CORPORATE ENVIRONMENTAL ADVISORS, INC.
Ludlow & Worcester, MA

CLIENT AM Dream Homes
PROJECT NAME 21-E
LOCATION Springfield, Ma

BORING NUMBER CEA-2
SHEET No. 1 of 1

BORING/WELL LOG

FILE NO. 1769-88

LLER B + G
PECTOR F. Sears
'E START 11/08/88
'E FINISH 11/08/88

	Casing	Sampler	Core Barrel
TYPE	H.S.A.	S.S.	
SIZE I.D.	3 3/4"	1 3/8"	
HAMMER WT.		140 lb.	
HAMMER FALL		30"	

SITE LOCUS

SEE MAP

SAMPLE NO.	DEPTH RANGE	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	REC.	COL. A	STRATA CHANGE	FIELD CLASSIFICATION AND REMARKS
S-1	.5'-2'	3	6	9	12"	<1		C-M Brown, F-C sand, some gravel Loose, Dry, No Odor
S-2	4'-5.5'	11	9	20	14"	<1		Same as above Red coarse sand
S-3	9'-10.5'	25	21	34	15"	<1		Med - Dark Brown + Gray Brown F-Pred Coarse Sand, Some Gravel Loose Top 3" Damp, No Odor
4	14'-15.5'	13	15	19	14"	<1		Med Brown + Red Brown F-M sand + Gravel, Some Silt (Till) Med Dense, Wet, No Odor
S-5	19'-20.5'	9	12	14	18"	<1	▽	Top 8" Red Brown Till as above Bottom 10" Med Brown, F-M Sand Loose, Wet, No Odor
							///////	EOB @ 24' 21' Well Point 10' X 2" Screen to 11' riser to Surface Natural Fill Pack

MW

SAMPLE IDENTIFICATION
- SPLIT SPOON
- THIN WALL TUBE
- UNDISTURBED PISTON
- OPEN END ROD
- WASH SAMPLE
- AUGER SAMPLE

PENETRATION RESISTANCE
140 lb. Wt. falling 30" on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	Med. Stiff
30-49	Dense	9-15	Stiff
50 +	Very Dense	16-30	Very Stiff

PROPORTIONS USED

trace	0-10%
little	10 to 20%
some	20 to 35%

REMARKS:

HNU-ppm

Col. A

CORPORATE ENVIRONMENTAL ADVISORS, INC.
Ludlow & Worcester, MA

CLIENT AM Dream Homes
PROJECT NAME 21- E
LOCATION Springfield, Ma

BORING NUMBER CEA-3
SHEET No. 1 of 1

BORING/WELL LOG

FILE NO. 1769-88

ILLER B + G
SPECTOR F. Sears
TE START 11/08/88
TE FINISH 11/08/88

	Casing	Sampler	Core Barrel
TYPE	H.S.A.	S.S.	
SIZE I.D.	3 3/4"	1 3/8"	
HAMMER WT.		140 lb.	
HAMMER FALL		30"	

SITE LOCUS

SEE MAP

SAMPLE NO.	DEPTH RANGE	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	REC.	COL. A	STRATA CHANGE	FIELD CLASSIFICATION AND REMARKS
S-1	.5'-2'	1	1	1	14"	<1		Bright Orange Brown, F-M Sand Loose, Dry, No Odor
S-2	4'-5.5'	3	4	7	15"	<1		Med Gray Brown, F-M Sand, Loose, Dry, No Odor
S-3	9'-10.5'	3	4	7	3"	<1		Med Gray Brown, Fine, Silty, Mottled Sand, Loose, Damp, No Odor
4	14'-15.5'	24	19	28	15"	<1		Red Brown, Fine- Med Sand + Gravel + Silt, Med Dense, Damp- No Odor
S-5	19'-20.5'	35	20	17	18"	<1	▽	Med Red Brown, Fine - Med Sand + Gravel, Dense, Damp-Wet, No Odor
							//////	EOB @ 29'

26' Well point
10' X 2" Screen to 16'
Riser to Surface
Natural Fill Pack
1' above

MW

SAMPLE IDENTIFICATION
— SPLIT SPOON
— THIN WALL TUBE
— UNDISTURBED PISTON
— OPEN END ROD
— WASH SAMPLE
— AUGER SAMPLE

PENETRATION RESISTANCE
140 lb. Wt. falling 30" on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	Med. Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Stiff

PROPORTIONS USED

trace	0-10%
little	10 to 20%
some	20 to 35%

REMARKS:

Col. A HNU-ppm

CORPORATE ENVIRONMENTAL ADVISORS, INC.
Ludlow & Worcester, MA

CLIENT AM Dream Homes
PROJECT NAME 21-E
LOCATION Springfield, Ma

BORING NUMBER CEA-4
SHEET No. 1 of 1

BORING/WELL LOG

FILE NO. 1769-88
SITE LOCUS

SEE MAP

DRILLER B + G
INSPECTOR F. Sears
DATE START
DATE FINISH

	Casing	Sampler	Core Barrel
TYPE	H.S.A.	S.S.	
SIZE I.D.	3 3/4"	1 3/8"	
HAMMER WT.		140 lb.	
HAMMER FALL		30"	

DEPTH	SAMPLE NO.	DEPTH RANGE	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	REC.	COL. A	STRATA CHANGE	FIELD CLASSIFICATION AND REMARKS	MW
	S-1	.5-2'	11	14	17	16"	<1		Med- Light Brown, Gray Brown, Med-C Sand + Gravel, Some Fine, Loose, Dry, no odor	
5	S-2	4'-5.5'	3	2	1	15"	<1		Light Brown, F-M sand, Trace gravel, loose, dry, No Odor	
10	S-3	9'-10.5'	5	10	7	14"	<1		Med Gray Brown, Fine Silty Sand one 2" layer of coarse sand at 10' Mottled med dense, Wet, No Odor	
15	S-4	14-15.5'	6	8	7	13"	<1		L-M Brown, Gray Brown, Med Sand + Fine Gravel, Loose, Damp, No Odor	
20								▽	Hammer Broke While Pounding S-4 continued well installation using grab samples.	
25								//////	EOB @ 26.5'	

26.5' Well point
10' X 2" Screen to 16.5'
Riser to surface
Natural Fill Pack
Cement + Roadbox @ surface

SAMPLE IDENTIFICATION
— SPLIT SPOON
— THIN WALL TUBE
— UNDISTURBED PISTON
— OPEN END ROD
/ — WASH SAMPLE
AUGER SAMPLE

PENETRATION RESISTANCE
140 lb. Wt. falling 30" on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	Med. Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Stiff

PROPORTIONS USED

trace	0-10%
little	10 to 20%
some	20 to 35%

REMARKS:

HNU-ppm

CORPORATE ENVIRONMENTAL ADVISORS, INC.
Ludlow & Worcester, MA

CLIENT AM Dream Homes
PROJECT NAME 21-E
LOCATION Springfield, Ma

BORING NUMBER CEA-5
SHEET No. 1 of 1

BORING/WELL LOG

FILE NO. 1769-88

ILLER B + G
SPECTOR F. Sears
TE START 11/09/88
TE FINISH 11/09/88

	Casing	Sampler	Core Barrel
TYPE	H.S.A.	S.S.	
SIZE I.D.	3 3/4"	1 3/8"	
HAMMER WT.		140 lb.	
HAMMER FALL		30"	

SITE LOCUS

SEE MAP

SAMPLE NO.	DEPTH RANGE	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	REC.	COL. A	STRATA CHANGE	FIELD CLASSIFICATION AND REMARKS
S-1	.5'-2'	12	11	13	12"	<1		L-M Brown + Red Brown F-M Sand, Some Coarse Sand + Gravel, Loose, Dry, No Odor
S-2	4'-5.5'	3	3	3	11"	<1		Light Brown, F-M sand, some coarse sand, fine gravel, loose, Dry, No Odor
S-3	9'-10.5'	5	7	12	14"	<1		Same as above, mottled
4	14'-15.5'	7	9	8	14"	<1		Same as above, No Gravel
S-5	19'-20.5'	8	11	9	13"	<1		Top 2" same as above Bottom 11" Med-DK Gray Brown + Brown, Fine Sand- Fine Gravel Loose, Wet, No Odor
								EOB @ 24' 22' Well Point 10' X 2" Screento 12' Riser to surface natural fill pack Cement + Roadbox @ surface

MW

SAMPLE IDENTIFICATION
— SPLIT SPOON
— THIN WALL TUBE
— UNDISTURBED PISTON
— OPEN END ROD
— WASH SAMPLE

PENETRATION RESISTANCE
140 lb. Wt. falling 30" on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	Med. Stiff
30-49	Dense	9-15	Stiff

PROPORTIONS USED

trace	0-10%
little	10 to 20%
some	20 to 35%

REMARKS:

HNU-ppm

CORPORATE ENVIRONMENTAL ADVISORS, INC.
Ludlow & Worcester, MA

CLIENT AM Dream Homes
PROJECT NAME 21-E
LOCATION Springfield, Ma

BORING NUMBER CEA-6
SHEET No. 1 of 1

BORING/WELL LOG

FILE NO. 769-88
SITE LOCUS

SEE MAP

DRILL B + G
INSPECTOR F. Sears
DATE START 11/09/88
DATE FINISH 11/08/88

	Casing	Sampler	Core Barrel
TYPE	H.S.A.	S.S.	
SIZE I.D.	3 3/4"	1 3/8"	
HAMMER WT.		140 lb.	
HAMMER FALL		30"	

DEPTH	SAMPLE NO.	DEPTH RANGE	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	REC.	COL. A	STRATA CHANGE	FIELD CLASSIFICATION AND REMARKS	MW
	S-1	.5'-2'	5	3	1	2"	<1		Med-Brown, Med-C Sand, Loose, Damp, No Odor	
	S-2	4'-5.5'	5	3	2	10"	<1		Med- Light Brown, Med Sand, Some gravel, loose, Damp, No Odor	
10	S-3	9'-10.5'	7	5	6	13"	<1		L-M Brown, Gray Brown F-M sand, mottled, Loose, Dry, No Odor	
15	S-4	14'-15.5'	7	11	10	18"	<1	▽	L-M Gray Brown, Med-C sand Trace, Fine Sand + Gravel, Loose, Mottled, Wet at Tip, No Odor	
20	S-5	19'-20.5'	7	8	8	18"	58		Med Orange Brown, F-C Sand loose, Wet, Strong Fuel Odor + Sheen	
25								//////	EOB @ 24' 22' Well Point 10'X2" screen to 12' Riser to Surface Natural Fill Pack Cement + Roadbox @ Surface	

SAMPLE IDENTIFICATION
— SPLIT SPOON
— THIN WALL TUBE
— UNDISTURBED PISTON
— OPEN END ROD
— WASH SAMPLE
— AUGER SAMPLE

PENETRATION RESISTANCE
140 lb. Wt. falling 30" on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	Med. Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Stiff
		31+	Hard

PROPORTIONS USED

trace	0-10%
little	10 to 20%
some	20 to 35%
and	35 to 50%

REMARKS:

Col. A HNU-ppm

CORPORATE ENVIRONMENTAL ADVISORS, INC.
Ludlow & Worcester, MA

CLIENT Am. Dream
PROJECT NAME 21 - E
LOCATION Spfld., MA

BORING NUMBER CEA-7
SHEET No. 1 of 1

BORING/WELL LOG

FILE NO. 176 9-88
SITE LOCUS
SEE MAP

DRILLER B & G
INSPECTOR F. Sears
DATE START 12/1/88
DATE FINISH 12/1/88

	Casing	Sampler	Core Barrel
TYPE	H.S.A.	S.S.	
SIZE I.D.	3 3/4"	1 3/8"	
HAMMER WT.		140 lb.	
HAMMER FALL		30"	

DEPTH	SAMPLE NO.	DEPTH RANGE	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	REC.	COL. A	STRATA CHANGE	FIELD CLASSIFICATION AND REMARKS	MW
	S-1	0'-1.5'	12	2	3	10"	<1		med brown & black, F - C sand, loose, dry, no odor	
	S-2	4'-5.5'	7	11	9	14	<1		med brown, M - C sand, loose, dry, no odor	
5										
	S-3	9'-10'5'	11	13	32	14"	<1		same as above with gravel	
0										
	4	14'-15.5'	10	10	30	15"	<1		med - DK brown, F - C sand & gravel, some silt, dense, wet, no odor	
5								▽		
								=		
0								////////	EOB @ 19'	
									19' well point 10'x2" screen to 9' riser to surface natural fill pack cement & roadbox @ surface	

SAMPLE IDENTIFICATION
— SPLIT SPOON
— THIN WALL TUBE
— UNDISTURBED PISTON
— OPEN END ROD
— WASH SAMPLE
— AUGER SAMPLE

PENETRATION RESISTANCE
140 lb. Wt. falling 30" on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	Med. Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Stiff

PROPORTIONS USED

trace	0-10%
little	10 to 20%
some	20 to 35%

REMARKS:
HNU-ppm

CORPORATE ENVIRONMENTAL ADVISORS, INC.
453 Center Street, Ludlow, Massachusetts 01056 (413) 589-0548

OBSERVATION WELL GAUGE REPORT

SITE American Dream Homes DATE 12/7/88

LOCATION Springfield, MA PROJECT NO. 1769-88

INSPECTOR Spolzino/K. Stevenson INSTRUMENT Interface Probe

		A	B	C	D	E	F	
WELL	WELL DEPTH	CASING ELEV.	DEPTH TO PRODUCT	DEPTH TO WATER	PRODUCT THICK. (C-B)	PRODUCT ELEV. (A-B)	WATER ELEV. (A-C)	REMARKS
CEA-1	22.0	103.89	--	17.87	--	--	86.02	
CEA-2	21.0	104.35	--	19.42	--	--	84.92	
CEA-3	26.0	106.55	--	20.79	--	--	85.76	
CEA-4	26.5	104.08	--	17.60	--	--	86.48	Slight Odor
CEA-5	22.0	106.58	--	15.32	--	--	91.26	Slight Odor
CEA-6	22.0	106.35	--	15.00	--	--	91.35	Heavy Odor
CEA-7	19.0	105.38	--	15.90	--	--	89.48	
RW1								
RW2								
HOLDING TANK		TOTAL (INCHES)				WATER (INCHES)		

CONVERSION: INCHES TO FRACTIONAL FEET

½	.04	2½	.21	4½	.37	6½	.54	8½	.70	10½	.87
1	.08	3	.25	5	.42	7	.58	9	.75	11	.91
1½	.12	3½	.29	5½	.46	7½	.62	9½	.79	11½	.95
2	.16	4	.33	6	.50	8	.66	10	.83		

WATER CONTROL LABORATORIES
A DIVISION OF COOPERATING MANAGEMENT, INC.
HOPKINTON INDUSTRIAL PARK
[illegible]
617-435-8824

WORK ORDER # | ACCESSION # | CODE | PAGE #
83-44029 | 000452 | T09 | 1

1769-88 (CEA-1)

DEC 15 1988

RED BY:

CORPORATE ENVIRONMENTAL ADVIS.
STEVE MIGRIDICHIAN
453 CENTER ST.
LUDLOW, MA. 01056

COLLECTED	RECEIVED	REPORTED
12/07/88 00:00	12/09/88 18:11	12/14/88 17:05

FINAL REPORT

COMMENTS

TESTS	RESULTS	UNITS	REFERENCE RANGES	LOW	ACCEPTABLE RANGE GRAPHIC RESULTS	HIGH
NERAL INFORMATION						
COLLECTOR: CEA)						
A HEADSPACE SCREEN-3810						
CHLORIDE	ND					
METHANE	ND					
OETHANE	ND					
LOROFLUORO-CH4	ND					
ICHLOROETHENE	ND					
LENE CHLORIDE	ND					
2DICHLOROETHENE	ND					
ICHLOROETHANE	ND					
OFORM	ND					
RI LOROETHANE	ND					
N TRACHLORIDE	ND					
NE	ND					
ICHLOROETHANE	ND					
LOROETHENE	ND					
ICHLOROPROPANE	ND					
DICHLOROMETHANE	ND					
NE	ND					
ICHLOROETHANE	ND					
CHLOROETHENE	ND					
MOCHLOROMETHANE	ND					
OBENZENE	ND					
BENZENE	ND					
E	ND					
ICHLOROBENZENE	ND					
ICHLOROBENZENE	ND					
ICHLOROBENZENE	ND					
E TYPE:	WATER					

ND= LESS THAN 5 UG/L FOR WATER, LESS THAN 250 UG/KG FOR S

RESULT RANGES FOR SOIL ARE 50X GREATER THAN INDICATED ABO

THIS IS A HEADSPACE SCREENING PROCEDURE ONLY.
QUANTITATION SHOULD BE DETERMINED BY USING
METHODS: 8010, 8020, OR 8240

*** THIS IS A FINAL REPORT. ***

WATER CONTROL LABORATORIES
A DIVISION OF COOPERATING MANAGEMENT, INC.
HOPKINTON INDUSTRIAL PARK
108 SOUTH ST
HOPKINTON, MA. 01748
617-435-8624

WORK ORDER #	ACCOUNT #	CODE	PAGE #
83444030	000452	T09	1

SAMPLE/SUBMITTER'S INFORMATION

1769-88 (CEA-2)

DEC 15 1988

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STEVE MIGRIDICHIAN
453 CENTER ST.
LUDLOW, MA. 01056

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12/07/88 00:00	12/09/88 18:12	12/14/88 17:42

COMMENT:

FINAL REPORT

TESTS	RESULTS	UNITS	REFERENCE RANGE	LOW	ACCEPTABLE RANGE GRAPHIC RESULTS	HIGH
ENERAL INFORMATION						
(COLLECTOR: CEA)						
RGANIC TESTING						
HYDROCARBON (IR)	0.1	MG/L				
*** THIS IS A FINAL REPORT. ***						

WATER CONTROL LABORATORIES
A DIVISION OF COOPERATING MANAGEMENT, INC.
HOPKINTON INDUSTRIAL PARK
[illegible] SOUTH ST
HOPKINTON, MA 01748
617-435-6824

WORK ORDER # 83444031 ACCOUNT # 000452 CODE TO9 PAGE # 1

SAMPLE DESCRIPTION OR CLIENT PO NUMBER
1769-88 (CEA-3)

DEC 15 1988

ERED BY:

CORPORATE ENVIRONMENTAL ADVIS.
STEVE MIGRIDICHIAN
453 CENTER ST.
LUDLOW, MA. 01056

COLLECTED	RECEIVED	REPORTED
12/08/88 00:00	12/09/88 18:13	12/14/88 17:43

COMMENTS:
FINAL REPORT

TESTS	RESULTS	UNITS	REFERENCE RANGE	LOW	ACCEPTABLE RANGE GRAPHIC RESULTS	HIGH
ENERAL INFORMATION						
(COLLECTOR: CEA)						
RGANIC TESTING						
HYDROCARBON (IR)	<0.1	MG/L				
*** THIS IS A FINAL REPORT. ***						

WATER CONTROL LABORATORIES
A DIVISION OF COOPERATING MANAGEMENT INC.
HOPKINTON INDUSTRIAL PARK
[illegible] ST
[illegible]
508-435-8824

DEC 28 1988

WCCID/#: 83444032 | ACCOUNT#: 000452 | CODE: T09 | PAGE#: 1

SAMPLE IDENTIFICATION INFORMATION:
1769--88 (CEA-4)

IRED BY:

CORPORATE ENVIRONMENTAL ADVIS.
STEVE MIGRIDICHIAN
453 CENTER ST.
LUDLOW, MA. 01056

COLLECTED	RECEIVED	REPORTED
12/07/88 00:00	12/09/88 18:13	12/23/88 16:58

FINAL REPORT

COMMENT:

TESTS	RESULTS	UNITS	REFERENCE RANGE	LOW	ACCEPTABLE RANGE GRAPHIC RESULTS	HIGH
GENERAL INFORMATION						
(COLLECTOR: CEA)						
VOA HEADSPACE SCREEN-3810						
NYL CHLORIDE	ND					
OMOMETHANE	ND					
LOROETHANE	ND					
ICHLOROFLUORO-CH4	ND					
1--DICHLOROETHENE	ND					
THYLENE CHLORIDE	ND					
AN12DICHLOROETHENE	ND					
1-DICHLOROETHANE	ND					
LOROFORM	ND					
1-TRICHLOROETHANE	ND					
RBON TETRACHLORIDE	ND					
NZENE	ND					
2-DICHLOROETHANE	ND					
ICHLOROETHENE	ND					
2-DICHLOROPROPANE	ND					
OMODICHLOROMETHANE	ND					
LUENE	ND					
2TRICHLOROETHANE	ND					
TRACHLOROETHENE	ND					
BROMOCHLOROMETHANE	ND					
LOROBENZENE	ND					
HYLBENZENE	ND					
LENE	ND					
3-DICHLOROBENZENE	ND					
4-DICHLOROBENZENE	ND					
2--DICHLOROBENZENE	ND					
MPLE TYPE:	WATER					
	ND= LESS THAN 5 UG/L FOR WATER, LESS THAN 250 UG/KG FOR SOI					
	RESULT RANGES FOR SOIL ARE 50X GREATER THAN INDICATED ABOVE					
	THIS IS A HEADSPACE SCREENING PROCEDURE ONLY.					
	QUANTITATION SHOULD BE DETERMINED BY USING					
	METHODS: 8010, 8020, OR 8240					
ORGANIC TESTING						
T HYDROCARBON (IR)	0.4	MG/L				
MISCELLANEOUS TESTING						

TINUED ON NEXT PAGE:

WATER CONTROL LABORATORIES
A DIVISION OF COOPERATING MANAGEMENT INC.
HOPKINTON INDUSTRIAL PARK
106 SOUTH ST.
HOPKINTON, MA 01748
508-435-6624

WCL ID #: 83444033

ACCOUNT #: 000452

SAMPLE IDENTIFICATION INFORMATION
1769-88 (CEA-5)

REFERRED BY:

CORPORATE ENVIRONMENTAL ADVIS.
STEVE MIGRIDICHIAN
453 CENTER ST.
LUDLOW, MA. 01056

COLLECTED:
12/07/88
00:00

REPORT: FINAL REPORT

COMMENT:

TESTS	RESULTS	UNITS	REFERENCE RANGE	LOW
*** GENERAL INFORMATION (COLLECTOR: CEA)				
*** VOLATILE ORGANICS				
VOA ANALYSIS DATE:	12/14/88			
MEK	ND DETECTION LIMIT =	100 UG/L		
MIBK	ND DETECTION LIMIT =	50 UG/L		
ACETONE	ND DETECTION LIMIT =	100 UG/L		
CHLOROMETHANE	ND			
BROMOMETHANE	ND			
VINYL CHLORIDE	ND			
CHLOROETHANE	ND			
METHYLENE CHLORIDE	ND			
TRICHLOROFLUORO--CH4	ND			
1,1-DICHLOROETHENE	ND			
1,1-DICHLOROETHANE	ND			
1,2-DICHLOROETHENE	ND			
CHLOROFORM	ND			
1,2-DICHLOROETHANE	ND			
1,1,1TRICHLOROETHANE	385.	UG/L	0. - 200.	
CARBON TETRACHLORIDE	ND			
BROMODICHLOROMETHANE	ND			
1,2-DICHLOROPROPANE	ND			
CIS13DICHLOROPROPENE	ND			
TRICHLOROETHENE	ND			
BENZENE	ND			
DIBROMOCHLOROMETHANE	ND			
1,1,2TRICHLOROETHANE	ND			
TRAN13DICLOROPROPENE	ND			
BROMOFORM	ND			
1122TETRACLOROETHANE	ND			
TETRACHLOROETHENE	ND			
TOLUENE	ND			
CHLOROBENZENE	ND			
ETHYL BENZENE	ND			
1,3-DICHLOROBENZENE	ND			
1,2-DICHLOROBENZENE	ND			
1,4-DICHLOROBENZENE	ND			

CONTINUED ON NEXT PAGE.

WATER CONTROL LABORATORIES
A DIVISION OF COOPERATING MANAGEMENT INC.
HOPKINTON INDUSTRIAL PARK
106 SOUTH ST.
HOPKINTON, MA 01748
508-435-6624

WORK ID # 83444033 | ACCOUNT # 000452 | CODE T09 | PAGE # 2

SAMPLE IDENTIFICATION INFORMATION
1769-88 (CEA-5)

DEC 28 1988

RED BY:

CORPORATE ENVIRONMENTAL ADVIS.
STEVE MIGRIDICHIAN
453 CENTER ST.
LUDLOW, MA. 01056

COLLECTED	RECEIVED	REPORTED
12/07/88 00:00	12/09/88 18:14	12/23/88 16:58

COMMENT:

FINAL REPORT

TESTS	RESULTS	UNITS	REFERENCE RANGE	LOW	ACCEPTABLE RANGE GRAPHIC RESULTS	HIGH
VOLATILE ORGANICS						
ENE	ND					
E	ND					
ECTION LIMIT	/					
	DETECTION LIMIT = 25 UG/L.					
	EXCEPTION : MIBK,MEK & ACETONE ARE 5X LIMIT INDICATED.					
	ND = LESS THAN THE DETECTION LIMIT INDICATED.					
LIBRARY SEARCH VOLATILES						
ORITY POLLUTANTS:	TENTATIVELY IDENTIFIED COMPOUNDS:NONE FOUND					
MISCELLANEOUS TESTING						
D/BASE/NEUTRAL:	SEE SEPARATE REPORT.					
	*** THIS IS A FINAL REPORT. ***					

WATER CONTROL LABORATORIES
A DIVISION OF COOPERATING MANAGEMENT INC.
HOPKINTON INDUSTRIAL PARK
[illegible]
HOPKINTON, MA 01748
508-435-8324

WORK ORDER # 8344-4033

ACCOUNT # 000452

SAMPLE IDENTIFICATION INFORMATION
1769-88 (CEA-5)

DEC 28

REFERRED BY: Corporate Environmental Advisors
455 Center Street
Ludlow, MA.

COLLECTED 12/7/88

REC 12/7/

REPORT:

COMMENT:

TEST	RESULTS	REFERENCE RANGE	LOW	ACC GRA
ACID/BASE/NEUTRAL (Expressed in µg/L)		**Detection Limit:**		
2-Chlorophenol	None Detected	3.3		
2-Nitrophenol	None Detected	3.6		
Phenol	None Detected	1.5		
2,4-Dimethyphenol	None Detected	2.7		
2,4-Dichlorophenol	None Detected	2.7		
2,4,6-Trichlorophenol	None Detected	2.7		
4-Chloro-3-methylphenol	None Detected	3.0		
2,4-Dinitrophenol	None Detected	42.0		
2-Methyl-4,6-dinitrophenol	None Detected	24.0		
Pentachlorophenol	None Detected	3.6		
4-Nitrophenol	None Detected	2.4		
Acenaphthene	None Detected	1.9		
Benzidine	None Detected	44.0		
1,2,4-Trichlorobenzene	None Detected	1.9		
Hexachlorobenzene	None Detected	1.9		
Bis(2-chloroethyl)ether	None Detected	5.7		
2-Chloronaphthalene	None Detected	1.9		
1,2-Dichlorobenzene	None Detected	1.9		
1,3-Dichlorobenzene	None Detected	1.9		
1,4-Dichlorobenzene	None Detected	4.4		
3,3-Dichlorobenzidine	None Detected	16.5		
2,4-Dinitrotoluene	None Detected	5.7		
2,6-Dintrotoluene	None Detected	1.9		
1,2-Diphenylhydrazine	None Detected	11.1		
Azobenzene	None Detected	11.1		
Fluoranthene	None Detected	2.2		
4-Chlorophenyl phenyl ether	None Detected	4.2		
4-Bromophenyl phenyl ether	None Detected	1.9		
Bis(2-chloroisopropyl)ether	None Detected	5.7		
Bis(2-chloroethoxy)methane	None Detected	5.3		
Hexachlorobutadiene	None Detected	0.9		
Hexachlorocyclopentadiene	None Detected	5.1		
Isophorone	None Detected	2.2		
Naphthalene	None Detected	1.6		
Nitrobenzene	None Detected	1.9		
N-nitrosodimethylamine	None Detected	3.1		
N-nitrosdiphenylamine	None Detected	1.9		
N-nitrosodi-n-propylamine	None Detected	2.6		
Bis(2-ethylhexyl)phthalate	None Detected	2.5		
Butyl benzyl phthalate	None Detected	2.5		
Di-n-butylphthalate	None Detected	2.5		
Di-n-octylphthalate	None Detected	2.5		

WATER CONTROL LABORATORIES
A DIVISION OF COOPERATING MANAGEMENT INC.
HOPKINTON INDUSTRIAL PARK
[illegible] SOUTH ST
HOPKINTON, MA 01748
508-435-6624

WCL ID#: 8344-4033

ACCOUNT #: 000452

SAMPLE IDENTIFICATION INFORMATION
1769-88 (CEA-5)

REFERRED BY: Corporate Environmental Advisors
455 Center Street
Ludlow, MA.

COLLECTED
12/7/88

REPORT:

COMMENT:

TESTS	RESULTS	UNITS	REFERENCE RANGE	LOW
ACID/BASE/NEUTRAL – (Expressed in µg/L)			**Detection Limit:**	
Diethyl phthalate	None Detected		22.0	
Dimethyl phthalate	None Detected		1.6	
Benzo(a)anthracene	None Detected		7.8	
Benzo(a)pyrene	None Detected		2.5	
Benzo(b)fluoranthene	None Detected		4.8	
Benzo(k)fluoranthene	None Detected		2.5	
Chrysene	None Detected		2.5	
Acenaphthylene	None Detected		3.5	
Anthracene	None Detected		1.9	
Benzo(ghi)perylene	None Detected		4.1	
Fluorene	None Detected		1.9	
Phenanthrene	None Detected		5.4	
Dibenzo(a,h)anthracene	None Detected		2.5	
Indeno(1,2,3-cd)pyrene	None Detected		3.7	
Pyrene	None Detected		1.9	
Hexachloroethane	None Detected		1.6	

CHAIN OF C TODY RECORD

SHEET
No. _____
of _____

PROJ. NO. 1769-88

PROJECT NAME American Dream Homes

Samplers: [signature]

I.D. NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	Sample Matrix	No of Containers	ANALYSIS TYPE REQUESTED: 8010 + Peaks	608	TPH w/ IR 625	REMARKS
CEA-1	12/8		✓		Orchard Springfield, Ma	H2O	3	✓			
CEA-2			✓				1		✓		
CEA-3			✓				1		✓		
CEA-4			✓				6	✓	✓	✓	
CEA-5			✓				5	✓		✓	
CEA-6			✓				5	✓	✓		
CEA-7			✓		↓	↓	5	✓		✓	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	12/8/88 9:15	Donna M. Scott
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)

CEA CORPORATE ENVIRONMENTAL ADVISORS, INC.
453 Center Street, Ludlow, Massachusetts 01056
(413) 589-0548 FAX (413) 583-5283

TO: Water Control

PROJECT MANAGER: M. L. Hancup

WHITE — File copy YELLOW— —Laboratory copy PINK — Verification copy

TO: BWSC Files

THRU: Saadi Motamedi

FROM: Ted Tokarz

SUBJECT: Site Walkover, Site #1-0607 & 1-0170 Crane Company

DATE: April 27, 19999

On this day I arrived at the Crane Company main building at 10:45 a.m. Present at the inspection were Mr. Anthony D. Pantaleoni, Vice President of Environmental, Health & Safety for the Crane Company, Mr. Paul Miarecki, Crane Company representative for the site, Mr. David S. Gordon, Project Manager for Dynamac Corporation, Mr. Rick L. Rose, Project Manager for C. E. Remediation, Inc. and Mr. Robert Brett, Project Manager for Eagle Environmental Contractors, Inc.

The inspection was conducted at two separate Crane Company sites. Site #1-0170 was the main operations facility where demolition of all existing buildings was in progress and site #1-0607 was the Crane Disposal Area, site of the former Crane Company landfill.

The main operations facility was completely void of any structures. Piles of brick, lumber and oil stained wood blocks were neatly stacked throughout the site. All lumber and oil stained wood were to be transported to proper disposal facilities.

The entire 30-acre area was formerly occupied by plant manufacturing buildings.

A tunnel about 8 feet high and 8 feet wide and 100 yards long runs through the center of the property and held the steam pipes for the facility. This tunnel will be filled with brick rubble upon completion of site remediation. Railroad tracks are still evident on the north side of the site. All former monitoring wells have been destroyed. The Crane Company plans to sell the site when all demolition and demolition debris has been removed. Mr. Pataleoni said that the City of Springfield is interested in both parcels and negotiations are ongoing.

We took our vehicles approximately 1 mile down the to the former Crane Company landfill site #1-0607. This site is approximately 25 acres in size and extends to Oak Street in the Indian Orchard area. Vegetation at the site appears healthy and except for sporadic trash dumping by interlopers, the site appears clean and innocuous. This parcel is also included in negotiations with the city of Springfield. We did not encounter any evident contamination of soil at the site. We all proceeded to the Crane Company old office building which is opposite the main facilities. The building is used as an office for the demolition contractors and appears in tenuous condition. Mr. Gordon informed us that he would issue a report on the inspection within 3 weeks and this report would recommend whether further testing is necessary. I left the site at about 12:45 p.m.

TT/ers
W: crane

FILE COPY

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WESTERN REGIONAL OFFICE

ARGEO PAUL CELLUCCI
Governor

TRUDY COXE
Secretary

DAVID B. STRUHS
Commissioner

May 26, 1998

Dr. Anthony Pantaleoni
Crane Company
110 First Stamford Place
Stamford, CT 06902

Re: Springfield - 1-00170
Crane Company
Goodwin & Oak Streets
M.G.L. Ch. 21E

Waiver of Approvals - Receipt of Completion Statement

Dear Dr. Pantaleoni:

The Department of Environmental Protection (the Department) has received a report entitled "Phase II Comprehensive Site Assessment" and a Response Action Completion Statement for the above referenced site. These documents were submitted on your behalf by ATC Associates, Inc. of East Longmeadow, Massachusetts, and received by the Department on May 21, 1998. A Waiver of Approvals was granted for this site on May 31, 1994. You should be aware that the acknowledgment of the receipt of the Completion Statement does not constitute an approval of the remedial response actions conducted at this site. Additionally, this acknowledgment does not constitute a release from liability under M.G.L. Ch 21E or any other law. The Department may audit remedial response actions at waiver sites to determine compliance with M.G.L. Ch. 21E, 310 CMR 40.000 (the Massachusetts Contingency Plan), and the conditions of the waiver approval. The Department reserves the right to initiate or require any response or enforcement actions which it might deem necessary with respect to the site in the event that additional information regarding the site comes to its attention.

The Department suggests that you review all submittals to ensure compliance with M.G.L. Ch. 21E, 310 CMR 40.000, and the conditions of the waiver approval.

Thank you for your cooperation. If you have any questions regarding this matter, please contact Edward Weagle of this office by calling (413) 784-1100 x221.

Sincerely,

Catherine G. Wanat
Section Chief
Audits/Site Management
Bureau of Waste Site Cleanup

cc: City of Springfield, Mayor's office
City of Springfield, Health Department
ATC Associates, 39 Spruce St., E. Longmeadow, MA 01028, Attn: Mr. Timothy O'Brien

HAND DELIVERED
DATE 5/21/98
REC'D. BY G Gates

REMEDIAL RESPONSE ACTION COMPLETION STATEMENT

Do not send this form in with the application form. Detach this page and reserve it until the remedial response action is completed. At that time, submit this statement to the Department.

A. SITE INFORMATION:

Name of Disposal Site: Crane Co./Manufacturing Facility

DEQE Site ID Number: 1-0170 Springfield/Indian Orchard

Address: Pinevale, Goodwin, and Moxon Streets
(STREET)

Indian Orchard	MA	01151
(CITY/TOWN)	(STATE)	(ZIP CODE)

C. STATEMENT OF CONFORMANCE:

I certify that the remedial action for Crane Co./Manufacturing Facility has been
(SITE NAME)

completed in accordance with the approved waiver application dated March 31, 1994,
(MONTH/DAY/YEAR)

M.G.L. c. 21E, and the Massachusetts Contingency Plan.

A D Pantalo 5/15/98
(SIGNATURE OF APPLICANT/DATE)

D. STATEMENT OF COMPLETION:

Provide an opinion as to whether the remedial response action constitutes a permanent solution under M.G.L. c.21E and provide a basis for that opinion. This opinion must be signed by the applicant and the applicant's consultant.

It is the opinion of the Consultant-of-Record that remedial response actions conducted have removed the identified sources of release at the subject site and remediated impacted media to a level such that no substance of concern will present a significant risk of damage to health, safety, public welfare or the environment during any foreseeable period of time as demonstrated through the Method 3 Risk Characterization. A condition of "no significant risk" has been achieved.

A D Pantalo 5/15/98
(SIGNATURE OF APPLICANT/DATE)

(203) 363-7214
(PHONE NUMBER)

ATC Associates Inc.
(NAME OF CONSULTANT FIRM)
Please Print

5/15/98
(SIGNATURE OF APPLICANT'S REMEDIAL RESPONSE ACTION CONSULTANT/ DATE)

VATC ASSOCIATES INC.

39 Spruce Street
East Longmeadow, Massachusetts
01028
413.525.1198
Fax 413.525.8227

20 May 1998

HAND DELIVERED
DATE 5/21/98
RECD. BY J Gates

Mayor of Springfield - The Honorable Michael Albano
City of Springfield
36 Court Street
Springfield, Massachusetts 01103

RE: **Remedial Response Action Completion**
Crane Co., Manufacturing Facility
Pinevale, Goodwin, and Moxon Streets
Indian Orchard, Springfield, Massachusetts
DEP Waiver Site No. 1-0170

Dear Mayor Albano:

Pursuant to the Massachusetts Contingency Plan 310 CMR 40.000, Interim Measures and assessment activities have been performed at the above reference location as a result of leaking Underground Storage Tank (UST) and other environmental conditions identified by the Western Regional Office of the Massachusetts Department of Environmental Protection (DEP) in 1987. A Waiver of approvals was granted for the subject site in March 1994. A Phase II Comprehensive Site Assessment was performed in accordance with 310 CMR 40.000 (1988), and appropriate provisions of 310 CMR 40.0000 (31 October 1997), in support of a Method 3 Risk Characterization performed in accordance with 310 CMR 40.0900, for the release conditions. Based on these assessments, a Remedial Response Action Completion Statement has been filed indicating that the disposal site does not pose, and is not expected to pose a significant risk of harm to health, safety, public welfare, or the environment over any foreseeable period of time. These documents and all supporting documents submitted to the DEP are public record and may be reviewed at the DEP Western Regional Office located at 436 Dwight Street in the City of Springfield, Hampden County, Massachusetts.

Should you have any questions, please feel free to call the undersigned at 413/525-1198.

Sincerely,

T. O'Brien

Timothy J. O'Brien
Director of Environmental Services

cc: DEP Western Regional Office
A. Pantaleoni, Crane Co.

ATC ASSOCIATES INC.

39 Spruce Street
East Longmeadow, Massachusetts
01028
413.525.1198
Fax 413.525.8227

20 May 1998

HAND DELIVERED
DATE 5/21/98
REC'D. BY J Gates

Dr. Deloris Williams, Commissioner
City of Springfield, Board of Health
130 Pearl Street
Springfield, Massachusetts 01103

RE: **Remedial Response Action Completion**
Crane Co., Manufacturing Facility
Pinevale, Goodwin, and Moxon Streets
Indian Orchard, Springfield, Massachusetts
DEP Waiver Site No. 1-0170

Dear Dr. Williams:

Pursuant to the Massachusetts Contingency Plan 310 CMR 40.000, Interim Measures and assessment activities have been performed at the above reference location as a result of leaking Underground Storage Tank (UST) and other environmental conditions identified by the Western Regional Office of the Massachusetts Department of Environmental Protection (DEP) in 1987. A Waiver of approvals was granted for the subject site in March 1994. A Phase II Comprehensive Site Assessment was performed in accordance with 310 CMR 40.000 (1988), and appropriate provisions of 310 CMR 40.0000 (31 October 1997), in support of a Method 3 Risk Characterization performed in accordance with 310 CMR 40.0900, for the release conditions. Based on these assessments, a Remedial Response Action Completion Statement has been filed indicating that the disposal site does not pose, and is not expected to pose a significant risk of harm to health, safety, public welfare, or the environment over any foreseeable period of time. These documents and all supporting documents submitted to the DEP are public record and may be reviewed at the DEP Western Regional Office located at 436 Dwight Street in the City of Springfield, Hampden County, Massachusetts.

Should you have any questions, please feel free to call the undersigned at 413/525-1198.

Sincerely,

T. O'Brien

Timothy J. O'Brien
Director of Environmental Services

cc: DEP Western Regional Office
A. Pantaleoni, Crane Co.

REPORT

Preliminary Response Actions

at

Former American Dream Modular Homes
225 Goodwin Street
Springfield, MA

Site #1-0616

August 5, 1994

Prepared for:

Mr. Anthony D. Pantaleoni
Crane Co.
100 First Stamford Place
Stamford, CT 06902

Prepared by:

Mr. Timothy J. O'Brien, LSP
Con-Test, Inc.
39 Spruce Street, P.O. Box 591
East Longmeadow, MA 01028

TABLE OF CONTENTS

con-test®
ENVIRONMENTAL CONSULTING–TESTING

REPORT

Preliminary Response Actions

at

Former American Dream Modular Homes
225 Goodwin Street
Springfield, MA
Site #1-0616

INTRODUCTION

In July 1994, Crane Co. (Crane) contracted with Con-Test, Inc. (Con-Test) to provide environmental consulting and Licensed Site Professional (LSP) services in connection with Preliminary Response Actions (Preliminary Actions) to be conducted at the above referenced site (the Site).

The need to perform these Preliminary Actions resulted from a site inspection conducted by the Department of Environmental Protection (DEP) on May 6, 1994. During this inspection, a number of conditions were observed requiring further assessment including three conditions representing imminent hazards to public health, safety, welfare, and the environment.

Preliminary Response Actions to be undertaken were described in a July 20, 1994 letter from Con-Test to the DEP. They were as follows:

1. Limitation of Property Access
2. Identification of the extent of Polychlorinated Biphenyls (PCBs) in soil in the vicinity of three Transformers
3. Identification of Drum Contents
4. Identification of Underground Storage Tank (UST) Contents

Items 1, 2, and 3 were identified by the DEP as representing imminent hazards.

The objectives of the Preliminary Actions were to identify and quantify existing hazards as the Site. Field data thus obtained would be used to prepare an Immediate Response Action (IRA) Plan in accordance with 310 CMR 40.0424. The objectives of the IRA Plan will be to remove identified hazards resulting in a condition of minimal potential for any further releases at the site to protect public health, safety, welfare and the environment.

39 Spruce Street • P.O. Box 591 • East Longmeadow, MA 01028 • FAX 413/525-8227 • TEL 413/525-1198 800/634-8165

SITE SAFETY PLAN

All field work performed by personnel of Con-Test was conducted in accordance with Con-Test's Site Safety Plan dated July 24, 1994. This plan specifically addresses field activities being conducted as part of the Preliminary Actions.

FIELD WORK

Actions to limit access to the site were completed on June 30, 1994. All field work conducted by Con-Test and its subcontractor Cyn Environmental Services (Cyn Environmental) of Springfield, MA was completed on July 26 and 27, 1994. Representatives of the Crane, Cottage Hill Realty of Indian Orchard, MA representing TJF Realty Corporation (TJF Realty), and the DEP (Western Regional office) were present at the site at various times during the field work. Generalized features of the site are presented on Figure 2, Site Plan, attached.

A. Limitation of Property Access

Gaps in the chain link fence were repaired on June 30, 1994 by TJF Realty. TJF Realty also placed warning signs on posts stating "Danger - Keep Out - Hazardous Waste Disposal Site" at the four corners of the site and an additional 12 warning signs stating "No Trespassing" at twelve other strategic positions. All signs were installed by July 26, 1994 prior to commencement of field work at the site.

B. Sampling for Polychlorinated Biphenyls (PCBs)

A previous investigation at the site conducted by Corporate Environmental Advisors, Inc. (CEA) of Worcester, Massachusetts in 1990, indicated elevated levels of PCBs present in site soils in the vicinity of the site transformers.

Con-Test field engineers identified two large transformers and one nest of three small mounted transformers during exterior site inspections. One, intact, 2,500 KVA transformer stands on a concrete pad behind the south wall of the foundry building. A second 2,500 KVA transformer with its oil tank missing, is located at the southern edge of the property adjacent to the chain link fence. Originally, both transformers were likely located on the concrete pad by the south wall of the building. A nest of two bucket and one capacitor transformer (capacities not identified) is also mounted on the southwest wall of the foundry building approximately 15-18 feet above ground and stationed on a metal platform. See Figures 3, 4, and 5 for locations of transformers and sampling points.

Sampling Procedures

- Transformer #1 - Located eleven feet from the foundry building and installed on a concrete pad. Three wipe samples were taken from the concrete pad on the north, east, and west sides of the transformer. A seven (7) point sampling grid was used to sample the soils around the perimeter of the transformer at a distance of four feet.

- Transformer #2 - Located on the southern edge of the property adjacent to the chain link fence and stands on Site soil. An eight-point sampling grid was used to sample the soils around the perimeter of the transformer. The eight grab sampling locations were combined into two composite samples. One set of composites was taken from the four sides of the transformer at a distance of four feet. A second set of composites was taken from the four sides of the transformer at a distance of two feet.

  Two areas of stained soils were observed next to the transformer. These areas were located at the base of the transformer on the north and south sides. Soil samples were taken from these two areas and composited.

- Transformer ("nest") #3 - Mounted on the southwest corner of the foundry building approximately 15-18 feet above ground level. A nest of two bucket transformers and one low capacity transformer is stationed on a metal platform. Three wipe samples were taken from the floor of the metal platform on the south, east, and west sides of the transformer nest. The transformers appeared intact with no obvious leaks or staining.

Sampling Protocol and Decontamination Procedures

Soil and wipe samples were taken under the following protocols:

Surface wipe samples were taken using a 2 inch x 2 inch sterile gauze pad soaked in hexane. A 10cm x 10cm template was used for the sampling area and pads placed in clean 40 ml septum vials.

Soil samples were taken using a Dutch auger. Samples were taken at a depth of approximately 12 inches. The auger was decontaminated between each sampling location using hexane, a 20% methanol solution, and deionized water, then allowed to dry.

Con-Test personnel wore Level "D" personal protection. A worker decontamination station was set up at the site consisting of boot wash/rinse, boot drop, protective clothing removal, and a soap wash and rinse station. Respiratory and splash protection was used during decontamination of the auger.

All soil samples were collected on July 26, 1994 and submitted under chain-of-custody documentation to the analytical laboratory of Con-Test at East Longmeadow, MA for analysis of PCBs by EPA Method 8080.

C. Identification of Drum Contents

During a previous site reconnaissance, a total of eight 55-gallon drums and one 20 gallon drum were observed in the undergrowth or adjacent to abandoned machinery at the rear (southeast) of the foundry building. The contents of two of these drums were unknown, a third drum contained diesel oil, and a fourth, smaller drum, (approximately 20 gallons) contained "Zep" - a chlorinated solvent. The remaining drums were either empty or contained scrap metal and/or other debris.

On July 26, 1994, personnel of Cyn Environmental accessed the two drums (Drums A and B) of unknown contents and collected fluid samples for laboratory analyses (See Figure 3 for drum locations). Level B protective clothing was worn during the sampling process and drums were sealed after sample collection. Samples were submitted under chain-of-custody documentation to the laboratories of Con-Test for analysis of PCBs by EPA Method 8080, Volatile Organic Compounds (VOCs) by EPA Method 8240, flashpoint, and reactivity.

D. Identification of Contents of Underground Storage Tanks (USTs)

A total of six, 15,000 gallon USTs are located adjacent to the western wall of the foundry building. Reportedly, four of these USTs were used for storage of Bunker "C" oil and two for storage of No. 2 fuel oil. An additional 10,000 gallon UST is also located across the driveway to the west of the 15,000 gallon USTs and was reportedly used for gasoline storage. This UST was not addressed as part of the Preliminary Actions. See Figure 6 for UST locations.

Cyn Environmental gained entry to the four Bunker "C" USTs (UST Nos. 1, 2, 3, and 4) and one fuel oil UST (No. 6) via an inspection cover/fill port at the west end of each tank.

Entry to UST No. 5 was not possible due to excessive rusting of bolts securing the cover. Cyn Environmental returned to the site on July 26, 1994 and gained entry to UST No. 5 using alternative techniques.

Using a 6-foot long measuring stick smeared with water paste, an approximate depth of contained fluids was obtained. An obstruction, possibly a heating coil, prevented measurement of contents deeper than approximately 24 inches below the top of the inspection covers on all tanks. (15,000 gallon USTs typically measure 126 inches deep by 23 feet long.)

UST Nos. 1, 2, 3, and 4 contained 2 inches, 1/10-inch, 13 inches, and 17 inches respectively of a viscous black oil similar to Bunker "C" oil. UST Nos. 1 and 2 also contained 9 and 13 inches of water, respectively. No water was observed in UST Nos. 3 and 4.

UST No. 5 contained approximately 11 inches of a lighter grade oil similar to No. 2 fuel oil. UST No. 6 was filled with sand and cement debris. The extent of any contaminant/fill mix within the tank cannot be properly determined until the tank is excavated.

The Con-Test field engineer collected a fluid sample from each UST. All samples were submitted to Con-Test analytical laboratories under chain-of-custody documentation for analysis of petroleum hydrocarbons by modified EPA Method 8015.

ANALYTICAL RESULTS

A summary of results of laboratory analyses for all samples collected are indicated in Tables 1, 2 and 3 below. Copies of laboratory reports and chain-of-custody documentation are presented in Appendix A.

1. Soil Sampling for Polychlorinated Biphenyls

Table 1
Results of Analyses of Soil and Wipe Samples
in Vicinity of Transformers 1, 2 and 3 (nest)
EPA Method 8080
July 26, 1994

Location Sample ID	Soil Sample mg/kg	Wipe Sample ug/kg
Transformer 1 - Pad Mount		
Soil - 1A	5.30*	N/A
1B	2.13*	N/A
1C	1.72*	N/A
1D	1.40*	N/A
1E	0.0682*	N/A
1F	0.135*	N/A
1G	<0.025*	N/A
Wipe - 1I	N/A	<0.150*
1J	N/A	<0.150**
1H	N/A	1.91*
Transformer 2 - On Soil		
Soil - 2 ABCD	ND	N/A
2 EFGH	<0.025*	N/A
2 IJ	0.109*	N/A
Transformer 3 - On Building		
Wipe - 3A	N/A	ND
3B	N/A	ND
3C	N/A	ND

* = Aroclor 1260
** = Aroclor 1260 and Aroclor 1248
< = less than the laboratory detection limit used for the analysis
ND = None Detected
N/A = Not Applicable
mg/kg = milligrams per kilogram = parts per million (ppm)
ug/kg = micrograms per kilogram = parts per billion (ppb)

2. Identification of Drum Contents

Table 2
Results of Analysis of Drum Contents
EPA Method 8240
Flashpoint, Reactivity and PCBs by EPA Method 8080
July 26, 1994

Sample ID	Drum A mg/kg	Drum B mg/kg
Volatile Organic Compounds *	<50	ND
Toluene	ND	121
Chlorobenzene	920	ND
Ethylbenzene	5,350	ND
Xylene	138	181
Flashpoint	ND	ND
Reactivity	ND	ND
Polychlorinated Biphenyls		

mg/kg = milligrams/kilogram = parts per million (ppm)
ND = Not Detected above laboratory detection limits
* = All other compounds via EPA Method 8240 were non-detectable
Flashpoint in °Fahrenheit
< = less than the laboratory detection limit used for the analysis

3. Identification of Contents of USTs

Table 3
Results of Analysis of UST Contents
Modified EPA Method 8015
July 26, 1994

Sample ID	UST #1	UST #2	UST #3	UST #4	UST #5*
Gasoline	ND	ND	ND	ND	ND
Jet Fuel	ND	ND	ND	ND	ND
Kerosene	ND	ND	ND	ND	ND
#2/#4/Diesel Fuel	8.49	10.6	23.4	20.6	654**
Oil	ND	ND	ND	ND	ND
#6 Fuel Oil	ND	ND	ND	ND	ND
Motor Oil	ND	ND	ND	ND	ND
Other Hydrocarbons					

ND = Not Detected
* = Sample collected on July 27, 1994
** = Results in milligrams/liter (mg/l); all other results as percent (%)

SUMMARY

1. Limitation of Property Access

Gaps in the chain link fence were repaired on June 30, 1994 and prominent warning signs posted on the perimeter of the site. The entrance gate off Goodwin Street is secured with chain and padlock. The key is maintained by Cottage Hill Realty.

2. Polychlorinated Biphenyls

a. Laboratory analysis of soil samples collected at an approximate depth of 12 inches in the vicinity of Transformer I, indicated the presence of PCBs at concentrations between <0.025 and 5.30 ppm. Wipe samples taken from the transformer concrete pad indicated PCBs at concentrations between <0.150 and 1.91 ppb.

b. Laboratory analysis of soil samples collected in the vicinity of Transformer 2 indicated the presence of PCBs at concentrations between <0.025 and 0.109 ppm.

c. Laboratory analysis of wipe samples taken from the floor of the metal platform beneath Transformer 3 (nest) indicated non-detectable levels of PCBs.

The above results indicate there have been releases of PCBs, most likely as PCB-containing oil, in the vicinity of Transformers 1 and 2. The highest PCB results in the vicinity of Transformer I were obtained in soil samples to the southwest and south of the transformer within a distance of 4 feet. These results exceed the reportable concentration (RC) value of 2 ppm for PCBs in soils (for categories S1 and S2) in accordance with 310 CMR 40.0361. The highest concentrations of PCBs adjacent to Transformer 2 were taken from stained soil areas on the north and south sides of the transformer. These results were below the RC value for PCBs in soil. There was no indication of releases of PCB-containing oils from Transformer 3 (nest).

3. Drum Contents

Laboratory analysis of the drum contents indicated elevated concentrations of ethylbenzene and xylenes in Drum A and chlorobenzenes in Drum B. PCBs were not detected. Flashpoints were 138°F and 181°F for Drums A and B, respectively.

4. UST Contents

All USTs, excepting UST No. 6, contained petroleum fluids and UST Nos. 1 and 2 also contained measurable amounts of water. UST No. 6 was filled with sand and cement debris; potentially, fill materials may be contaminated by residual petroleum products. An obstruction (possible a heating coil) in all tanks prevented measurements being taken deeper than approximately 24 inches below the top of the inspection cover/fill port. (15,000 gallon USTs typically measure 126 inches deep by 23 feet long.)

Laboratory analysis of UST contents by Modified EPA Method 8015 detected a range of 8.49 - 20.6 percent typical of #2/#4/Diesel Fuel Oil for contents of UST Nos. 1-4. Field observations however, indicated the presence of a black viscous oil more typical of #6 Fuel Oil. Review of the laboratory chromatograms indicated results between the two groups of oils (#2/#4/Fuel Oil and #6 Fuel Oil) were not readily distinguishable possibly demonstrating the presence of degraded #6 Fuel Oil or mixed fuels. Results for UST No.5, which from field observations appeared to be a lighter grade oil similar to No. 2 Fuel Oil, more clearly indicated a product typical of #2/#4/Diesel Fuel Oil at 654 mg/L.

CONCLUSIONS

The objectives of the Preliminary Response Actions conducted at the Site were to identify existing hazards and to address three areas (Items 1-3 below) representing imminent hazards to public health, safety, welfare, and the environment. The following conclusions are presented in completion of the Preliminary Response Actions:

1. Access to the site has been properly secured with appropriate signs posted to warn the general public.

2. Analysis of soil samples collected in the vicinity of two transformers at the south side of the site, identified the presence of PCBs. PCB concentrations exceed reportable concentration values in the vicinity of one of the transformers. Soil contamination appears to be localized.

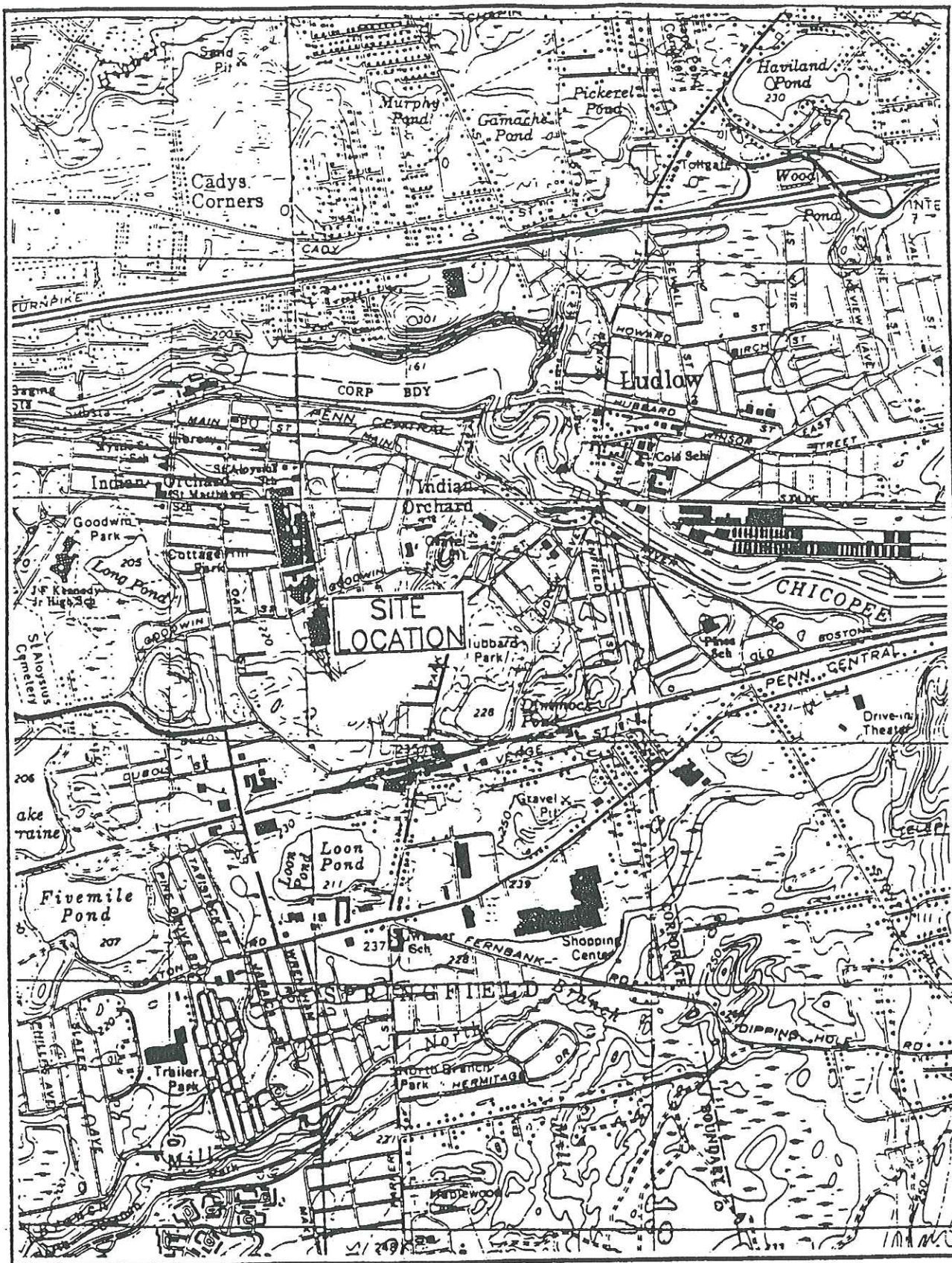
3. Contents of two drums were identified as including petroleum products ethylbenzene and xylenes in one drum and chlorobenzene in a second drum.

4. Contents of five of the six 15,000 gallon USTs were identified as petroleum products most likely degraded No. 6 Fuel Oil and No. 2 Fuel Oil. The sixth UST has been filled with sand and cement debris. There is potential for the fill materials to be contaminated by residual petroleum products.

Recommendations for any subsequent activities at the site as a result of the Preliminary Response Actions will be included in an Immediate Response Action (IRA) Plan in accordance with 310 CMR 40.0424.

FIGURES

FIGURE 1



CON-TEST Inc.
WATER AND AIR ENGINEERING
39 Spruce Street
P.O. Box 591
East Longmeadow, Ma. 01028

SITE LOCATION MAP

PROJECT 210-614

SOURCE USGS Ludlow Springfield N.

PROJECT NAME Crane Co. Foundry UTM 4669120N 706565E

SITE LOCATION 225 Goodwin Street SCALE 1:25000

Springfield Massachusetts

APPENDIX A

Laboratory Reports

and

Chain-of-Custody Records

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August 04, 1994

Don LePage
Con-Test Environmental

Invoice #94-210-614
Date Sampled: 07/26/94
Date Received: 07/27/94
Date Analyzed: 08/03/94

Ref: Crane Co., Foundry Bldg.

Sample Matrix: Water/Oil Mix

The results of analyses requested are listed below:

MILLIGRAMS/KILOGRAM

Lab # / *Sample #*	*94B13966* (Drum A)	*LOD*
Chloromethane	ND	50
Bromomethane	ND	50
Dichlorodifluoromethane	ND	50
Vinyl Chloride	ND	50
Chloroethane	ND	50
Ethanol	ND	1000
Iodomethane	ND	50
Methylene Chloride	ND	50
Acrolein	ND	1000
Acetone	ND	2000
Acrylonitrile	ND	50
Carbon Disulfide	ND	50
Trichlorofluoromethane	ND	50
1,1-Dichloroethylene	ND	50
1,1-Dichloroethane	ND	50
Trans 1,2-Dichloroethylene	ND	50
Chloroform	ND	50
2-Butanone (MEK)	ND	150
1,2-Dichloroethane	ND	50
Dibromomethane	ND	50
1,1,1-Trichloroethane	ND	50
Carbon Tetrachloride	ND	50
Vinyl Acetate	ND	150

LOD = Limit of Detection
ND = Not Detected

Analytical Method: EPA 8240 Analyst: WD

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Don LePage
Con-Test Environmental

Invoice #94-210-614
Date Sampled: 07/26/94
Date Received: 07/27/94
Date Analyzed: 08/03/94

Ref: Crane Co., Foundry Bldg.

Sample Matrix: Water/Oil Mix

The results of analyses requested are listed below:

MILLIGRAMS/KILOGRAM

Lab # / *Sample #*	*94B13966* (*Drum A*)	*LOD*
Bromodichloromethane	ND	50
1,2-Dichloropropane	ND	50
Cis-1,3-Dichloropropene	ND	50
Trichloroethylene	ND	50
Benzene	ND	50
Chlorodibromomethane	ND	50
Trans 1,3-Dichloropropene	ND	50
1,1,2-Trichloroethane	ND	50
2-Chloroethylvinylether	ND	50
Bromoform	ND	50
4-Methyl-2-Pentanone (MIBK)	ND	150
2-Hexanone	ND	150
1,2,3-Trichloropropane	ND	50
Tetrachloroethylene	ND	50
1,1,2,2-Tetrachloroethane	ND	50
Trans 1,4-Dichloro-2-Butene	ND	50
Ethyl Methacrylate	ND	50
Toluene	<50	50
Chlorobenzene	ND	50
Ethylbenzene	920	50
Styrene	ND	50
Xylene	5350	50
Cis 1,4-Dichloro-2-Butene	ND	50
1,4-Dichlorobenzenes	ND	50
MTBE	ND	50

LOD = Limit of Detection
ND = Not Detected

Analytical Method: EPA 8240 Analyst: WD

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Don LePage
Con-Test Environmental

Invoice #94-210-614
Date Sampled: 07/26/94
Date Received: 07/27/94
Date Analyzed: 08/03/94

Ref: Crane Co., Foundry Bldg.

Sample Matrix: Water/Oil Mix

The results of analyses requested are listed below:

MILLIGRAMS/KILOGRAM

Lab # / *Sample #*	*94B13967 (Drum B)*	*LOD*
Chloromethane	ND	10
Bromomethane	ND	10
Dichlorodifluoromethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Ethanol	ND	200
Iodomethane	ND	10
Methylene Chloride	ND	10
Acrolein	ND	200
Acetone	ND	400
Acrylonitrile	ND	10
Carbon Disulfide	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethylene	ND	10
1,1-Dichloroethane	ND	10
Trans 1,2-Dichloroethylene	ND	10
Chloroform	ND	10
2-Butanone (MEK)	ND	30
1,2-Dichloroethane	ND	10
Dibromomethane	ND	10
1,1,1-Trichloroethane	ND	10
Carbon Tetrachloride	ND	10
Vinyl Acetate	ND	30

LOD = Limit of Detection
ND = Not Detected

Analytical Method: EPA 8240 Analyst: WD

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Don LePage
Con-Test Environmental

Invoice #94-210-614
Date Sampled: 07/26/94
Date Received: 07/27/94
Date Analyzed: 08/03/94

Ref: Crane Co., Foundry Bldg.

Sample Matrix: Water/Oil Mix

The results of analyses requested are listed below:

MILLIGRAMS/KILOGRAM

Lab # / *Sample #*	*94B13967* (*Drum B*)	*LOD*
Bromodichloromethane	ND	10
1,2-Dichloropropane	ND	10
Cis-1,3-Dichloropropene	ND	10
Trichloroethylene	ND	10
Benzene	ND	10
Chlorodibromomethane	ND	10
Trans 1,3-Dichloropropene	ND	10
1,1,2-Trichloroethane	ND	10
2-Chloroethylvinylether	ND	10
Bromoform	ND	10
4-Methyl-2-Pentanone (MIBK)	ND	30
2-Hexanone	ND	30
1,2,3-Trichloropropane	ND	10
Tetrachloroethylene	ND	10
1,1,2,2-Tetrachloroethane	ND	10
Trans 1,4-Dichloro-2-Butene	ND	10
Ethyl Methacrylate	ND	10
Toluene	ND	10
Chlorobenzene	121	10
Ethylbenzene	ND	10
Styrene	ND	10
Xylene	ND	10
Cis 1,4-Dichloro-2-Butene	ND	10
1,4-Dichlorobenzenes	ND	10
MTBE	ND	10

LOD = Limit of Detection
ND = Not Detected

Analytical Method: EPA 8240 Analyst: WD

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Don LePage
Con-Test Environmental

Invoice #94-210-614
Date Sampled: 07/26/94
Date Received: 07/27/94
Date Analyzed: 08/03/94

Ref: Crane Co., Foundry Bldg.

Sample Matrix: Water/Oil Mix*

The results of analyses requested are listed below:

TPH BY GC/FID
%

Lab # / *Sample ID*	*94B13968* (Tank #1)	*94B13969* (Tank #2)	*94B13970* (Tank #3)	*94B13971* (Tank #4)
Gasoline	ND	ND	ND	ND
Jet Fuel	ND	ND	ND	ND
Kerosene	ND	ND	ND	ND
#2/#4/Diesel Fuel Oil	8.49	10.6	23.4	20.6
#6 Fuel Oil	ND	ND	ND	ND
Motor Oil	ND	ND	ND	ND
Other Hydrocarbons	ND	ND	ND	ND

LOD = Limit of Detection
ND = Not Detected
* = Oil portion of sample analyzed.

Analytical Method: Modified 8015 Analyst: DRT

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Don LePage
Con-Test Environmental

Invoice #94-210-614
Date Sampled: 07/26/94
Date Received: 07/27/94
Date Analyzed: SEE BELOW

Ref: Crane Co., Foundry Bldg.

Sample Matrix: Water/Oil Mix*

The results of analyses requested are listed below:

Lab # Sample ID	*94B13964 (Drum A)*	*94B13965 (Drum B)*	*LOD*	*Analytical Method*	*Analyst/ Date*
PCB (mg/kg)	ND	ND	1.67	600/4-8-1-045	DRT 08/01/94
Flashpoint (°F)	138	181	NA	SW846-1010	JC 07/27/94
Reactive Cyanide (mg/l)	ND	ND	0.4	SW846-Chpt.7.3.3.2	DMM 08/02/94
Reactive Sulfide (mg/l)	ND	ND	1.0	SW846-Chpt.7.3.4.2	DMM 08/02/94

LOD = Limit of Detection
ND = Not Detected
NA = Not Applicable

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Con-Test Environmental

Invoice #94-210-614
Date Sampled: 07/26/94
Date Received: 07/27/94
Date Analyzed: 08/03/94

Ref: Crane Co., Foundry Bldg.

Sample Matrix: Soil

The results of analyses requested are listed below:

Lab # *Sample ID*	*PCB* *mg/kg*
94B13972 (1A)	5.30*
94B13973 (1B)	2.13*
94B13974 (1C)	1.72*
94B13975 (1D)	1.40*
94B13976 (1E)	0.0682*
94B13977 (1F)	0.135*
94B13978 (1G)	<0.025*
94B13979 (2ABCD)	ND

LOD = Limit of Detection
ND = Not Detected
* = Aroclor 1260

Analytical Method: SW846-8080 Analyst: DRT

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Don LePage
Con-Test Environmental

Invoice #94-210-614
Date Sampled: 07/26/94
Date Received: 07/27/94
Date Analyzed: 08/03/94

Ref: Crane Co., Foundry Bldg.

Sample Matrix: Soil

The results of analyses requested are listed below:

Lab # *Sample ID*	*PCB* *mg/kg*
94B13980 (2EFGH)	<0.025*
94B13981 (2IJ)	0.109*

LOD = Limit of Detection
ND = Not Detected
* = Aroclor 1260

Analytical Method: SW846-8080 Analyst: DRT

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Don LePage
Con-Test Environmental

Invoice #94-210-614
Date Sampled: 07/26/94
Date Received: 07/27/94
Date Analyzed: 07/29/94

Ref: Crane Co., Foundry Bldg.

Sample Matrix: Wipes

The results of analyses requested are listed below:

Lab # *Sample ID*	*PCB* *µg* *Aroclor 1260*	*Aroclor 1248*
94B13982 (1I)	<0.150	--
94B13983 (1J)	<0.150	<0.150
94B13984 (3A)	ND	--
94B13985 (3B)	ND	--
94B13986 (3C)	ND	--
94B13987	1.91	--

LOD = Limit of Detection
ND = Not Detected

Analytical Method: SW846-8080 Analyst: DRT

Edward Denson
Signature

Tod Kopyscinski
Director of Operations

Edward Denson
Laboratory Director

file:94210614/cw

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WET CHEMISTRY DUPLICATE SUMMARY REPORT

Matrix: WATER/OIL

SAMPLE NUMBER	ANALYTE	RESULT (UNITS)	DUPLICATE RESULT (UNITS)	RPD	ANALYST/DATE
94B13964	FLASHPOINT	138°F	140°F	1.4	JC 07/27/94

RPD= RELATIVE PERCENT DIFFERENCE

QC APPROVAL: Ryan C. Lynch DATE: 08/02/94

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WET CHEMISTRY QA/QC SUMMARY

PARAMETERS	ANALYST/ DATE	REFERENCE MATERIAL	TRUE VALUE MG/L	RANGE	VALUE REPORTED MG/L
Alkalinity					
Ammonia					
Bromide					
Chloride					
Chlorine (total)					
Chlorine (free)					
Chromium (CR+6)					
Conductivity					
COD (Low Range)					
COD (High Range)					
Cyanide	DMM 08/02/94	1-1 CYN	0.500	0.350-0.610	0.439
Fluoride					
Hardness					
Nitrate					
Nitrite					
Phenols					
Phosphate (Total)					
Phosphate (Ortho)					
Sulfate					
Surfactants					
TDS					
TKN					

Q.C. APPROVAL: Ryan C. Lyons DATE: 08/02/94

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PCB SURROGATE REPORT

DATE: 08/02/94

MATRIX: SOIL

SAMPLE #	SURROGATE (DBC) % RECOVERY	RECOVERY LIMIT
METHOD BLANK	112	24-154%
94B13972	81	24-154%
94B13973	75	24-154%
94B13974	89	24-154%
94B13976	99	24-154%
94B13977	98	24-154%
94B13978	76	24-154%
94B13979	109	24-154%
94B13980	110	24-154%

COMMENT(S): _____

Edward Dawson

ANALYST : _____
DATE : _____

QC APPROVAL : _____
DATE : _____

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PCB SURROGATE REPORT

DATE: 08/02/94

MATRIX: SOIL

SAMPLE #	SURROGATE (DBC) % RECOVERY	RECOVERY LIMIT
94B13981	113	24-154%
94B13972 DUP	98	24-154%
94B13974 MS	100	24-154%
94B13974 MSD	103	24-154%
94B13975	106	24-154%

COMMENT(S): _____

ANALYST : DRT
DATE : 08/02/94

QC APPROVAL : Edward Dawson
DATE : 08/03/94

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PCB QA/QC SUMMARY

DATE: 08/02/94

MATRIX: SOIL

LAB I.D. #: 94B13974

Method Blank Result	ND
Conc. Spike Added	45.0 MG/KG
Sample Result	
Conc. MS	43.5 MG/KG
% Recovery	96.7%
Conc. MSD	42.9 MG/KG
% Recovery	95.3%
Recovery Limits	
Relative % Difference	

COMMENT(S): WP 1286 AROCLOR 1242 TRUE VALUE 45.0 MG/KG

ANALYST: DRT
DATE: 08/02/94

QC APPROVAL: Edward Dawson
DATE: 08/03/94

n-test (413)525-1198 (800)634-8165

CHAIN OF CUSTODY RECORD

39 SPRUCE ST. • P.O. BOX 591 • EAST LONGMEADOW, MA 01028

Client Name: Crane Co. Telephone: _____

Address: Baldwin St. Springfield, Ma

Site Location: Foundry Bldg Project #: 94-210-614

Sampled By: D. LePage P.O. #: _____

Call/Fax Results: Yes ____ No ____

	Field Sample I.D.	Lab #	Start Date/Time	Stop Date/Time	Composite	Grab	Matrix: Water	Soil	Air	Other	Preservative: NaOH	HCL	HNO_3	H_2SO_4	Refrig	Thio-Sulfate	Other	Analysis Required: PCB	Extractable Hydrocarbons	8240	TPH 8015 modified
RS-H	Drum A	94B13964	7-26-94			✓	✓											X	X		
RS-H	Drum B	13965				✓	✓											X	X		
ALS	Drum A	13966				✓	✓											X		X	
ALS	Drum B	13967				✓	✓											X		X	
	Tank #1	13968				✓	✓														X
	TANK #2	13969				✓	✓														X
	Tank #3	13970				✓	✓														X
	TANK #4	13971				✓	✓														X

Relinquished by: (Signature)	Date Time	Received by: (Signature)
Donald LePage	11:17am 7-27-94	[signature]
Relinquished by: (Signature)	Date Time	Received by: (Signature)
Relinquished by: (Signature)	Date Time	Received by: (Signature)

Turnaround Requested: ____ 24-Hour ____ 48-Hour ____ Normal

____ Other _____ Date Required

Remarks/Comments:

Con-test (413)525-1198 (800)634-8165

CHAIN OF CUSTODY RECORD

39 SPRUCE ST. · P.O. BOX 591 · EAST LONGMEADOW, MA 01028

Client Name: Crane Co. Telephone: _____

Address: Baldwin ST. Springfield, Ma

Site Location: Foundry Bldg Project #: 94-210-614

Sampled By: D. LeLage P.O. #: _____

Call/Fax Results: Yes ____ No ____

Field Sample I.D.	Lab #	Start Date/Time	Stop Date/Time	Composite	Grab	Matrix: Water	Soil	Air	Other	Preservative: NaOH	HCL	HNO_3	H_2SO_4	Refrig	Thio-Sulfate	Other	Analysis Required: DCB
1A	94UB13472	7-26-94			✓		✓										X
1B	13473				✓		✓										X
1C	13474				✓		✓										X
1D	13475				✓		✓										X
1E	13476				✓		✓										X
1F	13477				✓		✓										X
1G	13478				✓		✓										X
2ABCD	13479			✓			✓										X
2EFGH	13480			✓			✓										X

Relinquished by: (Signature)	Date Time	Received by: (Signature)
Donald LeLage	11:17 am 7-27-94	[signature]
Relinquished by: (Signature)	Date Time	Received by: (Signature)
Relinquished by: (Signature)	Date Time	Received by: (Signature)

Turnaround Requested: ____ 24-Hour ____ 48-Hour ____ Normal

____ Other _____ Date Required

Remarks/Comments:

n-test (413)525-1198 (800)634-8165

CHAIN OF CUSTODY RECORD

39 SPRUCE ST. • P.O. BOX 591 • EAST LONGMEADOW, MA 01028

Client Name: Crane Co. Telephone: _____

Address: Baldwin St. Springfield, Ma

Site Location: Foundry Bldg. Project #: 94-310-614

Sampled By: D. LePage P.O. #: _____

Call/Fax Results: Yes ____ No ____

Field Sample I.D.	Lab #	Start Date/Time	Stop Date/Time	Composite	Grab	Matrix: Water	Soil	Air	Other	Preservative: NaOH	HCL	HNO_3	H_2SO_4	Refrig	Thio-Sulfate	Other	Analysis Required: PCB
2IJ	94B13981	7-26-94		✓			✓										X
1I	13982				✓				✓								X
1J	13983				✓				✓								X
3A	13984				✓				✓								X
3B	13985				✓				✓								X
3C	13986				✓				✓								X
1H	13987				✓				✓								X

Relinquished by: (Signature)	Date Time	Received by: (Signature)
Donald LePage	11:15am 7-27-94	Anne Scott
Relinquished by: (Signature)	Date Time	Received by: (Signature)
Relinquished by: (Signature)	Date Time	Received by: (Signature)

Turnaround Requested: ____ 24-Hour ____ 48-Hour ____ Normal

____ Other _____ Date Required

Remarks/Comments:

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Contact: DON LEPAGE
Field Office:West Springfield, MA

08/08/94

RANE CO.
LDWIN STREET
SPRINGFIELD, MA

Project Location: FOUNDRY BUILDING
Date Received: 07/28/94

LIMS-BAT #: LIMS-14587
Job Number: 14587
Sample Matrix: WASTE WATER

Sampled: 07/28/94
TANK #5
TANK #5

	Units	94B14140	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
#2/#4 FUEL OIL OR DIESEL	MG/L	654	08/05/94	DRT	62.5		
GASOLINE	MG/L	ND	08/05/94	DRT	125		
#6 FUEL OIL	MG/L	ND	08/05/94	DRT	125		
JET FUEL	MG/L	ND	08/05/94	DRT	62.5		
KEROSENE	MG/L	ND	08/05/94	DRT	62.5		
OTHER HYDROCARBONS	MG/L	ND	08/05/94	DRT	62.5		

Analytical Method(s):

S DOH 310.13

SAMPLES ARE EXTRACTED INTO METHYLENE CHLORIDE BY LIQUID/LIQUID EXTRACTION, CONCENTRATED AND QUANTITATED AGAINST THE DIFFERENT PETROLEUM HYDROCARBON FRACTION STANDARDS.
FINGERPRINTS OF SAMPLE AND STANDARD CHROMATOGRAMS ARE COMPARED.

DL = Method Detection Limit
= Not Detected
BDL = Below Detection Limit
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

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SOIL AND AIR ENGINEERING

(413)525-1198 (800)634-8165

CHAIN OF CUSTODY RECORD

39 SPRUCE ST. • P.O. BOX 591 • EAST LONGMEADOW, MA 010

Client Name: Eagle P.D. Telephone: _____

Address: Fairview E. Springfield, MA

Site Location: Fairview Avenue Project #: 24.2111.12

Sampled By: D. Hefka P.O. #: _____

Call/Fax Results: Yes ____ No ____

Field Sample I.D.	Lab #	Start Date/Time	Stop Date/Time	Composite	Grab	Matrix: Water	Soil	Air	Other	Preservative: NaOH	HCL	HNO_3	H_2SO_4	Refrig	Thio-Sulfate	Other	Analysis Required: TCH Emissions
Tank #5	941811110	7-25-12			✓	✓											X

Relinquished by: (Signature)	Date Time	Received by: (Signature)
Donald Hefka	7-25-12 3:37	7/25/12 4:25pm
Relinquished by: (Signature)	Date Time	Received by: (Signature)
Relinquished by: (Signature)	Date Time	Received by: (Signature)

Turnaround Requested: ____ 24-Hour ____ 48-Hour ____ Normal

____ Other _____ Date Required

Remarks/Comments:

CON-TEST
ANALYTICAL LABORATORY
39 Spruce Street • P.O. Box 591 • East Longmeadow, MA 01028 • FAX(413) 525-6405 • TEL(413) 525-2332 (800) 621-9081

CRANE CO.
BALDWIN STREET
SPRINGFIELD, MA

CONTACT: DON LEPAGE
FIELD OFFICE: West Springfield, MA

REPORT DATE: 08/08/94

ANALYTICAL SUMMARY

LIMS BAT #: LIMS-14587
JOB NUMBER: 14587

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this re

PROJECT LOCATION: FOUNDRY BUILDING

FIELD SAMPLE #	LAB ID	MATRIX	SAMPLE DESCRIPTION	TEST
TANK #5	94B14140	WASTE WATER	TANK #5	tph gc water

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

AIHA 308
MASSACHUSETTS MA100
CONNECTICUT PH-0567
NEW YORK ELAP 10899
PENNSYLVANIA DER 68-433
NEW HAMPSHIRE 2516
AIHA ELLAP (LEAD) 6838
MAINE (POTABLE/NON-POTABLE)
VERMONT DOH (LEAD) No. 15036

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document.

Edward Denson 8/8/94
SIGNATURE DATE

Tod Kopyscinski
Director of Operations

Edward Denson
Technical Director

con-test®
ANALYTICAL LABORATORY
39 Spruce Street • P.O. Box 591 • East Longmeadow, MA 01028 • FAX(413) 525-6405 • TEL(413) 525-2332 (800) 621-9081

Contact: DON LEPAGE
Field Office:West Springfield, MA

08/08/94

CRANE CO.
3ALDWIN STREET
SPRINGFIELD, MA

Project Location: FOUNDRY BUILDING
Date Received: 07/28/94

LIMS-BAT #: LIMS-14587
Job Number: 14587
Sample Matrix: WASTE WATER

Sampled: 07/28/94
TANK #5
TANK #5

	Units	94B14140	Date Analyzed	Analyst	MDL	SPEC LIMIT	P/F
#2/#4 FUEL OIL OR DIESEL	MG/L	654	08/05/94	DRT	62.5		
GASOLINE	MG/L	ND	08/05/94	DRT	125		
#6 FUEL OIL	MG/L	ND	08/05/94	DRT	125		
JET FUEL	MG/L	ND	08/05/94	DRT	62.5		
KEROSENE	MG/L	ND	08/05/94	DRT	62.5		
OTHER HYDROCARBONS	MG/L	ND	08/05/94	DRT	62.5		

Analytical Method(s):

iYS DOH 310.13

SAMPLES ARE EXTRACTED INTO METHYLENE CHLORIDE BY LIQUID/LIQUID EXTRACTION, CONCENTRATED AND QUANTITATED AGAINST THE DIFFERENT PETROLEUM HYDROCARBON FRACTION STANDARDS.
FINGERPRINTS OF SAMPLE AND STANDARD CHROMATOGRAMS ARE COMPARED.

MDL = Method Detection Limit
'D = Not Detected
BDL = Below Detection Limit
NM = Not Measured

SPEC LIMIT = a client specified, recommended, or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

Con-test
WATER AND AIR ENGINEERING

(413)525-1198 (800)634-8165

CHAIN OF CUSTODY RECORD

39 SPRUCE ST. • P.O. BOX 591 • EAST LONGMEADOW, MA 0102

Client Name: Sappi N.A. Telephone: _____

Address: Fairfield St
Skowhegan, Me

Site Location: Fairfield Turbine Project #: 24.2111.14

Sampled By: D. Hefler P.O. #: _____

Call/Fax Results: Yes ____ No ____

Field Sample I.D.	Lab #	Start Date/Time	Stop Date/Time	Composite	Grab	Matrix: Tankwater — Water	Soil	Air	Other	Preservative: NaOH	HCL	HNO_3	H_2SO_4	Refrig	Thio-Sulfate	Other	Analysis Required: TSH Fuel Analysis
Tank #5	9418141410	7-25-14			✓	✓											X

Relinquished by: (Signature)	Date Time	Received by: (Signature)
Donald E. Hefler	7-25-14 3:37	7/28/14 4:25pm
Relinquished by: (Signature)	Date Time	Received by: (Signature)
Relinquished by: (Signature)	Date Time	Received by: (Signature)

Turnaround Requested: ____ 24-Hour ____ 48-Hour ____ Normal
____ Other _____ Date Required

Remarks/Comments:

ATC ASSOCIATES INC.

39 Spruce Street
East Longmeadow, Massachusetts
01028
413.525.1198
Fax 413.525.8227

HAND DELIVERED
DATE 12/22/97
REC. BY

IMMEDIATE RESPONSE
ACTION COMPLETION REPORT
Former American Dream Modular Homes
225 Goodwin Street
Springfield, Massachusetts
Tier II Site No. 1-0616

December 22, 1997

VOLUME I

Prepared for:

Dr. Anthony Pantaleoni
Crane Co.
100 First Stamford Place
Stamford, Connecticut

Prepared by:

ATC Associates Inc.
39 Spruce Street
East Longmeadow, Massachusetts 01028

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1.0 INTRODUCTION

On behalf of Dr. Anthony D. Pantaleoni representing Crane Co., ATC Associates Inc. (ATC) is pleased to submit this Immediate Response Action (IRA) Completion Report in regards the characterization and disposal of contaminated soils and other waste media at the Former American Dream Modular Homes site located at 225 Goodwin Street in Springfield, Massachusetts (the Site).

This report describes the Immediate Response Action (IRA) conducted at the Site pursuant to the Massachusetts Contingency Plan (MCP) 310 CMR 40.0000, under the guidance of a Licensed Site Professional (LSP). The IRA activities performed at the Site included the removal of abandoned drums, electrical transformers, and surficial soils impacted by releases of petroleum products, Polychlorinated Biphenyls (PCBs), Polycyclic Aromatic Hydrocarbons (PAHs) and Lead, in the area of on-site electrical transformers and scrap metal piles located along the south side of the building/property, the removal of soils impacted by surficial releases of TPH and PAHs during former railroad activities, the removal of piles of TPH-containing peastone roofing material ("black material") located along the southwest side of the building/property, and the removal of piles of waste sheet rock ("whitish/pink material") located along the southwest side of the building/property. The objective of this report is to describe all IRA activities conducted at the Site from July 1996 through October 1997, and to demonstrate that all objectives of the IRA have been achieved.

All methods and procedures for the work were conducted in accordance with the Massachusetts Contingency Plan (MCP) 310 CMR 40.0410 and the MCP Response Action Performance Standard (RAPS) per 310 CMR 40.0191.

2.0 SITE INFORMATION

2.1 Location Description

The Site property is located in the Indian Orchard section of the City of Springfield, Massachusetts at 225 Goodwin Street. The Site consists of 11.9 acres of industrial zoned land and is located within a mixed industrial/commercial/residential zoned section of Springfield. The Site is improved by a 141,000 square foot abandoned/vacant former foundry building (constructed circa 1942), formerly occupied circa 1985-1989 by American Dream Modular Homes (a modular home construction company). Geographically the Site is located along the south side of Goodwin Street near the intersection of Moxon Street and Goodwin Street in Springfield, MA. Site Coordinates are 42° 09' 07" North Latitude by 72° 29' 57" West Longitude. Universal Transverse Mercator (UTM) coordinates are 4,669,460 meters north by 706,640 meters east. The Site is presented on the Springfield-North and Ludlow, Massachusetts topographic quadrangles (U.S.G.S. 7.5 x 15 minute series, 1969/1972 - photo revised 1975/1979) as **Figure 1** in **Appendix 1**. A Site Plan is included as **Figure 2** in **Appendix 1**.

2.2 Geology and Hydrogeology

According to the 1978 United States Department of Agriculture Soil Survey of Hampden County, Massachusetts, Central Part, the overburden soils at the Site and within the Site area are classified as the Urban land-Hickley-Windsor Association which are characterized as deep soils of urban land and nearly level to moderately sloping, excessively drained loamy soils.

Test borings advanced at the Site indicate the surficial soils on the subject property consist primarily of fine to medium grained sands with some fine to medium gravels to a depth of approximately 15-25 feet below grade, underlain by glacial till. No bedrock was encountered at the Site during previous subsurface investigations.

According to the Bedrock Geologic Map of Massachusetts (Zen 1983), the type of bedrock underlying the Site and surrounding area is comprised of the East Berlin Formation (located within the Hartford Basin) which is described as sedimentary and volcanic rocks containing or composed largely of reddish-brown to pale red conglomerate and arkose.

According to Massachusetts Surface Water Quality Standards (314 CMR 4.00), the Site and vicinity is located within the Chicopee River Drainage Basin and the nearest surface water bodies in relation to the subject property are Long Pond located approximately 1,500 feet northwest of the Site, Dimmock Pond located approximately 1,500 feet southeast of the Site and Loon Pond located approximately 2,000 feet south of the Site. The Chicopee River (a tributary of the Connecticut River) is located approximately 0.5 miles north of the Site.

According to the 1991 federal Flood Insurance Rate Map (FIRM) for Springfield, the Site is located in an area determined to be outside the limits of the 500 year flood plain.

Review of the Bureau of Waste Site Cleanup (BWSC) Priority Resources Maps (Mass GIS maps) for the Springfield North and Ludlow, Mass Quadrangles indicated the Site and Site vicinity are not located within any DEP designated/delineated Interim Wellhead Protection Area, DEP Approved Zone II, Potentially Productive Aquifer region, Non-Potential Drinking Water Source Area, Zone A of a Class A surface water

body, wetlands or endangered species habitat or any other Areas of Critical Environmental Concern (ACECs).

Groundwater gauging and survey data collected on July 10, 1996 indicated depths to groundwater at the Site ranged from approximately 14-19 feet below grade and the groundwater flow direction was calculated as northwesterly toward the Chicopee River.

2.3 Topography and Drainage

The subject Site is situated at an elevation of approximately 210-220 feet above mean sea level NGVD (National Geodetic Vertical Datum) with the Site and immediate vicinity showing relatively low to moderately low relief (relatively level to slightly hilly). The regional surface water and groundwater flow direction at the Site and in the immediate Site vicinity appears to be westerly to northwesterly, based upon a topographic review of the region and measured groundwater elevations. **Figure 1**, presented in **Appendix 1**, illustrates the regional and Site topography as it existed circa 1979.

2.4 Surrounding Land Use

The subject property is improved by an abandoned foundry building, formerly occupied circa 1985-1989 by American Dream Modular Homes (a modular home construction company). The Site is currently owned by the TJF Realty Corp. of Fitchburg, Massachusetts.

Adjacent land usage within the immediate Site vicinity includes residential properties containing single and multiple family dwellings to the west and northwest of the Site and industrial zoned properties containing active and inactive manufacturing buildings to the east and north of the Site. Located to the south of the Site is open and wooded undeveloped land, previously a landfill area for the foundry operations.

According to personnel of the Springfield Water and Sewer Departments and the Springfield Department of Public Works, all properties abutting or surrounding the Site within 500 feet are connected to municipal water and sewer services provided by the City of Springfield.

3.0 MCP GROUNDWATER AND SOIL CATEGORIES

3.1 Identification of Applicable Groundwater Category

Three categories of groundwater have been defined by the DEP to characterize the risk of harm posed by oil or hazardous material (OHM) compounds to human health, safety, public welfare and the environment in comparison with applicable MCP groundwater standards. The MCP groundwater categories have been designated as GW-1, GW-2, and GW-3. The GW-1 category applies to groundwater located within a certain radius of a potable water intake structure or an aquifer protection area such as a DEP Approved Zone II, Interim Wellhead Protection Area (IWHPA) or Potentially Productive Aquifer (PPA) region. The GW-2 category applies to groundwater beneath the Site located within 30 feet of an existing occupied building at an average annual depth of 15 feet or less and the GW-3 category applies to all groundwater located within the State of Massachusetts, which is considered a potential source of discharge to surface water.

Based on a visual reconnaissance of the Site and surrounding area and personal conversations with Springfield Board of Health and Water Department personnel, no public or private potable water supply sources are known to exist within the immediate vicinity of the subject Site.

A review of the DEP-BWSC Priority Resources Map (Mass GIS map) for Springfield (U.S.G.S. Springfield South Quad) indicated the Site and vicinity are not located near any public water supply source or within any DEP delineated Interim Wellhead Protection Area, DEP Approved Zone II, Potentially Productive Aquifer region, Non-Potential Drinking Water Source Area, Zone A of a Class A surface water body or any other Areas of Critical Environmental Concern (ACECs). Therefore, the Site groundwater does not currently meet the criteria for MCP groundwater category GW-1.

On those portions of the Site where the groundwater is located within 30 feet of an existing occupied building and where the depth to groundwater is 15 feet or less, the MCP groundwater category GW-2 applies. Depth to groundwater at the Site is approximately 14-19 feet below grade and the Site building is currently abandoned and unoccupied, indicating the Site groundwater does not currently meet the criteria for MCP groundwater category GW-2. Groundwater at the Site is therefore categorized as GW-3.

3.2 Identification of Applicable Soil Category

Three categories of soil have been defined by the DEP to characterize the risk of harm posed by oil and hazardous materials (OHM) to health, safety, public welfare, and the environment in comparison with applicable MCP soil standards. The MCP soil categories have been designated as S-1, S-2, and S-3. For the purpose of soil categorization, the potential for exposure is described by a qualitative analysis of the accessibility of the soil in combination with information regarding Site activities such as frequency of use and intensity of use.

The Frequency of use is defined as to how often a person or receptor (child and/or adult) makes use of, or has access to the Site and the Intensity of use describes the nature of Site activities (such as gardening, digging, walking, etc.) which could potentially disturb the soil and result in exposure to the receptor.

The Site soils are identified as MCP soil categories S-2 and S-3 based on an evaluation of 310 CMR 40.0000: Table 40.933(9). Additionally, if the S-1 soil standards are utilized as the standard for all soils at the Site, an Activity and Use Limitation (AUL) would not be required as noted in 310 CMR 40.0923 (3) (b). Therefore, the soil at the Site will also be compared to the S-1 soil standards. The Soil S-2 and S-3 categories were selected because the soil contamination detected at the Site is situated at a depth of less than 3 feet in

unpaved areas (accessible surficial soil) and the Receptor Characteristics for the Site soils are categorized as Low Frequency - Low Intensity of use for children present (S-2) and Low Frequency - Low Intensity of use for adults only present (S-3). Children and adults are not present at the Site and have no reason to frequent the Site and the subject property. Subject to **Section 10.0** herein, the property is fenced and padlocked at all entrances to prevent access by children, adults and/or trespassers.

4.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

In February 1989, Corporate Environmental Advisors, Inc. (CEA) of Ludlow, Massachusetts completed a *Phase I - Limited Site Assessment Report*, for Stephen P. Gray, former owner of American Dream Modular Homes. The investigation included an evaluation of soil and groundwater media through the installation of seven soil borings which were completed as groundwater monitoring wells. The sample points were correspondingly identified as CEA-1, CEA-2, CEA-3, CEA-4, CEA-5, CEA-6, and CEA-7. The sample points were installed in the areas of the underground storage tanks (USTs), transformer locations, scrap metal debris locations and railroad tracks. The subsurface investigation identified the presence of groundwater impacts by solvents and TPH. In addition, surficial soil samples were collected in the area of the scrap metal piles, the remaining transformers and along the railroad tracks at the eastern side of the building. The surficial soil investigation identified impacts by PCBs. In February 1990, CEA completed a Phase I Report Addendum to provide additional information in support of a previously submitted Phase I report as requested by the DEP in their letter dated May 31, 1989. The addendum also included a completed Preliminary Assessment (PA) form and Interim Site Classification Form (ISCF).

In August 1994, Con-Test, Inc. (Con-Test) of East Longmeadow, Massachusetts completed Preliminary Response Actions on behalf of Crane Co. (one of several identified PRPs for the property) to identify and quantify existing hazards at the Site. The Preliminary Response actions resulted from a DEP site inspection conducted on May 6, 1994 which noted conditions requiring further assessment including three conditions representing potential Imminent Hazards. Imminent Hazards identified by the DEP included: 1) accessibility of the property; 2) the presence of PCB's in surficial soils adjacent to abandoned transformers; and 3) abandoned drums. The DEP outlined response actions to be completed in a letter dated July 20, 1994. The response actions included limiting property access, identifying the extent of PCB contamination in the surficial soil, identification of abandoned drum contents, and identification of UST contents. On June 30, 1994, gaps in a chain link fence were repaired to restrict site access and prominent warning signs were placed along the perimeter of the property. Laboratory analysis of surficial soil PCB sampling indicated the presence of PCBs ranging from <0.025 parts per million (ppm) to 5.30 ppm. Laboratory analysis of drum contents (two drums) indicated the presence of ethylbenzene, xylenes, and chlorobenzenes. The contents of six USTs were evaluated and all USTs, with the exception of UST No. 6, were indicated to contain petroleum fluids. USTs No. 1 and 2 were also noted to contain measurable amounts of water. A report titled "Preliminary Response Actions" dated August 5, 1994 describes field activities conducted. Based on the results of this investigation, ATC Associates Inc. (ATC - formerly Con-Test) concluded that no imminent hazard was posed or could be posed by existing site conditions at that time.

Based upon previous environmental investigations completed at the Site between February 1989 and August 1995, ATC prepared an evaluation of potential release conditions in accordance with 310 CMR 40.0300. Soil conditions at the subject site were evaluated through soil boring and surficial soil sampling activities conducted in February 1989 and surficial soil sampling activities conducted in August 1994. Laboratory analytical results of soil samples collected in December 1988 (CEA surficial soil) and July 1994 (Con-Test surficial soil) were compared to the applicable Reportable Concentrations of soil to determine if detected compounds constituted release conditions which required notification to the DEP. A comparison of laboratory analytical results of soil samples collected in December 1988 (CEA surficial soil) to applicable RCS-1 concentrations indicated PCBs were detected at a concentration of 156 milligrams per kilogram (mg/kg) at CEA-6S (located within the scrap metal area) and PAHs were detected at CEA-7S and at the railroad tracks which exceeded the RCS-1 standards.

A comparison of laboratory analytical results of soil samples collected in July 1994 (Con-Test surficial soil) to applicable RCS-1 standards indicated PCBs were detected at a concentration of 2.13 mg/kg (1B) and 5.30 mg/kg (1A) adjacent to Transformer 1 Pad Mount which exceeded the RCS-1 standards. Therefore, the documented soil conditions in December 1988 and July 1994 did meet or exceed Reportable Concentrations.

Laboratory analytical results of groundwater samples collected in December 1988 indicated TPH was present at a concentration of 1,240,000 micrograms per liter (ug/l) within CEA-6 (located south of the transformers) which exceeded the RCGW-2 standard.

On July 10, 1996, monitoring wells CEA-1, CEA-2, CEA-3, CEA-4, CEA-5, CEA-6 were gauged for depth to water and for the presence of non-aqueous phase liquid (NAPL) and/or visible petroleum sheens. Monitoring well CEA-7 could not be located. The monitoring wells had a measured depth to water ranging from 14.50 feet from grade (CEA-5) to 19.24 feet from grade (CEA-3). The presence of NAPL was not observed in any of the on-site monitoring wells. A slight petroleum sheen was observed on the groundwater collected from CEA-6. Groundwater samples were collected from all six monitoring wells and submitted to Con-Test Laboratories for analyses of VOCs with MTBE, TPH, PAHs, dissolved Priority Pollutant Metals and PCBs via EPA Methods. Results of groundwater analyses indicated the presence of VOCs, TPH, and dissolved Total Metals above the laboratory detection limits. PAH and PCB compounds were not detected. The detected VOC compounds included Benzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,1-Dichloroethane, 1,1-Dichloroethylene, Methylene Chloride, 1,1,1-Trichloroethane, Trichloroethylene, and Trichlorofluoromethane. TPH was detected as No. 2/No. 4 fuel oil and as other hydrocarbons and Zinc was detected as dissolved metals.

Results of the groundwater analyses of samples collected on July 10, 1996 were compared to the MCP Groundwater 2 category for determining Reportable Concentrations (RCGW-2). A comparison of the groundwater analytical results to the applicable RCGW-2 standards indicated none of the detected concentrations of VOCs, TPH or dissolved Total Metals met or exceeded the RCGW-2 standards and therefore, notification to the DEP pursuant to 310 CMR 40.0300 was not required.

In accordance with 310 CMR 40.0600 Transition provisions, the July 10, 1996 groundwater data and other data previously collected were used by ATC to develop a Licensed Site Professional (LSP) opinion as to release conditions and a Numerical Ranking Scoresheet (NRS) and Tier Classification completed in accordance with 310 CMR 40.0500. The LSP opinion indicated that a release subject to notification requirements of 310 CMR 40.0300 had occurred or may have occurred at the site, and further response actions are necessary pursuant to 310 CMR 40.000. The site was classified as Tier II.

5.0 IMMEDIATE RESPONSE ACTION (IRA)

On June 20, 1996, ATC, on behalf of Crane Co., submitted to the Department of Environmental Protection a letter of proposed tasks and schedules for the tasks to be completed under the IRA. By letter of July 2, 1996, DEP confirmed the tasks (and completion times for each) as the objectives of the IRA:

- Removal and disposal of onsite drums and contents;
- Removal and disposal of transformers;
- Development and implementation of a sampling plan for characterization of the on-site surficial soils and waste stockpiles;
- Disposal of surficial soils and waste stockpiles;
- Preparation of reports and LSP submittals as required under the MCP.

The July 2, 1996 DEP letter also referenced a research effort being conducted by ATC on behalf of Crane Co., regarding the past ownership, use, and responsibility of the abandoned underground storage tanks at the site. A report on this study was submitted to the DEP on June 30, 1997 and is attached hereto as Appendix 7.

5.1 Removal and Disposal of Onsite Drums

Under the Preliminary Response Actions conducted in August 1994, two drums were identified, one containing petroleum products and water and the other containing epoxy. An additional drum labeled as containing epoxy (likely originating from the former American Dreams modular home manufacturing operation) was subsequently discovered and included as part of the drum disposal activity.

On July 30, 1996 Cyn Environmental Services (CYN) of Wilbraham, Massachusetts, overpacked and removed three drums and their contents from the site under Commonwealth of Massachusetts Hazardous Waste Manifests for subsequent disposal. The drum containing petroleum products and water was transported to Cyn's facility in Stoughton, Massachusetts for disposal. The other two drums containing epoxy resin were transported to Northland Environmental, Inc. in Providence, Rhode Island for disposal. Copies of the hazardous waste manifests are included in Appendix 6.

5.2 Removal and Disposal of Onsite Transformers

As identified during the Preliminary Response Actions, two 2,500 KVA transformers were installed on the site. One was located on a concrete pad by the south wall of the building and contains <2.00 ppm PCB oil, the other was abandoned by the south property line and contains no fluids. A small "nest" of transformers comprising two approximately 55 gallon bucket transformers and one approximately 10 gallon electrical switch, was mounted aboveground on the southwestern corner of the building. The transformers and electrical switch contained <2.00 ppm PCB oil, as identified by Trans-Cycle Industries, Inc. analytical laboratory of Pell City, Alabama. A copy of the analytical report is included in Appendix 2.

On August 15, 1996 Standard Electrical Testing Company, Inc. (SETCO) of Ludlow, Massachusetts removed and transported all site transformers and the electrical switch to Acme Metals & Recycling Inc. (ACME) of Springfield for recycling. Oil was removed from the transformers by Western Oil Inc. under contract with SETCO for subsequent disposal at Bridgeport United Recycling, of Bridgeport, Connecticut.