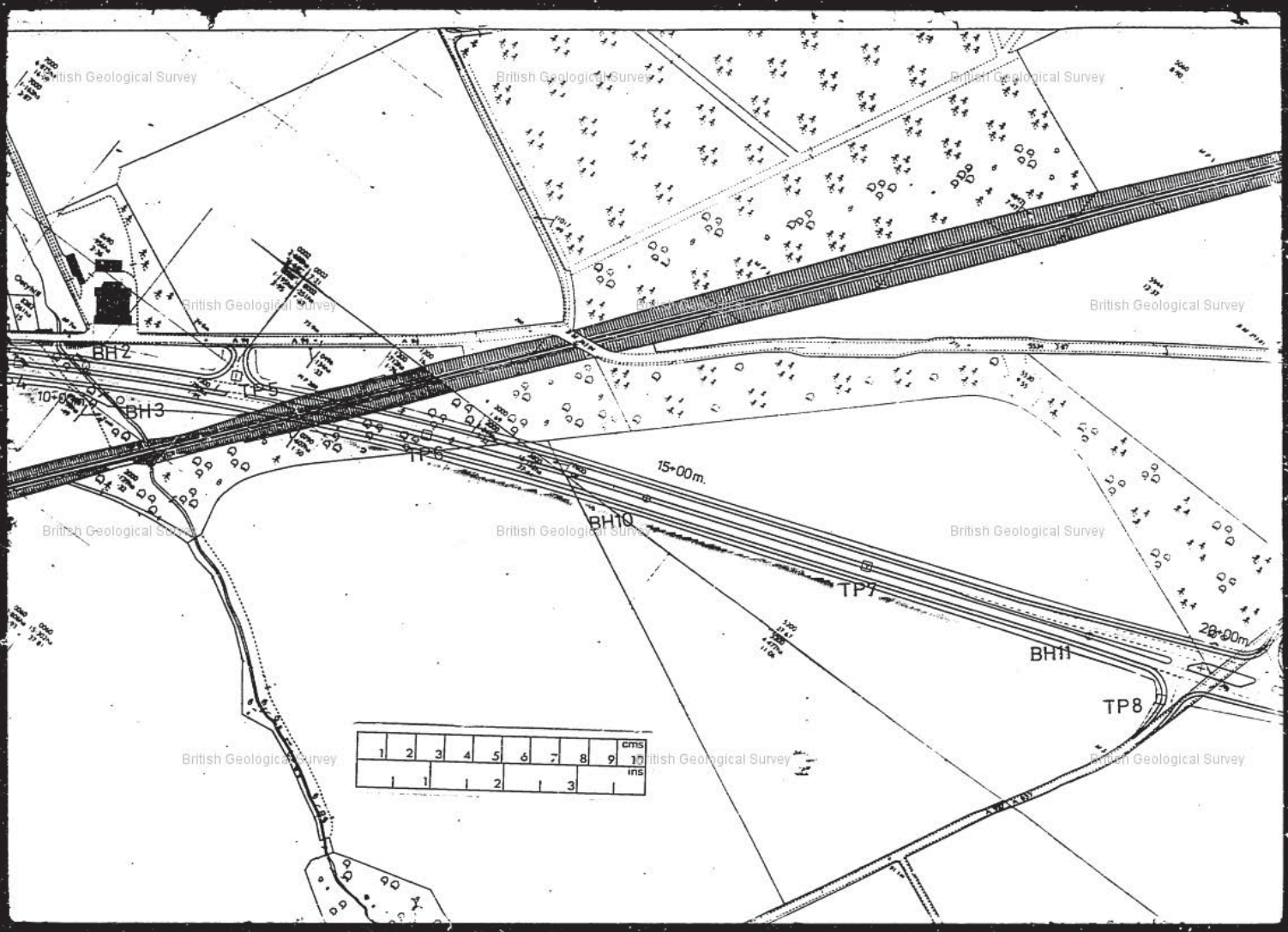
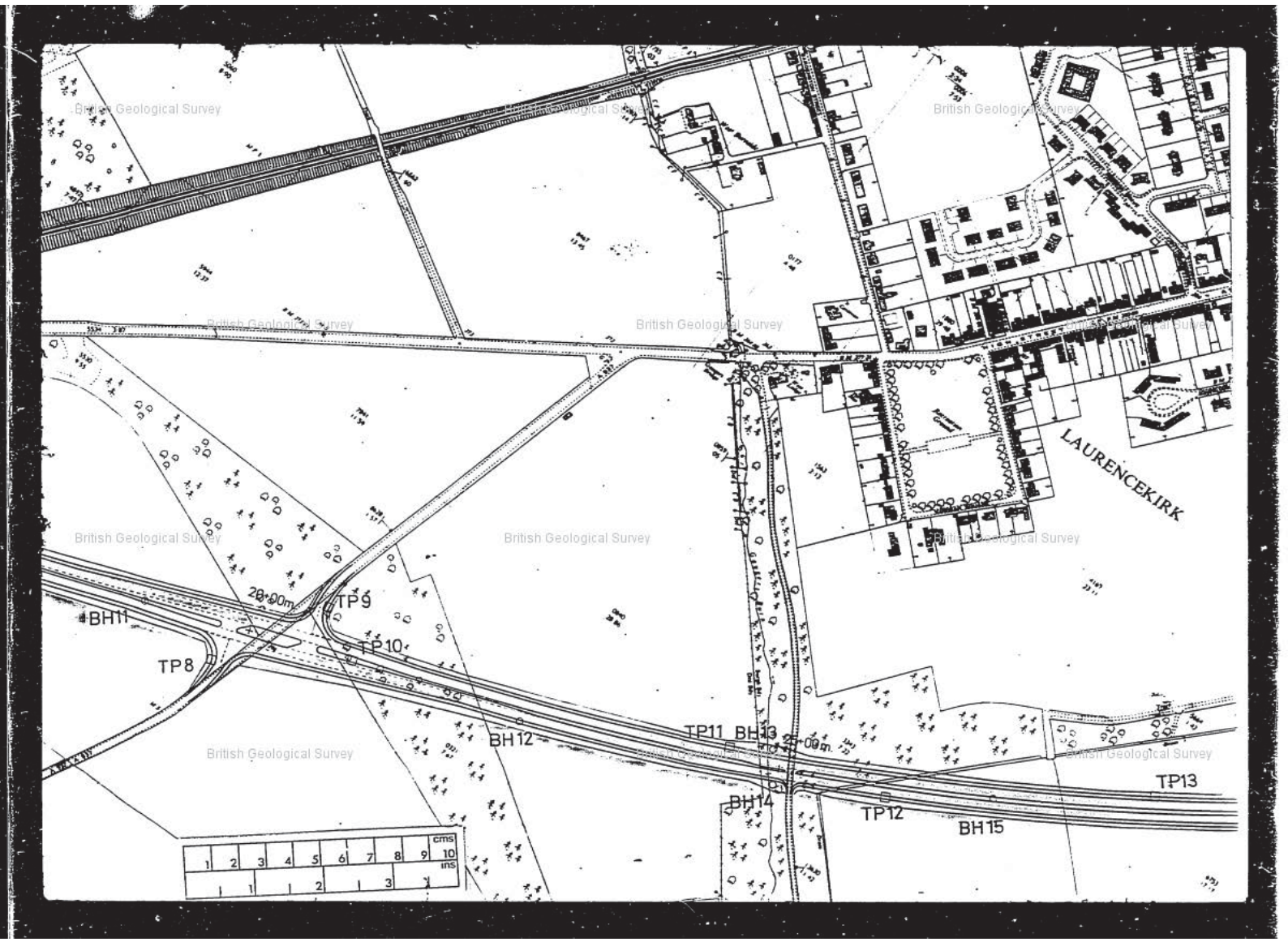
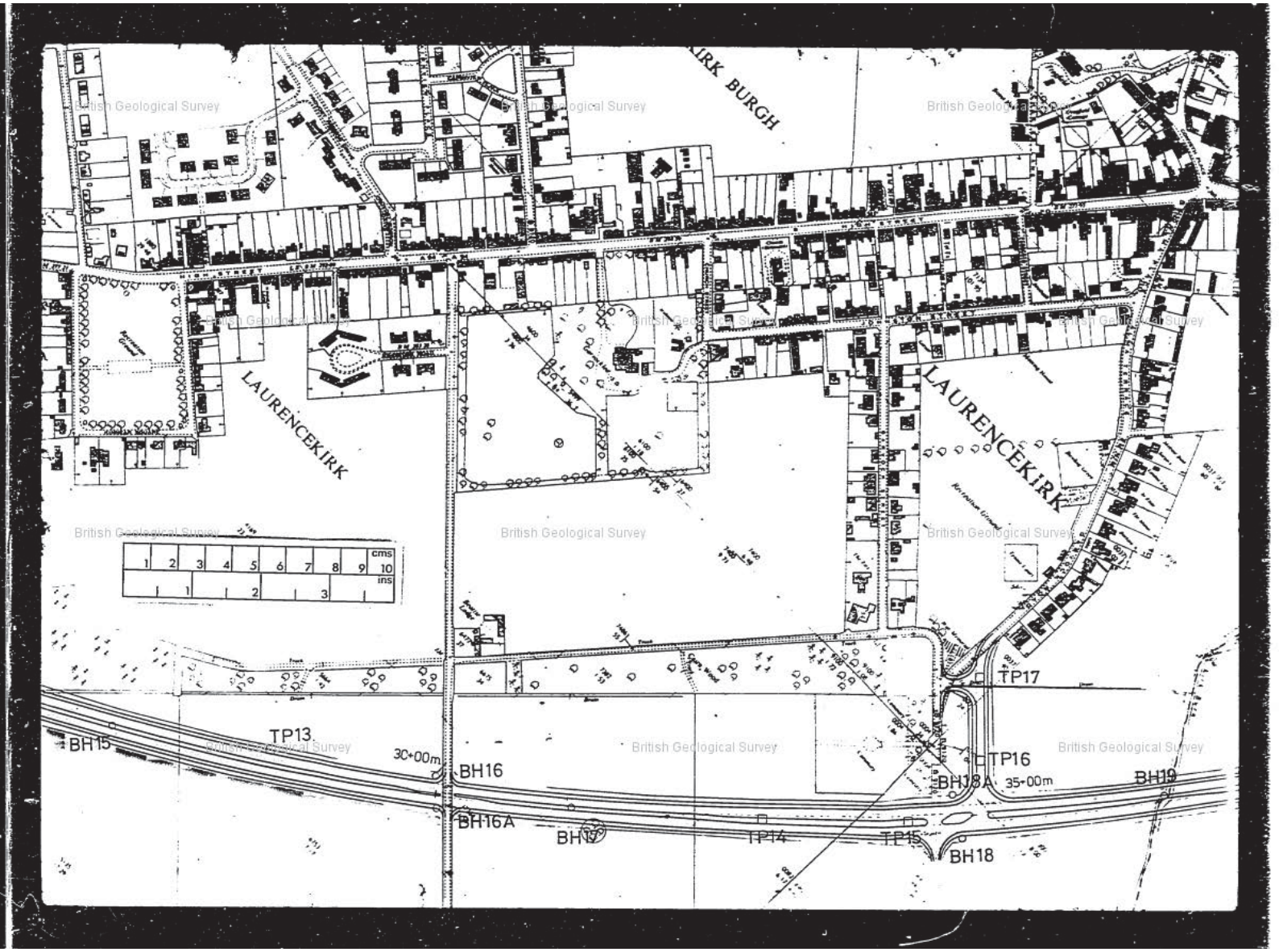
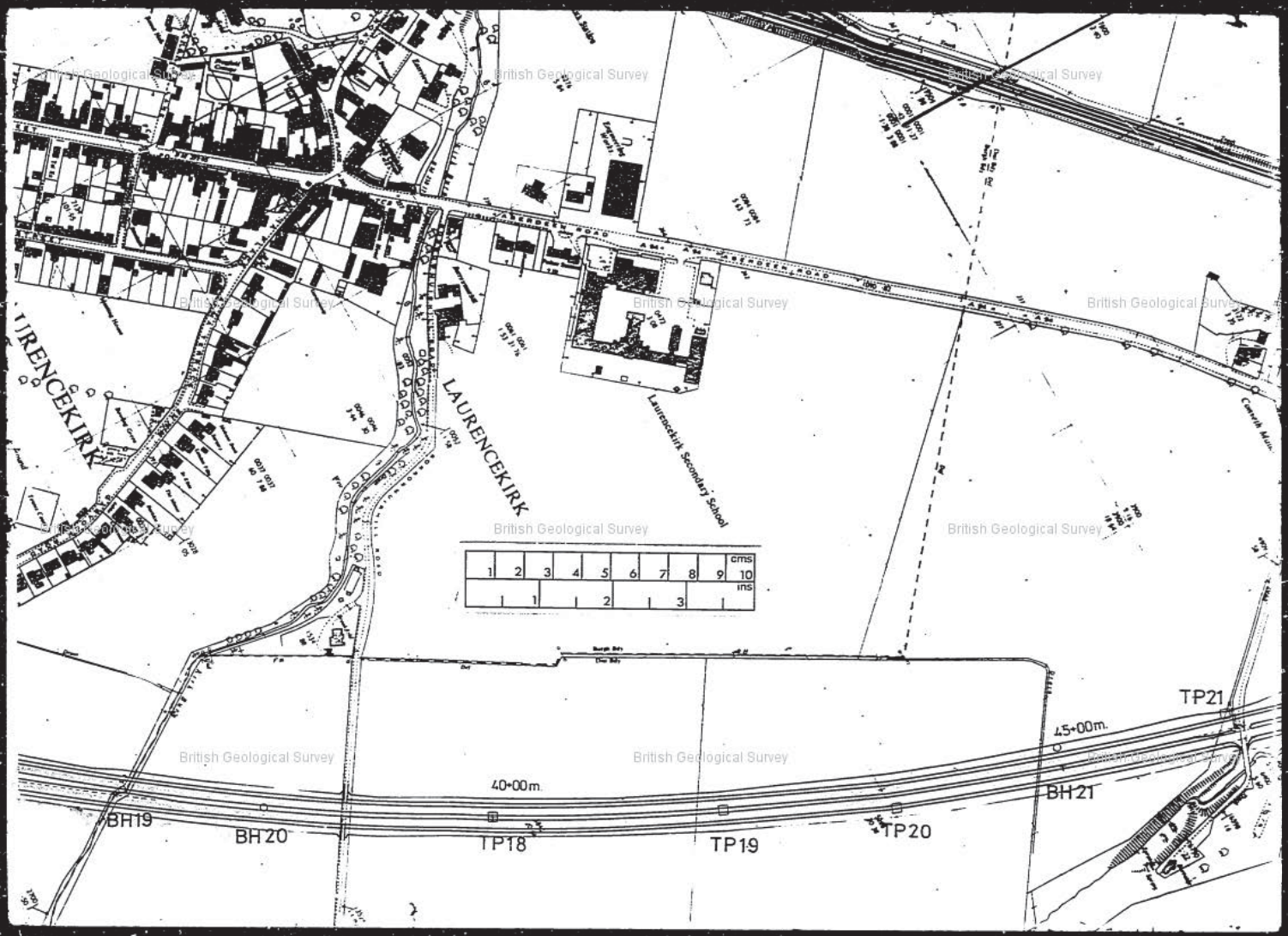
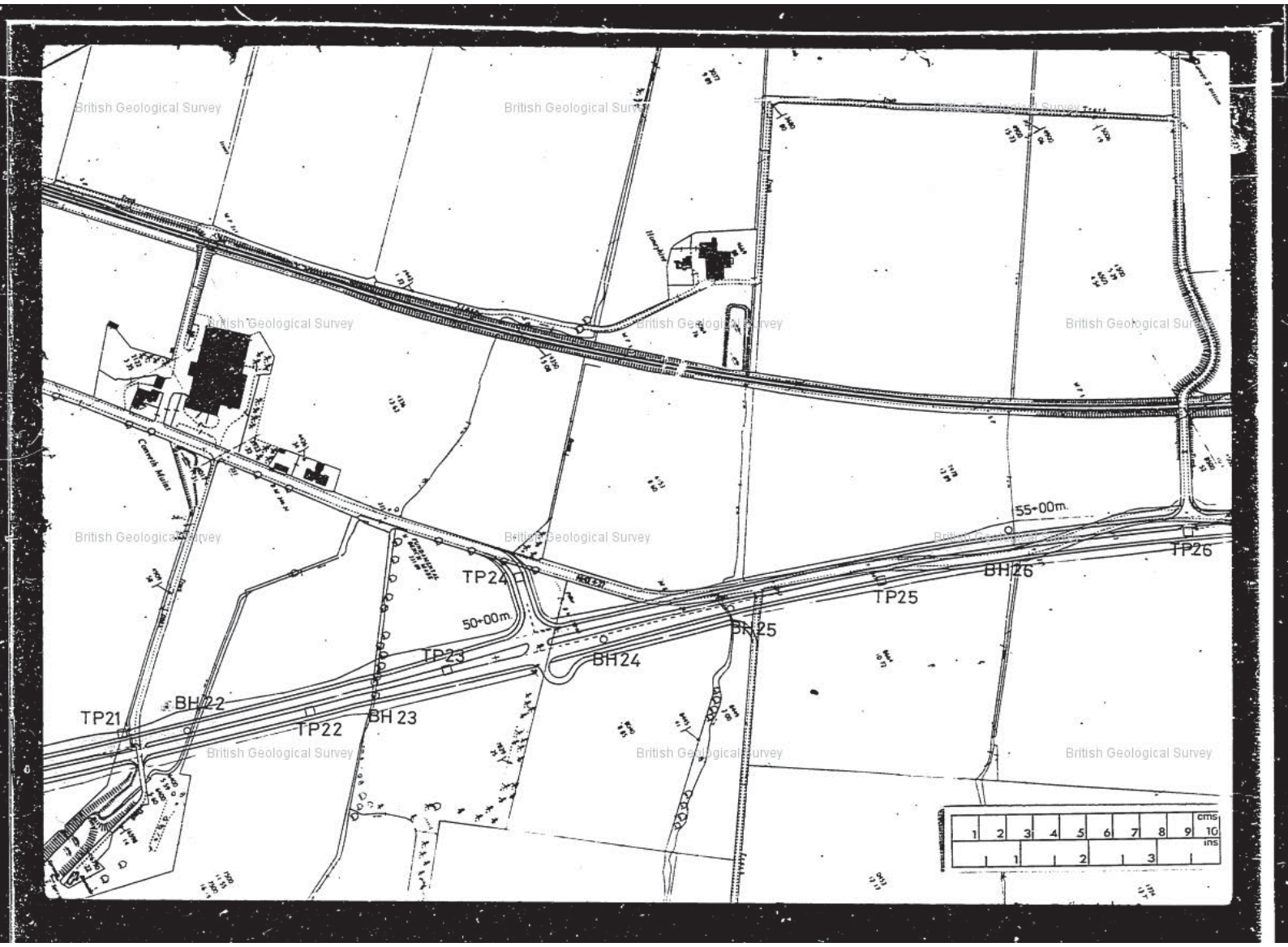
Appendix 13.2 Historical Borehole Logs


BH2
TP5
BH3
TP6
15+00m.
BH10
TP7
20+00m.
BH11
TP8
cms
ins


LAURENCEKIRK
BH11
TP8
TP9
TP10
BH12
TP11
BH13
TP12
BH14
BH15
TP13
20·00m
20·00m
cms
ins


KIRK BURGH
LAURENCEKIRK
LAURENCEKIRK
BH15
TP13
30·00m
BH16
BH16A
BH17
TP14
TP15
BH18
TP16
BH18A
35·00m
BH19
TP17
cms
ins


LAURENCEKIRK
LAURENCEKIRK
Laurencekirk Secondary School
BH19
BH20
TP18
TP19
TP20
BH21
TP21
40+00m.
45+00m.
cms
ins


TP21
BH22
TP22
BH23
TP23
50·00m.
TP24
BH24
BH25
TP25
55·00m.
BH26
TP26
cms
ins

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

BORE LOG

CLIENT: Scottish Development Department	SITE: A94 Laurencekirk Bypass		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: W.S.	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
DRILLING METHOD: Shell and Auger, 200mm dia, to 1.85m	START: 21/2/83 COMPLETE: 21/2/83	SHEET 1 of 1; SCALE: 1:25	BORE NO.: 3

LABORATORY TESTS M	BD	C	ø	LL / PL	CGS	Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
						D	0.50					
19	2142	71	13			U	1.00		Red sandy TOPSOIL	0.90		
						D	1.50		Stiff, reddish brown, very sandy CLAY with gravel and much angular rock fragments	1.60		
						D	1.85		Red, medium to fine grained, slightly micaceous SANDSTONE.	1.85		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Borehole damp

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

BORE LOG

CLIENT: Scottish Development Department	SITE: A94 Laurencekirk Bypass		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: W.S.	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
DRILLING METHOD: Shell and Auger, 200mm dia., to 1.60m	START: 22/2/83 COMPLETE: 22/2/83	SHEET: 1 of 1	BORE NO.: 2
		SCALE: 1:25	

LABORATORY TESTS						Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
M	BD	C	ø	LL / PL	CGS							
									TOPSOIL	0.15		
						D	0.50					
						U	1.10		Stiff, reddish brown, very sandy CLAY with gravel.	1.10		
						W	1.20					
						D	1.50					
									Red SANDSTONE	1.60		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degrees)
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Borehole dry to 1.20m.
Water in hole from 1.20m,
remaining constant at 1.20m

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

TRIAL PIT

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: GMcB	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
EXCAVATION METHOD: Excavated by a JCB 3 DII to 3.60m	START: 2.3.83 COMPLETE: 2.3.83	SHEET 1 of 1 SCALE: 1 : 25	TRIAL PIT NO.: 5

LABORATORY TESTS						Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level mA.O.D.	Legend
M	BD	C	ø	LL / PL	CGS							
									MADE GROUND a) Sandy TOPSOIL	0.10		
									b) Rock INFILL			
18						B	1.00					
										1.80		
									Old TOPSOIL	1.90		
									Medium dense, brown, slightly silty, medium to fine, SAND with occasional gravel			
						B	3.00					
						B	3.40			3.40		
						B	3.50		Red silty SANDSTONE	3.60		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Trial Pit Dry

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTI

TRIAL PIT

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: GMcB	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
EXCAVATION METHOD: Excavated by a JCB 3 DII to 3.60m	START: 2.3.83 COMPLETE: 2.3.83	SHEET: 1 of 1	TRIAL PIT NO.: 6
		SCALE: 1 : 25	

LABORATORY TESTS M	BD	C	Ø	LL / PL	CGS	Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
									Sandy clayey TOPSOIL with roots and rootlets	0.20		
									Firm to stiff, reddish, sandy silty CLAY with gravel			
15				33 17	CL	B	1.50					
						B	3.00			3.30		
						B	3.50		Red, silty SANDSTONE	3.60		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- Ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)

REMARKS

Trial Pit Dry

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

BORE LOG

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: WS	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
DRILLING METHOD: Hand rig, 125mm dia. to 2.50m	START: 25.2.83 COMPLETE: 25.2.83	SHEET 1 of 1	BORE NO.: 10
		SCALE: 1 : 25	

LABORATORY TESTS						Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
M	BD	C	ø	LL / PL	CGS							
						D	0.40		Sandy TOPSOIL with gravel	0.40		
20	2316	75	*	36 / 16	CI	U	0.50		Stiff, reddish brown, very sandy CLAY, with gravel			
						D	1.00					
						U	1.50			1.85		
						D	2.00		Red SANDSTONE	2.50		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Borehole Dry

* Unconfined Compression Test

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

TRIAL PIT

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: GMcB	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
EXCAVATION METHOD: Excavated by a JCB 3 DII to 1.50m	START: 3.3.83 COMPLETE: 3.3.83	SHEET 1 of 1	TRIAL PIT NO.: 7
		SCALE: 1 : 25	

LABORATORY TESTS M	BD	C	Ø	LL / PL	CGS	Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
									Sandy clayey TOPSOIL	0.25		
17				37 19	CI	B	0.50		Firm to stiff, red, sandy, silty, CLAY with gravel	1.10		
						B	1.30		Red, weathered, silty SANDSTONE	1.50		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- Ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)

REMARKS

Trial Pit Dry

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

BORE LOG

CLIENT: Scottish Developnent Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: WS	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
DRILLING METHOD: Hand Rig, 125mm dia. to 2.50m	START: 25.2.83 COMPLETE: 25.2.83	SHEET: 1 of 1	BORE NO.: 11
		SCALE: 1 : 25	

LABORATORY TESTS M	BD	C	ø	LL / PL	CGS	Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
									Sandy TOPSOIL	0.30		
						D	0.50		Very sandy, GRAVEL	0.70		
18						U	1.00		Stiff reddish brown, very sandy CLAY, with gravel			
						U+D	1.50					
						D	2.00			2.00		
									Red SANDSTONE	2.50		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Borehole Dry

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

TRIAL PIT

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: M.A. Fairhurst and Partners	LOGGED BY: GMcB	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
EXCAVATION METHOD: Excavated by a JCB 3 DII to 2.00m	START: 3.3.83 COMPLETE: 3.3.83	SHEET 1 of 1	TRIAL PIT NO.: B
		SCALE: 1 : 25	

LABORATORY TESTS						Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
M	BD	C	ø	LL / PL	CGS							
									Sandy clayey TOPSOIL	0.30		
18						B	1.00		Firm to stiff, red, sandy, silty CLAY with gravel	1.60		
						B	1.80		Weathered red, silty SANDSTONE	2.00		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)

REMARKS

Trial Pit Dry

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

TRIAL PIT

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: GMcB	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
EXCAVATION METHOD: Excavated by a JCB 3 DII to 2.20m	START: 4.3.83 COMPLETE: 4.3.83	SHEET: 1 of 1	TRIAL PIT NO.: 10
		SCALE: 1 : 25	

LABORATORY TESTS M	BD	C	Ø	LL / PL	CGS	Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level mA.O.D.	Legend
									Sandy clayey TOPSOIL with roots and rootlets	0.30		
16						B	1.00		Firm, red, sandy, silty, CLAY with gravel and occasional cobbles	1.70		
						B	2.00		Highly weathered, red, SANDSTONE	2.20		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- Ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)
- PI – Plastic Limit (%)

REMARKS

Trial Pit Dry

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

BORE LOG

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: WS	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
DRILLING METHOD: Hand rig, 125mm dia. to 2.50m	START: 25.2.83 COMPLETE: 25.2.83	SHEET 1 of 1	BORE NO.: 12
		SCALE: 1 : 25	

LABORATORY TESTS						Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
M	BD	C	ø	LL / PL	CGS							
									Sandy TOPSOIL			
										0.30		
						D	0.50					
17	2217	90	17	35 19	Cl	U	0.80		Stiff to very stiff, reddish brown, very sandy, CLAY with gravel			
						D	1.30					
19	2135	190	*	38 19	Cl	U	1.50					
										1.80		
						D	2.00		Red, SANDSTONE			
										2.50		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Borehole Dry

* Unconfined Compression Test

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

TRIAL PIT

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: GMcB	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
EXCAVATION METHOD: Excavated by a JCB 3 DII to 1.50m	START: 3.3.83 COMPLETE: 3.3.83	SHEET: 1 of 1	TRIAL PIT NO.: 11
		SCALE: 1 : 25	

LABORATORY TESTS						Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
M	BD	C	ø	LL / PL	CGS							
									Sandy clayey TOPSOIL.	0.50		
						B	1.50		Highly weathered, red, SANDSTONE	1.50		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Trial Pit Dry

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

BORE LOG

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: WS	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
DRILLING METHOD: Shell and Auger, 200mm dia. to 1.05m	START: 22.2.83 COMPLETE: 22.2.83	SHEET: 1 of 1	BORE NO.: 13
		SCALE: 1 : 25	

LABORATORY TESTS M	BD	C	ø	LL / PL	CGS	Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
						D	0.50		Sandy TOPSOIL, GRAVEL and COBBLES	0.85		
						D	1.00		Red SANDSTONE	1.05		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)

REMARKS

Seepage from 0.80m

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

BORE LOG

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: WS	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
DRILLING METHOD: Shell and Auger, 200mm dia. to 1.20m	START: 22.2.83 COMPLETE: 22.2.83	SHEET: 1 of 1	BORE NO.: 14
		SCALE: 1 : 25	

LABORATORY TESTS M	BD	C	Ø	LL / PL	CGS	Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
						D	0.50		Sandy TOPSOIL, GRAVEL and COBBLES	0.90		
						D	1.00		Red SANDSTONE	1.20		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- Ø – Immediate Undrained Friction Angle
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Seepage at 0.90m

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

TRIAL PIT

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: DMcL	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
EXCAVATION METHOD: Excavated by a JCB 3 DII to 2.00m	START: 4.3.83 COMPLETE: 4.3.83	SHEET 1 of 1	TRIAL PIT NO.: 12
		SCALE: 1 : 25	

LABORATORY TESTS M	BD	C	Ø	LL / PL	CGS	Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
									Sandy clayey TOPSOIL			
										0.30		
19				33 16	CL	B	1.00		Firm to stiff, reddish brown, very sandy silty CLAY with gravel			
						B	2.00			2.00		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- Ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Slight water seepage from side of pit at 1.40m

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

BORE LOG

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: WS	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
DRILLING METHOD: Hand Rig, 125mm dia. to 3.30m	START: 26.2.83 COMPLETE: 26.2.83	SHEET: 1 of 1	BORE NO.: 15
		SCALE: 1 : 25	

LABORATORY TESTS M	BD	C	ø	LL / PL	CGS	Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
									Sandy TOPSOIL	0.35		
						D	0.50		Stiff, reddish brown, very sandy CLAY with gravel			
19	2212					U	1.00					
						D	1.50					
						U	2.00					
						D	2.50			2.80		
						D	3.00		Red SANDSTONE	3.30		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Borehole Dry

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

TRIAL PIT

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: GMcB	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
EXCAVATION METHOD: Excavated by a JCB 3 DII to 2.00m	START: 3.3.83 COMPLETE: 3.3.83	SHEET: 1 of 1	TRIAL PIT NO.: 13
		SCALE: 1 : 25	

LABORATORY TESTS M	BD	C	Ø	LL / PL	CGS	Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
									Sandy clayey TOPSOIL	0.40		
19				26 16	CL	B	1.00		Firm, red, sandy, silty, CLAY with gravel and occasional cobbles.. Sandstone boulder at base of pit (In face nearest fence line)			
						B	2.00			2.00		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- Ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)
- PL – Plastic Limit (%)

REMARKS

Trial Pit Dry.

JCB unable to reach original pit position

Trial pit done 33m towards fence line

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD. — BORE LOG

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: WS	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
DRILLING METHOD: Hand rig, 125mm dia. to 2.00m	START: 26.2.83 COMPLETE: 26.2.83	SHEET 1 of 1	BORE NO.: 16
		SCALE: 1 : 25	

LABORATORY TESTS						Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
M	BD	C	ø	LL / PL	CGS							
						D	0.50		Sandy TOPSOIL	0.40		
16						U	1.00		Stiff, brown, very sandy CLAY with gravel	1.50		
						D	1.50		Red, SANDSTONE	2.00		
						D	2.00					

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)

REMARKS

Borehole Dry

PRECONSTRUCTION SERVICES AND FOUNDATIONS LTD.

BORE LOG

CLIENT: Scottish Development Department	SITE: A94 LAURENCEKIRK BYPASS		
ENGINEER: W.A. Fairhurst and Partners	LOGGED BY: MS	GROUND LEVEL: m.A.O.D.	REF. NO.: 761
DRILLING METHOD: Hand Rig, 125mm dia. to 1.50m	START: 26.2.83 COMPLETE: 26.2.83	SHEET: 1 of 1	BORE NO.: 16A
		SCALE: 1 : 25	

LABORATORY TESTS						Soil Sample Type	Depth (m)	Insitu Tests	STRATA DESCRIPTION	Depth (m)	O.D. Level m.A.O.D.	Legend
M	BD	C	ø	LL / PL	CGS							
									Sandy TOPSOIL	0.25		
						D	0.50		Stiff, brown, very sandy CLAY, with gravel	1.15		
						D	1.25		Red SANDSTONE	1.50		

KEY

- N(X) – Standard Penetration Test Result
- U – Undisturbed 100mm dia. Sample
- B – Bulk Disturbed Sample
- D – Small Disturbed Sample
- W – Water Sample
- M – Moisture Content (%)
- BD – Bulk Density (Kg/m^3)
- C – Immediate Undrained Cohesion (kN/m^2)
- ø – Immediate Undrained Friction Angle (degree)
- LL – Liquid Limit (%)

REMARKS

Borehole Dry