2009 ANNUAL
OPERATIONS AND MAINTENANCE REPORT

STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK

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TABLE OF CONTENTS

LIST OF FIGURES
(Following Text)

LIST OF FIGURES - Continued
(Following Text)

LIST OF TABLES
(Following Text)

LIST OF TABLES - Continued
(Following Text)

LIST OF APPENDICES

1.0 INTRODUCTION

This report summarizes the operation and maintenance (O&M) activities performed at the Stauffer Management Company LLC (SMC) Site (Site) in Lewiston, New York for the reporting period of January 1, 2009 through December 31, 2009. This report also summarizes significant modifications to remedial operations during the reporting period. Finally, this report presents data that can be used to evaluate the effectiveness of the remedial systems in containing and recovering chemicals released during historical plant operations.

The O&M services were provided by Conestoga-Rovers & Associates, Inc. (CRA) under contract to SMC. The O&M activities were performed in accordance with the "Operations and Maintenance Manual, Stauffer Management Company, Town of Lewiston, New York" (O&M Manual), dated April 1998.

1.1 SITE BACKGROUND

The SMC Site is located in the Town of Lewiston, New York, immediately north of the Forebay of the Robert Moses Power Plant. Figure 1.1 presents the location of the Site, and Figure 1.2 presents the layout of the Site.

The Site is a former chemical manufacturing facility owned and operated by Stauffer Chemical Company. All structures associated with the former plant were demolished in the early 1980s. Stauffer Chemical Company was divested in 1987, and Atkemix Thirty Seven, a subsidiary of Stauffer Management Company, became the Site owner. In 2000, Stauffer Management Company and Atkemix Thirty Seven restructured into a limited liability company that is now known as Stauffer Management Company LLC.

In 1995, in accordance with Consent Order #B9-0137-86-04, SMC initiated remedial construction for soil and groundwater. At that time, the Treatment Building was erected to house the Site groundwater treatment system and the soil vapor extraction (SVE) treatment system for Area A. A second SVE treatment system, Area C, was mounted in a trailer located off Site, beyond the southeast corner of the Site property. SVE operations at Area C were discontinued in May 2004, and the Area C treatment system was decommissioned in July 2004. A third SVE system at Area T-4 was also installed in 1995, operated until 2000, and decommissioned in September 2001. Dual phase well T-4 (also known as DPT-261) remains operable as a groundwater extraction well.

The major chemicals of concern in the groundwater at the Site have been identified in the Site-Specific Parameter List (SSPL) as follows:

i) carbon disulfide
ii) carbon tetrachloride
iii) chloroform
iv) methylene chloride
v) tetrachloroethene
vi) benzene
vii) chlorobenzene
viii) toluene
ix) trichloroethene

These chemicals have historically been detected at varying concentrations in the groundwater, subsurface soils, seeps, and surface water run-off in the immediate vicinity of the Site.

1.2 REMEDIAL SYSTEMS DESCRIPTIONS

The remedial systems currently being operated at the Site include:

i) the Area A SVE system
ii) the bedrock groundwater extraction and treatment system, consisting of deep bedrock and shallow bedrock extraction wells

The SVE system located in Area T-4 was decommissioned in 2001, and the SVE system located in Area C was decommissioned in 2004.

The remedial systems are briefly described in the following sections.

1.2.1 AREA A

Area A occupies approximately 136,500 square feet near the center of the property as shown on Figures 1.2 and 1.3. The remedial system at Area A is a combination of soil vapor and groundwater extraction and includes 39 SVE wells, 3 dual-phase

groundwater/SVE wells, and a cover comprised of a polyvinyl chloride (PVC) geomembrane liner, a geotextile cushion, and stone.

Each SVE well is connected to one of four header pipes that each enter the Treatment Building and are connected to the vacuum blower housed in the north side of the building. The SVE piping is mounted on a uni-strut/pipe strap support system. The Area A SVE treatment system is comprised of a skid with a moisture separator tank, an in-line filter, a vacuum blower, a discharge silencer, and a condensate removal pump, all located in the Treatment Building. The heat exchanger and granular activated carbon (GAC) adsorption units are mounted separately on the concrete floor in the building.

1.2.2 AREA C

Area C occupies approximately 19,350 square feet beyond the southeast corner of the Site property, as shown on Figures 1.2 and 1.4. Area C is the location of one of the landfills previously used by Stauffer Chemical Company.

With the approval of New York State Department of Environmental Conservation (NYSDEC), operations at Area C were discontinued in May 2004, and the SVE system was decommissioned in July 2004. The SVE wells were plugged and abandoned in accordance with NYSDEC regulations in December 2004.

1.2.3 AREA T-4

Area T-4 occupies approximately 11,500 square feet and is located southwest of the Treatment Building, as shown on Figure 1.2. The Area T-4 SVE system was decommissioned in September 2001 with the approval of NYSDEC. Shallow groundwater extraction well T-4 remains operable.

1.2.4 GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

The groundwater extraction network consists of two deep bedrock groundwater extraction wells (LR-66 and OW-3), three intermediate/deep bedrock extraction wells (EW-1, EW-2, EW-3), three shallow bedrock extraction wells (EW-4, EW-5, and EW-6), one shallow extraction well in Area T-4, and three shallow dual-phase wells in Area A (DPA-201, DPA-202, and DPA-203). The locations of the extraction wells are shown on Figure 1.5.

Underground forcemains with secondary containment convey recovered groundwater from the extraction wells to the Treatment Building. The groundwater treatment system is currently housed in the south side of the original Treatment Building and in the northwest addition to the building.

All groundwater from each of the extraction wells is pumped into the on-Site treatment system. The major components of the treatment system are listed below:

i) Solids Settling Tank: a 1,500-gallon cone bottom tank installed in May 2009 to provide solids settling prior to the influent water entering the carbon treatment system. (Note that this tank replaced a Non-Aqueous Phase Liquid (NAPL) Separator tank that had deteriorated. Phase separation is not required at the Site, as no NAPL has been observed since beginning system operation.)

ii) Carbon Feed Tank: process tank used to accumulate water from the NAPL separator.

iii) Carbon Feed Pump: pumps water from the carbon feed tank through the rest of the treatment system.

iv) Bag Filters: groundwater is pumped through five 10-micron bag filters operated in parallel to prevent solids from plugging the GAC.

v) GAC Beds: after the bag filters, the groundwater passes through two 20,000-pound GAC adsorption vessels operated in series.

The treated water from the GAC units is discharged through the outfall to the New York Power Authority (NYPA) Forebay, located south of the Site. Treated water is discharged in accordance with limits set by NYSDEC.

2.0 AREA A REMEDIAL SYSTEM O&M ACTIVITIES

2.1 SUMMARY OF AREA A OPERATIONS FOR 2009

The Area A SVE system was operated in automatic mode throughout this reporting period with several Site visits per week to perform system monitoring, inspections, and other routine O&M activities. The autodialer has been programmed to notify CRA personnel of any shutdowns or system failures. In addition, the system status is monitored remotely though a computer interface.

The Area A SVE system operated 7,811 hours during 2009 for an operating efficiency of approximately 89 percent. The 2009 operating efficiency is slightly above that of 2008 (87 percent). The Area A vacuum blower has operated reliably since the replacement of critical seals and gaskets in 2007. The only significant maintenance performed on the Area A treatment system in 2009 was the rebuild of the knockout pot transfer pump and the two diaphragm pumps that remove water from the knockout pot and the Area A "sump" pipe. These pumps allow the SVE system to keep up with groundwater entering the treatment area from the Area A well field.

In 2007, in an attempt to maximize vapor recovery from the Area A SVE field, SMC began an annual evaluation of the Area A soil vapor extraction wells (EWAs). The program has consisted of measuring influent airflows from each of the operating Area A EWAs using rotameters installed on each well. Depth-to-water measurements have also been recorded. Results from the 2007 evaluation indicated that there is generally good airflow across the Area A field, especially in the southern two headers (Headers #1 and #2).

The 2008 evaluation concluded that although there continued to be good airflow across portions of the Area A field, there were also portions of Area A that indicated little to no airflow in 2008. Seventeen of the 39 EWAs had measured airflows of 0-3 standard cubic feet per minute (SCFM). In addition, there were six EWAs that had significant decreases in airflow between 2007 and 2008 (EWA-112, 121R, 125, 128, 129 and 134). The cause of the decreased airflow in 2008 was not clear. Recommendations for the 2009 evaluation included an examination of the six EWAs that exhibited significant airflow decreases, along with determining which wells in Area A were capable of achieving the greatest mass removal in order to operate them preferentially over wells exhibiting minimal chemistry.

The 2009 evaluation once again included well-by-well airflow measurements along with depth-to-water measurements. The six EWAs discussed above were also probed to

check for accumulated sediments that might be inhibiting airflow. In addition, a qualitative drawdown and recovery test was performed, and water and solids present in the extraction well casings were suctioned out to allow drawn-down water levels to be measured, followed by measurements of recovered water levels some time later. Last, the 2009 evaluation included the collection of 21 discrete influent vapor samples using Tedlar bags from those EWAs that had exhibited good airflow (i.e., >5 SCFM) during the June 2009 sampling event. The Area A blower was shut down for three days in advance of the sampling to allow the system to equilibrate.

The results of the 2009 evaluation were similar to those of 2008 with respect to Area A airflow measurements, indicating that portions of the field (especially Headers #1 and #4) continued to exhibit relatively low airflow. Probing of the EWAs with significantly decreased flow indicated no significant sediment accumulation that would explain reduced airflow. However, the evaluation concluded that the vast majority of the EWAs that had measured airflow of <3 SCFM had the original 1995 construction consisting of galvanized steel screens and riser pipe, whereas many of the other EWAs have been replaced with HDPE construction. It is likely that the well screens of the galvanized wells have corroded, and that the corrosion has significantly inhibited airflow. With respect to the impact of groundwater on airflow, the 2009 evaluation found that water levels in the EWAs generally do not recover quickly. This finding indicates that the presence of groundwater at very high levels in some wells is likely due to the accumulation of water by the Area A vacuum, and not the result of flooding or generally elevated groundwater levels. Finally, the results of the Tedlar bag samples indicated that there are significant influent vapor concentrations in most of the EWAs sampled. The results corroborated those of the quarterly header-by-header sampling events.

A report of the activities, results, conclusions, and recommendations from the 2009 Area A EWA evaluation was submitted to NYSDEC on January 13, 2010 as part of the Fourth Quarter 2009 status report. Recommendations from the report include the following:

- Continue current operation of the moderate to high airflow EWAs.
- Collect a set of header-by-header influent samples for SSPL analysis when the system is not running in order to provide a comparison with quarterly results measured when the system is operational.
- Use a downhole camera to examine the steel EWAs that have exhibited significant decreases in airflow over the past few years. In the event that the screen conditions cannot be clearly assessed with the camera, these wells will be pulled for examination. If corrosion is inhibiting airflow, these EWAs will be replaced.

- Discontinue operating EWAs-101, 105 and 106. These wells are in areas that exhibited soils with SSPL concentration below the applicable soil cleanup levels in 2005, and the three EWAs are currently exhibiting little to no airflow.
- Install additional drop tube assemblies to depress the groundwater in those wells that have elevated groundwater levels and that have some indication of airflow.
- Collect a set of groundwater samples for SSPL analysis from some of the EWAs that exhibited elevated vapor concentration in the Tedlar bag sampling program. This data will provide information about the extent of SSPL in shallow (overburden) groundwater in Area A.

2.2 MASS REMOVAL – 2009

The amount of organic compounds removed by the Area A SVE system is presented in Table 2.1.

The mass removal calculation is based upon an average air flow rate of 800 cubic feet per minute (cfm) and an operation time of 7,811 hours. Four operational vapor samples were collected during 2009 from the Area A SVE system and analyzed for use in the mass loading calculations. The samples were collected on a quarterly basis in February, May, August and November 2009, utilizing the sample ports in the influent header pipe system just inside the Treatment Building and before the blower. Results from the four Area A influent samples were used to develop the 2009 quarterly mass loading calculations.

As shown in Table 2.1, the total mass removed in the soil vapors from Area A in 2009 was approximately 108 pounds. Of this mass, approximately 87 percent was carbon tetrachloride. Carbon disulfide, tetrachloroethene, chloroform, and trichloroethylene accounted for the remaining total mass removed.

The 108 pounds of organic compounds removed from Area A in 2009 represents a 399-pound decrease (79 percent) compared with that removed in 2008 (507 pounds). Although the 2009 operating hours improved slightly compared with that of 2008, the influent concentrations decreased significantly in 2009. The removal efficiency of Area A in 2009 (pound of VOCs recovered/operating hour) was 0.014, compared with 0.07 in 2008.

2.3 ROUTINE INSPECTION AND MAINTENANCE

The Area A SVE system is inspected at least weekly to verify proper operation. The inspected components include the blower, compressor, and heat exchanger. In addition, all aboveground piping associated with the system is inspected for integrity. The operating status and conditions of the Area A SVE system are recorded on the respective operating log and system monitoring sheets in the O&M logbook. Monitoring of the Area A SVE air influent is also performed periodically and is recorded in the Site analytical database.

2.4 OPERATIONS/MONITORING FOR 2010

The 2010 goal is to continue optimization of VOC mass removal from the Area A vadose zone and shallow groundwater. The system upgrades of the past five years, including the new blower motor (coupled with the blower installed in 2003), the new heat exchanger core in 2006, the header replacements in 2004-2005, the replacement of the blower seals in 2007, and the rebuilding of the transfer pumps in 2008 and 2009, will continue to reduce system downtime. The revised main header configuration, with an additional length of PVC pipe serving as a sump, allows the treatment system to handle large amounts of groundwater by routing it directly to the liquid phase carbon treatment system instead of through the Area A knockout pot. In addition to implementing the recommendations discussed in Section 2.1, system progress will be evaluated by sampling the Area A influent on a quarterly basis.

3.0 AREA C REMEDIAL SYSTEM

The former Area C SVE system was decommissioned in July 2004 with the approval of NYSDEC. The SVE wells were plugged and abandoned in accordance with NYSDEC regulations in December 2004.

4.0 AREA T-4 REMEDIAL SYSTEM

The former Area T-4 SVE system was decommissioned in September 2001 with the approval of NYSDEC.

Dual phase well T-4 (also known as DPT-261) was taken out of service as a SVE well in 2001, but remains usable as a groundwater extraction well should groundwater concentrations increase in the T-4 area.

5.0 GROUNDWATER EXTRACTION SYSTEM O&M ACTIVITIES

5.1 2009 EXTRACTION SYSTEM MODIFICATIONS

In 2009, carbon steel extraction well screens and riser pipes were replaced with stainless steel in EW-1, EW-2, EW-3, and EW-6. Frequent corrosion holes in the carbon steel risers were leading to pump downtime, due to pulling the risers and replacing damaged sections of pipe approximately once per year. Under Site conditions, stainless steel is expected to last 5 to 7 years, thus avoiding the need to replace damaged sections due to corrosion failure. While the extraction wells were pulled, the pump and motor were replaced in EW-1 and EW-2, and the pump was replaced in EW-3.

Routine pump cleaning was performed several times throughout the course of the year.

5.2 SUMMARY OF OPERATIONS – 2009

The bedrock groundwater extraction system operated in automatic mode throughout the reporting period, with visits to the Site two times per week to confirm pump operation, perform piping inspections, and complete other routine O&M activities. The operational status of the groundwater extraction system is also monitored remotely by computer.

Following the work described above on EW-1, EW-2, EW-3, and EW-6, each of the wells operated reliably. In addition, the other four bedrock extraction wells (EW-4, EW-5, LR-66, and OW-3) and the dual phase extraction wells (DPA-201 through 203) generally operated reliably throughout 2009.

5.3 MASS REMOVAL – 2009

5.3.1 EXTRACTION WELLS EW-1 THROUGH EW-6

Mass removal calculations for extraction wells EW-1 through EW-6 are summarized in Tables 5.1 through 5.6, respectively.

The mass removal of VOCs from groundwater for each extraction well was calculated on a quarterly basis using flow volumes and analytical data for the quarter. The volume of groundwater pumped from the six extraction wells is summarized below.

Extraction Well	*First Quarter*	*Second Quarter*	*Third Quarter*	*Fourth Quarter*	*2009 Total*
EW-1	309,657	335,467	303,750	260,375	1,209,249
EW-2	660,690	1,270,865	1,160,069	929,924	4,021,548
EW-3	82,708	161,606	155,410	121,806	521,530
EW-4	124,591	118,530	109,205	116,518	468,844
EW-5	1,307,481	1,582,927	1,617,761	1,096,171	5,604,340
EW-6	324,968	347,012	267,801	160,867	1,100,648
Total gallons pumped	2,810,095	3,816,407	3,613,996	2,685,661	12,926,159

The total mass, in pounds, removed by the six extraction wells in 2009 is summarized below.

Extraction Well	*First Quarter*	*Second Quarter*	*Third Quarter*	*Fourth Quarter*	*2009 Total*
EW-1	63	66	66	77	273
EW-2	74	97	214	279	664
EW-3	11	4	5	4	23
EW-4	13.2	7.8	3.1	16.6	41
EW-5	26.3	16.0	31.9	21.4	96
EW-6	63.6	82.2	29.3	120.8	296
Total Pounds of VOCs Removed					1,393

The 1,393 pounds of VOCs removed from groundwater by EW-1 through EW-6 in 2009 represents a 41 percent decrease compared with 2008 (2,368 pounds of VOCs removed). The volume of groundwater extracted by EW-1 through EW-6 in 2009 (12.9 million gallons) was 18 percent lower than in 2008 (15.8 million gallons), and the removal efficiency (pound of VOC recovered/1,000 gallons of groundwater extracted) of the six extraction wells as a group decreased from 0.15 in 2008 to 0.11 in 2009. This represents a 27 percent decrease in removal efficiency, and is directly related to a decrease in the average influent concentrations for the three main SSPLs (carbon tetrachloride, carbon disulfide, and chloroform). See Section 9.2 for a summary of mass removal by groundwater extraction on a year-to-year basis.

One extraction well was responsible for most of this decrease in mass removal. The mass of VOCs extracted by EW-6 in 2009 dropped from 1,321 pounds in 2008 to 296 pounds in 2009, a decrease of 78 percent. Much of this decrease can be explained by the fact that EW-6 extracted 2.1 million fewer gallons in 2009 than in 2008. Although it consistently maintained the groundwater level at its predetermined set points, actual operating time of the EW-6 pump decreased in 2009 due to less water being available for

extraction and therefore fewer operating cycles. The removal efficiency of EW-6 decreased from 0.41 pound VOC/1,000 gallons extracted in 2008 to 0.27 pound VOC/1,000 gallons extracted in 2009.

Removal efficiencies increased between 2008 and 2009 at EW-1 (from 0.17 to 0.23) and at EW-2 (from 0.12 to 0.17 pound VOC/1,000 gallons extracted). Despite the 2009 increase, the removal efficiency of EW-1 has generally decreased over time. It was 0.52 pound VOC/1,000 gallons extracted in 2006 and 0.35 in 2007. The decrease in removal efficiency since 2006 is related to decreasing influent VOC levels. With the exception of 2008, the removal efficiency of EW-2 has remained fairly constant (0.18 pound VOC/1,000 gallons extracted in 2007 and 0.16 in 2006).

The removal efficiency decreased significantly between 2008 and 2009 at EW-3 (from 0.18 to 0.04 pound VOC/1,000 gallons extracted). The removal efficiency of this well was also 0.18 in 2007.

The removal efficiency increased slightly between 2008 and 2009 at EW-4 (from 0.08 to 0.09 pound VOC/1,000 gallons extracted).

The removal efficiency decreased slightly between 2008 and 2009 at EW-5 (from 0.03 to 0.02 pound VOC/1,000 gallons extracted).

Compounds removed by EW-1 through EW-6 in 2009 consisted mainly of carbon tetrachloride (574 pounds, 41 percent of the total removed), carbon disulfide (511 pounds, 37 percent of the total), chloroform (274 pounds, 20 percent of the total), tetrachloroethene (16 pounds, 1 percent of the total), trichloroethene (2 pounds, 0.1 percent of the total), methylene chloride (10 pounds, 0.7 percent of the total), and chlorobenzene (7 pounds, 0.5 percent of the total). Section 9.2 provides historical breakdowns of the compounds removed by groundwater extraction since 1999.

For the group of six extraction wells, the mass of carbon tetrachloride removed in 2009 decreased by 746 pounds compared with 2008, and the mass of chloroform removed decreased by 218 pounds. The mass of carbon disulfide, chlorobenzene, tetrachloroethene, trichloroethene, and methylene chloride removed remained about the same as in 2008.

5.3.2 AREA A DUAL WELLS DPA-201, DPA-202, AND DPA-203

Mass removal calculations for VOCs removed from shallow groundwater by DPA-201, DPA-202, and DPA-203 are summarized in Tables 5.7 through 5.9, respectively.

The mass removal estimate for the dual wells is based on quarterly flow data and quarterly analytical results. The volume of groundwater pumped from the three Area A dual wells is summarized below.

Total Volume of Groundwater (Gallons) Pumped – 2009					
Well No.	*1st Quarter*	*2nd Quarter*	*3rd Quarter*	*4th Quarter*	*System Total-2009*
DPA-201	25,960	21,850	19,490	20,240	87,540
DPA-202	29,489	29,011	19,460	11,681	89,641
DPA-203	23,078	89,949	133,493	56,490	303,010
				Total Gallons Pumped	480,191

The above represents a 36 percent increase in recovered groundwater by the dual phase wells between 2008 and 2009. DPA-203 was solely responsible for the increase, as the volume extracted by the well more than doubled that of 2008 (135,548 gallons extracted). The amount of groundwater recovered in 2009 by DPA-201 and DPA-202 decreased by 13 percent and 24 percent, respectively, compared with 2008 levels.

The total mass removed by the three dual wells is summarized below.

Total VOCs Removed (Pounds) – 2009					
Well No.	*1st Quarter*	*2nd Quarter*	*3rd Quarter*	*4th Quarter*	*Total*
DPA-201	0	1.1	0	0	1.1
DPA-202	51.4	39.1	28.2	10.2	129
DPA-203	85.8	227.8	0	151.0	465
				Total VOCs Removed in 2009 (Pounds)	595.1

The 595.1 pounds of total VOCs recovered by DPA-201, DPA-202, and DPA-203 in 2009 represent a 25 percent increase from 2008 (476.5 pounds recovered), and a 47 percent increase from 2007 (405 pounds recovered). Despite the increase in mass recovered compared with 2008, the removal efficiency of the three dual phase extraction wells as a group decreased, from 1.34 pounds VOC/1,000 gallons extracted in 2008 to 1.24 pounds VOC/1,000 gallons extracted in 2009. This decrease is due to reduced influent concentrations.

From 2008 to 2009, removal efficiency at DPA-201 increased from 0.005 to 0.013 pounds VOC/1,000 gallons extracted, DPA-202 decreased from 1.67 to 1.44 pounds VOC/1,000 gallons extracted, and DPA-203 decreased from 2.06 to 1.53 pounds VOC/1,000 gallons extracted.

The major compounds removed from groundwater by the three dual wells were carbon tetrachloride (489 pounds, 82.5 percent of the total recovered) and chloroform (94 pounds, 15.9 percent of total). Approximately 9 pounds of carbon disulfide (1.5 percent of total) and 1 pounds of tetrachloroethene (<1 percent of total) were also removed.

5.3.3 AREA T-4 EXTRACTION WELL DPT-261 (T-4)

Extraction well DPT-261 (T-4) operated very infrequently during 2007 due to a lack of recoverable water. Although there was sufficient water to sample T-4 during all of the quarterly groundwater sampling events, the automatic air-driven pump did not recover measurable amounts of water for the majority of the year. Well T-4 recovers less than 0.1 gallons per minute (GPM) when it operates. Consistent with previous years, the mass of organic compounds recovered from T-4 in 2008 was negligible, less than 1 pound for the year.

5.3.4 EXTRACTION WELL OW-3

The mass of SSPL compounds removed from groundwater by OW-3 is summarized in Table 5.10. The volume of groundwater pumped from OW-3 in 2009 was 141,750 gallons, a decrease of 42 percent from 2008. The water level in the well remained near the pump level much of the year, and the pump cycled significantly less in 2009 compared with 2008. A total of 763 pounds of VOCs were removed from groundwater by OW-3 in 2009, a decrease of 1,173 pounds compared with 2008 (1,936 pounds). This decrease is due both to lower extraction rates and generally lower influent concentrations.

The 2009 removal efficiency of OW-3 was 5.38 pounds VOC/1,000 gallons extracted, compared with a removal efficiency of 7.87 pounds VOC/1,000 gallons extracted in 2008. The compounds removed were carbon disulfide (662 pounds, 87 percent of the total recovered), carbon tetrachloride (81 pounds, 10 percent of total), and chloroform (20 pounds, 3 percent of total).

5.3.5 EXTRACTION WELL LR-66

Former Lockport-Rochester monitoring well LR-66 was converted into a permanent groundwater extraction well in June 2005 and became operable on July 1, 2005.

The mass removal calculations for organic compound removed from groundwater by LR-66 are summarized in Table 5.11. The volume of groundwater pumped from LR-66 in 2009 was 92,182 gallons, down 27 percent from 2008 (126,323 gallons). A total of 5 pounds of VOCs was removed from groundwater by LR-66 in 2009, compared with 10 pounds removed in 2008. The removal efficiency of LR-66 was 0.05 pound VOC/1,000 gallons extracted, a significant decrease from 0.08 pounds VOC/1,000 gallons extracted in 2008. The compounds removed in 2009 were carbon tetrachloride (4 pounds, 80 percent of total recovered), chloroform (0.5 pound, 10 percent of total), and carbon disulfide (less than 1 pound, 10 percent of total).

5.3.6 AREA A KNOCKOUT POT AND SUMP

Although not specifically part of the groundwater extraction system, the Area A SVE system air/water separator (i.e., knockout pot) and the 10-foot long PVC "sump" collects groundwater that is present in the SVE air stream (as entrained moisture in the soil gas) and groundwater that is removed by the drop tube assemblies and the blower. The sump is a 12-inch diameter, 10-foot long PVC pipe located at one end of the Area A header assembly, just inside the Treatment Building.

The mass of organic compounds removed from groundwater by the knockout pot and sump is summarized in Table 5.12. The sump is sampled on a quarterly basis, at the time of the groundwater sampling events.

The volume of groundwater recovered by the Area A knockout pot and the pipe sump is also summarized in Table 5.12. The volume recovered in 2009 was 775,598 gallons, an 11 percent increase over 2008. The knockout pot and sump removed a total of <1pound of VOCs in 2009, about the same amount that was removed in 2008.

Although additional groundwater was brought into the SVE treatment system from Area A (likely due to increased precipitation in 2009), this groundwater did not adversely affect Area A operations. This is due to the rebuild of the two diaphragm pumps that remove water from the knockout pot and the Area A “sump” pipe, which has allowed the SVE system to keep up with groundwater entering the treatment area from the Area A well field.

5.4 ROUTINE MAINTENANCE

The operational status of the extraction and dual phase wells is monitored during the weekly visits to the Site. The flows from each of the wells are recorded weekly in the O&M logbook. If the submersible pumps are not maintaining the desired drawdown, or if the dual pumps are not cycling properly, pump maintenance is performed.

All of the extraction wells have been tied into one of two leak detection systems. A leak in the forcemain of any well on either system will shut off all of the pumping associated with the system. In 2009, no leaks were detected in any forcemains.

6.0 GROUNDWATER TREATMENT SYSTEM

6.1 SUMMARY OF OPERATIONS – 2009

The groundwater treatment system operated in the automatic mode in 2009 with at least weekly visits to the Site to perform system monitoring, inspections, and other routine O&M activities. The autodialer is programmed to alert CRA personnel if the groundwater treatment system shuts down or if the Treatment Building floor sump goes to high level. In addition, the operating status of the groundwater treatment system can be monitored remotely by computer.

The groundwater treatment system operated continuously and reliably throughout 2009 with no major repairs. There was, however, one treatment component replaced. As discussed in Section 1.2.4, a 1,500-gallon cone bottom tank was installed in May 2009 to replace the original NAPL Separator Tank, which had deteriorated. In addition, oil-water separation is not required at the Site, as no NAPL has been observed since beginning system operation. The new cone bottom tank will provide solids settling prior to the influent water entering the carbon treatment system.

In December 2009, the carbon feed pump began shutting down on an intermittent basis. The cause was traced to the variable frequency drive, which was replaced in late December.

Besides the above work, the treatment system was shut down only briefly to perform routine maintenance and carbon changes.

6.2 MAINTENANCE, INSPECTION, AND MONITORING ACTIVITIES

6.2.1 ROUTINE TREATMENT SYSTEM MAINTENANCE

Routine inspection and maintenance of the groundwater treatment system is performed weekly during visits to the Site. Routine weekly inspections and maintenance include:

i) general visual inspection of the treatment equipment for leaks, overflows, or malfunctions

ii) inspection of process-indicating instruments, including sight glass on DNAPL separator

iii) inspection of aboveground SVE piping

iv) recording operating conditions in logbook

v) correction of operational problems

vi) replacement of bag filters, as indicated by differential pressure across the filters

vii) repair or replacement of damaged parts

All inspections are recorded in the O&M logbook.

The treatment system is shut down periodically to perform routine maintenance on the system components. The periodic maintenance shutdowns involved cleaning and inspection of the following:

i) cone bottom tank

ii) carbon feed tank

iii) carbon feed pump

iv) bag filter housings

The carbon vessels are cleaned and inspected during routine carbon changeouts.

6.2.2 TREATMENT SYSTEM MODIFICATIONS

As discussed in Sections 1.2.4 and 6.1, the NAPL Separator Tank was replaced with a cone-bottom tank that will provide additional settling capability ahead of the carbon feed tank.

6.2.3 GROUNDWATER TREATMENT SYSTEM PROCESS MONITORING

Samples for chemical analysis are collected routinely from the groundwater treatment system. Samples are collected weekly from the carbon interstage. The groundwater influent and system effluent are sampled monthly, at a minimum. Process monitoring sample analytical results are presented in Appendix A. Influent, carbon interstage, and effluent data are summarized in Tables A-1 to A-3, respectively.

The 2009 analytical data for the monthly influent groundwater samples are presented in Table A-1. The data indicate that typically only carbon tetrachloride, carbon disulfide, and chloroform are detected in high concentrations in the influent.

The 2009 analytical data for the weekly carbon interstage groundwater samples are presented in Table A-2. The data indicate that the results are non-detect except when breakthrough occurred. During 2009, a carbon changeout was scheduled when breakthrough of VOCs was detected between the lead carbon bed and the polish carbon bed (interstage).

Two carbon changeouts were performed during the year:

- January 22, 2009
- April 28, 2009

The interstage sample results returned to non-detect following the carbon bed change.

The analytical data for effluent samples collected from the groundwater treatment system are presented in Table A-3. Effluent samples are collected and analyzed monthly, at a minimum.[1] There were two low-level detections of carbon tetrachloride in the effluent during 2009. One occurred in February (13 parts per billion [ppb]) and the other in November (7.3 ppb). Follow-up sampling indicated that the detections were anomalous, as there were no other detected SSPLs for the year.

6.2.4 GROUNDWATER TREATMENT SYSTEM PERFORMANCE MONITORING – 2009

All extraction wells are sampled on a quarterly basis. Sampling of the Site-wide monitoring well network is performed on a semiannual basis. The purpose of the groundwater monitoring is to evaluate progress of the groundwater extraction system in removing the SSPL compounds from the groundwater. The groundwater sampling data is used to determine whether trends indicate that the concentration of chemicals in the Site groundwater are increasing, decreasing, or remaining stable.

Groundwater samples are collected in accordance with established procedures and protocols. The samples are shipped to Columbia Analytical Services for analysis following Chain of Custody procedures. The laboratory sends the analytical results to CRA. The results are reviewed, collated, put into tabular form, sent to SMC for review, and included in the status reports to NYSDEC.

[1] Additional samples are collected whenever the data indicate detected concentrations of VOCs in the effluent.

Groundwater sampling events were performed at the Site in 2008 as follows:

i) February 2009 (extraction wells and monitoring wells W-17 and OW-11)

ii) May 2009 (monitoring well network and extraction wells)

iii) August 2009 (extraction wells and monitoring wells W-17 and OW-11)

iv) November 2009 (monitoring well network and extraction wells)

The analytical results for the groundwater samples are presented in Appendix B, Tables B-1 through B-4.

6.2.5 GROUNDWATER TREATMENT SYSTEM PERFORMANCE MONITORING – 2010

The quarterly and semiannual sampling programs will continue through the year 2010 as follows:

i) Quarterly Sampling: Quarterly sampling rounds will be performed in February, May, August, and November 2009. A total of 12 extraction wells and 2 monitoring wells will be sampled including:

   a) Bedrock extraction wells – EW-1 through EW-6, LR-66, and OW-3

   b) Dual wells – DPA-201, DPA-202, and DPA-203

   c) T-4 (as long as sufficient water is present)

   d) Monitoring wells OW-11 and W-17

ii) Semiannual Sampling: During 2010, semiannual sampling will be performed in May and November. Wells to be sampled include the extraction wells plus the following 47 monitoring wells:

Upper Lockport Wells	*Lower Lockport Wells*	*Lockport/ Rochester Wells*	*Rochester Wells*
OW-11	W-18L	W-19B	B-02
W-11	W-19A	LR-2	R-16
W-16	W-23B	LR-16	R-19
W-16L	W-48E	LR-67	R-68
W-17	W-50L	LR-20	R-48
W-18R	W-60L	LR-48	R-50
W-19D	W-65	LR-49	R-51
W-20	W-66L	LR-50	R-60
W-22	W-67L	LR-51	R-61
W-23C	W-70L	LR-61	R-62
W-66		LR-62	R-66
W-67		LR-69	R-67
		OW-5	

6.2.6 FACILITIES, STRUCTURES, AND GROUNDS MAINTENANCE

The facilities, structures, and grounds are inspected and maintained regularly as specified in the O&M Manual. These inspections are carried out during routine Site visits. These routine inspection tasks include checking the appearance of the grass, driveways, walkways, fencing, and lighting and containment areas. Inspections and maintenance tasks inside the Treatment Building include checking the appearance of walls, floors, ceiling, doors, walkways, emergency equipment, lights, sumps, and equipment support structures. Any problems or deficiencies are noted in the O&M logbook.

6.2.7 UNSCHEDULED MAINTENANCE

Unscheduled maintenance was performed at the Site as required in 2009. Examples of unscheduled maintenance activities performed are:

i) pump maintenance or replacement

ii) extraction well riser pipe replacement

iii) equipment repair or replacement

Sections 5.1 and 6.1 discuss unscheduled maintenance related to extraction well riser pipe replacements and treatment system component replacement, respectively.

6.2.8 MONITORING WELL INVENTORY

An inventory/inspection of the Site monitoring wells was performed in conjunction with the November 2009 groundwater sampling event. A copy of the well inventory is included as Appendix C. The well inventory indicates that the wells are in generally good condition, although six monitoring wells have cracked concrete collars. This repair work will be performed in Spring 2010.

7.0 GROUNDWATER LEVEL MONITORING AND CHEMISTRY – 2009

Depth-to-groundwater measurements were recorded for all wells during the February, May, August, and November quarterly sampling events in 2009. Table 7.1 presents the measured groundwater levels for the four events. The May 2009 data were used to prepare potentiometric surface contour maps for each of the four water bearing zones (WBZs). The WBZs include the Upper Lockport, the Lower Lockport, the Lockport/Rochester, and the Rochester. In addition to the potentiometric surface contours, chemical isocontour figures were prepared for each WBZ using groundwater data obtained during the May 2009 event.

The potentiometric surface contour maps and chemical isocontour figures are discussed in the following sections.

7.1 GENERAL

7.1.1 GROUNDWATER POTENTIOMETRIC CONTOURS

Potentiometric surface contours were prepared for each WBZ based on the measured depths to groundwater in the May 2009 sampling event. Hydraulic containment was determined by evaluating the potentiometric contours, as well as considering the results of a detailed hydraulic monitoring program performed in 2000. The 2000 hydraulic monitoring program assessed the relationship between groundwater elevations in individual wells and their responses to pumping activity in the various Site WBZs using transducers installed in individual wells. The results of that program, including individual well hydrographs, were presented in the 2000 Annual Operations and Maintenance Report, March 2001.

Table 7.2 presents a summary of the monitoring wells and extraction wells classified by WBZ. The wells are classified under a specific WBZ if they are screened across or have open intervals in the specific WBZ. This classification was used to prepare the potentiometric surface contour maps for the May 2009 event.

During the preparation of potentiometric surface contours for the various WBZs, CRA noted that several monitoring wells did not appear to be hydraulically connected to the monitored WBZ. For example, well W-17 in the Upper Lockport formation, well W-23B in the Lower Lockport formation, well LR-69 in the Lockport/Rochester formation, and well R-66 in the Rochester formation exhibited anomalous water levels and, therefore, were not used to create groundwater contours. Well W-23B showed hydraulic response

to Lower Lockport pumping in the 2000 hydraulic monitoring program, while W-17, LR-69, and R-66 did not show response to pumping in their respective WBZs. A review of the stratigraphic logs for the latter two wells indicates that the Rochester WBZ at R-66 and the Lockport-Rochester WBZ at LR-69 are generally less fractured than in other areas of the Site; hence, hydraulic interconnection is lower at these two deep monitoring wells. The wells that are not used for contouring are noted on the various potentiometric contour figures.

In addition, water levels for the deep bedrock extraction wells (EW-1, EW-2, and EW-3, whose open intervals span the Lower Lockport, Lockport/Rochester, and Rochester WBZs) were adjusted to levels representative of the specific WBZ. This was done when the measured water level for the deep extraction well was significantly below the base of the designated WBZ (for the Lower Lockport and Lockport/Rochester WBZs) or significantly below the water level elevations of the surrounding wells in a particular WBZ (for the Rochester WBZ). The groundwater elevations in the immediate vicinity of the deep extraction wells are assumed to be at or near the base of the respective WBZ, since the WBZs at the extraction wells are essentially dewatered. However, for generating groundwater contours, these water levels were conservatively assumed to be 5 to 10 feet lower than the lowest measured water level from the respective WBZs (but not lower than the base of the WBZ). This allows meaningful water level contours to be created for each WBZ in the regions around the deep extraction wells, while accounting for potential influences from extraction well operations and well and fracture efficiencies. These assigned values for EW-1, EW-2, and EW-3 are as follows:

Lower Lockport	545 feet mean sea level (MSL)
Lockport/Rochester	545 feet MSL
Rochester	490 feet MSL

Note that the assigned EW-1, EW-2, and EW-3 water level value for both the Lower Lockport and the Lockport/Rochester WBZs for purposes of plotting potentiometric contours is 545 feet MSL. This value reflects the fact that the lowest measured water level in both Lower Lockport and Lockport/Rochester WBZ hydraulically-connected monitoring wells was approximately 550 feet MSL.

For the Upper Lockport potentiometric contour maps, extraction wells EW-1, EW-2, and EW-3 were not used to generate contours, as these wells are not open in the Upper Lockport. Groundwater elevations for combined Upper and Lower Lockport extraction wells EW-4, EW-5, and EW-6 were adjusted to 570 feet MSL for contouring the Upper

Lockport WBZ. The 570 feet MSL is a level very near the lowest measured water level in the Upper Lockport WBZ on Site. Actual water level elevations for EW-4, EW-5, and EW-6 were used for contouring the Lower Lockport WBZ.

7.1.2 CHEMICAL ISOCONTOURS

Chemical isocontours for each WBZ were prepared using analytical data from the May 2009 semiannual groundwater monitoring event. Two figures were prepared for the May data: one for carbon disulfide concentrations, and a second for the sum of carbon tetrachloride and chloroform concentrations[2]. A logarithmic scale was utilized for the isocontour plots.

Note that the May 2009 groundwater analytical results for carbon disulfide and for the sum of carbon tetrachloride and chloroform are also shown on the Groundwater Potentiometric Surface Contour figures for the four WBZs. The analytical results are listed below each well that is monitored in the specific WBZ.

7.2 UPPER LOCKPORT WATER BEARING ZONE

The Upper Lockport WBZ is the shallowest waterbearing fracture zone at the Site. The Upper Lockport WBZ consists of the base of the overburden and approximately the top 25 feet of the Lockport bedrock. This zone is generally highly fractured. Existing Site information indicates that the Upper Lockport WBZ pinches out and is not present on the western portion of the Site. DPA-201, DPA-202, DPA-203, EW-4, EW-5, and EW-6 extract groundwater from the Upper Lockport WBZ.

7.2.1 GROUNDWATER POTENTIOMETRIC CONTOURS

Figure 7.1 presents the Groundwater Potentiometric Surface Contours for the Upper Lockport WBZ for the May 2009 event. Based upon the groundwater potentiometric surface contours, Upper Lockport groundwater flow is generally east to west through the middle of the Site. There is a slight response to pumping in Area A from the dual phase wells. There is also localized response to pumping from extraction wells EW-4, EW-5, and EW-6, which are completed in both the Upper and Lower Lockport WBZ.

[2] Chemical concentrations of carbon tetrachloride and chloroform are combined (summed) for preparation of isocontour figures because chloroform is a breakdown (daughter) product of carbon tetrachloride.

7.2.2 CHEMICAL ISOCONTOURS

The chemical isocontour plots for the Upper Lockport WBZ for May 2009 are presented on Figures 7.2 and 7.3. A review of these contours indicates that the only elevated carbon disulfide concentrations exist in the groundwater around DPA-202 and DPA-203 (Figure 7.2) in Area A. Elevated levels of carbon tetrachloride and chloroform are present at both DPA-202 and DPA-203, and at W-17 (Figure 7.3). The mass loading calculations indicate that DPA-202 and DPA-203 were responsible for removing approximately 600 pounds of VOCs in 2009, primarily carbon tetrachloride and chloroform.

Note that there were no detectable levels of carbon disulfide in Upper Lockport wells west of Area A. Four Upper Lockport monitoring wells had detectable levels of carbon tetrachloride and chloroform west of Area A. The highest (W-66) had a concentration of 1,300 ppb, and the others were all well below 100 ppb.

The chemical isocontour plots for the Upper Lockport WBZ illustrate that DPA-202 and DPA-203 are well-placed to address the areas of elevated concentrations of the two main Site contaminants. The mass loading data indicate that these pumping wells are effective in recovering VOCs from the Upper Lockport WBZ.

A comparison of the 2009 Upper Lockport carbon disulfide isocontours (Figure 7.2) with those of 2008 indicates that the area of carbon disulfide-impacted groundwater increased slightly, although the concentrations in the center of the impacted area showed some decreases. A comparison of the 2009 Upper Lockport carbon tetrachloride plus chloroform (CTET+CHL) isocontours (Figure 7.3) with those of 2008 does not show a clear trend, but concentrations in several wells in the center of the impacted area did increase in 2009.

7.3 LOWER LOCKPORT WATER BEARING ZONE

The Lower Lockport WBZ is the second bedrock WBZ identified at the Site. The Lower Lockport WBZ generally includes groundwater in the fractured bedrock from about 50 to 75 feet below top of rock.

EW-1 through EW-6 extract groundwater from the Lower Lockport WBZ.

7.3.1 POTENTIOMETRIC SURFACE CONTOURS

Potentiometric surface contours for the Lower Lockport WBZ for May 2009 are presented as Figure 7.4.

The groundwater potentiometric contours indicate that the VOCs in the Lower Lockport WBZ are being contained, captured on Site, and recovered by the groundwater extraction system.

7.3.2 CHEMICAL ISOCONTOURS

Chemical isocontours were prepared for the Lower Lockport WBZ for carbon disulfide (Figure 7.5) and carbon tetrachloride and chloroform combined (Figure 7.6). The chemical isocontour maps for carbon disulfide indicate areas of elevated concentrations in the Lower Lockport WBZ around extraction wells EW-6 and EW-5, and monitoring well W-16L. Hydraulic monitoring data indicate that W-16L is within the capture zone of combined Upper and Lower Lockport extraction well EW-5 and deep extraction well EW-3. EW-6 is near the center of the capture zone at the Site.

The chemical isocontour map for carbon tetrachloride and chloroform combined indicates areas of elevated concentrations around EW-6 and EW-4. Other nearby wells with elevated concentrations include W-18L, W-67L, W-23B, and EW-5. Mass loading concentrations for EW-4, EW-5, and EW-6 indicate that approximately 400 pounds of carbon tetrachloride and chloroform were recovered from these wells in 2009.

The 2000 hydraulic monitoring data indicate that W-67L, W-18L, and W-23B respond to pumping activity at the Site. The May 2009 surface contours and chemical isocontours illustrate that the existing groundwater extraction system is effective in containing and recovering SSPLs from the Lower Lockport WBZ.

A comparison of the 2009 Lower Lockport carbon disulfide isocontours (Figure 7.5) with that of 2008 indicates a general decrease in carbon disulfide concentrations and a smaller impacted area. A comparison of the 2009 Lower Lockport CTET+CHL isocontours (Figure 7.6) with that of 2008 indicates no significant changes in the concentrations of these two SSPLs, nor in the size and shape of the impacted area.

7.4 LOCKPORT/ROCHESTER WATER BEARING ZONE

The Lockport/Rochester WBZ is the third WBZ encountered in the bedrock at the Site. The Lockport/Rochester WBZ is a slightly fractured WBZ at the base of the Lockport bedrock, and is at or near the contact with the Rochester shale. EW-1 through EW-3 and LR-66 extract groundwater from the Lockport/Rochester WBZ.

7.4.1 POTENTIOMETRIC SURFACE CONTOURS

Potentiometric surface contours were prepared for the Lockport/Rochester WBZ for May 2009 (Figure 7.7). A review of the contours under pumping conditions indicates that EW-1, EW-2, and EW-3 have a dramatic effect on the groundwater in this WBZ. In addition, the effect of LR-66 on groundwater recovery is evident. The direction of flow is from the Site perimeter inward toward the extraction wells. The pumping contours indicate hydraulic capture across the entire Site.

7.4.2 CHEMICAL ISOCONTOURS

Chemical isocontour maps of the Lockport/Rochester WBZ were prepared from the May 2009 groundwater sampling data. Chemical isocontours for carbon disulfide are presented on Figure 7.8. Chemical isocontours for carbon tetrachloride and chloroform combined are presented on Figure 7.9.

The chemical isocontour plot for carbon disulfide indicates an area of high concentration in groundwater around OW-5 and adjacent well LR-67. Hydraulic monitoring has shown that there is a strong inward gradient toward the middle of the Site. Previous hydraulic monitoring activities indicate that both wells respond to pumping activity.

The chemical isocontour plot for carbon tetrachloride and chloroform indicates that an area of high concentrations exists around monitoring wells LR-61 and W-19B. Nearby extraction well LR-66 and monitoring well LR-2 also exhibit elevated CTET+CHL concentrations. Previous hydraulic monitoring has shown that LR-61, W-19B, and LR-2 all respond to pumping activity, and are situated within the cone of depression of extraction wells EW-2 and EW-3.

The chemical isocontour maps confirm that the existing groundwater treatment system is effective at containing and recovering VOCs from the Lockport/Rochester WBZ.

A comparison of the 2009 Lockport/Rochester carbon disulfide isocontours (Figure 7.8) with that of 2008 indicates no significant changes in carbon disulfide concentrations. A comparison of the 2009 Lockport/Rochester CTET+CHL isocontours (Figure 7.9) with that of 2008 also indicates no significant changes in the concentrations of these two SSPLs.

7.5 ROCHESTER WATER BEARING ZONE

The Rochester WBZ is the fourth and deepest bedrock WBZ being remediated at the Site. EW-1 through EW-3 and OW-3 extract groundwater from the Rochester WBZ.

7.5.1 POTENTIOMETRIC SURFACE CONTOURS

The potentiometric surface contour for the Rochester WBZ is presented on Figure 7.10.

The potentiometric contours show a dramatic response to pumping with a strong inward gradient toward EW-1, EW-2, and EW-3. The pumping contours indicate that there is hydraulic containment within the Rochester WBZ across the Site.

7.5.2 CHEMICAL ISOCONTOURS

Chemical isocontour maps of the Rochester WBZ were prepared from the May 2009 groundwater sampling data.

The carbon disulfide chemical isocontour map (Figure 7.11) shows two distinct areas of elevated carbon disulfide in the Rochester WBZ Zone. The first area is around extraction well OW-3, which removed over 650 pounds of carbon disulfide in 2009. Monitoring wells nearby OW-3 with elevated carbon disulfide concentrations are R-66, R-68, and R-60. All of these wells showed a response to pumping during the 2000 hydraulic monitoring program. The second area of elevated carbon disulfide is centered around monitoring wells R-67 and R-62, and, to a lesser extent, R-61. These wells are all located relatively close to extraction well EW-3 and show a strong response to Rochester WBZ pumping.

As shown on Figure 7.12, carbon tetrachloride and chloroform are also found in very high concentrations around OW-3. OW-3 removed in excess of 100 pounds of these two constituents during 2009. Other wells with high concentrations are R-68, R-66, R-19,

B-02, and R-50. Each of these wells is in the capture zone, and the existing groundwater extraction has been demonstrated to be effective in removing VOCs from groundwater in the Rochester WBZ.

A comparison of the 2009 Rochester carbon disulfide isocontours (Figure 7.11) with that of 2008 indicates a general decrease in carbon disulfide concentrations. A comparison of the 2009 Rochester CTET+CHL isocontours (Figure 7.12) with those of 2008 indicates a significant decrease in concentrations at OW-3, but no other significant changes in the concentrations of these two SSPLs at other extraction and monitoring wells.

8.0 NORTH SIDE WELL GAS AND GROUNDWATER SAMPLING

As approved by NYSDEC, the North Side well sampling program was discontinued in June 2004. However, Upper Lockport bedrock monitoring well OW-11 continues to be sampled quarterly as part of the routine groundwater monitoring program. Figure 8.1 presents the locations of the North Side wells.

9.0 SUMMARY OF MASS REMOVAL

Mass removals from groundwater and soil gas have been reported for individual wells and SVE systems in previous sections of this report. This section presents combined mass removal estimates for the groundwater and SVE systems at the Site. It also compares the total estimated mass removed for soil vapor and groundwater extraction in previous years with that for 2009.

9.1 SUMMARY OF MASS REMOVAL BY SOIL VAPOR EXTRACTION

The mass removal of organic compounds from soil vapors for SVE system Area A was discussed in Section 2.2. The total mass removed by the SVE system is summarized in Table 2.1.

As shown in Table 2.1 and discussed in Section 2.2, the total mass removed in the soil vapors from Area A in 2009 was approximately 108 pounds. The 108 pounds of organic compounds removed from Area A in 2009 represents a 79 percent decrease compared with the amount removed in 2008, and a 95 percent decrease compared with the amount removed in 2007. The decrease in removal between 2008 and 2009 is attributed to continued decreasing VOC concentrations in Area A influent. Note that the 2009 operating time was over 200 hours greater than that of 2008, and over 400 hours greater than 2007. However, the average influent vapor concentration in 2009 decreased by approximately 80 percent compared with 2008.

The removal efficiency of the Area A SVE system (pound of VOCs recovered per operating hour) over the past 11 years is shown in the following table.

Year	*Pounds of VOC Removed*	*Operating Hours*	*Removal Efficiency (pound VOC per operating hour)*
1999	1,130	3,240	0.35
2000	153	3,360	0.05
2001	154	6,264	0.02
2002	1,207	6,307	0.19
2003	937	3,573	0.26
2004	228	4,582	0.05
2005	1,954	6,425	0.30
2006	1,712	6,113	0.28
2007	2,349	7,406	0.32
2008	507	7,599	0.07
2009	108	7,811	0.01
Total	**10439**	**62,680**	**-**
Annual Average	**949**	**5,698**	**0.17**

The operating time for Area A is related to the condition of the blower and of the header system that conveys extracted vapor to the blower for subsequent removal in the carbon beds. The replacement of Headers No. 2 and No. 3 in 2003 greatly improved the effectiveness of those two headers, which had experienced significant corrosion between 2000 and 2002. In 2004, the integrity of the steel header collection system just inside the Treatment Building significantly worsened due to corrosion, and the entire section was replaced late in the year with PVC pipe. The pipe installed as a "sump" during the header upgrade contributed to increased Area A blower run times beginning in 2005, and the improved vacuum provided by the new PVC header contributed to increased VOC removal. In 2005, the original steel header pipe on Header #4 had seriously deteriorated, and was replaced with HDPE. Improvements in 2006 included the replacement of the heat exchanger core and the blower motor, and in 2007, the blower seals and gaskets were replaced. In 2008 and 2009, the diaphragm pumps that route groundwater collected from Area A to the main treatment area were rebuilt.

Table 9.1 compares the compound-specific removal of SSPLs by the Area A SVE system for the past 11 years. Except for 2000 and 2001, carbon tetrachloride and chloroform combined have comprised between 92 and 100 percent of the total vapor mass removed Area A. Tetrachloroethene has typically comprised the remainder of the mass removed.

9.2 SUMMARY OF MASS REMOVAL BY GROUNDWATER EXTRACTION

The mass removal of VOCs from groundwater by the eight bedrock groundwater extraction wells (EW-1 through EW-6, LR-66, and OW-3), dual wells (DPA-201, DPA-202, and DPA-203), and the Area A air/water separator (knockout pot) was discussed in Section 5.0 of this report. The total volume of groundwater pumped from the Site in 2009 is summarized in Table 9.2. The total amount of VOCs removed from groundwater at the Site in 2008 is summarized in Table 9.3.

As Table 9.2 indicates, approximately 14.4 million gallons of groundwater were pumped from the Site and treated through the on-Site treatment system. This volume represents a 17-percent decrease from 2008 levels (17.3 million gallons extracted in 2008). Significantly lower groundwater recovery from EW-6 accounted for the majority of the decrease.

Of the 14.4 million gallons extracted by the groundwater system in 2009, the bedrock extraction wells accounted for 91 percent of the total, and the overburden dual phase extraction wells (along with the Area A knockout pot/sump) accounted for 9 percent of the total. EW-5 accounted for 39 percent of the recovered groundwater, and EW-2 accounted for about 28 percent. Other significant extraction wells included EW-1 (8 percent of the total recovered), EW-6 (8 percent), EW-3 (4 percent), and EW-4 (3 percent).

As Table 9.3 indicates, the total number of pounds of VOCs recovered through groundwater extraction in 2009 was 2,754 pounds. Of this mass removed, 43 percent was carbon disulfide, 42 percent was carbon tetrachloride, and 14 percent was chloroform. Tetrachloroethene, methylene chloride, trichloroethene, and chlorobenzene combined were approximately 1 percent of the total mass removed from groundwater in 2009.

Extraction well OW-3 accounted for 28 percent of the total VOC mass removed in 2009, EW-2 accounted for 24 percent, DPA-203 accounted for 17 percent, EW-6 accounted for 11 percent, and EW-1 accounted for 10 percent. Other significant extraction wells for mass removal included DPA-202 (4 percent of the total mass removed from groundwater), and EW-5 (4 percent). The other four extraction wells accounted for the remaining 2 percent of the total mass recovered from groundwater on Site.

The 2,754 pounds of total mass removed by groundwater extraction in 2009, compared to 4,790 pounds removed in 2008, represents a 43 percent decrease in the total mass removed. The decrease is largely attributable to significant drops in mass removal in

OW-3 and EW-6, both of which recovered over 1,000 fewer pounds of SSPLs in 2009 compared with 2008.

The removal efficiency (pound VOCs recovered/1,000 gallons of groundwater extracted) of the groundwater extraction system at the Site over the past 11 years is shown below:

Year	*Pounds of VOC Recovered*	*Groundwater Extracted (1,000 gallons)*	*Removal Efficiency (pound of VOC recovered per 1000 gallons extracted)*
1999	4,250	10,310	0.41
2000	6,197	14,906	0.42
2001	10,270	17,327	0.59
2002	6,374	17,515	0.36
2003	6,710	19,276	0.35
2004	4,953	15,951	0.31
2005	4,898	15,496	0.32
2006	3,517	15,370	0.23
2007	3,672	16,545	0.22
2008	4,790	17,289	0.28
2009	2,754	14,416	0.19
Total	**58,385**	**175,401**	**-**
Annual Average	**5,308**	**15,946**	**0.33**

The above table illustrates that the removal efficiency of the groundwater extraction system has decreased from a high of 0.59 pound VOC recovered/1,000 gallons extracted in 2001 to its current removal efficiency of 0.19 in 2009. The overall decrease is due to a general decline in groundwater concentrations over time, which indicates that the extraction system is remediating Site groundwater.

Table 9.4 compares the compound-specific removal of SSPLs by groundwater extraction for the past 11 years. Between 1999 and 2003, carbon tetrachloride and chloroform combined comprised between 63 and 80 percent of the total mass removed in groundwater. Over the same time period, carbon disulfide comprised between 20 and 33 percent of the total.

However, between 2004 and 2009, the percentage of carbon tetrachloride and chloroform combined dropped to between 45 and 56 percent of the total mass removed by groundwater extraction, and the percentage of carbon disulfide has risen to between 44 and 53 percent. The amount of tetrachloroethene extracted in groundwater has remained constant at 1 percent of the total mass recovered.

9.3 SUMMARY OF MASS REMOVAL FOR THE SITE

The total mass removed by operation of the remedial systems at the Site in 2009 is summarized below:

Compound	*SVE*	*Groundwater Extraction*	*Site Total (pounds/year)*
Benzene	0	0	0
Carbon Disulfide	1	1,182	1,183
Carbon Tetrachloride	94	1,147	1,241
Chlorobenzene	0	7	7
Chloroform	7	387	394
Methylene chloride	0	10	10
Tetrachloroethene	5	18	23
Toluene	0	0	0
Trichloroethene	1	3	4
Total VOC Removal:	**108**	**2,754**	**2,862**

The 2,862 pounds of VOCs removed from soil and groundwater at the Site is a 46 percent decrease from 2008, due to a 1,974 pound decrease in mass removed by the groundwater extraction system and a 400 pound decrease in mass of VOCs removed by the SVE system.

Of the 2,862 pounds of VOCs removed from soil and groundwater at the Site, 43 percent was carbon tetrachloride, 41 percent was carbon disulfide, and 14 percent was chloroform. These three compounds account for 98 percent of the total mass of VOCs removed from the Site in 2009.

The total mass of VOCs removed by the operation of the remedial systems at the Site over the past 11 years is summarized below:

Year	*Pounds of VOC Removed by SVE*	*Pounds of VOC Removed in Groundwater*	*Total Pounds of VOC Removed per Year*
1999	1,221	4,294	5,515
2000	165	6,197	6,362
2001	154	10,269	10,423
2002	1,207	6,374	7,581
2003	937	6,710	7,647
2004	228	4,954	5,182
2005	1,954	4,899	6,853
2006	1,712	3,517	5,229
2007	2,348	3,672	6,020
2008	507	4,790	5,297
2009	108	2,754	2,862
Totals	**10,541**	**58,430**	**68,971**

Table 9.5 presents a breakdown of the compound-specific SSPL removal (in pounds per year) for the combined Site remedial systems (SVE and groundwater extraction). The table indicates that carbon tetrachloride and chloroform combined have accounted for 67 percent of the Site-wide recovered mass between 1999 and 2009, with carbon disulfide comprising another 32 percent.

10.0 CONCLUSIONS AND RECOMMENDATIONS

This section presents conclusions regarding the 2009 O&M of the Site and presents recommendations for O&M in 2010. The conclusions and recommendations are presented for both of the active remediation systems at the Site.

10.1 AREA A SVE REMEDIAL SYSTEM

The Area A SVE system operated over 7,800 hours (89 percent of the time) in 2009, which was the highest number of operating hours since tracking of operating time began in 1999. However, the number of pounds of SSPL organic compounds recovered by the SVE system, calculated based upon the operating hours, average system flow rate, and the influent vapor concentrations, dropped to 108 pounds in 2009, which was the lowest mass removal since tracking began (see Section 9.1). The decrease in mass removal is directly attributable to a decrease in average influent vapor concentrations, which decreased in 2009 by approximately 80 percent compared with 2008.

An annual evaluation of the Area A extraction wells was performed in 2009 (see Section 2.1). The evaluation included measurement of well-by-well airflows, and concluded that although there was generally good airflow across portions of the field, portions of Area A exhibit relatively low airflow. The low-flow EWAs are generally those that have the original Area A extraction well construction consisting of galvanized steel screen and riser pipes. These extraction wells have been prone to corrosion that has been shown to significantly inhibit airflow. The 2009 evaluation also included collection of discrete Tedlar bag samples from those EWAs that exhibited good airflow (i.e., >5 SCFM). The conclusion drawn from this activity is that there are significant influent vapor concentrations in most of the EWAs sampled.

For 2010, Area A will continue to operate as it has in recent years, with the exception of discontinuing operation of three low-flow EWAs (EWA-101, 105 and 106) that are in areas that exhibited soils with SSPL concentrations below the applicable soil clean up levels in 2005. However, in an effort to increase the overall airflow across the SVE field, a number of activities will be performed, including the following:

- Collection of a set of header-by-header influent samples for SSPL analysis when the system is not running in order to provide a comparison with quarterly results measured when the system is operational.
- Use of a downhole camera to examine the steel EWAs that have exhibited significant decreases in airflow over the past few years. In the event that the screen conditions

cannot be clearly assessed with the camera, these wells will be pulled for examination. If corrosion is inhibiting airflow, these EWAs will be replaced.

- Installation of additional drop tube assemblies to depress the groundwater in those wells that have elevated groundwater levels and that have some indication of airflow.
- Collection of a set of groundwater samples for SSPL analysis from some of the EWAs that exhibited elevated vapor concentration in the Tedlar bag sampling program. This data will provide information about the extent of SSPL in shallow (overburden) groundwater in Area A.

10.2 BEDROCK GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

10.2.1 GROUNDWATER EXTRACTION SYSTEM

The groundwater extraction system operated reliably in 2009 following rehabilitation of several key extraction wells. Carbon steel well screens and riser pipes were replaced with stainless steel in 2009 in EW-1, EW-2, EW-3, and EW-6. This change will avoid the need to replace damaged sections of carbon steel riser pipe that have corroded on an average of once per year and caused extraction well downtime.

As discussed in Section 9.2, approximately 14.4 million gallons of groundwater were pumped from the Site for subsequent treatment and discharge. This volume represents a 17-percent decrease from 2008 levels (17.3 million gallons), mostly due to significantly lower groundwater recovery from intermediate bedrock groundwater recovery EW-6. Although it consistently maintained the groundwater level at its predetermined set points, actual operating time of the EW-6 pump decreased in 2009 due to less water being available for extraction and therefore fewer operating cycles. A review of the quarterly groundwater levels in Site monitoring wells indicated a general decrease in water levels for 2009 compared with 2008, especially in the Lower Lockport and Rochester monitoring wells.

The total mass removed by the groundwater extraction system in 2009 was 2,754 pounds. This represents a decrease of 43 percent compared with 2008 (4,790 pounds removed in groundwater). The decrease is largely attributable to significant drops in mass removal in OW-3 and EW-6, both of which recovered over 1,000 fewer pounds of SSPLs in 2009 compared with 2008. OW-3 recovered significantly less groundwater in 2009 compared with 2008. The water level in the well remained near the pump level much of the year, and the pump cycled significantly less in 2009 compared with 2008. In

addition, influent groundwater concentrations in the extraction wells decreased in 2009. This trend is expected to continue in the future, indicating that the extraction system is remediating Site groundwater.

For 2010, the groundwater extraction system will continue to operate as it has in past years, with no substantive changes.

10.2.2 GROUNDWATER TREATMENT SYSTEM

As discussed in Section 6.1, the groundwater treatment system operated continuously and reliably in 2010 with no major repairs. Only one component was replaced. As discussed in Section 1.2.4, a 1,500-gallon cone bottom tank was installed in May 2009 to replace the original NAPL Separator Tank, which had deteriorated. Note that oil-water separation is not required at the Site, as no NAPL has been observed since beginning system operation. The new cone bottom tank will provide solids settling prior to the influent water entering the carbon treatment system.

There are no recommended changes to the groundwater treatment system for 2010.

10.2.3 GROUNDWATER TREATMENT SYSTEM PERFORMANCE MONITORING

System performance monitoring includes frequent sampling of Site extraction and monitoring wells. As discussed in Section 6.2.4, all extraction wells are sampled on a quarterly basis and a Site-wide monitoring well sampling event is performed on a semiannual basis. The purpose of the groundwater monitoring is to evaluate progress of the groundwater extraction system in removing SSPL compounds from the groundwater.

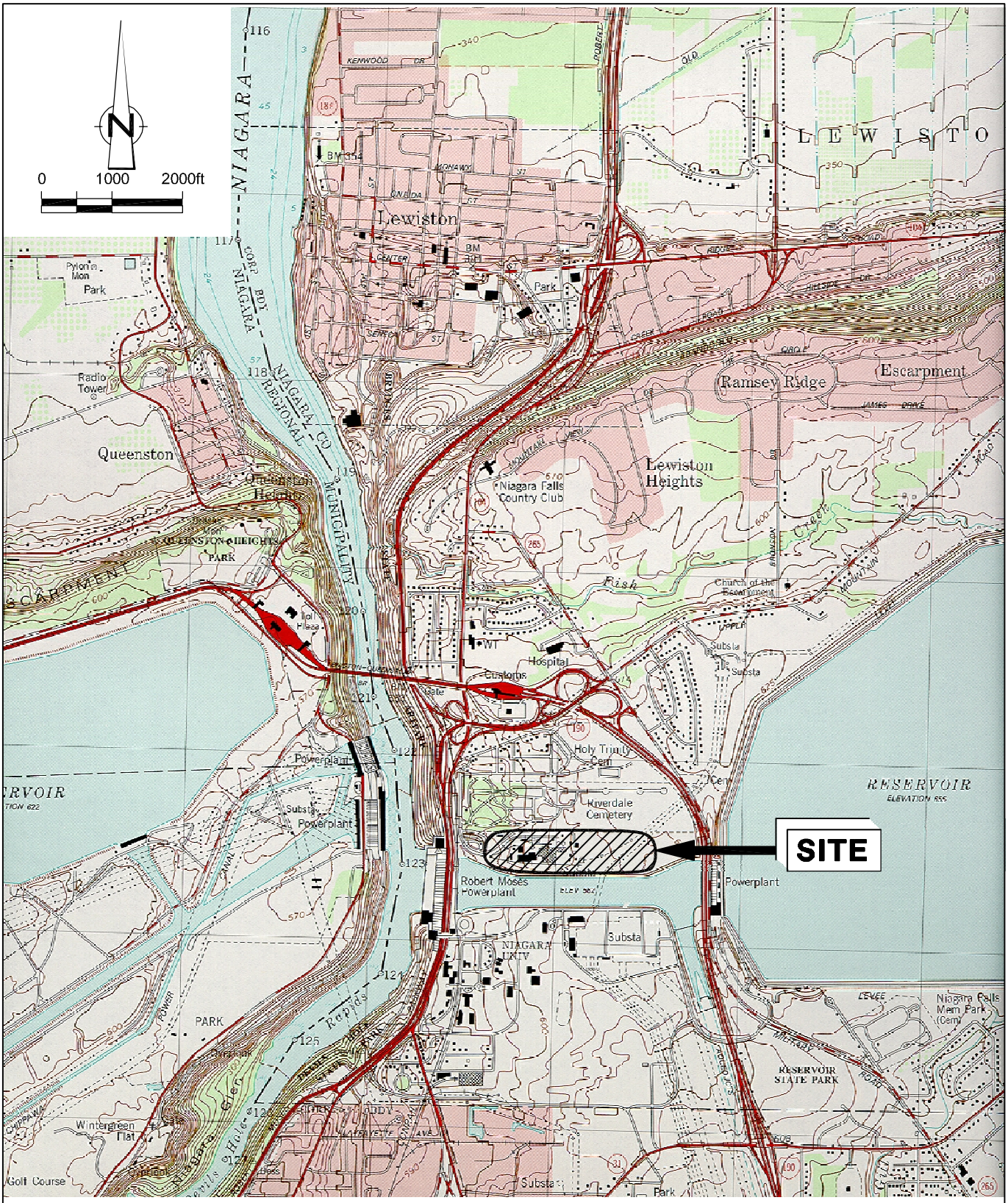
Figures presenting groundwater potentiometric contours and chemical isocontours are presented in Section 7.0 for each WBZ present at the Site, and are discussed in some detail in Sections 7.2 through 7.5. The figures indicate that the Site extraction wells are properly placed to contain, capture and recover SSPLs present in the groundwater at the Site. The current configuration provides hydraulic capture across the Site.

A comparison of 2009 isocontours for carbon disulfide and carbon tetrachloride/chloroform for each of the four water bearing zones is discussed in

Sections 7.2 through 7.5, and generally indicates little change in the overall concentrations and areal extent of the impacted groundwater compared with 2008.

Sampling of extraction wells and monitoring wells will continue in 2010. The only recommended change is that beginning in 2010, OW-11 and W-17 be sampled semiannually, as part of the two Site-wide rounds of sampling. OW-11 and W-17 have been sampled quarterly for at least the past ten years. OW is an off-Site bedrock monitoring well that consistently exhibits non-detect values for all SSPLs. W-17 is an Upper Lockport monitoring well that is directly adjacent to extraction well EW-6.

FIGURES



SOURCE: USGS

figure 1.1

SITE LOCATION
STAUFFER MANAGEMENT COMPANY LLC
Lewiston, New York

OW-10

TO OW-8
(350')

GROUNDWATER EXTRACTION WELL EW-1

GROUNDWATER EXTRACTON WELL OW-3

GROUNDWATER EXTRACTION WELL LR-66

TREATMENT BUILDING

GROUNDWATER
EXTRACTION WELL
EW-5

AREA A SVE SYSTEM

FORMER LANDFILL
AREA B

N

0 100 200ft

OW-9

OW-11

OLD LEWISTON ROAD (66' R.O.W.)

GRAVEL DRIVE

HEADER

EW1

EW2

EW3

EW4

EW5

EW6

8" P.V.C. DISCHARGE PIPE

FOREBAY

APPROXIMATE ALIGNMENT OF
EXISTING GROUT CURTAIN

GROUNDWATER
EXTRACTION WELL
EW-2

OUTFALL

GROUNDWATER
EXTRACTION WELL
EW-3

GROUNDWATER
EXTRACTION WELL
EW-4

GROUNDWATER
EXTRACTION WELL
EW-6

AREA T-4
(DECOMMISSIONED)

FORMER LANDFILL
AREA C
(DECOMMISSIONED)

figure 1.2

SITE LAYOUT
STAUFFER MANAGEMENT COMPANY LLC
Lewiston, New York

06488-20(019)GN-BU002 FEB 01/2010

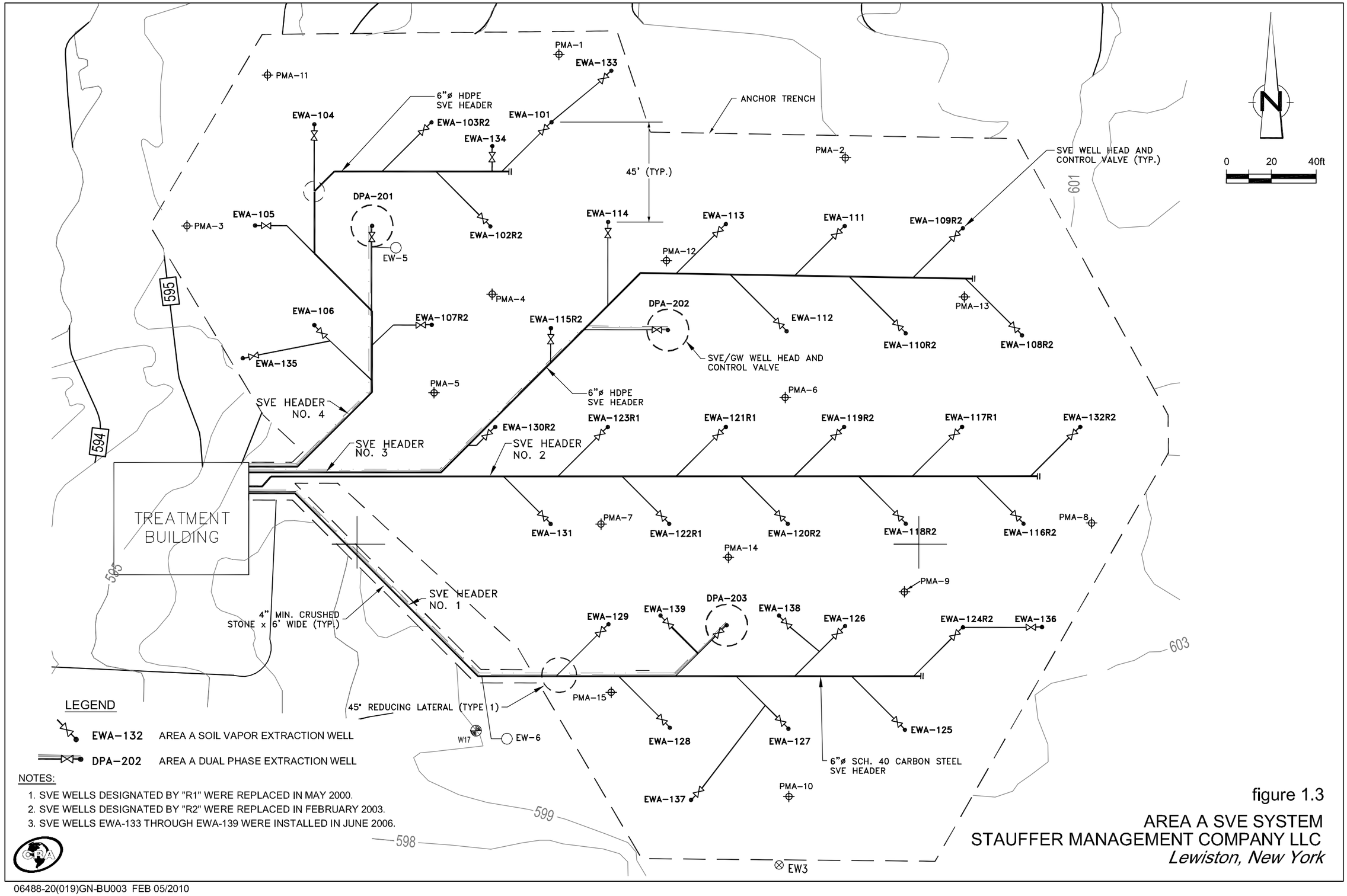
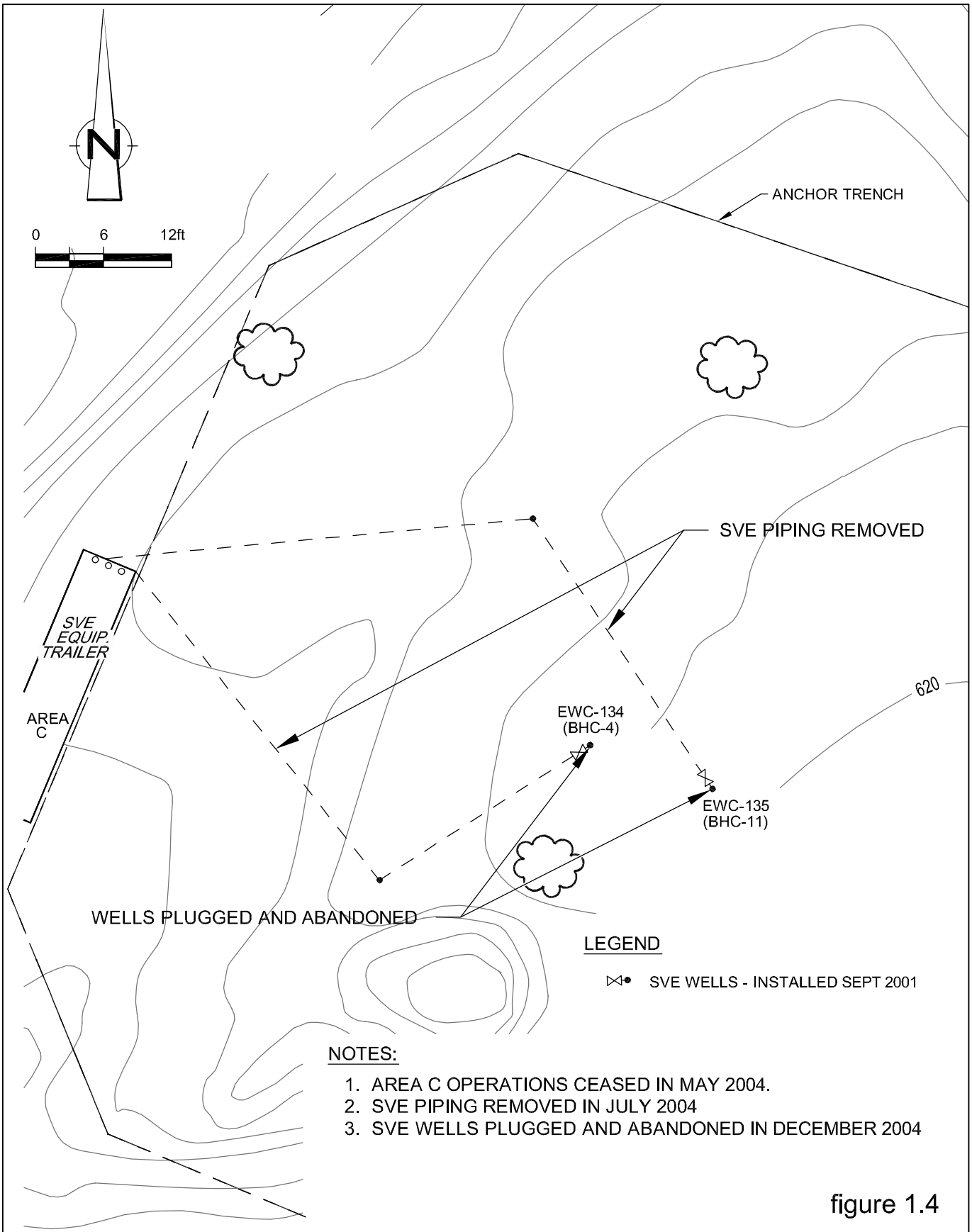


figure 1.3

AREA A SVE SYSTEM
STAUFFER MANAGEMENT COMPANY LLC
Lewiston, New York

06488-20(019)GN-BU003 FEB 05/2010



NOTES:

1. AREA C OPERATIONS CEASED IN MAY 2004.
2. SVE PIPING REMOVED IN JULY 2004
3. SVE WELLS PLUGGED AND ABANDONED IN DECEMBER 2004

figure 1.4

FORMER AREA C SVE SYSTEM
STAUFFER MANAGEMENT COMPANY LLC
Lewiston, New York

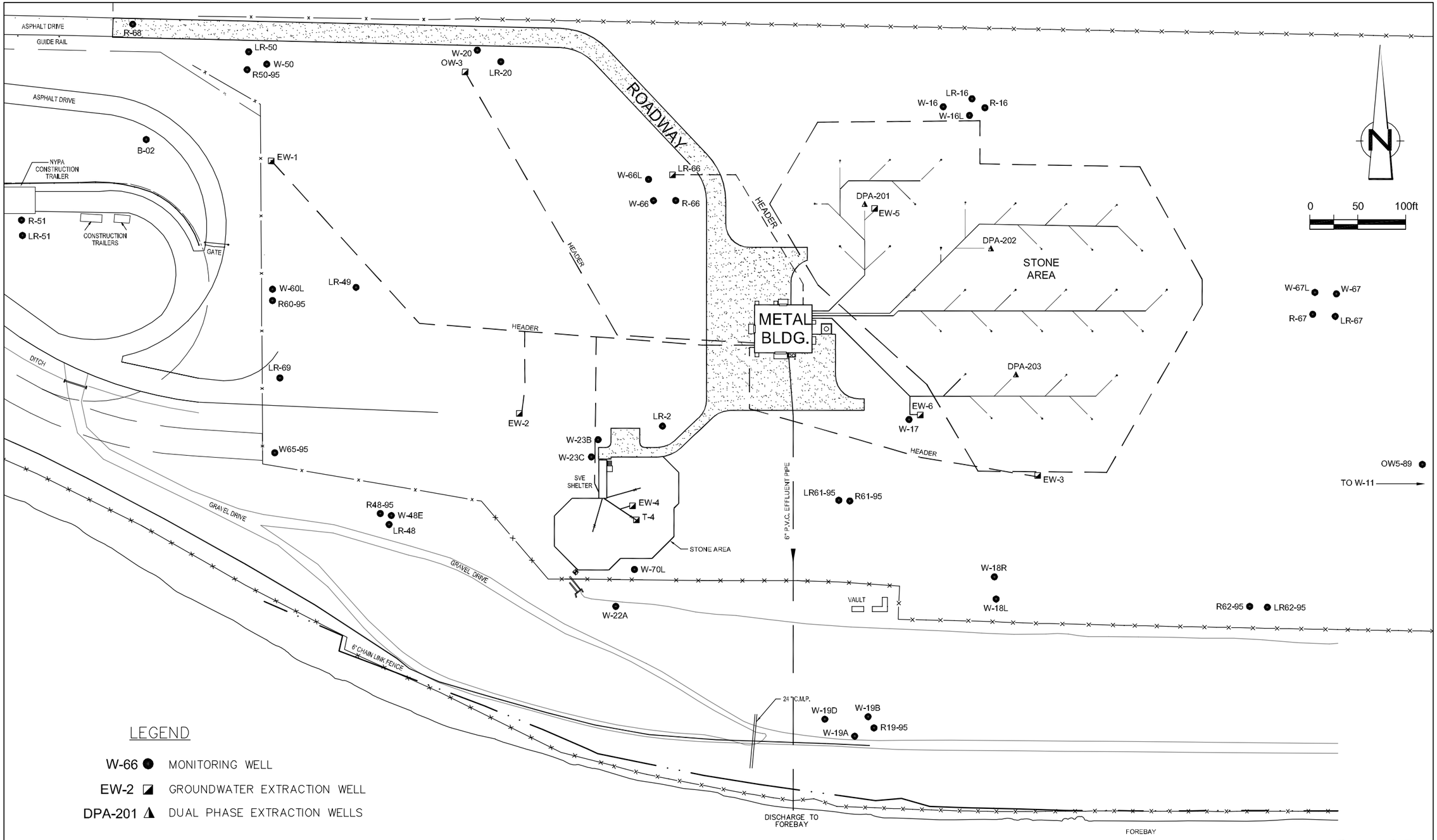
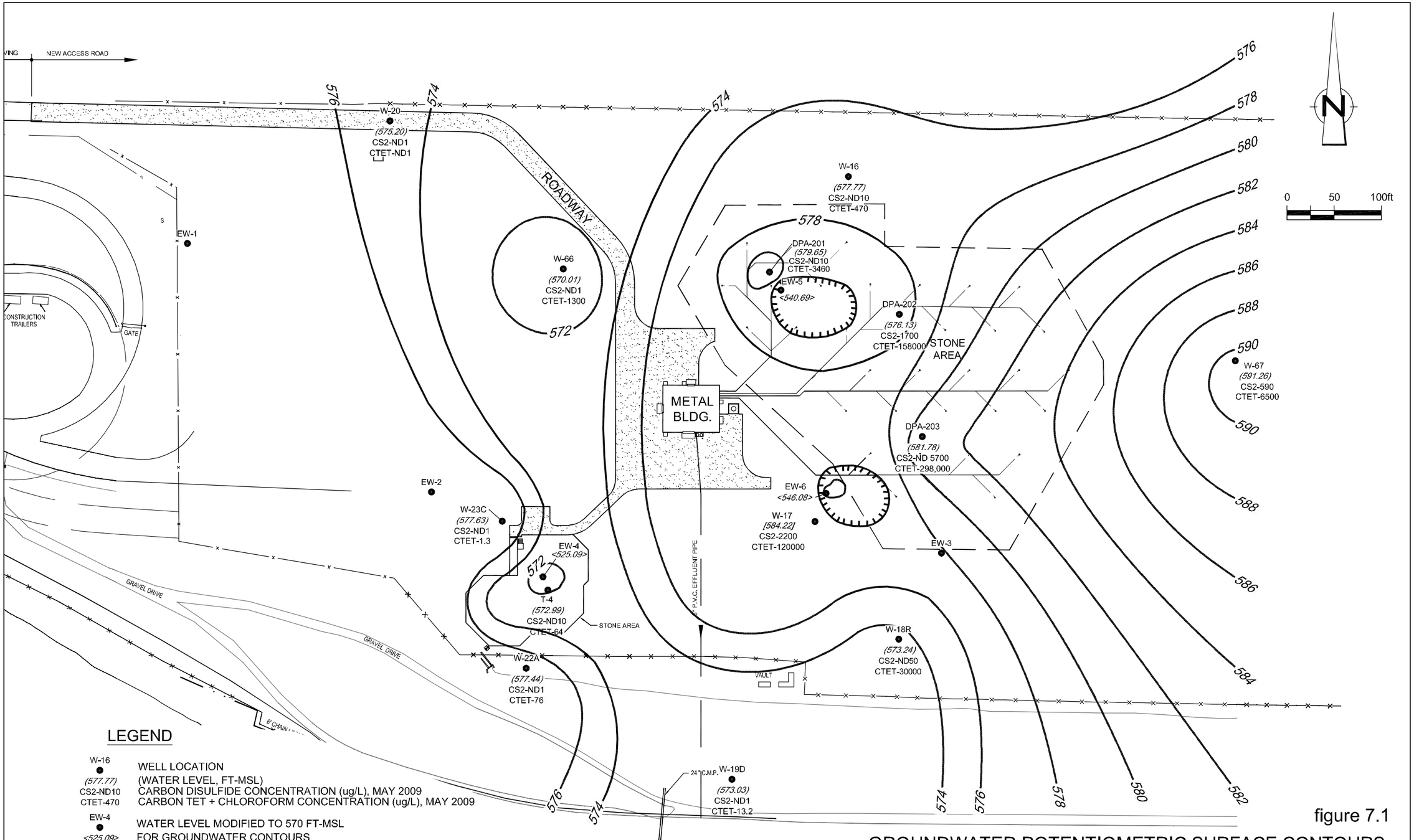


figure 1.5

EXTRACTION AND MONITORING WELLS
STAUFFER MANAGEMENT COMPANY LLC
Lewiston, New York

06488-20(019)GN-BU005 FEB 01/2010



LEGEND

W-16	WELL LOCATION
(577.77)	(WATER LEVEL, FT-MSL)
CS2-ND10	CARBON DISULFIDE CONCENTRATION (ug/L), MAY 2009
CTET-470	CARBON TET + CHLOROFORM CONCENTRATION (ug/L), MAY 2009
EW-4	WATER LEVEL MODIFIED TO 570 FT-MSL
<525.09>	FOR GROUNDWATER CONTOURS
W-17	WATER LEVEL NOT USED FOR GROUNDWATER CONTOURS
[584.22]	

NOTE: EW-1, EW-2 AND EW-3 NOT USED FOR CONTOURING.
THESE EXTRACTION WELLS ARE NOT OPEN IN
THE UPPER LOCKPORT FORMATION

figure 7.1

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS
MAY 2009
UPPER LOCKPORT WATER BEARING ZONE
Stauffer Management Company LLC

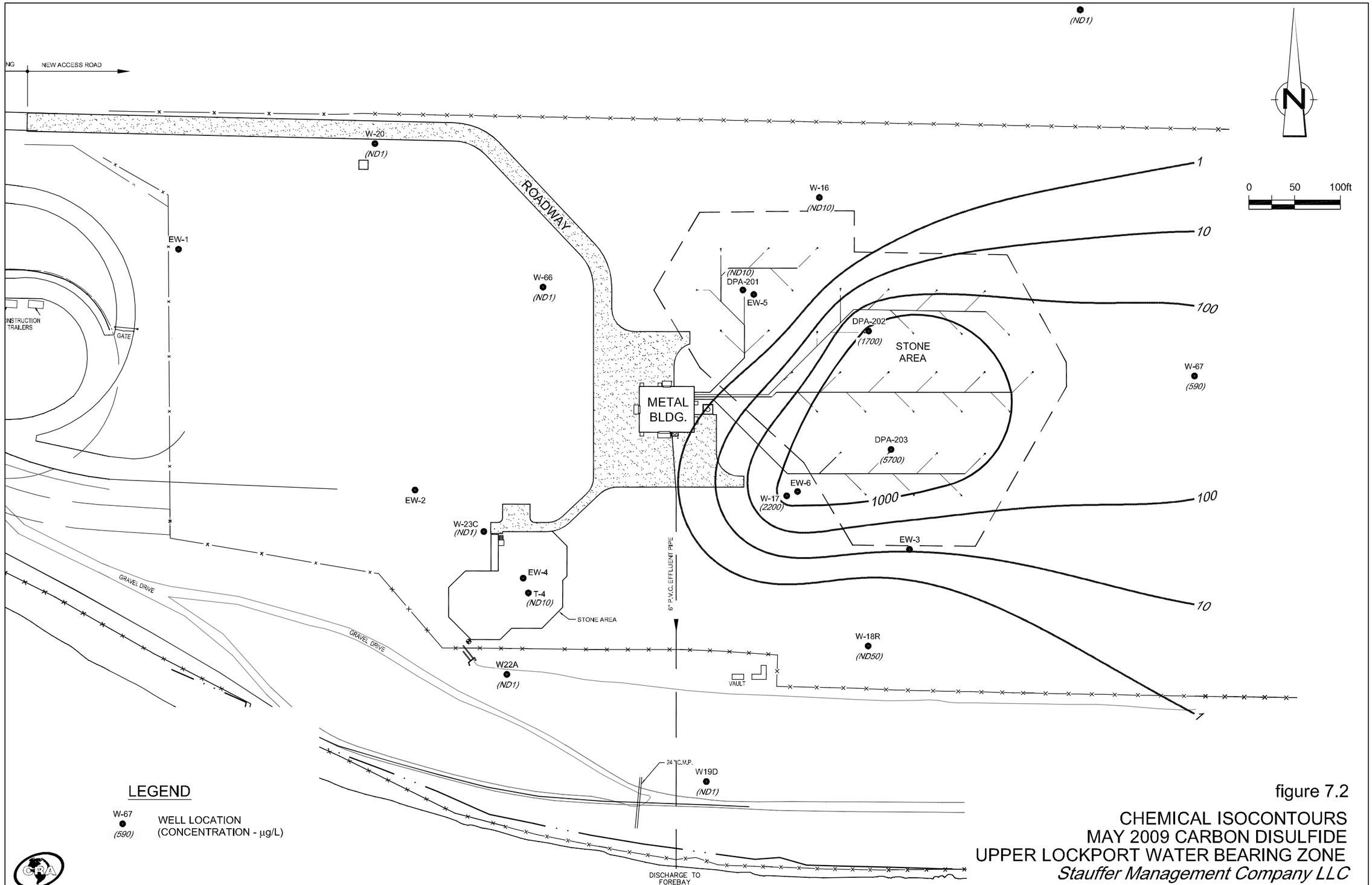
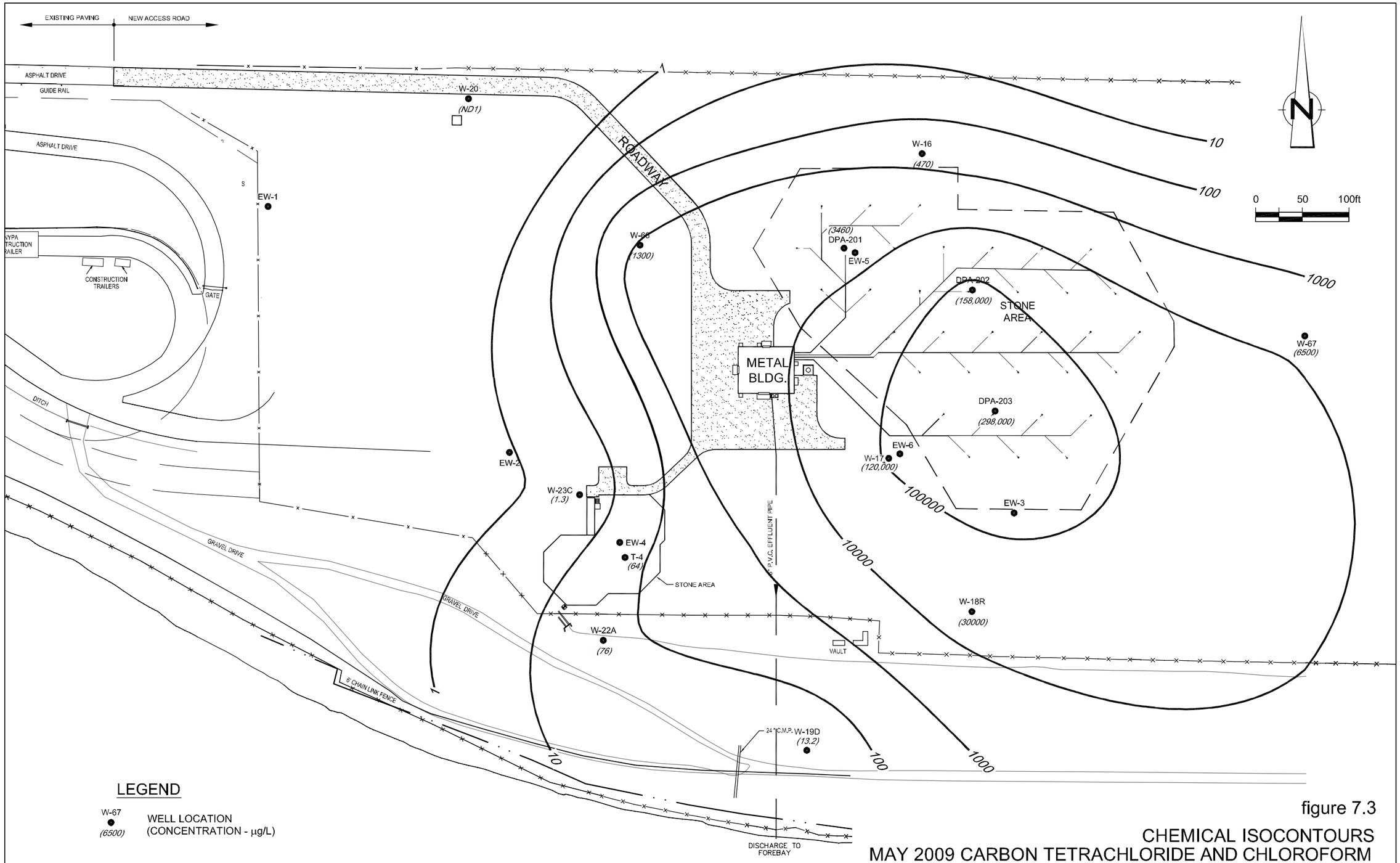


figure 7.2

CHEMICAL ISOCONTOURS
MAY 2009 CARBON DISULFIDE
UPPER LOCKPORT WATER BEARING ZONE
Stauffer Management Company LLC

06488-20(019)GN-BU007 FEB 03/2010



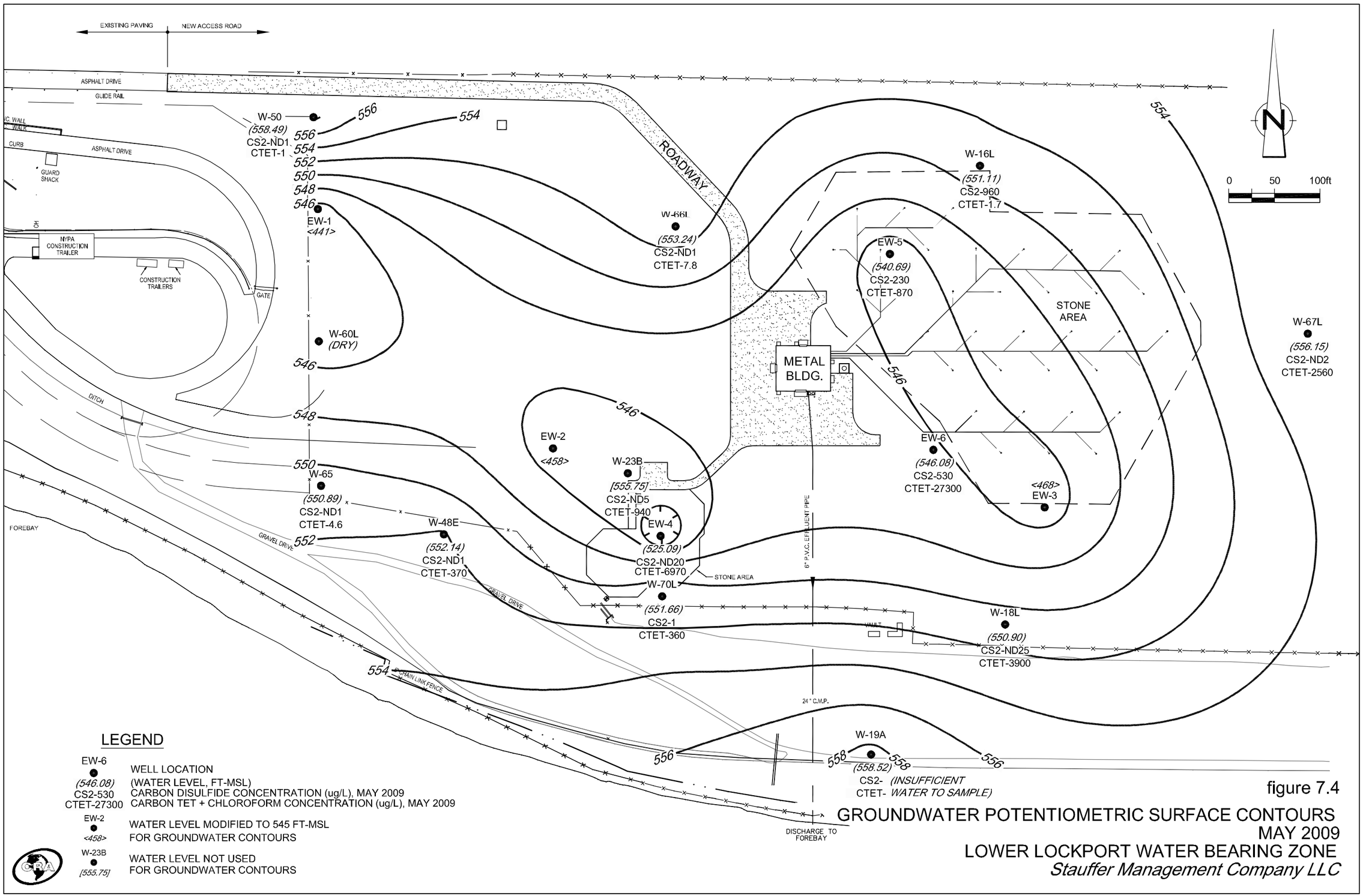
LEGEND

W-67 (6500) — WELL LOCATION (CONCENTRATION - µg/L)

figure 7.3

CHEMICAL ISOCONTOURS
MAY 2009 CARBON TETRACHLORIDE AND CHLOROFORM
UPPER LOCKPORT WATER BEARING ZONE
Stauffer Management Company LLC

06488-20(019)GN-BU008 FEB 03/2010



LEGEND

EW-6	WELL LOCATION
(546.08)	(WATER LEVEL, FT-MSL)
CS2-530	CARBON DISULFIDE CONCENTRATION (ug/L), MAY 2009
CTET-27300	CARBON TET + CHLOROFORM CONCENTRATION (ug/L), MAY 2009
EW-2	WATER LEVEL MODIFIED TO 545 FT-MSL
<458>	FOR GROUNDWATER CONTOURS
W-23B	WATER LEVEL NOT USED
[555.75]	FOR GROUNDWATER CONTOURS

figure 7.4

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS
MAY 2009
LOWER LOCKPORT WATER BEARING ZONE
Stauffer Management Company LLC

06488-20(019)GN-BU009 FEB 03/2010

EXISTING PAVING
NEW ACCESS ROAD
ASPHALT DRIVE
GUIDE RAIL
ASPHALT DRIVE
CONSTRUCTION TRAILERS
GATE
DITCH
GRAVEL DRIVE
GRAVEL DRIVE
6' CHAIN LINK FENCE
ROADWAY
W-50 (ND1)
EW-1
W-60L (DRY)
W-65 (ND1)
W-48E (ND 1)
W-66L (ND1)
EW-2
W-23B (ND5)
SVE SHELTER
EW-4 (ND20)
W-70L (1)
STONE AREA
6" P.V.C. EFFLUENT PIPE
METAL BLDG.
VAULT
W-18L (ND25)
24" C.M.P.
W-19A (INSUFFICIENT WATER TO SAMPLE)
W-16L (960)
EW-5 (230)
EW-6 (530)
EW-3
STONE AREA
W-67L (ND2)
100
10
1
10
1
N
0 50 100ft

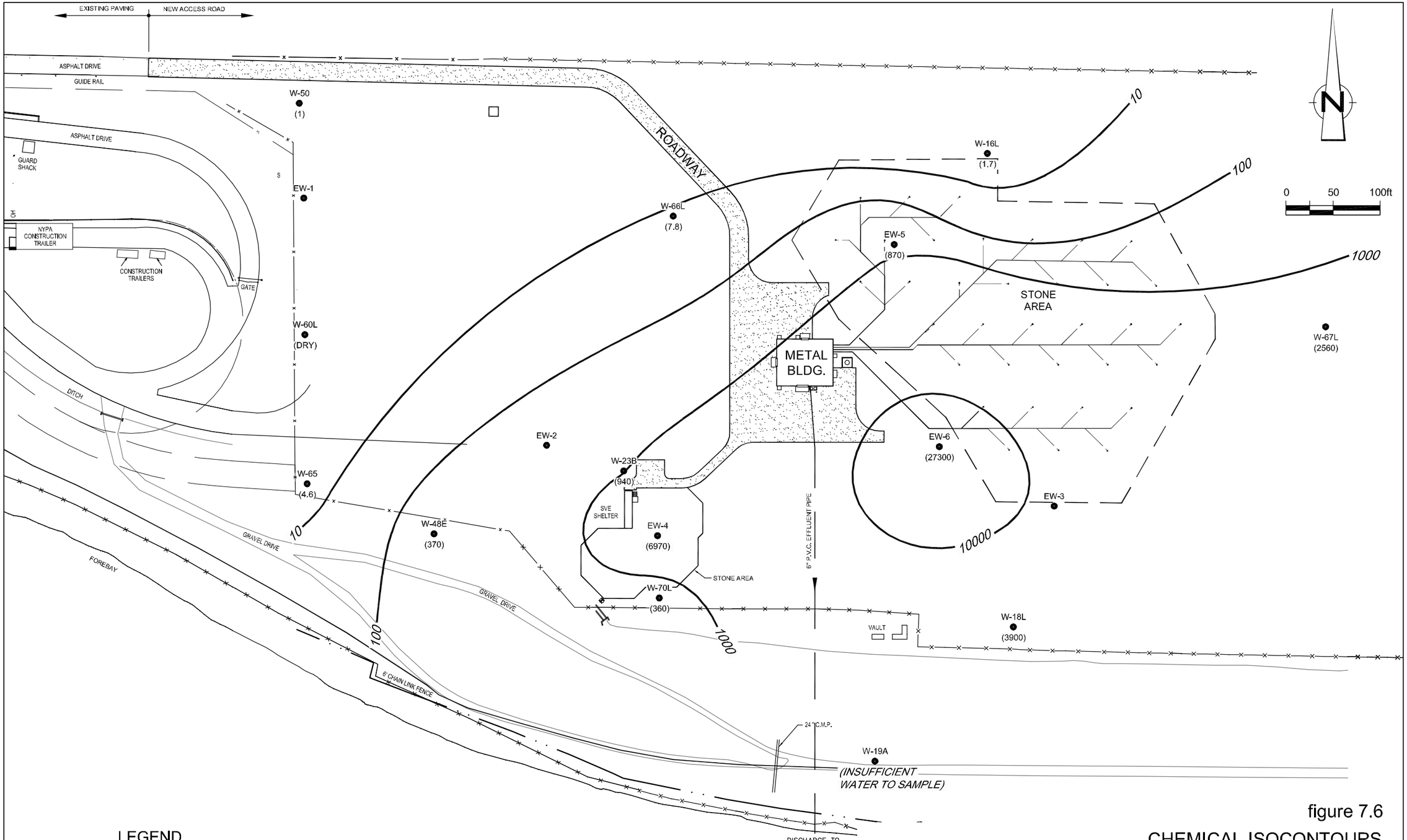
LEGEND

W-16L (960) WELL LOCATION (CONCENTRATION - µg/L)

figure 7.5

CHEMICAL ISOCONTOURS
MAY 2009 CARBON DISULFIDE
LOWER LOCKPORT WATER BEARING ZONE
Stauffer Management Company LLC

06488-20(019)GN-BU010 FEB 03/2010



LEGEND

W-67L
(2560)
WELL LOCATION
(CONCENTRATION - µg/L)

figure 7.6

CHEMICAL ISOCONTOURS
MAY 2009 CARBON TETRACHLORIDE AND CHLOROFORM
LOWER LOCKPORT WATER BEARING ZONE
Stauffer Management Company LLC

EXISTING PAVING
NEW ACCESS ROAD
ASPHALT DRIVE
GUIDE RAIL
ASPHALT DRIVE
ROADWAY
LR-50
(558.55)
CS2-ND1
CTET-ND1
LR-20
(554.79)
CS2-ND1
CTET-ND1
LR-16
(551.21)
CS2-1200
CTET-1260
EW-1
<441>
546
LR-66
<545>
CS2-150
CTET-4870
NYPA CONSTRUCTION TRAILER
CONSTRUCTION TRAILERS
GATE
LR-51
(552.06)
CS2-ND1
CTET-ND1
LR-49
(552.19)
CS2-ND1
CTET-2.3
STONE AREA
METAL BLDG.
LR-67
(552.96)
CS2-38000
CTET-660
DITCH
LR-69
[506.80]
CS2-ND2
CTET-ND2
EW-2
<458>
546
LR-2
(551.27)
CS2-ND20
CTET-3100
EW-3
<468>
546
OW-5
(556.13)
CS2-51000
CTET-ND100
SVE SHELTER
6" P.V.C. EFFLUENT PIPE
LR-61
(552.86)
CS2-1200
CTET-19800
GRAVEL DRIVE
LR-48
(552.22)
CS2-ND1
CTET-2350
STONE AREA
GRAVEL DRIVE
VAULT
LR-62
(553.05)
CS2-7.7
CTET-68
6' CHAIN LINK FENCE
24" C.M.P.
W-19B
(553.93)
CS2-32
CTET-13200
DISCHARGE TO FOREBAY
552
554
556
548
550
546
N
0 50 100ft

LEGEND

W-19B (553.93) CS2-32 CTET-13200	WELL LOCATION (WATER LEVEL, FT-MSL) CARBON DISULFIDE CONCENTRATION (ug/L), MAY 2009 CARBON TET + CHLOROFORM CONCENTRATION (ug/L), MAY 2009
EW-1 <441>	WATER LEVEL MODIFIED TO 545 FT-MSL FOR GROUNDWATER CONTOURS
LR-69 [506.80]	WATER LEVEL NOT USED FOR GROUNDWATER CONTOURS

figure 7.7

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS
MAY 2009
LOCKPORT/ROCHESTER WATER BEARING ZONE

Stauffer Management Company LLC

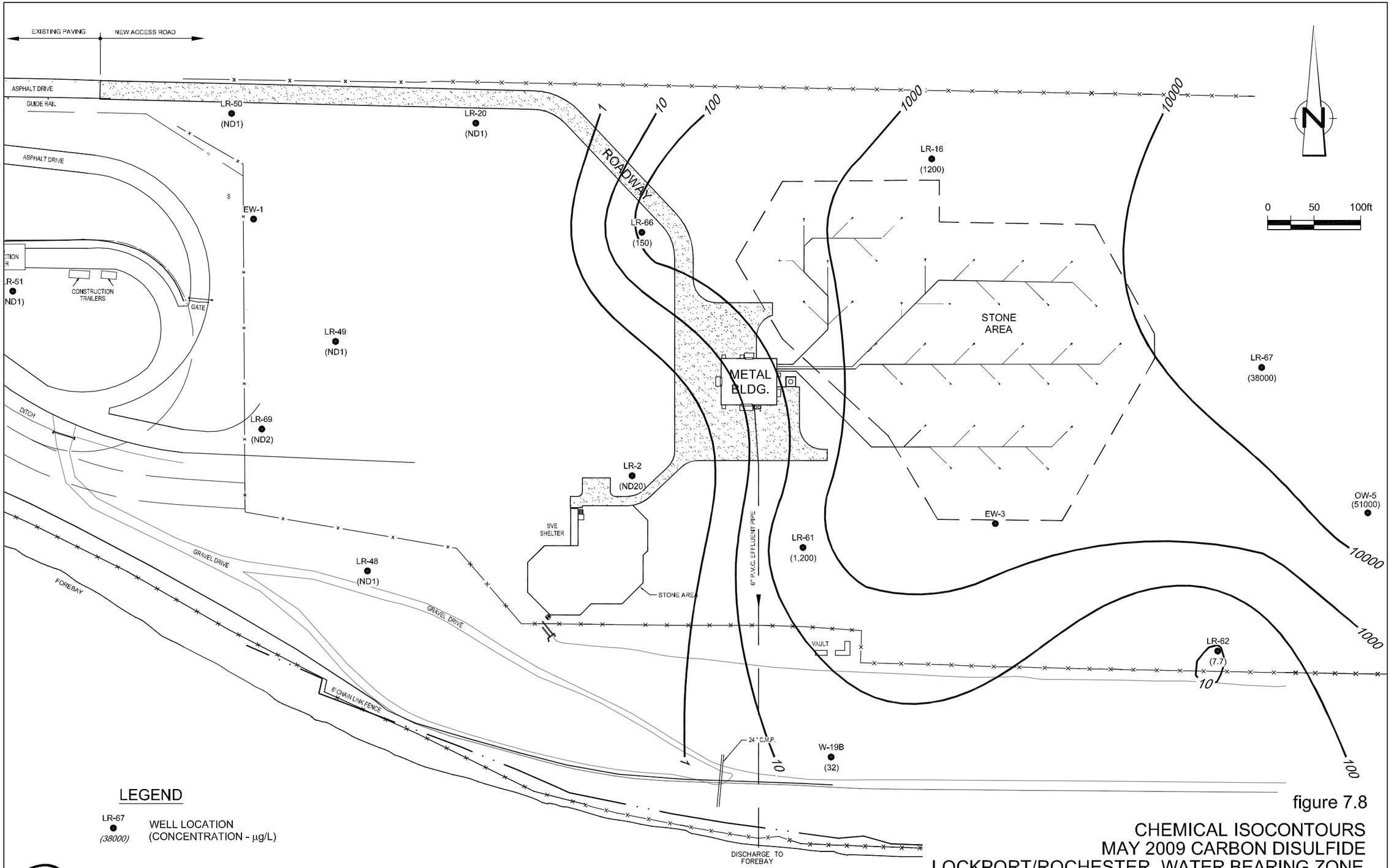


figure 7.8

CHEMICAL ISOCONTOURS
MAY 2009 CARBON DISULFIDE
LOCKPORT/ROCHESTER WATER BEARING ZONE
Stauffer Management Company LLC

06488-20(019)GN-BU013 FEB 02/2010

B ROAD

LR-50
(ND1)

LR-20
(ND1)

ROADWAY

LR-10
(1260)

EW-1

LR-66
(4870)

GATE

LR-49
(2.3)

STONE
AREA

METAL
BLDG.

LR-67
(660)

LR-69
(ND2)

EW-2

LR-2
(3100)

SVE
SHELTER

EW-3

OW-5
(ND100)

GRAVEL DRIVE

LR-61
(19800)

6" P.V.C. EFFLUENT PIPE

LR-48
(2350)

STONE AREA

GRAVEL DRIVE

VAULT

LR-62
(68)

6' CHAIN LINK FENCE

24" C.M.P.

W-19B
(13200)

DISCHARGE TO
FOREBAY

1
10
100
1000
10000

N

0 50 100ft

LEGEND

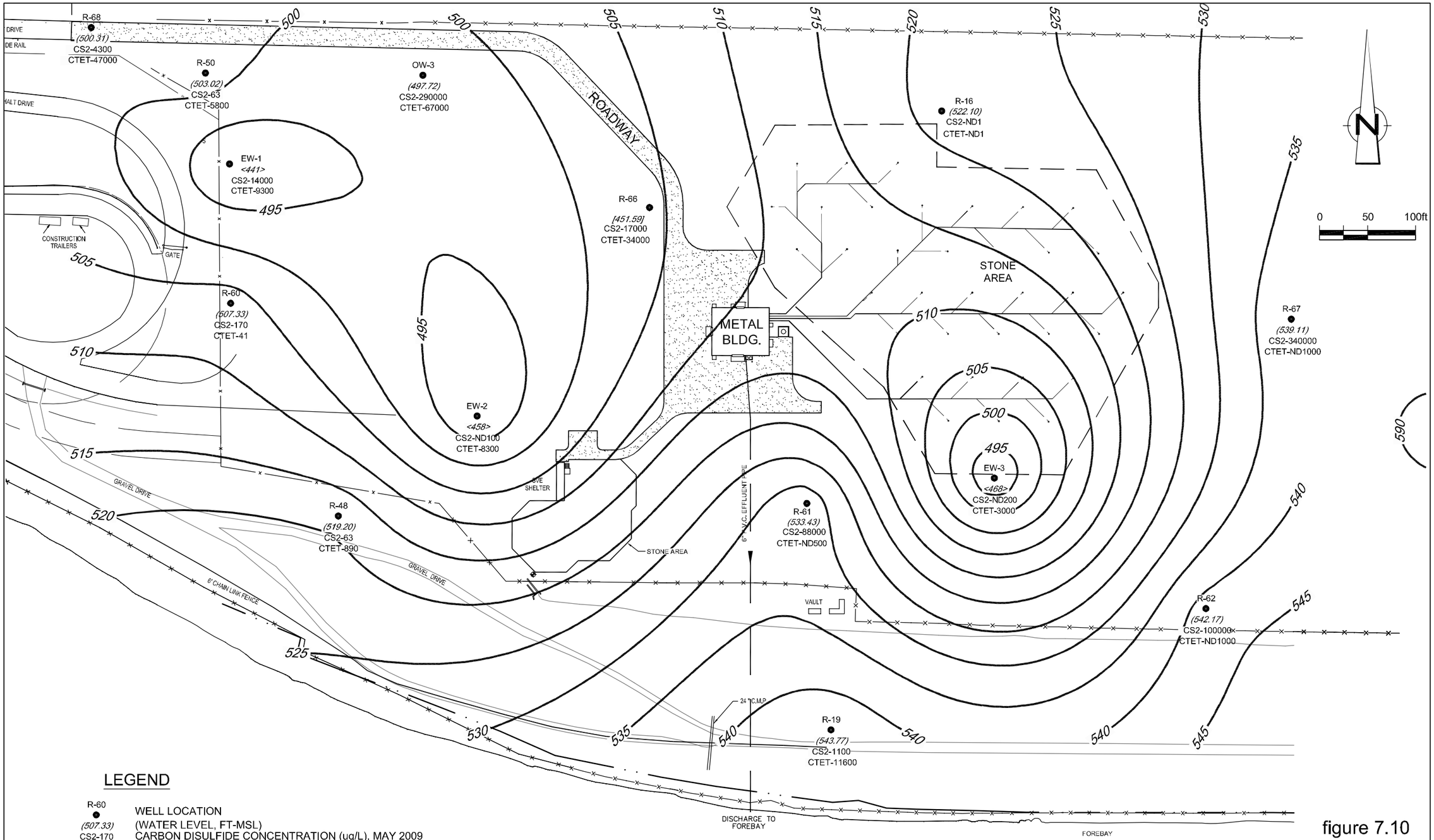
LR-67
(660)

WELL LOCATION
(CONCENTRATION - µg/L)

figure 7.9

CHEMICAL ISOCONTOURS
MAY 2009 CARBON TETRACHLORIDE AND CHLOROFORM
LOCKPORT/ROCHESTER WATER BEARING ZONE
Stauffer Management Company LLC

06488-20(019)GN-BU014 FEB 02/2010



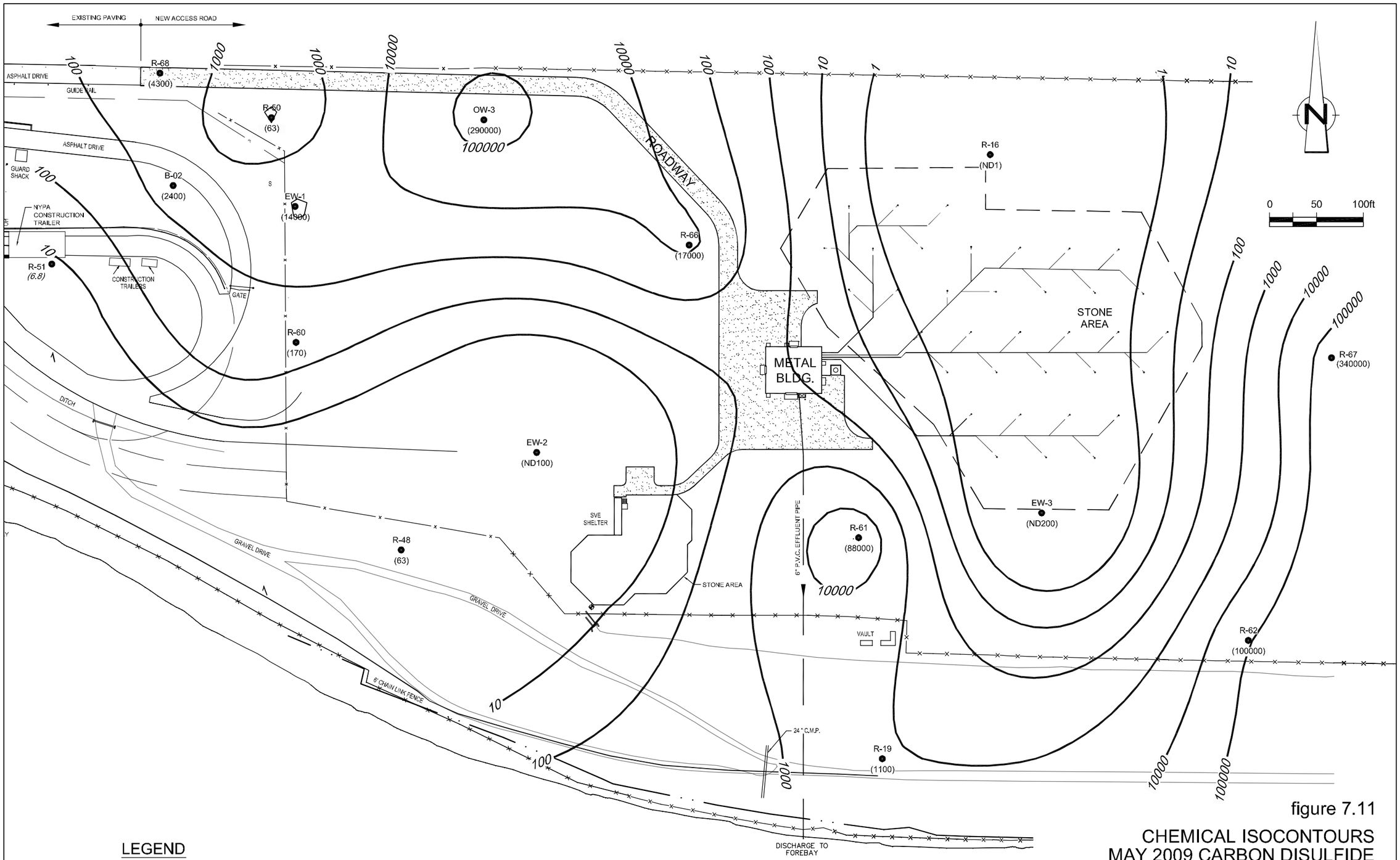
LEGEND

R-60	WELL LOCATION
(507.33)	(WATER LEVEL, FT-MSL)
CS2-170	CARBON DISULFIDE CONCENTRATION (ug/L), MAY 2009
CTET-41	CARBON TET + CHLOROFORM CONCENTRATION (ug/L), MAY 2009
EW-1	WATER LEVEL MODIFIED TO 490 FT-MSL
<441>	FOR GROUNDWATER CONTOURS
R-66	WATER LEVEL NOT USED
[451.59]	FOR GROUNDWATER CONTOURS

figure 7.10

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS
MAY 2009
ROCHESTER WATER BEARING ZONE
Stauffer Management Company LLC

06488-20(019)GN-BU015 FEB 03/2010



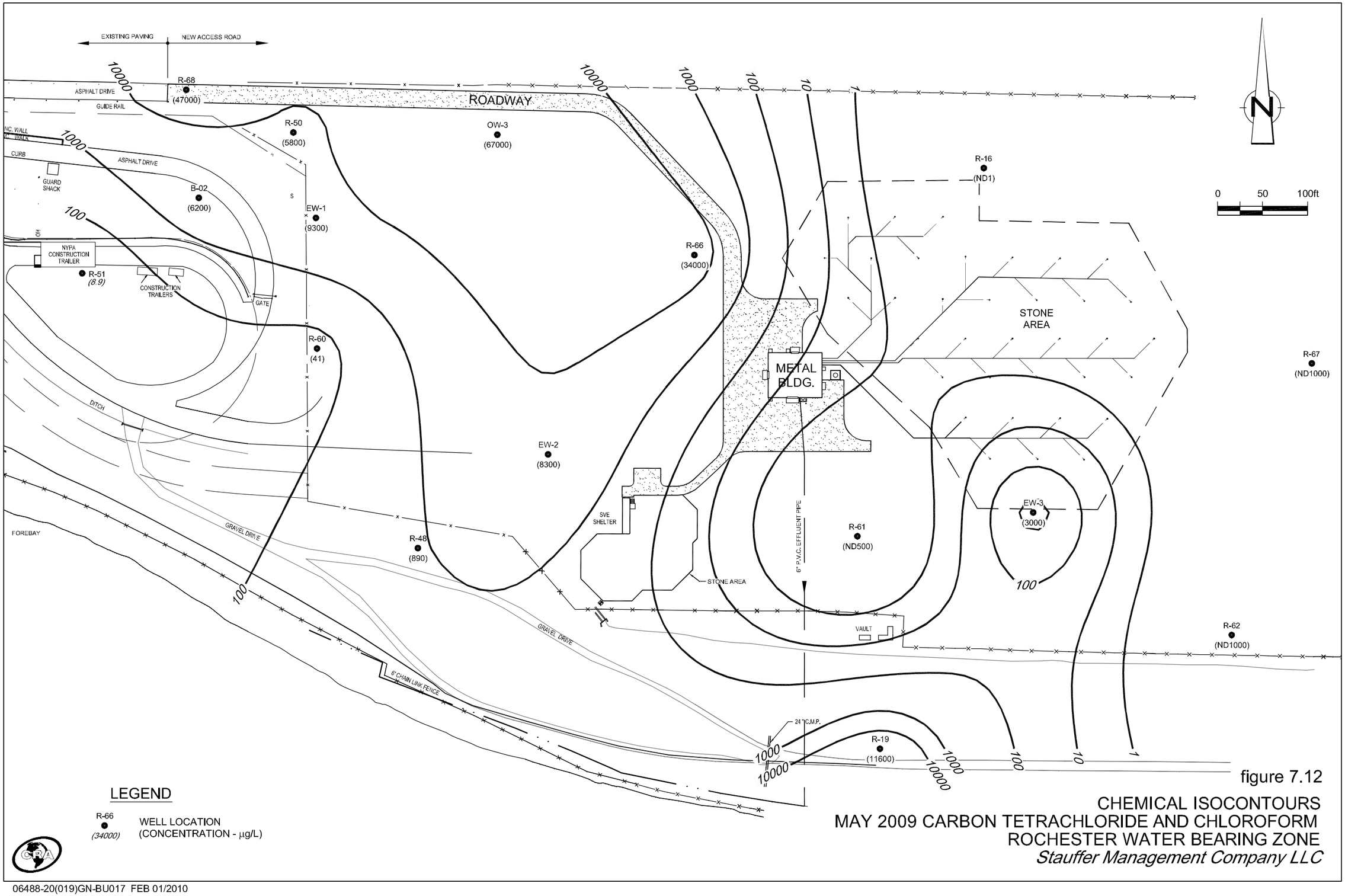
LEGEND

R-67 (340000) WELL LOCATION (CONCENTRATION - µg/L)

figure 7.11

CHEMICAL ISOCONTOURS
MAY 2009 CARBON DISULFIDE
ROCHESTER WATER BEARING ZONE
Stauffer Management Company LLC

06488-20(019)GN-BU016 FEB 05/2010



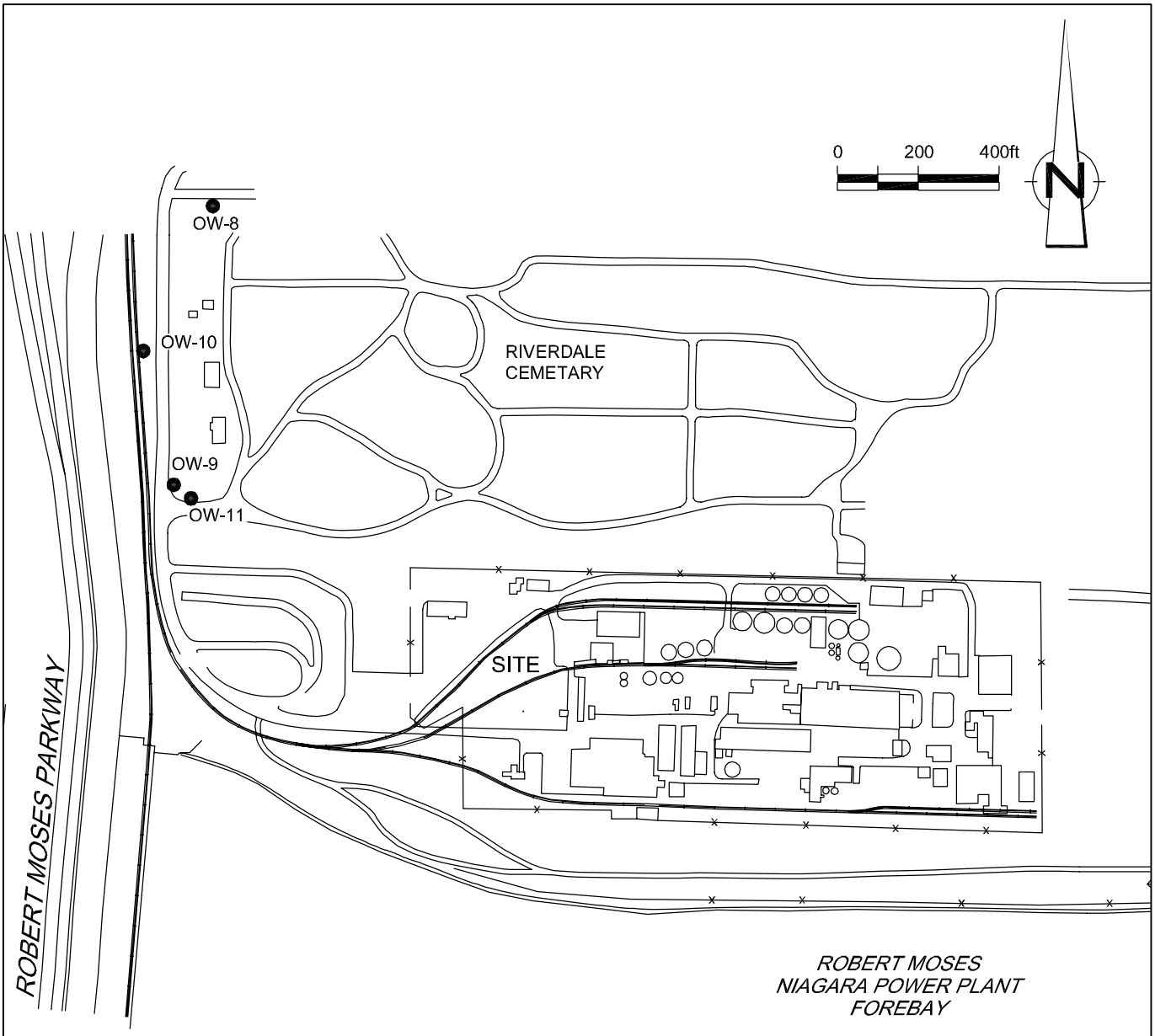
LEGEND

R-66 (34000) WELL LOCATION (CONCENTRATION - µg/L)

figure 7.12

CHEMICAL ISOCONTOURS
MAY 2009 CARBON TETRACHLORIDE AND CHLOROFORM
ROCHESTER WATER BEARING ZONE
Stauffer Management Company LLC

06488-20(019)GN-BU017 FEB 01/2010



LEGEND

OW-11 ● NORTH SIDE GROUNDWATER MONITORING WELL LOCATIONS

NOTE:
SAMPLING OF OVERBURDEN WELLS OW-8, OW-9 AND OW-10 WAS DISCONTINUED IN MAY 2004. BEDROCK WELL OW-11 CONTINUES TO BE SAMPLED SEMIANNUALLY.

figure 8.1

NORTH SIDE WELL LOCATIONS
STAUFFER MANAGEMENT COMPANY LLC
Lewiston, New York

TABLES

TABLE 2.1

AREA A SVE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Average Air Flow Rate: 800 cfm

Est. Operating Time:

1st Quarter	1,624	hours
2nd Quarter	2,179	hours
3rd Quarter	1,941	hours
4th Quarter	2,067	hours
Total	7,811	hours/year

Compound	*MW*	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass*
		Conc. (ppmv)	*Mass (lbs)*	*Conc. (ppmv)*	*Mass (lbs)*	*Conc. (ppmv)*	*Mass (lbs)*	*Conc. (ppmv)*	*Mass (lbs)*	*Removal (lbs/yr)*
Benzene	78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Carbon disulfide	76	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.4	1
Carbon tetrachloride	154	0.3	9.8	0.9	35.2	0.1	2.4	1.2	46.6	94
Chlorobenzene	112	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Chloroform	119	0.1	1.7	0.1	2.6	0.0	0.2	0.1	2.9	7
Methylene chloride	85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Tetrachloroethene	166	0.0	0.7	0.0	2.0	0.0	0.1	0.1	2.4	5
Toluene	92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Trichloroethene	131	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.3	1
Total VOC Removal			**12**		**40**		**3**		**53**	**108**

Notes:

cfm	Cubic Feet per Minute
MW	Molecular Weight
ppmv	Part per Million by Volume.
VOC	Volatile Organic Compound.

TABLE 5.1

EXTRACTION WELL EW-1
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	309,657	gallons
2nd Quarter	335,467	gallons
3rd Quarter	303,750	gallons
4th Quarter	260,375	gallons
Total	**1,209,249**	**gallons**

Compound	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass*
	Conc. (ug/L)	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Removal (lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon disulfide	18,000	46.5	14,000	39.2	19,000	48.1	27,000	58.6	192
Carbon tetrachloride	3,800	9.8	6,100	17.1	4,400	11.1	5,600	12.2	50
Chlorobenzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Chloroform	2,500	6.5	3,200	9.0	2,600	6.6	2,700	5.9	28
Methylene chloride	160	0.4	250	0.7	220	0.6	200	0.4	2
Tetrachloroethene	0	0.0	0	0.0	0	0.0	0	0.0	0
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0
Trichloroethene	0	0.0	0	0.0	0	0.0	0	0.0	0
Total VOC Removal		**63**		**66**		**66**		**77**	**273**

Notes:
VOC Volatile Organic Compound.

TABLE 5.2

EXTRACTION WELL EW-2
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	660,690	gallons
2nd Quarter	1,270,865	gallons
3rd Quarter	1,160,069	gallons
4th Quarter	929,924	gallons
Total	**4,021,548**	**gallons**

Compound	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass Removal*
	Conc. (ug/L)	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*(lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon disulfide	2,900	16.0	0	0.0	11,000	106.4	23,000	178.4	301
Carbon tetrachloride	8,400	46.3	1,700	18.0	9,400	90.9	11,000	85.3	241
Chlorobenzene	0	0.0	470	5.0	0	0.0	0	0.0	5
Chloroform	2,200	12.1	6,600	70.0	1,600	15.5	1,800	14.0	112
Methylene chloride	0	0.0	220	2.3	100	1.0	110	0.9	4
Tetrachloroethene	0	0.0	170	1.8	0	0.0	0	0.0	2
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0
Trichloroethene	0	0.0	0	0.0	0	0.0	0	0.0	0
Total VOC Removal		**74**		**97**		**214**		**279**	**664**

Notes:
VOC Volatile Organic Compound.

TABLE 5.3

EXTRACTION WELL EW-3
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	82,708	gallons
2nd Quarter	161,606	gallons
3rd Quarter	155,410	gallons
4th Quarter	121,806	gallons
Total	**521,530**	**gallons**

Compound	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass Removal*
	Conc. (ug/L)	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*(lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon disulfide	7,200	5.0	0	0.0	330	0.4	130	0.1	6
Carbon tetrachloride	2,400	1.7	1,100	1.5	1,200	1.6	1,100	1.1	6
Chlorobenzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Chloroform	6,000	4.1	1,900	2.6	2,000	2.6	2,200	2.2	12
Methylene chloride	0	0.0	0	0.0	0	0.0	66	0.1	0
Tetrachloroethene	0	0.0	0	0.0	0	0.0	61	0.1	0
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0
Trichloroethene	0	0.0	0	0.0	0	0.0	120	0.1	0
Total VOC Removal		**11**		**4**		**5**		**4**	**23**

Notes:
VOC Volatile Organic Compound.

TABLE 5.4

EXTRACTION WELL EW-4
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	124,591	gallons
2nd Quarter	118,530	gallons
3rd Quarter	109,205	gallons
4th Quarter	116,518	gallons
Total	**468,844**	**gallons**

Compound	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass*
	Conc. (ug/L)	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Removal (lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon disulfide	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon tetrachloride	3,800	3.9	770	0.8	250	0.2	2,000	1.9	7
Chlorobenzene	970	1.0	500	0.5	260	0.2	420	0.4	2
Chloroform	7,500	7.8	6,200	6.1	2,600	2.4	14,000	13.6	30
Methylene chloride	140	0.1	220	0.2	110	0.1	340	0.3	1
Tetrachloroethene	170	0.2	170	0.2	170	0.2	250	0.2	1
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0
Trichloroethene	110	0.1	59	0.1	45	0.0	72	0.1	0
Total VOC Removal		**13.2**		**7.8**		**3.1**		**16.6**	**41**

Notes:
VOC Volatile Organic Compound.

TABLE 5.5

EXTRACTION WELL EW-5
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	1,307,481	gallons
2nd Quarter	1,582,927	gallons
3rd Quarter	1,617,761	gallons
4th Quarter	1,096,171	gallons
Total	**5,604,340**	**gallons**

Compound	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass*
	Conc. (ug/L)	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Removal (lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon disulfide	140	1.5	230	3.0	120	1.6	71	0.6	7
Carbon tetrachloride	1,600	17.4	710	9.4	1,600	21.6	1,500	13.7	62
Chlorobenzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Chloroform	430	4.7	160	2.1	360	4.9	380	3.5	15
Methylene chloride	0	0.0	0	0.0	0	0.0	0	0.0	0
Tetrachloroethene	220	2.4	100	1.3	250	3.4	340	3.1	10
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0
Trichloroethene	24	0.3	13	0.2	35	0.5	51	0.5	1
Total VOC Removal		**26.3**		**16.0**		**31.9**		**21.4**	**96**

Notes:
VOC Volatile Organic Compound.

TABLE 5.6

EXTRACTION WELL EW-6
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	324,968	gallons
2nd Quarter	347,012	gallons
3rd Quarter	267,801	gallons
4th Quarter	160,867	gallons
Total	**1,100,648**	**gallons**

Compound	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass*
	Conc. (ug/L)	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Removal (lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon disulfide	820	2.2	530	1.5	370	0.8	330	0.4	5
Carbon tetrachloride	15,000	40.7	20,000	57.9	7,400	16.5	69,000	92.6	208
Chlorobenzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Chloroform	7,000	19.0	7,300	21.1	4,900	10.9	19,000	25.5	77
Methylene chloride	260	0.7	240	0.7	210	0.5	530	0.7	3
Tetrachloroethene	310	0.8	270	0.8	140	0.3	1,100	1.5	3
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0
Trichloroethene	92	0.2	78	0.2	88	0.2	58	0.1	1
Total VOC Removal		**63.6**		**82.2**		**29.3**		**120.8**	**296**

Notes:
VOC Volatile Organic Compound.

TABLE 5.7

DUAL-PHASE AREA A WELL DPA-201
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	25,960	gallons
2nd Quarter	21,850	gallons
3rd Quarter	19,490	gallons
4th Quarter	20,240	gallons
Total	**87,540**	**gallons**

Compound	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass*
	Conc. (ug/L)	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Removal (lbs/yr)*
Benzene	0	0.0	0	0.0	13	0.0	0	0.0	0.0
Carbon disulfide	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Carbon tetrachloride	2,000	0.0	2,500	0.5	2,200	0.0	1,400	0.0	0.5
Chlorobenzene	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Chloroform	1,500	0.0	960	0.2	740	0.0	840	0.0	0.2
Methylene chloride	0	0.0	0	0.0	21	0.0	11	0.0	0.0
Tetrachloroethene	990	0.0	1,900	0.3	1,900	0.0	1,200	0.0	0.3
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Trichloroethene	690	0.0	930	0.2	980	0.0	1,000	0.0	0.2
Total VOC Removal		**0.0**		**1.1**		**0.0**		**0.0**	**1.1**

Notes:

VOC Volatile Organic Compound.
Dry Well dry, no sample collected

TABLE 5.8

DUAL-PHASE AREA A WELL DPA-202
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	29,489	gallons
2nd Quarter	29,011	gallons
3rd Quarter	19,460	gallons
4th Quarter	11,681	gallons
Total	**89,641**	**gallons**

	1st Quarter		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass*
Compound	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Removal (lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon disulfide	0	0.0	1,700	0.4	2,000	0.3	1,800	0.2	1
Carbon tetrachloride	180,000	44.3	140,000	33.9	150,000	24.3	83,000	8.1	111
Chlorobenzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Chloroform	29,000	7.1	18,000	4.4	19,000	3.1	18,000	1.8	16
Methylene chloride	0	0.0	0	0.0	0	0.0	0	0.0	0
Tetrachloroethene	0	0.0	2,000	0.5	2,800	0.5	1,800	0.2	1
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0
Trichloroethene	0	0.0	0	0.0	0	0.0	0	0.0	0
Total VOC Removal		**51.4**		**39.1**		**28.2**		**10.2**	**129**

Notes:
VOC Volatile Organic Compound.

TABLE 5.9

DUAL-PHASE AREA A WELL DPA-203
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	23,078	gallons
2nd Quarter	89,949	gallons
3rd Quarter	133,493	gallons
4th Quarter	56,490	gallons
Total	**303,010**	**gallons**

	1st Quarter		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass*
Compound	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Removal (lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon disulfide	0	0.0	5,700	4.3	6,600	0.0	8,600	4.1	8
Carbon tetrachloride	380,000	73.1	250,000	187.5	270,000	0.0	250,000	117.8	378
Chlorobenzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Chloroform	66,000	12.7	48,000	36.0	58,000	0.0	62,000	29.2	78
Methylene chloride	0	0.0	0	0.0	0	0.0	0	0.0	0
Tetrachloroethene	0	0.0	0	0.0	2,200	0.0	0	0.0	0
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0
Trichloroethene	0	0.0	0	0.0	0	0.0	0	0.0	0
Total VOC Removal		**85.8**		**227.8**		**0.0**		**151.0**	**465**

Notes:
VOC Volatile Organic Compound.
Dry Well dry, no sample collected

TABLE 5.10

EXTRACTION WELL OW-3
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	40,385	gallons
2nd Quarter	43,550	gallons
3rd Quarter	32,780	gallons
4th Quarter	25,035	gallons
Total	**141,750**	**gallons**

Compound	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass*
	Conc. (ug/L)	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Removal (lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon disulfide	1,100,000	370.5	290,000	105.3	140,000	38.3	710,000	148.2	662
Carbon tetrachloride	120,000	40.4	51,000	18.5	21,000	5.7	77,000	16.1	81
Chlorobenzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Chloroform	19,000	6.4	16,000	5.8	3,900	1.1	31,000	6.5	20
Methylene chloride	0	0.0	0	0.0	0	0.0	0	0.0	0
Tetrachloroethene	0	0.0	0	0.0	0	0.0	0	0.0	0
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0
Trichloroethene	0	0.0	0	0.0	0	0.0	0	0.0	0
Total VOC Removal		**417.3**		**129.7**		**45.1**		**170.8**	**763**

Notes:
VOC Volatile Organic Compound.

TABLE 5.11

EXTRACTION WELL LR-66
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	16,103	gallons
2nd Quarter	21,978	gallons
3rd Quarter	35,055	gallons
4th Quarter	19,046	gallons
Total	**92,182**	**gallons**

Compound	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass Removal*
	Conc. (ug/L)	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*(lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Carbon disulfide	400	0.1	150	0.0	97	0.0	90	0.0	0
Carbon tetrachloride	6,400	0.9	4,300	0.8	5,700	1.7	4,200	0.7	4
Chlorobenzene	0	0.0	0	0.0	0	0.0	0	0.0	0
Chloroform	880	0.1	570	0.1	640	0.2	550	0.1	0
Methylene chloride	120	0.0	76	0.0	70	0.0	66	0.0	0
Tetrachloroethene	140	0.0	79	0.0	72	0.0	70	0.0	0
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0
Trichloroethene	0	0.0	0	0.0	0	0.0	0	0.0	0
Total VOC Removal		**1.1**		**0.9**		**1.9**		**0.8**	**5**

Notes:
VOC Volatile Organic Compound.

TABLE 5.12

AREA A KNOCKOUT POT AND SUMP
LIQUID-PHASE MASS LOADINGS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Flow Rates:

1st Quarter	311,259	gallons
2nd Quarter	239,846	gallons
3rd Quarter	110,973	gallons
4th Quarter	113,520	gallons
Total	**775,598**	**gallons**

Compound	*1st Quarter*		*2nd Quarter*		*3rd Quarter*		*4th Quarter*		*Total Mass*
	Conc. (ug/L)	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Conc. (ug/L)*	*Mass (lbs)*	*Removal (lbs/yr)*
Benzene	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Carbon disulfide	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Carbon tetrachloride	3	0.0	6	0.0	8	0.0	22	0.0	0.0
Chlorobenzene	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Chloroform	2	0.0	5	0.0	9	0.0	14	0.0	0.0
Methylene chloride	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Tetrachloroethene	0	0.0	1	0.0	3	0.0	5	0.0	0.0
Toluene	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Trichloroethene	0	0.0	0	0.0	2	0.0	2	0.0	0.0
Total VOC Removal		**0.0**		**0.0**		**0.0**		**0.0**	**0.1**

Notes:

VOC Volatile Organic Compound.

TABLE 7.1

2009 MEASURED GROUNDWATER ELEVATIONS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Well I.D.	*February 2009*	*May 2009*	*August 2009*	*November 2009*
Extraction Wells				
DPA-201	580.15	579.65	579.8	578.79
DPA-202	576.21	576.13	576.25	576.1
DPA-203	584.05	581.78	581.7	580.58
T-4	575	572.99	572.83	572.12
EW-1	446	441	441	442
EW-2	458	458	458	450
EW-3	478	468	468	463
EW-4	555.37	525.09	525.44	524.92
EW-5	545.94	540.69	543.31	545.37
EW-6	539.48	546.08	545.18	547.25
OW-3	483.1	497.72	511.78	496.99
LR-66	NM	NM	NM	NM
Upper Lockport Wells				
W-16	579.54	577.77	578.7	578.2
W-17	585.46	584.22	584.38	583.79
W-18R	573.42	573.24	573.38	573.42
W-19D	583.73	573.03	DRY	DRY
W-20	578.03	575.2	575.85	575.28
W-22A	572.31	577.44	DRY	DRY
W-23C	579.28	577.63	578.66	578.62
W-66	572.36	570.01	569.99	569.52
W-67	598.52	591.26	591.71	588.98
OW-11	561.52	559.42	559.28	556.97

TABLE 7.1

2009 MEASURED GROUNDWATER ELEVATIONS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Well I.D.	*February 2009*	*May 2009*	*August 2009*	*November 2009*
Lower Lockport Wells				
W-16L	557.13	551.11	553.25	549.13
W-18L	554.24	550.9	553.41	548.04
W-19A	558.6	558.52	558.19	558.46
W-23B	556	555.75	555.75	555.69
W-48E	552.74	552.14	554.03	DRY
W-50	563.86	558.49	558.96	556.63
W-60L	555.18	DRY	DRY	DRY
W-65	550.76	550.89	551.15	550.72
W-66L	557.87	553.24	555.37	550.05
W-67L	559.78	556.15	556.4	553.38
W-70L	550.55	551.66	550.09	550.88
Lockport/Rochester Wells				
W-19B	551.67	553.93	555.7	549.46
LR-2	554.42	551.27	553.6	548.5
LR-16	557.19	551.21	553.36	549.21
LR-20	559.53	554.79	556.53	552.41
LR-48	552.5	552.22	554.03	547.62
LR-49	555.09	552.19	554.38	548.19
LR-50	563.81	558.55	559.53	556.38
LR-51	553.23	552.06	553.95	547.74
LR-61	556.52	552.86	555.24	550.04
LR-62	555.71	553.05	553.18	548.04
LR-67	557.66	552.96	554.66	549.85
LR-69	504.72	506.8	503.84	505.55
OW-5	559.67	556.13	556.48	551.67

TABLE 7.1

2009 MEASURED GROUNDWATER ELEVATIONS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Well I.D.	*February 2009*	*May 2009*	*August 2009*	*November 2009*
Rochester Wells				
R-16	507.26	522.1	520.76	523.93
R-19	546.49	543.77	545.57	542.89
R-48	520.57	519.2	523.95	516.15
R-50	524.28	503.02	511.33	511.73
R-60	517.43	507.33	515.14	506.89
R-61	535.34	533.43	538.87	532.03
R-62	544.32	542.17	543.17	543.77
R-66	449.84	451.59	451.14	452.19
R-67	540.36	539.11	539.52	538.62
R-68	510.79	500.31	508.9	499.16

Notes:
Ft. msl Feet, Mean Sea Level
NM Not measured

TABLE 7.2

MONITORING AND EXTRACTION WELLS BY WATER BEARING ZONE
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

Upper Lockport	*Lower Lockport*	*Lockport/Rochester*	*Rochester*
Well ID	*Well ID*	*Well ID*	*Well ID*
OW-11	W-16L	LR-2	B-02
T-4	W-18L	LR-16	R-16
W-16	W-19A	LR-20	R-19
W-17	W-23B	LR-48	R-48
W-18R	W-48E	LR-49	R-50
W-19D	W-50	LR-50	R-51
W-20	W-60L	LR-51	R-60
W-22A	W-65	LR-61	R-61
W-23C	W-66L	LR-62	R-62
W-66	W-67L	LR-67	R-66
W-67	W-70L	LR-69	R-67
DPA-201	EW-1	OW-5	R-68
DPA-202	EW-2	W-19B	EW-1
DPA-203	EW-3	LR-66	EW-2
EW-4	EW-4	EW-1	EW-3
EW-5	EW-5	EW-2	OW-3
EW-6	EW-6	EW-3	

TABLE 9.1
COMPOUND-SPECIFIC SSPL REMOVAL
AREA A SVE SYSTEM
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
1999 - 2009

SSPL Compound	*1999*		*2000*		*2001*		*2002*		*2003*		*2004*	
	Lbs. Removed	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*
Benzene	0	0	0	0	0	0	0	0	0	0	0	0
Carbon disulfide	0	0	0	0	0	0	0	0	0	0	1	0
Carbon tetrachloride	1,104	98	43	28	33	21	1,154	96	801	85	198	87
Chlorobenzene	0	0	0	0	0	0	0	0	0	0	0	0
Chloroform	16	1	11	7	16	10	43	4	68	7	18	8
Methylene chloride	0	0	13	8	0	0	0	0	0	0	0	0
Tetrachloroethene	10	1	75	49	105	68	10	1	68	7	8	4
Toluene	0	0	0	0	0	0	0	0	0	0	0	0
Trichloroethene	0	0	11	7	0	0	0	0	0	0	3	1
Total:	**1,130**		**153**		**154**		**1,207**		**937**		**228**	

SSPL Compound	*2005*		*2006*		*2007*		*2008*		*2009*	
	Lbs. Removed	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*
Benzene	0	0	0	0	0	0	0	0	0	0
Carbon disulfide	1	0	3	0	0	0	0	0	1	1
Carbon tetrachloride	1,782	91	1,536	90	2,132	91	442	87	94	87
Chlorobenzene	0	0	0	0	0	0	0	0	0	0
Chloroform	95	5	98	6	93	4	32	6	7	7
Methylene chloride	0	0	2	0	0	0	0	0	0	0
Tetrachloroethene	75	4	62	4	110	5	28	6	5	5
Toluene	0	0	0	0	0	0	0	0	0	0
Trichloroethene	1	0	11	0	13	1	4	1	1	1
Total:	**1,954**		**1,712**		**2,349**		**507**		**108**	

TABLE 9.2

EXTRACTION WELL SUMMARY
TOTAL VOLUME OF GROUNDWATER EXTRACTED
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

	Volume Pumped by Extraction Wells (Gallons/Year)												
Period	***EW-1***	***EW-2***	***EW-3***	***EW-4***	***EW-5***	***EW-6***	***DPA-201***	***DPA-202***	***DPA-203***	***OW-3***	***LR-66***	***KO Pot***	***Site Total***
First Quarter	309,657	660,690	82,708	124,591	1,307,481	324,968	25,960	29,489	23,078	40,385	16,103	311,259	3,256,369
Second Quarter	335,467	1,270,865	161,606	118,530	1,582,927	347,012	21,850	29,011	89,949	43,550	21,978	239,846	4,262,591
Third Quarter	303,750	1,160,069	155,410	109,205	1,617,761	267,801	19,490	19,460	133,493	32,780	35,055	110,973	3,965,247
Fourth Quarter	260,375	929,924	121,806	116,518	1,096,171	160,867	20,240	11,681	56,490	25,035	19,046	113,520	2,931,673
Total Gallons:	**1,209,249**	**4,021,548**	**521,530**	**468,844**	**5,604,340**	**1,100,648**	**87,540**	**89,641**	**303,010**	**141,750**	**92,182**	**775,598**	**14,415,880**

TABLE 9.3

EXTRACTION WELL SUMMARY
TOTAL MASS REMOVAL BY GROUNDWATER EXTRACTION
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

	Total Mass Removal (Lbs/Year)												
Compound	***EW-1***	***EW-2***	***EW-3***	***EW-4***	***EW-5***	***EW-6***	***DPA-201***	***DPA-202***	***DPA-203***	***OW-3***	***LR-66***	***KO Pot***	***Site Total***
Benzene	0	0	0	0	0	0	0	0	0	0	0	0	0
Carbon disulfide	192	301	6	0	7	5	0	1	8	662	0	0	1,182
Carbon tetrachloride	50	241	6	7	62	208	0	111	378	81	4	0	1,147
Chlorobenzene	0	5	0	2	0	0	0	0	0	0	0	0	7
Chloroform	28	112	12	30	15	77	0	16	78	20	0	0	387
Methylene chloride	2	4	0	1	0	3	0	0	0	0	0	0	10
Tetrachloroethene	0	2	0	1	10	3	0	1	0	0	0	0	18
Toluene	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichloroethene	0	0	0	0	1	1	0	0	0	0	0	0	3
Total VOC Removal	**273**	**664**	**23**	**41**	**96**	**296**	**1**	**129**	**465**	**763**	**5**	**0**	**2,754**

Notes:
VOC Volatile Organic Compound.

TABLE 9.4

COMPOUND-SPECIFIC SSPL REMOVAL
GROUNDWATER EXTRACTION SYSTEM
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
1999 - 2009

SSPL Compound	*1999*		*2000*		*2001*		*2002*		*2003*		*2004*	
	Lbs. Removed	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*
Benzene	0	0	0	0	0	0	0	0	0	0	0	0
Carbon disulfide	843	20	1,815	29	3,741	36	1,481	23	2,185	33	2,311	47
Carbon tetrachloride	2,783	65	3,433	55	4,769	46	3,981	62	3,615	54	2,113	43
Chlorobenzene	1	0	6	0	3	0	1	0	3	0	1	0
Chloroform	657	15	903	15	1,707	17	874	14	835	12	482	10
Methylene chloride	0	0	0	0	0	0	0	0	8	0	6	0
Tetrachloroethene	9	0	39	1	47	0	36	1	57	1	36	1
Toluene	0	0	0	0	0	0	0	0	0	0	0	0
Trichloroethene	1	0	1	0	2	0	1	0	7	0	5	0
Total:	**4,250**		**6,197**		**10,269**		**6,374**		**6,710**		**4,954**	

SSPL Compound	*2005*		*2006*		*2007*		*2008*		*2009*	
	Lbs. Removed	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*	*Lbs. Removed*	*% of Total*
Benzene	0	0	0	0	0	0	0	0	0	0
Carbon disulfide	2,611	53	1,664	47	1,954	53	2,109	44	1,182	43
Carbon tetrachloride	1,771	36	1,420	40	1,278	35	1,998	42	1,147	42
Chlorobenzene	2	0	1	0	1	0	2	0	7	0
Chloroform	461	9	401	11	400	11	605	13	387	14
Methylene chloride	14	0	11	0	14	0	15	0	10	0
Tetrachloroethene	33	1	17	1	20	1	42	1	18	1
Toluene	0	0	0	0	0	0	0	0	0	0
Trichloroethene	7	0	3	0	5	0	19	0	3	0
Total:	**4,899**		**3,517**		**3,672**		**4,790**		**2,754**	

TABLE 9.5
COMPOUND-SPECIFIC SSPL REMOVAL
SITE REMEDIAL SYSTEMS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
1999 - 2009

Pounds Removed Per Year

SSPL Compound	*1999*		*2000*		*2001*		*2002*		*2003*		*2004*	
	SVE Systems	*GW*	*SVE Systems*	*GW*	*SVE Systems*	*GW*	*SVE Systems*	*GW*	*SVE Systems*	*GW*	*SVE Systems*	*GW*
Benzene	0	0	0	0	0	0	0	0	0	0	0	0
Carbon disulfide	0	843	0	1,815	0	3,741	0	1,481	0	2,185	1	2,311
Carbon tetrachloride	1,141	2,783	23	3,433	33	4,769	1,154	3,981	801	3,615	198	2,113
Chlorobenzene	5	1	0	6	0	3	0	1	0	3	0	1
Chloroform	24	657	11	903	16	1,707	43	874	68	835	18	482
Methylene chloride	0	0	13	0	0	0	0	0	0	8	0	6
Tetrachloroethene	48	9	103	39	105	47	10	36	68	57	8	36
Toluene	0	0	0	0	0	0	0	0	0	0	0	0
Trichloroethene	3	1	15	1	0	2	0	1	0	7	3	5
Total:	**1,221**	**4,294**	**165**	**6,197**	**154**	**10,269**	**1,207**	**6,374**	**937**	**6,710**	**228**	**4,954**

SSPL Compound	*2005*		*2006*		*2007*		*2008*		*2009*		*Cumulative Compound Total*	*% of Total*
	SVE Systems	*GW*	*SVE Systems*	*GW*	*SVE Systems*	*GW*	*SVE Systems*	*GW*	*SVE Systems*	*GW*		
Benzene	0	0	0	0	0	0	0	0	0	0	**0**	0
Carbon disulfide	1	2,611	3	1,664	0	1954	0	2109	1	1182	**19,591**	31
Carbon tetrachloride	1,782	1,771	1,536	1,420	2,132	1278	442	1998	94	1147	**35,334**	55
Chlorobenzene	0	2	0	1	0	1	0	2	0	7	**32**	0
Chloroform	95	461	98	401	93	400	32	605	7	387	**7,717**	12
Methylene chloride	0	14	2	11	0	14	0	15	0	10	**86**	0
Tetrachloroethene	75	33	62	17	110	20	28	42	5	18	**932**	1
Toluene	0	0	0	0	0	0	0	0	0	0	**0**	0
Trichloroethene	1	7	11	3	13	5	4	19	1	3	**96**	0
Total:	**1,954**	**4,899**	**1,712**	**3,517**	**2,349**	**3,672**	**507**	**4,790**	**108**	**2,754**	**63,789**	

Notes:
GW Groundwater extraction system.

APPENDIX A

GROUNDWATER TREATMENT SYSTEM
2009 PROCESS MONITORING DATA

TABLE A-1

GROUNDWATER INFLUENT
ANALYTICAL RESULTS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

	Sample ID:	*INF-011209-DJT*	*INF-020909-DJT*	*INF-030909-SG*	*INF-041109-DJT*	*INF-051009-DJT*	*INF-060709-DJT*
	Collection Date:	*01/12/09*	*02/09/09*	*03/09/09*	*04/11/09*	*05/10/09*	*06/07/09*
Parameters	*Units*						
Volatiles							
Benzene	µg/L	ND 100	ND 100	ND 50	ND 100	ND 50	ND 50
Carbon disulfide	µg/L	12000	9700	6100	7600	8700	6800
Carbon tetrachloride	µg/L	13000	17000	8900	12000	8700	7000
Chlorobenzene	µg/L	ND 100	ND 100	ND 50	ND 100	ND 50	ND 50
Chloroform	µg/L	3700	6300	2300	3600	2300	2200
Methylene chloride	µg/L	130	140	87	ND 100	95	110
Tetrachloroethene	µg/L	240	450	170	320	150	130
Toluene	µg/L	ND 100	ND 100	ND 50	ND 100	ND 50	ND 50
Trichloroethene	µg/L	ND 100	ND 100	ND 50	ND 100	ND 50	ND 50

	Sample ID:	*INF-070609-SG*	*INF-081009-SG*	*INF-090809-SG*	*INF-101109-DJT*	*INF-110809-DJT*	*INF-120709-DJO*
	Collection Date:	*07/06/09*	*08/10/09*	*09/08/09*	*10/11/09*	*11/08/09*	*12/07/09*
Parameters	*Units*						
Volatiles							
Benzene	µg/L	ND 50	ND 50	ND 50	ND 50	ND 25	ND 50
Carbon disulfide	µg/L	3700	340	9200	1700	2600	850
Carbon tetrachloride	µg/L	5700	4800	6600	6300	4000	8200
Chlorobenzene	µg/L	ND 50	ND 50	ND 50	ND 50	ND 25	ND 50
Chloroform	µg/L	2000	1700	2400	2100	1500	3300
Methylene chloride	µg/L	91	59	110	91	67	98
Tetrachloroethene	µg/L	150	210	120	190	130	350
Toluene	µg/L	ND 50	ND 50	ND 50	ND 50	ND 25	ND 50
Trichloroethene	µg/L	ND 50	ND 50	ND 50	ND 50	28	ND 50

Notes:
ND Non-detect at the associated value.

TABLE A-2

CARBON BED INTERSTAGE RESULTS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

	Sample ID:	*CBT-010509-SG*	*CBT-011209-DJT*	*CBT-011709-DJT*	*CBT-012609-SG*	*CBT-020209-SG*	*CBT-020909-DJT*
	Collection Date:	*01/05/09*	*01/12/09*	*01/17/09*	*01/26/09*	*02/02/09*	*02/09/09*
Parameters	*Units*						
Volatiles							
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Carbon disulfide	µg/L	200	100	95	ND 10	ND 10	ND 10
Carbon tetrachloride	µg/L	8.7	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chloroform	µg/L	290	210	210	ND 5.0	ND 5.0	ND 5.0
Methylene chloride	µg/L	11	17	18	ND 5.0	ND 5.0	ND 5.0
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Trichloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0

	Sample ID:	*CBT-021609-SG*	*CBT-022309-SG*	*CBT-030209-DJT*	*CBT-030909-DJT*	*CBT-031609-SG*	*CBT-032209-DJT*
	Collection Date:	*02/16/09*	*02/23/09*	*03/02/09*	*03/09/09*	*03/16/09*	*03/22/09*
Parameters	*Units*						
Volatiles							
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Carbon disulfide	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10	ND 10
Carbon tetrachloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chloroform	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Methylene chloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Trichloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0

Notes:
ND Non-detect at the associated value.

TABLE A-2

CARBON BED INTERSTAGE RESULTS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

	Sample ID:	*CBT-032909-DJT*	*CBT-040509-DJT*	*CBT-041109-DJT*	*CBT-041909-DJT*	*CBT-042709-SG*	*CBT-050409-DJT*
	Collection Date:	*03/29/09*	*04/05/09*	*04/11/09*	*04/19/09*	*04/27/09*	*05/04/09*
Parameters	***Units***						
Volatiles							
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Carbon disulfide	µg/L	ND 10	ND 5.9	1.6	ND 10.0	ND 10.0	ND 10.0
Carbon tetrachloride	µg/L	6.0	3.4	6.2	6.0	3.5	ND 5.0
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chloroform	µg/L	15	9.8	17	13	9.9	ND 5.0
Methylene chloride	µg/L	5.9	3.8	3.2	ND 5.0	ND 5.0	ND 5.0
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Trichloroethene	µg/L	ND 5.0	ND 5.9	ND 5.9	ND 5.0	ND 5.0	ND 5.0

	Sample ID:	*CBT-051009-DJT*	*CBT-051709-DJT*	*CBT-052509-DJT*	*CBT-060109-SG*	*CBT-060709-DJT*	*CBT-061409-DJT*
	Collection Date:	*05/10/09*	*05/17/09*	*05/25/09*	*06/01/09*	*06/07/09*	*06/14/09*
Parameters	***Units***						
Volatiles							
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Carbon disulfide	µg/L	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0
Carbon tetrachloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chloroform	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Methylene chloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Trichloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0

Notes:
NDNon-detect at the associated value.

TABLE A-2

CARBON BED INTERSTAGE RESULTS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

	Sample ID:	*CBT-062109-DJT*	*CBT-062809-DJT*	*CBT-070609-SG*	*CBT-071309-SG*	*CBT-071909-DJT*	*CBT-072709-SG*
	Collection Date:	*06/21/09*	*06/28/09*	*07/06/09*	*07/13/09*	*07/19/09*	*07/27/09*
Parameters	***Units***						
Volatiles							
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Carbon disulfide	µg/L	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0
Carbon tetrachloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chloroform	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Methylene chloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Trichloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0

	Sample ID:	*CBT-080309-SG*	*CBT-081009-SG*	*CBT-081709-SG*	*CBT-082409-SG*	*CBT-083109-SG*	*CBT-090809-DJT*
	Collection Date:	*08/03/09*	*08/10/09*	*08/17/09*	*08/24/09*	*08/31/09*	*09/08/09*
Parameters	***Units***						
Volatiles							
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Carbon disulfide	µg/L	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0
Carbon tetrachloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chloroform	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Methylene chloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Trichloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0

Notes:
ND Non-detect at the associated value.

TABLE A-2

CARBON BED INTERSTAGE RESULTS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

	Sample ID:	*CBT-091409-SG*	*CBT-092109-SG*	*CBT-092809-SG*	*CBT-100509-SG*	*CBT-101109-DJT*	*CBT-101809-DJT*
	Collection Date:	*09/14/09*	*09/21/09*	*09/28/09*	*10/05/09*	*10/11/09*	*10/18/09*
Parameters	*Units*						
Volatiles							
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Carbon disulfide	µg/L	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0
Carbon tetrachloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chloroform	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Methylene chloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Trichloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0

	Sample ID:	*CBT-102609-SG*	*CBT-110209-DJT*	*CBT-111009-DJT*	*CBT-111609-SG*	*CBT-112309-DJT*	*CBT-113009-SG*
	Collection Date:	*10/26/09*	*11/02/09*	*11/10/09*	*11/16/09*	*11/23/09*	*11/30/09*
Parameters	*Units*						
Volatiles							
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Carbon disulfide	µg/L	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0
Carbon tetrachloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Chloroform	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Methylene chloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0
Trichloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0

Notes:
ND Non-detect at the associated value.

TABLE A-2

CARBON BED INTERSTAGE RESULTS
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

	Sample ID:	*CBT-120709-DJO*	*CBT-121309-DJT*	*CBT-122009-DJT*
	Collection Date:	*12/07/09*	*12/13/09*	*12/20/09*
Parameters	*Units*			
Volatiles				
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0
Carbon disulfide	µg/L	ND 10.0	ND 10.0	ND 10.0
Carbon tetrachloride	µg/L	ND 5.0	ND 5.0	ND 5.0
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0
Chloroform	µg/L	ND 5.0	ND 5.0	ND 5.0
Methylene chloride	µg/L	ND 5.0	ND 5.0	ND 5.0
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0
Trichloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0

	Sample ID:
	Collection Date:
Parameters	*Units*
Volatiles	
Benzene	µg/L
Carbon disulfide	µg/L
Carbon tetrachloride	µg/L
Chlorobenzene	µg/L
Chloroform	µg/L
Methylene chloride	µg/L
Tetrachloroethene	µg/L
Toluene	µg/L
Trichloroethene	µg/L

Notes:
NDNon-detect at the associated value.

TABLE A-3

EFFLUENT RESULTS
ANALYTICAL DATA
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

	Sample ID:	*EFF-011209-DJT*	*EFF-020909-DJT*	*EFF-030909-SG*	*EFF-041109-DJT*	*EFF-051009-DJT*	*EFF-051*
	Collection Date:	*01/12/09*	*02/09/09*	*03/09/09*	*04/11/09*	*05/10/09*	*05/1*
Parameters	***Units***						
Volatiles							
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Carbon disulfide	µg/L	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND
Carbon tetrachloride	µg/L	ND 5.0	13	ND 5.0	ND 5.0	ND 5.0	ND
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Chloroform	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Methylene chloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Trichloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND

	Sample ID:	*EFF-060709-DJT*	*EFF-070609-SG*	*EFF-081009-SG*	*EFF-090809-SG*	*EFF-101109-DJT*	*EFF-110*
	Collection Date:	*06/07/09*	*07/06/09*	*08/10/09*	*09/08/09*	*10/11/09*	*11/0*
Parameters	***Units***						
Volatiles							
Benzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Carbon disulfide	µg/L	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND 10.0	ND
Carbon tetrachloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	
Chlorobenzene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Chloroform	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Methylene chloride	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Tetrachloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Toluene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND
Trichloroethene	µg/L	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND 5.0	ND

Notes:
ND Non-detect at the associated value.

TABLE A-3

EFFLUENT RESULTS
ANALYTICAL DATA
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
2009

	Sample ID:	***709-DJT***	***EFF-111209-SG***	***EFF-112309-DJT***	***EFF-120709-DJO***
	Collection Date:	***7/09***	***11/12/09***	***11/23/09***	***12/07/09***
Parameters	***Units***				
Volatiles					
Benzene	µg/L	5.0	ND 5.0	ND 5.0	ND 5.0
Carbon disulfide	µg/L	10.0	ND 10.0	ND 10.0	ND 10.0
Carbon tetrachloride	µg/L	5.0	ND 5.0	ND 5.0	ND 5.0
Chlorobenzene	µg/L	5.0	ND 5.0	ND 5.0	ND 5.0
Chloroform	µg/L	5.0	ND 5.0	ND 5.0	ND 5.0
Methylene chloride	µg/L	5.0	ND 5.0	ND 5.0	ND 5.0
Tetrachloroethene	µg/L	5.0	ND 5.0	ND 5.0	ND 5.0
Toluene	µg/L	5.0	ND 5.0	ND 5.0	ND 5.0
Trichloroethene	µg/L	5.0	ND 5.0	ND 5.0	ND 5.0

	Sample ID:	***809-DJT***
	Collection Date:	***8/09***
Parameters	***Units***	
Volatiles		
Benzene	µg/L	5.0
Carbon disulfide	µg/L	5.9
Carbon tetrachloride	µg/L	7.3
Chlorobenzene	µg/L	5.0
Chloroform	µg/L	5.0
Methylene chloride	µg/L	5.0
Tetrachloroethene	µg/L	5.0
Toluene	µg/L	5.0
Trichloroethene	µg/L	5.0

Notes:
ND Non-detect at the associated value.

APPENDIX B

GROUNDWATER TREATMENT SYSTEM
2009 PERFORMANCE MONITORING DATA

TABLE B-1
ANALYTICAL RESULTS SUMMARY
QUARTERLY GROUNDWATER PROGRAM
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
FEBRUARY 2009

Parameter:		*Benzene*	*Carbon disulfide*	*Carbon tetrachloride*	*Chloro-benzene*	*Chloroform (Trichloromethane)*	*Methylene chloride*	*Tetrachloro-ethene*	*Toluene*	*Trichloro-ethene*
	Units:	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*
Sample Location	*Collection Date*									
Extraction Wells										
DPA-201	2/13/2009	ND 10	ND 10	2,000	ND 10	1,500	ND 10	990	ND 10	690
DPA-202	2/13/2009	ND 500	ND 500	180,000	ND 500	29,000	ND 500	ND 500	ND 500	ND 500
DPA-203	2/13/2009	ND 2,000	ND 2,000	380,000	ND 2,000	66,000	ND 2,000	ND 2,000	ND 2,000	ND 2,000
EW-1	2/2/2009	ND 50	18,000	3,800	ND 50	2,500	160	ND 50	ND 50	ND 50
EW-2	2/13/2009	ND 100	2,900	8,400	ND 100	2,200	ND 100	ND 100	ND 100	ND 100
EW-3	2/13/2009	ND 200	7,200	2,400	ND 200	6,000	ND 200	ND 200	ND 200	ND 200
EW-4	2/23/2009	ND 20	ND 20	3,800	970	7,500	140	170	ND 20	110
EW-5	2/2/2009	ND 10	140	1,600	ND 10	430	ND 10	220	ND 10	24
EW-6	2/2/2009	ND 10	820	15,000	ND 10	7,000	260	310	ND 10	92
LR-66	2/2/2009	ND 50	400	6,400	ND 50	880	120	140	ND 50	ND 50
OW-3	2/13/2009	ND 2,000	1,100,000	120,000	ND 2,000	19,000	ND 2,000	ND 2,000	ND 2,000	ND 2,000
T-4	2/23/2009	ND 10	ND 10	ND 10	720	ND 10	ND 10	120	ND 10	ND 10
Upper Lockport Wells										
OW-11	2/2/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
OW-11 (Dup.)	2/2/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
W-17	2/2/2009	ND 500	1,900	97,000	ND 500	26,000	ND 500	910	ND 500	ND 500

Notes:
ND: Not present at or above the associated value.

TABLE B-2
ANALYTICAL RESULTS SUMMARY
QUARTERLY GROUNDWATER PROGRAM
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
MAY 2009

Parameter:		*Benzene*	*Carbon disulfide*	*Carbon tetrachloride*	*Chlorobenzene*	*Chloroform*	*Methylene chloride*	*Tetrachloro-ethene*	*Toluene*	*Trichloro-ethene*
Units:		*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*
Sample Location	*Collection Date*									
Extraction Wells										
DPA-201	5/22/2009	ND 10	ND 10	2500	ND 10	960	ND 10	1900	ND 10	930
DPA-202	5/22/2009	ND 500	1700	140000	ND 500	18000	ND 500	2000	ND 500	ND 500
DPA-203	5/22/2009	ND 2000	5700	250000	ND 2000	48000	ND 2000	ND 2000	ND 2000	ND 2000
EW-1	5/21/2009	ND 50	14000	6100	ND 50	3200	250	ND 50	ND 50	ND 50
EW-2	5/21/2009	ND 100	ND 100	1700	470	6600	220	170	ND 100	ND 100
EW-2 (Dup.)	5/21/2009	ND 100	ND 100	1200	470	6400	220	160	ND 100	ND 100
EW-3	5/21/2009	ND 200	ND 200	1100	ND 200	1900	ND 200	ND 200	ND 200	ND 200
EW-4	5/22/2009	ND 20	ND 20	770	500	6200	220	170	ND 20	57
EW-5	5/21/2009	ND 10	230	710	ND 10	160	ND 10	100	ND 10	13
EW-6	5/21/2009	ND 10	530	20000	ND 10	7300	240	270	ND 10	78
LR-66	5/21/2009	ND 50	150	4300	ND 50	570	76	79	ND 50	ND 50
OW-3	5/22/2009	ND 2000	290000	51000	ND 2000	16000	ND 2000	ND 2000	ND 2000	ND 2000
T-4	5/28/2009	ND 10	ND 10	15	45	49	ND 10	220	ND 10	27
Upper Lockport Wells										
OW-11	5/22/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
W-11	5/22/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	5.2	ND 1.0	5.7
W-16	5/22/2009	ND 10	ND 10	210	ND 10	260	ND 10	65	ND 10	100
W-16 (Dup.)	5/22/2009	ND 10	ND 10	240	ND 10	280	ND 10	64	ND 10	110
W-17	5/28/2009	ND 500	2200	94000	ND 500	26000	550	870	ND 500	ND 500
W-18R	5/22/2009	ND 50	ND 50	11000	ND 50	19000	120	510	ND 50	ND 50
W-19D	5/22/2009	ND 1.0	ND 1.0	4.2	ND 1.0	9.0	ND 1.0	7.8	ND 1.0	ND 1.0
W-20	5/22/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
W-22A	5/22/2009	ND 1.0	ND 1.0	43	ND 1.0	33	ND 1.0	10	ND 1.0	3.2
W-23C	5/22/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	1.3	ND 1.0	1.6	ND 1.0	ND 1.0
W-66	5/29/2009	ND 1.0	ND 1.0	910	ND 1.0	390	3.2	63	ND 1.0	50
W-67	5/28/2009	ND 50	590	3100	ND 50	3400	110	170	ND 50	ND 50

TABLE B-2
ANALYTICAL RESULTS SUMMARY
QUARTERLY GROUNDWATER PROGRAM
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
MAY 2009

Parameter:		*Benzene*	*Carbon disulfide*	*Carbon tetrachloride*	*Chlorobenzene*	*Chloroform*	*Methylene chloride*	*Tetrachloro-ethene*	*Toluene*	*Trichloro-ethene*
Units:		*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*
Sample Location	*Collection Date*									
Lower Lockport Wells										
W-16L	5/28/2009	ND 1.0	960	ND 1.0	ND 1.0	1.7	ND 1.0	2.0	ND 1.0	4.0
W-18L	5/22/2009	ND 25	ND 25	500	ND 25	3400	37	210	ND 25	29
W-19A	5/23/2009	Dry								
W-23B	5/22/2009	ND 5.0	ND 5.0	610	ND 5.0	330	ND 5.0	550	ND 5.0	76
W-48E	5/21/2009	ND 1.0	ND 1.0	250	3.0	120	ND 1.0	39	ND 1.0	9.2
W-50L	5/23/2009	ND 1.0	ND 1.0	1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
W-60L	5/23/2009	Dry								
W-65	5/23/2009	ND 1.0	ND 1.0	1.5	ND 1.0	3.1	ND 1.0	1.1	ND 1.0	ND 1.0
W-66L	5/28/2009	ND 1.0	ND 1.0	3.4	ND 1.0	4.4	ND 1.0	ND 1.0	ND 1.0	ND 1.0
W-67L	5/29/2009	ND 2.0	ND 2.0	660	2.5	1900	42	47	ND 2.0	36
W-70L	5/23/2009	2.7	1.0	ND 1.0	92	360	1.7	2.2	1.1	17
Lockport/Rochester Wells										
LR-2	5/29/2009	ND 20	ND 20	1600	ND 20	1500	150	63	ND 20	71
LR-16	5/28/2009	ND 2.0	1200	160	ND 2.0	1100	390	35	ND 2.0	3.6
LR-20	5/22/2009	ND 1.0	ND 1.0	ND 1.0	3.7	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
LR-48	5/29/2009	ND 1.0	ND 1.0	1800	80	550	9.5	45	ND 1.0	15
LR-48 (Dup.)	5/29/2009	ND 1.0	ND 1.0	1700	81	540	9.7	47	ND 1.0	15
LR-49	5/28/2009	ND 1.0	ND 1.0	2.3	5.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
LR-50	5/23/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
LR-50 (Dup.)	5/23/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
LR-51	5/28/2009	ND 1.0	ND 1.0	ND 1.0	5.8	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
LR-51 (Dup.)	5/28/2009	ND 1.0	ND 1.0	ND 1.0	6.1	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
LR-61	5/28/2009	ND 200	1200	13000	ND 200	6800	410	310	ND 200	ND 200
LR-62	5/23/2009	9.9	7.7	21	ND 1.0	47	2.1	9.9	ND 1.0	10
LR-67	5/28/2009	ND 50	38000	130	ND 50	530	280	1400	ND 50	ND 50
LR-69	5/23/2009	210	ND 2.0	ND 2.0	ND 2.0	ND 2.0	ND 2.0	ND 2.0	31	ND 2.0
OW-5	5/29/2009	ND 100	51000	ND 100	ND 100	ND 100	ND 100	ND 100	ND 100	ND 100
W-19B	5/29/2009	ND 20	32	4500	170	8700	550	290	ND 20	330

TABLE B-2
ANALYTICAL RESULTS SUMMARY
QUARTERLY GROUNDWATER PROGRAM
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
MAY 2009

Parameter:		*Benzene*	*Carbon disulfide*	*Carbon tetrachloride*	*Chlorobenzene*	*Chloroform*	*Methylene chloride*	*Tetrachloro-ethene*	*Toluene*	*Trichloro-ethene*
	Units:	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*
Sample Location	*Collection Date*									
Rochester Wells										
B-02	5/29/2009	ND 50	2400	2300	ND 50	3900	540	ND 50	ND 50	ND 50
R-16	5/23/2009	82	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	38	ND 1.0
R-19	5/23/2009	ND 50	1100	6900	ND 50	4700	490	ND 50	ND 50	ND 50
R-48	5/23/2009	ND 5.0	63	540	ND 5.0	350	37	ND 5.0	ND 5.0	ND 5.0
R-50	5/23/2009	67	63	2500	ND 50	3300	440	81	ND 50	ND 50
R-51	5/29/2009	11	6.8	ND 1.0	ND 1.0	8.9	19	ND 1.0	2.1	ND 1.0
R-60	5/23/2009	53	170	30	ND 1.0	11	1.2	3.7	2.3	ND 1.0
R-61	5/23/2009	ND 500	88000	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500
R-62	5/23/2009	ND 1000	100000	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000
R-66	5/29/2009	ND 100	17000	13000	ND 100	21000	4200	ND 100	ND 100	ND 100
R-67	5/29/2009	ND 1000	340000	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000
R-68	5/29/2009	ND 1000	4300	24000	ND 1000	23000	3200	ND 1000	ND 1000	ND 1000
QA/QC										
Rinse Blank	5/22/2009	ND 1.0	4.1	5.3	ND 1.0	1.6	ND 1.0	ND 1.0	ND 1.0	ND 1.0
Rinse Blank	5/28/2009	ND 1.0	2.6	4.7	ND 1.0	1.8	ND 1.0	ND 1.0	ND 1.0	ND 1.0
Rinse Blank	5/29/2009	ND 1.0	3.7	3.1	ND 1.0	1.2	ND 1.0	ND 1.0	ND 1.0	ND 1.0
Trip Blank	5/21/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
Trip Blank	5/22/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
Trip Blank	5/28/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
Trip Blank	5/29/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0

TABLE B-3
ANALYTICAL RESULTS SUMMARY
QUARTERLY GROUNDWATER PROGRAM
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
AUGUST 2009

Parameter:		*Benzene*	*Carbon disulfide*	*Carbon tetrachloride*	*Chloro-benzene*	*Chloroform*	*Methylene chloride*	*Tetrachloro-ethene*	*Toluene*	*Trichloro-ethene*
Units:		*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*
Sample Location	*Collection Date*									
Extraction Wells										
DPA-201	8/25/2009	13	ND 10	2200	ND 10	740	21	1900	ND 10	980
DPA-202	8/25/2009	ND 500	2000	150000	ND 500	19000	ND 500	2800	ND 500	ND 500
DPA-203	8/25/2009	ND 2000	6600	270000	ND 2000	58000	ND 2000	2200	ND 2000	ND 2000
EW-1	8/24/2009	ND 50	19000	4400	ND 50	2600	220	ND 50	ND 50	ND 50
EW-2	8/24/2009	ND 100	11000	9400	ND 100	1600	100	ND 100	ND 100	ND 100
EW-3	8/24/2009	ND 200	330	1200	ND 200	2000	ND 200	ND 200	ND 200	ND 200
EW-4	8/24/2009	ND 20	ND 20	250	260	2600	110	170	ND 20	45
EW-5	8/24/2009	ND 10	120	1600	ND 10	360	ND 10	250	ND 10	35
EW-6	8/24/2009	ND 10	370	7400	ND 10	4900	210	140	ND 10	88
LR-66	8/24/2009	ND 50	97	5700	ND 50	640	70	72	ND 50	ND 50
OW-3	8/24/2009	ND 2000	140000	21000	ND 2000	3900	ND 2000	ND 2000	ND 2000	ND 2000
T-4	8/25/2009	ND 10	ND 10	ND 10	1700	ND 10	ND 10	410	ND 10	150
Upper Lockport Wells										
OW-11	8/25/2009	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0	ND 1.0
W-17	8/25/2009	ND 250	ND 250	40000	ND 250	11000	ND 250	400	ND 250	ND 250
W-17 (Dup.)	8/25/2009	ND 250	ND 250	40000	ND 250	11000	ND 250	430	ND 250	ND 250

TABLE B-4
ANALYTICAL RESULTS SUMMARY
QUARTERLY GROUNDWATER PROGRAM
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
NOVEMBER 2009

Sample Location	Collection Date	Benzene ug/L	Carbon disulfide ug/L	Carbon tetrachloride ug/L	Chlorobenzene ug/L	Chloroform ug/L	Methylene chloride ug/L	Tetrachloro-ethene ug/L	Toluene ug/L	Trichloro-ethene ug/L
Extraction Wells										
DPA-201	11/11/2009	ND 10	ND 10	1400	ND 10	840	11	1200	ND 10	1000
DPA-202	11/11/2009	ND 500	1800	83000	ND 500	18000	ND 500	1800	ND 500	ND 500
DPA-203	11/11/2009	ND 2000	8600	250000	ND 2000	62000	ND 2000	ND 2000	ND 2000	ND 2000
EW-1	11/10/2009	ND 50	27000	5600	ND 50	2700	200	ND 50	ND 50	ND 50
EW-2	11/10/2009	ND 100	23000	11000	ND 100	1800	110	ND 100	ND 100	ND 100
EW-3	11/10/2009	ND 10	130	1100	ND 10	2200	66	61	ND 10	120
EW-4	11/10/2009	ND 20	ND 20	2000	420	14000	340	250	ND 20	72
EW-5	11/10/2009	ND 10	71	1500	ND 10	380	ND 10	340	ND 10	51
EW-6	11/10/2009	ND 10	330	69000	ND 10	19000	530	1100	ND 10	58
LR-66	11/10/2009	ND 50	90	4200	ND 50	550	66	70	ND 50	ND 50
OW-3	11/11/2009	ND 2000	710000	77000	ND 2000	31000	ND 2000	ND 2000	ND 2000	ND 2000
T-4	11/12/2009	ND 10	ND 10	10	2900	ND 10	ND 10	120	ND 10	43
Upper Lockport Wells										
OW-11	11/11/2009	ND 1	ND 1	ND 1	ND 1	1.1	ND 1	ND 1	ND 1	ND 1
W-11	11/11/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	2.6	ND 1	6.7
W-16	11/11/2009	ND 1	ND 1	41	ND 1	100	ND 1	32	ND 1	180
W-17	11/10/2009	ND 250	1600	58000	ND 250	23000	390	720	ND 250	ND 250
W-18R	11/11/2009	ND 50	ND 50	88000	ND 50	25000	760	820	ND 50	ND 50
W-19D	11/11/2009	Dry								
W-20	11/11/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
W-22A	11/11/2009	Dry								
W-23C	11/11/2009	ND 1	2.4	ND 1	ND 1	ND 1	ND 1	1.6	ND 1	ND 1
W-66	11/12/2009	1	1.3	650	ND 1	540	3.9	94	ND 1	61
W-67	11/11/2009	ND 50	1800	12000	ND 50	8000	120	310	ND 50	ND 50

TABLE B-4
ANALYTICAL RESULTS SUMMARY
QUARTERLY GROUNDWATER PROGRAM
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
NOVEMBER 2009

Sample Location	Collection Date	Benzene ug/L	Carbon disulfide ug/L	Carbon tetrachloride ug/L	Chlorobenzene ug/L	Chloroform ug/L	Methylene chloride ug/L	Tetrachloro-ethene ug/L	Toluene ug/L	Trichloro-ethene ug/L
Lower Lockport Wells										
W-16L	11/11/2009	ND 1	500	5.3	ND 1	5.7	ND 1	2.3	ND 1	3.6
W-16L (Dup.)	11/11/2009	ND 1	530	5.6	ND 1	5.7	ND 1	2.2	ND 1	3.6
W-18L	11/12/2009	ND 25	ND 25	76	ND 25	1900	ND 25	140	ND 25	27
W-19A	11/12/2009	Dry								
W-23B	11/11/2009	ND 5	ND 5	61	ND 5	110	ND 5	110	ND 5	22
W-48E	11/12/2009	Dry								
W-50L	11/12/2009	ND 1	ND 1	8	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
W-60L	11/12/2009	Dry								
W-65	11/12/2009	ND 1	ND 1	11	ND 1	6.2	ND 1	4.6	ND 1	2.4
W-66L	11/11/2009	ND 1	ND 1	1.6	ND 1	1.3	ND 1	ND 1	ND 1	ND 1
W-67L	11/12/2009	ND 2	4.1	2500	ND 2	4400	14	88	ND 2	23
W-70L	11/13/2009	1.8	ND 1	ND 1	84	190	ND 1	1.3	1.2	17
Lockport/Rochester Wells										
LR-2	11/13/2009	ND 1	14	2000	17	2000	130	92	ND 1	91
LR-2 (Dup.)	11/13/2009	ND 1	15	1900	18	1900	130	90	ND 1	89
LR-16	11/11/2009	ND 2	300	280	ND 2	250	40	62	ND 2	2
LR-20	11/11/2009	ND 1	ND 1	ND 1	3.4	ND 1	ND 1	ND 1	ND 1	ND 1
LR-48	11/13/2009	ND 1	ND 1	85	8.5	62	ND 1	8.8	ND 1	3.1
LR-49	11/11/2009	ND 1	ND 1	1.1	4.1	ND 1	ND 1	ND 1	ND 1	ND 1
LR-50	11/11/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
LR-51	11/11/2009	ND 1	ND 1	ND 1	5.2	ND 1	ND 1	ND 1	ND 1	ND 1
LR-61	11/12/2009	ND 200	580	10000	ND 200	7600	320	310	ND 200	ND 200
LR-62	11/13/2009	6.1	140	14	ND 1	450	37	18	ND 1	100
LR-67	11/16/2009	ND 50	39000	130	ND 50	510	240	2000	ND 50	ND 50
LR-67 (Dup.)	11/16/2009	ND 50	32000	120	ND 50	490	220	1800	ND 50	ND 50
LR-69	11/12/2009	230	ND 2	ND 2	ND 2	ND 2	ND 2	ND 2	24	ND 2
LR-69 (Dup.)	11/12/2009	220	ND 2	ND 2	ND 2	ND 2	ND 2	ND 2	34	ND 2
OW-5	11/16/2009	ND 100	65000	ND 100	ND 100	ND 100	ND 100	ND 100	ND 100	ND 100
W-19B	11/13/2009	ND 20	ND 20	4000	170	8600	470	260	ND 20	290
W-19B (Dup.)	11/13/2009	ND 20	ND 20	3600	150	8300	430	240	ND 20	280

TABLE B-4
ANALYTICAL RESULTS SUMMARY
QUARTERLY GROUNDWATER PROGRAM
STAUFFER MANAGEMENT COMPANY LLC
LEWISTON, NEW YORK
NOVEMBER 2009

Sample Location	Collection Date	Benzene ug/L	Carbon disulfide ug/L	Carbon tetrachloride ug/L	Chlorobenzene ug/L	Chloroform ug/L	Methylene chloride ug/L	Tetrachloro-ethene ug/L	Toluene ug/L	Trichloro-ethene ug/L
Rochester Wells										
B-02	11/16/2009	ND 50	2800	2800	ND 50	4300	490	ND 50	ND 50	ND 50
R-16	11/12/2009	72	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	35	ND 1
R-19	11/13/2009	ND 50	480	6800	ND 50	3300	330	ND 50	ND 50	ND 50
R-48	11/13/2009	8.1	74	760	ND 5	420	34	ND 5	ND 5	ND 5
R-50	11/13/2009	54	ND 50	2200	ND 50	4700	330	95	ND 50	ND 50
R-51	11/16/2009	45	8.2	ND 1	ND 1	12	30	1.1	18	ND 1
R-60	11/13/2009	50	120	38	ND 1	14	1.5	3.6	2.6	ND 1
R-61	11/13/2009	ND 500	79000	ND 500	ND 500	780	ND 500	ND 500	ND 500	ND 500
R-62	11/13/2009	ND 1000	150000	ND 1000	ND 1000	1400	ND 1000	ND 1000	ND 1000	ND 1000
R-66	11/16/2009	ND 100	19000	14000	ND 100	23000	3400	ND 100	ND 100	ND 100
R-67	11/16/2009	ND 1000	430000	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000
R-68	11/16/2009	120	22000	49000	9.1	31000	1900	ND 500	110	2.5
QA/QC										
RINSEBLANK	11/11/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
RINSEBLANK	11/12/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
RINSEBLANK	11/13/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
RINSEBLANK	11/16/2009	ND 1	3.1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
Trip Blank	11/10/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
Trip Blank	11/11/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
Trip Blank	11/12/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
Trip Blank	11/13/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1
Trip Blank	11/16/2009	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1	ND 1

APPENDIX C

MONITORING WELL INVENTORY

TABLE C
MONITORING WELL INVENTORY
STAUFFER MANAGEMENT COMPANY
LEWISTON, NEW YORK

Date: 11/10/2009

Well No.	*Sounded Depth (Ft. BTOC)*	*Pro-Casing*	*Lock*	*Grout Seal*	*Concrete Collar*
B02	NA	Good	Yes	Good	Good
OW-3	125.14	Good	NA	Good	Good
OW-5	103.16	Good	Yes	Good	NA
OW-8	9.88	Good	NA	Good	Good
OW-9	13.93	Good	NA	Good	Good
OW-10	13.18	Good	NA	Good	Good
OW-11	28.83	Good	NA	Good	Good
W-11	32.58	Good	Yes	Good	Good
W-16	31.67	Good	Yes	Good	NA
W-16L	67.21	Good	Yes	Good	Cracked
W-17	29.28	Good	Yes	Good	Good
W-18R	31.79	Good	Yes	Good	Poor
W-18L	74.56	Good	Yes	Good	NA
W-19A	40.80	Good	Yes	Good	Good
W-19B	82.85	Good	Yes	Good	Cracked
W-19D	24.50	Good	Yes	Good	Good
W-20	28.88	Good	Yes	Good	Good
W-22A	22.63	Good	Yes	Good	Good
W-23B	43.77	Good	Yes	Good	Good
W-23C	23.12	Good	Yes	Good	Good
W-48E	40.30	Good	Yes	Good	Good
W-50	37.86	Good	Yes	Good	NA
W-60L	33.93	Good	Yes	Good	Good
W-65	57.61	Good	Yes	Good	NA
W-66	48.16	Good	Yes	Good	NA
W-66L	66.49	Good	Yes	Good	NA
W-67	42.63	Good	Yes	Good	NA
W-67L	71.98	Good	Yes	Good	NA
W-70L	74.47	Good	Yes	Good	NA
LR-2	90.33	Good	Yes	Good	NA
LR-16	93.03	Good	Yes	Good	NA
LR-20	87.12	Good	Yes	Good	Fair
LR-48	68.58	Good	Yes	Good	Cracked
LR-49	75.86	Good	Yes	Good	NA
LR-50	76.35	Good	Yes	Good	Good
LR-51	65.87	Good	Yes	Good	Cracked
LR-61	99.05	Good	Yes	Good	NA
LR-62	104.60	Good	Yes	Good	Good
LR-66	NA	Good	NA	Good	Good
LR-67	102.59	Good	Yes	Good	NA
LR-69	87.45	Good	Yes	Good	NA
R-16	132.70	Good	Yes	Good	NA

TABLE C
MONITORING WELL INVENTORY
STAUFFER MANAGEMENT COMPANY
LEWISTON, NEW YORK

Date: 11/10/2009

Well No.	*Sounded Depth (Ft. BTOC)*	*Pro-Casing*	*Lock*	*Grout Seal*	*Concrete Collar*
R-19	147.17	Good	Yes	Good	Good
R-48	139.79	Good	Yes	Good	Cracked
R-50	141.26	Good	Yes	Good	Cracked
R-51	NA	Good	Yes	Good	Good
R-60	139.05	Good	Yes	Good	NA
R-61	154.59	Good	Yes	Good	NA
R-62	158.66	Good	Yes	Good	Good
R-66	152.54	Good	Yes	Good	Good
R-67	141.91	Good	Yes	Good	NA
R-68	121.97	Good	Yes	Good	Good
EW-4	NA	Good	NA	Good	NA
EW-5	NA	Good	NA	Good	NA
EW-6	NA	Good	NA	Good	NA
DPA-201	NA	Good	NA	Good	NA
DPA-202	NA	Good	NA	Good	NA
DPA-203	NA	Good	NA	Good	NA
EW-1	NA	Good	NA	Good	Good
EW-2	NA	Good	NA	Good	Good
EW-3	NA	Good	NA	Good	Good
T4	NA	Good	NA	Good	Good

Notes:
Ft. BTOC Feet Below Top of Casing.
NA Not Available.