

Environmental Site Assessment

**Site at junction of Claycliffe Road & Barugh Green Road
Barnsley
South Yorkshire**

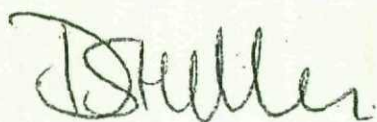
for

Claycliffe Property Developments Limited

June 1999

Job No 67/826

Prepared by:



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QUEST Environmental Services and Technology Limited

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1.0 Introduction

A site investigation, comprising two plots of land (denoted plots A and B) at the junction of Barugh Green and Claycliffe Roads, in Barnsley, was conducted by QUEST Environmental Services and Technology Limited in December 1997 (reference 67/826 - 12/97).

QUEST were subsequently commissioned by Claycliffe Property Developments Limited to complete the environmental assessment of the plot to be purchased, by extending the investigation over an adjacent disused petrol filling station. The recent works were authorised in a letter from John Radcliffe & Sons, dated 11 May 1999.

The site investigations, consisting of a soil vapour surveys and soil bore construction programmes, were conducted primarily to establish the presence and extent of any sub-surface petroleum hydrocarbon contaminants originating from the filling station and related operations at the site.

The site investigations were conducted on 29 October 1997 and 19 May 1999, in accordance with QUEST Method Statement MS 67.01. The findings of both investigations are presented in this factual combined environmental assessment report. This report should be read in conjunction with a desk study of the site carried out by Eastwood and Partners (reference GMS/AJW/52W/JHH/21394).

2.0 Summary of findings

The site currently consists of a garden centre, a disused and decommissioned service station, and waste ground. All above ground storage tanks have been removed. It is understood that all underground storage tanks have also been removed.

Two investigations were conducted through the advancing of a total of seventeen soil bores to depths of 3.1 metres below grade, and a two soil vapour surveys (SVS) with a total of seventy-seven locations across the site. Field analysis was complemented by the submission of three soil samples and one water sample for laboratory analysis.

The site was underlain by made ground of between 0.4m to 1.5m depth. The natural ground beneath comprised a thin band of silty clay, which was underlain by dry, firm weathered mudstone and sandstone, interpreted to be Carboniferous Coal Measures. Moisture was encountered on three occasions perched within impermeable layers.

The ground investigation encountered moderately high levels of hydrocarbon vapours in the soil gases by the southeastern boundary of the site and by the southern entrance to the site along Barugh Green Road. There were also several slightly elevated readings close to a disused above ground kerosene tank and dispenser.

Field and laboratory analysis of soil samples provided no evidence of widespread hydrocarbon impact to the ground beneath the site. Evidence was found of very slight isolated impact with volatile and semi-volatile hydrocarbons to the soil downgradient of the former location of the forecourt and in the vicinity of a former above ground diesel storage tank. Slight impact was also detected in moisture from near the forecourt and the off-set fills. This was confirmed by laboratory analysis to be typical of degraded diesel or gasoline.

No evidence of an interceptor was noted. An impermeable membrane exists beneath the location of the former forecourt.

A small culverted stream which runs along the western boundary of the site is a potential receptor of off-site surface and sub-surface drainage from the site. At the time of the initial investigation no visible impact was identified to stream waters or the adjacent banks.

3.0 Site reconnaissance

3.1 Site location

The subject site is situated at the junction of Barugh Green and Claycliffe Roads, in Barnsley, South Yorkshire. The site lies in a predominantly retail/industrial area of Barnsley, located approximately 2.5 kilometres northwest of Barnsley town centre. Numerous car dealerships and workshops are located on the other side of the Claycliffe Road to the northeast. Residential dwellings are situated on the opposite side of Barugh Green Road to the southwest. Fields are present across Barugh Green Road to the west. The national grid reference of the site is SE 319 079. A map section indicating the location of the site is presented in Figure 1 of Appendix A.

The site lies at an elevation of approximately 80 metres above Ordnance Datum, and the ground in the vicinity of the site falls towards the northeast. A steep embankment is located along the western edge of the site. A culverted stream, flowing northwestwards, emerges approximately halfway along the base of this embankment. The route of the culverted section of the stream has not been established. A house with a garden is situated on the opposite side of the stream to the west.

3.2 Site facilities

The site comprises a decommissioned service station and two plots of land, denoted plots A and B. The current site layout is presented in Figure 2 of Appendix A. The three areas are described below.

Plot A is set to grass and is overgrown.

Plot B comprises a pet store, garden centre and two greenhouses. At the time of the initial investigation, a brick bunded above ground tank with dispensing pump, understood to be used for diesel sales from the adjacent service station, was situated adjacent to the southwestern wall of the pet store. An unbunded kerosene tank and dispenser were located adjacent to the pet store. These above ground tanks have since been removed.

Plots A and B surround a decommissioned Rix service station. A kiosk is situated in the centre of the site with an adjacent forecourt to the southeast. A canopy extended over the forecourt. Three pumps were situated on one pump island on the forecourt. Above ground off-set fills were situated by the northeastern wall of the kiosk building. The tank farm is presumed to have been situated northeast of the kiosk and were connected to a vent stack situated on a plinth in the northeastern part of the site. It is understood that all underground storage tanks have been removed. The canopy, pumps, vent stack and off-set fills have also been removed. The site is accessed by Claycliffe Road to the northeast and by Barugh Green Road to the south. The inferred layout of the former service station is shown in Figure 3 of Appendix A, and the traced underground services are presented in Figure 4.

3.3 Surfacing and drainage

The only evidence of hydrocarbon staining apparent in Plots A and B was on the concrete apron of the diesel pump and the adjacent asphalt surface, but not from the bunded area. No hydrocarbon staining was noted around the hardstanding adjacent to the kerosene tank and dispenser.

The majority of the decommissioned service station is surfaced to asphalt and concrete slabs. An area of rough unmade ground is situated between the forecourt and the southeastern boundary of the site. The forecourt area at the northeastern part of the site is laid to concrete slabs which were in good condition. Ground behind the kiosk (northwest) and in the presumed location of the former tank farm was laid with concrete which was in poor condition and had weeds growing through. The entrance to the site via Claycliffe Road and the southwestern part of the site is laid to good quality asphalt. Ground northeast of the forecourt is laid to very poor quality asphalt which contained potholes and was hummocked.

The surface of the service station is mainly flat with a slight slope towards the southwest. There is a steep incline at the entrance of the site on Claycliffe Road. No details of the site drainage is known and no drainage structures, including an interceptor, were noted.

4.0 Site investigation

4.1 Soil bore investigation

Their positions are located on the site plans in Figures 6 and 7 of Appendix A. The soil bores were constructed using percussive window sampling techniques, enabling relatively undisturbed soil samples to be obtained for field analysis and for logging of ground conditions.

Intrusive works at the site encountered loose made ground of mixed composition between 0.4 to 1.5 metres in depth overlying a thin band of silty clay and weathered mudstone and sandstone. The mudstone and sandstone is interpreted to represent Carboniferous Coal Measures. All the soil bores refused in firm weathered mudstone at depths less than 3.1 metres.

A impermeable membrane was identified in made ground beneath the former location of the forecourt in soil bore SB4.

Field analysis comprised the examination of each of the samples for visual indications of hydrocarbon impact, and their headspace analysis for volatile petroleum hydrocarbons, using a Photoionisation Detector (PID), equipped with a 10.6 eV lamp and calibrated to isobutylene. The PID measures ionisable vapour concentrations, and gives an indication of the presence of volatile petroleum hydrocarbons in each sample. Any olfactory indications of hydrocarbons observed during the retrieval of the window sampler were also noted.

The findings of the field analysis are presented in the soil bore logs in Appendices B and C. The logs detail the ground conditions and the sampling depths, any visual and olfactory indications of contamination, and the results of headspace screening expressed as PID readings in parts of hydrocarbon vapour per million of headspace gas (ppm).

4.2 Soil vapour survey

A total of seventy-seven soil vapour survey points were advanced across the entire site. Thirty-seven were located within the service station and are illustrated in Figure 7 and another forty located along either side as illustrated in Figure 5. Once drilled, the vapour points were plugged at the surface to allow the soil gases to equilibrate within the vapour space before sampling.

The results of the soil vapour surveys, expressed as PID readings in parts of hydrocarbon vapour per million of soil gas, are given in Tables 1 and 2 below.

Soil vapour point	PID reading (ppm)	Soil vapour point	PID reading (ppm)	Soil vapour point	PID reading (ppm)
VP1	2	VP15	2	VP29	5
VP2	6	VP16	1	VP30	1
VP3	<1	VP17	8	VP31	4
VP4	<1	VP18	<1	VP32	5
VP5	<1	VP19	<1	VP33	2
VP6	<1	VP20	<1	VP34	24
VP7	1	VP21	<1	VP35	13
VP8	6	VP22	31	VP36	<1
VP9	<1	VP23	1	VP37	5
VP10	<1	VP24	1	VP38	7
VP11	3	VP25	20	VP39	7
VP12	1	VP26	12	VP40	21
VP13	2	VP27	21	-	-
VP14	1	VP28	6	-	-

Table 1. Results of the SVS in plots A and B (Figure 5)

Soil vapour point	PID reading (ppm)	Soil vapour point	PID reading (ppm)	Soil vapour point	PID reading (ppm)
VP1	234	VP14	10	VP27	8
VP2	128	VP15	33	VP28	<1
VP3	166	VP16	61	VP29	<1
VP4	collapsed	VP17	2	VP30	<1
VP5	1	VP18	1	VP31	8
VP6	2	VP19	<1	VP32	9
VP7	8	VP20	9	VP33	2
VP8	39	VP21	<1	VP34	3
VP9	3	VP22	<1	VP35	<1
VP10	58	VP23	9	VP36	<1
VP11	58	VP24	29	VP37	<1
VP12	17	VP25	<1	-	-
VP13	4	VP26	<1	-	-

Table 2. Results of the SVS in the service station (Figure 7)

Elevated vapour readings (>50ppm), which are shown in bold, were identified by the southeastern boundary of the service station and by the entrance of the service station on Barugh Green Road to the south of the site. No significantly elevated readings were identified in the remainder of the site, although slightly elevated readings were detected close to a disused above ground kerosene tank and dispenser.

5.0 Field and laboratory analysis

5.1 Decommissioned service station

5.1.1 Soils

Three soil samples (S1.3, S3.2 and S4.1) were collected from soil bores SB1, SB3 and SB4 respectively, and submitted for laboratory analysis. All soil samples were of silty clay and recovered from the centre of the window sampler. None of the soil samples displayed field evidence of hydrocarbon contamination.

The analyses, conducted by a Gas Chromatography / Flame Ionisation Detector (GC/FID), comprised quantification of Diesel Range Organics (DRO) in the C₁₀ to C₄₀ hydrocarbon range, and volatile petroleum organics in the C₄ to C₁₀ range. Samples were also analysed for benzene, toluene, ethylbenzene and xylenes (BTEX compounds). The results of laboratory analysis are presented in Tables 3 and 4 below, summarised in the soil bore logs in Appendix C, and documented in the laboratory certification included in Appendix D.

Sample No.	Sample depth	Total volatiles (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
S1.3	0.9m	<0.01	<0.01	<0.01	<0.01	<0.01
S3.2	1.1m	0.01	<0.01	<0.01	<0.01	<0.01
S4.1	0.7m	<0.01	<0.01	<0.01	<0.01	<0.01

Table 3. Results of laboratory analysis for volatile petroleum and BTEX by GC/FID of soil samples from SB1, SB3 and SB4

Sample No.	DRO distribution (mg/kg)			Total DRO (mg/kg)
	C ₁₀ - C ₂₀	C ₂₁ - C ₃₀	C ₃₁ - C ₄₀	
S1.3	82	52	72	206
S3.2	7	17	10	34
S4.1	33	38	24	95

Table 4. Results of laboratory analysis for DRO by GC/FID of soil samples from SB1, SB3 and SB4

5.1.2 Groundwater

Moisture was encountered within gravely, silty clay perched on firm weathered mudstone in soil bore SB5. A sample was retrieved, denoted W5.1, and submitted for laboratory analysis. No field evidence of hydrocarbon impact was found. Moisture was not encountered within any other soil bores.

The water sample was submitted for the same analytical suite as the soils. The results of the laboratory analysis are presented in Tables 5 and 6 below, summarised in the soil bore logs in Appendix C, and documented in the laboratory certification included in Appendix D.

Sample No.	Total volatiles (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)
W5.1	143	<10	<10	<10	<10

Table 5. Results of laboratory analysis for volatile petroleum hydrocarbons and BTEX by GC/FID of water sample from SB5

Sample No	DRO distribution (µg/l)			Total DRO (µg/l)
	C ₁₀ - C ₂₀	C ₂₁ - C ₃₀	C ₃₁ - C ₄₀	
W5.1	1388	370	93	1850

Table 6. Results of laboratory analysis for DRO by GC/FID of water sample from SB5

5.2 Plots A and B

5.2.1 Soils

Soil samples retrieved from soil bore SB16, positioned adjacent to the diesel pump, recorded elevated concentrations of volatile petroleum hydrocarbons, as measured by field headspace analysis. The localised lateral extent of the contaminants was confirmed by SB17, situated down gradient of SB16, which recorded no such elevated concentrations of volatile petroleum hydrocarbons. Soil samples collected from natural ground below the fill recorded no elevated concentrations of volatile petroleum hydrocarbons.

Soil samples collected from the remaining seven bores positioned along the boundaries with the service station, recorded no significantly elevated concentrations of volatile petroleum hydrocarbons.

5.2.2 Groundwater

Moisture was encountered in soil bores SB8 and SB9 situated adjacent to the above ground diesel tank. A water sample retrieved from SB8 recorded slightly elevated concentrations of volatile petroleum hydrocarbons, as measured by field headspace analysis. No significant impact was measured in a sample from SB9, situated down gradient of SB8. No moisture was encountered in the remaining soil bores.

6.0 Discussion of results

6.1 Site reconnaissance and history

The site currently consists of a disused and decommissioned service station, a garden centre and overgrown waste ground. It is understood that the underground storage tanks of the former service station have been removed. The pump island, canopy, vent stack and off-set fills have also been removed. Above ground diesel and kerosene tanks which existed in Plot B have recently been removed.

A potential receptor of past surface and sub-surface drainage from the site is a culverted small stream and flows along the western boundary of the site.

The site drainage of the service station is not known and no evidence of an interceptor was noted.

An impermeable membrane exists beneath the former location of the service station forecourt.

6.2 Ground Conditions

The site was underlain by made ground of between 0.4m to 1.5m depth. The natural ground beneath comprised a thin band of silty clay, which was underlain by dry, firm weathered mudstone and sandstone which are interpreted to be Carboniferous Coal Measures. The soil bores met refusal at depths of less than 3.1 metres.

Shallow groundwater found in plots A and B, perched within impermeable layers in the ground, was encountered in two bores, SB8 and SB9, situated adjacent to the above ground diesel tank. Perched groundwater was observed in the service station within a gravelly, silty band of clay in SB5. The recharge rate was low. Moisture was not encountered in the remaining soil bores.

6.3 Field and laboratory analysis

6.3.1 Soil vapour survey

Petroleum vapours were detected in two areas; by the southeastern boundary of the service station and by the southern entrance to the service station along Barugh Green Road. Soil vapour concentrations in the remainder of the site were of low to background concentrations.

6.3.2 Analysis of soil

Localised petroleum hydrocarbon impact, as measured by field headspace analysis, was identified to the shallow fill material in the proximity of a the diesel tank in Plot B, but did not extend downwards. No significantly elevated concentrations of volatile petroleum hydrocarbons were recorded in soil samples recovered from the remaining seven bores, positioned along the borders of Plots A and B with the former service station.

Field headspace analysis identified no volatile petroleum hydrocarbon impact to the soil samples from any of the soil bore locations in the former service station. A very low concentration of 0.01 mg/kg volatile petroleum hydrocarbons was identified in a soil sample near the location of the former above ground diesel tank. Laboratory analysis identified no petroleum volatile hydrocarbon impact to the remaining soil bores. A very slightly elevated DRO concentration of 206 mg/kg was recorded in a sample of silty clay downgradient of the forecourt (southwest). The proportion of hydrocarbons in the C₁₀ - C₂₀ range was 40%, indicative of impact with hydrocarbons of heavier origin. There were no other elevated concentrations of DRO in any of the other samples.

6.3.3 Analysis of groundwater

Slight petroleum hydrocarbon impact, as measured by field headspace analysis, was identified in shallow groundwater in the proximity of the above ground diesel tank.

Laboratory analysis identified slight volatile petroleum hydrocarbon impact to the groundwater sample collected from SB5 in which 143 µg/l was detected. No BTEX compounds were identified. The sample also contained an elevated DRO concentration of 1,850 µg/l with the proportion of hydrocarbons in the C₁₀ - C₂₀ range found to be 75%. This is indicative of degraded diesel or gasoline. The sample was collected near the former locations of the forecourt and the off-set fills.

An environmental site assessment is a limited investigation of a site. The assessment made is based on information gathered at the time of the investigation at the specific sampling locations selected. Should during the course of any subsequent works on the site, conditions be encountered that differ from those indicated in this report, contact should be made to permit an assessment of the additional information.

Portions of this report are based solely upon information provided by third parties, which has not been independently verified by QUEST. Whilst this report and the opinions given in it are accurate to the best of QUEST's knowledge and belief, QUEST cannot guarantee the completeness or accuracy of any descriptions, opinions or conclusions based solely upon supplied information that has not been independently verified.

References:

Ordnance Survey

Pathfinder map, Sheet 715, Barnsley & Penistone , 1:25 000, 1988.

British Geological Survey

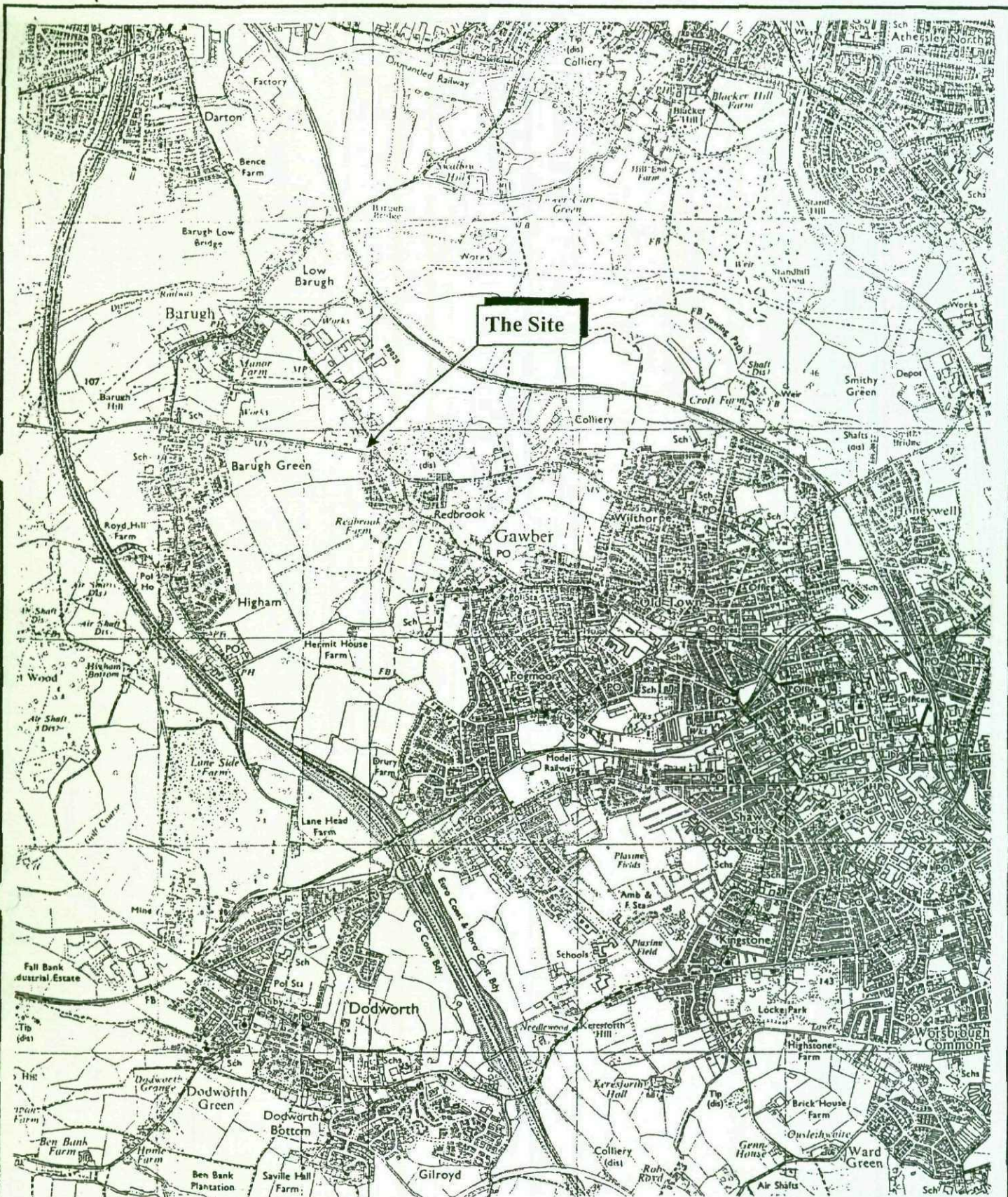
Sheet 87, Barnsley, Solid with Drift Edition, 1:50 000, 1976.

QUEST

Site Investigation Report, Site at junction of Claycliffe Road & Barugh Green Road, Barnsley, reference 67/826 - 11/97, December 1997.

Appendix A: Figures

- Figure 1: Location of site
- Figure 2: Site plan of subject plots of land
- Figure 3: Site plan showing approximate former site layout of service station
- Figure 4: Site plan showing detected underground services
- Figure 5: Site plan showing soil vapour survey readings in Plots A and B
- Figure 6: Site plan showing soil bore locations in Plots A and B
- Figure 7: Site plan showing sample locations and soil vapour survey readings in the service station

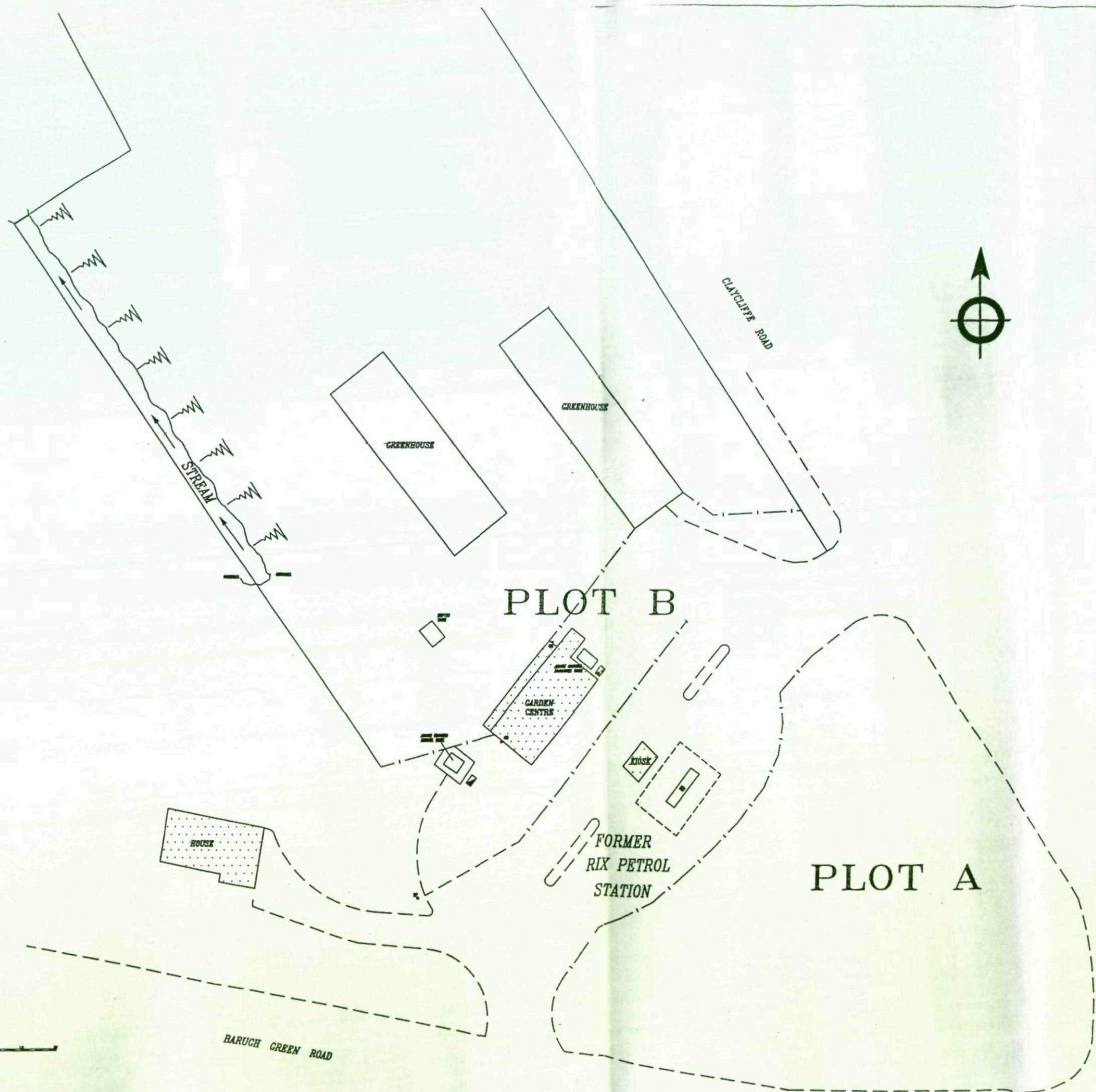


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June 1999
67/826 - 06/99

Figure 1 : Location of site, Claycliffe Road, Barnsley

QUEST



CLIENT
QUEST ENVIRONMENTAL

TITLE
PLAN OF SUBJECT PLOTS OF LAND
SITE AT JUNCTION OF CLAYCLIFFE
& BARUCH GREEN ROADS
BARNSELY

SURVEYED	SUBSCAN
DRAWN	
CHECKED	<i>Driller</i>
DATE	JUNE 1999
SCALE	
DWG.No	R1_826
FIGURE	2

KEY

⊙	SOIL BORE
⊕	VAPOUR POINT
○	MANHOLE
□	GULLY
▣	PUMP
■	PILLAR
▤	BUILDING
▥	ROOF CANOPY

ABBREVIATIONS

AR	ASSUMED ROUTE
CP	CABLE PIT
CL	COVER LEVEL
CR	CABLE RISER
DP	DOWN PIPE
EP	ELECTRICITY POLE
EoC	EDGE OF CANOPY
FH	FIRE HYDRANT
G	GULLY
GV	GAS VALVE
IC	INSPECTION CHAMBER
IL	INVERT LEVEL
LP	LAMP POST
MH	MANHOLE
PR	PIPE RISER
RE	RODDING EYE
RWP	RAINWATER PIPE
SV	STOP VALVE
TGB	TELEPHONE CALL BOX
TP	TELEGRAPH POLE
UTL	UNABLE TO LIFT
UTS	UNABLE TO SURVEY
VR	VAPOUR RECOVERY
WL	WATER LEVEL
WM	WATER METER
WO	WASH OUT VALVE

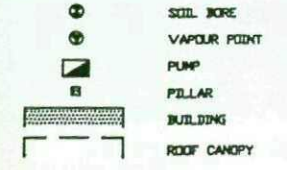
NOTES
THE METHODS USED FOR THE CONSTRUCTION OF THIS
BASE PLAN WAS BY TAPE MEASURED OFFSETS FROM
BUILDINGS. THEREFORE THE BASE PLAN ACCURACY,
IN SOME AREAS, CAN NOT BE GUARANTEED
UNABLE TO LOCATE PVC WATER SUPPLY
UNABLE TO FIND ANY DRAINAGE(NO MH'S VISIBLE)
SERVICES ON PETROL STATION,NOT LOCATED
(NOT ON SURVEY AREA)

QUEST ENVIRONMENTAL

TITLE
 APPROXIMATE FORMER SITE LAYOUT
 PETROL FILLING STATION
 CLAYCLIFFE ROAD
 BARNSELEY

SURVEYED	J.B.R.
DRAWN	A.H.W.
CHECKED	<i>[Signature]</i>
DATE	JUNE 1999
SCALE	
DWG.No	B5_826
FIGURE	3

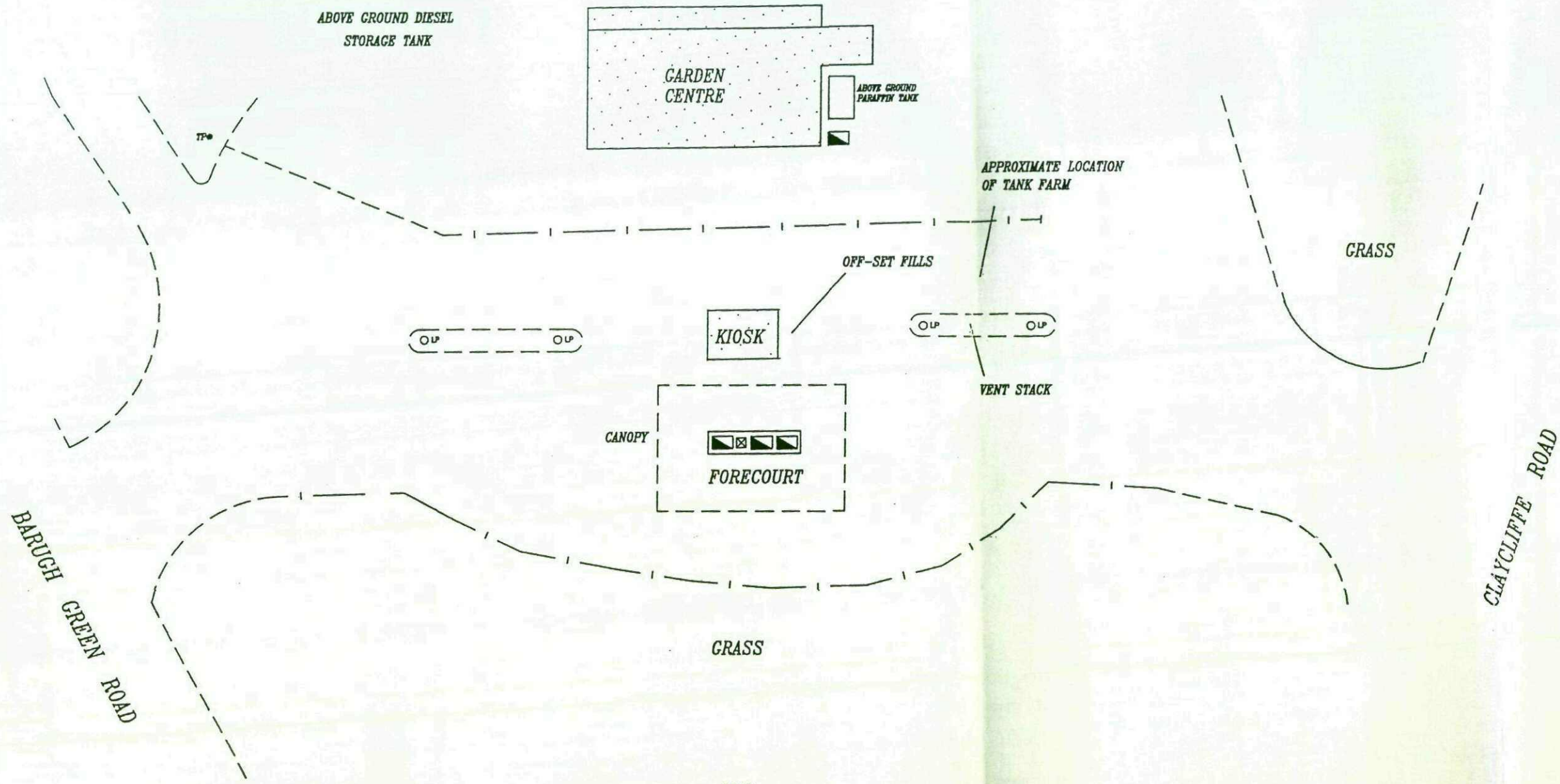
KEY



ABBREVIATIONS

AR	ASSUMED ROUTE
CP	CABLE PIT
CL	COVER LEVEL
CR	CABLE RISER
DP	DOWN PIPE
EP	ELECTRICITY POLE
EC	EDGE OF CANOPY
FH	FIRE HYDRANT
G	GULLY
GV	GAS VALVE
IC	INSPECTION CHAMBER
I	INVERT LEVEL
LP	LAMP POST
MH	MANHOLE
PR	PIPE RISER
RE	RODDING EYE
RWP	RAINWATER PIPE
SV	STOP VALVE
TCS	TELEPHONE CALL BOX
TP	TELEGRAPH POLE
UTL	UNABLE TO LIFT
UTS	UNABLE TO SURVEY
VR	VAPOUR RECOVERY
WL	WATER LEVEL
WM	WATER METER
WO	WASH OUT VALVE

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 BASE PLAN WAS BY TAPE MEASURED OFFSETS FROM
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 IN SOME AREAS, CAN NOT BE GUARANTEED
 UNABLE TO LOCATE PVC WATER SUPPLY
 UNABLE TO FIND ANY DRAINAGE (NO MH'S VISIBLE)
 SERVICES ON PETROL STATION, NOT LOCATED
 (NOT ON SURVEY AREA)



THE
 LOCATION OF UNDERGROUND SERVICES
 FILLING PETROL STATION
 CLAYCLIFFE ROAD
 BARNSELEY

SURVEYED	W.D.
DRAWN	W.D.
CHECKED	<i>[Signature]</i>
DATE	10/11/99
SCALE	
DWG No	SM_838
FIGURE	4

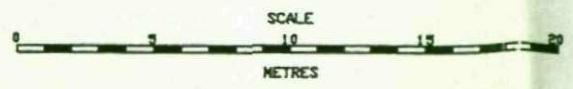
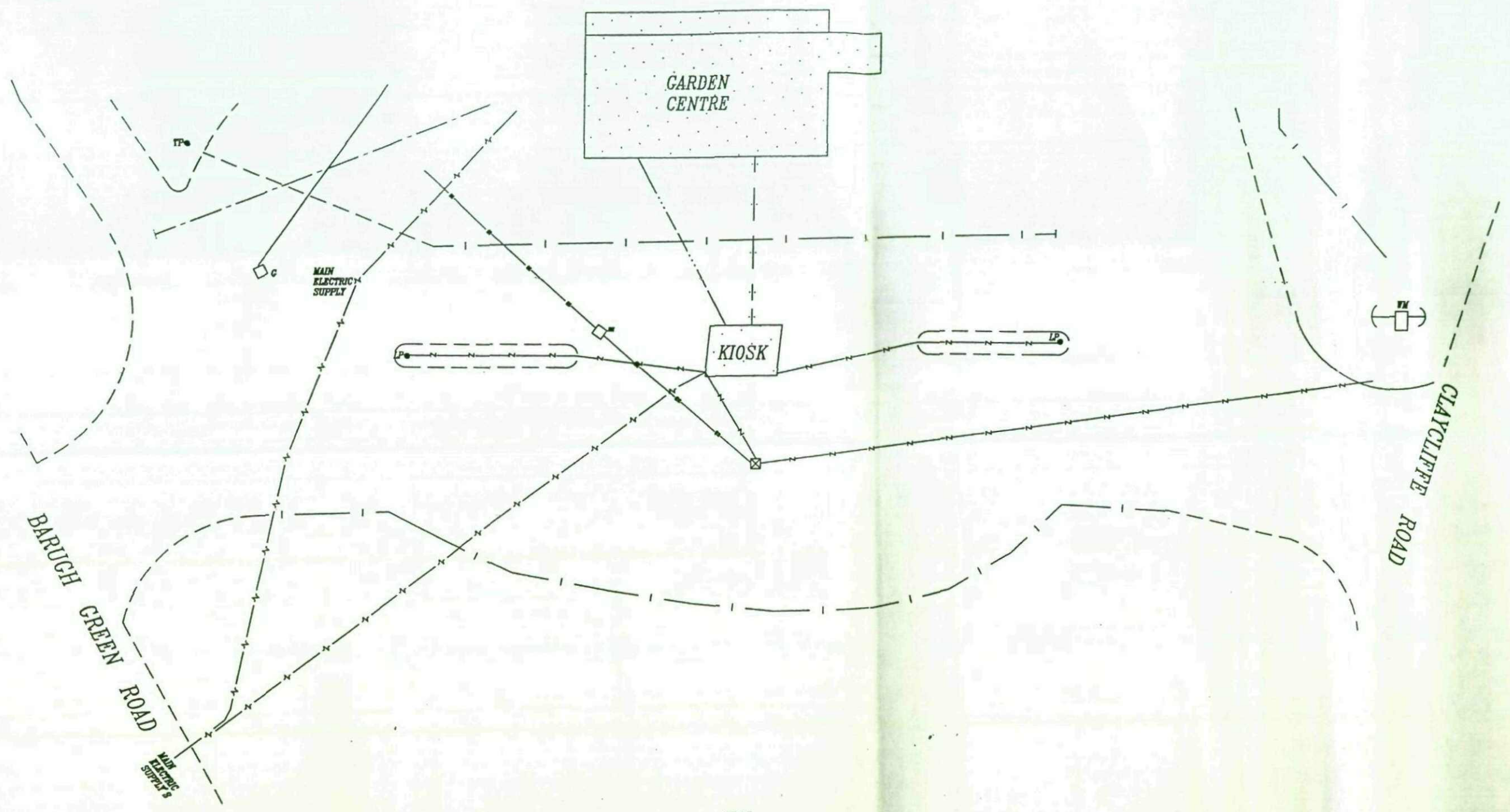
KEY

	PUMP
	PILLAR
	BUILDING
	ROOF CANOPY
	ELECTRIC CABLE
	TELECOM CABLE
	GAS PIPE
	COMPRESSED AIR
	FOIL DRAINAGE
	STORM DRAINAGE
	COMBINED DRAINAGE
	WATER PIPE
	UNDETIED

ABBREVIATIONS

AR	ARRANGED ROUTE
CP	CABLE PIPE
CL	COVER LEVEL
CR	CABLE RISER
CP	DOWN PIPE
EP	ELECTRICITY POLE
EOC	EDGE OF CANOPY
FM	FIRE HYDRANT
G	GALLY
GV	GAS VALVE
IC	INSPECTION CHAMBER
L	LEVEL
LP	LAMP POST
MA	MANHOLE
MP	MANHOLE
RE	RECOVERING EYE
RMP	RANMETER PIPE
SV	STOP VALVE
TCB	TELEPHONE CALL BOX
TP	TELEGRAPH POLE
UL	UNABLE TO LOCATE
ULS	UNABLE TO SURVEY
UR	UNABLE TO RECOVER
WL	WATER LEVEL
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WO	WASH OUT VALVE

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 UNABLE TO LOCATE PVC WATER SUPPLY





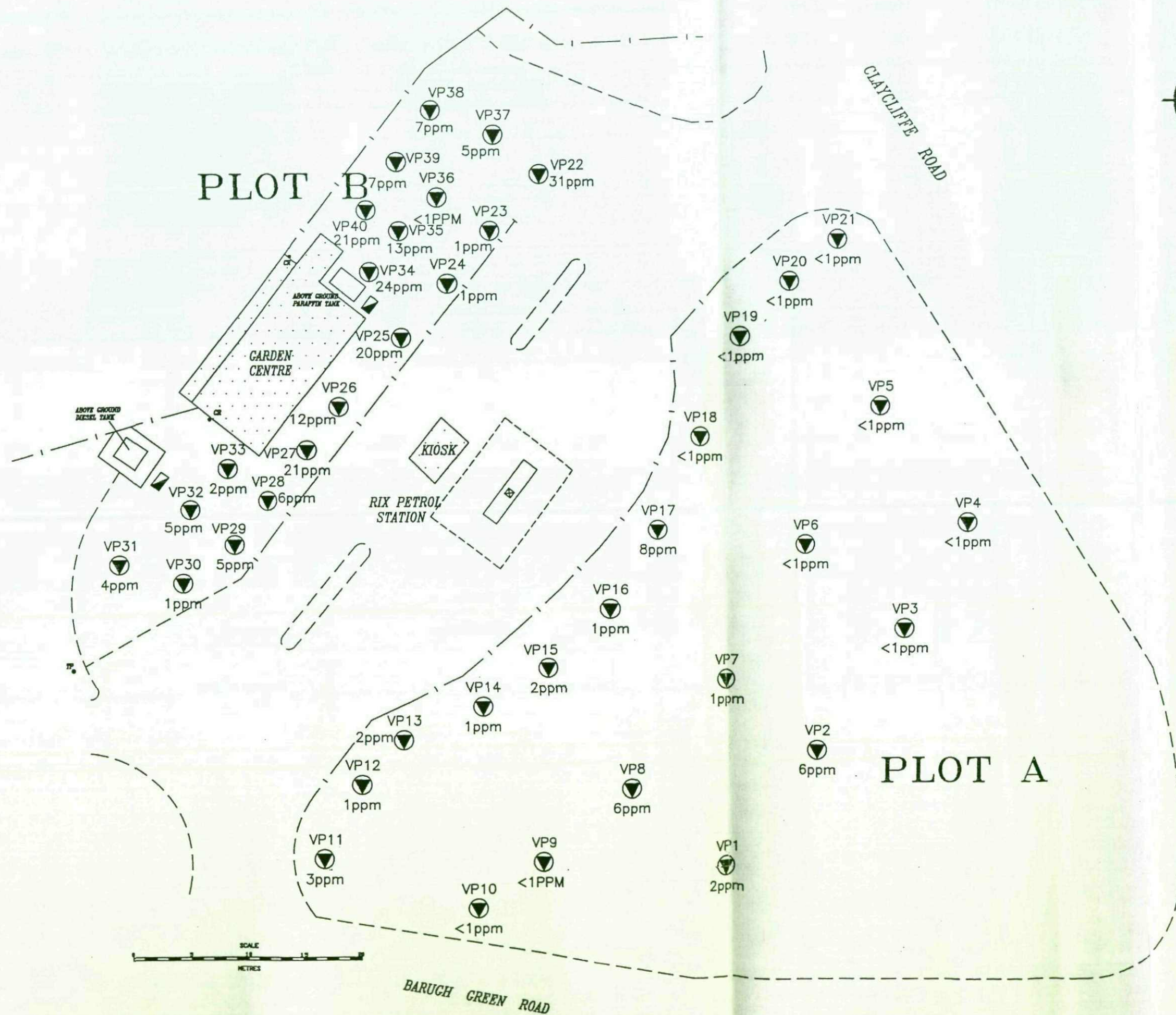
SECTION OF SITE PLAN SHOWING SVS LOCATIONS AND PID READINGS SITE AT JUNCTION OF BARUGH GREEN AND CLAYCLIFFE ROADS BARNSELEY

SURVEYED	SUBSCAN
DRAWN	
CHECKED	<i>[Signature]</i>
DATE	JUNE 1999
SCALE	
DWG.No	R2_826
FIGURE	5

KEY	
⊙	SOIL BORE
⊖	VAPOUR POINT
○	MANHOLE
□	GULLY
⊞	PUMP
⊞	PILLAR
▭	BUILDING
⌒	ROOF CANOPY

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WO	WASH OUT VALVE

NOTES:
 THE METHODS USED FOR THE CONSTRUCTION OF THIS BASE PLAN WAS BY TAPE MEASURED OFFSETS FROM BUILDINGS. THEREFORE THE BASE PLAN ACCURACY, IN SOME AREAS, CAN NOT BE GUARANTEED
 UNABLE TO LOCATE PVC WATER SUPPLY
 UNABLE TO FIND ANY DRAINAGE(NO MH'S VISIBLE)
 SERVICES ON PETROL STATION,NOT LOCATED (NOT ON SURVEY AREA)



**LOCATION OF BOLLBORES
 AND VAPOURPOINTS
 FILLING PETROL STATION
 CLAYCLIFFE ROAD
 BARNLSLEY**

SURVEYED	8/8/99
DRAWN	MS
CHECKED	<i>MS</i>
DATE	JUNE 1999
SCALE	
DWG. No	ST_886
FIGURE	7

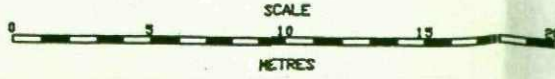
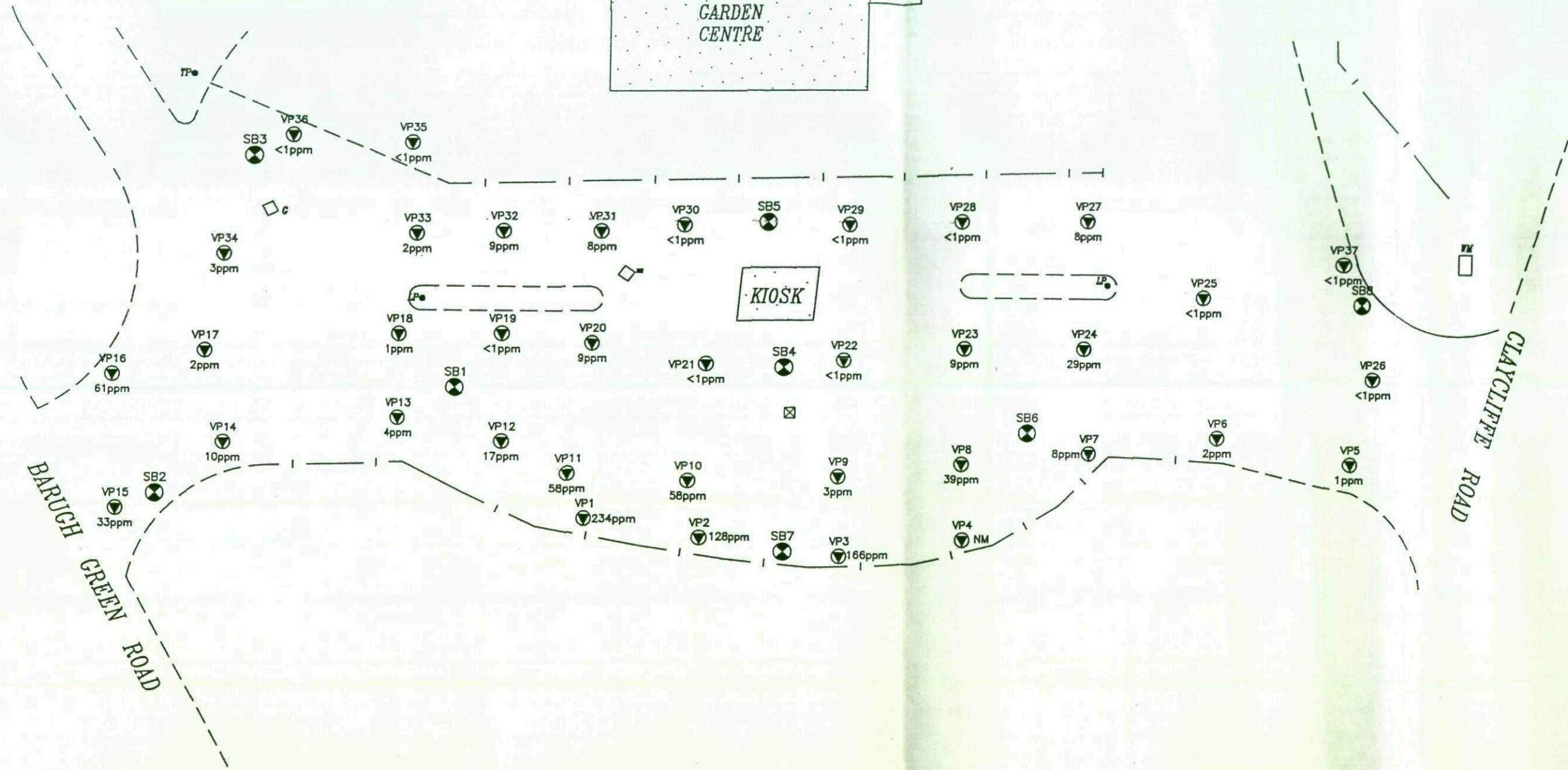
KEY

○	SOIL BORE
●	VAPOUR POINT
□	PUMP
■	FILLAR
▭	BUILDING
⌋	KEY CANOPY

ABBREVIATIONS

AR	ASSEMBLED ROUTE
CP	CABLE PIT
CL	COVER LEVEL
CR	CABLE RISER
CP	DOWN PIPE
EP	ELECTRICITY POLE
EOC	EDGE OF CANOPY
FP	FIRE HYDRANT
G	GALLY
GV	GAS VALVE
IC	INSPECTION CHAMBER
L	LAMP LEVEL
LP	LAMP POST
MAN	MANHOLE
PP	PIPE RISER
RE	RECORDING EYE
RWP	RAINWATER PIPE
SV	STOP VALVE
TCC	TELEPHONE CALL BOX
TP	TELEGRAPH POLE
UL	UNABLE TO LIFT
US	UNABLE TO SURVEY
VR	VAPOUR RECOVERY
WL	WATER LEVEL
WM	WATER METER
WO	WATER OFF VALVE
WV	WATER VALVE

THE METHODS USED FOR THE CONSTRUCTION OF THIS
 SITE PLAN WAS BY TAPE MEASURED OBJECTS FROM
 BUILDINGS. THEREFORE THE BASIC PLAN ACCURACY,
 IN SOME AREAS, CAN NOT BE GUARANTEED



BARUGH GREEN ROAD

CLAYCLIFFE ROAD

CLIENT

QUEST ENVIRONMENTAL

TITLE
SECTION OF SITE PLAN SHOWING
SOIL BORE LOCATIONS
SITE AT CORNER OF BARUGH GREEN &
CLAYCLIFFE ROADS
BARNSELEY

SURVEYED	SUBSCAN
DRAWN	
CHECKED	<i>Shiller</i>
DATE	JUNE 1999
SCALE	
DWG.No	RS_826
FIGURE	6



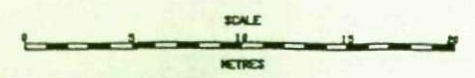
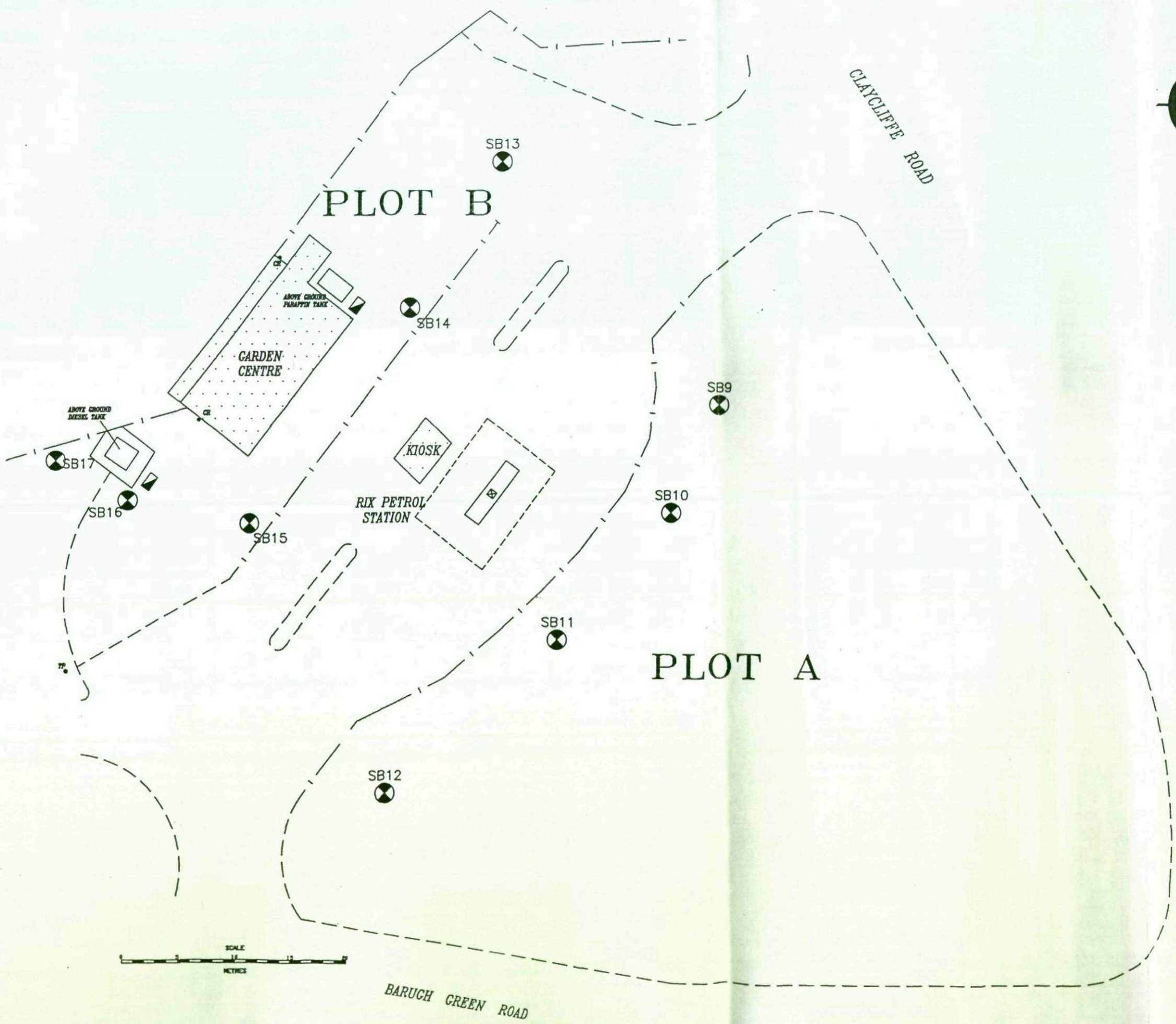
KEY

- ⊙ SOIL BORE
- ⊕ VAPOUR POINT
- MANHOLE
- GULLY
- ▣ PUMP
- PILLAR
- ▨ BUILDING
- ▭ ROOF CANOPY

ABBREVIATIONS

- AR ASSUMED ROUTE
- CP CABLE PIT
- CL COVER LEVEL
- CR CABLE RISER
- DP DOWN PIPE
- EP ELECTRICITY POLE
- EcC EDGE OF CANOPY
- FH FIRE HYDRANT
- G GULLY
- GV GAS VALVE
- IC INSPECTION CHAMBER
- I INVERT LEVEL
- LP LAMP POST
- MH MANHOLE
- PR PIPE RISER
- RE RODDING EYE
- RWP RAINWATER PIPE
- SV STOP VALVE
- TCC TELEPHONE CALL BOX
- TP TELEGRAPH POLE
- UTL UNABLE TO LIFT
- UTS UNABLE TO SURVEY
- VR VAPOUR RECOVERY
- WL WATER LEVEL
- WM WATER METER
- WO WASH OUT VALVE

NOTES:
THE METHODS USED FOR THE CONSTRUCTION OF THIS
BASE PLAN WAS BY TAPE MEASURED OFFSETS FROM
BUILDINGS. THEREFORE THE BASE PLAN ACCURACY,
IN SOME AREAS, CAN NOT BE GUARANTEED
UNABLE TO LOCATE PVC WATER SUPPLY
UNABLE TO FIND ANY DRAINAGE(NO MH'S VISBLE)
SERVICES ON PETROL STATION,NOT LOCATED
(NOT ON SURVEY AREA)



BARUGH GREEN ROAD

CLAYCLIFFE ROAD

PLOT B

PLOT A

GARDEN CENTRE

KIOSK

RIX PETROL STATION

SB13

SB14

SB9

SB10

SB11

SB12

SB17

SB16

SB15

ABOVE GROUND
DIESEL TANK

ABOVE GROUND
PARAFFIN TANK

Appendix B: Soil bore logs in service station

Job title: Claycliffe Road	Soil bore: SB1
Job number: 67/826	Date: 19 May 1999
Location: See Figure 7	Boring Method: Percussive window sampling

Depth (m)	Description	Sample no.	PID reading (ppm)	Water	Comments
0.0	Asphalt				
0.2	MADE GROUND: loose black sandy made ground				
0.4 0.5	MADE GROUND: loose, yellow/brown, sandy, clayey made ground	S1.1	<1	dry	
0.6 0.7	MADE GROUND: moderately loose black coal and ash fill	S1.2	<1	dry	
0.8 0.9	SILTY CLAY: soft, black/dark brown silty clay	S1.3*	<1	dry	
1.1 1.3	WEATHERED MUDSTONE: firm, stiff, grey/yellow partially consolidated mudstone	S1.4	<1	dry	
1.7		S1.5	<1	dry	
2.1	Boring refused against firm mudstone				

Comments:

* Disturbed soil sample S1.3 from 0.9m depth submitted for laboratory analysis. The results are summarised below:-

Soil (S1.3)

Total DRO 206mg/kg

Total volatile hydrocarbons <0.01mg/kg; **benzene** <0.01mg/kg; **toluene** <0.01mg/kg; **ethylbenzene** <0.01mg/kg; **xylenes** <0.01mg/kg

- No groundwater encountered

Job title: Claycliffe Road	Soil bore: SB2
Job number: 67/826	Date: 19 May 1999
Location: See Figure 7	Boring Method: Percussive window sampling

Depth (m)	Description	Sample no.	PID reading (ppm)	Water	Comments
0.0	Asphalt				
0.3	MADE GROUND: loose black sandy made ground				
0.5	MADE GROUND: builders' sand				
0.6	MADE GROUND: sub-rounded pebbles and sand	S2.1	<1	dry	
0.8	SILTY CLAY: soft, black/dark brown silty clay	S2.2	<1	dry	
1.5	WEATHERED MUDSTONE: firm, stiff, grey/yellow partially consolidated mudstone	S2.3	<1	dry	
1.6					
2.0	Boring refused against firm mudstone				

Comments:

- No soil samples submitted for laboratory analysis
- Unstable ground conditions prevented collection of water sample

Job title: Claycliffe Road	Soil bore: SB3
Job number: 67/826	Date: 19 May 1999
Location: See Figure 7	Boring Method: Percussive window sampling

Depth (m)	Description	Sample no.	PID reading (ppm)	Water	Comments
0.0	Asphalt				
0.2	MADE GROUND: loose sandy made ground				
0.4	MADE GROUND: yellow sand and sub-rounded boulders				
0.5 0.6	MADE GROUND: loose black coal and ash fill	S3.1	<1	dry	
0.9 1.1	SILTY CLAY: moderately soft, black/yellow silty clay	S3.2*	<1	dry	
1.5 1.6	WEATHERED MUDSTONE: very firm, stiff, grey/yellow partially consolidated mudstone	S3.3	<1	dry	
2.3		S3.4	<1	dry	
2.6	Boring refused against firm mudstone				

Comments:

* Disturbed soil sample S3.2 from 1.1m depth submitted for laboratory analysis. The results are summarised below:-

Soil (S3.2)

Total DRO mg/kg

Total volatile hydrocarbons 0.01mg/kg; **benzene** <0.01mg/kg; **toluene** <0.01mg/kg; **ethylbenzene** <0.01mg/kg; **xylenes** <0.01mg/kg

- No groundwater encountered

Job title: Claycliffe Road	Soil bore: SB4
Job number: 67/826	Date: 19 May 1999
Location: See Figure 7	Boring Method: Percussive window sampling

Depth (m)	Description	Sample no.	PID reading (ppm)	Water	Comments
0.0	Concrete and hardcore				
0.4	MADE GROUND: moderately loose sand and gravel				
0.5 0.7	SILTY CLAY: soft black silty clay with sub-rounded sandstone pebbles	S4.1*	<1	dry	
1.2 1.3	SILTY CLAY: moderately soft yellow/green silty clay	S4.2	<1	dry	
1.7 1.8 1.9	SILTY CLAY: very firm red/brown silty clay with grey mottles Boring refused in very firm silty clay	S4.3	<1	dry	

Comments:

* Disturbed soil sample S4.1 from 0.7m depth submitted for laboratory analysis. The results are summarised below:-

Soil (S4.1)

Total DRO 95mg/kg

Total volatile hydrocarbons <0.01mg/kg; **benzene** <0.01mg/kg; **toluene** <0.01mg/kg; **ethylbenzene** <0.01mg/kg; **xylenes** <0.01mg/kg

- No groundwater encountered
- Forecourt membrane found at 0.4m

Job title: Claycliffe Road	Soil bore: SB5
Job number: 67/826	Date: 19 May 1999
Location: See Figure 7	Boring Method: Percussive window sampling

Depth (m)	Description	Sample no.	PID reading (ppm)	Water	Comments
0.0	Concrete				
0.2	MADE GROUND: loose sandy fill				
0.5 0.6	MADE GROUND: loose black coal and ash fill	S5.1	<1	dry	
0.9		S5.2	<1	moist	
1.0 1.1	GRAVELY CLAY: loose, soft, brown, silty, gravelly clay	S5.3	<1	wet	
1.2 1.4 1.5	WEATHERED MUDSTONE: firm, stiff, grey/yellow partially consolidated mudstone *****Rest water level 1.495m bgl*****	S5.4 W5.1+	<1 <1	dry	
2.1	Boring refused in very firm mudstone				

Comments:

- No soil samples submitted for laboratory analysis
- Rest water level 1.495m below ground level
- + Water sample W5.1, field headspace <1ppm, submitted for laboratory analysis. The results are summarised below:-

Water (W5.1)

Total DRO 143µg/l

Total volatile hydrocarbons <10µg/l; **benzene** <10µg/l; **toluene** <10µg/l; **ethylbenzene** <10µg/l; **xylenes** <10µg/l

Job title: Claycliffe Road	Soil bore: SB6
Job number: 67/826	Date: 19 May 1999
Location: See Figure 7	Boring Method: Percussive window sampling

Depth (m)	Description	Sample no.	PID reading (ppm)	Water	Comments
0.0	Unmade ground				
0.2	MADE GROUND: moderately loose sandy fill				
0.5	MADE GROUND: clayey, sandy fill with brick fragments and sub-angular pebbles				
0.7		S6.1	<1	dry	
0.8	SILTY CLAY: moderately firm				
0.9	grey/green silty clay	S6.2	<1	dry	
1.7	SILTY CLAY: very firm red/brown silty clay with grey mottles				
1.8		S6.3	<1	dry	
2.0	Boring refused in very firm silty clay				

Comments:

- No soil samples submitted for laboratory analysis
- No groundwater encountered

Job title: Claycliffe Road	Soil bore: SB7
Job number: 67/826	Date: 19 May 1999
Location: See Figure 7	Boring Method: Percussive window sampling

Depth (m)	Description	Sample no.	PID reading (ppm)	Water	Comments
0.0	Unmade ground				
0.2	MADE GROUND: loose black sandy fill				
0.5		S7.1	<1	dry	
0.7	MADE GROUND: moderately loose black sandy fill with white pebbles				
0.9		S7.2	<1	dry	
1.2	WEATHERED MUDSTONE: firm, stiff, grey/yellow partially consolidated mudstone				
1.3		S7.3	<1	dry	
2.0	Boring refused in firm mudstone				

Comments:

- No soil samples submitted for laboratory analysis
- No groundwater encountered

Job title: Claycliffe Road	Soil bore: SB8
Job number: 67/826	Date: 19 May 1999
Location: See Figure 7	Boring Method: Percussive window sampling

Depth (m)	Description	Sample no.	PID reading (ppm)	Water	Comments
0.0	Asphalt				
0.2	MADE GROUND: loose grey sandy fill				
0.5 0.7	MADE GROUND: black clayey made ground with sub-angular pebbles	S8.1	<1	dry	
1.0 1.2	SILTY CLAY: very firm black/brown silty clay	S8.2	<1	dry	
1.5 1.7	SILTY CLAY: very firm orange/brown silty clay with grey mottles and sandstone boulders	S8.3	<1	dry	
2.0	Boring refused in very firm silty clay				

Comments:

- No soil samples submitted for laboratory analysis
- No groundwater encountered

Appendix C: Soil bore logs in plots A and B

Job title: Site at junction of Barugh Green / Claycliffe Roads	Soilbore: SB9
Job number: 67/826	Date: 29 October 1997
Location: See Figure 6 (Plot A)	Boring method: Percussive window sampling

Depth (m)	Description	Sample		PID reading (ppm)
		number	depth (m)	
0.0	Soft dark brown silty TOPSOIL			
0.1	Dense gravelly clay MADE GROUND with brick and coal fragments and ash	S1.1	0.4	<1
0.8	Firm to stiff dark green / brown silty CLAY. Malleable	S1.2	0.9	<1
		S1.3	1.9	<1
2.0	Very stiff clayey MUDSTONE			
2.7	Hard light brown SANDSTONE	S1.4	2.8	<1
2.9	End of soil bore			

Comments:

Soil bore construction of soil bore halted at 2.9 metres below grade by hard ground conditions

No significant groundwater encountered within sampled depth

Job title: Site at junction of Barugh Green / Claycliffe Roads	Soilbore: SB10
Job number: 67/826	Date: 29 October 1997
Location: See Figure 6 (Plot A)	Boring method: Percussive window sampling

Depth (m)	Description	Sample		PID reading (ppm)
		number	depth (m)	
0.0	Soft dark brown TOPSOIL			
0.1	Loose MADE GROUND comprising gravel and brick fragments	S2.1	0.3	<1
0.4	Firm dark brown silty CLAY with occasional coal fragments.	S2.2	0.5	<1
1.7	Moderately hard light brown SANDSTONE.			
1.9	Stiff to dark grey / black MUDSTONE	S2.3	1.9	<1
		S2.4	2.5	<1
2.8	Hard light brown SANDSTONE			
2.9	Very stiff dark brown MUDSTONE	S2.5	3.1	<1
3.1	End of soil bore			

Comments:

Soil bore construction of soil bore halted at 3.1 metres below grade by stiff ground conditions

No significant groundwater encountered within sampled depth

Job title: Site at junction of Barugh Green / Claycliffe Roads	Soilbore: SB11
Job number: 67/826	Date: 29 October 1997
Location: See Figure 6 (Plot A)	Boring method: Percussive window sampling

Depth (m)	Description	Sample		PID reading (ppm)
		number	depth (m)	
0.0	Soft mid brown TOPSOIL			
0.1	Dense MAGE GROUND comprising gravel and coal fragments	S3.1	0.4	<1
0.8	Soft light brown CLAY	S3.2	0.8	<1
1.3	Firm to stiff brown silty CLAY	S3.3	1.6	<1
1.7	Hard light brown SANDSTONE			
1.8	Stiff to very stiff dark brown MUDSTONE. Fissile			
		S3.4	3.0	<1
3.0	End of soil bore			

Comments:

Soil bore construction of soil bore halted at 3.0 metres below grade by stiff ground conditions

No significant groundwater encountered within sampled depth

Job title: Site at junction of Barugh Green / Claycliffe Roads	Soilbore: SB12
Job number: 67/826	Date: 29 October 1997
Location: See Figure 6 (Plot B)	Boring method: Percussive window sampling

Depth (m)	Description	Sample		PID reading (ppm)
		number	depth (m)	
0.0	Soft dark brown TOPSOIL			
0.1	Dense MADE GROUND comprising gravel and coal fragments			
0.4	Soft dark grey silty CLAY with occasional fine gravel. Occasional coal fragments and dark ash. Possible fill	S4.1	0.5	<1
		S4.2	0.9	<1
1.0	Firm mid brown silty CLAY	S4.3	1.3	<1
2.4	Hard light brown SANDSTONE	S4.4	2.4	<1
2.5	Stiff to very stiff dark brown MUDSTONE	S4.5	2.9	<1
3.0	End of soil bore			

Comments:

Soil bore construction of soil bore halted at 3.0 metres below grade by stiff ground conditions

No significant groundwater encountered within sampled depth

Job title: Site at junction of Barugh Green / Claycliffe Roads	Soilbore: SB13
Job number: 67/826	Date: 29 October 1997
Location: See Figure 6 (Plot B)	Boring method: Percussive window sampling

Depth (m)	Description	Sample		PID reading (ppm)
		number	depth (m)	
0.0	Soft dark brown TOPSOIL			
0.1	Loose brown sandy FILL			
0.2	Moderately dense MADE GROUND comprising coal and shale fragments black ash	S5.1	0.3	3
		S5.2	0.5	<1
0.7	Firm to stiff mid brown / grey CLAY	S5.3	0.9	<1
1.5	Stiff dark brown / grey MUDSTONE	S5.4	1.5	<1
2.4	Hard light brown SANDSTONE	S5.5	2.5	<1
2.5	Very stiff dark brown / black MUDSTONE	S5.6	3.1	<1
3.1	End of soil bore			

Comments:

Soil bore construction of soil bore halted at 3.1 metres below grade by stiff ground conditions

No significant groundwater encountered within sampled depth

Job title: Site at junction of Barugh Green / Claycliffe Roads	Soilbore: SB14
Job number: 67/826	Date: 29 October 1997
Location: See Figure 6 (Plot B)	Boring method: Percussive window sampling

Depth (m)	Description	Sample		PID reading (ppm)
		number	depth (m)	
0.0	ASPHALT			
0.1	Loose brown sandy FILL with occasional coal fragments	S6.1	0.2	4
0.3	Firm to stiff silty CLAY with occasional coal and ash fill. Possible made ground	S6.2	0.4	14
0.8	Firm to stiff silty CLAY	S6.3	0.9	<1
1.5	Stiff to very stiff dark brown MUDSTONE	S6.4	1.5	<1
		S6.5	2.5	<1
2.5	End of soil bore			

Comments:

Soil bore construction of soil bore halted at 2.5 metres below grade by stiff ground conditions

No significant groundwater encountered within sampled depth

Job title: Site at junction of Barugh Green / Claycliffe Roads	Soilbore: SB15
Job number: 67/826	Date: 29 October 1997
Location: See Figure 6 (Plot B)	Boring method: Percussive window sampling

Depth (m)	Description	Sample		PID reading (ppm)
		number	depth (m)	
0.0	ASPHALT			
0.1	Loose MADE GROUND comprising sand and gravel with coal fragments	S7.1	0.4	<1
0.7	Firm mid brown silty CLAY	S7.2	0.8	<1
1.4	Stiff to very stiff darn brown / black MUDSTONE	S7.3	1.5	<1
		S7.4	2.5	<1
3.0	End of soil bore			

Comments:

Soil bore construction of soil bore halted at 3.0 metres below grade by stiff ground conditions

No significant groundwater encountered within sampled depth

Job title: Site at junction of Barugh Green / Claycliffe Roads	Soilbore: SB16
Job number: 67/826	Date: 29 October 1997
Location: See Figure 6 (Plot B)	Boring method: Percussive window sampling

Depth (m)	Description	Sample		PID reading (ppm)
		number	depth (m)	
0.0	ASPHALT			
0.1	Loose MADE GROUND comprising brick and gravel fill. Water saturated. Dark stained *****Groundwater*****	S8.1	0.5	35
		W8.1	0.5	27
		S8.2	1.2	42
1.5	Firm to stiff mid brown silty CLAY	S8.3	1.6	<1
1.9	Stiff to very stiff dark brown MUDSTONE	S8.4	2.5	<1
3.0	End of soil bore			

Comments:

Soil bore construction of soil bore halted at 3.0 metres below grade by stiff ground conditions

Groundwater measured at 0.5 metres below grade. Groundwater recharge very slow. Groundwater sample collected from bore noted to be very dark

Job title: Site at junction of Barugh Green / Claycliffe Roads	Soilbore: SB17
Job number: 67/826	Date: 29 October 1997
Location: See Figure 6 (Plot B)	Boring method: Percussive window sampling

Depth (m)	Description	Sample		PID reading (ppm)
		number	depth (m)	
0.0	Soft brown TOPSOIL			
0.1	Loose MADE GROUND comprising brick and gravel fill. *****Groundwater*****	S9.1	0.4	4
		W9.1	0.7	9
		S9.2	1.1	<1
1.4	Firm mid / dark brown silty CLAY			
		S9.3	2.0	<1
2.0	End of soil bore			

Comments:

Groundwater measured at 0.5 metres below grade. Groundwater recharge very slow.

Appendix D: Laboratory certification

Geochem Analytical Services

Gasoline Range Organics

By

GC

Job No: 99/2259/02/01

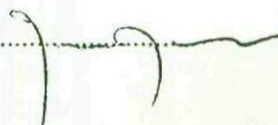
Client: Quest Environmental

Matrix: Water

Units: $\mu\text{g/l}$

Sample No	Sample Ref	Depth m/ft	Total Volatiles
008	826/1905/W5.1	-	143

Checked by.....



Geochem Analytical Services

BTEX Analysis

By
G.C.

Job No: 99/2259/02/01

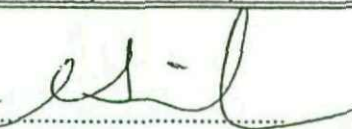
Client: Quest Environmental

Matrix: Water

Units: $\mu\text{g/l}$

Sample No	Sample Ref	Depth m/ft	Benzene	Toluene	Ethyl Benzene	Total Xylene
008	826/1905/W5.1	-	<10	<10	<10	<10

Checked by



Geochem Analytical Services

Diesel Range Organics

by
G.C.

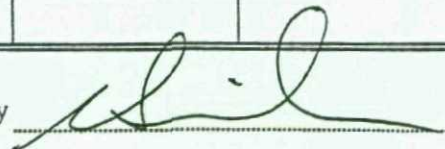
Client Name Quest Environmental
Client Ref 67/826
Sample Matrix Soil

Job Number 99/2259/02/01
Date Extracted/Prepared 29/05/99
Date Analysed 02/06/99

Separatory Funnel Ext No
Soxtec Extraction Yes
Column Extraction No

Sample number	Sample Identity	Depth	Diesel Range Hydrocarbons (mg/kg)	Interpretation
001	826/1905/S1.3	0.90	206	
003	826/1905/S3.2	1.10	34	
005	826/1905/S4.1	0.70	95	

Checked by



Geochem Analytical Services

C10 -C40 Banding

by

G.C.

Client Name Quest Environmental

Client Ref 67/826

Sample Matrix Soil

Job Number 99/2259/02/01

Date Extracted/Prepared 29/05/99

Date Analysed 02/06/99

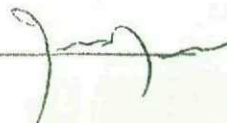
Separatory Funnel Ext No

Soxtec Extraction Yes

Column Extraction No

Sample number	Sample Identity	Depth	CARBON RANGE DISTRIBUTION		
			C10 - C20	C21-C30	C31-C40
			(mg/kg)	(mg/kg)	(mg/kg)
001	826/1905/S1.3	0.90	82	52	72
003	826/1905/S3.2	1.10	7	17	10
005	826/1905/S4.1	0.70	33	38	24

Checked by



Geochem Analytical Services

Gasoline Range Organics

By

GC

Job No: 99/2259/02/01

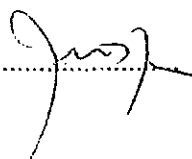
Client: Quest Environmental Ltd

Matrix: Soil

Units: mg/kg

Sample No	Sample Ref	Depth m/ft	Total Volatiles
002	826/1905/S1.3	0.9	<0.01
004	826/1905/S3.2	1.1	0.01
006	826/1905/S4.1	0.7	<0.01

Checked by.....



Geochem Analytical Services

BTEX Analysis

By

G.C.

Job No: 99/2259/02/01


Client: Quest Environmental Ltd

Matrix: Soil

Units: mg/kg

Sample No	Sample Ref	Depth m/ft	Benzene	Toluene	Ethyl Benzene	Total Xylene
002	826/1905/S1.3	0.9	<0.01	<0.01	<0.01	<0.01
004	826/1905/S3.2	1.1	<0.01	<0.01	<0.01	<0.01
006	826/1905/S4.1	0.7	<0.01	<0.01	<0.01	<0.01

Checked by



Geochem Analytical Services

Diesel Range Organics

by
G.C.

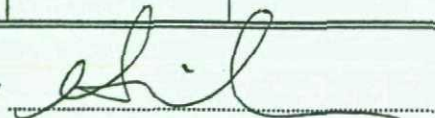
Client Name Quest Environmental
Client Ref 67/826
Sample Matrix Water

Job Number 99/2259/02/01
Date Extracted/Prepared 03/06/99
Date Analysed 04/06/99

Separatory Funnel Ext Yes
Sextec Extraction No
Column Extraction Yes

Sample number	Sample Identity	Depth	Diesel Range Hydrocarbons (µg/litre)	Interpretation
007	826/1905/W5.1	-	1850	

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C10 -C40 Banding

by

G.C.

Client Name Quest Environmental

Client Ref 67/826

Sample Matrix Water

Job Number 99/2259/02/01

Date Extracted/Prepared 03/06/99

Date Analysed 04/06/99

Separatory Funnel Ext Yes

Soxtec Extraction No

Column Extraction Yes

Sample number	Sample Identity	Depth	CARBON RANGE DISTRIBUTION		
			C10 - C20	C21-C30	C31-C40
			(µg/litre)	(µg/litre)	(µg/litre)
007	826/1905/W5.1	-	1388	370	93

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