Borehole ID: BH2

Location: Stockley WTW, Palterton Co-ords (British National Grid): 445991 - 367927 Level: 77.67

Hole Type: CP+RC Logged By: Dates: 2011-10-31 - 2011-11-10

Client: ETM Contractor: Soil Mechanics Project Engineer:

Plant	Used:	SPT Hammer	Serial N	0:					
		Samples	3						Depth
Well	Water	Depth (m)	Туре	Result	Depth (m)	Level (m)	Legend	Stratum Description	m
		0.2	ES		0.18	77.49		Grey sandy subangular to rounded fine to coarse GRAVEL of various lithologies including sandstone concrete and quartzite MADE GROUND	_
		0.5 0.5 - 0.8	ES B						0.5 —
		1.0	ES					Stiff mottled orangish brown light grey and brown CLAY	1.0
		1.2 - 1.65	U		1.20	76.47		and blown CEAT	- 1.5 —
		1.65 - 1.85 1.85 - 2.3	D D	N=20 (3,4/4,5,5,6)				Firm brown and grey slightly gravelly locally slightly sandy CLAY Gravel is subangular to subrounded fine to coarse of sandstone and mudstone	-
		2.3 - 2.5	В						2.0 —
		2.5 - 2.95	U		2.50	75.17		Stiff brown slightly gravelly CLAY Gravel	2.5 —
		2.95 - 3.15 3.15 - 3.6	D D	N=44 (6,7/8,10,11,15)	3.20	74.47		is subangular to rounded fine to coarse of mudstone	3.0 —
								Extremely weak grey MUDSTONE Recovered as gravelly clay	3.5 —
		4.2 - 4.34	D	50 (25/50 for 50mm)				Very weak locally extremely weak thinly laminated grey silty MUDSTONE Fractures are subhorizontal very closely to closely spaced planar smooth	4.0 —
					4.55	73.12			4.5 — –

Borehole Log

BH2

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Project Name: STOCKLEY WTW, PALTERTON Project No: A1083-11

Borehole ID: BH2

Location: Stockley WTW, Palterton Co-ords (British National Grid): 445991 - 367927 Level: 77.67

Hole Type: CP+RC Logged By: Dates: 2011-10-31 - 2011-11-10

Client: ETM Contractor: Soil Mechanics Project Engineer:

Plant	Used:	SPT Hammer	Serial No	0:					
			Samples					Depth	
Well	Water	Depth (m)	Туре	Result	Depth (m)	Level (m)	Legend	Stratum Description	m
III								Very weak locally extremely weak thinly	
								Very weak locally extremely weak thinly laminated grey silty MUDSTONE Fractures are subhorizontal very closely to closely spaced planar smooth	
								Fractures are subhorizontal very closely	
								to closely spaced planar smooth	
									5.5 _
] 5.5 –
									6.0 _
									0.0 -
									6.5 _
									0.5 =
									7.0 _
									'
									7.5 _
									8.0 -
M									
									8.5 –
									9.0 -
									9.5 –
							<u> </u>		

Borehole ID: BH2

Location: Stockley WTW, Palterton Co-ords (British National Grid): 445991 - 367927 Level: 77.67

Hole Type: CP+RC Logged By: Dates: 2011-10-31 - 2011-11-10

Client: ETM Contractor: Soil Mechanics Project Engineer:

Plant	Used:	SPT Hammer	Serial No):					
		Samples	3						Depth
Well	Water	Depth (m)	Туре	Result	Depth (m)	Level (m)	Legend	Stratum Description	m
1111								Very weak locally extremely weak thinly	
								Very weak locally extremely weak thinly laminated grey silty MUDSTONE Fractures are subhorizontal very closely to closely spaced planar smooth	
								to closely spaced planar smooth	-
									10.5 —
MM	1								-
	1							Very weak thinly laminated dark grey	11.0
MM								Very weak thinly laminated dark grey carbonaceous MUDSTONE	
								Predominantly recovered as NI	
MM]				44.40	00.07			
					11.40	66.27			
]								11.5 —
								Extremely weak thinly laminated light grey MUDSTONE Fractures are subhorizontal	-
								closely spaced planar rough	
MM					12.00	65.67			12.0 —
MM]								_
					12.50	65.17		Medium strong locally weak thinly	12.5 —
MM							$\times \times$	Medium strong locally weak thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium	12.0
]						$\times \times$	spaced planar smooth	
MM]						$\times \times$		_
							$\times \times$		
]						$\times \times$		13.0 —
MM	1						$\times \times$		
							ХX		-
							××	Weak thinly laminated grey MUDSTONE	
							××	Weak thinly laminated grey MUDSTONE Fractures are subhorizontal closely spaced planar smooth	13.5 —
]						××	spaceu pianai sinootii	
]						××		_
MM							××		
M]						××		14.0 —
MM					14.10	63.57	^ ^		17.0 —
								Medium strong thinly laminated grey fine grained SANDSTONE Fractures are	
MM								subhorizontal closely to medium spaced	-
M								planar smooth	
]				14.60	62.07			14.5 —
MM]				14.60	63.07	* * * * *		
									-
MM							* * * * *		
\overline{m}							* * * *		

Borehole ID: BH2

Location: Stockley WTW, Palterton Co-ords (British National Grid): 445991 - 367927 Level: 77.67

Hole Type: CP+RC Logged By: Dates: 2011-10-31 - 2011-11-10

Client: ETM Contractor: Soil Mechanics Project Engineer:

Plant	Used:	SPT Hammer	Serial No):					
		Samples	3						Depth
Well	Water	Depth (m)	Туре	Result	Depth (m)	Level (m)	Legend	Stratum Description	m
					16.10	61.57		Medium strong thinly laminated grey fine grained SANDSTONE Fractures are subhorizontal closely to medium spaced planar smooth	- 15.5 — - 16.0 —
								Weak locally very weak thinly laminated grey MUDSTONE Fractures are subhorizontal closely spaced planar smooth	16.5 — 17.0 —
					18.40	59.27		Medium strong thinly laminated dark grey carbonaceous MUDSTONE with occasional fossil shell fragments Fractures are closely to medium spaced planar smooth	18.0 — 18.5 —
									19.0 — - 19.5 — -

Borehole ID: BH2

Location: Stockley WTW, Palterton Co-ords (British National Grid): 445991 - 367927 Level: 77.67

Hole Type: CP+RC Logged By: Dates: 2011-10-31 - 2011-11-10

Client: ETM Contractor: Soil Mechanics Project Engineer:

Well Water Depth (m) Type Result Depth (m) Level (m) Legend Stratum Description m Medium arrow bring beminated dark grey control arrow on the control arrow of the control arrow	Plant	t Used:	SPT Hammer	Serial No):					
Medium strong thinly laminated dark grey carbonacous MUDSTONE with occasional fossi shelf hargments paned planar smooth Weak thinly laminated dark grey carbonacous MUDSTONE with occasional light town bands Fractures occas				3						Depth
20.45 57.22 Section and elosely to medium spaced planer smooth with the plane of th	Well	Water	Depth (m)	Туре	Result	Depth (m)	Level (m)	Legend	Stratum Description	m
20.45 57.22 Section and elosely to medium spaced planer smooth with the plane of th	1111	1							Medium strong thinly laminated dark grey	
23.25 54.42 Weak thinly laminated dark grey carbonaceous MUDSTONE with carbonaceous MUDSTONE with carbonaceous MUDSTONE with spaced planar smooth 22.0 — 23.25 54.42 Very weak black vitreous COAL 23.0 — Weak locally medium strong thinly laminated grey Bill TSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.0 — 24.20 53.47 × × × × × × × × × × × × × × × × × × ×	W	1							carbonaceous MUDSTONE with	
23.25 54.42 Weak thinly laminated dark grey carbonaceous MUDSTONE with carbonaceous MUDSTONE with carbonaceous MUDSTONE with spaced planar smooth 22.0 — 23.25 54.42 Very weak black vitreous COAL 23.0 — Weak locally medium strong thinly laminated grey Bill TSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.0 — 24.20 53.47 × × × × × × × × × × × × × × × × × × ×									occasional fossil shell fragments Fractures are closely to medium spaced	-
20.5		1				20.45	57 OO		planar smooth	
Weak thinly laminated dark grey carbonoeous MUDSTONE with accasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.0 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20		3				20.45	37.22			20.5
Weak thinly laminated dark grey carbonoeous MUDSTONE with accasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.0 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20		1								
Weak thinly laminated dark grey carbonoeous MUDSTONE with accasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.0 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20		3								
Weak thinly laminated dark grey carbonoeous MUDSTONE with accasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.0 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20										
Weak thinly laminated dark grey carbonoeous MUDSTONE with accasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.0 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20	WM									
Weak thinly laminated dark grey carbonaceous MIDSTONE with occasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.5 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47		}								21.0 —
Weak thinly laminated dark grey carbonaceous MIDSTONE with occasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.5 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47	WW	1								
Weak thinly laminated dark grey carbonaceous MIDSTONE with occasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.5 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47										-
Weak thinly laminated dark grey carbonaceous MIDSTONE with occasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.5 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47	W	1								
Weak thinly laminated dark grey carbonaceous MIDSTONE with occasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.5 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47										21.5
cocasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.0 — 22.5 — 22.5 — 22.5 — 22.5 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20	W	1								21.0
cocasional light brown bands Fractures are subhorizontal very closely to closely spaced planar smooth 22.0 — 22.5 — 22.5 — 22.5 — 22.5 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20		}							Weak thinly laminated dark grey	
23.25 54.42 Very weak black vitreous COAL 23.5— Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 X X X X X X X X X X X X X X X X X X X	MM								occasional light brown bands Fractures	-
23.25 54.42 Very weak black vitreous COAL 23.5— Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 X X X X X X X X X X X X X X X X X X X									are subhorizontal very closely to closely spaced planar smooth	
23.0 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.0 — 23.5 — 24.5 — 24.5 —	W	1							.,	22.0
23.0 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.0 — 23.5 — 24.5 — 24.5 —		}								
23.0 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.0 — 23.5 — 24.5 — 24.5 —	MM									
23.0 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.0 — 23.5 — 24.5 — 24.5 —		}								
23.0 — Very weak black vitreous COAL 23.5 — Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.0 — 23.5 — 24.5 — 24.5 —		1								00.5
Very weak black vitreous COAL 23.5 Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 × × × × × × × × × × × × × × × × × ×		3								22.5
Very weak black vitreous COAL 23.5 Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 × × × × × × × × × × × × × × × × × ×		1								
Very weak black vitreous COAL 23.5 Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 × × × × × × × × × × × × × × × × × ×		3								_
Very weak black vitreous COAL 23.5 Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 × × × × × × × × × × × × × × × × × ×										
Very weak black vitreous COAL 23.5 Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 × × × × × × × × × × × × × × × × × ×	WM									23.0
23.5— Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 X X X X X X X X X X X X X X X X X X X		1								
23.5— Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 X X X X X X X X X X X X X X X X X X X		3				23.25	54.42		Very weak black vitreous COAL	l
Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 24.5 — 24.5 —						20.20	0] _
Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth 24.20 53.47 24.5 — 24.5 —	WM									
24.20 53.47										23.5 —
24.20 53.47	WM									
24.20 53.47	W	1							Weak locally medium strong thinly	-
24.20 53.47	W_{ij}]							laminated grey SILTSTONE Fractures	
24.20 53.47	MM								spaced planar smooth	24.0
	MM]								
24.5— X	W_{i}]				24.20	53.47			
24.5— X	MM]								-
	W_{ij}]								
	W_{i}							$\times \times$		24.5—
	W_{i}]						$\times \times$		
$lacksymbol{N} lacksymbol{N} lacksymbol{I} = lacksymbol{I} lacksymbol{I} = lacksymbol{I} lacksymbol{I}$	W_{i}							$\times \times$		
$lacksymbol{N} lacksymbol{N} lacksymbol{I} = lacksymbol{I} lacksymbol{I} = lacksymbol{I} lacksymbol{I}$	W_{i}]						$\times \times$		
	$M\!\!/\!\!\!/$							ХX		

Borehole Log

BH2

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Project Name: STOCKLEY WTW, PALTERTON Project No: A1083-11

Borehole ID: BH2

Location: Stockley WTW, Palterton Co-ords (British National Grid): 445991 - 367927 Level: 77.67

Hole Type: CP+RC Logged By: Dates: 2011-10-31 - 2011-11-10

Client: ETM Contractor: Soil Mechanics Project Engineer:

Plant	Used:	SPT Hammer	Serial N	0:					
		Samples							Depth
Well	Water	Depth (m)	Туре	Result	Depth (m)	Level (m)	Legend	Stratum Description	m
							ХX	Weak locally medium strong thinly	
							$\times \times$	Weak locally medium strong thinly laminated grey SILTSTONE Fractures are subhorizontal closely to medium spaced planar smooth	
MM							$\times \times$	spaced planar smooth	-
							$\times \times$		
							$\times \times$		25.5 —
							$\times \times$		
							$\times \times$		-
							$\times \times$		
							$\times \times$		26.0 —
							$\times \times$		
							ХX		-
							XX		
MM							XX		26.5
							XX		
							XX		_
							XX		
							××		27.0
							××		27.0
							XX		
MM							XX		_
							XX		07.5
							ХX	Medium strong thinly laminated light grey	27.5
							ХX	Medium strong thinly laminated light grey fine grained SANDSTONE Fractures are subhorizontal medium spaced planar	
							ХX	smooth	-
							ХX		
							ХX		28.0 —
MM							$\times \times$		
							ХX		-
							$\times \times$		
							$\times \times$		28.5 —
MM							$\times \times$		
							$\times \times$		-
							ХX		
MM					29.00	48.67	$\sqrt{}$		29.0
							· · · ·		
MM							* * * *		_
MM							* * * *		
W_{ij}							· · · ·		29.5—
MM]								29.5
MM									
W_{ij}							* * * * *		-
MM									
\overline{h}			L			l			

Borehole ID: BH2

Location: Stockley WTW, Palterton Co-ords (British National Grid): 445991 - 367927 Level: 77.67

Hole Type: CP+RC Logged By: Dates: 2011-10-31 - 2011-11-10

Client: ETM Contractor: Soil Mechanics Project Engineer:

Plan	t Used:	SPT Hammer	Serial No	o:					
		Samples	3						Depth
Well	Water	Depth (m)	Туре	Result	Depth (m)	Level (m)	Legend	Stratum Description	m
					30.40	47.27	· · · · · · · · · · · · · · · · · · ·	Medium strong thinly laminated light grey fine grained SANDSTONE Fractures are subhorizontal medium spaced planar smooth	_
									30.5 —
									_
					32.00	45.67		Weak thinly laminated grey silty MUDSTONE Fractures are subhorizontal very closely to closely spaced planar	31.5—
					32.50	45.17		very closely to closely spaced planar smooth	_
					JZ.JU	40.17			32.5 —
									33.0 —
								Weak thinly laminated dark grey carbonaceous MUDSTONE Recovered as NI	33.5 —
									34.0 —
									34.5 —

GENERAL REMARKS

SPT: hammer ID IS02, rods B.