

Insert this report after Specification Section 02072

Technical Report for

IMS Environmental

Langley Air Force Base-USACE-Pavement Area

351.3319

Accutest Job Number: F14185

Report to:

IMS Environmental

wbell@imsenv.com

ATTN: Walter Bell

Total number of pages in report: 16



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Harry Behzadi, Ph.D.
Laboratory Director

Certification: Florida DOH E83510

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Sample Summary

IMS Environmental

Job No: F14185

Langley Air Force Base-USACE-Pavement Area
Project No: 351.3319

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F14185-1	08/12/02	11:35 CM	08/13/02	SO	Soil	C-3A 2-4'
F14185-2	08/12/02	11:40 CM	08/13/02	SO	Soil	C-3B 4-6'
F14185-3	08/12/02	12:35 CM	08/13/02	SO	Soil	C-5A 2-3'
F14185-4	08/12/02	13:10 CM	08/13/02	SO	Soil	C-7A 1-3'
F14185-5	08/12/02	13:10 CM	08/13/02	SO	Soil	C-7B 3-4'
F14185-6	08/12/02	15:00 CM	08/13/02	SO	Soil	C-11A 2-4'
F14185-7	08/12/02	15:00 CM	08/13/02	SO	Soil	C-11B 4-6'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Client Sample ID:	C-3A 2-4'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-1	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	79.0
Method:	SW846 8260B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K009720.D	1	08/13/02	NAF	n/a	n/a	VK373
Run #2							

Run #	Initial Weight
Run #1	5.46 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	5.8	ug/kg ^c	
108-88-3	Toluene	7.1	5.8	ug/kg	
100-41-4	Ethylbenzene	ND	5.8	ug/kg	
1330-20-7	Xylene (total)	ND	17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		75-125%
2037-26-5	Toluene-D8	102%		75-125%
460-00-4	4-Bromofluorobenzene	114%		72-137%
17060-07-0	1,2-Dichloroethane-D4	104%		68-125%

(a) Sample introduction performed using method 5030A.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	C-3A 2-4'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-1	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	79.0
Method:	SW846 8015 M SW846 3550B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	ZF05920.D	1	08/14/02	MRE	n/a	n/a	GZF279
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH (JP-8 Range)	49.4	10	mg/kg	
	TPH (JP-4 Range)	ND	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	100%		64-121%	

(a) TPH calculated as total area, pattern consists of more than just JP-8.

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 B = Indicates analyte found in associated method blank
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Report of Analysis

Page 1 of 1

Client Sample ID:	C-3B 4-6'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-2	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	75.2
Method:	SW846 8260B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K009721.D	1	08/13/02	NAF	n/a	n/a	VK373
Run #2							

Run #	Initial Weight
Run #1	5.37 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	6.2	ug/kg	
108-88-3	Toluene	10.8	6.2	ug/kg	
100-41-4	Ethylbenzene	ND	6.2	ug/kg	
1330-20-7	Xylene (total)	ND	19	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		75-125%
2037-26-5	Toluene-D8	102%		75-125%
460-00-4	4-Bromofluorobenzene	108%		72-137%
17060-07-0	1,2-Dichloroethane-D4	103%		68-125%

(a) Sample introduction performed using method 5030A.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	C-3B 4-6'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-2	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	75.2
Method:	SW846 8015 M SW846 3550B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	ZF05921.D	1	08/14/02	MRE	n/a	n/a	GZF279
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH (JP-8 Range)	52.9	11	mg/kg	
	TPH _i (JP-4 Range)	ND	11	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	103%		64-121%

(a) TPH calculated as total area, pattern consists of more than just JP-8.

ND = Not detected
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J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	C-5A 2-3'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-3	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	85.2
Method:	SW846 8260B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K009724.D	1	08/13/02	NAF	n/a	n/a	VK373
Run #2							

Run #	Initial Weight
Run #1	5.48 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	5.4	ug/kg	
108-88-3	Toluene	10.3	5.4	ug/kg	
100-41-4	Ethylbenzene	ND	5.4	ug/kg	
1330-20-7	Xylene (total)	ND	16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		75-125%
2037-26-5	Toluene-D8	103%		75-125%
460-00-4	4-Bromofluorobenzene	102%		72-137%
17060-07-0	1,2-Dichloroethane-D4	103%		68-125%

(a) Sample introduction performed using method 5030A.

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J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	C-5A 2-3'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-3	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	85.2
Method:	SW846 8015 M SW846 3550B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	ZF05922.D	1	08/14/02	MRE	n/a	n/a	GZF279
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH (JP-8 Range)	27.6	9.7	mg/kg	
	TPH (JP-4 Range)	ND	9.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	94%		64-121%

(a) TPH calculated as total area, pattern consists of more than just JP-8.

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 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	C-7A 1-3'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-4	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	96.1
Method:	SW846 8260B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K009719.D	1	08/13/02	NAF	n/a	n/a	VK373
Run #2							

Run #	Initial Weight
Run #1	5.37 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	4.8	ug/kg	
108-88-3	Toluene	ND	4.8	ug/kg	
100-41-4	Ethylbenzene	ND	4.8	ug/kg	
1330-20-7	Xylene (total)	ND	15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	79%		75-125%
2037-26-5	Toluene-D8	101%		75-125%
460-00-4	4-Bromofluorobenzene	104%		72-137%
17060-07-0	1,2-Dichloroethane-D4	102%		68-125%

(a) Sample introduction performed using method 5030A.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	C-7A 1-3'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-4	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	96.1
Method:	SW846 8015 M SW846 3550B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	ZF05934.D	4	08/15/02	MRE	n/a	n/a	GZF280
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH (JP-8 Range)	134	35	mg/kg	
	TPH (JP-4 Range)	ND	35	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	94%		64-121%

(a) TPH calculated as total area, pattern consists of more than just JP-8.

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 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	C-7B 3-4'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-5	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	82.8
Method:	SW846 8260B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K009725.D	1	08/13/02	NAF	n/a	n/a	VK373
Run #2							

Run #	Initial Weight
Run #1	5.07 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	6.0	ug/kg	
108-88-3	Toluene	ND	6.0	ug/kg	
100-41-4	Ethylbenzene	ND	6.0	ug/kg	
1330-20-7	Xylene (total)	ND	18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	77%		75-125%
2037-26-5	Toluene-D8	108%		75-125%
460-00-4	4-Bromofluorobenzene	117%		72-137%
17060-07-0	1,2-Dichloroethane-D4	98%		68-125%

(a) Sample introduction performed using method 5030A.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	C-7B 3-4'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-5	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	82.8
Method:	SW846 8015 M SW846 3550B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	ZF05935.D	4	08/15/02	MRE	n/a	n/a	GZF280
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH (JP-8 Range)	101	40	mg/kg	
	TPH (JP-4 Range)	ND _s	40	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	94%		64-121%

(a) TPH calculated as total area, pattern consists of more than just JP-8.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	C-11A 2-4'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-6	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	82.9
Method:	SW846 8260B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K009726.D	1	08/13/02	NAF	n/a	n/a	VK373
Run #2							

Run #	Initial Weight
Run #1	5.07 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	5.9	ug/kg	
108-88-3	Toluene	22.2	5.9	ug/kg	
100-41-4	Ethylbenzene	ND	5.9	ug/kg	
1330-20-7	Xylene (total)	ND	18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		75-125%
2037-26-5	Toluene-D8	102%		75-125%
460-00-4	4-Bromofluorobenzene	105%		72-137%
17060-07-0	1,2-Dichloroethane-D4	101%		68-125%

(a) Sample introduction performed using method 5030A.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	C-11A 2-4'	
Lab Sample ID:	F14185-6	Date Sampled: 08/12/02
Matrix:	SO - Soil	Date Received: 08/13/02
Method:	SW846 8015 M SW846 3550B	Percent Solids: 82.9
Project:	Langley Air Force Base-USACE-Pavement Area	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF05928.D	1	08/14/02	MRE	n/a	n/a	GZF279
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH (JP-8 Range)	ND	10	mg/kg	
	TPH (JP-4 Range)	ND	10	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	93%		64-121%

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	C-11B 4-6'	Date Sampled:	08/12/02
Lab Sample ID:	F14185-7	Date Received:	08/13/02
Matrix:	SO - Soil	Percent Solids:	82.6
Method:	SW846 8260B		
Project:	Langley Air Force Base-USACE-Pavement Area		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K009727.D	1	08/13/02	NAF	n/a	n/a	VK373
Run #2							

Run #	Initial Weight
Run #1	5.03 g
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	6.0	ug/kg	
108-88-3	Toluene	17.0	6.0	ug/kg	
100-41-4	Ethylbenzene	ND	6.0	ug/kg	
1330-20-7	Xylene (total)	ND	18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		75-125%
2037-26-5	Toluene-D8	103%		75-125%
460-00-4	4-Bromofluorobenzene	108%		72-137%
17060-07-0	1,2-Dichloroethane-D4	102%		68-125%

(a) Sample introduction performed using method 5030A.

ND = Not detected
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J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	C-11B 4-6'		Date Sampled:	08/12/02
Lab Sample ID:	F14185-7		Date Received:	08/13/02
Matrix:	SO - Soil		Percent Solids:	82.6
Method:	SW846 8015 M SW846 3550B			
Project:	Langley Air Force Base-USACE-Pavement Area			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF05929.D	1	08/14/02	MRE	n/a	n/a	GZF279
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH (JP-8 Range)	ND	10	mg/kg	
	TPH (JP-4 Range)	ND	10	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	99%		64-121%	

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound



ACCUTEST

CHAIN OF CUSTODY

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: **14574**

ACCUTEST QUOTE #:

CLIENT INFORMATION		FACILITY INFORMATION		ANALYTICAL INFORMATION		MATRIX CODES	
NAME: <u>IMS</u> ADDRESS: <u>929 PROFESSIONAL PLACE</u> <u>CINCINNATI, VA 23320</u> CITY, STATE, ZIP SEND REPORT TO: <u>(757) 436-3000</u> PHONE #		PROJECT NAME: <u>LANGLER AIR FORCE BASE</u> LOCATION: <u>PAVEMENT AREA</u> PROJECT NO.: <u>4 HAMPTON VA</u> <u>351. 3319</u> FAX #: <u>(757) 436-5266</u>		TYPH-DRO STX TP-4 ID TP-8 ID		DW - DRINKING WATER GW - GROUND WATER WW - WASTE WATER SO - SOIL SL - SLUDGE LIQ - OTHER LIQUID SOL - OTHER SOLID	
ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION		PRESERVATION		LAB USE ONLY	
		DATE	TIME	SAMPLED BY:	DATE	TIME	
1	C-24-A 1'-2'	9/12/02	1109	WB	SO	2	X
2	C-25-A 1'-2'	9/12/02	1125	WB	SO	2	X
3	C-29-A 1'-2.5'	9/12/02	1415	WB	SO	2	X
4	C-32-A 1'-2.5'	9/13/02	0830	WB	SO	2	X
5	C-35-A 1'-2.5'	9/13/02	0935	WB	SO	2	X
6	C-37-A 1'-2.5'	9/13/02	1000	WB	SO	2	X
7	C-38-A 1'-2.5'	9/13/02	1045	WB	SO	2	X
8	C-38-B 2'-6'	9/13/02	1045	WB	SO	2	X
9	C-39-A 1'-2.5'	9/13/02	1100	WB	SO	2	X
10	C-40-A 1'-2.5'	9/13/02	1130	WB	SO	2	X
11	C-41-A 1'-3'	9/18/02	1145	WB	SO	2	X

STANDARD
 48 HOUR RUSH
 24 HOUR EMERGENCY
 OTHER (SPECIFY) 24 HR TAT - A-D-T-TEST

EMERGENCY OR RUSH IS FAX DATA 100 668 5207 UNLESS PREVIOUSLY APPROVED

DATE TURNAROUND INFORMATION: APPROVED BY: S. WADSWORTH

DATA DELIVERABLE INFORMATION:
 STANDARD
 COMMERCIAL "B"
 DISK DELIVERABLE
 STATE FORMS
 OTHER (SPECIFY)

COMMENTS/REMARKS:
 SAT. DELIV. - AARON AT ACCUTEST
 CONFIRMED ON 9/13/02 15:10

RECEIVED BY: John Walker
 DATE TIME: 9/14/02 9:30
 RECEIVED BY: John Walker
 DATE TIME: 9/14/02 9:30

RECEIVED BY: John Walker
 DATE TIME: 9/13/02 15:44
 RECEIVED BY: John Walker
 DATE TIME: 9/13/02 15:44

TEMPERATURE: -1.0 C
 ON ICE

SEAL #

RECEIVED BY: John Walker
 DATE TIME: 9/13/02 15:44
 RECEIVED BY: John Walker
 DATE TIME: 9/13/02 15:44

RECEIVED BY: John Walker
 DATE TIME: 9/13/02 15:44