NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY EMCON
ADDRESS ON FILE
PHONE 841-8845 FAX
PROJECT NAME/LOCATION AMPHENOL
PROJECT NUMBER
PROJECT MANAGER

REPORT TO: TIM BANNISTER
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY
TIM BANNISTER (PRINT NAME) SIGNATURE
DAVE KINK (PRINT NAME) SIGNATURE

ANALYSES

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___
Is this work being conducted for regulatory enforcement action? Yes ___ No ___
Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	HCl	NaOH	HNO_3	H_2SO_4	OTHER	VOA	DISSOLVED METALS								COMMENTS
8/3		RW-1	✓								✓									ALL SAMPLES UNPRESERVED
		RW-2									✓									
		RW-3									✓									
		EFF									✓	✓								
		RW-1 DUP									✓									
		TRIP BLANK									✓									

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO N/A
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: Room
Bottles supplied by NET? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
			Arsenic,		8/3/95	5:00	Melissa Jut

METHOD OF SHIPMENT

REMARKS: ARSENIC, CADMIUM, CHROMIUM, Cu, Pb, Hg, Ni, Zn

... PROJECT MANAGER - YELLOW - PTO - CUSTOMER COPY - PINK

Amphenol Corp. 2032658827 P.06

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

Indianapolis Division
6964 Hillsdale Ct.
Indianapolis, IN 46250
Tel: (317) 842-4261
Fax: (317) 842-4266

ANALYTICAL REPORT

RECEIVED AUG 9 1995

Mr. Tim Bannister
EMCON
7205 Shadeland Station
Suite 120
Indianapolis, IN 46256

08/07/1995

Sample No.: 113797
Job No.: 95.03166
P.O. NO.:

Page 1

Sample Description: EFFLUENT
Job Description: AMPHENOL - FRANKLIN

Date Taken: 08/04/1995 Date Received: 08/04/1995

Parameters	Results	Flag	Units	Analyst/ Date of Analysis	Method Number	Method PQL
Cyanide - Prep	Complete			ddm / 08/07/1995		Complete
Cyanide, Total	<0.005		mg/L	ddm / 08/07/1995	E-335.2	<0.005

Project Manager

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY: EMCON
ADDRESS: 7205 Shadeland Sta. Ste 120
PHONE: 841-8845 FAX: 841-0614
PROJECT NAME/LOCATION: AMPHENOL, Franklin
PROJECT NUMBER: 84768-002.000
PROJECT MANAGER: Tim Bannister

REPORT TO: Tim Bannister
INVOICE TO: (same)
P.O. NO.
NET QUOTE NO.

SAMPLED BY
(PRINT NAME) Timothy A. Bannister SIGNATURE Timothy A. Bannister
(PRINT NAME) SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	HCl	NaOH	HNO_3	H_2SO_4	OTHER	Cyanide							
			# and Type of Containers								ANALYSES							
8/4/95	0925	Effluent		X			X				X							

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___
Is this work being conducted for regulatory enforcement action? Yes ___ No ___
Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO N/A
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: Chilled
Bottles supplied by NET? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Timothy A. Bannister	8/4/95	10:05			8/4/95	10:05	Melissa Gent

METHOD OF SHIPMENT
REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

Amphenol Corp. 2032658827 P.06

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Indianapolis Division
6954 Hillsdale Ct.
Indianapolis, IN 46250
Tel: (317) 842-4261
Fax: (317) 842-4296

ANALYTICAL REPORT

Mr. Angelo J. Datillo
EMCON
8888 Keystone Crossing
Suite 1329
Indianapolis, IN 46240

12/20/1995

NET Job Number: 95.05847

Enclosed are the Analytical Results for the following samples submitted to NET, Inc. Indianapolis Division for analysis:

Project Description: AMPHENOL/FRANKLIN, TN

Sample Number	Sample Description	Date Taken	Date Received
126752	EFFLUENT	12/13/1995	12/13/1995

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

Approved By:

Andrew Sargent (PLK)

Project Manager

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Indianapolis Division
6964 Hillsdale Ct.
Indianapolis, IN 46250
Tel: (317) 842-4261
Fax: (317) 842-4286

ANALYTICAL REPORT

Mr. Angelo J. Darillo
EMCON
5585 Keystone Crossing
Suite 1329
Indianapolis, IN 46240

12/20/1995

Sample No.: 120752
Job No.: 95.05847
P.O. No.: 41354

Page 2

Sample Description: EFFLUENT
Job Description: AMPHENOL/FRANKLIN, IN

Date Taken: 12/13/1995 Date Received: 12/13/1995

Parameter	Result	Flag	Units	Analyst/ Date of Analysis	Method Number	Method PQL
Cyanide - Prep	Complete			lad / 12/14/1995		Complete
Cyanide, Total	0.005		mg/L	ldm / 12/20/1995	E-335.2	<0.005
Arsenic, diss. (GFAA)	<0.005		mg/L	grf / 12/14/1995	S-7060	<0.005
Cadmium, diss. (ICP)	<0.005		mg/L	dak / 12/14/1995	S-6010	<0.005
Chromium, diss. (ICP)	<0.010		mg/L	dak / 12/14/1995	S-6010	<0.010
Copper, diss. (ICP)	<0.020		mg/L	dak / 12/14/1995	S-6010	<0.020
Lead, diss. (ICP)	<0.080		mg/L	dak / 12/14/1995	S-6010	<0.080
Mercury, diss (CVAA)	<0.0005		mg/L	grt / 12/14/1995	S-7470	<0.0005
Nickel, diss. (ICP)	<0.010		mg/L	dak / 12/14/1995	S-6010	<0.010
Zinc, diss. (ICP)	<0.020		mg/L	dak / 12/14/1995	S-6010	<0.020

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY EMCON
ADDRESS 8888 KEYSTONE CROSSING
PHONE 575-4148 FAX
PROJECT NAME/LOCATION AMPHENOL/ FRANKLIN, IN
PROJECT NUMBER
PROJECT MANAGER Angelo J. Dattilo

REPORT TO: Angelo J. Dattilo
INVOICE TO: EMCON - SACRAMENTO
P.O. NO.
NET QUOTE NO.

SAMPLED BY ANGELO J. DATTILO (PRINT NAME) Angelo J. Dattilo SIGNATURE
(PRINT NAME) SIGNATURE

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___
Is this work being conducted for regulatory enforcement action? Yes ___ No ___
Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: RCRA METALS	CN								COMMENTS
12/13	3pm	EFFLUENT	CW	V			X (1)	X (1)			X	X								DISSOLVED METALS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO NA
VOLATILES FREE OF HEADSPACE? YES / NO NA
TEMPERATURE UPON RECEIPT: CHILLED
Bottles supplied by NET? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Angelo J. Dattilo	12/13/95	~~4:03~~ AJD 4:03pm					Beth Schrang

METHOD OF SHIPMENT: NET COOLER

REMARKS: METALS = As, Cd, Cr, Cu, Pb, Hg, Ni, Zn PER ANGELO (As by GFAA)

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

Amphenol Corp. 2032658827 P.11

ALTERNATIVE 3: GROUNDWATER EXTRACTION AND TREATMENT
ESTIMATED CAPITAL COST

Project Name: Amphenol Corp. / Franklin Power Products
Project No.: 07026.08

Cost includes installation of one groundwater extraction well, conversion of one monitoring well to an extraction well, installation of two well pumps, header piping, and electrical supply for a groundwater extraction system.
The existing ICM air stripper will be used for the treatment of extracted groundwater.

Assumptions:

(1). All work will be done under Level D protection.
(2). Wells will be flush mount type.
(3). One new extraction well will be installed and one existing monitoring well will be converted to a pumping well.
(4). Extraction well depth will be 20 feet.
(5). Extraction wells will be 2-inch diameter with 5-foot stainless steel screen and stainless steel casing.
(6). ICM air stripper is in place and operational.

SHIPPING FOR THIS PROJECT (%): (cost of shipping equipment to site as a percentage of total equipment cost)	0
ENGINEERING FOR THIS PROJECT (%): (estimate of engineering costs is based on total installed equipment cost)	20
CONSTRUCTION MANAGEMENT FOR THIS PROJECT (%): (estimate of construction management costs is based on total installed equipment cost)	10
CONTINGENCIES FOR THIS PROJECT (%): (based on total installed equipment cost)	20

Unit costs for certain items presented in this estimate taken from 1995 Means and ECHOS Environmental Restoration cost estimating guides. Other costs presented in this estimate are based on vendor quotes or past experience.

Estimated Construction Costs - Alternative 3: Groundwater Extraction and Treatment

ITEM #	WORK ITEM	UNIT	Estimated Quantity	Equip/mtr. Unit Price	Equip/mtr. Extended Price	Labor Unit Price	Labor Extended Price	Total Installed Price
1.	Mobilization/demobilization	LS	1	$430	$430	$825	$825	$1,255
2.	Extraction Well Drilling and Installation							
(1).	Crew Per Diem Expenses	DY	6	$0.00	$0	$95.00	$570	$570
(2).	Mud Drilling (2" diameter borehole)	LF	20	$4.90	$98	$11.60	$232	$330
(3).	Filter Pack	LF	5	$8.50	$43	$1.50	$8	$50
(4).	Concrete Surface Pad	EA	1	$3.50	$4	$1.50	$2	$5
(5).	Grout	LF	15	$1.11	$17	$0.00	$0	$17
(6).	Bentonite Seal	EA	1	$25.00	$25	$6.00	$6	$31
(7).	Drums for Well Cuttings	EA	1	$53.00	$53	$0.00	$0	$53
(8).	Manhole Cover	EA	1	$78.00	$78	$26.82	$27	$105
(9).	Well Casing (2" SS)	LF	15	$19.30	$290	$1.69	$25	$315
(10).	Well Screen (2"SS)	LF	5	$44.32	$222	$1.43	$7	$229
(11).	Move Drill Rig	EA	1	$25.84	$26	$13.40	$13	$39
(12).	Decontamination	EA	1	$10.00	$10	$60.00	$60	$70
(13).	Drum Disposal	EA	1	$0.00	$0	$325.00	$325	$325
3.	Groundwater Header Piping, Lateral Piping, Valves							
(1).	Header Piping (6-inch)	LF	900	$1.45	$1,305	$5.46	$4,914	$6,219
(2).	Lateral Piping (2-inch, 10 LF each well)	LF	20	$1.30	$26	$5.46	$109	$135
(3).	Trenching/Backfill/Compaction	LF	900	$0	$0	$5.50	$4,950	$4,950
(4).	Flow Monitoring Stations	EA	2	$100	$200	$20.00	$40	$240
(5).	Isolation Valves	EA	2	$65	$130	$16.56	$33	$163
(6).	Throttling valves	EA	2	$65	$130	$16.56	$33	$163
(7).	Paving Repair	LS	1	$2,000	$2,000	$2,000.00	$2,000	$4,000
4.	Well Pumps and Accessories							
(1).	Well Pumps (5 gpm, 30 psig)	EA	2	$8,400	$16,800	$750	$1,500	$18,300
(2).	Electrical Conduit	LF	1000	$2	$2,000	$6	$6,000	$8,000

(3).	Electrical Cables	LF	6000	$0.20	$1,200	$0.34	$2,040	$3,240
(4).	Electrical Equipment and Terminations	LS	2	$200	$400	$500	$1,000	$1,400
5.	Utilities							
(1).	Electrical Service to Enclosure	LS	1	$500.00	$500	$1,500.00	$1,500	$2,000
	SUBTOTAL:				$26,000		$26,200	$52,200

SUBTOTAL:	$52,200
ENGINEERING:	$10,400
CONSTRUCTION MANAGEMENT:	$5,200
CONTINGENCIES:	$10,400
TOTAL (CAPITAL COSTS):	$78,200

ALTERNATIVE 4: GROUNDWATER SPARGING AND SVE
ESTIMATED CAPITAL COST

Project Name: Amphenol Corp. / Franklin Power Products
Project No.: 07026.08

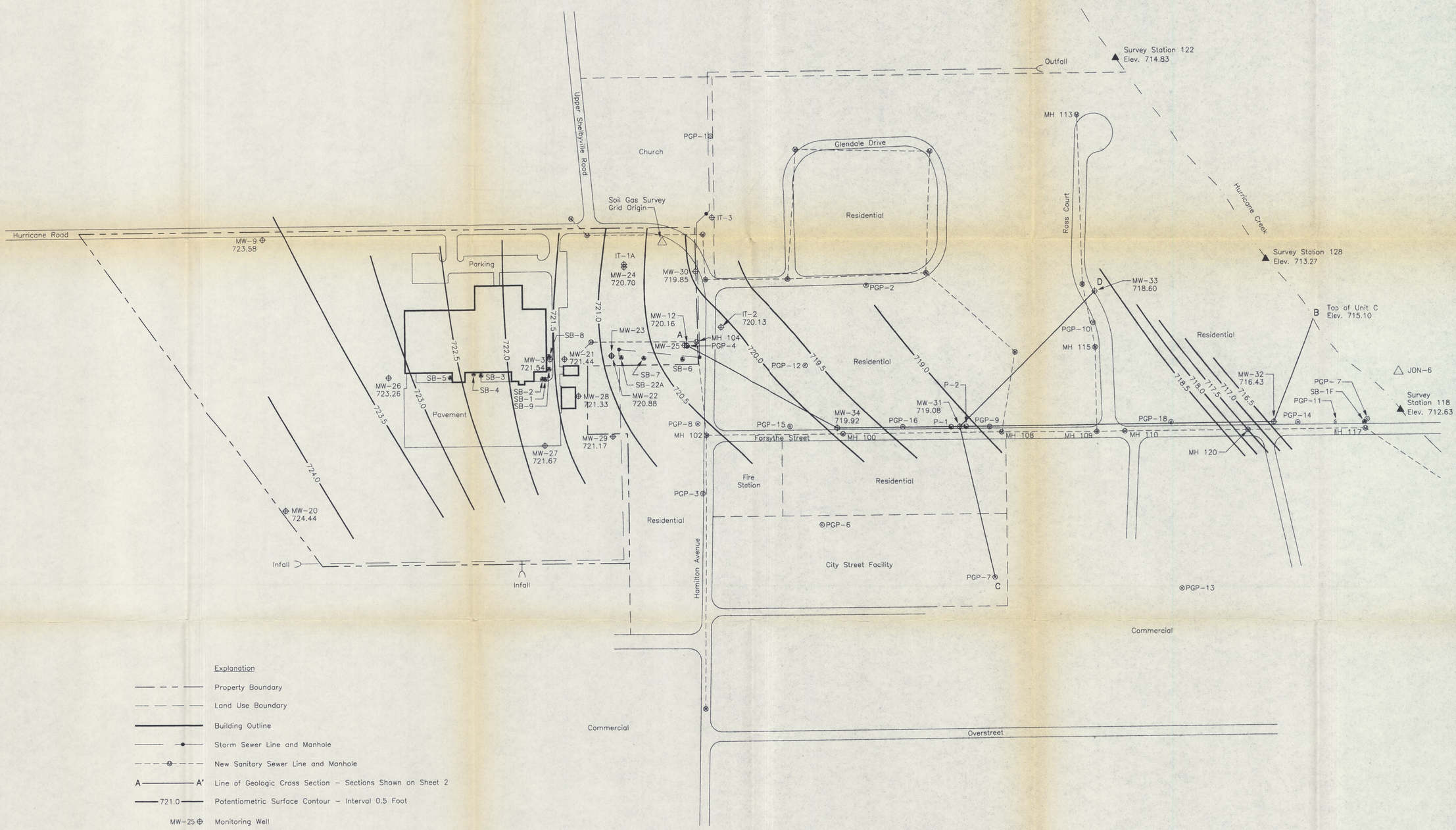
Cost include installation of air sparging wells, SVE wells, and associated piping and equipment.

Assumptions:

(1). All work will be done under Level D protection.
(2). Wells will be flush mount type.
(3). Twelve air sparging wells will be installed; three SVE wells will be installed.
(4). Total sparging well depth is 26 feet; total SVE well depth is 10 feet.
(5). Sparging wells will be 2-inch diameter with 2-foot stainless steel screen and stainless steel casing.
(6). SVE wells will be 4-inch diameter with 5-foot PVC screen and PVC casing.
(7). No control of SVE vapor emissions is included.
(8). ICM air stripper is in place and operational.
(9). An additional enclosure will be required.

SHIPPING FOR THIS PROJECT (%): (cost of shipping equipment to site as a percentage of total equipment cost)	0
ENGINEERING FOR THIS PROJECT (%): (estimate of engineering costs is based on total installed equipment cost)	20
CONSTRUCTION MANAGEMENT FOR THIS PROJECT (%): (estimate of construction management costs is based on total installed equipment cost)	10
CONTINGENCIES FOR THIS PROJECT (%): (based on total installed equipment cost)	20

Unit costs for certain items presented in this estimate taken from 1995 Means and ECHOS Environmental Restoration cost estimating guides. Other costs presented in this estimate are based on vendor quotes or past experience.



Explanation

- Property Boundary
- Land Use Boundary
- Building Outline
- Storm Sewer Line and Manhole
- New Sanitary Sewer Line and Manhole
- A — A' Line of Geologic Cross Section – Sections Shown on Sheet 2
- 721.0 Potentiometric Surface Contour – Interval 0.5 Foot
- MW-25 Monitoring Well
- 720.16 Ground Water Elevation in Feet MSL on April 8-9, 1996
- PGP-1 Geoprobe Ground Water Sample Point
- SB-1 Soil Boring
- P-1 Piezometer
- Benchmark

Note: All Elevations Noted on this Sheet are 0.76 Foot Lower Than Actual Elevations.

EARTH TECH

5010 Shea Mill Road • Bloomington, IN 47408 • (812) 336-0972

NO.	REVISIONS	BY	DATE	NO.	REVISIONS	BY	DATE

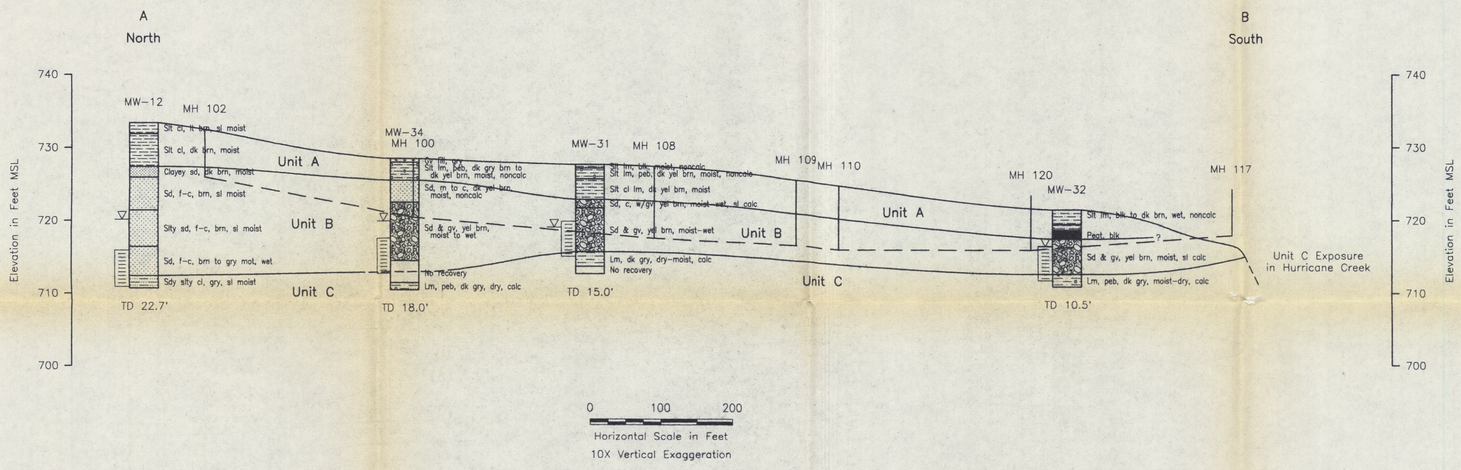
REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS

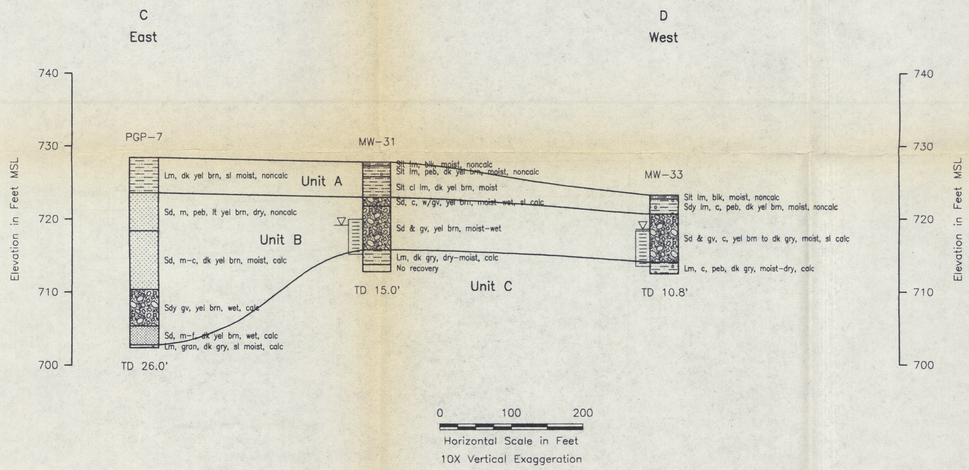
CURTIS-FRANKLIN
FRANKLIN, INDIANA
FORMER AMPHENOL CMS
SITE MAP

DESIGNED BY JK	DATE MAY '96
DRAWN BY NW	DATE MAY '96
CHECKED BY	DATE
FILE 70260BS1	EDIT NED61496
SCALE 1"=100'	DRAWING 1:100
PLOT	
PROJECT 07026.08	

1

SHEET NO.





Explanation

Well Screen

Ground Water Elevation on April 8-9, 1996

MH 110 Sanitary Sewer Manhole

Sanitary Sewer Invert

Lines of Cross Section Shown on Sheet 1

All Elevations on this Sheet are 0.76 Foot Lower than Actual Elevations.

EARTH TECH
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NO.	REVISIONS	BY	DATE	NO.	REVISIONS	BY	DATE

REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS

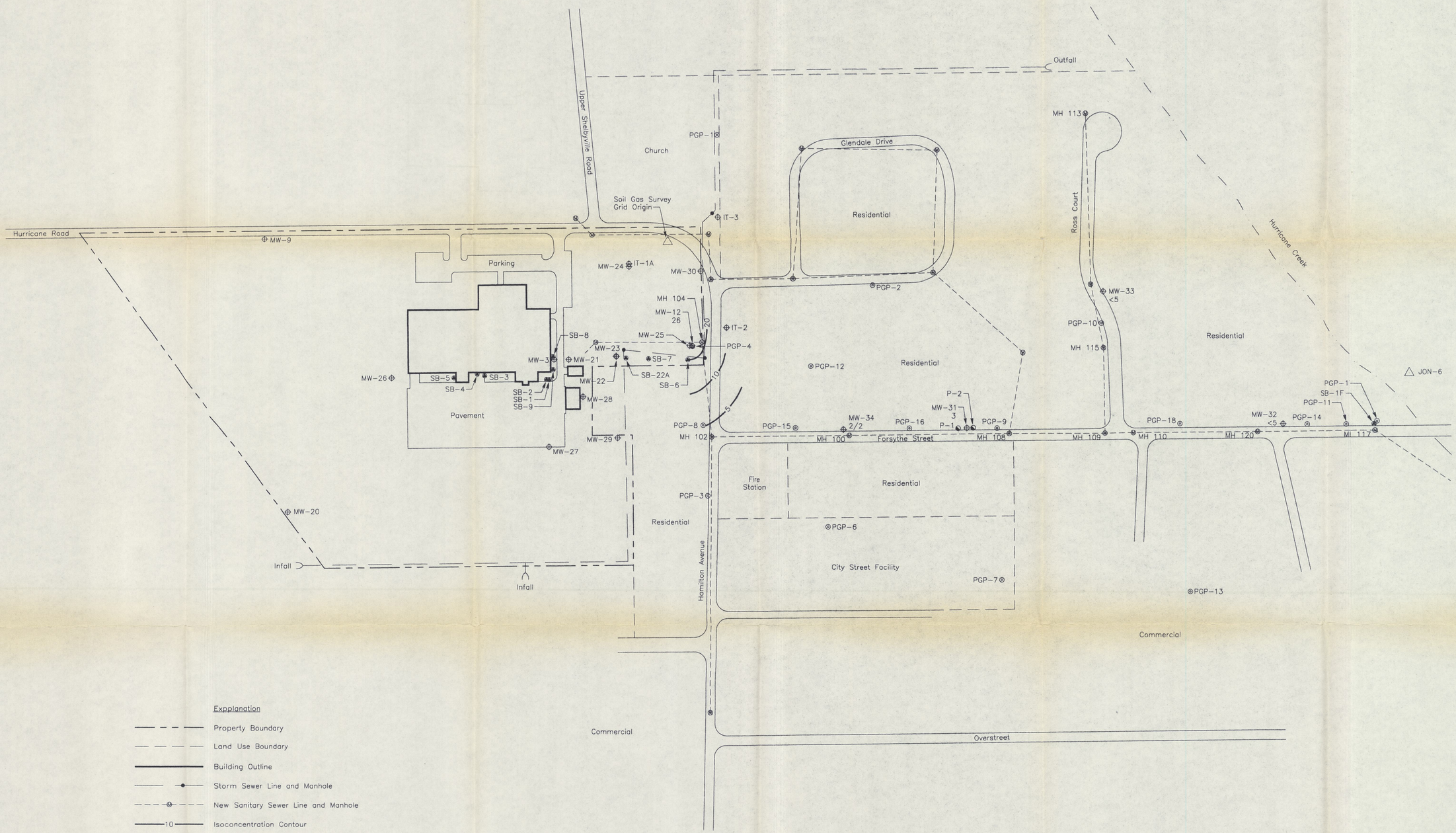
CURTIS-FRANKLIN
FRANKLIN, INDIANA
FORMER AMPHENOL CMS

GEOLOGIC CROSS SECTIONS

DESIGNED BY NW	DATE MAY '96
DRAWN BY NW	DATE MAY '96
CHECKED BY	DATE
FILE 702608S2	EDIT NW061396
SCALE AS SHOWN	
DRAWING 1:10	
PLOT	
PROJECT 07026.08	

2

SHEET NO.



Expplanation

- Property Boundary
- Land Use Boundary
- Building Outline
- Storm Sewer Line and Manhole
- New Sanitary Sewer Line and Manhole
- 10 — Isoconcentration Contour
- MW-12 — Monitoring Well
- 26 — DCA Concentration in ug/L
- PGP-1 — Geoprobe Ground Water Sample Point
- SB-1 — Soil Boring
- P-1 — Piezometer
- Benchmark

NORTH

0 100 200
Feet

EARTH TECH
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NO.	REVISIONS	BY	DATE	NO.	REVISIONS	BY	DATE

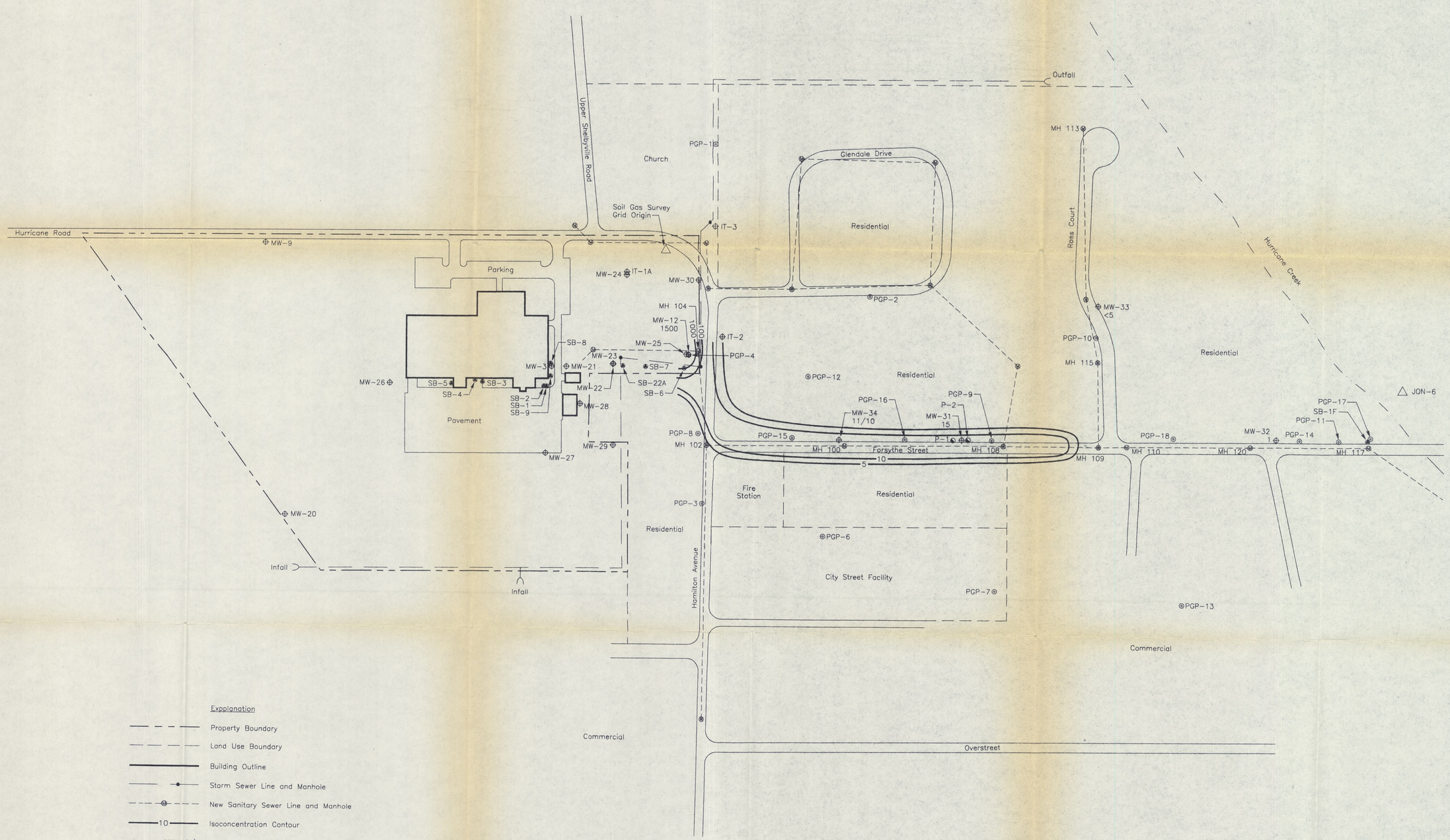
REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS

CURTIS-FRANKLIN
FRANKLIN, INDIANA
FORMER AMPHENOL CMS

ISOCONCENTRATION MAP OF DCA IN GROUND WATER – OPERABLE AREA 3, APRIL, 1996

DESIGNED BY JK	DATE MAY '96
DRAWN BY NW	DATE MAY '96
CHECKED BY	DATE
FILE 7026083A	EDIT NW061396
SCALE 1" = 100'	
DRAWING 1:100	
PLOT	
PROJECT 07026.08	

3A
SHEET NO.



Explanation

- Property Boundary
- Land Use Boundary
- Building Outline
- Storm Sewer Line and Manhole
- New Sanitary Sewer Line and Manhole
- 10 — Isoconcentration Contour
- MW-12 — Monitoring Well
- 1500 — PCE Concentration in ug/L
- PGP-1 — Geoprobe Ground Water Sample Point
- SB-1 — Soil Boring
- P-1 — Piezometer
- Benchmark

EARTH TECH

5010 Stone Mill Road • Bloomington, IN 47408 • (812) 336-0972

NO.	REVISIONS	BY	DATE	NO.	REVISIONS	BY	DATE

REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS

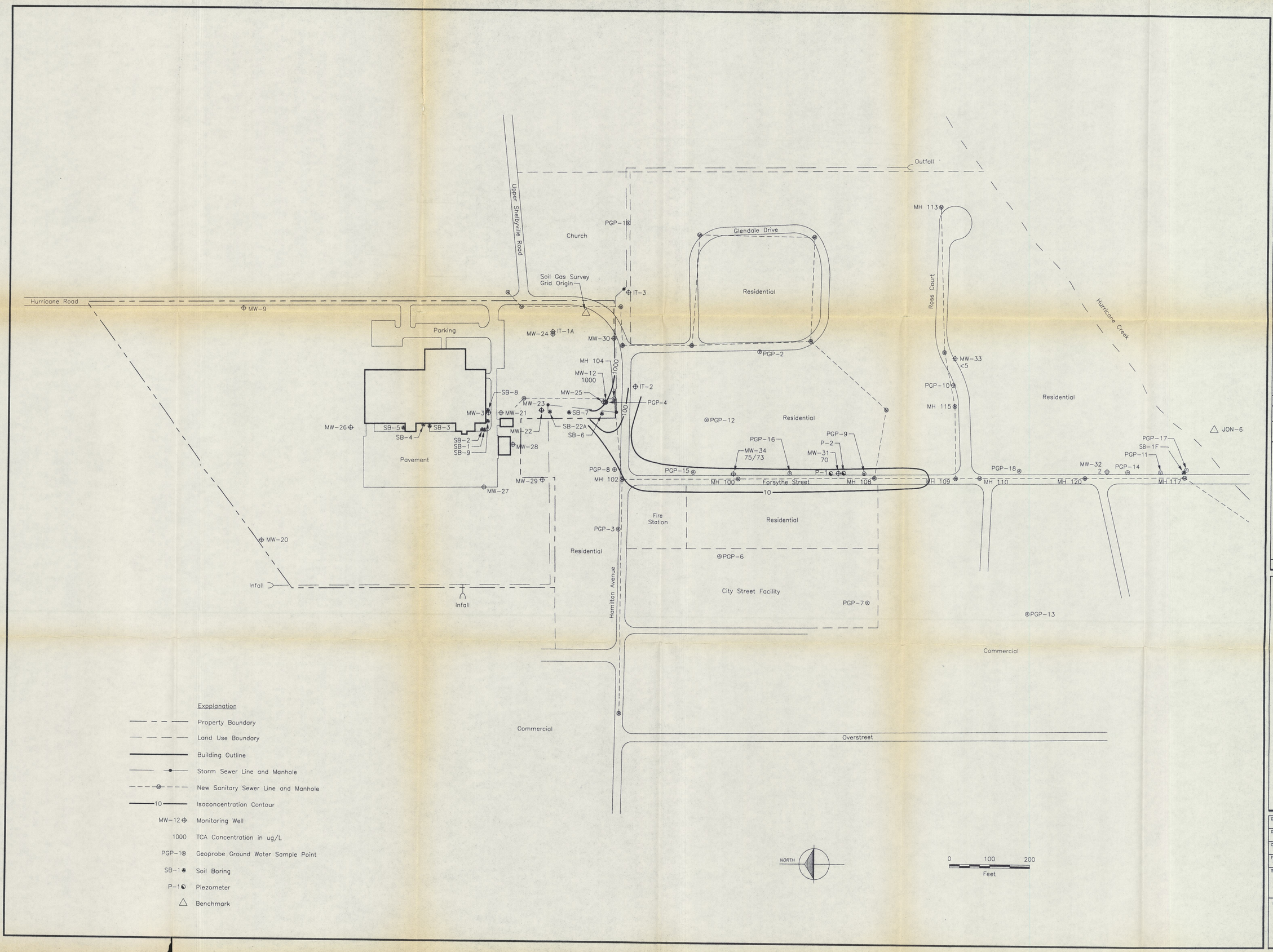
CURTIS-FRANKLIN
FRANKLIN, INDIANA
FORMER AMPHENOL CMS

ISOCONCENTRATION MAP OF PCE IN GROUND WATER – OPERABLE AREA 3, APRIL, 1996

DESIGNED BY: JK	DATE: MAY '96
DRAWN BY: NW	DATE: MAY '96
CHECKED BY:	DATE:
FILE: 7026083B	EDIT: NW061396
SCALE:	1" = 100'
DRAWING:	1:100
PLOT:	
PROJECT:	07026.08

3B

SHEET NO.



Expplanation

- Property Boundary
- Land Use Boundary
- Building Outline
- Storm Sewer Line and Manhole
- New Sanitary Sewer Line and Manhole
- 10 — Isoconcentration Contour
- MW-12 — Monitoring Well
- 1000 — TCA Concentration in ug/L
- PGP-1 — Geoprobe Ground Water Sample Point
- SB-1 — Soil Boring
- P-1 — Piezometer
- Benchmark

EARTH TECH

5010 Stone Mill Road • Bloomington, IN 47408 • (812) 336-8972

NO.	REVISIONS	BY	DATE	NO.	REVISIONS	BY	DATE

REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS

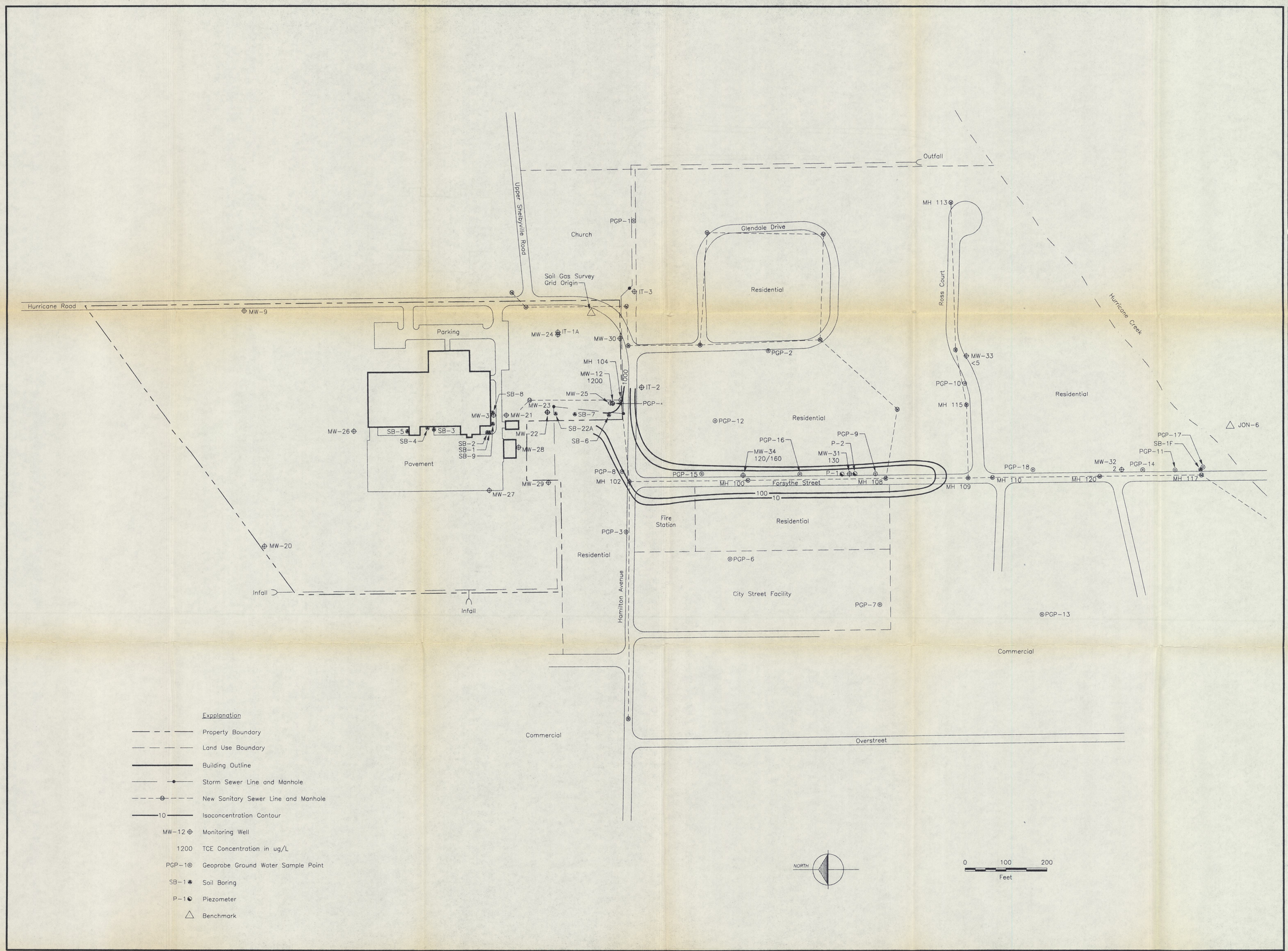
CURTIS-FRANKLIN
FRANKLIN, INDIANA
FORMER AMPHENOL CMS

ISOCONCENTRATION MAP OF TCA IN GROUND WATER - OPERABLE AREA 3, APRIL, 1996

DESIGNED BY: JK	DATE: MAY '96
DRAWN BY: NW	DATE: MAY '96
CHECKED BY:	DATE:
FILE: 7026083C	EDIT: NW061396
SCALE: 1" = 100'	DRAWING: 1:100
PLOT:	
PROJECT: 07026.08	

3C

SHEET NO.



Expplanation

- Property Boundary
- Land Use Boundary
- Building Outline
- Storm Sewer Line and Manhole
- New Sanitary Sewer Line and Manhole
- 10 — Isoconcentration Contour
- MW-12 — Monitoring Well
- 1200 — TCE Concentration in ug/L
- PGP-1 — Geoprobe Ground Water Sample Point
- SB-1 — Soil Boring
- P-1 — Piezometer
- Benchmark

EARTH TECH

5010 Shore Mill Road • Bloomington, IN 47408 • (812) 336-0972

NO.	REVISIONS	BY	DATE	NO.	REVISIONS	BY	DATE

REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS

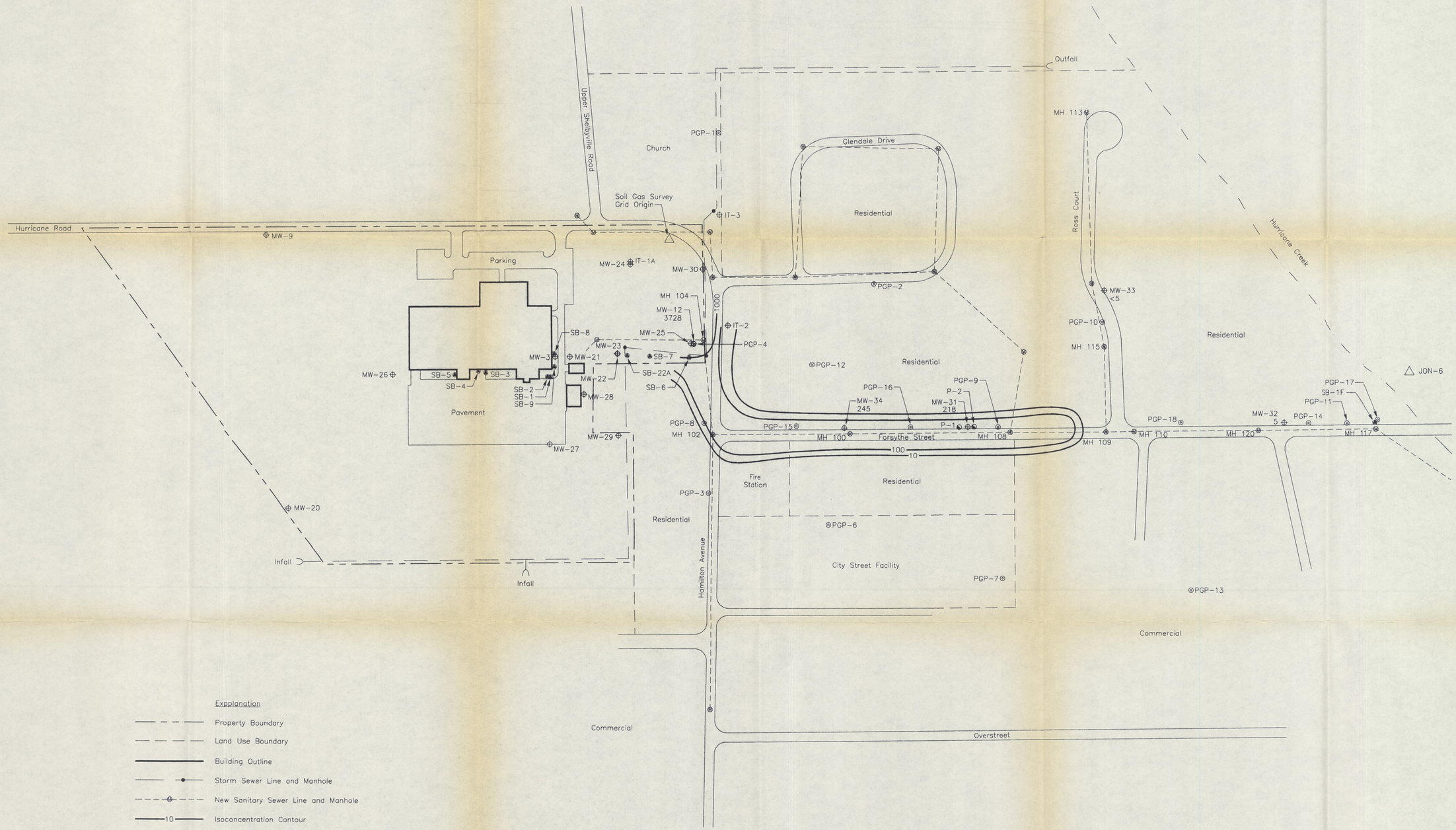
CURTIS-FRANKLIN
FRANKLIN, INDIANA
FORMER AMPHENOL CMS

ISOCONCENTRATION MAP OF TCE IN GROUND WATER - OPERABLE AREA 3, APRIL, 1996

DESIGNED BY JK	DATE MAY '96
DRAWN BY NW	DATE MAY '96
CHECKED BY	DATE
FILE 702608.3D	EDIT NW061396
SCALE 1"=100'	
DRAWING 1:100	
PLOT	
PROJECT 07026.08	

3D

SHEET NO.



Expplanation

- Property Boundary
- Land Use Boundary
- Building Outline
- Storm Sewer Line and Manhole
- New Sanitary Sewer Line and Manhole
- 10 Isoconcentration Contour
- MW-12 Monitoring Well
- 3728 Total VOCs Concentration in ug/L
- PGP-1 Geoprobe Ground Water Sample Point
- SB-1 Soil Boring
- P-1 Piezometer
- Benchmark

EARTH TECH

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NO.	REVISIONS	BY	DATE	NO.	REVISIONS	BY	DATE

REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS

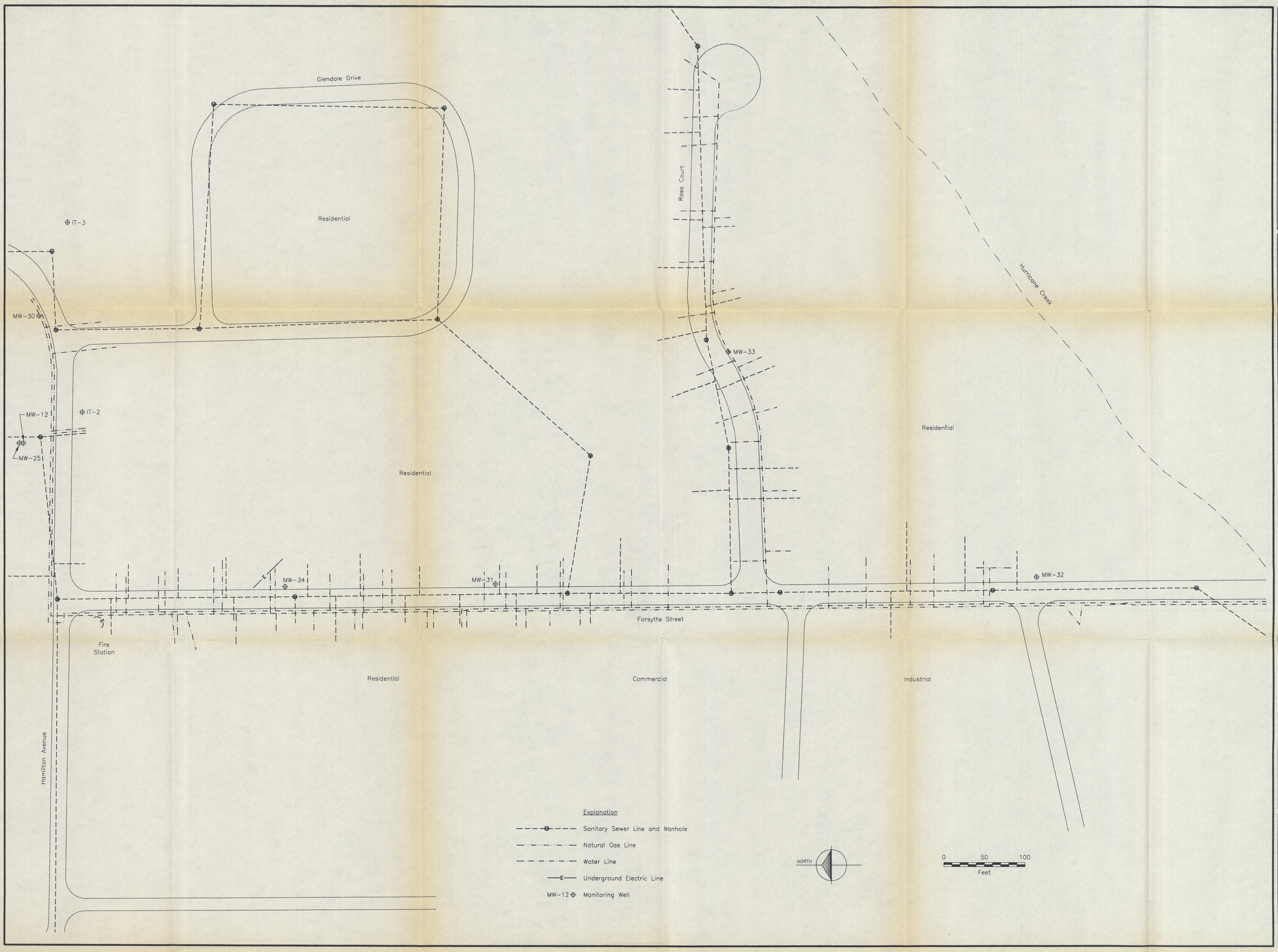
CURTIS-FRANKLIN
FRANKLIN, INDIANA
FORMER AMPHENOL CMS

ISOCONCENTRATION MAP OF TOTAL VOCs IN GROUND WATER-OPERABLE AREA 3, APRIL, 1996

DESIGNED BY JK	DATE MAY '96
DRAWN BY NW	DATE MAY '96
CHECKED BY	DATE
FILE 702608.3E	EDIT NW061396
SCALE 1" = 100'	
DRAWING 1:100	
PLOT	
PROJECT 07026.08	

3E

SHEET NO.



EARTH TECH

5010 Stone Mill Road • Bloomington, IN 47408 • (812) 336-0972

NO.	REVISIONS	BY	DATE

NO.	REVISIONS	BY	DATE

REVISED IN ACCORDANCE WITH CONSTRUCTION RECORDS

CURTIS FRANKLIN
FRANKLIN, INDIANA
FORMER AMPHENOL CMS
LOCATIONS OF UNDERGROUND UTILITIES
IN OPERABLE AREA 3

DESIGNED BY JK	DATE OCT, 1996
DRAWN BY NW	DATE OCT, 1996
CHECKED BY	DATE
FILE 19716S4	EDIT NW101196
SCALE 1" =50'	
DRAWING 1:50	
PLOT	
PROJECT 19716.09	

4

SHEET NO.

Estimated Construction Costs - Alternative 4: Air Sparging with SVE

ITEM #	WORK ITEM	UNIT	Estimated Quantity	Equip/mtr. Unit Price	Equip/mtr. Extended Price	Labor Unit Price	Labor Extended Price	Total Installed Price
1.	Mobilization/demobilization	LS	1	$430	$430	$825	$825	$1,255
2.	Air Sparging Wells Drilling and Installation							
(1).	Crew Per Diem Expenses	DY	6	$0.00	$0	$95.00	$570	$570
(2).	Mud Drilling (2" diameter borehole)	LF	312	$4.90	$1,529	$11.60	$3,619	$5,148
(3).	Filter Pack	LF	24	$8.50	$204	$1.50	$36	$240
(4).	Concrete Surface Pad	EA	12	$3.50	$42	$1.50	$18	$60
(5).	Grout	LF	288	$1.11	$320	$0.00	$0	$320
(6).	Bentonite Seal	EA	12	$25.00	$300	$6.00	$72	$372
(7).	Drums for Well Cuttings	EA	12	$53.00	$636	$0.00	$0	$636
(8).	Manhole Cover	EA	12	$78.00	$936	$26.82	$322	$1,258
(9).	Well Casing (2" SS)	LF	288	$19.30	$5,558	$1.69	$487	$6,045
(10).	Well Screen (2"SS)	LF	24	$44.32	$1,064	$1.43	$34	$1,098
(11).	Move Drill Rig	EA	12	$25.84	$310	$13.40	$161	$471
(12).	Decontamination	EA	1	$10.00	$10	$60.00	$60	$70
(13).	Drum Disposal	EA	12	$0.00	$0	$325.00	$3,900	$3,900
(3).	SVE Well Drilling and Installation							
(1).	Crew Per Diem Expenses	DY	3	$0.00	$0	$95.00	$285	$285
(2).	Mud Drilling (4" diameter borehole)	LF	30	$6.40	$192	$12.30	$369	$561
(3).	Filter Pack	LF	15	$14.74	$221	$2.15	$32	$253
(4).	Concrete Surface Pad	EA	3	$11.70	$35	$2.80	$8	$44
(5).	Grout	LF	15	$1.67	$25	$0.00	$0	$25
(6).	Bentonite Seal	EA	3	$60.37	$181	$12.07	$36	$217
(7).	Drums for Well Cuttings	EA	3	$53.00	$159	$0.00	$0	$159
(8).	Manhole Cover	EA	3	$105.00	$315	$26.82	$80	$395
(9).	Well Casing (4" PVC)	LF	15	$12.50	$188	$2.15	$32	$220
(10).	Well Screen (4" PVC)	LF	15	$14.50	$218	$2.15	$32	$250
(11).	Move Drill Rig	EA	3	$25.84	$78	$13.40	$40	$118
(12).	Decontamination	EA	1	$10.00	$10	$60.00	$60	$70

(13).	Drum Disposal	EA	3	$0.00	$0	$325.00	$975	$975
(4).	Air Sparging Header Piping, Lateral Piping, Valves							
(1).	Header Piping (6-inch)	LF	900	$4.08	$3,672	$5.21	$4,689	$8,361
(2).	Lateral Piping (2-inch, 10 LF each well)	LF	120	$1.45	$174	$5.46	$655	$829
(3).	Trenching/Backfill/Compaction	LF	900	$0	$0	$5.50	$4,950	$4,950
(4).	Flow Monitoring Stations	EA	12	$100	$1,200	$20.00	$240	$1,440
(5).	Isolation Valves	EA	12	$65	$780	$16.56	$199	$979
(6).	Throttling valves	EA	12	$65	$780	$16.56	$199	$979
(5).	Air Sparging Blower and Accessories							
(1).	Blower (250 CFM @ 10 PSIG)	EA	1	$8,400	$8,400	$750	$750	$9,150
(2).	Suction and Discharge Piping (6-inch)	LS	1	$500	$500	$500	$500	$1,000
(3).	Electrical Terminations	LS	1	$200	$200	$500	$500	$700
(6).	Soil Vapor Extraction Header Piping, Lateral Piping, and Valves							
(1).	Header Piping (6-inch)	LF	900	$4.08	$3,672	$5.21	$4,689	$8,361
(2).	Lateral Piping (2-inch)	LF	30	$1.45	$44	$5.46	$164	$207
(3).	Trenching/Excavation/Backfill	LF	900	$0	$0	$5.50	$4,950	$4,950
(4).	Flow Monitoring Stations	EA	3	$100	$300	$20.00	$60	$360
(5).	Isolation Valves	EA	3	$65	$195	$16.56	$50	$245
(6).	Throttling valves	EA	3	$65	$195	$16.56	$50	$245
(7).	Soil Vapor Extraction Blower and Accessories							
(1).	Blower (400 CFM @ 60" w.c. vac)	EA	1	$13,200	$13,200	$235	$235	$13,435
(2).	Suction and Discharge Piping (6-inch)	LS	1	$500	$500	$500	$500	$1,000
(3).	Electrical Terminations	LS	1	$200	$200	$500	$500	$700
(8).	Enclosure							
(1).	Wood Sided Storage Garage	SF	80	$20	$1,600	$30	$2,400	$4,000
(2).	8" slab on grade	SF	80	$15.00	$1,200	$30	$1.75	$1,202
(3).	Signage	EA	10	$30.00	$300	$20.00	$200	$500

(9). Utilities

(1).	Electrical Service to Enclosure	LS	1	$500.00	$500	$1,500.00	$1,500	$2,000
	SUBTOTAL:				$50,600		$40,000	$90,600

SUBTOTAL:	$90,600
ENGINEERING:	$18,100
CONSTRUCTION MANAGEMENT:	$9,100
CONTINGENCIES:	$18,100
TOTAL (CAPITAL COSTS):	$135,900

ALTERNATIVE 2: MONITORING
ESTIMATED ANNUAL OPERATING COSTS

PROJECT: Amphenol Corp. / Franklin Power Products
PROJECT NUMBER: 07026.08

Costs presented are for semi-annual monitoring of select VOCs in groundwater in Operable Area 3 for the Former Amphenol site. The following assumptions have been made:

(1). 4 monitoring wells will require sampling.
(2). Sampling will be done on a semi-annual basis for a total of 12 years.
(3). Water samples will be analyzed for TCE, TCA, and PCE only.

	Estimated Annual Cost
I. GROUNDWATER SAMPLING AND ANALYSIS	
A. Sample Collection (16 MH @ $50/MH)	$800
B. Sample Analysis (8 water samples, 3 analytes per sample, $135/sample)	$1,080
C. Assemble and Analyze Data (16 MH @ $80/MH)	$1,280
D. Report Development and Submittal (16 MH @ $80/MH)	$1,280
E. Expenses	
Travel/Mileage	$800
Miscellaneous	$200
	$5,440
Contingencies (20%):	$1,088
Total Estimated Operating Costs:	$6,528

ALTERNATIVE 3: MONITORING; GROUNDWATER EXTRACTION AND TREATMENT
ESTIMATED ANNUAL OPERATING COSTS

PROJECT: Amphenol Corp. / Franklin Power Products
PROJECT NUMBER: 07026.08

Costs presented are for semi-annual monitoring of select VOCs in groundwater in Operable Area 3 for the Former Amphenol site and operation of a groundwater extraction system which uses the interim control air stripper.
The following assumptions have been made:

(1). 30 monitoring wells and two extraction wells will require sampling.
(2). Sampling will be done on a semi-annual basis for a total of 12 years.
(3). Water samples will be analyzed for TCE, TCA, and PCE only.
(4). The groundwater extraction system will operate continuously.
(5). The groundwater extraction system will include two extraction wells.
(6). The existing ICM air stripper is used for treatment of the extracted groundwater.
(7). This cost estimate includes only the incremental cost for adding the extraction wells and processing additional flow through the air stripper and does not include the baseline cost for operating the air stripper as the ICM.

		Estimated Annual Cost
I.	GROUNDWATER SAMPLING AND ANALYSIS	
A.	Sample Collection (16 MH @ $50/MH)	$800
B.	Sample Analysis (10 water samples, 3 analytes per sample, $135/sample)	$1,350
C.	Assemble and Analyze Data (16 MH @ $80/MH)	$1,280
D.	Report Development and Submittal (16 MH @ $80/MH)	$1,280
E.	Expenses	
	Travel/Mileage	$400
	Miscellaneous	$200
II.	GROUNDWATER EXTRACTION AND TREATMENT SYSTEM OPERATIONS	
A.	Electricity Costs (two 1/2 hp pumps @ $0.06/KWH)	$400
B.	System Oversight (2 MH/wk @ $50/hr)	$5,200
C.	General Parts and Maintenance	$1,000
D.	Water Discharge to Sanitary Sewer (10gpm @ $2.81/1,000 gal.)	$14,800
	Estimated Operating Costs:	$26,700
	Contingencies (20%):	$5,340
	Total Estimated Operating Costs:	$32,040

ALTERNATIVE 4: MONITORING; AIR SPARGING WITH SVE
ESTIMATED ANNUAL OPERATING COSTS

PROJECT: Amphenol Corp. / Franklin Power Products
PROJECT NUMBER: 07026.08

Costs presented are for semi-annual monitoring of select VOCs in groundwater in Operable Area 3 for the Former Amphenol site and operation of an air sparging/SVE system.
The following assumptions have been made:

(1). 4 new monitoring wells will require sampling.
(2). Sampling will be done on a semi-annual basis for a total of 12 years.
(3). Water samples will be analyzed for TCE, TCA, and PCE only.
(4). Air sparging/SVE system will operate continuously.
(5). No air monitoring will be required during the air sparging/SVE operation

		Estimated Annual Cost
I.	GROUNDWATER SAMPLING AND ANALYSIS	
A.	Sample Collection (16 MH @ $50/MH)	$800
B.	Sample Analysis (8 water samples, 3 analytes per sample, $135/sample)	$1,080
C.	Assemble and Analyze Data (16 MH @ $80/MH)	$1,280
D.	Report Development and Submittal (16 MH @ $80/MH)	$1,280
E.	Expenses	
	Travel/Mileage	$400
	Miscellaneous	$200
II.	AIR SPARGING AND SVE SYSTEM OPERATIONS	
A.	Electricity Costs (25 hp blower, 20 hp vacuum pump @ $0.06/KWH)	$17,800
B.	System Oversight (4 MH/wk @ $50/hr)	$10,400
C.	General Parts and Maintenance	$3,000
D.	General Performance Monitoring	$2,000
	Estimated Operating Costs:	$38,200
	Contingencies (20%):	$7,640
	Total Estimated Operating Costs:	$45,840