Andrew R. Williams & Associates

CHARTERED QUANTITY SURVEYORS
BUILDING SURVEYORS AND ARCHITECTURAL CONSULTANTS

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Merseyisde,
L36 9FB.

6th March 2003.

Knowsley M.B.C.
Planning & Development
10 MAR 2003 -72
LO

Dear Sirs/Madam,

Ground Investigation At Birchill Road,Knowsley Industrial Estate,Kirby.

Further to the requirements of Planning Application 01/00105/FUL,we enclose ground investigation report as issued by Sub-Surface North West Ltd.

On 2nd December 2002 five hand dug trial pits were excavated to a maximum depth of 1.10m. Small disturbed samples were obtained from all important strata and were subjected to careful examination. The materials were logged in general accordance with BS5930:1999 and the resulting trial pit record sheets are appended.

To provide a limited preliminary assessment of the presence of contamination one soil example of Made Ground from trial pit A and three soil samples of made Ground from trial pit E have been analysed for a suite of common contaminants and the results are appended.

It is understood that no interpretation of the results are required at this time.

It should be noted that some of the soil excavated in the trial pits was noted to smell of hydrocarbons. The levels of Total Petroleum Hydrocarbons (TPH) have not been determined by this investigation.

We trust this letter fulfills your requirements,however if you require further interpretation of the chemicial analyses or require further testing please do not hesitate to contact our Mr Nick Tuley at our Preston office.

Yours Faithfully,

Andrew R. Williams

Conditions - All work carried out strictly in accordance with our conditions of engagement.
Should our invoice/s remain unpaid outside our normal terms we reserve the right to charge for debt recovery and administration costs
This practice operates a disputes procedure in accordance with RICS recommendations
VAT Registration No. 320 3963 81 Terms of Payment - 7 days from issue

RICS

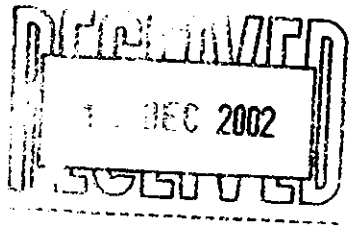
ISO 9000 REGISTERED FIRM

SAVA

LABORATORY TEST RESULTS

12 December 2002

Mr S Gabbatt
Sub Surface Laboratories Limited (Preston)
3 Peel Street
Preston
Lancs.
PR2 2QS



Test Report : SSLL/70381

Dear Mr Gabbatt

Please find enclosed the results of the analysis carried out on the samples submitted from Birchill Road Knowsley Ind Est on Friday, December 06, 2002.

I trust you will find these satisfactory but should you have any queries please contact me.

Yours sincerely

C V Billings
AUTHORISED SIGNATORY

Determinations marked * in this certificate are not included in the UKAS accreditation schedule for our laboratory. Opinions and interpretations expressed herein, and marked #, are outside the scope of UKAS accreditation. Determinations marked S were subcontracted. Unless otherwise stated, CAS Ltd was not responsible for sampling. Information about methods and performance characteristics of the determinations are available on request. Unless otherwise agreed, as received soils will be disposed of after 30 days; dried soils after 30 days and waters/leachates after 10 days from the issue of the final report. Soil analysis is carried out on air-dried and ground test portion of the sample.

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City Analytical Services Limited
Rayner House, 80 Lockhurst Lane, Coventry CV6 5PZ
Tel +44 (0)24 7658 4800 Fax +44 (0)24 7658 4848 • *info@cityanalytical.co.uk*

Soil Analysis

SSLL/70381
Birchill Road Knowsley Ind Est
Your Reference:- 4009
Your Order:-

CAS Number:						
Sample Ref			320823	320824	320825	320826
Detname	**Method**	**Units**	**TPA 0.10m**	**TPE 0.10m**	**TPE 0.60m**	**TPE 0.90m**
Arsenic (Total)	30/30C	mg/kg	12	4.4	25	18
Boron (Soluble)	6	mg/kg	0.52	0.37	0.88	0.48
Cadmium (Total)	30	mg/kg	0.88	< 0.50	< 0.50	< 0.50
Chromium (Hexavalent)	30B	mg/kg	N/S	N/S	N/S	< 0.10
Chromium (Total)	30	mg/kg	11	< 5.0	18	27
Copper (Total)	30	mg/kg	38	18	33	18
Lead (Total)	30	mg/kg	54	18	31	< 5.0
Mercury (Total)	30C	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10
Nickel (Total)	30	mg/kg	28	6.7	40	35
Selenium (Total)	30C	mg/kg	0.46	0.14	0.46	< 0.10
Zinc (Total)	30	mg/kg	59	32	59	43
Cyanide (Total)	14	mg/kg	< 0.50	< 0.50	< 0.50	2.5
Phenols (Total)	40A	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50
Sulphate (Total) as SO4	45	%	< 0.01	< 0.01	0.85	< 0.01
Sulphide as S	47	mg/kg	< 5.0	< 5.0	< 5.0	< 5.0
pH	39	pH units	7.5	7.6	7.9	7.8
Sulphur (Elemental)	51	mg/kg	< 100	< 100	< 100	< 100
PAH (Total)	307	mg/kg	< 10	< 10	< 10	< 10

AGS Key
N/S - Not Scheduled
I/S - Insufficient Sample

STL

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City Analytical Services Limited
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TRIAL PIT RECORD SHEETS

SUB SURFACE

SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Excavation Method: HAND EXCAVATED	Dimensions:	Ground Level (mOD):	Site: BIRCHILL ROAD, KNOWSLEY INDUSTRIAL ESTATE, KIRKBY
Location: AS PLAN	Dates: 02/12/02 - 02/12/02	Client: MR. ROCHE	Trialpit Number: TPA
		Engineer:	Job Number: 4009
			Sheet: 1/1

Depth m	Samples / Tests	Water Depth m	Field Records	Level (mOD)	Depth m (Thickness)	Description	Legend	Water
0.10-0.30	B				(0.30)	MADE GROUND: dark grey ashy very silty fine to coarse sand with some fine to medium gravel sized fragments of sandstone and occasional brick (slight solvent odour)		
0.30-0.60	B		02/12/02:DRY		0.30			
					(0.30)	Light grey and brownish grey fine to medium SAND (possible made ground)		
					0.60	Trial Pit completed at .60m		

Plan

Remarks: Trial pit dry.

See key sheet for symbols and abbreviations

Scale (approx)	Logged By	Figure No.
1:25	DJ/DP	4009.TPA

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SUB SURFACE

SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Excavation Method: HAND EXCAVATED	Dimensions:	Ground Level (mOD):	Site: BIRCHILL ROAD, KNOWSLEY INDUSTRIAL ESTATE, KIRKBY
Location: AS PLAN	Dates: 02/12/02 - 02/12/02	Client: MR. ROCHE	Engineer:

Trialpit Number: TPB
Job Number: 4009
Sheet: 1/1

Depth m	Samples / Tests	Water Depth m	Field Records	Level (mOD)	Depth m (Thickness)	Description	Legend	Water
0.20-0.70	B		02/12/02:DRY		(0.90)	MADE GROUND: dark grey with brown mottling clayey silty fine to coarse sand with many fine to coarse gravel sized fragments of sandstone and occasional brick		
					0.90	Trial Pit completed at .90m		

Plan

Remarks
Trial pit dry.

See key sheet for symbols and abbreviations

Scale (approx)	Logged By	Figure No.
1:25	DJ/DP	4009.TPB

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SUB SURFACE

SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Excavation Method: HAND EXCAVATED	Dimensions:	Ground Level (mOD):	Site: BIRCHILL ROAD, KNOWSLEY INDUSTRIAL ESTATE, KIRKBY
Location: AS PLAN	Dates: 02/12/02 - 02/12/02	Client: MR. ROCHE	Engineer:

Trialpit Number: TPC
Job Number: 4009
Sheet: 1/1

Depth m	Samples / Tests	Water Depth m	Field Records	Level (mOD)	Depth m (Thickness)	Description	Legend	Water
0.10-0.30	B		02/12/02:DRY		(0.30) 0.30	MADE GROUND: dark grey very sandy silty clay with many fine to coarse gravel sized fragments of stone and occasional brick		
					(0.20) 0.50	MADE GROUND: concrete		
					(0.10) 0.60	SAND (possible made ground)		
						Trial Pit completed at .60m		

Plan

Remarks: Trial pit dry.

See key sheet for symbols and abbreviations

Scale (approx)	Logged By	Figure No.
1:25	DJ/DP	4009.TPC

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SUB SURFACE

SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Excavation Method: HAND EXCAVATED	Dimensions:	Ground Level (mOD):	Site: BIRCHILL ROAD, KNOWSLEY INDUSTRIAL ESTATE, KIRKBY
Location: AS PLAN	Dates: 02/12/02 - 02/12/02	Client: MR. ROCHE	Trialpit Number: TPD
		Engineer:	Job Number: 4009
			Sheet: 1/1

Depth m	Samples / Tests	Water Depth m	Field Records	Level (mOD)	Depth m (Thickness)	Description	Legend	Water
0.20-0.60	B				(0.10) 0.10	MADE GROUND: gravel sized fragments of stone		
0.60-0.80	B				(0.55) 0.65	MADE GROUND: dark grey ashy very silty fine to coarse sand with occasional fine to coarse gravel sized fragments of sandstone and brick		
			02/12/02:DRY		(0.35) 1.00	Dark brown and light grey fine to medium SAND (possible made ground)		
						Trial Pit completed at 1.00m		

Plan

Remarks
Trial pit dry.

See key sheet for symbols and abbreviations

Scale (approx)	Logged By	Figure No.
1:25	DJ/DP	4009.TPD

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SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Excavation Method: HAND EXCAVATED	Dimensions	Ground Level (mOD)	Site: BIRCHILL ROAD, KNOWSLEY INDUSTRIAL ESTATE, KIRKBY
	Location: AS PLAN	Dates: 02/12/02 - 02/12/02	Client: MR. ROCHE
			Engineer

Trialpit Number: TPE
Job Number: 4009
Sheet: 1/1

Depth m	Samples / Tests	Water Depth m	Field Records	Level (mOD)	Depth m (Thickness)	Description	Legend	Water
0.10-0.40	D				0.05	MADE GROUND: bituminous macadam surfacing		
					(0.45)	MADE GROUND: dark grey and dark brown mottled silty fine to coarse sand with some fine to medium gravel sized fragments of stone and occasional brick (strong solvent odour)		
0.60-0.90	D				0.50 (0.10) 0.60	MADE GROUND: bituminous macadam surfacing		
					(0.30)	MADE GROUND: reddish brown silty sandy fine to coarse gravel sized fragments of burnt shale (strong solvent odour)		
0.90-1.10	D				0.90			
			02/12/02:DRY		(0.20) 1.10	Greyish brown very sandy silty CLAY with occasional lenses of silty fine to coarse sand (possible made ground) (hydrocarbon odour)		
						Trial Pit completed at 1.10m		

Plan

Remarks: Trial pit dry.

See key sheet for symbols and abbreviations

Scale (approx)	Logged By	Figure No.
1:25	DJ/DP	4009.TPE

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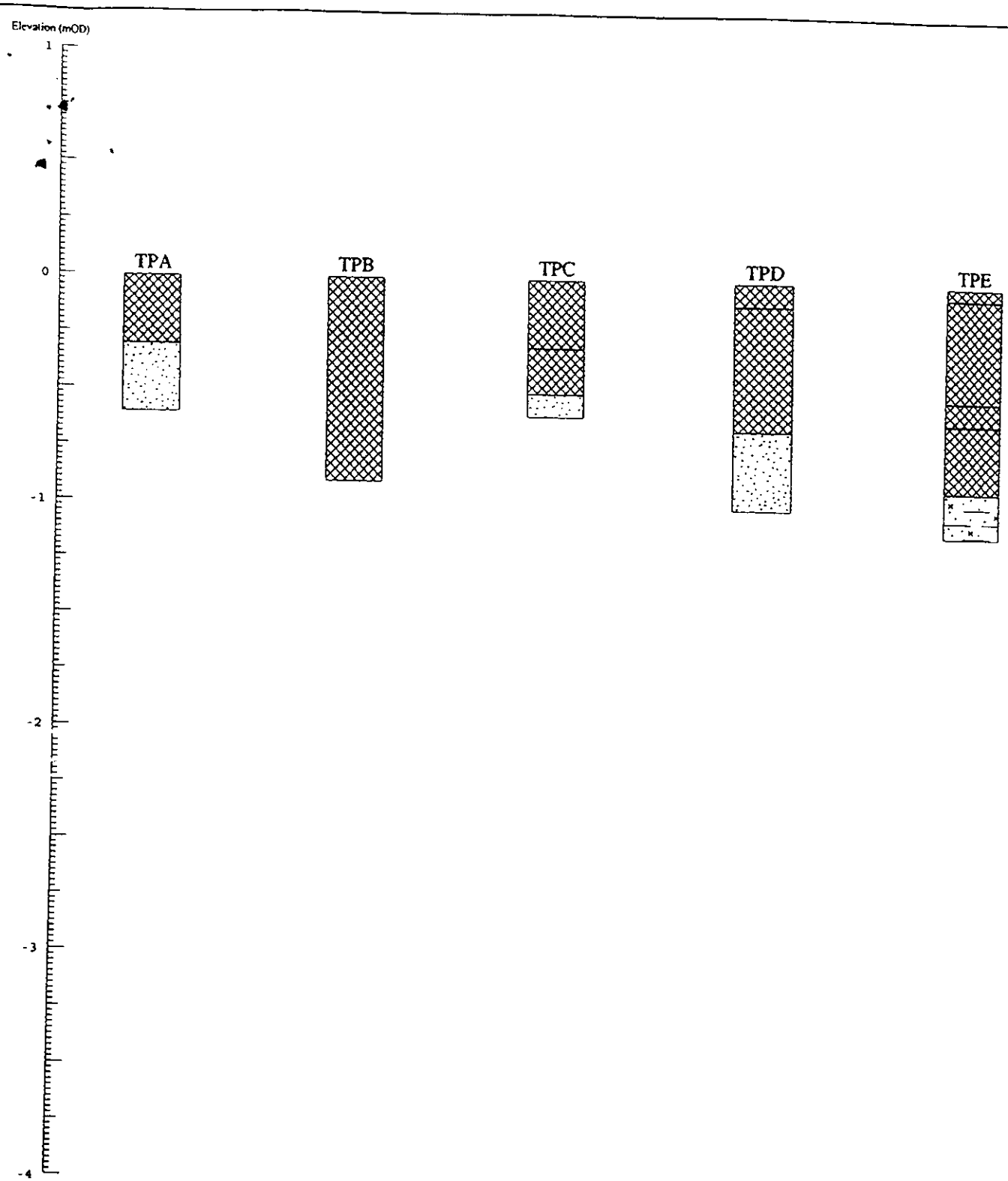
FIGURES



SUB SURFACE SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS 3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907		Exploratory Hole Location Plan			
Site BIRCHILL ROAD, KNOWSLEY INDUSTRIAL ESTATE, KIRKBY, LANCASHIRE	Date Drawn 22-Jan-03	Date Checked	Sheet 1 / 1	Job No. 4009	
Client MR ROCHE	Drawn By MDW	Checked By	Scale NTS	Figure No. 1	



Key To Legends

MADE GROUND

Silty sandy CLAY

SAND

Groundwater Strike

Strike Rise Level

SUB SURFACE
SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

Nominal Section

Site	Date Drawn	Date Checked	Sheet	Job Number
BIRCHILL ROAD, KNOWSLEY INDUSTRIAL ESTATE, KIRKBY	14/Jan/03		1/1	4009
Client	**Drawn By**	**Checked By**	**Scale**	**Figure No.**
MR. ROCHE			1:25 [V]	

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