HEYFORD PARK

SUBMISSION OF SUPPLEMENTARY INFORMATION TO CHERWELL DC

POL – 6 February 2008 – Revision B

1.0 The Petroleum Oil and Lubricant (POL) System

The system is an above and below ground system, with extensive infrastructure of pipe work, pumps, valves, storage tanks and aircraft refueling ancillaries across the air base. The on-site POL system is completely disconnected from the national fuel pipeline. Valves have been installed on the southern edge of the site to enable the National Pipeline Agency to inspect their pipe from Heyford Park to Islip.

A plan of the POL network and a schedule of the existing tanks is attached. The types of POL tanks are summarised below:

- Ten early 1970s (760m3 to 4754m3) circular, semi-buried, steel lined,
- Twelve 1950s – 1960s (each 190,000 to 380,000litres) single or twin steel tanks enclosed in a concrete pit,
- Four sites of either 6 or 12 underground tanks each with a volume of 55,000litres.

The POL tanks are connected by 13km of 100-150mm diameter pipeline that is also filled with water. The total capacity of the POL system is approximately 30 million litres.

2.0 Works undertaken by the Ministry of Defence

After removal of all fuels, the existing system was cleaned by the Ministry of Defence in the early 1990's and then filled with water. There have been no reported incidents of a release of contaminated material since that time.

3.0 Revised Comprehensive Planning Brief (RCPB)

In March 2007 Cherwell District Council adopted a Revised Comprehensive Planning Brief (RCPB) covering the whole of the former Airbase. This document sets out the District Council's "vision" for the redevelopment of part of the site and the retention of those cultural and historic buildings associated with the Cold War Airbase. The document constitutes a Supplementary Planning Document and is being used by the District Council for development control purposes.

It is noted that in Paragraph 5.2.1 the RCPB requires:-

> **"The removal or remediation of contamination or potential sources of contamination including of the POL system will be required across the whole site"**. (sic)

The ensuing paragraph refers to the comments of the Planning Inspector at the Appeal Inquiry in 2002 and draws attention to the need for the removal of contamination from the site or potential future sources of contamination, particularly from the POL system. Such remediation works will be required and are regarded by the District Council as one of the “major environmental improvements that are referred to in Policy H2”.

The RCPB goes on to indicate that, subject to confirmation from the Environment Agency, a criteria based approach to the remediation of the POL system could be acceptable. Accordingly any remediation solution for the POL system should:-

1. Provide a permanent solution.
2. Remove permanently any danger to public health and safety.
3. Remove permanently any possibility of contamination to ground water.
4. Remove the above ground grass mounds within areas cleared east and west of the runway except where these have biodiversity interest.
5. Assess ecological impacts.
6. Ensure medium and long term biodiversity is not adversely affected and preferably improved.

4.0 NOC Objective

It is NOC’s intention to remove the possible environmental contamination risk associated with the existing POL system in accordance with the Policy contained in Paragraph 5.2.1 of the RCPB and to deal with this in a way which minimizes disturbance and generates the most sustainable solution.

It will be noted from the plans attached to this report that virtually the whole of the POL lies outside the proposed built up area of the New Settlement. It constitutes a structure or series of structures which form part of the Conservation Area which was designated in 2006. Accordingly to remove the system requires Conservation Area Consent. Moreover it is relevant to note that POL actually forms part of the structure of the Cold War Airbase and therefore should only be removed if there is no alternative way of removing the contamination risk; and if the removal preserves or enhances the Conservation Area character. NOC have proceeded on the basis that if there are other solutions for removing the contamination risk then these should be explored before demolition of the POL system is promoted. The aim is to comply with the criteria based approach set out in the RCPB, save for the fact that, unless there is an overriding need to remove the grass mounds enclosing the tanks referred to above, then these will remain as a feature of the Cold War Airbase.

The following paragraphs set out the work undertaken by NOC consultants and the conclusions which have been reached as regards the removal of the contamination risk. Such conclusions have been arrived at after preliminary discussions with the Environment Agency.

5.0 Water Quality Tests

On behalf of NOC, Arup commissioned water quality tests in six POL tanks (four above ground and two below ground) located across the site. These tanks are representative of the oldest and predominant tank types. Water samples were collected between 1 and 5 October 2007 and sent for chemical analysis. Concentrations of hydrocarbons were detected in each of the tanks sampled, with the most elevated concentrations measured in samples from the above ground tanks. The most significant contamination was dissolved phase hydrocarbons of 85000µg/l detected in POL 21A. The results suggest that each type of tank could be dealt with differently in terms of the treatment methods used. Sampling and testing of additional tanks will therefore be undertaken at the detailed design stage in order to determine the optimum solution for each tank.

Based on the water quality tests undertaken to date, the water within the system is of a quality that will require it to be cleaned to a standard agreed with the Environment Agency (EA) to remove future environmental risk.

6.0 Access to the POL Tanks

In order to undertake the treatment works access will be required into the tanks. Temporary structural openings (for which conservation area consent will be sought as required) will be formed to facilitate safe access into the tanks.

All temporary openings will be made good upon completion. With the exception of possible provision of external vents, the external appearance of the POL tanks will not significantly change.

Provided a photographic record is taken inside the tanks and that all temporary works are made good to match existing, we understand from meetings with English Heritage that they have no objection to the proposed works referred to below.

7.0 Treatment of the Water in the POL System

The existing water will be treated in a temporary on-site treatment centre established to remove the existing hydrocarbons and other contaminants. Subject to EA approval, the water will then be discharged as described.

The treatment methods will involve one or a combination of the following methods:

- Proprietary hydrocarbon separation system which is a hydrodynamic separator designed to remove settled solids, grits, silts, oil and other floatable matter,

- In situ Absorption eg. “Smartsponge” or similar, a patented advanced polymer technology, which has an unique molecular structure, design to chemically select and absorb hydrocarbons,

- Filtering through activated carbon, to remove hydrocarbon pollutants by adsorption of hydrocarbons which have a lower water solubility, higher molecular weight and a neutral or non-polar chemical nature.

- Volatilization and air stripping in which hydrocarbon are transferred from extracted water to air (volatilization). Typically, air stripping takes place in a packed tower (known as an air stripper) or an aeration tank.

8.0 Discharge of the Treated Water

Temporary pumps will be used to discharge the water from the POL tanks to the temporary treatment plant. The options for the discharge of the treated water are:

- Discharge to the thirteen existing surface water outfalls from the site into the natural water courses. This will require a consent to discharge to be issued by the EA,

- Spreading the water over vegetated areas of the site to allow the water to evaporate, evaoptranspirate and infiltrate. This will also require a consent from the EA.

The preferred solution is to discharge the water from the site via the thirteen existing surface water discharge outfalls across the site. Temporary pipes and pumps will move the treated water from the temporary on-site treatment plant to the selected outfall(s).

Weather conditions will have a significant impact on the discharge programme and therefore it could take 6-12 months to discharge the treated water from the site.

9.0 Cleaning the POL Tanks

Any asbestos found inside the tanks will be removed and/or encapsulated by approved specialist companies.

Other specialist contractors will be appointed to remove residual hydrocarbons and other deposits from the tank surfaces as required by the EA. These contractors will be required to provide certification that contaminants have been removed from the tanks to the satisfaction of the EA.

10.0 Mitigation of the POL Tanks

The EA have expressed concern regarding the possible future leakage of contaminants from within the tanks.

Tank Structure

As stated in section 1.0 above, the structure and design of the POL tanks is not the same across the site. Where these are available, record engineering drawings will be reviewed as part of the detailed design process. The known details of the structure of each POL tank will be forwarded to the EA for their consideration. Intrusive tests to demonstrate the structural integrity of the tanks will be undertaken as required. The option of filling the tanks or leaving them empty will be considered for each type of tank and agreed with the EA.

Leave the tanks empty

It is considered that even if the tanks were cleaned that there could be residual hydrocarbons left in the tanks. The possibility of future gas build-up within the empty tanks will therefore be reviewed. However, approval will be sought from the EA as to whether the tanks could be left empty if they were cleaned to an acceptable standard. The extent of required cleaning can only be determined once the water has been removed.

Fill the Tanks
An engineering solution to fill the tanks with inert material (including gas venting blankets, vent pipes to the exterior etc) will be prepared. The recommended size, type and layers of demolition and/or other material to be used for infilling the tanks, will be submitted to the EA for approval prior to the commencement of any infilling works.

The engineering solution will also determine the maximum size of voids permitted by the EA to remain in the existing tanks. It is considered that remaining voids will be filled with an inert foam product (such as Benefil multi-purpose super lightweight engineering filler/grout or similar).

Waste Repository Licence
From initial meetings with the EA we understand a Waste Repository Licence will not be required. Ultimately, this will depend on the quality of the material to be deposited in the tanks. All demolition material used in the tanks will be sorted and graded prior to use.

Approximately 131,000m^3 of demolition and/or other inert material (eg. crushed brick, concrete and other masonry) would be required to fill all the tanks. Unsuitable demolition material will either be re-used elsewhere on site (if appropriate) or removed from site to a licensed site.

Asbestos and other hazardous material will be removed from all buildings prior to demolition. No asbestos will be deposited in the POL system.

11.0 Mitigation of the POL Pipes

The length of the POL pipes on site is approximately 13km. The majority of the pipework is 150mm diameter although there is 100mm diameter pipework in some areas.

The water in the pipes will be treated and removed in the same manner as described in Sections 6.0 and 7.0 above.

The condition of the pipes will be inspected once the water has been removed from the system. A low pressure water jetting system will be used to clean sections of pipe as required.

Any need for further treatment of the pipes (such as part filling with a foam product or similar as stated in section 9.0 above) will be determined after the water has been removed, the condition of the pipes inspected and a full risk assessment prepared.

12.0 Ground Contamination around the POL Tanks

There is some evidence of ground contamination possibly having occurred as a result of leakage from the POL in the past. This matter is addressed in the Soils Geology and Contamination Chapter included in the Environmental Statement included with the Outline Application submitted to Cherwell District Council on 28 September 2007.

Areas of localised contamination will be addressed as part of the works. The treatment methodologies for contaminated areas will be determined as part of the detailed design process.

13.0 On-going Monitoring

There has been regular monitoring of the groundwater from boreholes on site and springs off-site since 1998 after the completion of the land quality assessment the EA required regular monitoring of the groundwater conditions. The requirement for future monitoring will be agreed with the EA and undertaken by the Management Company responsible for operating the Flying Field.

Attachments

POL Tank Schedule
Drawing No. 120643-00 Rev 01 Liquid Fuels System
Mviro Water Quality Test Results

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			Date Sample Taken	03/10/2007	01/10/2007	02/10/2007	02/10/2007	01/10/2007	01/10/2007	01/10/2007
			Depth to Liquid (m)	5.9	FULL	7.34	6.86	7.02	FULL	-
			Depth to Base (m)	6.55	4.01	7.84	7.86	7.95	4.01	-
			Sample Identity	POL 24	POL 10/1	POL 21A	POL 21B	POL 21C	POL 9/2	POL 9/2 DUP
			Sample Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
			Sample Received Date	04/10/2007	04/10/2007	04/10/2007	04/10/2007	04/10/2007	04/10/2007	04/10/2007
			Sampled Date	04/10/2007	04/10/2007	04/10/2007	04/10/2007	04/10/2007	04/10/2007	04/10/2007
			Batch	1	1	1	1	1	1	1
			Sample Number(s)	1-3	4-6	7-9	10-12	13-15	16,18-19	17,20-21
		Units	**Method Detection Limit**							
Arsenic Total (HNO3 Digest)		ug/l	<1	<1	58	2	1	1	59	55
Cadmium Total (HNO3 Digest)		ug/l	<0.4	<0.4	2.3	1.5	0.4	0.9	1.9	2.1
Chromium Total (HNO3 Digest)		ug/l	<1	14	23	15	13	12	25	23
Copper Total (HNO3 Digest)		ug/l	<1	2	14	<1	<1	3	33	44
Lead Total (HNO3 Digest)		ug/l	<1	2	10	5	3	1	32	41
Nickel Total (HNO3 Digest)		ug/l	<1	7	120	4	6	3	60	63
Selenium Total (HNO3 Digest)		ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Zinc Total (HNO3 Digest)		ug/l	<3	56	190	95	59	35	120	120
Mercury Total (HNO3 Digest)		ug/l	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
pH Value		pH Units	<1.00	8.33	7.79	8.26	8.33	8.10	7.57	7.56
GRO (C4-C12)		ug/l	<10	28	67	7500	4100	1100	58	210
MTBE		ug/l	<10	<10	<10	<10	<10	<10	<10	<10
Benzene		ug/l	<10	<10	<10	<10	<10	<10	<10	<10
Toluene		ug/l	<10	<10	<10	<10	<10	<10	<10	<10
Ethyl benzene		ug/l	<10	<10	<10	<10	<10	<10	<10	<10
m & p Xylene		ug/l	<10	<10	<10	<10	<10	<10	<10	<10
o Xylene		ug/l	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics C5-C6		ug/l	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8		ug/l	<10	<10	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10		ug/l	<10	<10	<10	230	230	88	<10	<10
Aliphatics >C10-C12		ug/l	<10	11	27	2800	1400	360	23	80
Aliphatics >C12-C16 Aqueous		ug/l	<10	510	240	60000	5200	12000	310	400
Aliphatics >C16-C21 Aqueous		ug/l	<10	35	11	1600	120	360	<10	27
Aliphatics >C21-C35 Aqueous		ug/l	<10	<10	<10	<100	<10	<10	<10	<10
Total Aliphatics C5-C35 Aqueous		ug/l	<10	550	280	65000	7000	13000	340	510

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Sample Identity	Units	Method Detection Limit	POL 24	POL 10/1	POL 21A	POL 21B	POL 21C	POL 9/2	POL 9/2 DUP
Aromatics C6-C7	ug/l	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >C7-C8	ug/l	<10	<10	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	<10	<10	<10	350	350	130	<10	11
Aromatics >EC10-EC12	ug/l	<10	17	40	4200	2100	540	35	120
Aromatics >EC12-EC16 Aqueous	ug/l	<10	170	350	15000	1600	3300	700	510
Aromatics >EC16-EC21 Aqueous	ug/l	<10	<10	<10	1000	150	350	110	120
Aromatics >EC21-EC35 Aqueous	ug/l	<10	<10	<10	<10	<10	<10	<10	<10
Total Aromatics C6-C35 Aqueous	ug/l	<10	190	390	20000	4200	4300	840	760
TPH (Aliphatics and Aromatics C5-C35) Aqueous	ug/l	<10	740	680	85000	11000	17000	1200	1300
PAH by GCMS									
Naphthalene Aqueous	ng/l	<26	200	1800	63000	16000	1200	75000	67000
Acenaphthylene Aqueous	ng/l	<11	17	110	4000	390	86	41	41
Acenaphthene Aqueous	ng/l	<15	67	380	17000	1900	470	470	410
Fluorene Aqueous	ng/l	<14	<14	320	14000	2000	420	510	460
Phenanthrene Aqueous	ng/l	<22	<22	<22	2900	230	50	77	75
Anthracene Aqueous	ng/l	<15	<15	<15	490	33	<15	<15	<15
Fluoranthene Aqueous	ng/l	<17	<17	<17	1000	31	<17	29	23
Pyrene Aqueous	ng/l	<15	<15	<15	870	26	<15	23	19
Benz(a)anthracene Aqueous	ng/l	<17	<17	<17	680	19	<17	19	<17
Chrysene Aqueous	ng/l	<13	<13	<13	840	14	<13	<13	<13
Benzo(b)fluoranthene Aqueous	ng/l	<23	<23	<23	730	<23	<23	<23	<23
Benzo(k)fluoranthene Aqueous	ng/l	<27	<27	<27	310	<27	<27	<27	<27
Benzo(a)pyrene Aqueous	ng/l	<9	<9	<9	410	10	<9	12	9
Indeno(123cd)pyrene Aqueous	ng/l	<14	<14	<14	150	<14	<14	<14	<14
Dibenzo(ah)anthracene Aqueous	ng/l	<16	<16	<16	82	<16	<16	<16	<16
Benzo(ghi)perylene Aqueous	ng/l	<16	<16	<16	170	<16	<16	<16	<16
PAH 16 Total Aqueous	ng/l	<27	290	2600	110000	21000	2200	76000	68000

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	Units	Sample Identity	POL 24	POL 10/1	POL 21A	POL 21B	POL 21C	POL 9/2	POL 9/2 DUP
SVOC by GCMS									
Phenols	**Units**	**Method Detection Limit**							
2-Chlorophenol	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
2-Methylphenol	ug/l	<1	<1	<1	<1	<1	<1	4	4
2-Nitrophenol	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol	ug/l	<1	<1	<1	<1	<1	<1	11	10
2,4,5-Trichlorophenol	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
4-Methylphenol	ug/l	<1	<1	<1	<1	<1	<1	7	7
4-Nitrophenol	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Pentachlorophenol	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Phenol	ug/l	<1	<1	<1	<1	<1	<1	51	49
PAHs									
2-Chloronaphthalene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
2-Methylnaphthalene	ug/l	<1	<1	10	68	190	68	70	67
Phthalates									
Bis(2-ethylhexyl) phthalate	ug/l	<2	<2	<2	4	7	<2	<2	<2
Butylbenzyl phthalate	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Di-n-butyl phthalate	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Di-n-Octyl phthalate	ug/l	<5	<5	<5	<5	<5	<5	<5	<5
Diethyl phthalate	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Dimethyl phthalate	ug/l	<1	<1	<1	<1	<1	<1	<1	<1

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	Units	Sample Identity	POL 24	POL 10/1	POL 21A	POL 21B	POL 21C	POL 9/2	POL 9/2 DUP
Other Semi-volatiles	**Units**	**Method Detection Limit**							
1,2-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
2-Nitroaniline	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
3-Nitroaniline	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
4-Chloroaniline	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
4-Nitroaniline	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Azobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroethoxy)methane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Bis(2-chloroethyl)ether	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Carbazole	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Dibenzofuran	ug/l	<1	<1	<1	<1	2	1	<1	<1
Hexachlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Hexachloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Isophorone	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
N-nitrosodi-n-propylamine	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Nitrobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	ug/l	<1	<1	<1	<1	<1	<1	<1	<1

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		Sample Identity	POL 24	POL 10/1	POL 21A	POL 21B	POL 21C	POL 9/2	POL 9/2 DUP
Volatile Organic Compounds	**Units**	**Method Detection Limit**							
Bromomethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
trans-1-2-Dichloroethene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Dichloromethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulphide	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.1-Dichloroethene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.1-Dichloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Methyl Tertiary Butyl Ether	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
cis-1-2-Dichloroethene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
2.2-Dichloropropane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.2-Dichloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.1.1-Trichloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.1-Dichloropropene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Carbontetrachloride	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.2-Dichloropropane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
cis-1-3-Dichloropropene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
trans-1-3-Dichloropropene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.1.2-Trichloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/l	<1	<1	<1	<1	1	<1	<1	<1
1.3-Dichloropropane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1

MVIRO

environmental engineering

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	Units	Method Detection Limit	POL 24	POL 10/1	POL 21A	POL 21B	POL 21C	POL 9/2	POL 9/2 DUP
Sample Identity			POL 24	POL 10/1	POL 21A	POL 21B	POL 21C	POL 9/2	POL 9/2 DUP
1.2-Dibromoethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.1.1.2-Tetrachloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/l	<1	<1	<1	<1	2	<1	<1	<1
p/m-Xylene	ug/l	<1	<1	1	4	6	3	<1	<1
Bromoform	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.1.2.2-Tetrachloroethane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	ug/l	<1	<1	<1	3	6	3	1	1
1.2.3-Trichloropropane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene	ug/l	<1	<1	<1	2	3	2	<1	<1
Bromobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Propylbenzene	ug/l	<1	<1	<1	5	6	5	<1	<1
4-Chlorotoluene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.2.4-Trimethylbenzene	ug/l	<1	3	5	91	120	100	18	15
4-Isopropyltoluene	ug/l	<1	<1	<1	10	12	11	<1	<1
1.3.5-Trimethylbenzene	ug/l	<1	<1	2	25	41	38	4	4
1.2-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.4-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	ug/l	<1	<1	<1	8	9	8	<1	<1
tert-Butylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.3-Dichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.2-Dibromo-3-chloropropane	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
1.2.4-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	ug/l	<1	<1	<1	<1	<1	<1	84	85
1.2.3-Trichlorobenzene	ug/l	<1	<1	<1	<1	<1	2	<1	<1
Hexachlorobutadiene	ug/l	<1	<1	<1	<1	<1	<1	<1	<1

Legend

- Liquid Fuels System
- Abandoned in place
- PR Station
- Above ground fuel tanks
- Underground fuel tanks

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01	26/07/06	LR	RB	RB
	First draft			
Issue	Date	By	Chkd	Appd

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Client
North Oxfordshire Consortium

Job Title
Heyford Park Development

Drawing Title
Liquid Fuels System

Scale at A0 1:5000

Plot ID

Drawing Status
Draft

Job No	Drawing No	Issue
120643-00	**CU_002**	**01**

POL No	Facility No	No of Tanks	Size cu m	Total Vol cu m	Type of Tank	Fuel	Asbestos	Lined	Cleaned by
1	270	1	188.94	188.94	Below Ground reinforced concrete tank	Aviation fuel		uncoated	
2	254	12	54.42	653.04	Underground	diesel, AVTUR and waste fuel	Yes	coated	Huntington Tank Cleaning Ltd
3	274	2	188.9	377.8	Below Ground reinforced concrete tank	Aviation fuel	Yes	uncoated	Huntington Tank Cleaning Ltd
4 (assumed)	84	2	22.7	45.4	Below ground	1 tank of Mogas and 1 tank of diesel	None aware of		
5	365	2	188	376	Below gorund	Aviation fuel (JP8)	None aware of	Uncoated	
6	382	1	188	188	Below ground	Aviation fuel		uncoated	
7	385	1	189.3	189.3	Below Ground reinforced concrete tank	Aviation fuel			
8	386	1	188.94	188.94	Below Ground reinforced concrete tank	Aviation fuel		uncoated	
9	215	2	189.3	378.6	Below Ground reinforced concrete tank	Aviation fuel	None aware of	unlined	Huntington Tank Cleaning Ltd
10	219	2	189.3	378.6	Below Ground reinforced concrete tank	Aviation fuel			Huntington Tank Cleaning Ltd
11	229	1	189.3	189.3	Below ground	Aviation fuel	None aware of		Huntington Tank Cleaning Ltd
12 (assumed)	Not found, presume removed	2	15.1	30.2	Below ground	Petrol and diesel			
13	283	1	189.3	189.3	Below ground	Aviation fuel			
14	284	2	189.3	378.6	Below ground	Aviation fuel			
15	241	2	Unknown	Unknown	1 Reinforced concrete tank below ground and 1 steel tank above ground	Aviation fuel	Unknown	Unknown	Unknown
16	242	1	188.94	188.94	Below Ground reinforced concrete tank	Aviation fuel	Yes		Huntington Tank Cleaning Ltd
17	245	12	54.42	653.04	Below ground	waste oils and fuel	Yes		Huntington Tank Cleaning Ltd
19	1413	6	54.42	326.52	Below ground	3 gasoline, 3 diesel	Yes		Huntington Tank Cleaning Ltd
20	375	12	54.42	653.04	Below ground	6 gasoline, 6 diesel	Yes		Huntington Tank Cleaning Ltd
21a	392	1	736.2	736.2	Above ground	Aviation fuel	Yes		
21b	394	1	734.99	734.99	Above ground	Aviation fuel	Yes	unlined	Huntington Tank Cleaning Ltd
21c	393	1	1453.4	1453.4	Above ground	Aviation fuel	Yes		
22	395	1	145.11	145.11	Above ground	Aviation fuel		unlined	Huntington Tank Cleaning Ltd
23a	285	1	4433.31	4433.31	Above ground	Aviation fuel	Yes	coated	Huntington Tank Cleaning Ltd
23b	281	1	1836	1836	Above ground	Aviation fuel	Yes	coated	Huntington Tank Cleaning Ltd
24	269	1	4481.73	4481.73	Above ground	Aviation fuel	Yes	coated	Huntington Tank Cleaning Ltd
25a	376	1	4507.9	4507.9	Above ground	Aviation fuel			
25b	377	1	4503.2	4503.2	Above ground	Aviation fuel			
				28405.4					