Polymer Laboratories

Polymer Laboratories Ltd
Essex Road, Church Stretton, Shropshire SY6 6AX, UK
Tel (+44) 01694 723581, Fax (+44) 01694 722171
Email PL@polymerlabs.com www.polymerlabs.com

Miss K E Rose
Environmental Health Officer
South Shropshire District Council
Stone House
Corve Street
Ludlow
Shrops SY8 1DG

23 May 2001

Dear Miss Rose

Re: Remediation at Polymer Laboratories Ltd New Site

Further to your letter of 27 April we have prepared a Remediation Statement for the above site.

The evaluation of the site has just been completed and we are now able to file a final remediation report. Please note in the report that the remediation under the link building will be dealt with in the same manner as the main building site ie by excavation and disposal.

I trust this report will satisfy your requirements. I would appreciate your confirmation that the remediation and the report are acceptable to SSDC. If you have any questions please do not hesitate to contact Neil Hall or myself.

Yours sincerely

Frank Warner

Dr Frank P Warner
Chairman

Enc

Background.

Polymer Laboratories Limited(PLL) has occupied the current Essex Road site since 1979. The site was developed by COSIRA for industrial start up units and Polymer Laboratories eventually purchased the whole of the site. Prior to this the site was owned by British Railways and was used as a goods yard and engineering works going back to the start of the railway system.

In 1998 Polymer Laboratories decided to enlarge the capacity of their production and research facility by the addition of a new building on the north end of the site. This area consisted of an old stone building (previously owned by British Rail), and an area of wasteland, which was undeveloped. Baart Harries Newall (BHN) were employed by PLL as architects on the new facility and plans were submitted for planning approval in 1999. In accordance with the wishes of the council an environmental impact statement was submitted with the planning application and approved by all relevant authorities. These plans were then passed by South Shropshire District Council later that year. Trial pits were dug as part of the initial design under the instruction of the civil engineers: Carroll and Williams Ltd. No problems were encountered at this stage and therefore construction of the facility was undertaken, starting in August 1999. At this time the legislation regarding the redevelopment of contaminated land had not been implemented as part of the planning procedure.

During a routine inspection of the site by the building control dept of SSDC, a layer in the subsoil was noted to be black. As it had no odour the building control officer advised the Builders (Frank Galliers Limited (FGL)) to proceed with caution and investigate if the layer changed in odour.

Later that week the site was inspected by Miss K E Rose of the Environment and Development Department of SSDC. Miss Rose was concerned that under new regulations (brought in after our initial planning application) the site should be tested for contamination, and in particular the black layer. It was pointed out by SSDC that if this layer fell above the threshold levels for contamination then it might have to be removed from the site retrospectively, as the floor slab was about to be laid the following week.

Actions by PLL.

(i) <u>Main Building Remediation</u>
A decision was made that given the risk of being asked to remove the black layer after the floor slabs had been poured, PLL had no option other than to instruct that the layer was removed and the area backfilled with fresh stone. The material removed was sent by FGL for disposal in a registered site. Section 62-transport documentation was retained by FGL and PLL to show that the correct procedure had been followed. Copies of these documents are given in the appendix. This was completed at a cost to PLL in excess of £50,000.

(ii) Contaminant Analysis
A sample of the layer was retained for testing by Enviros Technos Ltd, of Walford Nr Shrewsbury. The results of this test were passed onto SSDC. Tests on the sample showed the level of hydrocarbons in the soil entrained in this layer to be just above the threshold levels for industrial use. Visual examination of the layer and investigation into the previous use of the site concluded that the black layer consisted of granite aggregate from the track, which may be contaminated with biodegraded oils and greases mixed with coal dust originating from the site's previous use as an off-loading yard for a gas works. A copy of this analysis is given in the appendix. It should be noted that the evaluation of the sample was based on the entrapped soil within the aggregate mixture and did not take into account the whole composite soil/aggregate matrix. Clearly had this been accounted for then the contamination would have been substantially lower than the threshold level.

(iii) Analysis of soil below the Contaminated Layer
After the contaminated layer had been removed and the backfilling started a further visit was made to the site by SSDC on 24 November 1999. A discussion as to the removal of the layer took place and PLL was asked to sample the soil below the black layer to ensure that this was not contaminated. Again PLL employed the services of Enviros Technos to sample the layer below the black layer.

The result of these tests showed that the soil under the black layer had no, or very little contamination by hydrocarbons. It was felt therefore that the black layer, although shown to be contaminated with hydrocarbons, was stable and that no leaching had taken place. A copy of this report and a location map showing the location of the test points is given in the appendix.

(iv) Remediation – Main Site
PLL has removed the black layer from under all foundations of buildings being constructed on the site, and in the immediate locality of all pipes and trenches running through the site where ground was being disturbed.

However, due to the fact that the layer has shown no signs of leaching over at least 25 years it was concluded that it would be environmentally most effective to leave the black layer in place under all other areas on the site. These consist of the roadway, car parking spaces and peripheral ground around the site. We felt that to remove the layer from these areas would not be of benefit to the local environment and may indeed be more harmful environmentally by removing it to another site where it would become exposed.

During construction of the foundations for the electricity sub-station and generator, it was found that the contaminated layer did not continue to the west side of the site but stopped at the edge of the old roadway. It was therefore unnecessary to remove any soil from this part of the site.

(v) Future Remediation – Link Building
The construction project has two main phases, the first being the construction of the new building, which is nearly complete, and the second phase being the

refurbishment of the existing building, and the construction of a link between the two buildings. The same criteria will be applied by PLL for construction of the link. That is to say the soil including the black layer will be removed from site and disposed of as special waste in the same manner as the main building. The area will then be back filled with fresh stone.

Conclusion.

PLL therefore believes that it has complied with the requests of SSDC in a constructive and environmentally sound manner. In spite of the late discovery of the contaminated layer it has acted in such a way that the risk of this contaminant causing environmental harm has been effectively dealt with comprehensively.

As a company PLL has always acted in a responsible manner and will continue to do so in the future; we feel that our record to date bears this out. We will continue to liaise with all relevant authorities and hope that the new facility will improve our environmental performance. We have designed the facility in such a way as to be in keeping with the locality and to minimise any environmental impact.

F P Warner - Chairman
A N Hall – Chemical Engineer

SAMPLE 1 ANALYSIS.

ALcontrol Geochem

Chester Street
Chester
CH4 8RD
Phone +44 (0)1244 671121
Fax +44 (0)1244 683306

FACSIMILE MESSAGE

Date	: 16 November, 2000
Our Ref	: 00/07620/02/01
To	: Technos Limited
Attention	: Chris White
Fax No	: 01939 262222
Originator	: Sarah Cowling
Email	: sarah.cowling@geochem.com
Subject	: Geochem Results

P001980018

MESSAGE:

Dear Chris,

Please find attached the results for your job.

If you have any questions please do not hesitate to contact me.

Regards,

Sarah Cowling

Geochem Analytical Services

Polychlorinated Biphenyls
by
GCMS

Sample Matrix : Soil
Our Reference: 00/07620/02/01
Date Sample Received: 10/11/00
Date Extracted/Prepared: 14/11/00
Extraction procedure: Microwave
Column Extraction: No
Date Analysed: 16/11/00
GC-MS Mode: SIM
Internal Standard: External

	Sample No.	001				
	Client Ref.	TP1				
	P.Q.L.	1				
CAS Number	Units	µg/kg				
12674-11-2	Aroclor 1016					
11104-28-2	Aroclor 1221					
11141-16-5	Aroclor 1232					
53469-21-9	Aroclor 1242					
12672-29-6	Aroclor 1248					
11097-69-1	Aroclor 1254					
11096-82-5	Aroclor 1260					
	Total	<1				

Calculated against Aroclor 1254.

Approved by

ALcontrol Geochem Analytical Services

Semivolatile Organic Compounds

Sample Identity - 200007620-001/TP 1
Client / Sample matrix - TECHNOS LTD/SOIL
Date Acquired - 15/Nov/2000
Units - µg/kg

CAS Number	Compound	Concn.
108-95-2	Phenol	<100
95-57-8	2-Chlorophenol	<100
95-48-7	2-Methylphenol	<100
106-44-5	4-Methylphenol	<100
88-75-5	2-Nitrophenol	<100
100-02-7	4-Nitrophenol	<100
120-83-2	2,4-Dichlorophenol	<100
105-67-9	2,4-Dimethylphenol	<100
59-50-7	4-Chloro-3-methylphenol	<100
88-06-2	2,4,6-Trichlorophenol	<100
95-95-4	2,4,5-Trichlorophenol	<100
87-86-5	Pentachlorophenol	<100
541-73-1	1,3-Dichlorobenzene	<100
106-46-7	1,4-Dichlorobenzene	<100
95-50-1	1,2-Dichlorobenzene	<100
120-82-1	1,2,4-Trichlorobenzene	<100
98-95-3	Nitrobenzene	<100
103-33-3	Azobenzene	<100
118-74-1	Hexachlorobenzene	<100
91-20-3	Naphthalene	<100
208-96-8	Acenaphthylene	<100
83-32-9	Acenaphthene	<100
86-73-7	Flourene	<100
85-01-8	Phenanthrene	237
120-12-7	Anthracene	106
206-44-0	Fluoranthrene	825
129-00-0	Pyrene	926
56-55-3	Benzo(a)anthracene	489
218-01-9	Chrysene	634
205-99-2	Benzo(b)fluoranthrene	628

CAS Number	Compound	Concn.
207-08-9	Benzo(k)fluoranthrene	649
50-32-8	Benzo(a)pyrene	724
193-39-5	Indeno(1,2,3-cd)pyrene	529
53-70-3	Dibenzo(a,h)anthracene	113
191-24-2	Benzo(ghi)perylene	405
91-58-7	2-Chloronaphthalene	<100
91-57-6	2-Methylnaphthalene	<100
86-74-8	Carbazole	<100
78-59-1	Isophorone	<100
132-64-9	Dibenzofuran	<100
131-11-3	Dimethyl phthalate	<100
84-66-2	Diethyl phthalate	<100
84-74-2	Di-n-butylphthalate	401
117-84-0	Di-n-octylphthalate	<100
117-81-7	Bis(2-ethylhexyl)phthalate	<100
85-68-7	Butylbenzylphthalate	<100
106-47-8	4-Chloroaniline	<100
88-74-4	2-Nitroanaline	<100
99-09-2	3-Nitroaniline	<100
100-01-6	4-Nitroaniline	<100
121-14-2	2,4-Dinitrotoluene	<100
606-20-2	2,6-Dinitrotoluene	<100
111-44-4	Bis(2-chloroethyl)ether	<100
101-55-3	4-Bromophenylphenylether	<100
7005-72-3	4-Chlorophenylphenylether	<100
67-72-1	Hexachloroethane	<100
87-68-3	Hexachlorobutadiene	<100
77-47-4	Hexchlorocyclopentadiene	<100
111-91-1	Bis(2-chloroethoxy)methane	<100
621-64-7	N-nitrosodi-n-propylamine	<100

ALCONTROL GEOCHEM ANALYTICAL SERVICES

Tentatively Identified Compounds

by

GCMS

Method - Semi-volatile Analysis

Mode - Full scan

Matrix - soil

Sample No. - 7620-001

Sample ID \ Depth - TP 1

Peak No.	Compound Identification	RetentionTime min	Concentration µg/kg
	C10-30 Hydrocarbons	-	97800

Report written by : _____

Report checked by : _____

ALcontrol Geochem

Gasoline Range Organics by GC

Job Number : 00/07620/02/01
Client : Technos Limited
Ref :
Sample Type : SOIL
Units : µg/kg

Sample No	Sample Identity	Depth	Total Volatiles C_4 to C_{13}
7	TP 1		< 10

ALcontrol Geochem

BTEX Analysis by GC

Job Number : 00/07620/02/01
Client : Technos Limited
Ref :
Sample Type : SOIL
Units : µg/kg

Sample No	Sample Identity	Depth	Benzene	Toluene	Ethyl Benzene	Total Xylene
7	TP 1		< 10	< 10	< 10	< 10

ALcontrol Geochem

Diesel Range Organics by GC

Job Number : 00/07620/02/01
Client : Technos Limited
Ref :
Sample Type : SOIL
Units : mg/kg

Sample No	Sample Identity	Depth	Diesel Range Hydrocarbons	Interpretation
1	TP 1		1290	Biodegraded Diesel/Caboxylic Acids/Lube oil

** TX CONFIRMATION REPORT ** AS OF 20 NOV '00 16:12 PAGE.01

POLYMER LABORATORIES

	DATE	TIME	TO/FROM	MODE	MIN/SEC	PGS	CMD#	STATUS
01	11/20	16:10	01743364944	EC--S	02"08	09		OK

ENVIROSTECHNOS

knowledge innovation solutions

SAMPLES 2-6 ANALYSIS.

For the Attention of
Mr N Hall
Polymer Laboratories Ltd
Essex Road
Church Stretton
Shropshire
SY6 6AX

Your ref:
Our ref: PO0198001A/gdh
If calling please ask for Glynn Hobson
Direct Dial: 01939 262355
Direct Fax: 01939 238355
e-mail: glynn.hobson@enviros.com
Date: 18 December 2000

Dear Neil

Re: Laboratory Analysis

Please find enclosed a faxed copy of the soil sample laboratory analysis and a copy of the A1 drawing, provided by yourselves, indicating the sample locations taken on the 29th November 2000 from your construction site. The analysis values are fairly low. I will post the final Alcontrol Geochem report once received. If you have any queries, please contact me.

Yours sincerely
for Technos Limited

Glynn Hobson
EnviScan Manager

Technos Limited
Walford Manor, Baschurch
Shrewsbury, Shropshire, SY4 2HH, UK
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www.enviros.com

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ALcontrol Geochem

Chester Street
Chester
CH4 8RD
Phone +44 (0)1244 671121
Fax +44 (0)1244 683306

FACSIMILE MESSAGE

Date	: 6 December, 2000
Our Ref	: 00/08359/02/01
To	: Technos Limited
Attention	: Chris White
Fax No	: 01939 262222
Originator	: Sarah Cowling
Email	: sarah.cowling@geochem.com
Subject	: Geochem Results

MESSAGE:

Dear Chris,

Please find attached the results for your job Poo198001A.

If you have any questions please do not hesitate to contact me.

Regards,

Sarah Cowling

ALcontrol Geochem

Diesel Range Organics by GC

Job Number : 00/08359/02/01
Client : Technos Limited
Ref : PO0198001A
Sample Type : SOIL
Units : mg/kg

Sample No	Sample Identity	Depth	Diesel Range Hydrocarbons	Interpretation
1	S2		37	Kerosene Residues/Biodegraded diesel/Lube Oil
3	S3		54	Kerosene Residues/Heavy n-alkanes
5	S4		33	Kerosene Residues/Biodegraded diesel/Heavy n-alkanes.
7	S5		50	Kerosene Residues/Biodegraded diesel/Lube Oil
9	S6		35	Kerosene Residues/Biodegraded diesel/Lube Oil

ALcontrol Geochem

Gasoline Range Organics by GC

Job Number : 00/08359/02/01
Client : Technos Limited
Ref : PO0198001A
Sample Type : SOIL
Units : µg/kg

Sample No	Sample Identity	Depth	Total Volatiles C_4 to C_{13}
2	S2		< 10
4	S3		< 10
6	S4		< 10
8	S5		< 10
10	S6		< 10

ALcontrol Geochem

BTEX Analysis by GC

Job Number : 00/08359/02/01
Client : Technos Limited
Ref : PO0198001A
Sample Type : SOIL
Units : µg/kg

Sample No	Sample Identity	Depth	Benzene	Toluene	Ethyl Benzene	Total Xylene
2	S2		< 10	< 10	< 10	< 10
4	S3		< 10	< 10	< 10	< 10
6	S4		< 10	< 10	< 10	< 10
8	S5		< 10	< 10	< 10	< 10
10	S6		< 10	< 10	< 10	< 10

ALcontrol Geochem Analytical Services

Semivolatile Organic Compounds

Sample Identity - 200008359-001/S2
Client / Sample matrix - techno /soil
Date Acquired - 2/Dec/2000
Units - µg/kg

CAS Number	Compound	Concn.
108-95-2	Phenol	<100
95-57-8	2-Chlorophenol	<100
95-48-7	2-Methylphenol	<100
106-44-5	4-Methylphenol	<100
88-75-5	2-Nitrophenol	<100
100-02-7	4-Nitrophenol	<100
120-83-2	2,4-Dichlorophenol	<100
105-67-9	2,4-Dimethylphenol	<100
59-50-7	4-Chloro-3-methylphenol	<100
88-06-2	2,4,6-Trichlorophenol	<100
95-95-4	2,4,5-Trichlorophenol	<100
87-86-5	Pentachlorophenol	<100
541-73-1	1,3-Dichlorobenzene	<100
106-46-7	1,4-Dichlorobenzene	<100
95-50-1	1,2-Dichlorobenzene	<100
120-82-1	1,2,4-Trichlorobenzene	<100
98-95-3	Nitrobenzene	<100
103-33-3	Azobenzene	<100
118-74-1	Hexachlorobenzene	<100
91-20-3	Naphthalene	<100
208-96-8	Acenaphthylene	<100
83-32-9	Acenaphthene	<100
86-73-7	Flourene	<100
85-01-8	Phenanthrene	<100
120-12-7	Anthracene	<100
206-44-0	Fluoranthrene	<100
129-00-0	Pyrene	<100
56-55-3	Benzo(a)anthracene	<100
218-01-9	Chrysene	<100
205-99-2	Benzo(b)fluoranthrene	<100

CAS Number	Compound	Concn.
207-08-9	Benzo(k)fluoranthrene	<100
50-32-8	Benzo(a)pyrene	<100
193-39-5	Indeno(1,2,3-cd)pyrene	<100
53-70-3	Dibenzo(a,h)anthracene	<100
191-24-2	Benzo(ghi)perylene	<100
91-58-7	2-Chloronaphthalene	<100
91-57-6	2-Methylnaphthalene	<100
86-74-8	Carbazole	<100
78-59-1	Isophorone	<100
132-64-9	Dibenzofuran	<100
131-11-3	Dimethyl phthalate	<100
84-66-2	Diethyl phthalate	<100
84-74-2	Di-n-butylphthalate	<100
117-84-0	Di-n-octylphthalate	<100
117-81-7	Bis(2-ethylhexyl)phthalate	<100
85-68-7	Butylbenzylphthalate	<100
106-47-8	4-Chloroanlline	<100
88-74-4	2-Nitroanaline	<100
99-09-2	3-Nitroaniline	<100
100-01-6	4-Nitroaniline	<100
121-14-2	2,4-Dinitrotoluene	<100
606-20-2	2,6-Dinitrotoluene	<100
111-44-4	Bis(2-chloroethyl)ether	<100
101-55-3	4-Bromophenylphenylether	<100
7005-72-3	4-Chlorophenylphenylether	<100
67-72-1	Hexachloroethane	<100
87-68-3	Hexachlorobutadiene	<100
77-47-4	Hexchlorocyclopentadiene	<100
111-91-1	Bis(2-chloroethoxy)methane	<100
621-64-7	N-nitrosodi-n-propylamine	<100

ALCONTROL GEOCHEM ANALYTICAL SERVICES

Tentatively Identified Compounds

by

GCMS

Method - Semi-volatile Analysis
Mode - Full scan
Matrix - soil
Sample No. - 8359-001
Sample ID \ Depth - S2

Peak No.	Compound Identification	RetentionTime min	Concentration µg/kg
	benzene dicarboxylic acid Esters	-	1520

NB : the Extracted Blank has been subtracted

Report written by : _____

Report checked by : _____

ALcontrol Geochem Analytical Services

Semivolatile Organic Compounds

Sample Identity - 200008359-003/S3
Client / Sample matrix - techno /soil
Date Acquired - 2/Dec/2000
Units - µg/kg

CAS Number	Compound	Concn.
108-95-2	Phenol	<100
95-57-8	2-Chlorophenol	<100
95-48-7	2-Methylphenol	<100
106-44-5	4-Methylphenol	<100
88-75-5	2-Nitrophenol	<100
100-02-7	4-Nitrophenol	<100
120-83-2	2,4-Dichlorophenol	<100
105-67-9	2,4-Dimethylphenol	<100
59-50-7	4-Chloro-3-methylphenol	<100
88-06-2	2,4,6-Trichlorophenol	<100
95-95-4	2,4,5-Trichlorophenol	<100
87-86-5	Pentachlorophenol	<100
541-73-1	1,3-Dichlorobenzene	<100
106-46-7	1,4-Dichlorobenzene	<100
95-50-1	1,2-Dichlorobenzene	<100
120-82-1	1,2,4-Trichlorobenzene	<100
98-95-3	Nitrobenzene	<100
103-33-3	Azobenzene	<100
118-74-1	Hexachlorobenzene	<100
91-20-3	Naphthalene	<100
208-96-8	Acenaphthylene	<100
83-32-9	Acenaphthene	<100
86-73-7	Flourene	<100
85-01-8	Phenanthrene	<100
120-12-7	Anthracene	<100
206-44-0	Fluoranthrene	<100
129-00-0	Pyrene	<100
56-55-3	Benzo(a)anthracene	<100
218-01-9	Chrysene	<100
205-99-2	Benzo(b)fluoranthrene	<100

CAS Number	Compound	Concn.
207-08-9	Benzo(k)fluoranthrene	<100
50-32-8	Benzo(a)pyrene	<100
193-39-5	Indeno(1,2,3-cd)pyrene	<100
53-70-3	Dibenzo(a,h)anthracene	<100
191-24-2	Benzo(ghi)perylene	<100
91-58-7	2-Chloronaphthalene	<100
91-57-6	2-Methylnaphthalene	<100
86-74-8	Carbazole	<100
78-59-1	Isophorone	<100
132-64-9	Dibenzofuran	<100
131-11-3	Dimethyl phthalate	<100
84-66-2	Diethyl phthalate	<100
84-74-2	Di-n-butylphthalate	<100
117-84-0	Di-n-octylphthalate	<100
117-81-7	Bis(2-ethylhexyl)phthalate	<100
85-68-7	Butylbenzylphthalate	<100
106-47-8	4-Chloroaniline	<100
88-74-4	2-Nitroanaline	<100
99-09-2	3-Nitroaniline	<100
100-01-6	4-Nitroaniline	<100
121-14-2	2,4-Dinitrotoluene	<100
606-20-2	2,6-Dinitrotoluene	<100
111-44-4	Bis(2-chloroethyl)ether	<100
101-55-3	4-Bromophenylphenylether	<100
7005-72-3	4-Chlorophenylphenylether	<100
67-72-1	Hexachloroethane	<100
87-68-3	Hexachlorobutadiene	<100
77-47-4	Hexchlorocyclopentadiene	<100
111-91-1	Bis(2-chloroethoxy)methane	<100
621-64-7	N-nitrosodi-n-propylamine	<100

ALCONTROL GEOCHEM ANALYTICAL SERVICES

Tentatively Identified Compounds

by

GCMS

Method - Semi-volatile Analysis
Mode - Full scan
Matrix - soil
Sample No. - 8359-003
Sample ID \ Depth - S3

Peak No.	Compound Identification	RetentionTime min	Concentration µg/kg
	No Compounds Detected	-	<100

NB : the Extracted Blank has been subtracted

Report written by : _____

Report checked by : _____

ALcontrol Geochem Analytical Services

Semivolatile Organic Compounds

Sample Identity - 200008359-005/S4
Client / Sample matrix - techno /soil
Date Acquired - 4/Dec/2000
Units - µg/kg

CAS Number	Compound	Concn.
108-95-2	Phenol	<100
95-57-8	2-Chlorophenol	<100
95-48-7	2-Methylphenol	<100
106-44-5	4-Methylphenol	<100
88-75-5	2-Nitrophenol	<100
100-02-7	4-Nitrophenol	<100
120-83-2	2,4-Dichlorophenol	<100
105-67-9	2,4-Dimethylphenol	<100
59-50-7	4-Chloro-3-methylphenol	<100
88-06-2	2,4,6-Trichlorophenol	<100
95-95-4	2,4,5-Trichlorophenol	<100
87-86-5	Pentachlorophenol	<100
541-73-1	1,3-Dichlorobenzene	<100
106-46-7	1,4-Dichlorobenzene	<100
95-50-1	1,2-Dichlorobenzene	<100
120-82-1	1,2,4-Trichlorobenzene	<100
98-95-3	Nitrobenzene	<100
103-33-3	Azobenzene	<100
118-74-1	Hexachlorobenzene	<100
91-20-3	Naphthalene	<100
208-96-8	Acenaphthylene	<100
83-32-9	Acenaphthene	<100
86-73-7	Flourene	<100
85-01-8	Phenanthrene	<100
120-12-7	Anthracene	<100
206-44-0	Fluoranthrene	<100
129-00-0	Pyrene	<100
56-55-3	Benzo(a)anthracene	<100
218-01-9	Chrysene	<100
205-99-2	Benzo(b)fluoranthrene	<100

CAS Number	Compound	Concn.
207-08-9	Benzo(k)fluoranthrene	<100
50-32-8	Benzo(a)pyrene	<100
193-39-5	Indeno(1,2,3-cd)pyrene	<100
53-70-3	Dibenzo(a,h)anthracene	<100
191-24-2	Benzo(ghi)perylene	<100
91-58-7	2-Chloronaphthalene	<100
91-57-6	2-Methylnaphthalene	<100
86-74-8	Carbazole	<100
78-59-1	Isophorone	<100
132-64-9	Dibenzofuran	<100
131-11-3	Dimethyl phthalate	<100
84-66-2	Diethyl phthalate	<100
84-74-2	Di-n-butylphthalate	<100
117-84-0	Di-n-octylphthalate	<100
117-81-7	Bis(2-ethylhexyl)phthalate	<100
85-68-7	Butylbenzylphthalate	<100
106-47-8	4-Chloroaniline	<100
88-74-4	2-Nitroanaline	<100
99-09-2	3-Nitroaniline	<100
100-01-6	4-Nitroaniline	<100
121-14-2	2,4-Dinitrotoluene	<100
606-20-2	2,6-Dinitrotoluene	<100
111-44-4	Bis(2-chloroethyl)ether	<100
101-55-3	4-Bromophenylphenylether	<100
7005-72-3	4-Chlorophenylphenylether	<100
67-72-1	Hexachloroethane	<100
87-68-3	Hexachlorobutadiene	<100
77-47-4	Hexchlorocyclopentadiene	<100
111-91-1	Bis(2-chloroethoxy)methane	<100
621-64-7	N-nitrosodi-n-propylamine	<100

ALCONTROL GEOCHEM ANALYTICAL SERVICES

Tentatively Identified Compounds

by

GCMS

Method - Semi-volatile Analysis
Mode - Full scan
Matrix - soil
Sample No. - 8359-005
Sample ID \ Depth - S4

Peak No.	Compound Identification	RetentionTime min	Concentration µg/kg
	No Compounds Detected	-	<100

NB : the Extracted Blank has been subtracted

Report written by : _____

Report checked by : _____

ALcontrol Geochem Analytical Services

Semivolatile Organic Compounds

Sample Identity - 200008359-007/S5
Client / Sample matrix - techno /soil
Date Acquired - 2/Dec/2000
Units - µg/kg

CAS Number	Compound	Concn.
108-95-2	Phenol	<100
95-57-8	2-Chlorophenol	<100
95-48-7	2-Methylphenol	<100
106-44-5	4-Methylphenol	<100
88-75-5	2-Nitrophenol	<100
100-02-7	4-Nitrophenol	<100
120-83-2	2,4-Dichlorophenol	<100
105-67-9	2,4-Dimethylphenol	<100
59-50-7	4-Chloro-3-methylphenol	<100
88-06-2	2,4,6-Trichlorophenol	<100
95-95-4	2,4,5-Trichlorophenol	<100
87-86-5	Pentachlorophenol	<100
541-73-1	1,3-Dichlorobenzene	<100
106-46-7	1,4-Dichlorobenzene	<100
95-50-1	1,2-Dichlorobenzene	<100
120-82-1	1,2,4-Trichlorobenzene	<100
98-95-3	Nitrobenzene	<100
103-33-3	Azobenzene	<100
118-74-1	Hexachlorobenzene	<100
91-20-3	Naphthalene	<100
208-96-8	Acenaphthylene	<100
83-32-9	Acenaphthene	<100
86-73-7	Flourene	<100
85-01-8	Phenanthrene	<100
120-12-7	Anthracene	<100
206-44-0	Fluoranthrene	<100
129-00-0	Pyrene	<100
56-55-3	Benzo(a)anthracene	<100
218-01-9	Chrysene	<100
205-99-2	Benzo(b)fluoranthrene	<100

CAS Number	Compound	Concn.
207-08-9	Benzo(k)fluoranthrene	<100
50-32-8	Benzo(a)pyrene	<100
193-39-5	Indeno(1,2,3-cd)pyrene	<100
53-70-3	Dibenzo(a,h)anthracene	<100
191-24-2	Benzo(ghi)perylene	<100
91-58-7	2-Chloronaphthalene	<100
91-57-6	2-Methylnaphthalene	<100
86-74-8	Carbazole	<100
78-59-1	Isophorone	<100
132-64-9	Dibenzofuran	<100
131-11-3	Dimethyl phthalate	<100
84-66-2	Diethyl phthalate	<100
84-74-2	Di-n-butylphthalate	<100
117-84-0	Di-n-octylphthalate	<100
117-81-7	Bis(2-ethylhexyl)phthalate	<100
85-68-7	Butylbenzylphthalate	<100
106-47-8	4-Chloroaniline	<100
88-74-4	2-Nitroanaline	<100
99-09-2	3-Nitroaniline	<100
100-01-6	4-Nitroaniline	<100
121-14-2	2,4-Dinitrotoluene	<100
606-20-2	2,6-Dinitrotoluene	<100
111-44-4	Bis(2-chloroethyl)ether	<100
101-55-3	4-Bromophenylphenylether	<100
7005-72-3	4-Chlorophenylphenylether	<100
67-72-1	Hexachloroethane	<100
87-68-3	Hexachlorobutadiene	<100
77-47-4	Hexchlorocyclopentadiene	<100
111-91-1	Bis(2-chloroethoxy)methane	<100
621-64-7	N-nitrosodi-n-propylamine	<100

ALCONTROL GEOCHEM ANALYTICAL SERVICES

Tentatively Identified Compounds

by

GCMS

Method - Semi-volatile Analysis
Mode - Full scan
Matrix - soil
Sample No. - 8359-007
Sample ID \ Depth - S5

Peak No.	Compound Identification	RetentionTime min	Concentration µg/kg
	No Compounds Detected	-	<100

NB : the Extracted Blank has been subtracted

Report written by : _____

Report checked by : _____

ALcontrol Geochem Analytical Services

Semivolatile Organic Compounds

Sample Identity - 200008359-009/S6
Client / Sample matrix - techno /soil
Date Acquired - 2/Dec/2000
Units - µg/kg

CAS Number	Compound	Concn.
108-95-2	Phenol	<100
95-57-8	2-Chlorophenol	<100
95-48-7	2-Methylphenol	<100
106-44-5	4-Methylphenol	<100
88-75-5	2-Nitrophenol	<100
100-02-7	4-Nitrophenol	<100
120-83-2	2,4-Dichlorophenol	<100
105-67-9	2,4-Dimethylphenol	<100
59-50-7	4-Chloro-3-methylphenol	<100
88-06-2	2,4,6-Trichlorophenol	<100
95-95-4	2,4,5-Trichlorophenol	<100
87-86-5	Pentachlorophenol	<100
541-73-1	1,3-Dichlorobenzene	<100
106-46-7	1,4-Dichlorobenzene	<100
95-50-1	1,2-Dichlorobenzene	<100
120-82-1	1,2,4-Trichlorobenzene	<100
98-95-3	Nitrobenzene	<100
103-33-3	Azobenzene	<100
118-74-1	Hexachlorobenzene	<100
91-20-3	Naphthalene	<100
208-96-8	Acenaphthylene	<100
83-32-9	Acenaphthene	<100
86-73-7	Flourene	<100
85-01-8	Phenanthrene	<100
120-12-7	Anthracene	<100
206-44-0	Fluoranthrene	<100
129-00-0	Pyrene	<100
56-55-3	Benzo(a)anthracene	<100
218-01-9	Chrysene	<100
205-99-2	Benzo(b)fluoranthrene	<100

CAS Number	Compound	Concn.
207-08-9	Benzo(k)fluoranthrene	<100
50-32-8	Benzo(a)pyrene	<100
193-39-5	Indeno(1,2,3-cd)pyrene	<100
53-70-3	Dibenzo(a,h)anthracene	<100
191-24-2	Benzo(ghi)perylene	<100
91-58-7	2-Chloronaphthalene	<100
91-57-6	2-Methylnaphthalene	<100
86-74-8	Carbazole	<100
78-59-1	Isophorone	<100
132-64-9	Dibenzofuran	<100
131-11-3	Dimethyl phthalate	<100
84-66-2	Diethyl phthalate	<100
84-74-2	Di-n-butylphthalate	<100
117-84-0	Di-n-octylphthalate	<100
117-81-7	Bis(2-ethylhexyl)phthalate	<100
85-68-7	Butylbenzylphthalate	<100
106-47-8	4-Chloroaniline	<100
88-74-4	2-Nitroanaline	<100
99-09-2	3-Nitroaniline	<100
100-01-6	4-Nitroaniline	<100
121-14-2	2,4-Dinitrotoluene	<100
606-20-2	2,6-Dinitrotoluene	<100
111-44-4	Bis(2-chloroethyl)ether	<100
101-55-3	4-Bromophenylphenylether	<100
7005-72-3	4-Chlorophenylphenylether	<100
67-72-1	Hexachloroethane	<100
87-68-3	Hexachlorobutadiene	<100
77-47-4	Hexchlorocyclopentadiene	<100
111-91-1	Bis(2-chloroethoxy)methane	<100
621-64-7	N-nitrosodi-n-propylamine	<100

ALCONTROL GEOCHEM ANALYTICAL SERVICES

Tentatively Identified Compounds

by

GCMS

Method - Semi-volatile Analysis
Mode - Full scan
Matrix - soil
Sample No. - 8359-009
Sample ID \ Depth - S6

Peak No.	Compound Identification	RetentionTime min	Concentration µg/kg
	No Compounds Detected	-	<100

NB : the Extracted Blank has been subtracted

Report written by : _____

Report checked by : _____

Geochem Analytical Services

Polychlorinated Biphenyls
by
GCMS

Sample Matrix : Soil
Our Reference: 00/8359/02/01
Date Sample Received: 30/11/00
Date Extracted/Prepared: 1/12/00
Extraction procedure: Microwave
Column Extraction: No
Date Analysed: 5/12/00
GC-MS Mode: SIM
Internal Standard: External

	Sample No.	001	003	005	007	009
	Client Ref.	S2	S3	S4	S5	S6
	P.Q.L.	1	1	1	1	1
CAS Number	Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
12674-11-2	Aroclor 1016					
11104-28-2	Aroclor 1221					
11141-16-5	Aroclor 1232					
53469-21-9	Aroclor 1242					
12672-29-6	Aroclor 1248					
11097-69-1	Aroclor 1254					
11096-82-5	Aroclor 1260					
	Total	<1	<1	<1	<1	<1

Calculated against Aroclor 1254.

Approved by _____