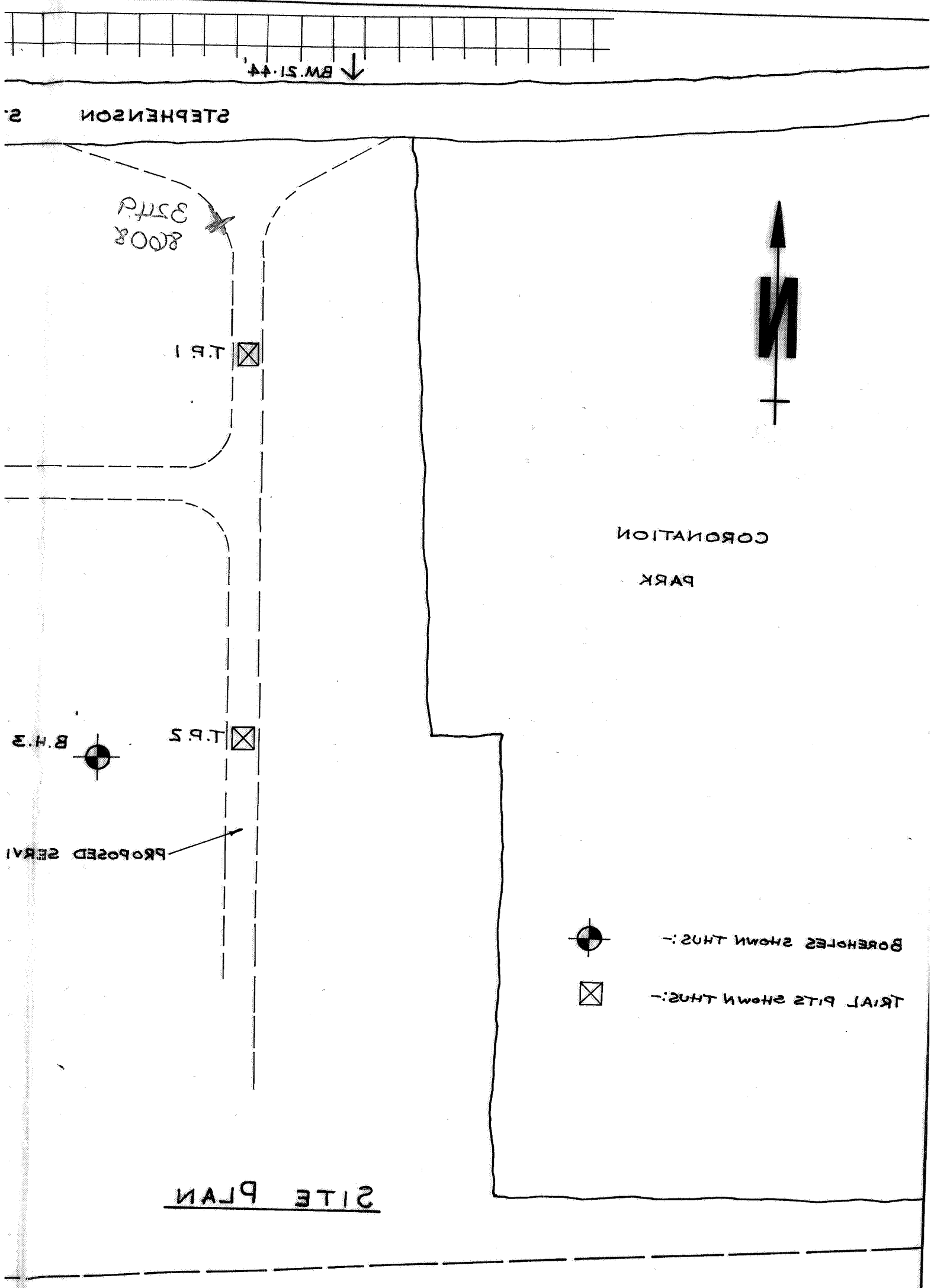


BOREHOLE NO. 1A/contd

Ground Level..... Diameter of Boring.....
 Water Struck..... Method
 Standing Water Level..... Start..... Finish.....

REMARKS:

Description of Strata	Thickness	Depth	Reduced Level	Disturbed Samples	Undisturbed Samples and Insitu Tests
Medium dense sandy gravel	15'0"	55'0"		47'6" J3504 48'6" B3505	48'6" N=21
				52'6" J3506 53'6" B3507	53'6" N=23
Dense sandy gravel	7'0"	62'0" 63'6"		57'6" J3508 58'6" B3509	58'6" N=34
Soft red marl	1'6"			62'6" J3510	
		70'0"			63'6" U3511
Stiff red marl mottled green with blue veining	6'6"			67'6" J3512	68'6" U3513
Bottom of Borehole					



BOREHOLE NO......2A.....3252
8605

Ground Level..... Diameter of Boring..... 8" and 6"
 Water Struck..... 37'0"..... Method..... Shell and Auger.....
 Standing Water Level..... 16'0"..... Start..... 27.1.69..... Finish..... 30.1.69.....

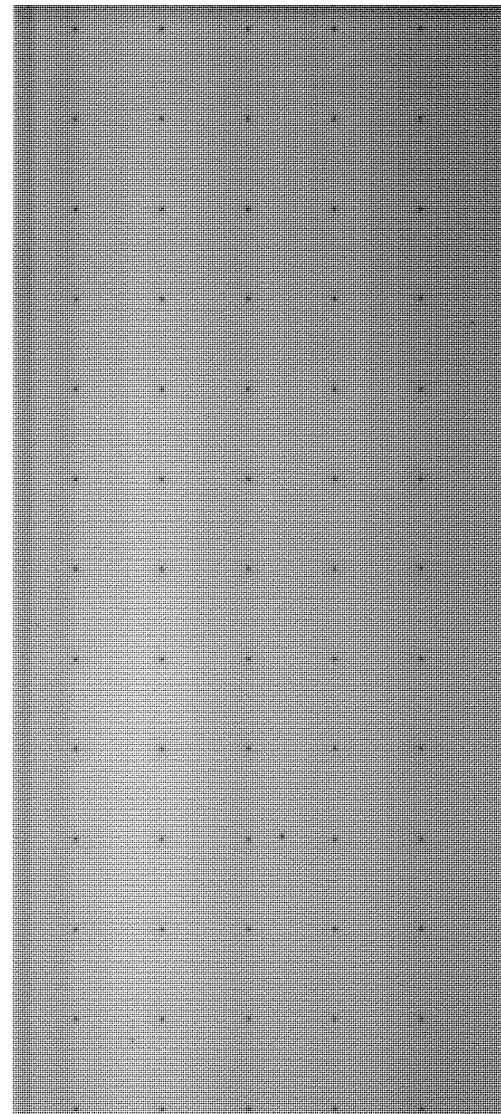
REMARKS: Chiselling at 60'0" - 2 hours

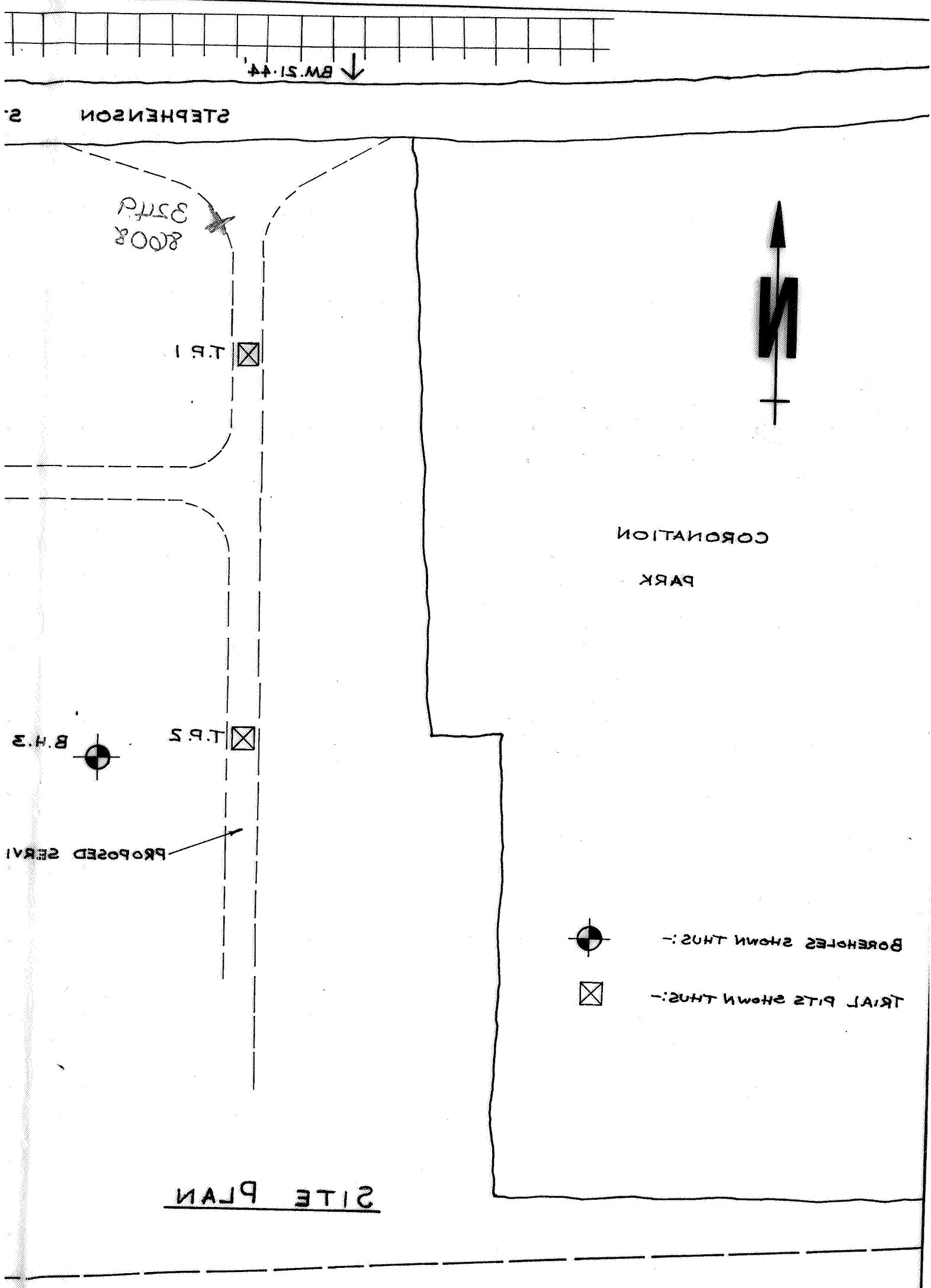
Description of Strata	Thickness	Depth	Reduced Level	Disturbed Samples	Undisturbed Samples and Insitu Tests
Topsoil	0'9"	0'9"			
Firm brown clay with small sandy pockets	6'9"	7'6"		3'0" B3407 6'0" B3408	3'0" U3441
Very soft grey silty clay	17'6"	25'0"		12'6" J3410 17'6" J3412 22'6" J3414	9'0" U3409 13'6" U3411 18'6" U3413 23'6" U3415
Very soft grey silty clay with slight traces of sand	12'0"			27'6" J3416 32'6" J3418	28'6" U3417 33'6" U3419

Ground Level..... Diameter of Boring.....
 Water Struck..... Method
 Standing Water Level..... Start..... Finish.....

REMARKS:

Description of Strata	Thickness	Depth	Reduced Level	Disturbed Samples	Undisturbed Samples and Insitu Tests
Medium dense grey sand with some gravel	16'0"	53'0"		47'6" J3423	
				50'0" B3424	50'0" N=14
Medium dense gravel	5'0"	58'0"		53'0" B3425	53'0" N=29
				57'0" J3426	
Silty grey sand with some gravel	2'0"	60'0"			
Dense grey sand and coarse gravel	3'0"	63'0"		60'0" B3428	60'0" N=47
Firm to stiff red marl mottled green in places with bands of soft marl	27'0"			63'0" J3429	63'6" U3430
				67'6" J3431	68'6" U3432
				72'6" J3433	
				77'6" J3435	75'0" U3434
					81'0" U3436





Norwest Holst Soil Engineering Ltd.

Borehole No.

1

Contract No. F5745
Location Newport - Monsanto
Client W. S. Atkins and Partners
Method of Boring Percussion
Diameter of Borehole 200 mm

BOREHOLE LOG

Sheet 1 of 3
Chainage
Ground Level 5710783 m.A.O.D.
Date

3360
8525

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/R.Q.D.%	Daily Progress
MADE GROUND: (Clay cobbles, bricks and gravel).		0.20 0.40					
MADE GROUND: Concrete slab from 0.20 m to 0.40 m.		1.10			0.50	14	
MADE GROUND: (Bricks and gravel).					1.50		
Soft green-brown mottled organic very silty CLAY with occasional fine subrounded gravel.					No Recovery		
					2.00	5	
					2.50		
		3.50			No Recovery		
Soft grey slightly organic very silty CLAY.					3.50	3	
					4.50	3	
Soft dark brown clayey PEAT.		5.80			5.50	(15)	
Soft grey organic silty CLAY.					7.00	(10)	7/10
		8.50			8.50	(9)	10/10
Soft grey-green silty CLAY becoming organic from 9.80 m with black patches.							

Type of Sample

- ☒ S.P.T. ☒ Undisturbed
☒ C.P.T. ☒ Vane
☒ Jar ☒ Water
☒ Bulk ☒ Piezometer

Remarks (Observations of Ground Water etc.) () U100 blow count.

6/10/83 Seepage of groundwater at 3.10 m. Casing at 2.50 m. Groundwater encountered at 4.30 m. Rising to 2.60 m after 20 mins. Casing at 4.30 m. Standing water level at 6.10 m. Casing at 7.00 m. 1½ hours chiselling at 0.40 m.
10/10/83 : Standing water level at 5.60 m. Casing at 14.00 m.

Water levels are subject to seasonal or tidal variations and should not be taken as constant

Norwest Holst Soil Engineering Ltd.

Borehole No.

1

Contract No. F5745
Location Newport - Monsanto
Client W. S. Atkins & Partners
Method of Boring Percussion
Diameter of Borehole 200 mm

BOREHOLE LOG

Sheet 2 of 3
Chainage
Ground Level m.A.O.D.
Date 6/10/83

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/R.O.D.%	Daily Progress
Soft grey-green silty CLAY becoming organic from 9.80 m with black patches.		11.45			10.00	(10)	
Soft to firm grey slightly clayey SILT.		12.40			11.50	(45)	
Medium dense grey sandy GRAVEL.		14.30			12.50	22	
Red-brown fine medium occasionally coarse SAND with occasional fine subrounded to rounded gravel.		14.55			13.50	43	11/10
Grey-brown fine medium coarse sandy fine medium coarse subangular to rounded GRAVEL.		16.90			14.30	54	
Hard red-brown sandy silty CLAY with mudstone lithorelicts. Keuper Marl Zone IVA becoming highly weathered red-brown silty mudstone from 18.00 m (Zone IV-III) with bands of Zone IVb.					15.30	106	
					16.30	83	
					17.00	No Penetration	
					17.10	70 for 150mm	12/10
					18.00	42 for 150mm	
					19.00	50 for 75mm	
					20.00		

Type of Sample

Is S.P.T. Undisturbed
Ic. C.P.T. Vane
O Jar Water
● Bulk Piezometer

Remarks (Observations of Ground Water etc.) () U100 blow count.
11/10/83 Standing water level 5.40 m. Casing at 14.00 m.
12/10/83 Standing water level 2.40 m. Casing at 17.50 m.
4½ hrs chiselling from 18.00 m to 20.00 m.
Final standing water level at 1.70 m.
Casing at 20.00 m.

Water levels are subject to seasonal or tidal variations and should not be taken as constant

Norwest Holst Soil Engineering Ltd.

Borehole No.

1

Contract No. F5745

BOREHOLE LOG

Location Newport - Monisanto

Sheet 3 of 3

Client W. S. Atkins & Partners

Chainage

Method of Boring Percussion

Ground Level m.A.O.D.

Diameter of Borehole 200 mm

Date 6/10/83

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.O.D.%	Daily Progress
Hard red-brown sandy silty CLAY with mudstone lithorelicts. Keuper Marl Zone IVA becoming highly weathered red-brown silty mudstone from 18.00 m(Zone IV-III) with bands of Zone IVb.	X	20.45			10.00	143	

Type of Sample

- Is S.P.T. ■ Undisturbed
Ic. C.P.T. X Vane
O Jar Δ Water
● Bulk ■ Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or tidal variations and should not be taken as constant

Norwest Holst Soil Engineering Ltd.

Borehole No.

3

Contract No. F5745
Location Newport, Monsanto
Client W. S. Atkins and Partners
Method of Boring Percussion
Diameter of Borehole 200mm

BOREHOLE LOG

Sheet 1 of 2
Chainage
Ground Level 16/10/83 m.A.O.D.
Date

3360
8525

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D. %	Daily Progress
MADE GROUND: Cobbles and concrete.		1.00					
Firm grey-brown mottled occasionally organic silty CLAY.		3.00			1.20 2.20	(33) (27)	
Very soft grey slightly organic silty CLAY.		5.70			3.20 4.70	(18) (17)	
Soft grey organic silty CLAY with pockets of black peat.		6.55			6.00	(17)	
Soft grey slightly organic silty CLAY.		7.00					
Dark grey-black slightly clayey PEAT.		7.40					
Soft grey organic silty CLAY.		8.60			7.50	(15)	
Soft grey slightly clayey SILT.		10.00			9.00	(18)	

Type of Sample

Is S.P.T. Undisturbed
Ic. C.P.T. Vane
O Jar Water
● Bulk Piezometer

Remarks (Observations of Ground Water etc.) () U100 Blow Count.
16/10/83 Slight seepage of groundwater throughout boring operations.
Groundwater encountered at 11.80m, rising to 11.30m, after 20mins. Partly sealed at 12.50m, casing at 12.50m.
Groundwater encountered at 13.40m rising to 6.30m, after 20mins, casing at 13.40m.
Standing water level at 5.70m, casing at 14.00m.
Borehole repositioned 3 times to avoid surface cobbles and concrete.

Water levels are subject to seasonal or tidal variations and should not be taken as constant

Norwest Holst Soil Engineering Ltd.

Borehole No.

3

Contract No. F5745

BOREHOLE LOG

Location Newport, Monsanto

Client W. S. Atkins and Partners

Method of Boring Percussion

Diameter of Borehole 200mm

Sheet 2 of 2

Chainage

Ground Level m.A.O.D.

Date 17/10/83

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D. %	Daily Progress
Soft grey organic silty CLAY with pockets of brown peat.		11.30			10.50	(9)	
Soft grey fine medium sandy SILT.		11.75			11.30	(8)	
Red-brown silty fine medium occasionally coarse SAND.		12.00			11.80	15	
Firm red-brown silty CLAY with fine, medium, coarse sand bands and fine sub-rounded to rounded gravel, occasional small rounded cobbles.		13.40			12.50	(35)	
Dense grey sandy coarse subangular to rounded GRAVEL with some silty clay.		16.25			13.50	45	17/10
Hard red-brown silty CLAY with occasional mudstone lithorelicts, Keuper Marl Zone IVa, becoming completely weathered red-brown very weak silty MUDSTONE from 17.00m.		18.60		18.60	14.50	44	
					15.50	51	
					16.30	69 for 150mm	
					17.30	50 for 75mm	
					18.30	87 for 150mm	

Type of Sample

- Is S.P.T. Undisturbed
 Ic. C.P.T. Vane
 O Jar Water
 ● Bulk Piezometer

Remarks (Observations of Ground Water etc.) () U100 Blow Count.

17/10/83 Final standing water level at 6.40m, casing at 18.60m.

5½hrs chiselling from 16.25m to 18.60m.

Water levels are subject to seasonal or tidal variations and should not be taken as constant



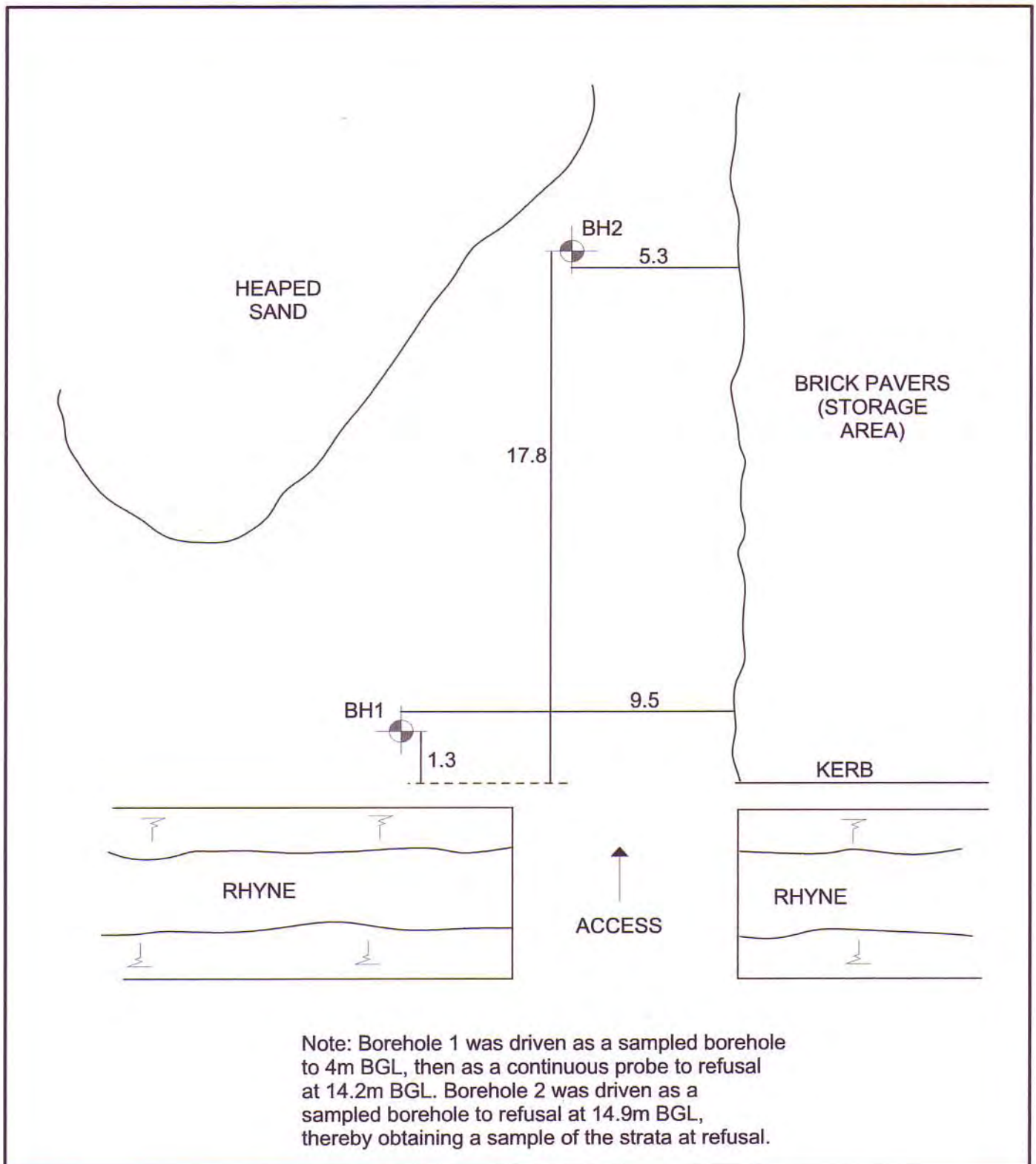
APPENDIX F – MINI SOIL SURVEYS REPORT



MINI · SOIL · SURVEYS

Mini Soil Surveys (West) Limited, 19 St Catherine's Close, Bathwick Hill, Bath BA2 6BS

Tel: (01225) 425 657
Fax: (01225) 425 657



KEY PLAN

JOB No : WES04601 SITE: MARSHALLS MONO, CORPORATION ROAD, NEWPORT

Not to Scale : diagrammatic only: all dimensions are in metres (BH. = Borehole TP. = Trial Pit)



MINI • SOIL • SURVEYS

Mini Soil Surveys (West) Limited, 19 St.Catherine's Close, Bathwick Hill, Bath BA2 6BS

Tel: (01225) 425657

Job Number: WES04601

Borehole No: 1 of 2

Fax: (01225) 425657

Site: Marshalls Mono, Corporation Road, Newport

Crew: M

Date Drilled: 22/02/2011

Description	Depth	Leg	Test Type	Value
Well compacted brown sand, gravel and concrete rubble fragments, MADE GROUND. Precise depth not determined.				
Stiff, becoming firm then soft with depth, greyish brown silty CLAY.	0.90		1.20 SPT	N=9
			1.80 SPT	N=6
Soft and very soft, brownish grey very silty CLAY.	2.20		2.40 SPT	N=0
			3.00 SPT	N=0
			3.60 SPT	N=1
Continuous probing, using 50mm diameter 90 degree solid tapered cone, and 63.5kg dropweight (SHDP). Probing results presented in cone penetration test format (6 x 75mm with final 4 counts totalled as "N" value) for comparison purposes.	4.00		4.50 CPT	N=0
			5.70 CPT	N=2
			6.90 CPT	N=4
			8.10 CPT	N=5
			9.30 CPT	N=7
			10.50 CPT	N=10
			11.70 CPT	N=12
			12.90 CPT	N=15
End of Hole	14.20		14.10 CPT	N=*

SPT @ 1.2m 2/2/2,2,3,2 SPT @ 1.8m 2/2/1,2,1,2 SPT @ 2.4m 1/0/0,0,0,0
SPT @ 3.0m 1/0/0,0,0,0 SPT @ 3.6m 1/0/0,0,0,1 CPT @ 4.5m 1/0/0,0,0,0
CPT @ 5.7m 1/0/1,0,1,0 CPT @ 6.9m 1/1/1,1,1,1 CPT @ 8.1m 2/1/1,1,2,1
CPT @ 9.3m 2/1/2,2,1,2 CPT @ 10.5m 3/2/2,3,3,2 CPT @ 11.7m 3/3/3,3,3,3
CPT @ 12.9m 4/3/4,3,4,4 CPT @ 14.1m * 25/49/39,20 blows for 30mm.
After driving to 1.6m bgl, water standing at 0.65m bgl, and standing at 0.65m bgl
20 minutes after completion of borehole.

MINI • SOIL • SURVEYS



Mini Soil Surveys (West) Limited, 19 St.Catherine's Close, Bathwick Hill, Bath BA2 6BS

Tel: (01225) 425657

Job Number: WES04601

Borehole No: 2 of 2

Fax: (01225) 425657

Site: Marshalls Mono, Corporation Road, Newport

Crew: M

Date Drilled: 23/02/2011

Description	Depth	Leg	Test Type	Value
Well compacted brown sand, gravel and concrete rubble fragments, MADE GROUND. Precise depth not determined.				
Stiff, rapidly becoming firm then soft with depth, greyish brown silty CLAY.	1.00		1.20 SPT	N=7
Soft and very soft, brownish grey becoming grey with depth, very silty CLAY, with occasional peaty fibres at upper level, becoming sandy at depth.	1.80		1.80 SPT	N=2
			2.40 SPT	N=0
			3.00 SPT	N=2
			3.60 SPT	N=0
			4.80 SPT	N=0
			6.00 SPT	N=0
			7.20 SPT	N=0
			8.40 SPT	N=1
			9.60 SPT	N=1
			10.80 SPT	N=3
			12.00 SPT	N=3
Loose, becoming medium dense with depth, grey fine SAND.	12.50		13.20 SPT	N=16
Medium dense, grey and brown, fine to medium GRAVEL (partially fragmented by sampler) and fine to coarse SAND.	13.50			
Hard, reddish brown and pale greenish greyish brown, slightly sandy very silty CLAY, with intact weak siltstone fragments at depth.	14.20		14.40 SPT	N=81
End of Hole	14.90		14.85 SPT	N=**

SPT @ 1.2m 2/1/2,2,1,2 SPT @ 1.8m 2/1/1,0,0,1 SPT @ 2.4m 1/0/0,0,0,0
 SPT @ 3.0m 1/0/0,1,0,1 SPT @ 3.6m 1/0/0,0,0,0 SPT @ 4.8m 1/0/0,0,0,0
 SPT @ 6.0m 1/0/0,0,0,0 SPT @ 7.2m 1/0/0,0,0,0 SPT @ 8.4m 1/0/0,1,0,0
 SPT @ 9.6m 1/0/0,1,0,0 SPT @ 10.8m 1/0/1,1,1,0 SPT @ 12.0m 2/1/1,1,1,0
 SPT @ 13.2m 3/3/2,4,6,4 SPT @ 14.4m 33/24/22,17,16,26
 SPT @ 14.85m ** 20 blows for 20mm of first seating drive. Water struck and standing at 0.6m bgl, and standing at 0.6m bgl 20 minutes after completion of borehole.



APPENDIX G – SITE PHOTOS



Photo 1. Aggregate Stores (July 2019)



Photo 2. View overlooking bare ground with mounds of un-used material (July 2019)

Title: Desk Study	Client: Marshalls Mono Ltd.
Site: Newport	Date: August 2019



Photo 3. Main operational building with gravel heap (July 2019)



Photo 4. Drain running through central section of site (July 2019)

Title: Desk Study	Client: Marshalls Mono Ltd.
Site: Newport	Date: August 2019



Photo 5. Bare ground used for storage of materials (July 2019)



Photo 6. Large courtyard areas with stored slabs (July 2019)

Title: Desk Study	Client: Marshalls Mono Ltd.
Site: Newport	Date: August 2019



Photo 7. Large courtyard areas with stored slabs (July 2019)



Photo 8. Open sided warehouse with storage tanks associated with Mortars Plant (July 2019)

Title: Desk Study	Client: Marshalls Mono Ltd.
Site: Newport	Date: August 2019



Photo 9. Large courtyard areas with stored slabs (July 2019)



Photo 10. Traffic control entrance (July 2019)

Title: Desk Study	Client: Marshalls Mono Ltd.
Site: Newport	Date: August 2019



Photo 11. River Usk to the south of the site (July 2019)



Photo 12. Main access road through site (July 2019)

Title: Desk Study	Client: Marshalls Mono Ltd.
Site: Newport	Date: August 2019



Photo 13. Car park and site offices (July 2019)

Photo 14.

Title: Desk Study	Client: Marshalls Mono Ltd.
Site: Newport	Date: August 2019



Title: Desk Study	Client: Marshalls Mono Ltd.
Site: Newport	Date: August 2019