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Fort Vale Engineering, Simonstone

Preliminary Ground Conditions Summary Report

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Summary

The investigations have proved a succession of weak compressible soils underlain by more competent glacial clays. Contrary to the initial indications based on the available geological maps, the recent ground investigation has confirmed that there actually is a potential risk of encountering shallow coal workings beneath the site. The ground investigation has confirmed the solid succession commences with coal measures rocks including a significant coal seam. The shallow coal probably underlies approximately 60% of the plan area of the site of the proposed building,

Groundwater levels over the site are typically within 2m of existing ground levels.

Geological and topographical mapping, historical data and coring records indicate that the seam may have been worked locally.

Total and differential settlement in the made ground and alluvium arising from both structural and floor loadings are likely to exceed the allowable tolerances.

Based on current information it would be necessary to pile both the structure and floor slab. Ground bearing floor slabs would not be suitable. Piles would typically derive capacity from skin friction in the superficial soils and in rock and from end bearing in rock.

However, given the possible presence of unrecorded mine workings at shallow depth close to the top of the solid succession detailed additional investigation of this site is required to further define the area of the site underlain by the seam and to positively determine the depth to the base of the seam and any potential workings.

Within the area of the site underlain by the seam, in order not to overstress previously worked zones, piles would need to be designed to derive capacity only from the solid succession below the base of the seam and would need to accommodate drag arising from ongoing settlement within the made ground and any that may arise from compression or movement within any areas of unconsolidated workings.

It is recommended that consideration be given to the completion of additional investigation to define the limit of the seam more accurately and to the relocation of the site to the north and east of the defined subcrop.

1 Introduction

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1.1 Scope and Objective

This interim note is provided at the request of the client in advance of completion of ground investigation testing and reporting. Interpretation provided is based solely on draft logs of the recent intrusive investigation holes and selected published information. It is intended to provide the client with preliminary geotechnical information particularly in respect of proposed construction.

1.2 Description of Project Including Site Description

It is understood that it is proposed to construct a building in which to house a casting foundry

The proposed building to be considered will be a portal frame structure 65M long x 50M wide, eaves height 7M the perimeter of the building will be brick work to 2.5M agl with kingspan cladding above and kingspan cladding with 20% roof light panels. The floor loading to be 20kN/m² settlement tolerance 15mm.

Floor levels are not provided

The proposed site of the new building lies to the west of existing elements of the engineering works. 'The Site' forms part of the Fort Vale Engineering Ltd (FVE) existing factory complex within the Calder Vale Park site. The existing facility comprises the new headquarter office building and refurbished former production buildings with associated security housing and car parking facilities. The majority of the surrounding area comprises long standing industrial land uses. The site lies to the west of the main FVE premises.

'The Site' comprises of:

- Service Yard;
- Woodland;
- Rough Scrub.

1.3 Geotechnical Category

N/A

1.4 Other Relevant Information

N/A

2 Existing Information

2.1 Topographical Maps

1:10000 scale maps indicate the site to lie between 70-75m OD on rising ground to the north of the broad flood plain of the River Calder, the margins of which lie at approximately 65m OD. Simonstone Brook, a tributary of the Calder, flows approximately north-south to the west of the site and forms part of the north western boundary of the area of interest within the site.

2.2 Geological Maps and Memoirs

British Geological Survey (BGS) sheet SD73SE shows the works are underlain predominantly by glacial till (boulder clay) but that the site also encroaches over alluvium associated with the Calder and Simonstone Brook in the south and west of the property respectively, ref maps as attached.

The solid geology at depth commences with rocks of the Pennine Coal Measures Group comprising mudstones, siltstones and sandstones with subordinate coal ironstone and fireclay.

The general structure of the solid succession is synclinal with the syncline dipping to the south west.

The map indicates a coal seam, the Arley Coal, subcropping at the base of the superficial deposits, within the south western margin of the property. There are a number of deeper coal seams within the solid succession.

2.3 Aerial Photographs

Aerial photographs of the site have been provided by the client. Three undated prints show the area of interest to be occupied by at least two and possibly three large water filled lagoons. It is inferred from the prints that the areas of the lagoons/ponds were contained within a perimeter earthwork bund.

A later photograph used as a cover to previous reporting shows two lagoons, one partially filled and potentially a third to the north. There appears also to be a pipeline route to the Calder crossing the area of interest presumably discharging water from the settling lagoons.

It also appears from later photography that the land bounded by the outfall, Simonstone Beck and the Calder has been used to accept material from the site.

Features possibly reminiscent of unrecorded entries to workings are identified but do not seem to persist on later photography.

2.4 Records of Mines and Mineral Deposits

A Coal Report has been obtained for the site and is attached. Previous mining is reported in one seam some 270m-290 below the site. Mining ceased in 1948 and any movement should by now have ceased.

The presence of the shallower seam is noted in the report.

Features reminiscent of unrecorded entries to workings are tenuously identified only on poor quality aerial photography and do not seem to persist on later photography.

Consideration should be given to a specific walkover inspection to the south west of the site and to obtaining additional photographic records.

2.5 Land Use and Soil Survey Information

Previous land use has been examined using current and superseded mapping.

1:10000 and 1:2500 scale mapping:

The earliest (1848) edition shows Simonstone Beck actually crossing the northeast corner of the area of interest. Air shafts, pit entrances are shown at Dunkirk to the east and at Altham to the south of the site and indicate exploitation of the shallow seam locally.

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The railway is shown to the north of the site. Simonstone Beck has been diverted and previous local signs of shallow workings are gone or marked disused by the time of the 1895 mapping. The limits of the Calder floodplain appear to be defined by the 200 foot (61m) contour but it should be noted that Ordnance Datum changed subsequently from Liverpool to Newlyn.

Calder colliery exploiting deeper coal is shown to the south east on the 1913 OS edition and on the 1912 1:12500 map. Little change is evident on the 1932, 1938, 1955 maps until 1965 when Calder colliery is shown disused.

Fort Vale is shown developing between the 1960-1977 1:2500 scale maps and is shown on the 1975 1:10000 issue; two ponds/lagoons are shown within the area of interest on the 1988 and 1991 1:10000 and also on the 1985 and 1993 1:2500 mapping, reducing to a single pond on the 1:10000 2001 and 2006 issues.

The former northern factory buildings are shown demolished and the former ponds/lagoons are no longer visible on the 2010 issue.

2.6 Archaeological and Historical Investigations

N/A

2.7 Existing Ground Investigations

At least 2 previous intrusive investigations have been completed to the east relating principally to the former, now demolished works building. Investigations dated 1959 relate to the demolished works pre construction while a further investigation including geotechnical investigations was undertaken in 2005.

2.8 Consultation with Statutory Bodies and Agencies

The design and scope of the GI was approved by the Environment Agency prior to commencement in accordance with planning.

2.9 Flood Records

The Envirocheck report for the site indicates the area of interest lies just outside the limits of flooding from the Calder and tributary.

2.10 Contaminated land

See separate reporting not yet issued.

3 Field and Laboratory Studies

3.1 Walkover survey

As reported separately in the Phase 1 Desk Study Report.

3.2 Ground Investigations

Recent ground investigations have undertaken primarily related to the preparation of a Phase 2 geo environmental report. The opportunity was taken to complete preliminary geotechnical investigation and testing at the site. The work was undertaken by Soils Mechanics Ltd; between December 2010 and January 2011.

3.2.1 Description of Fieldwork

The intrusive investigation comprised six cable percussive boreholes to depths between 5m and 23m below existing ground levels, 3 window sample holes to depths between 1.6m and 5m and six machine excavated trial trenches.

The deeper boreholes BH1-4 inclusive were advanced to rockhead using cable percussive techniques and advanced into rock using rotary coring equipment.

Coring techniques were adopted to enable examination of the solid succession because of the potential for unrecorded workings in shallow coal seams, ironstone and in fireclay in the area.

Standpipes were installed in each of the 7 boreholes at different depths within the vertical succession.

The exploratory hole locations are shown on the appended figure.

3.2.2 Copy of Ground Investigation Report

A copy of the factual ground investigation report is presented separately (to date not issued).

3.2.3 Results of in situ Tests

In situ testing in the boreholes consisted of Standard penetration tests at intervals through the succession. The results of the in situ tests have been plotted against depth. Ref Figures attached.

The data show low and very low N values to depths of the order 5-6m below existing ground levels, values increase with depth between 6-11m with deeper values reflecting conditions in the underlying argillaceous rocks.

SPT data has been used to provide an estimate only of undrained shear strength of the more cohesive elements of the succession. Undrained shear strength from the SPT data have been plotted against depth. The information suggests soft and very soft soils in the upper 5-6m of the succession improving to firm and stiff consistencies in the zone 5-11m with the weathered argillaceous rocks typically stiff and very stiff. The plot is truncated at a maximum 250 kPa although higher values are reported.

3.3 Drainage Studies

N/A

3.4 Geophysical Surveys

N/A

3.5 Pile Tests

N/A

3.6 Other Field Work

N/A

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3.7 Laboratory Investigation

Geotechnical laboratory testing is still to be reported

3.7.1 Description of Tests

As above.

3.7.2 Copies of Test Results

Copies of laboratory test results will be included in the factual report of the investigation

Capabilities on project:
Environment

4 Ground Summary

A summary of the succession encountered in the recent exploratory holes is provided below

Stratum	Thickness m.	comment	Description
Made ground	0.9-4.4m	Not in BH3	Soft and firm sandy gravelly clay typically over soft and very soft sandy clay and firm grey silt
Topsoil	0.7	BH3 only	
Alluvium	0.6(proved)-4.1	Not in TT 102-106	Soft slightly sandy clay, very soft silt, peat locally and basal sandy gravel
Lacustrine Clay	2.7	BH2 only	Firm grey clay
Glacial Till	4.2-9.9	BH1-4 only	Firm grey gravelly clay local thin gravel layers/inclusions
Coal Measures rocks	5.0-10.3m proved	BH1-4 only	Grey mudstone/siltstone. 1.5m thick intact coal seam recovered in BH4

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5 Ground Conditions and Material Properties

5.1 Topsoil

Encountered in BH 3 only with the thickness described suggesting local stockpiling in the past

5.2 Made Ground

Made ground is inferred to comprise lagoon sediments overlain by reworked cohesive fills. Given the form of the lagoons it is considered likely that cohesive bands will be present leading to variability in type and thickness of the made ground and underlying natural succession. It would be anticipated that the made ground would be relatively weak, highly variable and of moderate to high and very high compressibility

5.3 Alluvial Deposits

Alluvial deposits associated with the Calder and Simonstone Brook are described at the top of the natural succession. It would be anticipated that the typically soft cohesive elements of the alluvial deposits would be relatively weak (undrained shear strength, C_u , 20-40 kPa) and of moderate to high compressibility. The presence of thin peats is reported

5.4 Lacustrine Clays

The Lacustrine clay is ascribed from examination of previous investigations. It is suggested that inundation of the Calder valley occurred with lacustrine sediments accumulating probably at the end of the Devensian glaciations. The material is described as firm (undrained shear strength 40-75 kPa) but sediments are typically of intermediate and high plasticity, moderate to high compressibility and medium to low strength in terms of effective stress.

5.5 Glacial Till (Boulder Clay)

The till soils are typically described as firm in the recent holes but are described as stiff in earlier investigations to the east. Undrained shear strengths of the order 40-75 kPa are inferred from the recent holes and this is in reasonable accord with SPT correlation which indicates a range 50-100 kPa. The soils are typically intermediate and low plasticity of intermediate and high strength in terms of effective stress and of low to intermediate compressibility

5.6 Coal Measures Rocks

The underlying solid succession is encountered between 11.5 and 15m depth at elevations between 55.6 and 57.9m OD. The boreholes were taken to depths of between 16.5 and 23m (45.3-52.9m OD). The argillaceous mudstone and siltstone rocks are highly weathered/residual soils at rock head improving with depth to be described as very weak to weak and weak rocks. An intact coal seam is reported in BH4 between 17.0 and 18.5m depth (53.93-55.43m OD)

All the cored holes were taken to depths below the base of the seam in BH4. This borehole indicates that the approximate position of the coal subcrop shown on the geological map is too far to the south west and the seam is present beneath the area of interest

The general geology is shown to be dipping to the south west so that coal would be expected at approximately similar levels in BH3 and at deeper levels successively in boreholes BH1 and BH2

Core recovery in BH4 is very high at 97-100%. Examination of the log of BH3 approximately along strike from and at the elevation of the seam in BH4 indicates very poor recovery, as low as 20%, no coal reported and with the material recovered as angular gravel. The overlying siltstone is reported to be highly fractured.

The next borehole down dip, BH1, was taken to 49.72m OD proving 7.6m of the solid to an elevation some 4m below the coal in BH4. Core recovery is good, with 100% reported to the base of the hole. Coal is not reported in this hole with coring commencing at 54.72m OD, 17.5m depth

The next borehole down dip, BH2, was taken to 45.27m OD proving 10.3m of the solid to an elevation some 8.66m below the coal in BH4. No intact seam is reported.

Coal fragments are reported at the base of the superficial deposits however and the hole was "open holed" for some distance before coring probably due to the quality of the rock. Poor recovery and a zone of core loss (AZCL) is reported between 51.27 and 52.67m OD 15.6-17m depth, some 2.3-3.7m below rockhead.

Borehole 4 proved the seam intact at elevations just below rockhead. The subcrop is likely to be just northeast of BH4 and the preliminary information suggests that approximately 60% of the building is underlain by the shallow coal seam. The absence of the seam in BH3 and descriptions included in BH2 together with historical information from the Ordnance Survey maps and from aerial photography suggest unrecorded shallow workings may be present within the seam.

5.7 Groundwater

Groundwater details are provided below

Exploratory hole	Water encountered Depth m	Standpipe intake depth	Monitored Range m bgl	Monitored range m OD
BH1	1.6 5.7	12.5-14.9 Base of Till/top of solid	3.61	68.61
BH2	4.9 rising to 3.2	3.0-5.8 Alluvium	1.71-2.56	65.72-66.56 (Rising)
BH3	2.3 rising to 1.2	1.0-4.7 Alluvium	1.4-1.48	67.95-68.02 (Rising)
BH4	3.1 6.0 rising to 4.6	17.0-22.0 Coal measures	1.34-2.35	70.07-71.10 (Rising)
WS2	-	3.5-5.0 Alluvium	3.0-3.57	68.2-68.77 (Rising)
WS3	-	3.0-5.0 Alluvium	1.50-1.73	69.17-69.4 (Rising)
WS101	0.7 2.0	2.0-4.0 Alluvium	0.67-2.24	66.38-67.95 (Rising)
WS104	4.0	2.0-5.0 Alluvium	1.15-1.41	69.28-69.53 (Rising)
WS105	1.0	0.7-1.6 Made ground	0.88-0.97	69.92-69.83 (Rising)
TT101	-			
TT102	2.0			
TT103	2.0			
TT104	2.0			
TT105	-			
TT106	-			

Standpipes have been monitored on two occasions only; groundwater levels are not yet in equilibrium. Information from BH4 suggests water pressures in the underlying solid succession may become artesian with respect to ground level at the hole and are artesian with respect to lower surrounding areas.

Details of instrumentation are provided on the borehole logs as attached.

6 Proposed Construction

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The proposed building being considered will be a portal frame structure 65M long x 50M wide, eaves height 7M the perimeter of the building will be brick work to 2.5M agl with kingspan cladding above and kingspan cladding with 20% roof light panels. The floor loading to be 20KN/M2 settlement tolerance 15mm.

Floor levels are not provided.

Ground levels over the area investigated range between 68 and 72m OD approximately.

The investigations have proved a succession of weak compressible made ground and alluvial soils to the order 5-6m depth underlain by more competent glacial clays to between 11m and 12m depth. The solid succession commences with coal measures rocks including a significant coal seam. The coal probably underlies approximately 60% of the plan area of the site of the proposed building.

Groundwater levels over the site are typically within 2m of existing ground levels.

Geological and topographical mapping, historical data and coring records indicate that the seam may have been worked locally.

Total and differential settlement in the made ground and alluvium arising from both structural and floor loadings are likely to exceed the allowable tolerances.

Conventionally consideration might be given to ground improvement in the superficial layers and/or to piled foundations. Given the depth and nature of the weaker soils and groundwater conditions ground improvement is unlikely to prove economic.

Based on current information it would be necessary to pile both the structure and floor slab. Ground bearing floor slabs would not be suitable. Piles would typically derive capacity from skin friction in the superficial soils and in rock and from end bearing in rock.

However, given the possible presence of unrecorded mine workings at shallow depth close to the top of the solid succession detailed additional investigation of this site is required to further define the area of the site underlain by the seam and to positively determine the depth to the base of the seam and any potential workings.

Within the area of the site underlain by the seam, in order not to overstress previously worked zones, piles would need to be designed to derive capacity only from the solid succession below the base of the seam and would need to accommodate drag arising from ongoing settlement within the made ground and any that may arise from compression or movement within any areas of unconsolidated workings.

It is recommended that consideration be given to the completion of additional investigation to define the limit of the seam more accurately and to the relocation of the site to the north and east of the defined subcrop. It would appear the demolished factory site does lie outside the area affected.

Borehole Log

PRELIMINARY



Soil Mechanics

Drilled JG Logged MH Checked	Start 07/01/2011 End 07/01/2011	Equipment, Methods and Remarks Dando 150 Hand dug inspection pit to 1.20m. Cable Percussion boring to 5.00m. Logged by AECOM			Depth from 0.00m to 5.00m Diameter 150mm Casing Depth	Ground Level Coordinates National Grid Chalnage
Samples and Tests					Strata	
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)
0.30	ES 1				MADE GROUND: Soft grey/brown sandy gravelly clay. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick and ash	(1 10)
1.20	ES 2				MADE GROUND: Light grey slightly clayey fine sand. (Possible settlement material.)	1 10 1 30
2.00	ES 3				MADE GROUND: Soft dark grey black sandy gravelly clay. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick glass and abundant ash	(1 90)
3.50	ES 4				Soft grey brown sandy CLAY (ALLUVIAL DEPOSITS)	3 20 (1 80)
					4.50 m Becomes slightly gravelly and slightly damp	5 00
					EXPLORATORY HOLE ENDS AT 5.00 m	SP
Depth	Type & No	Records	Date Casing	Time Water		
Groundwater Entries No. Struck Post strike behaviour None observed (see Key Sheet)					Depth sealed (m)	Chiselling Depths (m) Time Tools used
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Simonstone, Burnley GI Project No. F0078-10 Carried out for AECOM	Borehole BHWS2 Sheet 1 of 1

Scale 1:50

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Borehole Log

PRELIMINARY



Soil Mechanics

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Drilled JG Logged MH Checked	Start 10/01/2011 End 10/01/2011	Equipment, Methods and Remarks Dando 150 Hand dug inspection pit to 1.20m. Cable Percussion boring to 5.00m. Logged by AECOM				Depth from 0.00m to 5.00m Diameter 150mm Casing depth	Ground level Coordinates National Grid Chainage	
Samples and Tests					Strata			
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.30	ES 1				MADE GROUND: Grey sandy gravel. Gravel is angular to subangular fine to coarse of brick concrete and minor fragments of slate.	0.50 m Becomes red brown	(1.40)	
1.10	ES 2						1.40	
2.00	ES 3				MADE GROUND: Soft dark grey sandy gravelly clay. Gravel is angular to subrounded fine to coarse of brick, concrete and fragments of sandstone.		(1.00)	
3.20	ES 4				Soft grey slightly sandy CLAY (ALLUVIAL DEPOSITS)		2.40	
						3.60 m Becomes slightly gravelly	(2.60)	
					EXPLORATORY HOLE ENDS AT 5.00 m		5.00	SP
Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)					Depth sealed (m)	Depth Related Remarks * From to (m)		
Chiselling Depths (m)					Time	Tools used		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 40824 27/01/2011 16:44:30					Project Simonstone, Burnley GI Project No. F0078-10 Carried out for AECOM			Borehole BHWS3 Sheet 1 of 1

Borehole Log

PRELIMINARY



Soil Mechanics

Drilled Logged Checked	JG/DR MH/DJLS	Start 13/12/2010 End 17/12/2010	Equipment, Methods and Remarks Danda 2000/Masscon M16 Hand dug inspection pit to 1.20m. Cable Percussion boring to 17.50m. Rotary core drilling to 22.50m. Soil logged by AECOM. Rotary core logged by SM.		Depth from 0.00m 17.50m	to 17.50m 22.50m	Diameter 150mm 125mm	Casing Depth 17.50m	Ground Level Coordinates National Grid Chalmage
Samples and Tests					Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments	
0.10-0.60 0.30	B 1 ES 1		13/12/2010	0800	MADE GROUND: Soft grey/brown sandy gravelly clay. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, ash, clinker and minor coal fragments	(0.90)			
0.90 0.95	D 2 ES 2				MADE GROUND: Light grey consolidated sil. (possible settlement material)	0.90 (0.30)			
1.20-1.65	U 3	14 blows 400 mm rec		dry	MADE GROUND: Very soft light gray sandy clay.	1.20			
1.70 1.70-2.00	D 4 B 5								
2.00-2.45 2.00 2.00-2.45 2.00-2.45 2.50 2.50-3.00	SPT S ES 3 D 6 B 7 D 8 B 9	N=8 (1.0/1.1/1.3)	2.00	1.70		(1.70)			
3.00-3.50 3.00-3.45	B 10 U NR	75 blows No recovery	3.00	dry	MADE GROUND: Soft grey sandy gravelly clay. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick ash and clinker	2.90 (1.50)			
3.60	ES 4								
4.00-4.45 4.00-4.45 4.00-4.45	SPT S D 11 B 12	N=10 (1.1/1.1/4.4)	4.00	dry					
4.50 4.50-5.00 4.80	D 13 B 14 ES 5				Stiff light brown/grey slightly sandy slightly gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies (ALLUVIAL DEPOSITS)	4.40			
5.00-5.45	U 15	30 blows 300 mm rec	5.00	dry		(1.30)			
5.50 5.50-6.00	D 16 B 17								
6.00-6.45 6.00 6.00-6.45	SPT C D 18 B 19	N=18 (7.1/2/7.4/3.4)	6.00	damp	Gray sandy subrounded to rounded fine to coarse GRAVEL of mixed lithologies (ALLUVIAL DEPOSITS)	5.70 5.90			
6.50 6.50-7.00	D 20 B 21				Stiff brown/grey slightly sandy slightly gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies (GLACIAL DEPOSITS)				
7.00-7.45	U 22	60 blows	7.00	dry					
7.50 7.50-8.00 7.50	D 23 B 24 ES 6								
8.00-8.45 8.00-8.45 8.00-8.45	SPT S D 25 B 26	N=11 (1.2/2.2/3.4)	8.00	dry	8.00 m becomes gravelly clay				
8.50-9.00	B 27		13/12/2010 8.50	dry					
9.00-9.45	U 28	60 blows	14/12/2010 8.50	dry					
9.50 9.50-10.00	D 29 B 30		9.00	dry		(6.50)			
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 12.40 m				
Groundwater Entries					Depth Related Remarks *		Chiselling		
No.	Struck (m)	Post strike behaviour	Depth sealed (m)	From	to (m)	SV=30 (18mm paddle)	SV=44 (18mm paddle)	SV=32 (18mm paddle)	
1	1.60	Seepage	-	5.00	6.40				
2	5.70	Seepage	-	9.00					
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Simonstone, Burnley GI		Borehole BH1		
Scale 1:50 (c) ESGL www.esgl.co.uk 42524 27/6/2011 16:14:37					Project No. F0078-10		Sheet 1 of 3		
					Carried out for AECOM				

PRELIMINARY 32 0120007P

Drilled		JG/DP	Start	Equipment, Methods and Remarks		Depth from		to		Diameter	Casing Depth	Ground Level	
Logged		MH/DJLS	13/12/2010	Danda 2000/Massenza M16		0.00m		17.50m		150mm	17.50m	Coordinates	
Checked			End	Hand dug inspection pit to 1.20m. Cable Percussion boring to 17.50m. Rotary core drilling to 22.50m.		17.50m		22.50m		125mm	17.50m	National Grid	
			17/12/2010	Soil logged by AECOM. Rotary core logged by SM.								Chainage	
Samples and Tests						Strata							
Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level (Thickness)	Legend	Backfill Instrument					
10.00-10.45	SPT S	N=14 (2,2,3,3,4,4)	10.00	dry	Stiff brown/grey slightly sandy slightly gravelly CLAY. Gravel is subrounded to rounded fine to coarse of mixed lithologies. (GLACIAL DEPOSITS)								
10.00-10.45	D 31												
10.00-10.45	B 32												
10.50-11.00	B 33												
11.00-11.45	U 34	65 blows	11.00	dry									
11.50	D 35												
11.50-12.00	B 36												
12.00-12.29	SPT S	50 (7 12/23, 27 for 60mm)	12.00	dry									
12.00	D 37												
12.00-12.45	B 38												
12.00-12.45	B 39												
12.50-13.00	B 40												
13.00-13.45	SPT S	N=35 (5 7/8, 8, 9, 10)	13.00	dry	Stiff brown very sandy gravelly CLAY Gravel is subrounded to rounded fine to coarse of sandstone. (GLACIAL DEPOSITS)	12.40							
13.00-13.45	D 41												
13.00-13.45	B 42												
13.10	W 43												
13.50	D 44												
13.50-14.00	B 45												
14.00-14.17	SPT C	50 (8, 16/50 for 20mm)	14.00	13.50									
14.00-14.45	B 46												
14.50-15.00	B 47												
15.00-15.37	SPT S	50 (4 7/11 17 22 for 70mm)	15.00	14.50	Grey/brown slightly clayey MUDSTONE/SILTSTONE (WEATHERED MUDSTONE/SILTSTONE)	14.90							
15.00	D 48												
15.00-15.45	D 49												
15.00-15.45	B 50												
15.50-16.00	B 51												
16.00-16.41	SPT S	50 (7 12/12 14, 10, 5 for 35mm)	15.00	damp									
16.00-16.45	D 52												
16.00-16.45	B 53												
16.50-17.00	B 54												
17.00-17.30	SPT S	50 (7 13/21 28 for 70mm)	15.50	damp									
17.00-17.45	D 55												
17.00-17.45	B 56												
17.50-18.50	100 100 10		14/12/2010 17.50	1800 damp	Very weak to weak thinly to thickly laminated grey, locally dark grey, MUDSTONE, locally with lens / interbeds of light grey brown siltstone, 10-20mm Discontinuities are very closely to closely spaced, closed, open, subhorizontal, occasionally subvertical, planar and smooth (COAL MEASURES)	17.50							
			16/12/2010 17.50	1330 1.70									
18.50-19.50	100 100 10		16/12/2010 17.50	1600 1.60									
			17/12/2010 17.50	0800 3.70	Weak thinly to thickly laminated grey and grey brown, locally dark grey	19.50							
Depth	100 100 10	If	Records/Samples	Date Casing	Time Water	Stratum continues to 22.50 m							
Groundwater Entries						Chiselling							
No.	Struck (m)	Post strike behaviour	Depth sealed (m)	Depth Related Remarks *		From	to (m)	Time Tools used					
3	13.10	Rose to 6.80 m after 20 minutes	15.00	SV=36 (19mm paddle)		11.00		12.30-12.60 60 mins Shell 13.60-14.00 60 mins Shell 14.20-14.60 60 mins Shell					
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project		Borehole					
(c) ESOL www.esol.co.uk 40524 2701/0111													

PRELIMINARY



Soil Mechanics

[illegible]

Ribble Valley Borough Council

Enviromental Health

PRR V7.13a

REPORT PREPARED ON 6/ 1/12 AT 09:56

Date of next inspection: from 01/04/2004 to 31/03/2012
Inspection types: F - Food Hygiene

Risk assessment band : A

Report format INSPECTION

Sorted by next inspection date
Officer requesting report : JES - Julie Silverwood

Sorted: 06/01/2012 Printed: 6/ 1/12

<u>OCCUPIER/TRADER NAME</u>	<u>PREMISES REF</u>	<u>PREMISES ADDRESS</u>	<u>TELEPHONE NUMBER</u>	<u>LAST INSP (ANY)</u>
Leagram Farm Dairy	I01B**MOSS/1	High Head Farm Moss lane Chipping Preston PR3 2TR	01995 61532	F:04/05/2010
R Townson	I01B**BURN/1	Westby Hall Burnley Road Gisburn Lancashire BB7 4LL	01200 445283	F:09/02/2011
Sandersons Bakery	I02B**PLEC/1	Haydock Mews Pleckgate Road Blackburn Lancashire BB1 8RP	01254-240653	F:30/03/2011
Brendan Anderton Butchers Ltd	R04G**19-2/1	19-21 Derby Road Longridge Preston, Lancashire PR3 3JT	01772 783321	F:26/05/2011

4 RECORDS PRINTED

320120007P

Borehole Log

PRELIMINARY 320120007P

Soil Mechanics

Drilled	JG/DH	Start	Equipment, Methods and Remarks		Depth from	to	Diameter	Casing Depth	Ground Level
Logged	MH/DJLS	End			0.00m	15.00m	150mm	13.50m	Coordinates
Checked		05/01/2011	Dando 2800/Hessenza M16 Hand dug inspection pit to 1.20m. Cable Percussion boring to 14.00m. Rotary Core drilling to 23.00m. Soil logged by AECOM. Rotary core logged by SM.		15.00m	23.00m	125mm	14.00m	National Grid
Samples and Tests					Strata				
Depth	Type & No	Records	Date	Time	Description	Depth, Level	Legend	Backfill/	Instruments
			Casing	Water		(Thickness)			
0.00-1.20	B 1		15/12/2010	1100	MADE GROUND: Dark grey very sandy clayey gravel. Gravel is angular to subangular fine to coarse of brick fragments, concrete, sandstone and minor fragments of ash, with cobbles of brick present.	(0.50)			
0.30	ES 1					0.50			
1.00	ES 2								
1.20-1.65	SPT S	N=12 (1.3/4.2 3.3)		dry	MADE GROUND: Firm dark grey sandy gravelly clay. Gravel is angular to subangular fine to coarse of brick, concrete and minor amounts of ash. Limited recovery	(1.30)			
1.20-1.65	D 2								
1.20-1.65	B 3								
2.00	ES 3		2.00		Soft dark grey slightly sandy CLAY. Minor flecks/fragments of coal. (ALLUVIAL DEPOSITS)	1.60			
2.00	D 4								
2.00-2.45	U 5	22 blows		dry					
2.50	D 6								
2.50-3.00	B 7								
3.00-3.45	SPT S	N=1 (1.0/0 1.0/0)	3.00	damp		(3.10)			
3.00-3.45	D 8								
3.00-3.45	B 9								
3.50-4.00	B 10				3.50 m becomes not sandy				
4.00-4.45	U 11	10 blows 400 mm rec	4.00	damp					
4.50	D 12								
4.50-5.00	B 13								
4.50	W 14								
4.50	D 15								
5.00-5.45	SPT S	N=4 (1.0/1 1.1 1)	5.00	3.50	Grey medium SAND (ALLUVIAL DEPOSITS)	4.90			
5.00-5.45	D 16					(0.90)			
5.00-5.45	B 17								
5.50-6.00	B 18								
6.00	D 19		6.00		Firm grey CLAY (ALLUVIAL DEPOSITS)	5.80			
6.00-6.45	U 20	30 blows 400 mm rec		5.00					
6.00	ES 4								
6.50	D 21								
6.50-7.00	B 22								
7.00-7.45	SPT S	N=19 (1.1/2 2.3.3)	7.00	dry		(2.70)			
7.00-7.45	D 23								
7.00-7.45	B 24								
7.50-8.00	B 25								
8.00-8.45	U 26	40 blows	7.50	dry					
8.50	D 27		15/12/2010	1800					
8.50-9.00	B 28		8.50	dry					
9.00-9.45	SPT S	N=17 (2.3/4 5.4.4)	9.00	damp	Firm grey sandy gravelly CLAY. Gravel is angular to rounded fine to coarse of mixed lithologies. (GLACIAL DEPOSITS)	8.50			
9.00-9.45	D 29								
9.00-9.45	B 30								
9.50-10.00	B 31								
Depth	Type & No	Records	Date	Time	Stratum continues to 12.70 m				
			Casing	Water					
Groundwater Entries					Depth Related Remarks *		Chiselling		
No.	Struck (m)	Post strike behaviour	Depth sealed (m)	From	to (m)	Depths (m)	Time	Tools used	
1	4.90	Rose to 3.20 m after 20 minutes.	6.80	2.20	SV=12 (19mm paddle)				
				6.00	SV=36 (19mm paddle)				
				9.50	SV=24 (19mm paddle)				
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project		Borehole		
					Simonstone Burnley GI				
					Project No.		BH2		
					F0078-10		Sheet 1 of 3		
					Carried out for		AECOM		
Scale 1:50									
(a) ESOI www.esoi.co.uk									
2012 27/01/11 16:44									

PRELIMINARY 320120007 P

Soil Mechanics

Scale 1:50

Borehole Log

PRELIMINARY 3 2 0 1 2 0 0 0 0 P

Soil Mechanics

Drilled JG/DH Logged MH/DJLS Checked	Start 15/12/2010 End 05/01/2011	Equipment, Methods and Remarks Dando 2000/Masscon M16 Hand dug inspection pit to 1.20m. Cable Percussion boring to 14.00m. Rotary Core drilling to 23.00m. Soil logged by AECOM. Rotary core logged by SM.	Depth from 0.00m to 15.00m	to 15.00m 23.00m	Diameter 150mm 125mm	Casing Depth 13.50m 14.00m	Ground Level Coordinates National Grid Chainage		
Samples and Tests			Strata						
Depth	TCR RSD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 2)	Depth, Level (Thickness)	Legend	Backfill/ Instruments
19.50-20.50	100 80 0					closely to closely spaced subhorizontal, open, planar and smooth. Locally non intact, recovered as gravel (COAL MEASURES)	20.00		
20.50-21.50	100 100 25					Very weak to weak thinly to thickly laminated grey, dark grey becoming black, MUDSTONE. Discontinuities are very closely to closely spaced subhorizontal, open, planar and smooth (locally subvertical. (COAL MEASURES)	(1 10)		
21.50-23.00	100 100 53	NI 150 350				Weak thinly to thickly laminated grey and light grey interbedded MUDSTONE and SILTSTONE with occasional light grey fine grained sandstone. Discontinuities are very closely to medium spaced subhorizontal, open, smooth, planar, locally subvertical (COAL MEASURES)	21 10		
				05/01/2011	1800 13.50	22.75-23.00 m Predominantly light grey fine grained sandstone	(1 90)		
						EXPLORATORY HOLE ENDS AT 23.00 m	23 00		
Depth	TCR RSD	If	Records/Samples	Date Casing	Time Water				
Groundwater Entries			Depth sealed (m)			Depth Related Remarks		Chiselling	
No.	Struck	Post strike behaviour				From	to (m)	Depths (m)	Time Tools used
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Project Simonstone Burnley GI		Borehole	
(c) ESSL www.esl.co.uk 436.24 27/01/2011 15:14.43						Project No. F0078-10		BH2	
Scale 1:50						Carried out for AECOM		Sheet 3 of 3	

Borehole Log

PRELIMINARY 320120007 P

Soil Mechanics

Drilled Checked	JG/DH MVD/LS	Start 17/12/2010 End 07/01/2011	Equipment, Methods and Remarks Dando 150/Massenza M18 Hand dug inspection pit to 1.20m. Cable Percussion boring to 12.00m. Rotary Cera drilling to 16.50m. Terminated due to flush affecting adjacent brook. Soil logged by AECOM. Rotary core logged by SLS		Depth from 0.00m to 12.00m Diameter 150mm Casing Depth 12.00m 15.00m	Ground Level Coordinates National Grid Chalmage
Samples and Tests				Strata		
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)
0.10-0.70	B 1		17/12/2010	0800	Soft black slightly sandy CLAY (TOPSOIL)	(0.70)
0.39	ES 1					
0.70-1.20	B 2				Soft brown/orange sandy CLAY. (ALLUVIAL DEPOSITS)	0.70
1.00	ES 2					
1.20-1.65	U 3	30 blows 350 mm rec		dry		(1.60)
1.70	D 4					
1.70-2.00	B 5					
2.00-2.45	SPT S	N=8 (1 171 1 3 3)	1.50	dry		
2.00-2.45	D 6					
2.00-2.45	B 7					
2.30	W 8					
2.50-3.00	B 10				Brown/grey sandy slightly clayey angular to subrounded fine to coarse GRAVEL of mixed lithologies. (ALLUVIAL DEPOSITS)	2.30
2.50	D 9					
3.00-3.45	SPT C	N=8 (3.45 2 1 2)	3.00	1.70	3.00 m Becomes slightly sandy gravel	
3.00-3.45	B 11					(2.40)
3.50-4.00	B 12					
4.00-4.45	SPT C	N=26 (2.44 5.0 7)	4.00	1.70		
4.00-4.45	B 13					
4.50-5.00	B 14					
5.00	D 15		5.00	4.80	Firm grey sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of mixed lithologies. (GLACIAL DEPOSITS)	4.70
5.00-5.45	U 16	50 blows 350 mm rec				
5.00	ES 3					
5.50	D 17					
5.50-6.00	B 18					
6.00-6.45	SPT S	N=18 (2.95 4.5 5)	6.00	dry		
6.00-6.45	B 19					
6.50-7.00	B 20					
7.00-7.45	U 21	88 blows 300 mm rec	7.00	dry		
7.50	D 22					
7.50-8.00	B 23					
8.00-8.45	SPT S	N=24 (2.47 5.5 7)	8.00	dry		(6.80)
8.00-8.45	D 24					
8.00-8.45	B 25					
9.00-9.45	U 25	95 blows 300 mm rec	9.00	dry		
9.50	D 27		17/12/2010	1800		
9.50-10.00	B 28		20/12/2010	0800		
			9.00	4.30		
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 11.50 m	
Groundwater Entries					Depth Related Remarks *	
No.	Struck (m)	Post strike behaviour	Depth sealed (m)	From To (m)	Chiselling Depths (m)	
1	2.30	Rose to 1.20 m after 20 minutes.	-	1.70 5.00	SV=18 (19mm paddle) SV=30 (19mm paddle)	Time Tools used 5.60-5.90 60 mins Shell 7.70-9.00 45 mins Shell
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Simonstone, Burnley GI	
Project No. F0078-10					Borehole BH3	
Carried out for AECOM					Sheet 1 of 2	

Scale 1:50

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2012/12/20/2011 16:14:46



Borehole Log

PRELIMINARY 320120000P

Soil Mechanics

Drilled JG/DH Logged MH/DJLS Checked	Start 17/12/2010 End 07/01/2011	Equipment, Methods and Remarks Danda 150/Massenza M16 Hand dug inspection pit to 1.20m. Cable Percussion boring to 12.00m. Rotary Core drilling to 16.50m. Terminated due to flush affecting adjacent brook. Soil logged by AECOM. Rotary core logged by SM	Depth from 0.00m to 12.00m Diameter 150mm Casing Depth 12.00m	Ground Level Coordinates National Grid Chainage
Samples and Tests			Strata	
Depth	Type & No	Records	Date Casing Time Water	Description (Continued from Sheet 1)
10.00-10.17 10.00-10.45	SPT S B 29	50 (7.5/50 for 20mm)	10.00 9.00	Firm grey sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of mixed lithologies. (GLACIAL DEPOSITS)
10.50-11.00	B 30			
11.00-11.45 11.00-11.45 11.00-11.45	SPT S D 31 B 32	N=40 (6,10/12 9 9,10)	10.50 dry	
11.50 11.50-12.00	D 33 B 34			Grey MUDSTONE/SILTSTONE (WEATHERED MUDSTONE/SILTSTONE)
12.00-12.36 12.00-12.35	SPT S D 35	50 (7 10/14, 18 18 for 60mm)	20/12/2010 1000 12.00 dry 06/01/2011 0800 12.00 1.00	Grey SILTSTONE, highly fractured (drillers description)
13.50-15.00	20 6 0	Flush: 13.50-15.00 Air/Liqd, 100 %		Weak thinly laminated black and dark grey MUDSTONE/SILTSTONE recovered as angular gravel. (COAL MEASURES)
15.00-15.36 15.00		SPT S 111 (12,10/ 20,32,50 for 55mm) D 36	15.00	15.00 m thinly laminated black mudstone
15.40-16.00	53 50 0	Flush: 15.40-16.00 Air/Liqd, 100 %	06/01/2011 1800 15.00	15.50-15.70 m Locally interbedded with light grey fine grained sandstone recovered as clayey gravel
16.00-16.50	100 20 0		07/01/2011 0800 15.00 07/01/2011 1800 15.00	
EXPLORATORY HOLE ENDS AT 16.50 m				
Depth	IS RS	IF	Records/Samples	Date Casing Time Water
Groundwater Entries No. Struck Post strike behaviour			Depth sealed (m)	Depth Related Remarks * From to (m)
Chiselling Depths (m) Time Tools used 10.20-10.50 45 mins Shell				
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. (c) ESGL www.esgl.co.uk 200.24 27/01/2011 16:11:27			Project Simonstone, Burnley GI Project No. F0078-10 Carried out for AECOM	
Scale 1:50			Borehole BH3 Sheet 2 of 2	

Borehole Log

PRELIMINARY 320120007P

Soil Mechanics

Drilled JGDH Logged MH/DJS Checked	Start 05/01/2011 End 07/01/2011	Equipment, Methods and Remarks Dando 150/Atkinson M16 Hand dug inspection pit to 1.20m. Cable Percussion boring to 17.00m. Rotary core drilling to 22.00m. Soil logged by AECOM. Rotary core logged by SM.	Depth from 0.00m to 17.00m	to 17.00m 22.00m	Diameter 150mm 125mm	Casing Depth 15.30m 17.00m	Ground Level Coordinates National Grid Chainage	
Samples and Tests			Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
0.10-0.60	B 1		05/01/2011	0930	MADE GROUND: Soft grey/brown very sandy gravelly clay. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick, ash and clinker.	(1.90)		
0.40	ES 1							
0.60-1.20	B 2							
1.20-1.65	SPT S	N=6 (1 1/1 1 2 1)		dry				
1.20-1.65	D 3							
1.20-1.65	B 4							
1.50	ES 2							
1.70-2.00	B 5							
2.00-2.45	SPT S	N=7 (1 1/1 1 1 5)	2.00	damp	MADE GROUND: Very soft light grey sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of mixed lithologies. (possible settlement material)	1.90		
2.00-2.45	D 6							
2.00-2.45	D 7							
2.00-2.45	B 8							
2.50-3.00	B 10							
2.50	ES 3							
2.50	D 9							
3.00-3.45	SPT S	N=10 (4 3/3 2 2 3)	3.00	damp		(2.20)		
3.00-3.45	D 11							
3.00-3.45	B 12							
3.50	D 13							
3.50-4.00	B 14							
4.00-4.45	SPT S	N=7 (1 1/1 2 2 2)	4.00	dry	Soft grey sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of mixed lithologies (ALLUVIAL DEPOSITS)	4.10		
4.00-4.45	D 15							
4.00-4.45	B 16							
4.50	D 17							
4.50-5.00	B 18							
4.50	ES 4							
5.00-5.45	U 19	40 blows	4.50	dry		(1.90)		
5.50	D 20							
5.50-6.00	B 21							
6.00-6.45	SPT S	N=22 (2 4/6 4 7 5)	6.00	4.60	Grey sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of mixed lithologies (ALLUVIAL DEPOSITS)	6.00		
6.00	D 22							
6.00	W 23							
6.00-6.45	D 24							
6.00-6.45	B 25					(0.90)		
6.50-7.00	B 26							
7.00	D 27		7.00	dry	Firm grey gravelly CLAY. Gravel is subangular to subrounded fine to coarse of mixed lithologies (GLACIAL DEPOSITS)	6.90		
7.00-7.45	U 28	60 blows						
7.50	D 29							
7.50-8.00	B 30							
8.00-8.45	SPT S	N=12 (1 2/2 3 3 4)	7.50	dry				
8.00-8.45	D 31							
8.00-8.45	B 32							
8.00	ES 5							
8.50-9.00	B 33							
9.00-9.45	U 34	68 blows	7.50	dry				
9.50	D 35							
9.50-10.00	B 36							
Depth	Type & No	Records	Date Casing	Time Water	Stratum continues to 14.50 m			
Groundwater Entries					Depth Related Remarks *		Chiselling	
No.	Struck (m)	Post strike behaviour	Depth sealed (m)	From	To (m)	Time	Tools used	
1	3.10	Seepage	7.00					
2	6.00	Rose to 4.60 m after 20 minutes.						
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Simonsstone, Burnley GI		Borehole	
Project No. F0078-10					Borehole BH4			
Carried out for AECOM					Sheet 1 of 3			

Scale 1:50

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40824 27/01/2011 10:14:43



Borehole Log

PRELIMINARY 320120007 P

Soil Mechanics

Drilled JG/DH Logged MH/DJLS Checked	Start 05/01/2011 End 07/01/2011	Equipment, Methods and Remarks Dando 150 Massenza A116 Hand dug inspection pit to 1.20m. Cable Percussion boring to 17.00m. Rotary core drilling to 22.00m. Soil logged by AECOM. Rotary core logged by SM.	Depth from 0.00m to 17.00m	to 17.00m 22.00m	Diameter 150mm 125mm	Casing Depth 15.30m 17.00m	Ground Level Coordinates National Grid Chathage	
Samples and Tests			Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level (Thickness)	Legend	Backfill/ Instruments
10.00-10.45 10.00-10.45 10.00-10.45	SPT S D 37 B 38	N=21 (1,34,6,5,8)	05/01/2011	1800	Firm grey gravelly CLAY. Gravel is subangular to subrounded fine to coarse of mixed lithologies. (GLACIAL DEPOSITS)	(7.60)		
10.50-11.00	B 39		06/01/2011	0800				
11.00-11.45	U 40	110 blows 300 mm rec	07/01/2011	0900				
11.50 11.50-12.00	D 41 B 42							
12.00-12.34 12.00-12.45 12.00-12.45	SPT S D 43 B 44	50 (7 13/7 8.35 for 35mm)	12.00	dry				
12.50-13.00	B 45							
13.00-13.11 13.00-13.45	SPT S B 46	50 (8 17 for 20mm/50 for 10mm)	13.00	dry				
13.50-14.00	B 47							
14.00-14.43 14.00-14.45 14.00-14.45	SPT S D 48 B 49	50 (6, 10/7 7 19.17 for 50mm)	14.00	dry				
14.50-15.00	B 50				Brown sandy GRAVEL. Gravel is subrounded to rounded fine to coarse of mixed lithologies including sandstone (GLACIAL DEPOSITS)	14.50 (0.50)		
15.00-15.45 15.00 15.00-15.45 15.00-15.45	SPT S D 51 D 52 B 53	N=43 (6 8/8, 10, 12 13)	15.00	7.00	Grey slightly clayey MUDSTONE/SILTSTONE (WEATHERED MUDSTONE/SILTSTONE)	15.00 (0.50)		
15.50-16.00	B 54				Grey MUDSTONE/SILTSTONE (WEATHERED MUDSTONE/SILTSTONE)	15.50		
16.00-16.26 16.00-16.45 16.00-16.45	SPT S D 55 B 56	50 (7 14/26.24 for 50mm)	15.30	dry		(1.50)		
16.50-17.00	B 57							
17.00-17.14	SPT S	50 (25 for 70mm/50 for 70mm)	08/01/2011 15.30 07/01/2011 17.00	1800 damp 0900	Black vitreous locally pyritic COAL. Discontinuities are very closely to closely spaced, subhorizontal, smooth, planar locally stepped. (COAL MEASURES)	17.00		
17.00-18.50	100 100 33	NI 100 150				(1.50)		
18.50-19.00	100 80 0	NI 50 100			Weak thinly to thickly laminated grey MUDSTONE/SILTSTONE locally recovered as clayey gravel. Discontinuities are very closely to closely spaced, open, smooth. (COAL MEASURES)	18.50 (0.60)		
19.00-20.50	97 97 47				Weak to medium strong thin laminated grey and light grey interbedded MUDSTONE and SILTSTONE, locally with light grey fine grained sandstone. Discontinuities	19.10		
Depth	IS 100	IF	Records/Samples	Date Casing	Time Water	Stratum continues to 22.00 m		
Groundwater Entries						Depth Related Remarks *		
No.	Struck (m)	Post strike behaviour	Depth sealed (m)			Chiselling Depth (m)	Time	Tools used
3	14.50	Rose to 5.20 m after 20 minutes.	15.30			11.60-11.80	60 mins	Chisel
						12.40-12.70	45 mins	Chisel
						13.20-13.20	60 mins	Chisel
						14.40-14.80	60 mins	Chisel
						16.70-17.00	30 mins	Chisel
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.						Borehole		
Project Simonstone, Burnley G						BH4		
Project No. F0078-10						Sheet 2 of 3		
Carried out for AECOM								

Scale 1:50

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Borehole Log

PRELIMINARY 320120007P

Soil Mechanics

Drilled JGDH Logged MHDJLS Checked	Start 05/01/2011 End 07/01/2011	Equipment, Methods and Remarks Dando 150/Massenza M18 Hand dug inspection pit to 1.20m. Cable Percussion boring to 17.00m. Rotary core drilling to 22.00m. Soil logged by AECOM. Rotary core logged by SM.	Depth from 0.00m 17.00m	to 17.00m 22.00m	Diameter 150mm 125mm	Casing Depth 15.30m 17.00m	Ground Level Coordinates National Grid Chainage
Samples and Tests			Strata				
Depth	100 mm	11	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 2)	Depth, Level (Thickness)
20.50-22.00		N/100 150		07/01/2011	1800 17.00	are very closely to closely spaced subhorizontal, smooth and planar (COAL MEASURES) 20.50-21.80 m increasing sandstone / siltstone interbeds 21.80-22.00 m predominantly grey	(2 80) 22.00
EXPLOATORY HOLE ENDS AT 22.00 m							SP
Depth	100 mm	11	Records/Samples	Date Casing	Time Water		
Groundwater Entries No. Struck Post strike behaviour			Depth sealed (m)	Depth Related Remarks From to (m)		Chiselling Depths (m) Time Tools used	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.				Project Simonstone, Burnley GI Project No. F0076-10 Carried out for AECOM		Borehole BH4 Sheet 3 of 3	

Scale 1:50

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40124 202/0791 16/4/51



PRELIMINARY 320120007P

Logged PM Checked	Start 14/12/2010 End 14/12/2010	Equipment Methods and Remarks JCB 3CX Machine excavated trial pit No visual or olfactory evidence of contamination. Logged by AECOM	Dimensions and Orientation Width Length	Ground Level Coordinates National Grid Chainage
Samples and Tests			Strata	
Depth	Type & No.	Date Records	Description	Depth, Level (Thickness)
0.50	ES 1		MADE GROUND: Grass over sandy gravelly clay.	0.10
			MADE GROUND: Bricks, brick fragments, concrete blocks and fragments in dark brown sandy gravelly matrix	(1.70)
2.00	ES 2		MADE GROUND: Firm gray brown fine to coarse gravelly clay with some concrete and brick fragments.	1.80
				(1.70)
3.80	ES 3		Firm to stiff dark grey CLAY - gravelly in places, cobbly in places, rootlets and fibrous plant material in places, occasional pockets of peat. (ALLUVIUM)	3.50
				(0.60)
			EXPLORATORY HOLE ENDS AT 4.10 m	4.10
Depth	Type & No.	Records Date	Depth Related Remarks *	Stability Shoring Weather
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			From 10 (m)	Some collapse 0.50-1.50m None
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.			Project Project No. Carried out for	Trial Pit TT101 Sheet 1 of 1

Trial Pit Log

PRELIMINARY



Soil Mechanics

Logged PM Checked	Start 14/12/2010 End 14/12/2010	Equipment, Methods and Remarks JCB 3CX Machine excavated trial pit Trench infilled due to significant side collapse. Logged by AECOM.	Dimensions and Orientation Width Length	Ground Level Coordinates National Grid Chainage
Samples and Tests		Strata		
Depth	Type & No.	Date Records	Description	Depth, Level (Thickness)
0.50	ES 1		MADE GROUND: Grass over brown sandy gravelly clay.	(0.60)
1.00	ES 2		MADE GROUND: Firm pale grey silt (Possible settlement material)	0.60
1.80	ES 3			
2.50	ES 4		2.00-4.00 m Soil and wet	(3.40)
			EXPLORATORY HOLE ENDS AT 4.00 m	4.00
Depth	Type & No.	Records Date		
Groundwater Entries No. Struck Post Strike Behaviour (m) 1 2.00 Moderate entries below 2m			Depth Related Remarks * From to (m)	
			Stability Sides collapsed below 2m Shoring None Weather	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25			Project Simonstone, Burnley GI Project No. F0078-10 Carried out for AECOM	
			Trial Pit TT102 Sheet 1 of 1	

320120007P

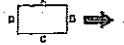
320120007P

PRELIMINARY



Soil Mechanics

Trial Pit Log

Logged PM Checked	Start 14/12/2010 End 14/12/2010	Equipment, Methods and Remarks JCB 3CX Machine excavated trial pit Trench extended 10m (TT103 NORTH). Logged by AECOM.	Dimensions and Orientation Width Length 	Ground Level Coordinates National Grid Chalmage		
Samples and Tests			Strata	Depth, Level (Thickness)	Legend	Backfill/ Instruments
Depth	Type & No.	Date Records	Description			
0.50	ES 1		MADE GROUND: Grass over brown gravelly clay.	(0.60)		
1.00	ES 2		MADE GROUND: Firm grey and pale grey silt, very sandy in places. (southern and central section of pit, possible settlement material)	0.60		
2.00	ES 3			(3.40)		
3.00	ES 4			4.00		
			EXPLORATORY HOLE ENDS AT 4.00 m			
Depth	Type & No.	Records Date				
Groundwater Entries No. Struck Post Strike Behaviour (m) 1 2.00 Slight entries below 2m			Depth Related Remarks * From to (m)		Stability Stable Shoring None Weather	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25 (c) ES&L www.es&l.co.uk 2012/12/14 10:15:02			Project Simonstone, Burnley GI Project No. F0078-10 Carried out for AECOM		Trial Pit TT103 SOUTH Sheet 1 of 1	

Soil Mechanics

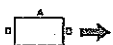
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Trial Pit Log

PRELIMINARY

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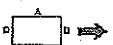
Soil Mechanics

Logged PM Checked	Start 14/12/2010 End 14/12/2010	Equipment Methods and Remarks JCB 3CX Machine excavated trial pit Slight unidentified odour. Logged by AECOM.	Dimensions and Orientation Width - Length - 	Ground Level Coordinates National Grid Chainage
Samples and Tests			Strata	
Depth	Type & No.	Date Records	Description	Depth, Level (Thickness)
0.50	ES 1		MADE GROUND: Grass over brown very gravelly clay with occasional brick fragments and wood	(0.80)
1.50	ES 2		MADE GROUND: Pale blue-gray silt, dark gray and laminated in places, pale brown in places. (Possible settlement material)	0.80
3.00	ES 3			(3.20)
			EXPLORATORY HOLE ENDS AT 4.00 m	4.00
Depth	Type & No.	Records Date		
Groundwater Entries No. Struck Post Strike Behaviour (m) 1 2.00 Slight entries below 2m			Depth Related Remarks * From to (m)	Stability Stable Shoring None Weather
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25 (c) ES&L www.es&l.co.uk 2010 27/01/2011 16:12:11			Project Simonstone, Burnley GI Project No. F0078-10 Carried out for AECOM	Trial Pit TT104 Sheet 1 of 1

Trial Pit Log

PRELIMINARY 320120007P

Soil Mechanics

Logged PM Checked	Start 14/12/2010 End 14/12/2010	Equipment Methods and Remarks JCB 3CX Machine excavated trial pit Logged by AECOM	Dimensions and Orientation Width .. Length .. 	Ground Level Coordinates National Grid Chainage		
Samples and Tests			Strata			
Depth	Type & No.	Date Records	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.00	ES 1		MADE GROUND: Grass over brown gravelly sandy clay. MADE GROUND: Pale grey silt, stratified in places, very sandy in places. (Possible settlement material)	(0.50) 0.50		
2.30	ES 2		2.00-2.50 m Black	(2.80)		
3.00	ES 3					
			EXPLORATORY HOLE ENDS AT 3.30 m	3.30		
Depth	Type & No.	Records Date	Depth Related Remarks *		Stability	Stable
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			From to (m)		Shoring	None
					Weather	
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25 (c) ESGL www.esgl.co.uk 40524 27012011 10:15:16			Project Simonstone, Burnley GI Project No. F0078-10 Carried out for AECOM		Trial Pit TT105 Sheet 1 of 1	

Trial Pit Log

PRELIMINARY 320120007P

Soil Mechanics

Logged PM Checked		Start 14/12/2010 End 14/12/2010	Equipment, Methods and Remarks JCB 3CX Machine excavated trial pit No samples taken. Logged by AECOM.		Dimensions and Orientation Width Length		Ground Level Coordinates National Grid Chalmers	
Samples and Tests			Strata			Depth, Level/ (Thickness)		
Depth	Type & No.	Date Records	Description			Legend	Backfill/ Instruments	
			MADE GROUND: Grass over dark brown very gravelly clay with occasional brick fragments.					
			MADE GROUND: Blue-grey silt, laminated grey and white in places (Possible settlement material)					
			EXPLORATORY HOLE ENDS AT 3.60 m					
Depth	Type & No.	Records Date						
Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)			Depth Related Remarks * From to (m)			Stability: Slight collapse below 3m Shoring: None Weather		
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:25			Project: Simonstone Burnley GI Project No.: F0078-10 Carried out for: AECOM			Trial Pit TT106 Sheet 1 of 1		

Dynamic Sampler Hole Log

Soil Mechanics

Drilled RT Logged PM Checked	Start 15/12/2010 End 15/12/2010	Equipment, Methods and Remarks GEO Drive Sampling Rig Hand Dug Inspection pit to 0.75m. Windowless Sampling to 5.00m. Logged by AECOM.	Depth from 0.00m 2.00m 4.00m	to 2.00m 4.00m 5.00m	Diameter 101mm 82mm 76mm	Casing Depth	Ground Level Coordinates National Grid Chalmage
Samples and Tests			Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend Backfill/ Instruments
0.30	ES 1				MADE GROUND: Grass over gravel, bricks and brick fragments - possible crushed demolition rubble	(0.70)	
1.00	ES 2				MADE GROUND: Stiff dark brown, orange and grey very gravelly very sandy clay 1.00-1.50 m possibly natural	0.70 (0.80)	
1.70	ES 3				Stiff brown mottled orange and grey very gravelly CLAY. (ALLUVIUM) 1.80-2.00 m Dark grey	1.50 (0.50)	
2.70	ES 4				Subangular to subrounded fine to coarse GRAVEL with occasional cobbles, 10 % recovery. Firm grey CLAY (ALLUVIUM)	2.00 (0.50) 2.50 (0.50)	
					No recovery	3.00 (1.00)	
					Dark brown clayey fine SAND/SILT damp, 20% recovery (ALLUVIUM)	4.00 (1.00)	
					EXPLORATORY HOLE ENDS AT 5.00 m	5.00	
Depth	Type & No	Records	Date Casing	Time Water			
Groundwater Entries					Depth Related Remarks *	Chiselling Depths (m)	Time Tools used
No.	Struck (m)	Post strike behaviour	Depth soaked (m)		From to (m)		
1	0.70	-					
2	2.00	-					
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Simonstone, Burnley GL	Borehole WS101 Sheet 1 of 1	
Project No. FB078-10 Carried out for AECOM							

PRELIMINARY 320120007 P

Dynamic Sampler Hole Log

Soil Mechanics

Drilled RT Logged PM Checked	Start 15/12/2010 End 15/12/2010	Equipment, Methods and Remarks GEO Drive Sampling Rig Hand Dug Inspection Pit to 1.20m. Windowless Sampling to 5.00m. Logged by AECOM.	Depth from 0.00m 3.00m	to 3.00m 5.00m	Diameter 101mm 52mm	Casing Depth	Ground Level Coordinates National Grid Chainage	
Samples and Tests				Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments
0.50-0.70	ES 1				MADE GROUND: Sparse grass over slightly clayey gravel.	0.15		
1.00-1.20	ES 2				MADE GROUND: Crushed brick and whole bricks in sandy matrix.	(0.75)		
1.70-1.90	ES 3				Firm dark grey silty sandy CLAY very sandy in places (ALLUVIUM)	0.90		
2.30-2.40	ES 4				Soft grey mottled orange very sandy CLAY. (ALLUVIUM)	(1.10)		
2.50-2.60	ES 5				Very soft grey SILT, saturated (ALLUVIUM)	2.00		
					Firm brown grey mottled orange / brown mottled orange slightly sandy CLAY (ALLUVIUM)	(0.40)		
					3.50-3.90 m Orange plant fibres	2.40		
					Soft dark brown fibrous PEAT. (ALLUVIUM)	2.50		
					Soft grey brown sandy CLAY. (ALLUVIUM)	3.90		
					Soft dark brown very sandy fine to coarse gravelly CLAY saturated. (ALLUVIUM)	4.00		
					Dark brown subangular to subrounded fine to coarse GRAVEL. (ALLUVIUM)	(0.30)		
					EXPLORATORY HOLE ENDS AT 5.00 m	4.30		
						(0.30)		
						4.50		
						(0.40)		
						5.00		
								SP
Depth	Type & No	Records	Date Casing	Time Water				
Groundwater Entries No. Struck Post strike behaviour Depth sealed (m)					Depth Related Remarks From to (m)		Chiselling Depths (m) Time Tools used	
1 4.00 -								
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Simonstone, Burnley GI Project No. F0078-10 Carried out for AECOM		Borehole WS104 Sheet 1 of 1	

Scale 1:50
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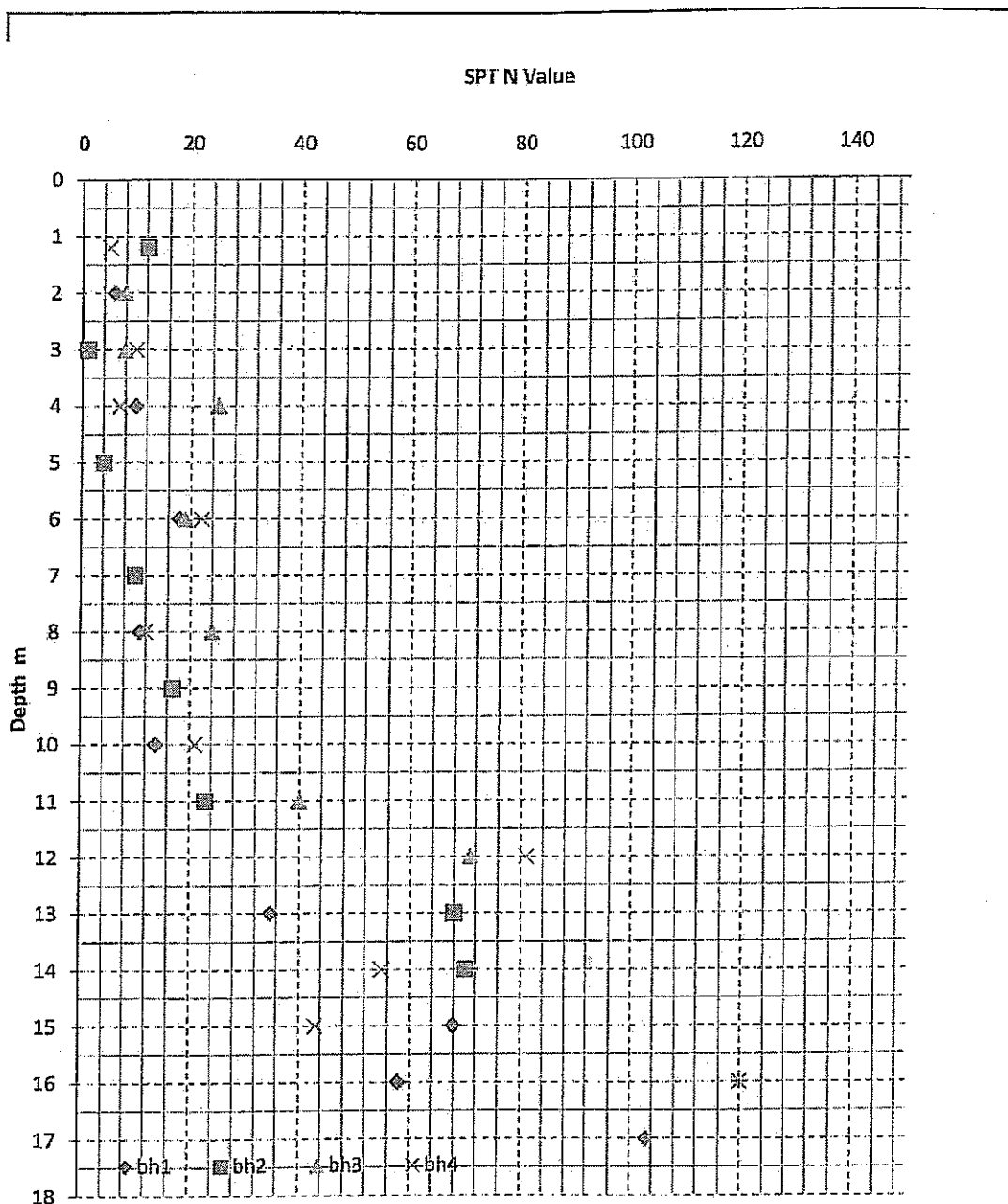
PRELIMINARY Dynamic Sampler Hole Log

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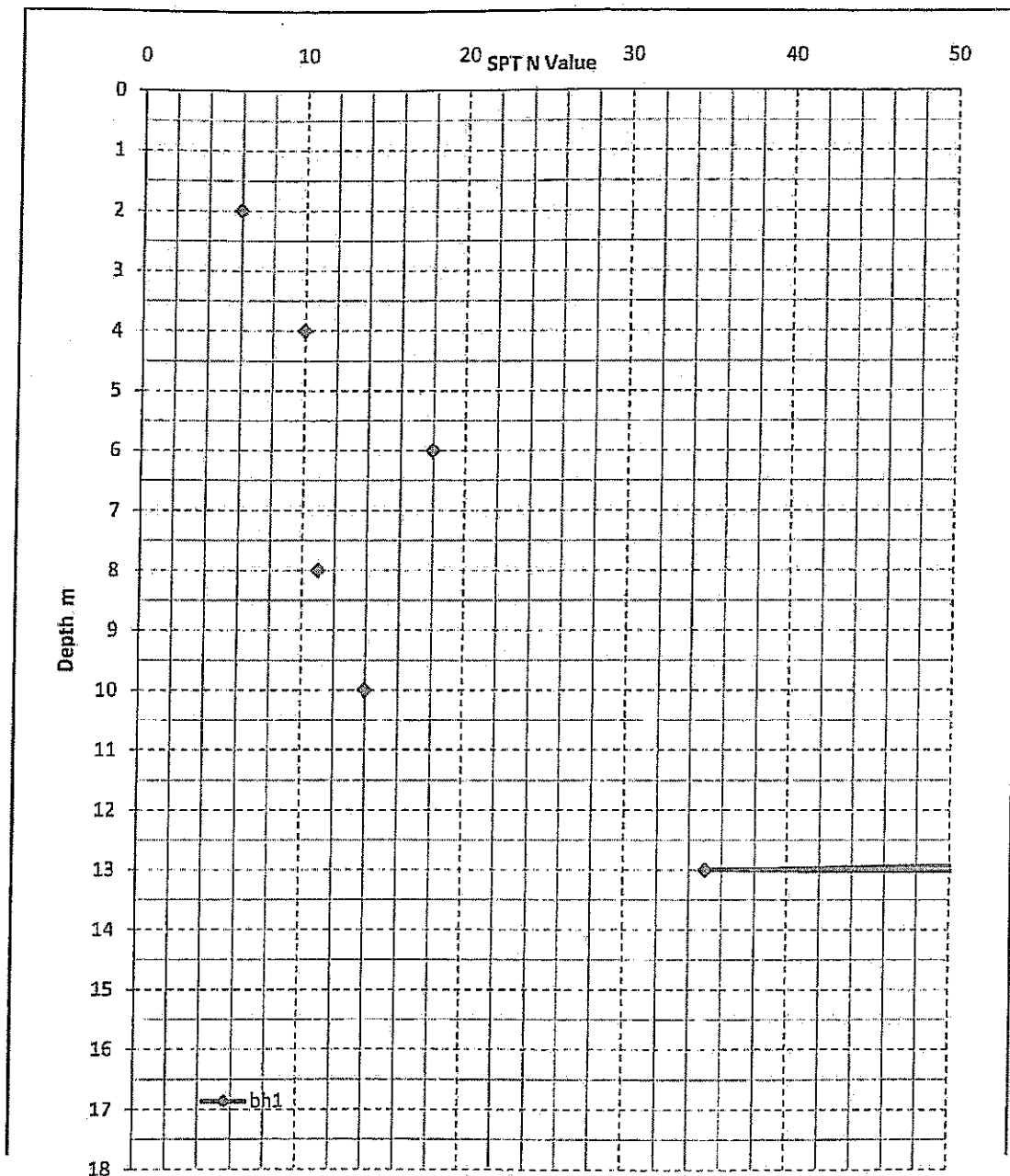
Soil Mechanics

Drilled RT Logged PM Checked		Start 15/12/2010 End 15/12/2010	Equipment, Methods and Remarks GEO Drive Sampling Rig Hand Dug Inspection Pit to 1.20, Windowless Sampling to 1.60m. Terminated at 1.60m due to possible concrete obstruction. Logged by AECOM.			Depth from 0.00m to 1.60m Diameter 101mm Casing Depth	Ground Level Coordinates National Grid Chainage		
Samples and Tests					Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level (Thickness)	Legend	Backfill/ Instruments	
0.80	ES 1				MADE GROUND: Concrete.	0.20			
					MADE GROUND: Coarse gravel.	(0.40)			
					MADE GROUND: Concrete.	0.60			
					MADE GROUND: Bricks and brick fragments in sandy gravelly matrix.	0.70			
1.20	ES 2				MADE GROUND: Dark brown sandy gravelly clay matrix with brick fragments.	1.00			
					MADE GROUND: Coarse gravel.	(0.50)			
					EXPLORATORY HOLE ENDS AT 1.60 m	1.50			
					Obstruction	1.60		SP	
Depth Type & No Records Date Casing Time Water					Depth Related Remarks From to (m).				
Groundwater Entries No. Struck Post strike behaviour 1 1.00					Chiselling Depths (m) Time Tools used				
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Simonstone, Burnley GI Project No. F0078-10 Carried out for AECOM				
Scale 1:50 (c) ESGL www.esgl.co.uk AGS					Borehole WS105 Sheet 1 of 1				

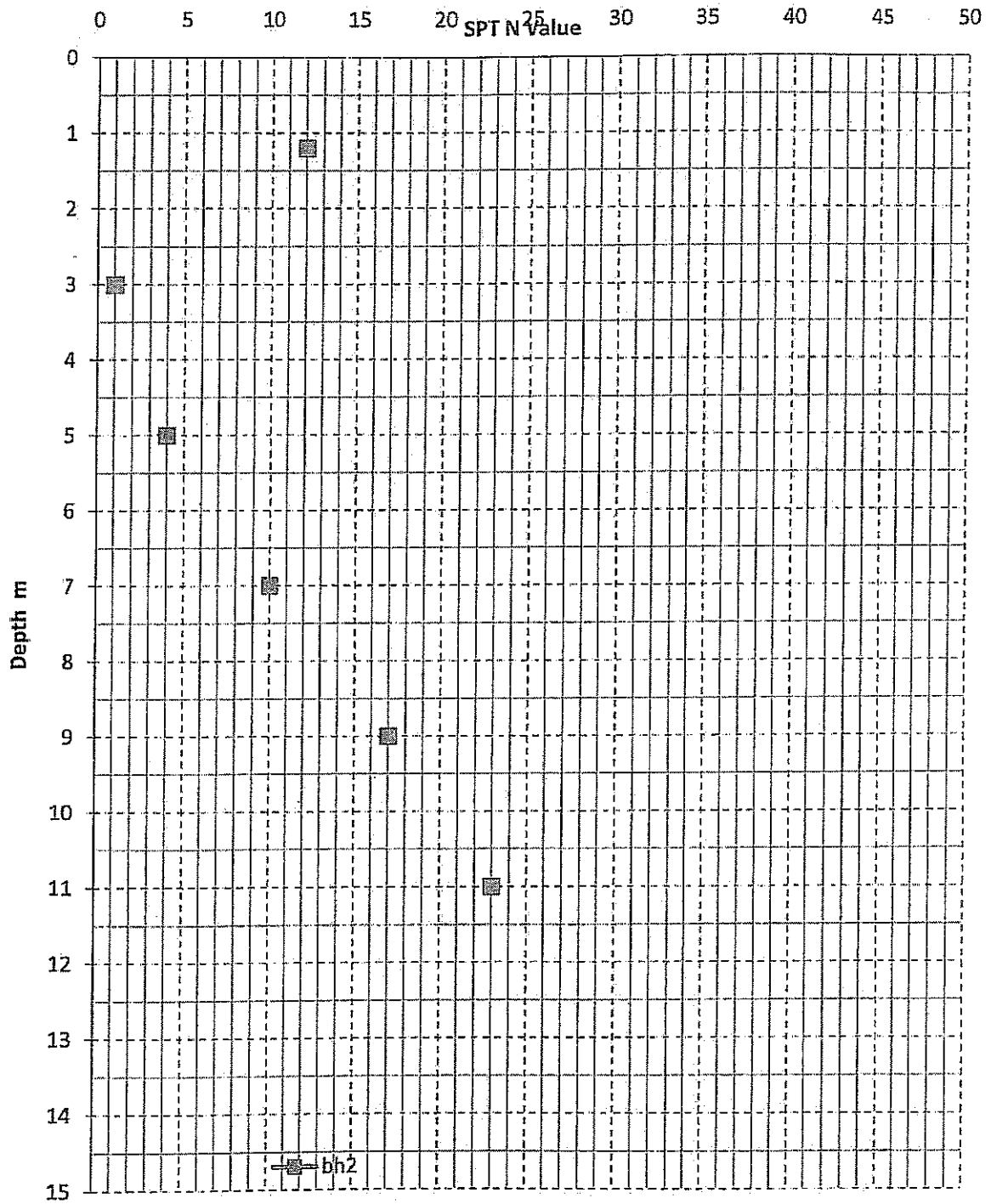


Title:		AECOM	
Figure 1 SPT N vs Depth: All Boreholes.		Lynnfield House	
Project:		Church Street	
Fort Vale Works, Simonstone, Burnley		Altrincham, WA14 4DZ	
Notes:		Checked: RH	
N values below 150 only		Designed: MR	
		Approved: MdK	
		Date: February 2011	
		Doc. No.	

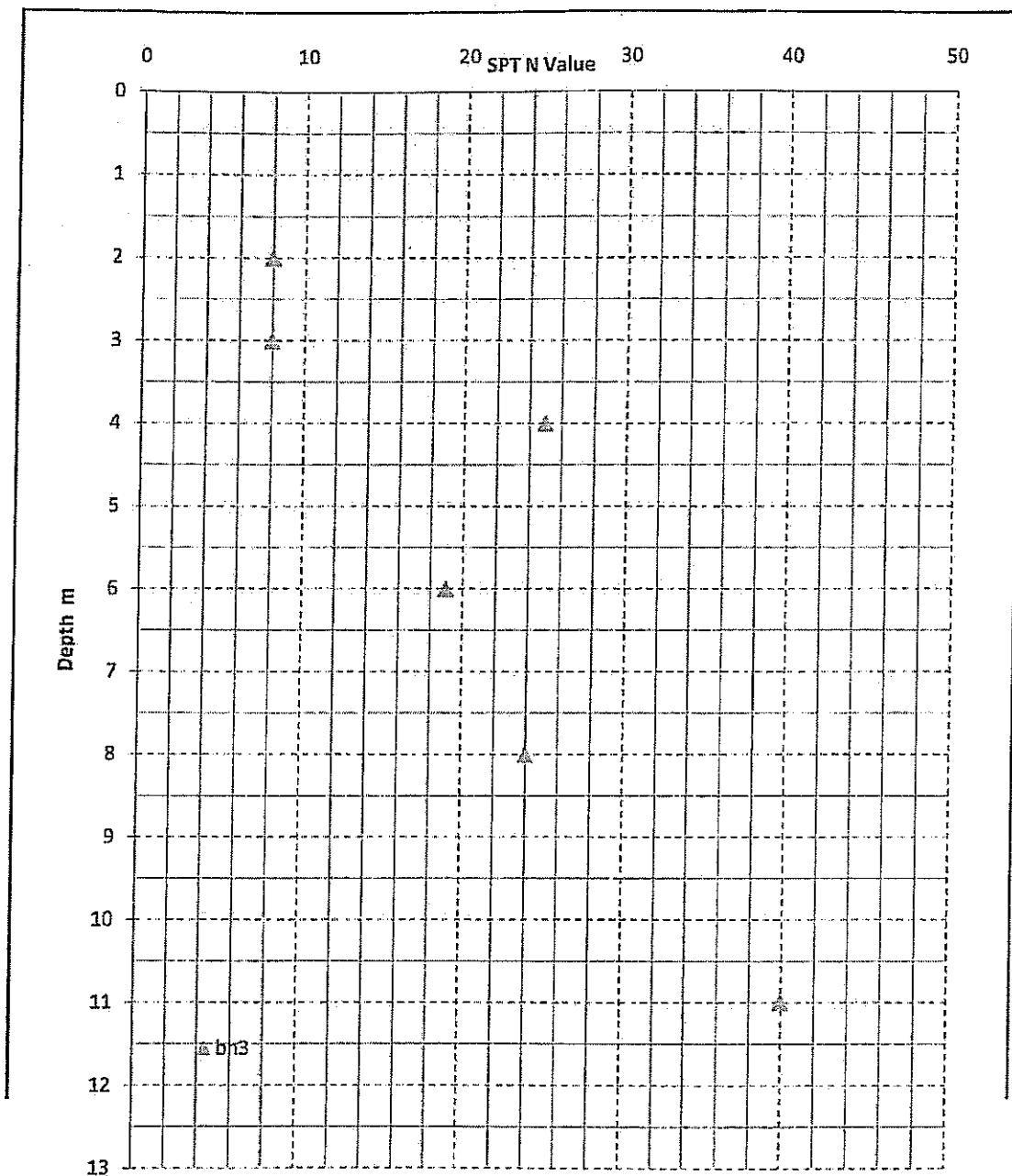
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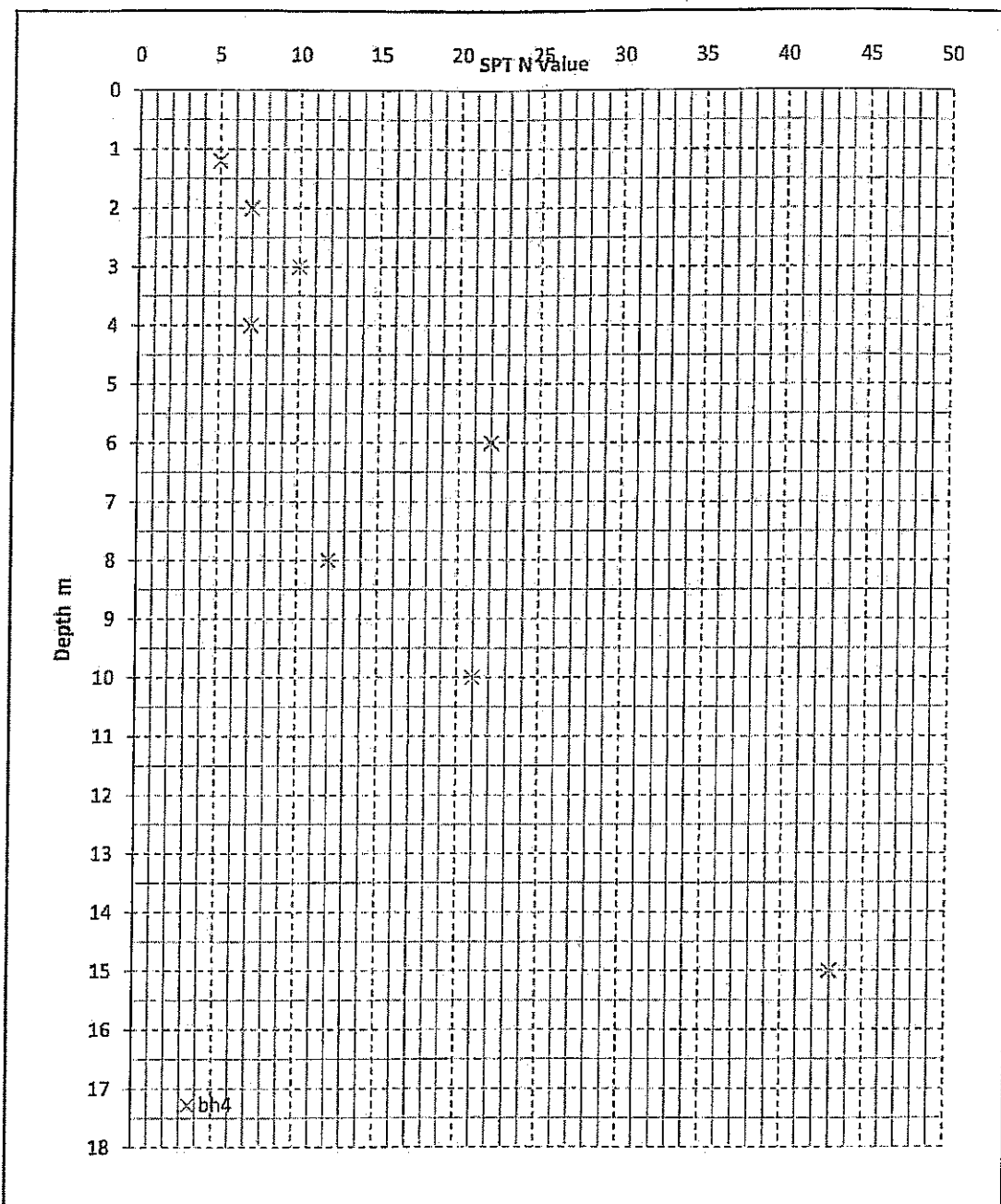
Title: Figure 2 SPT N vs Depth BH1		AECOM	
Project: Fort Vale Works, Simonstone, Burnley		Lynnfield House Church Street Altrincham, WA14 4DZ	Tel: +44(0)161 927 8200 Fax: +44(0)161 927 8499 www.aecom.com
Notes: N values below 50 only		Checked: RH	Designed: MR
		Approved: MdK	Date: February 2011
		Doc. No.	



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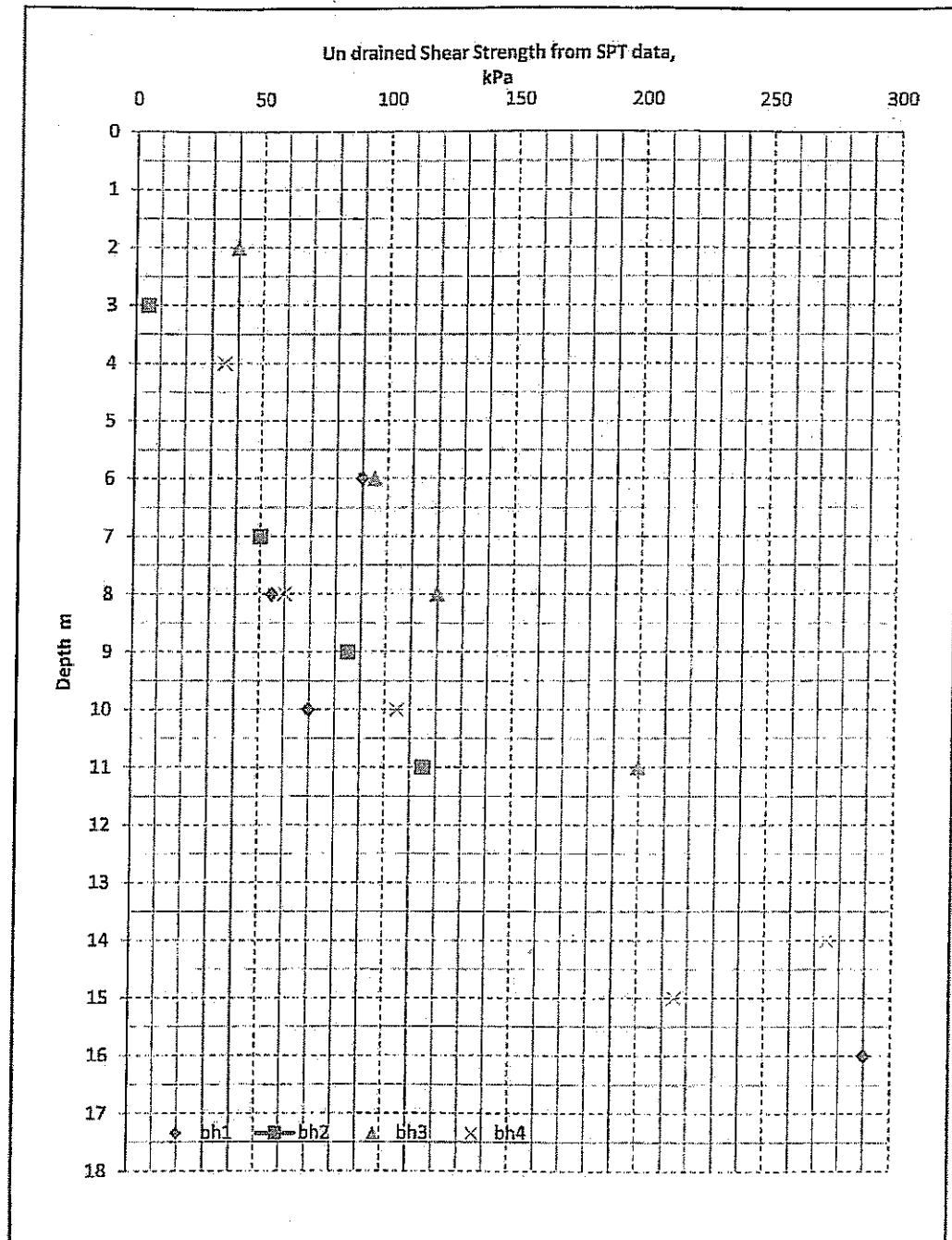


Title: Figure 4 SPT N vs Depth BH3		AECOM	
Project: Fort Vale Works, Simonstone, Burnley	Lynnfield House		Tel: +44(0)161 927 8200
	Church Street		Fax: +44(0)161 927 8499
Notes: N values below 50 only	Altrincham, WA14 4DZ		www.aecom.com
	Checked: RH		Designed: MR
	Approved: MdK		Date: February 2011
		Doc. No.	

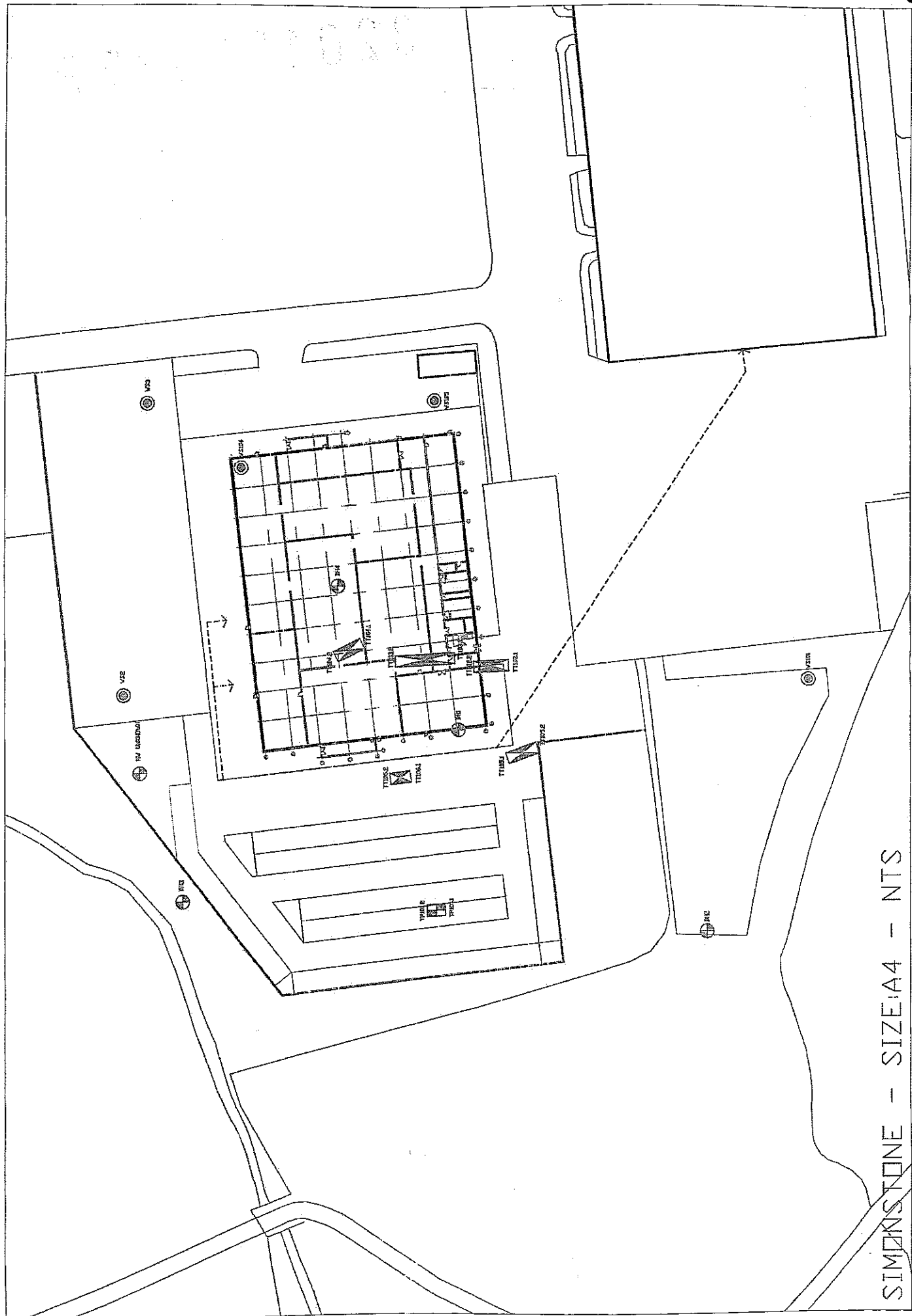


Title: Figure 5 SPT N vs Depth BH4		AECOM	
Project: Fort Vale Works, Simonstone, Burnley	Lynnfield House		Tel: +44(0)161 927 8200
	Church Street		Fax: +44(0)161 927 8499
		Allirincham, WA14 4DZ www.aecom.com	
		Checked: RH	Designed: MR
Notes: N values below 50 only		Approved: MdK	Date: February 2011
		Doc. No.	

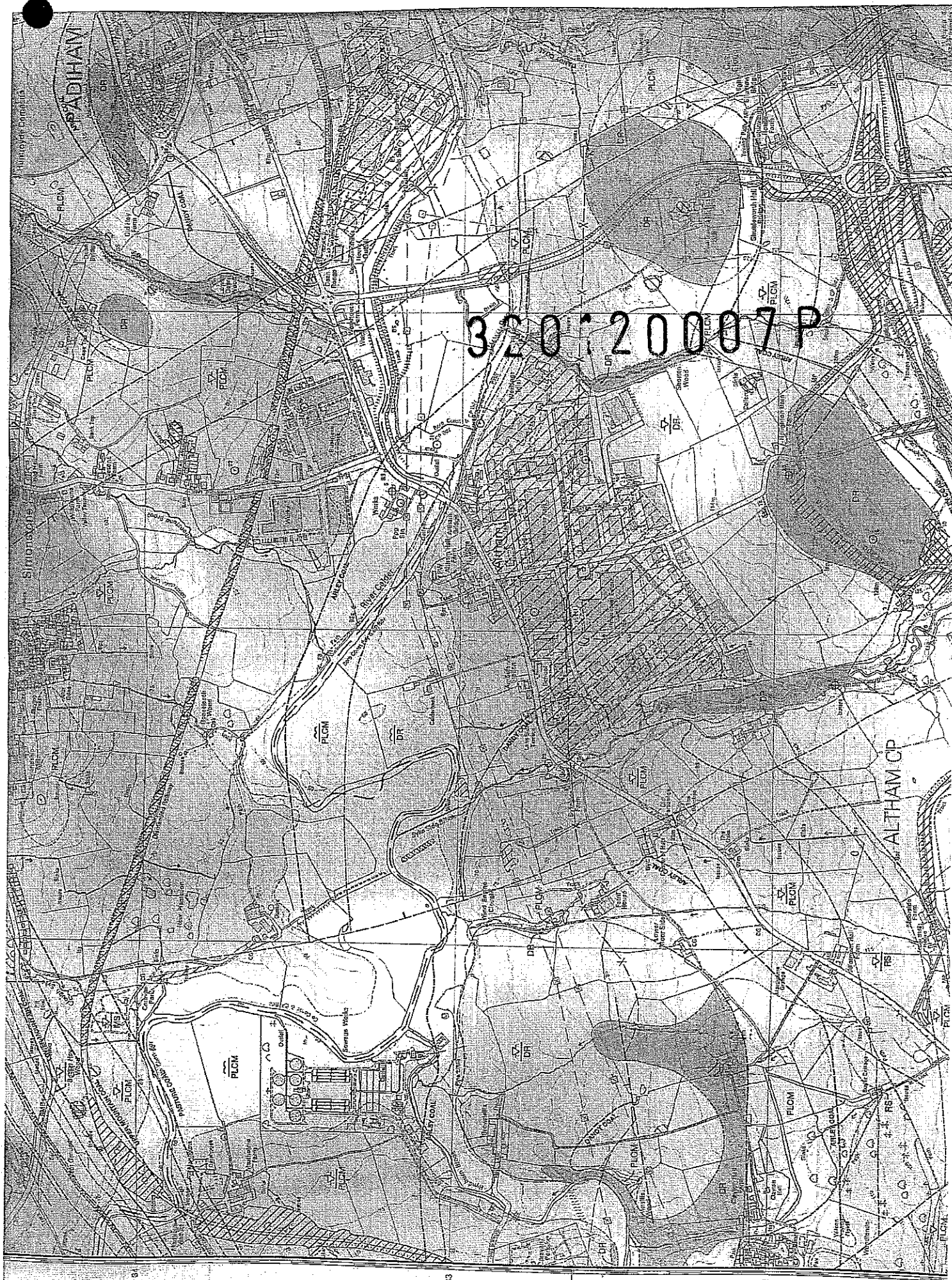
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Title: Figure 6 Undrained Shear strength from SPT vs Depth		AECOM AECOM	
Project: Fort Vale Works, Simonstone, Burnley		Lynnfield House Church Street Altrincham, WA14 4DZ	Tel: +44(0)161 927 8200 Fax: +44(0)161 927 8499 www.aecom.com
Notes: Cu less than 300kPa only		Checked: RH Approved: MdK Doc. No.	Designed: MR Date: January 2011



SIMONSTONE - SIZE:A4 - NTS



320:20007P

ALTHAM CP



Issued by:

The Coal Authority, Mining Reports Office, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire NG18 4RG
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Person dealing with this matter: Eric Fretwell
Our reference: 00035416-10
Your reference: 32133940
Electronic Ref: EME_00014345490004_005
RRUID: 005 00014345490004
Date of your enquiry: 10 August 2010
Date we received your enquiry: 10 August 2010
Date of issue: 11 August 2010

This report is for the property described in the address below and the attached plan.

Non-Residential Coal and Brine Report

Site At Calder Vale Park, Simonstone Lane, Simonstone, Burnley, Lancashire

This report is based on and limited to the records held by, the Coal Authority, and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Coal mining	Yes
Brine Compensation District	No

Information from the Coal Authority

Underground Coal Mining

Past

The property is in the likely zone of influence from workings in 1 seam of coal at 270m to 290m depth, and last worked in 1948.

Any ground movement from these coal workings should have stopped by now.

In addition the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past.

Present

The property is not in the likely zone of influence of any present underground coal workings.

Future

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

The property is not in an area for which a licence has been granted to remove coal using underground methods.

The property is not in an area that is likely to be affected at the surface from any planned future workings.

However reserves of coal exist in the local area which could be worked at some time in the future.

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

Records may be incomplete. Consequently, there may exist in the local area mine entries of which the Coal Authority has no knowledge.

Coal-mining geology

The Authority is not aware of any evidence of damage arising due to geological faults or other lines of weakness that have been affected by coal mining.

Opencast Coal Mining

Past

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

Present

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

Coal-mining subsidence

The Coal Authority has not received a damage notice or claim for the property since 1 January 1984.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

Withdrawal of Support

The property is in an area for which a notice of entitlement to withdraw support was published in 1944.

The property is not in an area for which a notice has been given under section 41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support

Working Facilities Orders

The property is not in an area for which an Order has been made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to Owners of Former Copyhold Land

The property is not in an area for which a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Comments on Coal Authority information

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/ former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Additional remarks

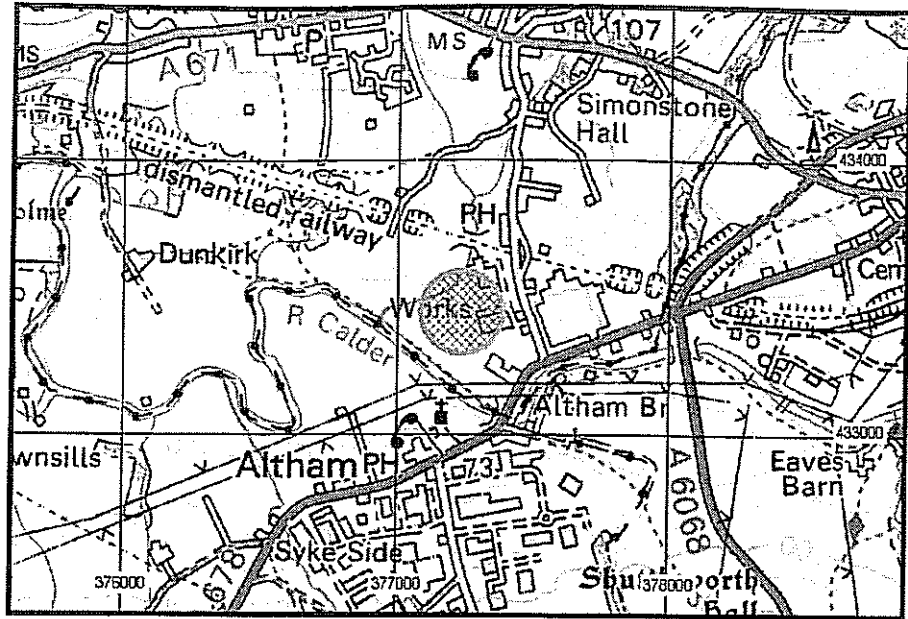
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Location map



Approximate
position
of property



Enquiry boundary

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Key

Approximate position of enquiry boundary shown

