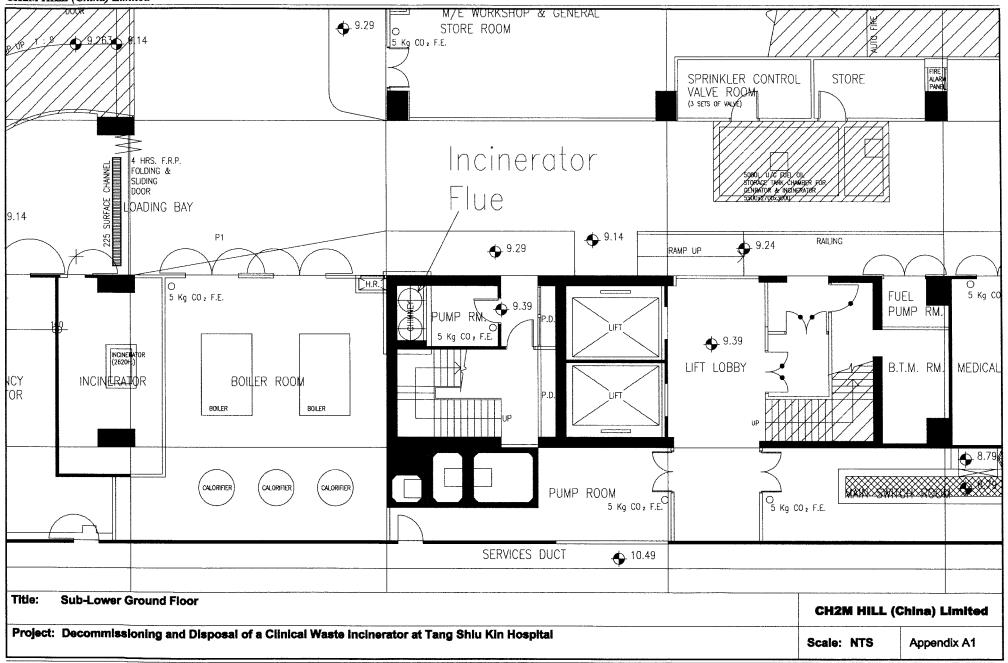
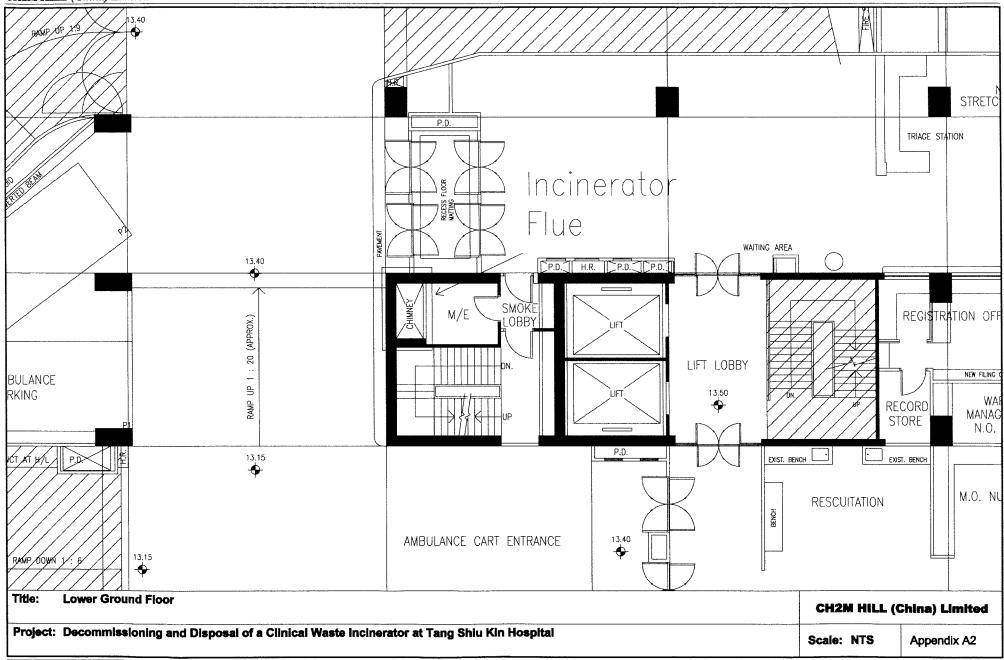
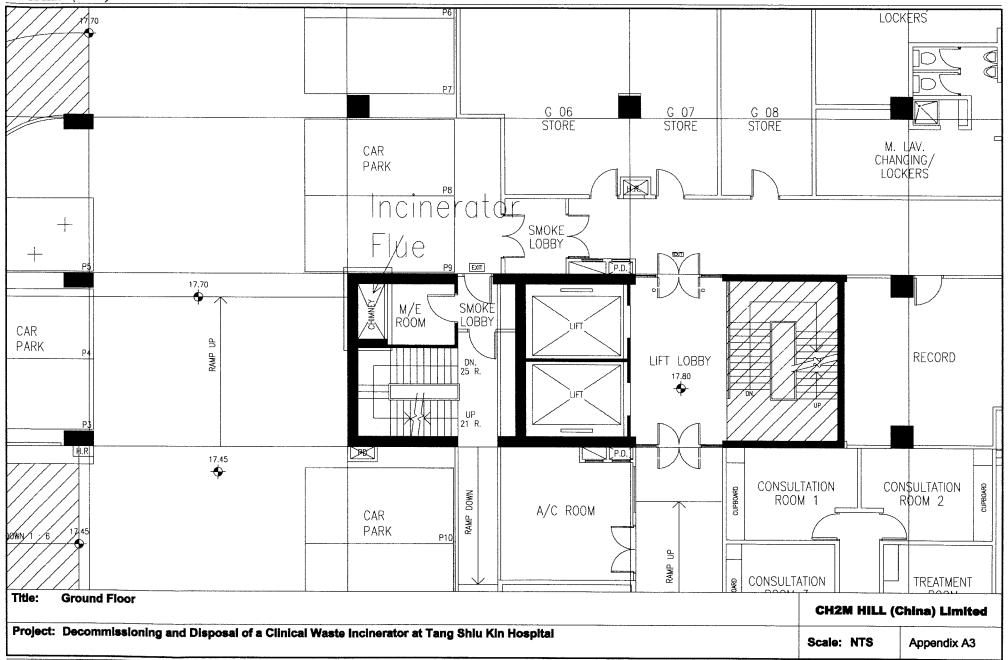
Appendix A

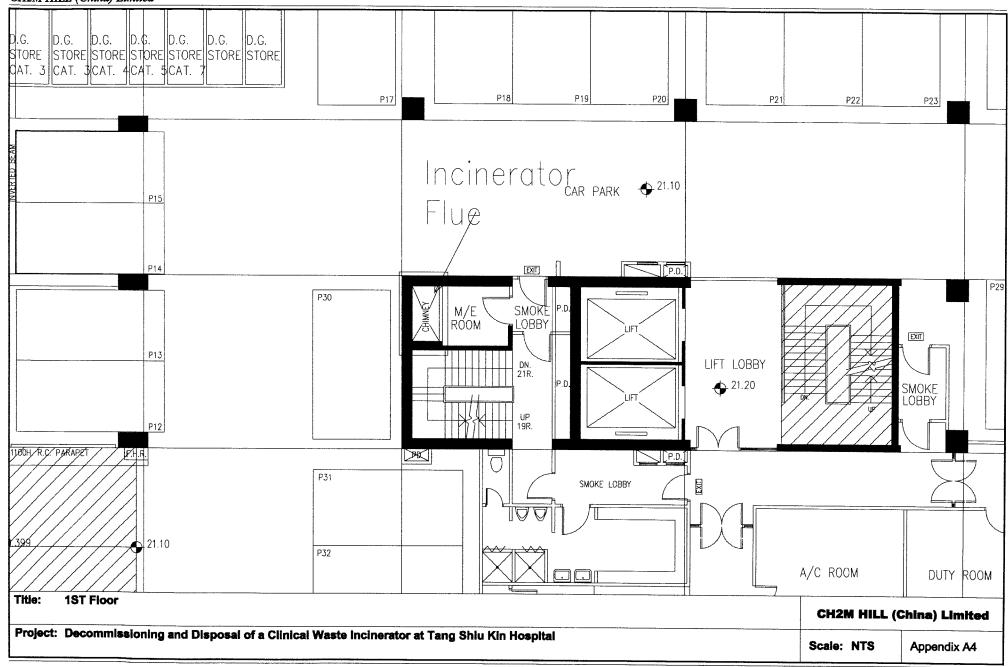
Location of Incinerator Flue







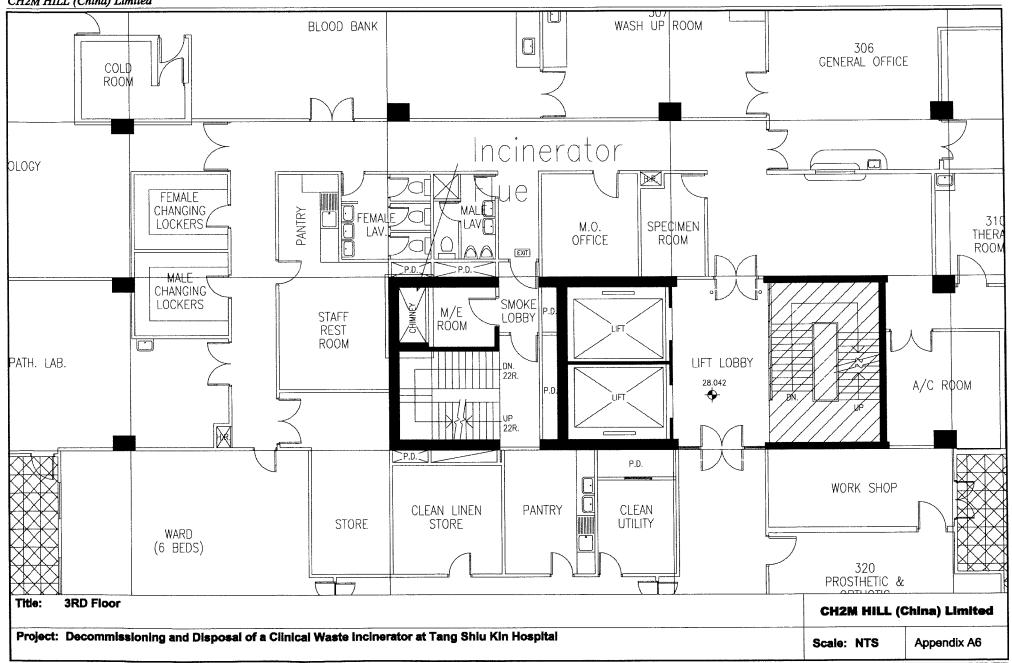
CH2M HILL (China) Limited

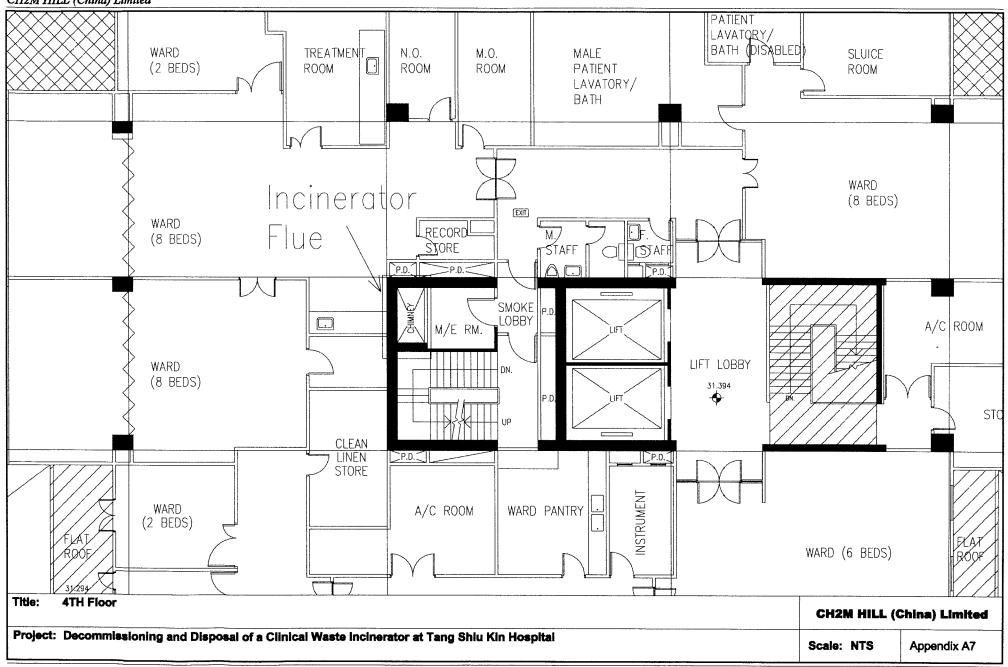


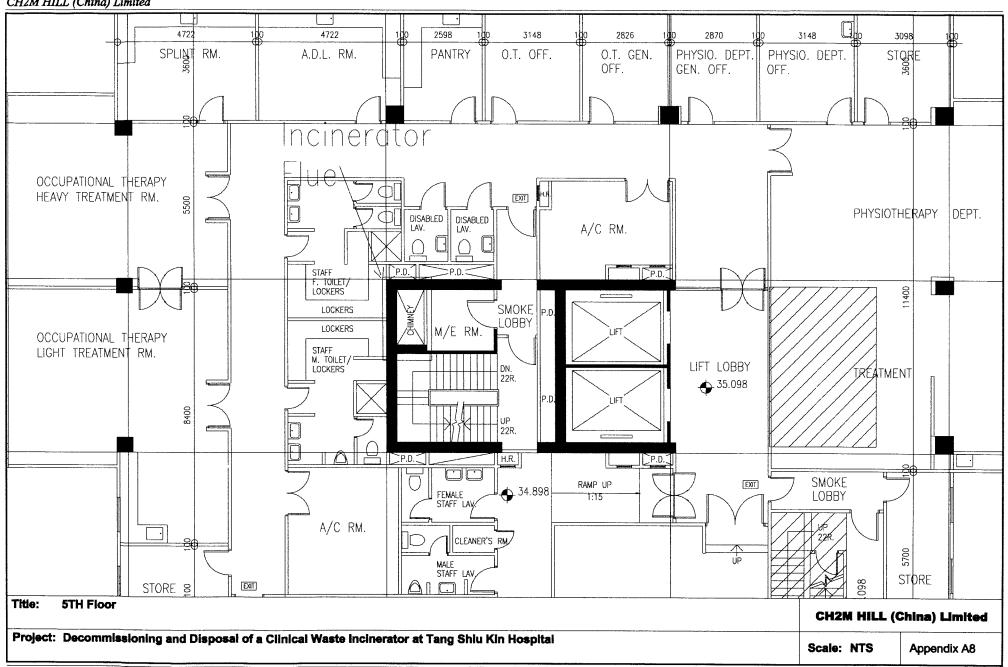
CH2M HILL (China) Limited -RAY FILM STORE IVPX-RAYRM. / SKULL UNIT X-RAY FILM GENERAL X-RAY X-RAY FILM VIEWING RM. VIEWING RM. EXIT WAITING AREA Incinerato SLUICE STORE PATH. LAB. RECEPTION OFF. (X-RAY)OPERATING THEATRE P.D. P.D. P.D. P.D. M/E AUTOCLAVE / SUPPLY RÓOM A/C ROOM LIFT LOBBY 24.339 INDUCTION INDUCTION **SCRUB** RM. RM. - SCRUB UP THROUGH BATTERY LLTRA RM. **OPERATION** OPERATING SUITE STAFF 24.339. PABX RM. PANTE FOREMAN RAMP NURSE STERILE NURSE RM N.O. RM Title: 2ND Floor **CH2M HILL (China) Limited** Project: Decommissioning and Disposal of a Clinical Waste Incinerator at Tang Shiu Kin Hospital

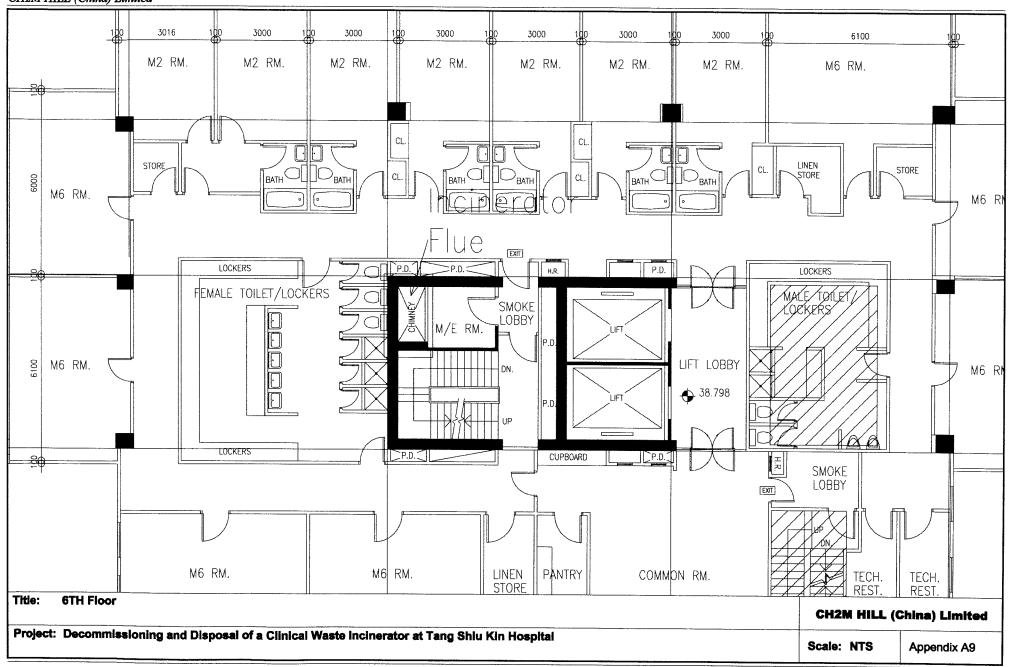
Scale: NTS

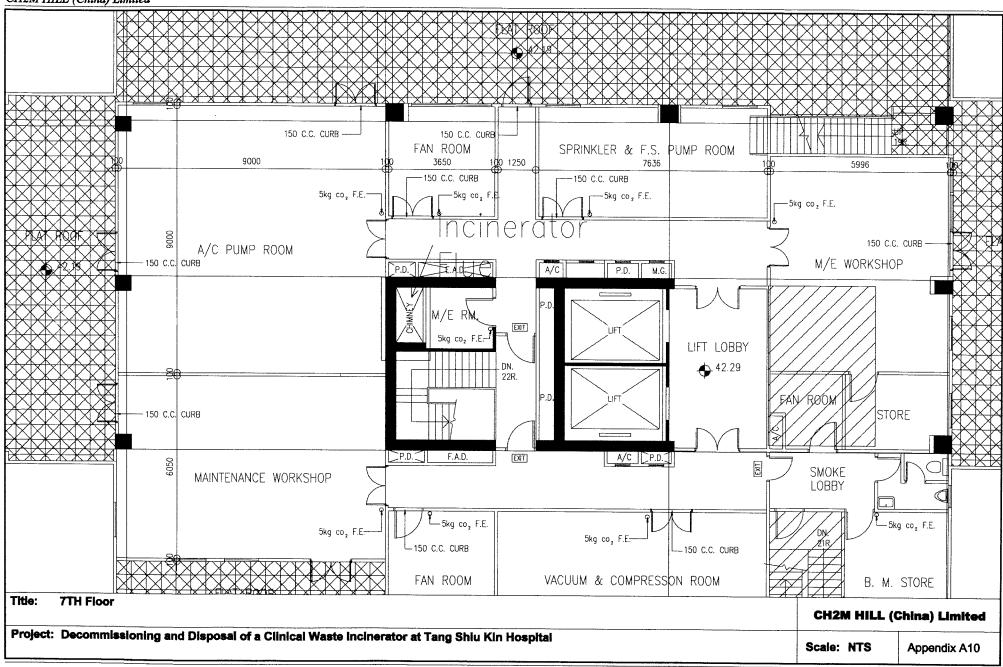
Appendix A5











Title: **Upper Roof & Top Roof CH2M HILL (China) Limited** Project: Decommissioning and Disposal of a Clinical Waste Incinerator at Tang Shiu Kin Hospital Scale: NTS Appendix A11

Appendix B

Laboratory Report



ALS TECHNICHEM (HK) Pty Ltd

ALS Environmental



CERTIFICATE OF ANALYSIS

CONTACT:

MS PETULA SHAM

CLIENT:

CH2M HILL (CHINA) LIMITED

ADDRESS:

28/F SIU ON CENTRE 188 LOCKHART ROAD

WANCHALHONG KONG

ORDER No.:

PROJECT:

Batch:

Sub Batch:

LABORATORY: DATE RECEIVED: DATE OF ISSUE:

SAMPLE TYPE: No. of SAMPLES:

INCINERATOR ASH

HK16879

HONG KONG

27/08/2002

11/09/2002

COMMENTS

Samples were collected by ALS Technichem (HK) Staff on:27 August.2002. Samples as received, digested by In-house method based on USEPA method 3051, prior to the determation of metals. Some metals may give biasing low results using this digestion method when compared with so-called "total" digestion methods. Results reported on a dry weight basis. The completion date of analysis is 09 September,2002.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: HONG KONG

Address

ALS Technichem (HK) Pty Ltd.

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Kwai Chung, N.T., HONG KONG.

Phone: 852-2610 1044

Fax: 852-2610 2021

Email: alshk@alshk.com.hk

General Magader, Hong Kong

Other ALS Environmental Laboratories

AUSTRALASIA

Brisbade

Mailtourne

Sydney Newca*s*lia

AMERICAS

Vançouver Şantiago Antofagasta Aborewations: % SPK REC centiles percentage spike recovery

CHK denotes dublicate check sarriolé LOR denotes that of reporting

I CS % REC cenates Laboratory Control Sample percentage recovery

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Bogor

Hang Kong

Singaporo Kuala Lumpur

11/09/2002 CH2M HILL (CHINA) LIMITED

Cilent: Client Reference;

Sub Batch: Date of Issue:

Batch:

HK16879

CERTIFICATE OF ANALYSIS



	 !	_			!	.,							-u -				
			r. n-														
					!												
SAMPLE IDENTIFICATION			<u>.</u>														
SAMPLE IDE																	- :
	- ·		SAMPLES		6.0	2.1	217	0.50	2.37	24.9	75.0	18.7	28.8	14.1	3.63	434	0.50
	7		SAMPLE 2		1.2	-: E	283	÷.	4.27	32.2	1630	4.97	36.6	16.6	2.57	406	0.46
	-		SAMPLE 1		1.8	3.4	273	0.31	5.37	35.9	213	17.7	39.7	19.3	3.13	244	0,70
	Laboratory I.D.	Date Sampled		LOR	0.1	0.5	0.05	0.01	0.05	0.05	0.05	0.05	900	90.0	0.05	0.5	20'0
	Labore	Date S	!	LINU.	*	mg/kg	mg/kg	ман	mg/kg	тджд	By/Sil	By/Bu	Especial .	manka	, тд/ка	mg/kg	mg/kg
				ANALYSIS DESCRIPTION	Moisture Content (affed @ 103°C)	inic	En En	Cadmium	alt	Chromium	per	Melybdorum	.	13.			Mercury
			-	METHOD /	EA-055 Mois	HG-020 Arsenio			EG-020 Coball		EG-020 Copper		5G-020 Nickel	EG-020	EG-020 Tin	SG-020 Zing	E3-038 Men

ALS Technichem (HK) Pty Ltd



Batch: Sub Batch: Data of Issue: Client: Client	HK16879 ch: 0 ssue: 11/09/2002 CH2M HILL (CHINA) LIMITED eference:	IINA) LIMIT	ED ED		σn	QUALITY CONTROL REPORT	4 9
					ļ -	SAMPLE IDENTIFICATION	:
		Laboratory I.D.		200	201		
		Date Sampled	mpled				
METHOD	ANALYSIS DESCRIPTION	Z		BLANK	LCS % REC		
 			ļ .			CHECKS AND SPIKES	
EA-055	Moisture Content (dried @ 103.C)	₽!	1.0	ŀ]
EC-320	Arsente	DIGNO	0.5	<0.5	866 6		•
EG-020	Barium	п₽№д	0.05	<0.05	87%		
EG-020	Cadmlum	B y6 5⊞	0.04	-0.01	806	-	
EG-020	Coball	5 3/6 00	900	40.05			
EG-020	. Chromium	вивш	0.05	<0.05	%9 6		
EG-020	Copper	mg/kg	0.05	40,05	#00 1	•	
EG-020	Molybdenum .	mg/kg	90.0	<0.05	102%		
£G-020	Nickel	mg/kg	0.05	<0.05	386 28		
EG-020	Leed	eng/kg	900	8 0.0	100%		
EG-920][स	mg/kg	0.05	\$0.05	#00# %		
EC-020	Zinc	mg/kg	6.6	<0.5	15 10 10 10 10 10 10 10 10 10 10 10 10 10		
1.13-036	Moreury	@S/ga	0.02	¢0.02	83%		
•							

ALS TECHNICHEM (HK) Pty Ltd





CERTIFICATE OF ANALYSIS

CONTACT:

MS PETULA SHAM

CLIENT:

CH2M HILL (CHINA) LIMITED

ADDRESS:

28/F SIU ON CENTRE

188 LOCKHART ROAD

WANCHALHONG KONG

ORDER No.:

PROJECT:

Batch:

Batch:

HK16879

Sub Batch:

LABORATORY: DATE RECEIVED: HONG KONG 27/08/2002

DATE OF ISSUE:

11/09/2002

SAMPLE TYPE: No. of SAMPLES: INCINERATOR ASH

COMMENTS

Samples analysed on an as received basis. Results reported on a dry

weight basis. Sample preparation techniques: Semivolatile - Separatory

Funnel and Tumbler, Volatile - Purge & Trap. Sample analysis

techniques: Semivolatile components - GC/MS; TPH - GC/FID; Volatile

components - GC/MS; Pesticides - GC/ECD, GC/MS. Refer to the attached

appendix for quality control data.

NOTES

This is the Final Report and supersedes any preliminary reports with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: HONG KONG

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Fax: 8

852-2610 2021

Chung Shun Knitting Centre, 1-3 Wing Yip Stroet

Kwal Chung, N.T., HONG KONG.

Email: alshk@alshk.com.hk

Desmond K F Poon
Assistant Supervisor - Organics

Other ALS Environmental Laboratories

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AUSTRALASIA

Brisbane

Sydney Nowcastle SIA Hong Kong AMERICAS Vancouver Santiago Antologasta Abbreviationa: % SPK REC denotes percentage spike recovery CHK denotes duplicate check sample

LOR desigles limit of reporting

LCS % REC denotes Laboratory Control Sample percentage recovery.

ALG TECHNICHEMICHE (INC) FTY LTD

11.5% Chung Shun AnjHing Centre, 1-3 Wing Yip Street, Kwall Chung, N. L., H.K.

Singapare Kuala Lumpur

Page 4 of 9

A Campust Brothers Statted Conjuncy

ALS Technichem (HK) Pty Ltd

(S)		: 								:
CERTIFICATE OF ANALYSIS	SAMPLE IDENTIFICATION									
RTIFICAT	: 	<u>.</u> د	:	SAMPLES			£0.1		5	88
ÇĒ	1		_	SAMPLE2		1.2	¢0.1		100	8
		-		SAMPLE 1		1.8	₹0.4		83	35
Д.		ory 1.D.	peldu	i	LOR	- -	10		23	20
NA) LIMIT	ļ İ	Laboratory I.D.	Date Sampled		LINO	8 7	Вубш	GATES	25	%.
HK16879 th: 1 11/09/2002 CH2M HILL (CHINA) LIMITED ference:					ANALYSIS DESCRIPTION	Molsture Content (dried @ 105°C)	TOTAL POLYCHLORINATED BIPHENYLS	POLYCHLORINATED BIPHENYLS SURROGATES	Tetrachioro-m-xylene	Dibutylchiorendate
Batch: Sub Batch: Date of Issue: Client:					METHOD	EA-065	EP-066-83	EP-0665-55	EP-0659-SS	CP-0658-55

ALS TECHNICHEM (HK) Pty Ltd





CERTIFICATE OF ANALYSIS

CONTACT:

MS PETULA SHAM

CLIENT:

CH2M HILL (CHINA) LIMITED

ADDRESS:

28/F SIU ON CENTRE 188 LOCKHART ROAD WANCHAI HONG KONG

ORDER No.:

PROJECT:

Batch:

HK16879

Sub Batch:

LABORATORY:

HONG KONG 27/08/2002

DATE RECEIVED: DATE OF ISSUE:

11/09/2002

SAMPLE TYPE:

INCINERATOR ASH

No. of SAMPLES:

COMMENTS

Samples analysed on an as received basis. Results reported on a dry

weight basis. Sample preparation techniques: Semivolatile - Separatory

Funnel and Tumbier, Volatile - Purge & Trap. Sample analysis

techniques: Semivolatile components - GC/MS; TPH - GC/FID; Volatile

components - GC/MS; Pesticides - GC/ECD, GC/MS. Refer to the attached

appendix for quality control data.

NOTES

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ISSUING LABORATORY: HONG KONG

Address

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Chung Shun Knitting Centre,

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852-2610 2021 Fax: Email: alshk@alshk.com.hk

Desmond K F Poon Assistant Supervisor - Organics

Other ALS Environmental Laboratories

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AUSTRALASIA

Brisbane

Sydney Newcastka

AMERICAS

Vencouver Santiago Antologasta Abbreviations: % SPK REC denotes percentage spike recovery CHK denotes duplicate check asmple.

LOR denotes until of reporting

LCS % REC periodes Leboratory Control Earnple percentage recovery

ALS TECHNICHEM (HKI PTY LTD)

11.9-1, Chung Short Knitt og Quatre, 1-3 Wing Ylp Street, Kwal Chung, A. C., H.K.

Phone: 852-2610 1044 Fax: 852-2610 2021

Hong Kong

Singapore Kuala Lumpur

Page 6 of 9

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ALS Technichem (HK) Pty Ltd



(STY)																								
CERTIFICATE OF ANALYSIS	SAMPLE IDENTIFICATION			83																				
ERTIFI				SAMPLE		24.0	4.00	<0.5	<0.5	40.5	<0.5	<0.5	4.02	- 40.5	<0.5	⊽ 	40.6	<0.5	40°	<0.5		67	8	35
S		2		SAMPLE	2	39.7	40.5	<0.5	<0.5	40.5	€0.5	<0.5 5.05	<0.5	- 40.5	<0.5	7	<0.5	<0.5	9,05	<0.5		8	78	8
		-		SAMPLE 1	8,1	16.3	40.5	40.5	20.5	6.5	40.5	40.5	<0.5	<0,5	<0.5	⊽	<0,5	<0.5	<0.5	<0.5		器	8	83
TED		Laboratory I.D.	Date Sampled	Ę,	-50	0.5	0.5	0.5	0.5	50	5.0	0.5	6.0	6.6	9.6	-	¥): O	9.5	6.5	0.5		20	8	R
IINA) LIMI		Labora	Date S	UNIT	æ	mgkg	mg/kg	бубш	шаука	mg/kg	вужв	DIGNG :	шеука	полка	negvite	трис	тала	DW/NU	EN/Eu	mg/kg	OGATES	쌺	格	≱*
HK16879 2 2 11/09/20 CH2M H rence:	:			ANALYSIS DESCRIPTION	Moisture Content (dried @ 103°C) POLYNUCLEAR AROMATICS	Naphthalone	Acenaphthylene	Acetaphthene	Fluorene	F-senenthrane	Anthracene	Fluoranthene	Pyrena	Benz(a)anthracene	Chrysene	Benzo(b) & (k)Buoranthene	Ввпzо(в)ругеле	Indeno(1.2.3-cd)pyrene	Dibenz(a.h)anthraœne	Beczofg.h.ljperylene	BASENEUTRAL EXTRACTABLE SURROGATES	Nitrobenzene-d5	2-Fluorobiphenyt	p-terphenyl-d14
Batch: Sub Batch: Date of Issue: Client: Client Reference:	İ_			METHOD	EP-0759-59	EP-075B-SS	E9-075B-33	EP-075B-SS	EP-0758-SS	EP-0758-88	EP-0750-38	H-4075B-8S	EP-076B-55	EP-075B-\$\$	EP-075B-SS	EP-075B-SS	EP-0758-58	EP-075B-SS	EP-075B-SS	€P-075B-SS	EP-075T-89	EP-075T-SS	EP-074T-83	£9-375T-S\$

ALS TECHNICHEM (HK) Pty Ltd

ALS Environmental



CERTIFICATE OF ANALYSIS

CONTACT:

MS PETULA SHAM

CLIENT:

CH2M HILL (CHINA) LIMITED

ADDRESS:

28/F SIU ON CENTRE

188 LOCKHART ROAD WANCHALHONG KONG

ORDER No.:

PROJECT:

Batch:

HK16879

Sub Batch:

LABORATORY: DATE RECEIVED: HONG KONG 27/08/2002

DATE OF ISSUE:

04/10/2002

SAMPLE TYPE:

INCINERATOR ASH

No. of SAMPLES:

COMMENTS

Three ash samples, #1, 2, and 3 were received from client. Dioxin analysis were subcontracted and tested by Maxxam Analytics Inc. Maxxam Analytics Inc detailed report is attached.

TESTING METHODS

The analysis is based on USEPA 8290

NOTES

This is the Final Report and supersedes any preliminary report with this batch number. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: HONG KONG

Address

ALS Technichem (HK) Pty Ltd

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Kwai Chung HONG KONG Phone:

852-2610 1044

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Richard L C Fung

General Manager- Mang Kong

Other ALS Environmental Laboratories

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Basbane

Sydney Newcastie

Melbourne

AMERICAS

Hong Keng Singapore

Vancouver Santiago

Kuala Lumour Bogor

Amtofegasia Linus

Abbreviations: % SPK REC denutes percentage spike recovery

CHK denotes duplicate check sample

LOR genetas limit of recoding:

LCS % REC denotes Laboratory Control Sample percentage recovery

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Page 8 of 9

ALS LICHNICHEM (HK) PTY LTD

 $1\,0\%$, Chung Shun Knitting Centre, 1-? Wing Yip Shreef, Kwai Chung, N Ξ , if K

Phone: 852-2610 1044 | Fax: 853 2610 2021

A Complete Brothers Limited Company

CERTIFICATE OF ANALYSIS



Maxxam Analytics Inc report is attached for the analysis of Dioxins in Incinerator Ash. This attach report contains a total of 7 pages.

ALS Technichem (HK) Pty Ltd

ALS Environmental



ALS TECHNICHEM (HK)
11/F CHUNG SHUN KNITTING CTR
1-3 WING YIP ST
KWAI CHUNG NT, —
HONG KONG

Attention: Desmond Poon

Report Date: 2002/10/03

Your P.O. #: P14265 Your Project #: HK16879

ANALYTICAL REPORT

MAXXAM JOB #: A227914 Received: 2002/08/29, 13:58

Sample Matrix: SOLID ≠ Samples Received: 3

Analyses Oibenzo-Diaxins/Futers
 Number
 Owle
 Date

 gFTests
 jcmucted
 Analyzed
 Labstratory Method

 3
 2002/09/16
 2002/09/25
 SOP# TO 1013

Method Reference SW846 - 8290

RD HOND MCNEH, B.Sc., C.Chem. Senior Belyst - HENS



MAXXAM JOB #: A227914 MAXXAM SAMPLE #: 852068 Sampling Date: 2002/08/27

CONC. UNITS = pat = pg/gRL Units = ppt = pg/g

PROJECT NAME: PROJECT #: HK16879 Report Date: 2002/10/03

	HK16879-#1	TC	IXIC EQUIVAL	ENCY		RECOVERIES OF C	IS SURROGATE
Compounds	CONG	RL.	I-TEF	TEQ(RL)	TEQ(0.5RL)	gg SPIKED	% RECOVERED
2,3,7,8-Tetra CDD *	0.0000	1.0000	1.000001	0.00000	0.00000	1900	37
Total Tetra CDD	8,0000	1.0000					
1,2,3,7,8-Penta GDD	0.0000	2.0000	0.50000	0.00000	0.00000	1000	38
Total Penta CDD	0.0000	2,0000		:			
1,2,3,4,7,8-Hexa CDD	0.0000	4,0000	G.10000	0.00000	0.00000		
[1,2,3,6,7,8-Hexa CDD	10,7000	4,3000	0.10000j	1.07000	<u> 1.07030</u> j	1000	31
1,2,3,7,8,9 Hexa COD	0.0000	4,0000	0.10000)	0.00000	0.00000		
Total Hexa CDD	112,0000	4,3000					
1,2,3,4,6,7,6-Hepta CDD	115.0000	3.0000	0.01000	1.15000	1.15000	1000°	38
Total Hepta CDD	289.0000	3,0000					
Osta CDD	926.0000	4.000G	0.00100	0.92600	0.92600	2000	35
2.3,7,8-Tetra CDF **	8,0000	1.0000	0.10000	0.80000	O.B <u>0000</u>	100 0 -	30
Tota: Tetra CCF	64,6000	1.0000		.			
1,2.3,7,8-Penta CDF	5,0000	2,0000	0.050001	9.25000	0.25000		57
2,3.4,7,8-Penta COF	10.0000	2.0000	Q.5B0QQ	5.00000	5.000000		
Total Porta CDF	90,7000	5.0000			٠ '		
1,2 3,4,7,8-Hexa CDF	35,3000	4.0000	0.10000	3,53000]	3.53 <u>000</u>	1000	73
1,2,3,6,7,8-Hexa CDF	14.4000	4.C0C0	0.10000	1.44000	1,44000		
1,2.3,7,8,9-Hexa CDF	14,1000	4.GOCO	0.10000	1,41 <u>000</u>	1,41000		
2,3,4,6,7,8-Hexa CDF	0.0000	4.0000	0.10000	Ģ. <u>000</u> 00	0.00000		
Total Hexa CDF	152.0000	4.0000					
1,2,3.4,6,7,8-Hepta CDF	81,0000	3,0000	0.01000	G.81 <u>000</u>	0,81060	1000	54
1,2,3,4,7,8,9 Hepta CDF	0.0000	3.0000	0.01000	0.00000	0.00000		
Total Hepta CDF	104.0000	3.0000		. <u> </u>			. ـ ــــ .
Octa_CDF	<u>67.1000</u>	4.0000	0.00100	0.08710	0.06710		:

TOTAL TOXIC EQUIVALENCY

16.45310; 16.45310

1000 = CHLORO DIBENZO-P-DIÓXIN " CBF = CHLORO DIBENZOFURAN

RL = REPORTING LIMIT

0.0000 = U = NOY DETECTED

TR = TRACE AMOUNT DETECTED

2,3,7,8-TCDF VALUE IS FROM CONFIRMATION COLUMN. SOME SURROGATE RECOVERIES ARE OUTSIDE CONTROL LIMITS, THE CORRESPONDING DATA IS THEREFORE OUT OF CONTROL. SOME MDL'S ARE RAISED DUE TO MATRIX EFFECTS.

BRANKO VRŽIC





MAXXAM JOB #: A227914 MAXXAM SAMPLE #; 852090 Sampling Date: 2002/08/27

CONC. UNITS = pot = pg/g RL Units = opt = pg/g

PROJECT NAME: PROJECT #: HK16879 Report Date: 2002/10/03

	HK16879-#2		X Q EQUIVA	LENCY		RECOVERIES OF C	13 SURROGATE
Compounds	CONC	RL	I-TEF	TEQREI	TEQ(0.5RL)	pg SP'KED	% RECOVERED
2,3,7.8 Tetra CDD *	0.0000	3.0000	1,00000	0.00000	0.00000		74
Total Tetra CDO	62.8000	3.0000					
1,2,3.7,8-Penta CDO	G.0800	6.0000	0.50000	0.00000	0.00000	1000	73
Total Penta CDU	17.8000	6.0000					
1,2,3.4,7,8-Hexa CDD	0.0000	6.0000	0.10000	0.00000	0.00000	· .	
1,2,3 6.7,8-Hexa CDO	0.00001	6.0000	0.10000	0.00000	0.00000	000	71
1,2,3.7.8,9-Hexa CDD	0.0000	6,0000	0.10000	0.00000	0.00000		
Total Hexa CDD	16,2000	6.0000			:		
1,2,3,4 6,7,8-Hepte CDD	0.0000	9.0000	0.01000	0.00000)	0.00000	1000	50
Total Hepta CDD	17,7000	9,0000	!				
Qota CDD	24,0000)	12 0000	0.00100	0.02400	0.02400	2000	36
2,3,7,8-Tetra CDF **	16,9000-	3.0000	0.10000	1.69000	1.69000	1000	49
Total Tetra CDF	437.0000	3.6000					
1,2,3,7,8-Penta COF	10.8030	6.0000	0.05000	0.54000	0.54000	1000)	5 5
2,3,4,7,8-Penta CUF	12,2000	6.0000	0.50000	5.10000	6.1000C	I	
Total Penta CDF	140,0000	6.0000				<u>.</u> !	
1,2,3,4,7,8-Hexa CDF	15,1000	6,0000	0,10000	1.51000	1.51000	1000	62
1,2,3,6,7,8-Hexa CDF	7.0000	6.0000	0.10000	0.70000	0.70000	: : : : : : : : : : : : : : : : : : :	
1,2,3,7,8,9-Hexa COF	0.0000	6.0000	0.10000	0.00000	0.00000		
2,3,4,6,7,8-Hexa CDF	0.0000	6.0000	0.10000	0.00000	0.00000		
Total Hexa CDF	53,3000	6.0000					
1,2,3,4,6,7,8-Hepta CDF	15,5000	9.0000	0.01000	0.15100	0.15100	1000-	42
1,2.9,4,7,8,9-Hepta CDF	0.0000	9.0000	0.0100C	0.00000	0.00000	:	
Total Hepta CDF	15,1000	9.0000	•			<u>!</u>	
Octa CDF	0.0000	12.0000	0.00100	0.00000	0.00000		
TOTAL TOXIC EQUIVALENCY				10,71500	10.71500		

ITOTAL TOXIC EQUIVALENCY	•	!	71

^{*} CDD = CHLORO DIBENZO-P-D'OXIN

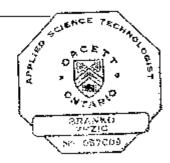
RL = REPORTING LIMIT

0.0000 = U = NOT DETECTED

TR = TRACE AMOUNT DETECTED

2.3.7.8-TODE VALUE IS FROM CONFIRMATION COLUMN. SOME SURROGATE RECOVERIES ARE OUTSIDE CONTROL LIMITS. THE CORRESPONDING DATA IS THEREFORE OUT OF CONTROL. SOME MOL'S ARE RAISED DUE TO MATRIX EFFECTS.

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[&]quot; CDF = CHLORO DIBENZOFURAN



MAXXAM JOB #: A227914 - -MAXXAM \$AMPLE #: 852091 Sampling Date; 2002/08/27

CONC. UNITS = ppt ≈ pg/g RL Units = ppt = pg/g

PROJECT NAME: PROJECT #: MX16879 Report Date: 2002/10/03

The state of the s Same Bright

	HR16879#8	5.75. 1.767	TOXIC EQUIV	ALENCY .	1. 107 1.10	RECOVERIES OF	C13 SURROGATE
Compounds	CONC	· · · · · · · · RL	L-TEF	:: YEQ(RL)	120(0.581)		% RECOVERED
2,3,7,8 Tetra CDO *	0.0000	3,0000	1,000 00	0.00000	0.00000		5G
Total Tetra CDD	36,1900	3,0000				!	
1,2,3,7,R-Penta CDD	0,0000	6.0000	0.50000	0.0000	0.00000	1000	63
Total Penta CDD	28,4000	5.0000					
1,2,3,4,7,8-Hexa CDD	0.0000	6.0000	0.10000	0.00000	0.00000		
1,2.3,6,7,8-Hexa CDD	0.0000	6.0000	0.100001	0,00000	0.000000	1000	G5
.1,2,3,7,8,9-Hexa COD	0.0000)	6.0000	0.10000;	0.00000!	0.00000		
Total Hexa COO	18,2000	6.000 0		ı			
1,2,3,4,6,7,8-Hepta CDD	0.0000	9.0000	0.01000	0.00000	0.00000	1000	47:
Tota: Hepta CDD	0.0000	9.00001					
Octa COD	14 0000	f2.0000	0.00100	0.03400	0.01400	2000	38
2,3,7.8 Tetra COF **	11,0000	3,0000	0.10000	1,10000	1.10000;	1000	35
Total Tetra CDF	208.0000	3,0000!		l			:
1,2,3,7,8-Penta CDF	8.0000	6.0000	0.05000	0,40000	0.40 <u>000</u>	1000	45
2,3,4,7,8-Penta CDF	9,0000	6,0000	0.50000	4.50000	4,50000		
Total Penta CDF	106,0000	6.0000		!			· · · · · · · · ·
1,2,3,4,7,8-Hexa CDF	1f.5000	6,0000	0.10000	1.15 <u>000:</u>	1.15000	1000	. 54
1,2,3 6,7,8-Hexa CDF	0.0000	8,0000	0.10000	0.00000	0.00000		
1,2,37,8,9-Hexa CDF	0.0000	6.0000	0.10000	0.00000:	2.00000		
2,3,4.6,7,8-Hexa CDF	0.0000	6.0000	<u>0.10000</u>	0.00000	0.00000		
Total Hexa CDF	40,8000	G.0000		<u>-</u> i			
1,2,3.4,6,7,8-Hepta CD ²	10,3000	9.0000	0,01000	C.1030D!	0.10300	\$0 <u>00</u>	40
1.2,3,4,7,8,9-Hepta CD=	0.0000	9.0000	0.01000	0.000001	<u> 0.0000</u>		
Total Hepta CDF	18.4000	9.0000					
Octa CDF	0.0000	12.0300	0.001001	0.00000	0,00000		

CDD = CHUQRO DIBENZO-P-DIOXIN

" CDF = CHLORO DIBENZOFURAN

RL = REPORTING LIMIT

0.0000 = U = NOT DETECTED TR = TRACE AMOUNT DETECTED

2,3,7,8-TCDF VALUE IS FROM CONFIRMATION COLUMN.

SOME SURROGATE RECOVERIES ARE OUTSIDE CONTROL LIMITS. THE CORRESPONDING DATA IS THEREFORE OUT

OF CONTRUL, SOME MOU'S ARE RAISED DUE TO MATRIX

EFFECTS.





MAXXAM JOB #: A227914 MAXXAM SAMPLE #: SPIKED BLANK PROJECT NAME: PROJECT #: HK16879 Report Date: 2002/10/03

GONG: UNITS = ppt = pg/gRL1Jhits = ppt = pg/g

	SPIKED BLAÑK	· ····	ΤΌΧΙΟ ΕΔΟΙΝ	ALENCY		RECOVERIES OF C	13 SURROGATE
Campounds	% RECOVERY	RL	I_TEF	TEQ(RL)	TEQ(0.5RL)	pg SPIKEDÍ	% RECOVERED
2,3,7,8-Tetra CDD *	111	1,0000	1.00000	111.00000	111,00000	1000	<u>5</u> 1
1,2,3,7,8-Penta CDD		2.0000	C,50 0 00	55.00000	55,00000	1000	55
1,2,3,4,7,8-Hexa CDD	93	2.0000	0.10000		9,30000	<u> </u>	!
[1,2,3,6,7,8-Hexa CDD	118	2.0000	0.10000	:1.80000	11.80000	1000	74
1,2,3.7,8,9-Hexa CD€	111	2,0000	0.10000	1.10000,	11.10000	!	
1,2,3,4,6,7,8-Hepta CDD	110	3,0000	0.01000	1.10000[1.10000	1900	78
Osta CDD	150	4,0000	0.00100	0.11000	0.11000	2000	74
2,3,7,8-Totra CDF **	106	1,0000	0.10000	10.60000	<u>10</u> .600000	1000	52
1,2,3,7.8-Penta CDF	. 103	2,0000	0.05000	5.15000	5.15000	1000	58
2,3,4,7.8-Penta CDF	101	2,0000	0.50000	50,50000	50.50000		
1,2,3,4.7,8-Hexa CDF	107	2,0000	0.100003	10.70000	10.70000	1000:	701
1,2,3,8,7,8-Hexa CDF	97	2,0000	0.100003	9,70000	9.70000		
1,2,3,7.8,9-Hexa CDF	1113	2,00001	0.100001	11.30000	11,30000)		
2,3,4,6,7,8-Hexa CDF	96	2,0000	0.10000	9,50000	9,600000		
1,2,3,4.6,7,8-Hepta CDF	110	3,0000	0,01000	1.10000	1,10000	1000	72;
1,2,3,4,7,8,9-Hepta CDF	111	3.0000	0.01000	1.11000	1.11000		
Octa CDF	112	4,0000	0.00100	0.11200	0.11200		
A ALM A.L.					=211===		'

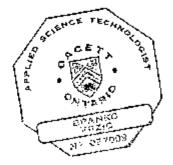
TOTAL TOXIC EQUIVALENCY 309.28200 309.28200

RL = REPORTING LIMIT

0.0000 = U = NOT DETECTED

TR = TRACE AMOUNT D≝TECTED

2,3,7,8-TCDF VALUE IS FROM CONFIRMATION COLUMN. SOME SURROGATE RECOVERIES ARE OUTSIDE CONTROL LIMITS. THE CORRESPONDING DATA IS THEREFORE OUT OF CONTROL, SOME MOL'S ARE RAISED DUE TO MATRIX EFFECTS.



^{*} CDD = CHLORO DIBENZO-P-DIOXIN

[&]quot; CDF = CHLORO DIBENZOFURAN



MAXXAM JOB #: A227914 MAXXAM SAMPLE #: METHOD BLANK PROJECT NAME: PROJECT #: HK16879 Report Date: 2002/10/03

CONC. UNITS = ppt = pg/g R1. Units = ppt = pg/g

	METHOD BLANK		TOXIC EQUIV	ALENCY		RECOVERIES OF (13 SJRROGATE
Compounds	CONC	†RL	I-TEF	TEQ(RL)	TEQ(0.5R_)	pg SPIKED	% RECOVERED
2,3,7,8-Tetra CDD *	0.0000	1.0000	1.00000	0.00000	0.00000	,000	40
Total Tetra CDD	0.0000	1,0000					!
1,2,3,7,9-Penta CDD	0.0000	2,0000	0.50000	0.00000	0.00000	1000	46
Total Penta CDD	C.0000	2,0000	F			·	
1,2,3,4,7,8-Hexa CDD	0.0000	2.0000	0.10000	0.00000	0.00000		
1,2,3,6,7.8-Hexa CDU	0.0000	2,0000	0.10000	0.00000	0.00000	1000	. 76
1,2,3,7,8,9-Hexa CDD	0.0000	2.0000	0.10000	0.00000	0.00000		
Total Hexa CDD	0.0000	2.0000					
1,2,3,4,6,7,8-Hepta CDD	0.0000	3.0000	0.01000	0.00000	0.00000	:000	75
Total Hepta CDD	0.0000	3.0000					
Octa CDD	. 0.0000	4.0000	0.00100	0.00000	0,00000	2000]	70
[0022 00 <u>0</u>							
2,3,7,9-Tetra CDF **	0.0000	1.0000	0.10000	0.00000	0.00000	1000	40
Tota: Tetra CDF	0.0000	1,0000				<u> </u>	——— - i
1,2,3,7,8-Penta CCF	0.0000	2,0000	0.05000	0.00000	0.00000		46
2,3,4,7,8-Penta GBF	0.0000	2,0000	0.50000	0.00000	0.00000		
Total Penta CIDF	0.0000	2,0000					
1,2,3,4.7,8-Hexa <u>CDF</u>	0.0003	2.0 <u>000</u>		0.00000	0.00000	1000	—.· — — — — — — — — — — — — — — — — — —
1,2,3,5.7,8-Hexa CDF	6,0000	2.0900		0.00000	0.000 <u>00</u>	·	—· ——-¦
1,2,3,7,8,9-Hexa CDF	9,0000	2,0000	g,1 <u>000</u> 0	0.00000	0.00000	·	
2,3,4,5,7,8-Hexa CDF	9,0000	2,0000	0.10000	0.00000	0.00000		
Total Hexa CDF	, C.000B	2,0000			<u> </u>	4000	
1,2,3.4,6,7,8-Hepta CDF	0.0000	3,0000	0.01000	0.00000	0.00000		
1,2,3,4,7,8,9-Hepta CDF	0.0000	3,0000	0.01000	0.00000	0.00000		·
¡Total Hepta CDF	0.0000	3,0000		_ :			
Oca CDF	0.0000	4,0000	0.00100	0,000000	0.00000	· ·	
						1	
TOTAL TOXIC FOUIVALENCY				0.00000	0.00000	J	

* CDD = CHLORO DIBENZO-P-DIOXIN
** CDF = CHLORO DIBENZO-PURAN
RL = REPORTING LIMIT
0.000 = U = NOT DETECTED
TR = TRACE AMOUNT DETECTED
2,3,7,8-TCDF VALUE IS FROM CONFIRMATION COLUMN.
SOME SURROGATE RECOVERIES ARE OUTSIDE CONFROLLIMITS. THE CORRESPONDING DATA IS THEREFORE OUT
OF CONTROL. SOME MDL'S ARE RAISED DUE TO MATRIX

EFFECTS.

JA MAR ZERRIA. BRANKO VRŽIC

ALS Environmental



ORGANICS QUALITY CONTROL REPORT

BATCH NO.: HK16879

DATE BATCH RECEIVED: 27/08/02

CLIENT:

CH2M Hill

DATE BATCH COMPLETED: 05/09/02

Method Code	Test	Matrix	QC Lot Number	Date Samples Extracted	Date Samples Analysed
EP-066	PÇB	Ash	066S288	29/08/02	31/08/02
EP-075	Semivolatile Scan	Ash	075\$350	29/08/02	05/09/02

Desmond K F Poon

Assistant Supervisor - Organics

BATCH QUALITY CONTROL

ALS EP-066: POLYCHLORINATED BIPHENYLS

OCILOTING:: 066\$288

ANALYST: A. Wong

MATRIX: Ash

	Black	Spike	QC Spik	e Results	Contro	l Limits
COMPOUND	Conc.	Сопс.	SCS Conc.	Rec.	% E	Rec.
ļ	ug/L	ug/L	ug/L	%	Low	High
Total PCB	<lor< td=""><td>0.50</td><td>0.48</td><td>95</td><td>63</td><td>139</td></lor<>	0.50	0.48	95	63	139

Manochloropiphenyl	ND		0.00
Dichlorobiphenyl	ND		0.00
Trichloropiphenyl	ND		0.00
Tetrachlorobipheny!	. ND	-	0.09
Pentachlorobiphenyl	ND	-	0.25
Hexachlorobiphenyl	ND		0.13
Heptachlorobiphenyl	МО		0.01
Octachierebiphenyl	ND	-	0.00
Nonachlorobipheny!	ם א		0.00
Decachlorobiphenyl	. ND	-	0.00

COMMENTS:

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1) A set of QC samples which comprise Blank and SCS is done for every 20 samples.

2) QC Acceptance Criteria:

To accept a QC, 80% of target analytes must pass both of the following criteria :

a) Accuracy : Recovery of SCS must fall within the recovery control limits.

b) Blank concentration must be less than LOR.

Control limits are established from the previous 20 QC sets of recovery data.

3) Abbreviations & Explanatory Notes:

QC : Quality Control

Rec. : Recovery

SCS : Single Control Sample - an interference free sample spiked with target analytes.

ND: Not Detected

LOR: Limit of Reporting - lowest concentration of target analytes for reporting.

Conc. ; Concentration

* ; Recovery falls outside the recommended control limits.

QC LCT No.: 975\$350

ANALYST; D. Poon

MATRIX: Soil

)

	Blank	Spike	QC SPIKE RESULTS		Control Limits	
COMPOUND	Сопс.	Level mg/kg	SCS Conc. mg/kg	Rec. %	% Recovery	
	mg/kg				Low	Hìgh
EP-075A : PHENOLS						
Phonol	<lor< td=""><td>1.25</td><td>0.91</td><td>72</td><td>5B</td><td>129</td></lor<>	1.25	0.91	72	5B	129
2-Chlorophenol	<lor< td=""><td>1.25</td><td>1.10</td><td>88</td><td>67</td><td>122</td></lor<>	1.25	1.10	88	67	122
2-Methylphenol	<lor< td=""><td>1.25</td><td>0.75</td><td>ßО.</td><td>44</td><td>112</td></lor<>	1.25	0.75	ßО.	44	112
4-Methylphenol	<lor< td=""><td>1.25</td><td>0,86</td><td>68</td><td>45</td><td>118</td></lor<>	1.25	0,86	68	45	118
2-Nitrophonol	<lor< td=""><td>1.25</td><td>1.10</td><td>38</td><td>46</td><td>128</td></lor<>	1.25	1.10	38	46	128
2,4-Dimethylphenol	<lor< td=""><td>1.25</td><td>0.20</td><td>16</td><td>O</td><td>193</td></lor<>	1.25	0.20	16	O	193
2,4-Dichloropheroi	<lor< td=""><td>1,25</td><td>1.08</td><td>69</td><td>60</td><td>114</td></lor<>	1,25	1.08	69	60	114
2,6-Dichloropheral	• 1					
4-Chloro-3-methylphenol	, < LO A	1.25	1.15	92	50	121
2,4.6-Trichloraphenol	<lor< td=""><td>1.25</td><td>1.09</td><td>87</td><td>54</td><td>117</td></lor<>	1.25	1.09	87	54	117
2,4,6-Trichlorophenol	<lor< td=""><td>1.25</td><td>1.14</td><td>91</td><td>59</td><td>125</td></lor<>	1.25	1.14	91	59	125
Pontachlurophenol	<lor< td=""><td>B.25</td><td>5.97</td><td>95</td><td>53</td><td>137</td></lor<>	B.25	5.97	95	53	137
EP-075B : POLYAROMATIC HYDROCA	· .	4.05		67	7.	1 400
Naphthálene	<lor_< td=""><td>1.25</td><td>1.22</td><td>97</td><td>71 71</td><td>126</td></lor_<>	1.25	1.22	97	71 71	126
2-Mathylnaphthalene	<lor< td=""><td>1.25</td><td>1.34</td><td>107</td><td>64</td><td>128</td></lor<>	1.25	1.34	107	64	128
2-Chtoronaphthalene	<lor< td=""><td>1.25</td><td>1.27</td><td>102</td><td>67</td><td>130</td></lor<>	1.25	1.27	102	67	130
Acenephthalene	<lor< td=""><td>1.25</td><td>1.23</td><td>98</td><td>69</td><td>119</td></lor<>	1.25	1.23	98	69	119
Acanaphthane	<lor< td=""><td>1.25</td><td>1.32</td><td>108</td><td>78</td><td>125</td></lor<>	1.25	1.32	108	78	125
Fluorene	<lor< td=""><td>1.25</td><td>1.34</td><td>107</td><td>72</td><td>128</td></lor<>	1.25	1.34	107	72	128
Phenanthrana	<lor< td=""><td>1.25</td><td>1.41</td><td>113</td><td>80</td><td>125</td></lor<>	1.25	1.41	113	80	125
Anthracene	<lor< td=""><td>1.25</td><td>1.31</td><td>105</td><td>73</td><td>121</td></lor<>	1.25	1.31	105	73	121
Fluoranthrene	_ <lor< td=""><td>1.25</td><td>1,43</td><td>115</td><td>74</td><td>129</td></lor<>	1.25	1,43	115	74	129
Pyrene	<lor< td=""><td>1.25</td><td>1.40</td><td>112</td><td>74</td><td>131</td></lor<>	1.25	1.40	112	74	131
N-2-Fluorenylacetinside	< LOR	1.25	0.94	75	36	142
Benz(a)enthracena	< LOR	1.25	1.19	9 5	57	136
Chrysene	<lor< td=""><td>1.26</td><td>1.25</td><td>100</td><td>67</td><td>139</td></lor<>	1.26	1.25	100	67	139
Beлzo(b) & (k) fluoranthene	≺LOR	2.50	2.39	95	54	148
7,12-Dimethyl benz(a)anthracene	<lor< td=""><td>1.25</td><td>1.21</td><td>97</td><td>18</td><td>204</td></lor<>	1.25	1.21	97	18	204
Benzo(a)pyrene	<lor< td=""><td>1.25</td><td>1.17</td><td>93</td><td>46</td><td>139</td></lor<>	1.25	1.17	93	46	139
3-Methylcholanthrene	<lór< td=""><td>1.25</td><td>1.20</td><td>96</td><td>41</td><td>147</td></lór<>	1.25	1.20	96	41	147
ndeno(1,2,3-cd)pyrene	< LOR	1.25	1.15	92	61	126
Dibenz(a,h)anthracene	<lor< td=""><td>1.25</td><td>0.98</td><td>78</td><td>65</td><td>129</td></lor<>	1.25	0.98	78	65	129
Banzo(g,h,i)yerylene	<lor< td=""><td>1.25</td><td>1.22</td><td>98</td><td>71</td><td>131</td></lor<>	1.25	1.22	98	71	131
Benzo(g,h,i)yerylene EP-075C : PHTHALATE ESTERS			1.22			13
Dimethylphthalató	< LOB	1.25	1,39	111	78	127
Diothylphthalete						
Di-n-butylphthalate	<lor< td=""><td>1.25</td><td>1.66</td><td>195</td><td>75</td><td>148</td></lor<>	1.25	1.66	195	75	148
Senzyl butyl phthalate	<lor< td=""><td>1.25</td><td>1.36</td><td>109</td><td>68</td><td>133</td></lor<>	1.25	1.36	109	68	133
9is(2-nthylhexyl)phthalata	<10R	1.25	1.43	114	66	134
⊋i-ρ-octylphthelate	<1.0R	1,25	1.27	191	6D	138

}

	<lor< th=""><th>1.25</th><th>1.01</th><th>80</th><th>24</th><th>154</th></lor<>	1.25	1.01	80	24	154
N-Nitrosomethylethylemine N-Nitrosodlethylemine	<lor< td=""><td>1.25</td><td>1.05</td><td>64</td><td>31</td><td>132</td></lor<>	1.25	1.05	64	31	132
N-Nitrosopymolidine	<lor< td=""><td>1.25</td><td>1.02</td><td>82</td><td>3</td><td>144</td></lor<>	1.25	1.02	82	3	144
N-Nitrosomorpholine	<lor< td=""><td>1.25</td><td>1.09</td><td>87</td><td>20</td><td>137</td></lor<>	1.25	1.09	87	20	137
N-Nitroscdi-n-propylamine	<lor< td=""><td>1.25</td><td>1,10</td><td>88</td><td>28</td><td>138</td></lor<>	1.25	1,10	88	28	138
N-Nitrosopiperidine	<1,08	1.25	1.08	36	32	127
N-Nitrosodibutylamine	< LOR	1.25	1.13	91	33	128
Diphosylamine & N-Nitrosodlphosylamine	< LOR	2,50	2.19	88		
	<1.0B	1.25	1.36	109	70	152
Diallate						132
Methapyrilina	<lor< td=""><td>1.25</td><td>1.12</td><td>89</td><td>0</td><td>169</td></lor<>	1.25	1.12	89	0	169
EP-0756 : NITROAROMATICS AND KETO	NE <i>c</i>					
	< LOR	1.25	1.05	84	47	122
2-Picalina	<lor< td=""><td>1,25</td><td>1.24</td><td>99</td><td>G5</td><td>134</td></lor<>	1,25	1.24	99	G5	134
Acetophenone		1.25	1.23	98		
Nitrobenzens	<lor< td=""><td>1.25</td><td></td><td>97</td><td>65 63</td><td>13B</td></lor<>	1.25		97	65 63	13B
leophorone	ROJ>		1.21			125
2,5-Dinitrateluene	<lor <lor< td=""><td>1.25 1.26</td><td>1.24</td><td>99</td><td>56</td><td>126</td></lor<></lor 	1.25 1.26	1.24	99	56	126
2,4-Dinitrotoluene		1.25	1,16	93	48	128
1-Naphthálomine	<lqr< td=""><td>1.25</td><td>1.37</td><td>74</td><td><u> </u></td><td>182</td></lqr<>	1.25	1.37	74	<u> </u>	182
4-Nitroquinaline-N-oxide	<lor< td=""><td></td><td>0.92</td><td></td><td>-</td><td>:65</td></lor<>		0.92		-	:65
5-Mitro-o-taluidire	<lor <lor< td=""><td>1.25</td><td>1.32</td><td>105</td><td>37</td><td>140</td></lor<></lor 	1.25	1.32	105	37	140
Azohenzena	< LOR	1.25	1.30	104	64	128
1,3,5-Trinitrobenzano			1,07	85	29	138
Phenacetin 1	< LOR	1.26	1.02	81	58 	124
4-Aminobiohenyi	<1,0H	1.26	1.24	99	6	154
Pentachioronittobenzene	<lor< td=""><td>1.26</td><td>1.30</td><td>104</td><td>63</td><td>132</td></lor<>	1.26	1.30	104	63	132
Pronamice	<lor< td=""><td>1.25</td><td>1.48</td><td>119</td><td>73</td><td>131</td></lor<>	1.25	1.48	119	73	131
Dimethylaminoazobenzene Chlorobenzilete	<lor <lor< td=""><td>1.25</td><td>1.01</td><td>117</td><td>52</td><td>143</td></lor<></lor 	1.25	1.01	117	52	143
EP-075F : HALOETHERS						
Bis(2-chloroethyl)ether	<10R	1.25	1.t0	88	58	128
Bial 2-chloroethyllether Bial 2-chloroethoxylmathana	<lor <lor< td=""><td>1.25 1.25</td><td>1.t0 1.24</td><td>88 99</td><td>58 64</td><td>128</td></lor<></lor 	1.25 1.25	1.t0 1.24	88 99	58 64	128
				 -		· · · · -
Biał 2-chloroethoxylmathana	<lor< td=""><td>1.25</td><td>1.24</td><td>99</td><td>64</td><td>129</td></lor<>	1.25	1.24	99	64	129
Bis(2-chloroethoxy)methens 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether	<lor <lor <lor< td=""><td>1.25 1.26</td><td>1.24 1.36</td><td>99 109</td><td>64 69</td><td>129 130</td></lor<></lor </lor 	1.25 1.26	1.24 1.36	99 109	64 69	129 130
Bisł 2-chloroethoxylmethene 4-Chlorophenyl phenyl ether	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25</td><td>1.24 1.36 1.36</td><td>99 109 109</td><td>64 69 68</td><td>129 130 129</td></lor>	1.25 1.25 1.25	1.24 1.36 1.36	99 109 109	64 69 68	129 130 129
Bis(2-chloroethoxy)methens 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether EP-075G : CHLORINATED HYDROCARBO	<lor <<="" <lor="" td=""><td>1.25 1.26 1.25</td><td>1.24 1.36 1.36</td><td>99 109 109</td><td>64 69 68</td><td>129 130 129</td></lor>	1.25 1.26 1.25	1.24 1.36 1.36	99 109 109	64 69 68	129 130 129
Bis(2-chloroethoxy)methens 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether EP-075G : CHLORINATED HYDROCARSO 1,3-Dichlorobenzene	<lor <lor="" <lor<="" td=""><td>1.25 1.26 1.25 1.25</td><td>1.24 1.36 1.36</td><td>99 109 109 89 89</td><td>64 69 68 63 65</td><td>129 130 129 129</td></lor>	1.25 1.26 1.25 1.25	1.24 1.36 1.36	99 109 109 89 89	64 69 68 63 65	129 130 129 129
Bis(2-chloroethoxy)methens 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether EP-075G: CHLORINATED HYDROCARBO 1,3-Dichlorobenzene 1,4-Dichlorobenzene	<lor <<="" <lor="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.11 1.11 1.13</td><td>99 109 109 109 89 89 89</td><td>64 69 68 63 65</td><td>129 130 129 126 124 126</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.11 1.11 1.13	99 109 109 109 89 89 89	64 69 68 63 65	129 130 129 126 124 126
Bis(2-chloroethoxy)methens 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether EP-075G : CHLORINATED HYDROCARSO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	<lor <lor="" <lor<="" td=""><td>1.25 1.26 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.11 1.11 1.13 1.11</td><td>99 109 109 109 89 89 91 89</td><td>64 69 68 63 65 65</td><td>129 130 129 126 124 126 127</td></lor>	1.25 1.26 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.11 1.11 1.13 1.11	99 109 109 109 89 89 91 89	64 69 68 63 65 65	129 130 129 126 124 126 127
Bial 2-chloroethoxylmathens 4-Chlorophanyl phanyl ether 4-Bromophanyl phanyl ether 6-Bromophanyl phanyl ether 6-075G : CHLORINATED HYDROCARBO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Haxachloroethane 1,2,4-Trichlorobenzene	<lor <lor="" <lor<="" td=""><td>1.25 1.26 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.11 1.11 1.13 1.11 1.17</td><td>99 109 109 89 89 91 89 94</td><td>64 69 68 63 65 65 64 85</td><td>129 130 129 126 124 126 127 128</td></lor>	1.25 1.26 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.11 1.11 1.13 1.11 1.17	99 109 109 89 89 91 89 94	64 69 68 63 65 65 64 85	129 130 129 126 124 126 127 128
Bis(2-chloroethoxy)methens 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether EP-075G : CHLORINATED HYDROCARSQ 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Haxachloroethane	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.11 1.11 1.13 1.11 1.17</td><td>99 109 109 109 89 89 91 89 94 88</td><td>64 69 68 63 65 65 65 42</td><td>129 130 129 126 124 126 127 126 144</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.11 1.11 1.13 1.11 1.17	99 109 109 109 89 89 91 89 94 88	64 69 68 63 65 65 65 42	129 130 129 126 124 126 127 126 144
Biał 2-chloroethoxylmathens 4-Chlorophanyl phanyl ether 4-Bromophanyl phanyl ether 6P-075G : CHLORINATED HYDROCARBO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Havechloroethane 1,2,4-Trichlorobenzene Hassechtoropyopyiene	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.11 1.11 1.13 1.11 1.17 1.10</td><td>99 109 109 89 89 91 89 94 88</td><td>64 69 68 63 65 65 64 85 42 61</td><td>129 130 129 129 126 124 126 127 126 144 127</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.11 1.11 1.13 1.11 1.17 1.10	99 109 109 89 89 91 89 94 88	64 69 68 63 65 65 64 85 42 61	129 130 129 129 126 124 126 127 126 144 127
Bis(2-chlorosthoxy)methens 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether EP-075G: CHLORINATED HYDROCARSQI 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Haxechloroethane 1,2,4-Trichlorobenzene Haxechloropyropylene Hexachloropyropylene	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.11 1.11 1.13 1.11 1.17 1.10 1.14 5.14</td><td>99 109 109 109 89 89 91 89 94 88 91 82</td><td>64 69 68 63 65 65 65 64 85 42 61 31</td><td>129 130 129 129 126 124 126 127 128 144 127</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.11 1.11 1.13 1.11 1.17 1.10 1.14 5.14	99 109 109 109 89 89 91 89 94 88 91 82	64 69 68 63 65 65 65 64 85 42 61 31	129 130 129 129 126 124 126 127 128 144 127
Bis(2-chloroethoxylmethens 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether EP-075G: CHLORINATED HYDROCARSO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Havachloroethane 1,2,4-Trichlorobenzene Hexachlorophopylene Hexachlorophotadiene Hexachloropylopantadiene	<lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""> <lor< td=""></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.36 1.11 1.11 1.13 1.17 1.10 1.14 5.14	99 109 109 109 89 91 89 94 88 91 82 105	64 69 68 63 65 65 64 85 42 61 31	129 130 129 129 126 124 126 127 128 144 127 132
Bia(2-chloroethoxylmathens 4-Chlorophanyl phanyl ether 4-Bromophanyl phanyl ether 4-Bromophanyl phanyl ether 6P-075G : CHLORINATED HYDROCARBO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Haxachloroethane 1,2,4-Trichlorobenzene Hexachloropyrene Hexachloropyrene Hexachlorobytadiene Hexachlorobenzene Hexachlorobenzene Hexachlorobenzene Hexachlorobenzene	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.11 1.11 1.13 1.11 1.17 1.10 1.14 5.14</td><td>99 109 109 109 89 89 91 89 94 88 91 82</td><td>64 69 68 63 65 65 65 64 85 42 61 31</td><td>129 130 129 129 126 124 126 127 128 144 127</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.11 1.11 1.13 1.11 1.17 1.10 1.14 5.14	99 109 109 109 89 89 91 89 94 88 91 82	64 69 68 63 65 65 65 64 85 42 61 31	129 130 129 129 126 124 126 127 128 144 127
Bisl 2-chloroethoxylmethens 4-Chlorophenyl phenyl ether 4-Bromophenyl phenyl ether 6-Bromophenyl phenyl ether 6-Bromophenyl phenyl ether 6-Chlorophenyl phenyl ether 6-Chlorophenyl phenyl ether 7,4-Dichlorobenzene 1,2-Dichlorobenzene 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,2,4-Trichlorobenzene Hexachlorophylene Hexachlorophylene Hexachlorophylene Hexachlorobenzene Hexachlorobenzene Hexachlorobenzene Hexachlorobenzene	<lor< td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.36 1.11 1.13 1.11 1.17 1.10 1.14 5.14 1.31</td><td>99 109 109 109 89 91 89 94 88 91 82 105</td><td>64 69 68 63 65 65 64 85 42 61 31 68</td><td>129 130 129 129 126 124 126 127 128 144 127 132</td></lor<>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.36 1.11 1.13 1.11 1.17 1.10 1.14 5.14 1.31	99 109 109 109 89 91 89 94 88 91 82 105	64 69 68 63 65 65 64 85 42 61 31 68	129 130 129 129 126 124 126 127 128 144 127 132
Bia(2-chloroethoxylmathene 4-Chlorophanyl phanyl ether 4-Bromophanyl phanyl ether 6-075G : CHLORINATED HYDROCARBO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Haxachloroethane 1,2,4-Trichlorobenzene Hexachloropyrene Hexachlorobyrene Hexachlorobyrene Hexachlorobyrene Hexachlorobyrene	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.36 1.11 1.11 1.13 1.11 1.17 1.10 1.14 5.14 1.31 1.36</td><td>99 109 109 109 89 91 89 94 88 91 82 105 109</td><td>64 69 68 63 65 65 65 64 85 42 61 31 68 67</td><td>129 130 129 129 126 124 126 127 128 144 127 132</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.36 1.11 1.11 1.13 1.11 1.17 1.10 1.14 5.14 1.31 1.36	99 109 109 109 89 91 89 94 88 91 82 105 109	64 69 68 63 65 65 65 64 85 42 61 31 68 67	129 130 129 129 126 124 126 127 128 144 127 132
Biał 2-chloroethoxylmathens 4-Chlorophanyl phanyl ether 4-Bromophanyl phanyl ether 4-Bromophanyl phanyl ether 6P-075G : CHLORINATED HYDROCARBO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Haxachloroethane 1,2,4-Trichlorobenzene Hexachloropylopylene Hexachlorobutadiene Hexachlorobutadiene Pontachlorobenzene Hexachlorobenzene Hexachlorobenzene EP-075H : ANILINES AND BENZIDINGS Aniline	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.36 1.11 1.11 1.13 1.17 1.10 1.14 5.14 1.31 1.36</td><td>99 109 109 109 89 91 89 94 88 91 82 105 109</td><td>64 69 68 63 65 65 64 85 42 61 31 68</td><td>129 130 129 126 124 126 127 128 144 127 132 138 127</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.36 1.11 1.11 1.13 1.17 1.10 1.14 5.14 1.31 1.36	99 109 109 109 89 91 89 94 88 91 82 105 109	64 69 68 63 65 65 64 85 42 61 31 68	129 130 129 126 124 126 127 128 144 127 132 138 127
Biał 2-chloroathoxylmathana 4-Chlorophanyl phanyl ether 4-Bromophanyl phanyl ether 4-Bromophanyl phanyl ether 6P-075G : CHLORINATED HYDROCARBO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Haxachloroathana 1,2-Trichlorobenzene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobenzene Hexachlorobenzene Hexachlorobenzene Hexachlorobenzene EP-075H : ANILINES AND BENZIDINSS Anilina 4-Chloroasiline	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.36 1.11 1.13 1.17 1.10 1.14 5.14 1.31 1.36 0.71 0.79 1.13</td><td>99 109 109 109 89 91 89 94 88 91 82 105 109</td><td>64 69 68 63 65 65 65 64 85 42 61 31 68 67</td><td>129 130 129 129 126 124 126 127 128 144 127 132 138 127</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.36 1.11 1.13 1.17 1.10 1.14 5.14 1.31 1.36 0.71 0.79 1.13	99 109 109 109 89 91 89 94 88 91 82 105 109	64 69 68 63 65 65 65 64 85 42 61 31 68 67	129 130 129 129 126 124 126 127 128 144 127 132 138 127
Biał 2-chloroathoxylmathana 4-Chlorophanyl phanyl ether 4-Bromophanyl phanyl ether 4-Bromophanyl phanyl ether 6P-075G : CHLORINATED HYDROCARBO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Havachloroethane 1,2,4-Trichlorobenzene Hexachloropylene Hexachloropylene Hexachlorobutadiene Hexachlorobenzene EP-075H : ANILINES AND BENZIDINGS Aniline 4-Chloroersiline Z Nitroeniline	<lor< td=""><lor< td=""></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<></lor<>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.36 1.11 1.11 1.13 1.11 1.17 1.10 1.14 5.14 1.31 1.36	99 109 109 109 89 91 89 94 88 91 82 105 109	64 69 68 68 65 65 65 64 85 42 61 31 68 67	129 130 129 129 126 124 126 127 128 144 127 132 138 127
Biał 2-chloroathoxylmathana 4-Chlorophanyl phanyl ether 4-Bromophanyl phanyl ether 4-Bromophanyl phanyl ether 6P-075G : CHLORINATED HYDROCARBO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Havachloroethane 1,2,4-Trichlorobenzene Hexachloropylene Hexachloropylene Hexachloropylene Hexachlorobenzene EP-075H : ANILINES AND BENZIDINGS Aniline 4-Chlorossiline 2 Nitroaniline 3-Nitroaniline Debenzofuran	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.36 1.11 1.13 1.17 1.10 1.14 5.14 1.31 1.36 0.71 0.79 1.13 1.07 1.95</td><td>99 109 109 89 89 91 89 94 88 91 62 105 109</td><td>64 69 68 63 65 65 64 65 42 61 31 68 67</td><td>129 130 129 129 126 124 126 127 126 144 127 132 138 127</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.36 1.11 1.13 1.17 1.10 1.14 5.14 1.31 1.36 0.71 0.79 1.13 1.07 1.95	99 109 109 89 89 91 89 94 88 91 62 105 109	64 69 68 63 65 65 64 65 42 61 31 68 67	129 130 129 129 126 124 126 127 126 144 127 132 138 127
Biał 2-chloroathoxyłmathana 4-Chlorophanyl phanyl ether 4-Bromophanyl phanyl ether 4-Bromophanyl phanyl ether 6P-075G : CHLORINATED HYDROCARBO 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Haxachloroethane 1,2,4-Trichlorobenzene Hexachlorobutadiene Hexachlorobutadiene Hexachlorobenzene 4-Chloroaniline 2 Nitroaniline	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.36 1.11 1.13 1.11 1.17 1.10 1.14 5.14 1.31 1.36 0.71 0.79 1.13 1.07 1.35 0.94</td><td>99 109 109 89 89 89 91 89 94 88 91 82 105 109 67 63 91 85</td><td>64 69 68 63 65 65 65 64 42 61 31 68 67</td><td>129 130 129 129 126 124 126 127 126 144 127 132 138 127</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.36 1.11 1.13 1.11 1.17 1.10 1.14 5.14 1.31 1.36 0.71 0.79 1.13 1.07 1.35 0.94	99 109 109 89 89 89 91 89 94 88 91 82 105 109 67 63 91 85	64 69 68 63 65 65 65 64 42 61 31 68 67	129 130 129 129 126 124 126 127 126 144 127 132 138 127
Bisi 2-chlorosthoxylmathens 4-Chlorophanyl phanyl ether 4-Bromophanyl phanyl ether 4-Bromophanyl phanyl ether 6-Bromophanyl phanyl ether 6-Dischorobenzene 1,3-Dischlorobenzene 1,2-Dischlorobenzene 1,2-Dischlorobenzene Havachloroethane 1,2,4-Trischlorobenzene Hexachloropylene Hexachloropylene Hexachlorobenzene Hexachlorobenzene EP-075H : ANILINES AND BENZIDINES Aniline 4-Chlorostiline 2-Nitroeniline Dibenzofuran 4-Nitropoline	<lor <lor="" <lor<="" td=""><td>1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25</td><td>1.24 1.36 1.36 1.36 1.11 1.13 1.17 1.10 1.14 5.14 1.31 1.36 0.71 0.79 1.13 1.07 1.95</td><td>99 109 109 89 89 91 89 91 88 91 82 105 109 57 63 91 85 108</td><td>64 69 68 65 65 65 64 85 42 61 31 68 67</td><td>129 130 129 129 126 124 126 127 128 144 127 132 138 127</td></lor>	1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	1.24 1.36 1.36 1.36 1.11 1.13 1.17 1.10 1.14 5.14 1.31 1.36 0.71 0.79 1.13 1.07 1.95	99 109 109 89 89 91 89 91 88 91 82 105 109 57 63 91 85 108	64 69 68 65 65 65 64 85 42 61 31 68 67	129 130 129 129 126 124 126 127 128 144 127 132 138 127

etphe-BHC	<lór< th=""><th>1.25</th><th>1.89</th><th>111</th><th>72</th><th>130</th></lór<>	1.25	1.89	111	72	130
beta- & gamma-BHC	<lor< td=""><td>2.50</td><td>2.96</td><td>t 19</td><td>78</td><td>136</td></lor<>	2.50	2.96	t 19	78	136
đelta-BHC	<1.OR	1.25	1.48	118	ខា	132
Heptschlor	<lor.< td=""><td>1.25</td><td>1,46</td><td>175</td><td>67</td><td>135</td></lor.<>	1.25	1,46	175	67	135
A:drin	<lor< td=""><td>1.25</td><td>1.49</td><td>119</td><td>77</td><td>127</td></lor<>	1.25	1.49	119	77	127
Haptachlorepoxide	<loft< td=""><td>1.25</td><td>1.52</td><td>121</td><td>67</td><td>133</td></loft<>	1.25	1.52	121	67	133
Endosulfan 1	<lqr< td=""><td>1.25</td><td>1.53</td><td>122</td><td>83</td><td>127</td></lqr<>	1.25	1.53	122	83	127
DDE-'وربر	<lor< td=""><td>1.25</td><td>1.48</td><td>118</td><td>72</td><td>129</td></lor<>	1.25	1.48	118	72	129
Dieldrin	<lor< td=""><td>1.26</td><td>1,46</td><td>117</td><td>79</td><td>134</td></lor<>	1.26	1,46	117	79	134
Endria	<loa< td=""><td>1.25</td><td>1.45</td><td>116</td><td>57</td><td>t 32</td></loa<>	1.25	1.45	116	57	t 32
Endosulfan 2	<lor< td=""><td>1.25</td><td>1.53</td><td>122</td><td>78</td><td>130</td></lor<>	1.25	1.53	122	78	130
ρ,μ'-DDD	<lor< td=""><td>1.25</td><td>1.49</td><td>119</td><td>74</td><td>132</td></lor<>	1.25	1.49	119	74	132
Endosulfan sulfate	<lor< td=""><td>1.25</td><td>1.43</td><td>114</td><td>86</td><td>145</td></lor<>	1.25	1.43	114	86	145
p.p'-DDT	<lor< td=""><td>1.25</td><td>1.3B</td><td>110</td><td>48</td><td>136</td></lor<>	1.25	1.3B	110	48	136
······································	<lor< th=""><th>1.25</th><th>1.14</th><th>91</th><th>62</th><th>138</th></lor<>	1.25	1.14	91	62	138
Methanesulfonate methyl	<lor< td=""><td>1.25</td><td>1.14</td><td>91</td><td>62</td><td>138</td></lor<>	1.25	1.14	91	62	138
Methanesulfonate ethyl	< LOR	1.25	1.19	95	63	130
Dichlorvos	<lor< td=""><td>1.25</td><td>1.22</td><td>97</td><td>59</td><td>122</td></lor<>	1.25	1.22	97	59	122
cis-teofarole	<lor< td=""><td>0.45</td><td>0.46</td><td>99</td><td>66</td><td>131</td></lor<>	0.45	0.46	99	66	131
trans-Isofarole	<lqa< td=""><td>0.79</td><td>0.79</td><td>101</td><td>63</td><td>130</td></lqa<>	0.79	0.79	101	63	130
Safarole	<lor< td=""><td>1.25</td><td>1.23</td><td>98</td><td>60</td><td>126</td></lor<>	1.25	1.23	98	60	126
	I ≺LOR	1.25	1.24	99	47	
Cimethosts		1,20	1.27			137
	<lor< td=""><td>1.25</td><td>1.42</td><td>114</td><td>33</td><td>137 144</td></lor<>	1.25	1.42	114	33	137 144
Clezinan		1.25 1.26		118	68	137 144 132
Clezinon Chlorpyrifos mothyl	<lor< td=""><td>1.25</td><td>1.42</td><td></td><td>68 75</td><td>137 144 132 135</td></lor<>	1.25	1.42		68 75	137 144 132 135
Diazinen Chlorpyrifoa mothyl Malathion	SOLS FOLS SOLS SOLS	1.26 1.26 1.26 1.25	1.42 1.47 1.45 1.39	118 116	68 75 69	137 144 132 135 131
Clazinon Chlerpyrifos mothyl Malathion Fenthion	<lor <lor <lor< td=""><td>1.25 1.26 1.26 1.25 1.25</td><td>1.42 1.47 1.45 1.39 1.48</td><td>118 116 111 118</td><td>68 75 68 72</td><td>137 144 132 135 131 138</td></lor<></lor </lor 	1.25 1.26 1.26 1.25 1.25	1.42 1.47 1.45 1.39 1.48	118 116 111 118	68 75 68 72	137 144 132 135 131 138
Clazinen Chlorpyrifos mothyl Malathion Fenthion Chlorpyrifos	SOLS FOLS SOLS SOLS	1.26 1.26 1.26 1.25	1.42 1.47 1.45 1.39	118 116	68 75 69	137 144 132 135 131
Diszinen Chlorpyrifos mothyl Malathion Fenthion Chlorpyrifos Pirimphusethyl	<lor< td=""><td>1.25 1.26 1.26 1.25 1.25</td><td>1.42 1.47 1.45 1.39 1.48 1.39 0.14</td><td>118 116 111 118 111 92</td><td>68 75 68 72 76 19</td><td>137 144 132 135 131 138 131 168</td></lor<>	1.25 1.26 1.26 1.25 1.25	1.42 1.47 1.45 1.39 1.48 1.39 0.14	118 116 111 118 111 92	68 75 68 72 76 19	137 144 132 135 131 138 131 168
Clazinon Chlorpyrifos mothyl Malathion Fenthion Chlorpyrifos Primphusethyl Chloreryinphos-E	<lor< td=""><td>1.25 1.26 1.25 1.25 1.25 1.25</td><td>1.42 1.47 1.45 1.39 1.48 1.39 0.14 1.30</td><td>118 116 111 118 111 92 118</td><td>68 75 68 72 76 19 57</td><td>137 144 132 135 131 138 131 168 154</td></lor<>	1.25 1.26 1.25 1.25 1.25 1.25	1.42 1.47 1.45 1.39 1.48 1.39 0.14 1.30	118 116 111 118 111 92 118	68 75 68 72 76 19 57	137 144 132 135 131 138 131 168 154
Cimethoete Clezinon Chlorpyrifos mothyl Malathion Fenthion Chlorpyrifos Pinimphusethyl Chlorterivinphos-E Chlorfenvinphos-Z Prothiofos	<lor< td=""><td>1.25 1.26 1.26 1.25 1.25 1.25 0.15</td><td>1.42 1.47 1.45 1.39 1.48 1.39 0.14</td><td>118 116 111 118 111 92</td><td>68 75 68 72 76 19</td><td>137 144 132 135 131 138 131 168</td></lor<>	1.25 1.26 1.26 1.25 1.25 1.25 0.15	1.42 1.47 1.45 1.39 1.48 1.39 0.14	118 116 111 118 111 92	68 75 68 72 76 19	137 144 132 135 131 138 131 168

COMMENTS:

1) A set of QC samples which comprise Blank and SCS is done for every 20 samples.

2) QC Acceptance Criteria:

To accept a QC, 80% of target analytes must pass both of the following criteria :

- a) Accuracy : Recovery of SCS must fall within the recovery control ilmits.
- b) Blank concentration must be less than LCR.

Control limits are established from the previous 20 QC sets of recovery data.

Abbreviations & Explanatory Notes:

QC : Quality Control

Rec. : Recovery

SCS : Single Control Sample - an interference free sample spiked with target analytes.

ND : Not Detected

LOR: Limit of Reporting - lowest concentration of target analytes for reporting.

Conc. : Concentration

: Recovery falls outside the recommended control limits.



MAXXAM JOB #: A227914 MAXXAM SAMPLE #: METHOD BLANK Duplicate

PROJECT NAME: PROJECT #: HK16879 Report Cate: 2002/10/03

CONC. UNITS = ppt = pg/g RL Units = ppt = pg/g

	ME HOD BLANK	_	<u>ÖXIC E</u> QUIVĀI	LENCY	<u> </u>	DECOMBERS OF OU	
Compounds	CONC	RLi	I-TEFI	TEQ(RL)	TEQ(0.5(RL)	RECOVERIES OF C13	BURNOGATE
12,3,7,8-Tetra CDD •	0.0000	1.0000	1,00000	0.000000	0.00000		% RECOVERED
Total Tetra CDD	<u> 0.000</u> 0	1.0000		<u> </u>	0.00000	<u> </u>	<u>48</u> j
1,2,3,7,8-Penta CDD	0.0000	2.0000	0.500001	0.00000	0.00000	-·	
Total Penta CDD	0.0000	2.00001	- : - 4:000	0.0000	0.00000		<u> 5</u> 3;
1,2.3.4,7,8-Hexa COC	0.0000	2.0000	0.10000	0.00000	0.0000		
1.2,3,6,7.8 Hexa CDD	0.0000	2.9000,	0.1000cl	0.00000	0.00000	<u>-</u>	
1,2,3,7,8,9-hexa CDD	0.0000	2.0000	0.10000	0.000001	<u>0.000000</u> 1	1000	77.
Total Hexa CDD	0.0000	2.0000		0.00000	0.00000	: . <u></u> :	
1,2,3,4,5,7,8-Hepta CDD	i 0.000ci	3.00001	0.01000	0.00000			
Total Hepta CDD	0.0000	3.0000	_ 5.0 <u>;coo</u>	, <u>v.00000</u>	0.00000	1000	. <u></u> . <u>84</u>
Octa CDD	0.0000	4.0000	C.00100	0.00000	—-		
			- 4.00100	0.000000	0.00000	2000	
2,3.7,8-Tetra CDF **	0.0000	1,0000	0.10000	·			
Total Tetra CDF	0.0000	1.00000	<u>o-</u> iogoñ	0.00000	0 <u>.00000</u> !	<u></u> , <u>100</u> 0	50
1,2,3.7,8-Penta CDF	0.0000	2.0000	0.05000		- 	·l	
2,3,4,7,8-Fenta CDF	0.0000	2.0000	0.50000	0.00000	0.00000		55
Total Penta COF	0.0000	2.0000	<u> </u>	0.00000	0.00000		
1,2,3,4,7,8-Hexa CDF	0.0000	2.0000	- 40000		 _	——. <u>i</u>	
1.2,3,6,7,8-Hexa CDF	0.3000	2.0000	0.10000	0.00000	0.00000	1000	76
1,2,3,7,8.9-Hexa CDF	0.0000	2,0000	0,100001	0.00000	0.00000		1
2,3,4,6,7,8-Hexa CDF	0.0000	2.0000	0.10000	0.00000!	0.00000	ī	
Total Hexa CDF	0.0000	2.0000	0.10000	0.000000	<u>0.00000!</u>		
1,2,3,4.6,7,8-Hepta CDF	0.0000,	3.00D0	·	- 	<u> </u>		
1,2,3,4,7,8,9-Hepta CDF	0.0000	3.0000	C.61000	0.00000	0.00000	1000	78,
Total Hepta CDF	0.0000	3.0000	<u> 0.01000</u>	0.00000	0.000000		- ·——·-
Octa CDF	0.0000i			· <u></u>			
	0.905,01	<u>4.0000</u>	0.00100	0.00000	0.000000		
TOTAL TOXIC EQUIVALENCY	·	·		<u> </u>			
	<u> </u>		<u> </u>	0.00000	B_00000		

*CDD = CHLORO DIBENZO-P-DIOXIN
**CDF = CHLORO DIBENZO-P-DIOXIN
RL = REPORTING LIMIT
0.0000 = U = NOT DETECTED
TR = TRACE AMOUNT DETECTED
2.3,7.6-TCDF VALUE IS FROM CONFIRMATION COLUMN,
SOME SURROGATE RECOVERIES ARE OUTSIDE CONTROL
LIMITS. THE CORRESPONDING DATA IS THEREFORE OUT
OF CONTROL. SOME MOL'S ARE RAISED DUE TO MATRIX
EFFECTS.

BRANKO VRZIC

ALS Environmental



ORGANICS QUALITY CONTROL REPORT

BATCH NO.: HK16879

DATE BATCH RECEIVED: 27/08/02

CLIENT: CH2M Hill

DATE BATCH COMPLETED: 05/09/02

Method Code	Test	Matrix	QC Lot Number	Date Samples Extracted	Date Samples Analysed
EP-066	PÇB	Ash	066\$288	29/08/02	31/08/02
EP-075	Semivolatile Scan	Ash	075\$350	29/08/02	05/09/02

Desmond K F Poon

Assistant Supervisor - Organics

BATCH QUALITY CONTROL

ALS EP-066: POLYCHLORINATED BIPHENYLS

QC LOT No.: 066S288

ANALYST: A. Wong

MATRIX: Ash

	Blank	Spike	QC Spik	e Results	Contro	l Limits
COMPOUND	Cario.	Conc.	SCS Conc.	Raç,	% F	Rec
<u></u>	ug/L	ug/L	ug/L	%	Law	High
Cotal PCB	<lor< td=""><td>0.50</td><td>0.48</td><td>95</td><td>53</td><td>139</td></lor<>	0.50	0.48	95	53	139

Manachtarobiphenyi	ND	<u> </u>	0.00
Dichlorobiphenyl	טא		0.00
Trichlorobiphenyl	ND		0.00
Tetrachlorobiohenyl	. NID	-	0.09
Pentachlorobiphenyf	ND	-	0.25
Hexachlorobiphenyl	ND		0.13
Heptachlorob/phenyl	ND	•	0.01
Octachlorobiphenyl	ND		0.00
Nonachlorobiphenyl	ND ND	-	0.00
Decach/orobiphenyl	ND	•	0.00

COMMENTS:

1) A set of QC samples which comprise Blank and SCS is done for every 20 samples.

2) QC Acceptance Criteria:

To accept a OC, 80% of target analytes must pass both of the following criteria :

- a) Accuracy : Recovery of SCS must fall within the recovery control limits.
- b) Blank concentration must be less than LOR.

Control limits are established from the provious 20 QC sets of recovery data.

3) Abbreviations & Explanatory Notes;

QC : Quality Control

Rec.: Recovery

SCS : Single Control Sample - an interference free sample spiked with target analytes.

NO: Not Detected

LOR . Einst of Reporting - lowest concentration of target analytes for reporting.

Cond. : Concentration

Recovery falls outside the recommended control limits.

ALS EP-075: SEMIVOLATILE SCAN

GC LOT No.: 0758350

ANALYST: D. Poon

MATRIX: Soil

	Blank	Splke	QC SPIKE RESULTS		Control Emits	
COMPOUND	Conc.	Level	SGS Conc.	Rec.	% Re	covery
	mg/kg	mg/kg	mg/kg	%	Low	High
EP-075A : PHENOLS						
Phenul	< LÓR	1.25	0.91	72	58	129
2-Chlorophenol	<lor< td=""><td>t.2B</td><td>1.10</td><td>88</td><td>67</td><td>122</td></lor<>	t.2B	1.10	88	67	122
2-Methylphenol	<lor< td=""><td>1.26</td><td>0.75</td><td>60</td><td>44</td><td>112</td></lor<>	1.26	0.75	60	44	112
4-Methylphenol	<lor< td=""><td>1.25</td><td>0.86</td><td>68</td><td>45</td><td>11B</td></lor<>	1.25	0.86	68	45	11B
2-Nitrophenol	<10 R	1.25	1.10	88	46	÷2B
2,4-Dimethyfphenol	< LOR	1.25	0.20	16	0	103
2,4-Dichlorophenol	<lor< td=""><td>1.25</td><td>1.08</td><td>85</td><td>60</td><td>114</td></lor<>	1.25	1.08	8 5	60	114
2,6-Dichlorophenol						T-F-T
4-Chloro-3-methy/phenol	<lor< td=""><td>1.25</td><td>1.15</td><td>92</td><td>50</td><td>121</td></lor<>	1.25	1.15	92	50	121
2,4,6-Trich:orophenol	<cor< td=""><td>1.25</td><td>1.09</td><td>B7</td><td>54</td><td>117</td></cor<>	1.25	1.09	B7	54	117
2,4,5-Trichlorophenol	<lor< td=""><td>1.25</td><td>1.14</td><td>91</td><td>59</td><td>125</td></lor<>	1.25	1.14	91	59	125
Pentachiorophenol	<lor< td=""><td>8.25</td><td>5.97</td><td>95</td><td>53</td><td>137</td></lor<>	8.25	5.97	95	53	137
EP-076B : POLYAROMATIC HYDROCAI		· ·				
Naphthelene	<u0b< td=""><td>1.25</td><td>1.22</td><td>97</td><td>71</td><td>126</td></u0b<>	1.25	1.22	97	71	126
2-Methylnaphthalene	<lor< td=""><td>1.25</td><td>1.34</td><td>107</td><td>64</td><td>128</td></lor<>	1.25	1.34	107	64	128
2-Chloronaphthalene	<lor_< td=""><td>1.25</td><td>t.27</td><td>102</td><td>67</td><td>130</td></lor_<>	1.25	t.27	102	67	130
Acenaphthalene	<lor< td=""><td>1.25</td><td>1.23</td><td>98</td><td>69</td><td>119</td></lor<>	1.25	1.23	98	69	119
Aconaphthene	<1.0R	1.26	1.32	106	76	126
Fluorene	<lor< td=""><td>1.25</td><td>1.34</td><td>107</td><td>72</td><td>128</td></lor<>	1.25	1.34	107	72	128
Phenanthrens	< LOR	1.25	1.41	113	90	125
Anthracene	< LOR	1.25	1.31	105	73	121
Ruoranthrens	<lor< td=""><td>1.25</td><td>1.43</td><td>115</td><td>74</td><td>129</td></lor<>	1.25	1.43	115	74	129
Pyrone	< LON	1.25	1.40	112	74	131
N-2-Fluorenylacetimide	<lor< td=""><td>1.25</td><td>0.94</td><td>76</td><td>36</td><td>142</td></lor<>	1.25	0.94	76	36	142
Bonzjalanthracene	<lor< td=""><td>1.25</td><td>1.19</td><td>95</td><td>57</td><td>136</td></lor<>	1.25	1.19	95	57	136
Chrysene	<lor< td=""><td>1.25</td><td>1.25</td><td>100</td><td>57</td><td>139</td></lor<>	1.25	1.25	100	57	139
Benzolb) & (k) Ruoranther:e	<lor< td=""><td>2.50</td><td>2.39</td><td>95</td><td>54</td><td>148</td></lor<>	2.50	2.39	95	54	148
7,12-Dimethyl benz(a)enthracene	<lor< td=""><td>1.25</td><td>1.21</td><td>97</td><td>. 31</td><td>204</td></lor<>	1.25	1.21	97	. 31	204
Bonzo(a) pyrene	<lor< td=""><td>1.25</td><td>1.17</td><td>93</td><td>46</td><td>139</td></lor<>	1.25	1.17	93	46	139
3-Mathylcholanthrana	<lor< td=""><td>1.25</td><td>1.20</td><td>26</td><td>41</td><td>147</td></lor<>	1.25	1.20	26	41	147
Indeno(1,2,3 cd)pyrene	<lor< td=""><td>1.25</td><td>1.15</td><td>92</td><td>61</td><td>126</td></lor<>	1.25	1.15	92	61	126
Diber.z(a,h)anthrecere:	40 H>	1.25	98.0	78	65	129
Benzolg,h,ilperylane	<lor< td=""><td>1.25</td><td>1.22</td><td>99</td><td>71</td><td>131</td></lor<>	1.25	1.22	99	71	131
EP-075C : PHTHALATE ESTERS		·····				
Dimethylphthalate	<ldr< td=""><td>1.25</td><td>1.33</td><td>109</td><td>72</td><td>127</td></ldr<>	1.25	1.33	109	72	127
Diethy:phthalato	<lor< td=""><td>1.25</td><td>1.39</td><td>111</td><td>78</td><td>126</td></lor<>	1.25	1.39	111	78	126
Di-n-butylphthalate	RC,I>	1.25	1.68	135	75	148
Benzyl butyl phthelete	<lor< td=""><td>1.25</td><td>1.36</td><td>109</td><td>68</td><td>133</td></lor<>	1.25	1.36	109	68	133
Bis(2-ethylhexyl)phthalate	< LOH	1.25	1.43	114	68	134
Di ni ootyiphthalato	<lor< td=""><td>1.25</td><td>1.27</td><td>101</td><td>50</td><td>138</td></lor<>	1.25	1.27	101	50	138

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N-Nitrosomethylethylamine	<lor< td=""><td>1.25</td><td>1.01</td><td>80</td><td>24</td><td>154</td></lor<>	1.25	1.01	80	24	154
N-Ivitrosodiothylamine	< LOR ·	1.25	1.05	84	31	132
N-Nitrosapyrrolidine	≺LOH :	1.25	1.02	82	3	144
N-Nitrosemarpholine	< LOR	1.25	1.09	87	20	137
N-Nitrosodi-n-propylamine	<lor< td=""><td>1.25</td><td>1.10</td><td>88</td><td>28</td><td>138</td></lor<>	1.25	1.10	88	28	138
N-Nitroscopperidina	≺LOR	1.25	1.08	86	32	127
N-Nitrosodibutylamina	< LOR	1.26	1.13	91	33	128
Dighenytamine & Y-Nitrosod phenylamine	<lor< td=""><td>2.50</td><td>2.19</td><td>88</td><td>30</td><td>152</td></lor<>	2.50	2.19	88	30	152
Diallate	<lor< td=""><td>1.25</td><td>1.36</td><td>109</td><td>70</td><td>132</td></lor<>	1.25	1.36	109	70	132
Methepyriline	<lor< td=""><td>1.25</td><td>1.12</td><td>89</td><td>0</td><td>169</td></lor<>	1.25	1.12	89	0	169
				•		•
EP-075E : NITROAROMATICS AND KETONES	3					
2-Picoline	<lob< td=""><td>t.25</td><td>1.05</td><td>84</td><td>47</td><td>122</td></lob<>	t.25	1.05	84	47	122
Acetophenone	<lor td="" ·<=""><td>1.25</td><td>1.24</td><td>99</td><td>-55</td><td>134</td></lor>	1.25	1.24	99	-55	134
Nitrobenzego	<lor< td=""><td>1.25</td><td>1.23</td><td>98</td><td>55</td><td>138</td></lor<>	1.25	1.23	98	55	138
Isophorone	<lor< td=""><td>1.25</td><td>1.21</td><td>97</td><td>63</td><td>125</td></lor<>	1.25	1.21	97	6 3	125
2,6-Dinitrotolucno	< LQR	1.25	1.24		56	126
2.4-Dinitrotoluene	<lob< td=""><td>1.25</td><td>1.16</td><td>93</td><td>48</td><td>128</td></lob<>	1.25	1.16	93	48	128
1-Nephthelemine	<lor< td=""><td>1.25</td><td>1,37</td><td>109</td><td>0</td><td>182</td></lor<>	1.25	1,37	109	0	182
4-Nitroguinoline-N-axide	<lor< td=""><td>.1.25</td><td>0.92</td><td>74</td><td>0</td><td>165</td></lor<>	.1.25	0.92	74	0	165
5-Nitro-o-talu:dine	<lor< td=""><td>1.25</td><td>1.32</td><td>105</td><td>37</td><td>140</td></lor<>	1.25	1.32	105	37	140
Azobenzona	< LOR	1.25	1.30	104	64	128
t.3.5-Trinitrobenzene	< LOR	1.25	1,07	86	29	138
Phenecetin 1	< LOR	1.25	1,02	81	58	124
4-Amhobiohenyl	<lor i<="" td=""><td>1.25</td><td>1,24</td><td>99</td><td>5</td><td>154</td></lor>	1.25	1,24	99	5	154
Pentachloronitrobenzene	<lor :<="" td=""><td>1.25</td><td>1,30</td><td>104</td><td>63</td><td>132</td></lor>	1.25	1,30	104	63	132
Prenamidu	<lor< td=""><td>1.25</td><td>1.48</td><td>119</td><td>73</td><td>131</td></lor<>	1.25	1.48	119	73	131
Dimethylaminoazobenzene	< LOR	1.25	1.01	80	52	143
Chlorobenzilata	<lor< td=""><td>1.25</td><td>1,46</td><td>117</td><td>54</td><td>138</td></lor<>	1.25	1,46	117	54	138
EP-075F : HALOETHERS	<lor< th=""><th>1,25</th><th>1.10</th><th></th><th>5B</th><th>125</th></lor<>	1,25	1.10		5B	125
Bis(2-cl/forcethyl)ether	<lor< td=""><td>1.25</td><td>1,24</td><td>99</td><td>64</td><td>129</td></lor<>	1.25	1,24	99	64	129
Bis(2-chloroethoxy)methano	<lor< td=""><td>1.25</td><td>1.36</td><td>109</td><td>69</td><td>130</td></lor<>	1.25	1.36	109	69	130
4-Chlorophenyl phenyl ether	<lor< td=""><td>1.25</td><td>1.36</td><td>109</td><td>68</td><td>129</td></lor<>	1.25	1.36	109	68	129
4-Bromophenyl phenyl ether EP-075G : CHLORINATED HYDROCARBONS	CEOR	1.25	1.00	103	, 00	123
1,3-Dichlorobenzerie	<lor< td=""><td>1.25</td><td>1.11</td><td>89</td><td>63</td><td>126</td></lor<>	1.25	1.11	89	63	126
1,4-D:chlorobenzens	<lor< td=""><td>1.25</td><td>1.11</td><td>B9</td><td>65</td><td>124</td></lor<>	1.25	1.11	B 9	65	124
1,2-Dichlorobenzene	<lor< td=""><td>1.25</td><td>1.13</td><td>91</td><td>65</td><td>126</td></lor<>	1.25	1.13	91	65	126
Hexachloroethane	<108	1.25	1.11	B9	54	127
1,2,4-Trichlorobenzene	<108	1.25	1.17	94	65	126
Hexaphloropropylene	<lor< td=""><td>1.25</td><td>1.10</td><td>88</td><td>42</td><td>144</td></lor<>	1.25	1.10	88	42	144
Hexachlorobutadiene	<lor< td=""><td>1.25</td><td>1.14</td><td>91</td><td>61</td><td>127</td></lor<>	1.25	1.14	91	61	127
Haxachlorocyclopentadiana	< LOR	6.25	5.14	82	31	132
Pantachlorobenzene	<lor< td=""><td>1.25</td><td>1.31</td><td>105</td><td>68</td><td>138</td></lor<>	1.25	1.31	105	68	138
Hexachlorobenzana	<lcr< td=""><td>1.25</td><td>1.36</td><td>109</td><td>67</td><td>127</td></lcr<>	1.25	1.36	109	67	127
EP-075H : ANILINES AND BENZIONES						
Anillne	< LOR	1.26	0.71	57	0	178
4-Chloreaniline	< LOR	1.25	0.79	63	0	154
2-Nitrosnilins	< LOR	1.25	1.13	91	57	122
3-Nitroanilino	< LQR	1.25	1.07	85	13	139
Dibenzofuran	<lor< td=""><td>1.25</td><td>1.35</td><td>108</td><td>62</td><td>134</td></lor<>	1.25	1.35	108	62	134
4-Nitroaniline	<lor< td=""><td>1.25</td><td>0.94</td><td>76</td><td>48</td><td>133</td></lor<>	1.25	0.94	76	48	133
4-Nitroanilinė Carbazolė		1.25	0.94 1.13	76 90	36	169
	<lor< td=""><td></td><td>- -</td><td></td><td></td><td></td></lor<>		- -			

APPENDIX I ·HK16879

EP-0751 : ORGANOCHLORINE PESTI Bloha BHC	<£OH	1.25	1.39	111	72	130
beta- & gamma-BHC	<lor< td=""><td>2.50</td><td>2.96</td><td>119</td><td>75</td><td>136</td></lor<>	2.50	2.96	119	75	136
defta-BHC	< LOR	1.25	1.48	118	₿1	132
Heptachlor	<lca< td=""><td>1.25</td><td>1.46</td><td>116</td><td>67</td><td>135</td></lca<>	1.25	1.46	116	67	135
Aldrin	<lor< td=""><td>1.25</td><td>1.49</td><td>119</td><td>77</td><td>127</td></lor<>	1.25	1.49	119	77	127
deptachloregoxid a	<los< td=""><td>1.25</td><td>1.52</td><td>121</td><td>67</td><td>133</td></los<>	1.25	1.52	121	67	133
Indinaulfan 1	<lor< td=""><td>1.25</td><td>1.63</td><td>122</td><td>83</td><td>127</td></lor<>	1.25	1.63	122	83	127
o,p'-DD£	<l011< td=""><td>1.25</td><td>1.48</td><td>118</td><td>72</td><td>129</td></l011<>	1.25	1.48	118	72	129
Dielririn	<lor< td=""><td>1.25</td><td>1.46</td><td>117</td><td>79</td><td>134</td></lor<>	1.25	1.46	117	79	134
Endrin	<lor< td=""><td>1.25</td><td>t.45</td><td>116</td><td>57</td><td>132</td></lor<>	1.25	t.45	116	57	132
Endosulfan 2	<lor< td=""><td>1.25</td><td>1.53</td><td>122</td><td>70</td><td>130</td></lor<>	1.25	1.53	122	70	130
p,p* ODD	<lor< td=""><td>1.26</td><td>1.49</td><td>119</td><td>74</td><td>132</td></lor<>	1.26	1.49	119	74	132
Endosultan sulfata	<1,QR	1.25	1.43	114	-66	140
n,p'-DDT	<lor< td=""><td>1.25</td><td>1.38</td><td>110</td><td>48</td><td>136</td></lor<>	1.25	1.38	110	48	136
Methenesuifonate methyl	<lor< th=""><th>1.25</th><th>1.14</th><th>91</th><th>62</th><th>138</th></lor<>	1.25	1.14	91	62	138
EP-075J : ORGANOPHOSPHORUS P		1.25	1.14	91	62	138
Methenesulfonato ethyl	< LOR_	1.25	1,19	95	63	130
Dichtarvos	<lor< td=""><td>1.25</td><td>1.22</td><td>97</td><td>59</td><td>122</td></lor<>	1.25	1.22	97	59	122
cis-Isotarnia	< LOA	0.45	0.46	99	65	131
trana-laotarol e	<lor< td=""><td>Q.79</td><td>0.79</td><td>101</td><td>63</td><td>130</td></lor<>	Q.79	0.79	101	63	130
Seferola	<lor_< td=""><td>1.25</td><td>1.23</td><td>9B</td><td>60</td><td>126</td></lor_<>	1.25	1.23	9B	60	126
Dimathoate	<lor_< td=""><td>1.25</td><td>1.24</td><td>99</td><td>47</td><td>137</td></lor_<>	1.25	1.24	99	47	137
Diaginon	<lor< td=""><td>1.25</td><td>1.42</td><td>114</td><td>33</td><td>144</td></lor<>	1.25	1.42	114	33	144
Chlorpyrifos methyl	<lor< td=""><td>1.25</td><td>1.47</td><td>118</td><td>- GB</td><td>132</td></lor<>	1.25	1.47	118	- GB	132
Malathion	<lor< td=""><td>1.25</td><td>1.45</td><td>116</td><td>75</td><td>135</td></lor<>	1.25	1.45	116	75	135
Fenthion	<lor< td=""><td>1,25</td><td>1.39</td><td>111</td><td>68</td><td>131</td></lor<>	1,25	1.39	111	68	131
Chlorpyrifos	< LCR	1.25	1.48	118	72	138
Pirkmphosethyl	<loh< td=""><td>1.25</td><td>1.39</td><td>111</td><td>76</td><td>131</td></loh<>	1.25	1.39	111	76	131
Chłorfonylnphos-E	<lor< td=""><td>0.16</td><td>0.14</td><td>92</td><td>19</td><td>169</td></lor<>	0.16	0.14	92	19	169
Chlor(anvinghos-Z	<lor< td=""><td>1.10</td><td>1.90</td><td>118</td><td>57</td><td>154</td></lor<>	1.10	1.90	118	57	154
Prothiotos	<lor< td=""><td>1.25</td><td>1.29</td><td>103</td><td>74</td><td>134</td></lor<>	1.25	1.29	103	74	134
Ethlon	<lor< td=""><td>1,25</td><td>1.44</td><td>115</td><td>72</td><td>140</td></lor<>	1,25	1.44	115	72	140

COMMENTS:

1) A set of QC samples which comprise Blank and SCS is done for every 20 samples.

2) QC Acceptance Criteria:

To accept a QC, 80% of target analytes must pass both of the following criteria :

- a) Accuracy : Recovery of SCS must fall within the recovery control limits.
- b) Blank concentration must be less than LOR.

Control limits are established from the previous 20 QC sets of recovery data.

Abbreviations & Explanatory Notes:

QC : Quality Control

Rec. : Recovery

SCS : Single Control Sample - an interference free sample spiked with target analytes.

ND : Not Detected

LOR : Limit of Reporting - lowest concentration of target analytes for reporting.

Conc. : Concentration

* : Recovery falls outside the recommended control limits.



ALS TECHNICHEM (HK) Pty Ltd

PRELIMINARY



ALS Environmental

CERTIFICATE OF ANALYSIS

CONTACT:

MR SIMEON CHENG

CLIENT:

CH2M HILL (CHINA) LIMITED

ADDRESS:

28/F SIU ON CENTRE

188 LOCKHART ROAD

WANCHALHONG KONG

ORDER No.:

PROJECT:

Batch:

Sub Batch:

LABORATORY:

HONG KONG 08/11/2002

DATE RECEIVED: DATE OF ISSUE:

23/11/2002

HK17759

SAMPLE TYPE:

ASH

No. of SAMPLES:

2

COMMENTS

Two ash samples, sample 1 and sample 2 were collected by ALS staff on 8 November 2002. Dioxin analysis were subcontracted and tested by Maxxam Analytics Inc.

Maxxam Analytics Inc detailed report is attached.

Project Name: 8047MM - Remodeling of Tang Shiu Kin Hospital inite an Ambulatory Care Centre Consultancy for Decommissioning and Demolition of Clinical Waste Incinerator, Laboratory Service

TESTING METHODS

The analysis is based on USEPA 8290

NOTES

This is the Final Report and supercedes any preliminary report with this batch number. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: HONG KONG

Address

Brisbane

Sydney

Melcourse

Nuncasila

ALS Technichem (HK) Pty Ltd

11/F Chung Shun Knilting Centre

1-3 Wing Yip Street

Kwai Chung HONG KONG Phone:

852-2810 1044

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Richard L C Fung General Manager**ó** Kona

Other ALS Environmental Laboratories

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AUSTRALIA

AMERICAS

Hong Kang Singapore Kuala Lumpur

Bogor

Vancouver Santiago Amtofagasta

Abbreviations: "K SPK PEC denotes percentage spike recovery

CHK dunoles displicate check sample

LOP denotes limit of reporting

LCS to REC denotes Laboratory Control Sample percentage incovery

Page 1 of 6

ALS TEXT MICHEM SHIP FTY LED "UF., Chung Shen Knitting Centre, 1-2 Wing Yip Street, Kwai Dhang, N.T., K.K. Phone: 952-2510 1044 Fex; 852-2510 2021

Lima

A Compbet Stomers Limited Company

23/11 | 02 SAT 10:32 [TX/RX NO 6486] 2001

CERTIFICATE OF ANALYSIS



Maxxam Analytics Inc report is attached for the analysis of Dioxins in Ash.

This attach report contains a total of 4 pages.

ALS Technichem (HK) Pty Ltd

ALS Environmental

Page 2 of 6

DIBENZO-DIOXINS/FURANS IN ASH

MAXXAM JOB #, A287262 MAXXAM SAMPLE #: 907933 Sampling Date: 2002/§1/08

CONC. UNITS = ppt = pg/g Rt. Units = ppt = pg/g

FROJECT NAME: FROJECT #: HK17759 Report Date: 2002/11/22

12638 4100 12638 4100

·	HX17759 #1 SAMI	PLE 1	TOXIC EQUIV			RECOVERES OF C	I3 SURROGATES
Conypounds	COVC	RΥ	HTEF	TEQ(RL)	TEO(0.5RL)	ps SPIKED	% RECOVERSE
2.3.7,8-Teba CDD *	989,0000	5.0000	1,00000	889 00000	909,00000	1500	98
Total Tetra CDD	1 \$590,0000	10,0000					
1,2,3,7,8 Penia CDD	2770,0000	10 0000		1885,00000	1385 00000	1000	92
otal Pente COO	12809.0000	10,0000				L	
1,2,5,4,7,8-Hexa COD	115 <u>0 0</u> 000	50,0000		115,00000	115,00000		
1,2,3,6 1,8-Hexa CDD	f740,0000	50,0000	0.10000	174.00000	174.00000		4
1,2,3,7 8,9-Hoxy CDD	3490,0000,	50,0000		349.00000	349,00000		
dal Heve CDD	13200.00004	50,0000				L	
1,2.3.4.6,7,8-Hepte, © <u>CO</u>	3130,0000	50,0000	0.01000	31,30000	31,30000	1000	. 58
Tolai Hepla CDO	7220,0000	50 0000					
Octa C00	1440.0000	200.0000	0,00100	1.44000	1,44000	2000	57
2,3.7 3.7etra COF ***	4930.0000	10.0000	0.10000	493,00000	493 00000	1000	. 59
ੋੜੀਗ਼ ਵਿੱਚਾਰ CDF	64920.0000	10,0000					
1 2 3 7 R-Penta CDF	7080.0000	10,00000	0,05000	354 000000	354,00000	1000	124
2 3.4,7 8. Penta CDF	11600,0000	10,0000	0,5 0000	5800 (10000	5900.00000		
Total Pents COF	\$0700,0000	10.0000				i	
1.2.3.4,7,8-Hexa CCF	73900.0000	50,0000	0.10000	1320.00000	1390,00000	1000	б?
1,2,3.6.7,8-Hexa CDF	7750,0000	50,0000	0.10000	775,00000	<u>775,000</u> 00	! <u></u>	· -
1.2.3.7.8.9-Heyen CDF	585,0000	80,0000	0 100000	58,50000	68 <u>,500</u> 00		
2.3.4,6,7,6-Hess COF	6850,0000	50,000p	0,10000)	585.00000	585. 0 0000	<u></u>	
Ictal Hexs.CDE	35300,0000	60.6000	<u> </u>			<u> </u>	
1,2.3.4.6,7,8-Hepta CDF	11800,0000	50,00001	0.01000	118,00000	118,00000		57
1,2,3,4,7,8,9-Hebta CDF	1700.0000	50,0000	0 01000	17,60000	17,00000	<u> </u>	
Total Hepla COF	14400,0000	50,0000				·	
Oda CDF	3170.0000	200,0000	0.00100	3.17000	\$,17000;		

^{*} CDD = CHLORO DIBENZO P-DIQXIN ** CDF = CHLORO DIBENZO FURAN

RESPORTING LIMIT

D,0000 - U = NOT DETEGTED

TOTAL TOXIC FOLIVALENCY

TR = TRACE AMOUNT DETECTED

The sunsgates on the spiked blank are out of control; however, the native compounds are with the recuired 80-120% timits due to isotope dilution corrections.

2378-TCDF has been confirmed.

ECMOND	MONRIL	₿ <i>.</i> %c	C.Chem

DIBENZO-DIOX:NS/FURANS IN ASH

MAXXAM JOB #: A237262 MAXXAM SAMPLE #, 901943 Sampling Date: 2002/17/08

PROJECT NAME: PROJECT# HK17756 Report Date: 2002/11/27

CONC. UNITS = ppt = pg/g RL Units = ppt = pg/g

	HK17759 #2 5AN9	HK17759 #2 SANFILE 2				RECOVERIES OF C13 SURROGATES		
Compounds	CONC	RJ	LIEF	TEQ(RL)	TEQ(0,5RL)	pg SPIKŒ)		
Z,3,7,8-Tetre CDC *	498 0000;	5,0000	1,00000	498,00000	498.00000	<u> </u>	63	
Total Tetra CDD	3620,0000	10 0000				. 1000	· ?	
1,2,3,7,8•Penta_CDD	1480,0000	40. 000 0	0.50000	740 00000	740.00000	1000	B1	
Total Penla CDD	5160,0000	10,0000			• • • • • • • • • • • • • • • • • • • •			
1.2.3.4.7.8-Haxa CDD	685.0000	50,0000	0,100 00	68. ≨00c o;	68,50000	····		
1.2.3,8,7,8 Hagg CCD	1090,0000	50,0000	0.10000	109.00000	109.00000	1000	73	
1,2,3,7,8,9-Hexa CDD	1870,0000	50 0000	0.10000	187,00500	187.00000			
Total Hexa CDD	5990.0000	50,0000				· · · · · · · · · · · · · · · · · · ·		
1,2,3,4,6,7,6-Hepta CDD	2810.0000	50,0000	0.01000	28.10CON	28,10500	1000	70	
Tolal Hecta COO	3280.0000	50.0000	****					
Ode COD	1450 00 0 0	200.0000	0.00100	1,45000	1,45000.	2000	64	
2,3,7,8-Tetra COF **	3370,0000	10.0000	0.10000	337.00000	337,00000	10001	67.	
Total Tetra COF	27200.0000	10.0000	i					
2,37,8-Pents CDF	4480,0000	10,0000	0.06000	224_00000	224,00000	1000	118	
2.3,4,7,8-Punta CDF	6080.0000	10,0000	0.50000	3040.00000	8040.00000			
fota: Penta CDF	15600.00001	10,00001	1					
2.3.4.7.6 Hexa CDF	7420.0000	50 (0000)	10,000,0	742.00000	742 00000	1000	89	
1.2,3,6,7,8-Mexa CDF	4470.0000	50.000Q	0.10000	447.00000	447,50000			
1,2,3,7,8,9 Hexa CD ^c	287.0000	50 0000	0.10000	28.7000C	28.70000			
3.4.6.7.8-Hexa CDF	3270,0000	50,0000	Q.1000C	327,00000	327.00000			
Total Hazz COF	17700,0000	50,0000						
1,2,3,4,6,7,8-Hepts CDF	\$280,0000	50,0000	0.01000	52.80000	52,80000	1000	65	
1,2,3,4,7,8,9-Hopta CDF	801.0000	50,0000	0.01000	8.01000	8,01000			
Total Hepta CDF	6360,0000	50,0000.						
ada COF	921.0000	200. 00 00	0.00100	0,92100	0.82100]	

TOTAL TOXIC EQUIVALENCY

8839,48100 B839,48100

RL = REPORTING LIMIT

0,0000 - L - NOT DETECTED TRISTRACE AMOUNT DETECTED

The surrogates on the spiked blank are out of control; however, the native

compounds are with the required 80-120% limits due to sotope dijution corrections. 2376-TCDF has been confirmed.

FR1	. 100 -	 	C.Cham

^{*} CDD = CHLORO DIBENZO-P-DIDXIN

[&]quot; CDF = CHLORO DIBENZOFURAN

DIBENZO-DIOXINS/FURANS IN ASH

MAXXAM JOB # A227252 MAXXAM SAMPLE #; SPIKED BLANK PROJECT NAME: PROJECT #: HK: 7759 Report Date; 2002/11/22

CONC. UNITS = pp; ≠ pg/g RL Units = ppt = pg/g

	SPIKED BLANK		TOXIC EQUIVA	LENCY		RECOVERIES OF CO	I3 SURROGATES
Compounds	% RECOVERY!	: : ₽	Į.	TEXIBLI	TEQ(0.5R1)	pg 8PIXEC	
2,3,7,8-Telra CDD *	. 88	5,0000	1.000001	88,00000	88,00000		12
1,2 3,7,8-Femile CDC	101	10,0200	0.50000	50,50000	50,50000		16
1,2 3,4,7,6-Hexa CDC	97)	50,0000	0.10000		9.10000		· <u> </u>
1,2,3,6,7,8-Haxa CDD	101	50,0000	0.10000	10,10000	10,10000	1000)	37
1,2,3,7,5,9-Haxa CDO	99	50,0000	0,10000	2,800001	e.90000		
1,2,3,4,8,7,8-Hepta CDD	## B9	50 ,0000	0.01000		0.69000	1000	44
Octa GJD	;;; [27]	200,000	0.00100	0.08700	0.08700	2000	- 42
2,3,7,8-Tetra COF **	103	10.0000	0.10000	10.30000	19,30000	1000	9.3
1,2,3,7,8-Penia,CDF	93	10.0000	0.08000	4,65000	4 65000	1000	
3.4.7.8-Ponta CDF	96	10 0000	0,50000	48,00000	48.00000		· · · ·
1.2.3.4.7.8-Heza CDF	96	50,0000	2,10000	9.80000	9,60000	1000	31
,2.3,5.7,8-Hexa CDF	92	50.000G	0.1 00 00	6.20000	9 20000		
1,2,3,7.8,9 Hexa CDF	94.	50,0000	0.10000	9,400 00	9 40000		
3,4.6,7,6-Hasta CCF	67	50,0000	0 10000	8,70000]	8,70000		
1.2.3.4.8.7.8-Hepta CDF	90	60,0000	C.01000	0.90000	0,90000	1000	40
,2,3.4,7,9,9-Hepta CDF	91	50,0000	0.010007	0,91000	0.91000	. "	
Oca COF	89	200,0000	0,00100	0.08900	0.08900.	. ;	

	I	270,32500	A-74 - A-4 1
TOTAL TOXIC EQUIVALENCY	I	2001 02001201	270.32800
LICELATE INVANCE CONTRACTOR		ELM: MEDINAL	216,600,000

^{*} CÓO = CHI.ORO DIBENZO-P-DIÓXIN

* CDD = CHLORO DIBENZO-P-DIÓXIN

* CDF = CHLORO DIBENZO-P-DIÓXIN

** CDF = CHLORO DIBENZO-F-URAN

RL = REPORTING LIMIT

0.0000 = U = NOT DETECTED

TR = TRACE AMOUNT DETECTED

The surrogates on the spiked blank are out of central; however, the native compounds are with the required 80-120% timits due to isotope diation corrections, 2378-TCDF has been confirmed.

EDVICATOR MICH	including to	er come.	_
THE CONTRACT AND AN	151L. 2.	الطالمة بالمكت	г

DIBENZO-DIOXINS/FURANS IN ASH

MAXXAM JOB #: A237262 MAXXAM SAMPLE #: METHICO BLANK PROJECT NAME: PROJECT#; HK17759 Report Date: 2002/11/22

CONC. UNITS = ppt = pg/g RL Units = opt = pg/g

	METHOD BLANK	77	TOXIC ECUIVALIBICY		RECOVERIES OF C13 SURROGATES		
Compounds	CONC	RL;	LIEF	TEC(RL)	TEQ(0.5R(_)	pa SPIKEDI	% RECOVERE
2,3,7.8-Tetra CDD	<u> ü</u>	5,0000	1.65000	0.00000	0.00000		5
Total Tetra CDD	<u> </u>	10,0000		"		,	
,2,3,7,8-Penta CDD	UU	10.0000	Ç. SD 000	0.00000	0,00000	1000	4
otal Pents CDD	· U	10.0000					
2,3,4,7,8-Hexa CDD	<u> </u>	50,00000	0.10000	0.00000	ი.იბენტ		
2 3,6.7,8-Hexa CDD	ان	50.DCOD	0.10000	0.00000	0,00000	1000	
.2,3,7,8,0-hexa CDO	u)	50,0000	0.10000	0.00000	0.00000		
otal Hetra CDD		50,0000	· · · · ·				
.2,3,4,6,7,8-Mapta CDD	1	50.0000	0.01000)	0.00000	0.00000	1000	87
oral Hebia CDD	<u> </u>	50.0000	- " ' "				
Octo (COID	U	200.0000	0.00100	0.00000	0.00000	2000	
3.7.8-Term CDF **	- · · · · · · · · · · · · · · · · · · ·	10 00001	0.10000	0.00000	0.00000	1000	41
ctal Tetre CDF	Üi	10.0000			·		
2.3.7.6-Penta CDF	υ;	10.0000	0.06000	0.00000	0,000,00	1,200	41
3,4,7,8-Penta CDF	· i · · · · · · · · · · · · · · · · · ·	10,0000	0, 500 00	0.00000	0.00000	<u></u>	
olal Penta CDF	U U	10.0000					
2.3,4 7,8-Hesa CDF	<u> </u>	50.0000	0.10000	0.000000	0.00000	1000	71
2.3,5 7,6-Hexa CDF	.Ul	50,0000	0.10000	0.00000	0,00000	<u> </u>	
2.3.7.8.9-Hexa CDF	u .	50,0000	0.10000	0.00000	0.00000		
3.4.5.7.8-Hess CDF	. · · · · · · · · · · · · · · · · · · ·	50,0000	0.10000	0.00000	0.00000		
nial Hexa CDF	Ü.	50,0000					
2,3,4,6,7,8-Hepta CDF	υ!	50.0000	0.01000	0.00000	0.00000		77
,2,3,4,7,8,9-Hepte CDF	- '' U,	60,0000	0.01000	0.00000	0.000 00		
oza Hepta CDF	<u> </u>	50.0000					
OZ I KING COZ		200,0000	0.00100	0.00000	0.00000		
Octa CDF						1	
TOTAL TOXIC EQUIVALENCY				0,00000	0.00000		

	· · · · · · · · · · · · · · · · · · ·	0,00000	0.00000
TOTAL TOXIC EQUIVALENCY	·		<u> </u>

NGDD = CHLORO DIBENZO-P-DIOXIN

RL = CEPORTING LIMIT 0.0000 = U = NOT DETECTED TR = TRACE AMOUNT DETECTED

The surrogales on the spiked blank are out of control; however, the native

compounds are with the required 80-120% limits due to isotope dilution corrections.

2378-TCDF has been confirmed.

 <u>ት ተካለልተ</u> ለጠ	1 BATAFE	R.5c.	C.Onen

^{**} COF = CHŁORO DIBENZOFURAN

Appendix C

Photos of the Incinerator and its Flue





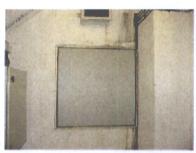


Combustion furnace

Ash residue in furnace







Flue pipe within the incinerator room

Incinerator flue pipe in the boiler room

The partition as seen in a typical M/E room







Inside the partitioned area (incinerator flue pipe on right)

The vertical incinerator flue pipe section on the lower ground floor has been cut open for inspection

The top section of incinerator flue above roof level