

***OEPA/DuPont
Off-site Water Sampling Review***

October 22, 2002

ASH019867

EID630299

Water Sampling Topics For Today

- Ohio 2-Mile Radius Sampling Results
- Groundwater Modeling Update
- Little Hocking W.A. Investigation Results
 - Groundwater Results/Soil Analysis Status
- Public Water System Sampling Update
- Status of Water Sampling Work Under
WVDEP Consent Order

Ohio 2-Mile Residential Sampling Results

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DuPont Washington Works Aerial View-Looking North



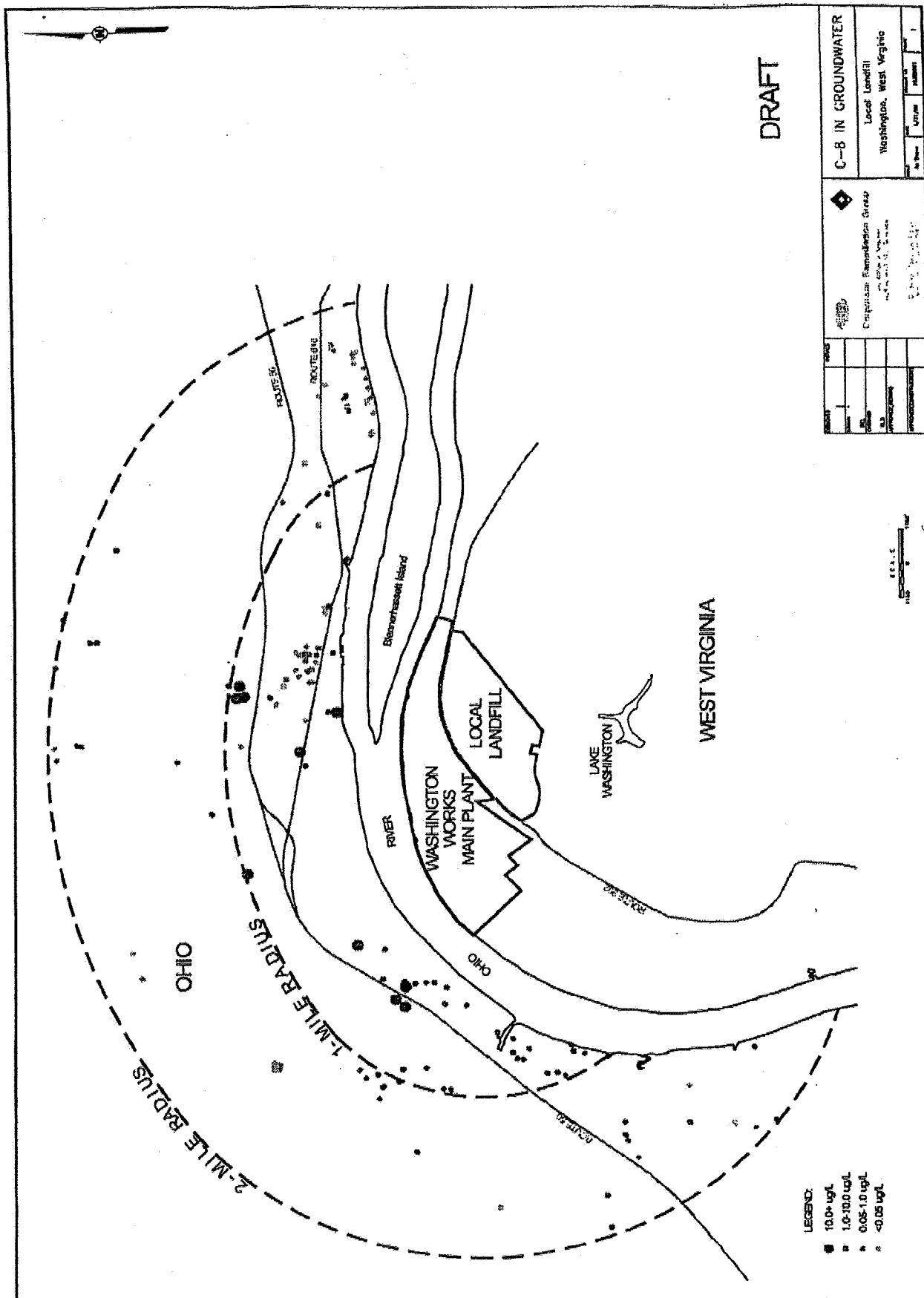
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Ohio 0-2 Mile Water Sampling

Scope Summary

- Over 1200 homes surveyed/interviewed
- Over 130 residential drinking water & groundwater samples collected



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Ohio 2-Mile Sampling

Observations:

- All results significantly below 150 ug/L screening level for drinking water
- Definite trend toward lower concentrations in the 1 to 2 mile radius sampling area (vs 0 to 1 mile)
- Highest drinking water result:
 - 6.5 ug/L (BoardJG, close to 1 mile boundary)
- Highest drinking water result near 2-mile boundary:
 - 2.59 ug/L (KnottsC, west of Little Hocking)
 - 1.81 ug/L (SmithDD, north of Porterfield)

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Groundwater Modeling Update

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Groundwater Modeling

Project Objectives:

- Evaluate if a groundwater flow pathway exists between DuPont site and Little Hocking Well Field under current flow/pumping conditions.
- Evaluate other possible flow/pumping conditions

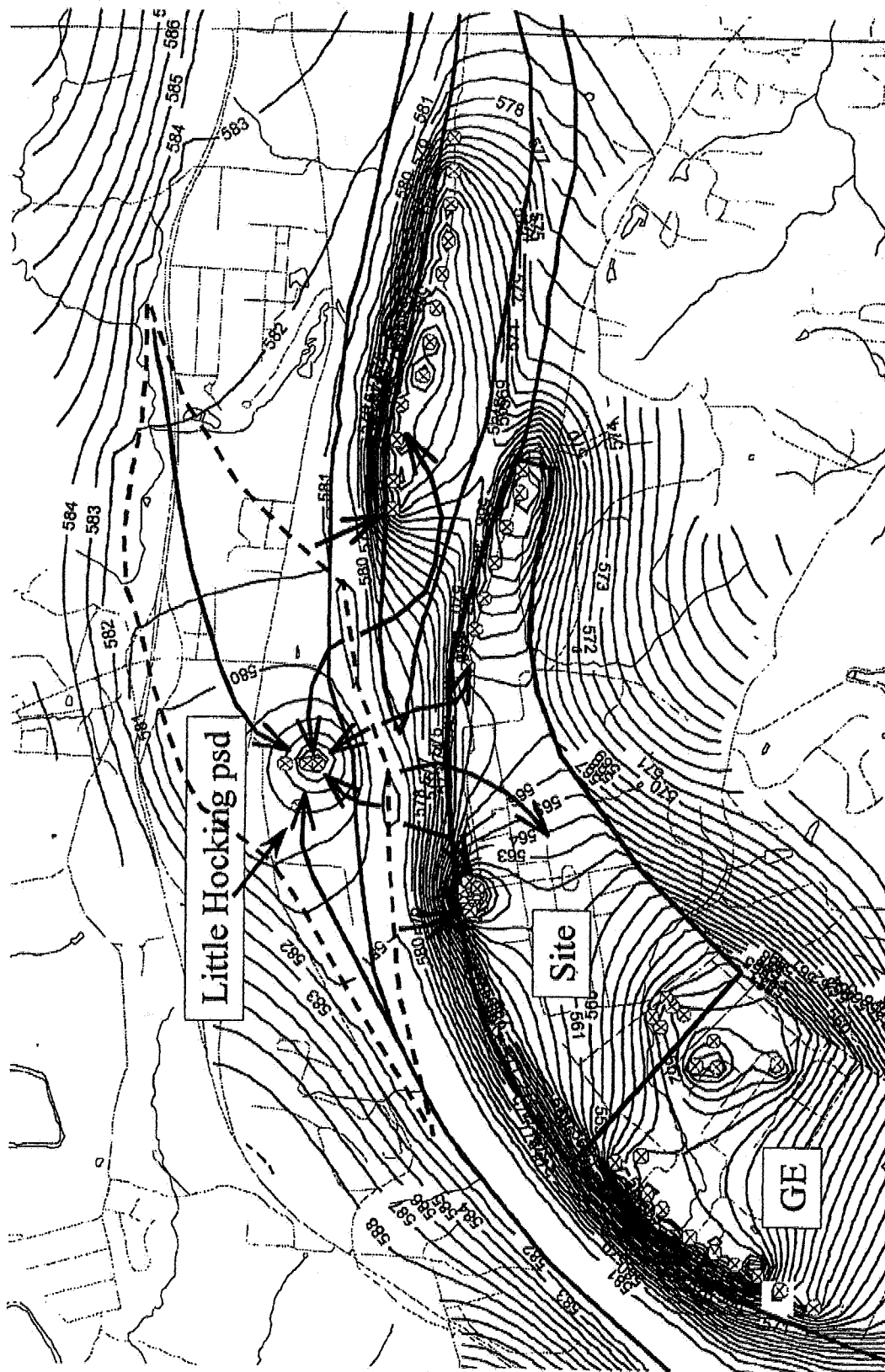
Pumping Rates, February 2, 2002 (gpm)

Site	Total (gpm)
DuPont (exc. Gallery)	6804
GE	2100
Little Hocking	490
Lubeck	462
Belpre	70

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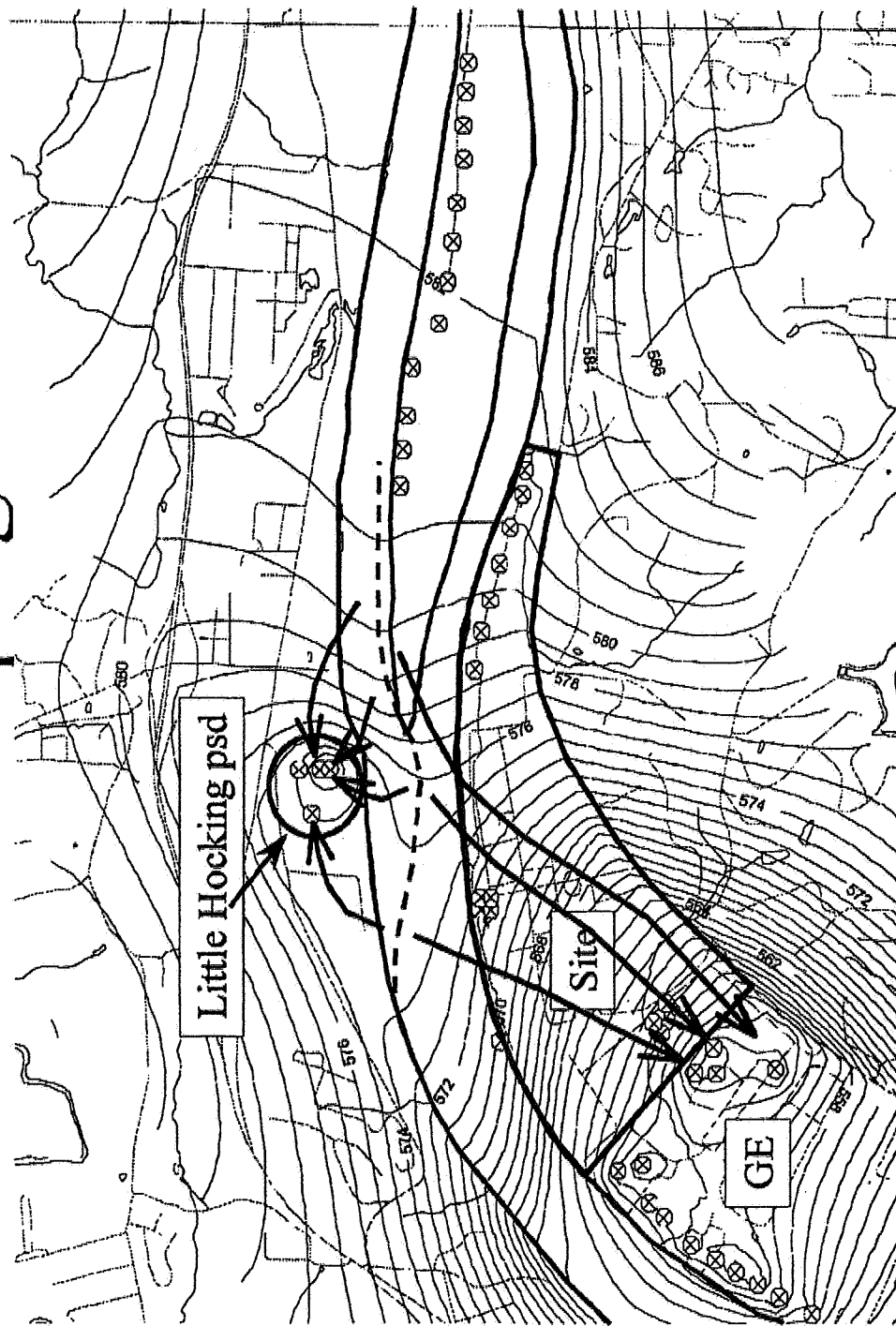
Groundwater Flow-Current Pumping Conditions



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No DuPont Pumping



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*Little Hocking Water
Association Well Field
Investigation*

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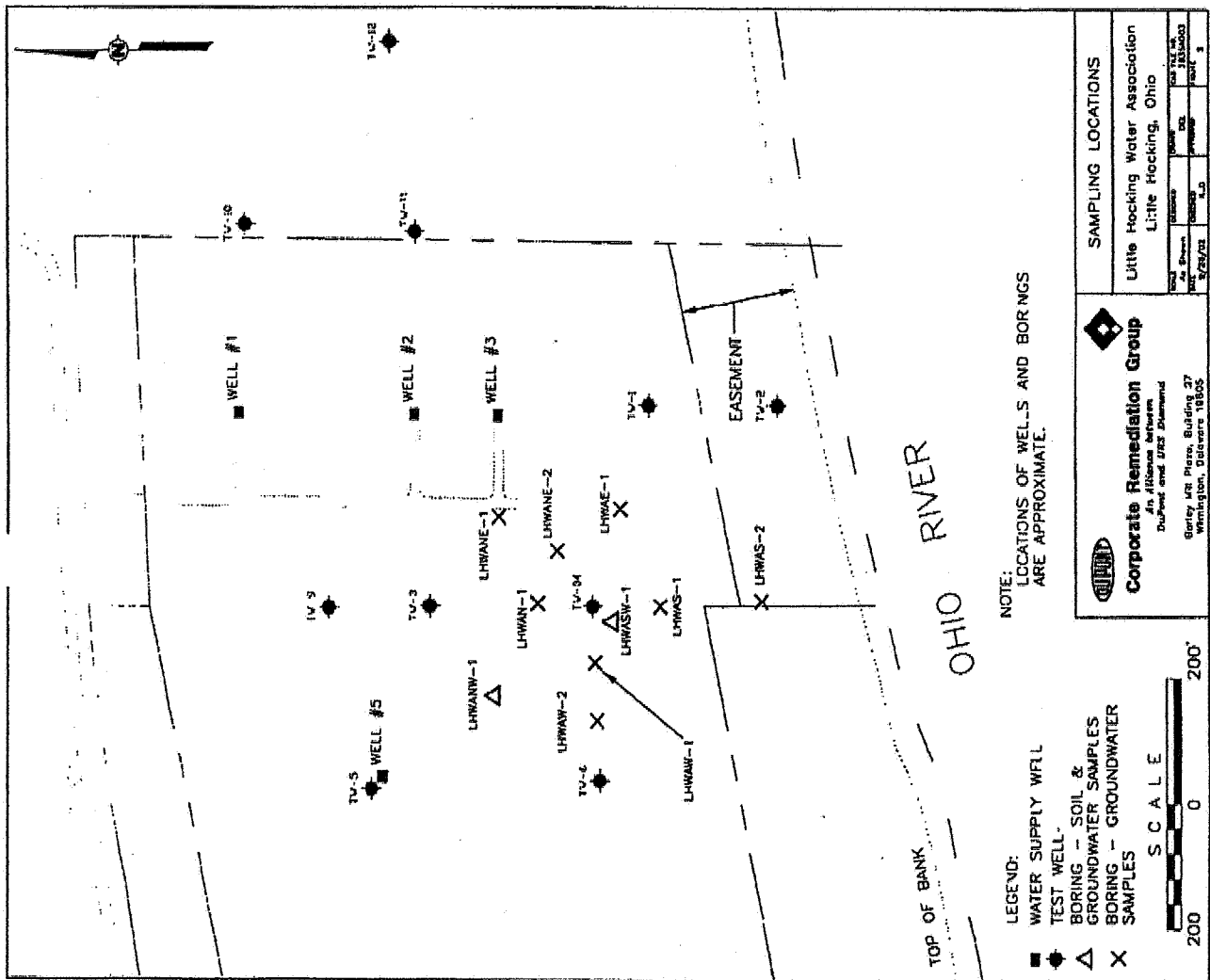
LHWA Investigation

Objectives:

- Determine reason for elevated C-8 concentrations in TW-4
- Understand general distribution of C-8 in soil and groundwater

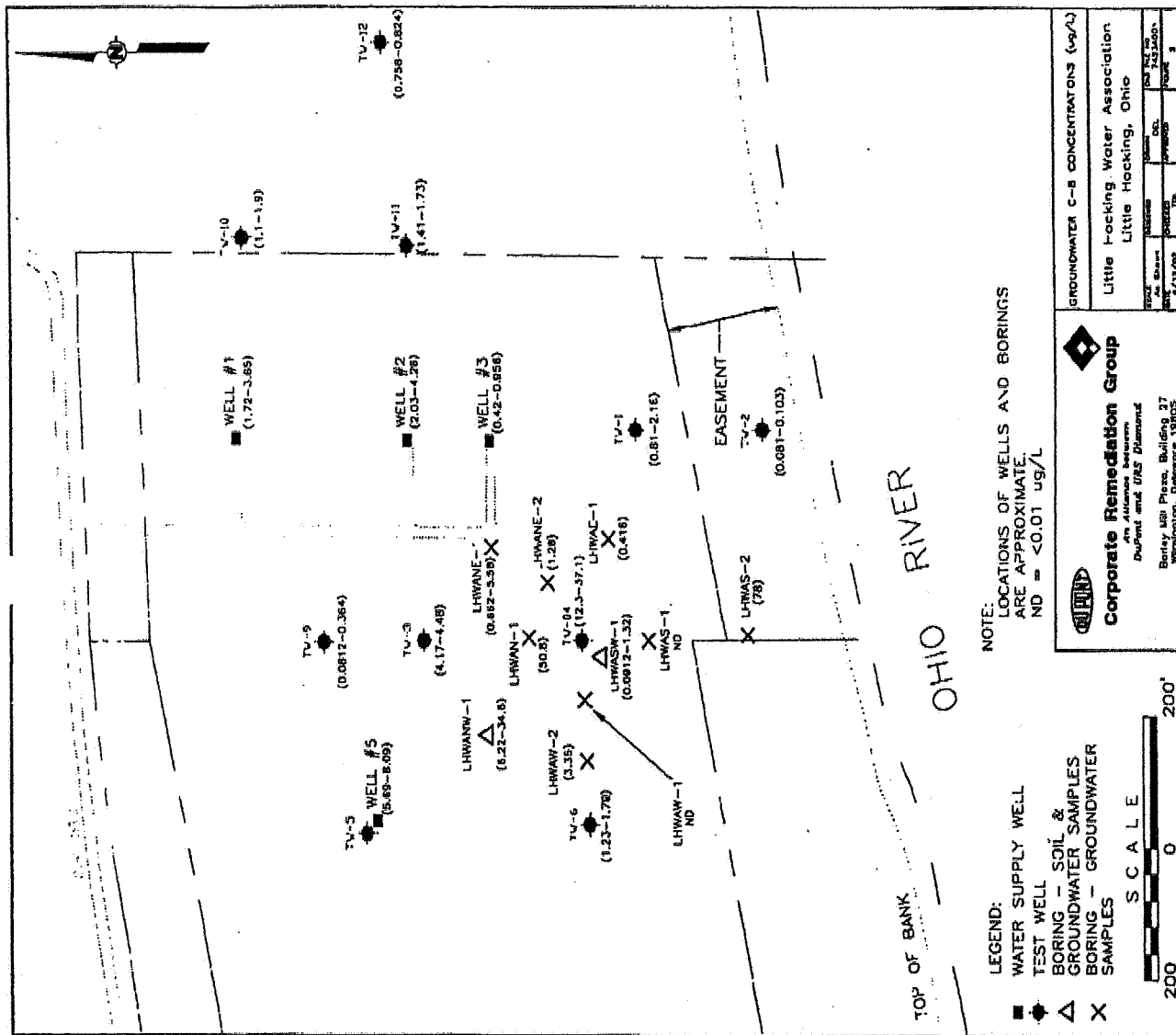
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GROUNDWATER C-B CONCENTRATIONS (ug/L)			
Well/Boring	Concentration	Well/Boring	Concentration
WELL #1	(1.72-3.85)	WELL #2	(2.03-4.26)
WELL #3	(0.42-0.856)	WELL #5	(5.69-8.09)
TV-1	(0.81-2.16)	TV-2	(0.081-0.103)
TV-3	(4.17-4.48)	TV-4	(12.3-37.1)
TV-5	(0.0812-0.364)	TV-6	(1.23-1.78)
TV-9	(0.0812-0.364)	TV-10	(1.1-1.9)
TV-11	(1.41-1.73)	TV-12	(0.736-0.824)

Corporate Remediation Group
An Alliance between
DuPont and URS | Diamond

Little Hocking Water Association
Little Hocking, Ohio

Barley Hill Plaza, Building 27
Newark, Ohio 43061-1803

DATE: 7/13/93

BY: [Signature]

FOR: [Signature]

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Water Data Summary (in ug/L)

☛ Production Well C-8 Concentrations:

- Well 1 (1.7-3.6) Well 3 (.42-.96)
- Well 2 (2.0-4.3) Well 5 (5.7-8.1)

☛ Test Wells:

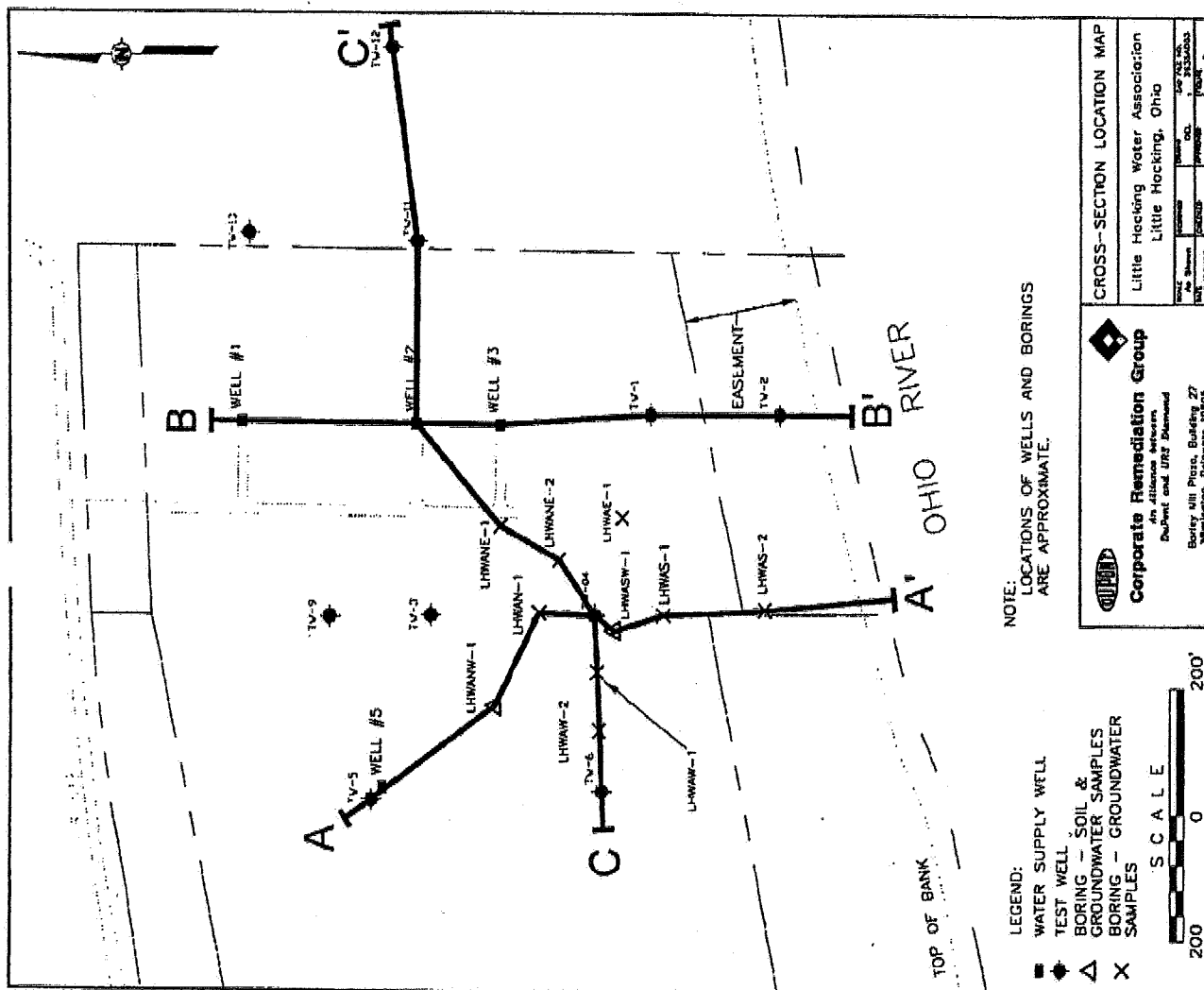
- TW-1 (.8-2.2) TW-4 (12.3-37.1)
- TW-9 (.1-.3) TW-10 (1.1-1.9)

☛ Probe Investigation:

- Shallow GW ND, 6.2, 34.6, 50.8, 78
- Mid aq. GW 1.32
- Deep aq. GW .166 (next to TW-4)

Preliminary Observations

- No results higher than 150 ug/L screening level
- Production-finished water consistently around 2 ug/L
- Higher C-8 concentrations in shallow groundwater where fine grained aquifer matrix (I.e., clays/silts) present
- Steep downward trend in aquifer C-8 concentrations with depth
- Higher concentrations observed in TW-4 anomalous compared to overall data set

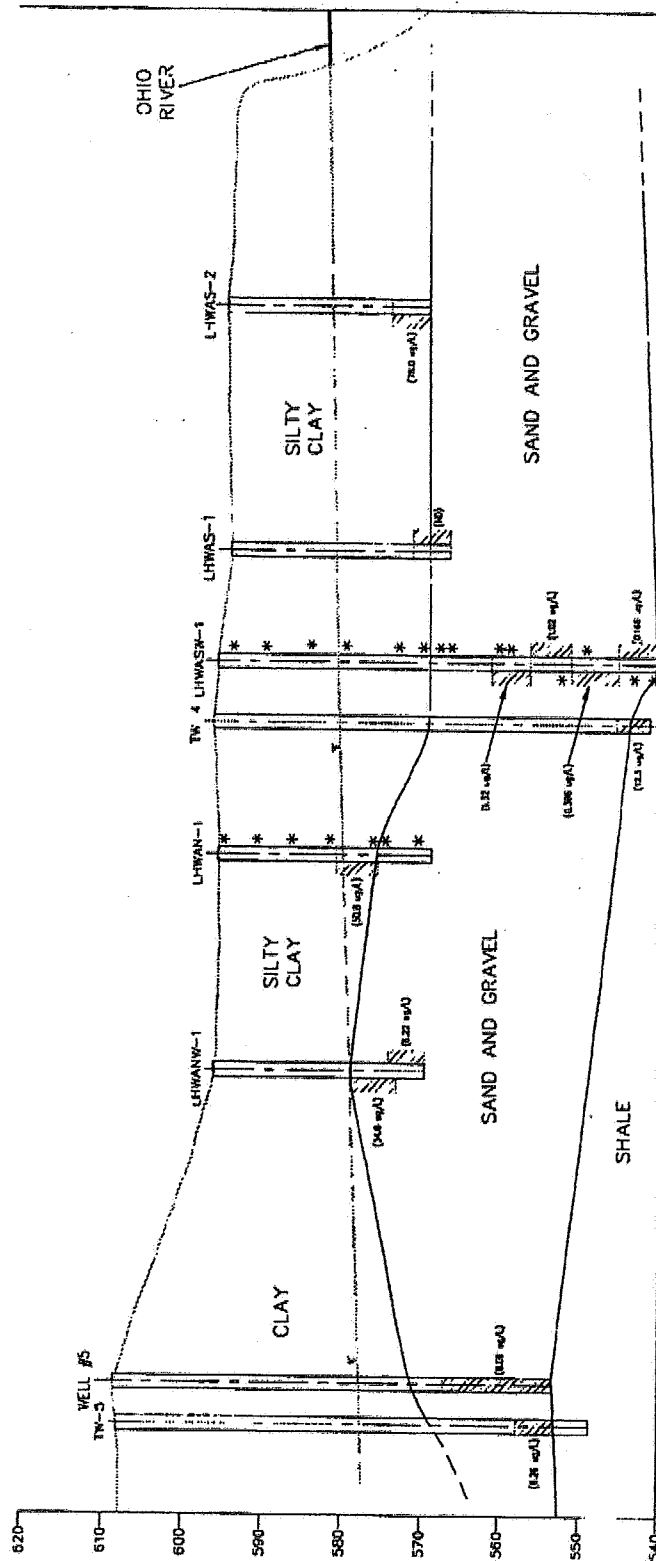


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A

A'



LEGEND:

- SCREENED INTERVAL IN TEST WELL OR PRODUCTION WELL
- GROUND WATER SAMPLE LOCATION IN GEOPROBE OR ROTASONIC BORING
- C-B CONCENTRATION (ug/L)
- GROUNDWATER ELEVATION
- SOIL SAMPLE LOCATION

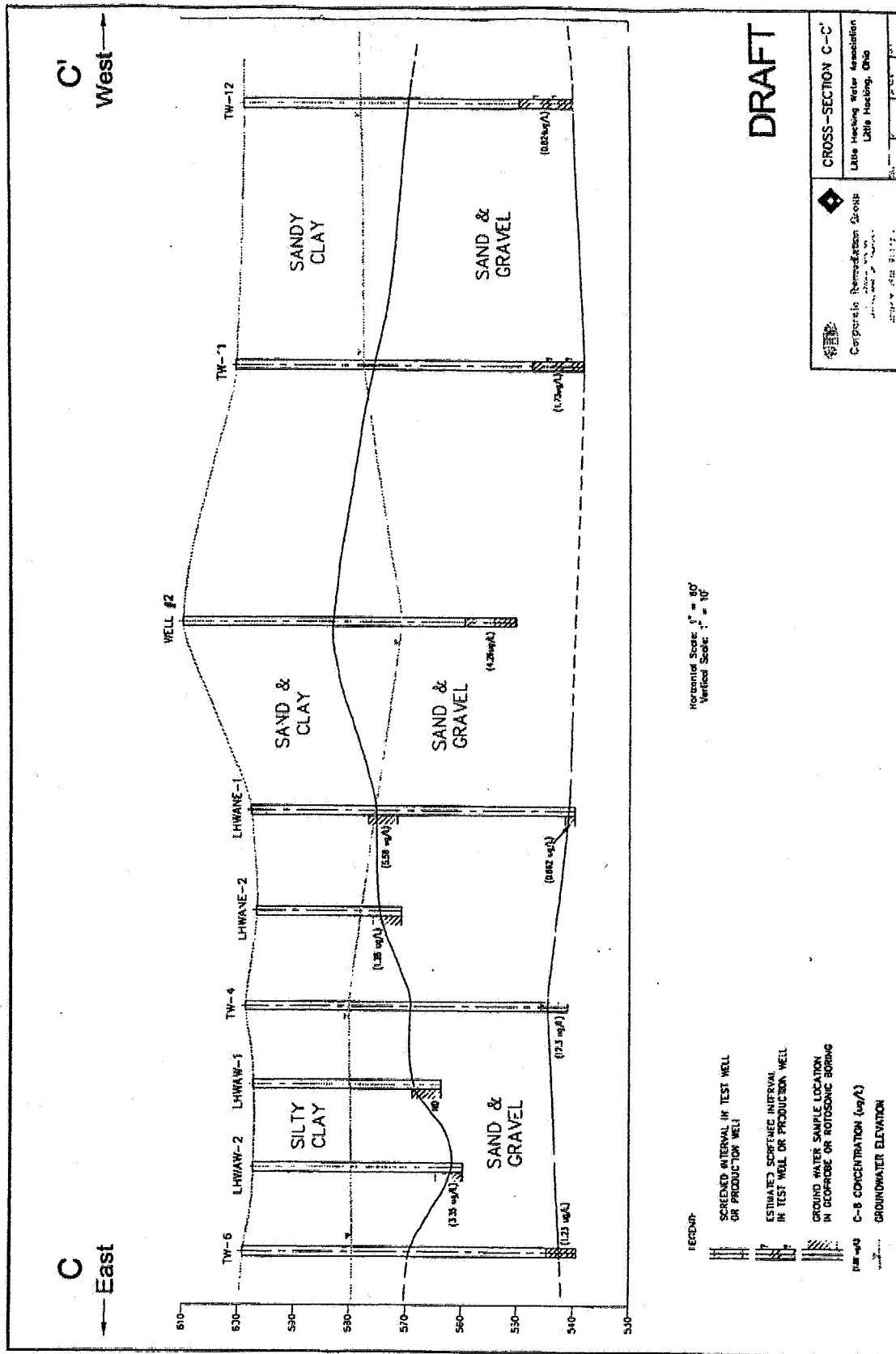
Horizontal Scale: 1" = 60'
Vertical Scale: 1" = 10'

DRAFT

	CROSS-SECTION A-A'
	Little Hocking Water Association Little Hocking, Ohio

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*Ohio River Public Water
Systems
&
Ohio River Surface Water
Sampling Summary*

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Ohio River PWS Summary (in ug/L)

20 +5	Parkersburg	ND
20 +3	Bel Pre	.1-.3
20 0	LHWA	.8-8.2
20 -3	Lubbeck	.2-1.0
20 -18	Tuppers Pl.	.2-.7
20 -30	Ravenswood	ND
20 -40	Mason Cty	NQ-.1
20 -42	Letart LF	
20 -45	Racine L&D	.518
20 -48	Vill.of Racine	ND
20 -50	Vill of Syracuse	ND-.41

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Surface Water Summary (in ug/L)

Transect 1	25+	ND (2 samp)
Transect 2	12+	ND (2 samp)
Transect 3	3+	ND (2 samp)
Transect 4	upsite	ND (9 samp)
Transect 5	midsite	ND (10 samp)
Transect 6	-1/2	ND (9 samp)
Transect 7	-1.5	.09-.13 (2 samp)
Transect 8	-3.0	.9-1.1 (2 samp)
Transect 9	-10	.29 (2 samp)
Transect 10	-18	.23 (2 samp)
Transect 11/12	-42(Letart)	.1 (4 samp)

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WVDEP Multi-Media Consent Order-Water Sampling Update

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MMCO Water Sampling Update

• Have completed the following:

- Off-sites 1 mile and 2 mile radius sampling
- Monthly sites sw/gw sampling (4 rounds), now qtrly
- Monthly sites outfall sampling
- PWS System sampling (now qtrly at 3 facilities)
- Ohio River sw sampling
- Sites plume delineation field work (28 new wells installed, gw/sw sampling full event just completed)

• To complete:

- Water sampling final report
- Groundwater modeling final report

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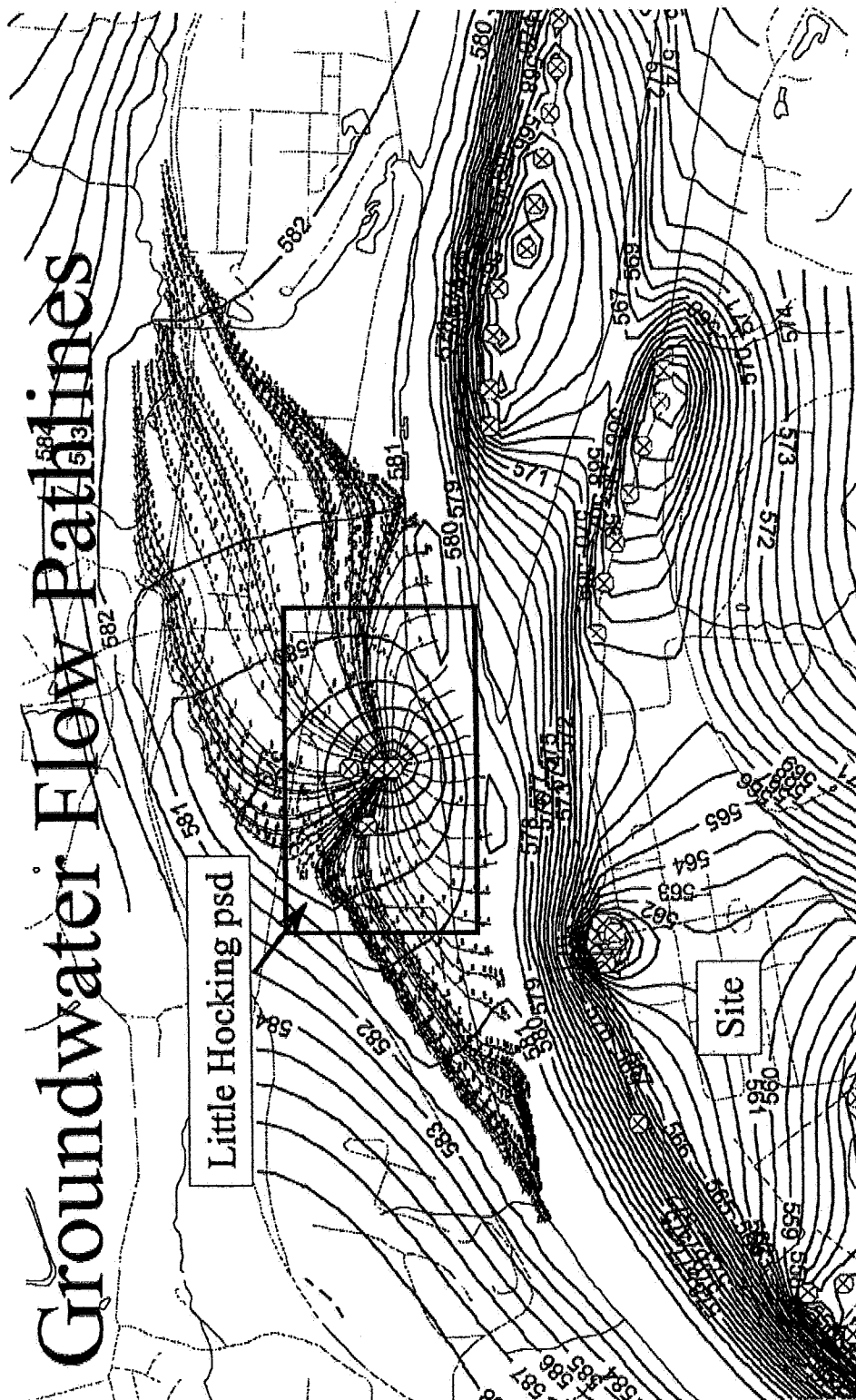
Flow Path-lines

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Little Hocking Water Association Well Field

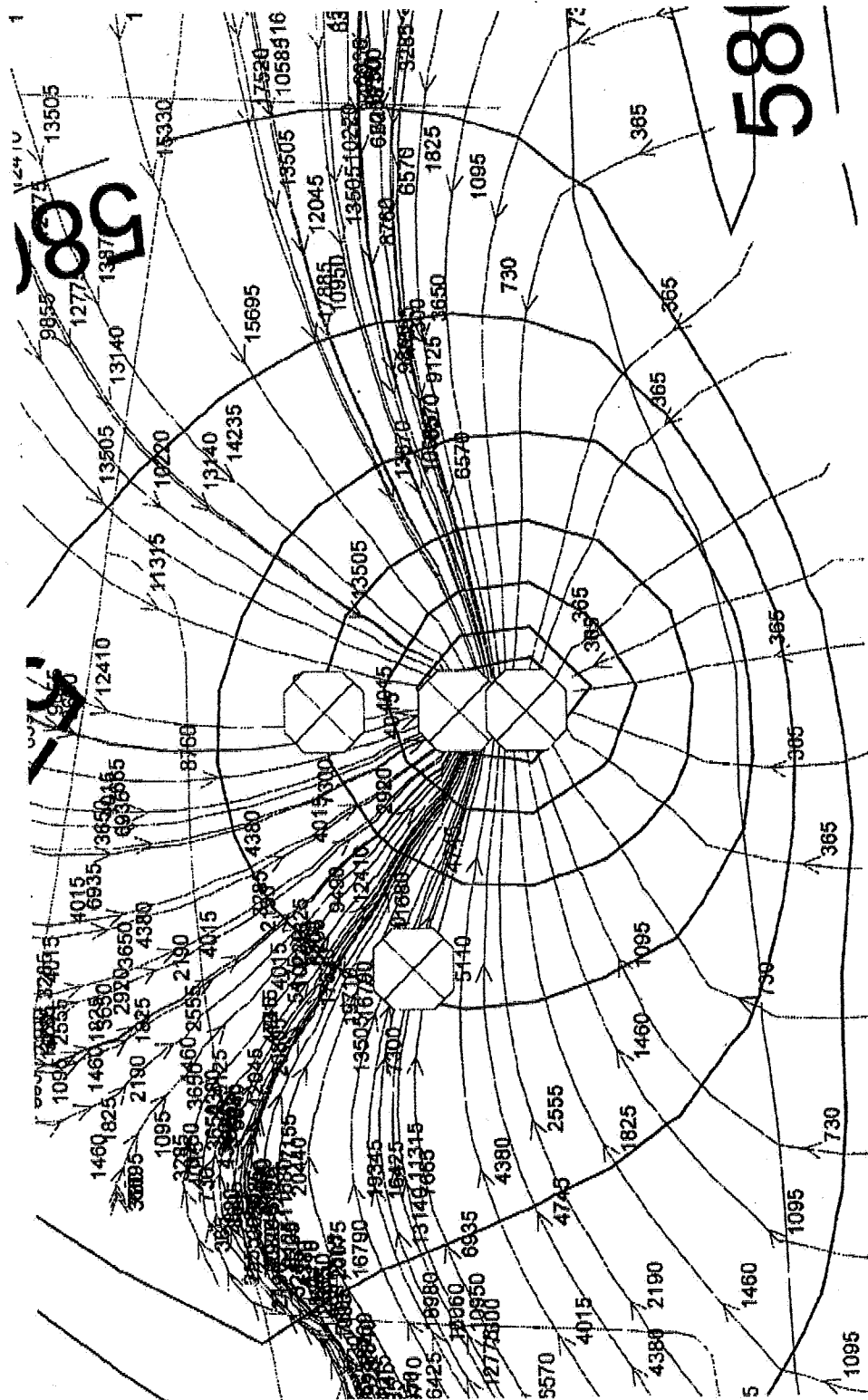
Groundwater Flow Pathlines



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LHWA-Groundwater Travel Times (in days)



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