

2005 OPERATION/MONITORING REPORT OCCIDENTAL CHEMICAL CORPORATION

LOVE CANAL SITE NIAGARA FALLS, NY



**Miller Springs Remediation Management, Inc.
Glenn Springs Holdings, Inc.**

TABLE OF CONTENTS

	<u>Page</u>
	<hr/>
1.0 INTRODUCTION.....	1
2.1 OPERATIONS OF THE BARRIER DRAIN AND WELL COLLECTION SYSTEMS	2
2.1.1 <i>Barrier Drain System</i>	2
2.1.2 <i>Wet Well Collection System</i>	3
3.0 GROUNDWATER TREATMENT AND MONITORING	4
3.1 GROUNDWATER TREATMENT	4
3.1.1 <i>Treatment System</i>	4
3.1.2 <i>Effluent Discharge</i>	4
3.1.3 <i>Sampling</i>	6
3.1.4 <i>Precipitation</i>	6
3.2 GROUNDWATER MONITORING	6
3.2.1 <i>Groundwater Quality</i>	6
3.2.2 <i>Chemical Monitoring</i>	6
3.2.3 <i>Hydraulic Containment</i>	8
3.2.4 <i>Well Maintenance</i>	9
4.1 PROCESS ACTIVITIES.....	10
4.2 NON-PROCESS ACTIVITIES	10
4.3 COMMUNITY OUTREACH	10
4.3.1 <i>Beautification</i>	11
4.3.2 <i>Tours</i>	11
4.3.3 <i>Communications</i>	11
4.4 WASTE GENERATION	12
5.0 CONCLUSION.....	13

LIST OF FIGURES
(Attached)

FIGURE 3.1	2005 GROUNDWATER SAMPLE COLLECTION PROGRAM
FIGURE 3.2	2005 FLOW DIAGRAM - 1140 SERIES PIEZOMETERS
FIGURE 3.3	2005 FLOW DIAGRAM - 1150 SERIES PIEZOMETERS
FIGURE 3.4	2005 FLOW DIAGRAM - 1160 SERIES PIEZOMETERS
FIGURE 3.5	2005 FLOW DIAGRAM - 1170 SERIES PIEZOMETERS
FIGURE 3.6	2005 FLOW DIAGRAM - 1180 SERIES PIEZOMETERS
FIGURE 3.7	2005 FLOW DIAGRAM - 1190 SERIES PIEZOMETERS

LIST OF TABLES

(Attached)

TABLE 3.1	MONTHLY VOLUMES OF GROUNDWATER TREATED
TABLE 3.2	SUMMARY OF DETECTED COMPOUNDS 2005 LONG-TERM MONITORING PROGRAM
TABLE 3.3	SUMMARY OF DETECTED COMPOUNDS IN ALL WELLS SAMPLED IN 2005
TABLE 3.4	SUMMARY OF DETECTED COMPOUNDS FOR SELECTED WELLS, 1990 TO 2005
TABLE 3.5A	WATER LEVEL DATA - 1140 SERIES PIEZOMETERS
TABLE 3.5B	WATER LEVEL DATA - 1150 SERIES PIEZOMETERS
TABLE 3.5C	WATER LEVEL DATA - 1160 SERIES PIEZOMETERS
TABLE 3.5D	WATER LEVEL DATA - 1170 SERIES PIEZOMETERS
TABLE 3.5E	WATER LEVEL DATA - 1180 SERIES PIEZOMETERS
TABLE 3.5F	WATER LEVEL DATA - 1190 SERIES PIEZOMETERS
TABLE 4.1	2005 LOVE CANAL SYSTEM REPAIRS

LIST OF APPENDIXES

(Attached)

APPENDIX A	WELLS PROPOSED TO BE DECOMMISSIONED-Rev 1.0 3-2006
------------	--

1.0 INTRODUCTION

Operation of the Love Canal Site (Site) was transferred from the New York State Department of Environmental Conservation (NYSDEC) to Occidental Chemical Corporation (OxyChem) in April 1995.

Effective July 1, 1998, Site responsibility was assigned by OxyChem to Miller Springs Remediation Management, Inc. (MSRM), an affiliate of Occidental Chemical Corporation. This report is the eleventh annual report prepared by or on behalf of OxyChem and covers operating and monitoring activities for 2005.



Love Canal Site.

Located the South East end of the City of Niagara Falls, NY, one-eighth mile north of the Niagara River.



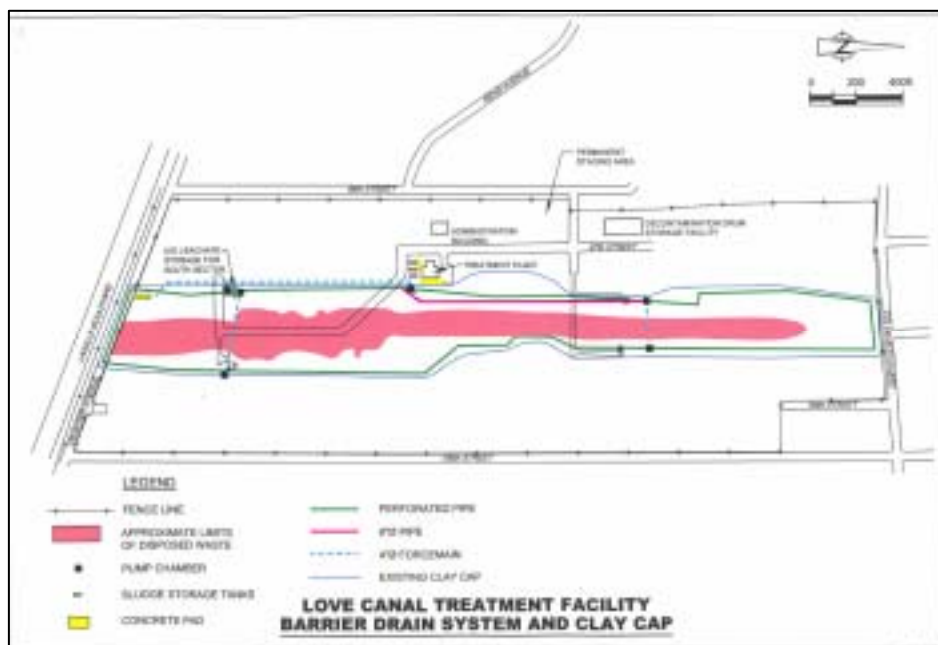
2.0 Remedial systems

Operation of remedial systems to prevent the off-Site migration of chemical contaminants from the Site began in October 1978 with the installation of a barrier drain along the east and west sides of the south section of the Canal; the barrier drain was later extended to completely encompass the Canal. The barrier drain, designed to intercept the shallow lateral groundwater flow, consists of a trench 15 to 25 feet deep and 4 feet wide. Installed within the trench is an 8-inch diameter perforated clay tile drain centered in 2 feet of uniformly sized gravel which is overlain to the surface with sand. Lateral trenches filled with sand were excavated perpendicular to the barrier drain in the direction of the canal. The tile drain is graded toward a series of manholes and wet wells (PC-1A/PC-2A North/Central and PC-1/PC-2 South) where the leachate is collected. The leachate is pumped from the wet wells to two underground holding tanks (PC-3A North/Central and PC-3 South) where it is held prior to being treated at the on Site treatment facility and discharged into the City of Niagara Falls (City) sanitary sewer system.

2.1 OPERATIONS OF THE BARRIER DRAIN AND WELL COLLECTION SYSTEMS

2.1.1 Barrier Drain System

There was no major maintenance performed on the Barrier Drain system during the year. The system functioned without any problems or irregularities. A visual inspection of the collection system through the manholes showed the flumes of the manholes were flowing freely and required no further maintenance.



2.1.2 Wet Well Collection System

The collection well system consists of two sectors, the Northern/Central and the Southern Collection System. The collection systems were operational and functioned properly throughout the year.

The adjacent 102nd Street Landfill Site leachate line connection into the Love Canal Treatment Facility (LCTF) at the southern storage tank (PC-3) was completed in March of 1999. This provides for treatment of the 102nd Street leachate through the LCTF.

3.0 GROUNDWATER TREATMENT AND MONITORING

3.1 GROUNDWATER TREATMENT

3.1.1 Treatment System



The treatment system consists of clarification, bag filtration, and carbon treatment prior to discharge to the City sanitary sewer system under Permit #44 issued by the City. The City reissued the wastewater discharge permit to OxyChem for another five years. The permit is valid from January 6, 2005 through January 6, 2010.

One carbon bed (V1, 20,000 lbs. of activated carbon) was changed during 2005. An internal visual inspection of the bed was performed at the time of the change. No additional maintenance or repairs were required at that time.

Routine maintenance activities were performed throughout the year. The major activities are presented below (see attached Table 4.1 for a detailed list of Site activities for the year 2005):



- Replacement of PC-3E submersible pumps.

3.1.2 Effluent Discharge

The LCTF discharged to the Niagara Falls sanitary sewer system on 118 days in 2005.

Unusually high rainfall in the area around Love Canal can result in surcharged sewers. These surcharges lead to overflow at the combined sanitary and storm

sewer overflow points. Other points in the sewer shed require manual bypass pumping. Consequently, to minimize this overflow, the City of Niagara Falls requires the LCTF to cease discharge during these surcharge events. During the year, there were seven days that the Site was requested to stop discharging by the City of Niagara Falls.

Groundwater treated at the Love Canal Leachate Treatment Facility was as follows:

- Total treated at LCTF (including 102nd Street): 5,152,200 gallons
- Total pumped from 102nd Street Site: 408,329 gallons
- Net Love Canal Collection: 4,743,871 gallons

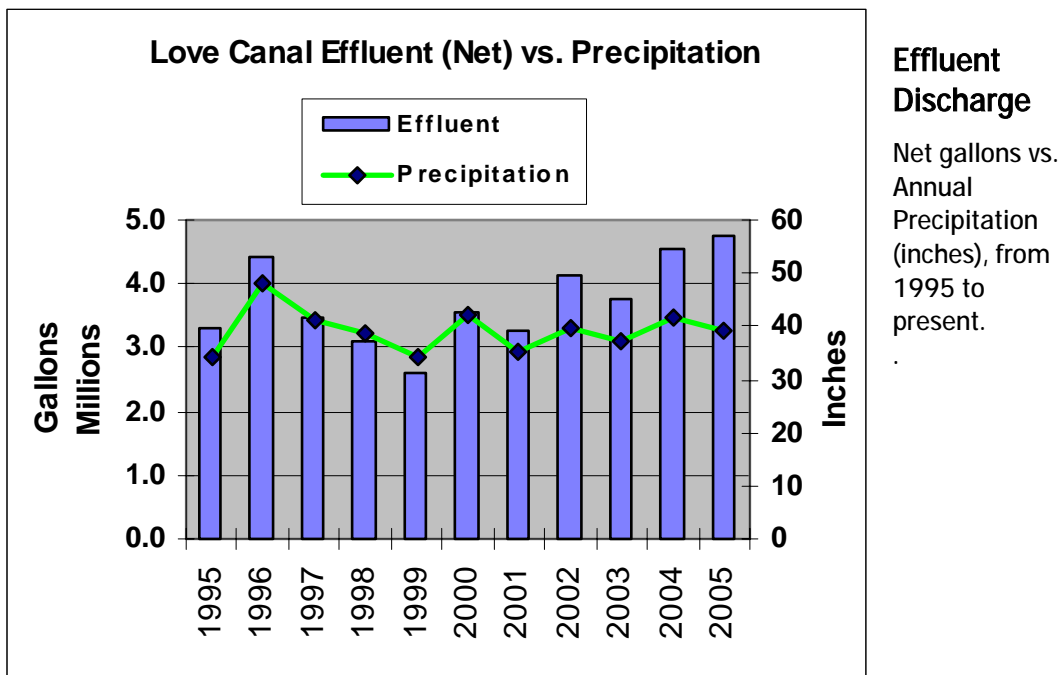


Table 3.1 shows the monthly total and average treated groundwater quantities for the 1995 to 2005 periods. Additionally, starting with 2000, the total days of discharge per month are shown.

In March of 1999, the adjacent 102nd Street Landfill Site leachate collection system was connected to the Love Canal Site to transfer the 102nd Street leachate into the Love Canal southern storage system (PC-3). For the year, the four-well system at 102nd Street pumped 408,329 gallons to Love Canal (PC-3), where the water was then treated along with groundwater accumulated on the Site.

3.1.3 Sampling

Sampling of the effluent discharged to City's sanitary sewer system occurred quarterly as required under the City of Niagara Falls Discharge Permit #44. As part of the permit requirements, the City and MSRM personnel completed an annual verification sampling. The Quarterly Effluent sampling was performed and sample results were submitted to the City and State agencies; analytical results were below the City's permitted limits for the sampled parameters during all events.

3.1.4 Precipitation

Precipitation in the Niagara Falls region totaled 39.1 inches (Buffalo Airport, National Weather Service data), compared to the average of 39.2 inches (1995 through 2005). Table 3.1 provides historic precipitation data.

3.2 GROUNDWATER MONITORING

3.2.1 Groundwater Quality

Sampling and analytical protocols for the sampling program have been established and are set forth in the "Sampling Manual, Love Canal Site, Long-Term Groundwater Monitoring Program" (LTGMP) dated January 1996.

3.2.2 Chemical Monitoring

The chemical sampling event was performed during the second quarter of 2005. In conjunction with the LTGMP and NYSDEC, thirty-eight (38) wells were sampled for groundwater monitoring in 2005. Forty (40) groundwater samples (including two (2) field duplicates) were collected in support of the LTGMP for the Love Canal Site. NYSDEC did not perform any split sampling in 2005. Figure 3.1 identifies the wells sampled and their locations. Table 3.2 provides a summary of the wells twenty (20) overburden and eighteen (18) bedrock that were sampled, along with the number of compounds found at or above the detection limits in each well.

Table 3.3 presents the analytical results from the annual monitoring and the analytes that were detected. There were twenty-six (26) discrete compounds detected: five (5) VOCs; fourteen (14) semi-volatile organic compounds (SVOCs); and seven (7) pesticides.

Historically, Well 10135 has had the most detected compounds and with the highest concentrations. In 2005, well 10135 had eighteen (18) discrete compounds in all. Well 10135 is located within the boundaries of the remedial Site in the southwestern zone. Groundwater in the vicinity of this well is captured by the collection system. In 2004, no detections were reported from well 10135. The lack of detections was due to either a sampling or laboratory error. While the results returned to a consistent trend in 2005, a diligent effort will continue to further monitor any anomalies.

Table 3.4 presents a summary of detected compounds of four long-term monitoring wells (10210A, 10210B, 10210C, and 10135) from 1990 to 2005. This data shows that the compounds detected in 2005 were at similar concentrations to those compared to historical trends.



Monitoring Wells

1165 series piezometer wells and well 10135 in back ground. View from Southwest of the Site looking North.

As part of the sampling event and lab quality assurances, two (2) field duplicate samples, two (2) field blanks and a rinse blank were obtained. Rinse blanks were collected and analyzed with the samples. All field duplicates showed acceptable comparability with the original sample results indicating acceptable analytical and field precision. Generally, field blank results were non-detect with the exception of some VOCs, SVOCs, and pesticides present at low levels. All

sample results with similar concentrations as in the blanks were qualified as non-detect.

Severn Trent Laboratories (STL), in Pittsburgh, PA, conducted the sample analyses. Conestoga-Rovers & Associates (CRA), located in Niagara Falls, New York, performed the analytical Quality Assurance/Quality Control (QA/QC). Both the analytical data and the QA/QC report are on file at the MSRM Western New York Office at Love Canal and are available for review upon request.

The Quality Assurance/Quality Controls (QA/QC) criteria by which these data have been assessed are outlined in:

- Methods 95-1, 95-2 and 95-3 referenced in the NYSDEC Analytical Services Protocol (ASP) (10/95 Rev); and
- “USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review” EPA 540/R-99/008, October 1999.

The QA/QC evaluation concluded all data were judged acceptable with the qualifications noted in the report.

The 2005 chemical analytical results are consistent with previous Long-Term Monitoring analytical results. The chemistry detected was at low levels and does not indicate a failure in the barrier drain nor pose an immediate threat to groundwater quality.

3.2.3 Hydraulic Containment

Water levels were measured at six nested piezometer strings (1140, 1150, 1160, 1170, 1180, and 1190) in March, May, September, and November 2005. Figures 3.2 to 3.7 show the overburden groundwater flow conditions for June 2005 along the six-piezometer strings. The wells in the figures are ordered from the well furthest from the outside of the barrier drain, to the barrier drain, and to the well inside the area enclosed by the barrier drain. The water level data are presented in Tables 3.5A to 3.5F.

The groundwater level data shows that groundwater flow approximately the barrier drain was toward the barrier drain. The barrier drain is drawing

groundwater from outside the drain and successfully capturing horizontal groundwater flow from the Site.

3.2.4 Well Maintenance

Several Wells in 2005 required updates and or repairs as follows: The outer casings of Wells 1180A, 1180B, 1190A, 1193D, and 1194A were extended (up to 6 inches). The extensions were completed allowing the covers to close completely to assist in maintaining the integrity of the Well. Additionally, Well 10272 required a new concrete pad installed around it.



Submitted in last years 2004 Operation Monitoring Report was a detailed inventory on all Active and Inactive wells (on and off Site). As part of the LTMP in 2005, well 5221 was chosen by NYSDEC as part of annual monitoring wells. The well was initially listed as an Inactive. It will now be change to an Active Well. Additionally, well 3151 was listed as a active well as part of the Bi-Annual well grouping on the sampling schedule. Well 3151 had been destroyed and longer exists. 3151 will be de-listed as a Active Well and added to In-Active Wells along with the other proposed wells to be decommissioned. Wells 5221 and 3151 have been updated on the corresponding lists. Attached as Appendix-A are the updated Tables and Figure for the Active and Inactive Wells. Listed below is the updated count on the number of wells that are Active and Inactive.

Wells Active: 153 (132 Overburden and 21 Bedrock).

Wells Inactive: 62 (54 on Site, 8 off Site).

Additional: 9 (Non-identified wells located on Site)

Total of: 71 Identified and Non-Identified Wells proposed for decommissioning.

4.0 ACTIVITIES

Summaries of normal activities and repairs performed in 2005 are listed in Table 4.1 (including those items previously mentioned in Section 3.0). A brief description of major activities is presented below.

4.1 PROCESS ACTIVITIES

Activities that occurred during the year included the following:



- Replacement of PC-3E Gorman-Rupp submersible pump with new in kind pump.

4.2 NON-PROCESS ACTIVITIES

Activities that occurred throughout the year included the following:



- A re-grading of the former Outside Storage Tanks dike was completed. The area was covered with a layer of clay/sandy loam, and then covered with topsoil and seeded. Additionally, several evergreens were planted on top as well.

4.3 COMMUNITY OUTREACH

Community Outreach programs during 2005 included such activities as beautification of the neighborhood and tours of the facility.

In 2005, MSRM met an initiative to collect school supplies for needy schoolchildren in Afghanistan. The supply drive was lead by Phillip Pawlukovich, a neighbor in the Black Creek





community. Mr. Pawlukovich is a member of the Army Reserves stationed in Eastern Afghanistan. Several boxes were packed with supplies and shipped off to Afghanistan in conjunction with Errick Road Elementary School in Wheatfield, NY.



4.3.1 Beautification

- Additional planting of seventy-five (75) mature evergreens along 95th Street and Frontier Ave.



- Maintenance and landscaping of the Site and surrounding areas.
- Maintenance of flowerbeds and shrubs along Colvin Boulevard, 95th Street and Frontier Avenue.
- Cleanup of discarded debris around fence line and adjacent lots.

4.3.2 Tours

Tours of the facility were given throughout the years to representatives of various environmental agencies (domestic and foreign) and educational groups. The tours included an informational orientation, accompanied with visual aids, followed by a guided tour of the treatment facility and landfill.

4.3.3 Communications

All required reporting was compiled and submitted to various agencies throughout the year. Reports including the Annual Hazardous Waste Reports to NYSDEC, Annual Operations and Monitoring Report to various agencies and monthly flow reports to the City of Niagara Falls.

Throughout out the year hazardous waste is generated and disposed of off-Site. The tracking of the waste is performed by regulated hazardous waste manifests. A summary of the Site's annual hazardous waste generated is reported to the NYSDEC in which the quantities, disposers and disposal methods are identified.

The Annual Report for 2004 was issued to surrounding citizens and agencies last year. The report summarizes items such as the amount of groundwater treated on-Site and then discharged to City's sanitary sewer, maintenance activities and other non-operational activities for the year.

The City of Niagara Falls performed the semi-annual inspections of the Site's Treatment Facility in 2005. The inspections conclude that the Site was running properly in accordance with the Site's discharge permit.

City of Niagara Falls approved a renewal to the sanitary discharge permit. The discharge permit took effect January 06, 2005, and will expire on January 06, 2010.

4.4 WASTE GENERATION

A total of 52,680 pounds of hazardous waste were generated from various activities on Site. The waste materials were then sent off-Site for proper disposal in accordance with all applicable laws and regulations (landfilled, incinerated or reclaimed depending on categorization). All of the waste in 2005 was sent for incineration.



Incineration.

The waste was itemized as follows:

- Spent carbon used in the treatment process totaled 36,980 pounds.
- Debris/filters/PPE totaled 15,700 pounds.

Roll-Off Bins

Used to Ship out Bulk Spent Carbon for

5.0 CONCLUSION

The 2005 data indicate that there was no significant change in chemical and hydrological conditions at the Site. The barrier drain is successfully capturing leachate from the Site and preventing off-Site migration of chemicals. The remediation system is functioning as designed. 5,152,200 gallons of leachate were treated and discharged from the Site, of which 4,743,871 gallons of leachate were collected on-Site and the remaining 408,329 gallons were pumped from the 102nd Street Site.

FIGURES

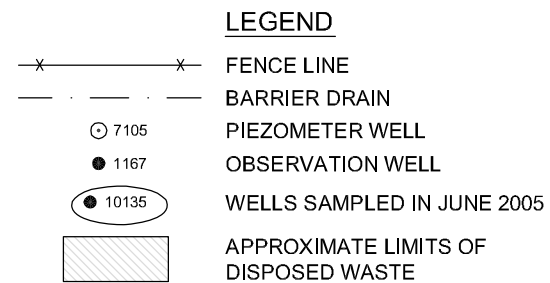
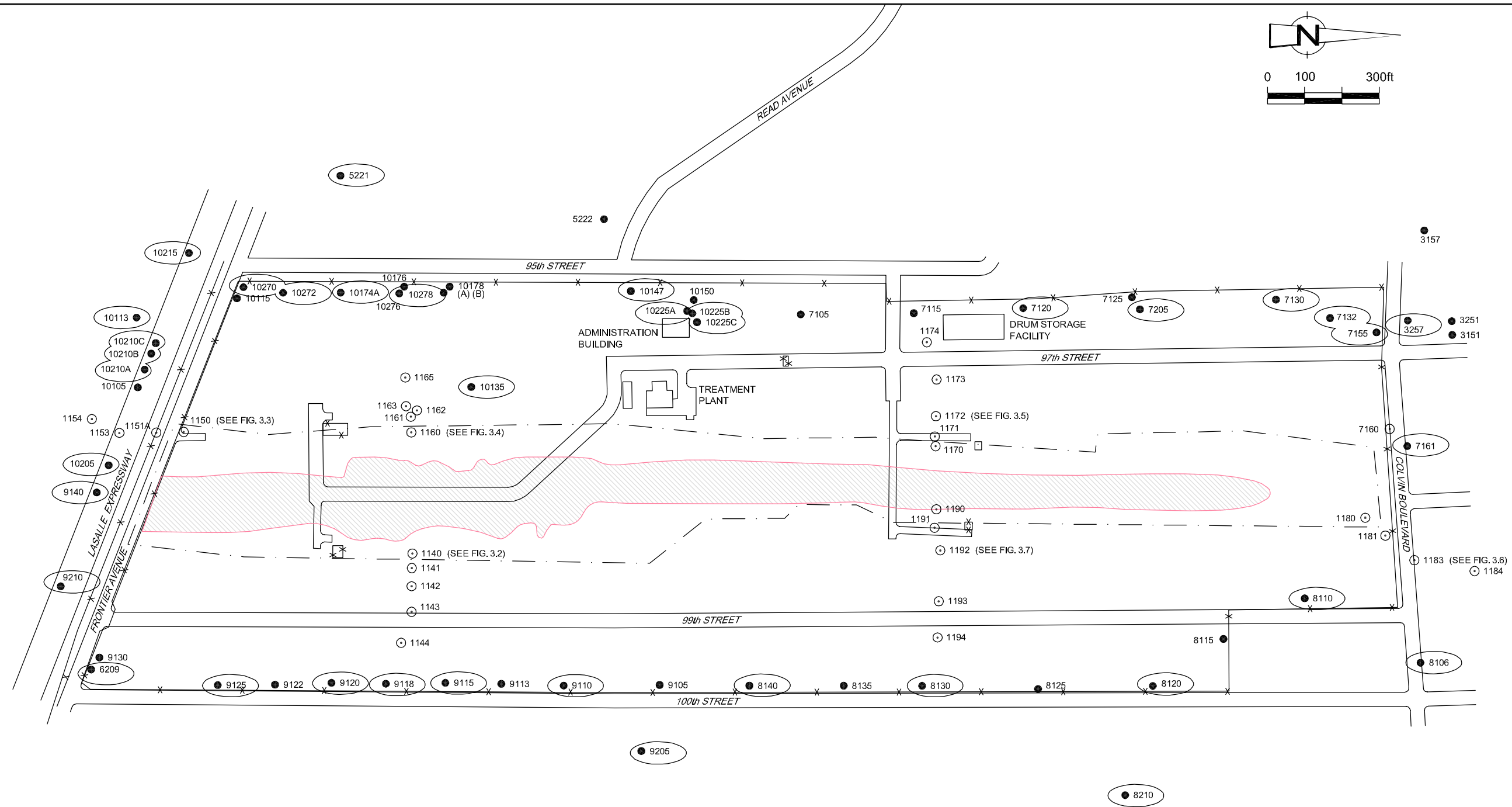
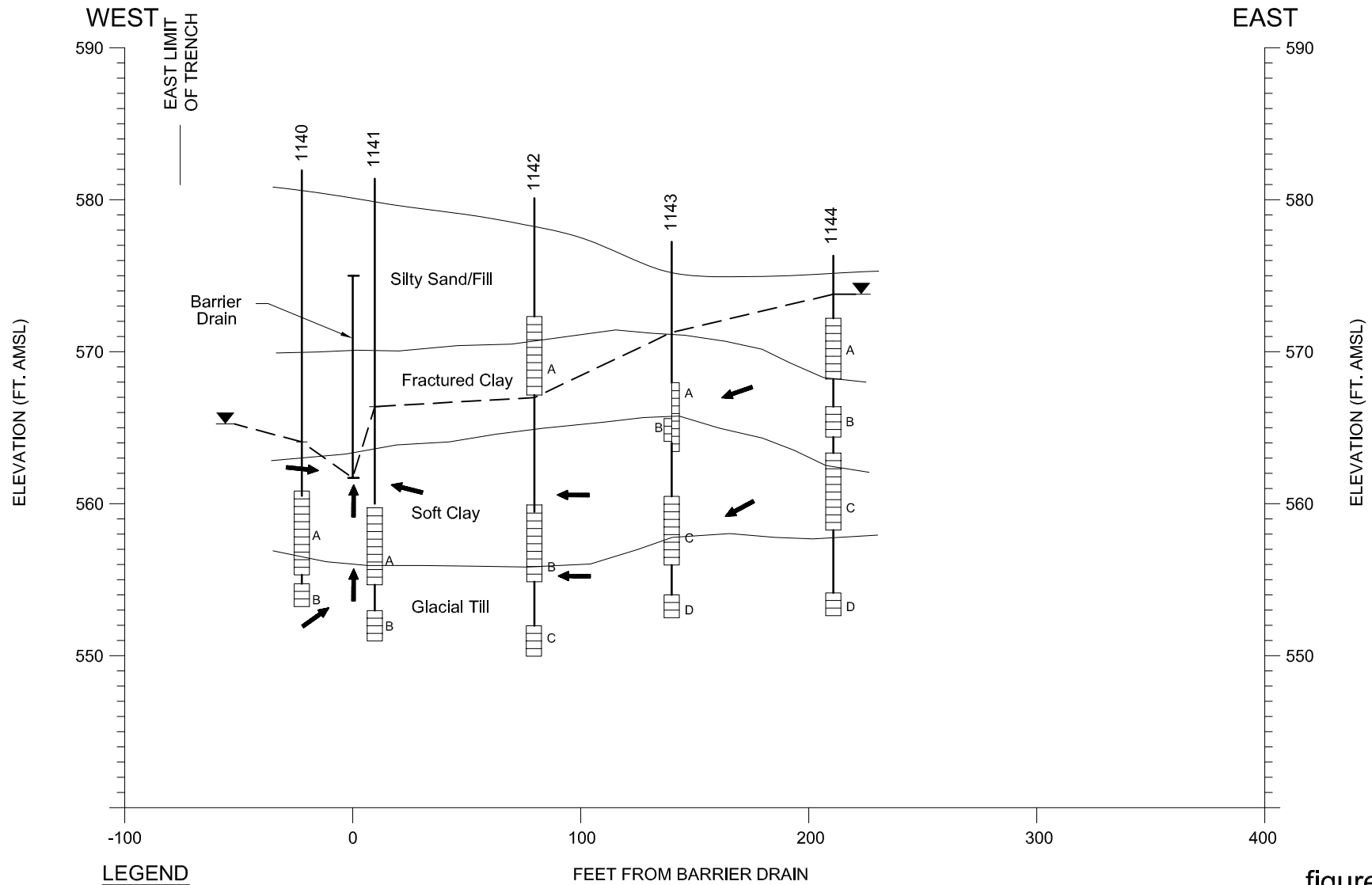


figure 3.1
2005 GROUNDWATER MONITORING PROGRAM
LOVE CANAL
Miller Springs Remediation Management





LEGEND

- A PIEZOMETER DESIGNATION
- — — GROUNDWATER LEVEL
- ➔ FLOW DIRECTION
- ▤ SCREENED INTERVAL

NOTE: (1) GROUNDWATER LEVEL SHOWN IS FOR UPPERMOST MONITORED INTERVAL

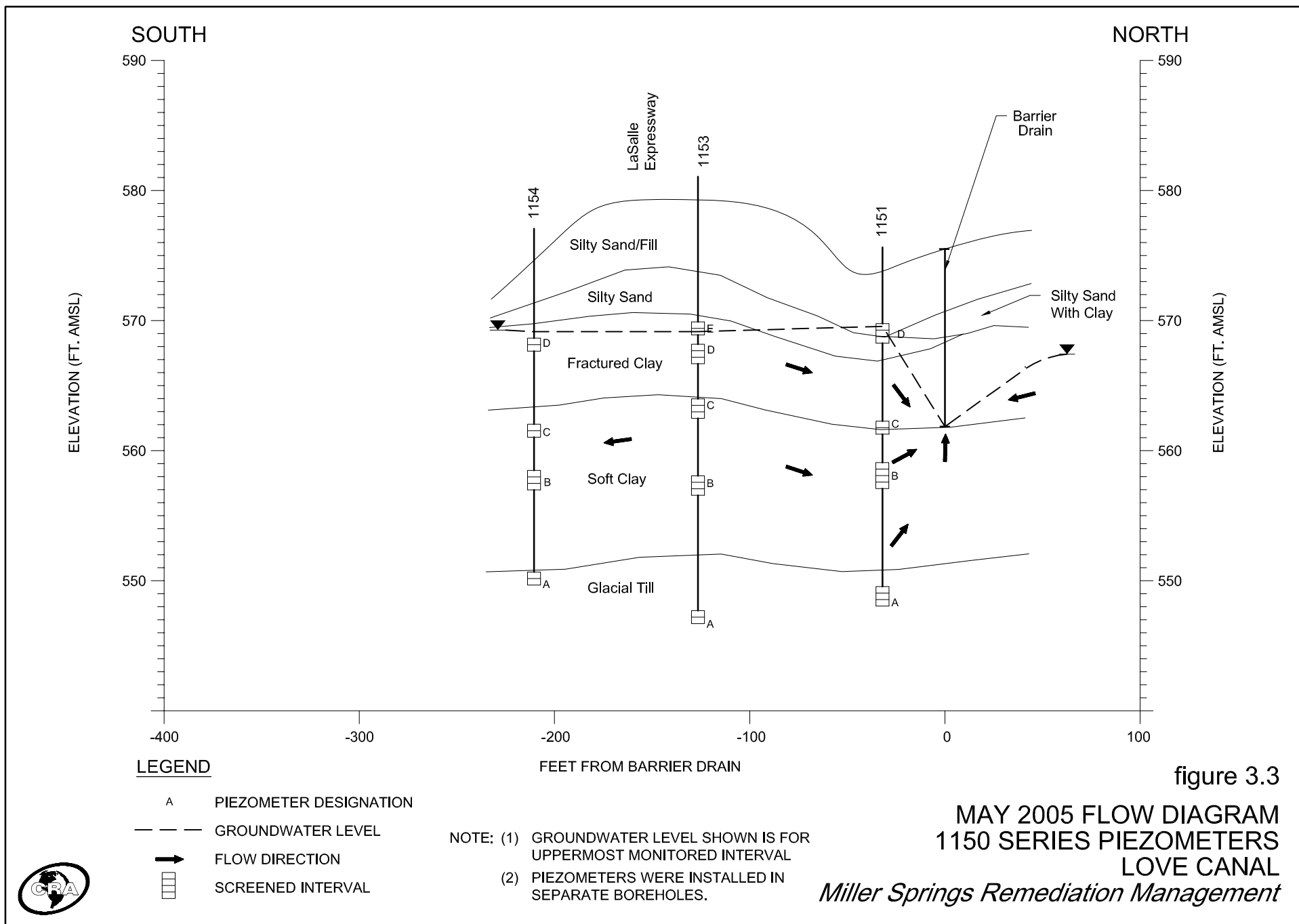
(2) PIEZOMETERS WERE INSTALLED IN SEPARATE BOREHOLES.

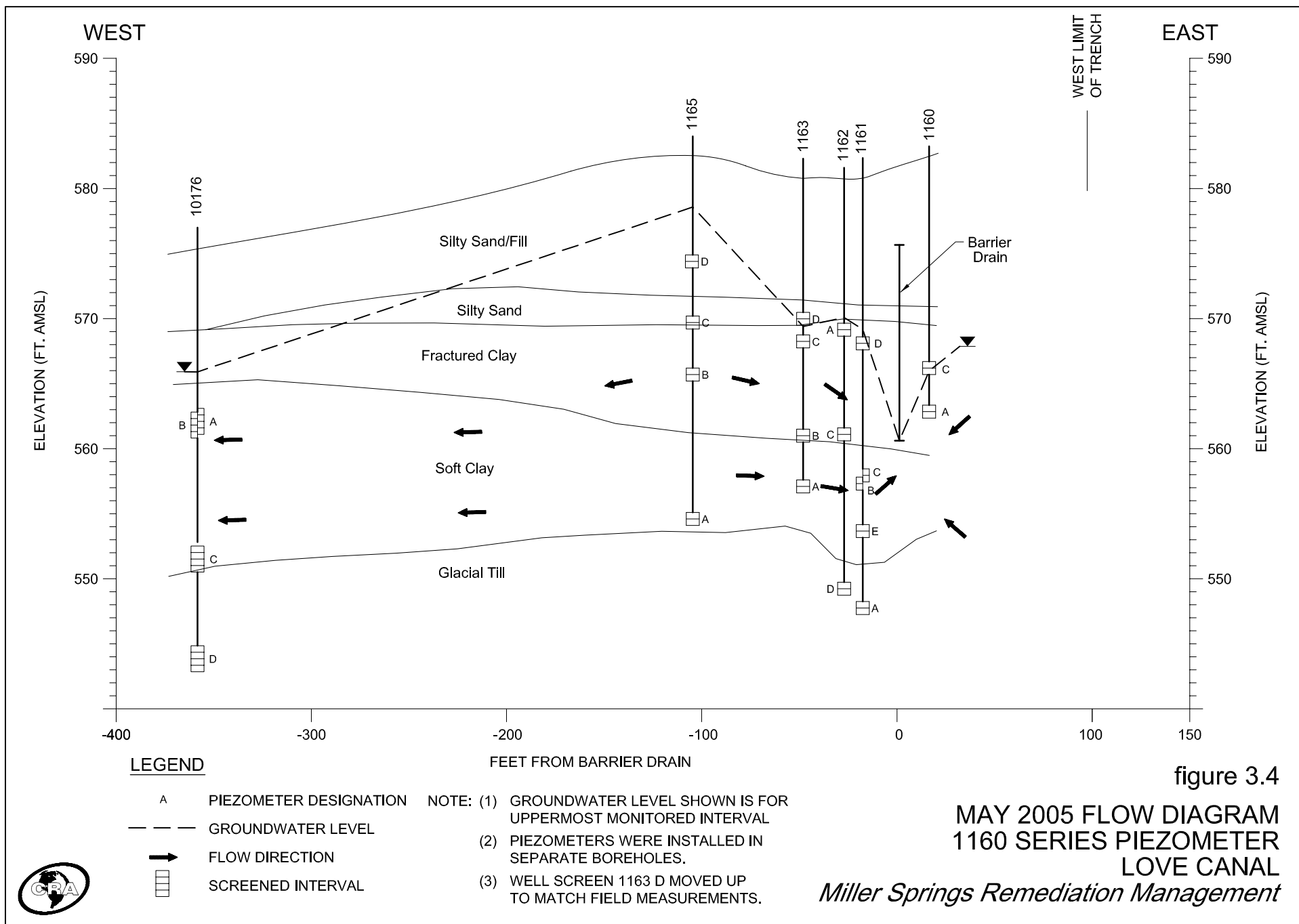
figure 3.2

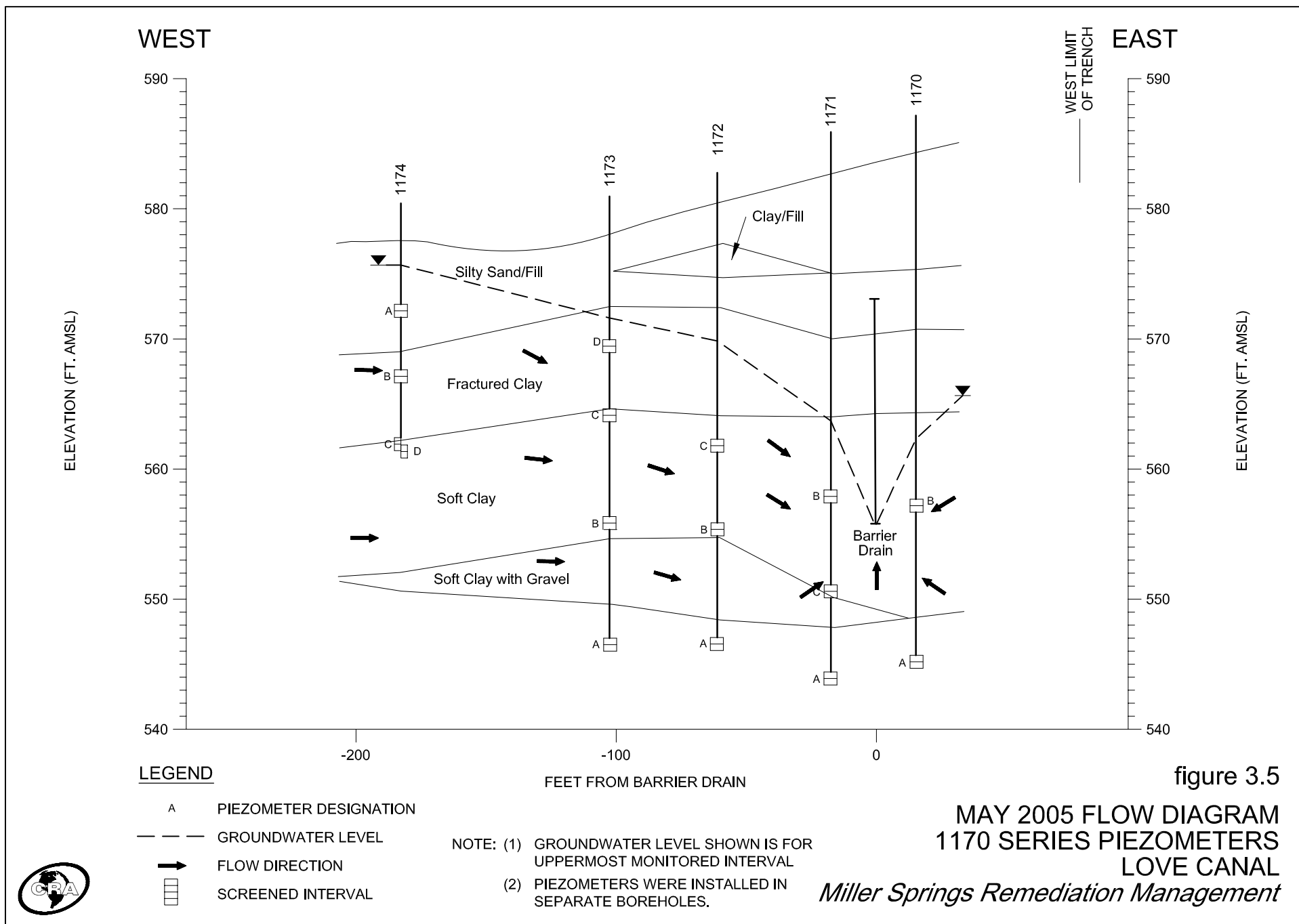
MAY 2005 FLOW DIAGRAM
1140 SERIES PIEZOMETERS
LOVE CANAL

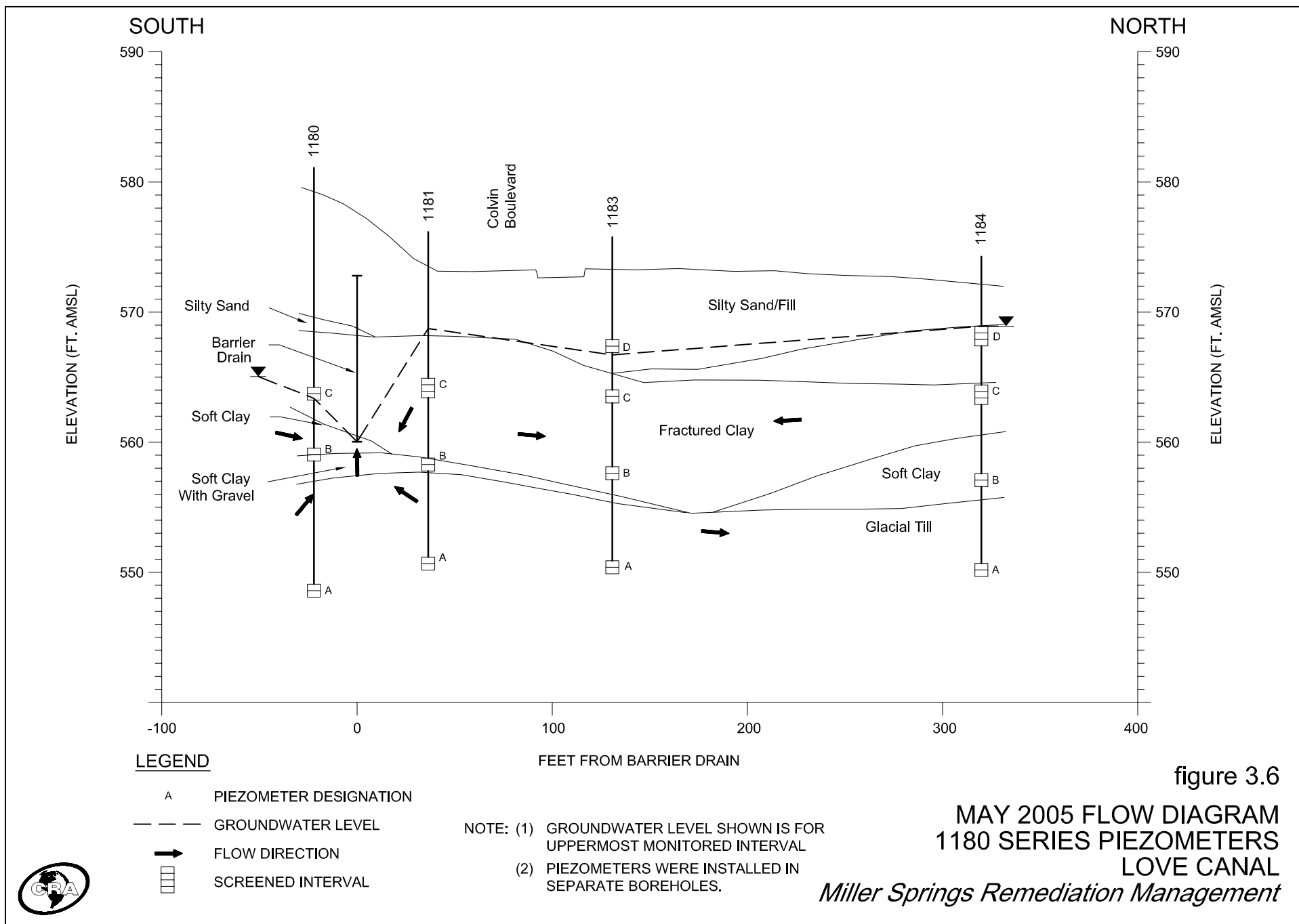
Miller Springs Remediation Management











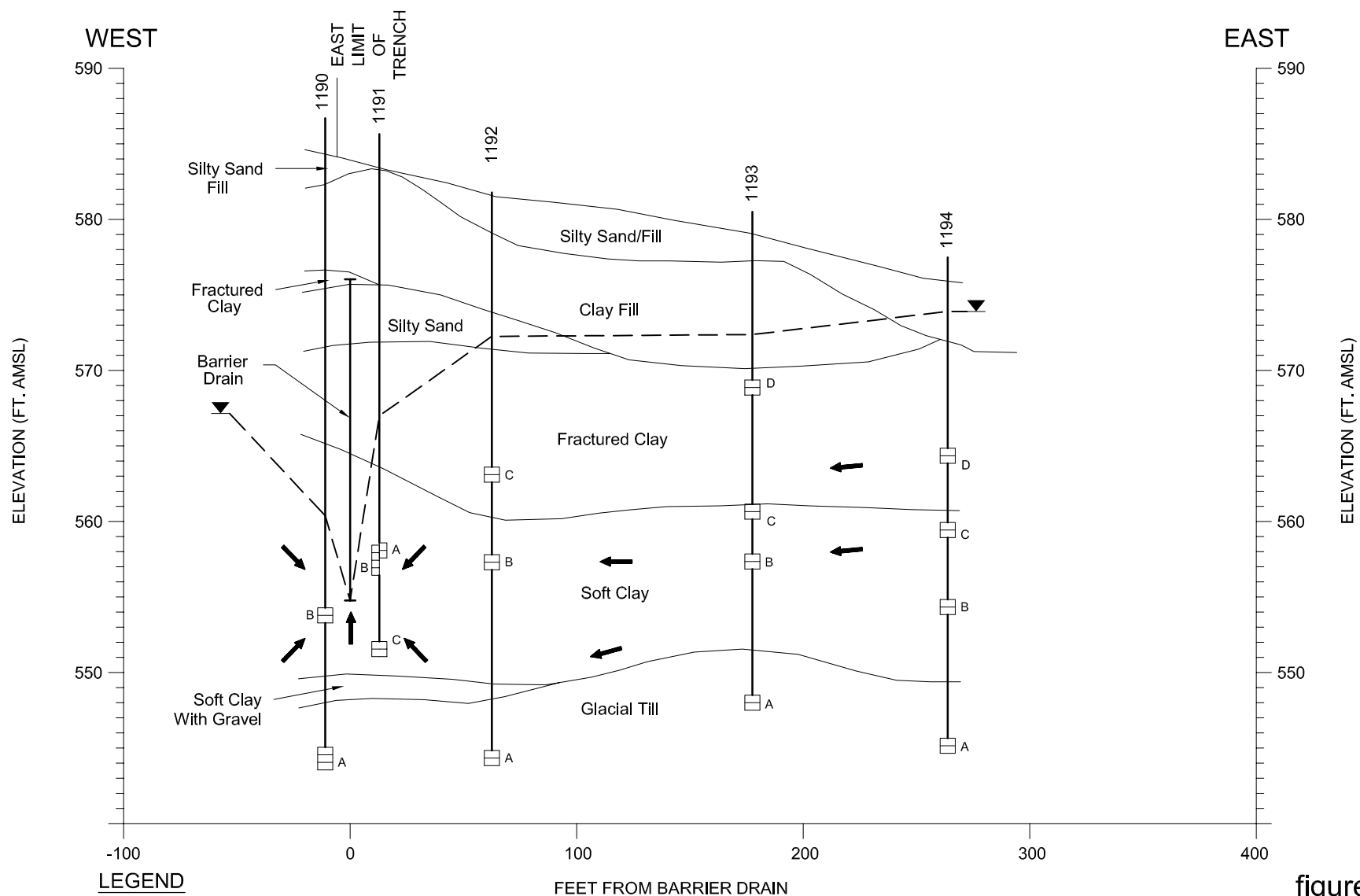


figure 3.7

MAY 2005 FLOW DIAGRAM
1190 SERIES PIEZOMETERS
LOVE CANAL

Miller Springs Remediation Management



TABLES

TABLE 3.1

**MONTHLY VOLUMES OF GROUNDWATER TREATED
LOVE CANAL LEACHATE TREATMENT FACILITY
OCCIDENTAL CHEMICAL CORPORATION**

		<i>Volume (gal)</i>										
		1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
January	Gross ⁽¹⁾	597,650	474,330	337,720	700,070	335,700	495,800	396,900	488,900	419,400	309,200	841,400
	Net ⁽²⁾	-	-	-	-	335700	280364	282480	422682	374123	260171	796,518
	Days ⁽³⁾	N/A	N/A	N/A	N/A	N/A	21	20	21	14	10	17
February	Gross	202,235	252,450	456,800	539,838	270,100	480,400	560,000	663,700	266,300	330,000	440,200
	Net	-	-	-	-	270,100	368,492	468,863	608,116	231,049	291,082	401,137
	Days	N/A	N/A	N/A	N/A	N/A	21	19	20	13	9	11
March	Gross	385,910	331,690	520,600	615,133	409,300	505,500	616,400	364,900	721,500	1,038,400	698,900
	Net	-	-	-	-	321558	290501	493476	316696	667337	986332	667,105
	Days	N/A	N/A	N/A	N/A	N/A	23	21	21	17	21	13
April	Gross	132,790	615,350	184,400	437,817	555,200	675,600	352,300	689,700	432,800	800,400	805,300
	Net	-	-	-	-	296,535	547,926	262,946	629,683	380,745	767,982	769,514
	Days	N/A	N/A	N/A	N/A	N/A	20	20	20	16	17	14
May	Gross	123,140	513,310	126,850	139,600	401,500	473,300	311,200	589,500	425,400	326,500	183,400
	Net	-	-	-	-	123790	335331	207580	532251	379299	294612	156,846
	Days	N/A	N/A	N/A	N/A	N/A	20	17	20	14	10	5
June	Gross	125,300	251,400	210,630	99,800	323,500	632,200	202,200	395,100	367,900	253,200	160,800
	Net	-	-	-	-	63,658	486,721	132,132	347,485	303,576	208,659	118,979
	Days	N/A	N/A	N/A	N/A	N/A	20	16	14	13	9	6
July	Gross	132,400	113,300	96,810	130,200	143,600	333,900	182,200	194,500	187,700	137,700	92,600
	Net	-	-	-	-	104649	184955	111941	145344	142849	111217	78,234
	Days	N/A	N/A	N/A	N/A	N/A	20	16	16	11	7	3
August	Gross	112,910	146,700	223,390	138,300	230,600	437,100	267,200	151,300	158,600	301,900	98,800
	Net	-	-	-	-	97,423	286,925	194,821	107,928	114,497	269,934	55,055
	Days	N/A	N/A	N/A	N/A	N/A	23	18	17	8	10	5
September	Gross	111,200	310,550	116,790	95,200	232,100	209,600	144,900	148,600	105,800	484,800	317,900
	Net	-	-	-	-	62759	82263	81619	94401	60350	435482	284,315
	Days	N/A	N/A	N/A	N/A	N/A	20	16	12	7	12	8
October	Gross	491,440	532,360	326,100	71,500	283,400	264,300	438,500	154,600	211,000	135,700	486,300
	Net	-	-	-	-	175,837	134,248	348,153	108,226	157,120	94,476	445,560
	Days	N/A	N/A	N/A	N/A	N/A	20	18	13	9	4	10
November	Gross	641,210	393,730	346,550	46,200	491,800	250,900	250,400	360,800	356,800	211,400	524,600
	Net	-	-	-	-	344145	132728	194481	306258	310650	186999	494,443
	Days	N/A	N/A	N/A	N/A	N/A	17	16	14	12	5	14
December	Gross	235,900	499,540	524,760	73,800	695,500	522,600	555,300	549,600	692,300	674,400	502,000
	Net	-	-	-	-	397,912	421,149	475,856	496,556	643,735	622,403	476,165
	Days	N/A	N/A	N/A	N/A	N/A	17	18	15	14	14	12
Total	Gross	3,292,085	4,434,710	3,471,400	3,087,458	4,372,300	5,281,200	4,277,500	4,751,200	4,345,500	5,003,600	5,152,200
	Net	-	-	-	-	2594066	3551603	3254348	4115626	3765330	4529349	4,743,871
	Days	N/A	N/A	N/A	N/A	N/A	242	215	203	148	128	118
Monthly Average	Gross	274,340	369,560	289,280	257,288	364,358	440,100	356,458	395,933	362,125	416,967	429,350
	Net	-	-	-	-	216172.167	295966.917	271195.667	342968.833	313777.5	377445.75	395,323
	Days	N/A	N/A	N/A	N/A	N/A	20.16666667	17.91666667	16.91666667	12.33333333	10.66666667	10
Rainfall Inches		33.99	48.22	41.17	38.77	34.08	42.2	35.18	39.74	37.15	41.73	39.07

NOTES: (1) Gross: Total Treated; As of March 1999 Treatment at LCTF included leachate collected from 102nd Street Landfill Site.
 (2) Net: LC (Love Canal) Treated; Total treated less received from 102nd Street.
 (3) Days: Number of days Treatment Facility discharged to the sanitary sewer.
 N/A Not Available

TABLE 3.3
ANALYTICAL RESULTS SUMMARY
LONG-TERM MONITORING PROGRAM
MILLER SPRINGS REMEDIATION MANAGEMENT, INC.
LOVE CANAL
NIAGARA FALLS, NEW YORK
JUNE 2005

Sample Location:	3257	7120	7130	7132	7155	7205	8106	8110	8120	8130	8140	9110
Sample ID:	LC-3257-605	LC-7120-605	LC-7130-605	LC-7132-605	LC-7155-605	LC-7205-605	LC-8106-605	LC-8110-605	LC-8120-605	LC-8130-605	LC-8140-605	LC-9110-605
Sample Date:	6/27/2005	6/14/2005	6/14/2005	6/14/2005	6/14/2005	6/14/2005	6/17/2005	6/27/2005	6/14/2005	6/15/2005	6/27/2005	6/15/2005

Parameters	Units												
Volatile Organic Compounds													
2-Butanone (Methyl Ethyl Ketone)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 UJ	10 U
Acetone	µg/L	10 U	10 U	10 U	10 U	1.4 J	1.2 J	2.1 J	10 UJ	10 U	10 U	10 UJ	10 U
Carbon disulfide	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Discrete Compounds	5	0	0	0	0	1	1	1	0	0	0	0	0
Semi-Volatile Organic Compounds													
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	2.0 J	3.4 J	9.4 U	2.3 J
Benzyl Alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate	µg/L	4.1 J	1.3 J	1.3 J	2.5 J	1.4 J	2.1 J	0.98 J	130	1.2 J	3.4 J	9.0 J	9.4 U
Butyl benzylphthalate	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	1.3 J	9.4 U	9.4 U
Di-n-butylphthalate	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	0.98 J	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.6 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Discrete Compounds	14	1	1	1	1	1	1	1	1	2	4	1	1
Pesticides													
4,4'-DDD	µg/L	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.095 U	0.095 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.048 U	0.048 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.048 U	0.048 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.048 U	0.048 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.095 U	0.095 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
gamma-BHC (Lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.048 U	0.048 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.048 U	0.048 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Discrete Compounds	7	0	0	0	0	0	0	0	0	0	0	0	0
Total Discrete Compounds	26	1	1	1	1	2	2	2	1	2	4	1	1

Notes Estimated.

J Non-detect at associated value.

U The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.

UJ

TABLE 3.3
ANALYTICAL RESULTS SUMMARY
LONG-TERM MONITORING PROGRAM
MILLER SPRINGS REMEDIATION MANAGEMENT, INC.
LOVE CANAL
NIAGARA FALLS, NEW YORK
JUNE 2005

<i>Sample Location:</i>		<i>9118</i>	<i>9120</i>	<i>9125</i>	<i>9140</i>	<i>9210</i>	<i>10135</i>	<i>10174A</i>	<i>10205</i>	<i>10210A</i>	<i>10210B</i>	<i>10210C</i>
<i>Sample ID:</i>		<i>LC-9118-605</i>	<i>LC-9120-605</i>	<i>LC-9125-605</i>	<i>LC-9140-605</i>	<i>LC-9210-605</i>	<i>LC-10135-605</i>	<i>LC-10174A-605</i>	<i>LC-10205-605</i>	<i>LC-10210A-605</i>	<i>LC-10210B-605</i>	<i>LC-10210C-605</i>
<i>Sample Date:</i>		<i>6/14/2005</i>	<i>6/14/2005</i>	<i>6/15/2005</i>	<i>6/23/2005</i>	<i>6/23/2005</i>	<i>6/17/2005</i>	<i>6/15/2005</i>	<i>6/23/2005</i>	<i>6/28/2005</i>	<i>6/24/2005</i>	<i>6/23/2005</i>
<i>Parameters</i>	<i>Units</i>											
<i>Volatile Organic Compounds</i>												
2-Butanone (Methyl Ethyl Ketone)	µg/L	10 U	10 U	10 U	10 U	10 U	1000 U	10 U	10 U	10 U	10 UJ	10 UJ
Acetone	µg/L	10 U	10 U	10 U	1.2 J	10 U	1000 U	10 U	2.8 J	10 U	10 UJ	1.9 J
Carbon disulfide	µg/L	10 U	10 U	10 U	10 U	10 U	1000 U	10 U	10 U	1.6 J	1.4 J	10 UJ
Chlorobenzene	µg/L	10 U	10 U	10 U	10 U	10 U	2000	10 U	10 U	10 U	10 U	10 UJ
Toluene	µg/L	10 U	10 U	10 U	10 U	10 U	16000	10 U	10 U	2.3 J	1.1 J	10 UJ
Discrete Compounds	5	0	0	0	1	0	2	0	1	2	2	1
<i>Semi-Volatile Organic Compounds</i>												
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	67 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	36 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	100 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	420	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	25 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	49 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	9.4 U	0.98 J	9.4 U	9.4 U	1.7 J	1400 J	9.4 U	9.4 U	2.7 J	9.4 U	9.4 U
Benzyl Alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	23 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	24 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate	µg/L	2.4 J	2.5 J	1.8 J	9.4 U	9.4 U	190 U	9.4 U	9.4 U	1.7 J	4.5 J	9.4 U
Butyl benzylphthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	190 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	190 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	1800 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	190 U	9.4 U	9.4 U	1.7 J	9.4 U	9.4 U
Discrete Compounds	14	1	2	1	0	1	10	0	0	3	1	0
<i>Pesticides</i>												
4,4'-DDD	µg/L	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.19 J	0.094 U	0.094 U	0.095 U	0.094 U	0.094 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	15	0.085	0.047 U	0.048 U	0.37	0.083
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	3.4	0.047 U	0.047 U	0.048 U	0.082 p	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	9.1	0.18	0.047 U	0.048 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.15 J	0.094 U	0.094 U	0.095 U	0.094 U	0.094 U
gamma-BHC (Lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.081	0.047 U	0.048 U	0.046 J	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.053	0.047 U	0.047 U	0.048 U	0.047 U	0.047 U
Discrete Compounds	7	0	0	0	0	0	6	3	0	0	3	1
Total Discrete Compounds	26	1	2	1	1	1	18	3	1	5	6	2

Notes Estimated.

J Non-detect at associated value.

U The analyte was not detected above the sample

UJ quantitation limit. The reported quantitation limit is an estimated quantity.

TABLE 3.3
ANALYTICAL RESULTS SUMMARY
LONG-TERM MONITORING PROGRAM
MILLER SPRINGS REMEDIATION MANAGEMENT, INC.
LOVE CANAL
NIAGARA FALLS, NEW YORK
JUNE 2005

<i>Sample Location:</i>		10215	10225A	10225B	10225C	10270	10272	10278
<i>Sample ID:</i>		LC-10215-605	LC-10225A-605	LC-10225B-605	LC-10225C-605	LC-10270-605	LC-10272-605	LC-10278-605
<i>Sample Date:</i>		6/30/2005	6/28/2005	6/28/2005	6/22/2005	6/15/2005	6/15/2005	6/17/2005
<i>Parameters</i>	<i>Units</i>							
<i>Volatile Organic Compounds</i>								
2-Butanone (Methyl Ethyl Ketone)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	1.0 J
Acetone	µg/L	10 U	10 U	3.4 J	10 U	1.0 J	1.2 J	5.5 J
Carbon disulfide	µg/L	1.2 J	10 U	2.1 J	10 U	10 U	10 U	10 U
Chlorobenzene	µg/L	10 U	10 U	10 U	1.0 J	10 U	10 U	10 U
Toluene	µg/L	10 U	10 U	1.1 J	10 U	10 U	10 U	10 U
Discrete Compounds	5	1	0	3	2	1	1	2
<i>Semi-Volatile Organic Compounds</i>								
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	5.1 J	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	9.4 U	3.0 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzyl Alcohol	µg/L	9.4 U	1.2 J	1.0 J	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate	µg/L	9.4 U	2.6 J	1.9 J	9.4 U	39	2.6 J	9.4 U
Butyl benzylphthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	1.5 J
Discrete Compounds	14	0	3	2	1	1	1	1
<i>Pesticides</i>								
4,4'-DDD	µg/L	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
gamma-BHC (Lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Discrete Compounds	7	0	0	0	0	0	0	0
Total Discrete Compounds	26	1	3	5	3	2	2	3

Notes Estimated.

J Non-detect at associated value.

U The analyte was not detected above the sample

UJ quantitation limit. The reported quantitation limit is an estimated quantity.

TABLE 3.2
SUMMARY OF DETECTED COMPOUNDS
2005 LONG-TERM MONITORING PROGRAM
LOVE CANAL
OCCIDENTAL CHEMICAL CORPORATION

<i>Overburden Wells</i>	<i>Well</i>	<i>VOCs</i>	<i>SVOCs</i>	<i>Pesticides/PCBs</i>
7120	B-I	ND	1	ND
8140	B-I	ND	1	ND
7130	A	ND	1	ND
7132	A	ND	1	ND
9118	X	ND	1	ND
7155	B-I	1	1	ND
8106	B-I	1	1	ND
8110	B-I	ND	1	ND
9118	A	ND	1	ND
10135	A	2	9	6
8120	B-I	ND	2	ND
8130	B-I	ND	4	ND
9110	B-I	ND	1	ND
9120	B-I	ND	2	ND
9125	B-I	ND	1	ND
9140	B-I	1	ND	ND
10174A	B-I	ND	ND	3
		5	28	9
<i>Bedrock Wells</i>				
3257	X	ND	1	ND
7205	A	1	1	ND
8210	A	ND	1	ND
9210	A	ND	1	ND
10205	A	1	ND	ND
10215	X	1	ND	ND
10270	X	1	1	ND
10272	A	1	1	ND
10278	A	2	1	ND
10210A	A	2	3	ND
10210B	A	2	1	3
10210C	A	1	1	ND
10225A	A	ND	3	ND
10225B	A	3	2	ND
10225C	A	2	1	ND
		17	18	3
Total # of Detections		22	46	12

Notes:

ND/ND = Duplicate analyses.

ND = No parameters detected at or above detection limits.

A = Annual Well

B-I = Bi-Annual Well Group I

B-II = Bi-Annual Well Group II

X = Additional Well

N/M = Not Monitored

TABLE 3.4

SUMMARY OF DETECTED COMPOUNDS FOR SELECTED WELLS, 1990 TO 2005
LOVE CANAL LONG-TERM MONITORING PROGRAM
OCCIDENTAL CHEMICAL CORPORATION

Well Number:**10210A****Sample Date:**

07/24/1990	08/22/1991	08/26/1992	08/11/1993	05/25/1995	07/01/1996	07/10/1997	06/26/1998	06/23/1999	06/21/2000	05/18/2001	06/13/2002	05/27/2003	06/03/2004	6/28/2005
------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	-----------

Volatiles (ug/L)

1,1,2,2-Tetrachloroethane														
1,1,2-Trichloroethane														
1,1-Dichloroethane														
1,2-Dichloroethane (total)														
2-Butanone								2J					4J	
2-Hexanone								3J						
Acetone	14C			13B			120J			10J				
Benzene														
Carbon Disulfide					20	310				6J			6J	1.6 J
Chlorobenzene														
Chloroform														
Ethylbenzene														
Methylene Chloride														
Tetrachloroethene														
Toluene								2J						2.3 J
Trichloroethene														
Vinyl Acetate														
Vinyl Chloride														
Xylene (total)														

Semi-volatiles (ug/L)

1,2,4-Trichlorobenzene														
1,2-Dichlorobenzene														
1,4-Dichlorobenzene														
2-Butanone (Methyl Ethyl Ketone)											3J			
2,4,5-Trichlorophenol														
2,4,6-Trichlorophenol														
2,4-Dichlorophenol														
2,4-Dimethylphenol														
2-Chloronaphthalene														
2-Chlorophenol														
2-Methylphenol														
2-Nitrophenol														
4-Chloro-3-methylphenol														
4-Methylphenol														
Benzoic Acid							12J						3J	2.7 J
Benzyl Alcohol														
Bis(2-Chloroethyl)Ether														
bis(2-Ethylhexyl)Phthalate		12	21	31	51								1J	1.7 J
Dimethyl Phthalate	16													
Di-n-Octyl Phthalate	3B													
Hexachlorobenzene														
Naphthalene														
Pentachlorophenol														
Phenol								1J					1J	1.7 J

Pesticides/PCBs (ug/L)

4,4'-DDD														
Aldrin														
Alpha-BHC								0.28						
Alpha-Chlordane														
Beta-BHC								0.035J					.011J	
Delta-BHC													.043J	
Dieldrin														
Endosulfan I								0.046J						
Endosulfan II														
Endosulfan Sulfate														
Endrin														
Gamma-BHC (Lindane)								0.10J						
Gamma-Chlordane														
Heptachlor														
Heptachlor epoxide														

Notes:

- B - Found in Blank
- U - Non-Detected at the associated estimated value
- C - Confirmed data.
- J - Estimated Concentration.
- JN - Presumptively present at the associated estimated value
- D - Diluted Sampled.
- E - Exceeded calibration range of the instrument
- P - Greater than 25% difference for detected concentrations between the two GC columns in the pesticide target analyte. Lower of two values is reported.

TABLE 3.4

SUMMARY OF DETECTED COMPOUNDS FOR SELECTED WELLS, 1990 TO 2005
LOVE CANAL LONG-TERM MONITORING PROGRAM
OCCIDENTAL CHEMICAL CORPORATION

Well Number:
Sample Date:

10210B

07/24/1990 08/22/1991 08/26/1992 08/11/1993 06/15/1994 06/01/1995 07/05/1996 07/01/1997 06/18/1998 06/24/1999 06/15/2000 05/17/2001 06/10/2002 05/23/2003 06/07/2004 06/24/2005

Volatiles (ug/L)

1,1,2,2-Tetrachloroethane																
1,1,2-Trichloroethane																
1,1-Dichloroethane																
1,2-Dichloroethane (total)																
2-Butanone													23			
2-Hexanone																
Acetone			31		12B	23					12J					
Benzene																
Carbon Disulfide								8J	2J		14	3J	2 J			1.4 J
Chlorobenzene														1J		
Chloroform																
Ethylbenzene																
Methylene Chloride																
Tetrachloroethene														9J		
Toluene										2J	1J					1.1 J
Trichloroethene																
Vinyl Acetate																
Vinyl Chloride																
Xylene (total)																

Semi-volatiles (ug/L)

1,2,4-Trichlorobenzene													3 J			
1,2-Dichlorobenzene																
1,4-Dichlorobenzene																
2-Butanone (Methyl Ethyl Ketone)																
2,4,5-Trichlorophenol																
2,4,6-Trichlorophenol																
2,4-Dichlorophenol																
2,4-Dimethylphenol																
2-Chloronaphthalene																
2-Chlorophenol																
2-Methylphenol																
2-Nitrophenol																
4-Chloro-3-methylphenol																
4-Methylphenol																
Benzoic Acid																
Benzyl Alcohol																
Bis(2-Chloroethyl)Ether																
bis(2-Ethylhexyl)Phthalate	7B	13		11				55	6J					4J		4.5 J
Dimethyl Phthalate																
Di-n-Octyl Phthalate											3J					
Hexachlorobenzene													1 J			
Naphthalene																
Pentachlorophenol																
Phenol		3														

Pesticides/PCBs (ug/L)

4,4'-DDD														0.011J		
Aldrin																
Alpha-BHC													19			0.37
Alpha-Chlordane																
Beta-BHC													1.9	0.53		0.082 p
Delta-BHC													0.56 J	0.15		
Dieldrin													0.13 J			
Endosulfan I													0.11 J			
Endosulfan II																
Endosulfan Sulfate																
Endrin																
Gamma-BHC (Lindane)													2.1	0.39		0.046 J
Gamma-Chlordane													0.15 J			
Heptachlor													0.35 J			
Heptachlor epoxide																

Notes:

- B - Found in Blank
- U - Non-Detected at the associated estima
- C - Confirmed data.
- J - Estimated Concentration.
- JN - Presumptively present at the associate
- D - Diluted Sampled.
- E - Exceeded calibration range of the inst
- P - Greater than 25% difference for detect

TABLE 3.4

SUMMARY OF DETECTED COMPOUNDS FOR SELECTED WELLS, 1990 TO 2005
LOVE CANAL LONG-TERM MONITORING PROGRAM
OCCIDENTAL CHEMICAL CORPORATION

Well Number:
Sample Date:

10210C

07/25/1990 08/22/1991 08/26/1992 08/11/1993 06/08/1994 06/01/1995 07/01/1996 07/01/1997 06/22/1998 06/24/1999 06/15/2000 05/17/2001 06/10/2002 05/23/2003 06/07/2004 06/23/2005

Volatiles (ug/L)

1,1,2,2-Tetrachloroethane																
1,1,2-Trichloroethane																
1,1-Dichloroethane																
1,2-Dichloroethene (total)																
2-Butanone																
2-Hexanone																
Acetone			10B	23B	19B					2100	8J	9J				1.9 J
Benzene																
Carbon Disulfide											3J					
Chlorobenzene																
Chloroform																
Ethylbenzene																
Methylene Chloride																
Tetrachloroethene																
Toluene															29	
Trichloroethene																
Vinyl Acetate																
Vinyl Chloride																
Xylene (total)																

Semi-volatiles (ug/L)

1,2,4-Trichlorobenzene																
1,2-Dichlorobenzene																
1,4-Dichlorobenzene																
2-Butanone (Methyl Ethyl Ketone)																
2,4,5-Trichlorophenol																
2,4,6-Trichlorophenol																
2,4-Dichlorophenol																
2,4-Dimethylphenol																
2-Chloronaphthalene																
2-Chlorophenol																
2-Methylphenol																
2-Nitrophenol																
4-Chloro-3-methylphenol																
4-Methylphenol						29	110	62	0.6J							
Benzoic Acid																
Benzyl Alcohol																
Bis(2-Chloroethyl)Ether																
bis(2-Ethylhexyl)Phthalate	7B	13		38											5J	
Dimethyl Phthalate																
Di-n-Octyl Phthalate																
Hexachlorobenzene																
Naphthalene																
Pentachlorophenol																
Phenol		6				22		22								

Pesticides/PCBs (ug/L)

4,4'-DDD																
Aldrin																
Alpha-BHC																0.083
Alpha-Chlordane																
Beta-BHC															0.017J	
Delta-BHC																
Dieldrin																
Endosulfan I																
Endosulfan II																
Endosulfan Sulfate																
Endrin																
Gamma-BHC (Lindane)																
Gamma-Chlordane																
Heptachlor																
Heptachlor epoxide																

Notes:

- B - Found in Blank
- U - Non-Detected at the associated estima
- C - Confirmed data.
- J - Estimated Concentration.
- JN - Presumptively present at the associate
- D - Diluted Sampled.
- E - Exceeded calibration range of the inst
- P - Greater than 25% difference for detect

TABLE 3.4

SUMMARY OF DETECTED COMPOUNDS FOR SELECTED WELLS, 1990 TO 2005
LOVE CANAL LONG-TERM MONITORING PROGRAM
OCCIDENTAL CHEMICAL CORPORATION

Well Number:**10135****Sample Date:**

08/26/1992	08/19/1993	06/22/1994	06/01/1995	06/27/1996	07/07/1997	06/17/1998	06/16/1999	06/22/2000	05/11/2001	06/12/2002	05/19/2003	05/28/2004	06/17/2005
------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------

Volatiles (ug/L)

1,1,2,2-Tetrachloroethane		12			26		94J	32/29	271/26J	100J/120J	500U/56	38		
1,1,2-Trichloroethane					14		29J	15/12	14J/16J	29J/34J	500U/27			
1,1-Dichloroethane		15						4J/3J	4J/4J	4J/4J	500U/4J	3 J		
1,2-Dichloroethane (total)	700	840			560		58J	67/70	67J/70J	60J/59J		490 J		
2-Butanone		5200							10UJ/10J	12J/11J		10 U		
2-Hexanone												10 U		
Acetone		270	100B		60		110J		28J/46J		500U/72	74		
Benzene			6000E	4900D	4800	5600/5000	5300J	5600/5700	6400/6900J	7600/8500J	5900/6400	5500		
Carbon Disulfide								ND/2J				10 U		
Chlorobenzene	2600	1700		2000D	1500	2300/ND	1900J	1800/1900	2300J/2300J	2700J/3000J	2200/2400	1900		2000
Chloroform		100			110		150J	120/110	100J/130J	150J/160J	500U/160	110		
Ethylbenzene		13						10J/9J	12J/12J	22J/24J	500U/15	10		
Methylene Chloride		41			11				24J/24J		500U/39	26		
Tetrachloroethene							40J	13/12	16J/14J	50J/61J	500U/38	18		
Toluene	2700	1700E	21500BE	18000D	14000	19000/17000	16000J	16000/17000	21000J/21000J	22000/24000	20000J/19000	15000		16000
Trichloroethene		24			36		170J	70/58	60J/72J	140J/180J	130J/160	91		
Vinyl Acetate	6800		12B											
Vinyl Chloride					50		48J	62/61	110J/85J	75J/66J	500U/48	51		
Xylene (total)		47	10B		28		55J	43/44	42J/44J		500U/51	29		

Semi-volatiles (ug/L)

1,2,4-Trichlorobenzene		74	87B				78J	65J/45J	45J/36J	42J/65J		97 J		4.5 J
1,2-Dichlorobenzene		35						30J/24J	22J/18J	ND/48J		59 J		36 J
1,4-Dichlorobenzene	110	94	91					74J/61J	59J/52J	69J/110J		160 J		100 J
2-Butanone (Methyl Ethyl Ketone)														
2,4,5-Trichlorophenol		70					38J		0.9J/ND					
2,4,6-Trichlorophenol									1J/ND					
2,4-Dichlorophenol	1200B	420	610	150		2100/2100	2000	610/690	1400J/470J	620J/1200J	1500J/1800J	1700		420
2,4-Dimethylphenol									ND/2J					
2-Chloronaphthalene				150						370J/550J				
2-Chlorophenol							28J	25J/ND						
2-Methylphenol		51					55J	35J/42J	160J/ND	ND/41J		50 J		25 J
2-Nitrophenol									ND/1J					
4-Chloro-3-methylphenol								33J/25J				41 J		
4-Methylphenol		80					130J	120/95J	99J/300J	86J/130J		210 J		49 J
Benzoic Acid				6400D	4000	30000J/27000J	23000J	5000/4300	19000J/4700J	4400J/6200J	25000/31000	26000		1400 J
Benzyl Alcohol				380		1900/1600	2700	540/680	14000/3200J	330J/630J	1700J/2000	640		23 J
Bis(2-Chloroethyl)Ether		23					24J	26J/25J						24 J
bis(2-Ethylhexyl)Phthalate		50							41J/24/J			280 U		
Dimethyl Phthalate														
Di-n-Octyl Phthalate														
Hexachlorobenzene												280 U		
Naphthalene								2000J/1400J	4000J/1800J	1100/1400				1800 J
Pentachlorophenol		52												
Phenol		96	91	140				120/96J		ND/51J		180 J		

Pesticides/PCBs (ug/L)

4,4'-DDD								0.020J/0.21	0.071J/0.13J					0.19 J
Aldrin	0.53	0.24P						0.21J/0.74JN		0.95JN/1.5JN	0.12J/0.12J			
Alpha-BHC	84	42C	24CEP	28D	29	39/39	59	37J/40	50/50	43J/50J	39/43	49		15
Alpha-Chlordane											0.031J/0.017J	0.47 U		
Beta-BHC				10D	11	8.1/8.6	12	11J/12	15/16	16J/16J	13J/14J	15 J		3.4
Delta-BHC	15	9.8P	7.5CE	4.7	5.2	ND/5.1	8.9	9.6J/11	14/13	10J/12J	9.0J/11J	12		9.1
Dieldrin												0.94 U		
Endosulfan I								0.43J/0.34		1.5JN/1.6JN		0.47 U		
Endosulfan II									0.52J/0.69J					0.15 J
Endosulfan Sulfate		0.43P						0.17J/0.18	0.17J/0.10UJ			1.3 J		
Endrin			0.15P											
Gamma-BHC (Lindane)	33	19.5	20.4CE			13.2/14.8	6.5J	4.1J/5.5	8.0/6.4	5J/7.3	6.1J/7.1J	7.1		
Gamma-Chlordane									0.16J/0.18J		0.34J/0.29J	0.47 U		
Heptachlor								0.68JN/0.63				0.61 J		0.053
Heptachlor epoxide								0.058J/0.043J	0.029J/0.031J		0.016J/0.025J	2.2 J		

Notes:

- B - Found in Blank
 U - Non-Detected at the associated estima
 C - Confirmed data.
 J - Estimated Concentration.
 JN - Presumptively present at the associate
 D - Diluted Sampled.
 E - Exceeded calibration range of the inst
 P - Greater than 25% difference for detect

TABLE 3.5A

**1140 SERIES PIEZOMETERS WATER LEVELS
LOVE CANAL LONG-TERM MONITORING PROGRAM
OCCIDENTAL CHEMICAL CORPORATION**

A WELLS

Well (1)	1144	1143	1142	1141	Tile Drain	1140
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	574.22	571.42	567.19	566.13	561.70	564.36
May 05	573.78	571.27	566.98	566.39	561.70	564.06
September 05	572.36	569.77	567.09	566.42	561.70	564.72
November 05	573.59	570.32	569.60	566.53	561.70	564.79

B WELLS

Well (1)	1144	1143	1142	1141	Tile Drain	1140
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	572.12	571.44	567.54	566.54	561.70	564.12
May 05	571.52	571.35	567.68	566.76	561.70	564.32
September 05	570.20	569.58	567.43	566.74	561.70	564.94
November 05	571.05	570.07	567.66	567.09	561.70	565.15

C WELLS

Well (1)	1144	1143	1142	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	571.49	569.62	565.96	561.70
May 05	571.03	569.66	565.87	561.70
September 05	569.46	568.75	565.86	561.70
November 05	570.42	569.07	566.15	561.70

D WELLS

Well (1)	1144	1143	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	569.83	567.98	561.70
May 05	569.72	567.73	561.70
September 05	568.04	567.28	561.70
November 05	568.18	567.63	561.70

Note:

(1) Wells listed in order from most distant outside of tile drain, to tile drain, then inside of tile drain.

TABLE 3.5B

**1150 SERIES PIEZOMETERS WATER LEVELS
LOVE CANAL LONG-TERM MONITORING PROGRAM
OCCIDENTAL CHEMICAL CORPORATION**

A WELLS

Well (1)	1154	1153	1151	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	570.87	570.86	569.85	561.85
May 05	570.37	569.89	569.39	561.85
September 05	567.47	569.78	567.62	561.85
November 05	567.97	570.16	567.66	561.85

B WELLS

Well (1)	1154	1153	1151	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	569.00	573.75	568.42	561.85
May 05	568.20	568.74	568.10	561.85
September 05	568.61	573.34	567.93	561.85
November 05	568.93	572.65	568.52	561.85

C WELLS

Well (1)	1154	1153	1151	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	568.67	576.08	569.92	561.85
May 05	568.83	572.66	569.63	561.85
September 05	568.38	574.42	567.37	561.85
November 05	568.61	573.78	567.52	561.85

D WELLS

Well (1)	1154	1153	1151	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	569.31	572.48	571.56	561.85
May 05	569.15	570.05	569.56	561.85
September 05	568.61	572.71	568.24	561.85
November 05	569.11	572.24	DRY	561.85

E WELLS

Well (1)	1153	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)
March 05	570.70	561.85
May 05	569.15	561.85
September 05	569.50	561.85
November 05	569.60	561.85

Note:

(1) Wells listed in order from most distant outside of tile drain, to tile drain, then inside of tile drain.

TABLE 3.5C

**1160 SERIES PIEZOMETERS WATER LEVELS
LOVE CANAL LONG-TERM MONITORING PROGRAM
OCCIDENTAL CHEMICAL CORPORATION**

A WELLS

Well (1)	10176	1165	1163	1162	1161	Tile Drain	1160
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	567.26	576.01	568.99	570.24	565.25	560.60	566.88
May 05	565.90	575.44	570.35	570.07	565.77	560.60	565.33
September 05	566.36	575.43	569.17	569.68	565.19	560.60	564.93
November 05	567.52	575.78	569.25	569.95	565.65	560.60	566.06

B WELLS

Well (1)	10176	1165	1163	1161	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	567.32	579.85	570.05	567.23	560.60
May 05	566.08	580.02	569.08	567.20	560.60
September 05	566.19	579.53	569.78	567.76	560.60
November 05	567.37	579.77	569.62	567.84	560.60

C WELLS

Well (1)	10176	1165	1163	1162	1161	Tile Drain	1160
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	565.43	580.40	570.14	569.60	568.87	560.60	566.18
May 05	564.94	580.80	570.30	570.04	568.83	560.60	565.96
September 05	565.29	579.94	569.93	569.51	568.94	560.60	566.12
November 05	565.88	580.27	570.30	569.53	569.06	560.60	566.34

D WELLS

Well (1)	10176	1165	1163	1162	1161	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	563.88	578.74	569.22	567.54	568.87	560.60
May 05	563.52	578.57	569.40	567.30	569.18	560.60
September 05	563.67	577.50	569.42	567.62	569.02	560.60
November 05	564.26	577.90	569.37	567.72	569.38	560.60

E WELLS

Well (1)	1161	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)
March 05	566.69	560.60
May 05	566.05	560.60
September 05	566.37	560.60
November 05	567.08	560.60

Note:

(1) Wells listed in order from most distant outside of tile drain, to tile drain, then inside of tile drain.

TABLE 3.5D

**1170 SERIES PIEZOMETERS WATER LEVELS
LOVE CANAL LONG-TERM MONITORING PROGRAM
OCCIDENTAL CHEMICAL CORPORATION**

A WELLS

Well (1)	1174	1173	1172	1171	Tile Drain	1170
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	575.58	569.18	566.15	564.42	555.60	563.13
May 05	575.67	568.96	566.23	565.31	555.60	563.22
September 05	574.75	568.98	566.63	564.25	555.60	562.37
November 05	575.09	569.33	566.73	564.55	555.60	563.21

B WELLS

Well (1)	1174	1173	1172	1171	Tile Drain	1170
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	575.03	569.71	570.82	563.70	555.60	561.69
May 05	574.93	569.66	570.43	564.13	555.60	562.29
September 05	574.49	569.53	569.00	562.76	555.60	571.18
November 05	575.01	569.94	569.28	563.38	555.60	571.44

C WELLS

Well (1)	1174	1173	1172	1171	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	574.64	571.47	569.62	563.13	555.60
May 05	574.43	571.75	569.84	563.54	555.60
September 05	574.30	570.59	569.01	562.53	555.60
November 05	574.86	570.97	569.25	562.95	555.60

D WELLS

Well (1)	1174	1173	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	570.64	572.28	555.60
May 05	570.78	571.61	555.60
September 05	571.71	570.53	555.60
November 05	572.29	571.24	555.60

Note:

(1) Wells listed in order from most distant outside of tile drain, to tile drain, then inside of tile drain.

TABLE 3.5E

**1180 SERIES PIEZOMETERS WATER LEVELS
LOVE CANAL LONG-TERM MONITORING PROGRAM
OCCIDENTAL CHEMICAL CORPORATION**

A WELLS

Well (1) Date	1184 (ft. AMSL)	1183 (ft. AMSL)	1181 (ft. AMSL)	Tile Drain (ft. AMSL)	1180 (ft. AMSL)
March 05	564.42	565.39	566.91	560.00	563.28
May 05	564.01	564.93	567.02	560.00	563.19
September 05	563.16	565.59	566.58	560.00	562.34
November 05	564.06	565.57	567.53	560.00	562.91

B WELLS

Well (1) Date	1184 (ft. AMSL)	1183 (ft. AMSL)	1181 (ft. AMSL)	Tile Drain (ft. AMSL)	1180 (ft. AMSL)
March 05	564.44	565.19	567.71	560.00	561.33
May 05	564.01	564.27	567.06	560.00	561.68
September 05	DRY	565.32	567.26	560.00	561.36
November 05	563.97	565.57	568.25	560.00	561.95

C WELLS

Well (1) Date	1184 (ft. AMSL)	1183 (ft. AMSL)	1181 (ft. AMSL)	Tile Drain (ft. AMSL)	1180 (ft. AMSL)
March 05	569.13	567.76	570.75	560.00	DRY
May 05	567.97	567.49	568.91	560.00	563.37
September 05	564.55	567.81	569.06	560.00	563.13
November 05	564.47	568.02	569.87	560.00	DRY

D WELLS

Well (1) Date	1184 (ft. AMSL)	1183 (ft. AMSL)	Tile Drain (ft. AMSL)
March 05	568.59	566.81	560.00
May 05	568.91	566.71	560.00
September 05	DRY	567.15	560.00
November 05	567.28	567.11	560.00

Note:

(1) Wells listed in order from most distant outside of tile drain, to tile drain, then inside of tile drain.

TABLE 3.5F

**1190 SERIES PIEZOMETERS WATER LEVELS
LOVE CANAL LONG-TERM MONITORING PROGRAM
OCCIDENTAL CHEMICAL CORPORATION**

A WELLS

Well (1)	1194	1193	1192	1191	Tile Drain	1190
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	564.82	566.09	564.88	565.62	554.80	566.25
May 05	564.25	565.97	564.48	566.80	554.80	565.34
September 05	564.18	565.72	564.18	565.68	554.80	567.86
November 05	564.40	565.87	564.38	566.17	554.80	566.36

B WELLS

Well (1)	1194	1193	1192	1191	Tile Drain	1190
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	570.43	569.05	568.94	564.86	554.80	560.36
May 05	569.93	569.19	568.96	565.28	554.80	560.55
September 05	569.73	569.05	568.93	565.07	554.80	560.09
November 05	569.70	569.14	568.88	565.25	554.80	560.60

C WELLS

Well (1)	1194	1193	1192	1191	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	574.76	571.25	572.16	564.34	554.80
May 05	573.26	571.52	572.25	564.44	554.80
September 05	573.08	570.98	572.25	564.00	554.80
November 05	574.14	571.01	572.15	564.62	554.80

D WELLS

Well (1)	1194	1193	Tile Drain
Date	(ft. AMSL)	(ft. AMSL)	(ft. AMSL)
March 05	574.44	572.33	554.80
May 05	573.90	572.37	554.80
September 05	571.34	571.40	554.80
November 05	572.99	571.50	554.80

Note:

(1) Wells listed in order from most distant outside of tile drain, to tile drain, then inside of tile drain.

TABLE 4.1

**2005 LOVE CANAL MAINTENANCE AND ACTIVITIES
MILLER SPRINGS REMEDIATION MANAGEMENT, INC.**

- QIS perform visual inspection Main Carbon Bed (V-1)
- PC-3 East pump pulled and replaced pump.
- Annual inspection of the back-flow preventers.
- Maintenance of flowerbeds and shrubs along Colvin Blvd. and Frontier Avenue.
- Cleanup of discarded debris around fence line and adjacent lots.
- A regrading of the former Outside Storage Tanks dike was completed which consisted of a layer of clay/sandy loam then covered with topsoil and seeded. Additionally several evergreens were planted on top as well .
- Additional planting of twenty-four (75) mature evergreens along 95th Street and Frontier.

APPENDIX A

Love Canal Well Survey 2003-2004

WELL	Label	Chemical	Frequency	Well Type	Zone	Painted	Condition of Well	Comments	Location
NAME	Color	Monitoring	Annual Quarterly	Piezometer, Chemical or Both	Overburden Bedrock	Y/N	Riser, Pad, Lock		NE, NW, SE, SW, CE, CW
1150	Yellow	AD	A	C	O	Yes			S
1151	Yellow	AD	A	C	O	Yes			S
1205	Yellow	AD	A	C	B	Yes			
3257	Yellow	A	A	C	B	No	Flush Mount		Colvin
* 5221	Yellow	AD	A	C	B	No	Riser, Pad, Lock		NE Corner Bldg 404 Senior Housing
5222	Yellow	A	AQ	B	B	Yes			Read Ave.
6209	Yellow	AD	AQ	B	B	Yes			SE
7115	Yellow	BI-2	A	C	O	Yes			CW
7120	Yellow	BI-1	A	C	O	Yes			CW
7125	Yellow	BI-2	A	C	O	Yes			CW
7130	Yellow	A	A	C	O	Yes			NW
7132	Yellow	A	A	C	O	Yes			NW
7155	Yellow	BI-1	A	C	O	Yes			NW
7161	Yellow	BI-1	A	C	O	No	Flush Mount		Colvin
7205	Yellow	A	A	C	B	Yes			CW
8106	Yellow	AD	A	C	O	No			Colvin
8110	Yellow	BI-1	A	C	O	Yes			NE
8115	Yellow	BI-3	A	C	O	Yes			NE
8120	Yellow	BI-1	A	C	O	Yes			NE
8125	Yellow	BI-4	A	C	O	Yes			CE
8130	Yellow	BI-1	A	C	O	Yes			CE
8140	Yellow	BI-1	A	C	O	No	Flush Mount		CE
8210	Yellow	A	AQ	P	B	Yes			101 St.
9105	Yellow	BI-5	A	C	O	Yes			CE
9110	Yellow	BI-1	A	C	O	Yes			SE
9113	Yellow	BI-6	A	C	O	Yes			SE
9115	Yellow	BI-1	A	C	O	Yes			SE
9118	Yellow	A	A	C	O	Yes			SE
9120	Yellow	BI-1	A	C	O	Yes			SE
9122	Yellow	BI-7	A	C	O	Yes			SE
9125	Yellow	BI-1	A	C	O	Yes			SE
9130	Yellow	BI-8	A	C	O	Yes			SE
9140	Yellow	BI-1	A	C	O	No	Flush Mount		SE
9205	Yellow	A	AQ	P	B	No	Flush Mount		100th Wheatfield
9210	Yellow	A	A	C	B	No	Flush Mount		LaSalle ExpWy
10105	Yellow	BI-9	A	C	O	No	Flush Mount		LaSalle ExpWy
10113	Yellow	BI-1	A	C	O	-		Didn't find	LaSalle ExpWy
10115	Yellow	BI-10	A	C	O	Yes			SW
10135	Yellow	A	A	C	O	Yes			SW

Love Canal Well Survey 2003-2004

WELL	Label	Chemical	Frequency	Well Type	Zone	Painted	Condition of Well	Comments	Location
NAME	Color	Monitoring	Annual Quarterly	Piezometer, Chemical or Both	Overburden Bedrock	Y/N	Riser, Pad, Lock		NE, NW, SE, SW, CE, CW
10147	Yellow	BI-1	A	C	O	Yes			CW
10150	Yellow	BI-11	A	C	O	Yes			CW
10178A	Orange	BI-12	A	C	O	Yes			SW
10178B	Orange	BI-12	A	C	O	Yes			SW
10205	Yellow	A	A	C	B	No	Flush Mount		LaSalle ExpWy
10215	Yellow	AD	A	C	B	No	Flush Mount		LaSalle ExpWy
10270	Yellow	AD	A	C	B	Yes			SW
10272	Yellow	A	A	C	B	Yes			SW
10276	White	-	Q	P	B	Yes			S
10278	Yellow	A	A	C	B	Yes			SW
10174A	Yellow	BI-1	A	C	O	Yes			SW
10176A	Yellow	AD	AQ	B	O	Yes			S
10176B	White	-	Q	P	O	Yes			S
10176C	White	-	Q	P	O	Yes			S
10176D	White	-	Q	P	O	Yes			S
10180A	Yellow	AD	A	C	O	Yes			
10210A	Yellow	A	A	C	B	Yes			LaSalle ExpWy
10210B	Yellow	A	A	C	B	Yes			LaSalle ExpWy
10210C	Yellow	A	A	C	B	Yes			LaSalle ExpWy
10225B	Yellow	A	A	C	B	Yes			CW
10225A	Yellow	A	A	C	B	Yes	Cracked Casing		CW
10225C	Yellow	A	A	C	B	Yes			CW
1140A	White	-	Q	P	O	Yes			S
1140B	White	-	Q	P	O	Yes			S
1141A	White	-	Q	P	O	Yes			S
1141B	White	-	Q	P	O	Yes			S
1142A	White	-	Q	P	O	Yes			S
1142B	White	-	Q	P	O	Yes			S
1142C	White	-	Q	P	O	Yes			S
1143A	White	-	Q	P	O	Yes			S
1143B	White	-	Q	P	O	Yes			S
1143C	White	-	Q	P	O	Yes			S
1143D	White	-	Q	P	O	Yes			S
1144A	White	-	Q	P	O	Yes			S
1144B	White	-	Q	P	O	Yes			S
1144C	White	-	Q	P	O	Yes			S
1144D	White	-	Q	P	O	Yes			S
1151A	White	-	Q	P	O	Yes			Frontier & LaSalle ExpWy
1151B	White	-	Q	P	O	Yes			Frontier & LaSalle ExpWy

Love Canal Well Survey 2003-2004

WELL	Label	Chemical	Frequency	Well Type	Zone	Painted	Condition of Well	Comments	Location
NAME	Color	Monitoring	Annual Quarterly	Piezometer, Chemical or Both	Overburden Bedrock	Y/N	Riser, Pad, Lock		NE, NW, SE, SW, CE, CW
1151C	White	-	Q	P	O	Yes			Frontier & LaSalle ExpWy
1151D	White	-	Q	P	O	Yes			Frontier & LaSalle ExpWy
1153A	White	-	Q	P	O	No	Flush Mount		Frontier & LaSalle ExpWy
1153B	White	-	Q	P	O	-	-	Didn't find	Frontier & LaSalle ExpWy
1153C	White	-	Q	P	O	No	Flush Mount		Frontier & LaSalle ExpWy
1153D	White	-	Q	P	O	No	Flush Mount		Frontier & LaSalle ExpWy
1153E	White	-	Q	P	O	No	Flush Mount		Frontier & LaSalle ExpWy
1154A	White	-	Q	P	O	No	Flush Mount		Frontier & LaSalle ExpWy
1154B	White	-	Q	P	O	No	Flush Mount		Frontier & LaSalle ExpWy
1154C	White	-	Q	P	O	No	Flush Mount		Frontier & LaSalle ExpWy
1154D	White	-	Q	P	O	No	Flush Mount		Frontier & LaSalle ExpWy
1160A	White	-	Q	P	O	Yes			S
1160C	White	-	Q	P	O	Yes			S
1161A	White	-	Q	P	O	Yes			S
1161B	White	-	Q	P	O	Yes			S
1161C	White	-	Q	P	O	Yes			S
1161D	White	-	Q	P	O	Yes			S
1161E	White	-	Q	P	O	Yes			S
1162A	White	-	Q	P	O	Yes			S
1162C	White	-	Q	P	O	Yes			S
1162D	White	-	Q	P	O	Yes			S
1163A	White	-	Q	P	O	Yes			S
1163B	White	-	Q	P	O	Yes			S
1163C	White	-	Q	P	O	Yes			S
1163D	White	-	Q	P	O	Yes			S
1165A	White	-	Q	P	O	Yes			S
1165B	White	-	Q	P	O	Yes			S
1165C	White	-	Q	P	O	Yes			S
1165D	White	-	Q	P	O	Yes			S
1170A	White	-	Q	P	O	Yes			N
1170B	White	-	Q	P	O	Yes			N
1171A	White	-	Q	P	O	Yes			N
1171B	White	-	Q	P	O	Yes			N
1171C	White	-	Q	P	O	Yes			N
1172A	White	-	Q	P	O	Yes			N
1172B	White	-	Q	P	O	Yes			N
1172C	White	-	Q	P	O	Yes			N
1173A	White	-	Q	P	O	Yes			N
1173B	White	-	Q	P	O	Yes			N

Love Canal Well Survey 2003-2004									
WELL	Label	Chemical	Frequency	Well Type	Zone	Painted	Condition of Well	Comments	Location
NAME	Color	Monitoring	Annual Quarterly	Piezometer, Chemical or Both	Overburden Bedrock	Y/N	Riser, Pad, Lock		NE, NW, SE, SW, CE, CW
1173C	White	-	Q	P	O	Yes			N
1173D	White	-	Q	P	O	Yes			N
1174A	White	-	Q	P	O	No	Flush Mount		N
1174B	White	-	Q	P	O	No	Flush Mount		N
1174C	White	-	Q	P	O	No	Flush Mount		N
1174D	White	-	Q	P	O	No	Flush Mount		N
1180A	White	-	Q	P	O	Yes			N
1180B	White	-	Q	P	O	Yes			N
1180C	White	-	Q	P	O	Yes			N
1181A	White	-	Q	P	O	Yes			N
1181B	White	-	Q	P	O	Yes			N
1181C	White	-	Q	P	O	Yes			N
1183A	White	-	Q	P	O	No			Colvin Blvd
1183B	White	-	Q	P	O	No	Flush Mount		Colvin Blvd
1183C	White	-	Q	P	O	No	Flush Mount		Colvin Blvd
1183D	White	-	Q	P	O	No	Flush Mount		Colvin Blvd
1184A	White	-	Q	P	O	No	Flush Mount		Colvin Blvd
1184B	White	-	Q	P	O	No	Flush Mount		Colvin Blvd
1184C	White	-	Q	P	O	No	Flush Mount		Colvin Blvd
1184D	White	-	Q	P	O	No	Flush Mount		Colvin Blvd
1190A	White	-	Q	P	O	Yes			N
1190B	White	-	Q	P	O	Yes			N
1191A	White	-	Q	P	O	Yes			N
1191B	White	-	Q	P	O	Yes			N
1191C	White	-	Q	P	O	Yes			N
1192A	White	-	Q	P	O	Yes			N
1192B	White	-	Q	P	O	Yes			N
1192C	White	-	Q	P	O	Yes			N
1193A	White	-	Q	P	O	Yes			N
1193B	White	-	Q	P	O	Yes			N
1193C	White	-	Q	P	O	Yes			N
1193D	White	-	Q	P	O	Yes			N
1194A	White	-	Q	P	O	Yes			N
1194B	White	-	Q	P	O	Yes			N
1194C	White	-	Q	P	O	Yes			N
1194D	White	-	Q	P	O	Yes			N
Total	153								

Rev 1.0 3-2006 MSRM

Love Canal Inactive Well Survey 2003-2004

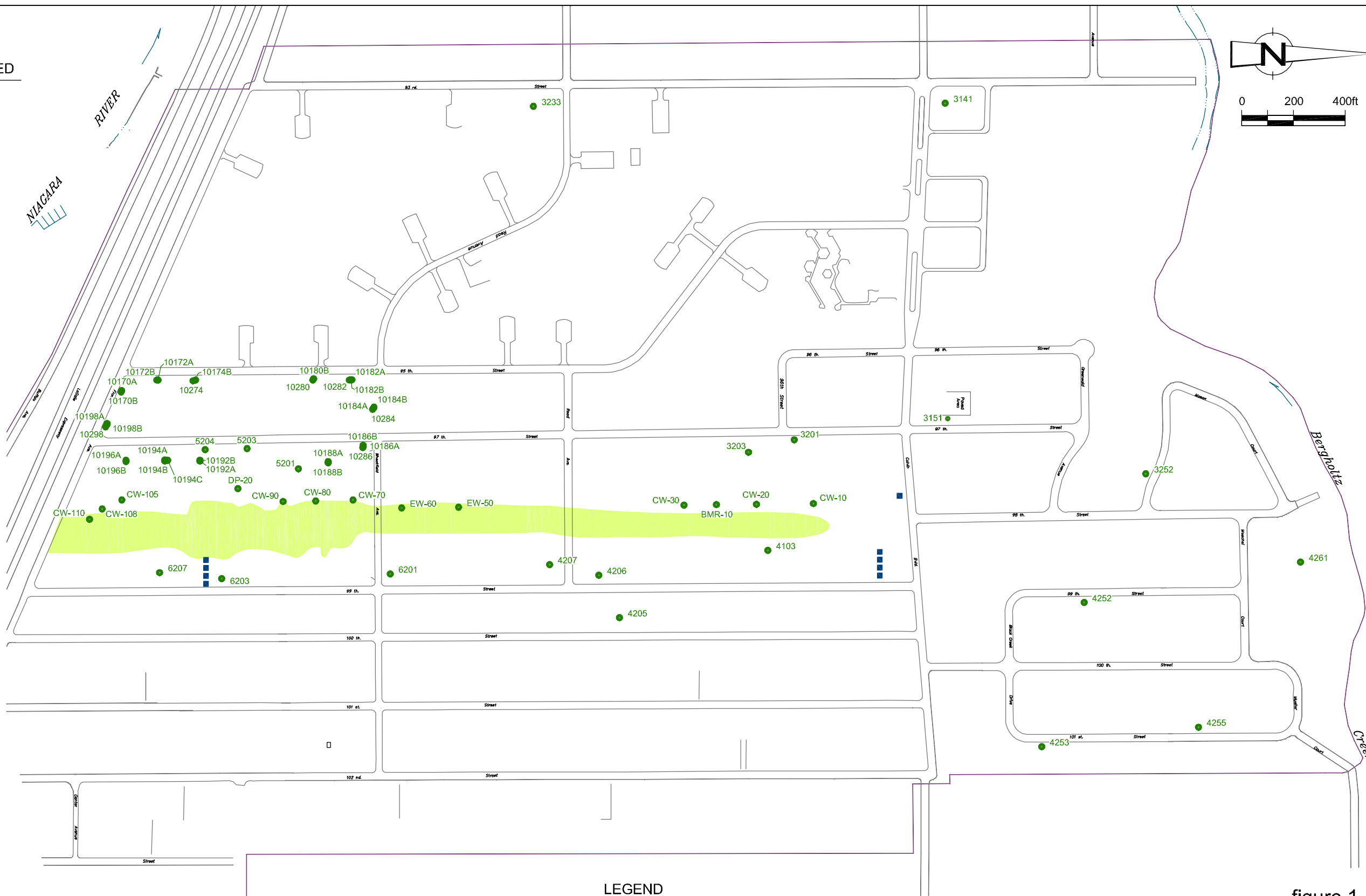
WELL	Other	Label	On Site	Barrier	Well Type		Painted	Condition	Riser	Riser	Inner	Well	Location	Comments	
ID	Well Number	Color	On/Off	In or Out	State Plane X	State Plane Y	Flush Standup	Y/N	Size Inches	Height Inches	Size Inches	Depth Feet	Area		
3203		Orange	On	Out	401930	1123595	S	N	Fair	4.0	33.0		45.6	NW	
3141	3141 or 324	-	Off	Out			F	N	Poor	4.0	-			NW	93rd Street and Colvin.
* 3151		-	Off	Out			F	N	-	-	-	-	-	NC	Colvin & 97th Destroyed
3201		Orange	On	Out	401882	1123772	S	N	Fair	4.0	44.0	3.0	41.4		
3233		Paint	Off	Out	400594	1122764	S	N	Fair	4.0	42.0	3.0	42.6		Adjacent to 641 93rd St.
3252		Covered	Off	Out	402013	1125130	F	-	-				33.0	NW	Well Covered by Owner New Driveway.
4103		Orange	On	Out			S	N	Fair	2.0	13.0				
4205		Orange	On	Out	402569	1123097	S	N	Good	4.0	27.0	4.0	35.8		
4206		Orange	On	Out	402405	1123017	S	N	Poor	4.0	29.0	4.0	36.8		
4207		Orange	On	In	402364	1122827	S	N	Fair	4.0	37.0	4.0	37.0		
4253		-	Off	Out	403067	1124728	F	N	Fair	4.0	-		38.2	NE	1037 101st. St.
4252		-	Off	Out	402510	1124892	F	N	Good	4.0	-	2.0	26.0	NE	1051 99th St
4255		-	Off	Out	402992	1125334	F	N	Fair	2.0	-		26.9	NE	1078 101st St
4261		-	Off	Out	402354	1125728	F	-	-	4.0	-	2.0	30.7	NC	Moschel Ct. off dirt road
5201		Orange	On	Out	401994	1121856	S	N	Good	5.0	16.0			S	
5203		Orange	On	Out	401916	1121658	S	N	Good	6.0	32.0	4.0	42.8	S	
5204		Orange	On	Out	401920	1121496	S	N	Good	6.0	31.0	4.0	221.2	S	
6201		Orange	On	Out	402400	1122211	S	N	Fair	4.0	28.0	4.0	41.7		
6203		Orange	On	Out			S	N	-			4.0	43.3	S	See SC3
6207		Orange	On	Out	402395	1121320	S	N	Good	5.0	34.0	4.0	213.3	S	
10274		Orange	On	Out	401654	1121449	S	N	Good	4.0	24.0			S	
10280		Orange	On	Out	401651	1121912	S	N	Good	4.0	19.0			S	
10282	10182C	Orange	On	Out	401651	1122053	S	N	Bad	4.0	24.0			S	no cover, bent
10284	10184C	Orange	On	Out			S	N	Good	4.0	8.0	2.0	45.0	S	
10286		Orange	On	Out	401912	1122105	S	N	Good	4.0	15.0			S	
10298		Orange	On	Out	401832	1121111	S	N	Good	4.0	30.0	2.0	52.7	S	
10170A		Orange	On	Out	401692	1121173	S	N	Good	4.0	13.0	2.0	6.5	S	
10170B		Orange	On	Out	401697	1121171	S	N	Good	4.0	13.0	2.0	19.2	S	
10172A		Orange	On	Out	401651	1121314	S	N	Good	4.0	31.0	2.0	10.0	S	
10172B		Orange	On	Out	401651	1121309	S	N	Good	4.0	30.0	2.0	20.0	S	
10174B		Orange	On	Out	401651	1121459	S	N	Good	4.0	42.0	2.0	19.0	S	
10180B		Orange	On	Out	401646	1121915	S	N	Good	4.0	17.0			S	
10182A		Orange	On	Out	401650	1122063	S	N	Good	4.0	25.0			S	
10182B		Orange	On	Out	401650	1122059	S	N	Good	4.0	25.0			S	
10184A		Orange	On	Out	401760	1122146	S	N	Good	4.0	8.0	2.0	10.5	S	
10184B		Orange	On	Out	401756	1122148	S	N	Good	4.0	4.0	2.0	21.0	S	
10186A		Orange	On	Out	401908	1122106	S	N	Good	4.0	15.0			S	
10186B		Orange	On	Out	401903	1122106	S	N	Good	4.0	18.0			S	
10188A		Orange	On	Out	401966	1121971	S	N	Good	4.0	21.0	2.0	9.0	S	
10188B		Orange	On	Out	401971	1121971	S	N	Good	4.0	24.0	2.0	21.0	S	
10192A		Orange	On	Out			S	N	Fair	4.0	17.0	2.0	11.0	S	
10192B		Orange	On	Out			S	N	Fair	4.0	17.0	2.0	23.5	S	
10194A	M1	Orange	On	Out	401960	1121340	S	N	Fair	4.0	14.0	2.0	11.0	S	
10194B	M2	Orange	On	Out	401964	1121340	S	N	Fair	4.0	14.0	2.0	24.0	S	
10194C	M3	Orange	On	Out			S	N	Good	4.0	21.0			S	

Love Canal Inactive Well Survey 2003-2004

WELL	Other	Label	On Site	Barrier	Well Type		Painted	Condition	Riser	Riser	Inner	Well	Location	Comments	
ID	Well Number	Color	On/Off	In or Out	State Plane X	State Plane Y	Flush Standup	Y/N	Size Inches	Height Inches	Size Inches	Depth Feet	Area		
10196A		Orange	On	Out	401961	1121190	S	N	Good	4.0	18.0	2.0	11.0	S	
10196B		Orange	On	Out	401966	1121190	S	N	Good	4.0	22.0	2.0	23.0	S	
10198A		Orange	On	Out	401819	1121117	S	N	Good	4.0	12.0	2.0	10.0	S	
10198B		Orange	On	Out	401824	1121116	S	N	Good	4.0	9.0	2.0	19.0	S	
BMR-10		Orange	On	In	402132	1123471	S	N	Poor	4.0	38.0	2.0	23.5		
CW-10		Orange	On	In	402128	1123846	S	N	Fair	4.0	38.0	2.0	23.5		
CW-105		Orange	On	In	402114	1121174	S	N	Fair	4.0	28.0	2.0	21.0	S	
CW-108		Orange	On	In	402149	1121098	S	N	Bad	4.0	27.0	2.0	19.5	S	Rusted
CW-110	A-1	Orange	On	In	402189	1121049	S	N	Bad	4.0	33.0	2.0	17.5	S	Rusted
CW-20		Orange	On	In	402131	1123626	S	N	Fair	4.0	39.0	2.0	23.2		
CW-30		Orange	On	In	402134	1123346	S	N	Poor	4.0	38.0	2.0	20.0		
CW-70		Orange	On	In	402114	1122067	S	N	Good	4.0	32.0	2.0	25.5	S	
CW-80		Orange	On	In	402118	1121923	S	N	Good	4.0	31.0	2.0	24.1	S	
CW-90		Orange	On	In	402120	1121797	S	N	Good	4.0	20.0	2.0	24.5	S	
DP-20		Orange	On	In			S	N	Bad	4.0	35.0	2.0	27.0	S	Rusted, est. of 1160 series
EW-50		Orange	On	In	402142	1122475	S	N	Good	4.0	24.0	2.0		C	
EW-60		Orange	On	In	402145	1122255	S	N	Fair	4.0	26.0	2.0		C	Inline w/ 9105 east of PC3a
			On/Off	In or Out											
		On	54.00	14.00	In										
		Off	8.00	48.00	Out										
NC 1		Orange	On	Out			S	N	Fair	6.0	12.0	6.0		NC	
NE 1		Orange	On	Out			S	N	Fair	6.0	18.0	6.0		N	east of 98th 1180 series
NE 3A		Orange	On	Out			S	N	Fair	2.0	24.0	2.0		N	east of 98th 1180 series
NE 3B		Orange	On	Out			S	N	Fair	2.0	24.0	2.0		N	east of 98th 1180 series
NE 3C		Orange	On	Out			S	N	Fair	2.0	24.0	2.0		N	east of 98th 1180 series
SC 1		Orange	On	Out			S	N	Fair	4.0	24.0	4.0		S	South of 1143 series
SC 3A		Orange	On	Out			S	N	Fair	2.0	24.0	2.0		S	South of 1143 series
SC 3B		Orange	On	Out			S	N	Fair	2.0	24.0	2.0		S	South of 1143 series
SC 3C		Orange	On	Out			S	N	Fair	2.0	24.0	2.0		S	South of 1143 series
Total of 9 Wells NOT Identified															
Well numbers are generic for reporting purpose not actual well Id's.															
* Well Added to In-Active After Initial Inventory 6/2005															

WELLS TO BE REMOVED

3141	10180B
3151	10182A
3201	10182B
3203	10184A
3233	10184B
3252	10186A
4103	10186B
4205	10188A
4206	10188B
4207	10192A
4252	10192B
4253	10194A
4255	10194B
4261	10194C
5201	10196A
5203	10196B
5204	10198A
6201	10198B
6203	BMR-10
6207	CW-10
10274	CW-105
10280	CW-108
10282	CW-110
10284	CW-20
10286	CW-30
10298	CW-70
10170A	CW-80
10170B	CW-90
10172A	DP-20
10172B	EW-50
10174B	EW-60



LEGEND

- APPROXIMATE LIMITS OF DISPOSED WASTE
- WELL TO BE REMOVED
- 9 WELLS TO BE REMOVED LOCATION APPROXIMATE

figure 1
WELLS PROPOSED TO BE DECOMMISSIONED
REVISED MARCH 2006
LOVE CANAL
Miller Springs Remediation Management

