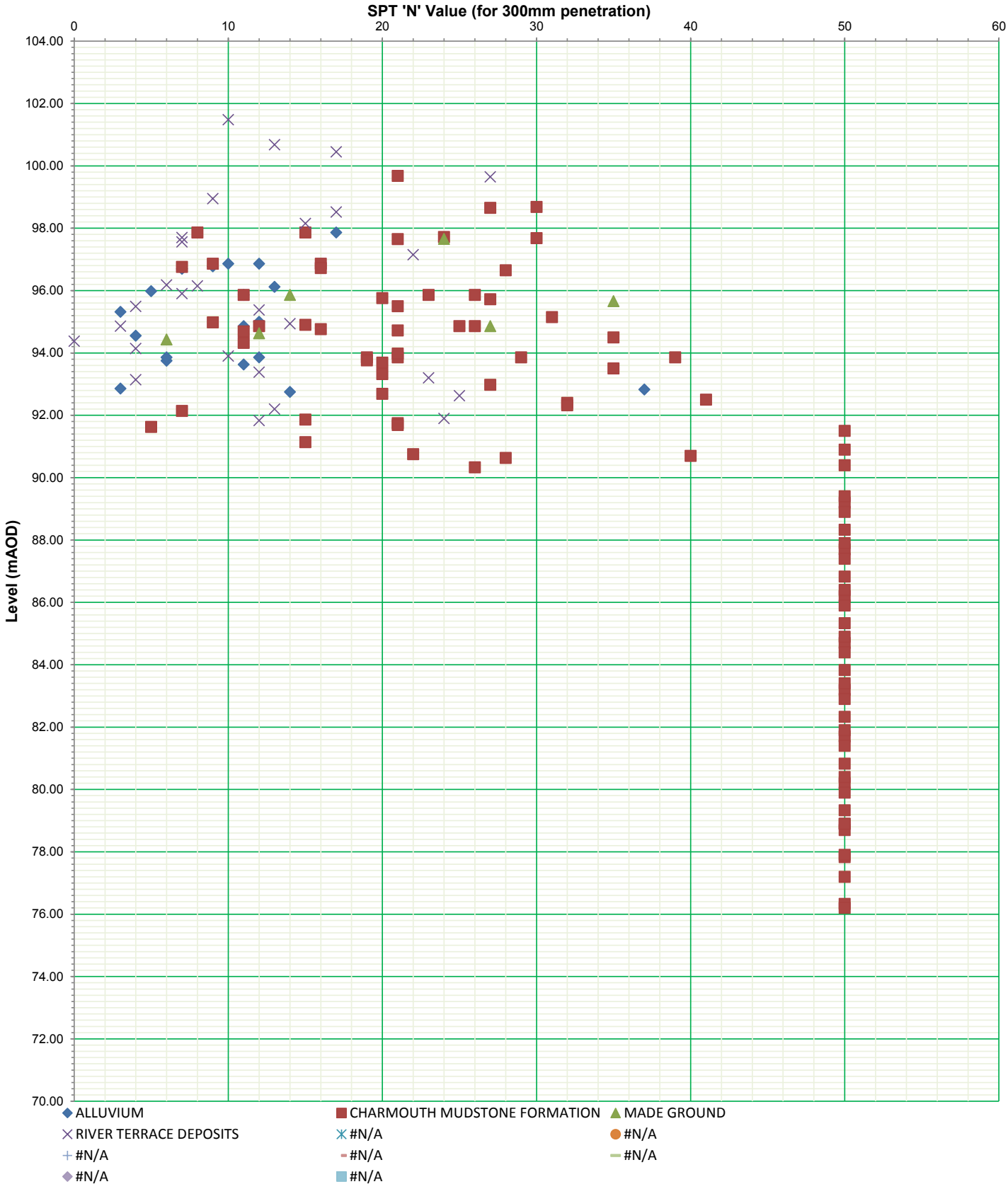
Date Reported: 12/07/2016

for and on behalf of i2 Analytical Ltd

Hydrock

SPT 'N' VALUES vs LEVEL

Site:	Client:	Contract No.	C161279
Kraft Phase 2	db symmetry	All Data	

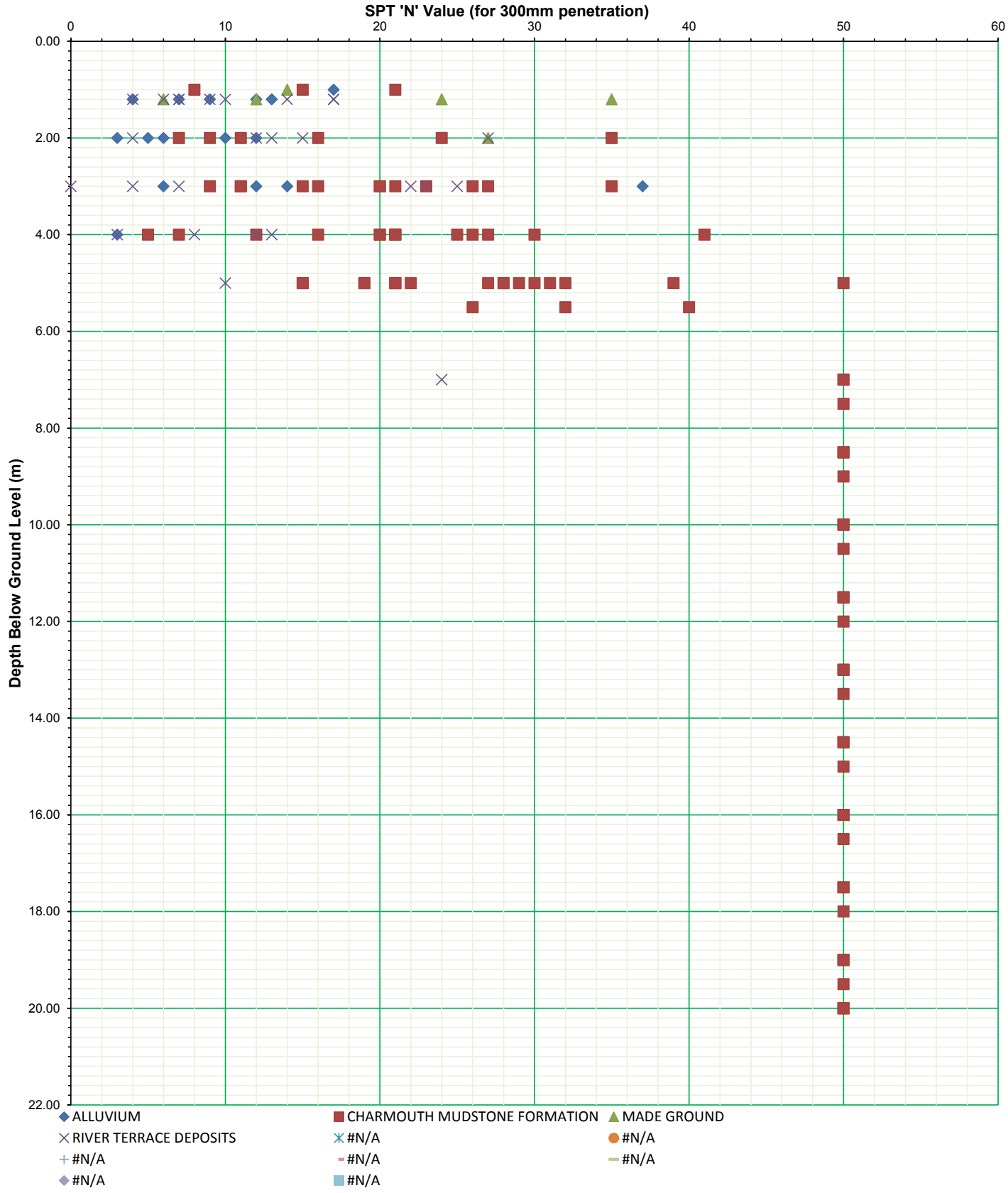


Version	0.1	Date	16/07/2015

Hydrock

SPT 'N' VALUES vs DEPTH

Site:	Client:	Contract No.	C161279
Kraft Phase 2	db symmetry	All Data	

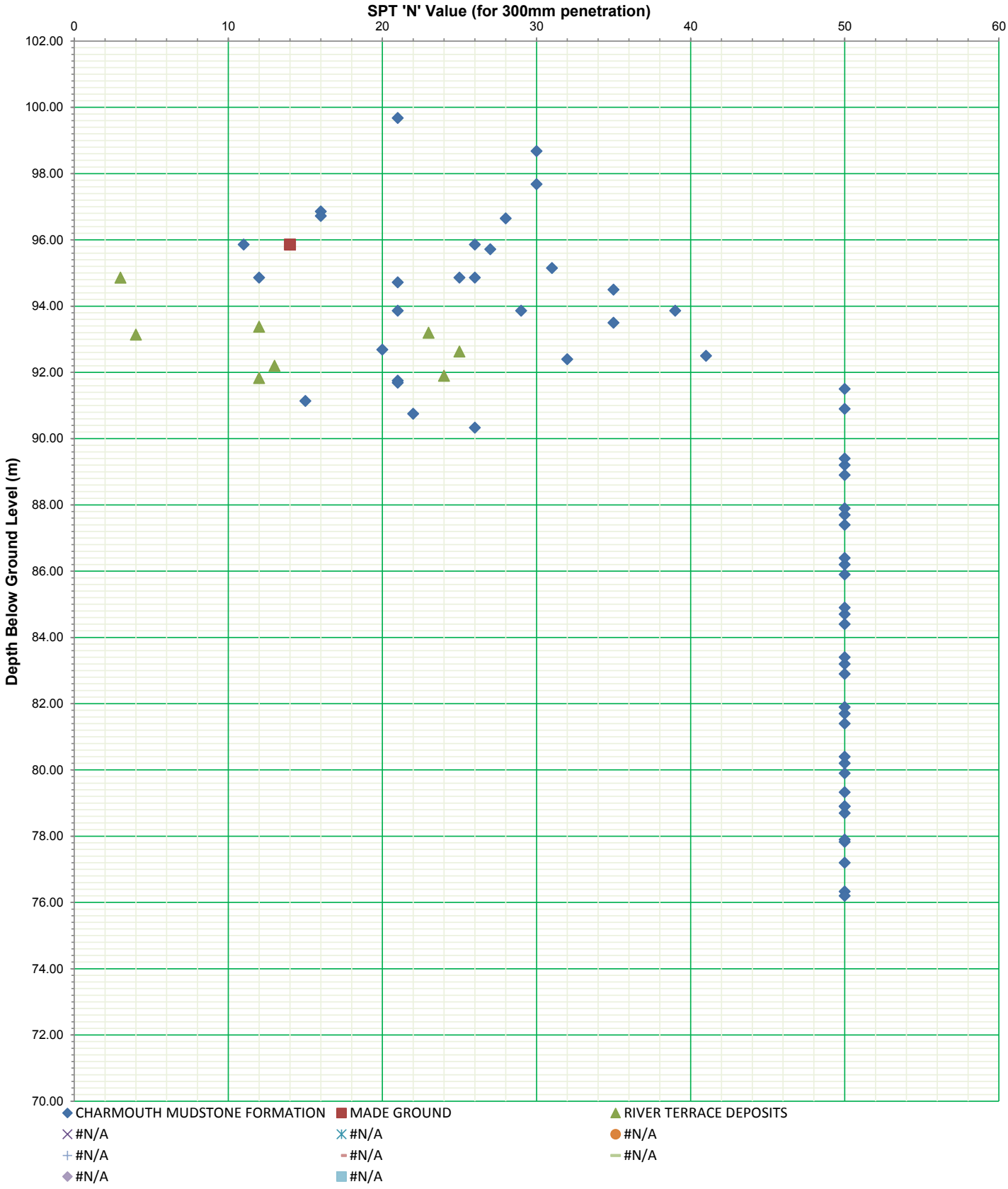


Version	0.1	Date	16/07/2015

Hydrock

SPT 'N' VALUES vs LEVEL GRANULAR STRATA

Site:	Client:	Contract No.	C161279
Kraft Phase 2	db symmetry	All Data	

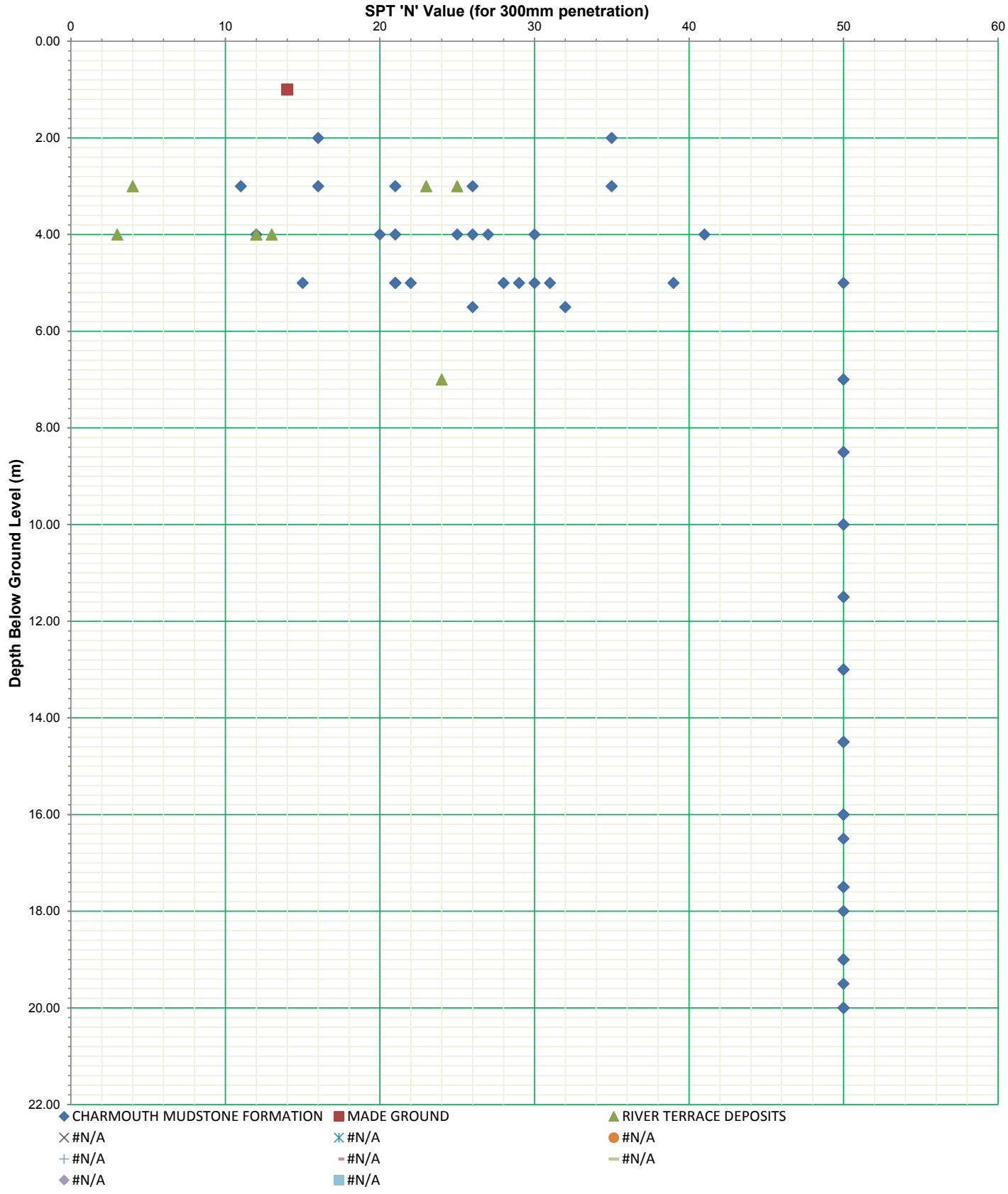


Version	0.1	Date	16/07/2015

Hydrock

SPT 'N' VALUES vs DEPTH GRANULAR STRATA

Site:	Client:	Contract No.	C161279
Kraft Phase 2	db symmetry	All Data	

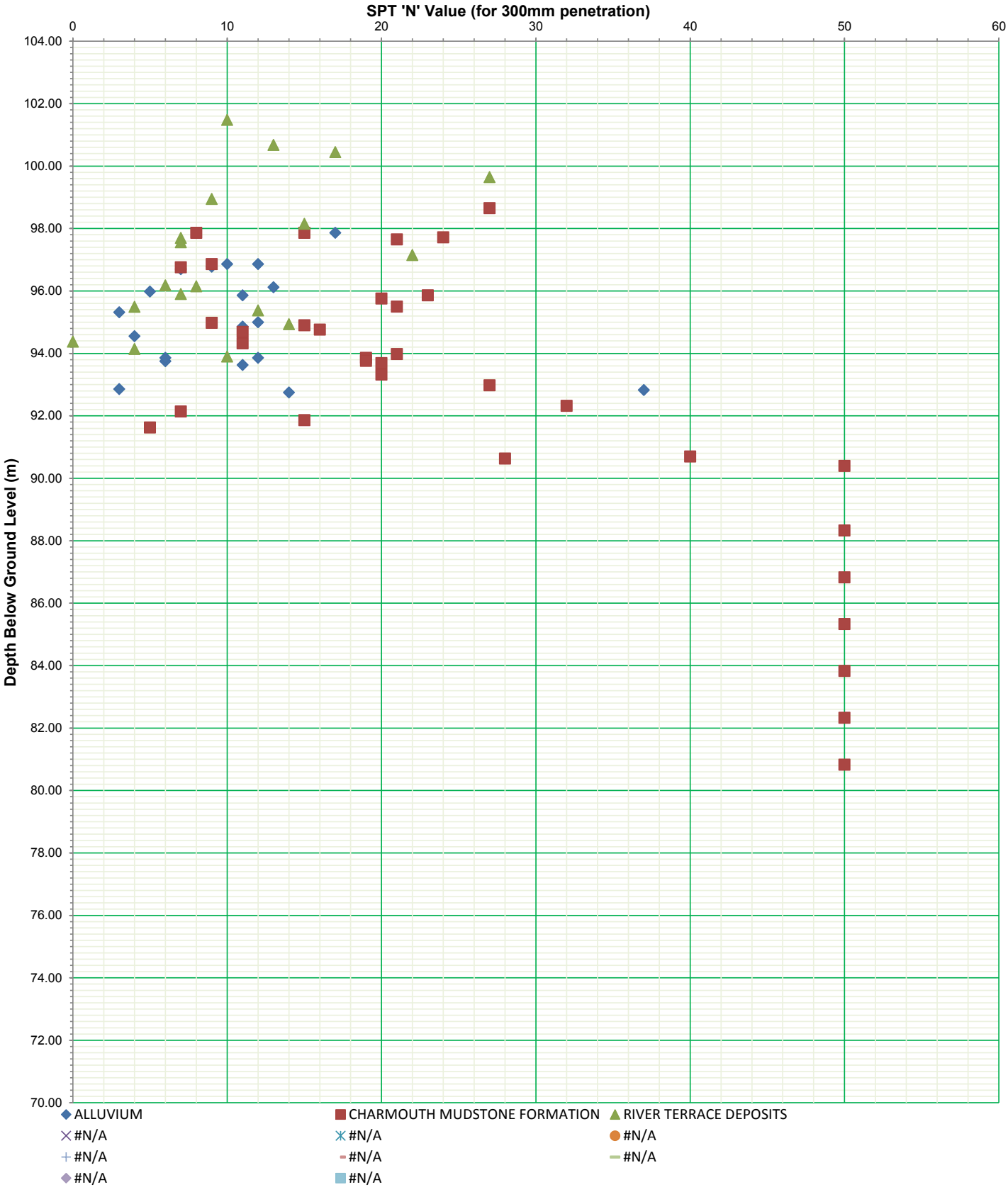


Version	0.1	Date	16/07/2015

Hydrock

SPT 'N' VALUES vs LEVEL COHESIVE STRATA

Site:	Client:	Contract No.	C161279
Kraft Phase 2	db symmetry	All Data	

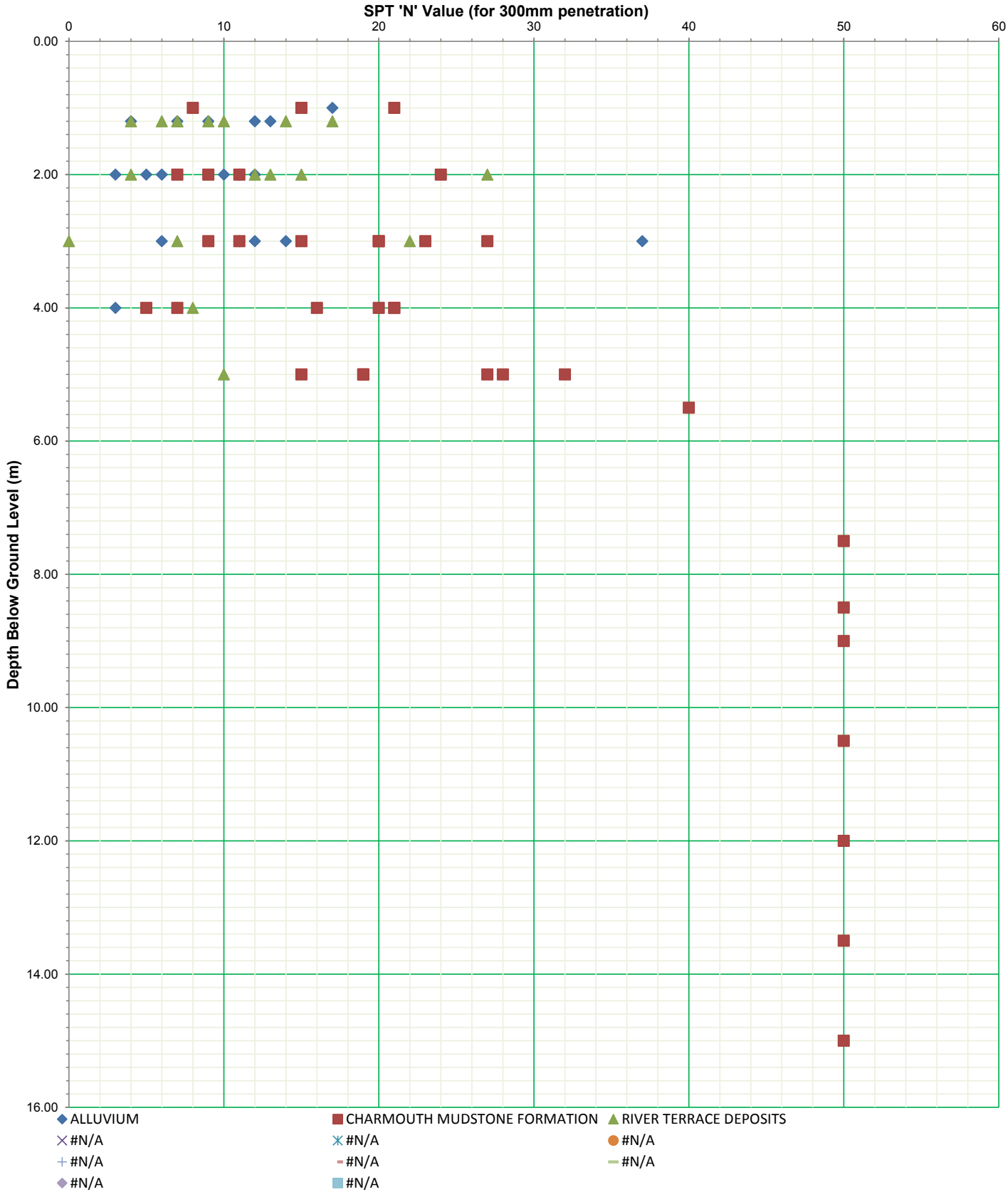


Version	0.1	Date	16/07/2015

Hydrock

SPT 'N' VALUES vs DEPTH COHESIVE STRATA

Site:	Client:	Contract No.	C161279
Kraft Phase 2	db symmetry	All Data	



Version	0.1	Date	16/07/2015

Hydrock

Client	Location or material to which this assessment applies
Db Symmetry	River Terrace Deposits
Project	
Kraft Phase 2	
Job number	
C161279	

Concrete in aggressive ground

After BRE Special Digest 1, 2005

Soil data

	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	4	0	0
No. tests in 20% data set	1		
No. tests with suspected pyrite		0	
Maximum value	28.9		
Mean of highest two values	23		
Mean of highest 20%			
Characteristic Value	**28.9**		

	[no pyrite]	[pyrite suspected]
DS Class	**DS-1**	

If pyrite suspected, DS Class limited to

Is pyrite assumed to be present? No **Adopted DS Class =** **DS-1**

Water data

	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0

DS Class

pH data

	Soil	Water
Number of tests	4	0
No. tests in 20% data set	1	
Lowest pH	7.4	
Mean of lowest 20%	7.4	
Characteristic value	**7.4**	
Design value	**7.4**	

Number of soil pH results less than 5.5: 0

DS Class design value

Based on higher of soil and water data **DS-1**

ACEC Class design value

Natural ground

Mobile groundwater **AC-1 ***

* increase to AC-2z in flowing water (pure or with >15mg/l carbon dioxide)

Hydrock

Client	Location or material to which this assessment applies
Db symmetry ltd	Made Ground
Project	
Kraft Phase 2	
Job number	
C161279	

Concrete in aggressive ground

After BRE Special Digest 1, 2005

Soil data

	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	1	0	0
No. tests in 20% data set	0		
No. tests with suspected pyrite		0	
Maximum value	42.4		
Mean of highest two values	42		
Mean of highest 20%			
Characteristic Value	**42.4**		
			Mg not required
	[no pyrite]	**[pyrite suspected]**	
DS Class	**DS-1**		

If pyrite suspected, DS Class limited to

Is pyrite assumed to be present? No **Adopted DS Class =** **DS-1**

Water data

	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0 **Mg not required**
DS Class		

pH data

	Soil	Water
Number of tests	1	0
No. tests in 20% data set	0	
Lowest pH	7.4	
Mean of lowest 20%		
Characteristic value	**7.4**	
Design value	**7.4**	

Number of soil pH results less than 5.5: 0

DS Class design value

Based on higher of soil and water data **DS-1**

ACEC Class design value

Brownfield Mobile groundwater **AC-1**

Hydrock

Client	Location or material to which this assessment applies
Db Symmetry	Charmouth Mudstone Formation
Project	
Kraft Phase 2	
Job number	
C161279	

Concrete in aggressive ground

After BRE Special Digest 1, 2005

Soil data

	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	4	4	0
No. tests in 20% data set	1	1	
No. tests with suspected pyrite		2	
Maximum value	394	0.5	
Mean of highest two values	337	1	
Mean of highest 20%			
Characteristic Value	**394**	**0.5**	
	[no pyrite]	**[pyrite suspected]**	
DS Class	**DS-1**	**DS-2**	

If pyrite suspected, DS Class limited to **DS-2**

Is pyrite assumed to be present? Yes **Adopted DS Class =** **DS-2**

Water data

	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	100	0
DS Class	**DS-1**	

pH data

	Soil	Water
Number of tests	4	5
No. tests in 20% data set	1	1
Lowest pH	4.9	7.4
Mean of lowest 20%	4.9	7.4
Characteristic value	**4.9**	**7.4**
Design value	**4.9**	

Number of soil pH results less than 5.5: 1

DS Class design value

Based on higher of soil and water data **DS-2**

ACEC Class design value

Natural ground

Mobile groundwater **AC-3z**

Hydrock

Client	Location or material to which this assessment applies
Db Symmetry	Alluvium
Project	
Kraft Phase 2	
Job number	
C161279	

Concrete in aggressive ground

After BRE Special Digest 1, 2005

Soil data

	(Adjusted) water soluble sulfate (mg/l)	Total potential sulfate (%)	Water soluble magnesium (mg/l)
Number of tests	3	0	0
No. tests in 20% data set	1		
No. tests with suspected pyrite		0	
Maximum value	50.9		
Mean of highest two values	37		
Mean of highest 20%			
Characteristic Value	**50.9**		

	[no pyrite]	[pyrite suspected]
DS Class	**DS-1**	

If pyrite suspected, DS Class limited to

Is pyrite assumed to be present? No **Adopted DS Class =** **DS-1**

Water data

	(Adjusted) soluble sulfate (mg/l)	Soluble magnesium (mg/l)
Characteristic Value (Maximum Level)	0	0

DS Class

pH data

	Soil	Water
Number of tests	3	0
No. tests in 20% data set	1	
Lowest pH	6.8	
Mean of lowest 20%	6.8	
Characteristic value	**6.8**	
Design value	**6.8**	

Number of soil pH results less than 5.5: 0

DS Class design value

Based on higher of soil and water data **DS-1**

ACEC Class design value

Natural ground

Mobile groundwater **AC-1 ***

* increase to AC-2z in flowing water (pure or with >15mg/l carbon dioxide)

Appendix D

Site Monitoring Data

Hydrock

Site: Kraft, Banbury
Job number: C 161279
Client: DB Symmetry

Gas analyser: GFM435 No. 11874
Equipment check OK: Y
Service in date: Y
Calibration check OK: Y
Name of person monitoring: Rod Langley

Notes on site conditions:

16.06.2016 Weather conditions = Frequent rain showers, occassionally heavy.
23.06.2016 Weather conditions = Fine drizzle
30.06.2016 Weather conditions = Cloudy but dry
07.07.2016 Weather conditions = Fine, clear morning
14.07.2016 Weather conditions = Bright sunny day with some cloud
21.07.2016 Weather conditions = Fine sunny day.

Notes: LEL = lower explosive limit = 5%v/v. * where the flow is less than the limit of detection of the instrument, the detection limit is reported. GSVs are rounded to 3 places.

Monitoring round		Borehole details						Pressure and flow					Gas concentrations										GSV		Local conditions
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Volume of headspace in BH (well pipie & filter pack) (m^3)	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	Gas flow* (absolute value) (l/hr)	VOC (as ppm using PID)	CH_4 (%v/v)		CH_4 (%LEL)		H2S (ppm)	CO (ppm)	CO_2 (%v/v)		O_2 (%v/v)		Gas Screening Value (CH_4) (l/hr)	Gas Screening Value (CO_2) (l/hr)	Notes on condition of borehole and surrounding ground
														Initial	Steady	Initial	Steady			Initial	Steady	Initial	Steady			
16.06.2016	am	WS 01	S		1.10		0.05mØ x 5.04m	983	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.2	0.2	20.5	20.5	0.0001	0.0002	BH in good condition. Nothing to report
16.06.2016	am	WS 03	S		3.01		0.05mØ x 5.01m	983	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.6	1.6	17.8	17.8	0.0001	0.0016	BH in good condition. Nothing to report
16.06.2016	am	WS 09	S		0.33		0.05mØ x 5.01m	982	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.2	0.2	19.7	19.7	0.0001	0.0002	BH in good condition. Nothing to report
16.06.2016	am	WS 13	S		3.48		0.05mØ x 5.03m	982	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	2.1	2.1	17.9	17.9	0.0001	0.0021	BH in good condition. Nothing to report
16.06.2016	am	WS 14	S		3.76		0.05mØ x 5.04m	982	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.3	1.3	18.0	18.0	0.0001	0.0013	BH in good condition. Nothing to report
16.06.2016	am	WS 18	S		1.27		0.05mØ x 5.06m	983	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.9	0.9	18.3	18.3	0.0001	0.0009	BH in good condition. Nothing to report
16.06.2016	am	WS 19	S		1.82		0.05mØ x 4.86m	983	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	3.9	3.9	15.5	15.5	0.0001	0.0039	BH in good condition. Nothing to report
16.06.2016	am	WS 25	S		0.78		0.05mØ x 5.06m	983	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.2	1.2	19.9	19.9	0.0001	0.0012	BH in good condition. Nothing to report
16.06.2016	am	WS 26	S		1.51		0.05mØ x 5.05m	983	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.9	0.9	16.7	16.7	0.0001	0.0009	BH in good condition. Nothing to report
23.06.2016	am	WS 01	S		1.23		0.05mØ x 5.04m	997	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.4	0.4	20.0	20.0	0.0001	0.0004	BH in good condition. Nothing to report
23.06.2016	am	WS 03	S		2.94		0.05mØ x 5.01m	997	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.8	0.8	18.9	18.9	0.0001	0.0008	BH in good condition. Nothing to report
23.06.2016	am	WS 09	S		0.32		0.05mØ x 5.01m	998	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.1	0.1	16.9	16.9	0.0001	0.0001	BH in good condition. Nothing to report
23.06.2016	am	WS 13	S		3.49		0.05mØ x 5.03m	997	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	2.1	2.1	17.9	17.9	0.0001	0.0021	BH in good condition. Nothing to report
23.06.2016	am	WS 14	S		3.03		0.05mØ x 5.04m	997	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.4	1.4	18.8	18.8	0.0001	0.0014	BH in good condition. Nothing to report
23.06.2016	am	WS 18	S		1.34		0.05mØ x 5.06m	998	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.9	0.9	18.2	18.2	0.0001	0.0009	BH in good condition. Nothing to report
23.06.2016	am	WS 19	S		1.66		0.05mØ x 4.86m	998	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	3.2	3.2	15.9	15.9	0.0001	0.0032	BH in good condition. Nothing to report
23.06.2016	am	WS 25	S		0.84		0.05mØ x 5.06m	999	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.4	0.4	20.4	20.4	0.0001	0.0004	BH in good condition. Nothing to report
23.06.2016	am	WS 26	S		1.24		0.05mØ x 5.05m	999	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.1	0.1	20.7	20.7	0.0001	0.0001	BH in good condition. Nothing to report
30.06.2016	am	WS 01	S		1.39		0.05mØ x 5.04m	991	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.8	0.8	19.4	19.4	0.0001	0.0008	BH in good condition. Nothing to report
30.06.2016	am	WS 03	S		2.96		0.05mØ x 5.01m	991	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.8	0.8	19.3	19.3	0.0001	0.0008	BH in good condition. Nothing to report
30.06.2016	am	WS 09	S		0.37		0.05mØ x 5.01m	991	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.1	0.1	17.8	17.8	0.0001	0.0001	BH in good condition. Nothing to report
30.06.2016	am	WS 13	S		3.48		0.05mØ x 5.03m	990	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	2.0	2.0	18.1	18.1	0.0001	0.002	BH in good condition. Nothing to report
30.06.2016	am	WS 14	S		2.51		0.05mØ x 5.04m	990	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.3	1.3	19.8	19.8	0.0001	0.0013	BH in good condition. Nothing to report
30.06.2016	am	WS 18	S		1.70		0.05mØ x 5.06m	992	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.2	1.2	18.2	18.2	0.0001	0.0012	BH in good condition. Nothing to report
30.06.2016	am	WS 19	S		1.88		0.05mØ x 4.86m	993	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	4.4	4.4	15.2	15.2	0.0001	0.0044	BH in good condition. Nothing to report
30.06.2016	am	WS 25	S		0.98		0.05mØ x 5.06m	990	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.2	0.2	20.8	20.8	0.0001	0.0002	BH in good condition. Nothing to report
30.06.2016	am	WS 26	S		1.61		0.05mØ x 5.05m	990	F	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.7	0.7	20.6	20.6	0.0001	0.0007	BH in good condition. Nothing to report
07.07.2016	am	WS 01	S		1.67		0.05mØ x 5.04m	999	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.8	0.8	19.5	19.5	0.0001	0.0008	BH in good condition. Nothing to report
07.07.2016	am	WS 03	S		3.02		0.05mØ x 5.01m	999	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	2.6	2.6	15.5	15.5	0.0001	0.0026	BH in good condition. Nothing to report
07.07.2016	am	WS 09	S		0.39		0.05mØ x 5.01m	1000	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.1	0.1	19.6	19.6	0.0001	0.0001	BH in good condition. Nothing to report
07.07.2016	am	WS 13	S		3.51		0.05mØ x 5.03m	999	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.9	1.9	18.5	18.5	0.0001	0.0019	BH in good condition. Nothing to report
07.07.2016	am	WS 14	S		2.16		0.05mØ x 5.04m	999	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.2	1.2	19.9	19.9	0.0001	0.0012	BH in good condition. Nothing to report
07.07.2016	am	WS 18	S		1.61		0.05mØ x 5.06m	1001	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.9	0.9	19.6	19.6	0.0001	0.0009	BH in good condition. Nothing to report
07.07.2016	am	WS 19	S		2.07		0.05mØ x 4.86m	1002	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	4.7	4.7	15.3	15.3	0.0001	0.0047	BH in good condition. Nothing to report

Monitoring round		Borehole details						Pressure and flow					Gas concentrations											GSV		Local conditions
Date	Time	Borehole	Single or dual gas tap	Response zone depth (m)	Depth to water or depth of hole if dry (m)	D denotes dry hole	Volume of headspace in BH (well pipie & filter pack) (m^3)	Atmospheric pressure (hPa)	Atm pressure falling / rising / steady	Relative BH pressure (hPa)	Gas flow* (l/hr)	Gas flow* (absolute value) (l/hr)	VOC (as ppm using PID)	CH_4 (%v/v)		CH_4 (%LEL)		H2S (ppm)	CO (ppm)	CO_2 (%v/v)		O_2 (%v/v)		Gas Screening Value (CH_4) (l/hr)	Gas Screening Value (CO_2) (l/hr)	Notes on condition of borehole and surrounding ground
														Initial	Steady	Initial	Steady			Initial	Steady	Initial	Steady			
07.07.2016	am	WS 25	S		1.17		0.05mØ x 5.06m	998	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.3	0.3	20.7	20.7	0.0001	0.0003	BH in good condition. Nothing to report
07.07.2016	am	WS 26	S		1.70		0.05mØ x 5.05m	998	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.5	0.5	20.6	20.6	0.0001	0.0005	BH in good condition. Nothing to report
14.07.2016	am	WS 01	S		1.84		0.05mØ x 5.04m	1005	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.3	0.3	20.6	20.6	0.0001	0.0003	BH in good condition. Nothing to report
14.07.2016	am	WS 03	S		3.08		0.05mØ x 5.01m	1005	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.9	0.9	18.3	18.3	0.0001	0.0009	BH in good condition. Nothing to report
14.07.2016	am	WS 09	S		0.42		0.05mØ x 5.01m	1005	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.1	0.1	14.4	14.4	0.0001	0.0001	BH in good condition. Nothing to report
14.07.2016	am	WS 13	S		3.54		0.05mØ x 5.03m	1004	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.1	0.1	20.8	20.8	0.0001	0.0001	BH in good condition. Nothing to report
14.07.2016	am	WS 14	S		1.96		0.05mØ x 5.04m	1004	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.3	1.3	19.9	19.9	0.0001	0.0013	BH in good condition. Nothing to report
14.07.2016	am	WS 18	S		1.55		0.05mØ x 5.06m	1006	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.3	1.3	20.2	20.2	0.0001	0.0013	BH in good condition. Nothing to report
14.07.2016	am	WS 19	S		2.20		0.05mØ x 4.86m	1007	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	4.9	4.9	16.0	16.0	0.0001	0.0049	BH in good condition. Nothing to report
14.07.2016	am	WS 25	S		1.28		0.05mØ x 5.06m	1003	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	1.1	1.1	19.7	19.7	0.0001	0.0011	BH in good condition. Nothing to report
14.07.2016	am	WS 26	S		1.82		0.05mØ x 5.05m	1003	S	0	0.1	0.1		0.1	0.1	0.1	0.1	1	1	0.6	0.6	20.5	20.5	0.0001	0.0006	BH in good condition. Nothing to report

Ground Gas Risk Assessment

Hydrock

Job Number	C 161279
Job Name	Kraft, Banbury
Client	DB Symmetry

Data All Data

Max CH4	Max C02	Worst Case Flow	Worst Case GSV Methane	Worst Case GSV CO_2
0.1	5.4	0.1	0.0001	0.0054

Number of Readings	54
Number of Monitoring Rounds	6
Number of Readings with Flow Rate	54

CIRIA C665 Assessment

	Methane		Carbon Dioxide	
	Max Value	GSV	Max Value	GSV
CS1	54	54	53	54
CS2	0	0	1	0
CS3	N/A	0	N/A	0
CS4	N/A	0	N/A	0
CS5	N/A	0	N/A	0
CS6	N/A	0	N/A	0

Location	Pressure Trend	Date	Relative Pressure (mb)	Flow Rate (l/hr)	Atmos. Pressure (m.bar)	CH_4 (% vol)		(%LEL)		CO_2 (% vol)		O_2 (% vol)		GSV – CH4	GSV – CO_2
						Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady		
WS 01	S	07.07.2016	0.00	0.1	999	0.1	0.1	0.1	0.1	0.8	0.8	19.5	19.5	0.0001	0.0008
WS 03	S	07.07.2016	0.00	0.1	999	0.1	0.1	0.1	0.1	2.6	2.6	15.5	15.5	0.0001	0.0026
WS 09	S	07.07.2016	0.00	0.1	1000	0.1	0.1	0.1	0.1	0.1	0.1	19.6	19.6	0.0001	0.0001
WS 13	S	07.07.2016	0.00	0.1	999	0.1	0.1	0.1	0.1	1.9	1.9	18.5	18.5	0.0001	0.0019
WS 14	S	07.07.2016	0.00	0.1	999	0.1	0.1	0.1	0.1	1.2	1.2	19.9	19.9	0.0001	0.0012
WS 18	S	07.07.2016	0.00	0.1	1001	0.1	0.1	0.1	0.1	0.9	0.9	19.6	19.6	0.0001	0.0009
WS 19	S	07.07.2016	0.00	0.1	1002	0.1	0.1	0.1	0.1	4.7	4.7	15.3	15.3	0.0001	0.0047
WS 25	S	07.07.2016	0.00	0.1	998	0.1	0.1	0.1	0.1	0.3	0.3	20.7	20.7	0.0001	0.0003
WS 26	S	07.07.2016	0.00	0.1	998	0.1	0.1	0.1	0.1	0.5	0.5	20.6	20.6	0.0001	0.0005
WS 01	S	14.07.2016	0.00	0.1	1005	0.1	0.1	0.1	0.1	0.3	0.3	20.6	20.6	0.0001	0.0003
WS 03	S	14.07.2016	0.00	0.1	1005	0.1	0.1	0.1	0.1	0.9	0.9	18.3	18.3	0.0001	0.0009
WS 09	S	14.07.2016	0.00	0.1	1005	0.1	0.1	0.1	0.1	0.1	0.1	14.4	14.4	0.0001	0.0001
WS 13	S	14.07.2016	0.00	0.1	1004	0.1	0.1	0.1	0.1	0.1	0.1	20.8	20.8	0.0001	0.0001
WS 14	S	14.07.2016	0.00	0.1	1004	0.1	0.1	0.1	0.1	1.3	1.3	19.9	19.9	0.0001	0.0013
WS 18	S	14.07.2016	0.00	0.1	1006	0.1	0.1	0.1	0.1	1.3	1.3	20.2	20.2	0.0001	0.0013
WS 19	S	14.07.2016	0.00	0.1	1007	0.1	0.1	0.1	0.1	4.9	4.9	16.0	16.0	0.0001	0.0049
WS 25	S	14.07.2016	0.00	0.1	1003	0.1	0.1	0.1	0.1	1.1	1.1	19.7	19.7	0.0001	0.0011
WS 26	S	14.07.2016	0.00	0.1	1003	0.1	0.1	0.1	0.1	0.6	0.6	20.5	20.5	0.0001	0.0006
WS 01	F	16.06.2016	0.00	0.1	983	0.1	0.1	0.1	0.1	0.2	0.2	20.5	20.5	0.0001	0.0002
WS 03	F	16.06.2016	0.00	0.1	983	0.1	0.1	0.1	0.1	1.6	1.6	17.8	17.8	0.0001	0.0016
WS 09	F	16.06.2016	0.00	0.1	982	0.1	0.1	0.1	0.1	0.2	0.2	19.7	19.7	0.0001	0.0002
WS 13	F	16.06.2016	0.00	0.1	982	0.1	0.1	0.1	0.1	2.1	2.1	17.9	17.9	0.0001	0.0021
WS 14	F	16.06.2016	0.00	0.1	982	0.1	0.1	0.1	0.1	1.3	1.3	18.0	18.0	0.0001	0.0013
WS 18	F	16.06.2016	0.00	0.1	983	0.1	0.1	0.1	0.1	0.9	0.9	18.3	18.3	0.0001	0.0009
WS 19	F	16.06.2016	0.00	0.1	983	0.1	0.1	0.1	0.1	3.9	3.9	15.5	15.5	0.0001	0.0039
WS 25	F	16.06.2016	0.00	0.1	983	0.1	0.1	0.1	0.1	1.2	1.2	19.9	19.9	0.0001	0.0012
WS 26	F	16.06.2016	0.00	0.1	983	0.1	0.1	0.1	0.1	0.9	0.9	16.7	16.7	0.0001	0.0009
WS 01	S	23.06.2016	0.00	0.1	997	0.1	0.1	0.1	0.1	0.4	0.4	20.0	20.0	0.0001	0.0004
WS 03	S	23.06.2016	0.00	0.1	997	0.1	0.1	0.1	0.1	0.8	0.8	18.9	18.9	0.0001	0.0008
WS 09	S	23.06.2016	0.00	0.1	998	0.1	0.1	0.1	0.1	0.1	0.1	16.9	16.9	0.0001	0.0001
WS 13	S	23.06.2016	0.00	0.1	997	0.1	0.1	0.1	0.1	2.1	2.1	17.9	17.9	0.0001	0.0021
WS 14	S	23.06.2016	0.00	0.1	997	0.1	0.1	0.1	0.1	1.4	1.4	18.8	18.8	0.0001	0.0014
WS 18	S	23.06.2016	0.00	0.1	998	0.1	0.1	0.1	0.1	0.9	0.9	18.2	18.2	0.0001	0.0009
WS 19	S	23.06.2016	0.00	0.1	998	0.1	0.1	0.1	0.1	3.2	3.2	15.9	15.9	0.0001	0.0032
WS 25	S	23.06.2016	0.00	0.1	999	0.1	0.1	0.1	0.1	0.4	0.4	20.4	20.4	0.0001	0.0004
WS 26	S	23.06.2016	0.00	0.1	999	0.1	0.1	0.1	0.1	0.1	0.1	20.7	20.7	0.0001	0.0001
WS 01	F	30.06.2016	0.00	0.1	991	0.1	0.1	0.1	0.1	0.8	0.8	19.4	19.4	0.0001	0.0008
WS 03	F	30.06.2016	0.00	0.1	991	0.1	0.1	0.1	0.1	0.8	0.8	19.3	19.3	0.0001	0.0008
WS 09	F	30.06.2016	0.00	0.1	991	0.1	0.1	0.1	0.1	0.1	0.1	17.8	17.8	0.0001	0.0001
WS 13	F	30.06.2016	0.00	0.1	990	0.1	0.1	0.1	0.1	2.0	2.0	18.1	18.1	0.0001	0.0020
WS 14	F	30.06.2016	0.00	0.1	990	0.1	0.1	0.1	0.1	1.3	1.3	19.8	19.8	0.0001	0.0013
WS 18	F	30.06.2016	0.00	0.1	992	0.1	0.1	0.1	0.1	1.2	1.2	18.2	18.2	0.0001	0.0012
WS 19	F	30.06.2016	0.00	0.1	993	0.1	0.1	0.1	0.1	4.4	4.4	15.2	15.2	0.0001	0.0044
WS 25	F	30.06.2016	0.00	0.1	990	0.1	0.1	0.1	0.1	0.2	0.2	20.8	20.8	0.0001	0.0002
WS 26	F	30.06.2016	0.00	0.1	990	0.1	0.1	0.1	0.1	0.7	0.7	20.6	20.6	0.0001	0.0007
WS 01	S	21.07.2016	0.00	0.1	1003	0.1	0.1	0.1	0.1	0.1	0.1	20.9	20.9	0.0001	0.0001
WS 03	S	21.07.2016	0.00	0.1	1003	0.1	0.1	0.1	0.1	2.3	2.3	16.7	16.7	0.0001	0.0023
WS 09	S	21.07.2016	0.00	0.1	1003	0.1	0.1	0.1	0.1	0.2	0.2	19.6	19.6	0.0001	0.0002
WS 13	S	21.07.2016	0.00	0.1	1003	0.1	0.1	0.1	0.1	1.7	1.7	18.6	18.6	0.0001	0.0017
WS 14	S	21.07.2016	0.00	0.1	1003	0.1	0.1	0.1	0.1	1.6	1.6	19.7	19.7	0.0001	0.0016
WS 18	S	21.07.2016	0.00	0.1	1003	0.1	0.1	0.1	0.1	1.5	1.5	19.2	19.2	0.0001	0.0015
WS 19	S	21.07.2016	0.00	0.1	1003	0.1	0.1	0.1	0.1	5.4	5.4	15.9	15.9	0.0001	0.0054
WS 25	S	21.07.2016	0.00	0.1	1001	0.1	0.1	0.1	0.1	2.4	2.4	19.1	19.1	0.0001	0.0024
WS 26	S	21.07.2016	0.00	0.1	1001	0.1	0.1	0.1	0.1	0.8	0.8	20.7	20.7	0.0001	0.0008

Appendix E

Hydrock Methodology

Hydrock Report Appendix on Hydrock Methodology, version 25 updated 01-12-15 applies to this report.

This appendix may not be included in the printed report to reduce the document size, but is included in the digital version. Alternatively, it can be supplied on request by quoting the version number and date.

Appendix F

Contamination Test Results and Statistical Analysis

Nathan Thompson
Hydrock Consultants Ltd
2-4 Hawthorne Park
Holdenby Road
Spratton
Northamptonshire
NN6 8LD

t: 01604842888
f: 01604842666
e: nathanthompson@hydrock.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 16-21443

Project / Site name:	Kraft, Banbury	**Samples received on:**	29/06/2016
Your job number:	C161279	**Samples instructed on:**	29/06/2016
Your order number:	N9251-C161279	**Analysis completed by:**	06/07/2016
Report Issue Number:	1	**Report issued on:**	06/07/2016
Samples Analysed:	5 water samples		

Signed:

Dr Irma Doyle
Senior Account Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 16-21443

Project / Site name: Kraft, Banbury

Your Order No: N9251-C161279

Lab Sample Number				594978	594979	594980	594981	594982
Sample Reference				WS 01	WS 09	WS 13	WS 18	WS 26
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/06/2016	23/06/2016	23/06/2016	23/06/2016	23/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.9	7.8	7.4	7.7	7.9
Electrical Conductivity	µS/cm	10	NONE	1500	610	790	530	1000
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO_4	µg/l	45	ISO 17025	110000	84500	69500	52000	8700
Chloride	mg/l	0.15	ISO 17025	220	25	41	8.8	51
Fluoride	µg/l	50	ISO 17025	570	950	420	390	440
Ammonium as NH_4	µg/l	15	ISO 17025	< 15	< 15	< 15	130	< 15
Nitrate as N	mg/l	0.01	ISO 17025	1.92	0.71	0.83	2.06	1.90
Nitrate as NO_3	mg/l	0.05	ISO 17025	8.50	3.14	3.67	9.14	8.40
Nitrite as N	µg/l	1	ISO 17025	76	9.6	27	96	30
Nitrite as NO_2	µg/l	5	ISO 17025	250	31	89	320	99
Hardness - Total	mgCaCO3/l	1	ISO 17025	212	189	377	218	5.8
Bromate (Subcontracted)	µg/l	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols								
Total Phenols	µg/l	0.5	NONE	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(ghi)perylene	µg/l	0.001	NONE	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PAH Sums								
Sum of Benzo(b)fluoranthene & Benzo(k)fluoranthene	µg/l	0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Sum of Benzo(ghi)fluoranthene & Indeno(1,2,3-cd)pyrene	µg/l	0.002	NONE	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Sum of Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(ghi)fluoranthene & Indeno(1,2,3-cd)pyrene	µg/l	0.022	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

Analytical Report Number: 16-21443

Project / Site name: Kraft, Banbury

Your Order No: N9251-C161279

Lab Sample Number				594978	594979	594980	594981	594982
Sample Reference				WS 01	WS 09	WS 13	WS 18	WS 26
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/06/2016	23/06/2016	23/06/2016	23/06/2016	23/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	64	380	100	330	< 10
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	1	NONE	2.6	< 1.0	< 1.0	< 1.0	< 1.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.59	0.057	0.74	0.019	0.60
Mercury (dissolved) CV-AFS	ug/l	0.005	NONE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Calcium (dissolved)	mg/l	0.012	ISO 17025	66	49	130	66	1.8
Magnesium (dissolved)	mg/l	0.005	ISO 17025	12	16	12	13	0.35
Sodium (dissolved)	mg/l	0.01	ISO 17025	270	58	20	32	10
Zinc (total)	µg/l	0.5	ISO 17025	130	8.9	37	24	370
Aluminium (dissolved)	mg/l	0.001	ISO 17025	0.878	0.0884	0.0141	0.0056	0.371
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.6	0.7	1.3	2.7	1.5
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.91	0.64	2.16	< 0.15	1.61
Barium (dissolved)	µg/l	0.06	ISO 17025	65	5.8	10	9.9	51
Boron (dissolved)	µg/l	10	ISO 17025	64	380	100	330	< 10
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	1	NONE	2.6	< 1.0	< 1.0	< 1.0	< 1.0
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.6	0.3	< 0.2	< 0.2	0.9
Cobalt (dissolved)	µg/l	0.2	ISO 17025	0.6	0.7	1.9	< 0.2	2.5
Copper (dissolved)	µg/l	0.5	ISO 17025	3.0	< 0.5	< 0.5	1.7	4.6
Lead (dissolved)	µg/l	0.2	ISO 17025	0.6	0.3	< 0.2	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	6.3	77	270	11	50
Molybdenum (dissolved)	µg/l	0.05	ISO 17025	3.9	1.1	1.8	1.4	7.9
Nickel (dissolved)	µg/l	0.5	ISO 17025	5.8	2.5	1.5	1.5	8.2
Selenium (dissolved)	µg/l	0.6	ISO 17025	18	< 0.6	< 0.6	3.4	51
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	0.25	0.21	< 0.20	0.44	0.45
Vanadium (dissolved)	µg/l	0.2	ISO 17025	7.9	1.3	0.2	0.6	11
Zinc (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	1.0	6.2
Monoaromatics								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C35 - C44	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 16-21443

Project / Site name: Kraft, Banbury

Your Order No: N9251-C161279

Lab Sample Number				594978	594979	594980	594981	594982
Sample Reference				WS 01	WS 09	WS 13	WS 18	WS 26
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/06/2016	23/06/2016	23/06/2016	23/06/2016	23/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
N-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 16-21443

Project / Site name: Kraft, Banbury

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonium as NH4 in water	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Bromate in Water	Determination of Bromate by colorimetry	In house method based on Standard Methods for the examination of water and waste water,		W	NONE
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Chloride in water	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082 B	W	ISO 17025
Cr (III) in water	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method	L031-PL	W	NONE
Fluoride in water	Determination of fluoride in water by 1:1 ratio with a buffer solution followed by Ion Selective Electrode. Accredited matrices: SW, PW, GW.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033-PL	W	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Mercury Low Level (Dissolved) in Water	Mercury in water by millennium merlin AFS analyser	In-house method based on USEPA method 1631	L085-PL	W	NONE
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	NONE
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Nitrite in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L077-PL	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025

Analytical Report Number : 16-21443

Project / Site name: Kraft, Banbury

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Phenols, speciated, in water, by GCMS	Determination of speciated phenols in water by extraction in hexane followed by GC-MS.	In-house method based on USEPA 8270	L070-PL	W	NONE
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L0102B-PL	W	ISO 17025
Speciated EPA-16 PAHs in water (LOW LEVEL Dets)	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-PL	W	NONE
Specific PAH sums in water	Determination of PAH compounds in water by extraction in hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L070-PL	W	NONE
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
TPH Chromatogram	TPH Chromatogram.	In-house method	L070-PL	W	NONE
TPH in (Water)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L070-PL	W	NONE
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref
WS 01		W	16-21443	594978	c	Ammoniacal Nitrogen as N in water	L082-PL
WS 01		W	16-21443	594978	c	Ammonium as NH4 in water	L082-PL
WS 01		W	16-21443	594978	c	Electrical conductivity of water	L031-PL
WS 01		W	16-21443	594978	c	Nitrate as N in water	L078-PL
WS 01		W	16-21443	594978	c	Nitrate in water	L078-PL
WS 01		W	16-21443	594978	c	Nitrite as N in water	L077-Pl
WS 01		W	16-21443	594978	c	Nitrite in water	L077-PL
WS 01		W	16-21443	594978	c	pH in water	L005-PL
WS 09		W	16-21443	594979	c	Ammoniacal Nitrogen as N in water	L082-PL
WS 09		W	16-21443	594979	c	Ammonium as NH4 in water	L082-PL
WS 09		W	16-21443	594979	c	Electrical conductivity of water	L031-PL
WS 09		W	16-21443	594979	c	Nitrate as N in water	L078-PL
WS 09		W	16-21443	594979	c	Nitrate in water	L078-PL
WS 09		W	16-21443	594979	c	Nitrite as N in water	L077-Pl
WS 09		W	16-21443	594979	c	Nitrite in water	L077-PL
WS 09		W	16-21443	594979	c	pH in water	L005-PL
WS 13		W	16-21443	594980	c	Ammoniacal Nitrogen as N in water	L082-PL
WS 13		W	16-21443	594980	c	Ammonium as NH4 in water	L082-PL
WS 13		W	16-21443	594980	c	Electrical conductivity of water	L031-PL
WS 13		W	16-21443	594980	c	Nitrate as N in water	L078-PL
WS 13		W	16-21443	594980	c	Nitrate in water	L078-PL
WS 13		W	16-21443	594980	c	Nitrite as N in water	L077-Pl
WS 13		W	16-21443	594980	c	Nitrite in water	L077-PL
WS 13		W	16-21443	594980	c	pH in water	L005-PL
WS 18		W	16-21443	594981	c	Ammoniacal Nitrogen as N in water	L082-PL
WS 18		W	16-21443	594981	c	Ammonium as NH4 in water	L082-PL
WS 18		W	16-21443	594981	c	Electrical conductivity of water	L031-PL
WS 18		W	16-21443	594981	c	Nitrate as N in water	L078-PL
WS 18		W	16-21443	594981	c	Nitrate in water	L078-PL
WS 18		W	16-21443	594981	c	Nitrite as N in water	L077-Pl
WS 18		W	16-21443	594981	c	Nitrite in water	L077-PL
WS 18		W	16-21443	594981	c	pH in water	L005-PL
WS 26		W	16-21443	594982	c	Ammoniacal Nitrogen as N in water	L082-PL
WS 26		W	16-21443	594982	c	Ammonium as NH4 in water	L082-PL
WS 26		W	16-21443	594982	c	Electrical conductivity of water	L031-PL
WS 26		W	16-21443	594982	c	Nitrate as N in water	L078-PL
WS 26		W	16-21443	594982	c	Nitrate in water	L078-PL
WS 26		W	16-21443	594982	c	Nitrite as N in water	L077-Pl
WS 26		W	16-21443	594982	c	Nitrite in water	L077-PL
WS 26		W	16-21443	594982	c	pH in water	L005-PL

Test Deviation code
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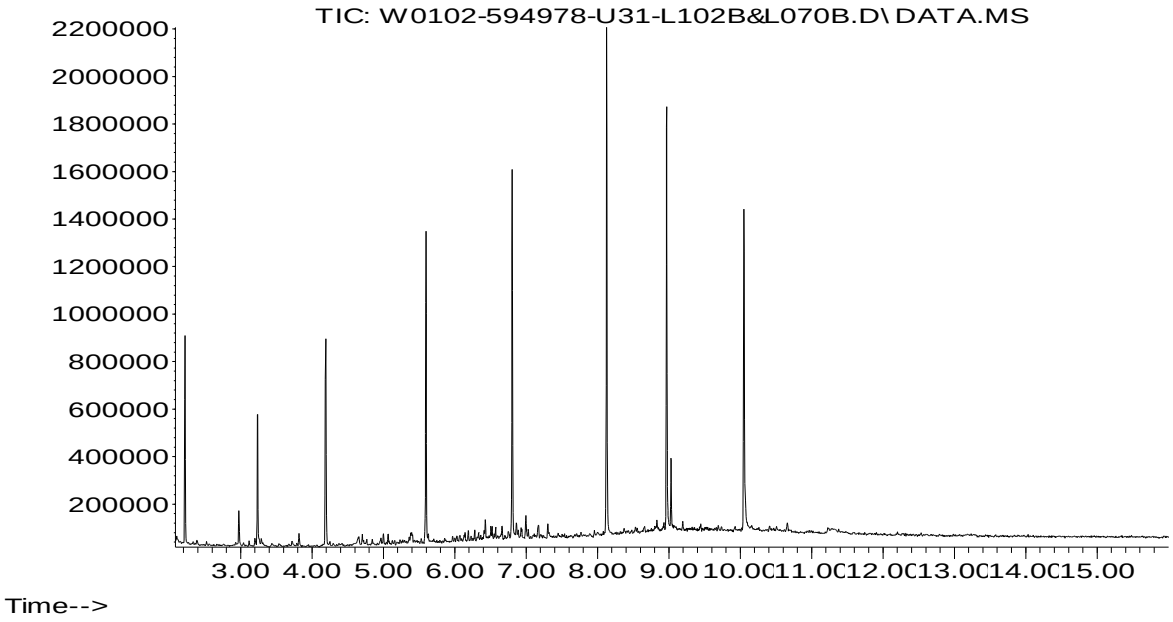

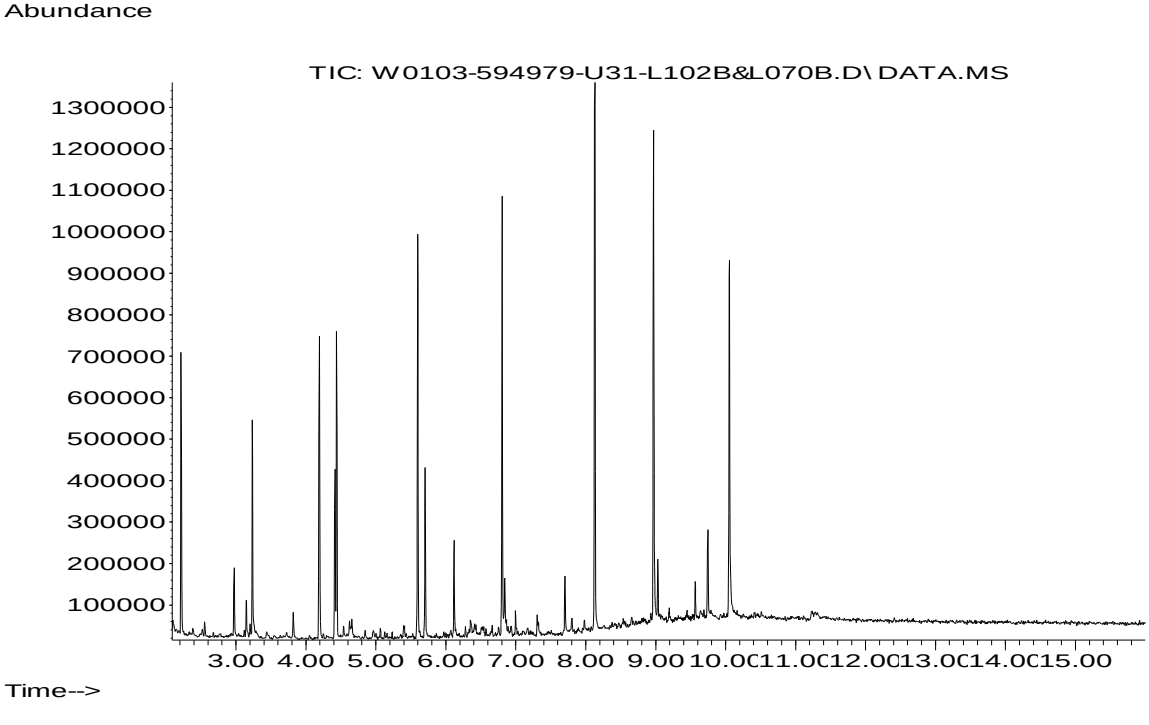

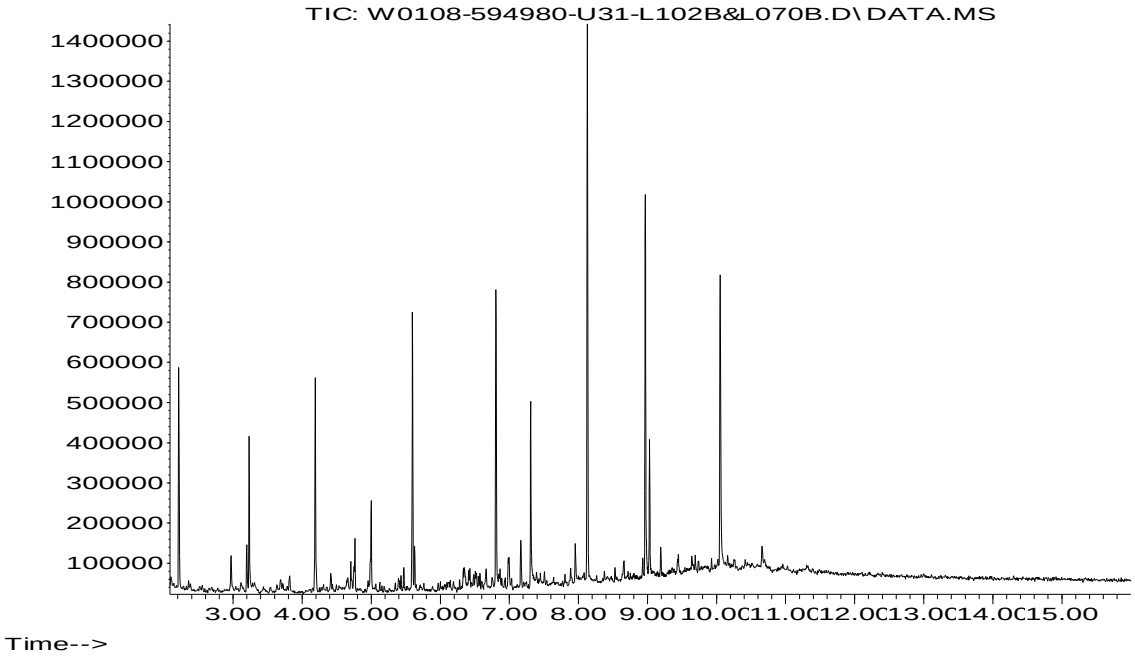

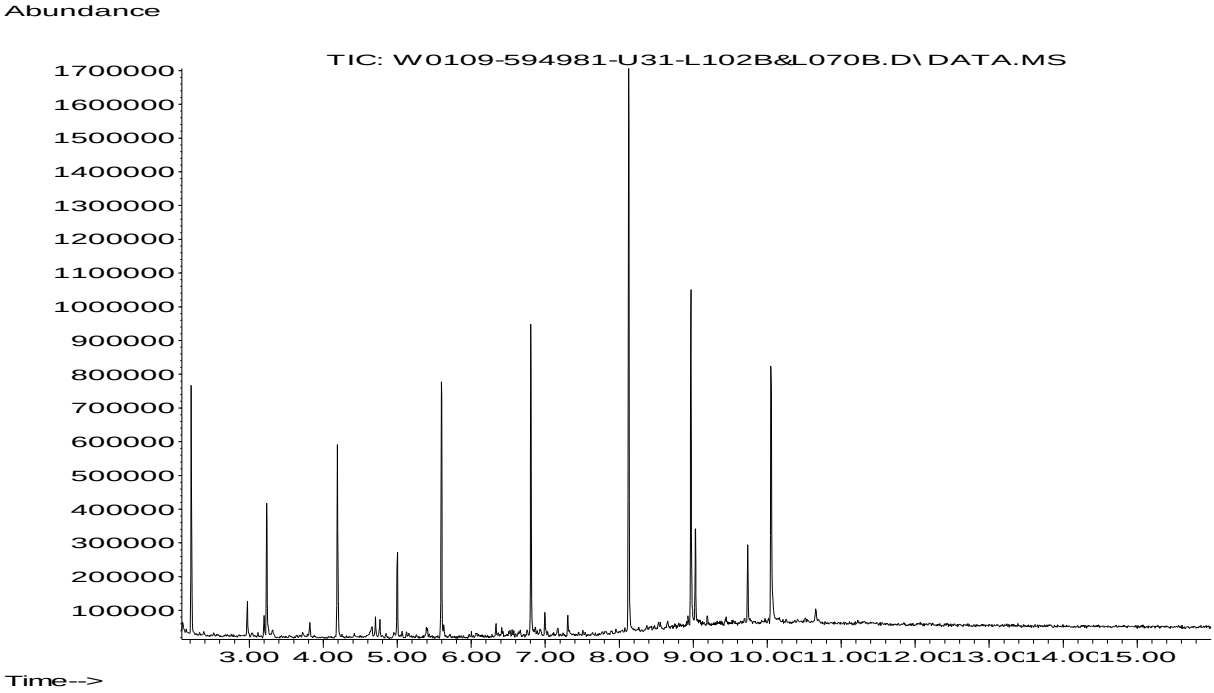

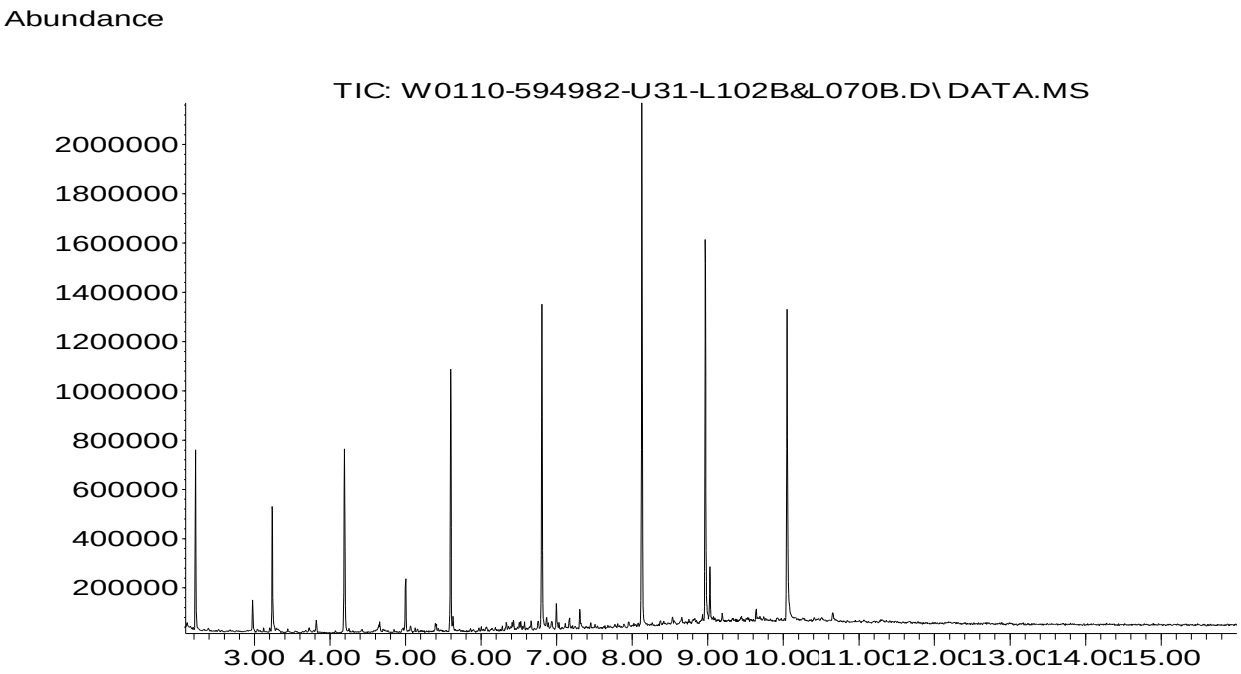

Nathan Thompson
Hydrock Consultants Ltd
2-4 Hawthorne Park
Holdenby Road
Spratton
Northamptonshire
NN6 8LD

t: 01604842888
f: 01604842666
e: nathanthompson@hydrock.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 16-20400

Replaces Analytical Report Number : 16-20400, issue no. 1

Project / Site name:	Kraft Phase 2	**Samples received on:**	10/06/2016
Your job number:	C161279	**Samples instructed on:**	17/06/2016
Your order number:	N9203-C161279	**Analysis completed by:**	29/06/2016
Report Issue Number:	2	**Report issued on:**	29/06/2016
Samples Analysed:	38 soil samples		

Signed:

Rexona Rahman
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589308	589309	589310	589311	589312
Sample Reference				BH01	BH01	BH02	BH02	BH03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.40	0.10	0.50	0.60
Date Sampled				26/05/2016	26/05/2016	31/05/2016	31/05/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	21	13	16	16	13
Total mass of sample received	kg	0.001	NONE	0.44	0.41	0.44	0.52	0.49
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Amosite	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	< 0.001	-
General Inorganics								
pH	pH Units	N/A	MCERTS	7.9	8.3	8.3	8.4	8.2
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0099	0.013	0.027	0.054	0.013
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	9.9	13.2	26.7	54.3	13.4
Fraction Organic Carbon (FOC)	N/A	0.001	NONE	0.023	0.0042	0.015	0.0056	0.012
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.67	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.76	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	6.0	0.53	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	1.4	0.12	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	11	1.2	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	8.6	0.93	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	6.6	0.79	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	5.0	0.70	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	7.7	1.2	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	2.9	0.44	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	5.0	0.80	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	3.2	0.41	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.76	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	3.4	0.52	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	63.2	7.63	< 1.60

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589308	589309	589310	589311	589312
Sample Reference				BH01	BH01	BH02	BH02	BH03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.40	0.10	0.50	0.60
Date Sampled				26/05/2016	26/05/2016	31/05/2016	31/05/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	33	33	41	35	36
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	1.5	0.84	1.4	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5	0.8	0.7	0.9	1.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	64	62	38	53	63
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	64	62	38	53	63
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.8	5.4	15	12	25
Lead (aqua regia extractable)	mg/kg	1	MCERTS	52	34	28	23	73
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	35	40	18	43	35
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.7	< 1.0	< 1.0	1.2	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	87	98	71	92	98
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	100	89	75	93	92
Monoaromatics								
Benzene	ug/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	6.2	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	11	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	35	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	NONE	-	-	46	< 10	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	29	< 8.4	< 8.4
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	8.4	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	76	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	210	39	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	120	31	< 8.4

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589308	589309	589310	589311	589312
Sample Reference				BH01	BH01	BH02	BH02	BH03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.40	0.10	0.50	0.60
Date Sampled				26/05/2016	26/05/2016	31/05/2016	31/05/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	ISO 17025	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	ISO 17025	-	-	-	-	-
1,1-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	NONE	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	NONE	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
N-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
Tert-Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
Sec-Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,3-dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
P-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	-

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589308	589309	589310	589311	589312
Sample Reference				BH01	BH01	BH02	BH02	BH03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.40	0.10	0.50	0.60
Date Sampled				26/05/2016	26/05/2016	31/05/2016	31/05/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	-	-
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	-	-	-

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589313	589314	589315	589316	589317
Sample Reference				BH03	BH04	BH04	WS01	WS01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.60	1.10	0.40	1.00
Date Sampled				02/06/2016	06/06/2016	06/06/2016	07/06/2016	07/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	19	22	21	20	9.6
Total mass of sample received	kg	0.001	NONE	0.46	0.54	0.54	0.15	0.59
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH	pH Units	N/A	MCERTS	8.0	7.4	8.3	8.2	8.8
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.016	0.055	0.040	0.050	0.031
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	16.4	55.2	39.8	49.6	31.0
Fraction Organic Carbon (FOC)	N/A	0.001	NONE	0.0059	0.024	0.0027	0.0021	< 0.0010
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	0.39	< 0.10	< 0.10	1.2	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	0.21	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	0.49	< 0.10	< 0.10	2.7	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.38	< 0.10	< 0.10	1.9	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	1.3	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.3	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	1.2	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	1.1	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	0.76	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	0.50	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.60	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60	12.9	< 1.60

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589313	589314	589315	589316	589317
Sample Reference				BH03	BH04	BH04	WS01	WS01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.60	1.10	0.40	1.00
Date Sampled				02/06/2016	06/06/2016	06/06/2016	07/06/2016	07/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	32	23	18	94	23
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.2	1.1	1.3	3.0	0.42
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	3.1	1.3	0.6	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	61	59	41	170	25
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	61	59	41	170	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.4	41	10	< 1.0	< 1.0
Lead (aqua regia extractable)	mg/kg	1	MCERTS	32	72	14	8.7	9.1
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	36	29	32	63	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	83	88	70	270	50
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	89	98	75	160	27
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-	-	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	-	-	< 8.0	20
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	NONE	< 10	-	-	< 10	20
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	-	-	< 8.4	29
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	-	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	-	-	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	-	-	< 10	44
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	-	-	< 8.4	60

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589313	589314	589315	589316	589317
Sample Reference				BH03	BH04	BH04	WS01	WS01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.60	1.10	0.40	1.00
Date Sampled				02/06/2016	06/06/2016	06/06/2016	07/06/2016	07/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
1,1-dichloroethene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1-dichloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,2-dichloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,2-dichloropropane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
N-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Tert-Butylbenzene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
Sec-Butylbenzene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
1,3-dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
P-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
1,2-dichlorobenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
1,4-dichlorobenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	-	-	< 1.0	< 1.0

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589313	589314	589315	589316	589317
Sample Reference				BH03	BH04	BH04	WS01	WS01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.60	1.10	0.40	1.00
Date Sampled				02/06/2016	06/06/2016	06/06/2016	07/06/2016	07/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	< 0.007	< 0.007

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589318	589319	589320	589321	589322
Sample Reference				WS03	WS03	WS04	WS05	WS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.60	0.30	0.10	0.50
Date Sampled				07/06/2016	07/06/2016	07/06/2016	08/06/2016	08/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	15	12	17	12	16
Total mass of sample received	kg	0.001	NONE	0.46	0.52	0.52	0.49	0.48
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile & Amosite	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.076	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.076	-	-	-
General Inorganics								
pH	pH Units	N/A	MCERTS	8.2	8.5	8.4	8.6	8.0
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.016	0.053	0.081	0.034	0.023
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	15.7	52.5	81.3	33.7	22.9
Fraction Organic Carbon (FOC)	N/A	0.001	NONE	0.011	0.016	0.0074	0.0072	0.0062
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	0.32	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.15	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	1.3	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	1.3	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	1.4	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	1.5	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	4.8	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	2.6	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	5.1	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	3.2	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	0.77	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	5.5	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	27.9	< 1.60	< 1.60	< 1.60

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589318	589319	589320	589321	589322
Sample Reference				WS03	WS03	WS04	WS05	WS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.60	0.30	0.10	0.50
Date Sampled				07/06/2016	07/06/2016	07/06/2016	08/06/2016	08/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	54	29	41	22	26
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.5	1.2	1.4	1.2	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	1.3	1.3	0.9	1.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	75	67	67	36	50
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	75	67	67	36	50
Copper (aqua regia extractable)	mg/kg	1	MCERTS	10	6.2	6.4	11	7.8
Lead (aqua regia extractable)	mg/kg	1	MCERTS	34	39	25	15	24
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	48	28	38	36	38
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.8	< 1.0	1.2	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	150	100	100	69	93
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	100	90	77	84
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	1.4	1.8	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	5.2	59	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	25	100	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	250	75	-	-
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	NONE	< 10	270	180	-	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	180	24	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	7.0	26	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	33	82	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	480	65	-	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	470	20	-	-

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589318	589319	589320	589321	589322
Sample Reference				WS03	WS03	WS04	WS05	WS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.60	0.30	0.10	0.50
Date Sampled				07/06/2016	07/06/2016	07/06/2016	08/06/2016	08/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Chloroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
1,1-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,1-dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,2-dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,2-dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Bromodichloromethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Tribromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Isopropylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
N-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Tert-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
Sec-Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
1,3-dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
P-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
1,2-dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
1,4-dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Butylbenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	< 1.0	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	< 1.0	< 1.0	-	-

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589318	589319	589320	589321	589322
Sample Reference				WS03	WS03	WS04	WS05	WS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.60	0.30	0.10	0.50
Date Sampled				07/06/2016	07/06/2016	07/06/2016	08/06/2016	08/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589323	589324	589325	589326	589327
Sample Reference				WS07	WS07	WS08	WS09	WS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.40	0.30	1.10	0.40
Date Sampled				08/06/2016	08/06/2016	08/06/2016	08/06/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	20	13	26	19	15
Total mass of sample received	kg	0.001	NONE	0.48	0.32	0.13	0.55	0.48
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH	pH Units	N/A	MCERTS	7.4	7.8	8.5	8.1	8.3
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0091	0.0082	0.015	0.29	0.038
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	9.1	8.2	15.1	291	38.0
Fraction Organic Carbon (FOC)	N/A	0.001	NONE	0.011	0.0049	< 0.0010	0.011	0.0017
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.51	0.71	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.39	0.55	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.25	0.39	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.20	0.36	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	0.40	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	0.30	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	0.34	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60	3.05	< 1.60

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589323	589324	589325	589326	589327
Sample Reference				WS07	WS07	WS08	WS09	WS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.40	0.30	1.10	0.40
Date Sampled				08/06/2016	08/06/2016	08/06/2016	08/06/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	45	39	25	23	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.4	1.2	0.12	1.2	3.3
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.6	0.5	1.0	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	55	37	6.0	52	170
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	55	37	6.0	52	170
Copper (aqua regia extractable)	mg/kg	1	MCERTS	10	5.9	5.1	18	< 1.0
Lead (aqua regia extractable)	mg/kg	1	MCERTS	81	31	4.6	10	9.4
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	31	25	4.9	55	80
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	94	70	20	74	350
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	97	65	20	100	140
Monoaromatics								
Benzene	ug/kg	1	MCERTS	-	-	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	-	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	< 1.0	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	< 8.0	-
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	NONE	-	-	-	< 10	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	< 8.4	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	< 0.1	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	< 10	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	29	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	64	-

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589323	589324	589325	589326	589327
Sample Reference				WS07	WS07	WS08	WS09	WS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.40	0.30	1.10	0.40
Date Sampled				08/06/2016	08/06/2016	08/06/2016	08/06/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Chloroethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
1,1-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1-dichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	< 1.0
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,2-dichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	-	-	-	-	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0
Benzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,2-dichloropropane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Bromodichloromethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Styrene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Tribromomethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Isopropylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
N-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Tert-Butylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
Sec-Butylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,3-dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
P-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
1,2-dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
1,4-dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Butylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	< 1.0

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589323	589324	589325	589326	589327
Sample Reference				WS07	WS07	WS08	WS09	WS11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.40	0.30	1.10	0.40
Date Sampled				08/06/2016	08/06/2016	08/06/2016	08/06/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589328	589329	589330	589331	589332
Sample Reference				WS11	WS12	WS12	WS13	WS13
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	0.30	0.60	0.30	0.60
Date Sampled				02/06/2016	03/06/2016	03/06/2016	02/06/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	15	16	13	9.3	10
Total mass of sample received	kg	0.001	NONE	0.45	1.0	0.43	1.0	0.46
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH	pH Units	N/A	MCERTS	8.0	8.0	8.2	8.5	8.2
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.043	0.042	0.034	0.057	0.053
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	43.2	42.0	33.7	57.3	52.5
Fraction Organic Carbon (FOC)	N/A	0.001	NONE	0.0017	< 0.0010	0.0018	< 0.0010	0.0014
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60	< 1.60	< 1.60

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589328	589329	589330	589331	589332
Sample Reference				WS11	WS12	WS12	WS13	WS13
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	0.30	0.60	0.30	0.60
Date Sampled				02/06/2016	03/06/2016	03/06/2016	02/06/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	190	120	170	23	54
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	6.1	4.5	4.9	0.33	1.3
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.6	0.7	0.3	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	330	260	280	11	78
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	330	260	280	11	78
Copper (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	8.0	< 1.0
Lead (aqua regia extractable)	mg/kg	1	MCERTS	10	6.7	7.7	5.5	5.2
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	130	120	130	13	30
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	2.4	1.3	2.3	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	680	480	600	34	130
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	220	150	210	28	57
Monoaromatics								
Benzene	ug/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	NONE	-	-	-	< 10	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	< 8.4	< 8.4
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	< 10	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	< 8.4	< 8.4

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589328	589329	589330	589331	589332
Sample Reference				WS11	WS12	WS12	WS13	WS13
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	0.30	0.60	0.30	0.60
Date Sampled				02/06/2016	03/06/2016	03/06/2016	02/06/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Chloroethane	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
1,1-dichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,1-dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,2-dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,2-dichloropropane	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Bromodichloromethane	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Tribromomethane	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Isopropylbenzene	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
N-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Tert-Butylbenzene	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
Sec-Butylbenzene	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
1,3-dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
P-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
1,2-dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
1,4-dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Butylbenzene	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	-	-	< 1.0	< 1.0

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589328	589329	589330	589331	589332
Sample Reference				WS11	WS12	WS12	WS13	WS13
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	0.30	0.60	0.30	0.60
Date Sampled				02/06/2016	03/06/2016	03/06/2016	02/06/2016	02/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589333	589334	589335	589336	589337
Sample Reference				WS15	WS15	WS16	WS16	WS18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.60	0.30	0.70	0.30
Date Sampled				06/06/2016	06/06/2016	03/06/2016	03/06/2016	09/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	5.4	11	10	18	20
Total mass of sample received	kg	0.001	NONE	0.49	0.44	0.58	0.42	0.50
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH	pH Units	N/A	MCERTS	8.7	8.3	8.6	7.5	8.1
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.056	0.077	0.12	0.47	0.010
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	56.3	77.2	119	471	10.2
Fraction Organic Carbon (FOC)	N/A	0.001	NONE	< 0.0010	0.0029	< 0.0010	0.013	0.014
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	0.51	< 0.10	1.0	< 0.10
Fluorene	mg/kg	0.1	MCERTS	< 0.10	0.28	< 0.10	0.90	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	0.21	8.0	0.65	2.1	< 0.10
Anthracene	mg/kg	0.1	MCERTS	< 0.10	2.2	0.13	0.24	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	0.64	31	0.92	0.42	< 0.10
Pyrene	mg/kg	0.1	MCERTS	0.48	22	0.67	0.27	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	0.34	14	0.50	0.12	< 0.10
Chrysene	mg/kg	0.05	MCERTS	0.33	14	0.44	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.24	11	0.60	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	0.22	11	0.24	< 0.10	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.17	9.9	0.35	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	6.4	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	1.7	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	7.3	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	2.63	139	4.50	5.05	< 1.60

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589333	589334	589335	589336	589337
Sample Reference				WS15	WS15	WS16	WS16	WS18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.60	0.30	0.70	0.30
Date Sampled				06/06/2016	06/06/2016	03/06/2016	03/06/2016	09/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.9	120	25	14	37
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.12	3.5	0.77	1.4	1.4
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.6	0.5	1.2	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	3.8	170	42	46	50
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	3.8	170	42	46	50
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	< 1.0	< 1.0	24	17
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2.7	8.0	4.9	14	81
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	0.5	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	4.8	69	22	64	32
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.9	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	23	340	78	69	95
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	11	110	39	120	90
Monoaromatics								
Benzene	ug/kg	1	MCERTS	-	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	NONE	-	-	-	-	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	< 8.4
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	-	-	-	-	< 8.4

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589333	589334	589335	589336	589337
Sample Reference				WS15	WS15	WS16	WS16	WS18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.60	0.30	0.70	0.30
Date Sampled				06/06/2016	06/06/2016	03/06/2016	03/06/2016	09/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Chloroethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Vinyl Chloride	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Trichlorofluoromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,1-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
2,2-Dichloropropane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-Dichloropropene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Bromodichloromethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Tetrachloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Styrene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tribromomethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Isopropylbenzene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
N-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
2-Chlorotoluene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
4-Chlorotoluene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Tert-Butylbenzene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Sec-Butylbenzene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,3-dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
P-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,2-dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,4-dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Butylbenzene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Hexachlorobutadiene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589333	589334	589335	589336	589337
Sample Reference				WS15	WS15	WS16	WS16	WS18
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.60	0.30	0.70	0.30
Date Sampled				06/06/2016	06/06/2016	03/06/2016	03/06/2016	09/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589338	589339	589340	589341	589342
Sample Reference				WS19	WS20	WS21	WS23	WS23
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.25	0.70	0.20	0.70
Date Sampled				09/06/2016	09/06/2016	09/06/2016	06/06/2016	06/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	15	15	17	8.7	13
Total mass of sample received	kg	0.001	NONE	0.49	0.52	0.46	0.47	0.62
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
General Inorganics								
pH	pH Units	N/A	MCERTS	-	7.3	8.0	10.2	8.6
Free Cyanide	mg/kg	1	MCERTS	-	< 1	< 1	< 1	< 1
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.0081	0.033	0.41	0.12
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	8.1	32.5	405	120
Fraction Organic Carbon (FOC)	N/A	0.001	NONE	-	0.013	0.011	0.0016	0.0024
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.1	MCERTS	-	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	mg/kg	0.1	MCERTS	-	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.1	MCERTS	-	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	mg/kg	0.1	MCERTS	-	< 0.10	0.29	0.32	< 0.10
Anthracene	mg/kg	0.1	MCERTS	-	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.1	MCERTS	-	< 0.10	0.52	0.76	< 0.10
Pyrene	mg/kg	0.1	MCERTS	-	< 0.10	0.44	0.59	< 0.10
Benzo(a)anthracene	mg/kg	0.1	MCERTS	-	< 0.10	0.34	0.36	< 0.10
Chrysene	mg/kg	0.05	MCERTS	-	< 0.05	0.25	0.31	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	-	< 0.10	0.21	0.39	< 0.10
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	-	< 0.10	0.20	0.25	< 0.10
Benzo(a)pyrene	mg/kg	0.1	MCERTS	-	< 0.10	0.18	0.23	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	-	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	-	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	-	< 1.60	2.43	3.21	< 1.60

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589338	589339	589340	589341	589342
Sample Reference				WS19	WS20	WS21	WS23	WS23
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.25	0.70	0.20	0.70
Date Sampled				09/06/2016	09/06/2016	09/06/2016	06/06/2016	06/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	42	39	33	170
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	1.6	1.6	1.4	3.9
Boron (water soluble)	mg/kg	0.2	MCERTS	-	1.1	1.0	2.7	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	-	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	-	65	66	39	120
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	65	66	40	120
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	13	18	< 1.0	< 1.0
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	40	37	14	23
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	42	40	23	98
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	1.6	2.7
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	-	110	93	84	220
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	110	110	53	230
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	-	-	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	NONE	< 10	-	-	-	-
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	-	-	-	-

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589338	589339	589340	589341	589342
Sample Reference				WS19	WS20	WS21	WS23	WS23
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.25	0.70	0.20	0.70
Date Sampled				09/06/2016	09/06/2016	09/06/2016	06/06/2016	06/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Chloroethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Vinyl Chloride	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Trichlorofluoromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
1,1-dichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,1-dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-
2,2-Dichloropropane	µg/kg	1	NONE	< 1.0	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,2-dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,1-Dichloropropene	µg/kg	1	NONE	< 1.0	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	-	-	-	-
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,2-dichloropropane	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Bromodichloromethane	µg/kg	1	NONE	< 1.0	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Tetrachloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	< 1.0	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Styrene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Tribromomethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Isopropylbenzene	µg/kg	1	NONE	< 1.0	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
N-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
2-Chlorotoluene	µg/kg	1	NONE	< 1.0	-	-	-	-
4-Chlorotoluene	µg/kg	1	NONE	< 1.0	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Tert-Butylbenzene	µg/kg	1	NONE	< 1.0	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
Sec-Butylbenzene	µg/kg	1	NONE	< 1.0	-	-	-	-
1,3-dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
P-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
1,2-dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
1,4-dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Butylbenzene	µg/kg	1	NONE	< 1.0	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Hexachlorobutadiene	µg/kg	1	NONE	< 1.0	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	NONE	< 1.0	-	-	-	-

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Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589338	589339	589340	589341	589342
Sample Reference				WS19	WS20	WS21	WS23	WS23
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.25	0.70	0.20	0.70
Date Sampled				09/06/2016	09/06/2016	09/06/2016	06/06/2016	06/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589343	589344	589345		
Sample Reference				WS21	WS26	WS26		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.30	0.20	0.50		
Date Sampled				07/06/2016	06/06/2016	06/06/2016		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	13	7.5	20		
Total mass of sample received	kg	0.001	NONE	0.51	0.53	0.52		
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-		
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-		
General Inorganics								
pH	pH Units	N/A	MCERTS	8.0	9.0	7.8		
Free Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0099	0.13	0.021		
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	9.9	133	20.9		
Fraction Organic Carbon (FOC)	N/A	0.001	NONE	0.010	0.0024	0.0046		
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluorene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Phenanthrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(a)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Dibenz(a,h)anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.60	< 1.60	< 1.60		

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589343	589344	589345		
Sample Reference				WS21	WS26	WS26		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.30	0.20	0.50		
Date Sampled				07/06/2016	06/06/2016	06/06/2016		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	41	8.4	20		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1.6	0.31	1.0		
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	0.5	1.2		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2		
Chromium (III)	mg/kg	1	NONE	59	11	50		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	59	11	51		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.0	3.4	9.2		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	29	6.5	22		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	39	7.0	24		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	1.1		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	110	20	76		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	19	59		
Monoaromatics								
Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	40	< 8.0		
TPH-CWG - Aliphatic >EC16 - EC35	mg/kg	10	NONE	< 10	40	< 10		
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	97	< 8.4		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	45	< 10		
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	170	< 8.4		

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589343	589344	589345		
Sample Reference				WS21	WS26	WS26		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.30	0.20	0.50		
Date Sampled				07/06/2016	06/06/2016	06/06/2016		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-		
Chloroethane	µg/kg	1	ISO 17025	-	-	-		
Bromomethane	µg/kg	1	ISO 17025	-	-	-		
Vinyl Chloride	µg/kg	1	ISO 17025	-	-	-		
Trichlorofluoromethane	µg/kg	1	ISO 17025	-	-	-		
1,1-dichloroethene	µg/kg	1	MCERTS	-	-	-		
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-		
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-		
1,1-dichloroethane	µg/kg	1	MCERTS	-	-	-		
2,2-Dichloropropane	µg/kg	1	NONE	-	-	-		
Trichloromethane	µg/kg	1	MCERTS	-	-	-		
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-		
1,2-dichloroethane	µg/kg	1	MCERTS	-	-	-		
1,1-Dichloropropene	µg/kg	1	NONE	-	-	-		
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-		
Benzene	µg/kg	1	MCERTS	-	-	-		
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-		
1,2-dichloropropane	µg/kg	1	MCERTS	-	-	-		
Trichloroethene	µg/kg	1	MCERTS	-	-	-		
Dibromomethane	µg/kg	1	MCERTS	-	-	-		
Bromodichloromethane	µg/kg	1	NONE	-	-	-		
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-		
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-		
Toluene	µg/kg	1	MCERTS	-	-	-		
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-		
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-		
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-		
Tetrachloroethene	µg/kg	1	MCERTS	-	-	-		
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-		
Chlorobenzene	µg/kg	1	MCERTS	-	-	-		
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-		
Ethylbenzene	µg/kg	1	MCERTS	-	-	-		
p & m-xylene	µg/kg	1	MCERTS	-	-	-		
Styrene	µg/kg	1	MCERTS	-	-	-		
Tribromomethane	µg/kg	1	MCERTS	-	-	-		
o-xylene	µg/kg	1	MCERTS	-	-	-		
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-		
Isopropylbenzene	µg/kg	1	NONE	-	-	-		
Bromobenzene	µg/kg	1	MCERTS	-	-	-		
N-Propylbenzene	µg/kg	1	ISO 17025	-	-	-		
2-Chlorotoluene	µg/kg	1	NONE	-	-	-		
4-Chlorotoluene	µg/kg	1	NONE	-	-	-		
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-		
Tert-Butylbenzene	µg/kg	1	NONE	-	-	-		
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-		
Sec-Butylbenzene	µg/kg	1	NONE	-	-	-		
1,3-dichlorobenzene	µg/kg	1	ISO 17025	-	-	-		
P-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-		
1,2-dichlorobenzene	µg/kg	1	MCERTS	-	-	-		
1,4-dichlorobenzene	µg/kg	1	MCERTS	-	-	-		
Butylbenzene	µg/kg	1	NONE	-	-	-		
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-		
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-		
Hexachlorobutadiene	µg/kg	1	NONE	-	-	-		
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	-	-		

Analytical Report Number: 16-20400

Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Lab Sample Number				589343	589344	589345		
Sample Reference				WS21	WS26	WS26		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.30	0.20	0.50		
Date Sampled				07/06/2016	06/06/2016	06/06/2016		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-		
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-		
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-		
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-		
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-		
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-		
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-		
Total PCBs	mg/kg	0.007	MCERTS	-	-	-		

Analytical Report Number: 16-20400
Project / Site name: Kraft Phase 2
Your Order No: N9203-C161279

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Saf HSG 248.

Quantitative Analysis

"The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, w by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with ca

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)
589311	BH02	0.50	117	Loose Fibres	**Amosite**	< 0.001
589319	WS03	0.60	122	Hard/ Cement Type Material, Loose Fibres, Insulation Lagging	**Chrysotile & Amosite**	0.076

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

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Total % Asbestos in Sample
< 0.001
0.076

Analytical Report Number : 16-20400

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* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
589308	BH01	None Supplied	0.10	Brown loam and clay with gravel.
589309	BH01	None Supplied	0.40	Brown clay and sand.
589310	BH02	None Supplied	0.10	Brown loam and clay with gravel.
589311	BH02	None Supplied	0.50	Brown clay and sand.
589312	BH03	None Supplied	0.60	Brown loam and clay with gravel.
589313	BH03	None Supplied	1.00	Brown clay and sand.
589314	BH04	None Supplied	0.60	Brown loam and clay with gravel.
589315	BH04	None Supplied	1.10	Brown clay and sand.
589316	WS01	None Supplied	0.40	Brown loam and sand with gravel.
589317	WS01	None Supplied	1.00	Brown clay and sand.
589318	WS03	None Supplied	0.20	Brown loam and clay with gravel.
589319	WS03	None Supplied	0.60	Brown loam and clay with gravel.
589320	WS04	None Supplied	0.30	Brown clay and loam with gravel.
589321	WS05	None Supplied	0.10	Brown clay and loam with gravel.
589322	WS05	None Supplied	0.50	Brown clay and sand.
589323	WS07	None Supplied	0.10	Brown loam and clay with gravel.
589324	WS07	None Supplied	0.40	Brown clay and sand.
589325	WS08	None Supplied	0.30	Brown clay and sand.
589326	WS09	None Supplied	1.10	Grey clay.
589327	WS11	None Supplied	0.40	Brown loam and clay with gravel.
589328	WS11	None Supplied	0.80	Brown loam and sand with gravel.
589329	WS12	None Supplied	0.30	Brown loam and sand with gravel.
589330	WS12	None Supplied	0.60	Brown loam and sand with gravel.
589331	WS13	None Supplied	0.30	Brown loam and sand with gravel.
589332	WS13	None Supplied	0.60	Brown loam and sand with gravel.
589333	WS15	None Supplied	0.30	Brown loam and sand with gravel.
589334	WS15	None Supplied	0.60	Brown loam and sand with gravel.
589335	WS16	None Supplied	0.30	Brown loam and clay with gravel.
589336	WS16	None Supplied	0.70	Grey clay.
589337	WS18	None Supplied	0.30	Brown loam and clay with gravel.
589338	WS19	None Supplied	0.30	Brown loam and clay with gravel.
589339	WS20	None Supplied	0.25	Brown loam and clay with gravel.
589340	WS21	None Supplied	0.70	Brown loam and clay with gravel.
589341	WS23	None Supplied	0.20	Brown loam and clay with gravel.
589342	WS23	None Supplied	0.70	Brown loam and clay with gravel.
589343	WS21	None Supplied	0.30	Brown loam and clay with gravel.
589344	WS26	None Supplied	0.20	Brown loam and sand.
589345	WS26	None Supplied	0.50	Brown clay and sand.

Analytical Report Number : 16-20400

Project / Site name: Kraft Phase 2

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Asbestos Quantification - Gravimetric	The analysis was carried out using documented in-house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
TPH Chromatogram	TPH Chromatogram.	In-house method	L064-PL	D	NONE

Analytical Report Number : 16-20400

Project / Site name: Kraft Phase 2

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref
BH01		S	16-20400	589308	c	Free cyanide in soil	L080-PL
BH01		S	16-20400	589308	c	Monohydric phenols in soil	L080-PL
BH01		S	16-20400	589308	c	Organic matter in soil	L023-PL
BH01		S	16-20400	589308	c	PCB's By GC-MS in soil	L027-PL
BH01		S	16-20400	589308	c	Speciated EPA-16 PAHs in soil	L064-PL
BH01		S	16-20400	589309	c	Free cyanide in soil	L080-PL
BH01		S	16-20400	589309	c	Monohydric phenols in soil	L080-PL
BH01		S	16-20400	589309	c	Organic matter in soil	L023-PL
BH01		S	16-20400	589309	c	PCB's By GC-MS in soil	L027-PL
BH01		S	16-20400	589309	c	Speciated EPA-16 PAHs in soil	L064-PL
BH02		S	16-20400	589310	c	Free cyanide in soil	L080-PL
BH02		S	16-20400	589310	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL
BH02		S	16-20400	589310	c	Organic matter in soil	L023-PL
BH02		S	16-20400	589311	c	Free cyanide in soil	L080-PL
BH02		S	16-20400	589311	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL
BH02		S	16-20400	589311	c	Organic matter in soil	L023-PL
BH03		S	16-20400	589312	c	Free cyanide in soil	L080-PL
BH03		S	16-20400	589312	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL
BH03		S	16-20400	589312	c	Organic matter in soil	L023-PL
BH03		S	16-20400	589313	c	Free cyanide in soil	L080-PL
BH03		S	16-20400	589313	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL
BH03		S	16-20400	589313	c	Organic matter in soil	L023-PL
WS03		S	16-20400	589319	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL
WS03		S	16-20400	589319	b	TPHCWG (Soil)	L076-PL
WS03		S	16-20400	589319	b	Volatile organic compounds in soil	L073B-PL
WS11		S	16-20400	589327	c	Free cyanide in soil	L080-PL
WS11		S	16-20400	589327	c	Organic matter in soil	L023-PL
WS11		S	16-20400	589327	c	Volatile organic compounds in soil	L073B-PL
WS11		S	16-20400	589328	c	Free cyanide in soil	L080-PL
WS11		S	16-20400	589328	c	Organic matter in soil	L023-PL
WS11		S	16-20400	589328	c	Volatile organic compounds in soil	L073B-PL
WS13		S	16-20400	589331	c	Free cyanide in soil	L080-PL
WS13		S	16-20400	589331	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL
WS13		S	16-20400	589331	c	Organic matter in soil	L023-PL
WS13		S	16-20400	589331	c	Volatile organic compounds in soil	L073B-PL
WS13		S	16-20400	589332	c	Free cyanide in soil	L080-PL
WS13		S	16-20400	589332	c	BTEX and MTBE in soil (Monoaromatics)	L073B-PL
WS13		S	16-20400	589332	c	Organic matter in soil	L023-PL
WS13		S	16-20400	589332	c	Volatile organic compounds in soil	L073B-PL

Test Deviation code
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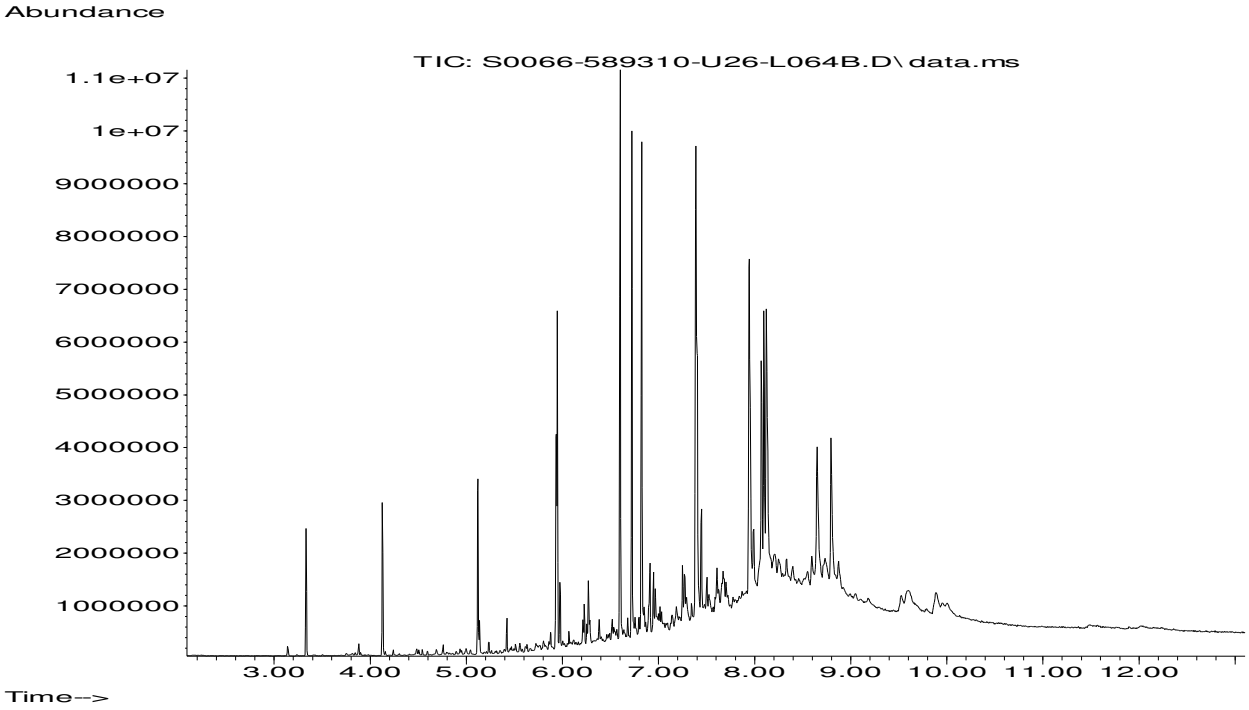
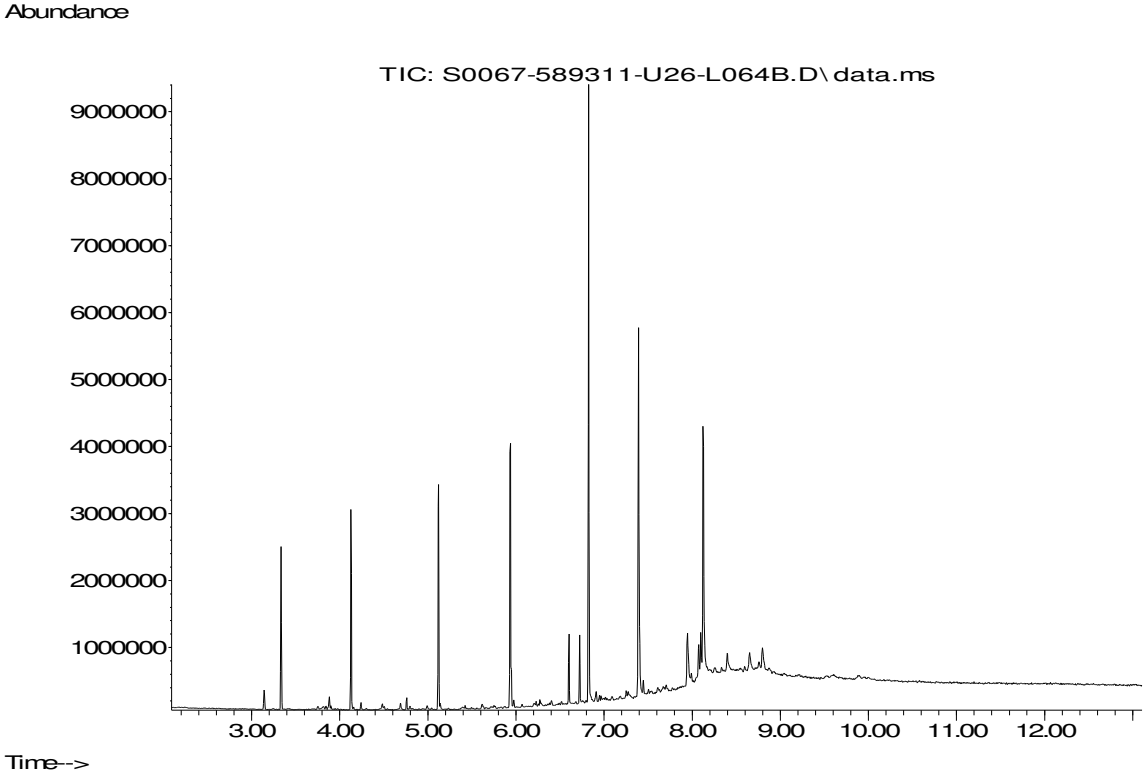
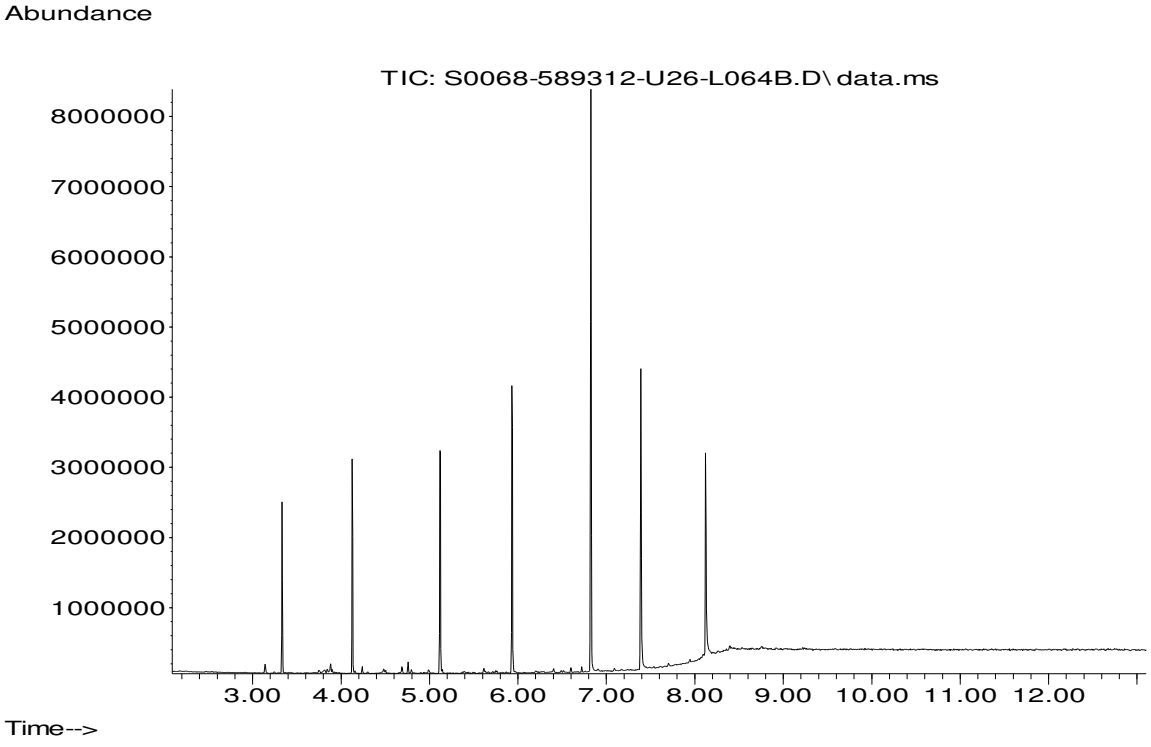
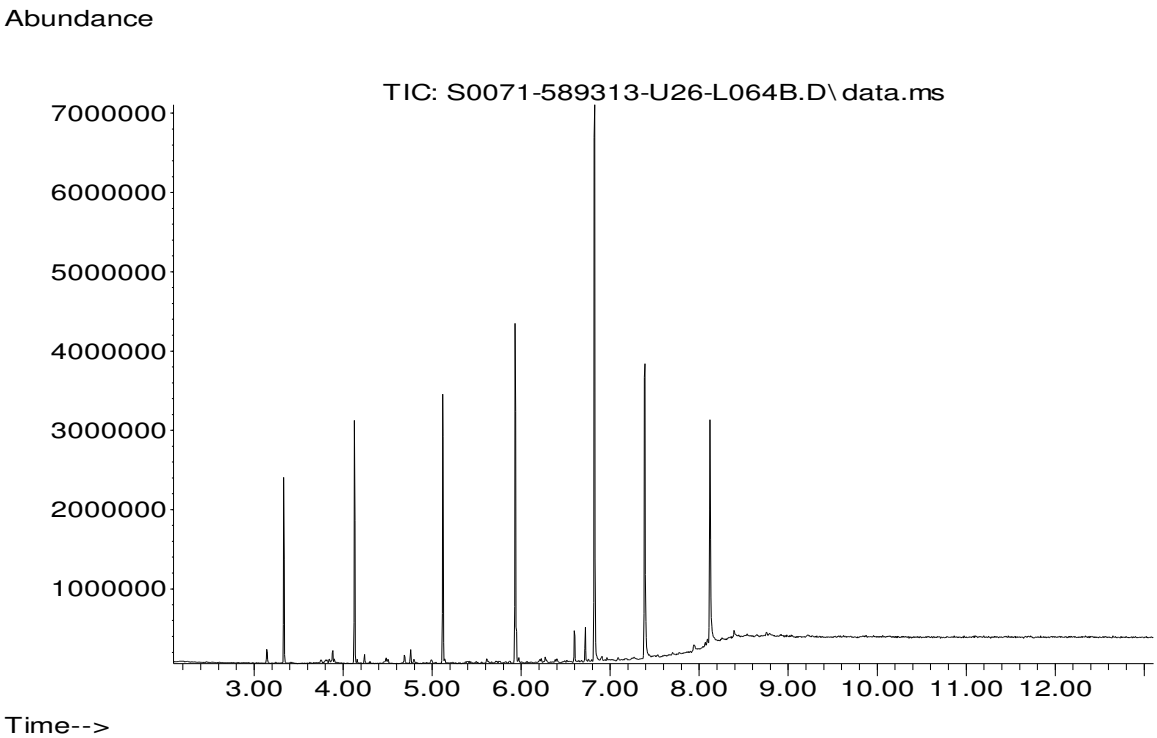
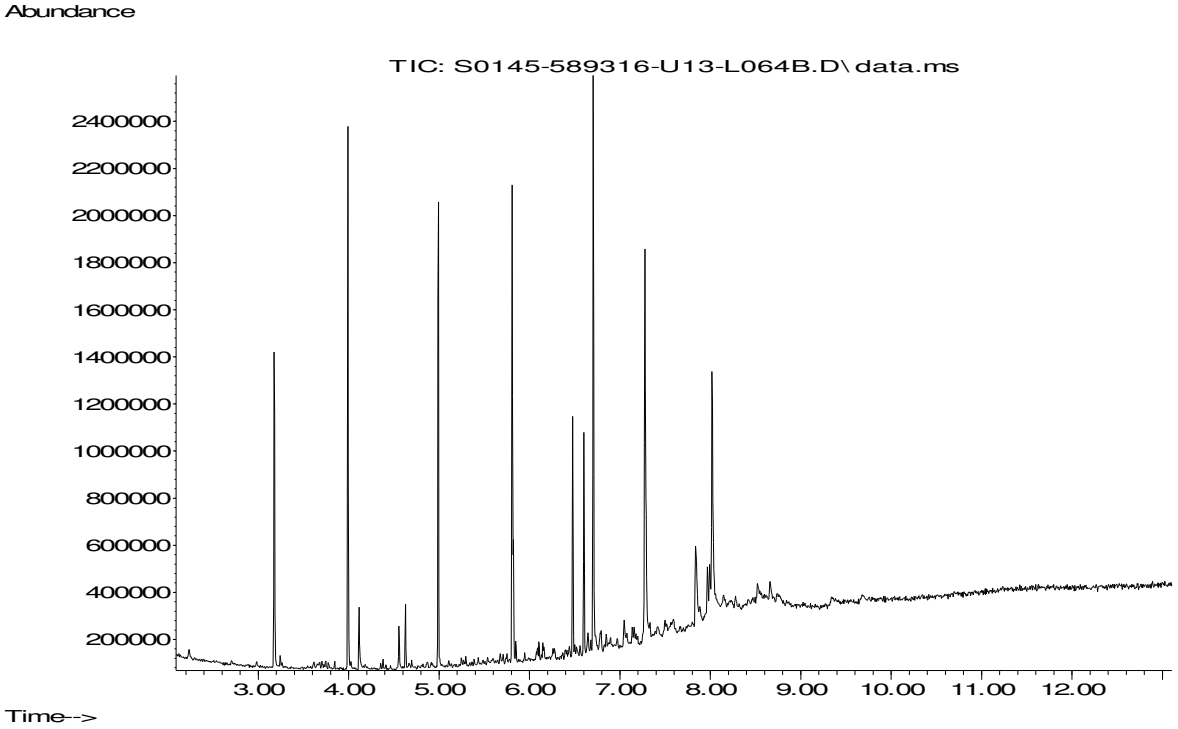
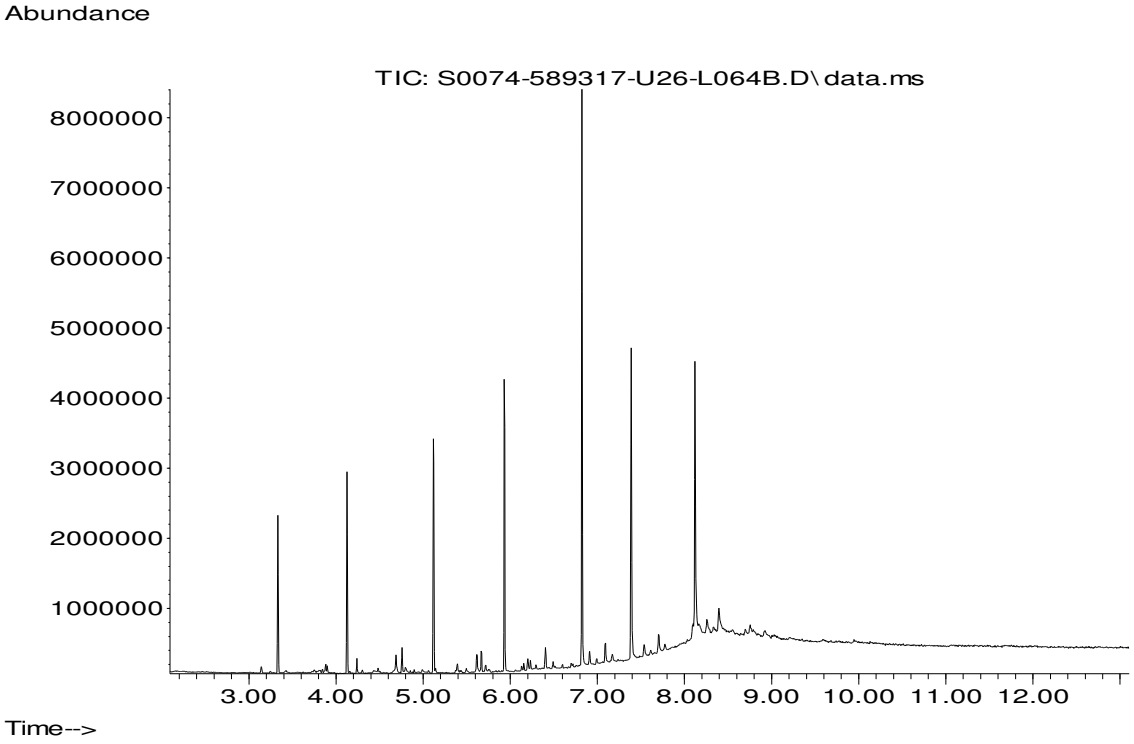


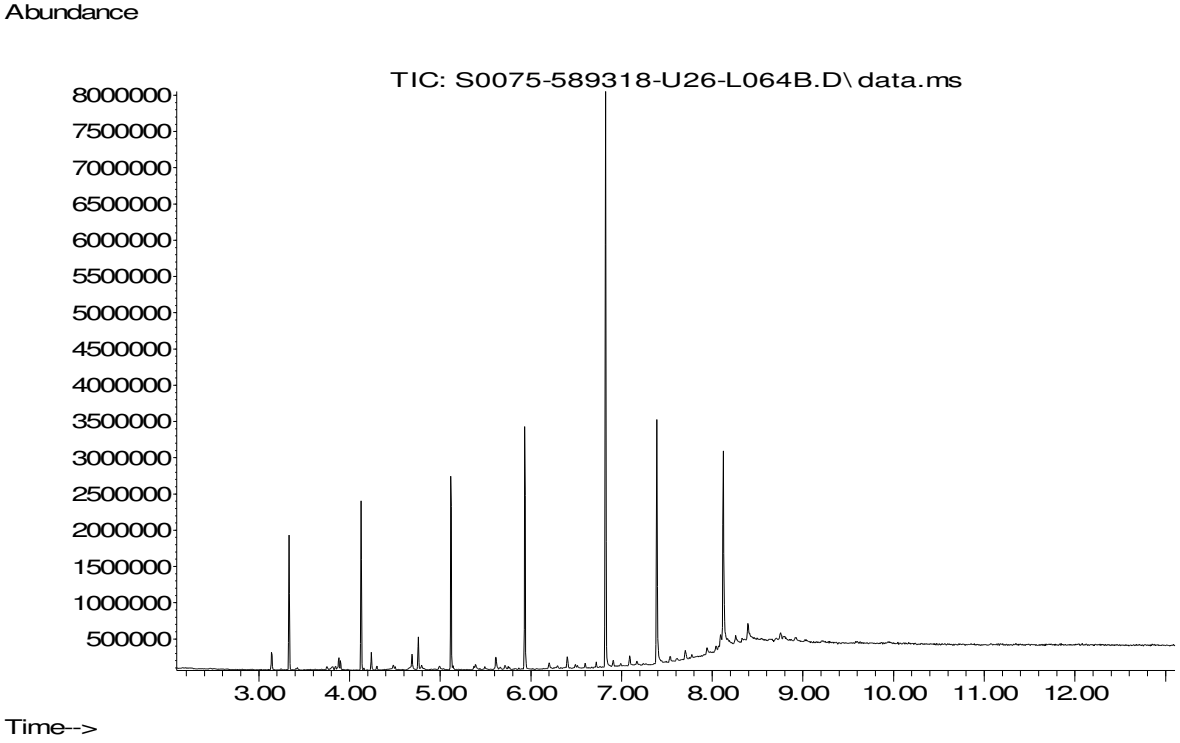


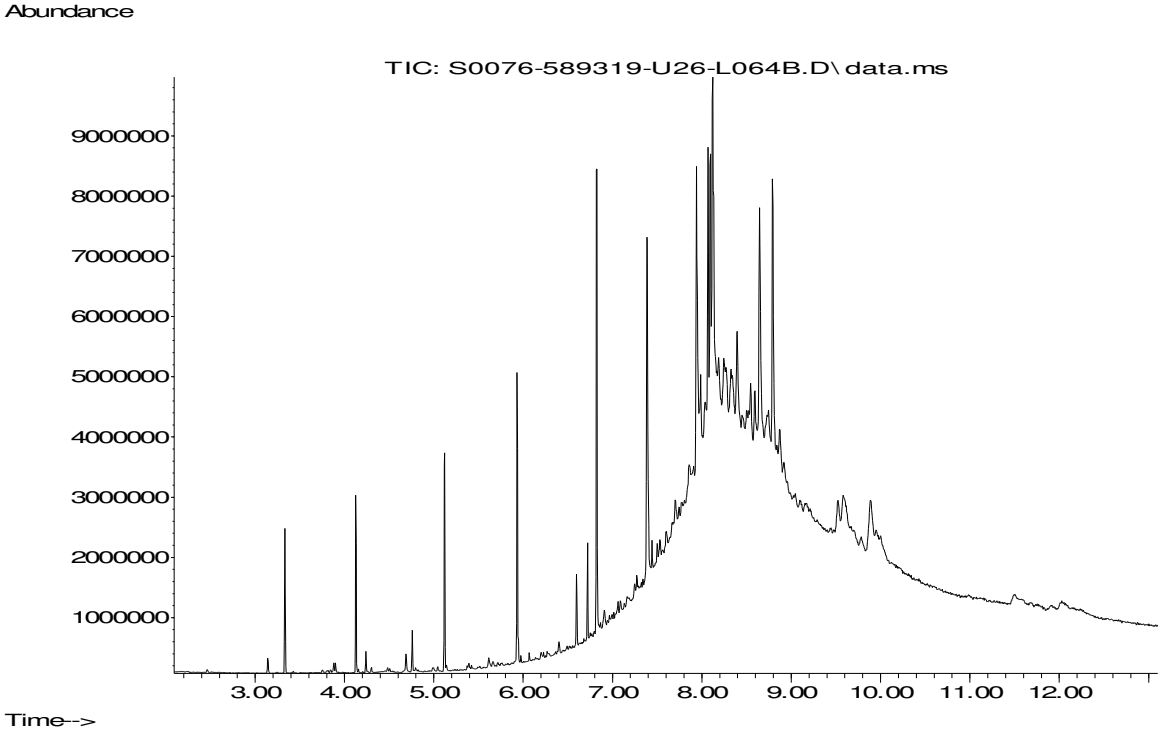


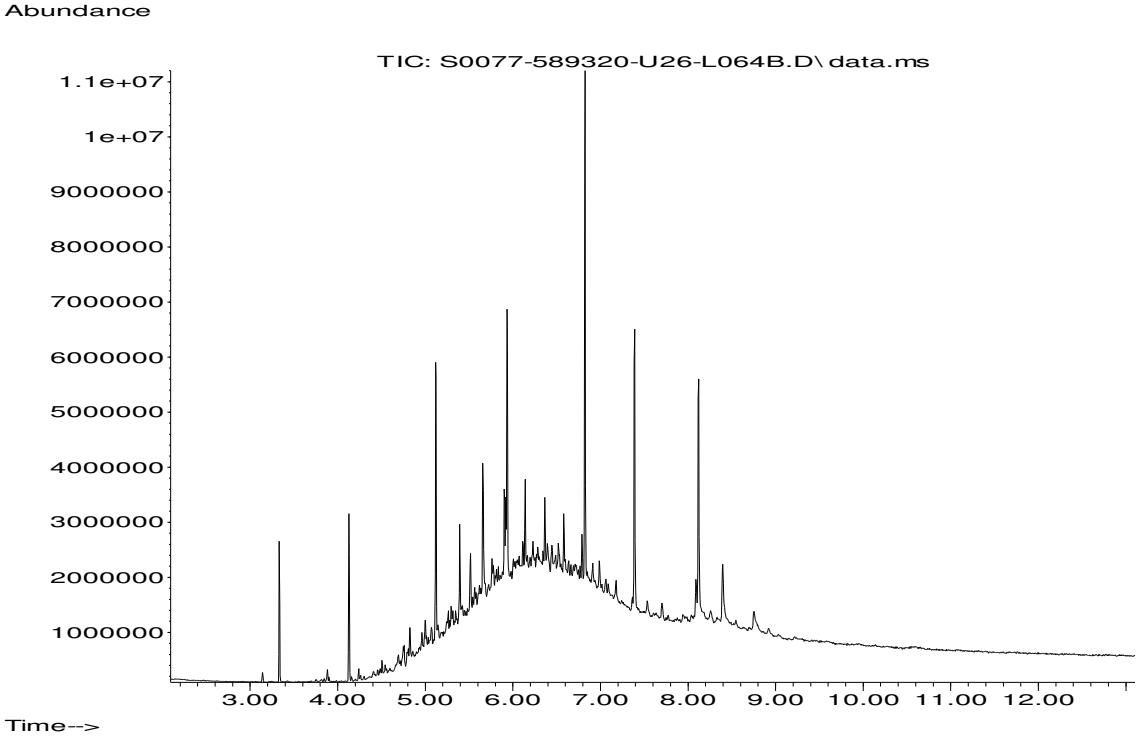


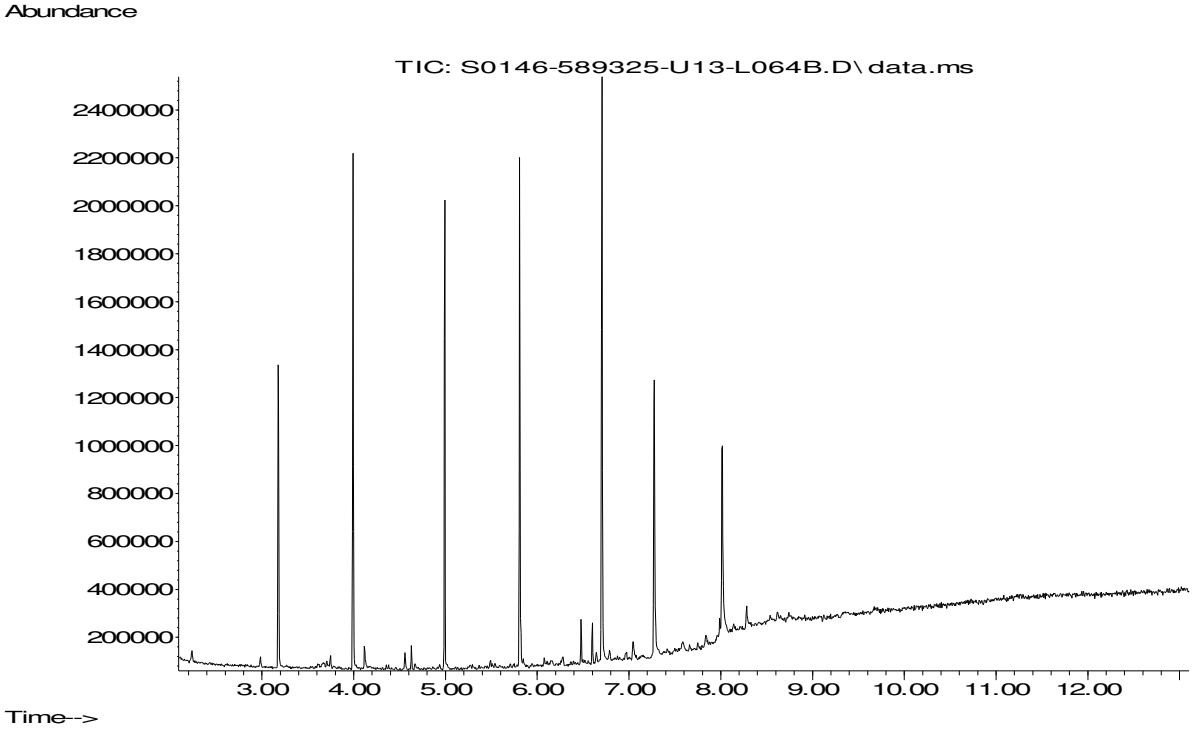


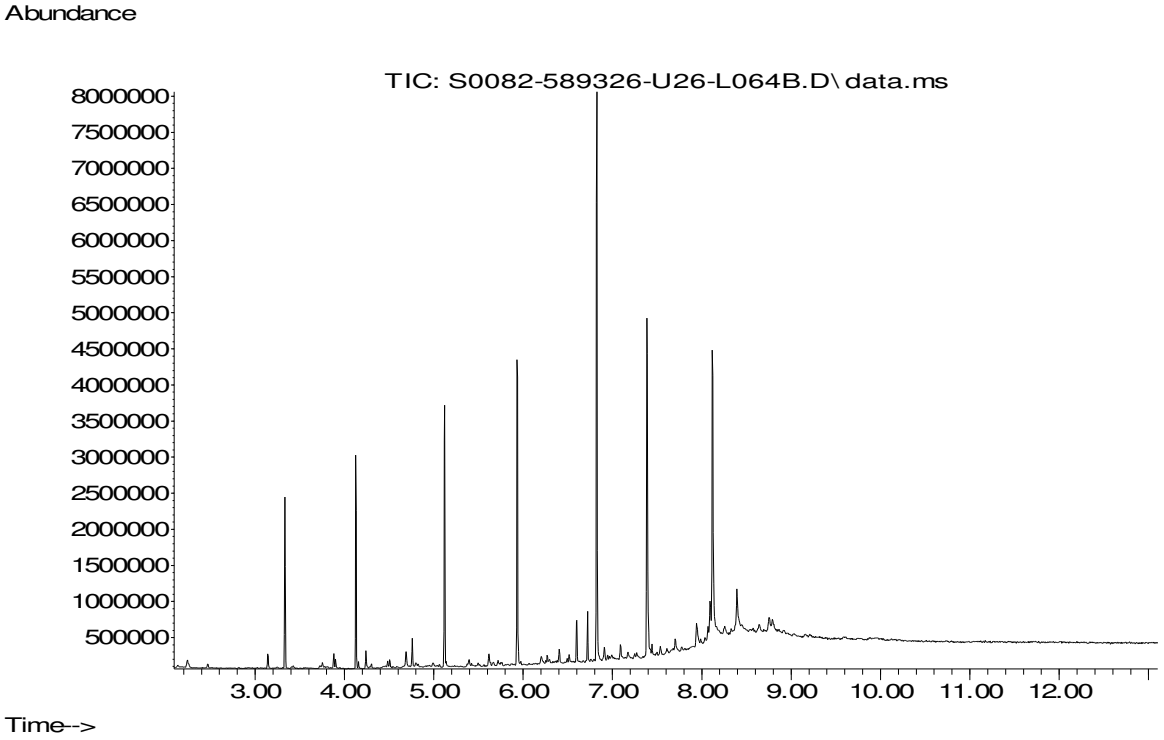


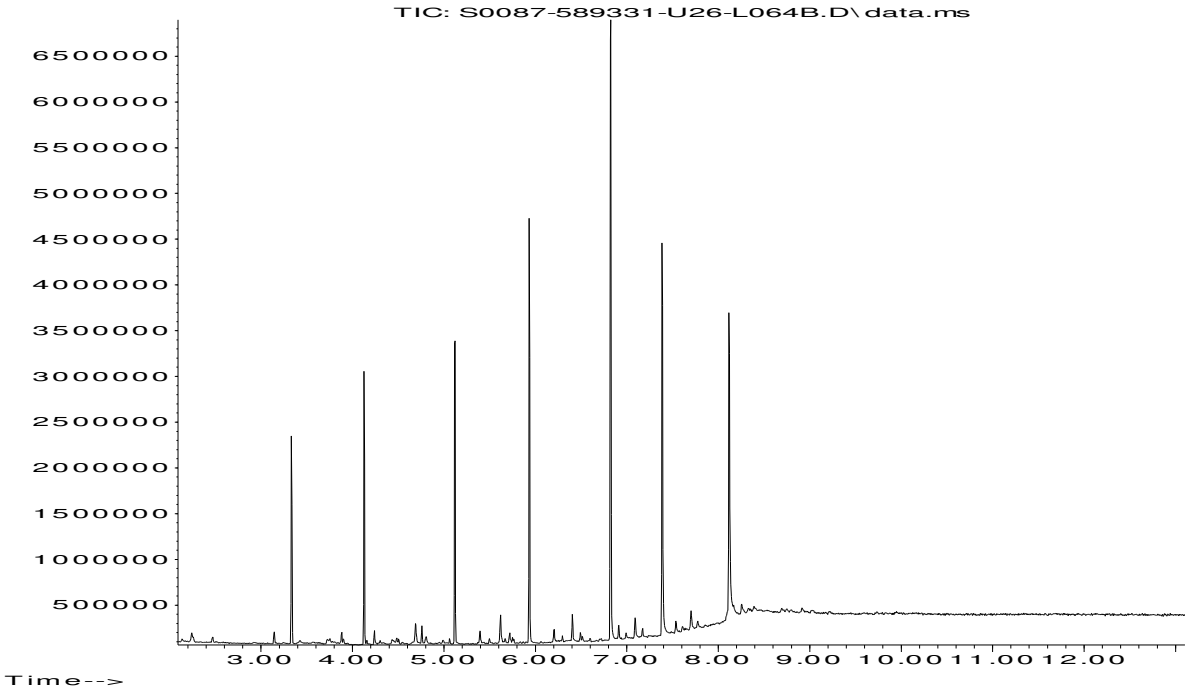


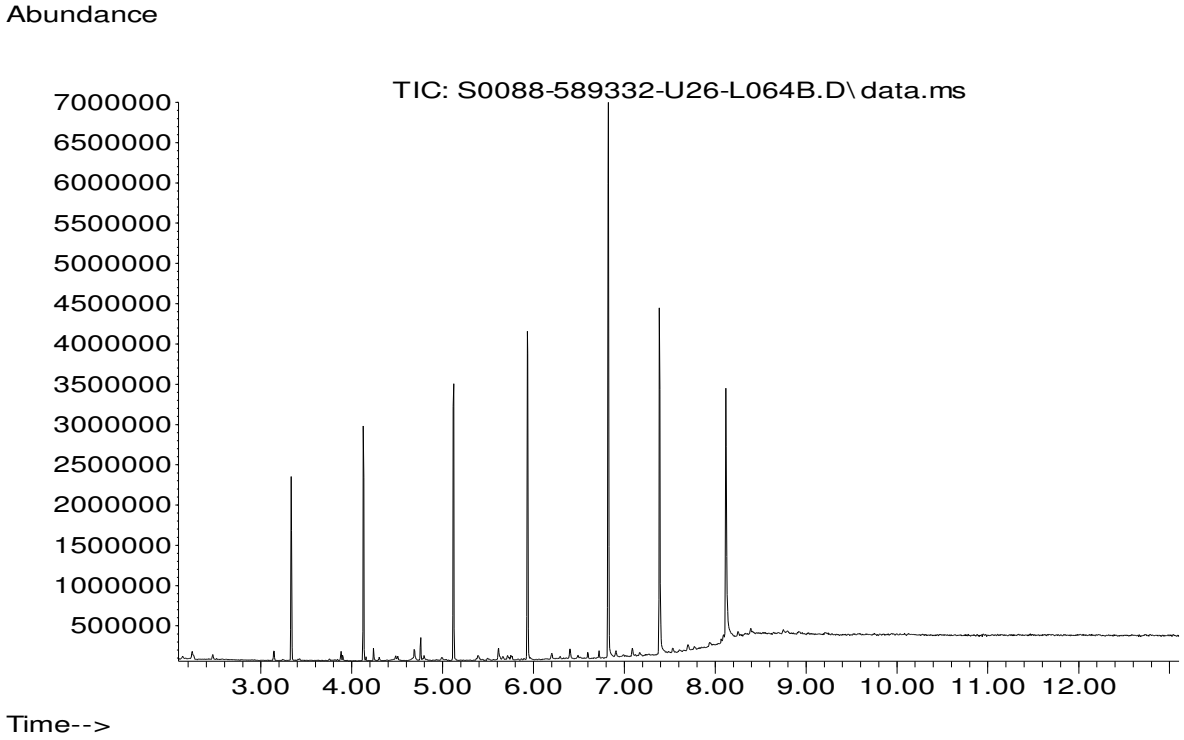


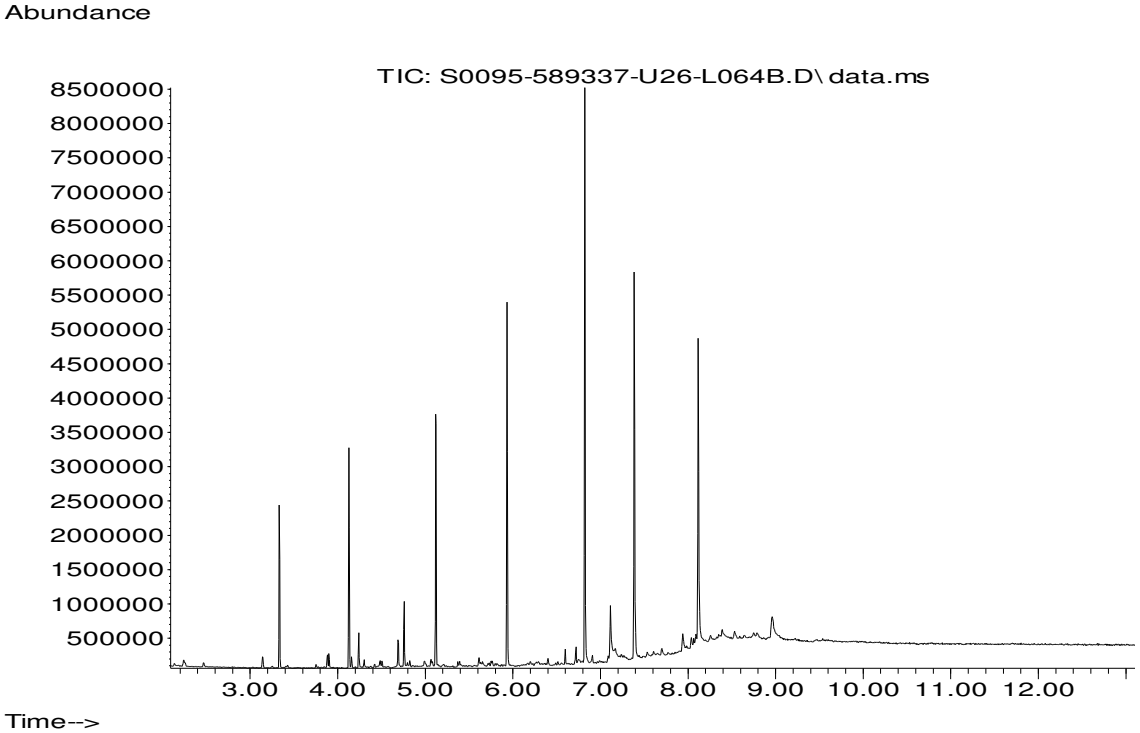


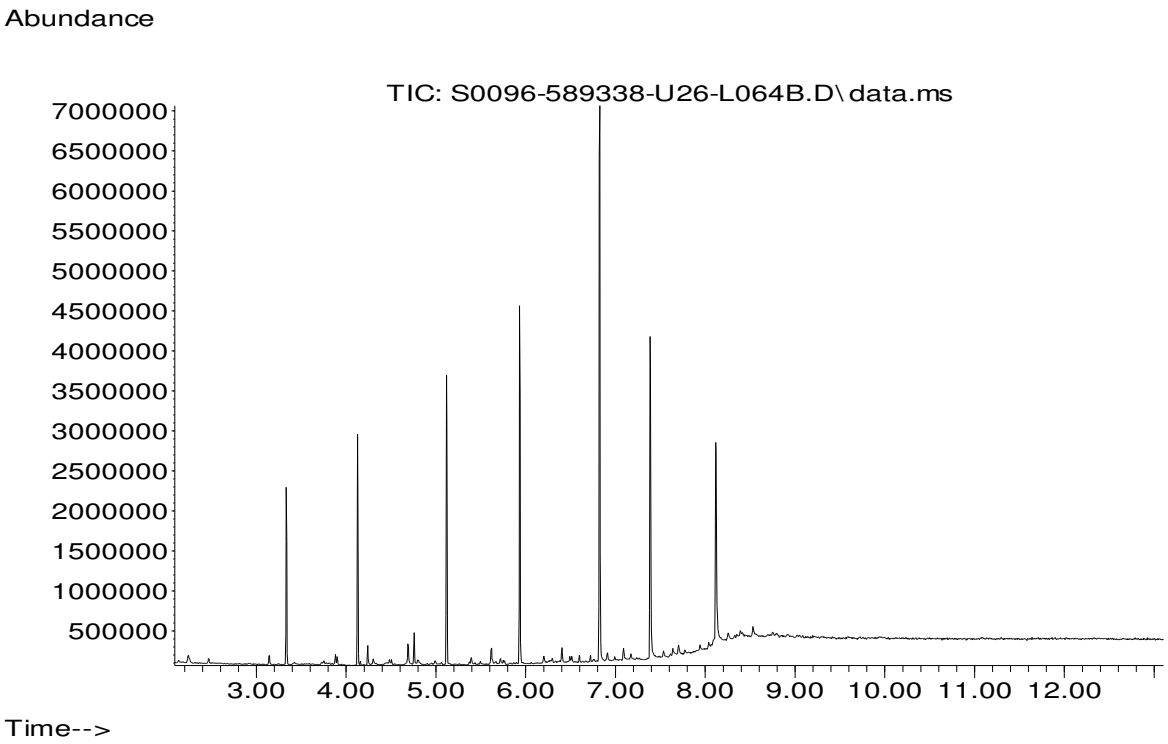


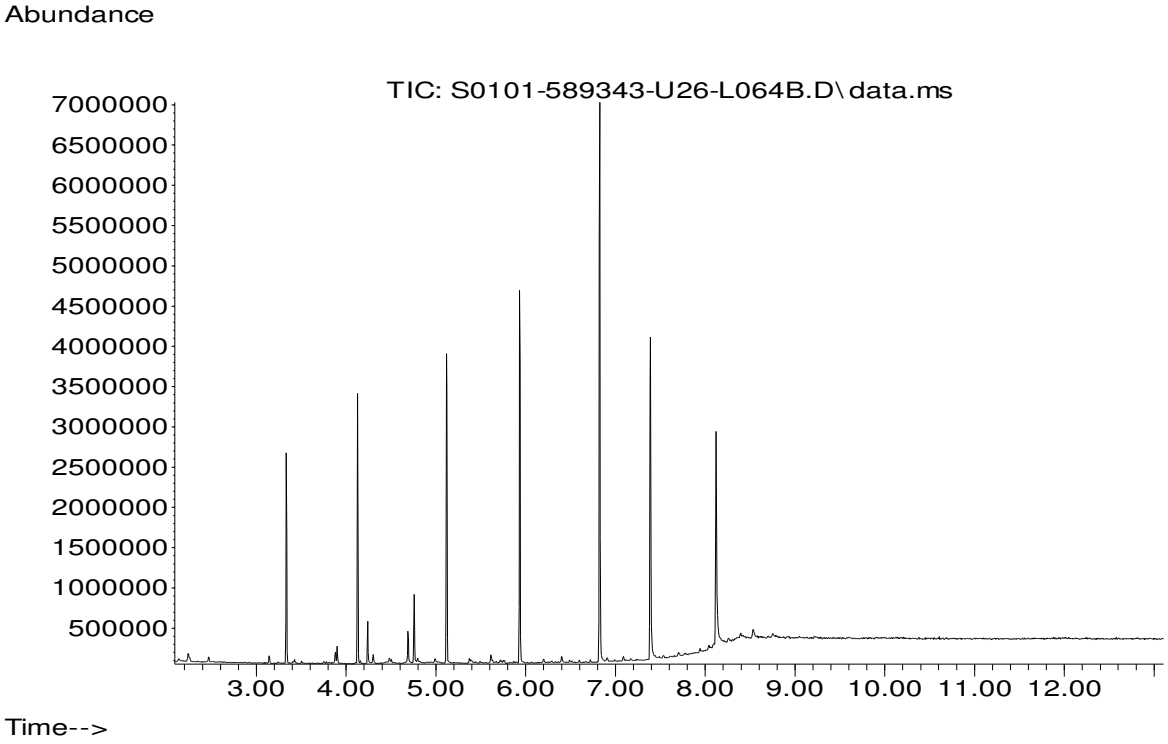


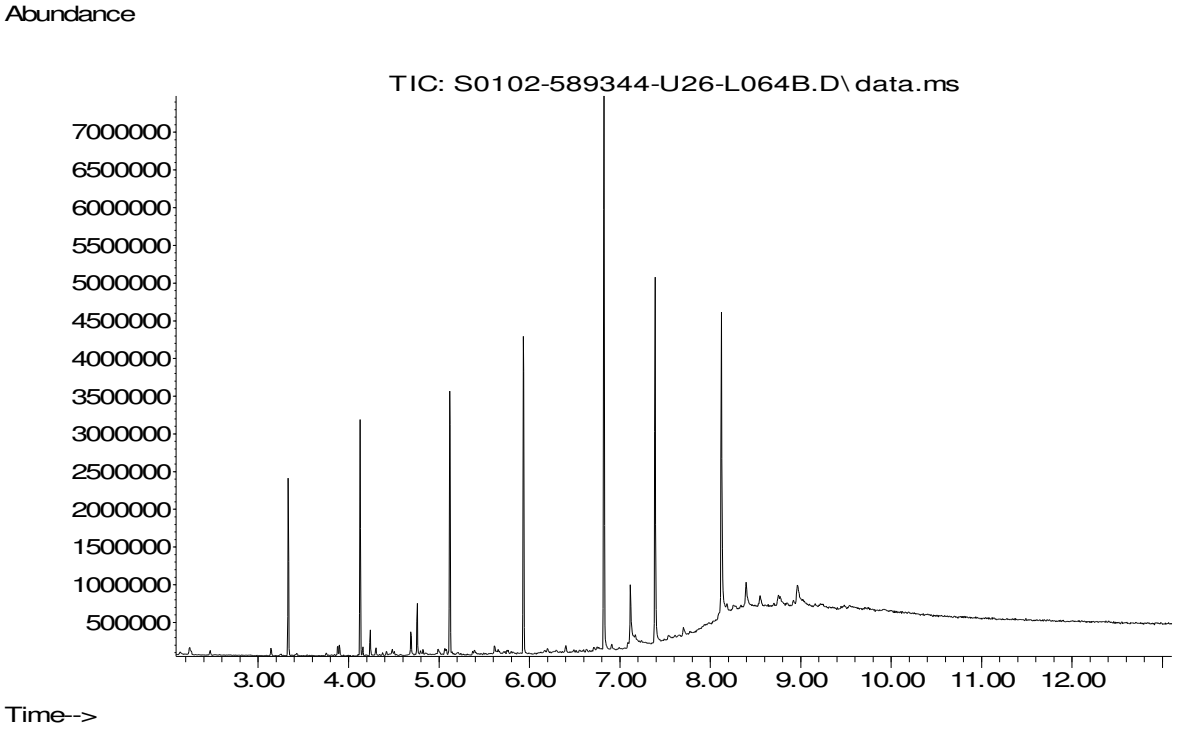




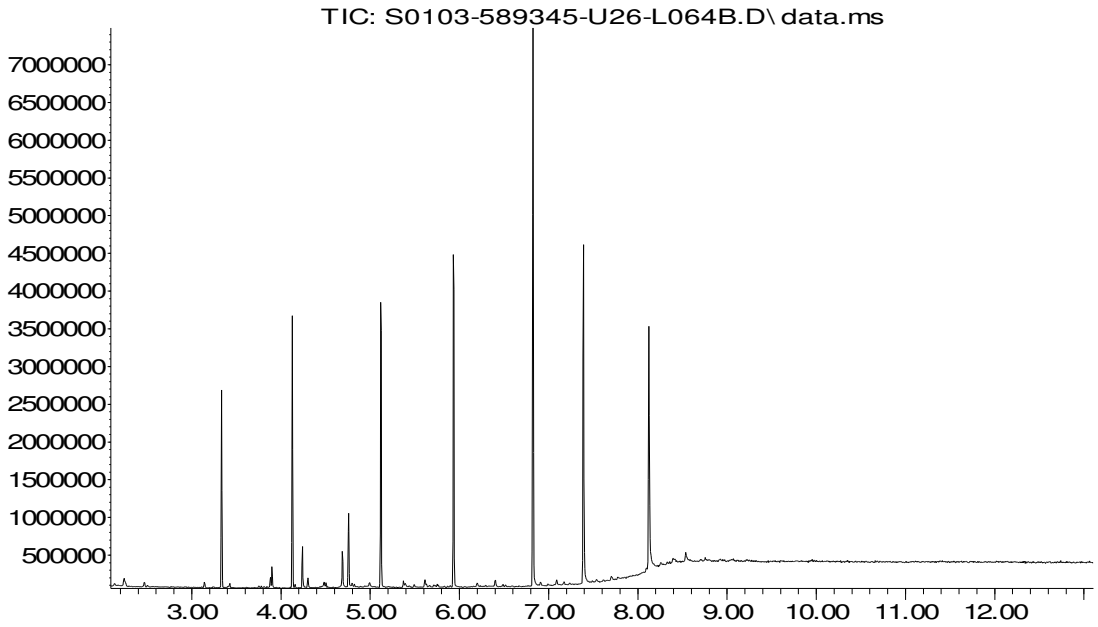








Abundance



Time-->

Nathan Thompson
Hydrock Consultants Ltd
2-4 Hawthorne Park
Holdenby Road
Spratton
Northamptonshire
NN6 8LD

t: 01604842888
f: 01604842666
e: nathanthompson@hydrock.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 16-20743

Project / Site name:	Kraft Phase 2	**Samples received on:**	21/06/2016
Your job number:	C161279	**Samples instructed on:**	22/06/2016
Your order number:	N9223-C161279	**Analysis completed by:**	29/06/2016
Report Issue Number:	1	**Report issued on:**	29/06/2016
Samples Analysed:	12 soil samples		

Signed:

Rexona Rahman
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Emma Winter
Assistant Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Analytical Report Number: 16-20743

Project / Site name: Kraft Phase 2
Your Order No: N9223-C161279

Lab Sample Number				591011	591012	591013	591014	591015
Sample Reference				WS03	WS03	WS05	WS07	WS12
Sample Number				D	D	D	D	D
Depth (m)				2.60	4.00-4.45	2.20	3.50	1.00-1.45
Date Sampled				07/06/2016	07/06/2016	08/06/2016	08/06/2016	03/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	22	17	21	22	16
Total mass of sample received	kg	0.001	NONE	0.52	0.19	0.18	0.17	0.44
General Inorganics								
pH	pH Units	N/A	MCERTS	7.5	7.9	7.4	7.5	7.7
Total Sulphate as SO_4	mg/kg	50	MCERTS	200	990	160	150	580
Total Sulphate as SO_4	%	0.005	MCERTS	0.020	0.099	0.016	0.015	0.058
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.029	0.28	0.0092	0.0064	0.036
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	28.9	280	9.2	6.4	35.5
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	24	41	26	12	12
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	12	21	13	5.9	6.2
Total Sulphur	mg/kg	50	NONE	88	1200	54	64	270
Total Sulphur	%	0.005	NONE	0.009	0.122	0.005	0.006	0.027
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	0.6	< 0.5	< 0.5	9.0
Ammonium as NH_4 (leachate equivalent)	mg/l	0.05	MCERTS	< 0.1	0.3	< 0.1	< 0.1	4.5
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	< 2.0	< 2.0	3.0	5.0	< 2.0
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent	mg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Heavy Metals / Metalloids								
Magnesium (water soluble)	mg/kg	5	NONE	< 5.0	29	5.3	< 5.0	6.1
Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5	15	2.6	< 2.5	3.0

Analytical Report Number: 16-20743

Project / Site name: Kraft Phase 2
Your Order No: N9223-C161279

Lab Sample Number				591016	591017	591018	591019	591020
Sample Reference				WS13	WS15	WS25	WS19	WS22
Sample Number				D	D	D	D	D
Depth (m)				2.10	1.00-1.45	4.00-4.45	1.50	2.00-2.45
Date Sampled				02/06/2016	06/06/2016	06/06/2016	09/06/2016	06/06/2016
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	23	16	13	20	20
Total mass of sample received	kg	0.001	NONE	0.48	0.19	0.18	0.15	0.17
General Inorganics								
pH	pH Units	N/A	MCERTS	6.8	7.4	4.9	7.4	5.9
Total Sulphate as SO_4	mg/kg	50	MCERTS	780	180	1600	440	4200
Total Sulphate as SO_4	%	0.005	MCERTS	0.078	0.018	0.165	0.044	0.415
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.051	0.042	0.39	0.024	0.028
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	50.9	42.4	394	24.0	27.9
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	11	13	19	85	21
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	5.5	6.3	9.4	43	11
Total Sulphur	mg/kg	50	NONE	410	400	1500	220	1500
Total Sulphur	%	0.005	NONE	0.041	0.040	0.152	0.022	0.155
Ammonium as NH_4	mg/kg	0.5	MCERTS	33	< 0.5	1.6	< 0.5	< 0.5
Ammonium as NH_4 (leachate equivalent)	mg/l	0.05	MCERTS	17	< 0.1	0.8	< 0.1	< 0.1
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	6.2	< 2.0
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent	mg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Heavy Metals / Metalloids								
Magnesium (water soluble)	mg/kg	5	NONE	7.8	5.6	56	8.8	< 5.0
Magnesium (leachate equivalent)	mg/l	2.5	NONE	3.9	2.8	28	4.4	< 2.5

Analytical Report Number: 16-20743

Project / Site name: Kraft Phase 2
Your Order No: N9223-C161279

Lab Sample Number				591021	591022			
Sample Reference				BH02	BH04			
Sample Number				B	B			
Depth (m)				3.20-3.70	1.20			
Date Sampled				31/05/2016	06/06/2016			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1			
Moisture Content	%	N/A	NONE	11	17			
Total mass of sample received	kg	0.001	NONE	0.17	2.0			
General Inorganics								
pH	pH Units	N/A	MCERTS	7.9	7.4			
Total Sulphate as SO_4	mg/kg	50	MCERTS	240	480			
Total Sulphate as SO_4	%	0.005	MCERTS	0.024	0.048			
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.017	0.023			
Water Soluble Sulphate (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	16.9	22.5			
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	8.1	16			
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	4.1	7.9			
Total Sulphur	mg/kg	50	NONE	81	210			
Total Sulphur	%	0.005	NONE	0.008	0.021			
Ammonium as NH_4	mg/kg	0.5	MCERTS	< 0.5	8.3			
Ammonium as NH_4 (leachate equivalent)	mg/l	0.05	MCERTS	< 0.1	4.1			
Water Soluble Nitrate (2:1) as NO_3	mg/kg	2	NONE	< 2.0	< 2.0			
Water Soluble Nitrate (2:1) as NO_3 (leachate equivalent	mg/l	5	NONE	< 5.0	< 5.0			
Heavy Metals / Metalloids								
Magnesium (water soluble)	mg/kg	5	NONE	< 5.0	< 5.0			
Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5	< 2.5			

Analytical Report Number : 16-20743

Project / Site name: Kraft Phase 2

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
591011	WS03	D	2.60	Light brown clay and sand.
591012	WS03	D	4.00-4.45	Grey clay and sand.
591013	WS05	D	2.20	Light brown clay and sand.
591014	WS07	D	3.50	Light brown clay and sand.
591015	WS12	D	1.00-1.45	Light brown clay and sand.
591016	WS13	D	2.10	Grey clay and sand.
591017	WS15	D	1.00-1.45	Grey clay and sand.
591018	WS25	D	4.00-4.45	Grey clay and sand.
591019	WS19	D	1.50	Grey clay and loam.
591020	WS22	D	2.00-2.45	Grey clay and sand.
591021	BH02	B	3.20-3.70	Grey sandy clay.
591022	BH04	B	1.20	Brown loam and clay.

Analytical Report Number : 16-20743

Project / Site name: Kraft Phase 2

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Nitrate, water soluble, in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, and MEWAM 2006 Methods for the Determination of Metals in Soil	L038-PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	RTD	RTD	AL	AL	RTD	TS	RTD	CHM	RTD	CHM	TS	RTD	TS	RTD
								Location & Depth	BH03	BH03	BH04	BH04	WS05	WS07	WS07	WS09	WS15	WS16	WS20	WS21	WS21	WS26
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**0.6**	**1**	**0.6**	**1.1**	**0.5**	**0.1**	**0.4**	**1.1**	**0.6**	**0.7**	**0.25**	**0.7**	**0.3**	**0.5**
Arsenic	1	14	14	120	0	640	67.17929	POTENTIALLY SUITABLE FOR USE	36	32	23	18	26	45	39	23	120	14	42	39	41	20
Beryllium	0.06	14	1	3.5	0	390	2.18984	POTENTIALLY SUITABLE FOR USE	1.3	1.2	1.1	1.3	1.3	1.4	1.2	1.2	3.5	1.4	1.6	1.6	1.6	1
Boron	0.2	14	0.6	3.1	0	190000	1.879485	POTENTIALLY SUITABLE FOR USE	1.3	1.1	3.1	1.3	1.2	0.7	0.6	1	0.6	1.2	1.1	1	1.1	1.2
Cadmium	0.2	14	0.2	0.2	0	220	0.2	POTENTIALLY SUITABLE FOR USE	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Chromium (III)	1	14	37	170	0	8400	99.93113	POTENTIALLY SUITABLE FOR USE	63	61	59	41	50	55	37	52	170	46	65	66	59	50
Chromium (VI)	1.2	14	1.2	1.2	0	33	1.2	POTENTIALLY SUITABLE FOR USE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Copper	1	14	1	41	0	69000	26.27617	POTENTIALLY SUITABLE FOR USE	25	9.4	41	10	7.8	10	5.9	18	1	24	13	18	9	9.2
Lead	2	14	8	81	0	2330	62.85697	POTENTIALLY SUITABLE FOR USE	73	32	72	14	24	81	31	10	8	14	40	37	29	22
Mercury, inorganic	0.3	14	0.3	0.5	0	3600	0.42252	POTENTIALLY SUITABLE FOR USE	0.3	0.3	0.3	0.3	0.4	0.5	0.3	0.3	0.3	0.5	0.3	0.3	0.3	0.3
Nickel	2	14	24	69	0	1700	55.88921	POTENTIALLY SUITABLE FOR USE	35	36	29	32	38	31	25	55	69	64	42	40	39	24
Selenium	1	14	1	1.9	0	13000	1.351048	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1.9	1	1	1	1	1.1
Vanadium	1	14	69	340	0	9000	185.3643	POTENTIALLY SUITABLE FOR USE	98	83	88	70	93	94	70	74	340	69	110	93	110	76
Zinc	2	14	59	120	0	670000	115.4472	POTENTIALLY SUITABLE FOR USE	92	89	98	75	84	97	65	100	110	120	110	110	110	59
Cyanide (free)	1	14	1	1	0	16000	1	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Phenol (total)	2	14	1	1	0	760	1	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Acenaphthene	0.05	14	0.1	1	0	84000	0.492499	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.51	1	0.1	0.1	0.1	0.1
Acenaphthylene	0.05	14	0.1	0.1	0	83000	0.1	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Anthracene	0.05	14	0.1	2.2	0	520000	0.912097	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	2.2	0.24	0.1	0.1	0.1	0.1
Benz(a)anthracene	0.05	14	0.1	14	0	86	5.449262	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.39	14	0.12	0.1	0.34	0.1	0.1
Benzo(a)pyrene	0.05	14	0.1	9.9	0	14	3.868154	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.34	9.9	0.1	0.1	0.18	0.1	0.1
Benzo(b)fluoranthene	0.05	14	0.1	11	0	97	4.293982	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	11	0.1	0.1	0.21	0.1	0.1
Benzo(ghi)perylene	0.05	14	0.05	7.3	0	630	2.825714	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	7.3	0.05	0.05	0.05	0.05	0.05
Benzo(k)fluoranthene	0.05	14	0.1	11	0	140	4.288049	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	11	0.1	0.1	0.2	0.1	0.1
Chrysene	0.05	14	0.05	14	0	140	5.416467	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.36	14	0.05	0.05	0.25	0.05	0.05
Dibenz(a,h)anthracene	0.05	14	0.1	1.7	0	12	0.712571	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.7	0.1	0.1	0.1	0.1	0.1
Fluoranthene	0.05	14	0.1	31	0	23000	12.01599	POTENTIALLY SUITABLE FOR USE	0.1	0.49	0.1	0.1	0.1	0.1	0.1	0.71	31	0.42	0.1	0.52	0.1	0.1
Fluorene	0.05	14	0.1	0.9	0	63000	0.421129	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.28	0.9	0.1	0.1	0.1	0.1
Indeno(1,2,3,cd)pyrene	0.05	14	0.1	6.4	0	58	2.512	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	6.4	0.1	0.1	0.1	0.1	0.1
Naphthalene	0.05	14	0.05	0.05	0	190	0.05	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Phenanthrene	0.05	14	0.1	8	0	22000	3.320366	POTENTIALLY SUITABLE FOR USE	0.1	0.39	0.1	0.1	0.1	0.1	0.1	0.1	8	2.1	0.1	0.29	0.1	0.1
Pyrene	0.05	14	0.1	22	0	54000	8.545799	POTENTIALLY SUITABLE FOR USE	0.1	0.38	0.1	0.1	0.1	0.1	0.1	0.55	22	0.27	0.1	0.44	0.1	0.1
Asbestos identified	Y/N								N	N	N	N	N	N	N	N	N	N	N	N	N	N
FOC (dimensionless)	0.009443	**(mean)**							0.012	0.0059	0.024	0.0027	0.0062	0.011	0.0049	0.011	0.0029	0.013	0.013	0.011	0.01	0.0046
SOM (calculated)	1.63%	**(mean)**							2.07%	1.02%	4.14%	0.47%	1.07%	1.90%	0.84%	1.90%	0.50%	2.24%	2.24%	1.90%	1.72%	0.79%
pH (su)	7.9	**(mean)**							8.2	8	7.4	8.3	8	7.4	7.8	8.1	8.3	7.5	7.3	8	8	7.8

Risk parameter: Human health - commercial (1%SOM)
Data set: Natural
Client: DB Symmetry Limited
Site: Kraft Phase 2
Job no.: C161279
Lab. report no(s).: 16-20400

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC).
MG denotes Made Ground
NAT denotes natural ground

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG
								Location & Depth	BH02	BH02	WS01	WS01	WS03	WS03	WS04	WS13	WS13	WS18	WS19	WS26
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**0.10**	**0.50**	**0.40**	**1.00**	**0.20**	**0.60**	**0.30**	**0.30**	**0.60**	**0.30**	**0.30**	**0.20**
Benzene	0.01	12	0.001	0.001	0	27	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Toluene	0.01	12	0.001	0.001	0	870	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Ethylbenzene	0.01	12	0.001	0.001	0	520	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Xylene, o-	0.01	12	0.001	0.001	0	480	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Xylene, m- & p-	0.01	12	0.001	0.001	0	580	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
MTBE	0.01	12	0.001	0.001	0	7500	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Iso-propylbenzene	0.01	0	0	0	0	390														
Propylbenzene	0.01	0	0	0	0	400														
1,2,4-Trimethylbenzene	0.01	0	0	0	0	39														
Bromobenzene	0.01	0	0	0	0	92														
Chlorobenzene	0.01	0	0	0	0	56														
1,2-Dichlorobenzene	0.01	0	0	0	0	570														
1,3-Dichlorobenzene	0.01	0	0	0	0	30														
1,4-Dichlorobenzene	0.01	0	0	0	0	230														
Hexachlorobenzene	0.01	0	0	0	0	0.2														
Pentachlorobenzene	0.01	0	0	0	0	640														
1,2,3-trichlorobenzene	0.01	0	0	0	0	100														
1,2,4-trichlorobenzene	0.01	0	0	0	0	220														
1,3,5-trichlorobenzene	0.01	0	0	0	0	23														
1,2,3,4-tetrachlorobenzene	0.01	0	0	0	0	120														
1,2,3,5-tetrachlorobenzene	0.01	0	0	0	0	39														
1,2,4,5-tetrachlorobenzene	0.01	0	0	0	0	20														

Risk parameter: Human health - commercial (1%SOM)
Data set: MG
Client: Db Symmetry Limited
Site: Kraft Phase 2
Job no.: C161279
Lab. report no(s).: 16-20400

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC).
MG denotes Made Ground
NAT denotes natural ground

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test	Soil Type	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG
									Location & Depth	BH02	BH02	WS01	WS01	WS03	WS03	WS04	WS13	WS13	WS18	WS19	WS26
										0.10	0.50	0.40	1.00	0.20	0.60	0.30	0.30	0.60	0.30	0.30	0.20
Aliphatics EC5-EC6	0.01	12	0.1	0.1	0	300	0.1	POTENTIALLY SUITABLE FOR USE		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aliphatics >EC6-EC8	0.01	12	0.1	0.1	0	140	0.1	POTENTIALLY SUITABLE FOR USE		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aliphatics >EC8-EC10	0.01	12	0.1	0.1	0	78	0.1	POTENTIALLY SUITABLE FOR USE		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aliphatics >EC10-EC12	0.01	12	1	1.8	0	48	1.412935	POTENTIALLY SUITABLE FOR USE		1	1	1	1	1	1.4	1.8	1	1	1	1	1
Aliphatics >EC12-EC16	0.1	12	2	59	1	24	15.83011	POTENTIALLY SUITABLE FOR USE		6.2	2	2	2	2	5.2	59	2	2	2	2	2
Aliphatics >EC16-EC35	0.1	12	10	270	0	1000000	157.7845	POTENTIALLY SUITABLE FOR USE		46	10	10	20	10	270	180	10	10	10	10	40
Aliphatics >EC35-EC44	0.1	12	8.4	180	0	1000000	100.562	POTENTIALLY SUITABLE FOR USE		29	8.4	8.4	29	8.4	180	24	8.4	8.4	8.4	8.4	97
Aromatics EC5-EC7	0.01	12	0.1	0.1	0	1200	0.1	POTENTIALLY SUITABLE FOR USE		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aromatics >EC7-EC8	0.01	12	0.1	0.1	0	870	0.1	POTENTIALLY SUITABLE FOR USE		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aromatics >EC8-EC10	0.01	12	0.1	0.1	0	610	0.1	POTENTIALLY SUITABLE FOR USE		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Aromatics >EC10-EC12	0.01	12	1	1	0	360	1	POTENTIALLY SUITABLE FOR USE		1	1	1	1	1	1	1	1	1	1	1	1
Aromatics >EC12-EC16	0.1	12	2	26	0	36000	13.74834	POTENTIALLY SUITABLE FOR USE		8.4	2	2	2	2	7	26	2	2	2	2	2
Aromatics >EC16-EC21	0.1	12	10	82	0	28000	57.16544	POTENTIALLY SUITABLE FOR USE		76	10	10	10	10	33	82	10	10	10	10	10
Aromatics >EC21-EC35	0.1	12	10	480	0	28000	252.778	POTENTIALLY SUITABLE FOR USE		210	39	10	44	10	480	65	10	10	10	10	45
Aromatics >EC35-EC44	0.1	12	8.4	470	0	28000	246.0016	POTENTIALLY SUITABLE FOR USE		120	31	8.4	60	8.4	470	20	8.4	8.4	8.4	8.4	170

ADDITIVITY CHECK		HAZARD QUOTIENTS FOR EACH FRACTION											
	Aliphatics EC5-EC6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Aliphatics >EC6-EC8	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Considered additive	Aliphatics >EC8-EC10	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Considered additive	Aliphatics >EC10-EC12	0.021	0.021	0.021	0.021	0.021	0.029	0.038	0.021	0.021	0.021	0.021	0.021
Considered additive	Aliphatics >EC12-EC16	0.258	0.083	0.083	0.083	0.083	0.217	2.458	0.083	0.083	0.083	0.083	0.083
	Aliphatics >EC16-EC35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Aliphatics >EC35-EC44	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Aromatics EC5-EC7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Aromatics >EC7-EC8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Considered additive	Aromatics >EC8-EC10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Considered additive	Aromatics >EC10-EC12	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Considered additive	Aromatics >EC12-EC16	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
Considered additive	Aromatics >EC16-EC21	0.003	0.000	0.000	0.000	0.000	0.001	0.003	0.000	0.000	0.000	0.000	0.000
Considered additive	Aromatics >EC21-EC35	0.008	0.001	0.000	0.002	0.000	0.017	0.002	0.000	0.000	0.000	0.000	0.002
	Aromatics >EC35-EC44	0.004	0.001	0.000	0.002	0.000	0.017	0.001	0.000	0.000	0.000	0.000	0.006
	Hazard Index for ali>C8-C16	**0.280**	**0.105**	**0.105**	**0.105**	**0.105**	**0.247**	**2.497**	**0.105**	**0.105**	**0.105**	**0.105**	**0.105**
	Hazard Index for aro>C8-C16	**0.003**	**0.003**	**0.003**	**0.003**	**0.003**	**0.003**	**0.004**	**0.003**	**0.003**	**0.003**	**0.003**	**0.003**
	Hazard Index for aro>C16-C35	**0.010**	**0.002**	**0.001**	**0.002**	**0.001**	**0.018**	**0.005**	**0.001**	**0.001**	**0.001**	**0.001**	**0.002**

Hazard Index table - HI or HQ greater than 1 highlighted with yellow shading.

Legend: Main table values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Main table alues in red are equal to, or greater than, the generic assessment criterion (GAC).
MG denotes Made Ground
NAT denotes natural ground

Risk parameter: Human health - commercial (1%SOM)
Data set: MG
Client: Db Symmetry Limited
Site: Kraft Phase 2
Job no.: C161279
Lab. report no(s).: 16-20400

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG
								Location & Depth	BH01	BH01	BH02	BH02	WS01	WS01	WS03	WS03	WS04	WS05	WS08	WS11	WS11	WS12	WS12
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**0.1**	**0.4**	**0.1**	**0.5**	**0.4**	**1**	**0.2**	**0.6**	**0.3**	**0.1**	**0.3**	**0.4**	**0.8**	**0.3**	**0.6**
Arsenic	1	23	6.9	190	0	250	110.3619	POTENTIALLY SUITABLE FOR USE	33	33	41	35	94	23	54	29	41	22	25	120	190	120	170
Boron	0.2	23	0.2	2.7	0	3	1.379209	POTENTIALLY SUITABLE FOR USE	1.5	0.8	0.7	0.9	0.6	0.3	1.3	1.3	1.3	0.9	0.5	0.7	0.6	0.6	0.7
Chromium (III)	1	23	3.8	330	0	400	172.5817	POTENTIALLY SUITABLE FOR USE	64	62	38	53	170	25	75	67	67	36	6	170	330	260	280
Chromium (VI)	1.2	23	1.2	1.2	0	25	1.2	POTENTIALLY SUITABLE FOR USE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Copper	1	23	1	17	0	135	10.25202	POTENTIALLY SUITABLE FOR USE	8.8	5.4	15	12	1	1	10	6.2	6.4	11	5.1	1	1	1	1
Nickel	2	23	4.8	130	5	75	81.58099	FURTHER ASSESSMENT REQUIRED	35	40	18	43	63	12	48	28	38	36	4.9	80	130	120	130
Zinc	2	23	11	230	0	300	153.7134	POTENTIALLY SUITABLE FOR USE	100	89	75	93	160	27	110	100	90	77	20	140	220	150	210
	Mean																						
pH (su)	8.5								7.9	8.3	8.3	8.4	8.2	8.8	8.2	8.5	8.4	8.6	8.5	8.3	8	8	8.2

Risk parameter: Plant life pH 7
Data set: Made Ground
Client: DB Symmetry Limited
Site: Kraft Phase 2
Job no.: C161279
Lab. report no(s).: 16-20400

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC).
MG denotes Made Ground
NAT denotes natural ground

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	MG	MG	MG	MG	MG	MG	MG	MG
								Location & Depth	WS13	WS13	WS15	WS16	WS18	WS23	WS23	WS26
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**0.3**	**0.6**	**0.3**	**0.3**	**0.3**	**0.2**	**0.7**	**0.2**
Arsenic	1	23	6.9	190	0	250	110.3619	POTENTIALLY SUITABLE FOR USE	23	54	6.9	25	37	33	170	8.4
Boron	0.2	23	0.2	2.7	0	3	1.379209	POTENTIALLY SUITABLE FOR USE	0.3	0.4	0.2	0.5	1.7	2.7	0.9	0.5
Chromium (III)	1	23	3.8	330	0	400	172.5817	POTENTIALLY SUITABLE FOR USE	11	78	3.8	42	50	39	120	11
Chromium (VI)	1.2	23	1.2	1.2	0	25	1.2	POTENTIALLY SUITABLE FOR USE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Copper	1	23	1	17	0	135	10.25202	POTENTIALLY SUITABLE FOR USE	8	1	11	1	17	1	1	3.4
Nickel	2	23	4.8	130	5	75	81.58099	FURTHER ASSESSMENT REQUIRED	13	30	4.8	22	32	23	98	7
Zinc	2	23	11	230	0	300	153.7134	POTENTIALLY SUITABLE FOR USE	28	57	11	39	90	53	230	19
	Mean															
pH (su)	8.5								8.5	8.2	8.7	8.6	8.1	10.2	8.6	9

Risk parameter: **Plant life pH 7**
Data set: Made Ground
Client: DB Symmetry Limited
Site: Kraft Phase 2
Job no.: C161279
Lab. report no(s).: 16-20400

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG
								Location & Depth	BH01	BH01	BH02	BH02	WS01	WS01	WS03	WS03	WS04	WS05	WS08	WS11	WS11	WS12	WS12
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**0.1**	**0.4**	**0.1**	**0.5**	**0.4**	**1**	**0.2**	**0.6**	**0.3**	**0.1**	**0.3**	**0.4**	**0.8**	**0.3**	**0.6**
Arsenic	1	23	6.9	190	0	640	110.3619	POTENTIALLY SUITABLE FOR USE	33	33	41	35	94	23	54	29	41	22	25	120	190	120	170
Beryllium	0.06	23	0.12	6.1	0	390	3.332359	POTENTIALLY SUITABLE FOR USE	1.4	1.5	0.84	1.4	3	0.42	1.5	1.2	1.4	1.2	0.12	3.3	6.1	4.5	4.9
Boron	0.2	23	0.2	2.7	0	190000	1.379209	POTENTIALLY SUITABLE FOR USE	1.5	0.8	0.7	0.9	0.6	0.3	1.3	1.3	1.3	0.9	0.5	0.7	0.6	0.6	0.7
Cadmium	0.2	23	0.2	0.2	0	220	0.2	POTENTIALLY SUITABLE FOR USE	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Chromium (III)	1	23	3.8	330	0	8400	172.5817	POTENTIALLY SUITABLE FOR USE	64	62	38	53	170	25	75	67	67	36	6	170	330	260	280
Chromium (VI)	1.2	23	1.2	1.2	0	33	1.2	POTENTIALLY SUITABLE FOR USE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Copper	1	23	1	17	0	69000	10.25202	POTENTIALLY SUITABLE FOR USE	8.8	5.4	15	12	1	1	10	6.2	6.4	11	5.1	1	1	1	1
Lead	2	23	2.7	81	0	2330	36.66603	POTENTIALLY SUITABLE FOR USE	52	34	28	23	8.7	9.1	34	39	25	15	4.6	9.4	10	6.7	7.7
Mercury, inorganic	0.3	23	0.3	0.3	0	3600	0.3	POTENTIALLY SUITABLE FOR USE	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nickel	2	23	4.8	130	0	1700	81.58099	POTENTIALLY SUITABLE FOR USE	35	40	18	43	63	12	48	28	38	36	4.9	80	130	120	130
Selenium	1	23	1	2.7	0	13000	1.78568	POTENTIALLY SUITABLE FOR USE	1.7	1	1	1.2	1	1	1.8	1	1.2	1	1	1	2.4	1.3	2.3
Vanadium	1	23	20	680	0	9000	338.2421	POTENTIALLY SUITABLE FOR USE	87	98	71	92	270	50	150	100	100	69	20	350	680	480	600
Zinc	2	23	11	230	0	670000	153.7134	POTENTIALLY SUITABLE FOR USE	100	89	75	93	160	27	110	100	90	77	20	140	220	150	210
Cyanide (free)	1	23	1	1	0	16000	1	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Phenol (total)	2	23	1	1	0	760	1	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Acenaphthene	0.05	23	0.1	0.67	0	84000	0.232835	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.67	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Acenaphthylene	0.05	23	0.1	0.1	0	83000	0.1	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Anthracene	0.05	23	0.1	1.4	0	520000	0.411342	POTENTIALLY SUITABLE FOR USE	0.1	0.1	1.4	0.12	0.21	0.1	0.1	0.15	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Benz(a)anthracene	0.05	23	0.1	6.6	0	86	1.810295	POTENTIALLY SUITABLE FOR USE	0.1	0.1	6.6	0.79	1.3	0.1	0.1	1.4	0.1	0.1	0.25	0.1	0.1	0.1	0.1
Benzo(a)pyrene	0.05	23	0.1	5.1	0	14	1.895671	POTENTIALLY SUITABLE FOR USE	0.1	0.1	5	0.8	0.76	0.1	0.1	5.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Benzo(b)fluoranthene	0.05	23	0.1	7.7	0	97	2.41864	POTENTIALLY SUITABLE FOR USE	0.1	0.1	7.7	1.2	1.2	0.1	0.1	4.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Benzo(ghi)perylene	0.05	23	0.05	5.5	0	630	1.660019	POTENTIALLY SUITABLE FOR USE	0.05	0.05	3.4	0.52	0.6	0.05	0.05	5.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzo(k)fluoranthene	0.05	23	0.1	2.9	0	140	1.108083	POTENTIALLY SUITABLE FOR USE	0.1	0.1	2.9	0.44	1.1	0.1	0.1	2.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Chrysene	0.05	23	0.05	5	0	140	1.428604	POTENTIALLY SUITABLE FOR USE	0.05	0.05	5	0.7	1.3	0.05	0.05	1.5	0.05	0.05	0.2	0.05	0.05	0.05	0.05
Dibenz(a,h)anthracene	0.05	23	0.1	0.77	0	12	0.33201	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.76	0.1	0.1	0.1	0.1	0.77	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Fluoranthene	0.05	23	0.1	11	0	23000	2.974213	POTENTIALLY SUITABLE FOR USE	0.1	0.1	11	1.2	2.7	0.1	0.1	1.3	0.1	0.1	0.51	0.1	0.1	0.1	0.1
Fluorene	0.05	23	0.1	0.76	0	63000	0.253809	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.76	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Indeno(1,2,3,cd)pyrene	0.05	23	0.1	3.2	0	58	1.208948	POTENTIALLY SUITABLE FOR USE	0.1	0.1	3.2	0.41	0.5	0.1	0.1	3.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Naphthalene	0.05	23	0.05	0.05	0	190	0.05	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Phenanthrene	0.05	23	0.1	6	0	22000	1.591926	POTENTIALLY SUITABLE FOR USE	0.1	0.1	6	0.53	1.2	0.1	0.1	0.32	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Pyrene	0.05	23	0.1	8.6	0	54000	2.33085	POTENTIALLY SUITABLE FOR USE	0.1	0.1	8.6	0.93	1.9	0.1	0.1	1.3	0.1	0.1	0.39	0.1	0.1	0.1	0.1
Asbestos identified	Y/N								N	N	N	Y	N	N	N	Y	N	N	N	N	N	N	N
FOC (dimensionless)	0.005413	**(mean)**							0.023	0.0042	0.015	0.0056	0.0021	0.001	0.011	0.016	0.0074	0.0072	0.001	0.0017	0.0017	0.001	0.0018
SOM (calculated)	0.93%	**(mean)**							3.97%	0.72%	2.59%	0.97%	0.36%	0.17%	1.90%	2.76%	1.28%	1.24%	0.17%	0.29%	0.29%	0.17%	0.31%
pH (su)	8.5	**(mean)**							7.9	8.3	8.3	8.4	8.2	8.8	8.2	8.5	8.4	8.6	8.5	8.3	8	8	8.2

Risk parameter: Human health - commercial (1%SOM)
Data set: Made Ground
Client: DB Symmetry Limited
Site: Kraft Phase 2
Job no.: C161279
Lab. report no(s).: 16-20400

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC).
MG denotes Made Ground
NAT denotes natural ground

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	MG	MG	MG	MG	MG	MG	MG	MG
								Location & Depth	WS13	WS13	WS15	WS16	WS18	WS23	WS23	WS26
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**0.3**	**0.6**	**0.3**	**0.3**	**0.3**	**0.2**	**0.7**	**0.2**
Arsenic	1	23	6.9	190	0	640	110.3619	POTENTIALLY SUITABLE FOR USE	23	54	6.9	25	37	33	170	8.4
Beryllium	0.06	23	0.12	6.1	0	390	3.332359	POTENTIALLY SUITABLE FOR USE	0.33	1.3	0.12	0.77	1.4	1.4	3.9	0.31
Boron	0.2	23	0.2	2.7	0	190000	1.379209	POTENTIALLY SUITABLE FOR USE	0.3	0.4	0.2	0.5	1.7	2.7	0.9	0.5
Cadmium	0.2	23	0.2	0.2	0	220	0.2	POTENTIALLY SUITABLE FOR USE	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Chromium (III)	1	23	3.8	330	0	8400	172.5817	POTENTIALLY SUITABLE FOR USE	11	78	3.8	42	50	39	120	11
Chromium (VI)	1.2	23	1.2	1.2	0	33	1.2	POTENTIALLY SUITABLE FOR USE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Copper	1	23	1	17	0	69000	10.25202	POTENTIALLY SUITABLE FOR USE	8	1	11	1	17	1	1	3.4
Lead	2	23	2.7	81	0	2330	36.66603	POTENTIALLY SUITABLE FOR USE	5.5	5.2	2.7	4.9	81	14	23	6.5
Mercury, inorganic	0.3	23	0.3	0.3	0	3600	0.3	POTENTIALLY SUITABLE FOR USE	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nickel	2	23	4.8	130	0	1700	81.58099	POTENTIALLY SUITABLE FOR USE	13	30	4.8	22	32	23	98	7
Selenium	1	23	1	2.7	0	13000	1.78568	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1.6	2.7	1
Vanadium	1	23	20	680	0	9000	338.2421	POTENTIALLY SUITABLE FOR USE	34	130	23	78	95	84	220	20
Zinc	2	23	11	230	0	670000	153.7134	POTENTIALLY SUITABLE FOR USE	28	57	11	39	90	53	230	19
Cyanide (free)	1	23	1	1	0	16000	1	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1
Phenol (total)	2	23	1	1	0	760	1	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1	1	1	1
Acenaphthene	0.05	23	0.1	0.67	0	84000	0.232835	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Acenaphthylene	0.05	23	0.1	0.1	0	83000	0.1	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Anthracene	0.05	23	0.1	1.4	0	520000	0.411342	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.13	0.1	0.1	0.1	0.1
Benz(a)anthracene	0.05	23	0.1	6.6	0	86	1.810295	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.34	0.5	0.1	0.36	0.1	0.1
Benzo(a)pyrene	0.05	23	0.1	5.1	0	14	1.895671	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.17	0.35	0.1	0.23	0.1	0.1
Benzo(b)fluoranthene	0.05	23	0.1	7.7	0	97	2.41864	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.24	0.6	0.1	0.39	0.1	0.1
Benzo(ghi)perylene	0.05	23	0.05	5.5	0	630	1.660019	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Benzo(k)fluoranthene	0.05	23	0.1	2.9	0	140	1.108083	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.22	0.24	0.1	0.25	0.1	0.1
Chrysene	0.05	23	0.05	5	0	140	1.428604	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.33	0.44	0.05	0.31	0.05	0.05
Dibenz(a,h)anthracene	0.05	23	0.1	0.77	0	12	0.33201	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Fluoranthene	0.05	23	0.1	11	0	23000	2.974213	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.64	0.92	0.1	0.76	0.1	0.1
Fluorene	0.05	23	0.1	0.76	0	63000	0.253809	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Indeno(1,2,3,cd)pyrene	0.05	23	0.1	3.2	0	58	1.208948	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Naphthalene	0.05	23	0.05	0.05	0	190	0.05	POTENTIALLY SUITABLE FOR USE	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Phenanthrene	0.05	23	0.1	6	0	22000	1.591926	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.21	0.65	0.1	0.32	0.1	0.1
Pyrene	0.05	23	0.1	8.6	0	54000	2.33085	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.48	0.67	0.1	0.59	0.1	0.1
Asbestos identified	Y/N								N	N	N	N	N	N	N	N
FOC (dimensionless)	0.005413	**(mean)**							0.001	0.0014	0.001	0.001	0.014	0.0016	0.0024	0.0024
SOM (calculated)	0.93%	**(mean)**							0.17%	0.24%	0.17%	0.17%	2.41%	0.28%	0.41%	0.41%
pH (su)	8.5	**(mean)**							8.5	8.2	8.7	8.6	8.1	10.2	8.6	9

Risk parameter: Human health - commercial (1%SOM)
Data set: Made Ground
Client: DB Symmetry Limited
Site: Kraft Phase 2
Job no.: C161279
Lab. report no(s).: 16-20400

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	RTD	RTD	CHM	TS	RTD								
								Location & Depth	BH03	BH03	WS09	WS21	WS26								
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**0.60**	**1.00**	**1.10**	**0.30**	**0.50**								
Benzene	0.001	5	0.001	0.001	0	27	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001								
Toluene	0.001	5	0.001	0.001	0	870	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001								
Ethylbenzene	0.001	5	0.001	0.001	0	520	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001								
Xylene, o-	0.001	5	0.001	0.001	0	480	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001								
Xylene, m- & p-	0.001	5	0.001	0.001	0	580	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001								
MTBE	0.001	5	0.001	0.001	0	7500	0.001	POTENTIALLY SUITABLE FOR USE	0.001	0.001	0.001	0.001	0.001								
Iso-propylbenzene	0.01	0	0	0	0	390															
Propylbenzene	0.01	0	0	0	0	400															
1,2,4-Trimethylbenzene	0.01	0	0	0	0	39															
Bromobenzene	0.01	0	0	0	0	92															
Chlorobenzene	0.01	0	0	0	0	56															
1,2-Dichlorobenzene	0.01	0	0	0	0	570															
1,3-Dichlorobenzene	0.01	0	0	0	0	30															
1,4-Dichlorobenzene	0.01	0	0	0	0	230															
Hexachlorobenzene	0.01	0	0	0	0	0.2															
Pentachlorobenzene	0.01	0	0	0	0	640															
1,2,3-trichlorobenzene	0.01	0	0	0	0	100															
1,2,4-trichlorobenzene	0.01	0	0	0	0	220															
1,3,5-trichlorobenzene	0.01	0	0	0	0	23															
1,2,3,4-tetrachlorobenzene	0.01	0	0	0	0	120															
1,2,3,5-tetrachlorobenzene	0.01	0	0	0	0	39															
1,2,4,5-tetrachlorobenzene	0.01	0	0	0	0	20															

Risk parameter: Human health - commercial (1%SOM)
Data set: NAT
Client: Db Symmetry Limited
Site: Kraft Phase 2
Job no.: C161279
Lab. report no(s).: 16-20400

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC).
MG denotes Made Ground
NAT denotes natural ground

Assessment of Chemicals of Potential Concern to Human Health

Hydrock

All values in mg/kg unless otherwise stated

Chemical of Potential Concern	Lab. RL	No. Samples	Min. Value	Max. Value	No. Samples > or = GAC	GAC	US_{95}	Result of Significance Test	RTD BH03 0.60	RTD BH03 1.00	CHM WS09 1.10	TS WS21 0.30	RTD WS26 0.50
Aliphatics EC5-EC6	0.01	5	0.1	0.1	0	300	0.1	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1
Aliphatics >EC6-EC8	0.01	5	0.1	0.1	0	140	0.1	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1
Aliphatics >EC8-EC10	0.01	5	0.1	0.1	0	78	0.1	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1
Aliphatics >EC10-EC12	0.01	5	1	1	0	48	1	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1
Aliphatics >EC12-EC16	0.1	5	2	2	0	24	2	POTENTIALLY SUITABLE FOR USE	2	2	2	2	2
Aliphatics >EC16-EC35	0.1	5	10	10	0	1000000	10	POTENTIALLY SUITABLE FOR USE	10	10	10	10	10
Aliphatics >EC35-EC44	0.1	5	8.4	8.4	0	1000000	8.4	POTENTIALLY SUITABLE FOR USE	8.4	8.4	8.4	8.4	8.4
Aromatics EC5-EC7	0.01	5	0.1	0.1	0	1200	0.1	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1
Aromatics >EC7-EC8	0.01	5	0.1	0.1	0	870	0.1	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1
Aromatics >EC8-EC10	0.01	5	0.1	0.1	0	610	0.1	POTENTIALLY SUITABLE FOR USE	0.1	0.1	0.1	0.1	0.1
Aromatics >EC10-EC12	0.01	5	1	1	0	360	1	POTENTIALLY SUITABLE FOR USE	1	1	1	1	1
Aromatics >EC12-EC16	0.1	5	2	2	0	36000	2	POTENTIALLY SUITABLE FOR USE	2	2	2	2	2
Aromatics >EC16-EC21	0.1	5	10	10	0	28000	10	POTENTIALLY SUITABLE FOR USE	10	10	10	10	10
Aromatics >EC21-EC35	0.1	5	10	29	0	28000	30.368	POTENTIALLY SUITABLE FOR USE	10	10	29	10	10
Aromatics >EC35-EC44	0.1	5	8.4	64	0	28000	68.0032	POTENTIALLY SUITABLE FOR USE	8.4	8.4	64	8.4	8.4

ADDITIVITY CHECK		RTD BH03 0.60	RTD BH03 1.00	CHM WS09 1.10	TS WS21 0.30	RTD WS26 0.50
		HAZARD QUOTIENTS FOR EACH FRACTION				
	Aliphatics EC5-EC6	0.000	0.000	0.000	0.000	0.000
	Aliphatics >EC6-EC8	0.001	0.001	0.001	0.001	0.001
Considered additive	Aliphatics >EC8-EC10	0.001	0.001	0.001	0.001	0.001
Considered additive	Aliphatics >EC10-EC12	0.021	0.021	0.021	0.021	0.021
Considered additive	Aliphatics >EC12-EC16	0.083	0.083	0.083	0.083	0.083
	Aliphatics >EC16-EC35	0.000	0.000	0.000	0.000	0.000
	Aliphatics >EC35-EC44	0.000	0.000	0.000	0.000	0.000
	Aromatics EC5-EC7	0.000	0.000	0.000	0.000	0.000
	Aromatics >EC7-EC8	0.000	0.000	0.000	0.000	0.000
Considered additive	Aromatics >EC8-EC10	0.000	0.000	0.000	0.000	0.000
Considered additive	Aromatics >EC10-EC12	0.003	0.003	0.003	0.003	0.003
Considered additive	Aromatics >EC12-EC16	0.000	0.000	0.000	0.000	0.000
Considered additive	Aromatics >EC16-EC21	0.000	0.000	0.000	0.000	0.000
Considered additive	Aromatics >EC21-EC35	0.000	0.000	0.001	0.000	0.000
	Aromatics >EC35-EC44	0.000	0.000	0.002	0.000	0.000
	Hazard Index for ali>C8-C16	**0.105**	**0.105**	**0.105**	**0.105**	**0.105**
	Hazard Index for aro>C8-C16	**0.003**	**0.003**	**0.003**	**0.003**	**0.003**
	Hazard Index for aro>C16-C35	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**

Risk parameter: Human health - commercial (1%SOM)
Data set: NAT
Client: Db Symmetry Limited
Site: Kraft Phase 2
Job no.: C161279
Lab. report no(s).: 16-20400

Legend: Hazard Index table - HI or HQ greater than 1 highlighted with yellow shading.
Main table values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Main table alues in red are equal to, or greater than, the generic assessment criterion (GAC).
MG denotes Made Ground
NAT denotes natural ground

Assessment of Chemicals of Potential Concern to Plant Life

Hydrock

All values in mg/kg unless otherwise stated								Soil Type	RTD	RTD	AL	AL	RTD	TS	RTD	CHM	RTD	CHM	TS	RTD	TS	RTD
								Location & Depth	BH03	BH03	BH04	BH04	WS05	WS07	WS07	WS09	WS15	WS16	WS20	WS21	WS21	WS26
Chemical of Potential Concern	**Lab. RL**	**No. Samples**	**Min. Value**	**Max. Value**	**No. Samples > or = GAC**	**GAC**	**US_{95}**	**Result of Significance Test**	**0.6**	**1**	**0.6**	**1.1**	**0.5**	**0.1**	**0.4**	**1.1**	**0.6**	**0.7**	**0.25**	**0.7**	**0.3**	**0.5**
Arsenic	1	14	14	120	0	250	67.17929	POTENTIALLY SUITABLE FOR USE	36	32	23	18	26	45	39	23	120	14	42	39	41	20
Boron	0.2	14	0.6	3.1	1	3	1.879485	POTENTIALLY SUITABLE FOR USE	1.3	1.1	3.1	1.3	1.2	0.7	0.6	1	0.6	1.2	1.1	1	1.1	1.2
Chromium (III)	1	14	37	170	0	400	99.93113	POTENTIALLY SUITABLE FOR USE	63	61	59	41	50	55	37	52	170	46	65	66	59	50
Chromium (VI)	1.2	14	1.2	1.2	0	25	1.2	POTENTIALLY SUITABLE FOR USE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Copper	1	14	1	41	0	135	26.27617	POTENTIALLY SUITABLE FOR USE	25	9.4	41	10	7.8	10	5.9	18	1	24	13	18	9	9.2
Nickel	2	14	24	69	0	75	55.88921	POTENTIALLY SUITABLE FOR USE	35	36	29	32	38	31	25	55	69	64	42	40	39	24
Zinc	2	14	59	120	0	300	115.4472	POTENTIALLY SUITABLE FOR USE	92	89	98	75	84	97	65	100	110	120	110	110	110	59
	Mean																					
pH (su)	7.9								8.2	8	7.4	8.3	8	7.4	7.8	8.1	8.3	7.5	7.3	8	8	7.8

Risk parameter: Plant life pH 7
Data set: Natural
Client: DB Symmetry Limited
Site: Kraft Phase 2
Job no.: C161279
Lab. report no(s).: 16-20400

Legend: Values in blue are at or below the laboratory reporting limit (where a single value is indicated) and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
Values in red are equal to, or greater than, the generic assessment criterion (GAC).
MG denotes Made Ground
NAT denotes natural ground

Scenario B - Summary of Remedial Targets Methodology

Hydrock

RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples

Water body receptor(s): Groundwater and surface water
Secondary receptor(s): Aquatic ecosystem
Data set: Groundwater
Client: DB Symmetry Ltd
Site: Kraft Phase 2
Job no: C161279

2008/105/EC Annex II: [P]= priority substance, [PH] = priority hazardous substances.

Chemicals of Potential Concern (concentrations in µg/l)	Summary of Sample Data					Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red Text)		No. Samples Exceeding Water Quality Target		Notes
	No. of Samples	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		Inland Waters EQS		Inland Waters EQS		EQS compared to dissolved metals as an initial screen, with no adjustment for bioavailability or ABC.
Hardness as mg/l CaCO3	-	-	200	-	-	-	-				Used with some EQS.
Ag (dissolved)	5	0	0.05	0.05	0.05	0.05	0.05		0		
Al (dissolved)	5	0	5.6	878	776.6	878	n/a		0		
As (dissolved)	5	0	0.15	2.16	2.05	2.16	50		0		
B (dissolved)	0	0	0	0		0	2000		0		
Ba (dissolved)	5	0	5.8	65	62.2	65	n/a		0		
Cd (dissolved) [PH]	5	0	0.02	0.02	0.02	0.02	0.25		0		
Co (dissolved)	5	0	0.2	2.5	2.38	2.5	3		0		
Cr (VI) (dissolved)	5	0	5	5	5	5	3.4		5		
Cr (III) (dissolved)	5	0	1	2.6	2.28	2.6	4.7		0		
Cr (total) (dissolved)	5	0	0.2	2.6	2.26	2.6	n/a		0		
Cu (dissolved)	5	0	0.5	4.6	4.28	4.6	1		3		EQS based on bioavailable fraction.
Fe (dissolved)	0	0	0	0		0	1000		0		
Hg (dissolved) [PH]	0	0	0	0		0	0.07		0		
Mn (dissolved)	5	0	6.3	270	231.4	270	123		1		EQS based on bioavailable fraction.
Mo (dissolved)	5	0	1.1	7.9	7.1	7.9	n/a		0		
Na (dissolved)	0	0	0	0		0	n/a		0		
Ni (dissolved) [P]	5	0	1.5	8.2	7.72	8.2	4		2		EQS based on bioavailable fraction.
Pb (dissolved) [P]	5	0	0.2	0.6	0.54	0.6	1.2		0		EQS based on bioavailable fraction.
Sb (dissolved)	5	0	0.7	2.7	2.48	2.7	n/a		0		
Se (dissolved)	5	0	0.6	51	44.4	51	n/a		0		
Sn (dissolved)	5	0	0.2	0.45	0.448	0.45	25		0		
V (dissolved)	5	0	0.2	11	10.38	11	60		0		
Zn (dissolved)	5	0	0.5	6.2	5.16	6.2	10.9		0		EQS based on bioavailable fraction and is added to ambient background conc..
Cyanide (free)	5	0	10	10	10	10	1		5		
Cyanide (total)	5	0	10	10	10	10	n/a		0		
Ammonium (NH4+)	5	0	15	130	107	130	n/a		0		
Bromate (BrO3)	5	0	2	2	2	2	n/a		0		
Chloride (Cl-)	5	0	8800	220000	186200	220000	250000		0		
Fluoride (F-)	5	0	390	950	874	950	5000		0		
Nitrate (NO3-)	5	0	3140	9140	9012	9140	n/a		0		
Nitrite (NO2-)	5	0	31	320	306	320	n/a		0		
Sulfate (SO42-)	5	0	8700	110000	104900	110000	400000		0		
pH (min.) (su)	5	0	7.9	7.4	7.9	7.4	6.0		0		Max & Min interchanged to compare min. value.
pH (max.) (su)	5	0	7.4	7.9	7.9	7.9	9.0		0		

Scenario B - Summary of Remedial Targets Methodology

Hydrock

RTM Level 2 - Groundwater Beneath Source Assessment - groundwater samples

Water body receptor(s): Groundwater and surface water
Secondary receptor(s): Aquatic ecosystem
Data set: Groundwater
Client: DB Symmetry Ltd
Site: Kraft Phase 2
Job no: C161279

2008/105/EC Annex II: [P]= priority substance, [PH] = priority hazardous substances.

Chemicals of Potential Concern (concentrations in µg/l)	Summary of Sample Data					Value Being Compared to Target = Maximum Value	Water Quality Target (Exceeded if Red Text)		No. Samples Exceeding Water Quality Target		Notes
	No. of Samples	Limit of Detection	Minimum Value	Maximum Value	95-%ile Value		Inland Waters EQS		Inland Waters EQS		EQS compared to dissolved metals as an initial screen, with no adjustment for bioavailability or ABC.
Electrical conductivity (µS/cm)	5	0	530	1500	1400	1500	n/a		0		
Anthracene [PH]	0	0	0	0		0	0.1		0		
Benzo(a)pyrene [PH]	0	0	0	0		0	0.00017		0		
Fluoranthene [P]	0	0	0	0		0	0.0063		0		
Naphthalene [P]	0	0	0	0		0	2		0		
PAHs = sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene [PH]	5	0	0.02	0.02	0.02	0.02	n/a		0		
Phenol	5	0	0.5	0.5	0.5	0.5	7.7		0		

Appendix G

Waste Classification

Nathan Thompson
Hydrock Consultants Ltd
2-4 Hawthorne Park
Holdenby Road
Spratton
Northamptonshire
NN6 8LD

t: 01604842888
f: 01604842666
e: nathanthompson@hydrock.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 16-20403

Project / Site name:	Kraft Phase 2	**Samples received on:**	10/06/2016
Your job number:	C161279	**Samples instructed on:**	17/06/2016
Your order number:	N9203-C161279	**Analysis completed by:**	23/06/2016
Report Issue Number:	1	**Report issued on:**	23/06/2016
Samples Analysed:	4 wac multi samples		

Signed:

Rexona Rahman
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Dr Irma Doyle
Senior Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

i2 Analytical
7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	**16-20403**						
					Client:	**HYDROCK**	
Location	**Kraft Phase 2**						
Lab Reference (Sample Number)	589361				**Landfill Waste Acceptance Criteria**		
					Limits		
Sampling Date	31/05/2016				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH02						
Depth (m)	0.10						
Solid Waste Analysis							
TOC (%)**	1.5				3%	5%	6%
Loss on Ignition (%) **	5.4				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg)	69				500	--	--
Total PAH (WAC-17) (mg/kg)	65				100	--	--
pH (units)**	7.5				--	>6	--
Acid Neutralisation Capacity (mol / kg)	14				--	To be evaluated	To be evaluated
Eluate Analysis	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test		
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.048	0.051		0.50	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0049	0.0038		0.039	0.5	10	70
Copper *	0.016	0.0066		0.080	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0048	< 0.0030		< 0.020	0.5	10	30
Nickel *	0.0030	0.0026		0.026	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.039	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	0.011	< 0.010		0.071	0.1	0.5	7
Zinc *	0.0024	0.0076		0.069	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	4000	25000
Fluoride	2.0	0.70		8.8	10	150	500
Sulphate *	12	2.4		37	1000	20000	50000
TDS	5100	260		9500	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	16	8.3		94	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.44						
Dry Matter (%)	84						
Moisture (%)	16						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.25						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

*= UKAS accredited (liquid eluate analysis only)
** = MCERTS accrediited

i2 Analytical
7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	**16-20403**						
					Client:	**HYDROCK**	
Location	**Kraft Phase 2**						
Lab Reference (Sample Number)	589362				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	06/06/2016				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH04						
Depth (m)	0.60						
Solid Waste Analysis							
TOC (%)**	2.4				3%	5%	6%
Loss on Ignition (%) **	9.0				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	7.5				--	>6	--
Acid Neutralisation Capacity (mol / kg)	3.7				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic *	0.016	< 0.010		0.051	0.5	2	25
Barium *	0.054	0.026		0.28	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.014	0.0041		0.049	0.5	10	70
Copper *	0.069	0.020		0.24	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0096	< 0.0030		0.028	0.5	10	30
Nickel *	0.013	0.0043		0.051	0.4	10	40
Lead *	0.037	0.016		0.18	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.016	0.0064		0.073	4	50	200
Chloride *	30	< 4.0		62	800	4000	25000
Fluoride	0.96	0.46		5.0	10	150	500
Sulphate *	44	9.4		130	1000	20000	50000
TDS	110	70		740	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	83	17		230	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.54						
Dry Matter (%)	78						
Moisture (%)	22						
Stage 1							
Volume Eluate L2 (litres)	0.31						
Filtered Eluate VE1 (litres)	0.16						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
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** = MCERTS accrediited

i2 Analytical
7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	**16-20403**						
					Client:	**HYDROCK**	
Location	**Kraft Phase 2**						
Lab Reference (Sample Number)	589363				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	08/06/2016				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS09						
Depth (m)	1.10						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	3.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	3.1				100	--	--
pH (units)**	7.1				--	>6	--
Acid Neutralisation Capacity (mol / kg)	1.2				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.071	0.048		0.51	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0062	0.0012		0.019	0.5	10	70
Copper *	0.0074	< 0.0030		0.033	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.060	0.0070		0.14	0.5	10	30
Nickel *	0.021	0.012		0.13	0.4	10	40
Lead *	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		0.023	0.06	0.7	5
Selenium *	0.026	< 0.010		0.11	0.1	0.5	7
Zinc *	0.0025	0.0025		0.025	4	50	200
Chloride *	25	13		140	800	4000	25000
Fluoride	3.1	0.76		11	10	150	500
Sulphate *	160	84		950	1000	20000	50000
TDS	140	80		880	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	5.0	4.1		42	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.55						
Dry Matter (%)	81						
Moisture (%)	19						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.24						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
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i2 Analytical
7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results

Report No:	**16-20403**						
					Client:	**HYDROCK**	
Location	**Kraft Phase 2**						
Lab Reference (Sample Number)	589364				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	03/06/2016				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS12						
Depth (m)	0.30						
Solid Waste Analysis							
TOC (%)**	< 0.1				3%	5%	6%
Loss on Ignition (%) **	7.4				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	< 1.6				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mol / kg)	16				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
	mg/l	mg/l		mg/kg			
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.055	0.015		0.21	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0033	0.0054		0.051	0.5	10	70
Copper *	0.0057	< 0.0030		0.030	2	50	100
Mercury *	0.0019	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	< 0.0030	< 0.0030		< 0.020	0.5	10	30
Nickel *	0.0015	0.0018		0.017	0.4	10	40
Lead *	< 0.0050	< 0.0050		< 0.020	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	0.011	< 0.010		0.075	0.1	0.5	7
Zinc *	0.0045	< 0.0010		< 0.020	4	50	200
Chloride *	5.6	< 4.0		< 15	800	4000	25000
Fluoride	1.6	0.78		9.0	10	150	500
Sulphate *	36	4.6		92	1000	20000	50000
TDS	120	80		860	4000	60000	100000
Phenol Index (Monhydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	10	3.5		44	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.0						
Dry Matter (%)	84						
Moisture (%)	16						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.26						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

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Analytical Report Number : 16-20403

Project / Site name: Kraft Phase 2

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
589361	BH02	None Supplied	0.10	Brown loam and clay with gravel.
589362	BH04	None Supplied	0.60	Brown loam and clay with gravel.
589363	WS09	None Supplied	1.10	Grey clay.
589364	WS12	None Supplied	0.30	Brown loam and sand with gravel.

Analytical Report Number : 16-20403

Project / Site name: Kraft Phase 2

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	NONE
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L047-PL	D	MCERTS
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
Mineral Oil in Soil	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Seciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031-PL	W	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS

Analytical Report Number : 16-20403

Project / Site name: Kraft Phase 2

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

The results included within the report are representative of the samples submitted for analysis.

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
BH02		M	16-20403	589361	c	BTEX (Sum of BTEX compounds) in soil	L073B-PL	c
BH02		M	16-20403	589361	c	BTEX in soil (Monoaromatics)	L073B-PL	c
BH02		M	16-20403	589361	c	Organic Matter (Raw data) in soil	L023-PL	c

Our Ref: 70038703/TA/Final

20 October 2017

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Paloma Capital LLP
Henry Wood House
2 Riding House Street
London
W1W 7FA

6 Devonshire Square
London
EC2M 4YE
UK

Tel: +44 (0) 2031 166 000

www.wsp.com

Dear Sirs,

Subject: Re: Kraft, Southam Road, Banbury, Oxfordshire, OX16 2EP ("the site") – High Level Peer Review of Selected Third Party Information

WSP UK Ltd (WSP) was instructed by Paloma Capital LLP (the Client) to conduct a high level peer review of existing third party information, for the above referenced site. The peer review relates to environmental aspects of the site condition; primarily land contamination and flood risk considerations.

The information below has been provided for review by the Client; it should be noted however that WSP cannot warrant the work of others, and takes the following information as being true and representative. Geotechnical considerations are beyond the scope of this assessment.

- ***Flood Risk Assessment, Southam Road Retail Park, Banbury****, by Peter Brett Associates LLP on behalf of Kraft Foods UK Ltd and Barwood Developments Ltd, dated March 2012, Ref.* 26004/005
- ***Ground Conditions Desk Study, Kraft Phase 2, Banbury****, by Hydrock on behalf of db symmetry* ***Limited****, dated April 2016,* Ref: R/161279/001, Final
- ***Ground Investigation, Kraft Phase 2, Banbury****, by Hydrock on behalf of db symmetry Limited, dated July 2016,* Ref: R/161279/002, Final

Based on information provided to WSP by the Client, it is understood that the site forms the disused southern part of the existing Kraft factory site. Furthermore, that the Client is considering the forwarding funding of the proposed commercial / industrial development of the site (although no specific development proposals have been provided), and ultimate purchase of the freehold interest of the Site which is subject to leasehold interests.

With high level reference to Cherwell (North Oxfordshire) District Council planning portal, the following notable planning application history relating to redevelopment of the subject site has been noted. Only one Condition (18) has been identified relating to potential ground contamination, associated with the most recent May 2015 application (provided below); which concerns unexpected ground contamination that might be identified during redevelopment i.e. no apparent requirement for a desk study, intrusive investigation and remediation strategy/plan as a precursor to development. Aside from standard conditions relating to implementation of appropriate surface and foul drainage associated with the proposed development in May 2015, no conditions relating to flood risk are noted.

- ***Conditionally Approved Planning Application Ref. 05/02370/F, Resubmission of 04/02201/F - Demolition of existing obsolete building and construction of new process building in same area; Kraft Foods UK Ltd Ruscote Avenue Banbury Oxon OX16 2QU, Dec 2005***

- ***Conditionally Approved Planning Application Ref. 15/00831/F, Proposed development of a new Waitrose food store with car parking and access arrangement onto Southam Road. Demolition of existing building; Land at Kraft Foods Southam Road Banbury, May 2015***

  Contaminated Land Condition 18 within associated Decision Notice:

  'If, during development, contamination is found to be present at the site then no further development (unless otherwise agreed in writing with the local planning authority) shall be carried out until the developer has submitted a remediation strategy to the local planning authority detailing how this unsuspected contamination shall be dealt with and obtained written approval from the Local Planning Authority. The remediation strategy shall be implemented as approved.

  Reason - To ensure that any unexpected contamination encountered during the developments is suitable assessed and dealt with, such that it does not pose an unacceptable risk to ground or surface water.'

SITE DESCRIPTION AND HISTORY

The site occupies an area of c.6.1 hectares and is located off the A361, Southam Road, Banbury. It is currently disused and comprises a warehouse (previously used as a storage area for Kraft), part of the existing Kraft factory (in the centre and north), with a lorry park and wash in the west, a large car park in the east, an electricity sub-station in the south-west, and grassed areas in the south and north-west (*see Figure 1*).

Bird Brook flows from the west to the east in the north-west corner of the site before being culverted (four pipes) below the warehouse, exiting on the eastern side of the warehouse (from two pipes) before flowing into the River Cherwell approximately 500m to the east. The site slopes slightly down from the west to the east with an approximate 4m drop from the car park to the warehouse.

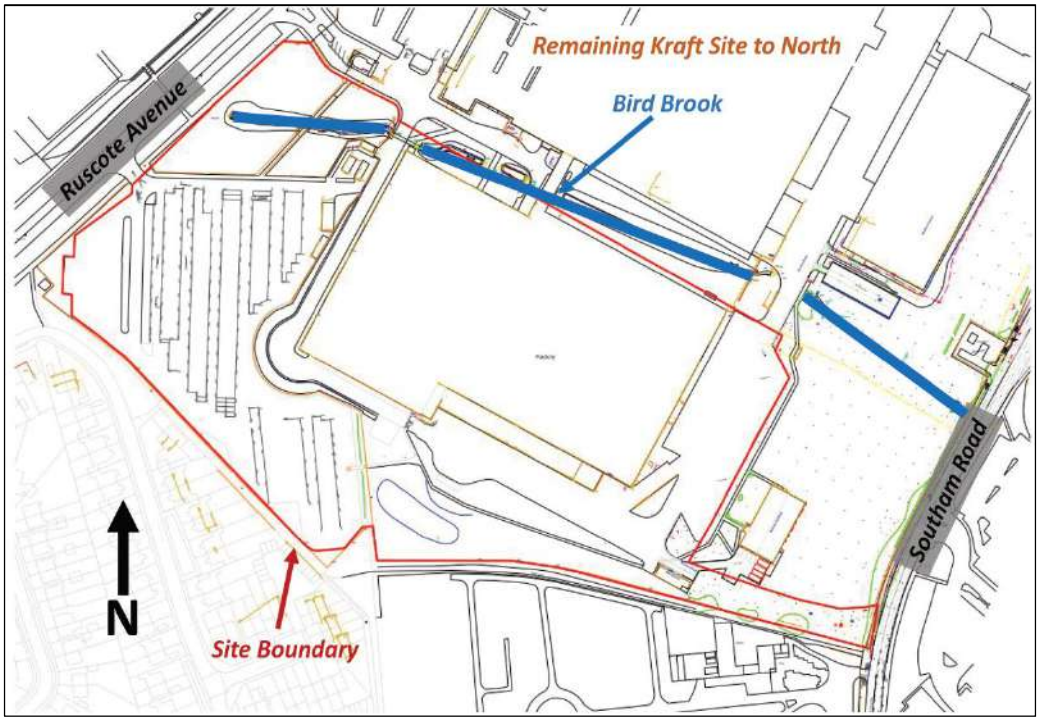


Figure 1 – Approximate Existing Site Layout

Historically, the site is reported to have been fields with Bird Brook in the north-west corner of the site from the earliest available mapping (1881). By 1965, an industrial building (food processing plant) was shown in the centre of the site (part of the larger Kraft factory extending off-site to the north), and a car park in the west by 1984.

The Hydrock desk study assessment identified the following potential key contaminant sources on-site:

- Polychlorinated biphenyls 'PCBs' associated with the electricity sub-station in the south-east of the site;
- Hydrocarbon fuels, lubricant and chlorinated solvents associated with the industrial building;
- Made Ground possibly including metals, metalloids, asbestos, polycyclic aromatic hydrocarbons 'PAHs' and petroleum hydrocarbons; and,
- Ground gases (carbon dioxide and methane) from alluvial soils.

Potential off-site sources of contamination were indicated to be tanks (unspecified) associated with the Kraft factory to the north of the site.

GEOLOGY, HYDROGEOLOGY AND HYDROLOGY

With reference to British Geological Society (BGS) Map Sheet 201, Banbury, the site is indicated to be underlain by Lower Lias Clay bedrock (now referred to as the 'Charmouth Mudstone Formation) which is indicated to comprise dark grey laminated shales and dark, pale and blueish grey mudstones with occasional limestone beds and local concretions, and exhibiting thickness in the order of 75m to 110m.

No superficial deposits are shown to be present on-site, although alluvium deposits (silty clay, with layers of silt, sand, peat and basal gravel) are indicated to be present immediately off-site to the east, beyond Southam Road, associated with the River Cherwell.

Four BGS historical borehole logs do however indicate superficial alluvium deposits (firm silty/sandy clay with rootlets and inclusions gravel, organic material, sand and becoming gravelly at depth) to 2.5m - 4.6m in the eastern site area, underlain by the Lower Lias Clay (very stiff fissured silty clay with occasional gravel).

The Alluvium and Charmouth Mudstone Formation are classed as a Secondary A and Secondary Undifferentiated aquifers, respectively. The site is not shown to lie within a groundwater Source Protection Zone (SPZ) as defined by the EA and there are no licensed abstractions (assumed groundwater and surface water) within 1km.

Bird Brook is present in the north-west of the site flowing west to east, and is culverted beneath the northern parts of the disused warehouse buildings on-site, ultimately discharging to the River Cherwell, approximately 500m to the east of the site. Hydrock reported that existing storm drainage on-site discharged directly into Bird Brook at numerous locations across the site.

The Oxford Canal runs north to south 300m east of the site.

CONTAMINATED LAND PEER REVIEW

NOTABLE DATABASE SEARCH FINDINGS

The following represents a summary of notable Hydrock desk study findings linked to the site:

- There is one discharge consent on-site and one 12m to the north, for trade discharges into Bird Brook.
- A non-specialist Unexploded Ordnance 'UXO' assessment indicated a low bomb risk and no further consideration of UXO is required on-site.
- Made Ground is anticipated locally on-site due to its current/former development.
- The site is in Flood Zone 1 (very low fluvial risk) – these are areas shown to be at less than a 0.1% chance of flooding in any year, or a 1:1000 year chance.
- The site is in a Radon Affected Area with recorded radon levels in 1%-3% of homes above the action level. Radon protection measures are not required for new buildings at this location.
- Based on historical land uses and its current operational use, the overall risk from land contamination at the site is considered to be low for the current development, and low to moderate for a redeveloped

site; though Hydrock indicated that this would need to be confirmed by appropriate intrusive investigation/assessment.

- It is considered unlikely that the site would be classified as Contaminated Land under Part 2A of the EPA 1990.

HYDROCK INTRUSIVE INVESTIGATION & FINDINGS

- The Hydrock ground investigation comprised the advancement of:
  - 4no. rotary cored boreholes (BH1-4) to a maximum depth of 20.14m below ground level (bgl);
  - 26no. window sample boreholes (WS1-26) to a maximum depth of 5.45m bgl (*see Figure 2*), of which 9no. of these boreholes (WS1, 3, 9, 13, 14, 18, 19, 25 & 26) were installed as ground gas and groundwater monitoring wells;
  - 6no. rounds of ground gas and groundwater monitoring; and,
  - Chemical analysis of soils and groundwater was also undertaken (discussed below).

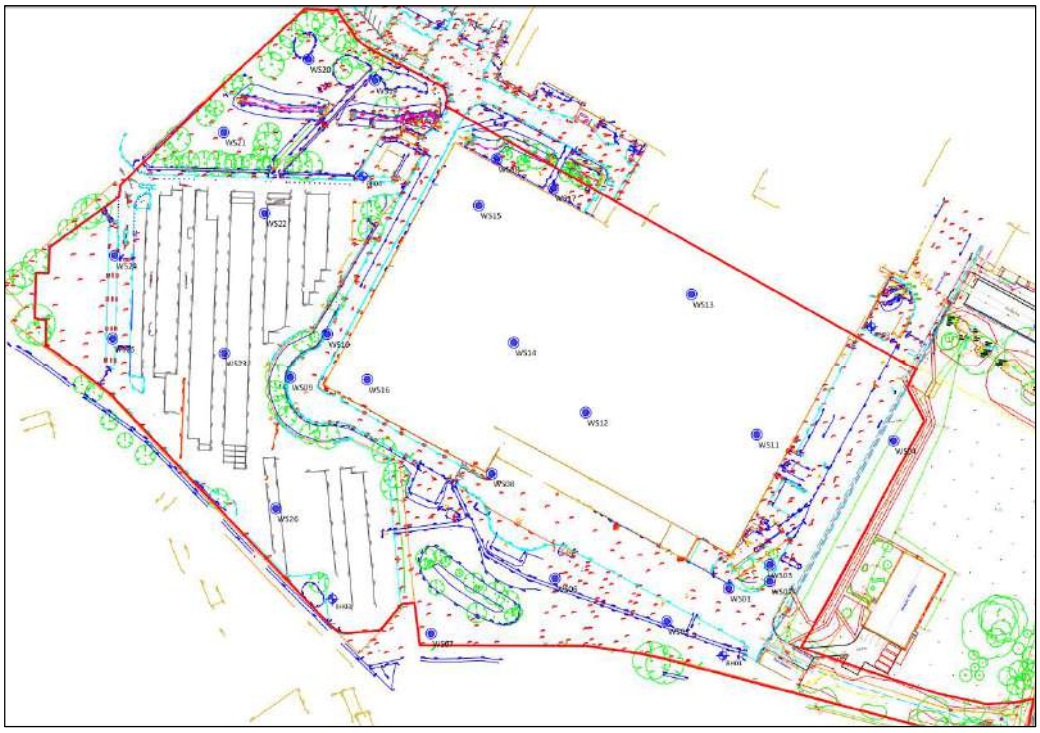


Figure 2 – Hydrock Intrusive Exploratory Locations across Site

- Hydrock encountered the following ground conditions beneath the site:
  - **Made Ground** – to between 0.3m and 2.6m below ground level (bgl), comprising asphalt and/or concrete hardstanding upon clayey gravel of ironstone, sandstone, brick and concrete or gravelly clay;
  - **Alluvium** – to between 1.2 and 4.6m bgl, comprising sandy gravelly clay/silt with some rootlets and mild organic odour;
  - **River Terrace Deposits** – to between 0.90m and 8.0m bgl, comprising loose to medium dense sandy gravel, loose to medium dense gravelly sand or gravelly clay;
  - **Charmouth Mudstone Formation** - encountered underlying variously the Made Ground, Alluvium and River Terrace Deposits to a maximum proven depth of 20.14m bgl.
- Groundwater was generally encountered during intrusive investigations at the interface between the superficial deposits and the Charmouth Mudstone Formation. Groundwater was recorded post-

intrusive fieldwork at levels between 0.36m - 3.76m bgl. No discussion on groundwater flow directions was provided by Hydrock.

- 38no. soil samples (23no. from Made Ground; most within upper 1m of soil) were obtained from across site for a broad range of chemical analysis including a general inorganics suite, a suite of metals/metalloids, volatile organic compounds 'VOCs' including tentatively identified compounds 'TICs', BTEX[1] compounds, speciated[2] total petroleum hydrocarbons 'TPH', polychlorinated biphenyls 'PCBs', asbestos screening (and quantification if identified), and waste acceptance criteria 'WAC' testing.
- Hydrock screened soil results using generic assessment criteria (GAC) derived using the CLEA model under a commercial/industrial end use scenario. Given that there are no recognised GACs for lead, Category 4 Screening Levels (C4SL) were used. The screening exercise only revealed a single marginal petroleum hydrocarbons exceedance (aliphatics >EC12-EC16 59mg/kg vs GAC 24mg/kg) in WS03, 0.3m bgl, to the south-east of the site.
- Asbestos was identified in two of the thirty eight samples tested, both Made Ground, in BH02 (0.5m bgl; loose amosite fibres at <0.001%) in the north-east on the boundary line, and WS03 (0.6m bgl; chrysotile/amosite, hard cement type material, loose fibres and insulation lagging at 0.076%) in the south-east.
- 5no. groundwater samples (WS1, 9, 13, 18 & 26) were obtained for chemical analysis including a general inorganics suite, a suite of metals/metalloids, VOCs including TICs, BTEX compounds, phenols, PAHs and speciated TPH.
- For the purpose of initial controlled waters risk assessment, Hydrock considered that groundwater is present in the Alluvium and River Terrace Deposits beneath the site and is likely to provide base flow to Bird Brook. Furthermore, that Bird Brook flows into the River Cherwell 500m east of the site and the surface water abstraction is upstream of Bird Brook. Risks to groundwater and surface water from contaminants on-site were assessed according to the EA (2006) Remedial Targets Methodology (RTM), using relevant threshold values (Water Quality Targets (WQT)) which are linked to the conceptual site model. Acceptable WQT were defined for protection of human health (based on Drinking Water Standards (DWS)) and for protection of aquatic ecosystems (Environmental Quality Standards (EQS)).
- The risk screening assessment only identified marginal exceedances for copper (max 4.6µg/l vs. WQT of 1µg/l), manganese (max 270µg/l vs. WQT of 123µg/l) and nickel (max 8.2 µg/l and WQT 4µg/l). Levels of petroleum hydrocarbons and VOCs in groundwater beneath the site were all below analytical method detection limits.
- Six ground gas monitoring visits were undertaken on-site. Methane was not recorded above the detection limit of the analytical apparatus, and carbon dioxide recorded at typically less than 5%, although on one occasion was monitored at 5.4%. Atmospheric pressure ranged between 982mb and 1,005mb over the monitoring rounds. No ground gas flow rates were detected during monitoring.
- Hydrock stated that there was no relationship between elevated ground gas concentrations and low pressure, nor there a relationship between elevated ground gas concentrations and falling pressure.
- The risks associated with the ground gases were assessed using BS 8485:2015 and guidance from CIRIA Report 665 (Wilson et al 2007). In the calculation of a gas screening value (GSV), as no ground gas flow rates were recorded, Hydrock used the ground gas meters limit of detection (<0.1 l/hr) as the gas flow rate. The worst case GSV was calculated by Hydrock to be 0.0001 l/hr for methane and 0.0054 l/hr for carbon dioxide. Based on these GSVs the site was classified by Hydrock as Characteristic Situation 1 'CS1' (very low risk), where no ground gas protective measures are required in new building structures.
- Based on the investigation findings, the following conclusions/recommendations, all subject to agreement with regulators, were drawn by Hydrock:

[1] BTEX compounds – benzene, toluene, ethylbenzene and xylenes

[2] Speciated TPH – a total TPH concentration is separated out into its constitute bands of aliphatic and aromatic fractions, allowing for improved characterisation of the type of TPH present

- **Soil** – From a human health perspective, given the nature of the proposed commercial / industrial development with a predominance of building cover and hardstanding, Hydrock did not believe that soil contamination identified at the site, including asbestos locally, represented a significant risk to site users. It was indicated however, that appropriate clean cover would be required in limited soft landscaped areas, and appropriate materials management be implemented during the construction phase of the development to mitigate any risk to ground workers.
- **Controlled Waters** - as no elevated soil or groundwater contamination was identified, no indication of ongoing pollution of controlled waters, and conditions following site development expected to not be any worse than existing, controlled water liability were considered low.
- **Ground gas** - Low risk from ground gases and CS1 conditions apply. Based on the typically low ground gas concentrations and the lack of any relationship between elevated ground gas concentrations and pressure, Hydrock did not believe the site required upgrade to a higher ground gas classification.

- On the basis of the above, Hydrock considered that and no further soil, groundwater or ground gas assessment was likely required on-site.
- Hydrock proposed the following remedial strategy for redevelopment of the site, subject to relevant regulatory approval:
  - Protectaline pipework for potable water supplies – Hydrock considered that as the site was Brownfield, it was likely/or at least best practise, that a barrier pipe be used.
  - Capping of proposed soft landscaped areas with clean soil cover and appropriate materials handling and materials management. Hydrock indicated there to be suitable soils present on-site to be used as the cover system.

WSP OPINION – CONTAMINATED LAND

In the opinion of WSP, the Hydrock desktop and intrusive environmental assessment appear to have provided for a good understanding of the ground conditions beneath the subject site, in addition to the general environmental setting. This includes an appreciation of the type, extent and magnitude of soil and groundwater contamination present, the ground gas regime; in addition to the character of the underlying geology and hydrogeology, and key potential receptors.

WSP considers that the intrusive investigation has generally provided sufficient coverage of the subject site and applied an appropriate soil, groundwater and ground gas sampling and analysis strategy, based on potential historical activities (on and off-site), to target and characterise any residual contamination.

It is noted however, that with reference to a historical plan of the site (*see Figure 3*) identified by WSP on the Local Authority planning portal (associated with a previous site planning application), a fuel station ('DERV[3] lubricating oil') is shown in the central south of the site, that was not discussed or apparently targeted by Hydrock assessments or investigations.

Whilst the potential for hydrocarbon ground contamination in this area cannot be completely discounted, no hydrocarbon contamination that would suggest a significant fuel release to ground in this area was identified in a borehole (WS6) located in relatively close proximity, and also in two groundwater monitoring wells (WS1 & WS3) located c. 60m down hydraulic gradient (i.e. no groundwater hydrocarbon impacts).

At present, and until proven otherwise by the Vendor, the potential for underground diesel storage tanks (USTs) and associated infrastructure, in addition to hydrocarbon ground contamination in this area, cannot be discounted.

[3] 'DERV' – alternative historical name for diesel oil

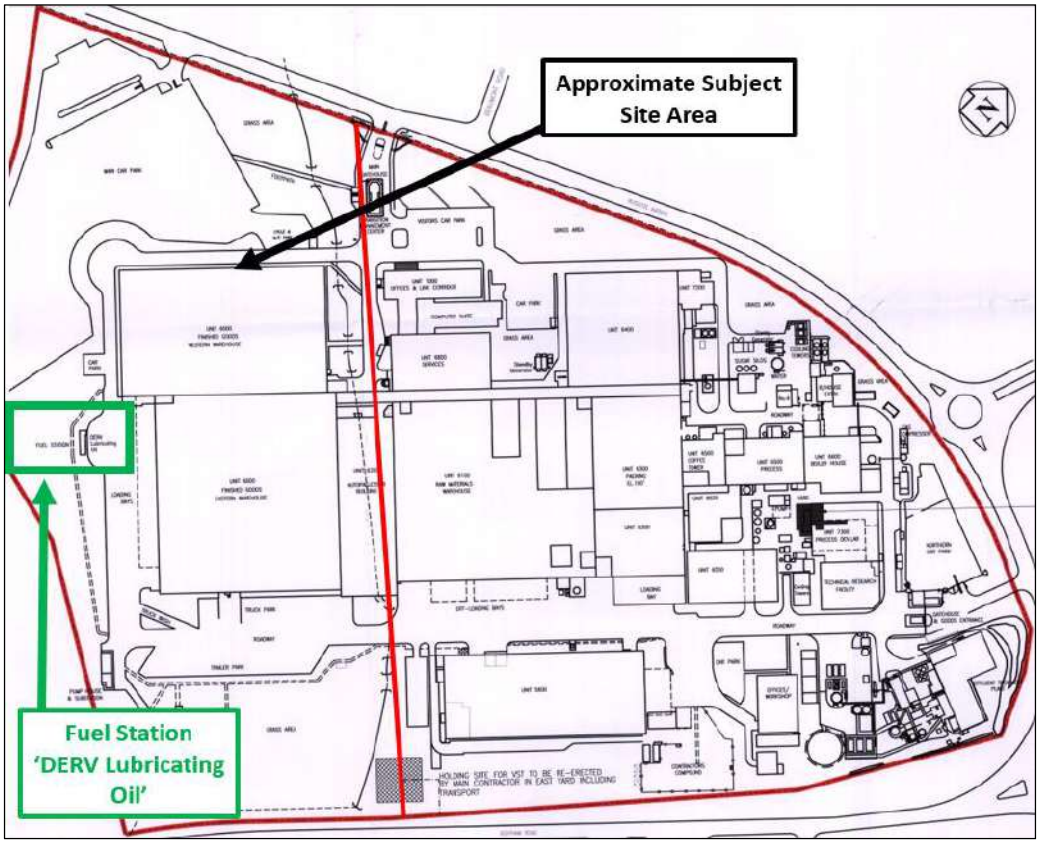


Figure 3 – Former Subject (and adjacent larger Kraft) Site Layout

Notwithstanding the uncertainty regarding the former fuel station area, limited potential contaminative activities have generally been associated with the site history and immediately surrounding area, and this appears to be consistent with an absence of specific contaminated land conditions attached to the planning decision notices for the previous proposed redevelopment of the site. However, WSP has not reviewed the planning application / decision notice (if available) for the most recent proposed commercial / industrial site redevelopment, and therefore the need for further contaminated land investigation as part this planning process cannot be discounted at this stage – certainly given the present uncertainty regarding the former fuel station area.

Soils

Intrusive investigations have, in contrast to the mapped geology, revealed the presence of superficial deposits across site. These deposits thicken towards the east coincident with the fall in the upper surface of the underlying Charmouth Mudstone bedrock. Made Ground also shows a marginal increase in thickness to the east, presumably to facilitate a development platform as part of the original construction of the existing buildings on-site due to fall in ground levels towards the River Cherwell.

Whilst Hydrock refers separately to the Alluvial and River Terrace deposits that form the superficial strata on-site, WSP considers the River Terrace deposits likely representative of an 'alluvial basal gravel' horizon described on geological mapping i.e. therefore both units likely form part of the same superficial 'Alluvium' deposits.

WSP has reviewed chemical soil results obtained as part of the Hydrock investigation against WSP in-house Human Health Generic Assessment Criteria (GACs), and are in general agreement that no results were detected in exceedance of GAC for a commercial / industrial end use. This is with the exception of some limited TPH results, marginally in exceedance of GAC, which WSP considers to represent relatively low concentrations. Asbestos has also been detected locally within Made Ground.

WSP concurs with Hydrock's view that it is unlikely that any risks to current or proposed site users would transpire based on the soil contamination identified beneath site given the assumed predominance of building cover and hardstanding across the current and proposed development, which should restrict exposure to any such contamination.

Groundwater

Limited discussion was provided by Hydrock on the likely groundwater flow regime beneath the site. With reference to groundwater levels provided by Hydrock and monitoring well casing elevations (allowing adjusted groundwater elevations to be calculated relative to the same reference datum), shallow groundwater flow appears to be eastward, towards the River Cherwell (as one would expect).

Given the apparent predominance of more clay dominated Alluvium in the western site area, there is expected to be a lesser degree of shallow groundwater interconnectivity in this area i.e. the groundwater levels observed here may be more representative of localised disconnected perched groundwater.

WSP considers the main groundwater flow horizon beneath the site to be the basal alluvial gravel horizon upon the lower permeability Charmouth Mudstone bedrock, or 'River Terrace deposits' as referred to by Hydrock. This gravel dominated horizon thickens to the east, and WSP agrees with Hydrock that this horizon likely provides base flow to the River Cherwell. There is also likely to be some degree of hydraulic connection between shallow groundwater on-site and the Bird Brook.

WSP has reviewed groundwater results obtained as part of the Hydrock investigation against relevant Environmental Quality Standards (UK Drinking Water Standards 'UK DWS' and UK Surface Water Standards 'UK SWS'), and concurs with the identified marginal exceedances of copper, manganese and nickel noted by Hydrock. Such concentrations, which may be associated with more diffuse type shallow groundwater conditions across the local area, are not considered to represent a significant risk to identified controlled water receptors. A predominance of building cover and hardstanding across the current and proposed development on-site will also restrict the infiltration of precipitation and mobilisation of any ground contamination (if present).

Ground Gas

WSP considers that the ground gas monitoring performed by Hydrock on-site generally adequate. However, WSP note that two of the monitoring wells in the west of the site (WS9 & WS25) had saturated screen intervals during the monitoring rounds, and therefore their ground gas results not representative of that within the unsaturated horizon.

However, the remaining seven monitoring wells still appear to provide relatively good site coverage and in particular provide ground gas results for the thicker Made Ground horizons in the east of the site (considered a key potential ground gas generating source).

WSP concurs with Hydrock that generally low ground gas concentrations were noted across site during monitoring and there was a lack of a relationship between the more elevated ground gas concentrations and atmospheric pressure. For these reasons, WSP agrees with Hydrock that the ground gas regime beneath the site is likely best characterised as a CS1 (very low risk), even though one marginally elevated carbon dioxide concentration was detected above the 5% v/v threshold (5.4% v/v WS9), that can tip a sites ground gas classification from a CS1 to CS2 (low risk).

On this basis, the need for ground gas protective measures in new building structures on-site as part of the proposed commercial / industrial development does not appear necessary.

CONCLUSIONS AND RECOMMENDATIONS – CONTAMINATED LAND

On the basis of the review of the Hydrock environmental reports provided by the Client, and with due regard to the proposed commercial / industrial use of the site with a predominance of building cover and hardstanding, WSP considers that the site represents a **low/medium** risk with respect to potential contaminated land liabilities. This risk rating assumes that appropriate (validated) clean cover fill will be incorporated into proposed unsurfaced landscaped areas of the site as part of its redevelopment, to

mitigate any potential human health exposure risks due to areas of localised soil contamination, if present (primarily linked to potential asbestos in soils).

The medium element of the risk rating principally relates to the uncertainty over the former fuel station area on-site and the potential for unrecognised refuelling infrastructure (including USTs) and hydrocarbon ground contamination, although a significant fuel release to ground in this area is not suggested by available Hydrock investigation findings.

On this basis, it is recommended that the Vendor be asked to provide any documentary evidence to confirm the absence/presence of such former refuelling infrastructure in this area, and if present, provision of appropriate decommissioning documentation.

Should such information not be available, consideration should be made towards the more targeted intrusive investigation of this former fuel station area on-site to reduce the uncertainty, whether as a precursor to, or during proposed site redevelopment construction phase. This will ensure any potential in ground structures and possible hydrocarbon contamination can be delineated and appropriately removed.

It is recommended that the Client seeks reliance on the Hydrock reports which form the basis of this peer review.

FLOOD RISK ASSESSMENT PEER REVIEW

PETER BRETT ASSOCIATES FLOOD RISK ASSESSMENT FRA OVERVIEW

- The 2012 Peter Brett Associates LLP (PBA) Flood Risk Assessment (FRA) was written in line with Planning Policy 25: Development and Flood Risk (PPS25) and was to accompany an outline planning application for a 5,574m^2 (60,000 sq ft) foodstore, petrol filling station and up to 7, 432m^2 (80,000 sq ft) of non-food retail and associated car parking.
- PBA states that the site is not at risk from tidal/coastal flooding, groundwater flooding, surface water flooding and foul water flooding but fluvial flood risk was considered further.
- PBA describe that the River Cherwell flows in a south easterly direction approximately 600m to the east of the site. The EA provided modelled flood levels from the Cherwell (Banbury) Flood Study (February 2011) and comparison of ground levels to modelled flood levels confirmed that there was a very low probability of flooding from the River Cherwell and that the site was located in Flood Zone 1.
- PBA describes that the Birds Brook, a tributary of the River Cherwell, flows in open and culverted sections through the north of the site. It is classed as a public sewer upstream and downstream of the site and is owned and maintained by Kraft within the site boundary. PBA estimates the maximum inflow to the western end of the Birds Brook to be 2.23m^3/s using the HR Wallingford hydraulic design tables (8th edition) and that the two stage channel capacity can accommodate a flow of greater than 10m^3/s. PBA concludes that there is a low probability of flooding at the site even taking into account a 20% increase in flows due to climate change.
- PBA state that there is no requirement to apply the Sequential Test or Exception Test.
- PBA confirms the development proposals include realignment and deculverting of some sections of the Birds Brook with the potential for some channel improvements. They also recommend minimum finished floor levels, a buffer zone and regular maintenance of the watercourse.
- PBA stated that infiltration drainage has not been considered as the site is located on unproductive strata and has a history of industrial and commercial use. Should site investigation indicate suitable conditions the drainage strategy could be revised.
- PBA stated that surface water runoff currently drains, unattenuated, to the Birds Brook.
- PBA's proposed drainage scheme is to continue to discharge into the Birds Brook, 3.2ha unattenuated and the remainder at the Greenfield runoff rate. Attenuation is to be provided to achieve this in shallow sub base replacement storage beneath the car park.
- PBA highlights long term management, exceedance and pollution control as requiring consideration.

- PBA concludes that the proposed development is appropriate for the site on the basis of flood risk. Furthermore, the suitable flood risk mitigation measures and a surface water management strategy be incorporated into the scheme to ensure that the proposed development does not result in an adverse impact elsewhere on the basis of flood risk.

WSP OPINION – FLOOD RISK ASSESSMENT

- WSP agrees with PBA that:
  - The site is located in Flood Zone 1 on the Environment Agency's Flood Map for Planning and access and egress should not be affected by fluvial flooding.
  - Flood risk from the River Cherwell is low.
  - Flood risk from the Birds Brook is likely to be low but to have a greater confidence, more detailed hydraulic modelling could be undertaken, especially as culvert realignment and opening is included in the proposed masterplan.
  - Flood risk from tidal / coastal, groundwater and foul water sources is low.
- PBA state under surface water flooding that "Thames Water has confirmed that the site has not been affected by surface water flooding" but it does not reference any other sources of information.
- On the EA's Flood Risk from Surface Water Map for the existing scenario, the site is shown to be at low to high risk from surface water flooding (it should be noted that these maps have been made available since the date of publication). It shows the following:
  - High Risk Scenario – depths are up to 900 mm and velocity is over 0.25 m/s;
  - Medium Risk Scenario – depths are up to 900 mm and velocity is over 0.25 m/s; and
  - Low Risk Scenario – depths are locally over 900 mm and velocity is over 0.25 m/s.
- The site is not shown to be at risk from reservoir flooding on the EA's Flood Risk from Reservoirs map.
- WSP concur that there is no requirement for the Sequential or Exceptions test.

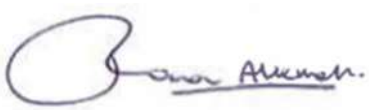
CONCLUSIONS AND RECOMMENDATIONS – FLOOD RISK ASSESSMENT

- Planning policy has been updated since the production of this report and any revision to the Flood Risk Assessment will now need to be undertaken in accordance with NPPF, rather than PPS25.
- New climate change guidance issued by the Environment Agency in 2016 and updated in 2017 will also need to be incorporated into any revised FRA. This recommends that for the Thames River Basin, the central allowance should be used for development in Flood Zone 1 which represents a 25% increase in peak river flows up to 2080. This is slightly higher than the 20% increase included as part of PBA's FRA.
- If the condition of the culverts is not known, it is recommended that a CCTV survey be undertaken to ensure that they are structurally sound to minimise the risk of any culvert collapse.
- To minimise the risk of culvert blockage, trash screens could be placed on culvert entrances.
- The proposed drainage strategy is not in line with current guidance and if the FRA is to be updated, there will be a requirement to further restrict the proposed surface water flows. Typically, surface water runoff will need to be reduced by at least 30% compared to the existing situation and may need to be restricted to the Greenfield runoff rate. This will require a greater amount of on-site attenuation storage.
- In addition, EA climate change guidance recommends a range of 20%-40% increase in peak rainfall intensity, which again, is likely to increase the amount of attenuation storage on-site.
- Surface water flooding can be mitigated against by careful design of the drainage system and site levels and the incorporation of minimum finished floor levels.

- It is recommended that the Client seeks reliance on the PBA FRA report which forms the basis of this peer review.

We trust the above information meets with your current requirements. However, should you require any further assistance please do not hesitate to contact us.

Yours sincerely,



Thomas Allewell
Principal Consultant

Tel: 0788 126 7812
E: tom.allewell@wsp.com

Paloma Capital LLP

KRAFT, SOUTHAM ROAD

Tank Investigation

10954
JANUARY 2018

CONFIDENTIAL

Paloma Capital **LLP**

KRAFT, SOUTHAM ROAD

Tank Investigation

TYPE OF DOCUMENT (VERSION) CONFIDENTIAL

PROJECT NO. 70041591
OUR REF. NO. 10954

DATE: JANUARY 2018

WSP
The Victoria
150-182 The Quays
Salford
M50 3SP
Phone: +44 161 886 2400
Fax: +44 161 886 2401
WSP.com

QUALITY CONTROL

Issue/revision	First issue	Revision 1
Remarks	-	
Date	05/01/17	
Prepared by	Stephen Jones	
Signature		
Checked by	Martin Lucass	
Signature		
Authorised by	Andy McCusker	
Signature		
Project number	70041591	
Report number	10954	

CONTENTS

APPENDICES

1 INTRODUCTION

1.1 AUTHORISATION

WSP was commissioned by Paloma Capital LLP to undertake a Phase 2 site investigation of a historical hydrocarbon storage area, henceforth referred to as the site at the Kraft site, Southam Road, Banbury. A location plan is included as Figure 1 in Appendix A.

The work was undertaken in accordance with our proposal (70041591, 21 November 2017) and following instruction from Paloma Capital LLP (via email on 21 November 2017).

1.2 CONTEXT AND OBJECTIVES

The site occupies an area approximately 0.1 hectares and is located in the south west of the wider Kraft factory site, located off the A361, Southam Road, Banbury. The site is currently disused and comprises areas of hard standing and a grassed embankment. A path runs through part of the site for pedestrian access.

WSP undertook a high level peer review of existing third party information for the wider Kraft site (70038703/TA/Final) in October 2017. The review identified the potential for onsite underground fuel storage tanks (USTs) or above ground storage tanks (ASTs) and associated infrastructure that had not been investigated as part of a previous phase of ground investigation. It is understood that the site is to be redeveloped for commercial use with hardstanding cover and no buildings.

WSP were commissioned to undertake a site investigation to establish the following:

- The presence or absence of any USTs or ASTs; and
- The potential for hydrocarbon contamination associated with the tanks, fuel lines and pumps.

1.3 SCOPE OF WORKS

To achieve the defined objectives, the following scope of works was completed:

- Utility Clearance to identify underground services;
- Formation of four shallow window sample boreholes with combined ground gas and groundwater monitoring installations in three of these;
- Representative soil sampling and screening;
- One round of ground gas and groundwater monitoring;
- Laboratory analysis of soil and groundwater samples;
- Non-intrusive geophysics (groundcheck) survey to establish presence of USTs; and
- Provision of factual and interpretive reporting, referencing the data obtained and providing a generic quantitative risk assessment for human health and controlled waters, produced in accordance with published guidance.

1.4 LIMITATIONS

WSP has undertaken the works detailed in this report in accordance with the agreement dated 21 November 2017. The report may be relied upon by Paloma Capital LLP, as “the Client” with the meaning given to that phrase within the agreement and subject to terms and conditions contained therein.

This report has been completed with regard to generally accepted consulting practices and may not be relied upon by any other party without the explicit written agreement of WSP. No other third party warranty, expressed or implied, is made as to the professional advice included in this report. This report must be used in its entirety.

Unless WSP has actual knowledge to the contrary, WSP shall assume the correctness and completeness of, and shall have no liability in respect of any inaccuracy, defect or omission in any information or materials provided, anecdotally or otherwise, by the Client or any other third party to WSP. WSP does not assume any liability for misrepresentation of information or for items not visible, accessible, present or supplied at the time of the study.

2 SUMMARY OF EXISTING INFORMATION

WSP has previously produced the following high level peer review on behalf of the client:

- Kraft, Southam Road, Banbury, Oxfordshire, OX16 2EP– High Level Peer Review of Selected Third Party Information, by WSP on behalf of Paloma Capital LLP, October 2017, Ref: 70038703/TA/Final

This document reviewed the following third party reports on the larger Kraft site:

- Flood Risk Assessment, Southam Road Retail Park, Banbury, by Peter Brett Associates LLP on behalf of Kraft Foods UK Ltd and Barwood Developments Ltd, March 2012, Ref.26004/005;
- Ground Conditions Desk Study, Kraft Phase 1, Banbury, by Hydrock on behalf of db symmetry Limited, April 2016, Ref: R/161279/001, Final; and
- Ground Investigation, Kraft Phase 2, Banbury, by Hydrock on behalf of db symmetry Limited, July 2016, Ref: R/161279/002, Final.

This high level peer review reported that previous ground investigation provided a good understanding of the ground conditions and the general environmental setting of the wider Kraft site. WSP considered that the ground investigation provided sufficient coverage of the wider Kraft site, with the exception of a historical fuel station, (DERV3 lubricating oil) which was not mentioned in the 2016 Hydrock Phase 1 or targeted in the following site investigation. No information regarding the presence of USTs/ASTs or hydrocarbon contamination was previously reported.

A WSP consultant visited the site on 30 November and conducted an interview with Adrian Everett of JDE Coffee regarding the historical fuel infrastructure on site. From this interview, the approximate locations of historical fuel pumps, USTs and ASTs were noted. The locations of these features are shown on Figure 3 in Appendix A. It was confirmed that an AST was present in southeast of the site and was removed. It was unclear if the USTs in the western part of the site were removed, still present or backfilled.

This report should be read in conjunction with the High Level Peer Review produced by WSP in October 2017. A brief summary of the relevant site information from the peer review and the previous reports has been compiled and is presented in Table 2-1 below.

Table 2-1 – Site Information Summary

Site Address	Kraft, Southam Road, Banbury OX16 2QU
National Grid Reference	445070 241421
Site Setting	The site is located approximately 1km to the north of Banbury town centre and comprises an area of hardstanding and embankment located in the south east of the wider Kraft site. To the north of the site, land is occupied by the Kraft factory. Surrounding land uses comprised mixed commercial premises to the west and east, with residential properties with gardens to the south.
Current Site Layout and Features	The site layout is shown on Figure 3 in Appendix A. The following notable features are present: An area which previously contained an AST; An area with potential USTs still in-situ; and Historic filling area. The ground cover comprises approximately 50% asphalt hardstanding and 50% soft landscaping (embankment area).
Site History	Historic mapping from 1881 shows the site as open fields. By 1965, an industrial building (food processing plant) was shown to the north east of the site (part of the larger Kraft factory extending off-site to the north). Anecdotal evidence from site staff suggests that underground storage tanks and associated fuel pumps were present north of the site during the 1980's. An above ground diesel storage tank was reported

	to be present in the southeast of the site from the 1990's to approximately 2012 when it was decommissioned and removed.
Ground Conditions	Made Ground is expected beneath the hardstanding. Depths of Made Ground are likely to vary across the site. Superficial (drift) deposits are expected to comprise either Alluvium (sandy gravelly silt) to between 1.2m and 4.6m bgl and/or River Terrace Deposits (gravely sand) to between 0.9 and 8.0m bgl. Bedrock of the Charmouth Mudstone is expected to underlie the drift deposits, to a maximum proven depth of 20.14m bgl. The Hydrock investigation in 2016 reported mudstone at 4.30m bgl, approximately 60m to the south east of the site.
Hydrology	The nearest surface water feature is Bird Brook, 150m to the north of the site. The brook flows from northwest to southeast and is culverted beneath a warehouse on the wider Kraft site, before flowing into the river Cherwell approximately 500m to the east.
Hydrogeology	The Alluvium and River Terrace Deposits likely to be present on site are designated as Secondary (A) aquifers. The underlying Charmouth Mudstone Formation is categorised as a Secondary undifferentiated aquifer.

It was unclear if an unexploded ordnance report was available for the site. Consequently, this was commissioned prior to commencing intrusive works. It confirmed there to be no readily available records of bombing or other significant military activity on the site. The site is therefore considered to have a low unexploded ordnance (UXO) hazard level. The summary report is included in Appendix F.

3 SITE INVESTIGATION STRATEGY

3.1 INVESTIGATION STRATEGY AND FIELDWORK

An updated utility survey was completed on 30 November 2017 to inform on potential below ground constraints and provide an updated record of below ground utilities prior to the intrusive investigation. A Ground Penetrating Radar (GPR) Survey was also attempted at this stage to establish the presence of any USTs, however the thickness of the vegetation cover in the area prevented the survey from being successful.

Using the updated utility plan and the historical locations of both above ground and below ground storage tanks, four drilling locations were identified. The rationale behind the locations and the final installation details are summarised in Table 3-1 below. Note that 8 potential drilling locations were cleared, WS101 – WS108, with the final drill locations selected as WS202, WS203, WS205 and WS207.

The intrusive works were completed under the full time supervision of a WSP engineer on the 05 December 2017 as described below:

- Each drilling location was reviewed on-site and initiated with hand dug pits to a target depth of 1.5m bgl to minimise the risk of damage to unidentified buried services / utilities;
- Boreholes were subsequently formed using a window sampling technique;
- Whilst logging soils the WSP engineer screened samples from the recovered material for visual and olfactory evidence of hydrocarbons and also used a calibrated Photo Ionisation Detector (PID) at 1m intervals to provide evidence of the presence of volatile organic compounds (VOCs). Details are included on the borehole logs (Appendix B) and are discussed in more detail in Section 4;
- A total of 23 disturbed soil samples from the boreholes were taken during drilling. Of these, ten samples were selected for laboratory chemical analyses and asbestos screening (Made Ground only);
- Three of the four boreholes were installed with 50mm diameter groundwater monitoring wells, which were finished at the surface with flush covers; and
- The newly installed monitoring wells were developed (removal of drilling fluids and sediments) following drilling of the boreholes on the 05 December 2017.

Exploratory hole locations are shown on Figure 2 and detailed borehole logs, including monitoring well installation details are included in Appendix B.

Groundwater sampling was undertaken on 15 December 2017. Representative groundwater samples were collected from WS202, WS205 and WS207, using low flow sampling methodology, which uses the stabilisation of groundwater parameters to indicate representative sampling.

Table 3-1 – Summary of Borehole Location Rationale and Installation Details

Borehole ID	Location and rationale	Total depth (m bgl)	Screened interval (m bgl)
WS202	Located on soft standing approximately 5m to the east of the historical above ground storage tank and downgradient of infrastructure.	4.3	2.0 - 4.0
WS203	Located on soft standing between the USTs and AST.	5	Not Installed
WS205	Located on soft standing approximately 5m to the east of the historical USTs.	5	3.5 - 5.0
WS207	Located on soft standing approximately 5m to the west of the historical USTs.	5	2.0 - 5.0

As the initial GPR survey had been unsuccessful in identifying any USTs, additional vegetation clearance and non-intrusive surveys were scheduled and completed on 04 and 08 January respectively.

3.2 LABORATORY TESTING

All chemical testing was carried out by ALS Environmental (ALS) in Hawarden, Cheshire, a UKAS accredited laboratory. Where available the individual analytical tests were MCERTS accredited. Soil and groundwater samples were tested for a range of analytes, which are summarised in Table 3-2. Soil and Groundwater laboratory certificates are included in Appendix C.

Table 3-2 – Summary of Laboratory Chemical Testing

Determinand	No of soil samples analysed	No of groundwater samples analysed
Total Petroleum Hydrocarbon Criteria Working Group (TPH CWG) and Benzene, Toluene, Ethylbenzene and Xylene (BTEX)	8	3
Heavy Metals	8	3
Hexavalent Chromium	8	3
16 Speciated Polyaromatic Hydrocarbons (PAHs)	8	3
Semi-volatile organic compounds (SVOCs)	2	2
Volatile Organic Compounds (VOCs)	2	2
pH	9	3
Soil Organic Matter	10	N/A
Asbestos Fibre Screen	8	N/A

4 SITE INVESTIGATION - RESULTS

4.1 NON-INTRUSIVE GROUND CHECK SURVEY

WSP attended site on 08 January 2018 with a specialist ground survey and geophysics company Zetica who employed the following techniques to observe the presence or absence of USTs in the embankment:

- Electromagnetic (EML) & Magnetometer;
- Time domain electromagnetic detection (TDEM); and
- 3D Ground Penetrating Radar.

Survey results were made available on 12 January 2018 and confirmed there to be an area of disturbed ground across the anticipated location of the USTs but no evidence of a UST being present. The survey also identified a number of utility services and a section of reinforced concrete. The full survey results are presented in Appendix F.

4.2 GROUND CONDITIONS

A summary of the ground conditions encountered is provided in Table 4-1 below.

Table 4-1 Summary of Ground Conditions Encountered

Strata	Maximum Reported Depth to Base of Strata (m bgl)	Thickness (m)
Made Ground (Granular and Cohesive)	3.4	3.4
Alluvium	3.5	1.6
River Terrace Deposits	4.7	1.3
Charmouth Mudstone	Not proven	Not proven

MADE GROUND

Made Ground was encountered in all locations and comprised:

- Grass over dark brown gravelly fine and medium SAND with occasional rootlets. Gravel is fine and medium angular to subrounded of various lithologies including brick and sandstone;
- Dark brownish orange very clayey gravelly medium and coarse SAND. Gravel is medium and coarse angular to subrounded of various lithologies including brick; and
- Firm dark brownish orange mottled grey sandy slightly gravelly CLAY. Gravel is fine and medium angular to subrounded of flint and coal.

The greatest depth of Made Ground was encountered in WS205, drilled within the embankment surrounding the suspected USTs.

SUPERFICIAL DEPOSITS

Alluvium was encountered in WS207 only, to a maximum depth of 3.5m bgl. The encountered ground comprised:

- Very soft dark bluish grey sandy slightly gravelly CLAY. Gravel is fine to coarse subrounded of mudstone and sandstone.

River terrace deposits were encountered in all boreholes to a maximum depth of 4.7 m bgl. The encountered ground comprised:

- Dark brownish orange sandy fine and medium subangular to rounded GRAVEL of mudstone, flint and quartz;

- Light greyish orange slightly gravelly fine and medium SAND with occasional small shells. Gravel is fine and medium angular of mudstone; and
- Soft light yellowish brown very sandy CLAY.

BEDROCK

Weathered Charmouth Mudstone bedrock was encountered in all boreholes and comprised:

- Soft dark bluish grey gravelly CLAY with occasional bivalve fragments. Gravel is fine and medium angular to subrounded of various lithologies including flint and mudstone.

Solid mudstone bedrock was only encountered in WS202 at a depth of 4.25m bgl, where it caused a refusal. The bedrock comprised:

- Thinly laminated dark bluish grey MUDSTONE with numerous bivalve shell fragments.

4.3 FIELD SCREENING

Visual and olfactory evidence of hydrocarbon contamination was noted in arisings from WS203 and WS205, as follows:

- BH203 - 1-1.5m bgl: Slight black hydrocarbon staining and moderate hydrocarbon odour. PID - 1ppm; and
- BH205 - 2-2.5m bgl: Slight hydrocarbon odour. PID - <1ppm

Soil arisings were tested using a PID at 0.5m intervals within Made Ground and 1m intervals within natural strata. No marginal (>10ppm) PID readings were recorded.

4.4 GROUNDWATER DATA AND HYDROGEOLOGICAL CONDITIONS

GROUNDWATER ELEVATION

Following well development on 05 December 2017 and a period of recovery, depth to resting groundwater level was recorded in advance of groundwater sampling. Groundwater monitoring data and relevant monitoring well details are summarised in Table 4-2 with groundwater elevations. Note that wells were screened into the Charmouth Mudstone Formation as during formation, groundwater strikes were generally within the base of the superficial / top of the bedrock. Groundwater elevations indicate that groundwater flow is towards the east in the direction of the ditch.

Table 4-2 Groundwater Monitoring Data and Monitoring Well Details

Monitoring Well	Screen Interval (m bgl)	Groundwater Depth (m bgl)	Groundwater Elevation (m AOD)	Response Zone	Groundwater Rest level within
WS202	2.0-4.0	1.38	94.74	River Terrace Deposits / Charmouth Mudstone Formation	Cohesive Made Ground
WS205	3.5-5	2.05	95.17	River Terrace Deposits/ Charmouth Mudstone Formation	Cohesive Made Ground
WS207	2-5	1.26	95.16	River Terrace Deposits / Alluvium / Charmouth Mudstone Formation	River Terrace Deposits

4.5 QUALITATIVE REVIEW OF SOIL AND GROUNDWATER ANALYTICAL DATA

SOILS DATA

The soils data highlighted the presence of low concentrations of petroleum hydrocarbons in all eight of the scheduled samples, with total hydrocarbons reported between 0.92mg/kg (WS205 at 3.5-3.7m bgl) and 156mg/kg (WS203 at 1.0-1.3m bgl).

The hydrocarbons detected were predominantly carbon chain 12 (C12) compounds and above, with only trace concentrations or below the laboratory limit of detection (LOD) for the lighter C5 to C12 compounds in the majority of samples tested.

Concentrations of metals were detected above the LOD in all samples. No notably high concentrations of heavy metals were detected. Asbestos was not identified in any of the samples tested.

Of the eight samples that were tested for Polyaromatic Hydrocarbons (PAH), only one sample returned results above the LOD. A trace concertation of 0.558mg/kg (total PAHs) was detected in sample WS205 at 0.7-1.0m bgl.

GROUNDWATER

No light non-aqueous phase liquid (LNAPL) was encountered in any of the monitoring wells during purging or sampling.

PAH concentrations were not identified above trace concentrations (>1µg/l) in any of the samples analysed. However, a low concentration of Fluoranthene (0.0146 µg/l) was detected in the sample from WS202. This is discussed in Chapter 5.

Two groundwater samples were analysed for Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs). Both samples returned results below the LOD.

Low concentrations of a range of metals, including arsenic, barium, boron, lead, selenium, vanadium and zinc were detected in all samples analysed. None of the concentrations are notably elevated. Results are considered consistent with background conditions rather that highlighting any site specific impact.

5 GENERIC QUANTITATIVE RISK ASSESSMENT

5.1 INTRODUCTION

The quantitative risk assessment has been undertaken in general accordance with guidance issued by the Environment Agency and comprises a Generic Quantitative Risk Assessment (GQRA) which screens concentrations against Generic Assessment Criteria (GAC).

5.2 HUMAN HEALTH RISK ASSESSMENT

SELECTION OF GAC – HUMAN HEALTH

Based on the intended use of the site for commercial property with hardstanding, the reported soil concentrations were compared against the GAC for commercial use using a soil organic matter (SOM) content of 1% on the basis of the site specific data.

If undisturbed, groundwater beneath a site will normally only present a risk to human health if it contains volatile substances (due to migration into buildings followed by inhalation). WSP has generated a set of human health GAC applicable to selected volatile compounds in groundwater, designed to be protective of human health. The methodology through which the GAC were derived is included in Appendix D.

SOIL ASSESSMENT RESULTS – HUMAN HEALTH

There were no exceedances of the GAC for any of the soil samples tested. Given the absence of GAC exceedances in all of the analysed samples, soil contamination is not considered to represent a risk to human health, based on the planned redevelopment scenario. The soil screening data are presented in full in Appendix E.

GROUNDWATER ASSESSMENT RESULTS – HUMAN HEALTH

Given that the site is proposed for commercial use, concentrations of volatile compounds in groundwater have been compared to the human health groundwater GAC for a commercial end use.

None of the groundwater concentrations exceed the GAC and it is considered that there is no unacceptable risk to human health from vapours as result of volatile compounds present in groundwater.

5.3 CONTROLLED WATERS RISK ASSESSMENT

SELECTION OF GAC – CONTROLLED WATERS

The Environment Agency's Remedial Targets Methodology states that groundwater GAC for Controlled Waters risk assessment should comprise a target concentration compliant with relevant statutory guidance and consistent with the conceptual site model.

The Bird Brook, located approximately 150m to the north of the site is considered to be an appropriate controlled waters receptor. The brook is culverted beneath the Kraft factory to the north, however the closest non culverted section of the brook is located approximately 200m to the north east of the site. The brook flows northwest to southeast, following the topography of the wider Kraft site. Environmental Quality Standards have been adopted as the most appropriate GAC for this receptor. One exceedance was identified.

Underlying groundwater within the Alluvium and River Terrace Deposits (Secondary A Aquifers) is also considered to be an appropriate controlled waters receptor and as such, UK drinking water standards (DWS) have been adopted as the most appropriate GAC, where available. WHO Health Organisation (WHO) criteria have been adopted in the absence of an appropriate DWS. No GAC exceedances were identified when considering groundwater receptors.

GROUNDWATER ASSESSMENT RESULTS – CONTROLLED WATERS

One exceedance of the GAC was recorded in the samples analysed, when considering a surface water receptor. The concentration of fluoranthene exceeded the GAC as shown in Table 5-2.

Table 5-2 – Summary of Groundwater Exceedances with Respect to a Surface Water Receptor

Analyte	Concentration (µg/l)	
	Screening Value	WS202
Fluoranthene	0.0063	0.0146

CONTROLLED WATER ASSESSMENT DISCUSSION

As groundwater is recorded as sitting within the River Terrace Deposits, there is a viable pathway for contamination to migrate through the permeable sand and gravel strata and reach the surface water receptor over time. Whilst the generic risk screen of the available groundwater data does highlight an exceedance of the assessment criteria for a surface water receptor, the exceedance is considered to be minor.

The overall risk profile with regards to controlled water receptors is considered to be low based on the following factors:

- Given the surface water environments in the vicinity of the site, the GAC used in the assessment is considered to be conservative;
- The contamination identified within WS202 is minor and has not been recorded in the other groundwater samples tested;
- There is minimal evidence of any ongoing source of contamination from the soils data;
- As the contamination migrates, the concentration will reduce due to the following processes:
  - Sorption of the contaminant to the soil;
  - Dispersion of the contaminant; and
  - Degradation of the contaminant.

As such it is considered that the concentration recorded in WS202 does not present a future risk to controlled waters.

5.4 CONCEPTUAL SITE MODEL SUMMARY

A review of the potential contamination linkages is provided in Table 5-3 below.

Table 5-3 Potential Contamination Linkages

Source	Secondary Source	Pathway	Receptor	Potential Risk
Former Site use – Hydrocarbon storage area and filling area.	Hydrocarbons and other chemicals within soils.	Leaching to shallow groundwater	Groundwater within the drift deposits	Low Soils data does not indicate the presence of significant hydrocarbon source from former site use. Potential risk to ground workers during any excavation works to be managed through work control procedures and PPE. No evidence of ground impact from potential offsite sources.
		Direct ingestion, dust inhalation, dermal contact and vapour inhalation (outdoors)	Ground workers / construction workers during redevelopment. Future site users post-redevelopment	

Source	Secondary Source	Pathway	Receptor	Potential Risk
		Volatilisation and vapour inhalation (indoors)	On-site workers/future users	Low No evidence of significant concentrations of volatile compounds within soils. No evidence for the presence of putrescible waste material in Made Ground. Potential for soil gas accumulation is low. Future site redevelopment is for hardstanding and no structures.
		Vertical migration in groundwater	Groundwater within superficial deposits (Secondary A aquifers)	Low Whilst there is evidence for minor existing groundwater impact at the site, the hydrocarbon concentrations detected in soils are not considered to be sufficient to drive a significant ongoing risk to groundwater quality.
	Impacted Groundwater	Lateral migration in groundwater	Groundwater within bedrock (Secondary undifferentiated aquifer).	Low Potential risk from dissolved phase hydrocarbons is considered to be low given the relatively low permeability and low sensitivity of the Charmouth Mudstone.
		Volatilisation and vapour inhalation (indoors)	On-site workers/ users and immediate neighbouring properties	Low No evidence of significant volatile compounds in groundwater. Future site redevelopment is for hardstanding and no structures.
		Lateral migration in groundwater	Surface water receptors.	Low The closet surface water receptor is approximately 200m down gradient of the source. Given the GAC exceedance is minor, the risk to the controlled surface water receptor is considered to be low.

In addition to the above it is noted that whilst Made Ground materials were encountered at the site the recovered samples did not identify the presence of asbestos containing materials (ACMs). Notwithstanding this asbestos is frequently encountered in made ground materials even where not encountered during sampling. Consequently, whilst the potential for significant areas of asbestos to be present is considered to be low based on the completed sampling the potential presence of ACMs should be considered during any site works particularly where disturbance of made ground is required.

6 SUMMARY AND RECOMMENDATIONS

6.1 CONTAMINATION

The site is underlain by granular and cohesive Made Ground over superficial river Terrace Deposits and Alluvium. Charmouth Mudstone bedrock is present at approximately 4.2m bgl.

Groundwater is resting within the Made Ground or River Terrace Deposits at depths between1.26m and 2.05m bgl and is inferred to flow east consistent with topography.

The investigation did not identify the presence of free phase hydrocarbons in the ground or resting on the groundwater (LNAPL) beneath the site.

The analytical results from soil samples was consistent with the field observations, with minor hydrocarbon contamination noted in the shallow soils. Asbestos was not detected in any of the samples analysed.

The analytical results from groundwater samples confirmed the presence of low concentrations of dissolved phase PAHs in one of the three groundwater samples, indicated by a minor GAC exceedance for fluoranthene.

Generic assessment of potential risks to human health and controlled waters receptors confirmed:

- No exceedances of commercial screening criteria protective of human health was recorded;
- A single GAC exceedance in the groundwater data indicate a theoretical risk to the closest surface water receptor (Bird Brook). However the minor exceedance in Fluoranthene is considered low risk to controlled waters given the distance between the contamination source and the surface water receptor and the absence of any ongoing source of contamination, or widespread contamination in the other groundwater samples retrieved.

6.2 ABOVE GROUND AND BELOWGROUND TANKS

The investigation has confirmed that an above ground tank in the southeastern part of the site has been removed. The investigation has also confirmed that there are no underground storage tanks in the western part of the site.

Appendix A

FIGURES

File: Created using iGIS, WSP's Online Mapping System
Drawn By: UKNAR005
Date Modified: 05/01/2018 15:31

wsp

TITLE:

Site Location Plan

FIGURE No:

Figure 1

Key

- Approximate Site Boundary
- Exploratory Hole Location

0 5 10 15 20 m

Map data ©2018 Google Imagery ©2018 , DigitalGlobe, Getmapping plc, Infoterra Ltd & Bluesky

TITLE:

Site Layout Plan

FIGURE No:

Figure 2

File: Created using iGIS, WSP's Online Mapping System

Drawn By: UKNAR005

Date Modified: 05/01/2018 15:29

Key

- Approximate Site Boundary
- Location of historical tanks and pumps
- Bunded area

0 5 10 15 20 m

Map data ©2018 Google Imagery ©2018 , DigitalGlobe, Getmapping plc, Infoterra Ltd & Bluesky

TITLE:

Site Features Plan

FIGURE No:

Figure 3

File: Created using iGIS, WSP's Online Mapping System

Drawn By: UKNAR005

Date Modified: 05/01/2018 15:54

Appendix B

LOGS

WSP

Telephone:

BOREHOLE LOG

Hole No. **WS202**

Project: Kraft, Southam Road Tank Investigation

Sheet: 1 of 2

Job No: 70041591

Client: Paloma Capital

Date: 05-12-17 05-12-17

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
RP Drilling Ltd.	Dando Terrier	Stephen Jones	E 445131.981 N 241384.377	96.115

SAMPLES & TESTS							STRATA					
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill Dia. mm
0.00-0.10	ES		0				96.02	0.10	Grass over dark brown gravelly fine and medium SAND with occasional rootlets. Gravel is fine and medium angular to subrounded of various lithologies brick and sandstone. (TOPSOIL)		TS	
0.00-0.00	EW											
0.70-1.00	ES		0					(1.80)	Firm dark brownish orange mottled grey sandy slightly gravelly CLAY. Gravel is fine and medium angular to subrounded of flint and coal. (MADE GROUND)		CMG	
							94.22	1.90	1.70 - 1.80 Band of fine and medium sand with occasional small angular gravel of coal			
2.10-2.30	ES		0					(0.70)	Light greyish orange slightly gravelly fine and medium SAND with occasional small shells. Gravel is fine and medium angular of mudstone.		RT	
							93.52	2.60				
2.70-2.90	ES		0			▼1		(0.60)	Dark brownish orange sandy fine and medium subangular to rounded GRAVEL of mudstone flint and quartz. (RIVER TERRACE GRAVELS)		RT	
							92.92	3.20				
3.50-3.70	ES		0						Very stiff dark bluish grey CLAY.		CHAM	
							91.87	4.25				
							91.82	4.30	Thinly laminated dark bluish grey MUDSTONE with numerous bivalve fragments.		CHAM	

Boring Progress

Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt

Chiselling

From	To	Hours	Tool

Water Added

From	To

Water Strikes

Date	Time	Strike	Minutes	Standing	Casing
05-12-17		3.10			

General Remarks

Hole terminated at 4.3 m bgl due to refusal. No evidence of olfactory or visual contamination.

Scale 1:62.5

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

17 WSP BH LOG KRAFT, BANBURY 2.GPJ WSPETEMPLATE7.00.GDT 16/1/18

WSP Telephone:	**BOREHOLE LOG**	Hole No. **WS203**
	Project Kraft, Southam Road Tank Investigation	Sheet 1 of 2
Job No 70041591	Client Paloma Capital	Date 05-12-17 05-12-17

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
RP Drilling Ltd.	Dando Terrier	Stephen Jones	E 445131.981 N 241384.377	96.092

SAMPLES & TESTS							STRATA					
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill Dia. mm
0.00-0.10	ES		0				95.99	0.10	Grass over dark brown gravelly fine and medium SAND with occasional rootlets. Gravel is fine and medium angular to subrounded of various lithologies brick and sandstone. (TOPSOIL)		TS	
1.00-1.30	ES		1					(1.65)	Firm dark brownish orange mottled grey sandy slightly gravelly CLAY. Gravel is fine and medium angular to subrounded of flint and coal. (MADE GROUND) 1.00 - 1.50 Slight black hydrocarbon staining and moderate hydrocarbon odour.		CMG	
							94.34	1.75				
2.10-2.30	ES		0					(0.65)	Light greyish orange slightly gravelly fine and medium SAND with occasional small shells. Gravel is fine and medium angular of mudstone.		RT	
2.50-2.80	ES		0				93.69	2.40				
							93.24	2.85	Dark brownish orange sandy fine and medium subangular to rounded GRAVEL of mudstone flint and quartz with rare small cobbles of sandstone. (RIVER TERRACE GRAVELS)		RT	
3.90-4.10	ES		0					(2.15)	Soft dark bluish grey gravelly CLAY. Gravel is fine and medium angular to subrounded of various lithologies including flint and mudstone.		CHAM	
							91.09	5.00				

Boring Progress					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt

Chiselling				Water Added	
From	To	Hours	Tool	From	To

Water Strikes					
Date	Time	Strike	Minutes	Standing	Casing
05-12-17		3.10			

General Remarks

Hole terminated at 5 m bgl due to refusal. Olfactory evidence of contamination noted at 1.0m - 1.5m bgl.

Scale 1:62.5

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

WSP

Telephone:

BOREHOLE LOG

Hole No. **WS205**

Project: Kraft, Southam Road Tank Investigation

Sheet: 1 of 2

Job No: 70041591

Client: Paloma Capital

Date: 05-12-17 05-12-17

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
RP Drilling Ltd.	Dando Terrier	Stephen Jones	E 445063.436 N 241383.758	97.223

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. mm
0.00-0.10	ES		0				97.02	0.20	Grass over dark brown sandy slightly gravelly CLAY with occasional rootlets. Gravel is fine and medium angular to subrounded of various lithologies. (TOPSOIL)		TS	
0.00-0.00	EW											
0.70-1.00	ES		0						Firm dark brownish orange mottled grey sandy slightly gravelly CLAY with occasional small cobbles of brick of. Gravel is fine to coarse angular to subrounded of various lithologies including brick. (MADE GROUND)			
								(3.20)	1.70 - 1.75 Band of coarse concrete gravel 1.80 - 1.85 Band of coarse concrete gravel		CMG	
2.10-2.30	ES		0						2.00 - 2.50 Slight hydrocarbon odour			
									3.00 - 3.40 No recovery, assumed made ground			
							93.82	3.40				
3.50-3.70	ES		0						Dark orangish brown gravelly medium and coarse SAND. Gravel is fine and medium angular to rounded of various lithologies including flint, mudstone and quartz. (RIVER TERRACE GRAVELS)			
3.70-4.00	ES		0					(1.30)	4.00 - 4.20 No recovery 4.20 - 4.70 Shell fragments		RT	
							92.52	4.70				
							92.22	5.00	Very stiff dark bluish grey CLAY.		CHAM	

Boring Progress

Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt

Chiselling

From	To	Hours	Tool

Water Added

From	To

Water Strikes

Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Hole terminated at 5.0 m bgl. Olfactory evidence of hydrocarbon noted in cohesive made ground.

Scale 1:62.5

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

17 WSP BH LOG KRAFT, BANBURY 2.GPJ WSPETEMPLATE7.00.GDT 16/1/18

WSP

Telephone:

BOREHOLE LOG

Hole No. **WS207**

Project: Kraft, Southam Road Tank Investigation

Sheet: 1 of 2

Job No: 70041591

Client: Paloma Capital

Date: 05-12-17 05-12-17

Contractor / Driller	Method/Plant Used	Logged By	Co-Ordinates (NGR)	Ground Level (m AOD)
RP Drilling Ltd.	Dando Terrier	Stephen Jones	E 445063.436 N 241383.758	96.423

SAMPLES & TESTS							STRATA					
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Install / Backfill Dia. mm
0.00-0.10	ES		0				96.22	0.20	Grass over dark greyish brown sandy slightly clayey fine to coarse angular to subangular GRAVEL of of concrete with occasional small cobbles of concrete. Gravel is fine and medium angular to subrounded of various lithologies. (MADE GROUND)		GMG	
0.00-0.00	EW											
0.40-0.60	ES		0				95.82	0.60			GMG	
1.10-1.30	ES		0					(1.30)	Dark brownish orange very clayey gravelly medium and coarse SAND. Gravel is medium and coarse angular to subrounded of various lithologies including brick.		CMG	
							94.52	1.90	Firm dark brownish orange mottled grey very sandy CLAY with rare small fragments of brick. (REWORKED CLAY) 1.00 - 1.50 Becoming less sandy 1.50 - 2.00 Becoming soft with little sand			
2.00-2.20	ES		0					(0.50)	Soft light yellowish brown very sandy CLAY.		RT	
							94.02	2.40				
2.60-2.80	ES		0					(0.60)	Dark orangish brown clayey medium and coarse SAND.		RT	
							93.42	3.00				
3.00-3.20	ES		0					(0.50)	Very soft dark bluish grey sandy slightly gravelly CLAY. Gravel is fine to coarse subrounded of mudstone and sandstone. (ALLUVIUM)		ALV	
							92.92	3.50				
3.60-3.80	ES		0					(0.60)	Dark greyish brown sandy slightly clayey fine subrounded to rounded GRAVEL of various lithologies.		RT	
							92.32	4.10				
4.10-4.30	ES		0					(0.90)	Very stiff dark bluish grey slightly gravelly CLAY with occasional bivalve shells. Gravel is coarse subrounded of mudstone and quartz.		CHAM	
							91.42	5.00				

Boring Progress

Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt

Chiselling

From	To	Hours	Tool

Water Added

From	To

Water Strikes

Date	Time	Strike	Minutes	Standing	Casing

General Remarks

Hole terminated at 5.0 m bgl. No visual or olfactory evidence of contamination.

Scale 1:62.5

Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.

17 WSP BH LOG KRAFT, BANBURY 2.GPJ WSPETEMPLATE7.00.GDT 16/1/18

LEGEND


GRANULAR MADE GROUND


COHESIVE MADE GROUND


Sandy CLAY


Clayey SAND


Sandy gravelly CLAY


Sandy GRAVEL


Gravelly CLAY

Appendix C

LABORATORY RESULTS

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP PB MLN
The Victoria
150-182 The Quays
Salford
Manchester
Lancashire
M50 3SP

Attention: Stephen Jones

CERTIFICATE OF ANALYSIS

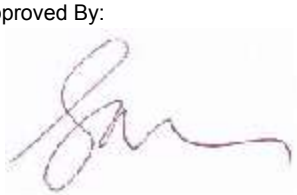
Date:	18 December 2017
Customer:	H_WSP_MAN
Sample Delivery Group (SDG):	171208-120
Your Reference:	70041591
Location:	Kraft, Banbury
Report No:	437139

We received 23 samples on Friday December 08, 2017 and 10 of these samples were scheduled for analysis which was completed on Monday December 18, 2017. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

Chemical testing (unless subcontracted) performed at ALS Environmental Hawarden (Method codes TM) or ALS Environmental Aberdeen (Method codes S).

Approved By:



Sonia McWhan

Operations Manager