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SUBJECT: Love Canal, Site I.D.No. 932020
DATE: June 16, 1994

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6/16/94*

JUN 16 1994

THE LONG-TERM MONITORING PROGRAM

The Long Term Monitoring Program examines hydrological and chemical data from the Love Canal area in order to evaluate the overall effectiveness of the containment system. In 1993, one round of samples was collected from 36 long term monitoring wells that surround the site. Included in this sampling program were selected wells on the west side of the Dewatering Containment Facility (DCF). Approximately bi-monthly groundwater elevations are taken in six groups of piezometers located around the site.

The basic conclusion from the 1993 data is that they are essentially similar to 1989's, 1990's 1991's and 1992's, and that the barrier drain is functioning as designed.

This conclusion is supported by both the hydrological and chemical evidence.

Results of Groundwater Monitoring Hydrology

Readings were taken on six dates during the year from the six series of piezometers that were strategically placed to monitor groundwater elevations along varying cross-sections of the Canal. Figure 1 identifies the location of the piezometers. Figure 2 is a flow diagram representing groundwater conditions in April 1993 at one of the series of piezometers at right angles to the barrier drain. Groundwater flow is toward the leachate collection system. The vertical scale on the cross-section is exaggerated 5 times over the horizontal scale, to aid in interpretation.

No abnormal groundwater conditions were noted during the hydrologic sampling events of 1993 compared to 1992. The barrier drain is capturing all leachate migrating horizontally outward from the Canal, as well as pulling groundwater, which is outside the barrier drain, back toward the drain. Vertical groundwater migration is limited by layers of extremely low permeability clay and glacial till, which underlays all of the site.

Results of Groundwater Monitoring Chemistry

In addition to the piezometers, there is a system of overburden and bedrock wells designed primarily for monitoring the chemical quality of groundwater at the Love Canal site. Sampling was conducted in the system of overburden and bedrock wells designed for monitoring the chemical quality of groundwater ("LTM wells"). The LTM wells are located in a pattern designed to optimize their usefulness in detecting any failure that might occur in the effectiveness of the barrier drain system. In 1993 we began a plan of sampling half of the overburden wells around the perimeter of the site. Half of the LTM wells that are screened in the overburden were

Figure 1

LOVE CANAL

LONG TERM MONITORING PROGRAM

1993 Groundwater Level Survey Location

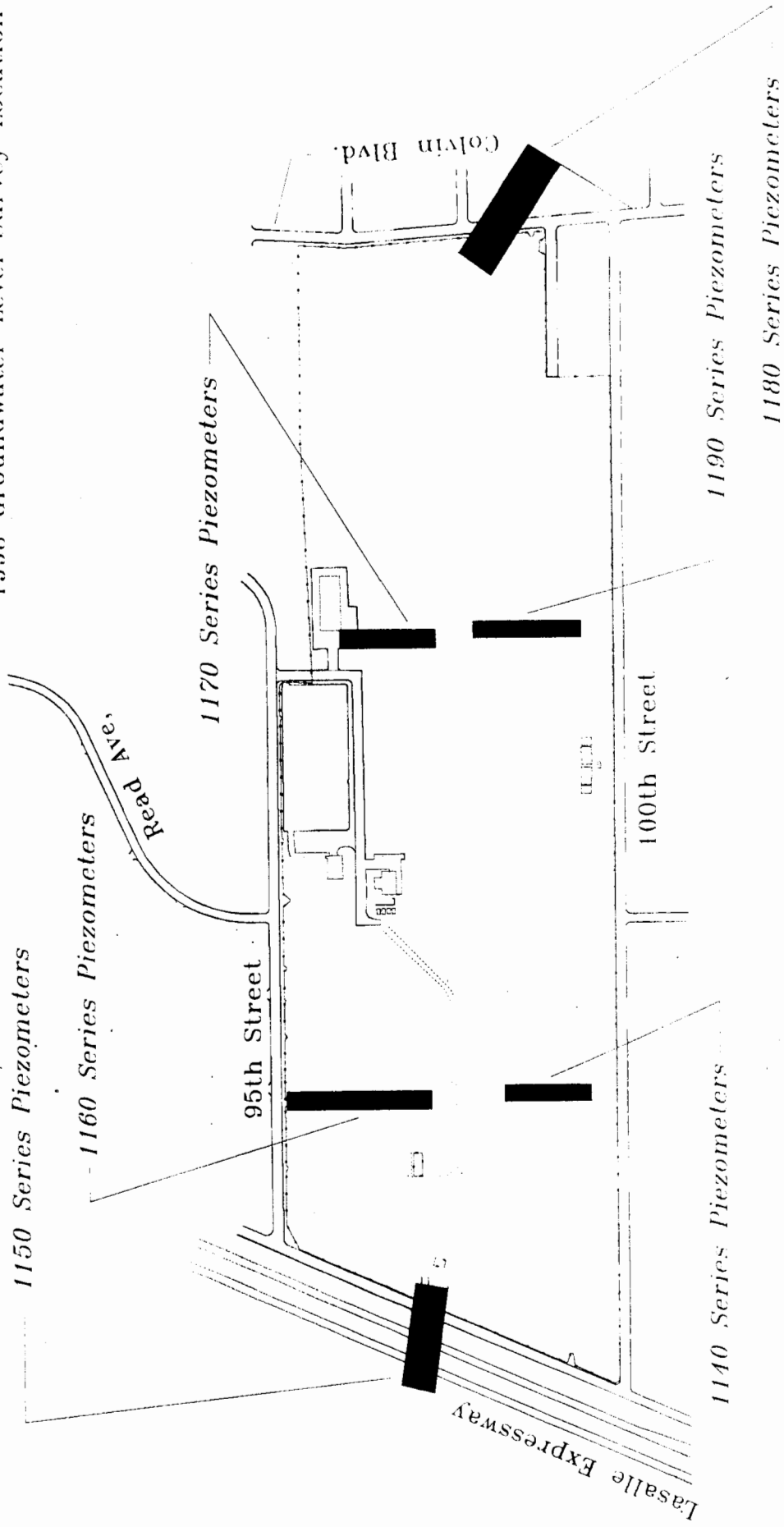
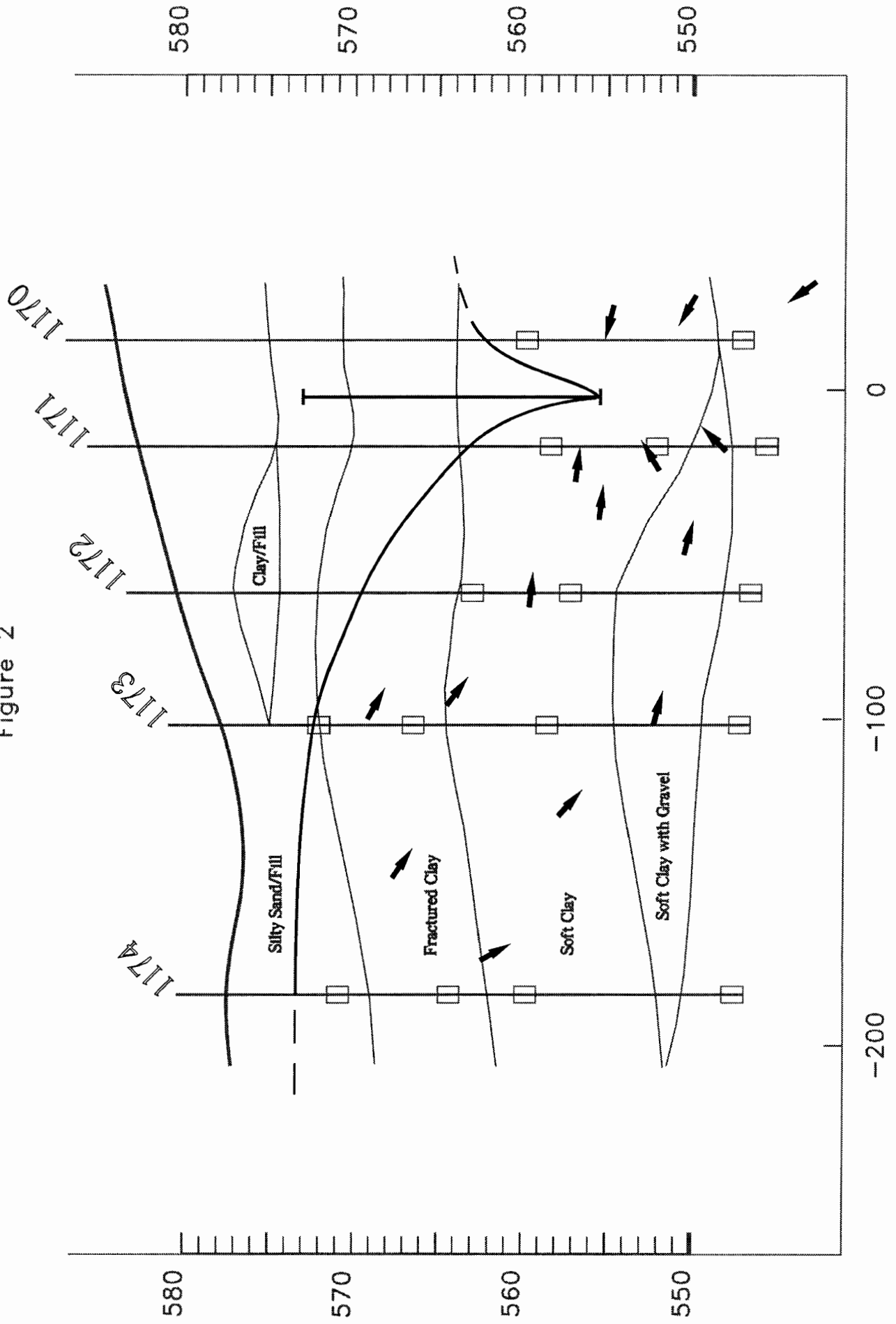


Figure 2



sampled in 1993 and the other half will be sampled in 1994. In 1993 two piezometers were sampled in addition to LTM wells. During 1993, samples were collected from 37 wells and 18 blanks were submitted for quality control purposes. Figure 3 indicates the location of the wells.

In 1993 the New York State Department of Health (DOH) provided analytical services for the long term monitoring activities at the Love Canal site. Appendix A (attached) is a listing of analytical results. As in previous years, the analytical results were characterized by a predominance of non-detect ("ND") values. When the laboratory has any indication that a compound is definitely present in a sample, that fact is reported. Each time a laboratory analysis is performed there is a level for each compound called the "detection limit." If a compound is present below this level the precise quantity of the compound cannot be accurately determined. In such a case the compound is said to be "present at or below the detection limit" and the result is reported with a "J" qualifier. This reporting protocol was followed by the New York State Department of Health for the 1993 analyses.

As in 1992, the 1993 results included a large number of tentatively identified compounds (TICs). Prior to 1992 only a relative few TICs were reported. In 1992, compounds tentatively identified as methyl benzene (toluene) were reported in samples collected from several wells located along the northeastern perimeter of the site. Toluene TICs were not seen in 1993.

As in previous years, most of the samples showed relatively low levels of phthalates, particularly bis-(2-Ethylhexyl)Phthalate. It was also present in many of the associated blanks. Phthalates are common constituents of plastics used in sampling and laboratory tubing.

Each instance where contaminants were detected at or above the laboratory detection limit is discussed below. The relatively low number of contaminants detected and the fact that the levels detected are close to the detection limits does not indicate a need for action at this time. However, future results will continue to be tracked with special attention to any evidence of a change in groundwater quality.

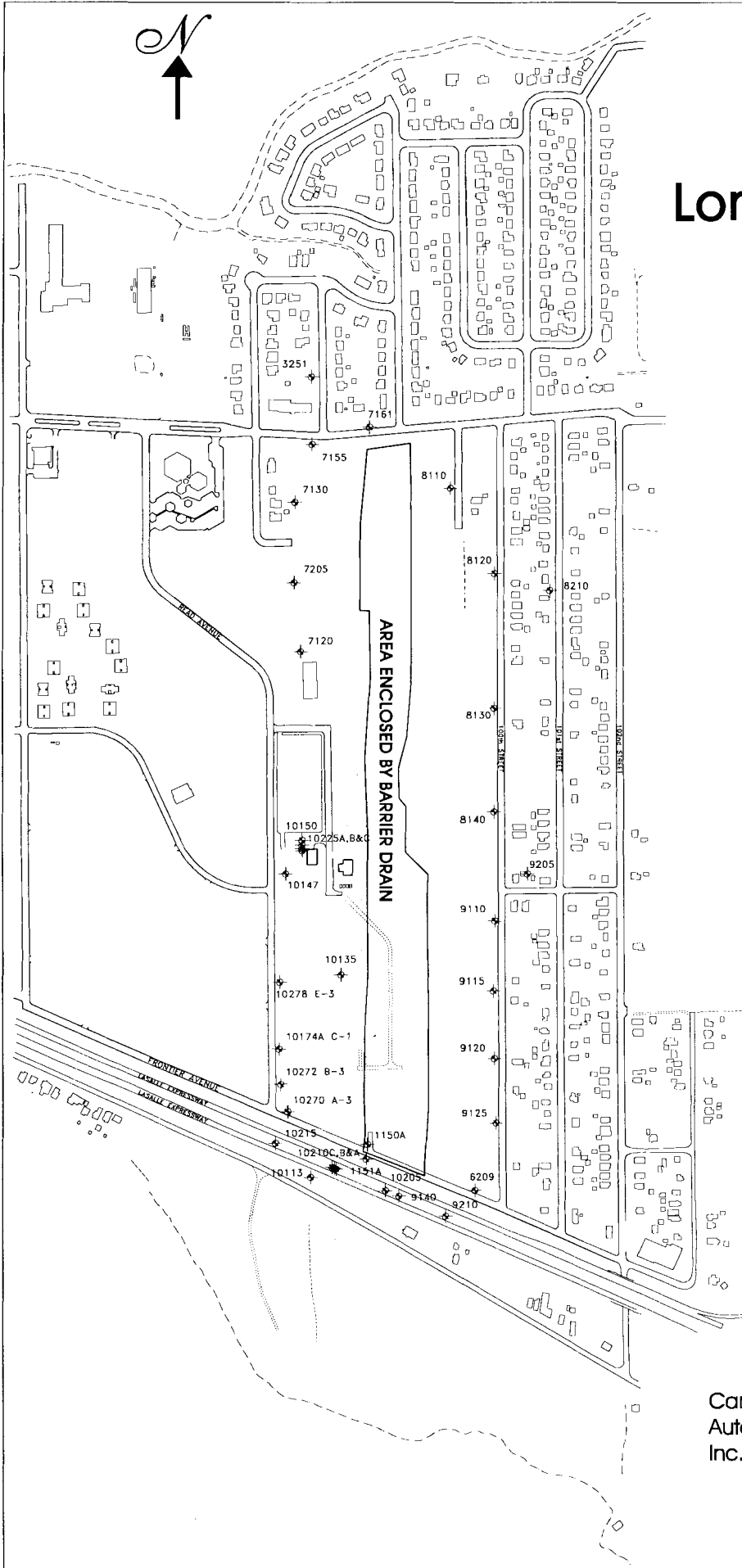
1993 Results:

- 36 wells were sampled along with 18 blanks (12 field blanks, 5 holding blanks and one field blank).
- Sulfur was detected in 13 wells.
- Bis(2-ethylhexyl)phthalate was found in 16 wells at a concentration above the detection limit and significantly greater than blank contamination (10X).

The only wells showing significant contamination were 10135 and 1150A. These two wells were expected to be contaminated since they are within the known contaminated zone. These wells were sampled as comparison wells. Groundwater contamination is not migrating from Love Canal based upon the 1993 data.

Figure 3

Love Canal Long Term Monitoring 1993 Sampling Wells Sampled:



- | | |
|------|------------|
| 7120 | 9140 |
| 7205 | 10205 |
| 7130 | 1151A |
| 7155 | 1150A |
| 3251 | 10210A |
| 7161 | 10210B |
| 8110 | 10210C |
| 8120 | 10113 |
| 8210 | 10215 |
| 8130 | 10270 A-3 |
| 8140 | 10272 B-3 |
| 9205 | 10174A C-1 |
| 9110 | 10278 E-3 |
| 9115 | 10135 |
| 9120 | 10147 |
| 9125 | 10225A |
| 6209 | 10225B |
| 9210 | 10225C |

Cartography by W.B. Welling, NYSDEC. Base Autocad map from ABB Environmental Services, Inc., 12-01-92.

Well-by-Well Summaries

The next section of this document describes the wells exhibiting organic chemical contamination. Chemical compounds detected in 1993 are presented immediately after the well number to which they pertain. Comments from the 1992 annual report pertaining to these wells are also addressed.

Well #10135 (DOH analysis)

1,4-dichlorobenzene	94
1,2-dichlorobenzene	35
2,4-dichlorophenol	420
1,2,4-trichlorobenzene	74
2,4,5-trichlorophenol	70
alpha-BHC	42
pentachlorophenol	52
beta & gamma-BHC (sum of isomers)	19.5
delta-BHC	9.8P
aldrin	0.24P
endosulfan sulfate	0.43P
methylene chloride	41
1,1-dichloroethene	15
1,2-dichloroethene (total)	840
chloroform	100
1,1,2,2-tetrachloroethane	12B
trichloroethylene	24
chlorobenzene	1700
phenol	98
bis(2-chloroethyl)ether	23
2-methylphenol	51
4-methylphenol	60
bis(2-ethylhexyl)phthalate	50
camphor	130
acetone	270
2-butanone	36
benzene	5200
toluene	17000E
ethylbenzene	13
total xylenes	47
nonanal (RT=19.32) [TIC]	200JN
furan, tetrahydro-2-methyl- (RT+5.01) [TIC]	86JN
dodecanal [TIC]	220JN
phenol, 2,4-bis(1,1-dimethyl) [TIC]	53JN

As noted in previous reports, Well #10135 is the only well in the Long Term Monitoring network intentionally installed into an area of known contamination. It monitors groundwater close to the leachate

collection system. This well has consistently shown elevated levels of chemical compounds such as chlorobenzenes, chlorophenols, benzoic acid, and hexachlorocyclohexane (BHC). Further discussion of well 10135 comparing chemical data from 1993 and previous samplings is included in the discussion for well 1150A, below. These listed compounds are typical of Love Canal chemistry and are considered to represent contamination which escaped into the environment prior to construction of the barrier drain system. The results from well 10135 are used as a baseline for comparison with findings from the other monitoring wells. If the Canal were to leak, similar compounds at similar levels would begin to be detected in other wells.

Independent hydraulic evidence indicates that Well #10135 is within the hydraulic influence of the barrier drain system, thus groundwater in the vicinity is likely to be flowing back toward the leachate collection system. The well is approximately 85 feet outside the barrier drain, which is closer to the drain than other long term monitoring wells. (Refer to Figure 3 for its location).

Well #1150A (not a regularly sampled well) (DOH analysis)

2-chlorophenol	47
1,3-dichlorobenzene	170
1,4-dichlorobenzene	1600E
1,2-dichlorobenzene	670
1,2,4-trichlorobenzene	3200E
4-chloro-3-methylphenol	34
2-chloronaphthalene	1100E
hexachlorobenzene	61
methylene chloride	70
chloroform	14
chlorobenzene	6400
2,3-dichlorotoluene [TIC]	1100JXN
benzene, 1-chloro-2-methyl- [TIC]	4300JXN
benzene, 1-chloro-4-methyl- [TIC]	4800JXN
2-methylphenol	33
4-methylphenol	57
2,4-dimethylphenol	23
naphthalene	86
2,4-dinitrotoluene	260
bis(2-ethylhexyl)phthalate	2300E
di-n-octyl phthalate	12
acetone	270
2-butanone	46
benzene	5000
toluene	4900
total xylenes	34
unknown t-butyl compound (RT=13.83) [TIC]	2400JX
furan, tetrahydro-2-methyl- (RT=5.01) [TIC]	1600JXN

Piezometer 1050A was sampled in 1993 to compare analysis results with well 10135. 1050A and 10135 are both known to be contaminated. For comparison, all values reported in 1993 for 1050A are listed in boldface

along side well 10135. In 1993, 26 of 38 Love Canal indicator chemicals were present in well 10135 and 19 of 36 of the same chemical compounds were present in well 1150A. Chemical contamination in well 1150A is similar to that of well 10135 as the following chart indicates:

	<u>DEC</u>		<u>DEC</u>		<u>DOH</u>		<u>DOH</u>	
<u>LOVE CANAL WASTE</u>	<u>10135</u>	<u>10135</u>	<u>10135</u>	<u>10135</u>	<u>10135</u>	<u>10135</u>	<u>10135</u>	<u>1150A</u>
<u>INDICATOR COMPOUNDS</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1993</u>
Phenol	24	48	65	ND	10	90	98	88
Bis(2-Chloroethyl)Ether	12	20	36	ND	ND	21	23	ND
Dichlorobenzenes	91	134	32	170	63	156	94	1600E
Benzyl alcohol	2343	898	3300E	4200	1100	ND	ND	ND
Dichlorophenol	1000	1184	1200E	830	440	1200B	NF	NF
Trichlorobenzene	78	97	120	80	290	100	74	3200E
Benzoic acid	5669	71	150	140000	580	NF	NF	NF
Alpha-BHC	54	ND	87	ND	ND	84C	42C	ND
Beta&Gamma-BHC	ND	ND	182	ND	ND	33C	19.5	ND
Delta-BHC	ND	ND	ND	ND	ND	15C	9.8P	ND
Aldrin	ND	ND	ND	ND	ND	0.53P	0.24JP	ND
Trichlorophenol	853	787	850	860	250	250B	70	ND
Pentachlorophenol	ND	ND	ND	ND	11	15B	52	ND
Dichlorotoluene	7	ND	ND	14000	260	NF	350JN	1100JXN
Trichlorotoluene	510J	1000	NF	40	NF	NF	NF	NF
Chlorobenzoic acid	NA	NA	ND	4000	400	NF	NF	NF
Chlorobenzyl alcohol	NA	NA	NF	600	730	NF	NF	NF
Methylene Chloride	490	55	6B	5	ND	ND	41B	70
Acetone	1200	120	120B	50	ND	170	270B	270
Dichloroethenes	36	140	464E	26	ND	700	840B	5BJ
Chloroethane	ND	ND	ND	ND	ND	28	ND	ND
Trichloroethene	210	300	470E	260	450	250	24	ND
Benzene	2100	1300	500E	6200	6700	6800	5200B	5000
Tetrachloroethene	NA	NA	94	50	ND	40	8BJ	ND
Toluene	7700	6500	320E	22800	26000	27000	17000BE	4900
Tetrachloroethane	110	66	ND	ND	ND	34	12B	ND
Chloroform	62	ND	190	ND	ND	150	100B	14
Chlorobenzene	940	1600	1400	2380	2400	2600	1700B	6400
Ethylbenzene	ND	ND	7	12	10	ND	13B	10J
Xylenes	NA	NA	17	50	30	ND	47B	34
Chlorotoluene	NA	NA	ND	16600	16000	ND	ND	ND
Chlorophenol	6J	14	13	ND	900	13	ND	47
2-Methylphenol	44	227	1200E	ND	ND	41	51	33
4-Methylphenol	33	47	1200	ND	10	68	60	57
2,4-Dimethylphenol	2J	ND	ND	ND	ND	5J	ND	23

Diethylphthalate	10J	ND	ND	ND	ND	2J	ND	ND
Bis(2-Ethylhexyl)Phthalate	8JB	79	36B	ND	ND	29	50B	2300E
Chloromethylphenol	ND	ND	ND	ND	13	35	ND	34

"NA" indicates not analyzed.

"ND" indicates not detected.

"NF" is used for TICs only and indicates not found.

"J" indicates that the compound was detected at a level below the detection limit for the analysis. The detection limit is the value below which confidence in the result cannot be guaranteed.

"P" indicates that there is a greater than 25% difference for detected concentrations between the two GC columns in the pesticide/Aroclor target analyte. The lower of the two values is reported.

"E" indicates that the concentration for this compound exceeded the calibration range of the GC/MS instrument for that specific analysis.

"B" indicates that the compound was also found to be present in the laboratory blank for the analytical run. Data before 1993 has not been validated to determine whether such contamination is laboratory related. In 1993 "B" flagged results which are attributable to lab contaminatin are not presented in the well-by-well listings.

"C" indicates that the value was confirmed either by mass spectrographic analysis or re-examination of the analytical data.

"X" indicates that a combination of flags is required to properly define the results and "X" represents more than one qualifier flag.

"N" indicates presumptive evidence of a compound. The "N" flag is only used for tentatively identified compounds where the identification is based on a mass spectral library search. It is applied to all TIC results.

Well #1151A (not a regularly sampled well) (DOH analysis)

bis(2-ethylhexyl)phthtlate	14
acetic acid [TIC]	6

Well #3251 (DOH analysis)

bis(2-ethylhexyl)phthtlate	56
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Well #6209 (DOH analysis)

acetic acid [TIC]	5
phenol, 2(2h-benzotriazol-2-yl)-4methyl [TIC]	3

Well 6209 (DEC analysis)

mol. sulfur(58) [TIC]	810
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Well #7120 (DOH analysis)

bis(2-ethylhexyl)phthalate	41
acetic acid [TIC]	16
acetone	13

Well #7130 (DOH analysis)

bis(2-ethylhexyl)phthalate	21
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Well #7155 (DOH analysis)

bis(2-ethylhexyl)phthalate	41
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Well #7161 DEC (analysis)

di-N-butylphthalate	2.3B
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Well #7205 (DOH analysis)

bis(2-ethylhexyl)phthalate	40
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Well #8110 (DOH analysis)

mol. sulfur (58) [TIC]	3
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Well # 8140 (DOH analysis)

mol. sulfur (58) [TIC]	70
sulfur (56) [TIC]	11
sulfur (57) [TIC]	4

Well #8210 (DOH analysis)

bis(2-ethylhexyl)phthalate	12
mol. sulfur (58) [TIC]	740
sulfur (56) [TIC]	37
sulfur (57) [TIC]	29

Well #9115 (DOH analysis)

mol. sulfur (58) [TIC]	130
sulfur (56) [TIC]	13
sulfur (57) [TIC]	8
hexadecanoic acid, 2-methylpropyl ester [TIC]	5

octadecanoic acid, 2-methylpropyl ester [TIC] 5

Well #9120 (DOH analysis)

acetic acid [TIC] 5

Well #9125 (DOH analysis)

acetic acid [TIC] 5

hexadecanoic acid, 2-methylpropyl ester [TIC] 3

octadecanoic acid, 2-methylpropyl ester [TIC] 4

Well #9140 (well along the LaSalle Expressway) (DOH analysis)

hexadecanoic acid, 2-methylpropyl ester [TIC] 3

octadecanoic acid, 2-methylpropyl ester [TIC] 4

benzenesulfonamide, 2-methyl [TIC] 3

1,1,1-trichloroethane at 24 ppb was detected in 1992 in the sample collected from this well. In 1993 1,1,1-trichloroethane was present below the detection limit.

Well #9205 (DOH analysis)

bis(2-ethylhexyl)phthalate 31

mol. sulfur (58) [TIC] 2600

sulfur (56) [TIC] 230

sulfur (57) [TIC] 150

Well #10113 (DOH analysis)

hexadecanoic acid, 2-methylpropyl ester [TIC] 3

octadecanoic acid, 2-methylpropyl ester [TIC] 4

Well #10147 (DOH analysis)

bis(2-ethylhexyl)phthalate 29

Well #10174A (DOH analysis)

bis(2-ethylhexyl)phthalate 11

Well # 10205 (DOH analysis)

chloroethane 120

bis(2-ethylhexyl)phthalate 21

mol. sulfur (58) [TIC]	33JN
benzoic acid [TIC]	3

Well # 10205 (DEC analysis)

mol. sulfur (58) [TIC]	101
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Well # 10210A (well along the LaSalle Expressway) (DOH analysis)

bis(2-ethylhexyl)phthalate	31
dimethyl tetrasulfide [TIC]	22
methane, thiobus (RT=1.87) [TIC]	200JN
dimethyl trisulfide [TIC]	170JN
dimethyl disulfide [TIC]	160JN

Well # 10210B (well along the LaSalle Expressway) (DOH analysis)

bis(2-ethylhexyl)phthalate	11
nonal (RT=19.32) [TIC]	5JN

In 1992 Low levels of 1,1,1-trichloroethane were detected in this well. In addition, low levels of phenol, 4-nitrophenol, n-nitrosodiphenylamine, benzene, 4-methyl-2-pentanone, toluene were also detected. Acetone was also detected in the sample collected from this well at 31 ppb. However, in 1993, of these previous compounds, only acetone and benzene were detected at very low levels (below detection limits).

Well # 10210C (well along the LaSalle Expressway) (DOH analysis)

bis(2-ethylhexyl)phthalate	38
acetic acid [TIC]	11

In 1992 very low levels of phenol, 4-methylphenol, isophorone, 2,4-dinitrophenol, and benzo(k)fluoranthene were detected in the sample collected from this well. These were not present in 1993.

Well # 10215 (well along the LaSalle Expressway) (DOH analysis)

hexadecanoic acid, 2-methylpropyl ester [TIC]	7
octadecanoic acid, 2-methylpropyl ester [TIC]	6
nonal (RT=19.32) [TIC]	5JN

In 1992 pentachlorophenol was detected at 7 ppb in well which is below the 10 ppb detection limit. Very low levels of halogenated compounds such as 2-chlorophenol, 2,4-dichlorophenol, monochlorocresol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol were also detected the sample collected from this well. None of these compounds were detected in 1993.

Well # 10225A (DOH analysis)

beta & gamma-BHC (sum of isomers)	0.06P
delta-BHC	0.016P
mol. sulfur (58) [TIC]	24
dimethyl tetrasulfide [TIC]	130
dimethyl pentasulfide [TIC]	11
1-dodecanol, 2-methyl [TIC]	12
3-eicosene [TIC]	8
heneicosene [TIC]	8
decanedioic acid, didecyl ester [TIC]	9
decosane [TIC]	8
Hexanedioic acid, mono (2-ethylhexyl) ester [TIC]	13
methane, thiobus (RT=1.87) [TIC]	220JN
dimethyl sulfide [TIC]	4JN
dimethyl disulfide [TIC]	49JN
molecular sulfur (RT=28.39) [TIC]	18JN
methanethiol [TIC]	230JN
cyclopentane [TIC]	5JN
propane, 2-(methylthio)- [TIC]	3JN
1-propanethiol, 2-methyl-	4JN

Well #10225B (DOH analysis)

acetic acid [TIC]	5
2-nonene, 3-methyl- [TIC]	3
benzene, 1,3-diisocyanatomethylhexyl) ester [TIC]	3
hexanedioic acid, mono(2-ethylhexyl) ester [TIC]	4
methane, thiobus (RT=1.87) [TIC]	20JN
nonanal (RT=19.32) [TIC]	3JN
dodecanal [TIC]	2JN
phenol, 2,4-bis(1,1-dimethyl [TIC]	0.9JN

In 1992 acetone was detected in the sample collected from this well at 16 ppb. Previous sampling of this well had not detected acetone. Acetone was present in 1993 but is attributable to lab contamination.

Well # 10225C (DOH analysis)

propane, 2-methoxy-2-methyl- (RT=2.03) [TIC]	2JN
cyclotetrasiloxane, octameth [TIC]	2JN

Well # 10225C (DEC analysis)

1,2,4-trichlorobenzene	1.8
mol. sulfur (58) [TIC]	128

In 1993 only two tentatively identified compounds were present above detection limits. The chart below compares this year's results with previous data.

<u>COMPOUND</u>	<u>RECRA</u>	<u>DEC</u>	<u>DOH</u>	<u>DEC</u>	<u>DOH</u>	<u>DOH</u>	<u>DEC</u>	<u>DOH</u>
	1989	1990	1990	1991	1991	1992	1993	1993
1,3-Dichlorobenzene	ND	1J	NA	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	2J	NA	1J	1J	0.3J	ND	ND
1,2,4-Trichlorobenzene	ND	2J	3	ND	1J	2J	1.8	2J
Diethylphthalate	NA	1J	NA	ND	ND	ND	ND	ND
Alpha BHC	ND	ND	0.07C	ND	ND	0.052	ND	0.041J
Beta & Gamma (two isomers)	ND	ND	0.08J	ND	ND	0.022JP	ND	0.21J
Delta BHC	ND	ND	0.04J	ND	ND	0.017J	ND	0.014J
Trimethylbenzene	NF	9	4	NF	NF	NF	NF	NF
1-Chloro-4(Trifluoromethyl) benzene		4	NA	NF	NF	NF	NF	NF
Trichloroethene	12.5	18	13	9	11	4J	ND	2J
Benzene	ND	ND	2	ND	0.5J	ND	ND	0.3BJ
Ethylbenzene	ND	ND	1	ND	ND	ND	ND	0.06BJ
Xylenes (total)	ND	ND	4	ND	ND	ND	ND	0.3BJ
Chlorotoluene (total)	ND	11	ND	8	7	ND	ND	ND
Dichlorobenzenes (total)	ND	NA	2	ND	ND	ND	ND	0.3J

Well #10270 (DOH analysis)

acetic acid [TIC]	5
mol. sulfur (58) [TIC]	630
sulfur (56) [TIC]	46
sulfur (57) [TIC]	25

Well #10272 (DOH analysis)

mol. sulfur (58) [TIC]	1600
sulfur (56) [TIC]	17
sulfur (57) [TIC]	19
hexadecanoic acid, 2-methylpropyl ester [TIC]	7
octadecanoic acid, 2-methylpropyl ester [TIC]	9

Well #10272 (DEC analysis)

mol. sulfur (58) [TIC]	39
3-methyl pentanone	285

Well #10278 (DOH analysis)

mol. sulfur (58) [TIC]	290
sulfur (56) [TIC]	18
sulfur (57) [TIC]	10
benzoic acid [TIC]	6
benzeneacetic acid [TIC]	17

benzaldehyde, 3-hydroxy- [TIC]	3
benzaldehyde, 3-hydroxy-4-methoxy- [TIC]	3

Responses to issues raised in 1993 over the 1992 data

- Analysis was again performed by the DOH lab to continue to give continuity to the annual sets of analytical results.
- Well 1050A, a known contaminated well inside the barrier drain, was sampled in 1993 to augment the data collected from well 10135. Compounds present are similar to those present in well 10135.
- In sampling the wells along the LaSalle Expressway, care was taken to sample them in dry weather. We postulate that road spray from vehicular traffic had introduced PAH contamination during sampling in 1992.
- The DEC Mobile Lab analyzed duplicate sets of samples from wells 10210C, 10225C, 6209, 7161 and 10272. The cross check occasionally raises questions over tentatively identified compounds.

Table with columns for sample IDs (e.g., 1184, 1171A, 1281, 1298, 1210, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300) and rows for chemical classes (e.g., HALOGEN-SEMI-VOLATILES, HALOGEN-VOLATILE, TIC'S, NON-HALOGEN-SEMI-VOLATILE, TIC'S, NON-HALOGEN-VOLATILE, TIC'S, NON-HALOGEN-VOLATILE, TIC'S, NON-HALOGEN-VOLATILE, TIC'S, NON-HALOGEN-VOLATILE). Each row contains numerical values for each sample ID.

Appendix A