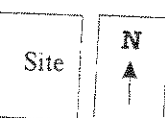


- 16.0 It may be appropriate to undertake further investigation works to inform detailed remedial design. Supplementary investigations are also recommended for areas which could not be accessed during the current works.
- 17.0 Whilst no significant risks have been identified, it is considered prudent to undertake the following in connection with the site's current use:
- Further gas monitoring to enable a more thorough understanding of the underlying hazardous gas regime; and
 - Access to the upper overgrown area by school children is prevented, and the identified physical hazards removed.
- 18.0 On the basis of the current findings at the site, the following measures are likely to be necessary as part of any redevelopment of the site:
- i) Appropriate health and safety actions to be employed by all site workers particularly when working in confined spaces or voids;
 - ii) Adopt construction techniques so as to minimise potential dust generation;
 - iii) Gas exclusion measures may be necessary dependant upon the location and nature of any proposed buildings/structures; and
 - iv) Appropriate depths of clean imported topsoils will be required for proposed landscaped areas, particularly on the eastern railway sector.
- 19.0 If the planning permission is implemented for ash soils in the embankment to be excavated and reused, a suitably robust method statement and health and safety plan must be produced, which will detail how the following will be addressed:
- Suppression of dusts;
 - Actions if asbestos is encountered;
 - Minimising worker's contact with soils; and
 - Working practices to be employed whilst excavating ash soils from the embankment, so as to prevent instability and collapse of the embankment.
- 20.0 The principal conclusions relating to the geotechnical investigation works are summarised as follows:
- The load carrying characteristics of untreated Made Ground, Ash Fill and Alluvium is low. Foundations for the proposed structures must therefore be taken down through these deposits and placed in the underlying materials;
 - For heavily loaded foundations, piled foundations may be required;
 - The bearing capacity of the superficial soils could be improved by ground treatment;
 - To provide parameters for use in the assessment of the stability of slopes formed from or within ash fill, an extensive programme of insitu and laboratory testing may be required; and
 - Further ground investigation will be required on the sites of individual structures once the development proposals are finalised.



1857 6" to 1 Mile
 Buckley Wells Locomotive Depot, Bury
 Client: Metropolitan Borough of Bury

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 No.AL 51646A0001



1894 6" to 1 Mile

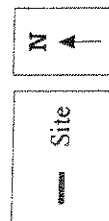
Buckley Wells Locomotive Depot, Bury

Client: Metropolitan Borough of Bury

N ↑

— Site

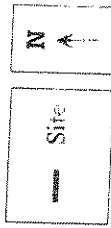
Reproduced from an Ordnance Survey Map Extract (see date and sheet details), with the permission of Her Majesty's Stationary Office and using CRH licence No.AL 51646A0001



Buckley Wells Locomotive Depot, Bury
Client: Metropolitan Borough of Bury

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51646A0001

Date: May 1999



1938 6" to 1 Mile

Buckley Wells Locomotive Depot, Bury
Client: Metropolitan Borough of Bury

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51646A0001

LT/6955/Buckley Wells Locomotive Depot, Bury

Date: May 1999

Historic Map Extract

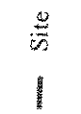


Cuckley Wells Locomotive Depot, Bury
Client: Metropolitan Borough of Bury

6955/Buckley Wells Locomotive Depot, Bury

Historic Map Extract



 N
 Site

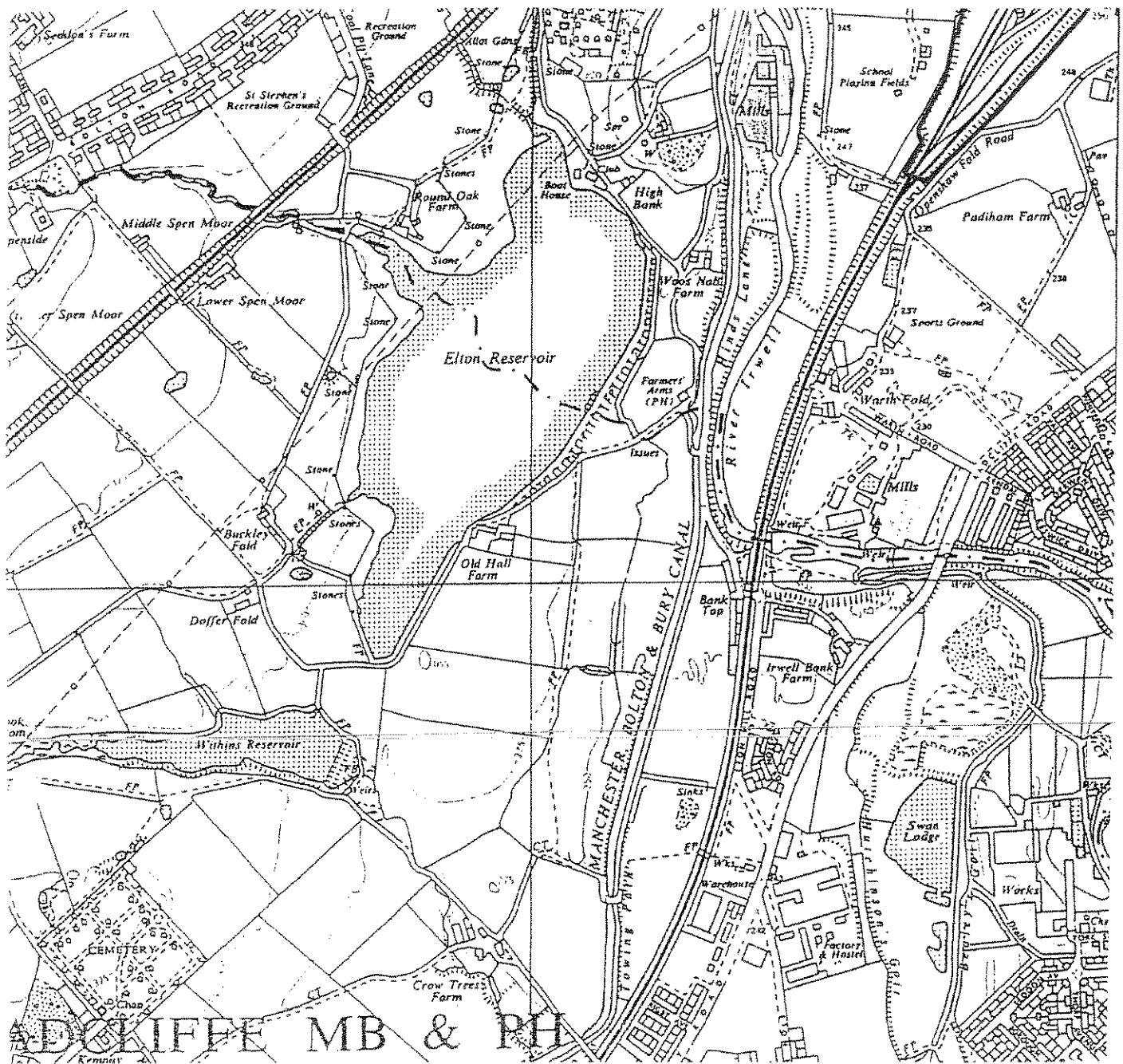
1956 6" to 1 Mile
 Buckle Wells Locomotive Depot, Bury
 Client: Metropolitan Borough of Bury

Reproduced from an Ordnance
 Survey Map Extract (see date and
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 51646A0001

LT/6955/Buckle Wells Locomotive Depot, Bury

Date: May 1999

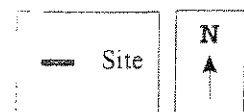
Historic Map Extract



1965 6" to 1 Mile

Buckley Wells Locomotive Depot, Bury
Client: Metropolitan Borough of Bury

Reproduced from an Ordnance
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sheet details), with the permission
of Her Majesty's Stationary Office
and using CRH licence No. AL
51646A0001

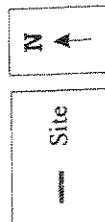


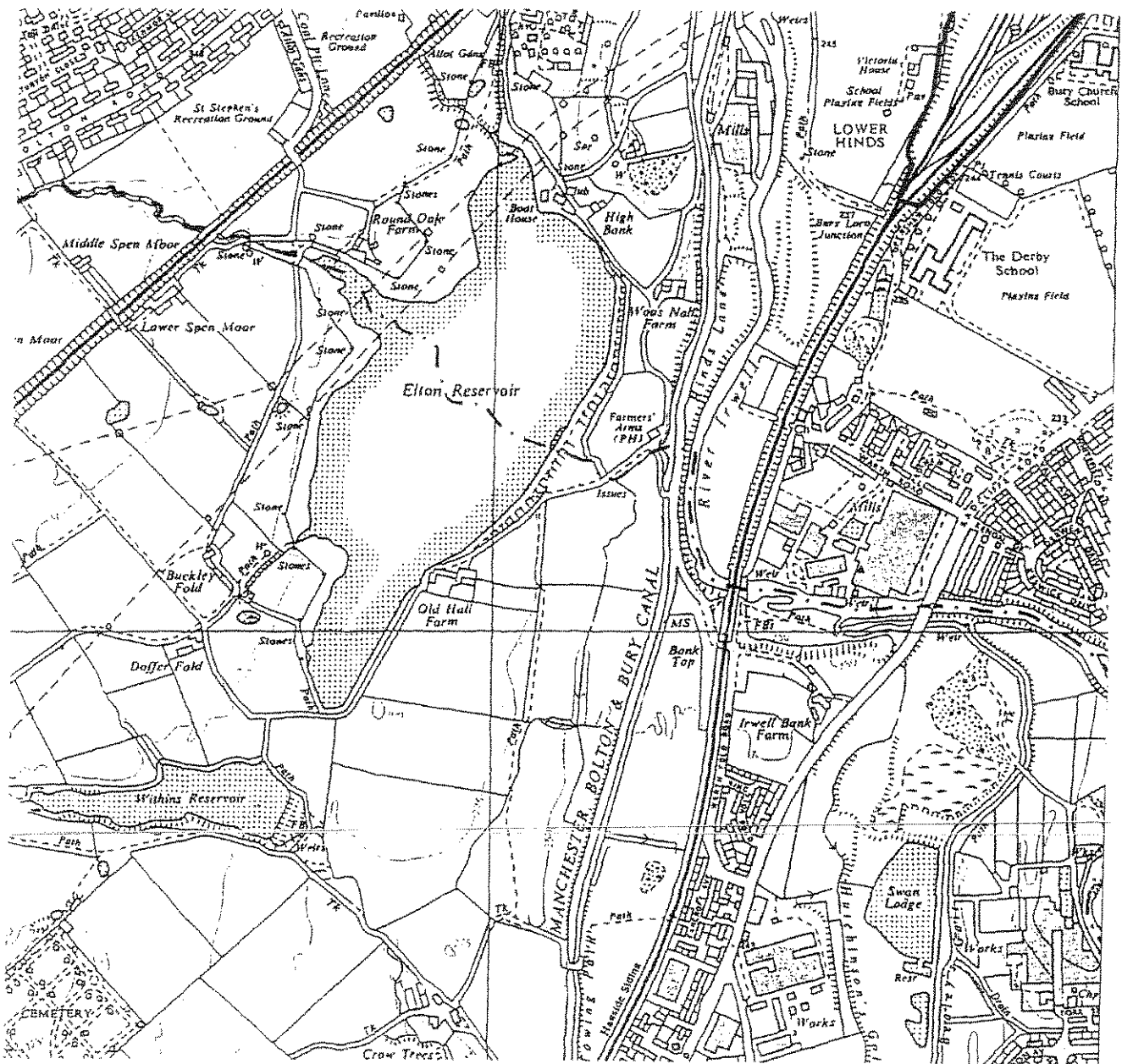


1969 6" to 1 Mile

Buckley Wells Locomotive Depot, Bury
Client: Metropolitan Borough of Bury

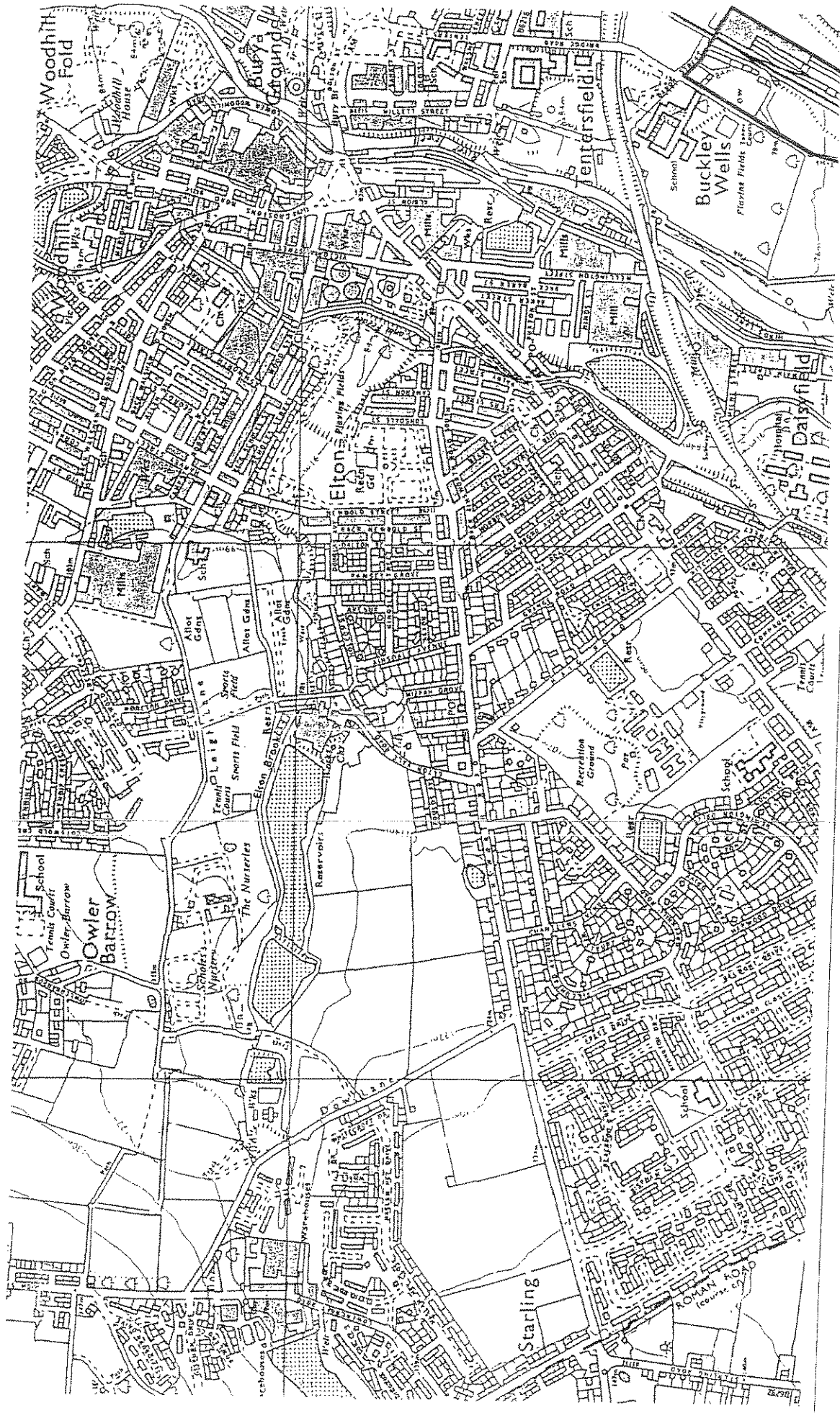
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1870 6" to 1 Mile
 Buckley Wells Locomotive Depot, Bury
 Client: Metropolitan Borough of Bury

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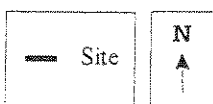
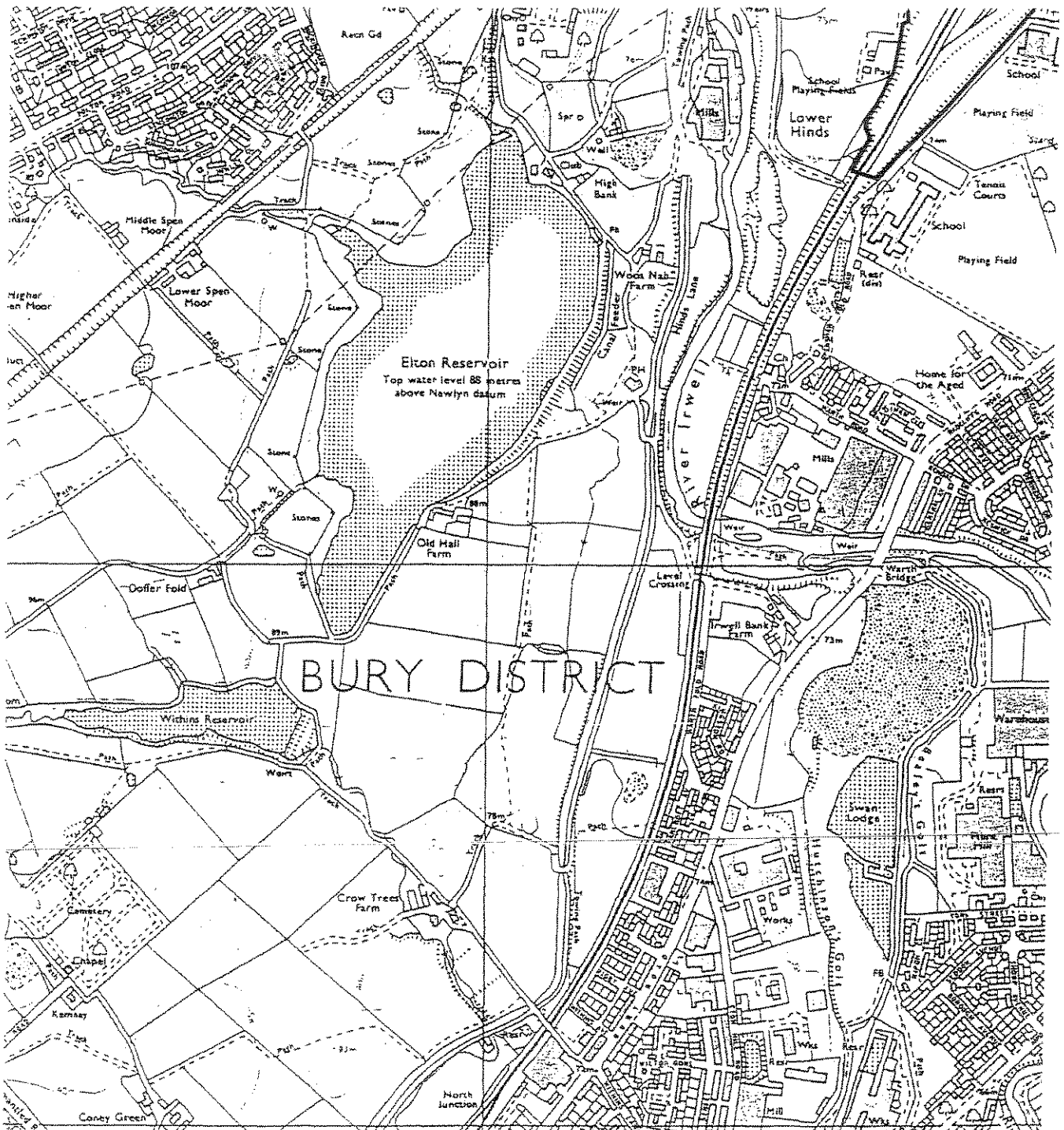
— Site

N

1974 1:10,000

Buckle Wells Locomotive Depot, Bury
Client: Metropolitan Borough of Bury

Reproduced from an Ordnance Survey Map Extract (see date and sheet details), with the permission of Her Majesty's Stationary Office and using CRH licence No AL 51646A0001



1980 1:10,000

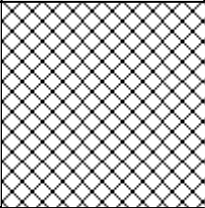
Buckley Wells Locomotive Depot, Bury
Client: Metropolitan Borough of Bury

Reproduced from an Ordnance
Survey Map Extract (see date and
sheet details), with the permission
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and using CRH licence No.AL
51646A0001

APPENDIX C

LKA TRIAL PIT LOGS

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment 360 Rubber Duck Methods Mechanical Excavation Contractor MA Excavations
TRIAL PIT No. TP-G6		Client Bury MBC	Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Brambles over black ash and clinker gravel with occasional brick, coal and slate fragments.			
	End of Trial Pit			
1.00				
2.00				
3.00				

Remarks Dry, no odour Stability Sides stable	Dimensions A =  D = B = C =	Logged by CJC
		Scale NTS
		Sample taken at depth 0-0.4



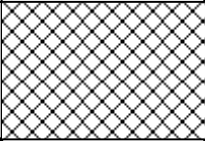
Site Name Buckley Wells

Methods Mechanical Excavation

Contractor MA Excavations

Client Bury MBC

Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Dark brownish grey gravelly coarse sand with much clinker and ash gravel, brick gravel and fine rootlets. Occasional fragments of coal and slate.			
	End of Trial Pit			
1.00				
2.00				
3.00				

Remarks	Dry, no odour	Dimensions A =  D = B = C =	
Stability	Sides stable		Logged by CJC
			Scale NTS
			Sample taken at depth 0-0.4



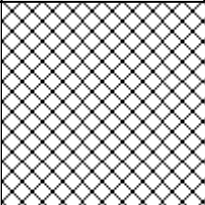
Equipment 360 Rubber Duck

Methods Mechanical Excavation

Contractor MA Excavations

Client Bury MBC

Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Dark grey mottled black fine to coarse ash and clinker gravel with occasional subrounded gravel.			
	End of Trial Pit			
1.00				
2.00				
3.00				

Remarks Dry, no odour	Dimensions	
	A = 	Logged by CJC
	D = B = C =	Scale NTS
Stability Sides stable		Sample taken at depth 0-0.3



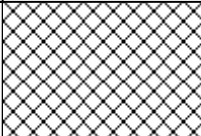
Equipment 360 Rubber Duck

Methods Mechanical Excavation

Contractor MA Excavations

Client Bury MBC

Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Dark grey brown very gravelly slightly clayey coarse sand with much clinker and ash gravel and some fine to coarse brick gravel.			
	Brown clayey SAND and GRAVEL .			
	End of Trial Pit			
1.00				
2.00				
3.00				

Remarks	Dry, no odour	Dimensions A =  D = B = C =	
Stability	Sides stable		Logged by CJC
			Scale NTS
			Sample taken at depth 0-0.4



Site Name Buckley Wells

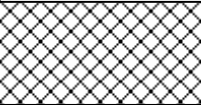
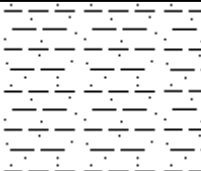
Methods Mechanical Excavation

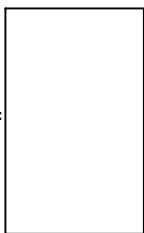
Contractor MA Excavations

TRIAL PIT No. TP-G2

Client Bury MBC

Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Dark grey silty clayey fine to coarse sand with many fine rootlets and rare pottery fragments.			
	Soft brown very sandy CLAY with occasional coarse subrounded gravel.			
	End of Trial Pit			
1.00				
2.00				
3.00				

Remarks	Dry, no odour	Dimensions A =  D = B = C =	
Stability	Sides stable		Logged by CJC
			Scale NTS
			Sample taken at depth 0-0.5



Equipment 360 Rubber Duck

Methods Mechanical Excavation

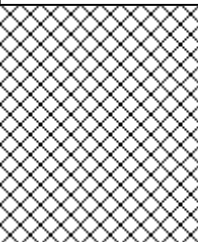
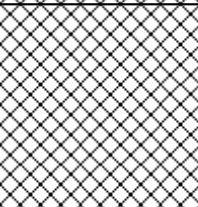
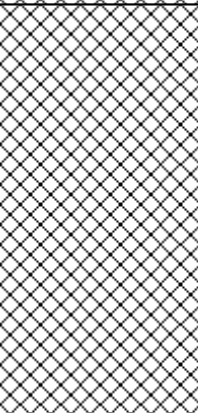
Contractor MA Excavations

Client Bury MBC

Date 19.12.05

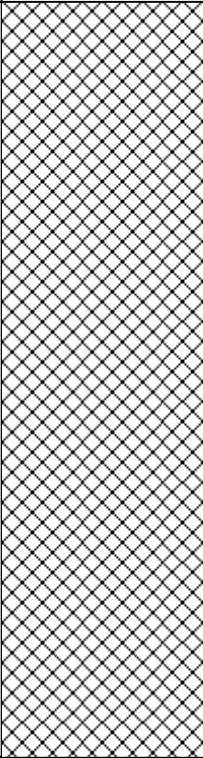
[illegible]

Remarks	Dry, no odour	Dimensions A =  D = B = C =	
Stability	Sides stable		Logged by CJC
			Scale NTS
			Sample taken at depth 0-0.4

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment 360 Rubber Duck Methods Mechanical Excavation Contractor MA Excavations	
TRIAL PIT No. TP12		Client Bury MBC	Date 19.12.05	
Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Brambles over dark grey clayey sand with many fine rootlets and occasional concrete boulders and ash and clinker gravel and fragments of slate, roof tiles, plastic and timber.			
1.00	MADE GROUND Soft greyish brown very sandy gravelly clay.			
2.00	MADE GROUND Dark grey mottled brown clinker and ash gravel with occasional fine to coarse subangular gravel and fragments of brick.			
	End of Trial Pit			
3.00				

Remarks Dry, No odour Stability Unstable below 1.3m	Dimensions A = D = B = C =		
			Logged by CJC
			Scale NTS
			Sample taken at depth 0.7,2.0

 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment 360 Rubber Duck Methods Mechanical Excavation Contractor MA Excavations
TRIAL PIT No. TP11		Client Bury MBC	Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
0.00	MADE GROUND Brambles over dark greyish black sand with some coarse rounded gravel, occasional concrete cobbles and fragments of coal, brick, slate and timber.			
1.00				
2.00				
2.00	End of Trial Pit			
3.00				

Remarks Dry, No odour Stability Unstable below 1.2m	Dimensions A =  D = B = C =	Logged by CJC
		Scale NTS
		Sample taken at depth 0.4



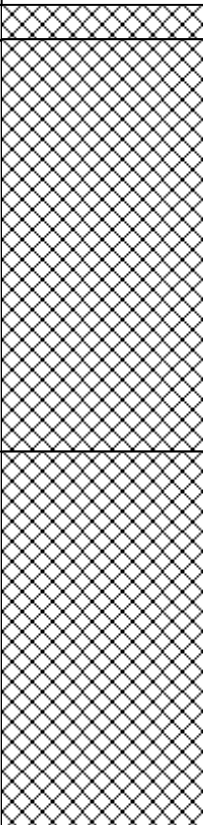
Site Name Buckley Wells

Methods Mechanical Excavation

Contractor MA Excavations

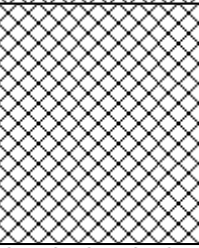
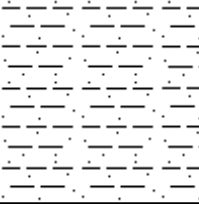
Client Bury MBC

Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Grass over dark grey clayey sand.			
	MADE GROUND Dark brownish grey sandy clayey sand with much fine to coarse subrounded gravel, some rounded cobbles, occasional brick gravel, plastic, glass and concrete.			
	MADE GROUND Dark grey mottled black very gravelly sand with much brick gravel and occasional cobbles, boulders and timber.			
1.00				
2.00				
	End of Trial Pit			
3.00				

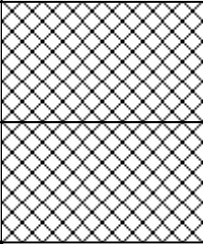
Remarks Dry, No odour Stability Unstable below 1.5m	Dimensions	
	A =  A vertical rectangle representing a pile. The top horizontal edge is labeled 'A ='. The bottom horizontal edge is labeled 'C ='. The left vertical edge is labeled 'D ='. The right vertical edge is labeled 'B ='.	Logged by CJC
	C =	Scale NTS
		Sample taken at depth 0.3,2.0

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment 360 Rubber Duck Methods Mechanical Excavation Contractor MA Excavations
TRIAL PIT No. TP9		Client Bury MBC	Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Black mottled grey sand and gravel.			
	MADE GROUND Black ash and clinker gravel with occasional coal, brick and slate fragments.			
1.00	Soft light brown very sandy gravelly CLAY with occasional rounded cobbles.			
	End of Trial Pit			
2.00				
3.00				

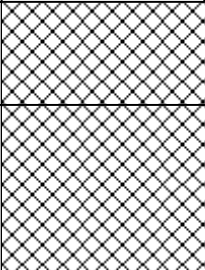
Remarks Dry, No odour Stability Sides stable	Dimensions A =  D = B = C =	Logged by CJC
		Scale NTS
		Sample taken at depth 0.4

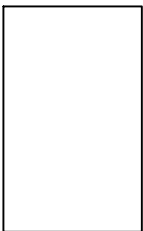
 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment 360 Rubber Duck Methods Mechanical Excavation Contractor MA Excavations
TRIAL PIT No. TP8		Client Bury MBC	Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Black fine to coarse ash and clinker gravel with occasional coarse subrounded gravel and brick fragments.			
	POSSIBLE MADE GROUND Brown very sandy gravel with occasional subrounded cobbles.			
	End of Trial Pit			
1.00				
2.00				
3.00				

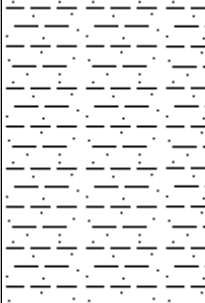
Remarks Dry, No odour Stability Sides stable	Dimensions A =  D = B = C =	Logged by CJC
		Scale NTS
		Sample taken at depth 0.2,0.5

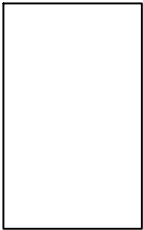
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TRIAL PIT No. TP7		Client Bury MBC	Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Soft dark grey very sandy clay with rare glass and brick fragments.			
	POSSIBLE MADE GROUND Brown fine to coarse sand with occasional rounded cobbles and coarse subrounded gravel.			
1.00	Brown fine to coarse SAND and GRAVEL with occasional subangular to rounded cobbles.			
	End of Trial Pit			
2.00				
3.00				

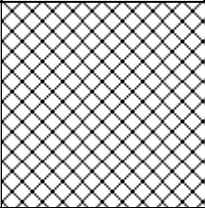
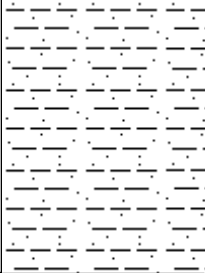
Remarks Dry, No odour Stability Sides stable	Dimensions A =  D = B = C =	Logged by CJC
		Scale NTS
		Sample taken at depth 0.3,0.9

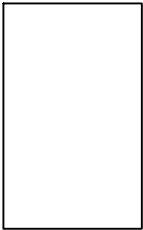
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TRIAL PIT No. TP6		Client Bury MBC	Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Soft dark grey very sandy clay with rare glass and brick fragments.			
	Firm to stiff light brown mottled grey CLAY .			
1.00				
	End of Trial Pit			Slight inflow at 1.4m
2.00				
3.00				

Remarks Dry, No odour Stability Sides stable	Dimensions A =  D = B = C =	Logged by CJC
		Scale NTS
		Sample taken at depth 0.3

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment 360 Rubber Duck Methods Mechanical Excavation Contractor MA Excavations
TRIAL PIT No. TP5		Client Bury MBC	Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Dark grey fine to coarse sand.			
1.00	Firm light brown mottled grey very sandy CLAY with some fine to coarse subrounded to rounded gravel.			
	End of Trial Pit			Slow inflow at 1.3m
2.00				
3.00				

Remarks No odour Stability Sides stable	Dimensions A =  D = B = C =	Logged by CJC
		Scale NTS
		Sample taken at depth 0.2



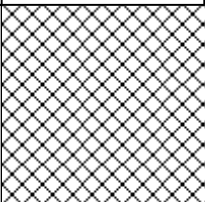
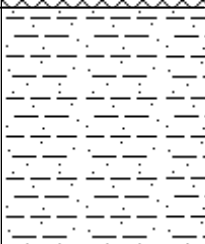
Equipment 360 Rubber Duck

Methods Mechanical Excavation

Contractor MA Excavations

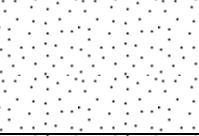
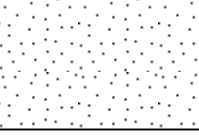
Client Bury MBC

Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Dark greyish black fine to coarse sand with much fine to coarse clinker and ash gravel and occasional fine brick gravel.			
	MADE GROUND Whole and part brick.			
1.00	Soft to firm orange brown very sandy CLAY with occasional subrounded cobbles and coarse subrounded gravel.			
	End of Trial Pit			
2.00				
3.00				

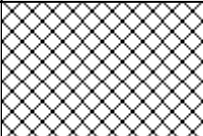
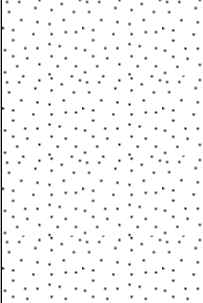
Remarks No odour	Dimensions A =  D = B = C =	
Stability Sides stable		Logged by CJC
		Scale NTS
		Sample taken at depth 0.3,1.0

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment 360 Rubber Duck Methods Mechanical Excavation Contractor MA Excavations
TRIAL PIT No. TP3		Client Bury MBC	Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Dark greyish brown black slightly silty slightly clayey coarse sand with many fine rootlets and occasional fine angular coal gravel and rare brick gravel. Brown coarse SAND with some fine to coarse subrounded gravel.	 		
	Grey coarse SAND with some fine to coarse subrounded gravel.			
1.00	End of Trial Pit			
2.00				
3.00				

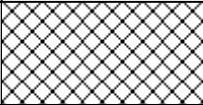
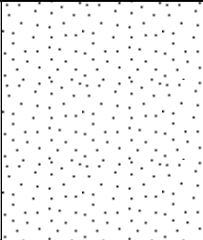
Remarks Dry, no odour Stability Sides stable	Dimensions A =  D = B = C =	Logged by CJC
		Scale NTS
		Sample taken at depth 0.1

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment 360 Rubber Duck Methods Mechanical Excavation Contractor MA Excavations
TRIAL PIT No. TP2		Client Bury MBC	Date 19.12.05

Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Dark greyish brown black slightly silty slightly clayey coarse sand with many fine rootlets and occasional fine angular coal gravel and rare brick gravel.			
	Light brownish grey coarse SAND with some rounded cobbles and fine to coarse subrounded gravel.			
1.00				
	End of Trial Pit			
2.00				
3.00				

Remarks Dry, no odour Stability Sides stable	Dimensions A =  B = C = D =	Logged by CJC
		Scale NTS
		Sample taken at depth 0.2,0.9

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment 360 Rubber Duck Methods Mechanical Excavation Contractor MA Excavations
TRIAL PIT No. TP1		Client Bury MBC	Date 19.12.05

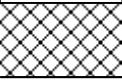
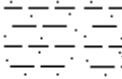
Depth (m)	B	Legend	Groundwater	Field Records
0.00	Ground Surface			
	MADE GROUND Dark greyish black slightly silty coarse sand with many fine rootlets.			
	Orange brown clayey SAND with occasional fine subrounded gravel.			
1.00	End of Trial Pit			
2.00				
3.00				

Remarks Dry, no odour Stability Sides stable	Dimensions A = D = B = C =	Logged by CJC
		Scale NTS
		Sample taken at depth 0.2

APPENDIX D

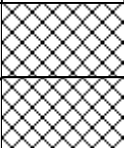
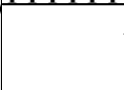
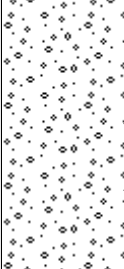
LKA WINDOW SAMPLE LOGS

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment Auto Trip Drop Hammer Methods Window Sampling Contractor Mini Bore		
Borehole No BH6		Client Bury MBC	Date 09.12.05		

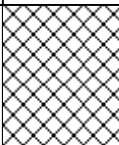
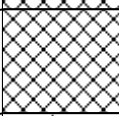
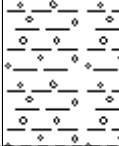
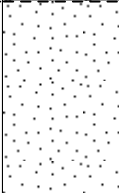
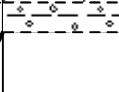
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
0.00	MADE GROUND Black angular coarse ash with occasional coarse angular to sub rounded gravel of brick and clinker. NO RETURN						
1.00	MADE GROUND Brown medium sand with coarse angular to sub-rounded brick gravel NO RETURN		1.0m	SPT		1/0-0,1,0,0 N=1	
2.00	MADE GROUND Very soft brown sandy gravelly clay with much coarse angular gravel of brick and ash		2.0m	SPT		1/1-0,0,1,0 N=1	
3.00	MADE GROUND Very loose very wet grey slightly clayey gravelly sand with much coarse angular gravel of brick and coal		3.0m	SPT		1/0-1,0,1,0 N=2	
4.00	Wet very soft to soft grey gravelly sandy CLAY with occasional gravel of mudstone and coal		4.0m	SPT		1/1-0,1,1,0 N=2	
5.00	End of Borehole						
6.00							
7.00							
8.00							

Remarks	Logged by M Waddicor
	Scale NTS
	Sample taken at depth 0.90

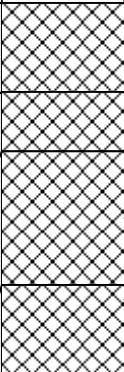
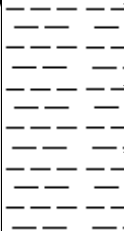
 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment Auto Trip Drop Hammer Methods Window Sampling Contractor Mini Bore		
Borehole No BH5		Client Bury MBC	Date 09.12.05		

Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Black coarse ash gravel with much occasional inclusions of soft brown clay and rare fine brick gravel.						
1.00	MADE GROUND Brown gravelly coarse sand with much coarse angular gravel of brick, concrete and clinker. Occasional gravel and cobble sized sandstone. Becoming slightly clayey from 0.9m.		1.2m	SV		68kNm-2	
	NO RETURN						
2.00	POSSIBLE MADE GROUND Firm to stiff brown grey reworked sandy gravelly CLAY with rare cobble sized concrete @ 1.8m.		2.0m	SPT		4/4-5,4,5,8 N=22	
	NO RETURN						
3.00	Medium dense light brown coarse SAND and GRAVEL with much coarse gravel of coal and sandstone.		3.0m	SPT		4/5-6,7,7,7 N=27	
4.00			4.0m	SPT		5/7-7,5,6,7 N=25	
5.00	End of Borehole						
6.00							
7.00							
8.00							

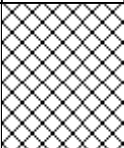
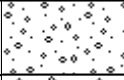
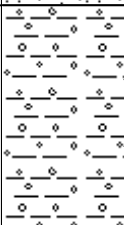
Remarks	Logged by M Waddicor
	Scale NTS
	Sample taken at depth 0.3

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells		Equipment Auto Trip Drop Hammer Methods Window Sampling Contractor Mini Bore			
Borehole No BH4		Client Bury MBC		Date 09.12.05			
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Grass underlain by medium to dark brown sandy soil with much coarse angular gravel of ash, brick, clinker, concrete and coal. Ocassional cobble sized sandstone between 0.8-1.0m						
1.00	MADE GROUND Medium dense very wet medium brown very gravelly medium sand with much coarse angular gravel of brick, concrete and coal.		1.0m	SPT		2/3-2,3,2,3 N=10	
2.00	Wet firm to stiff grey gravelly CLAY with much fine to medium angular to sub rounded gravel of mudstone and coal.		2.0m	SPT		4/5-5,5,6,7 N=23	
	Approximate boundary due to backfilling						
3.00	Wet grey brown slightly clayey gravelly fine to medium SAND .						
	Approximate boundary due to backfilling						
4.00	Wet soft to firm gravelly CLAY with fine gravel of mudstone and ocassional lenses of brown sand.						
	End of Borehole						
5.00							
6.00							
7.00							
8.00							
Remarks						Logged by M Waddicor	
						Scale NTS	
						Sample taken at depth 0.5	

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment Auto Trip Drop Hammer Methods Window Sampling Contractor Mini Bore		
Borehole No BH3		Client Bury MBC	Date 09.12.05		

Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
0.00 - 1.00	MADE GROUND Black coarse ash with much coarse angular gravel of crushed brick, clinker, concrete with occasional fragments of coal.						
1.00 - 2.00	MADE GROUND Soft dark brown clay mixed with much medium to coarse gravel of ash, clinker and occasional brick and coal		1.0m	SPT		3/5-2,5,2,2 N=11	
2.00 - 3.00	MADE GROUND Black coarse ash with much coarse angular gravel of crushed brick, clinker, concrete with occasional fragments of coal. Very occasional cobble sized sandstone. Very rare fragments of slate.		2.0m	SPT		5/6-4,3,4,5 N=16	
3.00 - 4.00	MADE GROUND Medium dense wet medium brown gravelly fine to medium sand with much gravel of angular to sub-rounded ash, clinker, brick, sandstone, concrete and coal. Becoming dark brown @ 2.0m		3.0m	SPT		5/5,5,5,5,5 N=20	
4.00 - 5.00	Wet firm to stiff brown slightly sandy gravelly CLAY with much coarse gravel of sandstone and mudstone Wet firm to stiff grey CLAY with fine gravel of mudstone		4.0m	SPT		2/2-3,5,4,5 N=17	
5.00	End of Borehole						Well installed to 5.0m
6.00							
7.00							
8.00							

Remarks	Logged by M Waddicor
	Scale NTS
	Sample taken at depth 0.3, 3.4

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment Auto Trip Drop Hammer Methods Window Sampling Contractor Mini Bore				
Borehole No BH2		Client Bury MBC	Date 09.12.05				
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Dark brown clayey topsoil with some cobble sized sandstone between 0.7-0.8m						
1.00	NO RETURN		1.0m	SPT		1/3-3,3,3,3 N=12	
	Very wet light to dark brown coarse SAND and GRAVEL with much coarse gravel of sandstone						
2.00	Wet soft to firm brown sandy gravelly CLAY with much medium to coarse gravel of mudstone and sandstone		2.0m	SPT		1/3-3,3,2,2 N=10	
3.00	Medium dense very wet brown clayey gravelly medium SAND with much coarse gravel of sandstone		3.0m	SPT		4/4-4,4,4,4 N=16	
4.00	Wet firm brown sandy gravelly CLAY with some medium to coarse gravel of mudstone		4.0m	SPT		1/1-1,1,4,3 N=9	
5.00	End of Borehole						
6.00							
7.00							
8.00							
Remarks					Logged by M Waddicor		
					Scale NTS		
					Sample taken at depth 0.40		

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment Auto Trip Drop Hammer Methods Window Sampling Contractor Mini Bore	
Borehole No BH1		Client Bury MBC	Date 09.12.05	

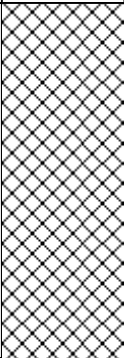
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface					Well installed to 3.0m	
	MADE GROUND Dark brown clayey topsoil						
	MADE GROUND Coarse black ash gravel with much coarse angular gravel of coal, clinker and occasional concrete						
1.00	MADE GROUND Cobble sized sandstone		1.0m	SPT	3/4-5,5,5,5 N=20		
	MADE GROUND Soft brown gravelly clayey sand with much medium to coarse gravel of brick and occasional sandstone						
2.00	NO RETURN		2.0m	SPT	3/4-4,4,2,2 N=12		
	Loose to medium dense light to dark brown coarse SAND and GRAVEL with some occasional cobble sized sandstone. Rare fragments of coal. Becoming very wet @ 2.5m						
3.00			3.0m	SPT	1/0-1,0,1,0 N=2		
	Wet firm to stiff grey gravelly CLAY with some fine to medium gravel of mudstone						
4.00			4.0m	SPT	1/1-2,5,5,4 N=16		
5.00	End of Borehole						
6.00							
7.00							
8.00							

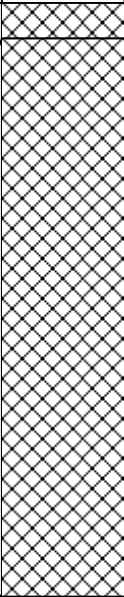
Remarks	Logged by M Waddicor
	Scale NTS
	Sample taken at depth 0.2

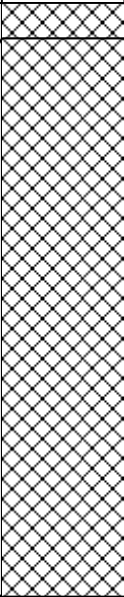
Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment Auto Trip Drop Hammer Methods Window Sampling Contractor Mini Bore				
Borehole No BH7		Client Bury MBC	Date 09.12.05				
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
1.00	MADE GROUND Black coarse ash with much angular coarse gravel of clinker, coal and brick. Inclusions of brown fine sand. Becoming slightly clayey @ 1.7m-1.9m						
2.00							
3.00	MADE GROUND Lightto medium brown coarse sand and gravel with much gravel of brickand sandstone						
4.00	MADE GROUND Black coarse ash with much angular coarse gravel of clinker, coal and brick. Inclusions of brown fine sand.						
5.00							
6.00							
7.00							
8.00	End of Borehole						
Remarks						Well installed to 6.5m	
Logged by M Waddicor							
Scale NTS							
Sample taken at depth 0.60							

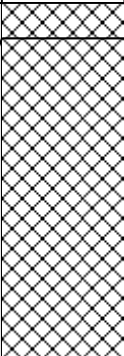
APPENDIX E

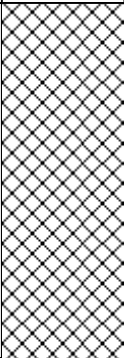
LKA HAND AUGER LOGS

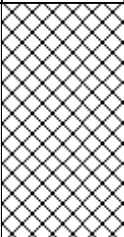
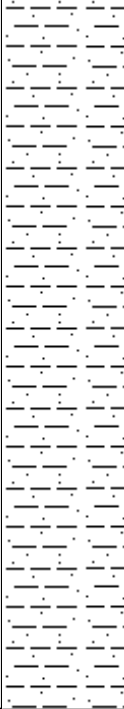
 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578	Equipment Hand Auger				
		Site Name Buckley Wells	Methods Manual Augering				
			Contractor				
Hand Auger No HA1		Client Bury MBC		Date 15.12.05			
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface MADE GROUND Grass and brambles underlain by black coarse ash gravel and much fine to coarse sand and fine to coarse angular to sub-rounded brick gravel. Occasional fine rootlets						
	End of Hand Auger						
1.00							
Remarks					Logged by M.Waddicor		
					Scale NTS		
					Sample taken at depth 0-0.3		

 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578	Equipment Hand Auger				
		Site Name Buckley Wells	Methods Manual Augering				
			Contractor				
Hand Auger No HA4		Client Bury MBC		Date 15.12.05			
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Grass, moss and brambles underlain by a layer of clayey topsoil with occasional fine rootlets. MADE GROUND Black coarse ash gravel and much slightly clayey fine to coarse sand and fine to coarse angular to sub-rounded brick gravel. Occasional inclusions of brown ash and brown orange clinker gravel. Rare inclusions of brown clay						
	End of Hand Auger						
1.00							
Remarks						Logged by M.Waddicor	
						Scale NTS	
						Sample taken at depth 0-0.5	

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells		Equipment Hand Auger Methods Manual Augering Contractor			
Hand Auger No HA3		Client Bury MBC		Date 15.12.05			
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface MADE GROUND Grass and brambles underlain by a layer of clayey topsoil with occasional fine rootlets. MADE GROUND Grey black coarse ash gravel and much fine to coarse sand and fine to coarse angular to sub-rounded brick gravel. Occasional sub angular clinker cobble						
1.00	End of Hand Auger						
Remarks						Logged by M.Waddicor	
						Scale NTS	
						Sample taken at depth 0-0.5	

 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578	Equipment Hand Auger				
		Site Name Buckley Wells	Methods Manual Augering				
			Contractor				
Hand Auger No HA2		Client Bury MBC		Date 15.12.05			
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Grass and brambles underlain by a layer of clayey sand topsoil with occasional fine rootlets. MADE GROUND Black coarse ash gravel and much fine to coarse sand and fine to coarse angular to sub-rounded brick gravel. Occasional fine rootlets						
	End of Hand Auger						
1.00							
Remarks						Logged by M.Waddicor	
						Scale NTS	
						Sample taken at depth 0-0.3	

 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578	Equipment Hand Auger				
		Site Name Buckley Wells	Methods Manual Augering				
			Contractor				
Hand Auger No HA5		Client Bury MBC		Date 15.12.05			
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface MADE GROUND Moss and brambles underlain by dark grey fine to medium sand with much sand sized ash and much fine to coarse sub-rounded to angular clinker gravel. Occasional fine to coarse sandstone and coal						
	End of Hand Auger						
1.00							
Remarks						Logged by M.Waddicor	
						Scale NTS	
						Sample taken at depth 0-0.6	

 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578	Equipment Hand Auger				
		Site Name Buckley Wells	Methods Manual Augering				
			Contractor				
Hand Auger No HA13		Client Bury MBC		Date 15.12.05			
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Grass underlain by soft dark brown clayey sand topsoil with ocassional fine rootlets						
	Soft brown to dark brown sandy CLAY						
1.00							
	End of Hand Auger						
Remarks						Logged by M.Waddicor	
						Scale NTS	
						Sample taken at depth 0-0.3	



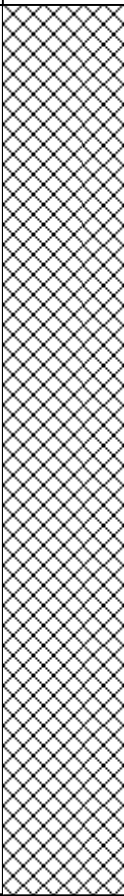
Site Name Buckley Wells

Methods Manual Augering

Contractor

Client Bury MBC

Date 15.12.05

Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Detritus underlin by dark grey slightly silty, slightly clayey fine to medium sand. Some fine to coarse black ash and much angular coarse clinker and coal gravel.Some medium to coarse brick gravel at 0.6m						
	End of Hand Auger						
1.00							
Remarks					Logged by M.Waddicor		
					Scale NTS		
					Sample taken at depth 0-0.3		



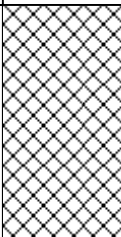
Site Name Buckley Wells

Methods Manual Augering

Contractor

Client Bury MBC

Date 15.12.05

Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Dark grey slightly silty slightly clayey fine to medium sand with some inclusions of brown sand and fine rootlets Occasional fine to medium angular clinker gravel.						
	Soft light brown orange very sandy CLAY						
	End of Hand Auger						
1.00							
Remarks					Logged by M.Waddicor		
					Scale NTS		
					Sample taken at depth 0-0.3		



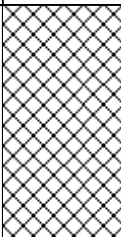
Site Name Buckley Wells

Methods Manual Augering

Contractor

Client Bury MBC

Date 15.12.05

Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Bramble and much detritus underlain by dark grey slightly silty slightly clayey fine to medium sand. Rare black ash gravel with some fine to coarse angular to sub-rounded sandstone gravel						
	End of Hand Auger						
1.00							
Remarks					Logged by M.Waddicor		
					Scale NTS		
					Sample taken at depth 0-0.2		



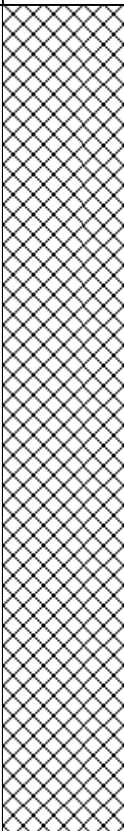
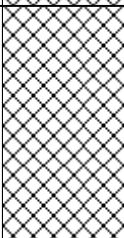
Site Name Buckley Wells

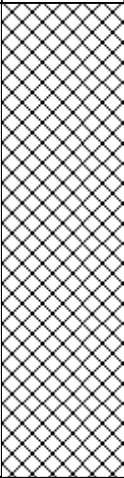
Methods Manual Augering

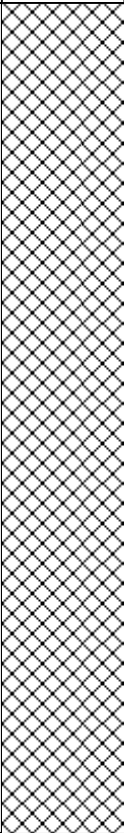
Contractor

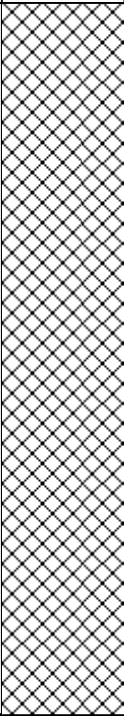
Client Bury MBC

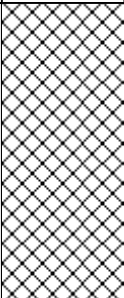
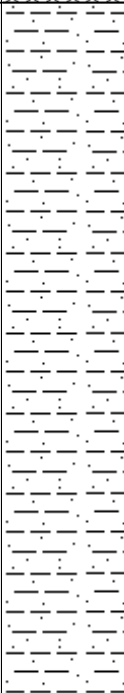
Date 15.12.05

Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Much detritus underlain by silty slightly clayey sand with occasional sand sized ash. Many fine rootlets and japanese knotweed rhizomes						
	MADE GROUND Brown medium to coarse ash with some fine to medium brick gravel. Much coarse angular cliner gravel and coal.						
	End of Hand Auger						
1.00							
Remarks						Logged by M.Waddicor	
						Scale NTS	
						Sample taken at depth 0-0.7	

 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells		Equipment Hand Auger Methods Manual Augering Contractor			
Hand Auger No HA8		Client Bury MBC		Date 15.12.05			
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface MADE GROUND Moss and brambles underlain by dark grey slightly silty slightly clayey fine to medium sand with some sand sized black ash. Some fine to coarse angular to sub-rounded clinker gravel. Very rare sandstone gravel.						
1.00	End of Hand Auger						
Remarks						Logged by M.Waddicor	
						Scale NTS	
						Sample taken at depth 0-0.4	

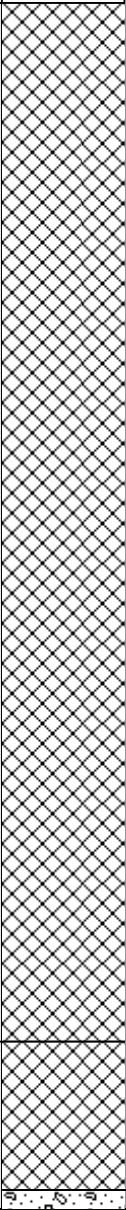
 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells		Equipment Hand Auger Methods Manual Augering Contractor			
Hand Auger No HA7		Client Bury MBC		Date 15.12.05			
Depth (m)	Description	Legend	Sample/Tests				Field Records
			Depth	Sample		Results	
				Type	No.		
0.00	Ground Surface MADE GROUND Moss and brambles underlain by dark grey slightly silty slightly clayey fine to medium sand with some sand sized black ash. Some fine to coarse angular to sub-rounded clinker gravel. Very rare sandstone gravel.						
1.00	End of Hand Auger						
Remarks							Logged by M.Waddicor
							Scale NTS
							Sample taken at depth 0-0.7

 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578	Equipment Hand Auger				
		Site Name Buckley Wells	Methods Manual Augering				
			Contractor				
Hand Auger No HA6		Client Bury MBC		Date 15.12.05			
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface MADE GROUND Moss and brambles underlain by dark grey slightly silty slightly clayey fine to medium sand with some sand sized black ash. Some fine to coarse angular to sub-rounded clinker gravel. Becoming more ashy from 0.3m. Very rare fine brick and sandstone gravel.						
	End of Hand Auger						
1.00							
Remarks						Logged by M.Waddicor	
						Scale NTS	
						Sample taken at depth 0-0.6	

 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578	Equipment Hand Auger				
		Site Name Buckley Wells	Methods Manual Augering				
			Contractor				
Hand Auger No HA14		Client Bury MBC		Date 15.12.05			
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Brambles underlain by dark brown slightly silty clay with some medium to coarse angular black ash and brick gravel.						
	Soft brown to dark brown sandy CLAY						
1.00	End of Hand Auger						
Remarks						Logged by M.Waddicor	
						Scale NTS	
						Sample taken at depth 0-0.3	

APPENDIX F

LKA CABLE PERCUSSION LOGS

Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment Dando 130 Methods Cable Percussion Contractor P Blacklege				
Borehole No CP2		Client Bury MBC	Date 12.12.05				
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
0.00	MADE GROUND Black sandy soil ash and clinker (Drillers description)						
1.00							
2.00							
3.00							
4.00							
5.00							
6.00							
7.00							
7.00	MADE GROUND Balcksandy soil ash clinker and gravel (Drillers description).						
8.00							
Remarks Seal from base to 8.0m, 50mm slotted pipe in gravel 1.0m. Plain pipe to GL. Seal to 0.2m, concrete to GL						Logged by PB Scale NTS Sample taken at depth	

 Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells		Equipment Dando 130 Methods Cable Percussion Contractor P Blacklege	
Borehole No CP2		Client Bury MBC		Date 12.12.05	

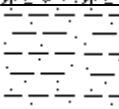
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
	Medium dense orange brown SAND and fine to medium GRAVEL . (Drillers description).		8.0m	SPTc		1/2-2,2,3,3 N=10	Damp from 8.0 to 9.6m
9.00	Medium dense yellowish brown clayey SAND and medium to coarse GRAVEL (Drillers description).		9.0m	SPTc		2/3-4,5,5,6 N=20	
10.00	Very stiff brown mottled grey sandy CLAY (Drillers description).		10.0m	U100		81 blows for 350mm	
11.00		11.0m	SPT		6/7-9,11,11,13 N=45		
12.00		12.0m	SPT		6/8-9,11,10,15 N=45		
13.00		13.0m	U100		100 blows for 250mm		
14.00		14.0m	SPT		10/10-13,28,22-50ref		
15.00		15.0m	SPT		11/14-20,30-50ref		
16.00		End of Borehole					

Remarks Seal from base to 8.0m, 50mm slotted pipe in gravel 1.0m. Plain pipe to GL. Seal to 0.2m, concrete to GL	Logged by PB
	Scale NTS
	Sample taken at depth

Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment Dando 130 Methods Cable Percussion Contractor P Blacklege				
Borehole No CP1		Client Bury MBC	Date 13.12.05				
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
	Type	No.					
0.00	Ground Surface MADE GROUND Medium dense black ash and clinker. (Drillers description).						
1.00			1.2m	SPT			1/1-2,1,1,2 N=6
2.00			2.0m	SPT			1/1-1,1,1,1 N=4
3.00			3.0m	SPT			1/1-1,1,1,1 N=4
4.00			4.0m	SPT			1/1-1,1,1,2 N=5
5.00			5.0m	SPT			1/1-1,1,2,1 N=5
6.00			6.0m	SPT			1/2-2,3,3,2 N=10
7.00	MADE GROUND Firm brown sandy clay with some gravel and sandstone fragments. (Drillers description).		7.0m	SPT			3/3-4,5,5,4 N=18
8.00							
Remarks					Logged by PB		
					Scale NTS		
					Sample taken at depth		

Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment Dando 130 Methods Cable Percussion Contractor P Blacklege				
Borehole No CP1		Client Bury MBC	Date 13.12.05				
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
Type	No.						
			8.0m	SPT		2/3-3,4,5,5 N=17	Water at 9.9m rising to 8.0m after 20 mins
9.00	Firm to stiff grey sandy CLAY with occasional sand inclusions. (Drillers description).		9.2m	U100		46 blows for 450mm	
10.00	Very stiff light brown mottled red and yellow CLAY . (Drillers description).		10.0m	SPT		5-7,11,14,17,19N=61	
	End of Borehole						
11.00							
12.00							
13.00							
14.00							
15.00							
16.00							
Remarks						Logged by PB	
						Scale NTS	
						Sample taken at depth	

Leyden Kirby ASSOCIATES LTD Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578 Site Name Buckley Wells	Equipment Dando 130 Methods Cable Percussion Contractor P Blacklege				
Borehole No CP3		Client Bury MBC	Date 12.12.05				
Depth (m)	Description	Legend	Sample/Tests			Field Records	
			Depth	Sample			Results
				Type	No.		
0.00	Ground Surface						
	MADE GROUND Black coarse gravel. (Drillers description)						
1.00	MADE GROUND Black sandy soil ash clinker and gravel with clay inclusions (Drillers description).						
2.00	MADE GROUND Soft brown very sandy gravelly clay. (Drillers description).						
3.00							
4.00							
5.00							
6.00							
7.00							
8.00	Soft grey very sandy CLAY with occasional						
Remarks Seal from base to 7.5m, 50mm slotted pipe in gravel 1.0m. Plain pipe to GL. Seal to 0.2m, concrete to GL						Logged by PB	
						Scale NTS	
						Sample taken at depth	

 Bury Business Centre Kay Street Bury BL9 6BU		Site Reference JB578	Equipment Dando 130				
		Site Name Buckley Wells	Methods Cable Percussion				
			Contractor P Blacklege				
Borehole No CP3		Client Bury MBC		Date 12.12.05			
Depth (m)	Description	Legend	Sample/Tests				Field Records
			Depth	Sample		Results	
				Type	No.		
8.00			8.0m	SPT		1/2-2,2,2,2 N=8	Stike at 9.3m, rising to 9.0m, sealed at 11.0m
9.00			9.0m	U100		20 blows for 450mm	
10.00	Brown SAND and GRAVEL . (Drillers description).		10.0m	SPT		2/2-2,3,3,3 N=11	
11.00	Stiff light brown mottled red and yellow sandy CLAY . (Drillers description).		11.0m	SPT		0/10-13,17,19,23 N=7	
12.00			12.0m	U100		101 blows for 450mm	
13.00	End of Borehole						Strike at 12.5m, rising to 11.4m, not sealed
14.00							
15.00							
16.00							
Remarks Seal from base to 7.5m, 50mm slotted pipe in gravel 1.0m. Plain pipe to GL. Seal to 0.2m, concrete to GL							Logged by PB
							Scale NTS
							Sample taken at depth

APPENDIX G

LKA ROTARY BOREHOLE LOGS

DANBAR Drilling Services Ltd. 1 The Spinney Billinge Road Pemberton Wigan WN5 9HU						Telephone: 01942 213342 Fax: 01942 733192						RECEIVED - 4 MAY 2008 DAILY DRILLING REPORT						SITE: Buckley Wells DATE: 26.4.06		JOB NO: 4811 BOREHOLE NO: 1		
SAMPLING				SPT BLOWS				DEPTH OF CHANGE				STRATA DESCRIPTIONS										
TYPE	FROM	TO	RECOVERY	DEPTH OF CASING	0-75	75-150	150-225	225-300	300-375	375-450		DEPTH OF CHANGE										
												0.1	Black Ash									
												0.30	Concrete									
												0.50	Black Rubble									
												2.00	Sand & Gravel									
												3.00	Brown sandy Boulder clay									
												4.00	Sand & Gravel									
												6.00	Grey + brown Sand Boulder clay									
												14.50	Grey Siltstone									
												19.00	Black Siltstone *									
												20.00	Grey Mudstone									
												21.00	Yellow + Grey Sandstone									
												22.00	Grey Siltstone									
												22.50	Grey Sandstone									
												27.00	Grey Siltstone									
WATER RECORD													CHISELLING TIME				CASING DETAILS				REMARKS	
START OF DAY	DEPTH OF BORE	DEPTH OF CASING	DEPTH OF WATER	STRIKE DETAILS			DEPTH		HRS	SIZE	FROM	TO	<th colspan="2"> </th>									
				STRUCK	FLOW RATE	AFTER 20 MINS	SEALED	FROM	TO													
END OF DAY	DEPTH OF BORE	DEPTH OF CASING	DEPTH OF WATER																			
SAMPLE KEY													U U100				W WATER		DRILLER CLIENT			

STRATA DESCRIPTIONS

SAMPLE KEY

APPENDIX H

CRH CABLE PERCUSSION BOREHOLE LOGS

START DATE 07/02/99
DRILLING METHOD CABLE PERCUSSION
EQUIPMENT DANDI 2000

RECORD OF BOREHOLE No: BH C1
CASING DETAILS: 150 mm to 370 m
BOREHOLE DIA. 150 mm to 370 m

SHEET 1 OF 1
NATIONAL GRID CO-ORDINATES
E N
GROUND LEVEL 84.30 m.O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE				U100 Blows	U100 Rec.(m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m.O.D.)	Strata Symbol
			Depth (m) At/From To	Type	No.	Test Length (mm)						
07/02	Nil	Dry	0.30 0.80	B	1				Grass and TOPSOIL (Driller's Description)	0.10	84.29	
			0.80 1.20	B	2				MADE GROUND: Concrete (Driller's Description)	0.25	84.05	
			1.20 1.65	B	3				MADE GROUND: Black, fine to coarse ash sand with some subangular fine to coarse gravel of ash and occasional fragments of brick.	0.55		
			1.20 1.70	B	3				Medium dense, orange-brown, subrounded fine to coarse GRAVEL and occasional cobbles of sandstone with a little clay and a little fine to coarse sand.	0.80	83.50	
									Below 2.20m; very dense	(2.60)		
07/02	1.90	Dry	2.20 2.64	B	4		290	C 50				
08/02	3.00	Damp										
08/02	3.00	Dry	3.20 3.47	B	5		120	C 50				
08/02	3.10		3.20 3.70	B	5							
08/02	3.70	Damp							SANDSTONE boulder (Driller's Description)	3.40 (0.30)	80.90	
									END OF BOREHOLE	3.70	80.60	

REMARKS: 1. Prior to boring a Cable Avoidance Tool (CAT) survey was carried out. An inspection pit was hand-dug to 1.20m depth (1.25 hrs) and rescanned using the CAT to check for services. Services were not located.
2. A seepage of groundwater was encountered at 2.40m depth during boring.
3. The borehole was advanced by chiselling techniques from 3.40m to 3.70m depth (1.0 hr).
4. The borehole was terminated at 3.70m depth due to the presence of a sandstone boulder.
5. On completion of sampling, the borehole was backfilled to ground level with cement bentonite grout.

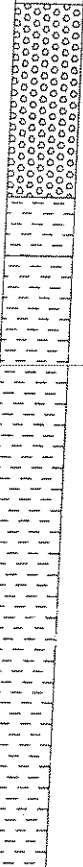
Logged by	Date
RL/kmh	19/02
checked by	
	23/02
approved by	
	09/04

FOUNDATION & EXPLOATION SERVICES

BUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No. 4452

FIGURE: BHC1

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE			U100 Blows	U100 Rec. (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) At/From To	Type	No						
08/02								The borehole was advanced by open hole techniques from ground level to 400m depth			
			315		2W	2					
	3.90	Damp	4.00	4.45	B	1	C 42		4.00	80.30	
Strik 20min	3.90	4.30	4.00	4.50	B	1		Dense, brown, subrounded fine to coarse GRAVEL and occasional cobbles of sandstone with a little clay and a little fine to coarse sand			
	3.90	3.15									
	4.70	3.00	5.00	5.45	B	3	C 24	At 5.00m, medium dense	(1.30)		
			5.00	5.30	B	4					
			5.30	5.70							
	5.50	Damp	5.70	6.25	D	5	90	Firm, brown, CLAY with some fine to coarse sand and a little subrounded fine to coarse gravel including sandstone. <GLACIAL DRIFT>	5.30 (0.40)	79.00	
			5.80		U	6				78.60	
			6.30		D	7		Stiff, dark brown, CLAY with a little fine to coarse sand and a little subrounded fine gravel including mudstone <GLACIAL DRIFT>	5.70		
	6.10	Dry	7.20	7.63	D	9	275 S 50	Below 7.20m, very stiff.			
			7.21	7.70	B	8					
	7.50	Dry	8.70	9.05	U	10	120				
	7.50	Dry	9.50	9.95	D	12	S 52				
			9.51	10.00	B	11					
02	7.50	Dry						END OF BOREHOLE AT 10.00m			

REMARKS: 1. Prior to boring, a Cable Avoidance Tool (CAT) survey was carried out. An inspection pit was hand-dug to 1.20m depth (1.0 hr) and rescanned using the CAT to check for services. Services were not located. 2. Groundwater was encountered at 4.30m depth rising to 3.15m over a 20 minute monitoring period. This strike was sealed off by the casing below 5.80m depth. 3. The borehole was advanced by chiselling techniques from 9.05m to 9.15m depth (0.25 hr). 4. On completion of sampling, a 50mm diameter slotted standpipe was installed with the slotted section from 1.00m to 10.00m depth with the following details: gravel filter from the base of the hole up to 0.80m, bentonitic seal up to 0.30m and concrete to ground level with a flush lockable protective stopcock box cover.

SCALE 1:50

SCALE 1:50

Logged by GL/kmh	Date 19/02
Checked by SJR	23/02
Approved by RJE	09/04

FOUNDATION
& EXPLORATION
SERVICES

BUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No. 4452

FIGURE: BHC1A

START DATE 15/02/99

DRILLING METHOD CABLE PERCUSSION

EQUIPMENT JANDD 2000

RECORD OF BOREHOLE No: BH C2

CASING DETAILS 150 mm to 1040 m
mm to m

SHEET 1 OF 2

BOREHOLE DIA: 150 mm to 1500 m
mm to mNATIONAL GRID CO-ORDINATES
E. N.
GROUND LEVEL 82.35 m.O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE				U100 Blows	U100 Rec (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) From To	Type	No	Test Length (mm)						
15/02			0.00 1.00	B	1				MADE GROUND: Black, fine to coarse ash sand and subangular fine to coarse gravel of ash and clinker with some silt			
	Nil	Dry	1.20 1.21 1.65 1.70	D B	3			S 2				
	1.70	Dry	2.20 2.21 2.65 2.70	D B	4			S 4	Below 2.20m with a little clay.			
	3.10	Dry	3.20 3.21 3.65 3.70	D B	7			S 4				
	3.10	Dry	4.10 4.11 4.55 4.60	D B	8			S 5	At 4.10m with a little subangular fine gravel of brick.			
	4.70	Dry	5.20 5.21 5.65 5.70	D B	11			S 8				
	6.10	Dry	6.50 6.60 7.05 7.00	D U B	12			37				
	7.20	Damp	7.10 7.30 7.31 7.32 7.75 7.80	D B B W	14			S 50	Soft, light grey-brown, CLAY/SILT with some fine to coarse sand (ALLUVIUM)	6.50	75.85	
									Dense, grey, subrounded fine to coarse GRAVEL including sandstone and mudstone with a little clay and a little fine to coarse sand.	(0.60)		
										7.10	75.25	
	8.70	6.00	8.70 8.70 9.02 9.20	B	19			C 50		(2.40)		
	9.50	Damp	9.50 9.60 10.05	D U	20			120				
					21			0.40	Very stiff, dark brown, CLAY with a little locally some fine to coarse sand and a little	9.50	72.85	

REMARKS: 1. Prior to boring, a Cable Avoidance Tool (CAT) survey was carried out. An inspection pit was hand-dug to 1.20m depth (1.0 hr) and rescanned using the CAT to check for services. Services were not located.
2. The borehole was observed as damp at 7.30m depth.
3. Groundwater was encountered at 7.70m depth rising to 5.2m after 5 mins, to 7.45m after 10 mins, to 7.40m after 15 mins and to 7.30m after 20 mins.
4. The borehole was advanced by chiselling techniques from 3.30m to 8.40m depth (0.25 hr).
5. On completion of sampling, the borehole was backfilled to ground level with cement bentonite grout.

Logged by
GL/kmh
Date
19/02Checked by
SJR
23/02Approved by
RJE
09/04FOUNDATION
& EXPLORATION
SERVICESBUCKLEY WE L S LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No. 4452

FIGURE: BHC2

START DATE 15/02/99

DRILLING METHOD: CABLE PERCUSSION

EQUIPMENT: DANDI 2000

RECORD OF BOREHOLE No: BH C2

CASING DETAILS: 150 mm to 10.40 m
mm to m

SHEET 2 OF 2

BOREHOLE DIA: 150 mm to 15.00 m
mm to mNATIONAL GRID CO-ORDINATES:
Easting: N
Ground Level: 82.35 m O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE			U100 Blows	U100 Rec (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) At/From To	Type	No	Test Length (mm)	SPT Blows /N				
15/02			10.10	D	22			Subrounded fine and medium gravel including mudstone, sandstone and coal <GLACIAL DRIFT>			
	10.40	Dry	11.00 11.01	D B	24 23		S 42				
	10.40	Dry	12.50 12.90	U D	25 26	120	0.35		<5.50>		
	10.40	Dry	14.00 14.10	B D	27 28	295	S 50				
15/02	10.40	Dry						END OF BOREHOLE	15.00	67.35	

REMARKS:

SCALE 1:50

Logged by
GL/kmhDate
19/02Checked by
SJR

25/02

Approved by
RJE

09/04

FOUNDATION
& EXPLORATION
SERVICESBUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No. 4452

FIGURE: BHC2

START DATE 08/02/99
DRILLING METHOD CABLE PERCUSSION
EQUIPMENT DANDD 2000

RECORD OF BOREHOLE No: BH C3

CASING DETAILS 150 mm to 440 mm
BOREHOLE DIA: 150 mm to 500 mm

SHEET 1 OF 1
NATIONAL GRID CO-ORDINATES
E N
GROUND LEVEL 78.40 m.O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE			U100 Blows	U100 Rec (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) At/From To	Type	No						
08/02			0.00 0.50	B	1			Brown, fine and medium SAND with a little silt, a little clay and a little subrounded fine to coarse gravel including sandstone (Possible Made Ground).	(0.55)		
08/02	1.20	Dry	0.60 1.20	B	2			Dense, brown subrounded fine to coarse GRAVEL and occasional cobbles of sandstone with some to much fine to coarse sand and a little clay. Locally grading to sand with much gravel and some silt.	0.55	77.85	
09/02	1.20	1.15	1.20 1.65	B	3	C 31					
Strik 5mins	1.20	1.80	1.20 1.70	B	3						
10min	1.20	1.70									
15min	1.20	1.65	1.60	2W	4				(1.35)		
20min	1.20	1.60									
	2.00	1.00	2.00 2.45	B	5	C 29		Medium dense, brown, subangular and subrounded fine to coarse GRAVEL and occasional cobbles of sandstone with a little clay and a little fine to coarse sand.	1.90	76.50	
			2.00 2.50								
	2.90	0.50	3.00 3.45	B	6	C 28					
			3.00 3.50								
	3.70	0.70	3.80 4.25	B	7	C 23		Below 3.70m; cobbles absent.	(2.40)		
			3.80 4.30								
	4.40	Damp	4.30 5.00	B	8						
			4.40 4.95	B	9						
			4.50	B	10						
09/02	4.40	Dry		D	11	0.40		Stiff, grey CLAY with a little fine to coarse sand and a little subrounded fine gravel including mudstone. (GLACIAL DRIFT) At 5.00m; very stiff.	4.30	74.10	
									(0.70)		
								END OF BOREHOLE	5.00	73.40	

REMARKS: 1. Prior to boring, a Cable Avoidance Tool (CAT) survey was carried out. An inspection pit was hand-dug to 1.20m depth (1.0 hr) and rescanned using the CAT to check for services. Services were not located. 2. Groundwater was encountered at 1.90m depth rising to 1.80m after 5 mins, to 1.72m after 10 mins, to 1.65m after 15 mins and to 1.60m after 20 mins. This strike was sealed off by the casing below 4.50m depth. 3. On completion of sampling, a 50mm diameter slotted standpipe was installed with the slotted section from 1.00m to 5.00m depth with the following details: gravel filter from the base of the hole up to 0.80m, bentonite seal up to 0.30m and concrete to ground level with a flush lockable protective stopcock box cover.

Logged by GL/kmh Date 19/02
Checked by SJR 23/02
Approved by RJE 09/04

CONTRACT 4452

FIGURE: BHC3

FOUNDATION & EXPLORATION SERVICES
BUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

START DATE 10/02/99

DRILLING METHOD CABLE PERCUSSION

EQUIPMENT BANDO 2000

RECORD OF BOREHOLE No: BH C4

CASING DETAILS: 150 mm to 13.80 m
mm to m

SHEET 1 OF 2

BOREHOLE DIA: 150 mm to 1400 m
mm to m

NATIONAL GRID CO-ORDINATES:

E..... N.....
GROUND LEVEL 82.15 m O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE			U100 Blows	U100 Rec. (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) At/From To	Type	No	Test Length (mm)	SPT Blows /N				
10/02			0.50 1.00	B	1			MADE GROUND: Black, fine to coarse ash sand and subangular fine to coarse gravel of ash and clinker with some silt and occasional subangular fragments of pottery and burnt shale. Locally grading to sand with a little gravel.			
	Nil	Dry	1.20 1.21	D B	2		S 4				
	1.70	Dry	2.20 2.21	D B	3		S 4				
	3.00	Dry	3.20 3.21	D B	7		S 2				
	4.00	Dry	4.20 4.21	D B	9		S 4		(7.60)		
10/02	4.70	Dry						Below 7.00m, with occasional fragments of brick.			
11/02	4.70	Dry	5.20 5.21	D B	11		S 7				
	6.10	Dry	6.70 6.71	D B	13		S 10				
	7.00	Dry	7.60 7.70	D U	14			MADE GROUND: Firm, orange-brown, clay with some fine to coarse sand.	7.60	74.55	
			7.90 8.20	B	17				(0.60)		
	8.30	Dry	8.20 8.35	D	16			MADE GROUND: Orange-brown, fine and medium sand with a little silt and a little clay. At 8.40m, with occasional subangular coarse gravel of brick.	8.20	73.95	
			8.40 8.41	D	24		S 12				
					19						
	9.10	Dry	9.70 9.71	U B	20		0.25		(2.10)		

REMARKS:

1. Prior to boring, a Cable Avoidance Tool (CAT) survey was carried out. An inspection pit was hand-dug to 1.20m depth (1.0 hr) and rescanned using the CAT to check for services. Services were not located.
2. Groundwater was encountered at 11.00m depth rising to 8.75m after 5 mins, to 8.60m after 10 mins, to 8.45m after 15 mins and to 8.35m after 20 mins.
3. The borehole was advanced by chiselling techniques from 13.40m to 13.45m depth (0.25 hr) and 13.85m to 14.00m depth (1.0 hr)

SCALE 1:50

Logged by

Date

GL/kmh

19/02

Checked by

SJR

23/02

Approved by

RJE

09/04

FOUNDATION
& EXPLORATION
SERVICESBUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No 1452

FIGURE: BHC4

START DATE 12/99

DRILLING METHOD CABLE PERCUSSION

EQUIPMENT: SANDO 2000

RECORD OF BOREHOLE No. BH C5

CASING DETAILS 150 mm to 1040 mm
mm to m

SHEET 1 OF 2

BOREHOLE DIA 150 mm to 1500 mm
mm to m

NATIONAL GRID CO-ORDINATES

Easting N
Ground Level 81.35 m O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE				U100 Blows	U100 Rec (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) From	Depth (m) To	Type	No	Test Length (mm)	SPT Blows /N				
11/02			1.50	1.00	B	1			MADE GROUND Black, fine to coarse ash sand and subangular fine to coarse gravel of ash and clinker with some silt and occasional fragments of pottery. Locally grading to sand with a little gravel.			
	Nil	Dry	1.50	1.65	B	2		S 2				
	1.70	Dry	1.65	2.65	B	4		S 4				
	3.00	Dry	2.65	3.65	B	6		S 6		(5.90)		
11/02	3.10	Dry	3.65	4.65	B	8		S 6*				
12/02	3.10	Dry	4.65	4.70	B	8		S 6*				
	4.70	Dry	4.70	5.65	B	11		S 8*				
	4.70	Dry	5.65	6.45	B	12		0.25	Soft to firm becoming stiff, brown, CLAY with a little fine to coarse sand and a little subangular fine and medium gravel including mudstone.	5.90	75.45	
	6.80	Dry	6.45	7.45	B	15		S 23		(1.90)		
	7.70	Dry	7.45	8.45	U	16		0.35	Firm, light brown, CLAY/SILT with some fine to coarse sand and a little subrounded fine gravel including mudstone.	7.80	73.55	
			8.45	9.00	B	18				(1.40)		
Seep	9.10	9.20 Damp	9.00	9.75	B	20		C 44	Dense, brown, fine to coarse SAND with a little silt, a little clay and a little subrounded fine and medium gravel including sandstone.	9.20	72.15	
2/02										(0.90)		

REMARKS:

- Prior to boring, a Cable Avoidance Tool (CAT) survey was carried out. An inspection pit was hand-dug to 1.20m depth (1.0 hr) and rescanned using the CAT to check for services. Services were not located.
- A slight seepage of groundwater was encountered at 9.20m depth during boring (not enough to sample).
- The borehole was advanced by chiselling technique from 10.35m to 10.50m depth (0.5 hr).
- On completion of sampling, a 50mm diameter slotted pipe was installed with the slotted section from 1.00m to 15.00m depth with the following details: gravel filter from the base of the hole up to 0.80m, bentonite seal up to 0.30m and concrete to ground level with a flush.

Logged by

GL/kmh

Date

19/02

Checked by

SJR

Date

23/02

Approved by

RJE

Date

09/04

SCALE 1:50

FOUNDATION
& EXPLORATION
SERVICESBUCKLEY RAIL & LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No. 4452

FIGURE: BHC5

START DATE 11/02/99

DRILLING METHOD CABLE PERCUSSION

EQUIPMENT DANDD 2000

RECORD OF BOREHOLE No BH C5

CASING DETAILS 150 mm to 10.40 m
mm to m

SHEET 2 OF 2

BOREHOLE DIA 150 mm to 1500 m
mm to m

NATIONAL GRID CO-ORDINATES

E. N
GROUND LEVEL 81.35 m O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE				U100 Blows	U100 Rec. (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			At/From	To	Type	No						
12/02	10.10	Dry	10.10 10.20	10.35	D UH	21	120	0.00	SAND as previous page	10.10	71.25	
	10.40	Dry	10.50 10.51	10.95 11.00	D B	23 22		S 51	Stiff, dark brown, CLAY with some fine to coarse sand and a little subrounded fine gravel including mudstone. Locally grading to CLAY/SILT <GLACIAL DRIFT>			
	10.40	Dry	12.00 12.01	12.30 12.30	D B	24	120	0.15				
	10.40	Dry	12.50 12.51	12.86 13.00	D B	26 25		S 50	Below 12.50m; very stiff.	(4.90)		
	10.40	Dry	14.00 14.01	14.39 14.50	D B	28 27	240	S 47				
12/02	10.40	Dry	15.00		D	29			END OF BOREHOLE	15.00	66.35	

REMARKS: lockable protective stopcock box cover.
* Denotes number of blows for 450mm of penetration.

Logged by

GL/kmh

Date

19/02

Checked by

SJR

23/02

Approved by

RJE

09/04

SCALE 1:50

FOUNDATION
& EXPLORATION
SERVICESBUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No. 4452

FIGURE: BHC5

START DATE 04/02/99

DRILLING METHOD CABLE PERCUSSION

EQUIPMENT: BANDO 2000

RECORD OF BOREHOLE No: BH G1

CASING DETAILS: 150 mm to 13.90 m
mm to m

SHEET 1 OF 2

BOREHOLE DIA: 150 mm to 15.00 m
mm to mNATIONAL GRID CO-ORDINATES:
E N
GROUND LEVEL 85.05 m.O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE			U100 Blows	U100 Rec (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m.O.D.)	Strata Symbol
			Depth (m)	Type	No						
04/02	0.00	Dry	0.00	B	1			MADE GROUND: Black, fine to coarse ash sand with a little subangular coarse gravel of limestone.	(0.60)	84.45	
			0.60	B	2						
			1.20	B	3			MADE GROUND: Black, fine to coarse ash sand with some subangular fine to coarse gravel and some cobbles including brick and concrete and occasional fragments of wood. Locally grading in to gravel with some sand.	(1.40)		
			1.20	B	3					83.05	
			2.00	B	4						
			2.70	B	5			MADE GROUND: Dark brown, fine to coarse sand with a little silt, a little clay, a little subrounded fine to coarse gravel including sandstone and occasional subangular fragments of brick.	(0.70)		
			3.10	B	6			Stiff, dark brown, CLAY with some locally a little fine to coarse sand and a little subrounded fine gravel including mudstone.	(2.20)	82.35	
			3.10	B	7						
			3.10	B	8						
			3.10	B	9			(GLACIAL DRIFT)		80.15	
			3.10	B	10						
			3.10	B	11						
			3.10	B	12					78.35	
			3.10	B	13						
			3.10	B	14						
05/02	7.20	Damp	3.60	B	15					75.75	
			3.60	B	16						
			3.60	B	17						
			3.60	B	18					75.05	
			3.60	B	19						
			3.60	B	20						
			3.60	B	21					75.05	
			3.60	B	22						
			3.60	B	23						
			3.60	B	24					75.05	
			3.60	B	25						
			3.60	B	26						
			3.60	B	27					75.05	
			3.60	B	28						
			3.60	B	29						

REMARKS: 1. Prior to boring, a Cable Avoidance Tool (CAT) survey was carried out. An inspection pit was hand-dug to 1.20m depth (1.25 hrs) and rescanned using the CAT to check for services. Services were not located.

2. The borehole was advanced by chiselling techniques from 3.20m to 3.30m depth (0.25 hr), 6.35m to 6.70m depth (0.5 hr), 9.60m to 9.85m depth (0.5 hr) and 14.80m to 14.90m depth (0.5 hr).

3. Groundwater was encountered at 4.80m depth rising to 3.90m after 5 mins, to 3.70m after 10 mins, to 3.65m after 15 mins and to 3.60m after 20 mins. This strike was sealed off by the casing at low 8.20m depth.

SCALE 1:50

FOUNDATION
& EXPLORATION
SERVICESBUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT NO: 4452

FIGURE: BHG1

Logged by	Date
GL/kmh	19/02
Checked by	
SJR	23/02
Approved by	
RJE	09/04

START DATE 04/02/99

DRILLING METHOD CABLE PERCUSSION

EQUIPMENT: DANDG 2000

RECORD OF BOREHOLE No BH G1

CASING DETAILS: 150 mm to 1390 m
mm to m

SHEET 2 OF 2

BOREHOLE DIA: 150 mm to 1500 m
mm to mNATIONAL GRID CO-ORDINATES
E. N
GROUND LEVEL: 85.05 m O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE				U100 Blows	U100 Rec (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) At/From	To	Type	No	Test Length (mm)	SPT Blows /N				
05/02	10.10	1.50	10.20 10.20	10.65 10.70	- B	- 20		S 21	Medium dense, grey fine SAND with some silt/clay. Locally grading to brown clay with some sand and a little gravel	10.00	75.05	
	11.60	1.20	11.70 11.71	12.15 12.20	D B	22 22		S 34	Below 11.70m, dense	(3.80)		
	13.00	3.00	13.20 13.21	13.45 13.70	D B	24 23		S 46				
	13.90	9.40	13.80 13.90	14.30	D U	25 26	120	0.35	Very stiff, dark grey CLAY with much subangular fine to coarse gravel of mudstone. (Completely Weathered Mudstone).	13.80	71.25	
			14.30 14.31	- 15.00	D B	27 28				(1.20)		
05/02	13.90	9.40							END OF BOREHOLE	15.00	70.05	

REMARKS: 4 A second groundwater strike was encountered at 9.40m depth rising to 4.80m over a 20 minute monitoring period.
5. On completion of sampling, a 50mm diameter slotted standpipe was installed with the slotted section from 1.00m to 15.00m depth with the following details: gravel filter from the base of the hole up to 0.80m, bentonite seal up to 0.30m and concrete to ground level with a flush lockable protective stopcock box cover.

SCALE 1:50

Logged by
GL/kmh 19/02Checked by
SJR 23/02Approved by
RJE 09/04FOUNDATION
& EXPLORATION
SERVICESBUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No 4452

FIGURE: BHG1

START DATE 05/02/99

DRILLING METHOD CABLE PERCUSSION

EQUIPMENT DANDD 2000

RECORD OF BOREHOLE No: BH G2

CASING DETAILS 150 mm to 12.00 m
mm to m

SHEET 1 OF 2

BOREHOLE DIA: 150 mm to 15.00 m
mm to mNATIONAL GRID CO-ORDINATES
Easting N
Ground Level 84.65 m O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE				U100 Blows	U100 Rec. (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) At From	To	Type	No						
05/02			0.50	1.00	B	1			MADE GROUND Black, fine to coarse ash sand and subangular fine and medium gravel of ash and clinker with some silt and a little gravel of limestone. Locally grading in to sand with a little gravel.			
	0.00	Dry	1.20 1.21	1.45 1.70	D B	2 3		S 6		(1.85)		
	1.50	Dry	1.85 1.90	2.35	D U	4 5	42	0.40	Soft, grey CLAY/SILT with a little fine to coarse sand and a little organic matter (ALLUVIUM)	1.85	82.80	
	2.40	Dry	2.40 2.60	3.05	D U	6 7			Firm, dark brown-grey, CLAY with a little fine to coarse sand and a little subrounded fine gravel including mudstone.	(0.55) 2.40	82.25	
			3.10		D	8			<GLACIAL DRIFT>			
	3.10	Dry	3.60 3.60	4.10 4.05	B D	9 10		S 20		(1.80)		
05/02 06/02	4.20 4.20	Dry Dry	4.30		D	11			Stiff, dark brown, CLAY with a little fine to coarse sand.	4.20	80.45	
	4.30	Dry	4.50	4.95	U	12	120		<GLACIAL DRIFT>			
			5.00 5.10	5.60	D B	13 14			At 5.00m with a little subrounded fine and medium gravel including mudstone.			
	4.50	Dry	6.00 6.01	6.45 6.50	U# B	15	97	0.00				
	6.10	Dry	6.50	6.95	D	16		S 29				
	7.50	Dry	8.00	8.45	U	17	105			(7.10)		
			8.50		D	18						
			9.00		2W	23						
	7.70	Dry	9.50 9.51	9.95 10.00	D B	20 19		S 37				

REMARKS: 1. Prior to boring, a Cable Avoidance Tool (CAT) survey was carried out. An inspection pit was hand-dug to 1.20m depth (125 hrs) and rescanned using the CAT to check for services. Services were not located.
2. Groundwater was encountered at 11.30m depth rising to 9.00m over a 20 minute monitoring period. This strike was sealed off by the casing below 12.50m depth.
3. The borehole was advanced by chiselling techniques to 13.90m to 14.10m depth (0.5 hr)
4. On completion of sampling, the borehole was backfilled to ground level with cement bentonite grout.

Logged by	Date
GL/kmh	19/02
Checked by	
SJR	23/02
Approved by	
RJE	09/04

SCALE 1:50

FOUNDATION
& EXPLORATION
SERVICESBUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No 4452

FIGURE: BHG2

NATIONAL GRID CO-ORDINATES
E N
GROUND LEVEL 84.65 m O.D.

FIGURE: BHG2

START DATE 02 02 99

DRILLING METHOD: CABLE PERCUSSION

EQUIPMENT: BAYDO 2000

RECORD OF BOREHOLE No: BH G3

CASING DETAILS 150 mm to 1210 m
mm to m

SHEET 1 OF 2

BOREHOLE DIA: 150 mm to 1520 m
mm to mNATIONAL GRID CO-ORDINATES
E N
GROUND LEVEL 83.35 m O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE			U100 Blows	U100 Rec (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) At From To	Type	No						
06/02			0.00 0.55	B	1			MADE GROUND: Black, subangular fine to coarse gravel and occasional cobbles of ash with much fine to coarse sand, some silt and coal	(0.55)		
			0.60 1.20	B	2						
	0.00	Dry	1.20 1.45 1.20 1.70	B	3	100	C 50	Very dense, brown, subangular and subrounded fine to coarse GRAVEL and occasional cobbles of sandstone with some fine to coarse sand and a little clay	0.55 (1.25)	82.80	
	1.90	Dry	2.00 2.45 2.00 2.50	B	4		C 16				
								Medium dense, brown, subrounded fine to coarse GRAVEL and occasional cobbles of sandstone with some to much fine to coarse sand and a little to some clay/silt	1.80	81.55	
	2.80	Dry	3.00 3.45 3.00 3.50	B	5		C 29				
06/02	3.10	Dry									
07/02	3.10	Dry									
	3.10	Dry	4.00 4.45 4.00 4.50	B	6		C 40	Below 4.00m dense.	(4.00)		
	4.70	Dry	5.00 5.45 5.00 5.50	B	7		C 35				
	5.50	Dry	6.00 6.25 6.00 6.60	D U B	8 9 10 11	120	0.35	Firm, grey CLAY with a little fine to coarse sand and a little subrounded fine and medium gravel including mudstone. (GLACIAL DRIFT)	5.80 (6.40)	77.55	
								Stiff, dark brown, CLAY with a little locally some fine to coarse sand and a little subrounded fine gravel including coal and mudstone.	6.20	77.15	
	6.10	Dry	7.20 7.75 7.00 7.80	B W B	20 21 22		S 29	(GLACIAL DRIFT)			
	7.50	Dry	8.80 9.25	U	14	115	0.40		(4.70)		
			9.30	D	15			Below 9.30m; very stiff.			

REMARKS:

- 1 Prior to boring a Cable Avoidance Tool (CAT) survey was carried out. An inspection pit was hand-dug to 1.20m depth (1.0 hr) and rescanned using the CAT to check for services. Services were not located.
- 2 The borehole was advanced by chiselling techniques from 1.50m to 1.80m depth (0.75 hrs) and 5.25m to 5.60m depth (0.75 hr).
- 3 Groundwater was encountered at 11.00m depth rising to 7.20m over a 20 minute monitoring period. This strike was sealed off by the casing below 11.70m depth.
- 4 On completion of sampling, the borehole was backfilled to ground level with cement bentonite grout.

SCALE 1:50

Logged by	Date
GL/kmh	19/02
Checked by	
SJR	23/02
Approved by	
RJE	09/04

CONTRACT NO 4452

FIGURE: BHG3

BUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIREFOUNDATION
& EXPLORATION
SERVICES

START DATE 06/02/99

RECORD OF BOREHOLE No: BH G3

DRILLING METHOD CABLE PERCUSSION

CASING DETAILS 150 mm to 12.10 m
mm to m

SHEET 2 OF 2

EQUIPMENT DANDO 2000

BOREHOLE DIA: 50 mm to 15.20 m
mm to mNATIONAL GRID CO-ORDINATES
E N
GROUND LEVEL 83.25 m.O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE				U100 Blows	U100 Rec. (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m.O.D.)	Strata Symbol
			Depth (m) At/From	To	Type	No						
07/02	9.10	Dry	10.20 10.21	10.65 10.70	D B	17 16		S 33	CLAY as previous page			
Strik 20min	10.60 10.60	11.00 7.20	11.00 11.01	11.45 11.50	D B	19 18		S 24	Stiff, grey, CLAY with a little fine to coarse sand and a little subrounded fine gravel including mudstone (GLACIAL DRIFT)	10.90 (0.70)	72.45	
	11.60	Dry	11.60 11.70	12.15	D U	21 22	120	0.42	Dense, grey, fine and medium SAND with some silt (GLACIAL DRIFT)	11.60	71.75	
			12.20		D	23						
	12.10	Dry	13.20 13.21	13.65 13.70	D B	25 24		S 36		(3.60)		
	12.10	Dry	14.70	15.15	U	26	120	0.40				
07/02	12.10	Dry	15.20		D	27			END OF BOREHOLE	15.20	68.15	

REMARKS:

Logged by GL/kmh	Date 19/02
Checked by SJR	23/02
Approved by RJE	09/04

SCALE 1:50

FOUNDATION
& EXPLORATION
SERVICESBUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No 4452

FIGURE: BHG3

START DATE 09/02/95

DRILLING METHOD CABLE PERCUSSION

EQUIPMENT DANDI 2000

RECORD OF BOREHOLE No: BH G4

CASING DETAILS 150 mm to 11.70 m
mm to m

SHEET 1 OF 2

BOREHOLE DIA: 150 mm to 12.37 m
mm to mNATIONAL GRID CO-ORDINATES
E N
GROUND LEVEL 82.35 m O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE			U100 Blows	U100 Rec. (m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) At/From To	Type	No.	Test Length (mm)	SPT Blows (2)				
09/02			0.00 0.35	B	1			MADE GROUND: Block, fine to coarse ash sand with some subangular fine and medium gravel of ash.	(0.35)	82.00	
			0.50 1.00	B	2			MADE GROUND: Brown-black, fine to coarse sand with some subrounded fine to coarse gravel including sandstone, a little clay and a little fine to coarse ash sand.	(1.55)		
	0.00	Dry	1.20 1.20 1.65 1.70	B	3		C 6				
	1.80	Dry	1.90 2.00 2.45	D U	4 S	17	0.40	MADE GROUND: Soft, grey, clay with a little fine to coarse sand, a little subangular fine to coarse gravel of ash and occasional fragments of brick	1.90	80.45	
			2.50	D	6						
	2.80	Dry	3.00 3.01 3.45 3.50	D B	8 7		S 10	At 3.00m; with a little subangular fine gravel of coal.			
	3.50	Dry	4.00 4.45	U	9	62	0.38		(3.50)		
			4.45	D	10						
	4.70	Dry	5.00 5.01 5.45 5.40	D B	12 11		S 15				
	5.60	Dry	5.40 5.60 6.05	U	14	70	0.40	Firm, dark brown, CLAY with a little fine to coarse sand and a little subrounded fine gravel including mudstone.	5.40	76.95	
			6.10	D	15				(1.20)		
			6.60 6.70 7.00	D B	16 17				6.60	75.75	
	6.10	Dry	7.00 7.45	U	18	47		Soft, grey, CLAY with some fine to coarse sand and a little gravel; with a little organic matter. (Possible Glacial Drift).	(0.80)		
	7.50	Dry	7.42 7.50 7.51 7.60 8.10 8.05	2W 2D	22 21 20 21		S 40	Soft, grey-brown, CLAY with a little fine to coarse sand. Below 7.60m with a little subangular and subrounded coarse gravel of sandstone.	7.40	74.95	
			8.50 8.50 8.95 9.00	B	23		C 47	Dense, brown, subrounded fine to coarse GRAVEL and some cobbles of sandstone with a little fine to coarse sand and a little clay	8.30	74.05	
									(1.30)		
09/02	9.70	9.20	9.60 9.70 10.10	D B	24 25			Firm grey, CLAY with a little gravel. Locally grading in to CLAY/SILT.	9.60	72.75	
09/02	9.70	9.20									
09/02											

REMARKS: 1. Prior to boring, a Cable Avoidance Tool (CAT) survey was carried out. An inspection pit was hand-dug to 1.20m depth (1.0 hr) and rescanned using the CAT to check for services. Services were not located.
2. Groundwater was encountered at 8.30m depth rising to 7.75m after 5 mins, to 7.60m after 10 mins, to 7.50m after 15 mins and 7.42m after 20 mins.
3. The borehole was advanced by chiselling technique from 8.70m to 8.85m depth (0.5 hr) and 11.10m to 11.70m (2.15 hrs).
4. On completion of sampling, a 50mm diameter slot in the nipple was installed with the slotted section from 1.00m to 12.00m depth and the following gravel filter from the base of

Logged by	Date
GL/knh	19/02
Checked by	
SJR	23/02
Approved by	
RJE	09/04

SCALE 1:50

FOUNDATION
& EXPLORATION
SERVICESBUCKLEY WLL S LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No. 4452

FIGURE: BHG4

START DATE 19/02/99

DRILLING METHOD TABLE PERCUSSION

EQUIPMENT DANDA 2000

RECORD OF BOREHOLE No: BH G4

CASING DETAILS: 150 mm to 11.70 m
mm to m

SHEET 2 OF 2

BOREHOLE DIA: 150 mm to 12.37 m
mm to mNATIONAL GRID CO-ORDINATES
E..... N.....
GROUND LEVEL 82.35 m O.D.

Date & Time	Casing Depth (m)	Depth to Water (m)	SAMPLE			U100 Blows	U100 Rec.(m)	DESCRIPTION OF STRATA	Depth (Thickness) (m)	Level (m O.D.)	Strata Symbol
			Depth (m) At/From To	Type	No.	Test Length (mm)	SPT Blows /N				
10/02	10.00	9.60	10.10 10.55	U	26	120	0.38	CLAY as previous page	(1.10)		
			10.50	D	27						
			10.90 11.15								
			10.90 11.50	B	28	125	C 50	Very dense, grey, subrounded and rounded coarse GRAVEL and occasional cobbles of sandstone with a little fine to coarse sand and a little clay	10.70	71.65	
			11.70 12.00	D	29	120	0.25		(1.00)		
			11.75 12.00								
10/02	11.70	10.60	11.70 12.00	D	30	215	S 50	Stiff, dark brown, CLAY with a little fine to coarse sand and a little subrounded fine and medium gravel including mudstone and occasionally sandstone and coal.	11.70	70.65	
			11.76 12.00								
			12.00 12.37	D	31			(GLACIAL DRIFT)	(0.67)		
								END OF BOREHOLE	12.37	69.98	

REMARKS: the hole up to 0.80m, bentonite seal up to 0.30m and concrete to ground level with a flush lockable stopcock box cover.

Logged by	Date
GL/kmh	19/02
Checked by	
SJR	23/02
Approved by	
RJE	09/04

SCALE 1:50

FOUNDATION
& EXPLORATION
SERVICESBUCKLEY WELLS LOCOMOTIVE DEPOT,
BURY, LANCASHIRE

CONTRACT No. 4452

FIGURE: BHG4

APPENDIX I

CRH TRIAL PIT LOGS

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT, LOCATION: BURY, LANCASHIRE			METHOD OF EXCAVATION: MECHANICAL EXCAVATION			RECORD OF TRIAL PIT NO: TP 1		
CONTRACT NO: 4452			SURFACE DIMENSIONS OF PIT: 120m x 2.00m			CO-ORDINATES: Easting: Northing: Sheet: 1 of 1		
INSITU TESTING			START DATE: 28/01/99			FINISH DATE: 28/01/1999		
SAMPLES			DESCRIPTION OF STRATA			HEIGHTS (m)		
Depth (m)	Type	Result	Depth (m)	Type	No.	Depth (m)	Level (m.o.d.)	Strata Symbol
0.10	CD		0.10	CD	1	0.60	81.45	
0.80	CD		0.80	CD	2	2.40	79.65	
1.50	CD		1.50	CD	3			
2.00	CD		2.00	CD	4			
2.00	CD		2.00	CD	5			
END OF TRIAL PIT								
REMARKS:						PLAN		
1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located.								
2. Slight seepages of groundwater were encountered at 0.60m depth.								
3. The sides of the trial pit were unstable and collapsing below 1.60m depth.								
4. The trial pit was terminated at 2.40m depth due to side wall instability.								
5. On completion the trial pit was backfilled to ground level with compacted arisings.								
Scale 1:25						FIGURE		
						FOUNDAION & EXPLORATION SERVICES		
						Date: 28/01		
						Logged by: GL/knh		
						Checked by: SJR		
						Approved by: RJE		
						04/02		
						09/04		
						TP1		

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT, LOCATION: BURY, LANCASHIRE CONTRACT NO: 4452			METHOD OF EXCAVATION: MECHANICAL EXCAVATION SURFACE DIMENSIONS OF PIT: 100m x 2.10m START DATE: 26/01/99... FINISH DATE: 26/01/1999			RECORD OF TRIAL PIT NO: TP 2 CO-ORDINATES: E..... N..... Sheet 1 of 1 GROUND LEVEL 85.20 m.O.D											
INSITU TESTING			SAMPLES			DESCRIPTION OF STRATA			THICKNESS (m)			DEPTH (m)			LEVEL STRATA (m.O.D.) SYMBOL		
Depth (m)	Type	Result	Depth (m)	Type	No.	MADE GROUND: Black, fine to coarse ash sand.			0.20	85.00							
0.00	CD		0.40	B	2	Brown, subrounded fine to coarse GRAVEL and many cobbles of sandstone with some fine to coarse sand and a little silt.											
			0.90	CD	3												
			1.40	B	4												
			1.90	CD	5												
2.20			2.20	CD	6	Firm, light brown CLAY with a little fine to coarse sand and a little subrounded fine gravel including mudstone.			2.00	83.20							
2.20			2.60	V	8	<GLACIAL DRIFT>											
3.00	VP		3.00	CD	7												
3.00	VN	64/24 52/20 72/28															
END OF TRIAL PIT									3.20	82.00							
REMARKS:															PLAN		
1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located.																	
2. Slight seepages of groundwater were encountered at 0.20m depth (not enough to sample).																	
3. Moderate seepages of groundwater were encountered at 2.00m depth.																	
4. The sides of the trial pit were unstable and collapsing when excavating below 2.00m depth.																	
5. On completion the trial pit was back-filled to ground level with compacted arisings.																	
Scale 1:25																	
LOGGED BY: GL/knh CHECKED BY: SJR APPROVED BY: RJE															Date: 26/01 04/02 09/04		
FOUNDATION & EXPLORATION SERVICES															FIGURE		
TP2																	

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT,			METHOD OF EXCAVATION: MECHANICAL EXCAVATION			RECORD OF TRIAL PIT NO: TP 3		
LOCATION: BURY, LANCASHIRE			SURFACE DIMENSIONS OF PIT:			CO-ORDINATES: E: N: Sheet 1 of 1		
CONTRACT NO: 4452			START DATE: 04/02/99... FINISH DATE: 04/02/1999			GROUND LEVEL: 77.85 m O.D		
INSITU TESTING			DESCRIPTION OF STRATA					
Depth (m)	Type	Result	Depth (m)	Type	No.	Thickness (m)	Level (m a.s.l.)	Strata Symbol
0.30 0.30 0.30	VN/ VR	20/10 30/15 28/8	0.30	CD	1	0.20	77.65	
			0.80	CD	2	<1.00>		
			1.30 1.40	B W	3 4		76.65	
			1.80	CD	5	<1.30>		
			2.30	CD	6		75.35	
			END OF TRIAL PIT					
REMARKS:			PLAN					
1 Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located. 2. Rapid inflows of groundwater were encountered at 1.40m depth. 3. The sides of the trial pit were unstable and collapsing when excavating below 1.40m depth. 4. The trial pit was terminated at 2.50m depth due to side wall instability. 5. On completion the trial pit was backfilled to ground level with compacted arisings.								
			Scale 1:25			FIGURE: TP3		
			Logged by: GL/kmh			Date: 04/02		
			Checked by: SJR			Approved by: RJE		
						05/02		
						09/04		
						FOUNDATION & EXPLORATION SERVICES		

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT, LOCATION: BURY, LANCASHIRE CONTRACT NO: 4452				METHOD OF EXCAVATION: MECHANICAL EXCAVATION SURFACE DIMENSIONS OF PIT: START DATE: 04/02/99... FINISH DATE: 04/02/1999				RECORD OF TRIAL PIT NO: TP 6 CO-ORDINATES: E: N: Sheet 1 of 1 GROUND LEVEL: 77.90 m O.D.			
INSITU TESTING				DESCRIPTION OF STRATA				PLAN			
Depth (m)	Type	Result	Depth (m)	Type	No.	Thickness (m)	Depth (m)	Level (m O.D.)	Strata Symbol		
0.10	CD		0.10	B	1	0.30	77.60				
0.50			0.50		2						
1.00			1.00	CD	3						
1.60			1.60	CD	4						
2.10			2.10	B	6						
				END OF TRIAL PIT							
REMARKS:				1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located. 2. Rapid inflows of groundwater were encountered at 2.20m depth. 3. The sides of the trial pit were unstable and collapsed when excavating below 1.00m depth. 4. On completion the trial pit was backfilled to ground level with compacted arisings.				Scale 1:25			
								Logged by: GL/knh Checked by: SJR Approved by: RJE Date: 04/02 Date: 05/02 Date: 09/04 FOUNDATION & EXPLORATION SERVICES FIGURE: TP6			

1 PRO

LEY Locomotive Depot,
Bury, Lancashire

CONTRACT NO: 4452

METHOD OF EXCAVATION: MECHANICAL EXCAVATION

SURFACE DIMENSIONS OF PIT: 0.80m x 1.80m

START DATE: 04/02/99

FINISH DATE: 04/02/1999

RECORD OF TRIAL PIT NO: TP 7

CO-ORDINATES:
E: N:

Sheet 1 of 1

GROUND LEVEL 76.50 m O.D.

INSITU TESTING

Depth (m)	Type	Result
0.50	VN/VR	30/12 26/14
0.50		
0.50		
1.70	VN/VR	12/6 10/4 16/6
1.70		
1.70		

SAMPLES

Depth (m)	Type	No.
0.10	CD	1
0.50	CD	2
1.00	CD	3
1.70	CD	4
2.20	CD	5

DESCRIPTION OF STRATA

0.30	0.30	76.20	Brambles/grass over TOPSOIL: Black fine to coarse sand with some organic matter and many rootlets.
0.30	0.30	76.20	MADE GROUND: Soft, brown-grey, clay/silt with some fine to coarse sand.
1.30	1.30	74.90	At 0.90m land drain encountered.
1.30	1.30	74.90	At 1.40m wood railway sleepers encountered.
1.50	1.50	74.90	Very soft, grey CLAY/SILT, a little fine sand, a little subrounded coarse gravel of (branches).
1.50	1.50	74.90	Occasional fragments of wood
2.50	2.50	74.00	<ALLUVIUM>
2.50	2.50	74.00	END OF TRIAL PIT

REMARKS:

1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located.

2. Slight seepages of groundwater were encountered at 0.30m depth (not enough to sample).

3. A land drain was encountered at 0.90m depth during excavation.

4. The sides of the trial pit remained stable during excavation.

5. On completion the trial pit was backfilled to ground level with compacted arisings.

PLAN

Scale 1:25

Logged by: GL/knh

Checked by: SJR

Approved by: RJE

Date: 04/02

Date: 05/02

Date: 09/04

FOUNDATION & EXPLORATION SERVICES

FIGURE

TP 7

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT,			METHOD OF EXCAVATION: MECHANICAL EXCAVATION			RECORD OF TRIAL PIT NO: TP 8		
LOCATION: BURY, LANCASHIRE			SURFACE DIMENSIONS OF PIT: 100m x 2.20m			CO-ORDINATES:		
CONTRACT NO: 4452			START DATE: 26/11/99...			FINISH DATE: 26/11/1999		
INSITU TESTING			SAMPLES			GROUND LEVEL		
Depth (m)	Type	Result	Depth (m)	Type	No.	Description of Strata	Thickness (m)	Depth (m)
0.00	CD		0.00	CD	1	MADE GROUND: Black with occasional brown bands, fine to coarse ash sand and subangular fine to coarse gravel and occasional cobbles of ash and clinker with some silt and a little subangular coarse gravel of brick.		
0.80	CD		0.80	CD	2			
1.30	B		1.30	B	3			
1.80	CD		1.80	CD	4			
2.30	CD		2.30	CD	5			
2.80	CD		2.80	CD	6			
3.10	CD		3.10	CD	7			
						END OF TRIAL PIT	3.30	78.85

REMARKS:

- Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out for services. Services were not located.
- The presence of groundwater was not apparent during excavation.
- The sides of the trial pit were unstable and collapsing below 2.00m depth.
- On completion the trial pit was backfilled to ground level with compacted arisings.

PLAN

Scale 1:25

FOUNDATION & EXPLORATION SERVICES

FIGURE: TP8

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT,			METHOD OF EXCAVATION: MECHANICAL EXCAVATION			RECORD OF TRIAL PIT NO: TP 9		
LOCATION: RURY, LANCASHIRE			SURFACE DIMENSIONS OF PIT: 0.80m x 1.50m			CO-ORDINATES: E: N: Sheet 1 of 1		
CONTRACT NO: 4498			START DATE: 26/01/99... FINISH DATE: 26/01/1999			GROUND LEVEL 82.05 m O.D.		
INSITU TESTING			DESCRIPTION OF STRATA					
Depth (m)	Type	Result	Depth (m)	Type	No.	Thickness (m)	Level (m)	Strata Symbol
0.10	B		0.10	B	1	0.10	81.95	
0.50	CD		0.50	CD	2			
1.00	B		1.00	B	3			
1.50	CD		1.50	CD	4			
2.00	CD		2.00	CD	5			
2.50	CD		2.50	CD	6			
3.00	CD		3.00	CD	7			
3.30	CD		3.30	CD	8			
						3.20	78.85	
						3.60	78.45	
						END OF TRIAL PIT		
REMARKS:			1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located. 2. The presence of groundwater was not apparent during excavation. 3. The sides of the trial pit were unstable and collapsing below 1.50m depth. 4. On completion the trial pit was backfilled to ground level with compacted arisings.					
			PLAN					
			Scale 1:25					
			FOUNDAION & EXPLORATION SERVICES					
			FIGURE: TP9					
			Date: 26/01/99 Logged by: GL/kmh Checked by: SJR Approved by: RJE					

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT,		METHOD OF EXCAVATION: MECHANICAL EXCAVATION		RECORD OF TRIAL PIT NO: TP10	
LOCATION: BURY, LANCASHIRE		SURFACE DIMENSIONS OF PIT: 2.00m x 1.10m		CO-ORDINATES:	
CONTRACT NO: 4452		START DATE: 26/01/99...		FINISH DATE: 26/01/1999	
INSITU TESTING		SAMPLES		GROUND LEVEL: 81.85 m O.D.	
Depth (m)	Type	Result	Depth (m)	Type	No.
0.00	CD		0.00	CD	1
0.40	B		0.40	B	2
1.00	CD		1.00	CD	3
1.50	B		1.50	B	4
2.00	CD		2.00	CD	5
2.50	CD		2.50	CD	6
3.00	B		3.00	B	7
			END OF TRIAL PIT		
			3.10 78.75		
			Thickness (m)		
			Depth (m)		
			Level (m.a.s.l.) Symbol		
			Strata		
			Description of Strata		
			MADE GROUND: Grass/brambles over black fine to coarse ash sand and subangular fine to coarse gravel of ash and clinker with some silt, a little subangular fine and medium gravel of brick and occasional glass bottles, with occasional rootlets.		
			Below 1.50m rootlets absent.		
			Below 2.00m with occasional brown clayey bands.		
			Scale 1:25		
			PLAN		
			To check		
			Remarks:		
			1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out for services. Services were not located.		
			2. The presence of groundwater was not apparent during excavation.		
			3. The sides of the trial pit were unstable and collapsing below 1.00m depth.		
			4. On completion the trial pit was backfilled to ground level with compacted arisings.		
			Logged by: GL/kmh		
			Date: 26/01		
			Checked by: SJR		
			04/02		
			Approved by: RJE		
			09/04		
			FIGURE		
			FOUNDATION & EXPLORATION SERVICES		
			TP10		

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT.						METHOD OF EXCAVATION: MECHANICAL EXCAVATION				RECORD OF TRIAL PIT NO: TP11			
LOCATION: BURY, LANCASHIRE						SURFACE DIMENSIONS OF PIT:				CO-ORDINATES:			
CONTRACT NO: 4452						START DATE: 04/02/99.. FINISH DATE: 04/02/1999				E: N:			
INSITU TESTING						DESCRIPTION OF STRATA							
Depth (m)		Type	Result	Depth (m)	No.	SAMPLES	Description of Strata	Thickness (m)	Depth (m)	Level (m.o.d.)	Strato Symbol		
1.20	1.20	VN/ VR	32/32 28/14 20/14	0.10	1	CD	MADE GROUND: Black, fine to coarse ash sand and subangular fine to coarse gravel of ash and clinker with some silt and a little subrounded medium and coarse gravel of sandstone.	(1.00)	1.00	81.75			
1.20	1.20			0.60	2	B	MADE GROUND: Soft, black-brown, clay with a little fine to coarse ash sand and occasional bricks.	(0.60)	1.60	81.15			
1.20	1.20			1.20	3	CD	Dark grey, fine to coarse SAND with some to much silt and some to much subrounded fine to coarse gravel of sandstone (possible Made Ground).	(1.80)	3.40	79.35			
1.20	1.20			1.70	4	B	Brown, subrounded fine to coarse GRAVEL of sandstone with a little fine to coarse sand and some silt.	(0.30)	3.70	79.05			
1.20	1.20			2.20	5	D	END OF TRIAL PIT						
1.20	1.20			2.70	6	CD							
1.20	1.20			3.50	7	B							

PLAN

Scale 1:25

REMARKS:

- Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located.
- The presence of groundwater was not apparent during excavation.
- The sides of the trial pit were unstable and collapsing when excavating below 2.50m depth.
- On completion the trial pit was backfilled to ground level with compacted arisings.

Date: 04/02

Logged by: GL/kmh

Checked by: SJR

Approved by: RJE

FIGURE: TP11

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT, LOCATION: BURY, LANCASHIRE CONTRACT NO: 4452				METHOD OF EXCAVATION: MECHANICAL EXCAVATION SURFACE DIMENSIONS OF PIT: 0.80m x 1.60m START DATE: 04/02/99... FINISH DATE: 04/02/1999				RECORD OF TRIAL PIT NO: TP12 CO-ORDINATES: E: N: Sheet 1 of 1 GROUND LEVEL: 83.00 m O.D.			
INSITU TESTING			SAMPLES		DESCRIPTION OF STRATA		Thickness (m)	Depth (m)	Level (m O.D.)	Strata Symbol	
Depth (m)	Type	Result	Depth (m)	Type No.							
0.90 0.90 0.90	VN/ VR	32/22 36/22 24/19	0.10	CD 1	MADE GROUND: Black, fine to coarse ash sand with some subangular fine to coarse gravel of ash.		0.70	82.30			
			0.90	CD 2	MADE GROUND: Soft, brown, clay with a little fine to coarse sand, a little subrounded fine to coarse gravel including sandstone. With occasional fragments of pottery, occasional bricks and occasional bands of ash.						
			1.50	B 3	At 1.50m grading to gravel with much sand and much clay.						
			2.00	CD 4							
			2.50	CD 5							
			3.00	CD 6							
			3.50	CD 7							
			3.70	W 8							
					END OF TRIAL PIT		3.90	79.10			
REMARKS: 1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located. 2. Recovered materials were unsuitable for vane tests below 2.00m depth. 3. Rapid inflows of groundwater were encountered at 3.70m depth. 4. The sides of the trial pit remained stable during excavation. 5. On completion the trial pit was backfilled to ground level with compacted arisings.											
						PLAN					
						Logged by: GL/kmh Checked by: SJR Approved by: RJE	Date: 04/02 05/02 09/04	FOUNDATION & EXPLORATION SERVICES FIGURE: TP12			
						Scale 1:25					

PROJ

LOCATION: BURY, LANCASHIRE

CONTRACT NO: 4452

INST: 765

METHOD OF EXCAVATION: MECHANICAL EXCAVATION

SURFACE DIMENSIONS OF PIT:

START DATE: 04/02/99...

FINISH DATE: 04/02/1999

RECORD OF TRIAL PIT NO: TP13

CO-ORDINATES:

E: N:

Sheet

1 of 1

GROUND LEVEL

8365

m.O.D.

SAMPLES		DESCRIPTION OF STRATA				FINISH DATE: 04/02/1999		
Depth (m)	Type	Result	Depth (m)	Type	No.	Thickness (m)	Level (m.a.s.l.)	Strata Symbol
0.20	CD		0.20	CD	1	0.60	83.05	
0.70	B		0.70	B	2			
1.20	CD		1.20	CD	3	1.30	81.75	
1.80	CD		1.80	CD	4			
2.10	VN/ VR	22/8 44/32 32/22	2.10	CD	5	1.80	79.95	
2.60			2.60	CD	6			
3.10	VN/ VR	14/8 28/20 32/14	3.10	CD	7			
3.60			3.60	CD	8			
END OF TRIAL PIT								

MARKS:

1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out for services. Services were not located

2. Slight seepage

PLAN

REMARKS:

1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located.
2. Slight seepages of groundwater were encountered at 1.90m depth (not enough to sample).
3. The sides of the trial pit were unstable and collapsing when excavating below 2.00m depth.
4. On completion the trial pit was backfilled to ground level with compacted arisings.

Scale 1:25

Logged by: GL/kmh
Checked by: SJR
Approved by: RUE
Date: 04/02
05/02
09/04
FOUNDATION & EXPLORATION SERVICES
FIGURE: TP13

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT, LOCATION: BURY, LANCASHIRE CONTRACT NO: 4152						METHOD OF EXCAVATION: MECHANICAL EXCAVATION SURFACE DIMENSIONS OF PIT: 120m x 0.80m START DATE: 04/02/99 FINISH DATE: 04/02/1999				RECORD OF TRIAL PIT NO: TP14 CO-ORDINATES: E: N:			
INSITU TESTING						SAMPLES				GROUND LEVEL: 83.09 m O.D.			
Depth (m)	Type	Result	Depth (m)	Type	No.	DESCRIPTION OF STRATA				Thickness (m)	Depth (m)	Level (m.a.s.l.)	Strata Symbol
			0.10	CD	1	MADE GROUND: Black, fine to coarse ash sand and subangular fine to coarse gravel of ash and clinker with some silt and a little rounded fine to coarse gravel of sandstone.				(3.40)			
			0.50	B	2	At 0.60m grading to gravel with much sand and some silt.							
			1.10	CD	3								
			1.60	CD	4								
			2.10	B	5								
			2.60	CD	6								
			3.10	CD	7								
						END OF TRIAL PIT					3.40	79.60	

REMARKS:

- Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located.
- The presence of groundwater was not apparent during excavation.
- The sides of the trial pit remained stable during excavation.
- On completion the trial pit was back-filled to ground level with compacted arisings.

Scale 1:25

PLAN

Date: 04/02
Logged by: GL/kmh
Checked by: SJR
Approved by: RJE

FIGURE: FOUNDATION & EXPLORATION SERVICES
TP14

PROJECT: BUCKLEY WELLS LOCOMOTIVE DEPOT, LOCATION: BURY, LANCASHIRE CONTRACT NO: 4452			METHOD OF EXCAVATION: MECHANICAL EXCAVATION SURFACE DIMENSIONS OF PIT: 120m x 2.00m START DATE: 04/02/99... FINISH DATE: 04/02/1999			RECORD OF TRIAL PIT NO: TP15 CO-ORDINATES: E..... N..... Sheet 1 of 1 GROUND LEVEL: 84.00 m.O.D.		
INSITU TESTING			DESCRIPTION OF STRATA			PLAN		
Depth (m)	Type	Result	Depth (m)	Type	No.	Thickness (m)	Level (m.a.d.)	Strata Symbol
0.10	CD		0.20	B	1	(0.20)	83.80	
0.40					2			
1.00	CD				3			
1.50	CD				4	(2.00)		
2.00	CD				5			
2.60	VN/ VR	62/22 55/18 42/20	2.60	CD	6	(0.90)	81.80	
3.10	VN/ VR	70/26 60/20 48/18	3.10	CD	7		80.90	
			END OF TRIAL PIT					
REMARKS:			Scale 1:25					
1. Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out to check for services. Services were not located.								
2. The presence of groundwater was not apparent during excavation.								
3. The sides of the trial pit remained stable during excavation.								
4. On completion the trial pit was backfilled to ground level with compacted arisings.								
			FOUNDAION & EXPLORATION SERVICES FIGURE: TP15					
			Logged by: GL/kmh Checked by: SJR Approved by: RJE Date: 04/02 05/02 09/04					

APPENDIX J

CHEMICAL CERTIFICATES OF ANALYSIS - LKA

ANALYSIS RESULTS PAGE 1 OF 17 PAGES

9 January 2006

Mr C Crompton
Leyden Kirby Associates
Bury Business Centre
Kay Street
Bury
BL9 6BU

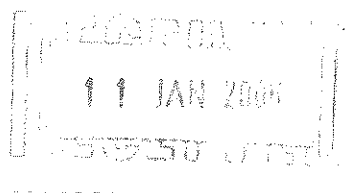
Test Report : LKA /D1055

Dear Mr Crompton

Please find enclosed the results of the analysis carried out on the samples submitted from Buckley Wells on 21 December 2005.

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

Yours sincerely



Mike Cohen
TECHNICAL MANAGER

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 \$ were subcontracted. Unless otherwise stated, Severn Trent 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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Soil Analysis

PAGE 2 OF 17

LKA /DI055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777491	777492	777493	777494
Sample Ref			TP1	TP2	TP2	TP3
Detname	Method	Units	0.20m	0.20m	0.90m	0.10m
Arsenic (Total)	30/30C	mg/kg	23	22	4.1	33
Cadmium (Total)	30	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50
Chromium (Total)	30	mg/kg	10	13	8.4	18
Copper (Total)	30	mg/kg	49	81	16	88
Lead (Total)	30	mg/kg	130	200	21	190
Mercury (Total)	30C	mg/kg	0.28	< 0.20	< 0.20	0.24
Nickel (Total)	30	mg/kg	12	12	5.1	13
Selenium (Total)	30C	mg/kg	0.8	0.55	< 0.30	1.3
Zinc (Total)	30	mg/kg	56	50	26	59
pH	39	pH units	4.5	4.4	5.3	4.7
>> TPH SUITE <<			N/S	N/S	N/S	.
TPH by GC (>C6-C10)	317	mg/kg	N/S	N/S	N/S	< 50
TPH by GC (>C10 - C20)	317	mg/kg	N/S	N/S	N/S	200
TPH by GC (>C20-C40)	317	mg/kg	N/S	N/S	N/S	120
TPH by GC (>C6 - C40)	317	mg/kg	N/S	N/S	N/S	320
PCB (as Aroclors)	309	mg/kg	N/S	N/S	N/S	N/S
>>TPH RISK ASSESSMENT<<			N/S	.	N/S	N/S
>C6 to C8 aliphatic	317R	mg/kg	N/S	< 1.0	N/S	N/S
>C8 to C10 aliphatic	317R	mg/kg	N/S	< 1.0	N/S	N/S
>C10 to C12 aliphatic	317R	mg/kg	N/S	< 1.0	N/S	N/S
>C12 to C16 aliphatic	317R	mg/kg	N/S	< 1.0	N/S	N/S
>C16 to C21 aliphatic	317R	mg/kg	N/S	< 5.0	N/S	N/S
>C21 TO C40 aliphatic	317R	mg/kg	N/S	< 10	N/S	N/S
Total Aliphatic	317R	mg/kg	N/S	< 20	N/S	N/S
>C5 to C7 aromatic	317R	mg/kg	N/S	< 1.0	N/S	N/S
>C7 to C8 aromatic	317R	mg/kg	N/S	< 1.0	N/S	N/S
>C8 to C10 aromatic	317R	mg/kg	N/S	< 1.0	N/S	N/S
>C10 to C12 aromatic	317R	mg/kg	N/S	< 1.0	N/S	N/S
>C12 to C16 aromatic	317R	mg/kg	N/S	< 1.0	N/S	N/S
>C16 to C21 aromatic	317R	mg/kg	N/S	< 5.0	N/S	N/S
>C21 TO C40 aromatic	317R	mg/kg	N/S	< 10	N/S	N/S
Total Aromatic	317R	mg/kg	N/S	< 20	N/S	N/S
Total EPH aliphatic/aromatic	317R	mg/kg	N/S	< 40	N/S	N/S
>> OCPS SUITE <<*			N/S	N/S	N/S	N/S
alpha-BHC*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
beta-BHC*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
delta-BHC*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
gamma-BHC (lindane)*	OCPS1	mg/kg	N/S	N/S	N/S	N/S

Key

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I/S - Insufficient Sample

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Soil Analysis

PAGE 3 OF 17

LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777491	777492	777493	777494
Sample Ref			TP1	TP2	TP2	TP3
Detname	Method	Units	0.20m	0.20m	0.90m	0.10m
heptachlor*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
aldrin*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
heptachlor epoxide*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
endosulfan I*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
44' dde*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
dieldrin*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
endrin*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
endosulfan II*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
44' ddd (tde)	OCPS1	mg/kg	N/S	N/S	N/S	N/S
endrin aldehyde*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
endosulfan sulfate*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
44' ddt*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
>> PAH SUITE <<						
naphthalene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
acenaphthylene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
acenaphthene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
fluorene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
phenanthrene	325	mg/kg	1.9	< 1.0	< 1.0	5.6
anthracene	325	mg/kg	< 1.0	< 1.0	< 1.0	1.5
fluoranthene	325	mg/kg	2.9	< 1.0	< 1.0	6.4
pyrene	325	mg/kg	2.6	< 1.0	< 1.0	5.5
benzo(a)anthracene	325	mg/kg	1.4	< 1.0	< 1.0	2.7
chrysene	325	mg/kg	1.6	< 1.0	< 1.0	3.1
benzo(b)fluoranthene	325	mg/kg	1.2	< 1.0	< 1.0	2.4
benzo(k)fluoranthene	325	mg/kg	< 1.0	< 1.0	< 1.0	1.3
benzo(a)pyrene	325	mg/kg	1.1	< 1.0	< 1.0	2
indeno(123cd)pyrene	325	mg/kg	< 1.0	< 1.0	< 1.0	1.7
dibenzo(ah)anthracene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
benzo(ghi)perylene	325	mg/kg	< 1.0	< 1.0	< 1.0	1.3
PAH (Total)*	PAH	mg/kg	13	< 1.0	< 1.0	34
>> OPP'S SUITE <<*			N/S	N/S	N/S	N/S
tetraethylpyrophosphate*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
monocrotophos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
sulfotepp*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
dimethoate*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
malathion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
ethyl parathion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
phenylphosphonothioic ac*	OPPS1	mg/kg	N/S	N/S	N/S	N/S

Key

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I/S - Insufficient Sample

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Soil Analysis

PAGE 4 OF 17

LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777491	777492	777493	777494
Sample Ref			TP1	TP2	TP2	TP3
Detname	Method	Units	0.20m	0.20m	0.90m	0.10m
dichlorvos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
mevinphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
demeton-O*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
ethoprop*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
naled*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
phorate*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
demeton-S*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
diazinon*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
disulfoton*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
methyl parathion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
fenchlorphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
chloropyrifos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
fenthion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
trichloronate*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
merphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
tetrachlorovinphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
tokuthion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
fensulfothion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
bolstar*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
guthion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
coumaphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S

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Soil Analysis

PAGE 5 OF 17

LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777495	777496	777497	777498
Sample Ref			TP4	TP4	TP5	TP6
Detname	Method	Units	0.30m	1.00m	0.20m	0.30m
Arsenic (Total)	30/30C	mg/kg	22	12	23	30
Cadmium (Total)	30	mg/kg	0.73	< 0.50	0.76	0.55
Chromium (Total)	30	mg/kg	14	13	14	16
Copper (Total)	30	mg/kg	170	12	76	87
Lead (Total)	30	mg/kg	110	6	270	250
Mercury (Total)	30C	mg/kg	< 0.20	< 0.20	0.33	1
Nickel (Total)	30	mg/kg	51	14	19	17
Selenium (Total)	30C	mg/kg	0.73	< 0.30	0.77	0.98
Zinc (Total)	30	mg/kg	160	63	190	93
pH	39	pH units	7.6	6.4	6.2	6.3
>> TPH SUITE <<			N/S	N/S	.	.
TPH by GC (>C6-C10)	317	mg/kg	N/S	N/S	< 50	< 50
TPH by GC (>C10 - C20)	317	mg/kg	N/S	N/S	100	58
TPH by GC (>C20-C40)	317	mg/kg	N/S	N/S	100	< 50
TPH by GC (>C6 - C40)	317	mg/kg	N/S	N/S	200	58
PCB (as Aroclors)	309	mg/kg	< 0.10	N/S	N/S	N/S
>>TPH RISK ASSESSMENT<<			.	N/S	N/S	N/S
>C6 to C8 aliphatic	317R	mg/kg	< 1.0	N/S	N/S	N/S
>C8 to C10 aliphatic	317R	mg/kg	< 1.0	N/S	N/S	N/S
>C10 to C12 aliphatic	317R	mg/kg	< 1.0	N/S	N/S	N/S
>C12 to C16 aliphatic	317R	mg/kg	4.3	N/S	N/S	N/S
>C16 to C21 aliphatic	317R	mg/kg	< 5.0	N/S	N/S	N/S
>C21 TO C40 aliphatic	317R	mg/kg	19	N/S	N/S	N/S
Total Aliphatic	317R	mg/kg	23	N/S	N/S	N/S
>C5 to C7 aromatic	317R	mg/kg	< 1.0	N/S	N/S	N/S
>C7 to C8 aromatic	317R	mg/kg	< 1.0	N/S	N/S	N/S
>C8 to C10 aromatic	317R	mg/kg	< 1.0	N/S	N/S	N/S
>C10 to C12 aromatic	317R	mg/kg	< 1.0	N/S	N/S	N/S
>C12 to C16 aromatic	317R	mg/kg	10	N/S	N/S	N/S
>C16 to C21 aromatic	317R	mg/kg	19	N/S	N/S	N/S
>C21 TO C40 aromatic	317R	mg/kg	70	N/S	N/S	N/S
Total Aromatic	317R	mg/kg	100	N/S	N/S	N/S
Total EPH aliphatic/aromatic	317R	mg/kg	120	N/S	N/S	N/S
>> OCP'S SUITE <<*			N/S	N/S	N/S	N/S
alpha-BHC*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
beta-BHC*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
delta-BHC*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
gamma-BHC (lindane)*	OCPS1	mg/kg	N/S	N/S	N/S	N/S

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I/S - Insufficient Sample

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Soil Analysis

PAGE 6 OF 17

LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777495	777496	777497	777498
Sample Ref			TP4	TP4	TP5	TP6
Detname	Method	Units	0.30m	1.00m	0.20m	0.30m
heptachlor*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
aldrin*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
heptachlor epoxide*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
endosulfan I*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
44' dde*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
dieldrin*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
endrin*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
endosulfan II*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
44' ddd (tde)	OCPSI	mg/kg	N/S	N/S	N/S	N/S
endrin aldehyde*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
endosulfan sulfate*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
44' ddt*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
>> PAH SUITE <<						
naphthalene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
acenaphthylene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
acenaphthene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
fluorene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
phenanthrene	325	mg/kg	< 1.0	< 1.0	4.3	10
anthracene	325	mg/kg	< 1.0	< 1.0	1.1	1.7
fluoranthene	325	mg/kg	1.1	< 1.0	6.2	9.5
pyrene	325	mg/kg	1	< 1.0	5.3	7.7
benzo(a)anthracene	325	mg/kg	< 1.0	< 1.0	2.3	3
chrysene	325	mg/kg	< 1.0	< 1.0	3.2	3.4
benzo(b)fluoranthene	325	mg/kg	< 1.0	< 1.0	2.5	2.7
benzo(k)fluoranthene	325	mg/kg	< 1.0	< 1.0	1.4	2
benzo(a)pyrene	325	mg/kg	< 1.0	< 1.0	2.3	2.5
indeno(123cd)pyrene	325	mg/kg	< 1.0	< 1.0	2.1	2.2
dibenzo(ah)anthracene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
benzo(ghi)perylene	325	mg/kg	< 1.0	< 1.0	1.6	1.6
PAH (Total)*	PAH	mg/kg	2.1	< 1.0	32	47
>> OPP'S SUITE <<*						
tetraethylpyrophosphate*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
monocrotophos*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
sulfotepp*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
dimethoate*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
malathion*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
ethyl parathion*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
phenylphosphonothioic ac*	OPPSI	mg/kg	N/S	N/S	N/S	N/S

Key

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I/S - Insufficient Sample

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Soil Analysis

PAGE 7 OF 17

LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777495	777496	777497	777498
Sample Ref			TP4	TP4	TP5	TP6
Detname	Method	Units	0.30m	1.00m	0.20m	0.30m
dichlorvos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
mevinphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
demeton-O*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
ethoprop*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
naled*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
phorate*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
demeton-S*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
diazinon*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
disulfoton*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
methyl parathion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
fenchlorphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
chloropyrifos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
fenthion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
trichloronate*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
merphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
tetrachlorovinphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
tokuthion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
fensulfothion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
bolstar*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
guthion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
coumaphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S

Key

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Soil Analysis

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LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777499	777500	777501	777502
Sample Ref			TP7	TP7	TP8	TP8
Detname	Method	Units	0.30m	0.90m	0.20m	0.50m
Arsenic (Total)	30/30C	mg/kg	36	7.9	28	10
Cadmium (Total)	30	mg/kg	< 0.50	< 0.50	< 0.50	< 0.50
Chromium (Total)	30	mg/kg	18	31	14	21
Copper (Total)	30	mg/kg	99	34	210	41
Lead (Total)	30	mg/kg	240	18	75	22
Mercury (Total)	30C	mg/kg	0.55	< 0.20	0.23	< 0.20
Nickel (Total)	30	mg/kg	20	29	83	36
Selenium (Total)	30C	mg/kg	1.1	0.85	1.3	< 0.30
Zinc (Total)	30	mg/kg	130	81	340	130
pH	39	pH units	4.8	6.8	6.3	7.2
>> TPH SUITE <<			.	.	N/S	.
TPH by GC (>C6-C10)	317	mg/kg	< 50	< 50	N/S	< 50
TPH by GC (>C10 - C20)	317	mg/kg	62	< 50	N/S	< 50
TPH by GC (>C20-C40)	317	mg/kg	< 50	< 50	N/S	< 50
TPH by GC (>C6 - C40)	317	mg/kg	62	< 50	N/S	< 50
PCB (as Aroclors)	309	mg/kg	N/S	N/S	< 0.10	N/S
>>TPH RISK ASSESSMENT<<			N/S	N/S	.	N/S
>C6 to C8 aliphatic	317R	mg/kg	N/S	N/S	< 1.0	N/S
>C8 to C10 aliphatic	317R	mg/kg	N/S	N/S	5.7	N/S
>C10 to C12 aliphatic	317R	mg/kg	N/S	N/S	3	N/S
>C12 to C16 aliphatic	317R	mg/kg	N/S	N/S	5.4	N/S
>C16 to C21 aliphatic	317R	mg/kg	N/S	N/S	5.3	N/S
>C21 TO C40 aliphatic	317R	mg/kg	N/S	N/S	34	N/S
Total Aliphatic	317R	mg/kg	N/S	N/S	53	N/S
>C5 to C7 aromatic	317R	mg/kg	N/S	N/S	< 1.0	N/S
>C7 to C8 aromatic	317R	mg/kg	N/S	N/S	< 1.0	N/S
>C8 to C10 aromatic	317R	mg/kg	N/S	N/S	< 1.0	N/S
>C10 to C12 aromatic	317R	mg/kg	N/S	N/S	3.6	N/S
>C12 to C16 aromatic	317R	mg/kg	N/S	N/S	13	N/S
>C16 to C21 aromatic	317R	mg/kg	N/S	N/S	30	N/S
>C21 TO C40 aromatic	317R	mg/kg	N/S	N/S	120	N/S
Total Aromatic	317R	mg/kg	N/S	N/S	160	N/S
Total EPH aliphatic/aromatic	317R	mg/kg	N/S	N/S	220	N/S
>> OCPS SUITE <<*			.	N/S	N/S	N/S
alpha-BHC*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
beta-BHC*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
delta-BHC*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
gamma-BHC (lindane)*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S

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Soil Analysis

PAGE 9 OF 17

LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777499	777500	777501	777502
Sample Ref			TP7	TP7	TP8	TP8
Detname	Method	Units	0.30m	0.90m	0.20m	0.50m
heptachlor*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
aldrin*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
heptachlor epoxide*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
endosulfan I*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
44' dde*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
dieldrin*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
endrin*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
endosulfan II*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
44' ddd (tde)	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
endrin aldehyde*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
endosulfan sulfate*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
44' ddt*	OCPS1	mg/kg	< 0.05	N/S	N/S	N/S
>> PAH SUITE <<			.	.	.	.
naphthalene	325	mg/kg	< 1.0	< 1.0	1	< 1.0
acenaphthylene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
acenaphthene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
fluorene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
phenanthrene	325	mg/kg	1.4	< 1.0	2.8	< 1.0
anthracene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
fluoranthene	325	mg/kg	2.1	< 1.0	3.3	< 1.0
pyrene	325	mg/kg	1.9	< 1.0	3.1	< 1.0
benzo(a)anthracene	325	mg/kg	< 1.0	< 1.0	1.9	< 1.0
chrysene	325	mg/kg	1.1	< 1.0	1.8	< 1.0
benzo(b)fluoranthene	325	mg/kg	< 1.0	< 1.0	1.6	< 1.0
benzo(k)fluoranthene	325	mg/kg	< 1.0	< 1.0	1.2	< 1.0
benzo(a)pyrene	325	mg/kg	< 1.0	< 1.0	1.6	< 1.0
indeno(123cd)pyrene	325	mg/kg	< 1.0	< 1.0	1.6	< 1.0
dibenzo(ah)anthracene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
benzo(ghi)perylene	325	mg/kg	< 1.0	< 1.0	1.2	< 1.0
PAH (Total)*	PAH	mg/kg	6.5	< 1.0	21	< 1.0
>> OPP'S SUITE <<*			.	N/S	N/S	N/S
tetraethylpyrophosphate*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
monocrotophos*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
sulfotepp*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
dimethoate*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
malathion*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
ethyl parathion*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
phenylphosphonothioic ac*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S

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Soil Analysis

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LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777499	777500	777501	777502
Sample Ref			TP7	TP7	TP8	TP8
Detname	Method	Units	0.30m	0.90m	0.20m	0.50m
dichlorvos*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
mevinphos*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
demeton-O*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
ethoprop*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
naled*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
phorate*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
demeton-S*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
diazinon*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
disulfoton*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
methyl parathion*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
fenchlorphos*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
chloropyrifos*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
fenthion*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
trichloronate*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
merphos*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
tetrachlorovinphos*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
tokuthion*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
fensulfothion*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
bolstar*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
guthion*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S
coumaphos*	OPPS1	mg/kg	< 0.10	N/S	N/S	N/S

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Soil Analysis

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LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777503	777504	777505	777506
Sample Ref			TP9	TP10	TP10	TP11
Detname	Method	Units	0.40m	0.30m	2.00m	0.40m
Arsenic (Total)	30/30C	mg/kg	43	11	20	27
Cadmium (Total)	30	mg/kg	1.7	< 0.50	< 0.50	< 0.50
Chromium (Total)	30	mg/kg	17	21	21	25
Copper (Total)	30	mg/kg	380	61	260	190
Lead (Total)	30	mg/kg	310	55	420	200
Mercury (Total)	30C	mg/kg	0.37	< 0.20	0.21	0.48
Nickel (Total)	30	mg/kg	69	37	32	48
Selenium (Total)	30C	mg/kg	1.2	0.42	0.52	0.78
Zinc (Total)	30	mg/kg	490	120	130	190
pH	39	pH units	6.8	8	7.9	7.7
>> TPH SUITE <<			N/S	N/S	.	N/S
TPH by GC (>C6-C10)	317	mg/kg	N/S	N/S	< 50	N/S
TPH by GC (>C10 - C20)	317	mg/kg	N/S	N/S	< 50	N/S
TPH by GC (>C20-C40)	317	mg/kg	N/S	N/S	< 50	N/S
TPH by GC (>C6 - C40)	317	mg/kg	N/S	N/S	< 50	N/S
PCB (as Aroclors)	309	mg/kg	N/S	0.21	N/S	N/S
>>TPH RISK ASSESSMENT<<			.	.	N/S	.
>C6 to C8 aliphatic	317R	mg/kg	4.1	< 1.0	N/S	< 1.0
>C8 to C10 aliphatic	317R	mg/kg	8.4	< 1.0	N/S	< 1.0
>C10 to C12 aliphatic	317R	mg/kg	6.1	< 1.0	N/S	< 1.0
>C12 to C16 aliphatic	317R	mg/kg	13	3.3	N/S	4.5
>C16 to C21 aliphatic	317R	mg/kg	14	< 5.0	N/S	6.1
>C21 TO C40 aliphatic	317R	mg/kg	60	20	N/S	40
Total Aliphatic	317R	mg/kg	110	23	N/S	51
>C5 to C7 aromatic	317R	mg/kg	< 1.0	< 1.0	N/S	< 1.0
>C7 to C8 aromatic	317R	mg/kg	< 1.0	< 1.0	N/S	< 1.0
>C8 to C10 aromatic	317R	mg/kg	3.7	< 1.0	N/S	< 1.0
>C10 to C12 aromatic	317R	mg/kg	5.7	< 1.0	N/S	< 1.0
>C12 to C16 aromatic	317R	mg/kg	28	4.6	N/S	8.2
>C16 to C21 aromatic	317R	mg/kg	59	14	N/S	25
>C21 TO C40 aromatic	317R	mg/kg	160	51	N/S	120
Total Aromatic	317R	mg/kg	260	70	N/S	150
Total EPH aliphatic/aromatic	317R	mg/kg	360	92	N/S	200
>> OCP'S SUITE <<*			N/S	N/S	N/S	N/S
alpha-BHC*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
beta-BHC*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
delta-BHC*	OCPS1	mg/kg	N/S	N/S	N/S	N/S
gamma-BHC (lindane)*	OCPS1	mg/kg	N/S	N/S	N/S	N/S

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Soil Analysis

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LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777503	777504	777505	777506
Sample Ref			TP9	TP10	TP10	TP11
Detname	Method	Units	0.40m	0.30m	2.00m	0.40m
heptachlor*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
aldrin*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
heptachlor epoxide*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
endosulfan I*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
44' dde*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
dieldrin*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
endrin*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
endosulfan II*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
44' ddd (tde)	OCPSI	mg/kg	N/S	N/S	N/S	N/S
endrin aldehyde*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
endosulfan sulfate*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
44' ddt*	OCPSI	mg/kg	N/S	N/S	N/S	N/S
>> PAH SUITE <<						
naphthalene	325	mg/kg	2	< 1.0	< 1.0	< 1.0
acenaphthylene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
acenaphthene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
fluorene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
phenanthrene	325	mg/kg	3.1	< 1.0	< 1.0	1.1
anthracene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
fluoranthene	325	mg/kg	2.6	< 1.0	< 1.0	1.4
pyrene	325	mg/kg	2.3	< 1.0	< 1.0	1.4
benzo(a)anthracene	325	mg/kg	1.4	< 1.0	< 1.0	< 1.0
chrysene	325	mg/kg	1.3	< 1.0	< 1.0	< 1.0
benzo(b)fluoranthene	325	mg/kg	1.2	< 1.0	< 1.0	< 1.0
benzo(k)fluoranthene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
benzo(a)pyrene	325	mg/kg	1	< 1.0	< 1.0	< 1.0
indeno(123cd)pyrene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
dibenzo(ah)anthracene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
benzo(ghi)perylene	325	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0
PAH (Total)*	PAH	mg/kg	15	< 1.0	< 1.0	3.9
>> OPP'S SUITE <<*						
tetraethylpyrophosphate*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
monocrotophos*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
sulfotepp*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
dimethoate*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
malathion*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
ethyl parathion*	OPPSI	mg/kg	N/S	N/S	N/S	N/S
phenylphosphonothioic ac*	OPPSI	mg/kg	N/S	N/S	N/S	N/S

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Soil Analysis

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LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777503	777504	777505	777506
Sample Ref			TP9	TP10	TP10	TP11
Detname	Method	Units	0.40m	0.30m	2.00m	0.40m
dichlorvos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
mevinphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
demeton-O*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
ethoprop*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
naled*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
phorate*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
demeton-S*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
diazinon*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
disulfoton*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
methyl parathion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
fenchlorphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
chloropyrifos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
fenthion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
trichloronate*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
merphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
tetrachlorovinphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
tokuthion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
fensulfothion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
bolstar*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
guthion*	OPPS1	mg/kg	N/S	N/S	N/S	N/S
coumaphos*	OPPS1	mg/kg	N/S	N/S	N/S	N/S

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Soil Analysis

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LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777507	777508
Sample Ref			TP12	TP12
Detname	Method	Units	0.70m	2.00m
Arsenic (Total)	30/30C	mg/kg	12	110
Cadmium (Total)	30	mg/kg	0.81	< 0.50
Chromium (Total)	30	mg/kg	21	20
Copper (Total)	30	mg/kg	120	140
Lead (Total)	30	mg/kg	180	520
Mercury (Total)	30C	mg/kg	< 0.20	0.27
Nickel (Total)	30	mg/kg	36	42
Selenium (Total)	30C	mg/kg	0.64	2.1
Zinc (Total)	30	mg/kg	150	88
pH	39	pH units	7.7	7.3
>> TPH SUITE <<			N/S	.
TPH by GC (>C6-C10)	317	mg/kg	N/S	< 50
TPH by GC (>C10 - C20)	317	mg/kg	N/S	60
TPH by GC (>C20-C40)	317	mg/kg	N/S	64
TPH by GC (>C6 - C40)	317	mg/kg	N/S	120
PCB (as Aroclors)	309	mg/kg	N/S	N/S
>>TPH RISK ASSESSMENT<<			.	N/S
>C6 to C8 aliphatic	317R	mg/kg	< 1.0	N/S
>C8 to C10 aliphatic	317R	mg/kg	< 1.0	N/S
>C10 to C12 aliphatic	317R	mg/kg	< 1.0	N/S
>C12 to C16 aliphatic	317R	mg/kg	3.3	N/S
>C16 to C21 aliphatic	317R	mg/kg	< 5.0	N/S
>C21 TO C40 aliphatic	317R	mg/kg	29	N/S
Total Aliphatic	317R	mg/kg	33	N/S
>C5 to C7 aromatic	317R	mg/kg	< 1.0	N/S
>C7 to C8 aromatic	317R	mg/kg	< 1.0	N/S
>C8 to C10 aromatic	317R	mg/kg	< 1.0	N/S
>C10 to C12 aromatic	317R	mg/kg	< 1.0	N/S
>C12 to C16 aromatic	317R	mg/kg	7.5	N/S
>C16 to C21 aromatic	317R	mg/kg	24	N/S
>C21 TO C40 aromatic	317R	mg/kg	98	N/S
Total Aromatic	317R	mg/kg	130	N/S
Total EPH aliphatic/aromatic	317R	mg/kg	160	N/S
>> OCPS SUITE <<*			N/S	N/S
alpha-BHC*	OCPS1	mg/kg	N/S	N/S
beta-BHC*	OCPS1	mg/kg	N/S	N/S
delta-BHC*	OCPS1	mg/kg	N/S	N/S
gamma-BHC (lindane)*	OCPS1	mg/kg	N/S	N/S

Key

N/S - Not Scheduled

I/S - Insufficient Sample

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Winner 2001



Soil Analysis

PAGE 15 OF 17

LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777507	777508
Sample Ref			TP12	TP12
Defname	Method	Units	0.70m	2.00m
heptachlor*	OCPS1	mg/kg	N/S	N/S
aldrin*	OCPS1	mg/kg	N/S	N/S
heptachlor epoxide*	OCPS1	mg/kg	N/S	N/S
endosulfan I*	OCPS1	mg/kg	N/S	N/S
44' dde*	OCPS1	mg/kg	N/S	N/S
dieldrin*	OCPS1	mg/kg	N/S	N/S
endrin*	OCPS1	mg/kg	N/S	N/S
endosulfan II*	OCPS1	mg/kg	N/S	N/S
44' ddd (tde)	OCPS1	mg/kg	N/S	N/S
endrin aldehyde*	OCPS1	mg/kg	N/S	N/S
endosulfan sulfate*	OCPS1	mg/kg	N/S	N/S
44' ddt*	OCPS1	mg/kg	N/S	N/S
>> PAH SUITE <<			.	.
naphthalene	325	mg/kg	< 1.0	< 1.0
acenaphthylene	325	mg/kg	< 1.0	< 1.0
acenaphthene	325	mg/kg	< 1.0	< 1.0
fluorene	325	mg/kg	< 1.0	< 1.0
phenanthrene	325	mg/kg	< 1.0	< 1.0
anthracene	325	mg/kg	< 1.0	< 1.0
fluoranthene	325	mg/kg	< 1.0	< 1.0
pyrene	325	mg/kg	< 1.0	< 1.0
benzo(a)anthracene	325	mg/kg	< 1.0	< 1.0
chrysene	325	mg/kg	< 1.0	< 1.0
benzo(b)fluoranthene	325	mg/kg	< 1.0	< 1.0
benzo(k)fluoranthene	325	mg/kg	< 1.0	< 1.0
benzo(a)pyrene	325	mg/kg	< 1.0	< 1.0
indeno(123cd)pyrene	325	mg/kg	< 1.0	< 1.0
dibenzo(ah)anthracene	325	mg/kg	< 1.0	< 1.0
benzo(ghi)perylene	325	mg/kg	< 1.0	< 1.0
PAH (Total)*	PAH	mg/kg	< 1.0	< 1.0
>> OPP'S SUITE <<*			N/S	N/S
tetraethylpyrophosphate*	OPPS1	mg/kg	N/S	N/S
monocrotophos*	OPPS1	mg/kg	N/S	N/S
sulfotepp*	OPPS1	mg/kg	N/S	N/S
dimethoate*	OPPS1	mg/kg	N/S	N/S
malathion*	OPPS1	mg/kg	N/S	N/S
ethyl parathion*	OPPS1	mg/kg	N/S	N/S
phenylphosphonothioic ac*	OPPS1	mg/kg	N/S	N/S

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Soil Analysis

PAGE 16 OF 17

LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS Number:			777507	777508
Sample Ref			TP12	TP12
Detname	Method	Units	0.70m	2.00m
dichlorvos*	OPPS1	mg/kg	N/S	N/S
mevinphos*	OPPS1	mg/kg	N/S	N/S
demeton-O*	OPPS1	mg/kg	N/S	N/S
ethoprop*	OPPS1	mg/kg	N/S	N/S
naled*	OPPS1	mg/kg	N/S	N/S
phorate*	OPPS1	mg/kg	N/S	N/S
demeton-S*	OPPS1	mg/kg	N/S	N/S
diazinon*	OPPS1	mg/kg	N/S	N/S
disulfoton*	OPPS1	mg/kg	N/S	N/S
methyl parathion*	OPPS1	mg/kg	N/S	N/S
fenchlorphos*	OPPS1	mg/kg	N/S	N/S
chloropyrifos*	OPPS1	mg/kg	N/S	N/S
fenthion*	OPPS1	mg/kg	N/S	N/S
trichloronate*	OPPS1	mg/kg	N/S	N/S
merphos*	OPPS1	mg/kg	N/S	N/S
tetrachlorovinphos*	OPPS1	mg/kg	N/S	N/S
tokuthion*	OPPS1	mg/kg	N/S	N/S
fensulfothion*	OPPS1	mg/kg	N/S	N/S
bolstar*	OPPS1	mg/kg	N/S	N/S
guthion*	OPPS1	mg/kg	N/S	N/S
coumaphos*	OPPS1	mg/kg	N/S	N/S

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INVENTOR IS PEOPLE



Text Data

PAGE 17 OF 17

LKA /D1055
Buckley Wells
Your Reference:- JB578
Your Order:-

CAS No	Sample Ref	Asbestos Identification	Description of Sample*
777491	TP1 0.20m	N/S	N/S
777492	TP2 0.20m	N/S	N/S
777493	TP2 0.90m	N/S	N/S
777494	TP3 0.10m	N/S	N/S
777495	TP4 0.30m	ND	SOIL
777496	TP4 1.00m	N/S	N/S
777497	TP5 0.20m	N/S	N/S
777498	TP6 0.30m	N/S	N/S
777499	TP7 0.30m	ND	SOIL
777500	TP7 0.90m	N/S	N/S
777501	TP8 0.20m	N/S	N/S
777502	TP8 0.50m	N/S	N/S
777503	TP9 0.40m	N/S	N/S
777504	TP10 0.30m	N/S	N/S
777505	TP10 2.00m	N/S	N/S
777506	TP11 0.40m	ND	SOIL
777507	TP12 0.70m	N/S	N/S
777508	TP12 2.00m	N/S	N/S

Key

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Business of the Year
Winner 2001



05/01/2006

Mr Colin Crompton

Bury Business Centre
Kay Street
Bury
BL9 6BU

BL9 6BH
2000

Test Report : LKA /D0979

Dear Mr Crompton

Please find enclosed the results of the analysis carried out on the samples submitted from Buckley Wells on 20/12/2005.

Uncertainty Of Measurement Data in accordance with ISO 17025 is available upon request.

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

Yours sincerely

M. G. L.

M. Cohen

Technical Manager

Determinations marked * in this certificate are not included in the UKAS accreditation schedule for our laboratory. Determinations marked M have met the requirements of the MCERTS performance standard. Opinions and interpretations expressed herein, and marked #, are outside the scope of UKAS accreditation. Determinations marked \$ were subcontracted. Unless otherwise stated, Severn Trent - Midlands 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 and waters/leachates after 10 days from the issue of the final report.

Analysis carried out on air-dried and ground test portion of the sample, unless otherwise stated in the synopses of analytical methods. Air drying is carried out at not greater than 30°C. All results are reported on an air-dried basis.

Samples are not preserved on site, unless otherwise stated in the synopses of analytical methods.

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	BH2	Job:	LKA/D0979
Other ID:	0.40m	Sample No:	777219
Your Ref:	JB578	Your Order:	
Received:	20/12/2005		
Description	Black and brown loam with some gravel		

Method	Determination	Result	Units	Date of analysis
46	^M Sulphate as SO ₃ (2:1 Water	< 0.05	g/l	28/12/2005
39	^M pH	7.3	pH units	05/01/2006
Moisture	Moisture*	18	%	22/12/2005
Stones	Stones %*	21	%	22/12/2005
Comments				

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	BH3	Job:	LKA/D0979
Other ID:	3.40m	Sample No:	777220
Your Ref:	JB578	Your Order:	
Received:	20/12/2005		
Description	Brown loam with some gravel		

Method	Determination	Result	Units	Date of analysis
46	^M Sulphate as SO ₃ (2:1 Water	< 0.05	g/l	28/12/2005
39	^M pH	8.1	pH units	05/01/2006
Moisture	Moisture*	10	%	22/12/2005
Stones	Stones %*	21	%	22/12/2005
Comments				

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	BH6	Job:	LKA/D0979
Other ID:	0.90m	Sample No:	777221
Your Ref:	JB578	Your Order:	
Received:	20/12/2005		
Description	Brown loam with some gravel		

Method	Determination	Result	Units	Date of analysis
46	^M Sulphate as SO ₃ (2:1 Water	< 0.05	g/l	28/12/2005
39	^M pH	7.9	pH units	30/12/2005
Moisture	Moisture*	16	%	22/12/2005
Stones	Stones %*	22	%	22/12/2005
Comments				

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Synopses of Analytical Methods

Reference	Method Text
39	The test is carried out by extraction using deionised water with agitation. The pH of this suspension is read directly from an electronic pH meter.
46	The water soluble sulphate content of land samples is extracted by shaking with deionised water. The resultant solution is filtered and the determination of sulphate is obtained turbidimetrically from this filtrate via a reaction with barium chloride.

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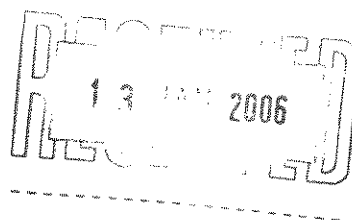
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11/01/2006

Ms Michelle Waddicor

Bury Business Centre
Kay Street
Bury
BL9 6BU



Test Report : LKA /D0921

Dear Ms Waddicor

Please find enclosed the results of the analysis carried out on the samples submitted from Buckley Wells on 19/12/2005.

Uncertainty Of Measurement Data in accordance with ISO 17025 is available upon request.

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

Yours sincerely



Janet Selbie

SECTION MANAGER INORGANICS

Determinations marked * in this certificate are not included in the UKAS accreditation schedule for our laboratory. Determinations marked M have met the requirements of the MCERTS performance standard. Opinions and interpretations expressed herein, and marked #, are outside the scope of UKAS accreditation. Determinations marked S were subcontracted. Unless otherwise stated, Severn Trent - Midlands 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 and waters/leachates after 10 days from the issue of the final report.

Analysis carried out on air-dried and ground test portion of the sample, unless otherwise stated in the synopses of analytical methods. Air drying is carried out at not greater than 30°C. All results are reported on an air-dried basis.

Samples are not preserved on site, unless otherwise stated in the synopses of analytical methods.

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA1	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776609
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Black and brown loam with occasional gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
30/30C	^M Arsenic (Total)	56	mg/kg	04/01/2006
30	^M Cadmium (Total)	0.63	mg/kg	04/01/2006
30	^M Chromium (Total)	23	mg/kg	04/01/2006
30	^M Copper (Total)	190	mg/kg	04/01/2006
30	Lead (Total)	460	mg/kg	04/01/2006
30C	Mercury (Total)	0.49	mg/kg	04/01/2006
30	^M Nickel (Total)	67	mg/kg	04/01/2006
30C	^M Selenium (Total)	1.4	mg/kg	04/01/2006
30	^M Zinc (Total)	180	mg/kg	04/01/2006
39	^M pH	7.7	pH units	30/12/2005
	>> TPH SUITE <<	.		20/12/2005
	>>TPH RISK ASSESSMENT<<	.		21/12/2005
317R	>C6 to C8 aliphatic	2.3	mg/kg	28/12/2005
317R	>C8 to C10 aliphatic	4.8	mg/kg	28/12/2005
317R	>C10 to C12 aliphatic	3.5	mg/kg	28/12/2005
317R	>C12 to C16 aliphatic	8.0	mg/kg	28/12/2005
317R	>C16 to C21 aliphatic	13	mg/kg	28/12/2005
317R	>C21 TO C40 aliphatic	80	mg/kg	28/12/2005
317R	Total Aliphatic	110	mg/kg	28/12/2005
317R	>C5 to C7 aromatic	< 1.0	mg/kg	28/12/2005
317R	>C7 to C8 aromatic	< 1.0	mg/kg	28/12/2005
317R	>C8 to C10 aromatic	6.2	mg/kg	28/12/2005
317R	>C10 to C12 aromatic	9.6	mg/kg	28/12/2005
317R	>C12 to C16 aromatic	54	mg/kg	28/12/2005
317R	>C16 to C21 aromatic	200	mg/kg	28/12/2005
317R	>C21 TO C40 aromatic	550	mg/kg	28/12/2005
317R	Total Aromatic	820	mg/kg	28/12/2005
317R	Total EPH aliphatic/aromatic	930	mg/kg	28/12/2005
	^M >> PAH SUITE <<	.		21/12/2005
307	^M naphthalene	14	mg/kg	23/12/2005
307	^M acenaphthylene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthene	15	mg/kg	23/12/2005
307	^M fluorene	11	mg/kg	23/12/2005
307	^M phenanthrene	89	mg/kg	23/12/2005

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ISO 9001



Business of the Year
Winner 2001



Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA1	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776609
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Black and brown loam with occasional gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
307	^M anthracene	20	mg/kg	23/12/2005
307	^M fluoranthene	78	mg/kg	23/12/2005
307	^M pyrene	57	mg/kg	23/12/2005
307	^M benzo(a)anthracene	21	mg/kg	23/12/2005
307	^M chrysene	27	mg/kg	23/12/2005
307	^M benzo(b)fluoranthene	11	mg/kg	23/12/2005
307	^M benzo(k)fluoranthene	9.6	mg/kg	23/12/2005
307	^M benzo(a)pyrene	20	mg/kg	23/12/2005
307	^M dibenzo(ah)anthracene	2.1	mg/kg	23/12/2005
307	^M benzo(ghi)perylene	11	mg/kg	23/12/2005
307	^M indeno(123cd)pyrene	11	mg/kg	23/12/2005
307	^M PAH (Total)	400	mg/kg	23/12/2005

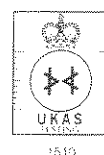
Comments

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA2	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776610
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Black and brown loam with occasional gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
30/30C	^M Arsenic (Total)	42	mg/kg	04/01/2006
30	^M Cadmium (Total)	< 0.50	mg/kg	04/01/2006
30	^M Chromium (Total)	15	mg/kg	04/01/2006
30	^M Copper (Total)	200	mg/kg	04/01/2006
30	Lead (Total)	200	mg/kg	04/01/2006
30C	Mercury (Total)	1.1	mg/kg	04/01/2006
30	^M Nickel (Total)	57	mg/kg	04/01/2006
30C	^M Selenium (Total)	1.4	mg/kg	04/01/2006
30	^M Zinc (Total)	160	mg/kg	04/01/2006
39	^M pH	7.8	pH units	30/12/2005
	>> TPH SUITE <<	.		20/12/2005
	^M >> PAH SUITE <<	.		21/12/2005
307	^M naphthalene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthylene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthene	< 0.50	mg/kg	23/12/2005
307	^M fluorene	< 0.50	mg/kg	23/12/2005
307	^M phenanthrene	< 0.50	mg/kg	23/12/2005
307	^M anthracene	< 0.50	mg/kg	23/12/2005
307	^M fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M pyrene	< 0.50	mg/kg	23/12/2005
307	^M benzo(a)anthracene	< 0.50	mg/kg	23/12/2005
307	^M chrysene	< 0.50	mg/kg	23/12/2005
307	^M benzo(b)fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M benzo(k)fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M benzo(a)pyrene	< 0.50	mg/kg	23/12/2005
307	^M dibenzo(ah)anthracene	< 0.50	mg/kg	23/12/2005
307	^M benzo(ghi)perylene	< 0.50	mg/kg	23/12/2005
307	^M indeno(123cd)pyrene	< 0.50	mg/kg	23/12/2005
307	^M PAH (Total)	5	mg/kg	23/12/2005
Comments				

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA3	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776611
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Black and brown loam with some gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
30/30C	^M Arsenic (Total)	46	mg/kg	04/01/2006
30	^M Cadmium (Total)	< 0.50	mg/kg	04/01/2006
30	^M Chromium (Total)	9.8	mg/kg	04/01/2006
30	^M Copper (Total)	130	mg/kg	04/01/2006
30	Lead (Total)	180	mg/kg	04/01/2006
30C	Mercury (Total)	< 0.20	mg/kg	04/01/2006
30	^M Nickel (Total)	38	mg/kg	04/01/2006
30C	^M Selenium (Total)	1.2	mg/kg	04/01/2006
30	^M Zinc (Total)	70	mg/kg	04/01/2006
39	^M pH	7.2	pH units	30/12/2005
	>> TPH SUITE <<	.		20/12/2005
	>>TPH RISK ASSESSMENT<<	.		21/12/2005
317R	>C6 to C8 aliphatic	2.3	mg/kg	28/12/2005
317R	>C8 to C10 aliphatic	4.1	mg/kg	28/12/2005
317R	>C10 to C12 aliphatic	3.0	mg/kg	28/12/2005
317R	>C12 to C16 aliphatic	6.4	mg/kg	28/12/2005
317R	>C16 to C21 aliphatic	6.8	mg/kg	28/12/2005
317R	>C21 TO C40 aliphatic	29	mg/kg	28/12/2005
317R	Total Aliphatic	51	mg/kg	28/12/2005
317R	>C5 to C7 aromatic	< 1.0	mg/kg	28/12/2005
317R	>C7 to C8 aromatic	< 1.0	mg/kg	28/12/2005
317R	>C8 to C10 aromatic	3.5	mg/kg	28/12/2005
317R	>C10 to C12 aromatic	3.5	mg/kg	28/12/2005
317R	>C12 to C16 aromatic	16	mg/kg	28/12/2005
317R	>C16 to C21 aromatic	28	mg/kg	28/12/2005
317R	>C21 TO C40 aromatic	110	mg/kg	28/12/2005
317R	Total Aromatic	170	mg/kg	28/12/2005
317R	Total EPH aliphatic/aromatic	220	mg/kg	28/12/2005
	^M >> PAH SUITE <<	.		21/12/2005
307	^M naphthalene	1.2	mg/kg	23/12/2005
307	^M acenaphthylene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthene	< 0.50	mg/kg	23/12/2005
307	^M fluorene	< 0.50	mg/kg	23/12/2005
307	^M phenanthrene	1.8	mg/kg	23/12/2005

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA3	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776611
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Black and brown loam with some gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
307	^M anthracene	< 0.50	mg/kg	23/12/2005
307	^M fluoranthene	2.9	mg/kg	23/12/2005
307	^M pyrene	1.5	mg/kg	23/12/2005
307	^M benzo(a)anthracene	0.94	mg/kg	23/12/2005
307	^M chrysene	1.7	mg/kg	23/12/2005
307	^M benzo(b)fluoranthene	0.60	mg/kg	23/12/2005
307	^M benzo(k)fluoranthene	0.66	mg/kg	23/12/2005
307	^M benzo(a)pyrene	1.5	mg/kg	23/12/2005
307	^M dibenzo(ah)anthracene	< 0.50	mg/kg	23/12/2005
307	^M benzo(ghi)perylene	1.2	mg/kg	23/12/2005
307	^M indeno(123cd)pyrene	1.0	mg/kg	23/12/2005
307	^M PAH (Total)	16	mg/kg	23/12/2005

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA4	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776612
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Brown and black loam with some gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
30/30C	^M Arsenic (Total)	87	mg/kg	04/01/2006
30	^M Cadmium (Total)	1.4	mg/kg	04/01/2006
30	^M Chromium (Total)	32	mg/kg	04/01/2006
30	^M Copper (Total)	220	mg/kg	04/01/2006
30	Lead (Total)	410	mg/kg	04/01/2006
30C	Mercury (Total)	0.92	mg/kg	04/01/2006
30	^M Nickel (Total)	79	mg/kg	04/01/2006
30C	^M Selenium (Total)	1.7	mg/kg	04/01/2006
30	^M Zinc (Total)	300	mg/kg	04/01/2006
39	^M pH	7.6	pH units	30/12/2005
	>> TPH SUITE <<	.		20/12/2005
309	^M PCB (as Aroclors)	< 0.10	mg/kg	28/12/2005
	>>TPH RISK ASSESSMENT<<	.		21/12/2005
317R	>C6 to C8 aliphatic	2.5	mg/kg	28/12/2005
317R	>C8 to C10 aliphatic	5.1	mg/kg	28/12/2005
317R	>C10 to C12 aliphatic	3.6	mg/kg	28/12/2005
317R	>C12 to C16 aliphatic	7.6	mg/kg	28/12/2005
317R	>C16 to C21 aliphatic	8.3	mg/kg	28/12/2005
317R	>C21 TO C40 aliphatic	31	mg/kg	28/12/2005
317R	Total Aliphatic	58	mg/kg	28/12/2005
317R	>C5 to C7 aromatic	< 1.0	mg/kg	28/12/2005
317R	>C7 to C8 aromatic	< 1.0	mg/kg	28/12/2005
317R	>C8 to C10 aromatic	4.0	mg/kg	28/12/2005
317R	>C10 to C12 aromatic	4.3	mg/kg	28/12/2005
317R	>C12 to C16 aromatic	21	mg/kg	28/12/2005
317R	>C16 to C21 aromatic	36	mg/kg	28/12/2005
317R	>C21 TO C40 aromatic	130	mg/kg	28/12/2005
317R	Total Aromatic	190	mg/kg	28/12/2005
317R	Total EPH aliphatic/aromatic	250	mg/kg	28/12/2005
	^M >> PAH SUITE <<	.		21/12/2005
307	^M naphthalene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthylene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthene	< 0.50	mg/kg	23/12/2005
307	^M fluorene	< 0.50	mg/kg	23/12/2005

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA4	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776612
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Brown and black loam with some gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
307	^M phenanthrene	< 0.50	mg/kg	23/12/2005
307	^M anthracene	< 0.50	mg/kg	23/12/2005
307	^M fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M pyrene	< 0.50	mg/kg	23/12/2005
307	^M benzo(a)anthracene	< 0.50	mg/kg	23/12/2005
307	^M chrysene	< 0.50	mg/kg	23/12/2005
307	^M benzo(b)fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M benzo(k)fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M benzo(a)pyrene	< 0.50	mg/kg	23/12/2005
307	^M dibenzo(ah)anthracene	< 0.50	mg/kg	23/12/2005
307	^M benzo(ghi)perylene	< 0.50	mg/kg	23/12/2005
307	^M indeno(123cd)pyrene	< 0.50	mg/kg	23/12/2005
307	^M PAH (Total)	< 2	mg/kg	23/12/2005
70	Asbestos Identification	ND		23/12/2005
70	Description of Sample*	SOIL/STONE		23/12/2005
Comments				

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA5	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776613
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Brown and black loam with occasional gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
30/30C	^M Arsenic (Total)	71	mg/kg	04/01/2006
30	^M Cadmium (Total)	0.88	mg/kg	04/01/2006
30	^M Chromium (Total)	23	mg/kg	04/01/2006
30	^M Copper (Total)	330	mg/kg	04/01/2006
30	Lead (Total)	970	mg/kg	04/01/2006
30C	Mercury (Total)	6.6	mg/kg	04/01/2006
30	^M Nickel (Total)	63	mg/kg	04/01/2006
30C	^M Selenium (Total)	2.1	mg/kg	04/01/2006
30	^M Zinc (Total)	210	mg/kg	04/01/2006
39	^M pH	7.2	pH units	30/12/2005
	>> TPH SUITE <<	.		20/12/2005
317	TPH by GC (>C6-C10)	< 50	mg/kg	23/12/2005
317	TPH by GC (>C10 - C20)	162	mg/kg	23/12/2005
317	TPH by GC (>C20-C40)	380	mg/kg	23/12/2005
317	^M TPH by GC (>C6 - C40)	543	mg/kg	23/12/2005
	^M >> PAH SUITE <<	.		21/12/2005
307	^M naphthalene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthylene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthene	< 0.50	mg/kg	23/12/2005
307	^M fluorene	< 0.50	mg/kg	23/12/2005
307	^M phenanthrene	< 0.50	mg/kg	23/12/2005
307	^M anthracene	< 0.50	mg/kg	23/12/2005
307	^M fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M pyrene	< 0.50	mg/kg	23/12/2005
307	^M benzo(a)anthracene	< 0.50	mg/kg	23/12/2005
307	^M chrysene	< 0.50	mg/kg	23/12/2005
307	^M benzo(b)fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M benzo(k)fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M benzo(a)pyrene	< 0.50	mg/kg	23/12/2005
307	^M dibenzo(ah)anthracene	< 0.50	mg/kg	23/12/2005
307	^M benzo(ghi)perylene	< 0.50	mg/kg	23/12/2005
307	^M indeno(123cd)pyrene	< 0.50	mg/kg	23/12/2005
307	^M PAH (Total)	< 2	mg/kg	23/12/2005

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA5	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776613
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Brown and black loam with occasional gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
Comments				

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA6	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776614
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Brown and black loam with occasional gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
30/30C	^M Arsenic (Total)	68	mg/kg	04/01/2006
30	^M Cadmium (Total)	1.1	mg/kg	04/01/2006
30	^M Chromium (Total)	28	mg/kg	04/01/2006
30	^M Copper (Total)	270	mg/kg	04/01/2006
30	Lead (Total)	300	mg/kg	04/01/2006
30C	Mercury (Total)	0.48	mg/kg	04/01/2006
30	^M Nickel (Total)	62	mg/kg	04/01/2006
30C	^M Selenium (Total)	1.5	mg/kg	04/01/2006
30	^M Zinc (Total)	200	mg/kg	04/01/2006
39	^M pH	7.7	pH units	30/12/2005
	>> TPH SUITE <<	.		20/12/2005
317	TPH by GC (>C6-C10)	< 50	mg/kg	23/12/2005
317	TPH by GC (>C10 - C20)	127	mg/kg	23/12/2005
317	TPH by GC (>C20-C40)	245	mg/kg	23/12/2005
317	^M TPH by GC (>C6 - C40)	372	mg/kg	23/12/2005
309	^M PCB (as Aroclors)	< 0.10	mg/kg	28/12/2005
	^M >> PAH SUITE <<	.		21/12/2005
307	^M naphthalene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthylene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthene	< 0.50	mg/kg	23/12/2005
307	^M fluorene	< 0.50	mg/kg	23/12/2005
307	^M phenanthrene	0.73	mg/kg	23/12/2005
307	^M anthracene	< 0.50	mg/kg	23/12/2005
307	^M fluoranthene	1.8	mg/kg	23/12/2005
307	^M pyrene	1.6	mg/kg	23/12/2005
307	^M benzo(a)anthracene	0.72	mg/kg	23/12/2005
307	^M chrysene	0.98	mg/kg	23/12/2005
307	^M benzo(b)fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M benzo(k)fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M benzo(a)pyrene	1.0	mg/kg	23/12/2005
307	^M dibenzo(ah)anthracene	< 0.50	mg/kg	23/12/2005
307	^M benzo(ghi)perylene	0.66	mg/kg	23/12/2005
307	^M indeno(123cd)pyrene	0.64	mg/kg	23/12/2005
307	^M PAH (Total)	9	mg/kg	23/12/2005

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA6	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776614
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Brown and black loam with occasional gravel and occasional organic matter		

Method	Determination	Result	Units	Date of analysis
Comments				

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA7	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776615
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Brown and black loam with occasional gravel		

Method	Determination	Result	Units	Date of analysis
30/30C	^M Arsenic (Total)	14	mg/kg	04/01/2006
30	^M Cadmium (Total)	< 0.50	mg/kg	04/01/2006
30	^M Chromium (Total)	9.2	mg/kg	04/01/2006
30	^M Copper (Total)	56	mg/kg	04/01/2006
30	Lead (Total)	130	mg/kg	04/01/2006
30C	Mercury (Total)	< 0.20	mg/kg	04/01/2006
30	^M Nickel (Total)	23	mg/kg	04/01/2006
30C	^M Selenium (Total)	0.66	mg/kg	04/01/2006
30	^M Zinc (Total)	98	mg/kg	04/01/2006
39	^M pH	7.9	pH units	30/12/2005
	>> TPH SUITE <<	.		20/12/2005
	>>TPH RISK ASSESSMENT<<	.		21/12/2005
317R	>C6 to C8 aliphatic	1.0	mg/kg	28/12/2005
317R	>C8 to C10 aliphatic	1.9	mg/kg	28/12/2005
317R	>C10 to C12 aliphatic	1.3	mg/kg	28/12/2005
317R	>C12 to C16 aliphatic	2.9	mg/kg	28/12/2005
317R	>C16 to C21 aliphatic	6.1	mg/kg	28/12/2005
317R	>C21 TO C40 aliphatic	52	mg/kg	28/12/2005
317R	Total Aliphatic	66	mg/kg	28/12/2005
317R	>C5 to C7 aromatic	< 1.0	mg/kg	28/12/2005
317R	>C7 to C8 aromatic	< 1.0	mg/kg	28/12/2005
317R	>C8 to C10 aromatic	2.7	mg/kg	28/12/2005
317R	>C10 to C12 aromatic	2.3	mg/kg	28/12/2005
317R	>C12 to C16 aromatic	8.6	mg/kg	28/12/2005
317R	>C16 to C21 aromatic	17	mg/kg	28/12/2005
317R	>C21 TO C40 aromatic	92	mg/kg	28/12/2005
317R	Total Aromatic	120	mg/kg	28/12/2005
317R	Total EPH aliphatic/aromatic	190	mg/kg	28/12/2005
	^M >> PAH SUITE <<	.		21/12/2005
307	^M naphthalene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthylene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthene	< 0.50	mg/kg	23/12/2005
307	^M fluorene	< 0.50	mg/kg	23/12/2005
307	^M phenanthrene	0.98	mg/kg	23/12/2005

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA7	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776615
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Brown and black loam with occasional gravel		

Method	Determination	Result	Units	Date of analysis
307	^M anthracene	< 0.50	mg/kg	23/12/2005
307	^M fluoranthene	1.8	mg/kg	23/12/2005
307	^M pyrene	0.59	mg/kg	23/12/2005
307	^M benzo(a)anthracene	1.5	mg/kg	23/12/2005
307	^M chrysene	16	mg/kg	23/12/2005
307	^M benzo(b)fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M benzo(k)fluoranthene	< 0.50	mg/kg	23/12/2005
307	^M benzo(a)pyrene	< 0.50	mg/kg	23/12/2005
307	^M dibenzo(ah)anthracene	< 0.50	mg/kg	23/12/2005
307	^M benzo(ghi)perylene	< 0.50	mg/kg	23/12/2005
307	^M indeno(123cd)pyrene	< 0.50	mg/kg	23/12/2005
307	^M PAH (Total)	21	mg/kg	23/12/2005

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Site	Buckley Wells	Sample Type	SOIL
Sample ID:	HA8	Job:	LKA/D0921
Other ID:	0.00m	Sample No:	776616
Your Ref:	JB578	Your Order:	1309
Received:	19/12/2005		
Description	Brown and black loam with occasional gravel		

Method	Determination	Result	Units	Date of analysis
30/30C	^M Arsenic (Total)	59	mg/kg	04/01/2006
30	^M Cadmium (Total)	0.69	mg/kg	03/01/2006
30	^M Chromium (Total)	25	mg/kg	03/01/2006
30	^M Copper (Total)	770	mg/kg	03/01/2006
30	Lead (Total)	2300	mg/kg	03/01/2006
30C	Mercury (Total)	0.52	mg/kg	03/01/2006
30	^M Nickel (Total)	55	mg/kg	03/01/2006
30C	^M Selenium (Total)	1.5	mg/kg	03/01/2006
30	^M Zinc (Total)	180	mg/kg	03/01/2006
39	^M pH	7.3	pH units	30/12/2005
	>> TPH SUITE <<	.		20/12/2005
	>>TPH RISK ASSESSMENT<<	.		21/12/2005
317R	>C6 to C8 aliphatic	2.3	mg/kg	28/12/2005
317R	>C8 to C10 aliphatic	2.9	mg/kg	28/12/2005
317R	>C10 to C12 aliphatic	2.2	mg/kg	28/12/2005
317R	>C12 to C16 aliphatic	5.3	mg/kg	28/12/2005
317R	>C16 to C21 aliphatic	9.6	mg/kg	28/12/2005
317R	>C21 TO C40 aliphatic	76	mg/kg	28/12/2005
317R	Total Aliphatic	98	mg/kg	28/12/2005
317R	>C5 to C7 aromatic	< 1.0	mg/kg	28/12/2005
317R	>C7 to C8 aromatic	< 1.0	mg/kg	28/12/2005
317R	>C8 to C10 aromatic	2.5	mg/kg	28/12/2005
317R	>C10 to C12 aromatic	3.6	mg/kg	28/12/2005
317R	>C12 to C16 aromatic	17	mg/kg	28/12/2005
317R	>C16 to C21 aromatic	30	mg/kg	28/12/2005
317R	>C21 TO C40 aromatic	160	mg/kg	28/12/2005
317R	Total Aromatic	210	mg/kg	28/12/2005
317R	Total EPH aliphatic/aromatic	310	mg/kg	28/12/2005
	^M >> PAH SUITE <<	.		21/12/2005
307	^M naphthalene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthylene	< 0.50	mg/kg	23/12/2005
307	^M acenaphthene	< 0.50	mg/kg	23/12/2005
307	^M fluorene	< 0.50	mg/kg	23/12/2005
307	^M phenanthrene	< 0.50	mg/kg	23/12/2005

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