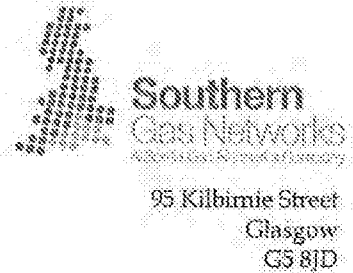
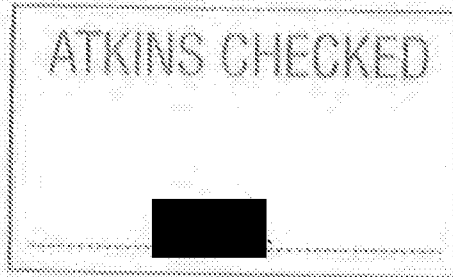


Our Ref: SC/06.06.11/MS550/226777
Your Ref: 17199/412310/ZA
Date: 06 June 2011
Email:



Zarina Aslam
Atkins Telecoms
Stats Enquiries Team
The Hub
500 Park Avenue
Aztec West
Almondsbury
Dear Sir / Madam



Fax:

Re: Ford Lane, Arundel.

Southern Gas Networks (SGN) acknowledges receipt of your notice of your intention to carry out work at the above location. We enclose an extract from our mains records in the location of the area covered by your proposals together with a comprehensive list of precautions for your guidance. This plan shows only those pipes owned by SGN in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's and also privately owned may be present in this area. Information with regard to such pipes should be obtained from the owners. The information shown on this plan is given without obligation, or warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, siphons, stub connections, etc., are not shown but their presence should be anticipated. Your attention is drawn to the information and disclaimer on these plans. The information included on the enclosed plan should not be referred to beyond a period of 28 days from the date of issue.

You will note the presence of our Low/Medium/Intermediate Pressure gas main in the proximity to your site. NO mechanical excavations are to take place above or within 0.5 m of the Low pressure and medium pressure system and 3metres of the intermediate pressure system. You should where required CONFIRM THE POSITION of mains using HAND DUG TRIAL HOLES.

A colour copy of these plans and the gas safety advice card should be passed to the senior person on site in order to prevent damage to SGN plant and potential direct or consequential costs to your organisation.

Safe digging practices, in accordance with HSE publication HSG47 "Avoiding Danger from Underground Services", must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. In addition please follow the advice given on the gas safety card.

It must be stressed that both direct and consequential damage to gas plant can be dangerous both for your employees and the general public, repairs to any such damage will incur a charge. Your works should be carried out in such a manner that we are able to gain access to our apparatus throughout the duration of your operations.

If you have any further enquires please contact the telephone number below.

Yours faithfully,

Maureen Smith
Admin Assistant

CHEMEX ENVIRONMENTAL INTERNATIONAL
VOLATILE ORGANICS IN AIR

Project No :	11G48A	Project code:	ARUNDEL		Turnaround:	STD
12 Aug 11 16:12						
Lab Sample ID :	11G48A01A	11G48A02A	11G48A03A	11G48A04A	11G48A05A	11G48A06A
Client ID :	VP201	VP202	VP200	AMB AIR	VP204	VP203
Bottle No :	G0124367	G0167264	E069342	F073256	G0124326	A78469
Matrix :	AIR	AIR	AIR	AIR	AIR	AIR
Volume/Weight :	Whole tube	Whole tube	Whole tube	Whole tube	Whole tube	Whole tube
Scaling Factor :	1.0	1.0	1.0	1.0	1.0	1.0

COMPOUND	Concentration ng/Tube					
Dichlorodifluoromethane	<15	<15	<15	<15	<15	<15
Chloromethane	<5	<5	<5	<5	<5	<5
Vinyl chloride	<5	<5	<5	<5	<5	<5
Bromomethane	<5	<5	<5	<5	<5	<5
Chloroethane	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5
Acetone	<50	<50	<50	<50	<50	<50
Diethyl ether	<10	<10	<10	<10	<10	<10
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
Carbon disulfide	<4	<4	<4	<4	<4	<4
Allyl chloride	<10	<10	<10	<10	<10	<10
Methylene chloride	<5	<5	<5	<5	<5	<5
Trans-1,2-dichloroethene	<5	<5	<5	<5	<5	<5
tert-butyl methyl ether	<5	17	<5	<5	<5	7
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5
2-Butanone	<50	<50	<50	<50	<50	<50
cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5
2,2-Dichloropropane	<5	<5	<5	<5	<5	<5
Chloroform	<4	7	9	<4	4	24
Tetrahydrofuran	<100	<100	<100	<100	<100	<100
1,1,1-Trichloroethane	<4	<4	<4	<4	14	<4
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5
1-Chlorobutane	<5	<5	<5	<5	<5	<5
1,1-Dichloropropene	<5	<5	<5	<5	<5	<5
Benzene	7200	1400	30	150	15	38
Carbon tetrachloride	<5	<5	<5	<5	<5	<5
2-Nitropropane	<10	<10	<10	<10	<10	<10
Methyl methacrylate	<10	<10	<10	<10	<10	<10
2-Hexanone	<15	<15	<15	<15	<15	<15
4-Methyl-2-pentanone	<25	<25	<25	<25	<25	<25
1,2-Dichloropropane	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5
trans-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
Toluene	3000	6000	78	530	100	130

CHEMEX ENVIRONMENTAL INTERNATIONAL
VOLATILE ORGANICS IN AIR

Project No :	11G48A	Project code:	ARUNDEL		Turnaround:	STD
12 Aug 11 16:12						
Lab Sample ID :	11G48A01A	11G48A02A	11G48A03A	11G48A04A	11G48A05A	11G48A06A
Client ID :	VP201	VP202	VP200	AMB AIR	VP204	VP203
Bottle No :	G0124367	G0167264	E069342	F073256	G0124326	A78469
Matrix :	AIR	AIR	AIR	AIR	AIR	AIR
Volume/Weight :	Whole tube	Whole tube	Whole tube	Whole tube	Whole tube	Whole tube
Scaling Factor :	1.0	1.0	1.0	1.0	1.0	1.0
COMPOUND	Concentration ng/Tube					
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5
1,3-Dichloropropane	<5	<5	<5	<5	<5	<5
Ethyl methacrylate	<10	<10	<10	<10	<10	<10
Dibromochloromethane	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5
Tetrachloroethene	<5	<5	<5	<5	<5	<5
Chlorobenzene	<4	<4	<4	<4	<4	<4
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
Ethylbenzene	4700	1500	30	39	34	40
m&p-Xylene	45000	8400	190	1700	170	470
Styrene	<5	630	13	<5	15	13
Bromoform	<5	<5	<5	<5	<5	<5
o-Xylene	19000	<4	87	460	73	150
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5
Isopropylbenzene	630	120	<4.5	<4.5	<4.5	<4.5
trans-1,4-Dichloro-2-butene	<10	<10	<10	<10	<10	<10
Bromobenzene	<5	<5	<5	<5	<5	<5
2-Chlorotoluene	<5	<5	<5	<5	<5	<5
n-Propylbenzene	600	4000	56	<5	36	12
4-Chlorotoluene	<5	<5	<5	<5	<5	<5
1,3,5-Trimethylbenzene	5000	3900	52	270	34	120
Pentachloroethane	<10	<10	<10	<10	<10	<10
1,2,4-Trimethylbenzene	17000	4900	220	290	130	180
tert-Butylbenzene	<5	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	<5	<5	<5	<5	<5	<5
sec-Butylbenzene	<5	48	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5
4-Isopropyltoluene	910	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5
n-Butylbenzene	<4.5	<4.5	5	<4.5	<4.5	15
Hexachloroethane	<10	<10	<10	<10	<10	<10
1,2-Dibromo-3-chloropropane	-	-	-	-	-	-
1,2,4-Trichlorobenzene	-	-	-	-	-	-
Naphthalene	32000	<500	<500	2400	<500	1400
1,2,3-Trichlorobenzene	-	-	-	-	-	-
Hexachlorobutadiene	<100	<100	<100	<100	<100	<100

CHEMEX ENVIRONMENTAL INTERNATIONAL
VOLATILE ORGANICS IN AIR

Project No :	11G48A	Project code:	ARUNDEL	Turnaround:	STD
12 Aug 11 16:12					
Lab Sample ID :	11G48A07A	0807BLKB	0807BLKA		
Client ID :	TRIP BLANK 6592	BLANK	BLANK		
Bottle No :	F071466	BLANK0807B	BLANK0807A		
Matrix :	AIR	AIR	AIR		
Volume/Weight :	Whole tube	Whole tube	Whole tube		
Scaling Factor :	1.0	1.0	1.0		

COMPOUND	Concentration ng/Tube		
Dichlorodifluoromethane	<15	<15	<15
Chloromethane	<5	<5	<5
Vinyl chloride	<5	<5	<5
Bromomethane	<5	<5	<5
Chloroethane	<5	<5	<5
Trichlorofluoromethane	<5	<5	<5
Acetone	<50	<50	<50
Diethyl ether	<10	<10	<10
1,1-Dichloroethene	<5	<5	<5
Carbon disulfide	<4	<4	<4
Allyl chloride	<10	<10	<10
Methylene chloride	<5	<5	<5
Trans-1,2-dichloroethene	<5	<5	<5
tert-butyl methyl ether	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5
2-Butanone	<50	<50	<50
cis-1,2-Dichloroethene	<5	<5	<5
2,2-Dichloropropane	<5	<5	<5
Chloroform	<4	<4	<4
Tetrahydrofuran	<100	<100	<100
1,1,1-Trichloroethane	<4	<4	<4
1,2-Dichloroethane	<5	<5	<5
1-Chlorobutane	<5	<5	<5
1,1-Dichloropropene	<5	<5	<5
Benzene	<4	<4	<4
Carbon tetrachloride	<5	<5	<5
2-Nitropropane	<10	<10	<10
Methyl methacrylate	<10	<10	<10
2-Hexanone	<15	<15	<15
4-Methyl-2-pentanone	<25	<25	<25
1,2-Dichloropropane	<5	<5	<5
Trichloroethene	<5	<5	<5
Dibromomethane	<5	<5	<5
Bromodichloromethane	<5	<5	<5
trans-1,3-Dichloropropene	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5
Toluene	<5	<5	<5

CHEMEX ENVIRONMENTAL INTERNATIONAL
VOLATILE ORGANICS IN AIR

Project No :	11G48A	Project code:	ARUNDEL	Turnaround:	STD
12 Aug 11 16:12					
Lab Sample ID :	11G48A07A	0807BLKB	0807BLKA		
Client ID :	TRIP BLANK 6592	BLANK	BLANK		
Bottle No :	F071466	BLANK0807B	BLANK0807A		
Matrix :	AIR	AIR	AIR		
Volume/Weight :	Whole tube	Whole tube	Whole tube		
Scaling Factor :	1.0	1.0	1.0		

COMPOUND	Concentration ng/Tube		
1,1,2-Trichloroethane	<5	<5	<5
1,3-Dichloropropane	<5	<5	<5
Ethyl methacrylate	<10	<10	<10
Dibromochloromethane	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5
Tetrachloroethene	<5	<5	<5
Chlorobenzene	<4	<4	<4
1,1,1,2-Tetrachloroethane	<5	<5	<5
Ethylbenzene	<4	<4	<4
m&p-Xylene	<7.5	<7.5	<7.5
Styrene	<5	<5	<5
Bromoform	<5	<5	<5
o-Xylene	<4	<4	<4
1,1,2,2-Tetrachloroethane	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5
Isopropylbenzene	<4.5	<4.5	<4.5
trans-1,4-Dichloro-2-butene	<10	<10	<10
Bromobenzene	<5	<5	<5
2-Chlorotoluene	<5	<5	<5
n-Propylbenzene	<5	<5	<5
4-Chlorotoluene	<5	<5	<5
1,3,5-Trimethylbenzene	<5	<5	<5
Pentachloroethane	<10	<10	<10
1,2,4-Trimethylbenzene	<5	<5	<5
tert-Butylbenzene	<5	<5	<5
1,3-Dichlorobenzene	<5	<5	<5
sec-Butylbenzene	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5
4-Isopropyltoluene	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5
n-Butylbenzene	<4.5	<4.5	<4.5
Hexachloroethane	<10	<10	<10
1,2-Dibromo-3-chloropropane	-	-	-
1,2,4-Trichlorobenzene	-	-	-
Naphthalene	<500	<500	<500
1,2,3-Trichlorobenzene	-	-	-
Hexachlorobutadiene	<100	<100	<100

CHEMEX ENVIRONMENTAL INTERNATIONAL
VOLATILE ORGANICS IN AIR

Project No : 11G48A Project code: ARUNDEL Turnaround: STD

12 Aug 11 16:12

Lab Sample ID :	11G48A01A	11G48A02A	11G48A03A	11G48A04A	11G48A05A	11G48A06A
Client ID :	VP201	VP202	VP200	AMB AIR	VP204	VP203
Bottle No :	G0124367	G0167264	E069342	F073256	G0124326	A78469
Matrix :	AIR	AIR	AIR	AIR	AIR	AIR
Volume/Weight :	Whole tube	Whole tube	Whole tube	Whole tube	Whole tube	Whole tube
Scaling Factor :	1.0	1.0	1.0	1.0	1.0	1.0
Lab QC No:	0807	0807	0807	0807	0807	0807

ALIPHATICS (ng/Tube)

C5-C6	-	-	-	-	1070	70
>C6-C8	-	-	-	-	-	-
>C8-C10	479	740	-	-	-	37
>C10-C12	240	116	383	-	41	216
>C12-C16	-	-	-	-	-	-
>C16-C21	-	-	-	-	-	-
>C21-C35	-	-	-	-	-	-

AROMATICS (ng/Tube)

C5-C7	7200	1400	30	150	15	38
>C7-C8	3000	6000	78	530	100	130
>C8-C10	92750	23498	704	2759	525	985
>C10-C12	33917	868	612	2400	348	1607
>C12-C16	-	-	-	-	-	-
>C16-C21	-	-	-	-	-	-
>C21-C35	-	-	-	-	-	-

CHEMEX ENVIRONMENTAL INTERNATIONAL
VOLATILE ORGANICS IN AIR

Project No : 11G48A Project code: ARUNDEL Turnaround: STD

12 Aug 11 16:12

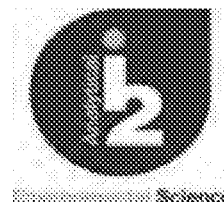
Lab Sample ID : 11G48A07A 0807BLKB 0807BLKA
Client ID : TRIP BLANK 6592 BLANK BLANK
Bottle No : F071466 BLANK0807B BLANK0807A
Matrix : AIR AIR AIR
Volume/Weight : Whole tube Whole tube Whole tube
Scaling Factor : 1.0 1.0 1.0
Lab QC No: 0807 0807 0807

ALIPHATICS (ng/Tube)

C5-C6	-	-	-
>C6-C8	-	-	-
>C8-C10	-	-	-
>C10-C12	-	-	-
>C12-C16	-	-	-
>C16-C21	-	-	-
>C21-C35	-	-	-

AROMATICS (ng/Tube)

C5-C7	0	0	0
>C7-C8	0	0	0
>C8-C10	0	0	0
>C10-C12	0	0	0
>C12-C16	-	-	-
>C16-C21	-	-	-
>C21-C35	-	-	-



Lucy Hay
Atkins Ltd
SWAH
Ashley Avenue
Epsom
KT18 5AL

i2 Analytical Ltd.
Building 19,
BRE,
Garston,
Watford,
WD25 9XX

Analytical Report Number : 11-28669

Project / Site name: Arundel

Samples received on: 08/07/2011

Your job number:

Samples instructed on: 08/07/2011

Your order number:

Analysis completed by: 19/07/2011

Report Issue Number: 1

Report issued on: 19/07/2011

Samples Analysed: 6 water samples

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Thurstan Plummer
Organics Technical Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

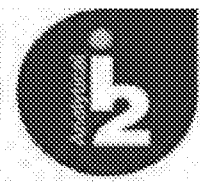
Iss No 11-28669-1

This certificate should not be reproduced, except in full, without the express permission of the laboratory.

ARUN DISTRICT COUNCIL AB/88/19/PL

The results included within the report are representative of the samples submitted for analysis.

Page 1 of 7



Analytical Report Number: 11-28669

Project / Site name: Arundel

Lab Sample Number	182891	182892	182893	182894	182895
Sample Reference	BH101S	BH101D	BH102	BH103	BH104
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.50	7.50	7.50	7.00	8.00
Date Sampled	07/07/2011	07/07/2011	07/07/2011	07/07/2011	07/07/2011
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

General Inorganics

pH	pH units	N/A	ISO 17025	7.6	8.4	6.7	6.8	6.9
Electrical Conductivity	µS/cm	10	NONE	3500	3600	1000	820	860
Total Cyanide	µg/l	10	ISO 17025	280	260	< 10	< 10	< 10
Complex Cyanide	µg/l	10	NONE	280	260	< 10	< 10	< 10
Free Cyanide	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
Thiocyanate as SCN	µg/l	30	NONE	< 30	< 30	< 30	< 30	< 30
Sulphate as SO ₄	µg/L	45	ISO 17025	670000	650000	120000	39000	42000
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/l	4	ISO 17025	7.9	300	48	68	73
Ammonium as NH ₄	µg/l	15	ISO 17025	520000	520000	28000	440	370
Total Organic Carbon (TOC)	mg/l	0.1	NONE	310	450	7.9	3.8	3.2
Total Suspended Solids	mg/l	5	NONE	1100	1800	840	110	940

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Resorcinol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	42	86	< 0.5	< 0.5	< 0.5
Cresols	µg/l	0.5	NONE	82	95	7.0	< 0.5	< 0.5
Naphthols	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenol	µg/l	0.5	NONE	110	170	8.9	< 0.5	< 0.5
Trimethylphenol	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	240	350	16	< 3.5	< 3.5
----------------------	------	-----	------	-----	-----	----	-------	-------

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	2200	830	1.9	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	130	39	12	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	56	18	11	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	51	9.0	8.3	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	57	8.7	0.57	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	11	2.9	0.38	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	9.4	1.3	0.33	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	7.2	1.1	0.36	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	2500	910	35	< 0.2	< 0.2
-------------------	------	-----	-----------	------	-----	----	-------	-------

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	38	58	19	2.3	3.2
Cadmium (dissolved)	µg/l	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chromium (dissolved)	µg/l	0.4	ISO 17025	4.8	11	< 0.4	0.7	0.8
Copper (dissolved)	µg/l	0.7	ISO 17025	2.6	1.2	< 0.7	1.2	1.6
Iron (dissolved)	mg/l	0.004	ISO 17025	0.20	0.33	0.10	< 0.004	< 0.004
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	1.6	< 1.0	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	12	23	3.1	1.1	2.8
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	< 0.4	2.1	0.4	< 0.4	< 0.4

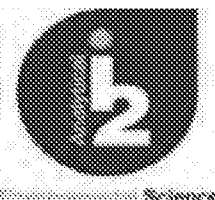
Iss No 11-28669-1

This certificate should not be reproduced, except in full, without the express permission of the laboratory.

ARUN DISTRICT COUNCIL AB/88/19/PL

The results included within the report are representative of the samples submitted for analysis.

Page 2 of 7



Analytical Report Number: 11-28669

Project / Site name: Arundel

Lab Sample Number	182891	182892	182893	182894	182895
Sample Reference	BH101S	BH101D	BH102	BH103	BH104
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	3.50	7.50	7.50	7.00	8.00
Date Sampled	07/07/2011	07/07/2011	07/07/2011	07/07/2011	07/07/2011
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status		

Monoaromatics

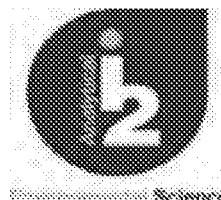
Benzene	µg/l	1	ISO 17025	12000	9500	8.5	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	4200	4200	2.3	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	110	110	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	990	780	1.3	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	420	350	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH7 - Aliphatic >C5 - C6	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C6 - C8	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C8 - C10	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH7 - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

TPH7 - Aromatic >C5 - C7	µg/l	10	NONE	12000	9500	< 10	< 10	< 10
TPH7 - Aromatic >C7 - C8	µg/l	10	NONE	4200	4200	< 10	< 10	< 10
TPH7 - Aromatic >C8 - C10	µg/l	10	NONE	1600	1300	< 10	< 10	< 10
TPH7 - Aromatic >C10 - C12	µg/l	10	NONE	3000	1000	28	< 10	< 10
TPH7 - Aromatic >C12 - C16	µg/l	10	NONE	300	170	59	< 10	< 10
TPH7 - Aromatic >C16 - C21	µg/l	10	NONE	88	38	95	< 10	< 10
TPH7 - Aromatic >C21 - C35	µg/l	10	NONE	16	12	44	< 10	< 10
TPH7 - Aromatic (C5 - C35)	µg/l	10	NONE	21000	16000	230	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 11-28669

Project / Site name: Arundel

Lab Sample Number				182896				
Sample Reference				BH105				
Sample Number				None Supplied				
Depth (m)				6.50				
Date Sampled				07/07/2011				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH units	N/A	ISO 17025	7.0				
Electrical Conductivity	µS/cm	10	NONE	1400				
Total Cyanide	µg/l	10	ISO 17025	310				
Complex Cyanide	µg/l	10	NONE	290				
Free Cyanide	µg/l	10	NONE	15				
Thiocyanate as SCN	µg/l	30	NONE	< 30				
Sulphate as SO ₄	µg/L	45	ISO 17025	480000				
Sulphide	µg/l	5	NONE	< 5.0				
Chloride	mg/l	4	ISO 17025	74				
Ammonium as NH ₄	µg/l	15	ISO 17025	25000				
Total Organic Carbon (TOC)	mg/l	0.1	NONE	12				
Total Suspended Solids	mg/l	5	NONE	1500				

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0.5				
Resorcinol	µg/l	0.5	NONE	< 0.5				
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0.5				
Cresols	µg/l	0.5	NONE	< 0.5				
Naphthols	µg/l	0.5	NONE	< 0.5				
Phenol	µg/l	0.5	NONE	< 0.5				
Trimethylphenol	µg/l	0.5	NONE	< 0.5				

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3.5				
----------------------	------	-----	------	-------	--	--	--	--

Speciated PAHs

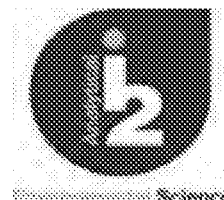
Naphthalene	µg/l	0.01	ISO 17025	< 0.01				
Acenaphthylene	µg/l	0.01	ISO 17025	0.83				
Acenaphthene	µg/l	0.01	ISO 17025	0.63				
Fluorene	µg/l	0.01	ISO 17025	0.57				
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01				
Anthracene	µg/l	0.01	ISO 17025	< 0.01				
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Pyrene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Chrysene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01				
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01				
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01				

Total PAH

Total EPA-16 PAHs	µg/l	0.2	ISO 17025	2.0				
-------------------	------	-----	-----------	-----	--	--	--	--

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	3.0				
Cadmium (dissolved)	µg/l	0.1	ISO 17025	< 0.1				
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4				
Copper (dissolved)	µg/l	0.7	ISO 17025	< 0.7				
Iron (dissolved)	mg/l	0.004	ISO 17025	0.12				
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0				
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5				
Nickel (dissolved)	µg/l	0.3	ISO 17025	8.5				
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0				
Zinc (dissolved)	µg/l	0.4	ISO 17025	0.6				



Analytical Report Number: 11-28669

Project / Site name: Arundel

Lab Sample Number				182896				
Sample Reference				BH105				
Sample Number				None Supplied				
Depth (m)				6.50				
Date Sampled				07/07/2011				
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)				Units	Limit of detection	Accreditation Status		

Monoaromatics

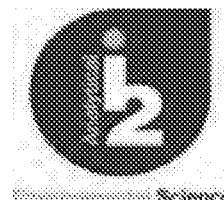
Benzene	µg/l	1	ISO 17025	< 1.0				
Toluene	µg/l	1	ISO 17025	< 1.0				
Ethylbenzene	µg/l	1	ISO 17025	< 1.0				
p & m-xylene	µg/l	1	ISO 17025	< 1.0				
o-xylene	µg/l	1	ISO 17025	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0				

Petroleum Hydrocarbons

TPH7 - Aliphatic >C5 - C6	µg/l	10	NONE	< 10				
TPH7 - Aliphatic >C6 - C8	µg/l	10	NONE	< 10				
TPH7 - Aliphatic >C8 - C10	µg/l	10	NONE	< 10				
TPH7 - Aliphatic >C10 - C12	µg/l	10	NONE	< 10				
TPH7 - Aliphatic >C12 - C16	µg/l	10	NONE	< 10				
TPH7 - Aliphatic >C16 - C21	µg/l	10	NONE	< 10				
TPH7 - Aliphatic >C21 - C35	µg/l	10	NONE	< 10				
TPH7 - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10				

TPH7 - Aromatic >C5 - C7	µg/l	10	NONE	< 10				
TPH7 - Aromatic >C7 - C8	µg/l	10	NONE	< 10				
TPH7 - Aromatic >C8 - C10	µg/l	10	NONE	< 10				
TPH7 - Aromatic >C10 - C12	µg/l	10	NONE	< 10				
TPH7 - Aromatic >C12 - C16	µg/l	10	NONE	< 10				
TPH7 - Aromatic >C16 - C21	µg/l	10	NONE	< 10				
TPH7 - Aromatic >C21 - C35	µg/l	10	NONE	< 10				
TPH7 - Aromatic (C5 - C35)	µg/l	10	NONE	< 10				

U/S = Unsuitable Sample I/S = Insufficient Sample

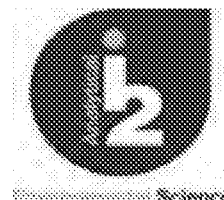


Analytical Report Number : 11-28669

Project / Site name: Arundel

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonium as NH ₄ in water	Determination of ammonium in water by addition of buffer solution followed by ion selective electrode.	In-house method	L035-PL	W	ISO 17025
BTEX and MTBE in water	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW	In-house method based on USEPA8260	L036-UK	W	ISO 17025
Chloride in water	Determination of chloride in water by titration against silver nitrate.	In-house method	L024-PL	W	ISO 17025
Complex cyanide in water	Determination of complex cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080	W	NONE
Electrical conductivity of water	Determination of electrical conductivity in water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Free cyanide (Low level) in water	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080	W	NONE
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080	W	ISO 17025
pH in water	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030	W	NONE
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in hexane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L070-UK	W	ISO 17025
Sulphate in water	Determination of sulphate in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L010-PL	W	NONE
Suspended solids in water	Determined gravimetrically with GFC filtration papers.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-UK	W	NONE
Thiocyanate in water	Determination of thiocyanate in water by acidification followed by addition of ferric nitrate followed by spectrophotometer.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L049-UK	W	NONE



Analytical Report Number : 11-28669

Project / Site name: Arundel

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L060	W	ISO 17025
Total organic carbon in water	Determination of total organic carbon in water by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE
TPH7 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-UK	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

- CLIENT

National Grid Property Holdings Limited

PROJECT

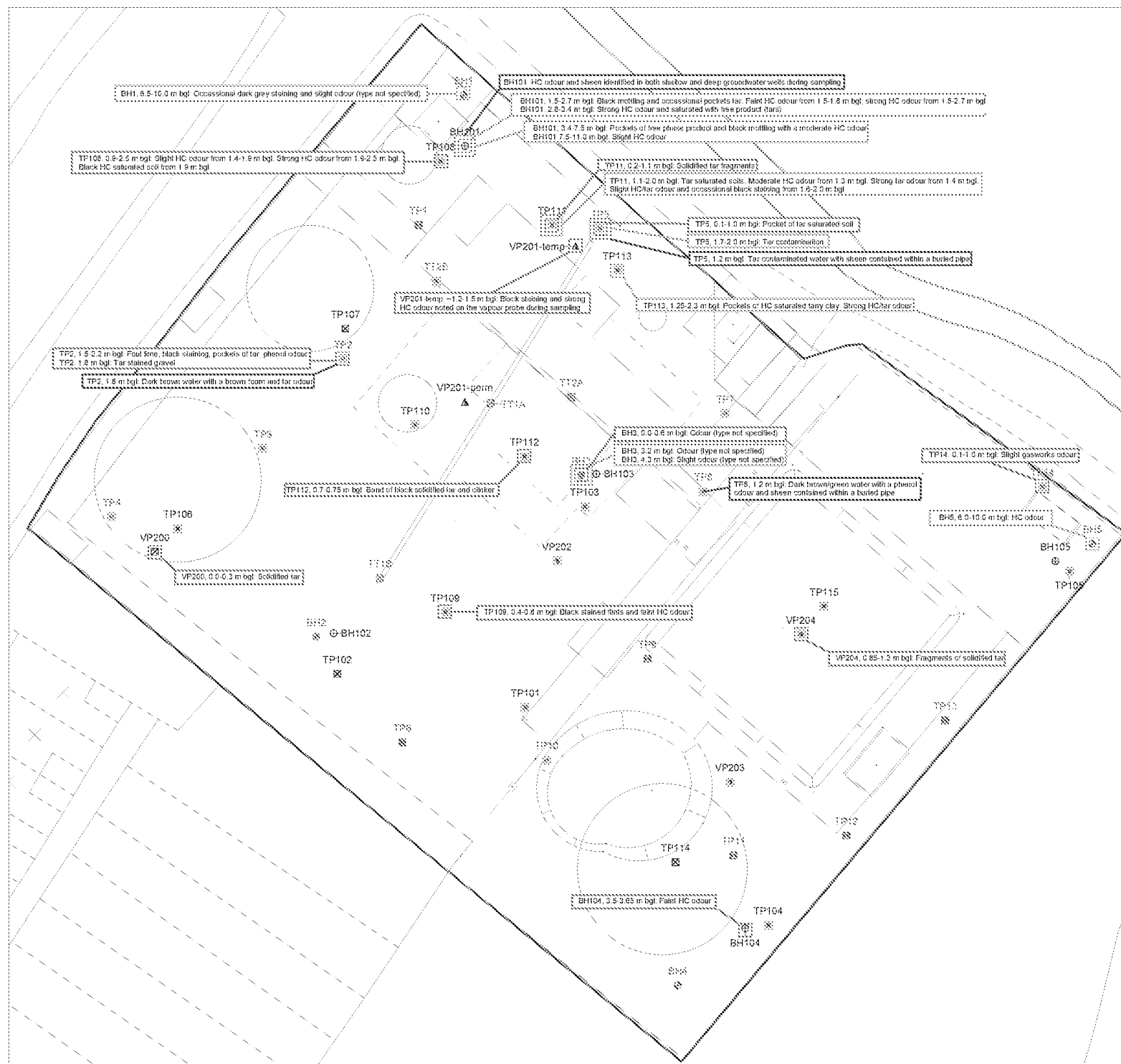
Ford Road, Arundel

Detailed Quantitative Risk Assessment

TITLE

Visual and/or Olfactory Evidence
of Hydrocarbon Contamination

FIGURE 3



Technical note

Project:	Ford Road, Arundel (2551)	To:	Sarah Helby, NGPH
Subject:	Outline Remediation Strategy (Final)	From:	Suzanne White, Atkins
Date:	18 August 2017	cc:	Jonathan Steeds, Atkins

1. Introduction

1.1. General

Atkins Limited (Atkins) was commissioned by National Grid Property Holdings Limited (NGPH) to provide an outline remediation strategy technical note for their site located at Ford Road, Arundel, West Sussex, BN18 9DX (herein referred to as 'the site').

1.2. Objectives & Scope

The primary objective of this document is to outline the remediation strategy for the site in a format suitable to be provided to the purchaser to support the sale of the site.

The document summarises the intention and objectives of the proposed remediation works and the condition that the site will be left in following the works.

1.3. Exclusions & Limitations

This document is not intended to be a 'Remediation Strategy' in line with Model Procedures for the Management of Land Contamination, Contaminated Land Report 11 (DEFRA & Environment Agency, 2004) or a detailed remediation design. This document does not include a remediation options appraisal or details of specific remediation approaches or technologies to be adopted at the site as these are to be determined by the remediation contractor, once appointed, as part of a Design and Build contract scope. This document is not intended for submission to the regulators (i.e. the Environment Agency or Local Authority).

2. Site Details

A summary of relevant site details is provided within Table 2-1 below.

Table 2-1 Summary of Site Details

Site Address	Ford Road, Arundel, West Sussex, BN18 9DX. A site location plan is provided as Figure 1. The Ordnance Survey grid reference for the centre of the site is 501308E, 106749N.
Site Access	The site is accessed via metal gates on the north-eastern site boundary, off a third party owned access track with runs along the north-eastern site boundary.
Site Use and Description	The site is an approximately rectangular shaped area of land covering 0.44 hectares (ha) and is owned by NGPH. The site currently comprises secure vacant land. An electricity sub-station is located on the north-eastern site boundary adjacent to the site entrance and concrete slab foundations are located in the northern and eastern corners of the site. No other above ground structures or buildings are present on the site. Topographically, the site is generally level at an approximate elevation of 3 m above ordnance datum (aOD). The site is generally level with surrounding land, with the exception of the road to the west and residential properties to the south-west of the site which are raised above site level by approximately 1 m, although the gardens of the residential properties slope down to a similar level. A site layout plan is provided as Figure 2.
Site Surroundings	The surrounding land use comprises: South-west: residential houses with gardens; South-east: private grazing land with the River Arun beyond; North-west: Ford Road, beyond which is a cemetery; and

Technical note

	North-east: an access track leading off Ford Road, beyond which is a small surface water drain and private grazing land.
Site History	Historical maps for the site identify a gasworks to have been present from before 1840, expanding in the west in circa 1899, and in the south and south-east in circa 1937. The gasworks was present until the late 20th century.
Geology	The geology at the site comprises Made Ground over Alluvium over Chalk.
Hydrogeology	The Alluvium is designated as a Secondary (A) Aquifer and the Chalk is designated as a Principal Aquifer. The site does not lie within a Source Protection Zone (SPZ). A groundwater abstraction is recorded c. 0.774 km to the north-west. Groundwater has been identified at the site at depths of between c. 1.30 m bgl and 3.90 m bgl. Groundwater monitoring undertaken in 2011 identified tidal variation in the groundwater levels at the site of up to approximately 2 m.
Hydrology	The River Arun is located c. 40 m south-east of the site. The river is tidally influenced in the local area and flows in a southerly direction towards the English Channel, with reversal of flow during high tide. A drainage ditch is located c. 5 m from the north-eastern site boundary and flows in a south-easterly direction into the River Arun, via a sluice gate.

3. Remediation Objectives

NGPH will appoint a remediation contractor under a Design & Build contract. The appointed remediation contractor will be responsible for designing, managing and executing the remediation works, such that on completion of the works, the site meets the remediation objectives.

The principal objectives of the remediation works are to mitigate, as far as reasonably practicable, the potentially unacceptable risks to controlled waters (i.e. groundwater and surface waters) and human health receptors, so that the site will be suitable for both its current use, vacant and secure, and future use, which is defined as follows:

- no residential or 24 hour occupation will occur;
- in terms of risks to human health, the most sensitive on-site receptor is assumed to be a 16-65 female adult, working a maximum of 9 hours per day on site (45 hours a week in line with CLEA protocol, which is an 8 hour shift plus one hour break);
- the cultivation of fruit or vegetables for human consumption will be precluded;
- there will be no construction of any new buildings (none currently exist);
- existing hardcover will remain and no new surface covering or hard-standing will be laid;
- there will be no reduction in site levels;
- any existing infrastructure can be used without modification, unless in a demonstrably poor state of repair and not economically viable to use;
- existing boundary conditions will remain in their current state;
- the performance of any extant surface water drainage system will remain unaltered;
- safe ways of working and appropriate control measures will be utilised where on-site workers are working in excavations, including the use of PPE and occupational hygiene measures; and
- there will be no requirement for planning permission in relation to the future use of the site (future use being as defined in the bullet points above).

It should be noted that dependent on the purchaser's proposed future land use for the site, further remediation (and planning permission) may be required.

The currently identified potentially unacceptable risks to human health receptors relate to soil sources within the unsaturated zone / structures. The currently identified potentially unacceptable risks to controlled waters receptors relate to: i) soil sources within the unsaturated zone / structures; ii) Non-Aqueous Phase Liquid (NAPL) in the bedrock; and iii) contaminated groundwater sources. At this stage of the project it is anticipated that the scope of the remediation works will address the unsaturated soil / structures sources only. The NAPL and contaminated groundwater sources are considered to be unreasonable to remediate based on cost effectiveness and the sustainability of available suitable remedial technologies. Therefore, no remediation in relation to these sources is anticipated such that residual contamination will be present at the site following completion of the NGPH remedial works. This is subject to agreement with the relevant

Technical note

regulatory authorities as part of the planning process. Furthermore, where any contamination is present but is not considered to present an unacceptable risk to identified receptors, it is envisaged that the contamination will be left in situ.

At this stage, the identified potentially unacceptable risks requiring mitigation have been defined based upon the findings of investigations and assessments undertaken by Atkins. It is considered likely that the appointed remediation contractor will undertake additional site investigation to resolve uncertainties and allow further Detailed Quantitative Risk Assessment / remediation options appraisal / detailed remediation design.

To date, no consultation has taken place with the regulators with respect to the site investigation and risk assessments undertaken for the site. The appointed remediation contractor will liaise with the Local Authority to confirm the requirement for a planning application prior to the commencement of the remedial works. The appointed remediation contractor will then submit any planning application documents and will ensure discharge of any associated planning conditions. The appointed remediation contractor will make reasonable endeavours to obtain written regulatory acceptance from the Local Authority and the Environment Agency that the site does not pose a potentially unacceptable risk to human health and controlled waters in relation to the current and future land use, as defined above. The purchaser will need to liaise with the regulators to confirm any additional planning permission and remediation works that may be required in relation to their proposed land use.

4. Remediation Methodologies

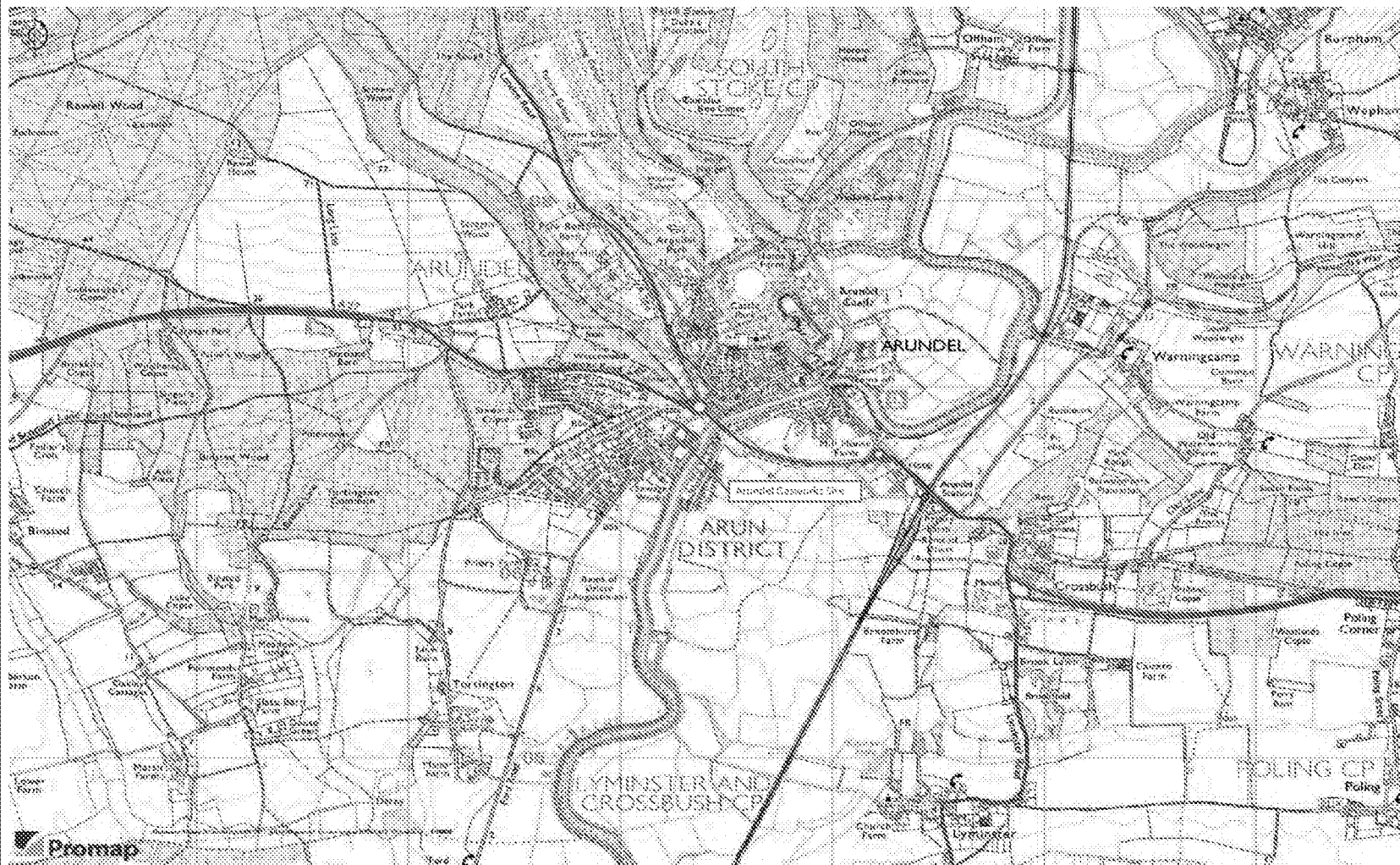
The remediation methodologies to be applied at the site to achieve the above remediation objectives will be determined by the appointed remediation contractor. At this stage, it is envisaged that the works are likely to comprise excavation and treatment / disposal of contaminated soils from the unsaturated zone / buried structures within certain areas of the site where contamination in the soil has been identified to present a potentially unacceptable level of risk in relation to the current and future land uses, as defined in Section 3 above.

5. Remediation Verification

During the remediation works, appropriate lines of evidence supporting the removal (or breaking) of identified pollutant linkages will be collected to validate the works. This information will be used to produce a verification report, which will demonstrate that the remediation objectives have been met. Where appropriate the verification will be in accordance with the Environment Agency document: Verification of Remediation of Land Contamination (February 2010; ref: SC030114/R1).

Technical note

Figure 1



REVISIONS	Drawn by	Checked by	Date

SI & GQRA Report	Rev 0	MW	3/5/11
PURPOSE OF ISSUE	Rev.	Authorised for issue	Date

Atkins Limited
 Consulting Engineers
 The Axis, 10 Holbeck Street
 Birmingham, West Midlands B1 1TP
 Tel: 0121 453 5000
 Fax: 0121 453 5252

THIS DRAWING IS NOT TO BE SCALED

CLIENT
 National Grid Property Holdings Limited

PROJECT
 Ford Road, Arundel

DRAWING TITLE
 Site Location Plan

SCALES	DRAWN	CHECKED	COORDINATE CHECK
NTS	LH	ST	-
DATE	DATE	DATE	DATE
03/06/2011	05/06/2011	-	-
0	SHEET	PLOT DATE	-
-	A3	-	-

DRAWING NO. **Figure 1** REV 1

Technical note

Figure 2

Boundary does not represent legal title

[illegible]

CLIENT-

SITE ADDRESS:

DRAWING NAME:

EASEMENT

Drawn:	NAG	Scale:	1:1000 @ A3
Checked By:	EAM	Date:	NOV'14

65 Gresham Street
London
EC2V 7NQ

T: 020 7709 4500
W: <http://www.capita.co.uk/realestate>

Drawing Reference:	Project No. B9990	Site No. 2551	Version No. V1
--------------------	-----------------------------	-------------------------	--------------------------