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Site Proposed Marstons, Plas Coch Road, Wrexham				BH1
Job No CRM.427.008	Dates Start 21-02-18 Finish 22-02-18	Ground Level (m)	Co-Ordinates	
Client Marston's PLC				Sheet 1 of 2

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description			
		Depth (m)	No/Type	Results							
		0.20	ES	C 15	0.15			(MADE GROUND) Topsoil: (Soft) dark brown slightly sandy CLAY with occasional rootlets. Sand is fine.	0		
		0.50	D ES		0.55			(MADE GROUND) Dark brown clayey SAND & GRAVEL with a low cobble content, occasional rootlets and gravel-sized fragments of brick tiles, and rare plastics fragments (<60mm). Gravel is angular to subrounded, fine to coarse concrete, bricks, sandstone, quartzite, flint, occasional cobbles of sandstone.	1		
		1.00	D		C 8			1.20		(MADE GROUND) Light yellowish brown angular to subangular COBBLES of weak and medium strong sandstone with occasional dark brown silty sandy angular to subangular fine to coarse sandstone and bricks.	2
		1.20 - 1.65	D								
		1.20 - 1.65	SPT								
		2.00 - 2.45	D	C 10	3.50		1.20 - 1.65 Medium dense. (MADE GROUND) Dark brown clayey SAND & GRAVEL with a low cobble content, occasional PFA fragments. Gravel is angular to subrounded, fine to coarse, sandstone, bricks, coal, concrete, quartzite, cobbles of sandstone and bricks. 2.00 - 2.45 Loose.	3			
		2.00 - 2.45	SPT								
		3.00 - 3.45	D	S 7	6.00		3.00 - 3.45 Loose to medium dense.	4			
		3.00 - 3.45	SPT								
		3.20	ES								
		3.50	D	S 15	7.30		Orangish brown mottled brown and grey silty fine to medium laminated SAND with occasional thin black ferruginous laminae. 4.00 - 4.45 Loose.	5			
		4.00 - 4.45	SPTLS								
		4.70	D								
		5.00 - 5.45	SPTLS	S 11	8.00		5.00 - 5.45 Medium dense.	6			
		5.70	D								
		6.00 - 6.45	SPTLS								
		6.70	D	S 18	7.30		6.00 - 6.45 Medium dense. Orangish brown silty fine laminated SAND.	7			
7.00 - 7.45	SPTLS										
7.70	D										
8.00 - 8.45	SPTLS	S 42	{8.00}		Grey SILT with occasional interlaminae and very thin interbeds of (firm) brownish grey CLAY.	8					
Continued next sheet											

General Remarks

EQUIPMENT: Cable Percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilling 1.20m-9.10mbgl.
CASING: 9.10m of 150mm diameter casing used.
REMARKS: Groundwater encountered at 8.30mbgl, rose to 6.50mbgl. Chiselling 1hr (9.00-9.10mbgl).
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater	Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
All dimensions in metres Scale 1:50				Logged By MB



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Job No CRM.427.008	Dates Start 21-02-18 Finish 22-02-18	Ground Level (m)	Co-Ordinates	
Client Marston's PLC				Sheet 2 of 2

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description	
		Depth (m)	No/Type	Results					
		8.50 - 9.00	B		8.30			Brown slightly silty sandy GRAVEL. Gravel is subangular to rounded, fine to coarse sandstone, siltstone and mudstone.	8
		9.00 - 9.06	SPTLS	S 50	9.00				9
		9.10 - 9.13	D	C 50	9.10				
		9.10 - 9.13	SPT		9.13			9.00 - 9.06 Very dense. Refused at 9.06mbgl. Medium strong greyish brown fine and medium-grained SANDSTONE recovered as angular medium to coarse gravel-sized fragments (Probable bedrock). Medium strong greyish brown fine and medium-grained SANDSTONE recovered as angular medium to coarse gravel-sized fragments (Probable bedrock). 9.10 - 9.13 Very dense. Refused at 9.125mbgl. Borehole completed at 9.13m.	10
									11
									12
									13
									14
									15
									16

General Remarks

EQUIPMENT: Cable Percussion rig.
METHOD: Hand dug inspection pit 0.00m-1.20mbgl. Cable percussive drilling 1.20m-9.10mbgl.
CASING: 9.10m of 150mm diameter casing used.
REMARKS: Groundwater encountered at 8.30mbgl, rose to 6.50mbgl. Chiselling 1hr (9.00-9.10mbgl).
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater	Date 21/02/18	Strike Depth (m) 8.30	Casing Depth (m) 8.30	Depth After Observation (m) 6.50
All dimensions in metres Scale 1:50				Logged By MB



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Site Proposed Marstons, Plas Coch Road, Wrexham				WS01
Job No CRM.427.008	Dates Start 09-02-18 Finish 09-02-18	Ground Level (m)	Co-Ordinates	
Client Marston's PLC				Sheet 1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description	
		Depth (m)	No/Type	Results					
		0.20	ES		0.10			(MADE GROUND) Topsoil: (Firm) Dark brown slightly gravelly slightly sandy CLAY with frequent rootlets.	0
					0.50			(MADE GROUND) (Firm) Brown slightly gravelly slightly sandy CLAY. Gravel is subangular, fine to coarse bricks, limestone, and sandstone.	
		1.00	D	S 14	1.00			(Firm) Light brown slightly gravelly slightly sandy CLAY. Gravel is subangular, fine mudstone.	1
		1.00 - 1.45	SPTLS		1.35			(Firm) Reddish brown slightly gravelly slightly sandy CLAY. Gravel is subangular, fine to medium quartzite, and mudstone.	
								1.00 - 1.45 Firm, medium strength.	
		2.00	D	S 12	2.00			(Firm) Grey mottled brown slightly gravelly slightly sandy CLAY. Gravel is subangular, fine to coarse mudstone, sandstone, quartzite, coal, and granite.	2
		2.00 - 2.45	SPTLS					2.00 - 2.45 Medium dense.	
								Grey mottled brown slightly clayey slightly sandy GRAVEL with low cobble content of subangular mudstone. Gravel is subangular, fine to coarse coal, sandstone, mudstone, quartzite, and granite.	
		3.00	D	S 14				3.00 - 3.45 Medium dense.	3
		3.00 - 3.45	SPTLS					4.00 - 4.45 loose to medium dense.	4
		4.00	D	S 10					
		4.00 - 4.45	SPTLS						
		5.00	D	S 23					5
		5.00 - 5.45	SPTLS					5.00 - 5.45 Medium dense.	
					5.45				
					{8.00}			Borehole completed at 5.45m.	6
									7
									8

General Remarks

EQUIPMENT: Archway Dart Window Sampling Tracked Rig.
METHOD: Hand dug inspection pit 0.00m-1.00m. Dynamic sampled 1.00m-5.00mbgl.
CASING: Not used.
GROUNDWATER: Groundwater encountered at 4.50mbgl.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater	Date 09/02/18	Strike Depth (m) 4.50	Casing Depth (m)	Depth After Observation (m)
All dimensions in metres Scale 1:50				Logged By TL



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Site Proposed Marstons, Plas Coch Road, Wrexham				WS02
Job No CRM.427.008	Dates Start 09-02-18 Finish 09-02-18	Ground Level (m)	Co-Ordinates	
Client Marston's PLC				Sheet 1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description		
		Depth (m)	No/Type	Results						
		0.20	ES	S 7	0.10			(MADE GROUND) Topsoil: (Firm) Dark brown slightly gravelly slightly sandy CLAY with frequent rootlets.	0	
		0.50	D		0.75			(MADE GROUND) (Firm) Greyish brown slightly gravelly slightly sandy CLAY. Gravel is subangular, fine to coarse mudstone, bricks, limestone, and sandstone.		
		1.00 1.00 - 1.45	D SPTLS					(Firm) Brown slightly gravelly slightly sandy CLAY. Gravel is subangular, fine to coarse mudstone, coal, and sandstone. 1.00 - 1.45 Soft, low strength.	1	
		1.50	D	1.80		Brown mottled grey slightly clayey slightly sandy GRAVEL. Gravel is subangular, fine to coarse quartzite, sandstone, mudstone, and coal. 2.00 - 2.45 Medium dense.				
		2.00 - 2.45 2.00	SPTLS D		2.50		S 16			
		2.50	D							
		3.00 - 3.45 3.00	SPTLS D	3.00		3.00 - 3.45 Loose. Brown slightly clayey slightly gravelly fine to coarse SAND. Gravel is subrounded, fine to medium quartz.	3			
		3.50	D				3.65		Brown mottled grey slightly clayey slightly sandy GRAVEL. Gravel is subangular, fine to coarse coal, sandstone, mudstone, chert and quartzite. 4.00 - 4.45 Medium dense.	
		4.00 - 4.45 4.00	SPTLS D							4.50
		4.50	D							
		5.00 - 5.45 5.00	SPTLS D	5.45		5.00 - 5.45 Very loose.	5			
								Borehole completed at 5.45m.	6	
										7
										8
							{8.00}			

General Remarks

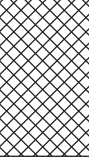
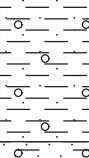
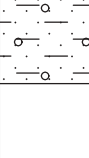
EQUIPMENT: Archway Dart Window Sampling Tracked Rig.
METHOD: Hand dug inspection pit 0.00m-1.00m. Dynamic sampled 1.00m-5.00mbgl.
CASING: Not used.
GROUNDWATER: Groundwater encountered at 4.80mbgl.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater	Date 09/02/18	Strike Depth (m) 4.80	Casing Depth (m)	Depth After Observation (m)
All dimensions in metres Scale 1:50				Logged By TL



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Site Proposed Marstons, Plas Coch Road, Wrexham				WS03
Job No CRM.427.008	Dates Start 09-02-18 Finish 09-02-18	Ground Level (m)	Co-Ordinates	
Client Marston's PLC				Sheet 1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description	
		Depth (m)	No/Type	Results					
		0.20	ES		0.10			(MADE GROUND) Topsoil: (Firm) Dark brown slightly gravelly slightly sandy CLAY with frequent rootlets.	0
		1.00	ES	S 19				(MADE GROUND) (Firm) Brown slightly gravelly slightly sandy CLAY with low cobble content of angular bricks. Gravel is angular, fine to coarse bricks, mudstone, and quartzite.	1
		1.00 - 1.45	D SPTLS		1.40				
					1.55			(MADE GROUND) Light grey slightly sandy GRAVEL of angular, fine to coarse limestone.	
		2.00	D	S 6				(Firm) Dark brown mottled black slightly gravelly slightly sandy CLAY. Gravel is subangular, fine to coarse mudstone, sandstone coal, and quartz.	2
		2.00 - 2.45	D SPTLS					2.00 - 2.45 Soft, low strength.	
								3.00 - 3.45 Firm, medium strength.	3
		3.00	D	S 14					
		3.00 - 3.45	D SPTLS		3.75			Orangish brown slightly clayey slightly gravelly medium SAND. Gravel is subangular, fine to coarse coal, and mudstone.	4
		4.00	D	S 10				4.00 - 4.45 Loose to medium dense.	
		4.00 - 4.45	D SPTLS						
		5.00	D	S 15				5.00 - 5.45 Medium dense.	5
		5.00 - 5.45	D SPTLS		5.45				
					{8.00}			Borehole completed at 5.45m.	6
									7
									8

General Remarks

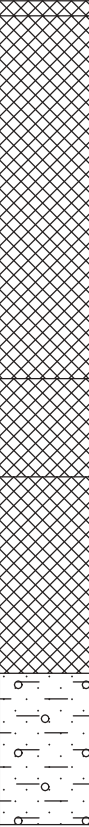
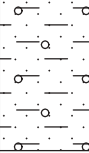
EQUIPMENT: Archway Dart Window Sampling Tracked Rig.
METHOD: Hand dug inspection pit 0.00m-1.00m. Dynamic sampled 1.00m-5.00mbgl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater	Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
All dimensions in metres Scale 1:50				Logged By TL



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Site Proposed Marstons, Plas Coch Road, Wrexham				WS04
Job No CRM.427.008	Dates Start 09-02-18 Finish 09-02-18	Ground Level (m)	Co-Ordinates	
Client Marston's PLC				Sheet 1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description	
		Depth (m)	No/Type	Results					
		0.20	ES		0.10			(MADE GROUND) Topsoil: (Firm) Dark brown slightly gravelly slightly sandy CLAY with frequent rootlets.	0
		1.00	ES	S 6				(MADE GROUND) (Firm) Dark brown slightly gravelly slightly sandy CLAY with low cobble content of angular bricks and concrete, and ceramic fragments. Gravel is subangular, fine to coarse bricks, limestone, mudstone, sandstone, quartzite, bricks and concrete.	1
		1.00	D					1.00 - 1.45 Soft, low strength.	
		1.00 - 1.45	SPTLS						
		2.00	D	S 9				2.00 - 2.45 Firm, low to medium strength.	2
		2.00 - 2.45	SPTLS						
		3.00	D	S 17	2.50			(MADE GROUND) (Firm) Dark grey slightly gravelly slightly sandy CLAY with low cobble content of subangular bricks and limestone. Gravel is subangular, fine to coarse limestone, coal, quartzite and bricks.	3
		3.00 - 3.45	SPTLS		3.15			3.00 - 3.45 Stiff, medium strength.	
		4.00	D	S 13				(MADE GROUND) (Firm) Light brown mottled grey slightly gravelly slightly sandy CLAY. Gravel is subangular, fine to coarse bricks, coal, chert, and mudstone.	4
		4.00 - 4.45	SPTLS		4.45			4.00 - 4.45 Firm, medium strength.	
		5.00	D	S 17	5.45			Orange brown slightly clayey slightly gravelly medium to coarse SAND. Gravel is subangular, fine to medium, mudstone, sandstone, and coal.	5
		5.00 - 5.45	SPTLS					5.00 - 5.45 Medium dense.	
								Borehole completed at 5.45m.	6
					{8.00}				7
									8

General Remarks

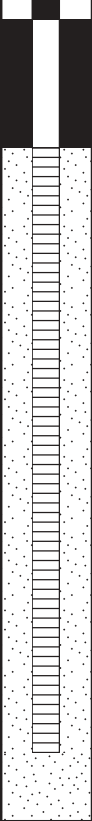
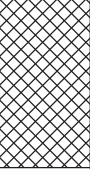
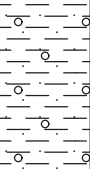
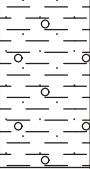
EQUIPMENT: Archway Dart Window Sampling Tracked Rig.
METHOD: Hand dug inspection pit 0.00m-1.00m. Dynamic sampled 1.00m-5.00mbgl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, the borehole was backfilled with arisings.

Groundwater	Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
All dimensions in metres Scale 1:50				Logged By TL



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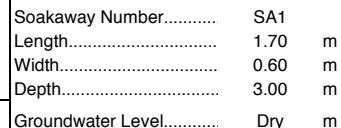
Site Proposed Marstons, Plas Coch Road, Wrexham				WS05
Job No CRM.427.008	Dates Start 09-02-18 Finish 09-02-18	Ground Level (m)	Co-Ordinates	
Client Marston's PLC				Sheet 1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description	
		Depth (m)	No/Type	Results					
		0.20	ES		0.10			(MADE GROUND) Topsoil: (Firm) Dark brown slightly gravelly slightly sandy CLAY with frequent rootlets.	0
		1.00	ES	S 16				(MADE GROUND) (Firm) Greyish brown slightly gravelly slightly sandy CLAY. Gravel is subangular, fine to coarse bricks, concrete, limestone, and mudstone.	1
		1.00	D					1.00 - 1.45 Stiff, medium strength.	
		1.00 - 1.45	SPTLS		1.50				
		2.00	D	S 15				(Firm) Brown mottled grey slightly gravelly slightly sandy CLAY. Gravel is subangular, fine to coarse mudstone, sandstone, coal and limestone.	2
		2.00 - 2.45	SPTLS					2.00 - 2.45 Firm to stiff, medium strength.	
		3.00	D	S 14				3.00 - 3.45 Firm, medium strength.	3
		3.00 - 3.45	SPTLS						
		4.00	D	S 11	4.10			Orange brown slightly clayey slightly gravelly medium to coarse SAND. Gravel is subangular, fine to medium sandstone, and mudstone.	4
		4.00 - 4.45	SPTLS						
		5.00	D	S 14				5.00 - 5.45 Medium dense.	5
		5.00 - 5.45	SPTLS		5.45				
								Borehole completed at 5.45m.	6
									7
					{8.00}				8

General Remarks

EQUIPMENT: Archway Dart Window Sampling Tracked Rig.
METHOD: Hand dug inspection pit 0.00m-1.00m. Dynamic sampled 1.00m-5.00mbgl.
CASING: Not used.
GROUNDWATER: Groundwater not encountered.
BACKFILL: On completion, a slotted pipe (50mm) was installed to 5.00m, granular response zone (5.00m-1.00m), bentonite seal 1.00m-0.15m, concrete and steel flush cover 0.15m-0.00m.

Groundwater	Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
All dimensions in metres Scale 1:50		Logged By TL		



See B.R.E. Digest 365, 1991, Soakaway Design.

Compiled By:	Date:	Checked By:	Date:	Approved By:	Date:
A. Jubb	08.02.18	A.Hodgkinson	08.02.18	S.Dawson	08.02.18