BAE SYSTEMS Environmental

Factual Report for Site Pollution Investigation

Site: **Akko Steel Mills**

Client: **Enosh Systems**

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Enosh Systems

DOCUMENT CONTROL

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Project No: A249-00	Report Ref: A249-00-R2-E	Issue Date: January 2005

UKAS TESTING No. 1764

AGS ASSOCIATION OF GEOTECHNICAL & GEOENVIRONMENTAL SPECIALISTS

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1. INTRODUCTION

1.1. INSTRUCTION

BAE Systems Environmental was appointed by ENOSH Management and Engineering Systems (ENOSH) to conduct a Phase II Environmental Assessment, comprising an intrusive site investigation, at the former Mifalei Plada Steel Works, Akko, Israel.

1.2. INVESTIGATION OBJECTIVES

The objectives of the investigation were to:

- Establish ground and groundwater conditions across the Site.
- Establish conditions and main constituents of the waste mounds in the north and west of the Site.
- Make an initial assessment of the risk posed by any contamination present on the Site taking into account both human health and the wider environment, including controlled waters.

1.3. SCOPE OF WORK

The investigation comprised the following components:

- A site walkover visit on 2nd September 2003 to assist planning of the investigation and discuss Site access;
- Implementation of a Phase II combined geotechnical and geo-environmental site investigations during September 2003, comprising trial pit excavation and construction of solid stem rotary auger boreholes;
- Chemical testing of soil and groundwater samples for a standard suite of contaminants; physical testing of appropriate soil samples to determine geotechnical characteristics;
- Interpretation and reporting of data.

1.4. REPORT LAYOUT

This report includes sections dealing with the following issues:

- Description of the investigation and sampling strategy employed to meet the report objectives;
- Summaries of the factual data obtained by the site investigation including ground conditions and laboratory testing results.

1.5. DEFINITIONS

The term ‘Site’ refers to the land occupied by the former Mifalei Plada Steel Works at Akko, Israel.

1.6. REPORTING CONDITIONS

The report refers to the conditions present at the Site at the time of the study and no liability can be accepted by BAE Systems Environmental for any future changes of Site conditions. It should be noted that BAE Systems Environmental has relied on the accuracy of the information contained in the documents consulted and is in no circumstances responsible for the accuracy of such information or data supplied.

This report has been prepared without the benefit of knowing the intentions of third parties and therefore should not be used by such organisations without prior consultation with BAE Systems Environmental.

Exploratory points only provide information on a relatively limited volume of excavated soil. In general, the ground conditions encountered may be considered representative but the possibility exists of variations in the ground conditions between exploratory points that have not been disclosed by the investigation and could not therefore be taken into account in this report.

1.7. SOURCES OF INFORMATION

In addition to the data collected during this investigation, the following sources of information have been referred to during the compilation of this report:

- Information collected during the Phase I Desk Study undertaken by ENOSH Systems and BAE Systems Environmental in February 2003 (reference – Stage A Report, Historical Survey and Preparation of Sampling Program) including historical maps, site plans and aerial photographs;

- Local geological and hydrogeological records;

2. INVESTIGATION STRATEGY

2.1. SAMPLING STRATEGY

Based on the ENOSH desk study a sampling strategy was developed to take account of the following:

- The need to provide a general chemical profile across the Site.
- The need to characterise the chemical and geotechnical properties of the waste mounds present on the Site.
- The need to characterise the groundwater conditions under the Site.

In light of this a nominal 50 metre grid spacing was planned across the Site (giving an 80% probability of detecting a randomly located circular area of interest of 2000m^2, or half an acre). The grid was adjusted during the site walkover to allow for access restrictions and to target specific features on the Site and areas of concern. It is considered that such a grid layout sufficiently informs the requirements of the geotechnical component of the investigation as well as and initial assessment of the need for remedial work on the Site.

2.2. VISUAL EVIDENCE OF CONTAMINATION

Areas of surface staining from hydrocarbons were present in a number of locations on the Site, typically associated hydrocarbon storage facilities. Trial pits were excavated in a number of the stained areas including TP4C, TP34, TP39, TP44, TP45 and TP49. Hydrocarbon staining was also present under several electricity sub-stations and a number of other areas which were inaccessible for sampling.

It was also noted during the walkover on 2nd September 2003 that a number of large metal pipes, apparently excavated from the area adjacent to TP49 and had been placed on the northern waste mound. The pipes appeared to contain thick black hydrocarbons which could be seen to be leaking onto the waste mound.

2.3. METHODS OF WORKING

Ground conditions were assessed by means of 53 No. trial pits excavated via mechanical excavator and 9 No. boreholes using a combination of solid stem rotary auger and cable percussive drilling. Seven surface samples were also taken in areas inaccessible with a mechanical excavator. An Exploratory Hole Location Plan is included as Appendix 1.

Works were carried out in accordance with the UK BS 5930:1999 ‘Code of practice for site investigations’ and BS10175:2001 ‘Code of practice for investigation of potentially contaminated sites’. Site works were carried out between 7th September 2003 and 14th September 2003.

During the site works, a programme of radiological monitoring was undertaken in the excavations. In addition, all samples were monitored with a hand held Photo-Ionisation Detector (PID) to check for the presence of Volatile Organic Compounds (VOCs) within the samples. Monitoring was also carried out during excavation.

Specific details of methods of working and health & safety issues were provided in Method Statements and Health & Safety Plans prior to commencement of site works.

2.4. SAMPLING DEPTHS

The principal depth zone of interest is the upper three metres of the site. However, in order to characterise the deeper ground conditions, appropriate samples were also taken from boreholes constructed during the site works.

Where possible, samples were taken from trial pits at 0.05 metres below ground level (m.bgl), 0.5 m.bgl and 1.0 m.bgl and then at one metre intervals or every change in strata. Trial pits were excavated to a minimum depth of 3.5 m.bgl where possible, but due to the encountered shallow groundwater conditions over the Site the maximum depth of excavation was typically between 2 and 2.5 m. Bulk samples were also taken from the trial pits on the waste mounds to allow geotechnical classification.

Small disturbed samples were recovered from the boreholes at one metre intervals and at every change of strata for description purposes and chemical analysis.

The depths and descriptive details of the strata encountered, together with details of the samples obtained, in-situ tests and groundwater information are presented in the exploratory hole logs, included as Appendices 2 and 3. Strata descriptions are based on visual examination and are in accordance with definitions outlined in BS 5930:1999.

2.5. GROUNDWATER QUALITY

Boreholes constructed during the intrusive investigation were installed for groundwater monitoring purposes. Response zones were located in natural strata underlying Made Ground, with bentonite sealant used as required to prevent the formation of new contaminant pathways.

One groundwater monitoring visit was undertaken after the completion of the fieldwork. Soil gas concentrations and groundwater levels were monitored prior to purging and water sampling of productive boreholes.

During the sampling visit, groundwater was present in all of the nine boreholes. All boreholes were sufficiently productive to allow purging of three well volumes and subsequent sampling.

3. SOIL CHARACTERISATION

3.1. GROUND CONDITIONS

The investigation generally confirmed the anticipated geological record of the area, although Made Ground was encountered over the majority of the Site. Bedrock was not encountered in any of the exploratory holes.

Trial pits TP12, TP14 and TP36 were not excavated due to access restrictions. Where possible, surface soil samples were taken in these locations. Surface samples were also taken from areas adjacent to electricity transformers and areas of the waste mounds where access with an excavator was limited.

Detailed descriptions of the strata encountered are given in the Exploratory Hole Records presented as Appendix 2, 3 and 4. The Exploratory Point Records show the depth and nature of the strata encountered, together with groundwater observations.

3.1.1. Waste Mounds

The trial pits excavated in the western waste mound (TP5 to TP10) and the northern waste mound (TP16, TP18 and TP20) identified Made Ground to the full extent of excavation in all locations. Large quantities of scrap metal and general waste material were present over much of the waste mounds. A layer of fine brown sand was present over all the waste mounds to a maximum depth of 0.4 m.bgl. Material present within the layer of sand included metal fragments, cement bonded asbestos fragments, concrete gravel, wood fragments and plastic sheeting.

Underlying the sand, were a number of different layers of material. Typically the Made Ground comprised of large quantities of ash, clinker and slag, gravel, gravel to boulder sized fragments of concrete, metal fragments and some layers of pale grey ‘lime’. It is understood that the waste mounds included material originating from the arc furnace (typically fine brown ash) and filter dust (black and dark brown very fine dust).

Two relatively new waste mounds were present in the centre of the Site, adjacent to the former settlement lagoons. One mound appeared to comprise similar material to the older waste mounds, typically ash, clinker, concrete and slag fragments. The second mound appeared to be predominantly made up of a fine black ash.

At TP10 on the western waste mound excavated material, understood to be filter dust, appeared to be undergoing an exothermic reaction: it was observed that the ash and clinker were hot to touch and much hotter than the surrounding material. If an exothermic reaction is occurring in the waste mound it has only minor implications for the current site use but may need further consideration for any remedial action.

3.1.2. Made Ground

Made Ground was encountered in all but one of the exploratory holes, extending from ground level to a depth of between 0.3 and 2.1 m.bgl. Typically, the Made Ground was found to a depth of approximately 1 m.bgl, the maximum thickness of 2.1 m was recorded in TP25 where Made Ground was encountered to the full extent of excavation. The distribution of Made Ground is shown in Appendix 5.

In general a layer of pale brown ashy very fine sand was present at the surface over the entire Site to a maximum depth of approximately 0.4 m. In the south of the Site, the

Made Ground underlying the layer of sand generally comprised ash, clinker, slag and concrete gravel, with frequent metal debris. A thin layer of coke/coal was identified in TP4B and TP4C in the southwest of the Site, at a depth of 0.6 m.bgl. Made Ground encountered in the north of the Site, near the Rolling Mill, generally comprised slightly ashy sand and gravel with some layers of ash and clinker.

In the south of the Site, large amounts of slag, waste metal and general waste including a number of car batteries were present at the ground surface. Anecdotal evidence suggested that much of the thickest deposits of Made Ground resulted from the construction of roadways and the re-use of waste products such as ash, clinker and slag.

3.1.3. Natural Ground Conditions

Natural soils were encountered beneath the Made Ground in all of the sampling holes away from the waste mounds. In all locations the underlying soils encountered were sand for the full extent of excavation. The sand was typically pale brown and fine to coarse becoming pale grey and with frequent small shells fragments below 5m.

3.1.4. Bedrock

Bedrock was not proved in any of the exploratory holes

3.2. VOCS

Monitoring using the PID did not identify any elevated levels of VOCs during excavation of boreholes or trial pits. However, subsequent monitoring of headspace in all soil samples identified a number of slightly elevated readings of VOCs.

The results of the VOC headspace monitoring are presented with the borehole and trial pit logs in Appendices 2 and 3 respectively.

3.3. RADIOLOGICAL CONDITIONS

Monitoring using a handheld scintillation monitor did not identify radiation above background levels during excavation of boreholes or trial pits.

3.4. MATERIAL PROPERTIES

Based upon a visual assessment undertaken on site it is considered that approximately 5 to 20 % of the material present in the waste mounds comprises particles with a diameter greater than 60 mm, 40 to 60% of the material is considered to consist of particles with diameters between 2 and 60 mm (gravel sized particles) and the remaining material is finer than 2 mm (silt and sand sized particles). Due to their size, any contaminants present within these larger fractions (greater than 60 mm) are considered to be immobile and unlikely to represent a risk to either site users or groundwater.

However, it should be noted that these observations are only based on the relatively small volume of material excavated from the waste mounds and the observed surface conditions.

A programme of geotechnical laboratory testing was conducted to provide further information on the physical properties of the waste mound materials present on Site. The geotechnical laboratory test results as presented as Appendix 6.

3.5. GROUNDWATER REGIME

The groundwater regime at the Site has been assessed from data gathered during the monitoring visit undertaken on the 14th and 15th September 2003, included in Appendix 7.

Groundwater levels in the monitoring pipes indicate water levels between 1.51 m.bgl and 2.55 m.bgl. Groundwater was encountered in natural strata during excavation in all locations where the base of the Made Ground was proved. Groundwater entry was typically between 1.7 and 2.3 m.bgl and was associated with the collapse of the sides of the excavations.

Groundwater levels in boreholes, measured above a local Datum were as follows:

Borehole	Depth to Water (m.bgl)	Reduced Level (mAD)
BH1	1.90	2.17
BH2	2.30	2.18
BH3	2.12	2.02
BH4	2.55	1.53
BH5	1.71	1.11
BH6	2.44	0.92
BH7	2.25	1.15
BH8	1.51	1.45
BH9	1.90	1.64

Table 1 Groundwater levels recorded during sitework

The reduced groundwater levels shows that a hydraulic gradient of approximately 0.002 from south to north. A plot of the groundwater levels is included in Appendix 8.

4. ANALYTICAL LABORATORY TESTING

4.1. SOIL SAMPLES

A total of 108 No. samples of soil were subject to chemical analyses to characterise any contamination that may be present within shallow soil units. Thirty nine of the recovered samples were from the waste mounds, 42 No. from Made Ground over the remainder of the Site and the remaining 27 No. collected from natural soils.

One hundred and four samples were tested for a standard suite of contaminants including asbestos and Total Petroleum Hydrocarbons (TPH). In addition, 15 No. samples were analysed for a standard suite of VOCs, 13 No. for PAH, phenol and thiocyanate and 5 No. for Polychlorinated Biphenyls (PCB).

4.2. GROUNDWATER SAMPLES

A total of nine groundwater samples, collected from the boreholes installed during September 2003, were sent for analysis. All samples were analysed for a standard suite of contaminants, based on the suite used for soil sample analysis.

4.3. SOIL LEACHATE SAMPLES

In order to take account of the link between the soil and water environments, and to provide an assessment of the potential for soil contamination to become mobilised and impact on groundwater, analysis of contaminant leachability from selected soils samples was also undertaken.

Eleven selected soil samples were submitted for leachability analysis in accordance with Environment Agency R&D Note 301, 'Leaching Tests for the Assessment of Contaminated Land' which details the laboratory methods to be used to conduct leaching tests on soil samples. The leachate extraction method required a mass of soil sample to be weighed and a volume of water 10 No. times the weight to be added. The sample was then shaken for 24 hours and filtered through a 0.45 um membrane filter. Chemical analysis of the leachate used the same methodology as for the groundwater samples.

The results of the chemical analysis are included as Appendices 9 and 10. Details of the quality control procedures for the chemical analysis are provided in Appendices 11 and 12.

5. RECORDED CONTAMINATION PROFILE

5.1. SOILS

Table 2 summarises the recorded concentrations ranges for potential contaminants on the Site.

	Waste Mound (39 Samples)			Made Ground (42 Samples)			Natural Soils (27 Samples)		
	Lowest	Highest	2nd Highest	Lowest	Highest	2nd Highest	Lowest	Highest	2nd Highest
Arsenic	6	79	75	1	83	56	1	18	16
Cadmium	<0.3	208	154	<0.3	183	121	<0.3	7.6	0.9
Chromium	160	2240	2230	<5	1590	988	<5	898	63
Lead	43	12700	9110	<3	5380	5150	<3	323	120
Mercury	0.2	7.7	4.6	<0.1	2.7	2.4	<0.1	1.9	1.9
Selenium	<0.3	1.9	1.6	<0.3	2.0	2.0	<0.3	0.3	<0.3
Copper	99	1990	1960	<3	5320	1590	<3	260	110
Nickel	25	2900	854	<5	310	300	<5	77	34
Zinc	76	93200	68200	<3	42300	38500	5	2270	260
Boron	<0.3	17	10	<0.3	4.5	3.7	<0.3	1.3	0.7
Aluminium	83	46800	26500	1490	11300	1490	1290	7050	3070
Magnesium	280	83000	62200	876	106000	64700	881	59500	45600
Manganese	1920	28500	24800	77	52600	18700	83	7030	515
Molybdenum	9	200	190	<4	84	70	<4	23	5
Titanium	180	2400	2280	44	880	660	60	550	280
Vanadium	<20	230	210	<20	64	63	<20	75	<20
Sulphate (total)	<250	3600	3200	<250	5800	1500	<250	1100	1100
Sulphide	<5	150	52	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cyanide (total)	<0.5	2.3	0.61	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cyanide (Free)	<0.5	0.61	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPH	<50	4000	2700	<50	6100	1800	<50	200	86
Phosphates	97	1300	1200	160	1600	830	140	320	320

Table 2 Soil Sample Analytical Testing Results

5.2. GROUNDWATER SAMPLES

Table 3 summarises the recorded concentrations ranges for potential contaminants on the Site.

5.3. SOIL LEACHATE SAMPLES

Table 4 summarises the recorded concentrations ranges for potential contaminants on the Site.

Determinand	Unit	BH1	BH2	BH3	BH4	BH5	BH6	BH7	BH8	BH9
Al	mg/l	2.2	3.8	4.7	3.8	4.2	5.0	5.9	7.4	6.4
As	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
B	mg/l	0.3	1.0	0.6	0.4	0.2	0.3	0.3	0.3	0.2
Cd	mg/l	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0010	<0.0005	<0.0005
Cr	mg/l	0.006	0.010	0.013	0.008	0.012	0.016	0.020	0.026	0.02
Cu	mg/l	0.027	0.028	0.064	0.041	0.033	0.032	-	0.056	0.037
Pb	mg/l	0.015	0.016	0.019	0.024	0.016	0.057	0.074	0.083	0.048
Mn	mg/l	0.75	1.42	0.53	0.40	1.10	1.01	1.51	1.51	1.47
Hg	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mo	mg/l	<0.0005	<0.005	<0.005	<0.005	<0.005	<0.005	0.021	<0.005	<0.005
Ni	mg/l	0.012	0.024	0.012	0.009	0.020	0.023	0.027	0.032	0.030
Se	mg/l	0.0003	0.003	<0.001	0.002	<0.001	0.002	0.002	<0.001	<0.001
V	mg/l	0.041	0.062	0.068	0.063	0.055	0.059	0.080	0.077	0.76
Zn	mg/l	0.033	0.11	0.15	0.037	0.11	0.076	0.32	0.095	0.12
Sulphide	mg/l	0.1	0.04	0.04	0.5	0.3	0.08	0.3	0.09	0.09
Thiocyanate	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6
PH	pH units	7.2	7.3	7.4	7.4	7.3	7.3	7.2	7.3	7.3
Phosphate	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	mg/l	992	1530	671	617	734	488	1140	557	670
PCB	-	ND	ND	ND	ND	ND	ND	-	ND	ND
Cyanide (total)	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenols	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hydrocarbons	ug/l	368	238	67	41	ND	65	165	46	511
PAH	ug/l	0.09	0.19	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05

Table 3 Analytical Testing Results on Groundwater Samples

			Waste Mounds Samples				Made Ground Samples						
Determinand	Unit	TP6 - SURFACE	TP10 – 1.3m	TP18 – 0.1m	TP1 – 0.1m	TP15B – 0.2m	TP26 – 0.5m	TP29 – 0.3m	TP31 – 0.8m	TP37 – 0.1m	TP41 – 0.3m	TP21 – 0.2m	TP23 – 0.7m
Al in filtrate	ug/l	2070	532	99	80	85	68	47	155	<20	105	83	253
As in filtrate	ug/l	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	N/S	<1
B in filtrate	ug/l	491	<100	129	<100	<100	<100	<100	<100	<100	<100	<100	<100
Cd in filtrate	ug/l	<0.5	<0.5	3.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5
Cr in filtrate	ug/l	30	6	28	<5	<5	21	15	6	<5	12	13	14
Cu in filtrate	ug/l	11	<5	6	19	6	<5	<5	19	<5	6	21	<5
Pb in filtrate	ug/l	<5	<5	23	<5	<5	<5	16	832	6	6	<5	<5
Mg (soluble)	ug/l	400	1100	6400	2900	800	6600	4200	<100	8500	4200	4300	200
Mn in filtrate	ug/l	11000	12	28	8	<5	6	<5	60	11	23	<5	<5
Hg in filtrate	ug/l	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	N/S	<0.1
Mo (soluble)	ug/l	<5	8	15	5	<5	6	9	6	<5	17	10	<5
Ni in filtrate	ug/l	<5	7	<5	<5	<5	<5	<5	<5	<5	9	<5	<5
Se in filtrate	ug/l	1	<1	5	<1	<1	1	1	<1	<1	<1	N/S	<1
Ti in filtrate	ug/l	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
V (soluble)	ug/l	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	23
Zn in filtrate	ug/l	12	<5	316	5	12	<5	11	169	7	87	13	<5

Table 4 Analytical Testing Results on Soil Leachate Samples

6. SOIL GAS

6.1. GENERAL CONSIDERATIONS

The significance of soil borne gas relates to the presence of gases which may emanate from the ground and generate hazardous accumulations within a building development. In addition, gas may migrate from a site and impact on adjacent sites. The risks are particularly associated with methane and carbon dioxide; the presence of such gases being generally associated with biodegradation of organic rich materials. However, all types of ground may, if conducive conditions exist, generate gas and Made Ground should always be considered liable to produce gas. The presence of contaminants producing VOCs should also be considered.

Therefore, in assessing the soil-gas regime beneath the Site, the following points have been considered:

- Ground conditions and soil types;
- Gas concentrations and composition;
- The flow and pressure regime within the boreholes;
- The potential of organic materials for future degradation and subsequent gas production;
- Geological and hydrogeological aspects.

6.2. SOIL GAS REGIME

Soil gas concentrations were measured in all 9 No. boreholes during the monitoring visit undertaken on the 14th September 2003. Measurements were made using a hand held infra-red gas analyser, the results being included as Appendix 7.

Gas concentrations in all boreholes on the Site were below detection limits or at normal 'atmospheric' levels, negligible flow rates were recorded in each borehole.

The soil gas regime on the Site is unlikely to pose a significant risk to current site users or constitute a development constraint.

6.3. VOCS

No elevated VOC concentrations were detected during the excavation of the trial pits and boreholes. However, subsequent monitoring in all soil samples identified slightly elevated headspace concentrations of VOCs in samples from the following locations:

- Slightly elevated concentrations, up to 0.9 parts per million (ppm) were identified in samples from TP5, TP7, TP8, TP9, TP10, TP16 and TP20, all of which were located on the waste mounds;
- Concentrations of 1.8 ppm and 1.0 ppm were identified at depths of 0.4 and 1.5 m.bgl respectively, in TP49. Both readings were from samples of natural material and were associated with a slight hydrocarbon odour. The sample location was next to a large fuel storage tank and some hydrocarbon staining was present on surrounding concrete surfaces.

- A concentration of 0.5 ppm at 2.0 m.bgl in TP13, located in the edge of a small waste mound in the northeast of the Site.

- A concentration of 0.7 ppm at 0.2 m.bgl in TP2, located in the south of the Site.

The results of the VOC headspace monitoring are presented with the borehole and trial pit logs in Appendices 2 and 3 respectively. The concentrations of VOCs recorded were generally negligible and are unlikely to pose a significant risk to current site users.

7. RADIOLOGICAL SCREENING

Four soil samples were submitted for gross alpha and beta analysis and the results are summarised below.

Exploratory Hole ID	Sample Depth (m)	Gross Alpha (Bq/g)	Gross Beta (Bq/g)
TP5	0.05	0.255	0.233
TP9	1.5	0.257	0.259
TP16	1.0	0.156	0.158
TP20	3.5	0.082	0.048

Table 5 Summary of Radiological Screening Results

The current UK guidance from the Radiological Protection Board gives a threshold value of 0.4 Bq/g for both gross alpha and gross beta radiation. All the samples were below the threshold value.

Based on these results and the results of the monitoring during site works which found no elevated levels of radiation there is considered to be a negligible risk from radioactivity on the Site.

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APPENDIX 1

EXPLORATORY POINT LOCATION PLAN


BH07
TP20
TP50A
TP19
TP50
BH06
TP18
TP49
HS01
TP46
TP17
TP16
BH05
TP48
TP45
TP45B
TP40
TP15B
TP44B
TP44
TP43
TP39
TP47B
TP38
BH08
TP34
TP15A
TP47
HS02
TP14
TP41
TP33
TP42
TP37
TP32
TP13
TP36
BH09
TP36 Ash
TP29
TP28
TP30
TP35
TP31
TP12
HS07
BH04
HS06
HS05
TP27
TP25
TP01
TP26
TP10
TP24
TP11
BH01
TP22
TP02
TP03B
TP23
TP21
TP03
HS03
BH02
HS04
TP09
TP08
TP06
TP07
TP04
TP05
TP04C
TP04B
BH03
10412 Obs
12 °C
10413 Obs
3 °C
10411 Obs
1 °C
10414 Obs
1 °C
6 °C
8 °C
2 °C
1 °C
18 °C
17 °C
11 °C
5 °C
2 °C
3 °C
12 °C
4 °C
KEY
BOREHOLE LOCATIONS
TRIAL PIT LOCATIONS
TRIAL PITS ON WASTE MOUNDS
SURFACE SAMPLES
APPROXIMATE AREA OF WASTE MOUNDS
APPROXIMATE AREA OF GENERAL WASTE
DRAWING TITLE:
EXPLORATORY HOLE LOCATIONS
PROJECT:
AKKO, ISRAEL
PROJECT NO.: A249-00
DRAWING NO.: A249-00-D1
SCALE: 1:2000
DRAWN BY: AP
CHECKED BY: ML
DATE CHECKED: NOV 2003
BAE SYSTEMS
BAE SYSTEMS ENVIRONMENTAL SERVICES
WESTCOTT, AYLESBURY, BUCKS, HP18 0NP
TEL.: 01296 652123 FAX: 01296 652121

APPENDIX 2

BOREHOLE RECORDS

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH1

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m	3.88	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	11/09/2003	BAE SYSTEMS Environmental Services	1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1						MADE GROUND. Dark brown fine sand with various metal fragments, rubber and wood.		
0.30	D2					(0.50)			
					3.38	0.50	Brown fine SAND with infrequent fine gravel.		
						(0.60)			
1.00	D3				2.78	1.10	Light brown fine to coarse SAND with infrequent fine gravel.		
				Water strike(1) at 1.80m.					▽1
2.00	D4								
						(4.70)			
4.00	D5								
					-1.92	5.80	Grey brown fine SAND with infrequent fine gravel.		
6.00	D6					(0.70)			
					-2.62	6.50	Fine to coarse grey SAND with shell fragments.		
8.00	D7								

Remarks
B - Bulk
D - Jar

Scale (approx)	Logged By
1:50	CH

Figure No. A249-00.BH1

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH1

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m	3.88	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	11/09/2003	BAE SYSTEMS Environmental Services	2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.00	D9					(5.50)			
12.00	D10				-8.12	12.00	Complete at 12.00m		

Remarks

Scale (approx)	Logged By
1:50	CH

Figure No. A249-00.BH1

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH2

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m	4.48	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	11/09/2003-14/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1					(0.70)	MADE GROUND. Brown fine SAND with some gravel and fragments of metal, wood and rubber.		
0.50	D2				3.78	0.70			
1.00	D3					(0.80)	Brown fine to coarse SAND with infrequent fine sub-angular to sub-rounded gravel.		
					2.98	1.50	Light Brown fine to coarse SAND with infrequent fine sub-angular to sub-rounded gravel.		
2.00	D4			Water strike(1) at 2.20m.		(1.50)			▽1
					1.48	3.00	Grey fine to coarse grey SAND with infrequent fine-medium sub-angular to sub-rounded gravel.		
4.00	D5								
						(5.30)			
6.00	D6								
8.00	D7								
					-3.82	8.30	Complete at 8.30m		

Remarks
B - Bulk
D - Jar

Scale (approx)	Logged By
1:50	

Figure No. A249-00.BH2

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH3

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m	4.14	ENOSH Systems	A249-00
	Location: See Sample Location Plan	**Dates**: 07/09/2003-08/09/2003	**Engineer**: BAE SYSTEMS Environmental Services	**Sheet**: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.03	D1				4.04	0.10	MADE GROUND. light brown fine to medium SAND with infrequent metal fragments.		
0.50	D2					(0.90)	Light brown fine to medium sub-angular to sub-rounded SAND.		
1.00	D3				3.14	1.00	Dark brown fine to medium sub-angular to sub-rounded SAND.		
						(1.00)			
2.00	D4			Water strike(1) at 1.90m.	2.14	2.00	Light brown fine to medium sub-angular to sub-rounded SAND.		▽1
						(2.50)			
4.00	D5				-0.36	4.50	Light grey fine to medium sub-angular to sub-rounded SAND with infrequent shell fragments.		
6.00	D6					(3.60)			
8.00	D7				-3.96	8.10	Complete at 8.10m		

Remarks
D - Jar
B - Bulk

Scale (approx)	Logged By
1:50	

Figure No. A249-00.BH3

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH4

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m	4.08	ENOSH Systems	A249-00
	Location: See Sample Location Plan	**Dates**: 11/09/2003	**Engineer**: BAE SYSTEMS Environmental Services	**Sheet**: 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1					(0.60)	MADE GROUND. Dark brown fine to coarse SAND with gravel sized fragments of clinker.		
0.50	D2				3.48	0.60	Light brown fine-coarse sub-angular to sub-rounded SAND with infrequent sub-angular to sub-rounded gravel.		
1.00	D3					(0.90)			
					2.58	1.50	Dark brown fine to medium sub-angular to sub-rounded SAND.		
				Water strike(1) at 1.80m.					▽1
2.00	D4					(1.00)			
					1.58	2.50	Light brown fine-coarse sub-angular to sub-rounded SAND with little gravel.		
4.00	D5					(4.00)			
6.00	D6				-2.42	6.50	Grey fine-coarse sub-angular to sub-rounded SAND with infrequent gravel and shell fragments.		
8.00	D7								

Remarks
D - Jar
B - Bulk

Scale (approx)	Logged By
1:50	CH

Figure No. A249-00.BH4

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH4

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m	4.08	ENOSH Systems	A249-00
	Location: See Sample Location Plan	**Dates**: 11/09/2003	**Engineer**: BAE SYSTEMS Environmental Services	**Sheet**: 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.00	D9					(7.50)			
12.00	D10								
					-9.92	14.00	Complete at 14.00m		

Remarks

Scale (approx)	Logged By
1:50	CH

Figure No. A249-00.BH4

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH5

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m	2.82	ENOSH Systems	A249-00
	Location: See Sample Location Plan	**Dates**: 09/09/2003	**Engineer**: BAE SYSTEMS Environmental Services	**Sheet**: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1				2.72	0.10	MADE GROUND. Dark brown fine to coarse SAND with infrequent metal fragments.		
0.50	D2					(0.70)	Light brown fine to coarse SAND with infrequent subangular gravel.		
1.00	D3				2.02	0.80	Dark brown fine to coarse SAND with infrequent subangular gravel.		
2.00	D4			Water strike(1) at 1.80m.	1.32	1.50	Light brown fine to medium SAND with infrequent shell fragments.		▽1
4.00	D5					(3.00)			
6.00	D6				-1.68	4.50	Grey fine to medium SAND with shell fragments.		
8.00	D7					(3.80)			
					-5.48	8.30	Complete at 8.30m		

Remarks
D - Jar
B - Bulk

Scale (approx)	Logged By
1:50	CH

Figure No. A249-00.BH5

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH6

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m	3.36	ENOSH Systems	A249-00
	Location: See Sample Location Plan	**Dates**: 09/09/2003-10/09/2003	**Engineer**: BAE SYSTEMS Environmental Services	**Sheet**: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1					(0.60)	MADE GROUND. Dark brown fine to coarse subangular to subrounded sand and ash with metal and clinker fragments.		
0.50	D2				2.76	0.60	Light brown fine to coarse subangular to subrounded SAND with infrequent subangular to subrounded gravel.		
1.00	D3								
2.00	D4			Water strike(1) at 2.50m.		(3.90)			▽1
4.00	D5				-1.14	4.50	Grey fine to coarse subrounded to angular SAND predominantly of shell fragments.		
6.00	D6					(3.80)			
8.00	D7				-4.94	8.30	Complete at 8.30m		

Remarks
D - Jar
B - Bulk

Scale (approx)	Logged By
1:50	CH

Figure No. A249-00.BH6

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH7

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m		ENOSH Systems	A249-00
	Location: See Sample Location Plan	**Dates**: 11/09/2003	**Engineer**: BAE SYSTEMS Environmental Services	**Sheet**: 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1					(0.60)	MADE GROUND. Dark brown fine to coarse SAND of ash and slag with fine to coarse gravel of ash and slag with metal and wood fragments.		
0.50	D2					0.60	Brown fine to coarse subangular to subrounded SAND with infrequent fine gravel.		
1.00	D3					(0.60)			
2.00	D4			Water strike(1) at 2.00m.		1.20	Light brown fine to coarse subangular to subrounded SAND with infrequent fine gravel.		▽1
4.00	D5					(5.00)	Becoming shelly.		
6.00	D6					6.20	Grey fine to coarse subangular to subrounded SAND with shell fragments.		
8.00	D7								

Remarks
D - Jar
B - Bulk

Scale (approx)	Logged By
1:50	CH

Figure No. A249-00.BH7

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH7

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m		ENOSH Systems	A249-00
	Location See Sample Location Plan	**Dates** 11/09/2003	**Engineer** BAE SYSTEMS Environmental Services	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.00	D8					(5.80)	Becoming finer.		
12.00	D9					12.00	Complete at 12.00m		

Remarks

Scale (approx)	Logged By
1:50	CH

Figure No. A249-00.BH7

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH8

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m	2.96	ENOSH Systems	A249-00
	Location: See Sample Location Plan	**Dates**: 10/09/2003	**Engineer**: BAE SYSTEMS Environmental Services	**Sheet**: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1				2.91	0.05 (0.55)	Dark brown fine to coarse sand with gravel sized concrete fragments.		
0.50	D2						Dark brown fine to coarse SAND with some subangular to subrounded fine gravel.		
					2.36	0.60	Light brown fine-coarse SAND with some subangular to subrounded fine gravel.		
1.00	D3								
				Water strike(1) at 1.70m.					▽1
2.00	D4						Becoming more gravelly and contains shell fragments.		
						(5.50)			
4.00	D5								
6.00	D6				-3.14	6.10	Light grey fine to coarse light grey brown SAND containing shell fragments.		
						(2.20)			
8.00	D8								
					-5.34	8.30	Complete at 8.30m		

Remarks
D - Jar
B - Bulk

Scale (approx)	Logged By
1:50	CH

Figure No. A249-00.BH8

BAE SYSTEMS Environmental Services

Site	Borehole Number
Akko, Israel	BH9

Boring Method	Diameter	Ground Level (mOD)	Client	Job Number
Solid Stem Rotary using Cable Percussive methods to install well casing.	150mm cased to 8.00m	3.54	ENOSH Systems	A249-00
	Location: See Sample Location Plan	**Dates**: 10/09/2003	**Engineer**: BAE SYSTEMS Environmental Services	**Sheet**: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1				3.44	0.10	MADE GROUND.Dark brown fine to coarse SAND with containing concrete gravel and fragments of clinker, metal and wood.		
0.50	D2						Light brown fine to coarse SAND containing infrequent gravel and shell fragments.		
1.00	D3								
2.00	D4								
						(6.10)			
4.00	D5								
6.00	D6				-2.66	6.20	Grey fine to coarse SAND containing shell fragments.		
						(1.80)			
8.00	D7				-4.46	8.00	Complete at 8.30m		

Remarks
D - Jar
B - Bulk

Scale (approx)	Logged By
1:50	CH

Figure No. A249-00.BH9

APPENDIX 3

TRIAL PIT RECORDS

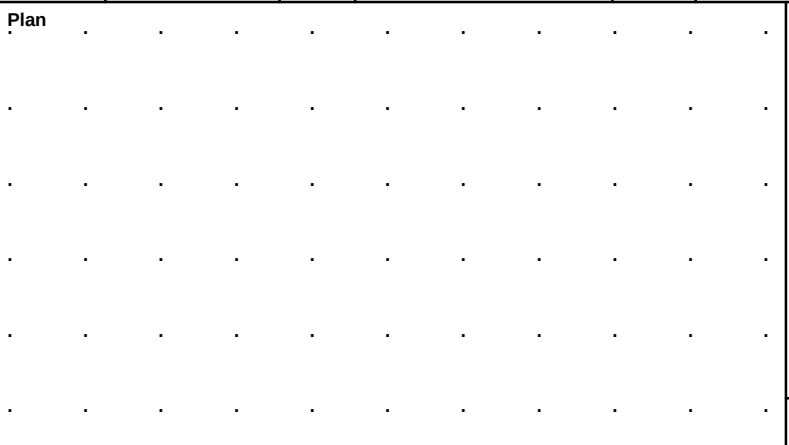
BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP1

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.98	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10-0.30	D1		VOC Head Space (ppm) 0.1	3.68	(0.30) 0.30	MADE GROUND. Metal fragments, gravel and fabric in brown, sandy, ashy, gravelly matrix.		
						Complete at 0.30m		

Plan



Remarks

Concrete floor at 0.3m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP1

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP2

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		4.17	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1		VOC Head Space (ppm) <0.1			MADE GROUND. Metal wheels, steel reinforcing bars and occasional wood and asbestos cement sheeting fragments in a brown fine, sandy ashy matrix.		
0.20-0.30	D2		0.1		(0.50)			
				3.67	0.50	MADE GROUND. Black sandy ash and occasional gravel sized clinker.		
				3.62	0.55			
				3.37	0.80	MADE GROUND. Moderately compact orange gravelly sand.		
0.90	D3		<0.1		(0.25)			
						Moderately compact pale brown SAND		
					(1.80)			
				1.57	2.60			
						Complete at 2.60m		

Plan

Remarks

Water entry at 2.6m, sides collapsed below 2.0m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP2

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP3

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		5.24	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
		07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10 0.30	D1 D2		VOC Head Space (ppm) <0.1 <0.1	5.04	0.20	MADE GROUND: Pale brown moderately compact, very fine sand and fine to medium gravel Complete at 0.20m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP3

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP4

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)		(0.35) 0.35	MADE GROUND. Moderately compact pale brown very fine sand and fine to medium gravel with occasional ash and clinker.		
0.50	D1		<0.1		(0.65) 1.00	MADE GROUND. Slag and clinker in black ashy matrix with occasional metal pieces.		
					(2.00) 3.00	Pale brown SAND		
2.50	D2		<0.1			Complete at 1.80m		

Plan

Remarks

Water entry at 3.0m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP4

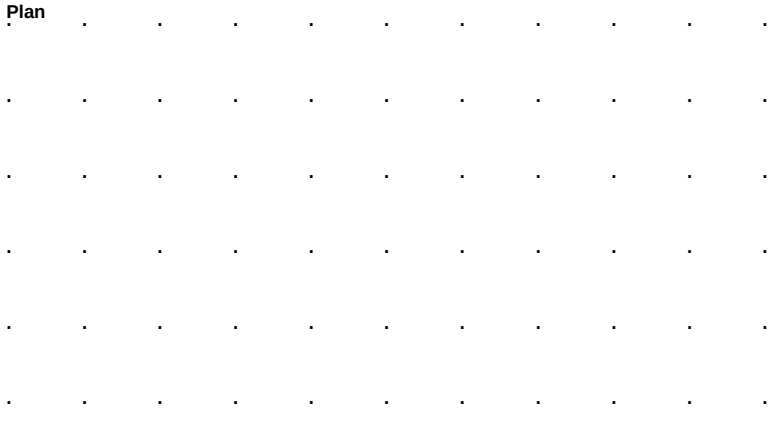
BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP5

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00	B1		VOC Head Space (ppm)		0.20 (0.50)	MADE GROUND: Metal, concrete, asbestos fragments, wood fragments, clinker, concrete fragments in loose very fine sandy matrix		
0.50	D1		<0.1					
0.50-1.00	B2				0.70	MADE GROUND: Pale grey to white gravel sized LIME fragments.		
1.00	D2		0.5		(1.90)	MADE GROUND: Grey gravel to cobble sized clinker, slag and concrete fragments in fine black ashy matrix with occasional metal reinforcing bars		
2.00	D3		0.2		2.60			
3.00	D4		<0.1		(0.90)	MADE GROUND: Black, slightly damp clayey sand with frequent clinker and ash and occasional cobble to boulder sized slag pieces		
3.50	B3							
3.50	D5		0.1		3.50	Complete at 3.50m		

Plan



Remarks

Trial pit located in waste mound.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP5

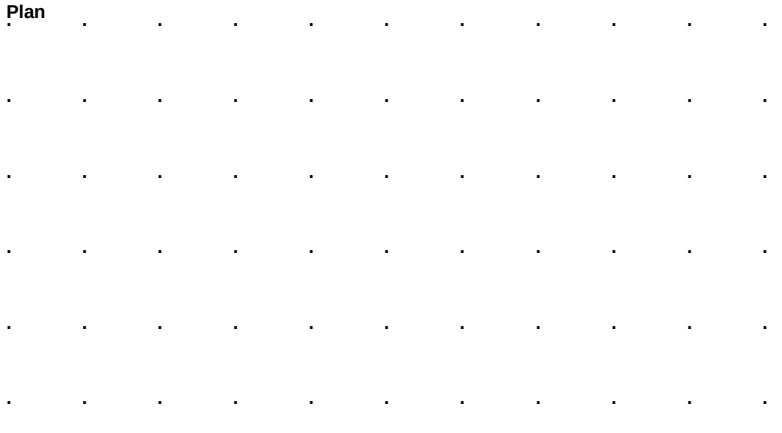
BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP6

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		6.59	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00	D1		VOC Head Space (ppm) <0.1	6.49	0.10	MADE GROUND. Loose pale brown silt and sand with frequent slag and ash.		
0.50 0.50	D2 B1		<0.1			MADE GROUND. Gravel sized concrete and slag fragments, steel reinforcing bars and rope in a fine black ash and clinker matrix.		
					(2.20)			
1.50	B2							
				4.29	2.30			
						Complete at 2.30m		

Plan



Remarks

Trial pit located in waste mound

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP6

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP7

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.50	B1		VOC Head Space (ppm)			MADE GROUND: Clinker, bricks, metal wheels, wood and metal fragments in loose pale brown fine sandy matrix		
0.50	D1		<0.1		(1.20)			
1.00-1.50	B2				1.20			
1.30	D2		<0.1		(0.60)	MADE GROUND: Gravel sized slag and concrete fragments in pale brown sandy matrix with occasional thin layers of ash and clinker		
					1.80	MADE GROUND: Fine sandy ash and clinker with frequent gravel and a thin layer of fine brown ash with occasional large boulder sized slag pieces		
					(1.40)			
3.00	D3		0.2					
3.00	B3				3.20	Complete at 3.20m		

Plan

Remarks

Trial Pit located in waste mound.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP7

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP8

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		9.28	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)	9.18	0.10 (0.60)	MADE GROUND. Loose pale brown silt and sand with frequent slag and ash.		
0.50 0.50-1.00	D1 B1		<0.1	8.58	0.70	MADE GROUND. Black ash, clinker and slag with occasional thin layer of very stiff brown clay and occasional metal pieces.		
1.00	D2		0.8		(1.50)	MADE GROUND. Black mottled grey ash with frequent sand sized clinker and slag fragments with some metal pieces and occasional pockets of brown sand, steel cable and concrete gravel.		
				7.08	2.20	Complete at 2.20m		

Plan

Remarks

Trial Pit located in waste mound.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP8

BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP9

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1		VOC Head Space (ppm) 0.4		0.10 (0.60)	MADE GROUND: Loose pale brown silt and sand with frequent wood pieces and occasional metal fragments.		
					0.70	MADE GROUND: Grey gravel sized slag and concrete fragments in fine black ash and clinker matrix with frequent large metal pieces.		
1.00-1.50	B1				(0.30) 1.00	MADE GROUND: Moderately compact brown sand and silt with frequent metal, ash, slag and clinker.		
1.50	D2		0.3			MADE GROUND: Pale brown fine, ashy sand with freq fine gravel, slag, clinker and occasional metal fragments.		
					(2.20)			
3.00-4.00	B2				3.20	Complete at 3.20m		

Plan

Remarks

Trial Pit located in waste mound.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP9

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP10

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		14.58	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)		(0.40)	MADE GROUND. Loose pale brown silt and sand with frequent wood pieces and occasional metal fragments.		
0.50	D1		0.2	14.18	0.40	MADE GROUND. Black and dark brown, very fine ash with frequent fine sand sized metal fragments.		
					(0.60)			
1.30	D2		0.9	13.58	1.00	MADE GROUND. Gray silt and sand sized ash and concrete fragmentswith frequent pale gray concrete cobbles.		
					(0.40)			
				13.18	1.40	MADE GROUND. Brown and black fine silt and sand sized ash with frequent wire, wood and metal fragments and occasional gravel sized slag		
					(2.20)			
				10.98	3.60	MADE GROUND. Gravel sized concrete fragments.		
4.00	D3		0.7	10.78	3.80	MADE GROUND. Gravel to cobble sized slag and clinker with frequent metal fragments in a fine brownashy matrix.		
					(0.70)			
				10.08	4.50	Complete at 4.50m		

Plan

Remarks

Trial Pit located in waste mound.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP10

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP11

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1		VOC Head Space (ppm) <0.1		0.05 0.15 (0.10) (0.35) 0.50	MADE GROUND. Moderatly compact pale brown, very fine sand and fine to medium gravel with occasional ash and clinker. MADE GROUND. Pale gray coarse gravel. MADE GROUND. Compact slag and clinker in a black ashy matrix with occasional metal pieces. Complete at 0.50m		

Plan

Remarks

Obstruction at 0.5m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP11

BAE SYSTEMS Environmental Services

Site Akko, Israel			**Trial Pit Number** **TP13**
Excavation Method Trial Pit	**Dimensions**	**Ground Level (mOD)** 3.81	**Client** ENOSH Systems	**Job Number** A249-00
	Location See Sample Location Plan	**Dates** 01/01/2003	**Engineer** BAE SYSTEMS Environmental Services	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05 0.15	D1 D2		VOC Head Space (ppm) <0.1 0.8	3.71	0.10 (0.90)	MADE GROUND. Loose dark brown fine sand and ash. MADE GROUND. Grey gravelsized clinker in black sandt ashy matrix with occasional metal fragments.		
0.90	D3		0.4	2.81	1.00 (1.30)	Pale brown SAND.		
2.00	D4		0.5	1.51	2.30	Complete at 2.30m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP13

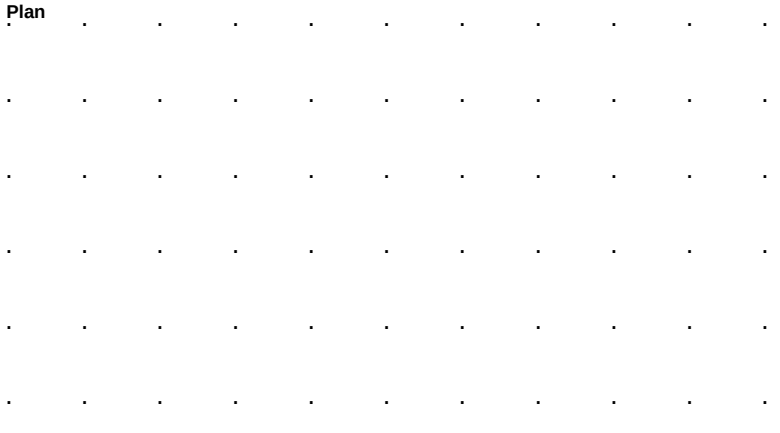
BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP16

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)			MADE GROUND. Loose pale brown, fine ashy sand with freq concrete gravel, clinker and slag fragments.		
0.50	D1		<0.1		(0.80)			
					0.80	MADE GROUND. Pale grey, moderately weak lime gravel with frequent ash and clinker in a black ash matrix.		
1.00	D2		<0.1		(0.50)			
1.00	B1				1.30	MADE GROUND. Black gravel to boulder sized clinker and slag pieces in a fine black ash matrix with occasional metal fragments.		
1.50	B2							
1.80	D3		0.6					
2.00	B3							
					(2.40)			
2.80	D4		<0.1					
					3.70	Complete at 3.70m		

Plan



Remarks

Trial Pit located in waste mound.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP16

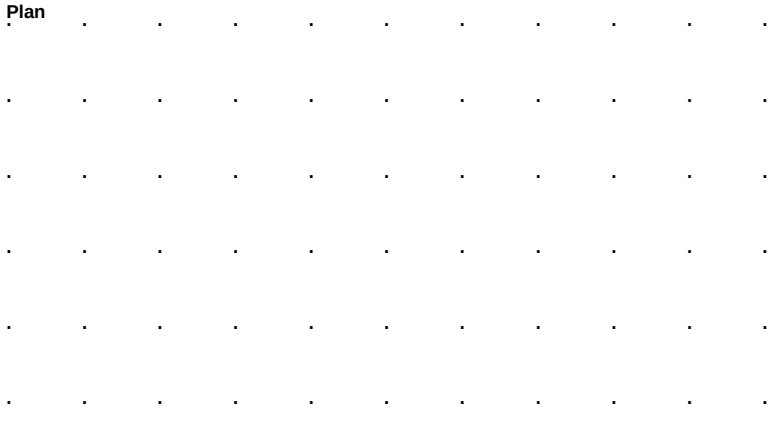
BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP17

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.31	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00	D1		VOC Head Space (ppm)			Brown medium SAND.		
			<0.1					
0.20	D2		<0.1		(0.40)			
				1.91	0.40	Pale brown SAND.		
0.60-0.80	D3		<0.1					
					(1.10)			
				0.81	1.50			
						Complete at 1.50m		

Plan



Remarks

Approximately 0.5m of material had been excavated from area of trial pit before excavation.
Walls collapsed below 1.5m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP17

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP18

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D1		VOC Head Space (ppm) <0.1		(0.30) 0.30	MADE GROUND. Moderatly compact pale brown very fiine sand and silt with freq metal bars and occasional large concrete boulders.		
0.50	D2		<0.1		(0.30) 0.60	MADE GROUND. Pale grey lime gravel, ash and clinker.		
1.20	D3		<0.1			MADE GROUND. Pale grey and black clinker and slag with frequent concrete gravel in a black fine ash matrix.		
1.50-2.00	D4		<0.1		(2.40)			
					3.00	Complete at 3.00m		

Plan

Remarks

Trial Pit located in waste mound.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP18

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP19

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.74	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D1		VOC Head Space (ppm) <0.1			MADE GROUND. Dark brown sand with frequent concrete gravel, steel reinforcing bars and occasional thin lenses of slag, ash and clinker.		
0.50	D2		<0.1		(1.20)			
				1.54	1.20	Pale brown moderately loose SAND.		
2.00	D3		<0.1		(1.20)			
				0.34	2.40	Complete at 2.40m		

Plan

Remarks

Water entry below 2.0m, TP sides collapsed below 1.2m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP19

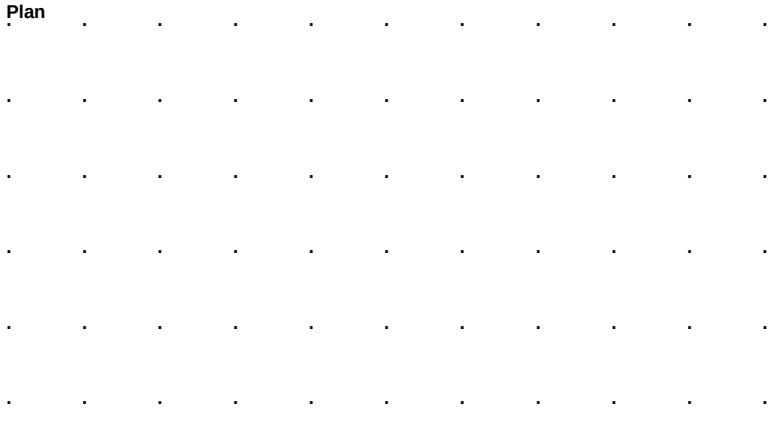
BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP20

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		10.22	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	D1		VOC Head Space (ppm) <0.1			MADE GROUND. Pale grey concrete fragments in a black ashy matrix with occasional clinker.		
0.50	B1				(1.30)			
				8.92	1.30	MADE GROUND. Concrete, brick and slag fragment in a fine black ash matrix with occasional metal wire.		
1.50-2.00	B2							
2.50	D1		<0.1		(2.20)			
3.50	D1		0.1	6.72	3.50	Complete at 3.50m		

Plan



Remarks

Trial Pit located in waste mound.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP20

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP21

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		4.45	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)		(0.30)	MADE GROUND. Gravel in a pale brown slightly ashy matrix.		
0.20	D1		<0.1	4.15	0.30			
				4.10	0.35	MADE GROUND. Pale grey coarse gravel in a grey sandy matrix.		
				4.00	0.45			
					(0.10)	MADE GROUND. Orange brown gravelly sand.		
					(0.65)			
				3.35	1.10	MADE GROUND. Black ash, clinker and concrete gravel in a dark grey, ashy, sandy matrix.		
1.50	D2		<0.1			Pale brown moderately compact SAND.		
					(1.10)			
				2.25	2.20			
						Complete at 2.20m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP21

BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP22

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		4.47	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)	4.27	0.20	MADE GROUND. Pale brown moderately compact pale very fine sand and fine to medium gravel with occasional ash and clinker.		
0.20	D1		<0.1	4.17	0.30 (0.10)	MADE GROUND. Pale brown moderately loose fine sand.		
0.70	D2		<0.1	3.67	0.80 (0.50)	MADE GROUND. Coarse gravel sized slag and clinker frag in black sandy ashy matrix with frequent reinforcing bars.		
						Complete at 0.80m		

Plan

Remarks

Obstruction.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP22

BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP23

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		4.10	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)			MADE GROUND. Pale brown very fine sand and frequent fine to medium gravel.		
0.20	D1		<0.1		(0.40)			
			<0.1	3.70	0.40	MADE GROUND. Ash, slag, clinker, metal reinforcing bars in a black ashy, sandy matrix.		
0.70	D2				(0.80)			
				2.90	1.20			
						Complete at 1.20m		

Plan

Remarks

Obstruction at 1.2m

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP23

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP24

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		4.14	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)	4.04	0.10	MADE GROUND. Grass covered very sandy topsoil.		
0.40	D1		<0.1		(0.80)	MADE GROUND. Pale grey very ashy sand with frequent gravel, occasional clinker and a metal bar at 0.8m		
				3.24	0.90	MADE GROUND. Orangey brown coarse gravelly sand.		
				3.14	1.00			
					(0.60)	MADE GROUND. Dark brown mottled orange slightly gravelly sand with occasional clinker.		
1.50	D2		<0.1					
				2.54	1.60	Pale brown moderately compact SAND.		
2.00	D3		<0.1		(0.80)			
				1.74	2.40			
						Complete at 2.40m		

Plan

Remarks

Water entry at 2.4m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP24

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP25

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		4.28	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1		VOC Head Space (ppm) <0.1	4.08	0.20	MADE GROUND. Brown very sandy topsoil with occasional plastic sheeting, metal pieces and occasional asbestos cement fragments.		
0.50	D2		<0.1		(0.90)	MADE GROUND. Pale brown very fine sand with occasional barbed wire and some metal fragments.		
				3.18	1.10	MADE GROUND. Black ash and clinker with occasional slag and gravel.		
				3.08	1.20			
1.50	D3		<0.1		(0.60)	MADE GROUND. Yellow brown moderately compact sand.		
				2.48	1.80			
					(0.30)	MADE GROUND. Orange brown moderately compact sand.		
				2.18	2.10			
						Complete at 2.10m		

Plan

Remarks

Obstruction.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP25

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP26

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		4.28	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1		VOC Head Space (ppm) <0.1		(0.40)	MADE GROUND: Pale brown moderately compact pale brown, very fine sand and fine to medium gravel with occasional ash and clinker.		
0.50	D2		<0.1	3.88	0.40	MADE GROUND. Slag, clinker and metal frag in a black slightly sandy, ashy matrix.		
					(0.70)			
				3.18	1.10	Moderately loose to moderately compacted pale brown SAND.		
					(2.40)			
				0.78	3.50	Complete at 3.50m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP26

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP27

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		4.14	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D1		VOC Head Space (ppm) <0.1	3.94	0.20	MADE GROUND. Pale brown sandy gravel in fine brown sandy matrix with occasional clinker and steel reinforcing bars.		
						Complete at 0.20m		

Plan

Remarks

Obstruction, concrete floor at 0.2m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP27

BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP28

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.82	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)			MADE GROUND. Metal fragments, ash, clinker and gravel in pale brown sandy matrix with some asbestos cement fragments at surface.		
0.20	D1		<0.1		(0.40)			
				3.42	0.40	MADE GROUND. Moderately gray coarse gravel sized clinker in black ashy matrix.		
					(0.30)			
				3.12	0.70			
					(0.40)			
0.90-1.00	D2		<0.1			MADE GROUND. Brown moderately compact sand with frequent gravel, occasional cobbles, ash and clinker.		
				2.72	1.10			
						Complete at 1.10m		

Plan

Remarks

Obstruction.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP28

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP29

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.87	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)		(0.30)	MADE GROUND. Metal fragments, ash, clinker and gravel in pale brown fine sandy matrix.		
0.30	D1		<0.1	3.57	0.30 (0.40)	MADE GROUND. Fine black ashy gravel.		
				3.17	0.70			
1.00	D2		<0.1		(0.90)	MADE GROUND. Moderately compact pale brown sand with frequent gravel and occasional metal fragments and concrete gravel.		
				2.27	1.60	Brown medium SAND.		
				2.17	1.70	Complete at 1.70m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP29

BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP30

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		4.16	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	MADE GROUND. Pale gray fravel and concrete gravel in fine gray sandy matrix.		
0.20	D1		VOC Head Space (ppm)	3.86	0.30			
0.40	D2		<0.1		(0.20)	MADE GROUND. Dark brown slightly ashy sand and gravel with frequent concrete gravel and occasional metal fragments.		
			<0.1	3.66	0.50			
						Complete at 0.50m		

Plan

Remarks

Concrete/ services at 0.5m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP30

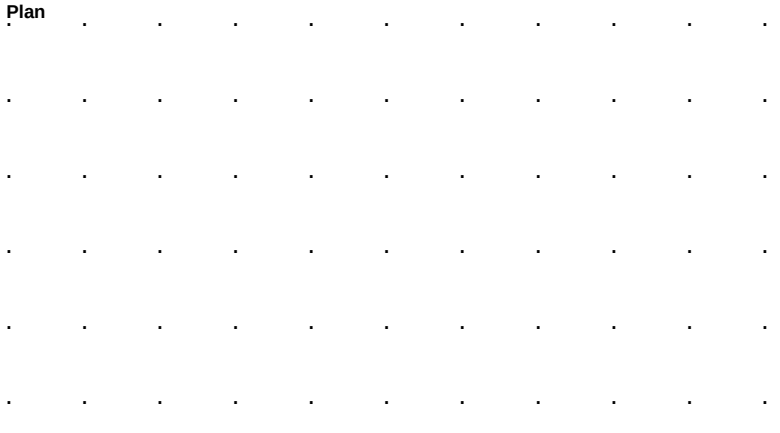
BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP31

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		4.08	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)			MADE GROUND. Med. to coarse gravel stained black.		
			<0.1	3.88	0.20 (0.20)			
0.40	D1		<0.1	3.68	0.40 (0.50)	MADE GROUND. Pale gray gravel in very fine, white sandy matrix.		
0.70	D2		<0.1			MADE GROUND. Moderately loose to moderately compact fine gravel with frequent coarse concrete gravel and occasional metal reinforcment bars.		
0.80	D3		<0.1	3.18	0.90			
						Complete at 0.90m		

Plan



Remarks

Concrete obstruction.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP31

BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP32

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.76	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D1		VOC Head Space (ppm) <0.1	3.66	0.10	MADE GROUND. Loose brown fine sand with frequent gravel.		
0.40	D2		<0.1			MADE GROUND. Gravel and cobbles in pale brown sandy matrix with occasional clinker and rootlets.		
					(1.40)			
				2.26	1.50	Complete at 1.50m		

Plan

Remarks

Abandoned due to presence of services.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP32

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP33

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.37	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)		(0.30)	MADE GROUND. Pale brown, very fine, slightly ashy sand with frequent gravel.		
0.40	D1		<0.1	3.07	0.30			
					(0.50)	MADE GROUND. Brick gravel, whole bricks and some clinker in brown sandy matrix.		
				2.57	0.80			
						Moderately compacted pale brown SAND		
1.50	D2		<0.1		(1.10)			
				1.47	1.90			
						Complete at 1.90m		

Plan

Remarks

Water entry at 1.8m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP33

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP34

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.03	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1		VOC Head Space (ppm) <0.1	2.93	0.10	MADE GROUND. Vegetation covered slightly ashy, very sandy topsoil.		
0.30	D2		<0.1		(0.40)			
				2.53	0.50	MADE GROUND. Pale brown slightly ashy gravelly sand with occasional pockets of ash.		
						Pale brown moderately compact SAND with frequent coarse gravel.		
					(1.90)			
2.20	D3		<0.1	0.63	2.40			
						Complete at 2.40m		

Plan

Remarks

Adjacent building heavily stained with hydrocarbons on wall.
Water entry below 2m, TP walls collapsed below 1.4m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP34

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP35

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.84	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)		(0.25)	MADE GROUND. Coarse gravel in pale brown sandy matrix.		
				3.59	0.25			
0.40	D1		<0.1	3.54	0.30	MADE GROUND. Black ash and clinker.		
					(0.30)	MADE GROUND. Pale brown sand and gravel with occasional reinforced concrete.		
				3.24	0.60			
1.00	D2		<0.1		(1.10)	MADE GROUND. Brown moderately compact gravelly sand with occasional concrete gravel, coke, clinker fragments and reinforcing bars.		
				2.14	1.70			
1.80-2.00	D3		<0.1		(0.40)	Pale brown moderately SAND.		
				1.74	2.10			
						Complete at 2.10m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP35

BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP37

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.32	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)					
0.10	D1		<0.1	3.22	0.10	MADE GROUND: Coarse gravel and clinker in pale brown ashy sandy matrix.		
			<0.1	3.02	0.30 (0.20)	MADE GROUND: Pale brown coarse gravel.		
0.50	D2		<0.1	2.82	0.50 (0.20)	MADE GROUND: Pale grey clinker, ash and tarmac gravel.		
						Complete at 0.50m		

Plan

Remarks

Obstruction at 0.5m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP37

BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP38

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.06	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-0.30	D1		VOC Head Space (ppm) <0.1		(0.90)	MADE GROUND. Slag, clinker and concrete gravel and boulders in black fine sandy ashy matrix with occasional large slag cobbles and metal fragments.		
0.90	D2		<0.1	2.16	0.90	Pale brown moderately compact SAND		
					(1.50)			
2.40	D3		<0.1	0.66	2.40	Complete at 2.40m		

Plan

Remarks

Pit sides collapsed below 1.2m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP38

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP39

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.13	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1		VOC Head Space (ppm) <0.1	3.08	0.05	MADE GROUND. Pale grey gravel in grey fine sandy matrix.		
					(0.35)	MADE GROUND. Pale grey and brown sand.		
0.40	D2		<0.1	2.73	0.40	MADE GROUND. Large angular boulders in brown sandy matrix.		
					(0.70)			
				2.03	1.10	MADE GROUND. Large metal drums filled with coarse gravel in brown sandy matrix.		
					(0.70)			
1.70	D3			1.33	1.80 (0.40)	Pale brown SAND.		
			<0.1	0.93	2.20	Complete at 2.20m		

Plan

Remarks

Water entry at 1.9m.
Hydrocarbon staining on surface

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP39

BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP3A

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		5.24	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				5.04	0.20	MADE GROUND. Pale brown moderately compact, very fine sand and fine to medium gravel.		
						Complete at 0.20m		

Plan

Remarks

Obstruction.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP3A

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP3B

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Span (ppm)		0.10 0.30 (0.20)	MADE GROUND. Pale brown, moderately compact very fine sand and fine to medium gravel with occasional ash and clinker. Car batteries and scrap metal present at surface.		
						MADE GROUND. Pale brown coarsegravel in a fine sandy matrix.		
					(0.80)	MADE GROUND. Dark grey, ashy sand with frequent coarse gravel, steel reinforcing bars, scrap metal and concrete gravel.		
					1.10	Complete at 1.10m		

Plan

Remarks

Obstruction.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP3B

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP40

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.17	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1		VOC Head Space (ppm) <0.1		(0.40)	MADE GROUND. Orange brown moderately loose fine to medium sand with frequent weak sandstone gravel.		
				2.77	0.40			
				2.67	0.50	MADE GROUND. Coarse gravel in pale brown sandy matrix.		
					(0.70)	MADE GROUND. Pale brown sand.		
1.00	D2		<0.1					
1.20-1.30	D3		<0.1	1.97	1.20			
					(0.40)	MADE GROUND. Pale brown sand with occasional gravel.		
				1.57	1.60			
					(0.50)	Pale brown SAND.		
				1.07	2.10			
						Complete at 2.10m		

Plan

Remarks

Water entry at base of trial pit.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP40

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP41

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.34	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.30	D1		VOC Head Space (ppm) <0.1		(0.80)	MADE GROUND. Gravel and clinker in brown sandy ashy matrix.		
				2.54	0.80	Pale brown SAND.		
1.50	D2		<0.1		(1.70)			
				0.84	2.50	Complete at 2.50m		

Plan

Remarks

Side of small waste mound.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP41

BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP42

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		3.17	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)	2.87	(0.30)	MADE GROUND. Fine black ash with occasional fine gravel and metal reinforcing bars.		
					0.30			
0.50	D1		<0.1		(0.30)	MADE GROUND. Gravel sized slag and clinker and coarse gravel in black ashy matrix.		
				2.57	0.60			
						Complete at 0.60m		

Plan

Remarks

Obstruction at 0.6.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP42

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP43

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.63	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1		VOC Head Space (ppm)	2.58	0.05	MADE GROUND. Loose fine black ash.		
0.15	D2		<0.1	2.53	0.10 (0.05)	MADE GROUND. Tarmac.		
					(0.40)			
				2.13	0.50	MADE GROUND. Coarse grey gravel in pale brown sandy matrix with occasional angular cobbles.		
						Pale brown SAND		
					(2.00)			
2.20	D2		<0.1					
				0.13	2.50	Complete at 2.50m		

Plan

Remarks

Trial pit sides collapsed below 1.40m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP43

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP44

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.91	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)	2.81	0.10	MADE GROUND. Vegetation covered pale grey and brown sand and gravel with some cement ashbestos fragments.		
				2.76	0.15			
					(0.05)	MADE GROUND. Orange brown sand and gravel.		
					(1.05)			
0.60	D1		<0.1			Brown fine to medium SAND with frequent gravel.		
1.00	D2		<0.1					
				1.71	1.20	Pale brown SAND.		
					(0.70)			
1.70	D3		<0.1					
				1.01	1.90	Complete at 1.90m		

Plan

Remarks

Rapid water entry below 2m, sides collapsed below 1.2m.
Hydrocarbon staining on surface

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP44

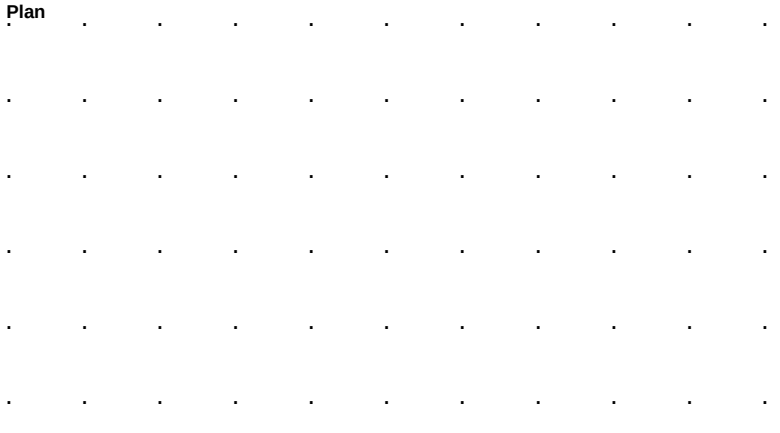
BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP45

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.55	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)	2.53	0.02	MADE GROUND. Tarmac stained with oil.		
0.10	D1		<0.1		(0.38)	MADE GROUND. Pale grey coarse gravel in pale brown sandy matrix.		
0.50	D2		<0.1	2.15	0.40	MADE GROUND. Pale brown mediumsand with rootlets, occasional gravel and occasional pockets of ash.		
					(0.70)			
				1.45	1.10	Pale brown SAND.		
2.00	D3		<0.1		(1.40)			
				0.05	2.50	Complete at 2.50m		

Plan



Remarks

Walls of trial pit collapsed below 1.3m.
Hydrocarbon staining on surface

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP45

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP46

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.55	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D1		VOC Head Space (ppm) <0.1	2.35	0.20	MADE GROUND. Coarse concrete gravel in pale brown fine sandy matrix with thin layer of fine black ash at 1.0m.		
					(0.60)	MADE GROUND. Brown medium sand and gravel with occasionalposckets of ash.		
				1.75	0.80	Pale brown SAND.		
					(1.50)			
				0.25	2.30	Complete at 2.30m		

Plan

Remarks

Rapid water entry at 1.3m, sides of trial pit collapsed below 0.9m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP46

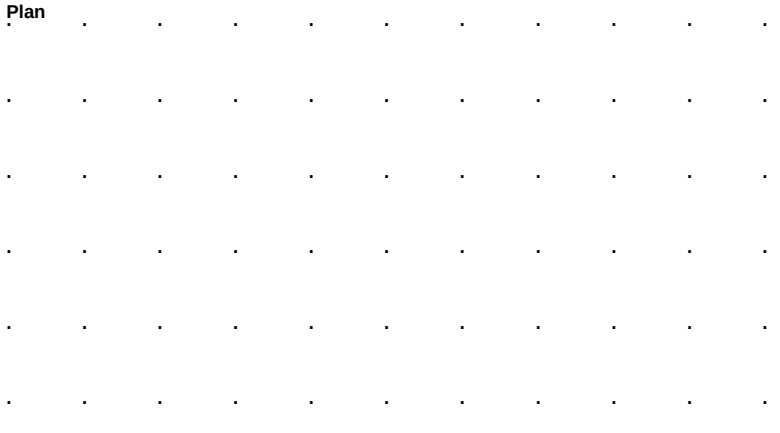
BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP47

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.91	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)			MADE GROUND. Loose grey fine ash with frequent gravel and clinker.		
0.30	D1		<0.1		(0.50)			
				2.41	0.50	MADE GROUND. Pale brown sand and gravel.		
				2.31	0.60			
				2.11	0.80	MADE GROUND. Moderately loose medium to coarse ash with frequent gravel.		
						Complete at 0.80m		

Plan



Remarks

Side of waste mound.
Obstruction at 0.8m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP47

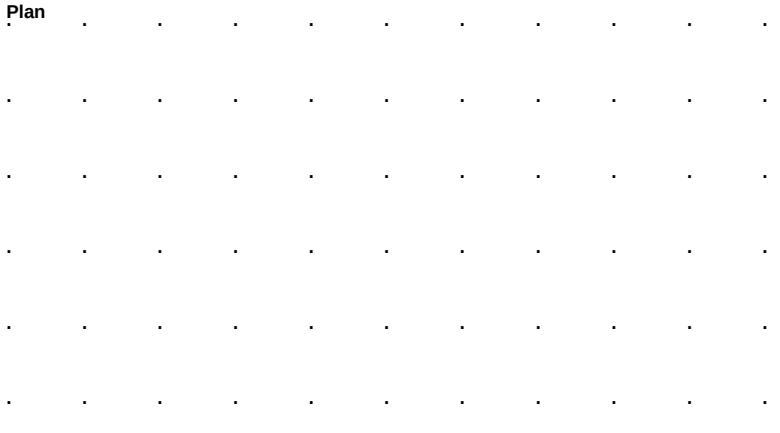
BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP48

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.62	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)	2.60	0.02	MADE GROUND. Tarmac.		
0.10	D1		0.2	2.42	0.20 (0.18)	MADE GROUND. Orange brown sand and gravel.		
					(0.50)	MADE GROUND. Moderately compact brown sand with occasionalgravel.		
0.60	D2		<0.1	1.92	0.70	Pale brown SAND.		
					(1.60)			
2.10	D3		<0.1	0.32	2.30	Complete at 2.30m		

Plan



Remarks

Walls of trial pit collapsed below 0.5m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP48

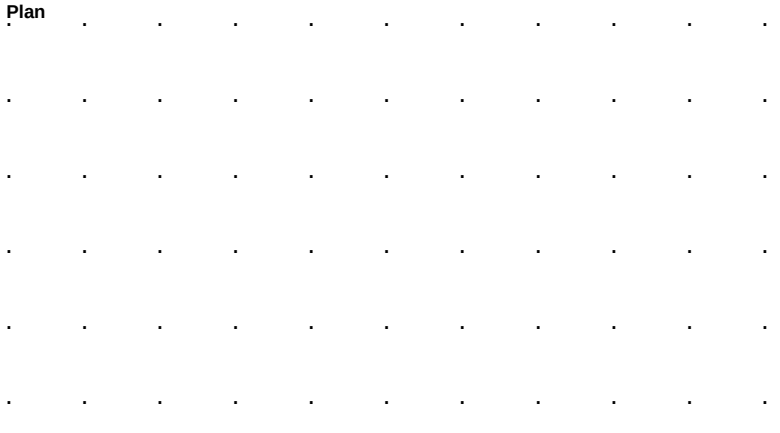
BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP49

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.37	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)					
0.10	D1		0.5		(0.30)	MADE GROUND. Black fine ashy sand with frequent gravel.		
				2.07	0.30			
0.40	D2		1.8			Pale brown SAND.		
					(1.50)			
1.50	D3		1.0					
				0.57	1.80			
						Complete at 1.80m		

Plan



Remarks

Sides of trial pit collapsed below 0.4m.
Black hydrocarbon staining on adjacent concrete wall

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP49

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP4B

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)		0.10 (0.50)	MADE GROUND. Pale grey gravel in a fine grey sandy matrix.		
0.40	D1		<0.1			MADE GROUND. Fine to coarse gravel with occasional clinker, ash, brick and tiles in a brown sandy matrixrix.		
0.50	D2		<0.1		0.60			
					0.80	MADE GROUND. Black fine gravel sized coal and coke fragments.		
					(1.00)	Pale brown SAND		
					1.80	Complete at 1.80m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP4B

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP4C

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Lcation Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)		0.20	MADE GROUND. Pale brown moderately compacted, very fine sand and fine to medium gravel with occasional ash and clinker. Some oil staining at surface adjacent to diesal tank.		
0.20	D1		<0.1		(0.40)			
0.60	D2		<0.1		0.60	MADE GROUND. Fine to coarse gravel with occasional clinker, ash, brick and tiles in a brown sandy matrixrix.		
					(0.90)	Pale brown SAND.		
					1.50	Complete at 1.50m		

Plan

Remarks

Hydrocarbon staining on surface

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP4C

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP50

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.92	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D1		VOC Head Space (ppm) <0.1			MADE GROUND. Dark brown sand with frequent concrete gravel, steel reinforcing bars and occasional thin lenses of slag, ash and clinker.		
0.50	D2		<0.1		(1.20)			
				1.72	1.20	Pale brown moderately loose SAND.		
					(0.70)			
1.80	D3		<0.1					
				1.02	1.90	Complete at 1.90m		

Plan

Remarks

Water entry below 1.5m

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP50

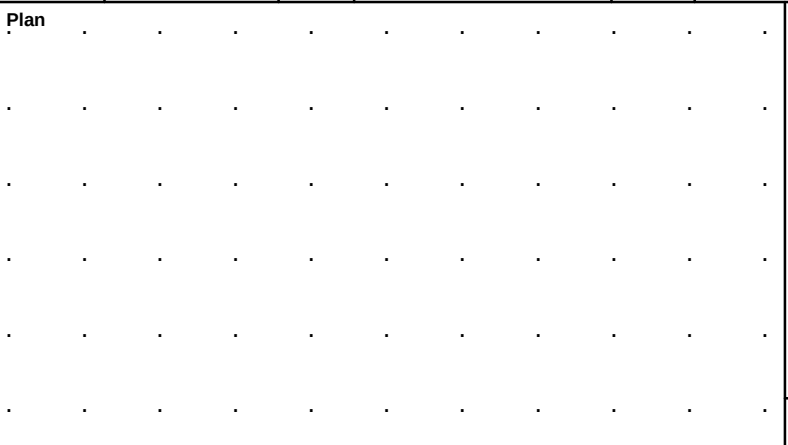
BAE SYSTEMS **Environmental Services**

Site	Trial Pit Number
Akko, Israel	TP15A

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20-0.30	D1		VOC Head Space (ppm) <0.1		0.20 (0.20) 0.40	MADE GROUND. Loose pale brown very sandy topsoil with frequent ash and clinker. MADE GROUND. Black ash and slag gravel. Complete at 0.40m		

Plan



Remarks

Obstruction at 0.4m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP15A

BAE SYSTEMS Environmental Services

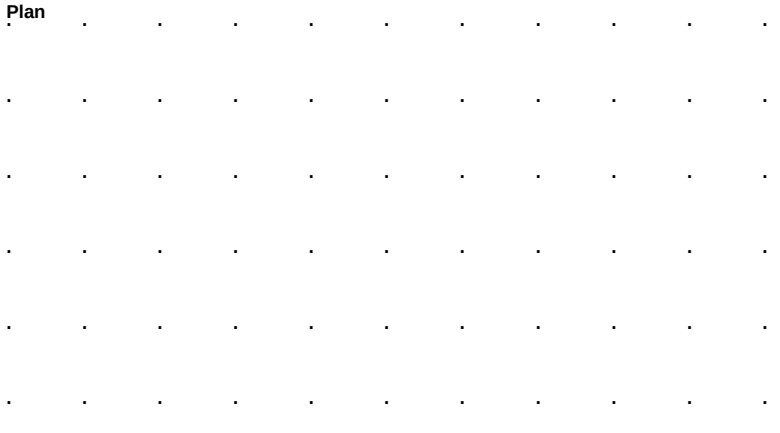
Site	Trial Pit Number
Akko, Israel	TP15B

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00

Location	Dates	Engineer	Sheet
See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					0.02	MADE GROUND. Pale grey coarse gravel.		
0.20	D1		VOC Head Space (ppm) <0.1		0.04 (0.02)	MADE GROUND. Tarmac.		
					0.30 (0.26)	MADE GROUND. Coarse gravel in pale brown sandy matrix		
						MADE GROUND. Pale brown SAND.		
					(1.80)			
1.50	D2		<0.1					
					2.10	Complete at 2.10m		

Plan



Remarks

Trial pit walls collapsed below 1.6m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP15B

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP44B

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)		0.05	MADE GROUND. Medium gravel in fine brown sandy matrix.		
					(0.35)	MADE GROUND. Coarse angular gravel in grey sandy matrix.		
0.60	D1		<0.1		0.40	MADE GROUND. Brown medium sand with some gravel and occasional pockets of ash.		
					(1.00)			
					1.40	Pale brown SAND.		
2.00	D2		<0.1		(1.00)			
					2.40	Complete at 2.40m		

Plan

Remarks

Water entry at base of trial pit, sides collapsed below 1.6m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP44B

BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP47B

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit		2.91	ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	01/01/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.05	D1		VOC Head Space (ppm) <0.1	2.71	0.20	MADE GROUND. Loose pale brown very sandy topsoil with frequent ash and clinker and occasionalasbestos cement fragments.		
					(0.50)			
				2.21	0.70	Moderately loose pale brown fine to medium SAND.		
					(0.40)	Moderately loose to moderately compact brown SAND.		
				1.81	1.10	Pale brown SAND.		
					(1.10)			
				0.71	2.20			
						Complete at 2.20m		

Plan

Remarks

Asbestos cement fragments at surface.
Water entry at 1.90m, sides of trial pit collapsed below 1.6m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP47B

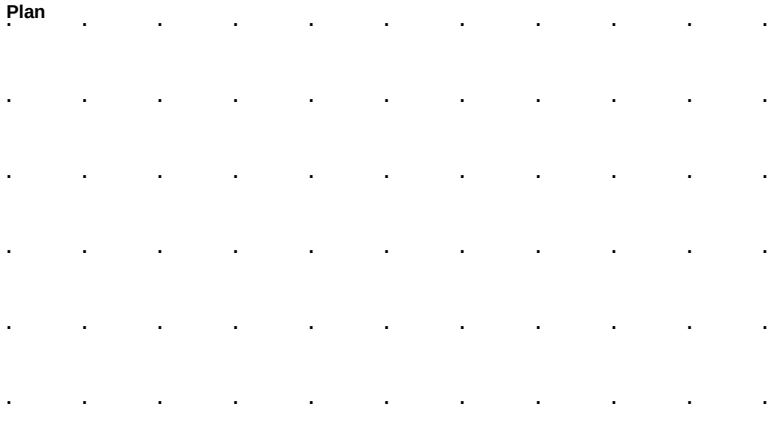
BAE SYSTEMS Environmental Services

Site	Trial Pit Number
Akko, Israel	TP50A

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit			ENOSH Systems	A249-00
	Location	**Dates**	**Engineer**	**Sheet**
	See Sample Location Plan	07/09/2003	BAE SYSTEMS Environmental Services	1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
			VOC Head Space (ppm)		(0.30) 0.30	MADE GROUND. Pale brown cobble sized concrete and slag pieces in pale brown fine sandy matrix.		
0.50	D1		<0.1		(1.00)	MADE GROUND. Pale brown moderately loose sand.		
1.20	D2		<0.1		1.30 (1.00)	Pale brown SAND.		
2.20	D3		<0.1		2.30	Complete at 2.30m		

Plan



Remarks

TP abandoned at 2.3m, water entry at 2.2m.

Scale (approx)	Logged By	Figure No.
1:50	ML	A249-00.TP50A

APPENDIX 4

SURFACE SAMPLE DESCRIPTIONS

Surface Sample ID	Location Description	Soil Description
HS1	Adjacent to fuel tank and area of hydrocarbon staining	MADE GROUND (Grey stained black fine sand with occasional gravel with hydrocarbon odour.)
HS2	Next to transformer adjacent to TP38	MADE GROUND (Pale brown slightly ashy fine sand with occasional fine gravel).
HS3	Top of small waste mound in south of Property	MADE GROUND (Reddy brown slightly gravely, ashy SAND)
HS4	Base of small waste mound in south of Property	MADE GROUND (Reddy brown gravely, ashy SAND)
HS5	Top of waste mound in centre of Property	MADE GROUND (Pale grey fine to coarse ash and clinker gravel with frequent gravel to boulder sized concrete fragments)
HS6	Middle of waste mound in centre of Property	MADE GROUND (Pale grey fine to coarse ash and clinker gravel with frequent gravel to boulder sized concrete fragments)
HS7	Base of waste mound in centre of Property	MADE GROUND (Pale grey fine to coarse ash and clinker gravel with frequent gravel to boulder sized concrete fragments and metal reinforcing bars)
TP12	Mound of general waste, scrap and debris	MADE GROUND (Dark grey to black sandy ash with frequent gravel sized concrete fragments)
TP14	Waste mound in northeast corner of Property	MADE GROUND (Pale grey fine to coarse ash and clinker with frequent concrete fragments)
TP36	Adjacent to Transformer	MADE GROUND (Pale brown slightly ashy sand with occasional gravel)
TP36 –Ash Mound	Ash Waste mound in centre of Property	MADE GROUND (Black fine to medium ash.)

(See Appendix 1 for Sample Locations)

Surface Sample Descriptions

APPENDIX 5

DISTRIBUTION OF MADE GROUND

KEY

BOREHOLE LOCATIONS

TRIAL PIT LOCATIONS

TRIAL PITS ON WASTE MOUNDS

0.25 THICKNESS OF MADE GROUND (m)

HAND DUG SAMPLE POINTS

BH01 BH02 BH03 BH04 BH05 BH06 BH07 BH08 BH09

TP01 >0.3
TP02 0.8
TP03 >0.2
TP03B >1.1
TP04 1.0
TP04B 0.8
TP04C 0.8
TP05
TP06
TP07
TP08
TP09
TP10
TP11 >0.5
TP12
TP13 1.0
TP14
TP15A >0.4
TP15B 0.3
TP16
TP17 0.0
TP18
TP19
TP20
TP21 1.1
TP22 >0.8
TP23 >1.2
TP24 1.6
TP25 >2.1
TP26 1.1
TP27 0.2
TP28 >1.1
TP29 1.6
TP30 >0.5
TP31 >0.9
TP32 >1.5
TP33 0.8
TP34 0.5
TP35 1.7
TP36
TP36 Ash
TP37
TP38 0.9
TP39 1.8
TP40 1.6
TP41 0.8
TP42 >0.6
TP43 0.5
TP44 1.2
TP44B 1.4
TP45 1.1
TP45B 1.4
TP46 0.8
TP47 >0.8
TP47B
TP48 0.7
TP49 0.3
TP50 1.3
TP50A 1.3

HS01 HS02 HS03 HS04 HS05 HS06 HS07

10411 ÖD6
10412 ÖD6
10413 ÖD6
10414 ÖD6

DRAWING TITLE:
EXPLORATORY HOLE LOCATIONS WITH MG THICKNESS

PROJECT:
AKKO, ISRAEL

PROJECT NO:	DRAWING NO:	SCALE:
A249-00	A249-00-D1	1:2000
DRAWN BY:	CHECKED BY:	DATE CHECKED:
AP	ML	NOV 2003

BAE SYSTEMS
BAE SYSTEMS ENVIRONMENTAL SERVICES
WESTCOTT, AYLESBURY, BUCKS, HP18 0NP
TEL.: 01296 652123 FAX: 01296 652121

APPENDIX 6

GEOTECHNICAL LABORATORY TESTING RESULTS

Summary of Geotechnical Laboratory Test Results

Project: - A249-00 Akko Steel Mill

Sample Details					Classification										Chemical				Density		Compaction			C.B.R		Triaxial Compression							Consolidation		
Trial Pit	Waste Mound Location	Ref.	Depth (m)	Description	W %	L.L %	P.L %	P.I. & CODE	425µ (%)	SG	Particle size distribution Clay	Silt	Sand	Gravel	pH	SO_4 Water Sol g/l	SO_4 Acid Sol %	Org %	Bulk γ Mg/m^3	Dry γd Mg/m^3	Test Code	Max γd Mg/m^3	Opt m/c %	Top Base	m/c %	Test Code	σ_3 kN/m^2	σ_1-σ_3 kN/m^2	C_u kN/m^2	c Ø	Mode of Fail	Pressure Range kN/m^2	M_v (m^2/MN)	C_v (m^2/Year)
TP 06	Western		0.50		3.3					3.37																								
TP 06	Western		1.50		5.1																													
TP 07	Western	R20-11	Surface		6.5																													
TP 07	Western	R20-11	0.50		1.7							5*	44	51																				
TP 07	Western	R20-11	3.50		4.8							6*	31	63																				
TP 07	Western	R20-11	6.00		4.8					3.55																								
TP 08	Western		0.50		8.4																													
TP 08	Western		3.00		14							21	29	50																				
TP 09	Western	R20-7	0.00		1.5																													
TP 09	Western	R20-7	1.00		9.3																													
TP 09	Western	R20-7	3.00		4.0							8*	47	45																				
TP 10	Western	R20-9	1.00		8.9							11*	49	40																				
TP 10	Western	R20-9	3.00		4.0					3.53																								
TP 16	Northern	R20-2	0.50		1.5							10*	22	68																				
TP 16	Northern	R20-2	1.50		7.3																													
TP 18	Northern	R20-4	1.00		2.8																													
TP 18	Northern	R20-4	1.50		7.8																													
TP 18	Northern	R20-4	2.00	Sample combined with sample from R20-4 at 4m for particle size distribution test	10							4*	34	62																				
TP 18	Northern	R20-4	4.00		3.6																													
TP 20	Northern	R20-1	0.50		2.4					3.25																								
TP 20	Northern	R20-1	4.00	Sample combined with sample from R20-1 at 5m for particle size distribution test	3.4							5*	44	51																				
TP 20	Northern	R20-1	5.00		4.8																													

KEY:

U = Undisturbed
B = Bulk
J = Jar
W = Water

W =Natural Moisture Content
L.L = Liquid Limit
P.L = Plastic Limit
P.I = Plasticity Index
Code = Casagrande Classification

* passing 63µm

H = 4.5 kg hammer
L = 2.5 kg hammer
V = Vibrating hammer
m/c = Moisture Content

M = Multistage
U = Undrained
F = Functional Drained
R = Remoulded
E = Effective Stress
C_u = Shear Strength
σ_3 = Lateral Cell Pressure

B = Brittle
C = Compound
P = Plastic
$Ø_u$ = Angle of Internal Friction
σ_1-σ_3 = Deviator Stress

M_v = Coefficient of Compressibility
C_v = Coefficient of Consolidation

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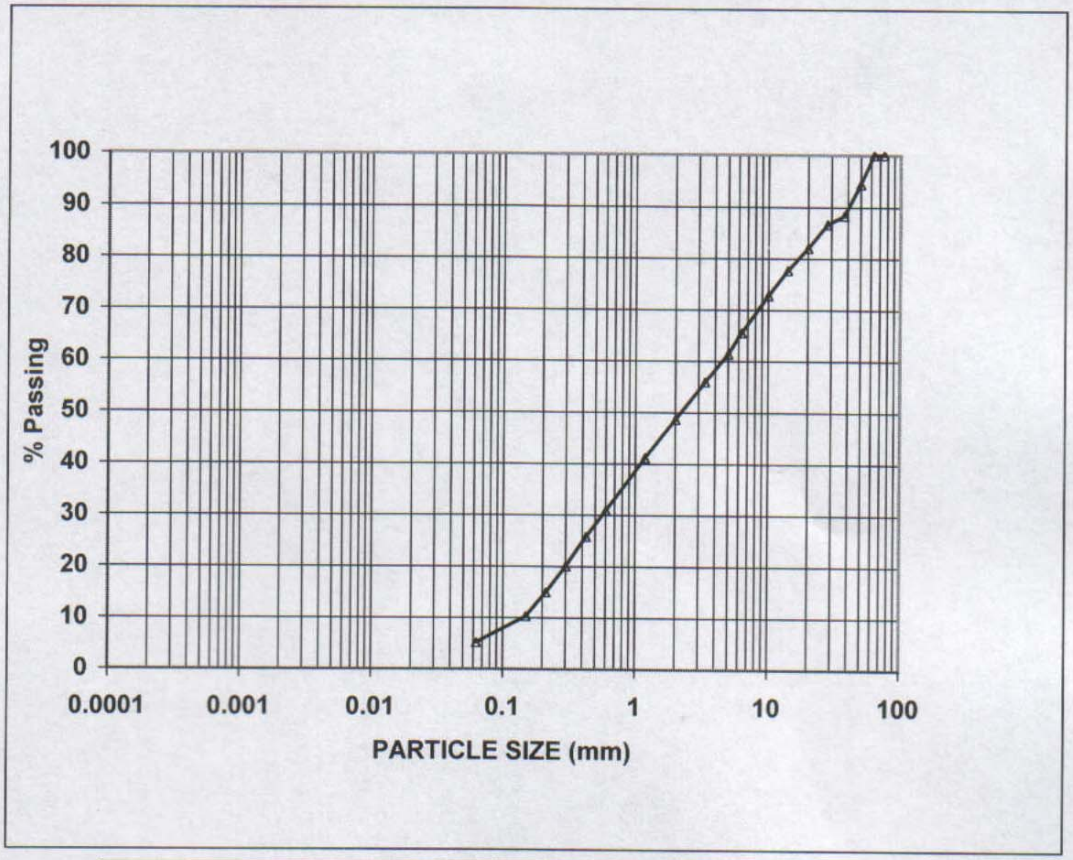
Particle Size Distribution



CLAY	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	COBBLES
	SILT			SAND			GRAVEL			

CUMULATIVE % PASSING

Sieve Size	%	Sieve Size	%	Constituents	%
200 mm	100	3.35 mm	56	Gravel	51
125 mm	100	2 mm	49	Sand	44
90 mm	100	1.18 mm	41	Silt/Clay	5
75 mm	100	600 micron	31		
63 mm	100	425 micron	26		
50 mm	94	300 micron	20		
37.5 mm	88	212 micron	15		
28 mm	87	150 micron	10		
20 mm	82	63 micron	5		
14 mm	78				
10 mm	73				
6.3 mm	65				
5 mm	61				

Contract	:	Akko
Contract No	:	2605
Borehole	:	R20-1
Depth (m)	:	4.0-5.00

UKAS TESTING

No. 1464

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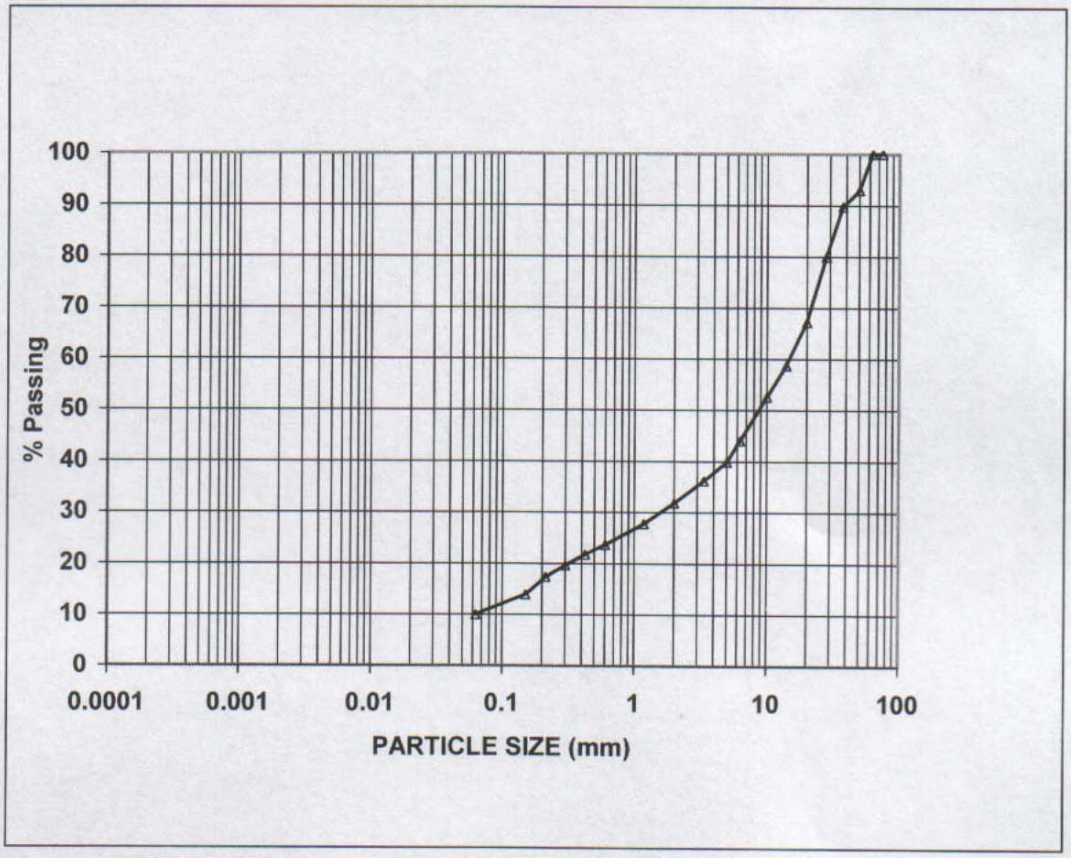
Geotechnical & Environmental Investigations

Particle Size Distribution



	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	
CLAY	SILT			SAND			GRAVEL			COBBLES

CUMULATIVE % PASSING

Sieve Size	%	Sieve Size	%	Constituents %	
200 mm	100	3.35 mm	36	Gravel	68
125 mm	100	2 mm	32	Sand	22
90 mm	100	1.18 mm	28	Silt/Clay	10
75 mm	100	600 micron	24		
63 mm	100	425 micron	22		
50 mm	93	300 micron	20		
37.5 mm	90	212 micron	17		
28 mm	80	150 micron	14		
20 mm	67	63 micron	10		
14 mm	59				
10 mm	53				
6.3 mm	44				
5 mm	40				

Contract	:	Akko
Contract No	:	2605
Borehole	:	R20-2
Depth (m)	:	0.50

UKAS TESTING

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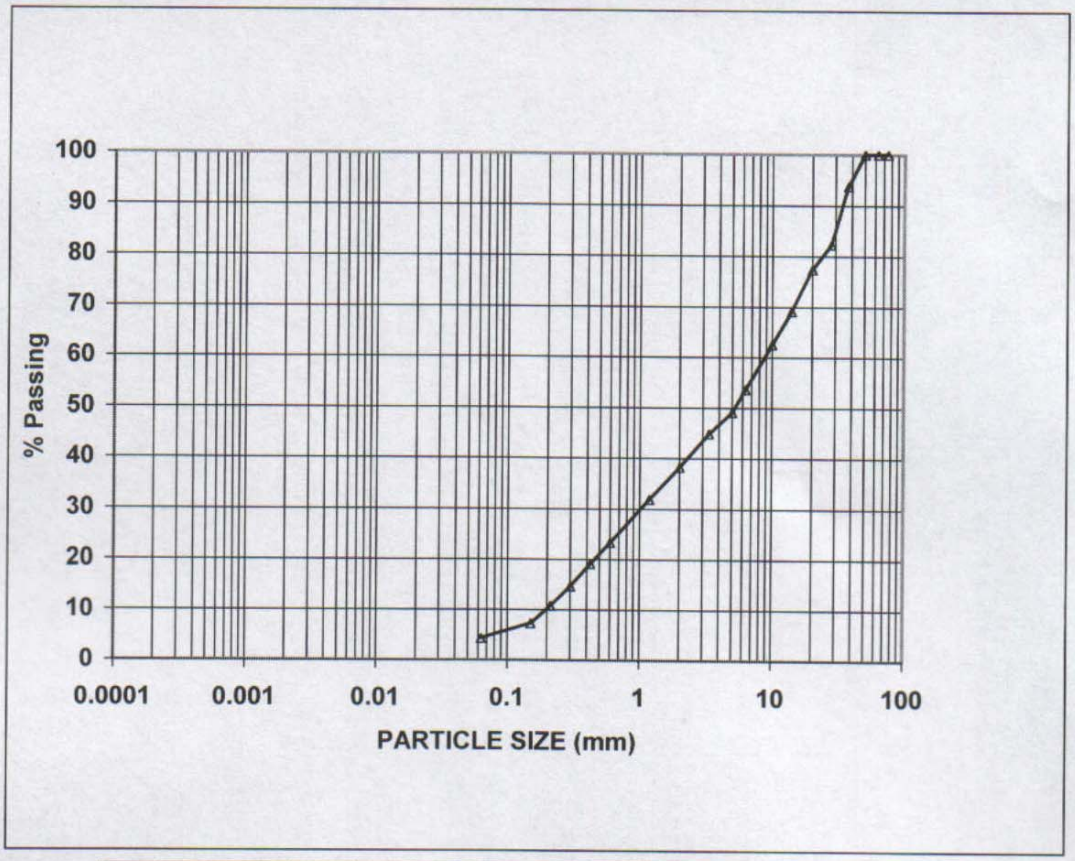
Particle Size Distribution



	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	
CLAY	SILT			SAND			GRAVEL			COBBLES

CUMULATIVE % PASSING

Sieve Size	%	Sieve Size	%	Constituents %	
200 mm	100	3.35 mm	45	Gravel	62
125 mm	100	2 mm	38	Sand	34
90 mm	100	1.18 mm	32	Silt/Clay	4
75 mm	100	600 micron	23		
63 mm	100	425 micron	19		
50 mm	100	300 micron	15		
37.5 mm	94	212 micron	11		
28 mm	82	150 micron	7		
20 mm	77	63 micron	4		
14 mm	69				
10 mm	62				
6.3 mm	54				
5 mm	49				

Contract	:	Akko
Contract No	:	2605
Borehole	:	R20-4
Depth (m)	:	2.00-4.00

UKAS TESTING

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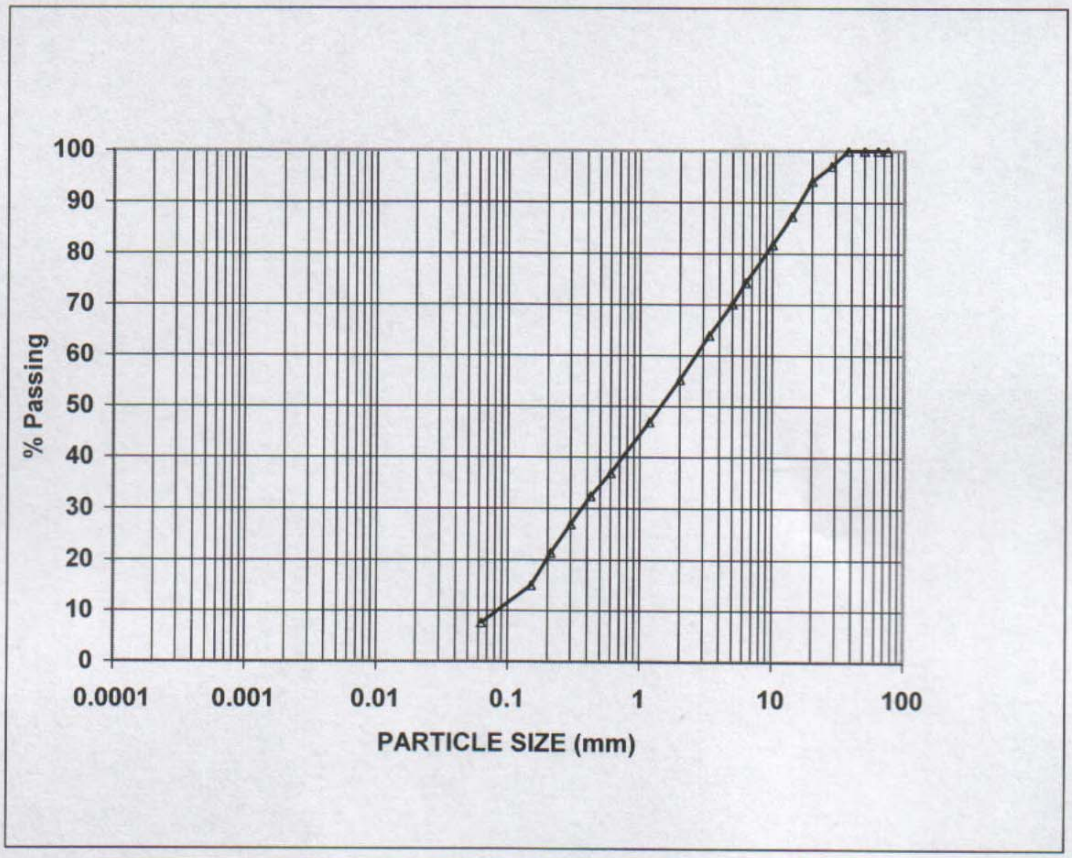
Particle Size Distribution



	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	
CLAY	SILT			SAND			GRAVEL			COBBLES

CUMULATIVE % PASSING

Sieve Size	%	Sieve Size	%	Constituents %	
200 mm	100	3.35 mm	64	Gravel	45
125 mm	100	2 mm	55	Sand	47
90 mm	100	1.18 mm	47	Silt/Clay	8
75 mm	100	600 micron	37		
63 mm	100	425 micron	32		
50 mm	100	300 micron	27		
37.5 mm	100	212 micron	21		
28 mm	97	150 micron	15		
20 mm	94	63 micron	8		
14 mm	87				
10 mm	82				
6.3 mm	74				
5 mm	70				

Contract	:	Akko
Contract No	:	2605
Borehole	:	R20-7
Depth (m)	:	3.00

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No. 1464

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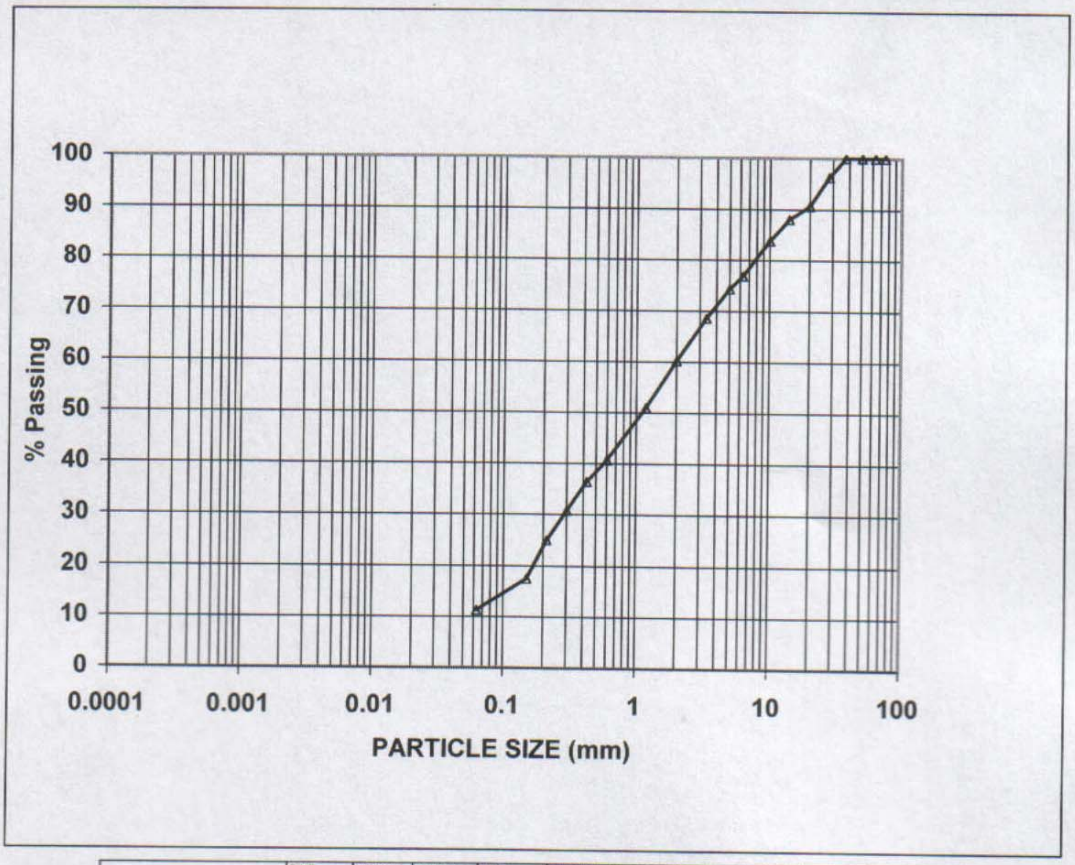
Particle Size Distribution



	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	
CLAY	SILT			SAND			GRAVEL			COBBLES

CUMULATIVE % PASSING

Sieve Size	%	Sieve Size	%	Constituents	%
200 mm	100	3.35 mm	69	Gravel	40
125 mm	100	2 mm	60	Sand	49
90 mm	100	1.18 mm	51	Silt/Clay	11
75 mm	100	600 micron	41		
63 mm	100	425 micron	36		
50 mm	100	300 micron	31		
37.5 mm	100	212 micron	25		
28 mm	96	150 micron	17		
20 mm	91	63 micron	11		
14 mm	88				
10 mm	84				
6.3 mm	77				
5 mm	74				

Contract	:	Akko
Contract No	:	2605
Borehole	:	R20-9
Depth (m)	:	1.00

UKAS TESTING

No. 1464

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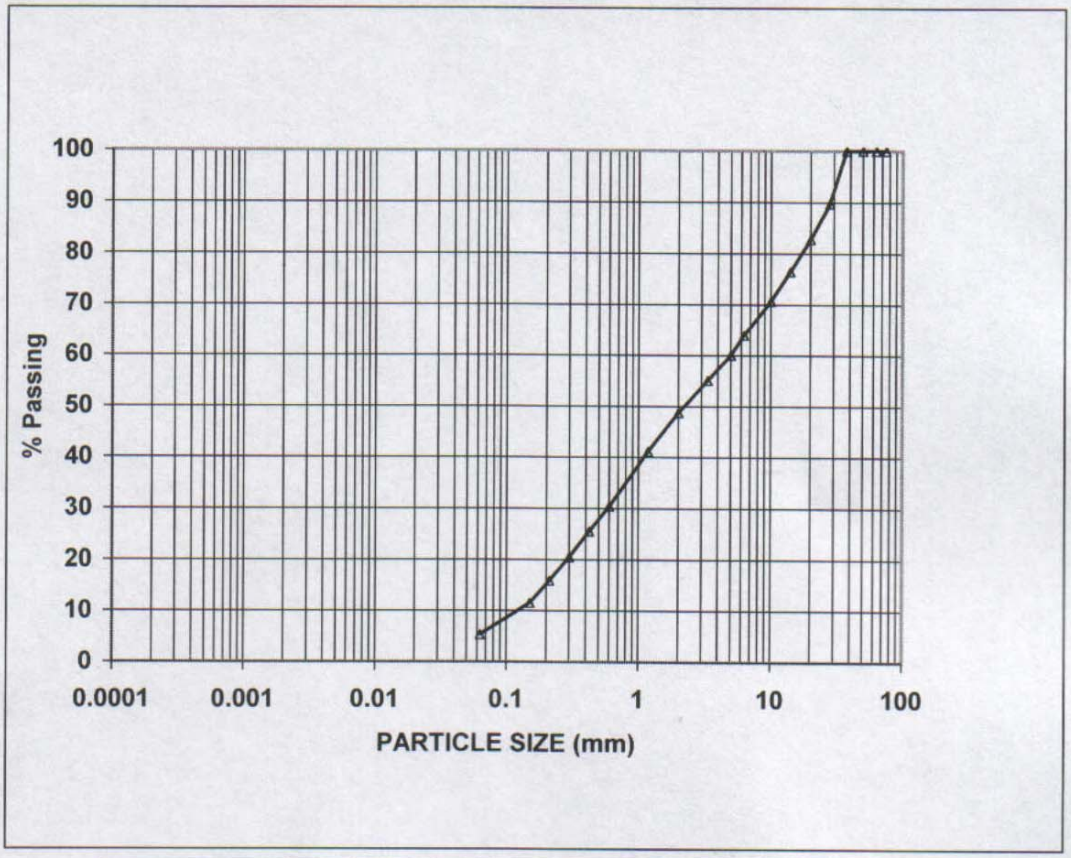
Particle Size Distribution



	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	
CLAY	SILT			SAND			GRAVEL			COBBLES

CUMULATIVE % PASSING

Sieve Size	%	Sieve Size	%	Constituents	%
200 mm	100	3.35 mm	55	Gravel	51
125 mm	100	2 mm	49	Sand	44
90 mm	100	1.18 mm	41	Silt/Clay	5
75 mm	100	600 micron	30		
63 mm	100	425 micron	26		
50 mm	100	300 micron	20		
37.5 mm	100	212 micron	16		
28 mm	90	150 micron	11		
20 mm	83	63 micron	5		
14 mm	76				
10 mm	71				
6.3 mm	64				
5 mm	60				

Contract	:	Akko
Contract No	:	2605
Borehole	:	R20-11
Depth (m)	:	0.50

UKAS TESTING
No. 1464

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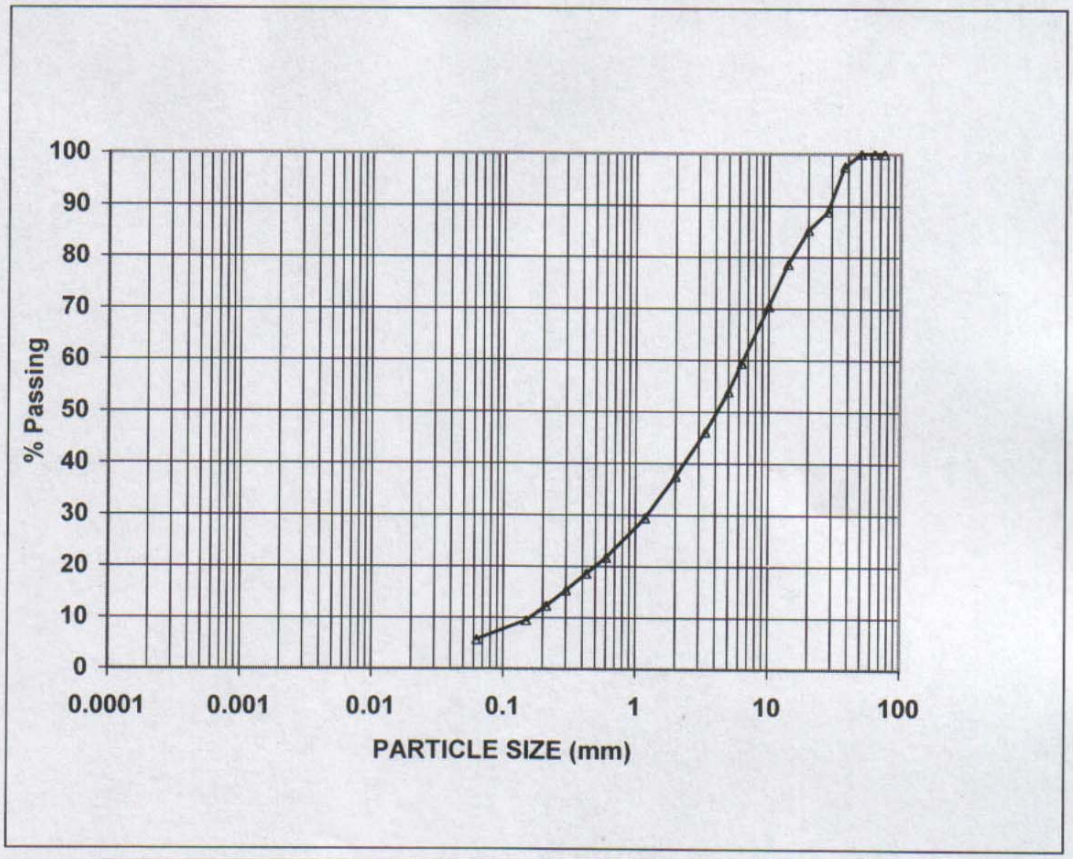
Geotechnical & Environmental Investigations

Particle Size Distribution



	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	
CLAY	SILT			SAND			GRAVEL			COBBLES

CUMULATIVE % PASSING

Sieve Size	%	Sieve Size	%	Constituents %	
200 mm	100	3.35 mm	46	Gravel	63
125 mm	100	2 mm	37	Sand	31
90 mm	100	1.18 mm	29	Silt/Clay	6
75 mm	100	600 micron	22		
63 mm	100	425 micron	19		
50 mm	100	300 micron	15		
37.5 mm	97	212 micron	12		
28 mm	89	150 micron	9		
20 mm	85	63 micron	6		
14 mm	79				
10 mm	70				
6.3 mm	59				
5 mm	54				

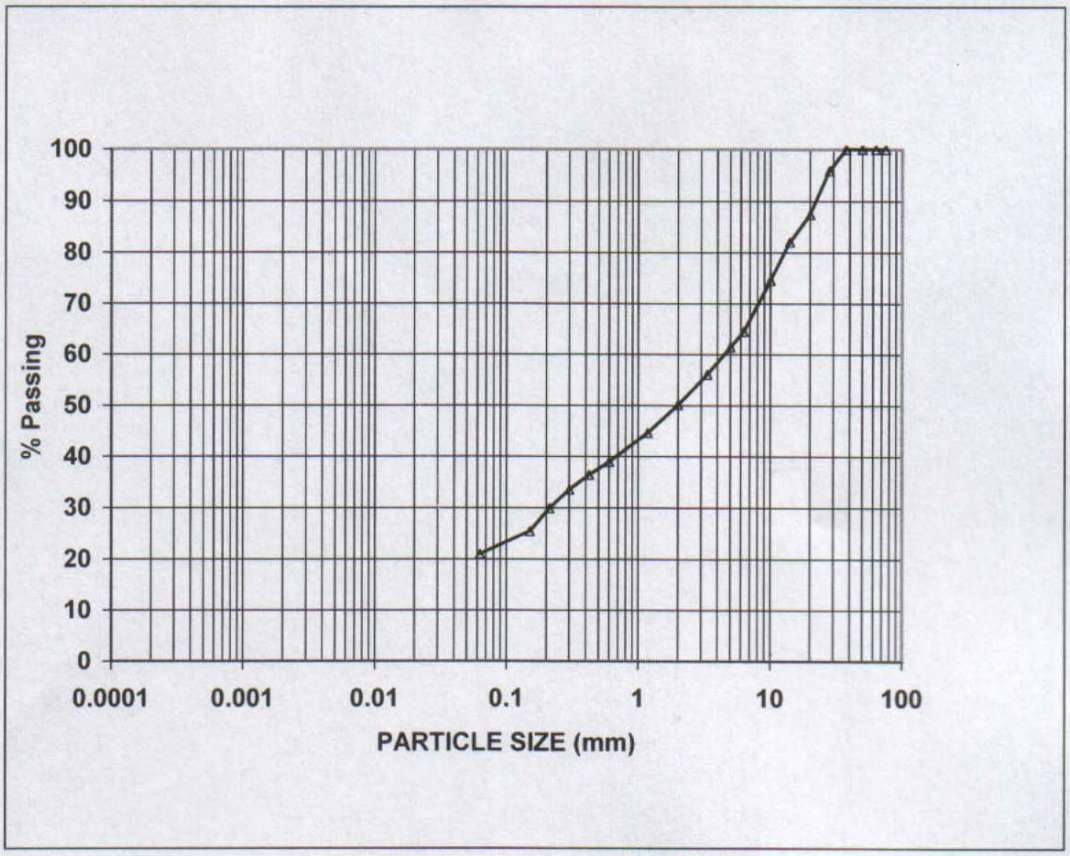
Contract	:	Akko
Contract No	:	2605
Borehole	:	R20-11
Depth (m)	:	3.50

UKAS TESTING

No. 1464

IAN FARMER ASSOCIATES
Geotechnical & Environmental Investigations

Particle Size Distribution



	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	
CLAY	SILT			SAND			GRAVEL			COBBLES

CUMULATIVE % PASSING

Sieve Size	%	Sieve Size	%	Constituents	%
200 mm	100	3.35 mm	56	Gravel	50
125 mm	100	2 mm	50	Sand	29
90 mm	100	1.18 mm	45	Silt/Clay	21
75 mm	100	600 micron	39		
63 mm	100	425 micron	36		
50 mm	100	300 micron	34		
37.5 mm	100	212 micron	30		
28 mm	96	150 micron	25		
20 mm	87	63 micron	21		
14 mm	82				
10 mm	75				
6.3 mm	64				
5 mm	61				

Contract	:	Akko
Contract No	:	2605
Borehole	:	8
Depth (m)	:	3.00

UKAS TESTING

No. 1464

APPENDIX 7

GROUNDWATER AND SOIL GAS MONITORING DATA

Groundwater Sampling Record

Sheet___1__of__2__

a b c d

Site:	Akko	Date:	14/09/2003	Weather:	Very warm
Proj. No.:	A249-00	Name(s):	Chris Hepworth		

	Borehole		BH9	BH3	BH4	BH6						
Pre-purge	GW level	(m.bgl)	1.9	2.12	2.55	2.44						
	BH Base	(m.bgl)	7.77	7.91	8.04	8.2						
	Datum		GL	GL	GL	GL						
	Water column	(m)	5.87	5.79	5.49	5.76						
	1 well vol.	(l)	11.74	11.58	10.98	11.52						
	3 well vols.	(l)	35.22	34.74	32.94	34.56						
Purge	Method		Wateraa	Waterra	Waterra	Waterra						
	Vol. Removed	(l)	36	35	33	35						
	Final GW level	(m.bgl)										
Sample	Method											
	Temp	(°C)	25.3	26.3	27.8	29.4						
	pH		7.5	7.2	7.1	7.6						
	Eh	(mV)	-5	-7	-8	-36						
	EC	(µS/cm)	1860	1970	<2000	1530						
	DO_2	(mg/l)	-	-	-	-						
	Colour		clear	L Brown	L Brown	L Brown						
	Turb.		Slight	Slight	slight	Slight						
	Odour		Slight Hydro Carbon	No	No	No						
	Other											

Comments		pre-cal	post-cal
	EC		
	pH		
	DO_2		

BAE SYSTEMS Environmental Services, Westcott Venture Park, Westcott, Aylesbury, Bucks. Tel. +44 (0) 1296 652124. Fax +44 (0) 1296 652121

Groundwater Sampling Record

Sheet___2_of__2__

a b c d

Site:	Akko	Date:	15/09/2003	Weather:	Very warm
Proj. No.:	A249-00	Name(s):	Chris Hepworth		

	Borehole		BH5	BH7	BH8	BH1	BH2					
Pre-purge	GW level	(m.bgl)	1.71	2.25	1.51	1.9	2.3					
	BH Base	(m.bgl)	8.2	8.12	8.16	8.13	8.29					
	Datum		GL	GL	GL	GL	GL					
	Water column	(m)	6.49	5.87	6.65	6.23	5.99					
	1 well vol.	(l)	12.98	11.74	13.3	12.46	11.98					
	3 well vols.	(l)	38.94	35.22	39.9	37.38	35.94					
Purge	Method		Waterra	Waterra	Waterra	Waterra	Waterra					
	Vol. Removed	(l)	39	36	40	38	36					
	Final GW level	(m.bgl)										
Sample	Method											
	Temp	(°C)	27.5	27	27.5	28	27.9					
	pH		7.5	7.4	7.7	7.3	7.2					
	Eh	(mV)	-10	-6	-18	0	0					
	EC	(µS/cm)	>2000	>2000	1920	>2000	>2000					
	DO_2	(mg/l)	-	-	-	-	-					
	Colour		L Brown	L Brown	L Brown	L Brown	L Brown					
	Turb.		Slight	Slight	Slight	Slight	Slight					
	Odour		No	NO	No	No	No					
	Other											

Comments		pre-cal	post-cal
	EC		
	pH		
	DO_2		

APPENDIX 8

GROUNDWATER CONTOUR PLOT

Key

GROUNDWATER CONTOUR

BOREHOLE LOCATION

1.00 m

1.25 m

1.50 m

1.75 m

2.00 m

BH01

BH02

BH03

BH04

BH05

BH06

BH07

BH08

BH09

APPROXIMATE DIRECTION OF GROUNDWATER FLOW

DRAWING TITLE:	GROUNDWATER CONTOUR MAP
PROJECT:	AKKO, ISRAEL
PROJECT NO: A249-00	DRAWING NO: A249-00-D3
SCALE: 1:2,000	
DRAWN BY: ML	CHECKED BY: PH
DATE CHECKED: NOV 2003	

BAE SYSTEMS

BAE SYSTEMS ENVIRONMENTAL SERVICES
WESTCOTT, AYLESBURY, BUCKS, HP18 0NP
TEL.: 01296 652123 FAX: 01296 652121

APPENDIX 9

SOIL CHMEICAL ANALYSIS RESULTS

Soil Sample
Laboratory Results (1)

a b c d

Zone	Sample No.	Location	As mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg	Hg mg/kg	Se mg/kg	Cu mg/kg	Ni mg/kg	Zn mg/kg	B(w/s) mg/kg	Al mg/kg	Mg mg/kg	Mn mg/kg	Mo mg/kg	Ti mg/kg	V mg/kg	Cyanide (tot) mg/kg	Cyanide (Free) mg/kg	Sulphate mg/kg	Sulphide (mg/kg)	Asbestos i.d.	TPH (mg/kg)	Acenaphthene mg/kg	Acenaphthylene mg/kg	Anthracene mg/kg	Benz-g,h,i-perylene mg/kg
		Detection limit	<1	<0.3	<5	<3	<0.1	<0.3	<3	<5	<3	<0.3				<4		<20	<0.5	<0.5	<250	<5.0		<50	<1	<1	<1	<1
Waste Mounds	**3664**	TP05 0.05m	28	14	450	2200	4.6	0.8	1050	260	6840	10.0	10100	11500	3150	55	650	71	<0.50	0.61	2200	<5.0	ND	2700				
	3665	TP05 1.0m	38	14	1490	543	0.5	0.6	873	270	6760	5.2	18000	28200	15600	78	1140	88	<0.50	<0.50	1000	<5.0	ND	780	<1	<1	<1	<1
	3666	TP05 2.0m	30	2.9	1620	356	0.3	0.7	555	170	1390	3.7	22500	28400	19300	63	1500	136	0.61	<0.50	600	<5.0	ND	1300				
	3667	TP05 3.0m	31	133	1500	4700	0.5	1.1	955	200	53800	7.6	16500	45800	16800	61	1110	88	<0.50	<0.50	2400	<5.0	ND	79				
	3668	TP05 3.5m	46	85.4	899	2440	0.5	0.8	1300	350	41900	7.8	7640	34600	10600	110	510	33	<0.50	<0.50	1600	<5.0	ND	1800				
	3669	TP06 0m SURFACE	19	124	1660	6380	1.1	1.6	770	130	72700	5.3	25000	33500	19800	40	1460	106	<0.50	<0.50	1000	<5.0	ND	230				
	3670	TP06 0.5m	54	20	1590	1240	0.4	0.4	1400	390	9050	5.1	10400	7700	15100	110	780	68	<0.50	<0.50	1300	<5.0	ND	160				
	3671	TP07 0.5m	26	76.1	989	4280	2.0	1.1	1070	270	30900	4.2	14400	15800	8620	63	880	70	<0.50	<0.50	2000	<5.0	ND	1400				
	3672	TP07 1.3m	6	1.1	802	387	0.2	0.9	99	25	465	2.3	46800	39800	11400	11	1460	60	<0.50	<0.50	1300	150	ND	<50				
	3673	TP07 3.0m	53	4.5	680	571	0.8	0.4	1280	350	1430	3.6	7620	10100	7490	88	450	35	<0.50	<0.50	1000	<5.0	ND	460	<1	<1	<1	<1
	3674	TP08 0.3m	28	32.6	933	1800	1.7	0.6	1870	310	14900	8.6	18000	15000	8560	66	790	64	<0.50	<0.50	2000	<5.0	ND	520				
	3675	TP08 1.0m	27	154	790	9110	1.8	1.3	1870	250	68200	17	12400	9880	8890	53	1010	75	<0.50	<0.50	2700	<5.0	ND	2100				
	3676	TP09 0.2m	32	22	2230	1290	0.3	1.8	480	75	10700	5.2	28000	27500	28500	46	2400	220	<0.50	<0.50	1100	<5.0	ND	230	<1	<1	<1	<1
	3677	TP09 1.5m	22	23	791	2220	7.7	1.6	1110	450	13700	3.8	20000	22000	7810	71	870	101	<0.50	<0.50	3600	<5.0	ND	4000				
	3678	TP10 0.5m	65	6.2	661	895	0.7	0.4	1960	503	5780	4.0	3270	3320	6570	130	210	<20	<0.50	<0.50	1000	<5.0	ND	300				
	3679	TP10 1.3m	16	11	1030	1100	2.0	0.7	687	2900	4870	3.7	23800	83000	5400	190	1020	33	2.3	<0.50	1600	52	ND	470	<1	<1	<1	<1
	3680	TP10 4.0m	54	5.5	750	686	0.5	0.6	1650	854	4330	4.2	8870	8310	7120	120	380	<20	<0.50	<0.50	1100	<5.0	ND	290	<1	<1	<1	<1
	3681	TP16 0.5m	40	75.7	1010	5760	0.9	1.4	1290	260	49900	7.0	9810	11300	10000	65	660	46	<0.52	<0.52	3200	<5.0	ND	790	<1	<1	<1	<1
	3682	TP16 1.0m	14	14	1240	734	0.4	1.0	315	67	8760	4.2	26500	50700	17300	21	1570	85	<0.50	<0.50	1000	<5.0	ND	330				
	3683	TP16 1.8-2.0m	63	1.5	623	481	1.1	<0.3	1390	360	1570	4.1	3110	3850	5820	81	250	<20	<0.52	<0.52	800	<5.0	ND	450				
	3684	TP16 2.8m	18	31.6	2240	2190	0.4	0.8	376	42	14300	6.1	23500	29000	26400	32	2280	210	<0.50	<0.50	1400	<5.0	ND	600				
	3685	TP18 0.1m	34	208	842	12700	2.0	1.9	1460	220	93200	7.7	7400	14100	11200	51	500	32	<0.50	<0.50	3600	<5.0	ND	140				
	3686	TP18 0.5m	21	44.6	1340	2520	0.8	0.9	1320	92	24200	7.8	19100	31600	15700	30	1310	111	<0.50	<0.50	2400	<5.0	ND	380				
	3687	TP18 1.2m	26	33.2	1180	1960	0.6	0.8	747	190	23300	7.2	13900	43500	15300	54	1040	84	<0.50	<0.50	2300	<5.0	ND	120				
	3688	TP18 1.5-2.0m	17	10	763	847	0.5	0.4	403	120	6740	6.3	11400	62200	9620	32	810	45	<0.50	<0.50	1500	<5.0	ND	120				
	3689	TP20 0.3m	34	3.5	1240	553	0.6	0.6	1540	220	1450	9.6	15200	35600	12000	56	950	85	<0.50	<0.50	1500	<5.0	ND	370				
	3690	TP20 2.5m	48	1.8	853	439	1.3	0.4	1110	330	1310	5.2	10300	11100	9010	77	580	43	<0.50	<0.50	1000	<5.0	ND	370				
	3691	TP20 3.5m	59	0.9	790	375	0.5	<0.3	1390	410	1020	3.7	5840	6160	8170	100	400	20	<0.50	<0.50	700	<5.0	ND	420	<1	<1	<1	<1
	3692	TP12 SURFACE	26	22	310	7050	1.3	0.9	980	200	11600	10	9240	10700	2450	33	630	21	<0.51	<0.51	900	<5.0	ND	760				

Soil Sample
Laboratory Results (2)

a b c d

Zone	Sample No.	Benz-(a)-pyrene mg/kg	Benzo-a-anthracene mg/kg	Benzo-b-fluoranthene mg/kg	Benzo-k-fluoranthene mg/kg	Chrysene mg/kg	Dibenz (a,h) anthracene mg/kg	Fluoranthene mg/kg	Fluorene mg/kg	Indeno 1,2,3-cd pyrene mg/kg	Naphthalene mg/kg	2-Methylnaphthalene mg/kg	Phenanthrene mg/kg	Pyrene mg/kg	PAH (tot) mg/kg	Monohydric phenols mg/kg	PCB mg/kg	Total VOCs (mg/kg)	Phosphate (mg/kg)	Thiocyanate (mg/kg)
		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<0.5[1]	<0.5	<0.1	<0.05		
Waste Mounds	3664																		1300	
	3665	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50		<0.05	510	<0.20
	3666																		790	
	3667																		1000	
	3668																		450	
	3669																		780	
	3670																		770	
	3671																		880	
	3672																		410	
	3673	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50		<0.05	460	0.47
	3674																		930	
	3675																		1100	
	3676	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50		<0.05	1200	<0.20
	3677																		1200	
	3678																		230	
	3679	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			<0.05	390	1.5
	3680	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50		<0.05	400	1.3
	3681	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50		<0.05	720	<0.20
	3682															<0.50			880	
	3683															<0.50			590	
	3684																		1000	
	3685																		600	
	3686																		910	
	3687																		610	
	3688																		410	
	3689																		690	
	3690																		530	
	3691	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.59		<0.05	400	1.7
	3692																		950	

Soil Sample
Laboratory Results (3)

a b c d

Zone	Sample No.	Location	As mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg	Hg mg/kg	Se mg/kg	Cu mg/kg	Ni mg/kg	Zn mg/kg	B(w/s) mg/kg	Al mg/kg	Mg mg/kg	Mn mg/kg	Mo mg/kg	Ti mg/kg	V mg/kg	Cyanide (tot) mg/kg	Cyanide (Free) mg/kg	Sulphate mg/kg	Sulphide (mg/kg)	Asbestos i.d.	TPH (mg/kg)	Acenaphthene mg/kg	Acenaphthylene mg/kg	Anthracene mg/kg	Benz-g,h,i-perylene mg/kg
		Detection limit	<1	<0.3	<5	<3	<0.1	<0.3	<3	<5	<3	<0.3				<4		<20	<0.5	<0.5	<250	<5.0		<50	<1	<1	<1	<1
	3693	TP13 0.05m	75	16	725	1010	0.3	<0.3	1820	500	10000	1.3	375	857	8430	160	180	<20	<0.50	<0.50	600	<5.0	ND	910				
	3694	TP13 0.15m	21	5.0	1640	316	0.8	0.5	270	84	6110	2.4	12200	60400	24800	13	1140	162	<0.51	<0.51	1400	43	ND	<50				
	3695	TP14 SURFACE	20	9.0	1410	733	2.1	0.9	724	170	4050	2.1	15200	24500	16300	43	1130	142	<0.50	<0.50	1900	<5.0	ND	190				
	3696	TP15A 0.2-0.3m	22	9.9	1450	714	2.0	1.0	622	190	3970	2.1	15000	24300	16400	50	1110	141	<0.50	<0.50	<250	<5.0	ND	97				
	3697	TP36 ASH NOOND SU	79	<0.3	657	130	0.2	<0.3	1910	624	410	<0.3	83	280	7140	200	190	<20	<0.50	<0.50	700	<5.0	ND	1800				
	3698	HS03 (TP2) SURFACE	54	3.2	160	170	0.4	1.3	230	30	843	0.9	20900	1990	1920	9	550	230	<0.50	<0.50	300	<5.0	ND	<50				
	3699	HS04 SURFACE	51	11	210	357	0.7	1.2	540	97	2840	1.8	15100	3830	2400	25	510	158	<0.50	<0.50	1700	<5.0	ND	120				
	3700	HS05 SURFACE	75	0.8	591	43	0.2	<0.3	1450	420	57	0.5	1260	430	7260	120	190	<20	<0.50	<0.50	<250	<5.0	ND	100				
	3701	HS06 SURFACE	72	<0.3	661	43	0.2	<0.3	1990	622	76	0.6	1330	830	7560	160	190	<20	<0.50	<0.50	<250	<5.0	ND	170				
	3702	HS07 SURFACE	32	<0.3	410	130	0.6	0.6	713	220	76	2.2	21700	52500	8230	55	830	<20	<0.50	<0.50	700	<5.0	ND	<50				

Soil Sample
Laboratory Results (4)

a b c d

Zone	Sample No.	Benz-(a)-pyrene mg/kg	Benzo-a-anthracene mg/kg	Benzo-b-fluoranthene mg/kg	Benzo-k-fluoranthene mg/kg	Chrysene mg/kg	Dibenz (a,h) anthracene mg/kg	Fluoranthene mg/kg	Fluorene mg/kg	Indeno 1,2,3-cd pyrene mg/kg	Naphthalene mg/kg	2-Methylnaphthalene mg/kg	Phenanthrene mg/kg	Pyrene mg/kg	PAH (tot) mg/kg	Monohydric phenols mg/kg	PCB mg/kg	Total VOCs (mg/kg)	Phosphate (mg/kg)	Thiocyanate (mg/kg)
		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<0.5[1]	<0.5	<0.1	<0.05		
	3693																		140	
	3694																		980	
	3695																		1200	
	3696																		130	
	3697																		120	
	3698																		1200	
	3699																		1200	
	3700																		97	
	3701																		270	
	3702																		200	

Soil Sample
Laboratory Results (5)

a b c d

Zone	Sample No.	Location	As mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg	Hg mg/kg	Se mg/kg	Cu mg/kg	Ni mg/kg	Zn mg/kg	B(w/s) mg/kg	Al mg/kg	Mg mg/kg	Mn mg/kg	Mo mg/kg	Ti mg/kg	V mg/kg	Cyanide (tot) mg/kg	Cyanide (Free) mg/kg	Sulphate mg/kg	Sulphide (mg/kg)	Asbestos i.d.	TPH (mg/kg)	Acenaphthene mg/kg	Acenaphthylene mg/kg	Anthracene mg/kg	Benz-g,h,i-perylene mg/kg
		Detection limit	<1	<0.3	<5	<3	<0.1	<0.3	<3	<5	<3	<0.3				<4		<20	<0.5	<0.5	<250	<5.0		<50	<1	<1	<1	<1
Made Ground	3644	TP01 0.1-0.3m	26	24	540	2410	2.4	0.9	1590	250	4570	4.5	11300	11400	4590	84	660	64	<0.52	<0.52	1400	<5.0	ND	1800	<1	<1	<1	<1
	3645	TP02 0.2-0.3m	20	12	180	492	1.6	7.4	509	90	1570	2.7	7300	14300	1290	28	310	44			1400	<5.0	ND		<1	<1	<1	<1
	3647	TP03 0.1m	3	3.1	180	76	1.0	<0.3	33	89	305	0.8	2530	78300	250	<4	84	<20			400	<5.0	ND					
	3648	TP03 0.3m	11	0.8	809	150	0.6	0.6	120	42	1480	1.5	7030	19500	11400	9	560	89	<0.50	<0.50	700	<5.0	ND	<50				
	3650	TP04C 0.2-0.3m	20	4.4	190	964	1.1	0.7	330	110	1060	2.6	4690	5020	918	23	140	35	<0.52	<0.52	1000	<5.0	ND	1500	<1	<1	2.1	<1
	3652	TP15B 0.2m	1	0.6	14	25	0.3	<0.3	17	7	140	<0.3	2020	106000	140	<4	44	<20	<0.50	<0.50	400	<5.0	ND	<50				
	3654	TP24 0.4m	18	7.9	539	594	0.9	<0.3	755	110	2910	2.4	7330	20600	9110	34	560	38	<0.50	<0.50	900	<5.0	ND	94	<1	<1	<1	<1
	3655	TP24 1.5m	26	14	190	2240	2.7	0.4	5320	100	5490	1.8	5680	6250	3160	19	330	30	<0.50	<0.50	700	<5.0	ND	480				
	3656	TP25 0.5m	11	6.0	190	353	0.7	<0.3	230	77	1520	0.8	4380	8810	2130	15	230	<20	<0.50	<0.50	600	<5.0	ND	<50				
	3657	TP25 1.5m	30	183	470	3920	0.4	1.4	270	77	22100	0.3	3520	11000	1840	7	190	150	<0.50	<0.50	600	<5.0	ND	430				
	3658	TP26 0.5m	24	87.3	619	3070	0.9	2.0	655	120	38500	3.7	5650	15200	11300	31	390	45	<0.50	<0.50	1100	<5.0	ND	120				
	3659	TP29 0.3m	50	117	512	4880	0.9	2.0	1100	300	34600	1.4	2380	11000	9180	68	180	<20	<0.50	<0.50	600	<5.0	ND	65	<1	<1	<1	<1
	3660	TP29 1.0m	22	6.3	200	318	0.4	<0.3	560	100	1610	0.8	2660	6750	2150	20	160	<20	<0.50	<0.50	400	<5.0	ND	76				
	3661	TP31 0.8m	22	45.3	874	1430	0.5	0.5	424	110	10500	0.6	5790	21300	6970	15	390	62	<0.50	<0.50	5800	<5.0	ND	410				
	3662	TP34 0.3m	3	<0.3	37	19	0.2	<0.3	17	8	83	0.3	2870	1790	460	<4	92	<20	<0.50	<0.50	400	<5.0	ND	<50				
	3663	TP39 0.05m	12	1.2	130	260	0.2	<0.3	563	51	20	0.5	3370	4510	1660	12	200	<20	<0.50	<0.50	300	<5.0	ND	420				
	3703	HS01 SURFACE	SAMPLE BROKEN IN TRANSIT																				ND					
	3704	HS02 SURFACE																	<0.50	<0.50			ND					
	3705	TP27 0.4m																	<0.50	<0.50			ND					
	3706	TP31 0.1m																	<0.50	<0.50			ND					
	3707	TP32 0.1m																	<0.50	<0.50			ND					
	3708	TP36 SURFACE																	<0.50	<0.50			ND					
	3709	TP35 0.4m	2	0.8	18	30	0.2	<0.3	17	10	240	<0.3	4600	64700	170	<4	59	<20	<0.50	<0.50	500	<5.0	ND	97				
	3710	TP35 1.0m	16	9.5	100	240	0.2	<0.3	190	67	2350	1.0	2610	6210	1160	14	100	<20	<0.50	<0.50	300	<5.0	ND	<50				
	3711	TP37 0.1m	36	7.0	330	368	0.7	<0.3	490	180	3210	0.4	6840	31600	52600	36	430	36	<0.50	<0.50	500	<5.0	ND	<50				
	3713	TP40	4	0.3	27	37	0.2	<0.3	26	17	583	<0.3	2330	1710	220	<4	110	<20	<0.50	<0.50	1500	<5.0	ND	<50				
	3714	TP41 0.3m	36	67.8	988	5380	0.8	0.8	1080	290	42300	2.0	7570	14400	14800	70	610	42	<0.50	<0.50	1400	<5.0	ND	110				
	3715	TP48 0.6m	4	<0.3	17	14	0.1	<0.3	60	10	38	<0.3	2620	1290	150	<4	100	<20	<0.50	<0.50	<250	<5.0	ND	<50				
	3716	TP50 0.5m	2	<0.3	<5	<3	0.2	<0.3	<3	<5	5	<0.3	2070	876	84	<4	61	<20	<0.50	<0.50	<250	<5.0	ND	<50				
	3717	TP39 0.4m	3	<0.3	6	<3	<0.1	<0.3	6	<5	14	<0.3	2220	1420	130	<4	72	<20	<0.50	<0.50	<250	<5.0	ND	52				
	3718	TP39 2.0-2.2m	5	<0.3	10	9	<0.1	<0.3	8	5	61	<0.3	1780	2830	160	<4	71	<20	<0.50	<0.50	300	<5.0	ND	240				

Soil Sample
Laboratory Results (6)

a b c d

Zone	Sample No.	Benz-(a)-pyrene mg/kg	Benzo-a-anthracene mg/kg	Benzo-b-fluoranthene mg/kg	Benzo-k-fluoranthene mg/kg	Chrysene mg/kg	Dibenz (a,h) anthracene mg/kg	Fluoranthene mg/kg	Fluorene mg/kg	Indeno 1,2,3-cd pyrene mg/kg	Naphthalene mg/kg	2-Methylnaphthalene mg/kg	Phenanthrene mg/kg	Pyrene mg/kg	PAH (tot) mg/kg	Monohydric phenols mg/kg	PCB mg/kg	Total VOCs (mg/kg)	Phosphate (mg/kg)	Thiocyanate (mg/kg)
		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<0.5[1]	<0.5	<0.1	<0.05		
Made Ground	3644	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			<0.05	1600	<0.20
	3645	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50			640	<0.20
	3647															<0.50			280	
	3648																		410	
	3650	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	4.1	<0.50		<0.05	640	<0.20
	3652																		160	
	3654	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50			470	<0.20
	3655																		400	
	3656																		720	
	3657																		300	
	3658																		640	
	3659	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50			340	<0.20
	3660																		180	
	3661																		330	
	3662																		210	
	3663																		250	
	3703																			
	3704																<0.1			
	3705																0.6			
	3706																0.5			
	3707																0.1			
	3708																<0.11			
	3709																		170	
	3710																		220	
	3711																		330	
	3713																		370	
	3714																		540	
	3715																		200	
	3716																		220	
	3717																		160	
	3718																		170	

Soil Sample
Laboratory Results (7)

a b c d

Zone	Sample No.	Location	As mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg	Hg mg/kg	Se mg/kg	Cu mg/kg	Ni mg/kg	Zn mg/kg	B(w/s) mg/kg	Al mg/kg	Mg mg/kg	Mn mg/kg	Mo mg/kg	Ti mg/kg	V mg/kg	Cyanide (tot) mg/kg	Cyanide (Free) mg/kg	Sulphate mg/kg	Sulphide (mg/kg)	Asbestos i.d.	TPH (mg/kg)	Acenaphthene mg/kg	Acenaphthylene mg/kg	Anthracene mg/kg	Benz-g,h,i-perylene mg/kg
		Detection limit	<1	<0.3	<5	<3	<0.1	<0.3	<3	<5	<3	<0.3				<4		<20	<0.5	<0.5	<250	<5.0		<50	<1	<1	<1	<1
	3719	TP44 0.6m	11	0.7	89	75	<0.1	<0.3	210	68	482	0.7	2140	33900	926	14	87	<20	<0.50	<0.50	500	<5.0	ND	57				
	3721	TP45 0.5m	7	<0.3	66	27	<0.1	<0.3	81	16	100	0.3	3100	3660	1150	<4	130	<20	<0.50	<0.50	400	<5.0	ND	<50				
	3723	TP43 0.15m	2	<0.3	<5	<3	<0.1	<0.3	<3	<5	<3	<0.3	1490	1110	77	<4	60	<20	<0.50	<0.50	300	<5.0	ND	100				
	3724	TP49 0.1m	24	<0.3	57	72	0.1	<0.3	608	58	150	<0.3	2280	15600	669	8	97	<20	<0.50	<0.50	600	<5.0	ND	6100				
	3727	TP21 0.2m	3	<0.3	22	<3	1.3	0.7	10	14	8	3.0	8890	26100	8180	48	650	51	<0.50	<0.50	1500	<5.0	ND	440				
	3728	TP22 0.2m	6	1.1	230	150	0.2	0.3	70	33	309	1.2	3410	7560	1980	7	250	27	<0.50	<0.50	300	<5.0	ND	120				
	3729	TP23 0.7m	20	14	1590	728	0.3	0.7	334	84	4380	2.4	10400	34700	18700	23	880	113	<0.50	<0.50	1000	<5.0	ND	160				
	3730	TP17 SURFACE	83	<0.3	260	80	0.3	<0.3	905	290	210	<0.3	1570	2930	3210	61	130	<20	<0.50	<0.50	300	<5.0	ND	470				
	3731	TP28 0.2m	56	121	705	5150	0.9	1.7	1070	310	32800	1.3	2630	8350	12400	64	260	<20	<0.50	<0.50	600	<5.0	ND	100				
	3732	TP28 1.0m	28	11	240	516	2.3	<0.3	376	120	3310	0.8	2840	6730	2870	23	170	<20	<0.50	<0.50	400	<5.0	ND	66				
	3733	TP30 0.3m	5	<0.3	8	<3	0.2	<0.3	<3	<5	15	0.5	2580	4950	300	<4	220	<20	<0.50	<0.50	800	<5.0	ND	160	<1	<1	<1	<1
	3734	TP33 0.4m	8	4.7	250	120	0.3	0.4	76	31	940	0.6	5650	13900	2860	<4	340	63	<0.50	<0.50	400	<5.0	ND	<50	<1	<1	<1	<1
	3746	BH06 0.5m	13	2.5	571	280	0.3	0.5	150	61	1430	<0.3	7750	20800	6490	14	610	134	<0.50	<0.50	600	<5.0	ND	<50				
	3750	BH08 0.5m	3	<0.3	10	8	<0.1	<0.3	7	<5	48	0.3	3680	1480	94	<4	110	<20	<0.50	<0.50	<250	<5.0	ND	<50				

Soil Sample
Laboratory Results (8)

a b c d

Zone	Sample No.	Benz-(a)-pyrene mg/kg	Benzo-a-anthracene mg/kg	Benzo-b-fluoranthene mg/kg	Benzo-k-fluoranthene mg/kg	Chrysene mg/kg	Dibenz (a,h) anthracene mg/kg	Fluoranthene mg/kg	Fluorene mg/kg	Indeno 1,2,3-cd pyrene mg/kg	Naphthalene mg/kg	2-Methylnaphthalene mg/kg	Phenanthrene mg/kg	Pyrene mg/kg	PAH (tot) mg/kg	Monohydric phenols mg/kg	PCB mg/kg	Total VOCs (mg/kg)	Phosphate (mg/kg)	Thiocyanate (mg/kg)
		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<0.5[1]	<0.5	<0.1	<0.05		
	3719																		260	
	3721																		220	
	3723																		180	
	3724																		260	
	3727																		830	
	3728																		290	
	3729																		700	
	3730																		240	
	3731																		270	
	3732																		380	
	3733	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50		<0.05	270	0.9
	3734	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50		<0.05	160	1.1
	3746																		290	
	3750																		210	

Soil Sample
Laboratory Results (9)

a b c d

Zone	Sample No.	Location	As mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg	Hg mg/kg	Se mg/kg	Cu mg/kg	Ni mg/kg	Zn mg/kg	B(w/s) mg/kg	Al mg/kg	Mg mg/kg	Mn mg/kg	Mo mg/kg	Ti mg/kg	V mg/kg	Cyanide (tot) mg/kg	Cyanide (Free) mg/kg	Sulphate mg/kg	Sulphide (mg/kg)	Asbestos i.d.	TPH (mg/kg)	Acenaphthene mg/kg	Acenaphthylene mg/kg	Anthracene mg/kg	Benz-g,h,i-perylene mg/kg
		Detection limit	<1	<0.3	<5	<3	<0.1	<0.3	<3	<5	<3	<0.3				<4		<20	<0.5	<0.5	<250	<5.0		<50	<1	<1	<1	<1
Natural Soils	**3646**	TP02 0.9m	2	<0.3	6	6	0.4	<0.3	<3	<5	30	0.4	1690	1450	84	<4	60	<20	<0.50	<0.50	300	<5.0	ND	<50				
	3649	TP04 2.5m	4	0.9	63	120	0.7	<0.3	69	34	260	1.3	2860	2080	400	5	110	<20	<0.50	<0.50	300	<5.0	ND	57				
	3651	TP13 1.5-2.0m	3	<0.3	61	<3	0.7	<0.3	4	<5	61	0.4	2090	2030	270	<4	80	<20	<0.50	<0.50	<250	<5.0	ND	<50				
	3653	TP15B 12.5m	6	0.3	8	16	0.8	<0.3	10	5	82	<0.3	1690	2500	140	<4	64	<20	<0.50	<0.50	<250	<5.0	ND	<50				
	3712	TP38 0.9m	3	<0.3	12	5	1.9	<0.3	17	6	48	<0.3	2050	2050	280	<4	76	<20	<0.50	<0.50	300	<5.0	ND	<50	<1	<1	<1	<1
	3720	TP44 1.7m	1	<0.3	8	<3	<0.1	<0.3	<3	<5	17	<0.3	1330	1550	100	<4	63	<20	<0.50	<0.50	400	<5.0	ND	<50				
	3722	TP45 2.0m	2	<0.3	13	3	<0.1	<0.3	20	10	23	<0.3	2400	59500	170	<4	70	<20					ND					
	3725	TP49 0.4m	2	<0.3	5	3	<0.1	<0.3	8	<5	29	<0.3	1950	1220	87	<4	62	<20	<0.50	<0.50	<250	<5.0	ND	200				
	3726	TP49 1.5m	2	<0.3	21	<3	0.2	<0.3	9	14	6	<0.3	1550	996	83	<4	59	<20	<0.50	<0.50	<250	<5.0	ND	86				
	3735	TP33 1.5m	4	0.4	17	8	0.3	<0.3	12	<5	53	<0.3	1830	1880	330	<4	74	<20	<0.50	<0.50	300	<5.0	ND	<50				
	3736	BH01 6m	1	<0.3	10	<3	0.3	<0.3	3	6	9	0.5	1460	5570	220	<4	70	<20	<0.50	<0.50	800	<5.0	ND	<50				
	3737	BH01 10m	16	7.6	898	323	0.6	0.3	260	77	2270	0.4	7050	45600	7030	23	550	75	<0.50	<0.50	1100	<5.0	ND	<50				
	3738	BH02 2m	2	<0.3	7	4	0.2	<0.3	<3	<5	9	0.4	1410	1170	100	<4	60	<20	<0.50	<0.50	400	<5.0	ND	<50				
	3739	BH02 6m	2	<0.3	8	<3	0.1	<0.3	<3	<5	10	<0.3	1550	2850	160	<4	74	<20	<0.50	<0.50	800	<5.0	ND	<50				
	3740	BH03 1m	2	<0.3	12	42	0.3	<0.3	19	7	87	0.7	2930	1140	110	<4	95	<20	<0.50	<0.50	<250	<5.0	ND	<50				
	3741	BH03 8m	2	<0.3	<5	<3	0.4	<0.3	<3	<5	4	<0.3	1580	4620	210	<4	76	<20	<0.50	<0.50	1100	<5.0	ND	<50				
	3742	BH04 2m	1	<0.3	23	8	<0.1	<0.3	5	9	40	0.3	2920	2230	310	<4	91	<20	<0.50	<0.50	300	<5.0	ND	<50				
	3743	BH04 6m	2	<0.3	7	<3	0.5	<0.3	<3	<5	5	<0.3	1450	4020	180	<4	69	<20	<0.50	<0.50	1000	<5.0	ND	<50				
	3744	BH05 1m	4	<0.3	28	20	0.1	<0.3	29	14	110	<0.3	2880	1900	200	<4	96	<20	<0.50	<0.50	<250	<5.0	ND	<50				
	3745	BH05 4m	3	<0.3	6	<3	1.9	<0.3	6	<5	22	<0.3	1500	4730	230	<4	72	<20	<0.50	<0.50	900	<5.0	ND	<50				
	3747	BH06 4.0m	2	<0.3	8	<3	<0.1	<0.3	<3	<5	21	<0.3	1290	1810	160	<4	64	<20	<0.50	<0.50	500	<5.0	ND	<50				
	3748	BH07 1.0m	2	<0.3	13	16	<0.1	<0.3	6	<5	96	0.3	3070	881	150	<4	99	<20	<0.50	<0.50	<250	<5.0	ND	<50				
	3749	BH07 12.0m	3	<0.3	6	5	0.1	<0.3	<3	<5	35	0.6	2390	4950	270	<4	280	<20	<0.50	<0.50	400	<5.0	ND	<50				
	3751	BH08 4.0m	3	<0.3	<5	<3	<0.1	<0.3	<3	<5	35	<0.3	1570	4260	240	<4	74	<20	<0.50	<0.50	1100	<5.0	ND	<50				
	3752	BH09 1m	18	<0.3	40	23	<0.1	<0.3	110	30	81	<0.3	2450	16100	515	<4	110	<20					ND					
	3753	BH09 6m	2	<0.3	<5	<3	0.1	<0.3	<3	<5	5	<0.3	1420	4210	200	<4	71	<20					ND					

Soil Sample
Laboratory Results (10)

a b c d

Zone	Sample No.	Benz-(a)-pyrene mg/kg	Benzo-a-anthracene mg/kg	Benzo-b-fluoranthene mg/kg	Benzo-k-fluoranthene mg/kg	Chrysene mg/kg	Dibenz (a,h) anthracene mg/kg	Fluoranthene mg/kg	Fluorene mg/kg	Indeno 1,2,3-cd pyrene mg/kg	Naphthalene mg/kg	2-Methylnaphthalene mg/kg	Phenanthrene mg/kg	Pyrene mg/kg	PAH (tot) mg/kg	Monohydric phenols mg/kg	PCB mg/kg	Total VOCs (mg/kg)	Phosphate (mg/kg)	Thiocyanate (mg/kg)
		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0	<1	<1	<0.5[1]	<0.5	<0.1	<0.05		
Natural Soils	3646																		180	
	3649																		210	
	3651																		180	
	3653																		160	
	3712	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50			200	0.5
	3720																		180	
	3722																			
	3725																		170	
	3726																		140	
	3735																		280	
	3736																		300	
	3737																		320	
	3738																		150	
	3739																		240	
	3740																		210	
	3741																		240	
	3742																		170	
	3743																		230	
	3744																		160	
	3745																		230	
	3747																		160	
	3748																		250	
	3749																		320	
	3751																		250	
	3752																	<0.5		
	3753																	<0.5		

APPENDIX 10

GROUNDWATER CHEMICAL ANALYSIS RESULTS

Report Summary

UKAS TESTING
1314
0897
1229
1510

SEVERN TRENT
Environmental Leadership

STL

Ms Trish Parker
BAE Systems Ltd
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PR7 6AD

Report Number : **TH/203773/2003** *Issue 1*

Number of Samples included in report **9**

Job Received : **25 September 2003**

Number of test results included in report **444**

Analysis Commenced : **26 September 2003**

Signed :

Name : **J. Fell** Date : 22 October 2003

Title : **Production Manager**

STL was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.
Information on the methods of analysis and performance characteristics are available on request
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory

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Sample **1** Laboratory Number : **971916**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**

Sample Point Description : **BAE Systems Properties Limited**

Sample Description : **BH1**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units		Accreditation	Method
Aluminium,Total as Al	2.2	mg/l		C	WAS049
Arsenic , Total as As	<0.001	mg/l		C	WAS014
Boron, Total as B	0.3	mg/l		C	WAS049
Cadmium , Total as Cd	<0.0005	mg/l		C	WAS049
Chromium , Total as Cr	0.006	mg/l		C	WAS049
Copper, Total as Cu	0.027	mg/l		C	WAS049
Lead , Total as Pb	0.015	mg/l		C	WAS049
Manganese , Total as Mn	0.75	mg/l		C	WAS049
Mercury , Total as Hg	<0.0001	mg/l		C	WAS013
Molybdenum , Total as Mo	<0.005	mg/l		C	WAS049
Nickel , Total as Ni	0.012	mg/l		C	WAS049
Selenium , Total as Se	0.003	mg/l		C	WAS015
Vanadium , Total as V	0.041	mg/l		C	WAS049
Zinc, Total as Zn	0.033	mg/l		C	WAS049
Sulphide as S	0.1	mg/l		C	WAS033
Thiocyanate as SCN	<0.1	mg/l		C	WAS034
pH	7.2			C	WAS039
Phosphate, Ortho as P	<0.1	mg/l		C	WAS036
Sulphate as SO4	992	mg/l		C	WAS036
Cyanide , Total as CN	<0.1	mg/l		C	WAS018
Phenols, Monohydric	<0.1	mg/l		C	WAS019
PCB 28	<5	ng/l		C	GEO36
PCB 52	<5	ng/l		C	GEO36
PCB 101	<5	ng/l		C	GEO36
PCB 118	<5	ng/l		C	GEO36
PCB 138	<5	ng/l		C	GEO36
PCB 153	<5	ng/l		C	GEO36
PCB 180	<5	ng/l		C	GEO36
TPH >C6-C8	<10	ug/l		C	GE035
TPH >C8-C10	<10	ug/l	*	C	GE035
TPH >C10-C16	300	ug/l	*	C	GE035
TPH >C16-C24	67	ug/l	*	C	GE035
TPH >C24-C40	<50	ug/l	*	C	GE035
TPH >C6-C40	368	ug/l		C	GE035
Acenaphthene	<0.05	ug/l		C	GEO19
Acenaphthylene	<0.05	ug/l		C	GEO19
Anthracene	<0.05	ug/l		C	GEO19
Benzo-a-anthracene	<0.05	ug/l		C	GEO19
Benzo-g,h,i perylene	<0.05	ug/l		C	GEO19
Benzo-a-pyrene	<0.05	ug/l		C	GEO19

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Sample **1** Laboratory Number : **971916**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**
Sample Point Description : **BAE Systems Properties Limited**
Sample Description : **BH1**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units	Accreditation	Method
Benzo-b-fluoranthene	<0.05	ug/l	C	GEO19
Benzo-k-fluoranthene	<0.05	ug/l	C	GEO19
Chrysene	<0.05	ug/l	C	GEO19
Dibenz-a-h-anthracene	<0.05	ug/l	C	GEO19
Fluoranthene	<0.05	ug/l	C	GEO19
Fluorene	<0.05	ug/l	C	GEO19
Indeno 1,2,3-cd pyrene	<0.05	ug/l	C	GEO19
Naphthalene	<0.05	ug/l	C	GEO19
Phenanthrene	0.09	ug/l	C	GEO19
Pyrene	<0.05	ug/l	C	GEO19
PAH,Total	0.09	ug/l	C	GEO19
VOC	Analyst Comment	ug/l	C	GEO32

Analyst Comment for 971916 : TPH results enhanced by interference at 4.07 minutes.
Please see attached report for VOC results.

Accreditation Codes : * = Not UKAS accredited B = Analysed at Bridgend C = Analysed at STL Coventry R = Analysed at Runcorn S = Sub-contracted
L = Analysed at STL CAS

For Microbiological determinands 0 or ND = Not Detected, DET = Detected

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Sample **2** Laboratory Number : **971917**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**

Sample Point Description : **BAE Systems Properties Limited**

Sample Description : **BH2**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units		Accreditation	Method
Aluminium,Total as Al	3.8	mg/l		C	WAS049
Arsenic , Total as As	<0.001	mg/l		C	WAS014
Boron, Total as B	1.0	mg/l		C	WAS049
Cadmium , Total as Cd	<0.0005	mg/l		C	WAS049
Chromium , Total as Cr	0.010	mg/l		C	WAS049
Copper, Total as Cu	0.028	mg/l		C	WAS049
Lead , Total as Pb	0.016	mg/l		C	WAS049
Manganese , Total as Mn	1.42	mg/l		C	WAS049
Mercury , Total as Hg	<0.0001	mg/l		C	WAS013
Molybdenum , Total as Mo	<0.005	mg/l		C	WAS049
Nickel , Total as Ni	0.024	mg/l		C	WAS049
Selenium , Total as Se	0.003	mg/l		C	WAS015
Vanadium , Total as V	0.062	mg/l		C	WAS049
Zinc, Total as Zn	0.11	mg/l		C	WAS049
Sulphide as S	0.04	mg/l		C	WAS033
Thiocyanate as SCN	<0.1	mg/l		C	WAS034
pH	7.3			C	WAS039
Phosphate, Ortho as P	<0.1	mg/l		C	WAS036
Sulphate as SO4	1530	mg/l		C	WAS036
Cyanide , Total as CN	<0.1	mg/l		C	WAS018
Phenols, Monohydric	<0.1	mg/l		C	WAS019
PCB 28	<5	ng/l		C	GEO36
PCB 52	<5	ng/l		C	GEO36
PCB 101	<5	ng/l		C	GEO36
PCB 118	<5	ng/l		C	GEO36
PCB 138	<5	ng/l		C	GEO36
PCB 153	<5	ng/l		C	GEO36
PCB 180	<5	ng/l		C	GEO36
TPH >C6-C8	<10	ug/l		C	GE035
TPH >C8-C10	<10	ug/l	*	C	GE035
TPH >C10-C16	98	ug/l	*	C	GE035
TPH >C16-C24	140	ug/l	*	C	GE035
TPH >C24-C40	<50	ug/l	*	C	GE035
TPH >C6-C40	238	ug/l		C	GE035
Acenaphthene	<0.05	ug/l		C	GEO19
Acenaphthylene	<0.05	ug/l		C	GEO19
Anthracene	0.10	ug/l		C	GEO19
Benzo-a-anthracene	<0.05	ug/l		C	GEO19
Benzo-g,h,i perylene	<0.05	ug/l		C	GEO19
Benzo-a-pyrene	<0.05	ug/l		C	GEO19

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Sample **2** Laboratory Number : **971917**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**
Sample Point Description : **BAE Systems Properties Limited**
Sample Description : **BH2**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units	Accreditation	Method
Benzo-b-fluoranthene	<0.05	ug/l	C	GEO19
Benzo-k-fluoranthene	<0.05	ug/l	C	GEO19
Chrysene	<0.05	ug/l	C	GEO19
Dibenz-a-h-anthracene	<0.05	ug/l	C	GEO19
Fluoranthene	<0.05	ug/l	C	GEO19
Fluorene	<0.05	ug/l	C	GEO19
Indeno 1,2,3-cd pyrene	<0.05	ug/l	C	GEO19
Naphthalene	<0.05	ug/l	C	GEO19
Phenanthrene	0.09	ug/l	C	GEO19
Pyrene	<0.05	ug/l	C	GEO19
PAH,Total	0.19	ug/l	C	GEO19
VOC	Analyst Comment	ug/l	C	GEO32

Analyst Comment for 971917 : Please see attached report for VOC results.

Accreditation Codes : * = Not UKAS accredited B = Analysed at Bridgend C = Analysed at STL Coventry R = Analysed at Runcorn S = Sub-contracted
L = Analysed at STL CAS

For Microbiological determinands 0 or ND = Not Detected, DET = Detected

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Sample **3** Laboratory Number : **971918**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**

Sample Point Description : **BAE Systems Properties Limited**

Sample Description : **BH3**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units		Accreditation	Method
Aluminium,Total as Al	4.7	mg/l		C	WAS049
Arsenic , Total as As	<0.001	mg/l		C	WAS014
Boron, Total as B	0.6	mg/l		C	WAS049
Cadmium , Total as Cd	<0.0005	mg/l		C	WAS049
Chromium , Total as Cr	0.013	mg/l		C	WAS049
Copper, Total as Cu	0.064	mg/l		C	WAS049
Lead , Total as Pb	0.019	mg/l		C	WAS049
Manganese , Total as Mn	0.53	mg/l		C	WAS049
Mercury , Total as Hg	<0.0001	mg/l		C	WAS013
Molybdenum , Total as Mo	<0.005	mg/l		C	WAS049
Nickel , Total as Ni	0.012	mg/l		C	WAS049
Selenium , Total as Se	<0.001	mg/l		C	WAS015
Vanadium , Total as V	0.068	mg/l		C	WAS049
Zinc, Total as Zn	0.15	mg/l		C	WAS049
Sulphide as S	0.04	mg/l		C	WAS033
Thiocyanate as SCN	<0.1	mg/l		C	WAS034
pH	7.4			C	WAS039
Phosphate, Ortho as P	<0.1	mg/l		C	WAS036
Sulphate as SO4	671	mg/l		C	WAS036
Cyanide , Total as CN	<0.1	mg/l		C	WAS018
Phenols, Monohydric	<0.1	mg/l		C	WAS019
PCB 28	<5	ng/l		C	GEO36
PCB 52	<5	ng/l		C	GEO36
PCB 101	<5	ng/l		C	GEO36
PCB 118	<5	ng/l		C	GEO36
PCB 138	<5	ng/l		C	GEO36
PCB 153	<5	ng/l		C	GEO36
PCB 180	<5	ng/l		C	GEO36
TPH >C6-C8	<10	ug/l		C	GE035
TPH >C8-C10	<10	ug/l	*	C	GE035
TPH >C10-C16	<20	ug/l	*	C	GE035
TPH >C16-C24	67	ug/l	*	C	GE035
TPH >C24-C40	<50	ug/l	*	C	GE035
TPH >C6-C40	67	ug/l		C	GE035
Acenaphthene	<0.05	ug/l		C	GEO19
Acenaphthylene	<0.05	ug/l		C	GEO19
Anthracene	<0.05	ug/l		C	GEO19
Benzo-a-anthracene	<0.05	ug/l		C	GEO19
Benzo-g,h,i perylene	<0.05	ug/l		C	GEO19
Benzo-a-pyrene	<0.05	ug/l		C	GEO19

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Sample **3** Laboratory Number : **971918**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**
Sample Point Description : **BAE Systems Properties Limited**
Sample Description : **BH3**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units	Accreditation	Method
Benzo-b-fluoranthene	<0.05	ug/l	C	GEO19
Benzo-k-fluoranthene	<0.05	ug/l	C	GEO19
Chrysene	<0.05	ug/l	C	GEO19
Dibenz-a-h-anthracene	<0.05	ug/l	C	GEO19
Fluoranthene	<0.05	ug/l	C	GEO19
Fluorene	<0.05	ug/l	C	GEO19
Indeno 1,2,3-cd pyrene	<0.05	ug/l	C	GEO19
Naphthalene	<0.05	ug/l	C	GEO19
Phenanthrene	<0.05	ug/l	C	GEO19
Pyrene	<0.05	ug/l	C	GEO19
PAH,Total	<0.05	ug/l	C	GEO19
VOC	Analyst Comment	ug/l	C	GEO32

Analyst Comment for 971918 : Please see attached report for VOC results.

Accreditation Codes : * = Not UKAS accredited B = Analysed at Bridgend C = Analysed at STL Coventry R = Analysed at Runcorn S = Sub-contracted
L = Analysed at STL CAS

For Microbiological determinands 0 or ND = Not Detected, DET = Detected

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Sample **4** Laboratory Number : **971919**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**
Sample Point Description : **BAE Systems Properties Limited**
Sample Description : **BH4**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units		Accreditation	Method
Aluminium,Total as Al	3.8	mg/l		C	WAS049
Arsenic , Total as As	<0.001	mg/l		C	WAS014
Boron, Total as B	0.4	mg/l		C	WAS049
Cadmium , Total as Cd	<0.0005	mg/l		C	WAS049
Chromium , Total as Cr	0.008	mg/l		C	WAS049
Copper, Total as Cu	0.041	mg/l		C	WAS049
Lead , Total as Pb	0.024	mg/l		C	WAS049
Manganese , Total as Mn	0.40	mg/l		C	WAS049
Mercury , Total as Hg	<0.0001	mg/l		C	WAS013
Molybdenum , Total as Mo	<0.005	mg/l		C	WAS049
Nickel , Total as Ni	0.009	mg/l		C	WAS049
Selenium , Total as Se	0.002	mg/l		C	WAS015
Vanadium , Total as V	0.063	mg/l		C	WAS049
Zinc, Total as Zn	0.037	mg/l		C	WAS049
Sulphide as S	0.5	mg/l		C	WAS033
Thiocyanate as SCN	<0.1	mg/l		C	WAS034
pH	7.4			C	WAS039
Phosphate, Ortho as P	<0.1	mg/l		C	WAS036
Sulphate as SO4	617	mg/l		C	WAS036
Cyanide , Total as CN	<0.1	mg/l		C	WAS018
Phenols, Monohydric	<0.1	mg/l		C	WAS019
PCB 28	<5	ng/l		C	GEO36
PCB 52	<5	ng/l		C	GEO36
PCB 101	<5	ng/l		C	GEO36
PCB 118	<5	ng/l		C	GEO36
PCB 138	<5	ng/l		C	GEO36
PCB 153	<5	ng/l		C	GEO36
PCB 180	<5	ng/l		C	GEO36
TPH >C6-C8	<10	ug/l		C	GE035
TPH >C8-C10	<10	ug/l	*	C	GE035
TPH >C10-C16	<20	ug/l	*	C	GE035
TPH >C16-C24	41	ug/l	*	C	GE035
TPH >C24-C40	<50	ug/l	*	C	GE035
TPH >C6-C40	41	ug/l		C	GE035
Acenaphthene	<0.05	ug/l		C	GEO19
Acenaphthylene	<0.05	ug/l		C	GEO19
Anthracene	<0.05	ug/l		C	GEO19
Benzo-a-anthracene	<0.05	ug/l		C	GEO19
Benzo-g,h,i perylene	<0.05	ug/l		C	GEO19
Benzo-a-pyrene	<0.05	ug/l		C	GEO19

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Sample **4** Laboratory Number : **971919**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**
Sample Point Description : **BAE Systems Properties Limited**
Sample Description : **BH4**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units	Accreditation	Method
Benzo-b-fluoranthene	<0.05	ug/l	C	GEO19
Benzo-k-fluoranthene	<0.05	ug/l	C	GEO19
Chrysene	<0.05	ug/l	C	GEO19
Dibenz-a-h-anthracene	<0.05	ug/l	C	GEO19
Fluoranthene	<0.05	ug/l	C	GEO19
Fluorene	<0.05	ug/l	C	GEO19
Indeno 1,2,3-cd pyrene	<0.05	ug/l	C	GEO19
Naphthalene	<0.05	ug/l	C	GEO19
Phenanthrene	<0.05	ug/l	C	GEO19
Pyrene	<0.05	ug/l	C	GEO19
PAH,Total	<0.05	ug/l	C	GEO19
VOC	Analyst Comment	ug/l	C	GEO32

Analyst Comment for 971919 : Please see attached report for VOC results.

Accreditation Codes : * = Not UKAS accredited B = Analysed at Bridgend C = Analysed at STL Coventry R = Analysed at Runcorn S = Sub-contracted
L = Analysed at STL CAS

For Microbiological determinands 0 or ND = Not Detected, DET = Detected

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Sample **5** Laboratory Number : **971920**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**

Sample Point Description : **BAE Systems Properties Limited**

Sample Description : **BH5**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units		Accreditation	Method
Aluminium,Total as Al	4.2	mg/l		C	WAS049
Arsenic , Total as As	<0.001	mg/l		C	WAS014
Boron, Total as B	0.2	mg/l		C	WAS049
Cadmium , Total as Cd	<0.0005	mg/l		C	WAS049
Chromium , Total as Cr	0.012	mg/l		C	WAS049
Copper, Total as Cu	0.033	mg/l		C	WAS049
Lead , Total as Pb	0.016	mg/l		C	WAS049
Manganese , Total as Mn	1.10	mg/l		C	WAS049
Mercury , Total as Hg	<0.0001	mg/l		C	WAS013
Molybdenum , Total as Mo	<0.005	mg/l		C	WAS049
Nickel , Total as Ni	0.020	mg/l		C	WAS049
Selenium , Total as Se	<0.001	mg/l		C	WAS015
Vanadium , Total as V	0.055	mg/l		C	WAS049
Zinc, Total as Zn	0.11	mg/l		C	WAS049
Sulphide as S	0.3	mg/l		C	WAS033
Thiocyanate as SCN	<0.1	mg/l		C	WAS034
pH	7.3			C	WAS039
Phosphate, Ortho as P	<0.1	mg/l		C	WAS036
Sulphate as SO4	734	mg/l		C	WAS036
Cyanide , Total as CN	<0.1	mg/l		C	WAS018
Phenols, Monohydric	<0.1	mg/l		C	WAS019
PCB 28	<5	ng/l		C	GEO36
PCB 52	<5	ng/l		C	GEO36
PCB 101	<5	ng/l		C	GEO36
PCB 118	<5	ng/l		C	GEO36
PCB 138	<5	ng/l		C	GEO36
PCB 153	<5	ng/l		C	GEO36
PCB 180	<5	ng/l		C	GEO36
TPH >C6-C8	<10	ug/l		C	GE035
TPH >C8-C10	<10	ug/l	*	C	GE035
TPH >C10-C16	<20	ug/l	*	C	GE035
TPH >C16-C24	<20	ug/l	*	C	GE035
TPH >C24-C40	<50	ug/l	*	C	GE035
TPH >C6-C40	<50	ug/l		C	GE035
Acenaphthene	<0.05	ug/l		C	GEO19
Acenaphthylene	<0.05	ug/l		C	GEO19
Anthracene	<0.05	ug/l		C	GEO19
Benzo-a-anthracene	<0.05	ug/l		C	GEO19
Benzo-g,h,i perylene	<0.05	ug/l		C	GEO19
Benzo-a-pyrene	<0.05	ug/l		C	GEO19

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Sample **5** Laboratory Number : **971920**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**
Sample Point Description : **BAE Systems Properties Limited**
Sample Description : **BH5**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units	Accreditation	Method
Benzo-b-fluoranthene	<0.05	ug/l	C	GEO19
Benzo-k-fluoranthene	<0.05	ug/l	C	GEO19
Chrysene	<0.05	ug/l	C	GEO19
Dibenz-a-h-anthracene	<0.05	ug/l	C	GEO19
Fluoranthene	<0.05	ug/l	C	GEO19
Fluorene	<0.05	ug/l	C	GEO19
Indeno 1,2,3-cd pyrene	<0.05	ug/l	C	GEO19
Naphthalene	<0.05	ug/l	C	GEO19
Phenanthrene	<0.05	ug/l	C	GEO19
Pyrene	<0.05	ug/l	C	GEO19
PAH,Total	<0.05	ug/l	C	GEO19
VOC	Analyst Comment	ug/l	C	GEO32

Analyst Comment for 971920 : Please see attached report for VOC results.

Accreditation Codes : * = Not UKAS accredited B = Analysed at Bridgend C = Analysed at STL Coventry R = Analysed at Runcorn S = Sub-contracted
L = Analysed at STL CAS

For Microbiological determinands 0 or ND = Not Detected, DET = Detected

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Sample **6** Laboratory Number : **971921**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**

Sample Point Description : **BAE Systems Properties Limited**

Sample Description : **BH6**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units		Accreditation	Method
Aluminium,Total as Al	5.0	mg/l		C	WAS049
Arsenic , Total as As	<0.001	mg/l		C	WAS014
Boron, Total as B	0.3	mg/l		C	WAS049
Cadmium , Total as Cd	<0.0005	mg/l		C	WAS049
Chromium , Total as Cr	0.016	mg/l		C	WAS049
Copper, Total as Cu	0.032	mg/l		C	WAS049
Lead , Total as Pb	0.057	mg/l		C	WAS049
Manganese , Total as Mn	1.01	mg/l		C	WAS049
Mercury , Total as Hg	<0.0001	mg/l		C	WAS013
Molybdenum , Total as Mo	<0.005	mg/l		C	WAS049
Nickel , Total as Ni	0.023	mg/l		C	WAS049
Selenium , Total as Se	0.002	mg/l		C	WAS015
Vanadium , Total as V	0.059	mg/l		C	WAS049
Zinc, Total as Zn	0.076	mg/l		C	WAS049
Sulphide as S	0.08	mg/l		C	WAS033
Thiocyanate as SCN	<0.1	mg/l		C	WAS034
pH	7.3			C	WAS039
Phosphate, Ortho as P	<0.1	mg/l		C	WAS036
Sulphate as SO4	488	mg/l		C	WAS036
Cyanide , Total as CN	<0.1	mg/l		C	WAS018
Phenols, Monohydric	<0.1	mg/l		C	WAS019
PCB 28	<5	ng/l		C	GEO36
PCB 52	<5	ng/l		C	GEO36
PCB 101	<5	ng/l		C	GEO36
PCB 118	<5	ng/l		C	GEO36
PCB 138	<5	ng/l		C	GEO36
PCB 153	<5	ng/l		C	GEO36
PCB 180	<5	ng/l		C	GEO36
TPH >C6-C8	<10	ug/l		C	GE035
TPH >C8-C10	<10	ug/l	*	C	GE035
TPH >C10-C16	<20	ug/l	*	C	GE035
TPH >C16-C24	65	ug/l	*	C	GE035
TPH >C24-C40	<50	ug/l	*	C	GE035
TPH >C6-C40	65	ug/l		C	GE035
Acenaphthene	<0.05	ug/l		C	GEO19
Acenaphthylene	<0.05	ug/l		C	GEO19
Anthracene	<0.05	ug/l		C	GEO19
Benzo-a-anthracene	<0.05	ug/l		C	GEO19
Benzo-g,h,i perylene	<0.05	ug/l		C	GEO19
Benzo-a-pyrene	<0.05	ug/l		C	GEO19

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Sample **6** Laboratory Number : **971921**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**
Sample Point Description : **BAE Systems Properties Limited**
Sample Description : **BH6**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units	Accreditation	Method
Benzo-b-fluoranthene	<0.05	ug/l	C	GEO19
Benzo-k-fluoranthene	<0.05	ug/l	C	GEO19
Chrysene	<0.05	ug/l	C	GEO19
Dibenz-a-h-anthracene	<0.05	ug/l	C	GEO19
Fluoranthene	<0.05	ug/l	C	GEO19
Fluorene	<0.05	ug/l	C	GEO19
Indeno 1,2,3-cd pyrene	<0.05	ug/l	C	GEO19
Naphthalene	<0.05	ug/l	C	GEO19
Phenanthrene	<0.05	ug/l	C	GEO19
Pyrene	<0.05	ug/l	C	GEO19
PAH,Total	<0.05	ug/l	C	GEO19
VOC	Analyst Comment	ug/l	C	GEO32

Analyst Comment for 971921 : TPH results enhanced by interference at 6.50 minutes.
Please see attached report for VOC results.

Accreditation Codes : * = Not UKAS accredited B = Analysed at Bridgend C = Analysed at STL Coventry R = Analysed at Runcorn S = Sub-contracted
L = Analysed at STL CAS

For Microbiological determinands 0 or ND = Not Detected, DET = Detected

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Sample **7** Laboratory Number : **971922**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**
Sample Point Description : **BAE Systems Properties Limited**
Sample Description : **BH7**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units	Accreditation	Method
Aluminium,Total as Al	5.9	mg/l	C	WAS049
Arsenic , Total as As	<0.001	mg/l	C	WAS014
Boron, Total as B	0.3	mg/l	C	WAS049
Cadmium , Total as Cd	0.0010	mg/l	C	WAS049
Chromium , Total as Cr	0.020	mg/l	C	WAS049
Iron , Total as Fe	9.41	mg/l	C	WAS049
Lead , Total as Pb	0.074	mg/l	C	WAS049
Manganese , Total as Mn	1.51	mg/l	C	WAS049
Mercury , Total as Hg	<0.0001	mg/l	C	WAS013
Molybdenum , Total as Mo	0.021	mg/l	C	WAS049
Nickel , Total as Ni	0.027	mg/l	C	WAS049
Selenium , Total as Se	0.002	mg/l	C	WAS015
Vanadium , Total as V	0.080	mg/l	C	WAS049
Zinc, Total as Zn	0.32	mg/l	C	WAS049
Sulphide as S	0.3	mg/l	C	WAS033
Thiocyanate as SCN	<0.1	mg/l	C	WAS034
pH	7.2		C	WAS039
Phosphate, Ortho as P	<0.1	mg/l	C	WAS036
Sulphate as SO4	1140	mg/l	C	WAS036
Cyanide , Total as CN	<0.1	mg/l	C	WAS018
Phenols, Monohydric	<0.1	mg/l	C	WAS019
TPH >C6-C8	<10	ug/l	C	GE035
TPH >C8-C10	<10	ug/l	* C	GE035
TPH >C10-C16	<20	ug/l	* C	GE035
TPH >C16-C24	165	ug/l	* C	GE035
TPH >C24-C40	<50	ug/l	* C	GE035
TPH >C6-C40	165	ug/l	C	GE035
VOC	Analyst Comment	ug/l	C	GEO32

Analyst Comment for 971922 : TPH results enhanced by interference at 6.50 minutes.
Please see attached report for VOC results.

Accreditation Codes : * = Not UKAS accredited B = Analysed at Bridgend C = Analysed at STL Coventry R = Analysed at Runcorn S = Sub-contracted
L = Analysed at STL CAS

For Microbiological determinands 0 or ND = Not Detected, DET = Detected

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Sample **8** Laboratory Number : **971923**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**

Sample Point Description : **BAE Systems Properties Limited**

Sample Description : **BH8**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units		Accreditation	Method
Aluminium,Total as Al	7.4	mg/l		C	WAS049
Arsenic , Total as As	<0.001	mg/l		C	WAS014
Boron, Total as B	0.3	mg/l		C	WAS049
Cadmium , Total as Cd	<0.0005	mg/l		C	WAS049
Chromium , Total as Cr	0.026	mg/l		C	WAS049
Copper, Total as Cu	0.056	mg/l		C	WAS049
Lead , Total as Pb	0.083	mg/l		C	WAS049
Manganese , Total as Mn	1.51	mg/l		C	WAS049
Mercury , Total as Hg	<0.0001	mg/l		C	WAS013
Molybdenum , Total as Mo	<0.005	mg/l		C	WAS049
Nickel , Total as Ni	0.032	mg/l		C	WAS049
Selenium , Total as Se	<0.001	mg/l		C	WAS015
Vanadium , Total as V	0.077	mg/l		C	WAS049
Zinc, Total as Zn	0.095	mg/l		C	WAS049
Sulphide as S	0.09	mg/l		C	WAS033
Thiocyanate as SCN	<0.1	mg/l		C	WAS034
pH	7.3			C	WAS039
Phosphate, Ortho as P	<0.1	mg/l		C	WAS036
Sulphate as SO4	557	mg/l		C	WAS036
Cyanide , Total as CN	<0.1	mg/l		C	WAS018
Phenols, Monohydric	<0.1	mg/l		C	WAS019
PCB 28	<5	ng/l		C	GEO36
PCB 52	<5	ng/l		C	GEO36
PCB 101	<5	ng/l		C	GEO36
PCB 118	<5	ng/l		C	GEO36
PCB 138	<5	ng/l		C	GEO36
PCB 153	<5	ng/l		C	GEO36
PCB 180	<5	ng/l		C	GEO36
TPH >C6-C8	<10	ug/l		C	GE035
TPH >C8-C10	<10	ug/l	*	C	GE035
TPH >C10-C16	<20	ug/l	*	C	GE035
TPH >C16-C24	46	ug/l	*	C	GE035
TPH >C24-C40	<50	ug/l	*	C	GE035
TPH >C6-C40	46	ug/l		C	GE035
Acenaphthene	<0.05	ug/l		C	GEO19
Acenaphthylene	<0.05	ug/l		C	GEO19
Anthracene	<0.05	ug/l		C	GEO19
Benzo-a-anthracene	<0.05	ug/l		C	GEO19
Benzo-g,h,i perylene	<0.05	ug/l		C	GEO19
Benzo-a-pyrene	<0.05	ug/l		C	GEO19

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Sample **8** Laboratory Number : **971923**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**
Sample Point Description : **BAE Systems Properties Limited**
Sample Description : **BH8**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units	Accreditation	Method
Benzo-b-fluoranthene	<0.05	ug/l	C	GEO19
Benzo-k-fluoranthene	<0.05	ug/l	C	GEO19
Chrysene	<0.05	ug/l	C	GEO19
Dibenz-a-h-anthracene	<0.05	ug/l	C	GEO19
Fluoranthene	<0.05	ug/l	C	GEO19
Fluorene	<0.05	ug/l	C	GEO19
Indeno 1,2,3-cd pyrene	<0.05	ug/l	C	GEO19
Naphthalene	<0.05	ug/l	C	GEO19
Phenanthrene	<0.05	ug/l	C	GEO19
Pyrene	<0.05	ug/l	C	GEO19
PAH,Total	<0.05	ug/l	C	GEO19
VOC	Analyst Comment	ug/l	C	GEO32

Analyst Comment for 971923 : Please see attached report for VOC results.

Accreditation Codes : * = Not UKAS accredited B = Analysed at Bridgend C = Analysed at STL Coventry R = Analysed at Runcorn S = Sub-contracted
L = Analysed at STL CAS

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Sample **9** Laboratory Number : **971924**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**

Sample Point Description : **BAE Systems Properties Limited**

Sample Description : **BH9**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units		Accreditation	Method
Aluminium,Total as Al	6.4	mg/l		C	WAS049
Arsenic , Total as As	<0.001	mg/l		C	WAS014
Boron, Total as B	0.2	mg/l		C	WAS049
Cadmium , Total as Cd	<0.0005	mg/l		C	WAS049
Chromium , Total as Cr	0.020	mg/l		C	WAS049
Copper, Total as Cu	0.037	mg/l		C	WAS049
Lead , Total as Pb	0.048	mg/l		C	WAS049
Manganese , Total as Mn	1.47	mg/l		C	WAS049
Mercury , Total as Hg	<0.0001	mg/l		C	WAS013
Molybdenum , Total as Mo	<0.005	mg/l		C	WAS049
Nickel , Total as Ni	0.030	mg/l		C	WAS049
Selenium , Total as Se	<0.001	mg/l		C	WAS015
Vanadium , Total as V	0.076	mg/l		C	WAS049
Zinc, Total as Zn	0.12	mg/l		C	WAS049
Sulphide as S	0.09	mg/l		C	WAS033
Thiocyanate as SCN	0.6	mg/l		C	WAS034
pH	7.3			C	WAS039
Phosphate, Ortho as P	<0.1	mg/l		C	WAS036
Sulphate as SO4	670	mg/l		C	WAS036
Cyanide , Total as CN	<0.1	mg/l		C	WAS018
Phenols, Monohydric	<0.1	mg/l		C	WAS019
PCB 28	<5	ng/l		C	GEO36
PCB 52	<5	ng/l		C	GEO36
PCB 101	<5	ng/l		C	GEO36
PCB 118	<5	ng/l		C	GEO36
PCB 138	<5	ng/l		C	GEO36
PCB 153	<5	ng/l		C	GEO36
PCB 180	<5	ng/l		C	GEO36
TPH >C6-C8	<10	ug/l		C	GE035
TPH >C8-C10	<10	ug/l	*	C	GE035
TPH >C10-C16	53	ug/l	*	C	GE035
TPH >C16-C24	458	ug/l	*	C	GE035
TPH >C24-C40	<50	ug/l	*	C	GE035
TPH >C6-C40	511	ug/l		C	GE035
Acenaphthene	<0.05	ug/l		C	GEO19
Acenaphthylene	<0.05	ug/l		C	GEO19
Anthracene	<0.05	ug/l		C	GEO19
Benzo-a-anthracene	<0.05	ug/l		C	GEO19
Benzo-g,h,i perylene	<0.05	ug/l		C	GEO19
Benzo-a-pyrene	<0.05	ug/l		C	GEO19

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Sample **9** Laboratory Number : **971924**

of **9** Report Number : **TH /203773/2003** **Issue 1**

Sample Source : **BAE Systems Ltd**
Sample Point Description : **BAE Systems Properties Limited**
Sample Description : **BH9**

Sample Date : **15 September 2003** Sample Received : **25 September 2003** Analysis Complete : **08 October 2003**

Test Description	Result	Units	Accreditation	Method
Benzo-b-fluoranthene	<0.05	ug/l	C	GEO19
Benzo-k-fluoranthene	<0.05	ug/l	C	GEO19
Chrysene	<0.05	ug/l	C	GEO19
Dibenz-a-h-anthracene	<0.05	ug/l	C	GEO19
Fluoranthene	<0.05	ug/l	C	GEO19
Fluorene	<0.05	ug/l	C	GEO19
Indeno 1,2,3-cd pyrene	<0.05	ug/l	C	GEO19
Naphthalene	<0.05	ug/l	C	GEO19
Phenanthrene	<0.05	ug/l	C	GEO19
Pyrene	<0.05	ug/l	C	GEO19
PAH,Total	<0.05	ug/l	C	GEO19
VOC	Analyst Comment	ug/l	C	GEO32

Analyst Comment for 971924 : Please see attached report for VOC results.

Accreditation Codes : * = Not UKAS accredited B = Analysed at Bridgend C = Analysed at STL Coventry R = Analysed at Runcorn S = Sub-contracted
L = Analysed at STL CAS

For Microbiological determinands 0 or ND = Not Detected, DET = Detected

Signed : JFell

Name : **J. Fell** Date : 22 October 2003

Title : **Production Manager**

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VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971916	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH1	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 4	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result	Flags
75-71-8	Dichlorodifluoromethane ug/l	5	ND	
74-87-3	Chloromethane ug/l	5	ND	
75-00-3	Chloroethane ug/l	5	ND	
74-83-9	Bromomethane ug/l	5	ND	
75-69-4	Trichlorofluoromethane ug/l	5	ND	
75-35-4	1,1-Dichloroethene ug/l	5	1.0	J
75-09-2	Dichloromethane ug/l	5	ND	
156-60-9	Trans-1,2-dichloroethene ug/l	5	ND	
75-34-3	1,1-Dichloroethane ug/l	5	ND	
156-59-2	Cis-1,2-dichloroethene ug/l	5	3.1	J
594-20-7	2,2-Dichloropropane ug/l	5	ND	
67-66-3	Chloroform ug/l	5	ND	
74-97-5	Bromochloromethane ug/l	5	ND	
71-55-6	1,1,1-Trichloroethane ug/l	5	ND	
563-58-6	1,1-Dichloropropene ug/l	5	ND	
107-06-2	1,2-Dichloroethane ug/l	5	ND	
71-43-2	Benzene ug/l	5	ND	
78-87-5	1,2-Dichloropropane ug/l	5	ND	
79-01-6	Trichloroethene ug/l	5	25.1	
75-27-4	Bromodichloromethane ug/l	5	ND	
74-95-3	Dibromomethane ug/l	5	ND	
10061-01-5	Cis-1,3-dichloropropene ug/l	5	ND	
108-88-3	Toluene ug/l	5	ND	
10061-02-6	Trans-1,3-dichloropropene ug/l	5	ND	
79-00-5	1,1,2-trichloroethane ug/l	5	ND	
56-23-5	Carbon Tetrachloride ug/l	5	ND	
75-01-4	Vinyl Chloride ug/l	5	ND	
124-28-9	1,3-dichloropropane ug/l	5	ND	
127-18-4	Tetrachloroethene ug/l	5	20.4	
124-48-1	Dibromochloromethane ug/l	5	ND	
106-93-4	1,2-dibromoethane ug/l	5	ND	
108-90-7	Chlorobenzene ug/l	5	ND	
630-20-6	1,1,1,2-tetrachloroethane ug/l	5	ND	
100-41-4	Ethyl Benzene ug/l	5	ND	
1330-20-7	m,p-xylene ug/l	10	ND	

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VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971916	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH1	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 4	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result		Flags
95-47-6	o-xylene ug/l	5	ND		
100-42-5	Styrene ug/l	5	ND		
75-25-2	Bromoform ug/l	5	ND		
98-82-8	Isopropylbenzene ug/l	5	ND		
79-34-5	1,1,2,2-tetrachloroethane ug/l	5	ND		
96-18-4	1,2,3-trichloropropane ug/l	5	ND		
103-65-1	n-propylbenzene ug/l	5	ND		
108-86-1	Bromobenzene ug/l	5	ND		
95-49-8	2-chlorotoluene ug/l	5	ND		
108-67-8	1,3,5-trimethylbenzene ug/l	5	ND		
106-43-4	4-chlorotoluene ug/l	5	ND		
98-06-6	tert-butylbenzene ug/l	5	ND		
95-63-6	1,2,4-trimethylbenzene ug/l	5	ND		
135-98-8	sec-butylbenzene ug/l	5	ND		
99-87-6	p-isopropyltoluene ug/l	5	ND		
541-73-1	1,3-dichlorobenzene ug/l	5	ND		
106-46-7	1,4-dichlorobenzene ug/l	5	ND		
104-51-8	n-butylbenzene ug/l	5	ND		
95-50-1	1,2-dichlorobenzene ug/l	5	ND		
96-12-8	1,2-dibromo-3-chloropropane ug/l	5	ND		
120-82-1	1,2,4-trichlorobenzene ug/l	5	ND		
87-68-3	Hexachlorobutadiene ug/l	5	ND		
91-20-3	Naphthalene ug/l	5	ND		
87-61-6	1,2,3-trichlorobenzene ug/l	5	ND		
Surrogate	Dibromofluoromethane %Recovered		115.7	Pass	
Surrogate	Toluene-d8 %Recovered		101.0	Pass	
Surrogate	4-bromofluorobenzene %Recovered		96.2	Pass	

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VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971917	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH2	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 5	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result	Flags
75-71-8	Dichlorodifluoromethane ug/l	5	ND	
74-87-3	Chloromethane ug/l	5	ND	
75-00-3	Chloroethane ug/l	5	ND	
74-83-9	Bromomethane ug/l	5	ND	
75-69-4	Trichlorofluoromethane ug/l	5	ND	
75-35-4	1,1-Dichloroethene ug/l	5	ND	
75-09-2	Dichloromethane ug/l	5	ND	
156-60-9	Trans-1,2-dichloroethene ug/l	5	ND	
75-34-3	1,1-Dichloroethane ug/l	5	ND	
156-59-2	Cis-1,2-dichloroethene ug/l	5	ND	
594-20-7	2,2-Dichloropropane ug/l	5	ND	
67-66-3	Chloroform ug/l	5	ND	
74-97-5	Bromochloromethane ug/l	5	ND	
71-55-6	1,1,1-Trichloroethane ug/l	5	ND	
563-58-6	1,1-Dichloropropene ug/l	5	ND	
107-06-2	1,2-Dichloroethane ug/l	5	ND	
71-43-2	Benzene ug/l	5	ND	
78-87-5	1,2-Dichloropropane ug/l	5	ND	
79-01-6	Trichloroethene ug/l	5	ND	
75-27-4	Bromodichloromethane ug/l	5	ND	
74-95-3	Dibromomethane ug/l	5	ND	
10061-01-5	Cis-1,3-dichloropropene ug/l	5	ND	
108-88-3	Toluene ug/l	5	ND	
10061-02-6	Trans-1,3-dichloropropene ug/l	5	ND	
79-00-5	1,1,2-trichloroethane ug/l	5	ND	
56-23-5	Carbon Tetrachloride ug/l	5	ND	
75-01-4	Vinyl Chloride ug/l	5	ND	
124-28-9	1,3-dichloropropane ug/l	5	ND	
127-18-4	Tetrachloroethene ug/l	5	ND	
124-48-1	Dibromochloromethane ug/l	5	ND	
106-93-4	1,2-dibromoethane ug/l	5	ND	
108-90-7	Chlorobenzene ug/l	5	ND	
630-20-6	1,1,1,2-tetrachloroethane ug/l	5	ND	
100-41-4	Ethyl Benzene ug/l	5	ND	
1330-20-7	m,p-xylene ug/l	10	ND	
95-47-6	o-xylene ug/l	5	ND	

SEVERN TRENT Environmental Leadership STL

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971917	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH2	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 5	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result		Flags
100-42-5	Styrene ug/l	5	ND		
75-25-2	Bromoform ug/l	5	ND		
98-82-8	Isopropylbenzene ug/l	5	ND		
79-34-5	1,1,2,2-tetrachloroethane ug/l	5	ND		
96-18-4	1,2,3-trichloropropane ug/l	5	ND		
103-65-1	n-propylbenzene ug/l	5	ND		
108-86-1	Bromobenzene ug/l	5	ND		
95-49-8	2-chlorotoluene ug/l	5	ND		
108-67-8	1,3,5-trimethylbenzene ug/l	5	ND		
106-43-4	4-chlorotoluene ug/l	5	ND		
98-06-6	tert-butylbenzene ug/l	5	ND		
95-63-6	1,2,4-trimethylbenzene ug/l	5	ND		
135-98-8	sec-butylbenzene ug/l	5	ND		
99-87-6	p-isopropyltoluene ug/l	5	ND		
541-73-1	1,3-dichlorobenzene ug/l	5	ND		
106-46-7	1,4-dichlorobenzene ug/l	5	ND		
104-51-8	n-butylbenzene ug/l	5	ND		
95-50-1	1,2-dichlorobenzene ug/l	5	ND		
96-12-8	1,2-dibromo-3-chloropropane ug/l	5	ND		
120-82-1	1,2,4-trichlorobenzene ug/l	5	ND		
87-68-3	Hexachlorobutadiene ug/l	5	ND		
91-20-3	Naphthalene ug/l	5	ND		
87-61-6	1,2,3-trichlorobenzene ug/l	5	ND		
Surrogate	Dibromofluoromethane %Recovered		102.0	Pass	
Surrogate	Toluene-d8 %Recovered		102.8	Pass	
Surrogate	4-bromofluorobenzene %Recovered		99.1	Pass	

SEVERN TRENT Environmental Leadership STL

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971918	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH3	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 6	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result	Flags
75-71-8	Dichlorodifluoromethane ug/l	5	ND	
74-87-3	Chloromethane ug/l	5	ND	
75-00-3	Chloroethane ug/l	5	ND	
74-83-9	Bromomethane ug/l	5	ND	
75-69-4	Trichlorofluoromethane ug/l	5	ND	
75-35-4	1,1-Dichloroethene ug/l	5	ND	
75-09-2	Dichloromethane ug/l	5	ND	
156-60-9	Trans-1,2-dichloroethene ug/l	5	ND	
75-34-3	1,1-Dichloroethane ug/l	5	ND	
156-59-2	Cis-1,2-dichloroethene ug/l	5	ND	
594-20-7	2,2-Dichloropropane ug/l	5	ND	
67-66-3	Chloroform ug/l	5	ND	
74-97-5	Bromochloromethane ug/l	5	ND	
71-55-6	1,1,1-Trichloroethane ug/l	5	ND	
563-58-6	1,1-Dichloropropene ug/l	5	ND	
107-06-2	1,2-Dichloroethane ug/l	5	ND	
71-43-2	Benzene ug/l	5	ND	
78-87-5	1,2-Dichloropropane ug/l	5	ND	
79-01-6	Trichloroethene ug/l	5	ND	
75-27-4	Bromodichloromethane ug/l	5	ND	
74-95-3	Dibromomethane ug/l	5	ND	
10061-01-5	Cis-1,3-dichloropropene ug/l	5	ND	
108-88-3	Toluene ug/l	5	ND	
10061-02-6	Trans-1,3-dichloropropene ug/l	5	ND	
79-00-5	1,1,2-trichloroethane ug/l	5	ND	
56-23-5	Carbon Tetrachloride ug/l	5	ND	
75-01-4	Vinyl Chloride ug/l	5	ND	
124-28-9	1,3-dichloropropane ug/l	5	ND	
127-18-4	Tetrachloroethene ug/l	5	ND	
124-48-1	Dibromochloromethane ug/l	5	ND	
106-93-4	1,2-dibromoethane ug/l	5	ND	
108-90-7	Chlorobenzene ug/l	5	ND	
630-20-6	1,1,1,2-tetrachloroethane ug/l	5	ND	
100-41-4	Ethyl Benzene ug/l	5	ND	
1330-20-7	m,p-xylene ug/l	10	ND	
95-47-6	o-xylene ug/l	5	ND	

SEVERN TRENT STL
Environmental Leadership

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971918	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH3	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 6	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result		Flags
100-42-5	Styrene ug/l	5	ND		
75-25-2	Bromoform ug/l	5	ND		
98-82-8	Isopropylbenzene ug/l	5	ND		
79-34-5	1,1,2,2-tetrachloroethane ug/l	5	ND		
96-18-4	1,2,3-trichloropropane ug/l	5	ND		
103-65-1	n-propylbenzene ug/l	5	ND		
108-86-1	Bromobenzene ug/l	5	ND		
95-49-8	2-chlorotoluene ug/l	5	ND		
108-67-8	1,3,5-trimethylbenzene ug/l	5	ND		
106-43-4	4-chlorotoluene ug/l	5	ND		
98-06-6	tert-butylbenzene ug/l	5	ND		
95-63-6	1,2,4-trimethylbenzene ug/l	5	ND		
135-98-8	sec-butylbenzene ug/l	5	ND		
99-87-6	p-isopropyltoluene ug/l	5	ND		
541-73-1	1,3-dichlorobenzene ug/l	5	ND		
106-46-7	1,4-dichlorobenzene ug/l	5	ND		
104-51-8	n-butylbenzene ug/l	5	ND		
95-50-1	1,2-dichlorobenzene ug/l	5	ND		
96-12-8	1,2-dibromo-3-chloropropane ug/l	5	ND		
120-82-1	1,2,4-trichlorobenzene ug/l	5	ND		
87-68-3	Hexachlorobutadiene ug/l	5	ND		
91-20-3	Naphthalene ug/l	5	ND		
87-61-6	1,2,3-trichlorobenzene ug/l	5	ND		
Surrogate	Dibromofluoromethane %Recovered		100.9	Pass	
Surrogate	Toluene-d8 %Recovered		103.4	Pass	
Surrogate	4-bromofluorobenzene %Recovered		93.5	Pass	

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971919	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH4	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 7	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result	Flags
75-71-8	Dichlorodifluoromethane ug/l	5	ND	
74-87-3	Chloromethane ug/l	5	ND	
75-00-3	Chloroethane ug/l	5	ND	
74-83-9	Bromomethane ug/l	5	ND	
75-69-4	Trichlorofluoromethane ug/l	5	ND	
75-35-4	1,1-Dichloroethene ug/l	5	ND	
75-09-2	Dichloromethane ug/l	5	ND	
156-60-9	Trans-1,2-dichloroethene ug/l	5	ND	
75-34-3	1,1-Dichloroethane ug/l	5	ND	
156-59-2	Cis-1,2-dichloroethene ug/l	5	ND	
594-20-7	2,2-Dichloropropane ug/l	5	ND	
67-66-3	Chloroform ug/l	5	ND	
74-97-5	Bromochloromethane ug/l	5	ND	
71-55-6	1,1,1-Trichloroethane ug/l	5	ND	
563-58-6	1,1-Dichloropropene ug/l	5	ND	
107-06-2	1,2-Dichloroethane ug/l	5	ND	
71-43-2	Benzene ug/l	5	ND	
78-87-5	1,2-Dichloropropane ug/l	5	ND	
79-01-6	Trichloroethene ug/l	5	ND	
75-27-4	Bromodichloromethane ug/l	5	ND	
74-95-3	Dibromomethane ug/l	5	ND	
10061-01-5	Cis-1,3-dichloropropene ug/l	5	ND	
108-88-3	Toluene ug/l	5	ND	
10061-02-6	Trans-1,3-dichloropropene ug/l	5	ND	
79-00-5	1,1,2-trichloroethane ug/l	5	ND	
56-23-5	Carbon Tetrachloride ug/l	5	ND	
75-01-4	Vinyl Chloride ug/l	5	ND	
124-28-9	1,3-dichloropropane ug/l	5	ND	
127-18-4	Tetrachloroethene ug/l	5	ND	
124-48-1	Dibromochloromethane ug/l	5	ND	
106-93-4	1,2-dibromoethane ug/l	5	ND	
108-90-7	Chlorobenzene ug/l	5	ND	
630-20-6	1,1,1,2-tetrachloroethane ug/l	5	ND	
100-41-4	Ethyl Benzene ug/l	5	ND	
1330-20-7	m,p-xylene ug/l	10	ND	
95-47-6	o-xylene ug/l	5	ND	

SEVERN TRENT Environmental Leadership STL

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971919	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH4	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 7	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result		Flags
100-42-5	Styrene ug/l	5	ND		
75-25-2	Bromoform ug/l	5	ND		
98-82-8	Isopropylbenzene ug/l	5	ND		
79-34-5	1,1,2,2-tetrachloroethane ug/l	5	ND		
96-18-4	1,2,3-trichloropropane ug/l	5	ND		
103-65-1	n-propylbenzene ug/l	5	ND		
108-86-1	Bromobenzene ug/l	5	ND		
95-49-8	2-chlorotoluene ug/l	5	ND		
108-67-8	1,3,5-trimethylbenzene ug/l	5	ND		
106-43-4	4-chlorotoluene ug/l	5	ND		
98-06-6	tert-butylbenzene ug/l	5	ND		
95-63-6	1,2,4-trimethylbenzene ug/l	5	ND		
135-98-8	sec-butylbenzene ug/l	5	ND		
99-87-6	p-isopropyltoluene ug/l	5	ND		
541-73-1	1,3-dichlorobenzene ug/l	5	ND		
106-46-7	1,4-dichlorobenzene ug/l	5	ND		
104-51-8	n-butylbenzene ug/l	5	ND		
95-50-1	1,2-dichlorobenzene ug/l	5	ND		
96-12-8	1,2-dibromo-3-chloropropane ug/l	5	ND		
120-82-1	1,2,4-trichlorobenzene ug/l	5	ND		
87-68-3	Hexachlorobutadiene ug/l	5	ND		
91-20-3	Naphthalene ug/l	5	ND		
87-61-6	1,2,3-trichlorobenzene ug/l	5	ND		
Surrogate	Dibromofluoromethane %Recovered		105.1	Pass	
Surrogate	Toluene-d8 %Recovered		101.5	Pass	
Surrogate	4-bromofluorobenzene %Recovered		90.5	Pass	

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971920	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH5	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 8	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result	Flags
75-71-8	Dichlorodifluoromethane ug/l	5	ND	
74-87-3	Chloromethane ug/l	5	ND	
75-00-3	Chloroethane ug/l	5	ND	
74-83-9	Bromomethane ug/l	5	ND	
75-69-4	Trichlorofluoromethane ug/l	5	ND	
75-35-4	1,1-Dichloroethene ug/l	5	ND	
75-09-2	Dichloromethane ug/l	5	ND	
156-60-9	Trans-1,2-dichloroethene ug/l	5	2.2	J
75-34-3	1,1-Dichloroethane ug/l	5	ND	
156-59-2	Cis-1,2-dichloroethene ug/l	5	1.5	J
594-20-7	2,2-Dichloropropane ug/l	5	ND	
67-66-3	Chloroform ug/l	5	ND	
74-97-5	Bromochloromethane ug/l	5	ND	
71-55-6	1,1,1-Trichloroethane ug/l	5	ND	
563-58-6	1,1-Dichloropropene ug/l	5	ND	
107-06-2	1,2-Dichloroethane ug/l	5	ND	
71-43-2	Benzene ug/l	5	ND	
78-87-5	1,2-Dichloropropane ug/l	5	ND	
79-01-6	Trichloroethene ug/l	5	ND	
75-27-4	Bromodichloromethane ug/l	5	ND	
74-95-3	Dibromomethane ug/l	5	ND	
10061-01-5	Cis-1,3-dichloropropene ug/l	5	ND	
108-88-3	Toluene ug/l	5	ND	
10061-02-6	Trans-1,3-dichloropropene ug/l	5	ND	
79-00-5	1,1,2-trichloroethane ug/l	5	ND	
56-23-5	Carbon Tetrachloride ug/l	5	ND	
75-01-4	Vinyl Chloride ug/l	5	ND	
124-28-9	1,3-dichloropropane ug/l	5	ND	
127-18-4	Tetrachloroethene ug/l	5	ND	
124-48-1	Dibromochloromethane ug/l	5	ND	
106-93-4	1,2-dibromoethane ug/l	5	ND	
108-90-7	Chlorobenzene ug/l	5	ND	
630-20-6	1,1,1,2-tetrachloroethane ug/l	5	ND	
100-41-4	Ethyl Benzene ug/l	5	ND	
1330-20-7	m,p-xylene ug/l	10	ND	
95-47-6	o-xylene ug/l	5	ND	

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971920	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH5	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 8	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result		Flags
100-42-5	Styrene ug/l	5	ND		
75-25-2	Bromoform ug/l	5	ND		
98-82-8	Isopropylbenzene ug/l	5	ND		
79-34-5	1,1,2,2-tetrachloroethane ug/l	5	ND		
96-18-4	1,2,3-trichloropropane ug/l	5	ND		
103-65-1	n-propylbenzene ug/l	5	ND		
108-86-1	Bromobenzene ug/l	5	ND		
95-49-8	2-chlorotoluene ug/l	5	ND		
108-67-8	1,3,5-trimethylbenzene ug/l	5	ND		
106-43-4	4-chlorotoluene ug/l	5	ND		
98-06-6	tert-butylbenzene ug/l	5	ND		
95-63-6	1,2,4-trimethylbenzene ug/l	5	ND		
135-98-8	sec-butylbenzene ug/l	5	ND		
99-87-6	p-isopropyltoluene ug/l	5	ND		
541-73-1	1,3-dichlorobenzene ug/l	5	ND		
106-46-7	1,4-dichlorobenzene ug/l	5	ND		
104-51-8	n-butylbenzene ug/l	5	ND		
95-50-1	1,2-dichlorobenzene ug/l	5	ND		
96-12-8	1,2-dibromo-3-chloropropane ug/l	5	ND		
120-82-1	1,2,4-trichlorobenzene ug/l	5	ND		
87-68-3	Hexachlorobutadiene ug/l	5	ND		
91-20-3	Naphthalene ug/l	5	ND		
87-61-6	1,2,3-trichlorobenzene ug/l	5	ND		
Surrogate	Dibromofluoromethane %Recovered		106.2	Pass	
Surrogate	Toluene-d8 %Recovered		97.5	Pass	
Surrogate	4-bromofluorobenzene %Recovered		94.7	Pass	

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971921	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH6	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 10	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result	Flags
75-71-8	Dichlorodifluoromethane ug/l	5	ND	
74-87-3	Chloromethane ug/l	5	ND	
75-00-3	Chloroethane ug/l	5	ND	
74-83-9	Bromomethane ug/l	5	ND	
75-69-4	Trichlorofluoromethane ug/l	5	ND	
75-35-4	1,1-Dichloroethene ug/l	5	ND	
75-09-2	Dichloromethane ug/l	5	ND	
156-60-9	Trans-1,2-dichloroethene ug/l	5	ND	
75-34-3	1,1-Dichloroethane ug/l	5	ND	
156-59-2	Cis-1,2-dichloroethene ug/l	5	ND	
594-20-7	2,2-Dichloropropane ug/l	5	ND	
67-66-3	Chloroform ug/l	5	ND	
74-97-5	Bromochloromethane ug/l	5	ND	
71-55-6	1,1,1-Trichloroethane ug/l	5	ND	
563-58-6	1,1-Dichloropropene ug/l	5	ND	
107-06-2	1,2-Dichloroethane ug/l	5	1.4	J
71-43-2	Benzene ug/l	5	ND	
78-87-5	1,2-Dichloropropane ug/l	5	ND	
79-01-6	Trichloroethene ug/l	5	ND	
75-27-4	Bromodichloromethane ug/l	5	ND	
74-95-3	Dibromomethane ug/l	5	ND	
10061-01-5	Cis-1,3-dichloropropene ug/l	5	ND	
108-88-3	Toluene ug/l	5	ND	
10061-02-6	Trans-1,3-dichloropropene ug/l	5	ND	
79-00-5	1,1,2-trichloroethane ug/l	5	ND	
56-23-5	Carbon Tetrachloride ug/l	5	ND	
75-01-4	Vinyl Chloride ug/l	5	ND	
124-28-9	1,3-dichloropropane ug/l	5	ND	
127-18-4	Tetrachloroethene ug/l	5	ND	
124-48-1	Dibromochloromethane ug/l	5	ND	
106-93-4	1,2-dibromoethane ug/l	5	ND	
108-90-7	Chlorobenzene ug/l	5	ND	
630-20-6	1,1,1,2-tetrachloroethane ug/l	5	ND	
100-41-4	Ethyl Benzene ug/l	5	ND	
1330-20-7	m,p-xylene ug/l	10	ND	
95-47-6	o-xylene ug/l	5	ND	

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971921	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH6	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 10	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result		Flags
100-42-5	Styrene ug/l	5	ND		
75-25-2	Bromoform ug/l	5	ND		
98-82-8	Isopropylbenzene ug/l	5	ND		
79-34-5	1,1,2,2-tetrachloroethane ug/l	5	ND		
96-18-4	1,2,3-trichloropropane ug/l	5	ND		
103-65-1	n-propylbenzene ug/l	5	ND		
108-86-1	Bromobenzene ug/l	5	ND		
95-49-8	2-chlorotoluene ug/l	5	ND		
108-67-8	1,3,5-trimethylbenzene ug/l	5	ND		
106-43-4	4-chlorotoluene ug/l	5	ND		
98-06-6	tert-butylbenzene ug/l	5	ND		
95-63-6	1,2,4-trimethylbenzene ug/l	5	ND		
135-98-8	sec-butylbenzene ug/l	5	ND		
99-87-6	p-isopropyltoluene ug/l	5	ND		
541-73-1	1,3-dichlorobenzene ug/l	5	ND		
106-46-7	1,4-dichlorobenzene ug/l	5	ND		
104-51-8	n-butylbenzene ug/l	5	ND		
95-50-1	1,2-dichlorobenzene ug/l	5	ND		
96-12-8	1,2-dibromo-3-chloropropane ug/l	5	ND		
120-82-1	1,2,4-trichlorobenzene ug/l	5	ND		
87-68-3	Hexachlorobutadiene ug/l	5	ND		
91-20-3	Naphthalene ug/l	5	ND		
87-61-6	1,2,3-trichlorobenzene ug/l	5	ND		
Surrogate	Dibromofluoromethane %Recovered		104.9	Pass	
Surrogate	Toluene-d8 %Recovered		96.5	Pass	
Surrogate	4-bromofluorobenzene %Recovered		88.5	Pass	

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VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971922	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH7	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 11	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result	Flags
75-71-8	Dichlorodifluoromethane ug/l	5	ND	
74-87-3	Chloromethane ug/l	5	ND	
75-00-3	Chloroethane ug/l	5	ND	
74-83-9	Bromomethane ug/l	5	ND	
75-69-4	Trichlorofluoromethane ug/l	5	ND	
75-35-4	1,1-Dichloroethene ug/l	5	ND	
75-09-2	Dichloromethane ug/l	5	ND	
156-60-9	Trans-1,2-dichloroethene ug/l	5	ND	
75-34-3	1,1-Dichloroethane ug/l	5	ND	
156-59-2	Cis-1,2-dichloroethene ug/l	5	ND	
594-20-7	2,2-Dichloropropane ug/l	5	ND	
67-66-3	Chloroform ug/l	5	ND	
74-97-5	Bromochloromethane ug/l	5	ND	
71-55-6	1,1,1-Trichloroethane ug/l	5	ND	
563-58-6	1,1-Dichloropropene ug/l	5	ND	
107-06-2	1,2-Dichloroethane ug/l	5	ND	
71-43-2	Benzene ug/l	5	ND	
78-87-5	1,2-Dichloropropane ug/l	5	ND	
79-01-6	Trichloroethene ug/l	5	ND	
75-27-4	Bromodichloromethane ug/l	5	ND	
74-95-3	Dibromomethane ug/l	5	ND	
10061-01-5	Cis-1,3-dichloropropene ug/l	5	ND	
108-88-3	Toluene ug/l	5	ND	
10061-02-6	Trans-1,3-dichloropropene ug/l	5	ND	
79-00-5	1,1,2-trichloroethane ug/l	5	ND	
56-23-5	Carbon Tetrachloride ug/l	5	ND	
75-01-4	Vinyl Chloride ug/l	5	ND	
124-28-9	1,3-dichloropropane ug/l	5	ND	
127-18-4	Tetrachloroethene ug/l	5	ND	
124-48-1	Dibromochloromethane ug/l	5	ND	
106-93-4	1,2-dibromoethane ug/l	5	ND	
108-90-7	Chlorobenzene ug/l	5	ND	
630-20-6	1,1,1,2-tetrachloroethane ug/l	5	ND	
100-41-4	Ethyl Benzene ug/l	5	ND	
1330-20-7	m,p-xylene ug/l	10	ND	
95-47-6	o-xylene ug/l	5	ND	

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971922	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH7	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 11	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result		Flags
100-42-5	Styrene ug/l	5	ND		
75-25-2	Bromoform ug/l	5	ND		
98-82-8	Isopropylbenzene ug/l	5	ND		
79-34-5	1,1,2,2-tetrachloroethane ug/l	5	ND		
96-18-4	1,2,3-trichloropropane ug/l	5	ND		
103-65-1	n-propylbenzene ug/l	5	ND		
108-86-1	Bromobenzene ug/l	5	ND		
95-49-8	2-chlorotoluene ug/l	5	ND		
108-67-8	1,3,5-trimethylbenzene ug/l	5	ND		
106-43-4	4-chlorotoluene ug/l	5	ND		
98-06-6	tert-butylbenzene ug/l	5	ND		
95-63-6	1,2,4-trimethylbenzene ug/l	5	ND		
135-98-8	sec-butylbenzene ug/l	5	ND		
99-87-6	p-isopropyltoluene ug/l	5	ND		
541-73-1	1,3-dichlorobenzene ug/l	5	ND		
106-46-7	1,4-dichlorobenzene ug/l	5	ND		
104-51-8	n-butylbenzene ug/l	5	ND		
95-50-1	1,2-dichlorobenzene ug/l	5	ND		
96-12-8	1,2-dibromo-3-chloropropane ug/l	5	ND		
120-82-1	1,2,4-trichlorobenzene ug/l	5	ND		
87-68-3	Hexachlorobutadiene ug/l	5	ND		
91-20-3	Naphthalene ug/l	5	ND		
87-61-6	1,2,3-trichlorobenzene ug/l	5	ND		
Surrogate	Dibromofluoromethane %Recovered		104.2	Pass	
Surrogate	Toluene-d8 %Recovered		98.8	Pass	
Surrogate	4-bromofluorobenzene %Recovered		94.7	Pass	

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971923	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH8	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 12	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result	Flags
75-71-8	Dichlorodifluoromethane ug/l	5	ND	
74-87-3	Chloromethane ug/l	5	ND	
75-00-3	Chloroethane ug/l	5	ND	
74-83-9	Bromomethane ug/l	5	ND	
75-69-4	Trichlorofluoromethane ug/l	5	ND	
75-35-4	1,1-Dichloroethene ug/l	5	ND	
75-09-2	Dichloromethane ug/l	5	ND	
156-60-9	Trans-1,2-dichloroethene ug/l	5	ND	
75-34-3	1,1-Dichloroethane ug/l	5	ND	
156-59-2	Cis-1,2-dichloroethene ug/l	5	ND	
594-20-7	2,2-Dichloropropane ug/l	5	ND	
67-66-3	Chloroform ug/l	5	ND	
74-97-5	Bromochloromethane ug/l	5	ND	
71-55-6	1,1,1-Trichloroethane ug/l	5	ND	
563-58-6	1,1-Dichloropropene ug/l	5	ND	
107-06-2	1,2-Dichloroethane ug/l	5	ND	
71-43-2	Benzene ug/l	5	ND	
78-87-5	1,2-Dichloropropane ug/l	5	ND	
79-01-6	Trichloroethene ug/l	5	ND	
75-27-4	Bromodichloromethane ug/l	5	ND	
74-95-3	Dibromomethane ug/l	5	ND	
10061-01-5	Cis-1,3-dichloropropene ug/l	5	ND	
108-88-3	Toluene ug/l	5	ND	
10061-02-6	Trans-1,3-dichloropropene ug/l	5	ND	
79-00-5	1,1,2-trichloroethane ug/l	5	ND	
56-23-5	Carbon Tetrachloride ug/l	5	ND	
75-01-4	Vinyl Chloride ug/l	5	ND	
124-28-9	1,3-dichloropropane ug/l	5	ND	
127-18-4	Tetrachloroethene ug/l	5	ND	
124-48-1	Dibromochloromethane ug/l	5	ND	
106-93-4	1,2-dibromoethane ug/l	5	ND	
108-90-7	Chlorobenzene ug/l	5	ND	
630-20-6	1,1,1,2-tetrachloroethane ug/l	5	ND	
100-41-4	Ethyl Benzene ug/l	5	ND	
1330-20-7	m,p-xylene ug/l	10	ND	
95-47-6	o-xylene ug/l	5	ND	

VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971923	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH8	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 12	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result		Flags
100-42-5	Styrene ug/l	5	ND		
75-25-2	Bromoform ug/l	5	ND		
98-82-8	Isopropylbenzene ug/l	5	ND		
79-34-5	1,1,2,2-tetrachloroethane ug/l	5	ND		
96-18-4	1,2,3-trichloropropane ug/l	5	ND		
103-65-1	n-propylbenzene ug/l	5	ND		
108-86-1	Bromobenzene ug/l	5	ND		
95-49-8	2-chlorotoluene ug/l	5	ND		
108-67-8	1,3,5-trimethylbenzene ug/l	5	ND		
106-43-4	4-chlorotoluene ug/l	5	ND		
98-06-6	tert-butylbenzene ug/l	5	ND		
95-63-6	1,2,4-trimethylbenzene ug/l	5	ND		
135-98-8	sec-butylbenzene ug/l	5	ND		
99-87-6	p-isopropyltoluene ug/l	5	ND		
541-73-1	1,3-dichlorobenzene ug/l	5	ND		
106-46-7	1,4-dichlorobenzene ug/l	5	ND		
104-51-8	n-butylbenzene ug/l	5	ND		
95-50-1	1,2-dichlorobenzene ug/l	5	ND		
96-12-8	1,2-dibromo-3-chloropropane ug/l	5	ND		
120-82-1	1,2,4-trichlorobenzene ug/l	5	ND		
87-68-3	Hexachlorobutadiene ug/l	5	ND		
91-20-3	Naphthalene ug/l	5	ND		
87-61-6	1,2,3-trichlorobenzene ug/l	5	ND		
Surrogate	Dibromofluoromethane %Recovered		108.0	Pass	
Surrogate	Toluene-d8 %Recovered		103.0	Pass	
Surrogate	4-bromofluorobenzene %Recovered		96.3	Pass	

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VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971924	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH9	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 13	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result	Flags
75-71-8	Dichlorodifluoromethane ug/l	5	ND	
74-87-3	Chloromethane ug/l	5	ND	
75-00-3	Chloroethane ug/l	5	ND	
74-83-9	Bromomethane ug/l	5	ND	
75-69-4	Trichlorofluoromethane ug/l	5	ND	
75-35-4	1,1-Dichloroethene ug/l	5	ND	
75-09-2	Dichloromethane ug/l	5	ND	
156-60-9	Trans-1,2-dichloroethene ug/l	5	ND	
75-34-3	1,1-Dichloroethane ug/l	5	ND	
156-59-2	Cis-1,2-dichloroethene ug/l	5	ND	
594-20-7	2,2-Dichloropropane ug/l	5	ND	
67-66-3	Chloroform ug/l	5	ND	
74-97-5	Bromochloromethane ug/l	5	ND	
71-55-6	1,1,1-Trichloroethane ug/l	5	ND	
563-58-6	1,1-Dichloropropene ug/l	5	ND	
107-06-2	1,2-Dichloroethane ug/l	5	ND	
71-43-2	Benzene ug/l	5	ND	
78-87-5	1,2-Dichloropropane ug/l	5	ND	
79-01-6	Trichloroethene ug/l	5	ND	
75-27-4	Bromodichloromethane ug/l	5	ND	
74-95-3	Dibromomethane ug/l	5	ND	
10061-01-5	Cis-1,3-dichloropropene ug/l	5	ND	
108-88-3	Toluene ug/l	5	ND	
10061-02-6	Trans-1,3-dichloropropene ug/l	5	ND	
79-00-5	1,1,2-trichloroethane ug/l	5	ND	
56-23-5	Carbon Tetrachloride ug/l	5	ND	
75-01-4	Vinyl Chloride ug/l	5	ND	
124-28-9	1,3-dichloropropane ug/l	5	ND	
127-18-4	Tetrachloroethene ug/l	5	ND	
124-48-1	Dibromochloromethane ug/l	5	ND	
106-93-4	1,2-dibromoethane ug/l	5	ND	
108-90-7	Chlorobenzene ug/l	5	ND	
630-20-6	1,1,1,2-tetrachloroethane ug/l	5	ND	
100-41-4	Ethyl Benzene ug/l	5	ND	
1330-20-7	m,p-xylene ug/l	10	ND	
95-47-6	o-xylene ug/l	5	ND	

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VOLATILE ORGANIC COMPOUNDS IN WATERS

Client Name	: **BAE Systems Ltd**	Method	: EPA 8260 MODIFIED
Lab Sample ID	: 971924	Data Type	: MS DATA
Job No	: 203773	Data Path	: D:\3V-DATA\OCT03\3V071003\
Sample Location	: BAE Systems Properties Limited	Quant Type	: ISTD
Client Sample ID	: BH9	Accreditation Status	: UKAS
Sample Matrix	: LIQUID	Dilution Factor	: 1
Vial No	: 13	Report Date	: 22/10/2003

CAS NO	Compound	MRL	Result		Flags
100-42-5	Styrene ug/l	5	ND		
75-25-2	Bromoform ug/l	5	ND		
98-82-8	Isopropylbenzene ug/l	5	ND		
79-34-5	1,1,2,2-tetrachloroethane ug/l	5	ND		
96-18-4	1,2,3-trichloropropane ug/l	5	ND		
103-65-1	n-propylbenzene ug/l	5	ND		
108-86-1	Bromobenzene ug/l	5	ND		
95-49-8	2-chlorotoluene ug/l	5	ND		
108-67-8	1,3,5-trimethylbenzene ug/l	5	ND		
106-43-4	4-chlorotoluene ug/l	5	ND		
98-06-6	tert-butylbenzene ug/l	5	ND		
95-63-6	1,2,4-trimethylbenzene ug/l	5	ND		
135-98-8	sec-butylbenzene ug/l	5	ND		
99-87-6	p-isopropyltoluene ug/l	5	ND		
541-73-1	1,3-dichlorobenzene ug/l	5	ND		
106-46-7	1,4-dichlorobenzene ug/l	5	ND		
104-51-8	n-butylbenzene ug/l	5	ND		
95-50-1	1,2-dichlorobenzene ug/l	5	ND		
96-12-8	1,2-dibromo-3-chloropropane ug/l	5	ND		
120-82-1	1,2,4-trichlorobenzene ug/l	5	ND		
87-68-3	Hexachlorobutadiene ug/l	5	ND		
91-20-3	Naphthalene ug/l	5	ND		
87-61-6	1,2,3-trichlorobenzene ug/l	5	ND		
Surrogate	Dibromofluoromethane %Recovered		103.1	Pass	
Surrogate	Toluene-d8 %Recovered		100.3	Pass	
Surrogate	4-bromofluorobenzene %Recovered		101.2	Pass	

Please note : Result of ND is Not Detectable

For Surrogate Compounds 50 ug/l added,lower limit is 75% and higher limit is 125%

Explanation of compound flags :

J : Compound is detectable but is below normal reporting limit

E : Result is above the calibrated range and is therefore an estimate

B : Compound also detected in Blank extract

D : Sample was diluted and re-analysed to obtain a valid result for this compound

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APPENDIX 11

CHEMICAL ANALYSIS METHODS AND QUALITY CONTROL FOR SOIL SAMPLES

Details of Analytical Methods

The following method statements aim to provide brief description of the soil analysis methods utilised by BAE SYSTEMS Property & Environmental Services Laboratories. Due to commercial confidentiality it is not possible to provide a full methodology for each parameter. However all methods meet the requirements of ISO 17025 and where appropriate are based on ASTM methods and their UK equivalents.

Metals (excluding Mercury & Selenium)

Aqua Regia digestion of soil samples based on ISO11.466 using a semi- sealed system to retain volatile elements of interest followed by analysis using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES).

A multipoint calibration is performed which is checked every 10 samples using a Quality Control standard with limits set at ±7.5% of its concentration. A Quality Control soil is extracted with every batch of samples with Warning and Action limits set at 12% and 18% respectively.

Mercury Analysis

Aqua Regia digestion of soil samples as above are diluted to remove matrix effects. Using a semi-automated pumping system, these dilutions are mixed with a reductant in a gas/liquid separator where any ionic mercury is reduced to the element. Argon gas carries the volatile mercury vapour through a drying membrane into the optical path of a fluorescence detector and the resulting atomic fluorescence is quantitatively measured.

A multipoint calibration is performed which is checked every 10 samples using a Quality Control standard with limits set at ±5% of its concentration. A Quality Control soil is extracted with every batch of samples with Warning and Action limits set at 12% and 18% respectively.

Selenium Analysis

Aqua Regia digestion of soil samples as above, the digests are acidified and boiled to ensure all the selenium present is in the correct oxidation state. The extracts are mixed with a reductant in a gas/liquid separator where any selenium present in the extract is converted to its hydride form. Argon gas carries the hydride through a drying membrane into the optical path of a fluorescence detector and the resulting atomic fluorescence is quantitatively measured.

A multipoint calibration is performed which is checked every 10 samples using a Quality Control standard with limits set at ±5% of its concentration. A Quality Control soil is extracted with every batch of samples with Warning and Action limits set at 12% and 18% respectively.

Water Soluble Boron Analysis

A 2:1 hot water extraction of soil sample with subsequent analysis using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES). A soil spiked with a

known concentration of Boron is extracted and analysed with each batch of samples. A recovery of greater than 90% must be achieved. A multipoint calibration is performed which is checked every 10 samples using a Quality Control standard with limits set at ±5% of its concentration.

Total Sulphate Analysis

A 10: 1 concentrated hydrochloric acid extraction of soil sample is prepared which is followed by analysis using a coupled plasma optical emission spectroscopy (ICP-OES). A multipoint calibration is performed which is checked every 10 samples using Quality Control standard with limits set at ±10% of its concentration.

PAH Analysis

A 5:1 Dichloromethane extraction of prepared soils is readied overnight, followed by analysis using a fully automated GCMS system with splitless injection and a mass spectrometer capable of operation in scan and selective ion monitoring (SIM) mode to detect the USEPA 16 PAHs. A multipoint calibration is performed which is checked every 10 samples using a Quality Control standard with limits set at ±20% of its concentration. A Quality Control soil is extracted with every batch of samples. The test will provide speciated results of each of the 16 EPA PAH's.

Thiocyante

The sample is extracted directly by shaking with acidic iron (III) nitrate. Filtration eliminates the insoluble portion of the sample, yielding a coloured filtrate. Two aliqouts of the filtrate are further complexed with acidified iron (III) nitrate before dilution to a known volume. Thefirst aliquot is measured colourimetrically against thiocyanate standards at 515nm. The second portion has the red iron (III) thiocyanate colour removed by addition of a few drops of Hg2+ solution, before being measured at 515nm. The difference between the two measurements is due to thiocyanate anions.

Phosphates

The sample is digested with sulphuric acid in the presence of sodium sulphate and copper catalyst to convert the nitrogen compounds present to ammonium sulphate. At the same time by processes of oxidation and hydrolysis all types of phosphorus present are converted to orthophosphate. Ammonia and phosphate are then determined colorimetrically by discrete auto-analysis.

Cyanide (Total)

Cyanide is distilled as Hydrogen cyanide from an acid solution containing Lead acetate and Cuprous chloride. The distillate is collected in sodium hydroxide. The cyanide is determined by titration with silver nitrate using Rhodanine as indicator.

Cyanide (Free)

Cyanide in the soil is determined in two stages. Initially hydrogen cyanide is liberated at pH 4 and then the complex cyanides are dissociated and liberated from the same

sample using ortophosphoric acid under reflux conditions. The hydrogen cyanide from both steps is absorbed in separate sodium hydroxide solutions and determined either by titration with silver nitrate, or by ion chromatography.

Sulphide

Hydrogen Sulphide is liberated by acidification and carried, by carbon dioxide generated in situ, to bubble through and be fixed in zinc acetate. The zinc sulphide is then added to a known amount of iodine and is oxidised - the excess iodine being back titrated with sodium thiosulphate.

VOC's

P&T extraction followed by GCMSD detection of a list of 59 compounds, with an option for qualitative identification of tentatively identified compounds.

PCB's

Samples are pre-extracted with propan-2-ol and then extracted into hexane. This extract is then concentrated prior to clean up with an alumina silver nitrate column, followed by GCMS detection of IC7 congeners. The test will provide speciated results for each of the 7 PCB congeners.

Asbestos

For soils the sample is first examined by eye to identify any asbestos-like particles. If asbestos is present the sample is examined under the stereoscopic microscope for further conformation of the types present.

Metal	Reporting Limit (mg/kg)	ISO 17025 Accredited
Arsenic	1	Yes
Cadmium	0.3	Yes
Chromium	5	Yes
Lead	3	Yes
Copper	3	Yes
Nickel	5	Yes
Zinc	3	Yes
Mercury	0.1	Yes
Selenium	0.3	Yes
Boron	0.3	Yes
Sulphate	250	No
PAH’s	2	No
Sulphur	10	No
Thiocyanate	10	No
Phosphates	0.1	Yes
Cyanide (Total)	2	Yes
Cyanide (Free)	2	No
Sulphide	25	No
VOC’s	5	Yes
PCB’s	2	Yes
Asbestos	N/A	No

APPENDIX 12

CHEMICAL ANALYSIS METHODS AND QUALITY CONTROL FOR GROUNDWATER SAMPLES

Details of Analytical Methods

The following method statements aim to provide brief description of the soil analysis methods utilised by STL Analytical Laboratories. Due to commercial confidentiality it is not possible to provide a full methodology for each parameter. However the laboratory is accredited by the United Kingdom Accreditation Service (UKAS) and consequently, where possible all tests are accredited.

Metals (excluding Arsenic, Mercury & Selenium)

For dissolved metals, samples are filtered through a 0.45 um membrane filter. Metals are determined in the filtrate following acidification with nitric acid to pH 2. This prevents the dissolved metals from absorbing onto the surface of the container.

For total metals, the sample undergoes a hot nitric acid digest prior to analysis. Metal concentrations are determined by Inductively Couple Plasma (ICP-OES)

Arsenic and Selenium Analysis

Samples are digested with hydrochloric acid – a hot digest is used for selenium analysis. Potassium iodide and ascorbic acid are added for arsenic analysis to convert all species to the appropriate form for hydride generation. The hydride produced is readily atomised and the resulting atoms are detected by atomic fluorescence.

Mercury Analysis

A mixture of acidic bromate and bromide is used to digest and preserve the sample. Tin (ii) chloride is used to reduce mercury to mercury vapour. The mercury vapour produced is detected by atomic fluorescence.

pH

The pH is measured directly by pH probe, calibrated using buffer solutions of known pH.

Sulphide

Sulphide reacts with DPD and potassium dichromate to produce ethylene blue. The concentration of sulphide is determined by measuring this blue complex using a spectrophotometer at 670 mm.

Total Cyanide

Cyanide is determined on an automated colorimeter. Cyanides are convereted to cyanogens chloride, which subsequently reacts with iso-nicotinic acid and barbituric acid to form a red-coloured complex measured at 600 nm. Cyanide complexes are converted to free cyanide by means of UV digestion followed by hot sparging.

Monohydric Phenols

The sample is fixed on site at the time of sampling with hydrochloric acid. Monohydroxphenols are determined by automated colorimeter. Orthophosphoric acid is added to render volatile any salts of phenol, the phenols are separated from the sample by hot sparging and detected by reaction with alkaline ferricyanide and 4-aminophenazone to form a red compound which is measured at 510 nm.

PCBs

For each PCB determinand samples are initially extracted into hexane and then concentrated. The extract is then passed through an alumina-silver nitrate column to remove any extraneous material prior to analysis. The resulting extract is analysed by Gas Chromatography Electronic Capture Detector (GC-ECD).

PAHs

The sample is solvent extracted into dichloromethane prior to analysis by Gas Chromatography Mass Spectrometer (GC-MS) in selective ion mode.

SVOCs

A target suite of organic compounds is analysed using solvent extraction followed by GC-MS. The methodology is based on the US EPA 8270 standard method with the compounds chosen to reflect industrial organic chemicals commonly encountered in the UK.

VOCs

Purge and Trap extraction followed by GCMSD detection of a list of 59 compounds, with an option for qualitative identification of tentatively identified compounds.

TPH

Gives a measure of hydrocarbons associated with both gasoline (C6 – C9) and diesel range (C10 – C40). Samples are analysed by sovent extraction followed by a Gas Chromatography Flame Ionisation Detector (GCFID).

STL ANALYTICAL QUALITY CONTROL

The objectives of Analytical Quality Control (AQC) are to fine tune and maintain a measurement process in desired state of stability and reproducibility. In the case of potable waters the desired state is defined in the UK Department of the Environment (DOE) publication 'Guidance on safeguarding Quality of Public Water Supplies'.

The basis of AQC in the Laboratory is the supply of 'direct AQC' and/or spiked/blank AQC solutions on a routine basis to the working laboratories. These are independently prepared from different solutions to those in the routine use within the production area. The direct AQC is used to check the instrument calibration standard and the spiked/blank AQC is used to check the overall method performance and recovery. The analytical results from these solutions are recorded and summaries produced. Some of the results are recorded on control charts. Setting up the parameters for the accuracy and precision of results are obtained from performance tests on the methods prior to use on the samples.

Depending on the results obtained various actions are possible to control the issue of results on individual bathces of samples. All such actions are recorded.

Performance Test

These tests must be carried out on all methods prior to their use of analysis of samples. For potable waters, the tests are to conform to the requirements of the Guidance document i.e. the protocol in NS30 (Manual on Analytical Quality Control for the Water Industry – WRC) Sections 5.1 and A5.1

Preparation of AQC Standard/Spike

Quality Control solutions are prepared by designated staff who have been trained in the procedures involved. Where possible all standards, reference materials and solvent are purchased from different suppliers to those used by working laboratories.

Frequency of Analysis

For organics in potable waters, a set of AQC solutions consists of at least one 'blank AQC' and one 'spike AQC' solution. One set is included with every batch of twenty or less samples.

APPENDIX 13

FIELD TEST QUALITY CONTROL PROCEDURES/

1. GAS MONITORING PROTOCOL

1.1 PREPARATION

Record the site name, project number, date, your name(s), the weather conditions and the instrument serial number in the top box of the Gas Monitoring Record (see example attached).

a) **Check filter**. Ensure the filter on the inlet pipe is free from dirt and moisture. Replace, if necessary.

b) **Turn on instrument**. Remember to attach the flow pod before turning on, and check the service date. If the instrument has expired, continue to use it but arrange for a service as soon as possible.

c) **Calibrate the flow and gas levels**. The GA2000 must be calibrated at least daily and at the start of each monitoring visit.

With the instrument turned on (but not the pump), attach the standard gas bottle to the inlet at the side of the instrument. Open the valve until the floating ball is level with the line. If the gas readings are within +/- 0.2 % v/v of the values stated on the side of the standard gas bottle, record the measured values in the pre- and post calibration boxes at the foot of the Gas Monitoring Record. If the readings deviate by more than **0.5 %** v/v from those stated on the bottle, the instrument requires re-calibration in the field. The procedure depends on the instrument in use, as follows:

GA2000 (yellow) Calibration

- Press 1 to bring up the main menu and scroll down to 'field calibration'.
- Press 'return' to enter the calibration menu and select 'span channel(s)'.
- Enter the correct concentrations, i.e. those stated on the standard gas bottle.
- Enter the pre- and post calibration readings in the boxes at the foot of the Gas Monitoring Record.
- If the CH_4 or CO_2 are not reading zero in ambient air, zero these channels from the calibration menu.
- Zero the flow pod . From the main screen, with the flow pod attached, go to menu, then field calibration – calibration menu – zero channel(s) – zero flow. If the zero flow reading drifts by more than +/- 0.5 l/hr during the day, zero the flow pod again
- The H_2S and CO cells do not require field calibration.

1.2 GAS MONITORING (METHANE/CARBON DIOXIDE/OXYGEN)

The following procedure should be adhered to when taking a gas monitoring reading from a borehole.

a) **Record damage/deficiencies**. If the headworks are damaged or deficient, record details in the comments box at the foot of the Gas Monitoring Record. If the gas tap is open or missing, make a note in the comments column. If possible, rectify any defects before the next monitoring visit.

b) **Measure flow**. To read flow on the GA90 Mk2, from the gas levels screen press 2 – More; the flow in l/hr is on the third line. Flow is on the main screen on the GA2000. Connect the flow pod inlet pipe to the borehole gas tap, open the borehole tap, allow the reading to stabilise and write the highest positive or negative flow in the appropriate box on the Gas Monitoring Record. Close the borehole tap and disconnect the flow pod inlet hose.

c) **Read gas levels.** Connect the instrument inlet hose to the borehole gas tap. Open the gas tap and switch on the pump. Continue pumping for 30 seconds or until the readings stabilise, whichever is sooner.

Read CH_4, CO_2, O_2, barometric pressure (and relative pressure, H_2S, CO, if using GA2000). Record the maximum CH_4, CO_2, H_2S and CO concentrations, record the highest positive or negative values of flow and relative pressure (GA2000), and record the minimum O_2 concentration.

IMPORTANT – If for any reason a particular parameter cannot be measured, for example due to instrument malfunction, put a dash in the relevant box(es) and record the reason for this in the comments box. **Do not leave any boxes empty**.

d) **Purge instrument.** Remove the inlet pipe from the borehole and purge the instrument with ambient air for approximately 15 s. This step is essential to make sure that a representative reading is taken and to minimise damage to the sensors by aggressive gases.

e) **Dip groundwater.** Remove the cap and dip the groundwater level. (Do not remove or disturb any Waterra pipe in the borehole before dipping, as this can change the water level.) Record the depth to the base of the borehole.

In the Datum box, write down where the depths were taken from. Normally, levels should be measured from ground level. More precise measurements can be obtained by measuring levels to a fixed object such as the top of the headworks or the top of the borehole liner pipe. However, the height AOD of these points is not always known. Refer to the Project Manager or borehole logs to determine the most appropriate datum to use. If in doubt, use ground level as a datum and record that you have done so in the Datum box.

f) **Replace the gas tap and close valve.** Or take groundwater samples as necessary (refer to the following section). Secure the headworks.

1.3 End of monitoring visit

Purge the instrument with ambient air for 15 to 30 seconds to minimise damage to the sensors. The GA2000 does this automatically when the off button is pressed. Also, ensure that the in-line filter is free from moisture and dust, ready for the next use.

Attach the instrument to the standard gas bottle and record the readings in the 'End of Day' boxes on the Gas Monitoring Record.

2. VOC MONITORING

PREPARATION

Record the site name, project number, date, your name(s), the weather conditions and the instrument serial number in the top box of the Gas Monitoring Record.

a) **Check filter**. Ensure the filter on the inlet pipe is free from dirt and moisture. Replace, if necessary.

b) **Turn on instrument**. Remember to attach the flow pod before turning on, and check the service date. If the instrument has expired, continue to use it but arrange for a service as soon as possible.

c) **Calibrate the flow and gas levels**. The MiniRAE must be calibrated at least daily and at the start of each monitoring visit.

MiniRAE PID Calibration

- Choose 'calibration' mode.
- Select 'span channel(s)'.
- Attach carbon filter.
- Follow instructions and calibrate for clean air.
- Attach standard gas canister and calibrate for 100 ppm.
- Check readings
- Recalibrate if necessary.

GAS MONITORING (VOCs)

The following procedure should be adhered to when taking a gas monitoring reading from a borehole.

a) **Read gas levels.** Connect the instrument inlet hose to the borehole gas tap. Open the gas tap and switch on the pump. Continue pumping for 30 seconds or until the readings stabilise, whichever is sooner.

Record the maximum and steady VOC concentrations if there is any difference

IMPORTANT – If for any reason a particular parameter cannot be measured, for example due to instrument malfunction, put a dash in the relevant box(es) and record the reason for this in the comments box. **Do not leave any boxes empty**.

b) **Purge instrument.** Remove the inlet pipe from the borehole and purge the instrument with ambient air for approximately 15 s. This step is essential to make sure that a representative reading is taken and to minimise damage to the sensors by aggressive gases.

c) **End of monitoring**

3. SCINTILLATION MINI MONITOR

PREPARATION

Check Calibration records: Monitor is serviced/calibrated annually by the manufacturers. If the monitor is out of the calibration period it should be returned to the manufacturer for calibration and not used for monitoring.

Check battery: Recharge/replace if necessary.

Check probe: Use standard radioactive source to check response from probe.

MONITORING RADIATION

Turn on Mini Monitor.

Record any radiation readings above background level also including time, date, location.

Check condition of monitor regularly and at end of use.

4. GROUNDWATER MONITORING PROTOCOL

2.1 Probe Calibration

a) The pH, conductivity and DO_2 probes need to be calibrated at least daily, and at the start of each monitoring visit. Redox and temperature meters do not require regular calibration. Individual probes have different calibration procedures; refer to separate instructions for details.

b) Record the pre- and post calibration readings of pH, conductivity on the Groundwater Sampling Record Sheet.

2.2 Pre-sample measurements

Record the site name, project number, date, your name(s) and the weather conditions in the top box of the Groundwater Sample Record.

a) Open the headworks. Carry out gas monitoring if necessary. In the Comments box record any damage or deficiencies to the headworks, cap or liner pipe.

b) **Dip the groundwater level** and record on the Groundwater Sampling Record in m.bgl. (If possible, do not remove or disturb any Waterra pipe in the borehole before dipping, as this can change the water level.) **Record the depth to the base of the borehole**. If gas monitoring has been carried out, make sure that the dip readings are written on both the Gas Monitoring Record and the Groundwater Sampling Record.

In the Datum box, write down where the levels were taken from. Normally, levels should be measured from ground level. More precise measurements can be obtained by measuring levels to a fixed object such as the top of the headworks or the top of the borehole liner pipe. However, the height AOD of these points is not always known. Refer to the Project Manager or borehole logs to determine the most appropriate datum to use. If in doubt, use ground level as a datum and record that you have done so in the Datum box.

c) Calculate the length of the water column and record. Calculate and record 1 No. well volume using this table:

BH Liner i.d. (mm)	Water column (l/m)	BH Liner i.d. (mm)	Water column (l/m)
17	0.2	100	8
20	0.3	150	18
35	1	200	31
50	2	250	49
75	4	300	71

(e.g. for a 50 mm diameter borehole liner, multiply the length of the water column by 2). Multiply this volume by 3 and record in the appropriate box.

2.3 Purging

The volume of groundwater purged from the borehole prior to sampling should be at least three times the volume of water contained in the borehole liner. This is normally easily achieved where the purge rate is lower than the inflow (maximum yield) of the borehole.

The borehole will dry up if the purge rate exceeds the inflow of the borehole. The choice between the following three options is dependant on time, i.e. the recharge rate and the time allowed to carry out the monitoring visit. The first option is preferable and the third should be treated as a last resort. The options are as follows:

- Pump the borehole dry and allow to recover as many times as are necessary to remove 3 well volumes.

- Pump the borehole dry and allow the water level to recover to at least 50 % of the rest water level before sampling. If the monitoring visit spans more than one day, purge on the first day and allow to recover overnight before sampling the following day. Very few boreholes will not recover in 12 hours.

- Sample with bailer or Waterra without purging.

Very occasionally, a borehole may contain a high volume of water, making the '3 well volume' technique impractical. For example, a 50 mm diameter, 50 m deep well with a groundwater level 5 m below surface would require the removal of 270 l to be purged. This is often the case for 75 and 100 mm diameter installations pipes.

In these cases it may be more efficient to use in-situ measurements of pH, temperature and conductivity to determine when purging is compete. (Dissolved oxygen and redox can be used providing a flow-through cell is available.) Readings should be taken every minute during purging. When all parameters have given three successive readings within 10% of each other, the borehole is purged. This technique usually involves the removal of less than 3 well volumes of groundwater but takes more time to set up.

Most of the groundwater we come across is relatively uncontaminated and can be disposed of by pouring onto bare earth, grass or other vegetation. Purged water from certain sites may have to collected and disposed of separately. The disposal route will be determined on a job by job basis.

Do not pour purged groundwater near or directly into a watercourse, down a surface water drain, or back into a borehole.

2.4 In-situ measurements and sampling

Ideally, physio-chemical parameters should be measured towards the end of purging, either in a flow-through cell or using a sonde lowered into the borehole. However, for our purposes it is normally adequate to measure these parameters in groundwater freshly removed from the borehole. **Measurements should be taken from the bucket in the last 5 or so litres of purge water**.

Redox and dissolved oxygen change rapidly as the groundwater is disturbed and removed from the borehole. These parameters can not be accurately measured unless a flow-through cell or sonde is used.

IMPORTANT – If for any reason a particular parameter cannot be measured, for example due to instrument malfunction, put a dash in the relevant box(es) and record the reason for this in the comments box. **Do not leave any boxes empty**.

After the borehole is purged, the following steps should be followed:

a) Record the volume removed from the borehole and the method used for purging, i.e. Waterra, submersible pump etc….

b) Record the field measurements on the Groundwater Sampling Record.

c) Fill the sample bottles. Bottles without preservatives must be **rinsed 3 times** in groundwater from the purged borehole.

d) Note down the colour, odour and turbidity (low, medium, high) of the sample.

e) Dry the bottles if necessary and label the samples. The samples must be labelled immediately after they have been taken, not at the end of the day.

f) Remember to fill in a **Sample Detail Sheet**, keep a copy for the project file and send a copy with the samples to the lab.

5. SURFACE WATER MONITORING PROTOCOL

Record the site name, project number, date, your name(s) and the weather conditions in the top box of the Surface Water Sampling Record.

If a number of samples are to be taken on the same watercourse or its tributaries, **start at the most downstream monitoring point and work upstream**.

a) **Safety**. Assess the banks and bed of the water body at each monitoring point to ensure that they are stable enough for sampling to be carried out safely.

b) **Measure the velocity** in the watercourse.

Measure the depth at 3 equidistant points across the watercourse. Measure the width of the watercourse perpendicular to flow. Record these measurements in the appropriate boxes.

Place the velocity meter in the centre of the watercourse, at a depth approximately three quarters of the total water depth, if possible.

After one minute read the average and maximum velocity. Repeat, and record these values in the appropriate boxes.

If the flow is insufficient to measure, tick the appropriate box on the Surface Water Sampling Record.

c) **In-situ measurements.** Ensure that the DO_2, pH and EC probes are calibrated and that the pre- and post calibration readings are written at the foot of the Sampling Record. If calibration data has already been recorded on the Groundwater Sampling Record, copy the values on to the Surface Water Sampling Record.

Dissolved oxygen, temperature, pH, EC and redox potential must be measured in the watercourse, preferably in flowing water. Allow the readings to stabilise and record the measurements in the appropriate boxes.

IMPORTANT – If a particular parameter cannot be measured, for example due to instrument malfunction, put a dash in the relevant box(es) and record the reason for this in the comments box. **Do not leave any boxes empty**.

d) **Sampling**. Fill the sample bottles. If it is necessary to enter the watercourse, **stand downstream of the sampling location**. Bottles without preservatives must be rinsed 3 times in surface water prior to sampling.

e) Dry the bottles if necessary and label the samples. The samples must be labelled immediately after they have been taken, not at the end of the day.

f) Note down the colour, odour and turbidity (low, medium, high) of the sample.

g) Remember to fill in a **Sample Detail Sheet**, keep a copy for the project file and send a copy with the samples to the lab.

APPENDIX 14

DISTRIBUTION OF CONTAMINANTS IN GROUNDWATER

KEY

BOREHOLE LOCATIONS

Determinand	Unit	Level
Al	mg/l	5.0
B	mg/l	0.3
Cu	mg/l	0.032
Pb	mg/l	0.057
Mn	mg/l	1.01
Ni	mg/l	0.023
V	mg/l	0.059
Zn	mg/l	0.076
Sulphide	mg/l	0.08
Sulphate	mg/l	488
Hydrocarbons	µg/l	65

BH06

Determinand	Unit	Level
Al	mg/l	5.9
B	mg/l	0.3
Cu	mg/l	ND
Pb	mg/l	0.074
Mn	mg/l	1.51
Ni	mg/l	0.027
V	mg/l	0.080
Zn	mg/l	0.32
Sulphide	mg/l	0.3
Sulphate	mg/l	1140
Hydrocarbons	µg/l	165

BH07

Determinand	Unit	Level
Al	mg/l	4.2
B	mg/l	0.2
Cu	mg/l	0.033
Pb	mg/l	0.016
Mn	mg/l	1.10
Ni	mg/l	0.020
V	mg/l	0.055
Zn	mg/l	0.11
Sulphide	mg/l	0.3
Sulphate	mg/l	734
Hydrocarbons	µg/l	ND

BH05

Determinand	Unit	Level
Al	mg/l	7.4
B	mg/l	0.3
Cu	mg/l	0.056
Pb	mg/l	0.083
Mn	mg/l	1.51
Ni	mg/l	0.032
V	mg/l	0.077
Zn	mg/l	0.095
Sulphide	mg/l	0.09
Sulphate	mg/l	557
Hydrocarbons	µg/l	46

BH08

Determinand	Unit	Level
Al	mg/l	6.4
B	mg/l	0.2
Cu	mg/l	0.037
Pb	mg/l	0.048
Mn	mg/l	1.47
Ni	mg/l	0.030
V	mg/l	0.076
Zn	mg/l	0.012
Sulphide	mg/l	0.09
Sulphate	mg/l	670
Hydrocarbons	µg/l	511

BH09

Determinand	Unit	Level
Al	mg/l	3.8
B	mg/l	0.4
Cu	mg/l	0.041
Pb	mg/l	0.024
Mn	mg/l	0.40
Ni	mg/l	0.009
V	mg/l	0.063
Zn	mg/l	0.037
Sulphide	mg/l	0.5
Sulphate	mg/l	617
Hydrocarbons	µg/l	41

BH04

Determinand	Unit	Level
Al	mg/l	2.2
B	mg/l	0.3
Cu	mg/l	0.027
Pb	mg/l	0.015
Mn	mg/l	0.75
Ni	mg/l	0.012
V	mg/l	0.041
Zn	mg/l	0.033
Sulphide	mg/l	0.1
Sulphate	mg/l	992
Hydrocarbons	µg/l	368

BH01

Determinand	Unit	Level
Al	mg/l	3.8
B	mg/l	1.0
Cu	mg/l	0.028
Pb	mg/l	0.016
Mn	mg/l	1.42
Ni	mg/l	0.024
V	mg/l	0.062
Zn	mg/l	0.11
Sulphide	mg/l	0.04
Sulphate	mg/l	1530
Hydrocarbons	µg/l	238

BH02

Determinand	Unit	Level
Al	mg/l	4.7
B	mg/l	0.6
Cu	mg/l	0.064
Pb	mg/l	0.019
Mn	mg/l	0.53
Ni	mg/l	0.012
V	mg/l	0.068
Zn	mg/l	0.15
Sulphide	mg/l	0.04
Sulphate	mg/l	671
Hydrocarbons	µg/l	67

BH03

GROUNDWATER CONTAMINATION IN BOREHOLES

PROJECT: AKKO, ISRAEL

PROJECT NO:	DRAWING NO:	SCALE:
A249-00	A249-00-D1	1:2000
DRAWN BY: AP	CHECKED BY: ML	DATE CHECKED: NOV 2003

BAE SYSTEMS

BAE SYSTEMS ENVIRONMENTAL SERVICES
WESTCOTT, AYLESBURY, BUCKS, HP18 0NP
TEL.: 01296 652123 FAX: 01296 652121

APPENDIX 15

PHOTOGRAPHIC RECORDS

Trial Pit TP2

Trial Pit TP5

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Trial Pit TP7

Trial Pit TP8

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Trial Pit TP9

Trial Pit TP10

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Trial Pit TP13

Trial Pit TP15B

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Trial Pit TP21

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Trial Pit TP23

Trial Pit TP25

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Trial Pit TP32

Trial Pit TP39

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Trial Pit TP33

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Trial Pit TP34

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Hydrocarbon Staining Under Transformer Near to TP38

Trial Pit TP39

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Trial Pit TP44B

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Trial Pit TP46

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS

Hydrocarbon Staining adjacent to TP49

Trial Pit TP50

FIGURE TITLE :

PHOTOGRAPHIC RECORD

PROJECT :

AKKO, ISRAEL

REPORT NUMBER :

A249-00-R2

BAE SYSTEMS