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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7

REPORT

REMOVAL ASSESSMENT - PHASE 1

for the

TENTH STREET SITE
COLUMBUS, NEBRASKA

CERCLIS number : NED981713837

FEBRUARY 1999

Ecology and Environment, Inc.

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
CONTRACT No: 68-W6-0012

TDD: S07-9805-003A PAN: 0899TSSFXX

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Prepared For:

Remedial Program
U.S. Environmental Protection Agency Region 7 Superfund Division

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February 12, 1999

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1.0 INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the U.S. Environmental Protection Agency (EPA) Region 7 Remedial program has tasked the Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START) to conduct a removal assessment at the 10th Street site in Columbus, Nebraska, under Technical Direction Document (TDD) S07-9805-003.

Water analyses by the Nebraska Department of Health (NDOH), EPA, and START have identified trichloroethylene (TCE) and tetrachloroethylene (PCE) in the Columbus municipal water system. Since testing of the water supply for volatile organic compounds (VOCs) began in 1983, PCE and TCE have been detected at concentrations exceeding their Maximum Contaminant Levels (MCLs) in several municipal wells and monitoring wells.

Previous investigations at the 10th Street site involved installation of 34 monitoring wells to identify areas of contaminated ground water. Recent quarterly samplings and analysis of these monitoring wells indicated that the northern boundary of contamination had not been completely delineated. The objectives of this assessment were to quantify the concentrations of these contaminants in shallow ground water within an expanded sampling area in order to delineate contaminated ground water and to verify potential source(s). The expanded sampling area extended beyond the current network of monitoring wells. START implemented a ground water and soil sampling regimen to fulfill these objectives. This removal assessment report presents site background information, describes field investigation activities, and presents and discusses the results of these activities.

2.0 SITE DESCRIPTION AND HISTORY

2.1 SITE LOCATION

The 10th Street site is located in Columbus, Platte County, Nebraska (Figure 2-1: Site Location Map). The current monitoring well network encompasses an area bounded approximately by 6th and 13th Streets and 22nd and 30th Avenues (Figure 2-2: Current Monitoring Well Network). However, recent quarterly sampling and analysis indicated that the northern boundary of the plume has not been delineated. Therefore, the proposed sampling area for this investigation generally extended to 33rd Avenue to the west, 18th Avenue to the east, 11th Street to the south, and north to approximately 1,000 feet north of 23rd Street (Figure 2-1: Site Location Map and Figure 3-1: Study Area Map).

2.2 SITE DESCRIPTION

The site consists of a contaminated ground water plume located beneath a mixture of commercial and residential property in the south-central portion of the city. PCE and TCE are the primary contaminant constituents of the ground water plume. Elevated levels of arsenic have also been detected in some ground water samples. The current extent of the ground water plume has been partially delineated by samples taken from a network of 34 monitoring wells. These wells were installed as part of a 1993 Remedial Investigation (Sverdrup, 1993). Several municipal wells have also indicated PCE and TCE contamination. Both the monitoring wells and municipal wells are screened in an unconsolidated sand and gravel aquifer. Regional ground water flow is to the south-southeast towards the Loup River. However, municipal well pumping appears to cause ground water in the southern portion of the site to flow to the southwest towards the municipal wells. More detailed descriptions of the geology and hydrogeology are presented in Section 2.5 of this report.

2.3 PREVIOUS INVESTIGATIONS

The 10th Street site came to the attention of the NDOH in November 1983, when trihalomethanes (THMs), a group of VOCs generally created as a by-product of chlorination, were detected during a routine sampling and analysis event. Follow-up analysis by NDOH conducted in June 1984 continued to detect THMs and also detected TCE in municipal wells W-1, W-2, W-4, and W-11 at concentrations of 5.9 parts per billion (ppb), 24.7 ppb, 9.4 ppb, and 7.2 ppb, respectively. These concentrations all exceeded the MCL for TCE of 5.0 ppb. The city of Columbus was served, at that time, by 9 municipal wells, designated as W-1, W-2,

W-4, W-8, W-11, W-12, W-13, W-14, and W-15 (Roe, 1988). The locations of these municipal wells, with the exceptions of W-14 and W-15, are shown in Figure 2-2 and Figure 3-1.

In April, 1987, the site was referred to EPA. The E & E Field Investigation Team (FIT) sampled the city wells and water distribution system. TCE was detected in W-1, W-4, W-11, and W-14, and both TCE and PCE were detected in W-2; W-15 was not sampled because of its distance from the city well field. The sample from W-14, which is located approximately 3 miles north of Columbus, was intended to be a background sample (E & E, 1987a).

During the same month, E & E/FIT completed a Preliminary Assessment (PA) of the 10th Street site, then known as the Columbus Public Water Supply site. Several businesses were identified as potential sources of ground water contamination and further investigation to identify additional sources was suggested (E & E, 1987b). These potential sources, along with others identified later, are shown in Figure 3-1. During the PA site reconnaissance, sampling of municipal wells was repeated. TCE was detected qualitatively from W-1, W-2, W-4, W-11, and W-14, and from a distribution sample. TCE was detected quantitatively in W-1 at 29 ppb, while TCE levels in the other wells were below the analytical laboratory's 5 ppb minimum detection limit. PCE was detected in W-2 at approximately 2 ppb (E & E, 1987c).

EPA's Region 7 Environmental Services Division sampled the municipal wells and the water distribution system in September 1987 and February 1988. TCE and PCE were detected in wells W-2, W-4, W-11, and W-15, while TCE only was detected in W-1 and W-10. Thirty-four water system samples were collected from public restrooms in Columbus, with all samples containing detectable concentrations of TCE, PCE, or both. In these samples, TCE and PCE were detected at concentrations up to 10 micrograms per liter (μg/L) and 3.0 μg/L, respectively (Sverdrup, 1993).

Sampling from water taps in Columbus schools was conducted in September 1987 by E & E/FIT. Bromoform was detected at 14.0 ppb and 20 ppb at Lost Creek School and North Park School, respectively. TCE was detected at Williams School, Field School, and Scotus Central Catholic Junior and Senior High School at 8 ppb. TCE was also found at St. Bonaventure School and St. Anthony's Grade School at 9 ppb and 13 ppb, respectively. West Park School, Highland Park School, and St. Isadores School had TCE concentrations of 13 ppb, 13 ppb, and 16 ppb, respectively. During the same sampling event, TCE levels in municipal wells ranged from 13 ppb to 18 ppb. PCE was detected in municipal well W-2 at 14 ppb (Morby, 1988).

In April 1988 a trip report from E & E/FIT first mentioned a railroad yard north of several municipal wells as a possible PCE source. In the same report, it was noted that five wells previously in use by the city had been abandoned. The screens of W-6 and W-7 had caved in, causing sand and gravel to be pumped into the system. Municipal wells W-3, W-5, and W-9 were abandoned for unknown reasons (Roe, 1988).

E & E/FIT performed a soil gas survey at the 10th street site during May 1988. The survey had two phases. Phase I consisted of collecting soil gas samples near potential sources, to either confirm or rule them out as contaminant sources. Phase II consisted of collecting soil gas samples between and around the potential sources to develop contamination contour lines, support source attribution, and determine the areal extent of the contaminant plume.

A sample from the city parking lot, taken directly behind Liberty Cleaners, contained a PCE concentration of 146,000 nanograms per liter (ng/L) of air. Liberty Cleaners (see Appendix A, photographs 7 and 8) is located on Figure 3-1. The sample was taken from 5 feet below ground surface; a duplicate sample taken from the same location and depth had a PCE concentration of 34,100 ng/L (E & E, 1987b).

One liquid and two soil samples were also taken from the Village Wash House (see Appendix A, photograph 9), 2621 10th Street, on May 16, 1988. A PCE holding tank, which had been discovered during a prior Resource Conservation and Recovery Act (RCRA) inspection, had been excavated before the FIT arrived at the facility. The record shows that FIT inspected the excavated tank, and did not observe any damaged or rusted areas. Soil samples taken from the bottom of the excavation pit, however, had concentrations of TCE up to 190 ppb, indicating that a release had occurred from the tank (E & E, 1987b).

In April 1989 FIT conducted an Expanded Site Investigation (ESI), during which a list of current and prior dry cleaning businesses was gathered (Table 2-1). Figure 3-1 shows the locations of these dry cleaning locations as potential sources of ground water contamination.

TABLE 2-1

COLUMBUS DRY CLEANER LOCATIONS—EXPANDED SITE INVESTIGATION, 1989

Name of Facility	Years of Operation	Owner	Address
Jackson Services, Inc.	1924-present	Jay Jackson	960 24th Avenue
The Village Wash House	early 1960's-1988	Jay Jackson	2621 10th Street
Liberty Cleaners	1959-1964	Sidney Hasselquist	1261 26th Avenue
Liberty Cleaners	1964-1984	Sidney Hasselquist	2417 11th Street
Liberty Cleaners	1984-present	Sidney Hasselquist	1061 25th Avenue
Columbus Laundry Company	1935-1967	Not listed	1264 27th Avenue
Columbus Laundry Company	1967-present	Not listed	2374 32nd Avenue
One Hour Martinizing	1979-present	Dean Soulliere	2262 25th Avenue

TABLE 2-1—(Continued)

COLUMBUS DRY CLEANER LOCATIONS—EXPANDED SITE INVESTIGATION, 1989

Name of Facility	Years of Operation	Owner	Address
U.S. 30 Laundry and Dry Cleaning	Not listed	Everett McAndrew	U.S. 30 Center Mall
United Cleaners	1930-1936	Not listed	1265 26th Avenue
United Cleaners and Hatters (renamed)	1936-1937	Not listed	1359 26th Avenue
United Cleaners and Hatters	1937-1943	Not listed	2519 11th Street
United Cleaners and Hatters	1943-1949	Not listed	1260 26th Avenue
United Cleaners and Hatters	1949-1955	Not listed	1261 26th Avenue
Modern Cleaners and Dyers	1930-1937	Not listed	1360 27th Avenue
Modern Cleaners and Dyers	1937-1979	Not listed	1356 27th Avenue
Toggery Cleaners	? (1930 is only date listed)	Not listed	1261 29th Avenue

(E & E, 1989)

Two additional non-dry cleaning potential sources were identified south of the railroad tracks based on soil gas samples: the city parking lot (formerly Kavich Iron and Metal); and Miller Radiator and Machine Shop, which may have used solvents as degreasers (E & E, 1989). It should be noted that the city parking lot is located directly behind the current Liberty Cleaners location, and extends behind a historical Liberty Cleaners location. Miller Radiator and Machine Shop is located adjacent to the Liberty Cleaners location facing 25th Avenue (see Appendix A, photograph 7).

By December 1989, Columbus had discontinued use of city well W-4. The TCE concentration in that well had increased from 9.4 μg/L in June 1984 to 20.2 μg/L in December 1989.

Sverdrup Corporation began Phase I Remedial Investigation (RI) work in July 1990. Phase I activities, which were performed through September 1990, included drilling 20 shallow soil borings, installing 34 ground water monitoring wells equipped with QED Environmental Systems Well Wizard® Sampling Pumps (dedicated bladder pumps), collecting soil, surface water, and ground water samples, and conducting a sampling Cone Penetrometer survey. Phase II activities, conducted June 1991, included the collection of surface and ground water samples.

Four potential source areas were investigated during Phase I activities. The potential source areas included the city parking lot/Liberty Cleaners area bounded by 24th and 25th Avenues and 10th and 11th Street, Jackson Services, the Village Wash House, and a former grain elevator located along 23rd Avenue. The highest soil PCE concentrations were found near Liberty Cleaners, which had a peak concentration of 24,000 μg/kg. PCE was also detected in soil at Jackson Services and at the Village Wash House at concentrations of 90 and 13 μg/kg, respectively. Bromoform was the only VOC detected in soil from the former grain elevator location.

A study during the RI indicated that local ground water flow was generally to the west-southwest, toward the city municipal well field. Metals concentration data from the Phase I sampling event indicated elevated levels of arsenic in the ground water. During Phase II sampling, PCE was detected in 9 monitoring wells in concentrations ranging from 1.4 to 130 μg/L. TCE was detected in 14 monitoring wells, with concentrations ranging from 1.2 to 120 μg/L. Products potentially resulting from the degradation of PCE and TCE were detected in several monitoring wells. Table 2-2 chronologically summarizes PCE and TCE analytical results from the monitoring and municipal wells. River water samples taken during the Remedial Investigation did not indicate any impact from the site on the surface water pathway (Sverdrup, 1993).

By June 1993, a trend became apparent with the highest TCE and PCE concentrations consistently found in shallow monitoring wells. City wells contained some VOCs, but at low enough concentrations that allowed the city to be in compliance with the Safe Drinking Water Act for the municipal supply (Crawford, 1993).

An EPA Record of Decision (ROD) was released for the site on February 23, 1995. Ground water monitoring and institutional controls were selected to limit exposure to contamination from the 10th Street site. Institutional controls include advisories from EPA to users of private wells in areas with contaminated ground water, recommending that such ground water not be used for human consumption, and requesting that the city of Columbus pass an ordinance prohibiting the drilling of any new private water supply wells in the area of ground water contamination. The remedy also included a contingency for extraction of contaminated ground water with discharge to the Loup River. EPA's implementation of the contingency was to depend on the results of EPA's reassessment of its baseline risk assessment. At minimum, EPA was to evaluate, first after one year of ground water monitoring and again after five years of monitoring, whether the risks calculated in the baseline risk assessment had changed, thus warranting the contingency.

During a 1995 site assessment, the E & E Technical Assistance Team (TAT) conducted monitoring well and drinking water sampling. Of 16 monitoring wells sampled, PCE or TCE or both were found in 11. TCE was also detected in the drinking water supply sample, collected from the faucet at the public water works shop. MCLs were exceeded in 7 of the 11 monitoring wells with contaminants. Values as high as 130 ppb PCE (MW-2B) and 120 ppb TCE (MW-9B) were identified in monitoring well samples (E & E, 1995).

E & E/START performed quarterly sampling of Columbus municipal and monitoring wells in 1997 through April 1998. Though TCE and PCE concentrations during this period were generally below MCLs in the municipal wells, monitoring well samples continued to indicate significant contamination. In addition, increasingly higher levels of TCE and PCE were detected along the northern boundary of the monitoring

well network, indicating that contaminant plume had not been completely delineated (E & E, 1997, 1998a, 1998b, 1998c). It is this development that prompted the planning of this current assessment. Figure 2-3 presents the contoured distribution of PCE contamination during the fourth quarterly sampling in April 1998.

In 1998, START was tasked to obtain information from Nebraska Department of Environmental Quality—Leaking Underground Storage Tank (NDEQ LUST) site files. The investigation was limited to a review of NDEQ files for LUST sites near the 10th Street site. The purpose of the review was to obtain information regarding ground water flow direction. In addition, START was tasked to review any available analytical data that could help determine potential sources of the VOC contamination beneath the 10th Street site. Most analytical data packages were limited to typical petroleum compounds. However, the NDEQ LUST file pertaining to the Ward 4 Emerson School site included analytical results for the full suite of VOC contaminants. Analytical results from ground water samples collected at this site indicated contamination with both TCE and PCE at concentrations up to 436.2, and 347.8 μg/L, respectively (E & E, 1998d). The Ward 4 Emerson School site is located to the north of the current 10th Street Site monitoring well network (Figure 3-1). The presence of documented TCE and PCE contamination north of the current monitoring well network indicated that a potential source of ground water contamination could exist at, or upgradient from, the Emerson School site.

Table 2-2

SUMMARY OF GROUND WATER SAMPLE RESULTS—PCE & TCE
10TH STREET SITE—COLUMBUS, NEBRASKA

Sample Location	Analyte	Sample Series (see Key at end of table), results in μg/L								
		IS1CS	CSXCS	CS2CS	CS3CS	CS5CS	AS7CS	BS7CS	CS7CS	DS7CS
MW-1A	PCE	27	72	7.8	6.0	5 J	21	29	28	33
	TCE	5.0 U	1.0 U	2.7	3.0	1 K	10	10	8.6	25
MW-1B	PCE	5.0 U	1.0 U	1.0 K			360	480	490	590
	TCE	5.0 U	1.0 U	1.0 K			15	22	25	44
MW-2A	PCE	5.0 U	1.0 U	1.5	6.0	3	1 U	23	12	6
	TCE	5.0 U	1.0 U	1.0 K	1.0 K	25	1 U	6	6.7	3
MW-2B	PCE	5.0 U	1.0 U	5.2	18	130	100	72	104	72
	TCE	5.0 U	1.0 U	1.2	2.0	25	37	27	34	23
MW-3A	PCE	5.0 U	1.0 U	1.0 K	1.0 K	1 K	1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K	1 K	1 U	1 K	.54 U	1 K
MW-3B	PCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.54 U	1 K
MW-3C	PCE	5.0 U	1.0 U							
	TCE	6.0	5.9							
MW-4A	PCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.54 U	1 K
MW-4B	PCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.54 U	1 K
MW-5A	PCE	5.0 U	1.0 U	3.1	10		5	2	3.2	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	2	.54 U	1 K
MW-5B	PCE	5.0 U	1.0 U	1.0 K	3.0			8	54	47
	TCE	5.0 U	1.0 U	1.0 K	1.0 K			1	4.7	4
MW-6A	PCE	12 J	15	1.0 K	5.0	2	2	27	2.0	2
	TCE	8 J	9.2	2.7	2.0	1 K	1	2	1.2	1

Table 2-2

SUMMARY OF GROUND WATER SAMPLE RESULTS—PCE & TCE
10TH STREET SITE—COLUMBUS, NEBRASKA

Sample Location	Analyte	Sample Series (see Key at end of table), results in µg/L								
		ISICS	CSXCS	CS2CS	CS3CS	CS5CS	AS7CS	BS7CS	CS7CS	DS7CS
MW-6B	PCE	5.0 U	45	3.2	1.0 K	27	1	2	.93	5 K
	TCE	5.0 U	22	1.7	1.0 K	60	62	1	66	81
MW-6C	PCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	6	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	8	.54 U	1 K
MW-7A	PCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.54 U	1 K
MW-7B	PCE	5.0 U	1.0 U	1.0 K	1.0 K	1 K	1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K	1 K	1 U	1 K	.54 U	1 K
MW-8A	PCE	10	3.3	1.2	1.0	1 K	4	1 K	.31 U	6
	TCE	5	1.6	1.3	1.0	1 K	4	1 K	.54 U	3
MW-8B	PCE	5.0 U	1.4	1.0 K	1.0 K	2	1 U	1	1.7	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K	1 K	1	2	1.6	1
MW-9A	PCE	38	130	5.9	6.0	5	7	6	8.2	10
	TCE	24	120	12	16	23	3	26	36	52
MW-9B	PCE	88	64	1.0 K	1.0 K	7 J	8	17	32	48
	TCE	44	55	1.3	2.0	120	23	24	22	27
MW-10A	PCE	5.0 U	72	1.0 K	1.0 K	1 K	1 U	1 K	.36	1 K
	TCE	5.0 U	57	1.0 K	1.0 K	1 K	1 U	1 K	.79	1 K
MW-10B	PCE	8.0	1.0 U	1.0 K	2.0	1 K	1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.2	8.5	5.0	7	1	1 K	.54 U	1 K
MW-11A	PCE	12	9.3	1.5	4.0	1 K		1	1.3	1
	TCE	7	4.2	1.0 K	1.0	1 K		1 K	.56	1 K
MW-11B	PCE	5.0 U	1.0 U	1.0 K	1.0 K	1 K	1 U	1 K	.31 U	1 K
	TCE	5.0 U	2.7	1.6	2.0	2	2	2	2.1	2
MW-12A	PCE	5.0 U	1.0 U	1.0 K	1.0 K		4	3	2.4	4
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		13	8	5.6	15
MW-12B	PCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		3	1	.70	1 K
MW-13A	PCE	5.0 U	1.0 U	1.0 K	1.0 K		19	18	31	51
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		17	9	13	16
MW-13B	PCE	5.0 U	1.0 U	1.0 K			68	130	94	95
	TCE	5.0 U	1.0 U	1.0 K			10	13	24	36
MW-13C	PCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.31 U	1 K
	TCE	14	10	1.0 K	1.0 K		4	5	2.3	2
MW-14A	PCE	5.0 U	1.0 U	1.0 K	1.0 K		160	200	173	330
	TCE	5.0 U	1.0 U	1.2	2.0		25 U	31	46	70
MW-14B	PCE	5.0 U	1.0 U	1.0 K	3.0	16	270	250	248	270
	TCE	5.0 U	1.9	4.0	8.0	11	30	58	57	120
MW-14C	PCE	5.0 U	1.0 U	1.0 K			4	6	15	6
	TCE	5.0 U	1.0 U	1.0 K			1 U	1 K	1.7	1 K
MW-15A	PCE	5.0 U	1.0 U	1.0 K	1.0 K		2	3	2.5	2
	TCE	5.0 U	2.6	1.0 K	1.0 K		1 U	1 K	.96	1
MW-15B	PCE	5.0 U	1.0 U	1.0 K			1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K			1 U	1 K	.54 U	1 K
W-1	PCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.55	1 K
	TCE	15	12	4.0	4.0		3	4	4.7	5
W-2	PCE	5.0 U	1.6	1.0 K	1.0 K		1 U	1 K	.45	1 K
	TCE	5.0 U	3.5	2.9	4.0		1	1	1.5	2

Table 2-2

SUMMARY OF GROUND WATER SAMPLE RESULTS—PCE & TCE
10TH STREET SITE—COLUMBUS, NEBRASKA

Sample Location	Analyte	Sample Series (see Key at end of table), results in μg/L							
		ISICS	CSXCS	CS2CS	CS3CS	CS5CS	AS7CS	BS7CS	CS7CS	DS7CS
W-4	PCE	5.0 U	1.0 U	1.0 K	1.0 K			1 K		2
	TCE	5.0	16	6.9	9.0			2		4
W-8	PCE	6.0 J	3.9	1.0 K	1.0 K		1 U	1 K	.31 U	1 K
	TCE	5.0 J	7.2	1.0 K	2.0		1 U	1 K	.54 U	1 K
W-11	PCE	5.0 U	1.0 U	1.0	1.0 K		1 U	1 K	.60	1 K
	TCE	10	2.1	6.2	7.0		3	1	2.5	1
W-12	PCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.54 U	1 K
W-13	PCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.31 U	1 K
	TCE	5.0 U	1.0 U	1.0 K	1.0 K		1 U	1 K	.54 U	1 K
W-14	PCE	5.0 U	1.0 U	1.0 K	1.0 K					
	TCE	5.0 U	1.0 U	1.0 K	1.0 K					
W-15	PCE	5.0 U	1.0 U	1.0 K	1.0 K					
	TCE	5.0 U	1.0 U	1.0 K	1.0 K					

KEY: ☐ = Results at, or greater than MCL. ▨ = Sample not collected.
U = Actual value of sample is less than the measurement detection limit (reported value).
K = Actual value of sample is less than value reported.
J = Data reported but not valid by approved QC procedures.

Activity Number	Sample Date	Source
ISICS	September 1990	Sverdrup RI/FS
CSXCS	June 1991	Sverdrup RI/FS
CS2CS	July 1993	Sverdrup RI/FS
CS3CS	December 1993	Sverdrup RI/FS
CS5CS	June 1995	E & E, Site Assessment
AS7CS	July 1997	E & E, 1997
BS7CS	October 1997	E & E, 1998
CS7CS	January 1998	E & E, 1998
DS7CS	April 1998	E & E, 1998

2.4 PHYSICAL CHARACTERISTICS

2.4.1 Soils

Soils beneath the site typically form on sandy alluvium or stream terraces. Inavale loamy fine sand has developed in the southern portion of the site. This light gray to grayish brown loamy fine sand has high permeability, low organic content, and low natural fertility. The northeast portion of the site is covered by the light gray to grayish brown Grigston silt loam, which is generally finer grained and less permeable than the Inavale soil (USDA, 1988).

2.4.2 Geology

Platte County geology consists of an unconsolidated mantle of Tertiary and Quaternary clays, silts, sand, and gravels deposited on Cretaceous and Tertiary consolidated bedrock. Bedrock units dip slightly to the northwest. Three separate units comprise the uppermost bedrock throughout Platte County; the Miocene Ogallala Group, and the Niobrara and Carlile Formations of the Colorado Group (Cretaceous Series) (Burchett, 1986). The westernmost portion of the county is underlain by the Ogallala Group, the youngest and least consolidated bedrock unit. It is composed of semi-consolidated sands, and clays. The central portion of the county is underlain by the Niobrara Formation, composed primarily of chalky shale (USDA, 1988). The remaining southeastern one-third of Platte County, including the Columbus area, is underlain by the Carlile Formation, a blue to bluish-grey shale (Ginsberg, 1983).

Regarding the unconsolidated overburden, the northeast portion of Platte County is covered by Pleistocene glacial till, which consists of unstratified and unsorted mixture of gravel, sand, silt, and clay. Elsewhere, Peoria loess, a well-sorted, wind-deposited silt unit, forms the uppermost unconsolidated sediment. Coarser sandy alluvium is found in current and past stream valleys throughout the county, including areas bordering the Loup and Platte Rivers (USDA, 1988).

Site-specific geology consists of unconsolidated Quaternary sediment above consolidated shale of the Carlile Formation. A site-specific geologic/hydrogeologic column is presented in Figure

2-4. Previous research borings near Columbus indicate a thickness of 120 to 170 feet for the unconsolidated sediment (CSD, 1953). Shale was encountered at approximately 140 feet below ground surface (BGS) during drilling of Columbus' municipal well #11 (W-11) (NDWR, 1981).

The unconsolidated material is composed of three layers (upper, middle, and lower) of coarser sand and gravel units interbedded with two layers (upper and lower) of finer clay or silty clay. The upper sand and gravel unit extends to a depth of between 64 and 73 feet BGS. Immediately below lies the upper silty clay unit ranging in thickness from 13 to 18 feet. The middle sand and gravel unit is approximately 25-45 feet thick and overlies the lower clay unit (5-15 feet thick) (Sverdrup, 1993). Beneath this lower clay unit and immediately above the shale bedrock lies the lower, approximately 13-feet thick, coarse sand and gravel unit (NDWR, 1981).

2.4.3 Hydrogeology

Regionally, ground water generally flows southeast across Platte County. Depth to water ranges from over 200 feet BGS in the northwest corner of the county to less than 50 feet BGS in stream valleys throughout the county, including the Loup and Platte River valleys near the southern border of the county. Unconsolidated sand and gravel units serve as the primary source of ground water in the county. The effective saturated thickness of these units ranges from approximately 20 feet in the northern and northwestern portions of the county to over 100 feet near the confluence of the Loup and Platte Rivers (Svoboda, 1958).

Beneath the 10th Street site, the unconsolidated sand and gravel units described in Section 2.4.2 serve as the source of ground water supply for the city of Columbus. The upper sand and gravel unit hosts the water table (approximately 15 feet BGS) and acts as an unconfined aquifer. Thirty monitoring wells, constructed as part of the 1993 RI (Sverdrup, 1993), are screened in this unconfined aquifer. Fifteen monitoring wells are screened across the water table (A series wells) while the remaining fifteen draw ground water from immediately above the upper silty clay unit (B series wells). An additional four monitoring wells are screened in the middle confined sand and gravel unit (C series wells). No monitoring wells penetrate the lower sand and gravel unit. Seven municipal

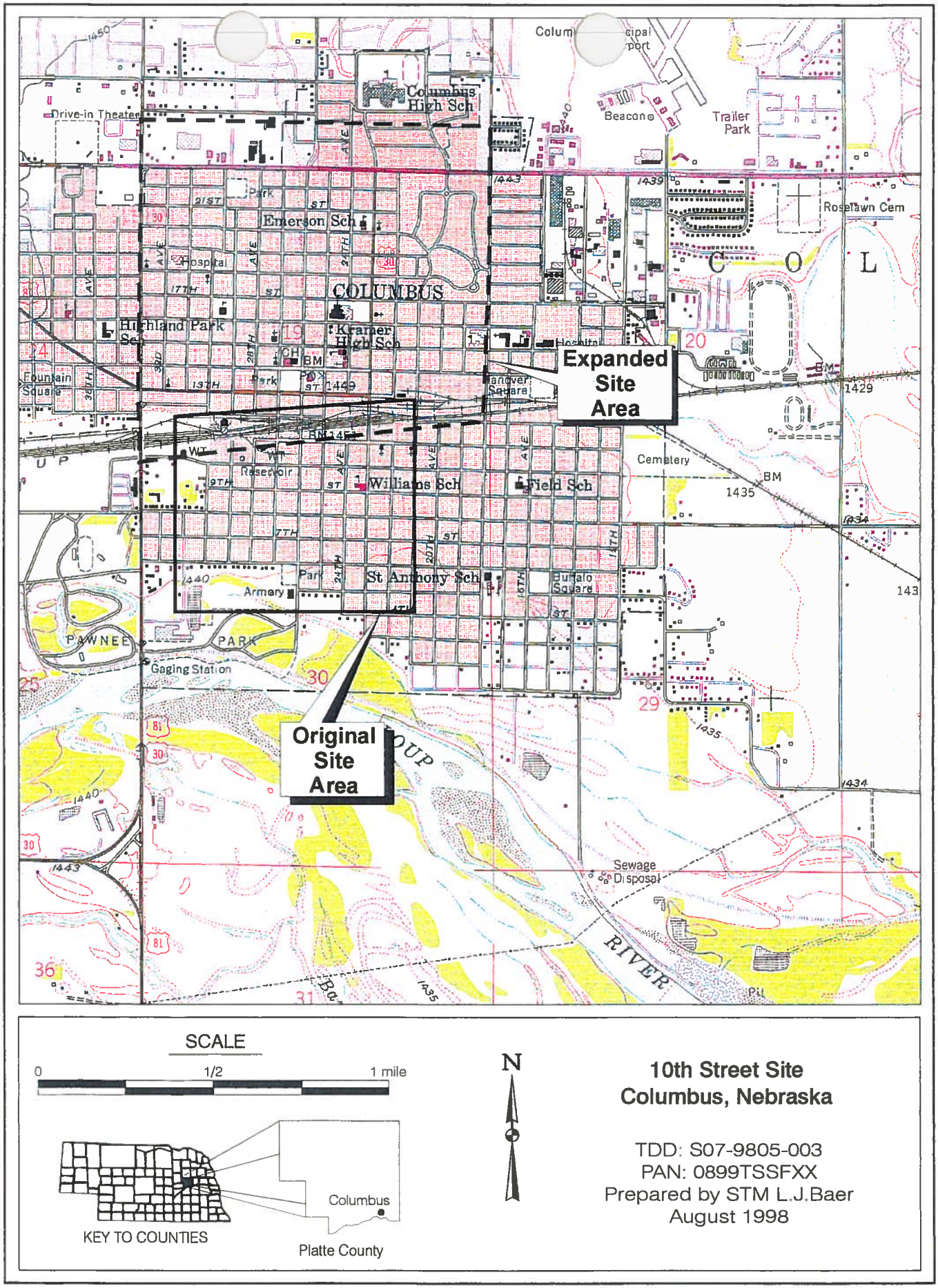
wells draw water from the saturated sand and gravel units beneath the site, primarily from the middle and lower sand and gravel units.

Though regional ground water flow is to the southeast, ground water flow near the site is affected by pumping of the municipal wells (11.1 million gallons per day [Sverdrup, 1993]). Sverdrup (1993) calculated an average hydraulic gradient of 0.002 (0.2 % slope) toward the municipal wells. Water levels recorded during the quarterly samplings reflect this influence of municipal well pumping on the regional ground water flow direction. The influence appears to result in a ground water divide located approximately between 21st and 24th Avenues and oriented roughly north-south. To the east of this divide, ground water appears to flow to the south-southeast. However, west of the divide, ground water flow is westerly towards the municipal wells. Figure 2-5 presents a representative water level contour map derived from measurements taken from the A series wells during the fourth quarterly sampling event.

Two previous pumping tests yielded hydraulic conductivity estimates of 1,740 and 2,350 gallons/min/square foot for the upper and middle sand and gravel units, respectively (Sverdrup, 1993). Based on the behavior of water levels in monitoring wells screened in both the upper and middle sand and gravel units, Sverdrup (1993) concluded that these two units are not directly hydraulically connected. However, recent analytical data indicates minor contamination of the middle unit.

2.4.4 Hydrology

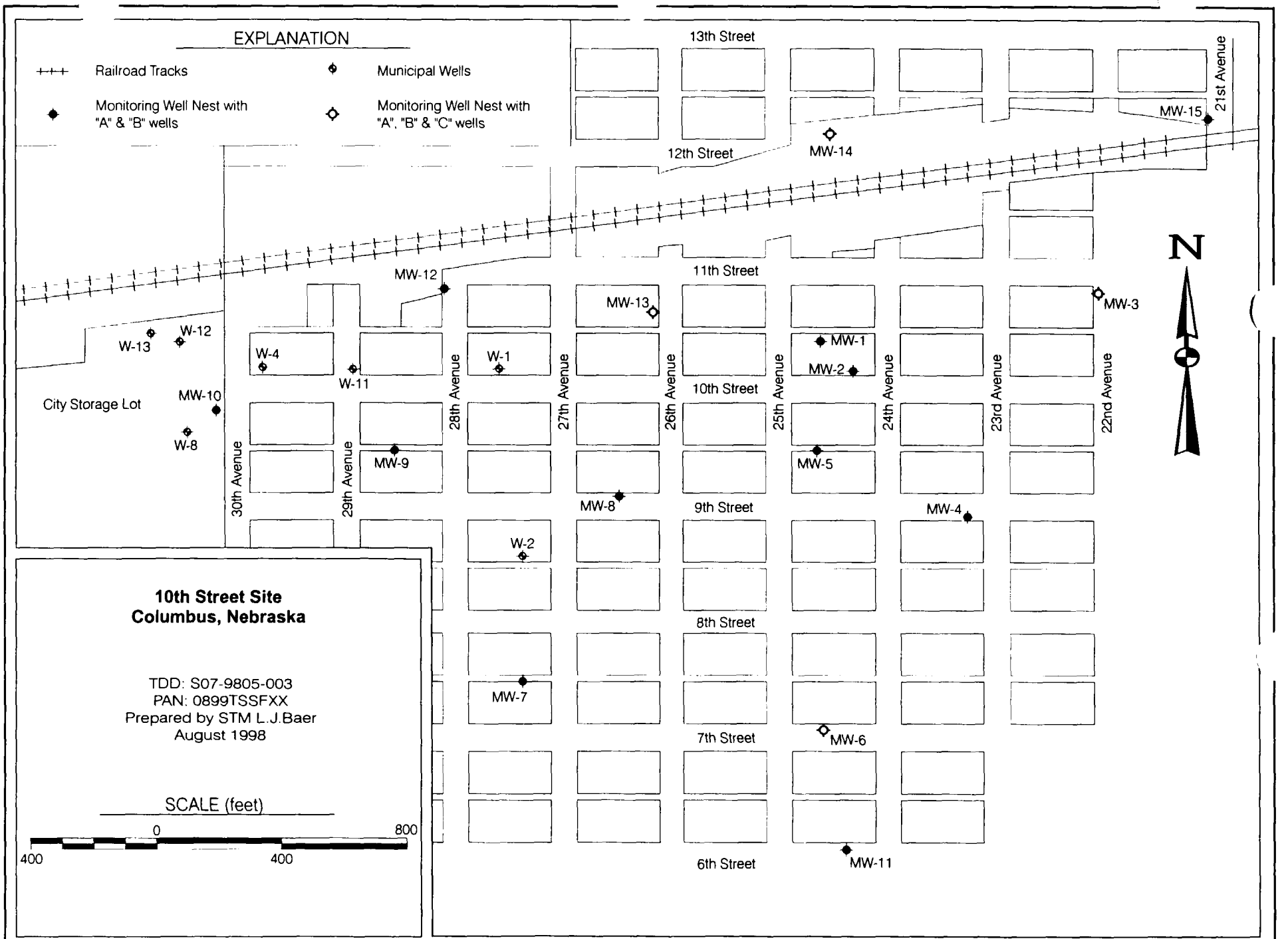
Surface drainage at this site is generally from north to south toward the Loup River. Due to the developed nature of the site area, most surface drainage is intercepted by storm water sewers and discharged directly into the Loup River. The confluence of the Loup and Platte Rivers lies approximately 3 miles southeast of the site. No volatile organics have been detected in surface water during previous samplings (Sverdrup, 1993).



TSSSTLC1.CDR

Source: USGS 7.5 minute Topographic Map; Columbus, Nebr., 1958, photorevised 1976.

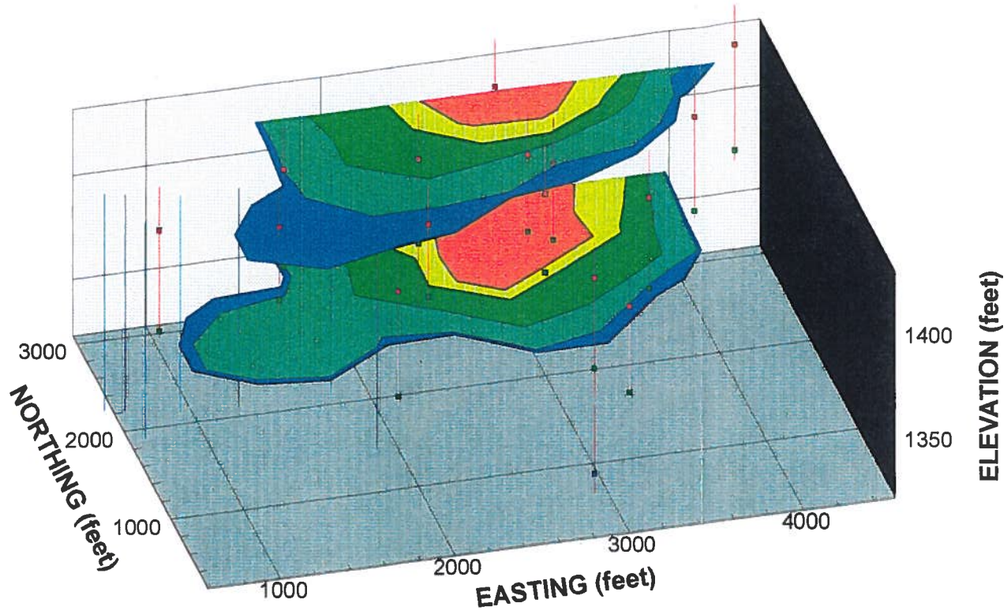
Figure 2-1: SITE LOCATION MAP



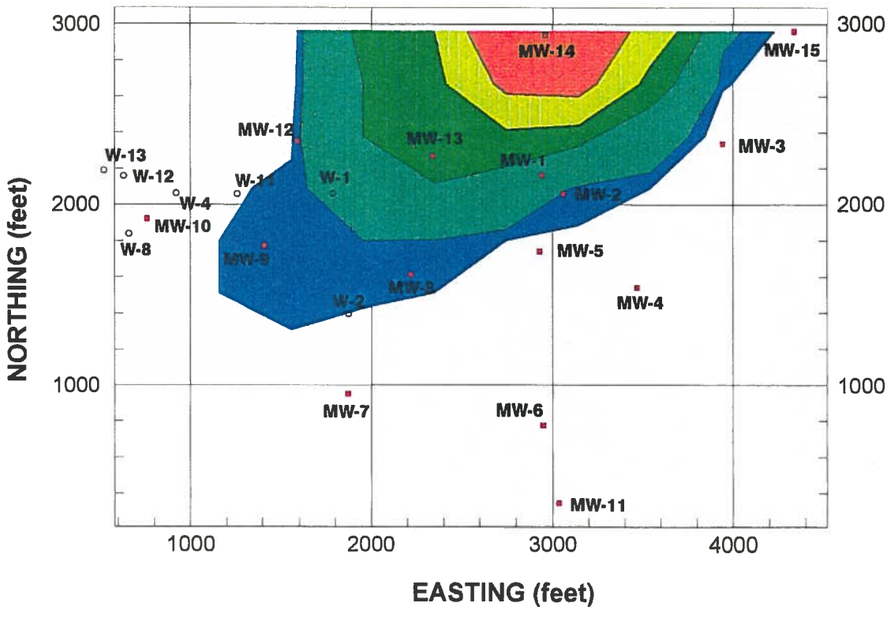
TSSWELS2.CDR

Source: Sverdrup RI/FS Report, 1992.

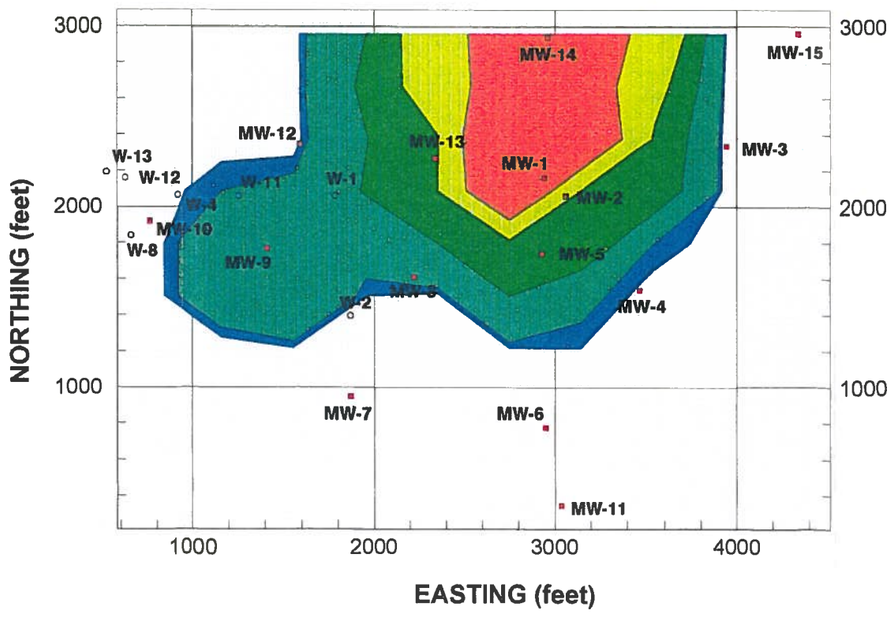
Figure 2-2: CURRENT MONITORING WELL NETWORK



"A" Well Cross-section (elevation: 1420 feet)



"B" Well Cross-section (elevation: 1370 feet)



Note: northing and easting distances taken from arbitrary point; elevations above mean sea level.

EXPLANATION

PCE concentrations (μg/L)

- 400
- 200
- 100
- 50
- 10
- 5

Monitoring Well (3-D) | Municipal Well (3-D)

"A" depth

"B" depth

"C" depth

Municipal Well (2-D cross-section)

Monitoring Well (2-D cross-section)

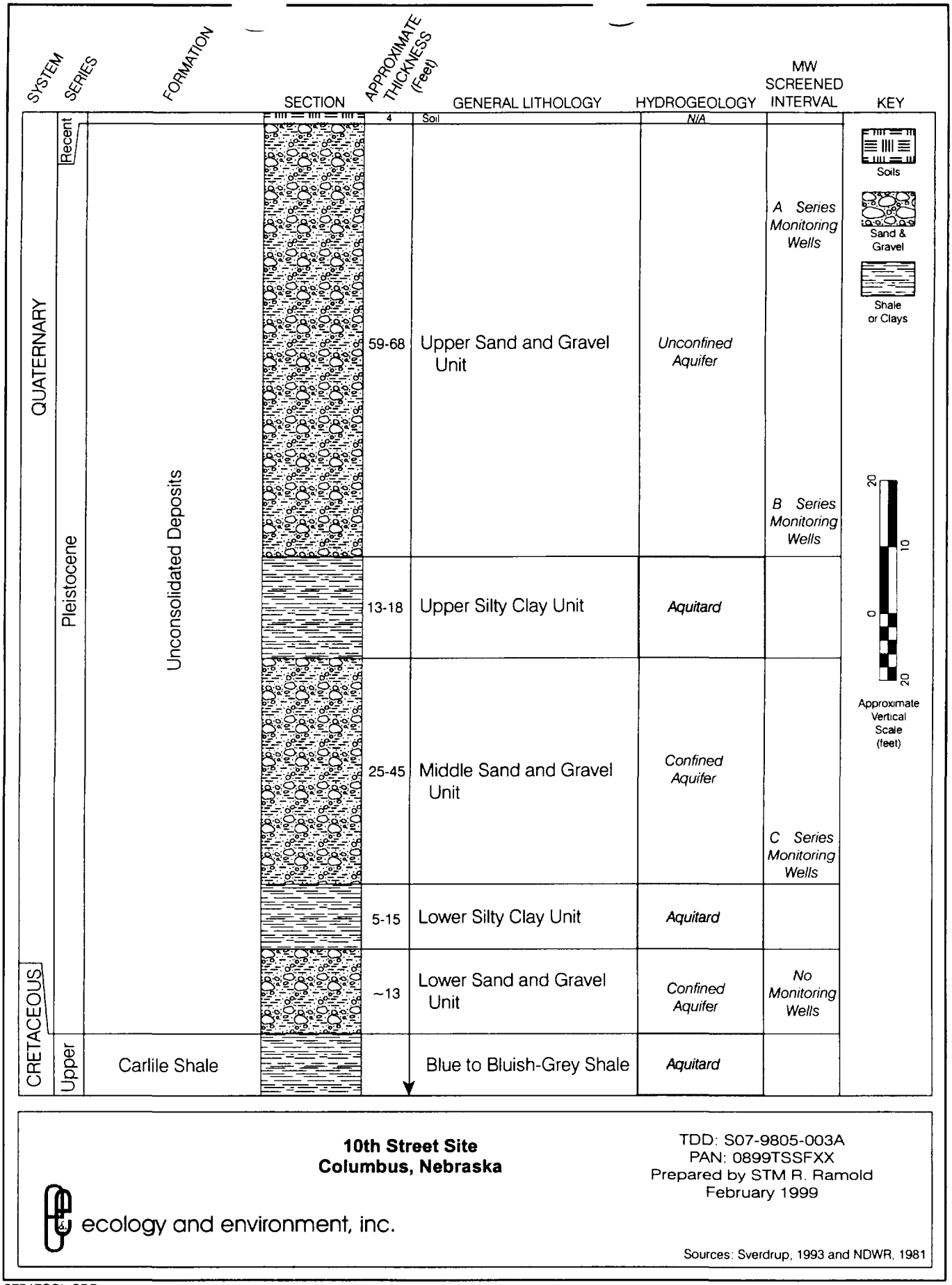
10th Street Site
Columbus, Nebraska

TDD: S07-9701-031
PAN: 0424TSTGXX
Prepared by STM Brooke Walker
October 1998

ecology and environment, inc.
Overland Park, Kansas

PCE-4TH.CDR

Figure 2-3: PCE CONCENTRATIONS IN MONITORING WELLS - 4th QUARTER



10th Street Site
Columbus, Nebraska

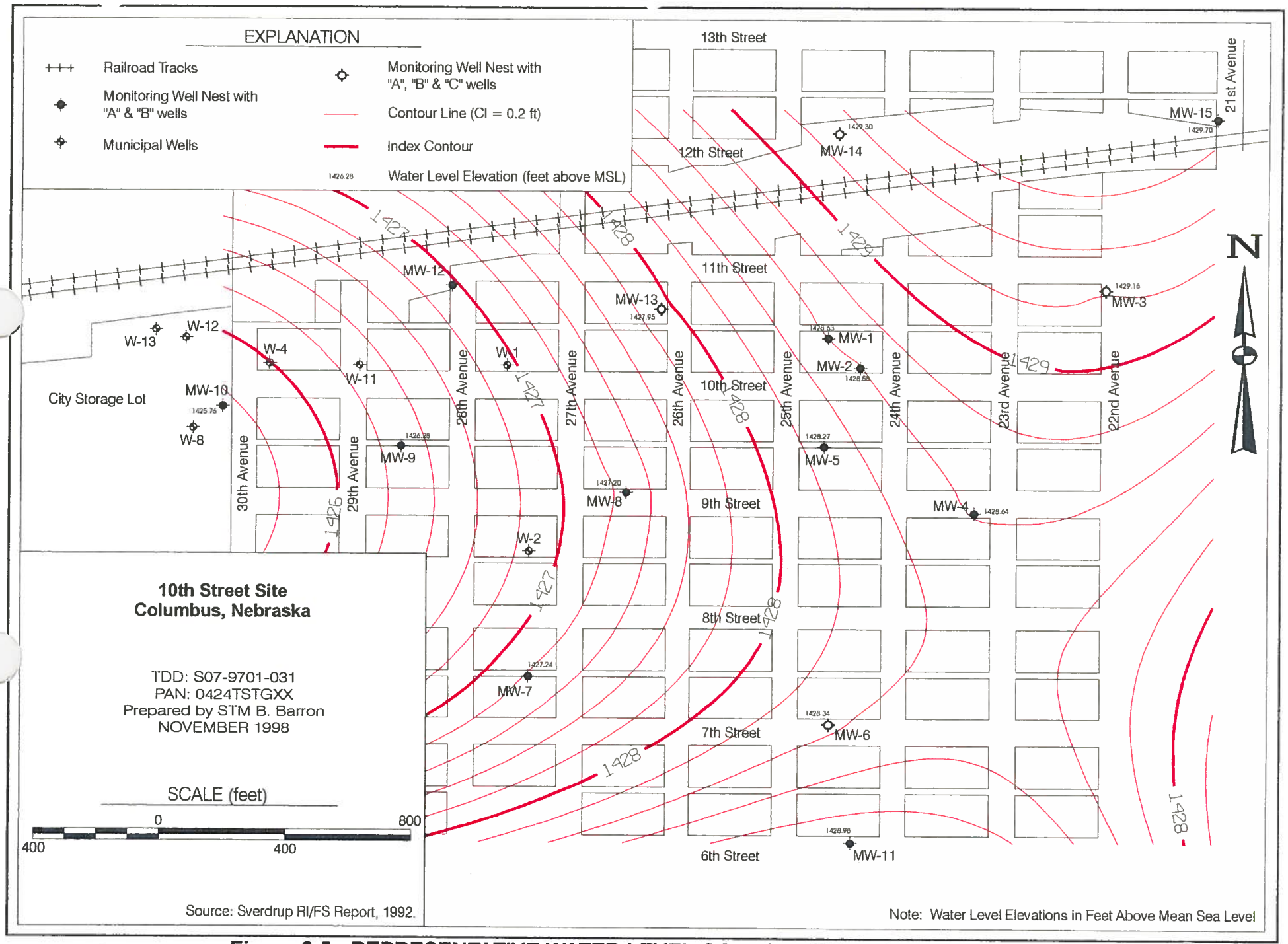
TDD: S07-9805-003A
PAN: 0899TSSFXX
Prepared by STM R. Ramold
February 1999

ecology and environment, inc.

Sources: Sverdrup, 1993 and NDWR, 1981

STRATCOL.CDR

Figure 2-4: LOCAL GEOLOGIC/HYDROGEOLOGIC COLUMN



WLAP98AC.CDR

Figure 2-5: REPRESENTATIVE WATER LEVEL CONTOUR MAP - A SERIES WELLS APRIL , 1998

3.0 FIELD ACTIVITIES

The primary objectives of this assessment, as mutually determined by EPA and START project managers, included the following items:

- Comparison of analytical results from Geoprobe™ temporary monitoring wells with those from nearby permanent monitoring wells.
- Identification of the source(s) of ground water contamination in the shallow aquifer in the area north of the original 10th Street site area and near several potential sources that have been identified; new sources may also be discovered.
- Delineation of the extent and direction of migration of the contaminated ground water plume in the shallow aquifer.

To achieve these objectives, a ground water screening approach was implemented at the 10th Street site. Following a grid of sampling points, START collected ground water samples from immediately below the water table using direct push (Geoprobe™) technology. Samples were analyzed on-site for target VOCs in the START Mobile Laboratory. A report of activities and analytical results from the START Mobile Laboratory is included as Appendix B. Further sampling point locations were continuously determined as analytical results from previous points became available. After identifying the property from which VOC contamination appears to be originating, START proceeded with soil sampling in order to document the property as a source. These samples were also analyzed for target VOCs in the START Mobile Laboratory. Selected ground water samples and all soil samples were also sent to the EPA Region 7 Laboratory. These ground water samples were analyzed for both VOC and dissolved arsenic analysis; the soil samples were analyzed for VOCs. Analytical results from both the START Mobile Laboratory and the EPA Region 7 Laboratory indicate that VOC-contaminated ground water appears to be originating from a dry cleaning business at 23rd Street and 25th Avenue. This contaminated ground water has entered the area of the current monitoring well network and appears to be flowing toward the municipal wells.

3.1 POTENTIAL SOURCES INVESTIGATED

As described in the previous section, several areas have been proposed as potential sources of ground water contamination. These include those within the area of the current monitoring well network (Liberty Cleaners, Village Wash House, Jackson Cleaners, and Miller Radiator and Machine Shop). However, recent quarterly sampling indicates that at least a portion of the contamination appears to be originating to the north of the current monitoring well network. Therefore, this investigation concentrated on potential sources located

in that area. These included those former or current dry cleaning businesses listed in Table 2-1 that are not located within the area of the current monitoring well network. In addition, Union Pacific property and Dale Electronics were considered potential sources. Union Pacific Railroad Company at one time had a roundhouse, and several maintenance buildings in Columbus. It is possible that the railroad used TCE or PCE as a degreasing agent in maintenance operations. Shipping records indicate that Dale Electronics received 199 gallons of PCE in 1981, with no record of waste pickup (E & E, 1998e). All potential sources investigated during this assessment are located on Figure 3-1.

3.2 GROUND WATER CHARACTERIZATION

Previously, ground water analytical contaminant concentrations were based on samples taken from permanent monitoring wells using dedicated bladder pumps. In order to compare these results with those obtained from the temporary Geoprobe™ wells, four collocated triplets of ground water samples were analyzed for target VOCs (PCE, TCE, cis-DCE, and trans-DCE) by the START Mobile Laboratory. START sampled monitoring wells MW1-A, MW-12A, MW-13A, and MW-14A, which have previously shown TCE or PCE over a range of concentrations. Using the existing dedicated bladder pumps, START implemented the same low-flow monitoring well sampling method used during the quarterly sampling events. In addition, Geoprobe™ ground water samples were taken adjacent (within 10 feet horizontally) to the screens of these same wells. Separate samples were collected using both a peristaltic pump and a foot valve. The analytical results provided an estimate of the relative differences in detected concentrations resulting from the three sampling methods. Samples from the monitoring wells consistently provided a higher concentration of volatiles than either of the Geoprobe™ samples. Of the two Geoprobe™ sampling methods, peristaltic pump sampling consistently provided samples with higher concentrations than foot valve sampling. For this reason, START utilized peristaltic pump sampling for the remaining Geoprobe™ ground water sampling locations.

After this brief comparative study, START began collecting Geoprobe™ ground water samples according to a grid of proposed sampling points. The initial grid spacing was approximately 800 feet. However, sampling point locations were occasionally adjusted both to better identify any contamination from the potential sources and to accommodate subsurface utility lines. Most ground water sampling locations were placed on city property (alleys, city parking lots, city street right-of-way property) in order to consolidate sampling access efforts. Sampling grid spacing was then reduced as contaminated ground water samples were found in order to more fully delineate contaminated ground water and to identify the source of contamination. Figure 3-2 presents the locations of all Geoprobe™ ground water sampling locations.

All Geoprobe™ ground water samples were taken from immediately below the water table. At each location START collected samples for target VOC analysis in the START Mobile Laboratory (see Appendix A, photograph 1). In addition, samples were taken for possible submission to the EPA Region 7 Laboratory for LDL (low detection limit) VOC analysis. At a selected number of regularly spaced sampling locations, START also collected samples for possible submission to the EPA Region 7 Laboratory for dissolved arsenic analysis. Analytical results from both the START Mobile Laboratory and the EPA Region 7 Laboratory are presented and discussed in section 4.0.

Ground water sampling was performed by two Geoprobe™ teams. After driving the ground water sampler to a depth immediately below the water table, START recorded the water level and began purging the temporary well using a peristaltic pump and disposable polyethylene tubing. START later combined the water level measurements with surveyed ground elevations at sampling points to obtain a water table elevation contour map. Purging was performed primarily to reduce the level of particulates in the samples. Following purging, START measured several indicator parameters (pH, temperature, conductivity, turbidity) of the discharge and collected all required samples. Sampling particulars were recorded on data sheets and are summarized in Appendix C: Table C-1. All Geoprobe™ boreholes were filled with bentonite following sample collection.

All Geoprobe™ equipment that came into contact with ground water during sampling was decontaminated before reuse. Decontamination consisted of a washing with a high pressure steam sprayer followed by drying and heating with a propane torch. Decontamination supply water was supplied by the city of Columbus. START collected a sample of the decontamination supply water upon delivery. No target VOCs were detected by the START Mobile Laboratory in this sample. Daily rinsate samples were taken by pouring distilled water through a decontaminated Geoprobe™ ground water sampling device. No target VOCs were detected by the START Mobile Laboratory in any of the daily rinsate samples. START also submitted a water trip blank, a water field blank, and a ground water sampling apparatus rinsate blank to the EPA Region 7 Laboratory for LDL VOC analysis. Post-decontamination water and purge water from the Geoprobe™ temporary wells was treated with a charcoal filter before release to the surface (see Appendix A, photograph 2).

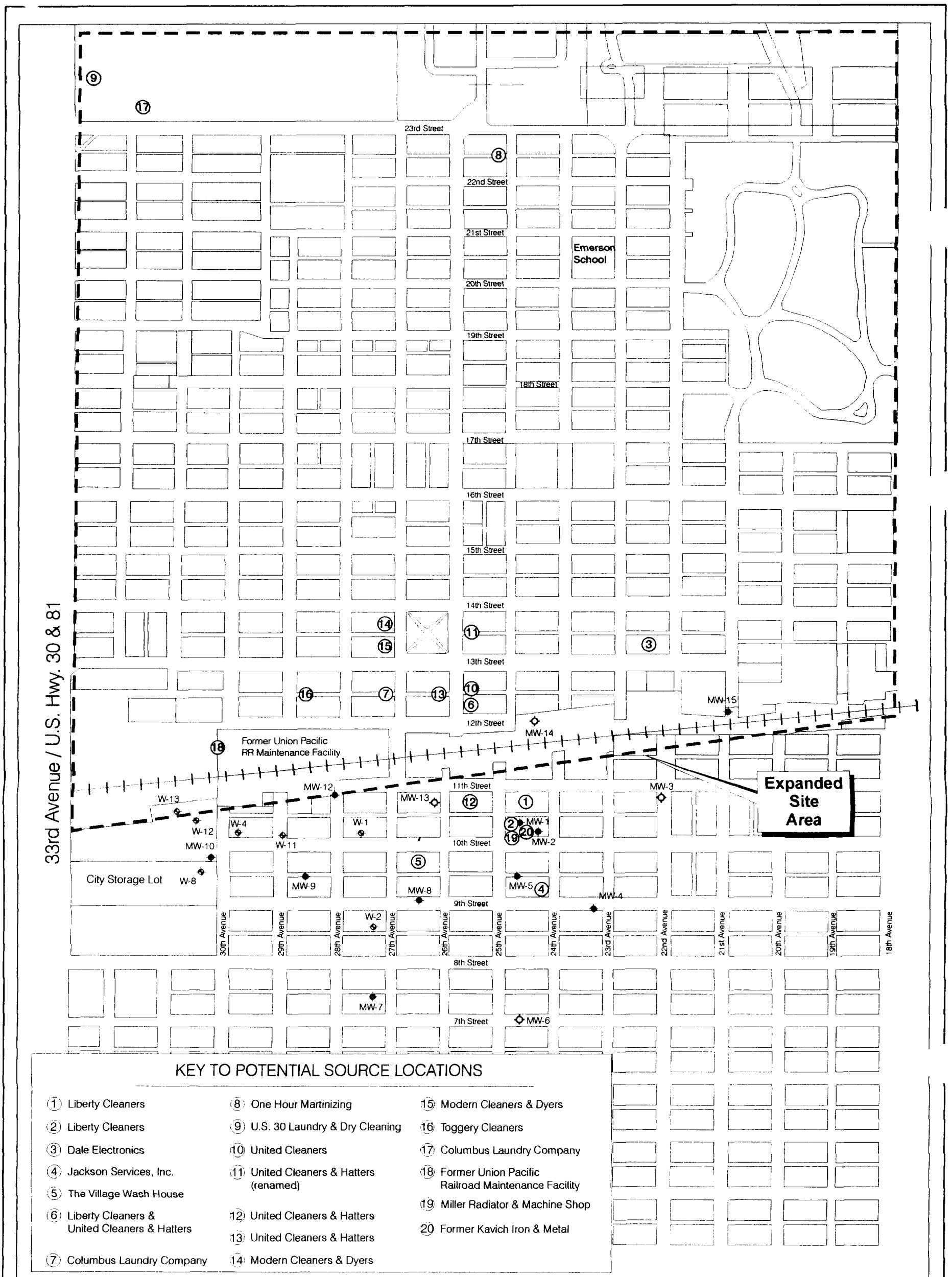
In addition to the temporary and permanent monitoring well samples, samples were to be taken from two domestic wells located on the south side of 10th Street between 29th and 30th Avenues. These wells have previously been sampled for VOCs by the city of Columbus. Both TCE and PCE were detected below their respective MCLs; however, no arsenic analysis was performed. Because arsenic has been detected above its MCL of 50 μg/L in several monitoring well samples, START was tasked to sample the two domestic wells and submit them to the Region 7 EPA Laboratory for total arsenic analysis. The primary purpose of this action is health concern for the residents who use these domestic wells. START was able to obtain

a sample from one of the wells belonging to Roger Hanak (2917 10th Street). However, Mrs. Delbert Greenlee (2909 10th Street) refused sampling access.

3.3 SOIL CHARACTERIZATION

These purpose of soil sampling was to verify the presence of volatile organic contamination in the subsurface soil at suspected sources and to identify the depth of primary contamination. Geoprobe™ soil sampling locations were based on the results of the ground water sampling, which indicated that shallow ground water contamination was originating from One Hour Martinizing, a dry cleaning business located on the southwest corner of the intersection of 23rd Street and 25th Avenue. The property was completely covered with either concrete or asphalt. Near-surface soil samples (1-3 feet) and subsurface soil samples (6-8 feet) were taken from 7 locations on or near the suspected source property (see Appendix A, photographs 5 and 6). A background soil sample was taken north of the suspected source property from the 1-3 foot depth interval. Soil samples were collected using a soil sampling tube (2-foot length and 1-inch inside diameter with a disposable inner acetate soil sampling sleeve). Specific sampling information was recorded and are reproduced in Appendix C: Table C-2. Both soil and ground water sampling locations in the vicinity of One Hour Martinizing are identified in Figure 3-3.

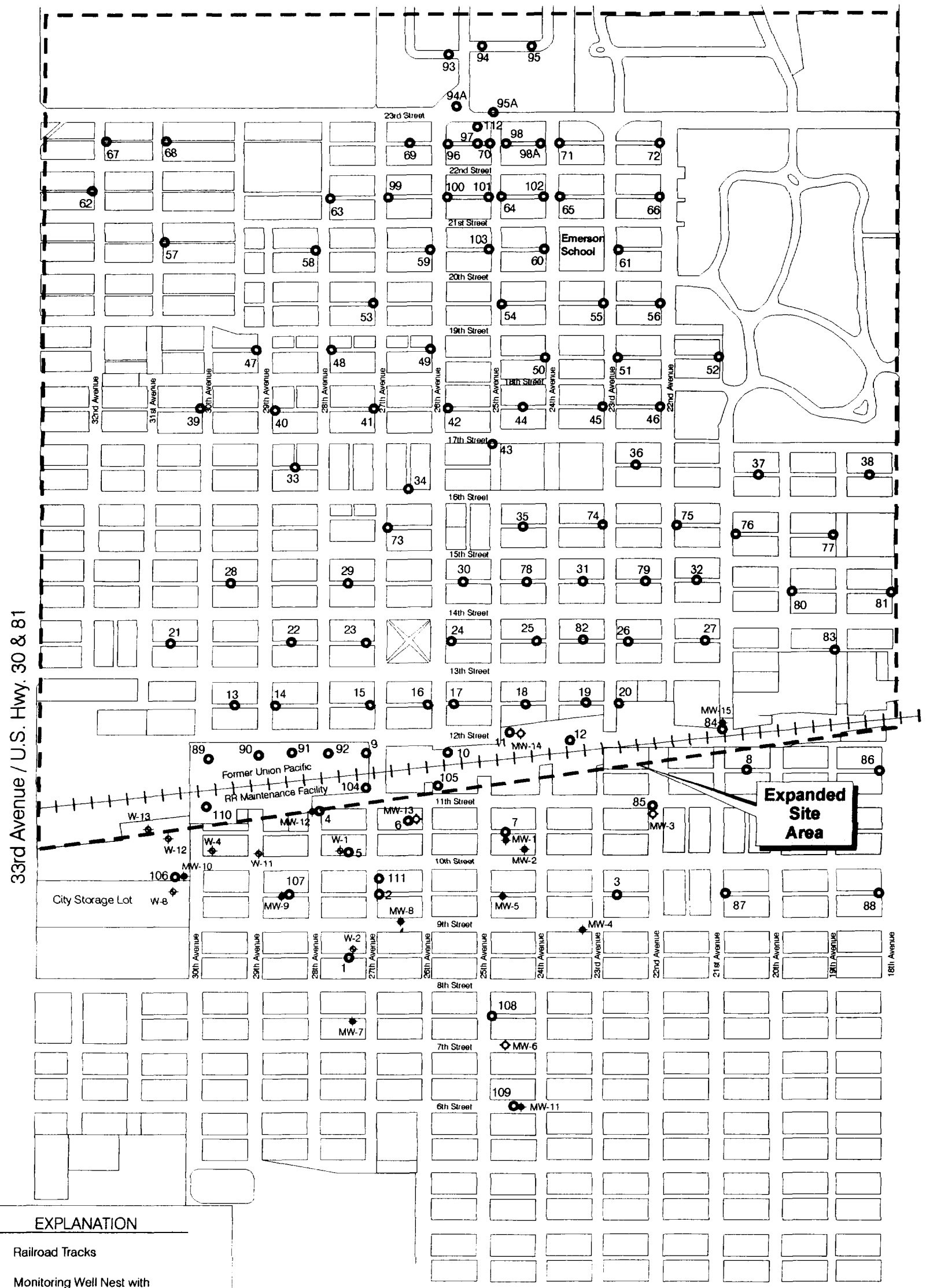
All soil samples were screened for the target VOCs at the START Mobile Laboratory. In addition, START collected and submitted soil samples for VOC analysis at the EPA Region 7 Laboratory. A soil trip blank was obtained from, and returned to, the EPA Region 7 Laboratory for VOC analysis. In addition, START submitted a rinsate sample (water) from a decontaminated Geoprobe™ soil sampling apparatus to the EPA laboratory for LDL VOC analysis. Soil analytical results from both the START Mobile Laboratory and the EPA Region 7 Laboratory are presented and discussed in section 4.0.



TSTSAMP2.CDR

Figure 3-1: STUDY AREA MAP

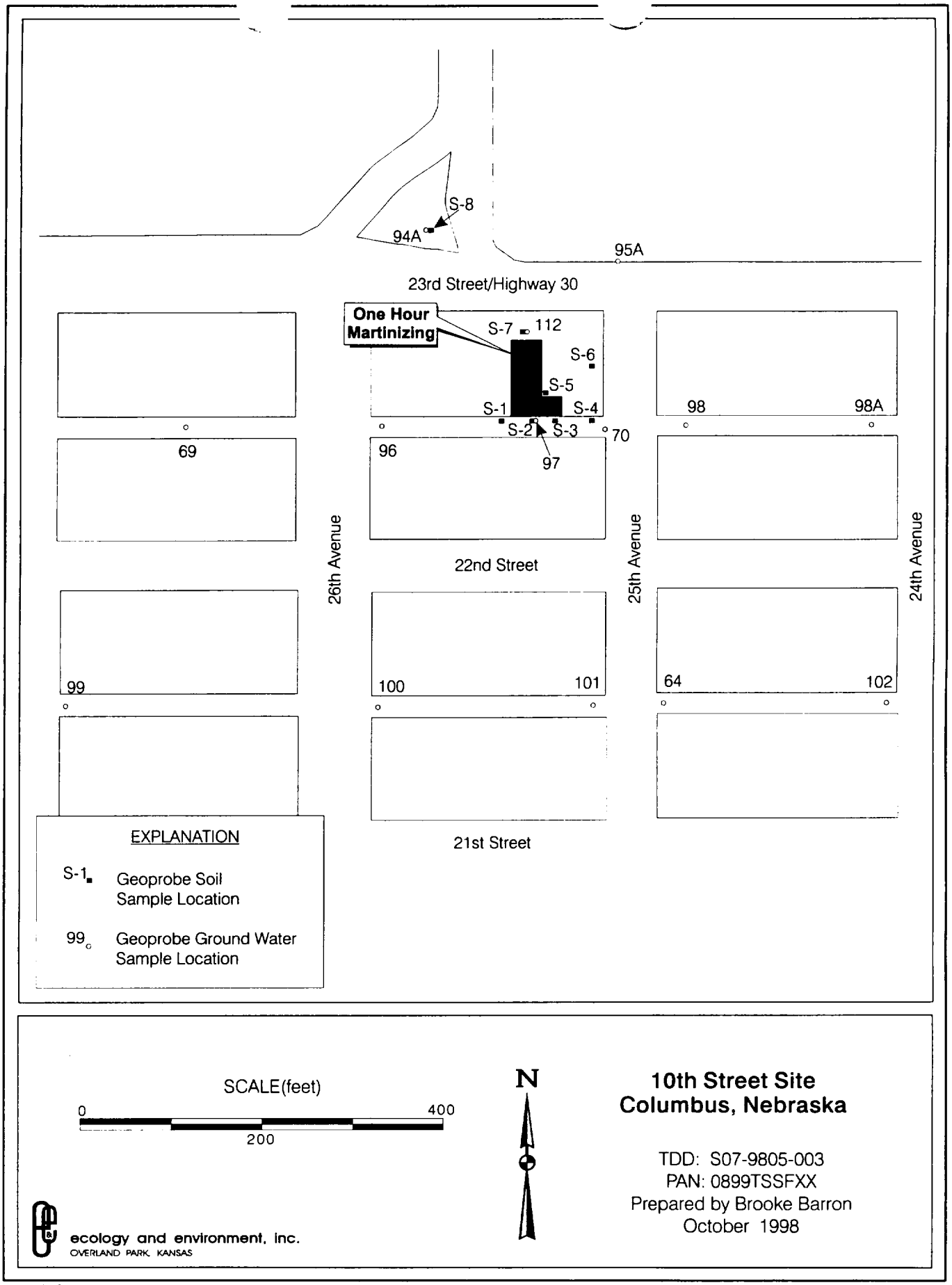
Source: City of Columbus Engineering Office, 1998.



GPGWL.CDR

Source: City of Columbus Engineering Office, 1998.

Figure 3-2: GEOPROBE GROUND WATER SAMPLING LOCATION MAP



1-HRMART.CDR

Source: City of Columbus Engineering Office, 1998.

Figure 3-3: GEOPROBE SOIL AND GROUND WATER SAMPLE LOCATIONS IN VICINITY OF ONE HOUR MARTINIZING

4.0 RESULTS

4.1 WATER LEVELS

As previously discussed, START measured and recorded water levels in the Geoprobe™ temporary monitoring wells. Coupled with surveyed sampling location elevations, this data provided an indicator of shallow ground water flow direction. Forty-eight of the original 115 sampling points were chosen for elevation surveying based on the following criteria:

- Turbidity of ground water sample.
- Location.
- Adequacy of ground water level data.

The level of turbidity was chosen based on an assumed relationship between low turbidity discharge water and a high rate of hydraulic equilibration between the aquifer and the temporary well. Table 4-1 provides a record of the utilized water level data.

Table 4-1

GEOPROBE™ GROUND WATER LEVELS
10TH STREET SITE—COLUMBUS, NEBRASKA

Geoprobe™ Ground Water Sampling Location	Depth to Water (feet BGS)	Surface Elevation (ft. above MSL)	Ground Water Elevation (ft. above MSL)
1	18.6	1440.61	1422.0
3	17.7	1445.38	1427.7
4	15.5	1442.94	1427.4
5	18.5	1440.21	1421.7
6	16.9	1445.16	1428.3
8	16.0	1444.38	1428.4
9	18.5	1446.37	1427.9
10	15.2	1446.24	1431.0
15	20.1	1447.71	1427.6
17	16.7	1446.45	1429.8
18	17.3	1446.88	1429.6
19	17.3	1445.87	1428.6
21	17.9	1448.16	1430.3
22	19.9	1447.65	1427.8
23	19.7	1446.93	1427.2
24	17.0	1446.26	1429.3
28	18.7	1447.72	1429.0
29	18.8	1447.63	1428.8
39	16.9	1446.47	1429.6
40	14.6	1445.79	1431.2
42	14.4	1445.25	1430.9
43	13.2	1444.48	1431.3
46	13.1	1443.98	1430.9
53	12.5	1445.19	1432.7

Table 4-1

GEOPROBE™ GROUND WATER LEVELS
10TH STREET SITE—COLUMBUS, NEBRASKA

Geoprobe™ Ground Water Sampling Location	Depth to Water (feet BGS)	Surface Elevation (ft. above MSL)	Ground Water Elevation (ft. above MSL)
54	15.5	1444.76	1429.3
57	13.6	1446.53	1432.9
61	11.8	1444.09	1432.3
62	13.3	1447.12	1433.8
63	12.7	1444.95	1432.3
64	11.8	1444.51	1432.7
65	11.6	1444.25	1432.7
66	11.3	1443.82	1432.5
67	13.7	1447.46	1433.8
68	12.8	1446.77	1434.0
69	12.5	1445.50	1433.0
73	15.9	1445.58	1429.7
74	14.2	1444.16	1430.0
75	13.4	1443.40	1430.0
76	12.4	1443.13	1430.7
78	16.2	1446.22	1430.0
85	14.5	1443.65	1429.2
86	14.5	1442.88	1428.4
93	10.3	1443.23	1432.9
95A	13.2	1444.90	1431.7
99	11.2	1444.70	1433.5
103	11.8	1444.49	1432.7
106	18.5	1442.05	1423.6
110	18.5	1442.52	1424.0
Minimum	10.3	1440.21	1421.8
Maximum	20.1	1448.16	1434.0
Range	9.8	7.95	12.2

It should be noted that temporary ground water monitoring wells may not provide water level data of the same accuracy and precision as that from permanent monitoring wells. However, ground water elevations resulting from this exercise should provide at least an approximate estimate of the shallow ground water flow direction.

A contour map of the shallow ground water elevations (Figure 4-1) indicates a general southeasterly flow direction. However, municipal well pumping appears to be diverting shallow ground water toward the well field to the southwest. Water level elevations at most locations were consistent and logical. There were some locations (e.g., locations 10, 21, 39, and 54), however, where temporary well water levels were probably not in equilibrium with the shallow aquifer.

4.2 ANALYTICAL RESULTS

Throughout the project the START Mobile Laboratory analyzed ground water samples from 115 locations. Of these, 35 samples were submitted to EPA Region 7 Laboratory for LDL VOC analysis; 28 were submitted for dissolved arsenic analysis. One additional sample from a private well was submitted for total arsenic analysis. The on-site screening analysis by the START Mobile Laboratory indicated that shallow ground water contamination originates from an area immediately south of 23rd Street between 24th and 25th Avenues and extends south to the northern portion of the current monitoring well network. The apparent origin of ground water contamination is currently the site of a dry cleaning operation, One Hour Martinizing (see Attachment A, photographs 10, 11, and 12). Fifteen soil samples were taken from 8 sampling locations either on or near the One Hour Martinizing property. The START Mobile Laboratory analyzed all of the soil samples for target VOCs. All soil samples were also submitted to the EPA Region 7 Laboratory for full-suite VOC analysis. Though no statistical comparison of results from the START Mobile Laboratory and the EPA Region 7 Laboratory has been performed, there appears to be close agreement between the two.

No target VOCs were detected in the water field blank, the water trip blank, the soil trip blank, or either of the two rinsate blanks submitted to the EPA Region 7 Laboratory. As discussed previously, no target VOCs were detected in any of the daily rinsate blanks submitted to the START Mobile Laboratory.

Analytical results for ground water VOC analysis from both the START Mobile Laboratory and the EPA Region 7 Laboratory are presented in Table 4-2. This same information is represented on the site maps in Figures 4-2 through 4-5. VOC data is plotted as symbols representing order of magnitude differences in concentration. A single contour line, representing the limits of PCE and TCE contamination greater than 5 μg/L, is also plotted in Figures 4-2 and 4-3. Complete analytical data packages for both the START Mobile Laboratory and the EPA Region 7 Laboratory are included as Appendices B and D, respectively.

With some exceptions, Figures 4-2 through 4-5 indicate a shallow, VOC-contaminated ground water plume characterized by generally increasing concentrations towards the apparent source. Both PCE and TCE concentrations decrease to near non-detect concentrations upgradient of the apparent source. Close to the source, the shallow contamination appears to be following the regional flow direction of south-southeast. However, the contamination appears to change direction as it moves south, apparently in response to pumping from the municipal wells. This change in flow direction is consistent with potentiometric maps calculated

from water levels in both permanent monitoring wells (Sverdrup, 1993; E&E, 1998f) and the Geoprobe™ temporary monitoring wells used in this investigation (Figure 4-1).

Table 4-2

VOC ANALYTICAL DATA SUMMARY—GROUND WATER SAMPLES
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

Geoprobe™ Sample Location	START ML Results (µg/L)				EPA Region 7 Results (µg/L)				
	trans-1,2-DCE	cis-1,2- DCE	TCE	PCE	EPA Sample # PS1CS-	trans-1,2-DCE	cis-1,2- DCE	TCE	PCE
1	5.0 U	5.0 U	3.9	1.0 U					
2	5.0 U	12.9	**92.6 J**	**10.8 J**	042	5.9	15	**73**	**12**
3	5.0 U	5.0 U	1.0 U	1.0 U					
4	5.0 U	5.0 U	**23.6**	1.0 U					
5	5.0 U	5.0 U	2.1	1.0 U					
6	5.0 U	5.0 U	**7.6**	**9.1**					
7	5.0 U	5.0 U	**5.8**	**5.8**					
8	5.0 U	5.0 U	1.1	1.0 U					
9	5.0 U	5.0 U	**85.2**	**8.4**	003	0.84 U	4	**83**	**7.1**
10	5.0 U	5.0 U	**38.4**	**10.8**					
11	5.0 U	5.0 U	**65.9**	**75.1**					
12	5.0 U	5.0 U	**22.3**	**35.1**	019	0.84 U	1.1	**25**	**41**
13	5.0 U	5.0 U	1.0 U	1.0 U					
14	5.0 U	9.8	1.8	1.0 U	009	6.9	8.7	1	0.31 U
15	5.0 U	5.0 U	2.1	1.0 U					
16	5.0 U	5.0 U	**44.9**	2.5					
17	7.9	14.2	**42.8**	3.9	020	7.7	16	**44**	3
18	5.0 U	5.0 U	**16.1**	**50.2**	023	0.84 U	1.9	**19**	**51**
19	5.0 UJ	5.0 UJ	**8.5 J**	**10.9 J**					
20	5.0 U	5.0 U	**13.0**	**14.9**	018	0.84 U	1	**11**	**10**
21	5.0 U	5.0 U	1.0 U	1.0 U					
22	5.0 U	9.6	4.3	1.0 U					
23	5.0 U	5.0 U	1.0 U	1.0 U					
24	5.0 U	5.0 U	**165.6**	**116.1**	022	1.2	8	**160**	**130**
25	5.0 U	5.0 U	**113.7**	**8.3**					
26	5.0 U	5.0 U	**11.6**	**79.2**					
27	5.0 U	5.0 U	**6.4**	**8.1**					
28	5.0 U	5.0 U	1.9	1.0 U					
29	5.0 U	5.0 U	1.0 U	1.0 U					
30	6.1	5.0 U	**250.4**	**260.1**	004	0.93	7.5	**270**	**260**
31	5.0 U	5.0 U	**87.1**	2.5	001	0.84 U	3.5	**84**	3.5
32	5.0 U	5.0 U	**29.4**	**52.1**	021	0.84 U	1.5	**37**	**51**
33	5.2	10.0	1.1	1.0 U					
34	5.0 U	5.0 U	1.0 U	1.0 U	002	0.81 U	0.84 U	0.54 U	0.31 U
35	5.0 U	5.0 U	**265.9**	**41.9**	017	0.84 U	6.8	**260**	**48**
36	9.3	38.1	**194.3**	1.0 U	024	19	37	**170**	0.31 U
37	5.0 U	5.0 U	1.0 U	1.0 U					
38	5.0 U	5.0 U	1.0 U	1.0 U					
39	5.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ					
40	10.0	10.0	1.0 UJ	1.0 UJ					
41	5.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ					

Table 4-2

VOC ANALYTICAL DATA SUMMARY—GROUND WATER SAMPLES
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

Geoprobe™ Sample Location	START ML Results (µg/L)				EPA Region 7 Results (µg/L)				
	trans-1,2-DCE	cis-1,2- DCE	TCE	PCE	EPA Sample # PS1CS-	trans-1,2-DCE	cis-1,2- DCE	TCE	PCE
42	5.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ					
43	12.5 J	5.0 UJ	**219.1 J**	**1,346 J**	043	1.3	18	**280**	**940**
44	5.0 UJ	5.0 UJ	**605.2 J**	**179.7 J**					
45	5.0 UJ	42.3 J	**186.8 J**	1.0 UJ					
46	8.7 J	47.0 J	**405.3 J**	1.0 UJ	027	14	42	**470**	0.31 U
47	6.7 J	5.7 J	1.0 UJ	1.0 UJ					
48	5.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ					
49	5.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ					
50	5.0 UJ	5.0 UJ	**80.4 J**	**15.5 J**					
51	14.6 J	53.8 J	**411.2**	1.0 UJ					
52	5.0 J	5.0 UJ	1.0 UJ	1.0 UJ					
53	5.0 U	5.0 U	1.0 U	1.0 U					
54	5.0 U	5.0 U	**22.1**	**751.0**	045	0.84 U	14	**22**	**840**
55	5.0 U	43.4	**1,672 J**	**49.8**					
56	5.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ	044	0.84 U	0.84 U	0.54 U	0.31 U
57	5.0 U	5.0 U	1.0 U	1.0 U					
58	5.0 U	5.0 U	1.0 U	1.0 U					
59	5.0 U	5.0 U	1.0 U	1.0 U					
60	5.0 U	66.6	**602.2 J**	**244.1 J**	026	2.8	58	**380**	**220**
61	5.0 U	5.0 U	1.0 U	1.0 U					
62	5.0 U	5.0 U	1.0 U	1.0 U					
63	5.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ					
64	5.0 U	8.7	**194.9 J**	**21.4**	046	1.4	13	**160**	**25**
65	5.0 U	5.0 U	**9.1**	**16.3**	047	0.84 U	1.5	**13**	**23**
66	5.0 U	5.0 U	1.0 U	1.0 U					
67	5.0 UJ	5.0 UJ	1.1 J	1.0 UJ					
68	5.0 UJ	5.0 UJ	2.9 J	1.0 UJ	048	4.9	4.1	3.2	0.91
69	5.0 UJ	5.0 UJ	1.0 J	1.0 J					
70	5.0 UJ	**107.3 EJ**	**512.9**	**29,240 J**	028	16	150	**380**	**29,000**
71	5.0 U	5.0 U	1.0 U	1.0 U					
72	5.0 UJ	5.0 J	1.0 UJ	1.0 UJ					
73	5.0 U	5.0 U	1.0 U	1.0 U					
74	5.0 U	5.0 U	**50.0**	2.3					
75	5.0 U	5.0 U	**41.7**	**57.6**					
76	5.0 U	5.0 U	**12.1**	**9.2**					
77	5.0 U	5.0 U	1.0 U	1.0 U					
78	5.0 U	5.0 U	**174.2**	1.0 U					
79	5.0 U	5.0 U	**12.6**	**22.6**					
80	5.0 U	5.0 U	**20.2**	2.3					
81	5.0 U	5.0 U	1.0 U	1.0 U					
82	5.0 U	5.0 U	**11.2**	**23.6**					
83	5.0 U	5.0 U	**7.5**	1.0 U					
84	5.0 U	5.0 U	1.0 U	1.0 U					
85	5.0 U	5.0 U	1.0 U	1.0 U					
86	5.0 U	5.0 U	1.0 U	1.0 U					
87	5.0 U	5.0 U	1.0 U	1.0 U					

Table 4-2

VOC ANALYTICAL DATA SUMMARY—GROUND WATER SAMPLES
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

Geoprobe™ Sample Location	START ML Results (μg/L)				EPA Region 7 Results (μg/L)				
	trans-1,2-DCE	cis-1,2- DCE	TCE	PCE	EPA Sample # PS1CS-	trans-1,2-DCE	cis-1,2- DCE	TCE	PCE
88	5.0 U	5.0 U	1.0 U	1.0 U					
89	5.0 UJ	5.0 UJ	1.2 J	1.0 UJ					
90	5.0 U	5.3	1.0 U	1.0 U					
91	5.0 UJ	5.0 UJ	1.0 UJ	1.0 UJ					
92	5.0 U	5.0 U	1.0 U	1.0 U					
93	5.0 U	5.0 U	1.0 U	1.0 U					
94	5.0 U	5.0 U	1.0 U	1.0 U					
94 A	5.0 U	5.0 U	1.0 U	1.0 U	056	0.84 U	0.84 U	0.54 U	1.2
95	5.0 U	5.0 U	1.0 U	1.0 U					
95 A	5.0 U	5.0 U	1.0 U	1.0 U	057	0.84 U	0.84 U	0.54 U	0.31 U
96	5.0 U	5.0 U	**7.3**	4.5	049	0.84 U	0.84 U	**6.4**	**5.2**
97	500.0 U	500.0 U	**112.4**	**4,430**	050	4.5	37	**86**	**5,100**
98	5.0 U	14.1	**99.3**	**1,495**	051	0.84 U	26	**98**	**1,100**
98 A	5.0 U	5.0 U	2.6	**65.6**	058	0.84 U	0.84 U	2.1	**48**
99	5.0 U	5.0 U	1.0 U	1.0 U					
100	5.0 U	5.0 U	1.0 U	1.0 U	052	0.84 U	0.84 U	0.54 U	0.31 U
101	5.0 U	11.0	**47.6**	4.9	053	1.4	5.8	**42**	**6.1**
102	5.0 U	5.0 U	**17.3**	**9.8**	054	0.84 U	4.1	**17**	**12**
103	5.0 U	5.0 U	1.0 U	3.4	055	0.84 U	0.84 U	0.54 U	**6.8**
104	5.0 U	9.7	**55.1**	1.0 U					
105	5.0 U	5.0 U	**7.8**	**17.1**					
106	5.0 U	5.0 U	1.0 U	1.0 U					
107	5.0 U	5.0 U	**14.2**	**6.6**					
108	5.0 U	5.0 U	1.0 U	1.2					
109	5.0 U	5.0 U	1.0 U	1.0 U					
110	5.0 U	5.0 U	1.0 U	1.0 U					
111	7.6	9.2	**39.6**	**5.9**	062	7.1	8.9	**23**	**5.7**
112	41.5	**579.8 E**	**548.1 J**	**115,100 J**	064	32	**520**	**220**	**120,000**
QA/QC Sample									
Field Blank					059F	0.84 U	0.84 U	0.54 U	0.31 U
Trip Blank					060F	0.84 U	0.84 U	0.54 U	0.31 U
Rinsate of Ground Water Sampling Apparatus					061	0.84 U	0.84 U	0.54 U	0.31 U
Rinsate of Soil Sampling Apparatus					063	0.84 U	0.84 U	0.54 U	0.31 U

KEY: ☐ = Results at, or greater than MCL. ▨ = Sample not collected.
U = Actual value of sample is less than the measurement detection limit (reported value).
K = Actual value of sample is less than value reported.
J = Data reported but not valid by approved QC procedures.
E = *Data estimated because sample concentrations exceeded calibration range (START Mobile Laboratory).*

There are some exceptions to the general trends noted above. For example, plotted PCE concentrations do not appear to form a continuous zone of contamination down gradient from the apparent source. This is partially due to the arbitrary choice of the 5 μg/L MCL concentration as the limit of contamination boundary. It may also be due to differences in solubility between TCE and PCE or possibly due to zones of preferential

recharge or preferential flow within the alluvial aquifer. It is also important to note that during this investigation, all Geoprobe™ temporary ground water monitoring wells drew water from immediately below the water table. Therefore, the resulting description of contaminant distribution is limited to this single shallow zone. In addition, though Geoprobe™ monitoring wells allow for the rapid collection of a large number of ground water samples, they are not ideal for collection of VOC analytical data. This theory is supported by the initial comparison study which showed that permanent monitoring wells, equipped with dedicated bladder pumps, provide samples of consistently higher concentration than the temporary monitoring wells.

Though the concentration of the target VOCs returns to nearly non-detect upgradient of the suspected source, typical petroleum hydrocarbon contaminants (benzene, toluene, ethylbenzene, and xylene) were detected at elevated concentrations at location 95A. Low-level concentrations (usually < 1 μg/L) of these same contaminants were detected in samples from locations both immediately south of 95A (locations 70, 97, 98, and 112) and throughout the investigated area (locations 2, 14, 18, 20, 24, 30, 35, 46, 60, and 111). Several leaking underground storage tank (LUST) sites have been identified in the investigated area by the Nebraska Department of Environmental Quality (NDEQ) (E&E, 1998d). It does not appear likely that the observed petroleum hydrocarbon contamination is related to the distribution of the VOCs targeted during this investigation.

Dissolved arsenic analytical results are presented in Table 4-3 and plotted on the site map in Figure 4-6. With the exception of ground water sampling locations 1 (60.6 μg/L) and 86 (319 μg/L), no ground water samples were found to contain dissolved arsenic above its MCL of 50 μg/L. Based on this investigation, there does not appear to be a point source of arsenic contamination within the study area. The elevated levels could possibly be naturally occurring. Alternatively, a source to the east of location 86 may be responsible for the elevated arsenic concentrations.

Total arsenic was detected in the single sampled private well owned by Roger Hanak (2917 10th Street). The detected concentration of 41.0 μg/L does not exceed the MCL for arsenic (50 μg/L).

Table 4-3

ARSENIC ANALYTICAL DATA SUMMARY—GROUND WATER SAMPLES
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

Geoprobe™ Sample Location	EPA Sample # PS1CS-	EPA Region 7 Results (μg/L)	
		As Dissolved by ICAP	As Dissolved by AA
1	014		**60.6**
2	013	7.14 U	
3	008	7.14 U	
14	009		1.66 U

Table 4-3

ARSENIC ANALYTICAL DATA SUMMARY—GROUND WATER SAMPLES
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

Geoprobe™ Sample Location	EPA Sample # PS1CS-	EPA Region 7 Results (μg/L)	
		As Dissolved by ICAP	As Dissolved by AA
16	015		8.63
21	005	7.14 U	
24	016		1.84
27	012	7.14 U	
29	010	7.14 U	
31	001		15.8
33	011	7.14 U	
36	006	7.14 U	
39	031	7.14 U	
41	032	7.14 U	
44	030	7.14 U	
46	027	7.14 U	
53	033	7.14 U	
57	029		3.16
60	026	7.14 U	
63	034		13.6
70	028		15.9
72	035	7.14 U	
77	036		6.19
86	037		**319**
89	038	7.14 U	
93	039	7.14 U	
107	040	7.14 U	
109	041	7.14 U	
NA	059F(field blank)	7.14 U	

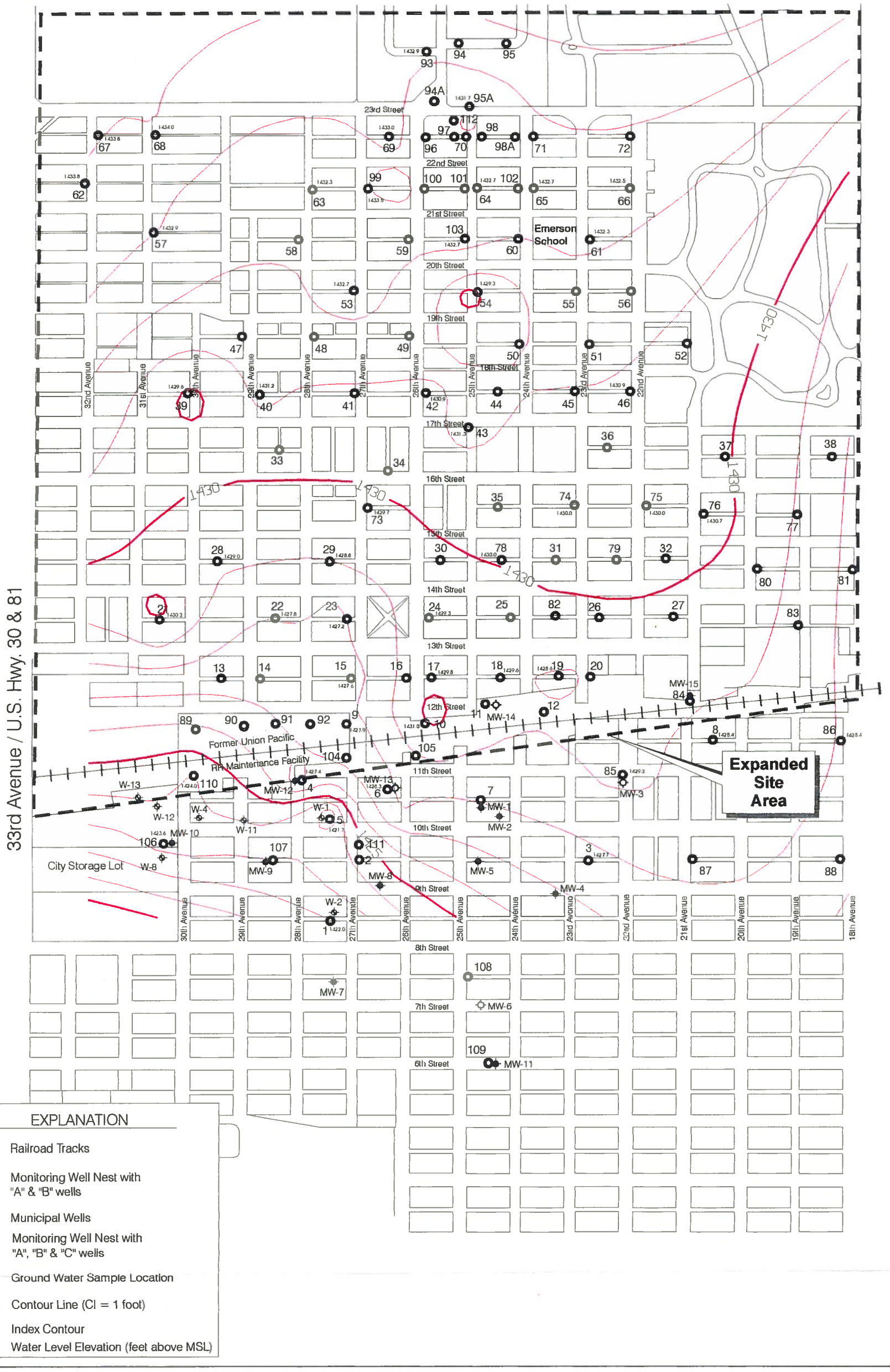
KEY: ☐ = Results at, or greater than MCL. ▨ = Sample not submitted.
U = Actual value of sample is less than the measurement detection limit (reported value).

Soil VOC concentrations are presented in Table 4-4; soil sampling locations are shown in Figure 3-2. PCE, TCE, and their degradation products were all identified in soil beneath the apparent source property. Of the target VOCs, PCE appears to be the primary soil contaminant. PCE was detected in 13 of the 14 samples taken from, or immediately adjacent to, One Hour Martinizing Property; detected PCE concentrations ranged from 1.5 to 38,950 μg/kg. Benchmark concentrations (EPA Region 3 Risk-based Concentration for Residential Soil and Superfund Chemical Data Matrix (SCDM) Cancer Risk Screening Concentration) were exceeded in two samples. These samples were collected from the 1-3 foot interval at location S-3 and S-8. No VOCs were detected in either the soil trip blank or in the background soil sample taken from the 1-3' depth interval at location S-8. No target VOCs were detected in the soil sampler rinsate blank.

Table 4-4

VOC ANALYTICAL DATA SUMMARY—SOIL SAMPLES
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

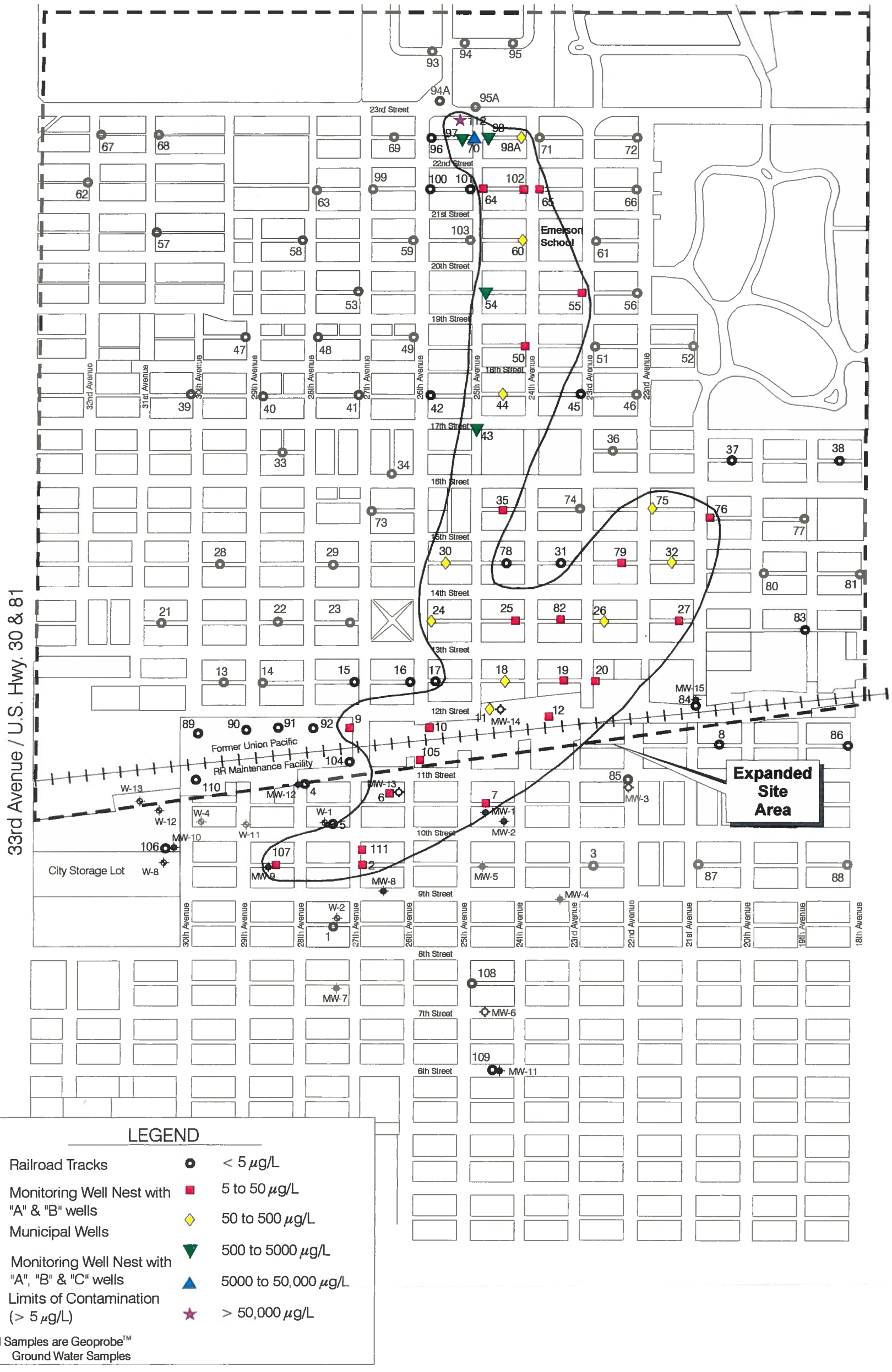
START ML Results (µg/kg)					EPA Region 7 Results (µg/kg)				
Geoprobe™ Sample Location	trans-1,2-DCE	cis-1,2- DCE	TCE	PCE	EPA Sample #	trans-1,2-DCE	cis-1,2- DCE	TCE	PCE
S-1 1-3'	7.1 U	7.1 U	1.5	7.2	101	9.3 U	9.3 U	9.3 U	9.3 U
S-1 6-8'	8.4 U	8.4 U	1.7 U	1.7 U	102	8.6 U	8.6 U	8.6 U	8.6 U
S-2 1-3'	6.7 U	6.7 U	2.5	17.6	103	14 U	14 U	14 U	21
S-2 6-8'	7 U	7 U	3	79.6	104	7.7 U	7.7 U	7.7 U	8.3
S-3 1-3'	5.9 U	102.3	2,574	**38,950**	105	12 U	69	440	**25,000**
S-3 6-8'	6.4 U	13.3	37.3	985.5	106	9.3 U	9.3 U	9.3 U	150
S-4 1-3'	7.6 U	7.6 U	3	1,728 J	107	19 U	19 U	19 U	600
S-4 6-8'	8 U	8 U	18.5	1,013 J	108	12 U	12 U	12 U	530
S-5 1-3'	6 U	6 U	12.1 UJ	177.2 J	109	12 U	12 U	12 U	10
S-5 6-8'	8.2 U	8.2 U	40.1	1,849 J	110	12 U	12 U	13	390
S-6 1-3'	6.9 U	116	32.8	40.2	111	8.9 U	79	15	37
S-6 6-8'	6.5 U	6.9	28.2	200.8 J	112	9.5 U	9.5 U	9.5 U	92
S-7 1-3'	34.4	211.8	275.8	**13,280 J**	113	18	140	130	6,400
S-7 6-8'	7.3 U	7.3 U	1.5 U	23.8	114	9.3 U	9.3 U	9.3 U	9.3 U
S-8 1-3'	6.5 U	6.5 U	1.3 U	1.3 U	115	15 U	15 U	15 U	15 U
Trip Blank					116F	6.1 U	6.1 U	6.1 U	6.1 U
Benchmarks (µg/kg)									
SCDM Cancer Risk Screening Concentration	----	----	58,000	12,000					
SCDM Reference Dose Screening Concentration	1,600,000	780,000	----	780,000					
EPA Region 3 Risk-Based Concentration Industrial Soil	41,000,000	20,000,000	520,000	110,000					
EPA Region 3 Risk-Based Concentration Residential Soil	1,600,000	780,000	58,000	12,000					



GPGWL.CDR

Source: City of Columbus Engineering Office, 1998.

Figure 4-1: GEOPROBE WATER LEVEL CONTOUR MAP



Source: City of Columbus Engineering Office, 1998.

Figure 4-2: SHALLOW GROUND WATER PCE CONCENTRATIONS-START MOBILE LAB

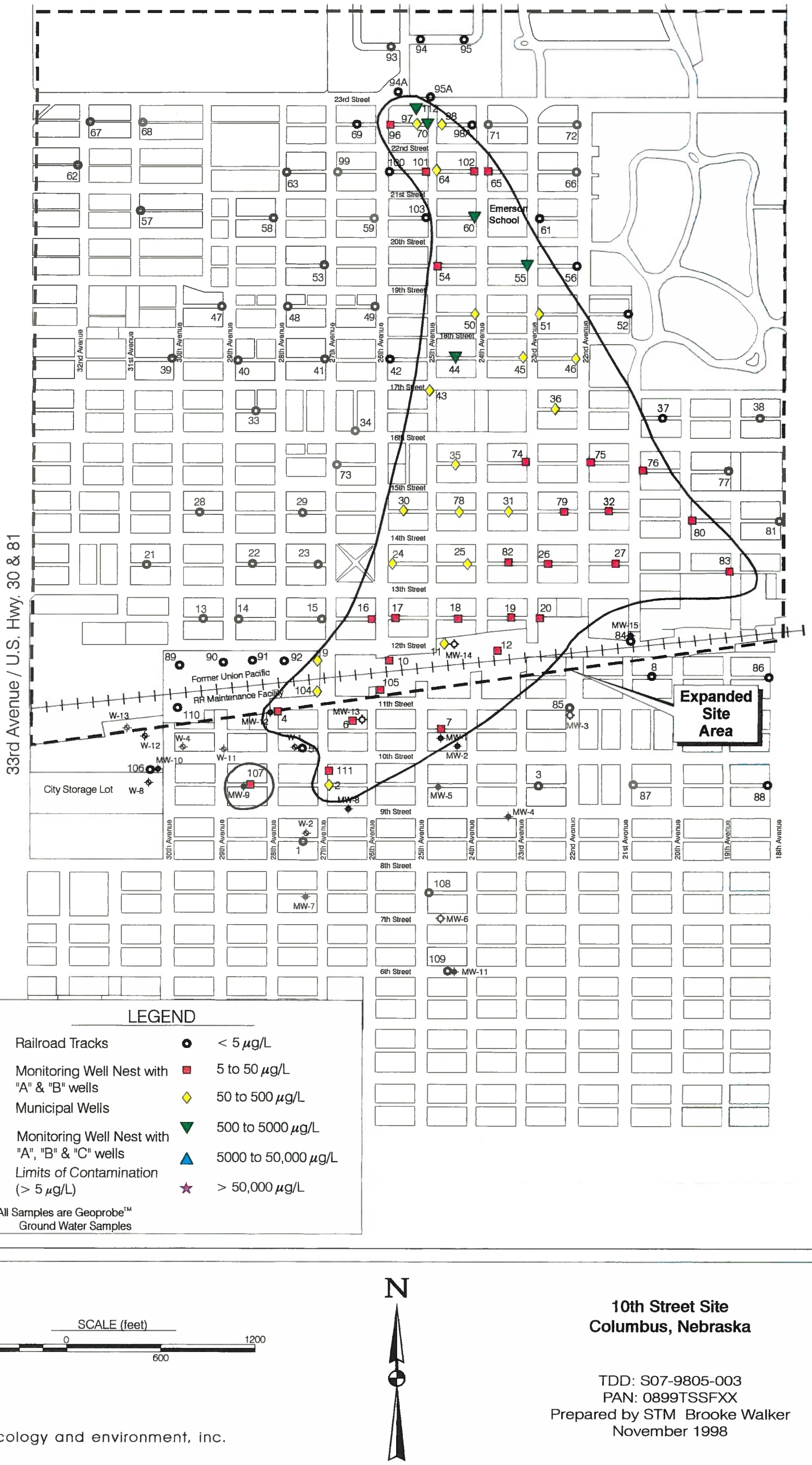
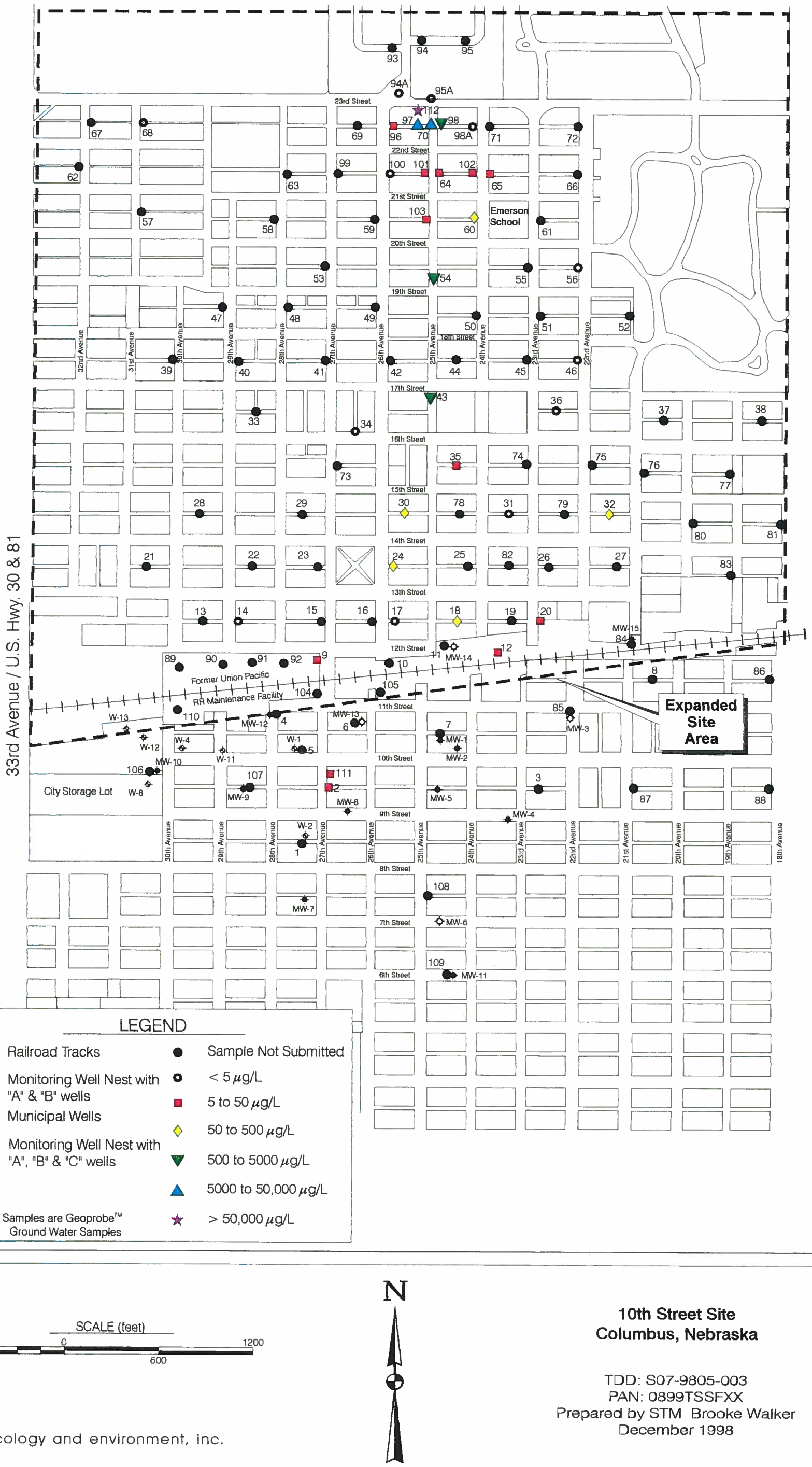


Figure 4-3: SHALLOW GROUND WATER TCE CONCENTRATIONS-START MOBILE LAB



10EPAPCE.CDR

Source: City of Columbus Engineering Office, 1998.

Figure 4-4: SHALLOW GROUND WATER PCE CONCENTRATIONS-EPA REGION 7 LAB

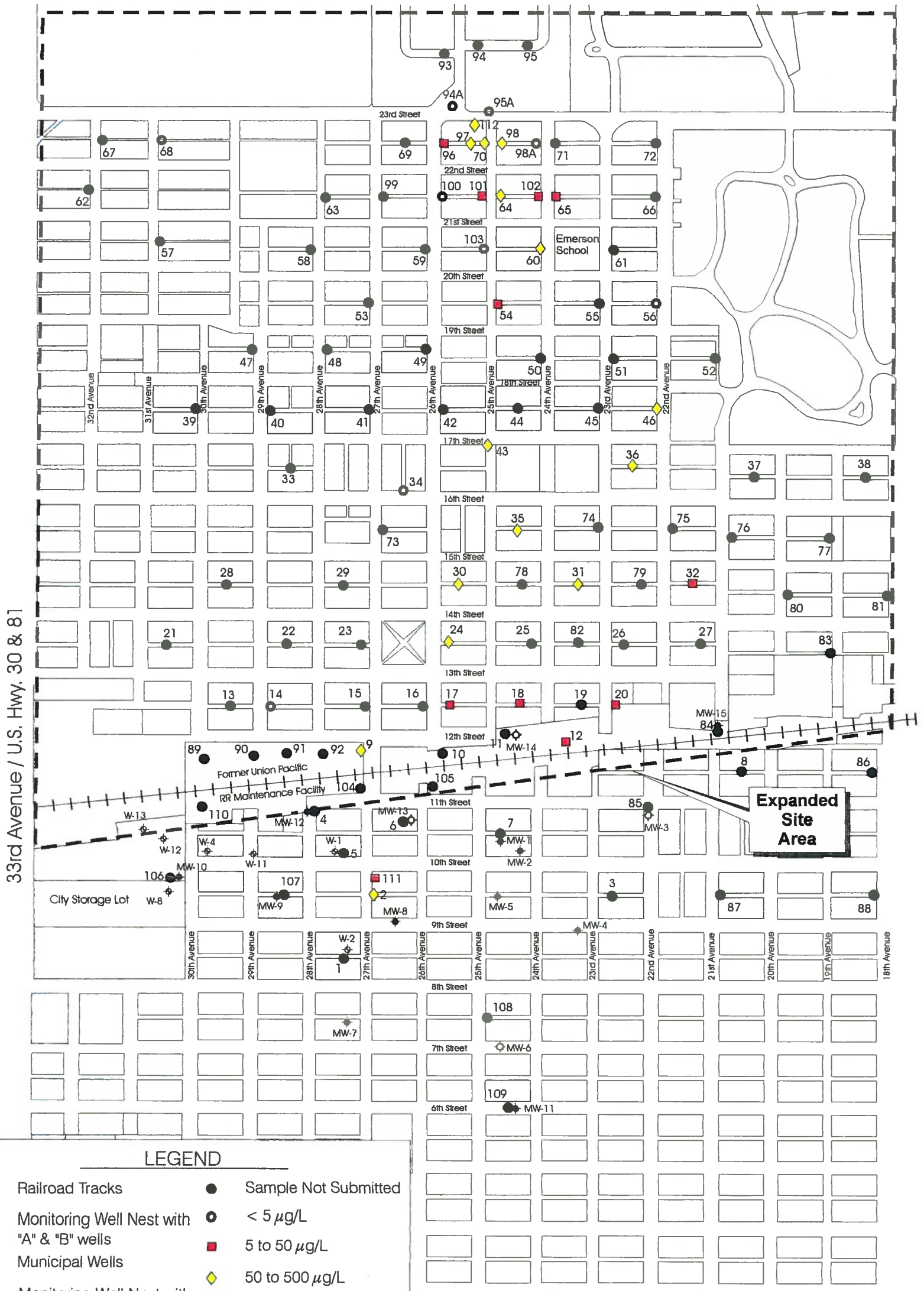
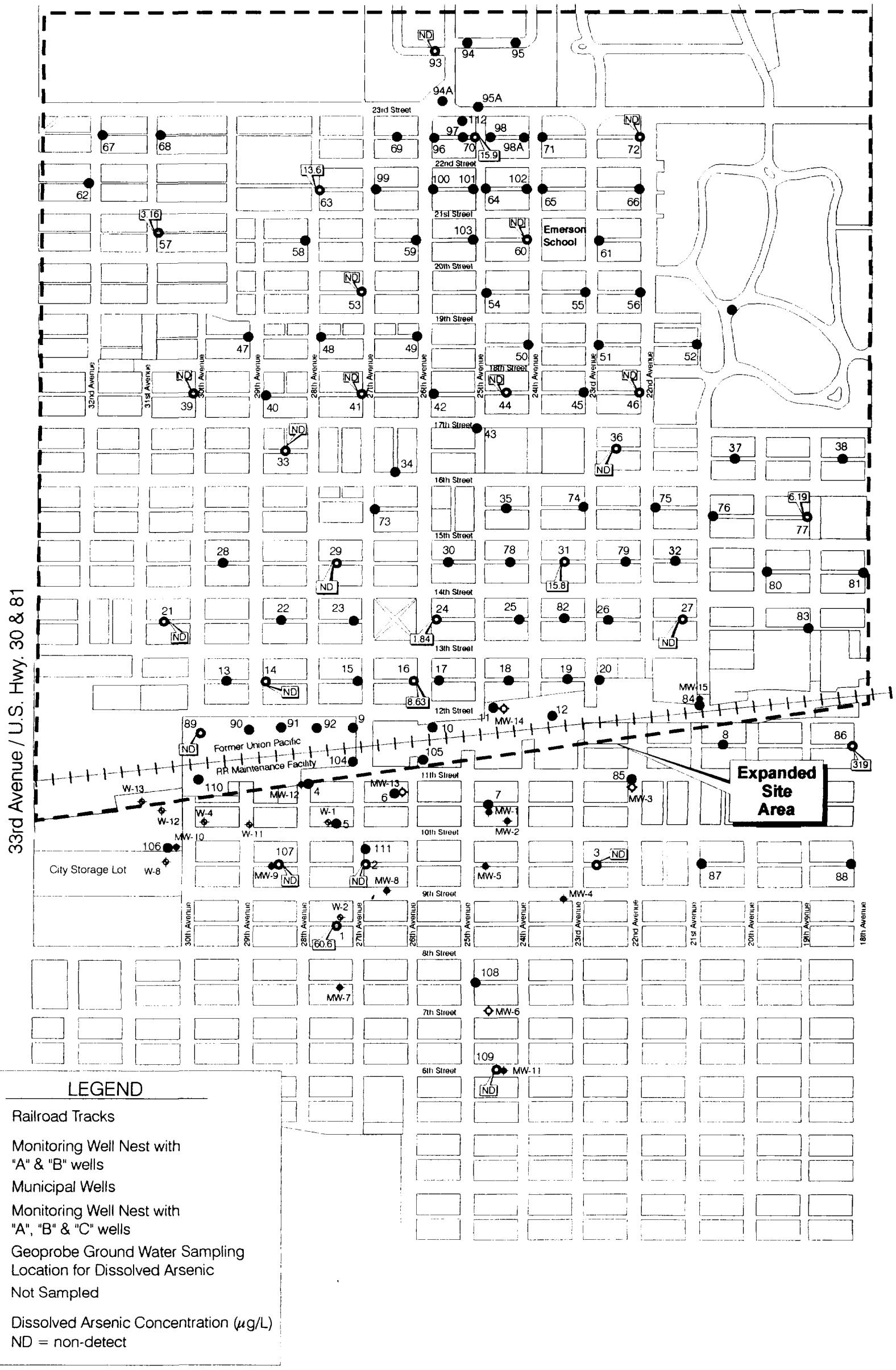


Figure 4-5: SHALLOW GROUND WATER TCE CONCENTRATIONS-EPA REGION 7 LAB



10EPAARS.CDR

Source: City of Columbus Engineering Office, 1998.

Figure 4-6: SHALLOW GROUND WATER DISSOLVED ARSENIC CONCENTRATIONS

5.0 SUMMARY AND CONCLUSIONS

In response to the results of a 1997-1998 quarterly sampling of monitoring and municipal wells, EPA Region 7 tasked START to conduct a removal assessment at the 10th Street Site. The primary purpose of the investigation was to identify the limits of VOC-contaminated ground water and its source(s). START collected over 100 shallow ground water samples from Geoprobe™ temporary monitoring wells. These samples were screened on-site in the START Mobile Laboratory for TCE, PCE, cis-1,2-DCE, and trans-1,2-DCE. Screening results indicated that VOC contamination appears to be originating from a current dry cleaning business, One Hour Martinizing, located on the southwest corner of 23rd Street and 25th Avenue. Analysis of soil samples from, or immediately adjacent to, the apparent source property confirmed the presence of VOC-contaminated soil. Delineation of shallow VOC-contaminated ground water indicates that the contaminant plume initially flows south. However, municipal well pumping appears to redirect the plume towards the southwest.

It should be noted that though the One Hour Martinizing property appears to be a source of VOC contamination to the north of the current monitoring well network, it is not necessarily the sole source. Additional sources are particularly possible within the area of the initial 10th Street site investigations, where VOC soil contamination was documented on three separate properties (Liberty Cleaners, Village Wash House, and Jackson Services).

START submitted selected ground water samples to the EPA Region 7 Laboratory for LDL VOC and/or dissolved arsenic analysis. VOC results generally agreed with those from the START Mobile Laboratory. Dissolved arsenic results did not identify a distinct source of contamination.

Though the extent of this investigation is limited to the shallow zone immediately below the water table, some general conclusions can be made regarding this investigation. At least some portion of the PCE and TCE contaminated ground water beneath the 10th Street Site appears to be attributable to the One Hour Martinizing property. Shallow contaminated ground water originating from this apparent source appears to be directed toward the municipal well field. However, further investigation may be required to determine the immediate risk this provides to the municipal water supply. The potential threat to the well field and the feasibility of potential response actions could be more effectively addressed after consideration of the following data gaps:

- The vertical delineation of VOC contamination in the unconfined aquifer north of the current monitoring well network.

- A more complete delineation of the horizontal and vertical extent of soil contamination on and near the One Hour Martinizing property.

- A reevaluation of the extent of ground water contamination using the existing monitoring wells.

- Determination of whether, and if so to what extent, arsenic is of concern as a threat to drinking water.

- Determination of municipal well construction details. Some information is currently available through existing NDWR well registration forms. Additional information may be available from the city of Columbus.

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Appendix A

Photographic Documentation Record

TSTPHOTO.CDR

Source: City of Columbus Engineering Office, 1998.

Figure A-1: PHOTODOCUMENTATION LOCATION MAP

PHOTOGRAPHIC RECORD
Ecology and Environment, I
Superfund Technical Assessment and Response Team

SITE NAME: 10th Street Site
SITE LOCATION: Columbus, Nebraska
JOB#: KJ7104 **TDD:** S07-9805-003A **PAN:** 0899TSSFXX

Photograph: 1
Photographer: STM Ramold
Date/Time: 9-26-98 / 1024
Roll/Frame No.: 1 / 4
Direction: southeast
Comments: Geoprobe™ team using peristaltic pump to collect ground water sample for VOC analysis.

Photograph: 2
Photographer: STM Ramold
Date/Time: 9-26-98 / 1320
Roll/Frame No.: 1 / 14
Direction: west
Comments: Carbon filtration unit used for treating purge water from temporary monitoring wells.

PHOTOGRAPHIC RECORD
Ecology and Environment, I
Superfund Technical Assessment and Response Team

SITE NAME: 10th Street Site
SITE LOCATION: Columbus, Nebraska
JOB#: KJ7104 **TDD:** S07-9805-003A **PAN:** 0899TSSFXX

Photograph: 3
Photographer: STM Ramold
Date/Time: 9-26-98 / 1300
Roll/Frame No.: 1 / 11
Direction: northwest
Comments: Decontamination procedure, high pressure wash with steam sprayer.

Photograph: 4
Photographer: STM Ramold
Date/Time: 9-26-98 / 1320
Roll/Frame No.: 1 / 12
Direction: northwest
Comments: Decontamination procedure, drying and heating with propane torch.

PHOTOGRAPHIC RECORD
Ecology and Environment, Inc
Superfund Technical Assessment and Response Team

SITE NAME: 10th Street Site
SITE LOCATION: Columbus, Nebraska
JOB#: KJ7104 **TDD:** S07-9805-003A **PAN:** 0899TSSFXX

Photograph: 5
Photographer: STM Ramold
Date/Time: 9-30-98 / 0920
Roll/Frame No.: 1 / 17
Direction: northwest
Comments: Geoprobe™ team collecting soil sample behind One Hour Martinizing.

Photograph: 6
Photographer: EPA RPM Darrell Sommerhauser
Date/Time: 9-30-98 / 0935
Roll/Frame No.: 1 / 20
Direction: north
Comments: Preparing soil sample for VOC analysis.

PHOTOGRAPHIC RECORD
Ecology and Environment, Inc.
Superfund Technical Assessment and Response Team

SITE NAME: 10th Street Site
SITE LOCATION: Columbus, Nebraska
JOB#: KJ7104 **TDD:** S07-9805-003A **PAN:** 0899TSSFXX

Photograph: 7
Photographer: EPA RPM D. Sommerrhauser
Date: 9-30-98
Roll/Frame No.: 51272 / 1
Direction: east-southeast
Comments: current Liberty Cleaners and Miller Radiator and Machine Shop (25th Street in foreground)

PHOTOGRAPHIC RECORD
Ecology and Environment, Inc.
Superfund Technical Assessment and Response Team

SITE NAME: 10th Street Site
SITE LOCATION: Columbus, Nebraska
JOB#: KJ7104 **TDD:** S07-9805-003A **PAN:** 0899TSSFXX

Photograph: 9
Photographer: EPA RPM D. Sommerrhauser
Date: 9-30-98
Roll/Frame No.: 51272 / 3
Direction: south
Comments: former Village Wash House (10th Street in foreground).

PHOTOGRAPHIC RECORD
Ecology and Environment, Inc.
Superfund Technical Assessment and Response Team

SITE NAME: 10th Street Site
SITE LOCATION: Columbus, Nebraska
JOB#: KJ7104 **TDD:** S07-9805-003A **PAN:** 0899TSSFXX

Photograph: 10
Photographer: EPA RPM D. Sommerrhauser
Date: 9-29-98
Roll/Frame No.: 51271 / 7
Direction: southwest
Comments: One Hour Martinizing (background) with Geoprobe™ sampling team collecting ground water at location 95A (foreground).

PHOTOGRAPHIC RECORD
Ecology and Environment, In
Superfund Technical Assessment and Respse Team

SITE NAME: 10th Street Site
SITE LOCATION: Columbus, Nebraska
JOB#: KJ7104 **TDD:** S07-9805-003A **PAN:** 0899TSSFXX

Photograph: 11
Photographer: STM Ramold
Date/Time: 10-13-99 / 1030
Roll/Frame No.: 1 / 22
Direction: northwest
Comments: One Hour Martinizing.

Photograph: 12
Photographer: STM Ramold
Date/Time: 10-13-98 / 1020
Roll/Frame No.: 2 / 2
Direction: northeast
Comments: One Hour Martinizing.

Appendix B

Mobile Laboratory Program (MLP) Volatile Organic Compound Analytical Results

MLP VOLATILE ORGANIC COMPOUND ANALYTICAL RESULTS

for

10TH STREET SITE

COLUMBUS, NEBRASKA

TDD: S07-9805-003A

PAN: 0899TSSFXX

Investigation Date: September - October 1998

START Analytical Team: Charles Smith and David Keeton

Report Date: November 1998

Submitted To: Ron Ramold

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1.0 INTRODUCTION

Analysis of 15 soil samples, and 144 water samples collected around 10th Street was performed by Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START) chemists under Technical Direction Document (TDD) S07-9711-018 utilizing the E & E Mobile Laboratory Program (MLP). The samples were analyzed for volatile organic compounds (VOCs) using the Standard Operating Guidelines for the MLP Method START7.001.

Samples were analyzed for the following VOCs: trans-1,2-Dichloroethene (trans-1,2-DCE), cis-1,2-Dichloroethene (cis-1,2-DCE), Trichloroethene (TCE), and Tetrachloroethene (PCE).

The samples were collected September 21 through October 1, 1998, and received by the laboratory during the same time period. All analyses were completed on or by October 1, 1998.

2.0 MLP METHODOLOGY FOR VOCs

All samples were analyzed as described in MLP Method START7.001. There were some minor deviations with the initial calibrations and a few problems with the final calibrations. The instrument gained sensitivity over the course of the project, requiring frequent recalibration. These problems will be discussed later.

3.0 MLP DATA

MLP data are not confirmed by mass spectroscopy and, therefore, do not provide the same level of qualitative specificity as contract laboratory program (CLP) data. While MLP data is not equivalent to or a replacement for CLP data, the results presented in this report are consistent (all samples were analyzed utilizing the same procedure). Data generated by the E & E MLP were used to quantitate site contamination. The MLP analytical quantitation limits for trans-1,2-DCE and cis-1,2-DCE were 5 µg/L in the water samples and approximately 7 µg/kg for soils. The MLP analytical quantitation limits for TCE and PCE were 1 µg/L in the water samples and approximately 3 µg/kg for soils.

3.1 VOC SAMPLE ANALYSIS RESULTS

Table 3-1

Sample ID	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	TCE (ug/L)	PCE (ug/L)	Dilution Factor
1	5U	5U	3.9	1U	
2	5U	12.9	92.6J	10.8J	5
3	5U	5U	1U	1U	
4-Foot Pump	5U	5U	7.7	1U	
4-Peristaltic Pump	5U	5U	23.6	1U	
5	5U	5U	2.1	1U	
6-Foot Pump	5U	5U	2.2	1U	
6-Peristaltic Pump	5U	5U	7.6	9.1	
7-Foot Pump	5U	5U	2.0	1U	
7-Peristaltic Pump	5U	5U	5.8	5.8	
8	5U	5U	1.1	1U	
9	5U	5U	85.2	8.4	5
10	5U	5U	38.4	10.8	
11-Foot Pump	5U	5U	20.2	11.8	
11-Peristaltic Pump	5U	5U	65.9	75.1	5
12	5U	5U	22.3	35.1	5
13	5U	5U	1U	1U	
14	5U	9.8	1.8	1U	
15	5U	5U	2.1	1U	

Sample ID	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	TCE (ug/L)	PCE (ug/L)	Dilution Factor
16	5U	5U	44.9	2.5	
17	7.9	14.2	42.8	3.9	
18	5U	5U	16.1	50.2	5
19	5UJ	5UJ	8.5J	10.9J	
20	5U	5U	13.0	14.9	
21	5U	5U	1U	1U	
22	5U	9.6	4.3	1U	
23	5U	5U	1U	1U	
24	5U	5U	165.6	116.1	10
25	5U	5U	113.7	8.3	
26	5U	5U	11.6	79.2	5
27	5U	5U	6.4	8.1	
28	5U	5U	1.9	1U	
29	5U	5U	1U	1U	
30	6.1	5U	250.4	260.1	10
31	5U	5U	87.1	2.5	5
32	5U	5U	29.4	52.1	5
33	5.2	10.0	1.1	1U	
34	5U	5U	1U	1U	
35	5U	5U	265.9	41.9	10
36	9.3	38.1	194.3	1U	10
37	5U	5U	1U	1U	
38	5U	5U	1U	1U	
39	5UJ	5UJ	1UJ	1UJ	
40	10.0	10.0	1UJ	1UJ	
41	5UJ	5UJ	1UJ	1UJ	
42	5UJ	5UJ	1UJ	1UJ	
43	12.5J	5UJ	219.1J	1346J	25
44	5UJ	5UJ	605.2J	179.7J	25
45	5UJ	42.3J	186.8J	1UJ	10
46	8.7J	47J	405.3J	1UJ	50
47	6.7J	5.7J	1UJ	1UJ	
48	5UJ	5UJ	1UJ	1UJ	
49	5UJ	5UJ	1UJ	1UJ	
50	5UJ	5UJ	80.4J	15.5J	5

Sample ID	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	TCE (ug/L)	PCE (ug/L)	Dilution Factor
51	14.6J	53.8J	411.2	1UJ	10
52	5UJ	5UJ	1UJ	1UJ	
53	5U	5U	1U	1U	
54	5U	5U	22.1	751.0	100
55	5U	43.4	1672J	49.8	100
56	5UJ	5UJ	1UJ	1UJ	
57	5U	5U	1U	1U	
58	5U	5U	1U	1U	
59	5U	5U	1U	1U	
60	5U	66.6	602.2J	244.1J	100
61	5U	5U	1U	1U	
62	5U	5U	1U	1U	
63	5UJ	5UJ	1UJ	1UJ	
64	5U	8.7	194.9J	21.4	
65	5U	5U	9.1	16.3	
66	5U	5U	1U	1U	
67	5UJ	5UJ	1.1J	1UJ	
68	5UJ	5UJ	2.9J	1UJ	
69	5UJ	5UJ	1UJ	1.0J	
70	5UJ	107.3EJ	512.9	29240J	100&10000
71	5U	5U	1U	1U	
72	5UJ	5UJ	1UJ	1UJ	
73	5U	5U	1U	1U	
74	5U	5U	50.0	2.3	
75	5U	5U	41.7	57.6	10
76	5U	5U	12.1	9.2	
77	5U	5U	1U	1U	
78	5U	5U	174.2	1U	10
79	5U	5U	12.6	22.6	
80	5U	5U	20.2	2.3	
81	5U	5U	1U	1U	
82	5U	5U	11.2	23.6	
83	5U	5U	7.5	1U	
84	5U	5U	1U	1U	
85	5U	5U	1U	1U	

Sample ID	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	TCE (ug/L)	PCE (ug/L)	Dilution Factor
86	5U	5U	1U	1U	
87	5U	5U	1U	1U	
88	5U	5U	1U	1U	
89	5UJ	5UJ	1.2J	1UJ	
90	5U	5.3	1U	1U	
91	5UJ	5UJ	1UJ	1UJ	
92	5U	5U	1U	1U	
93	5U	5U	1U	1U	
94	5U	5U	1U	1U	
94 A	5U	5U	1U	1U	
95	5U	5U	1U	1U	
95 A	5U	5U	1U	1U	
96	5U	5U	7.3	4.5	
97	500U	500U	112.4	4430.0	100
98	5U	14.1	99.3	1495.0	100
98 A	5U	5U	2.6	65.6	5
99	5U	5U	1U	1U	
100	5U	5U	1U	1U	
101	5U	11.0	47.6	4.9	
102	5U	5U	17.3	9.8	
103	5U	5U	1U	3.4	
104	5U	9.7	55.1	1U	
105	5U	5U	7.8	17.1	
106	5U	5U	1U	1U	
107	5U	5U	14.2	6.6	
108	5U	5U	1U	1.2	
109	5U	5U	1U	1U	
110	5U	5U	1U	1U	
111	7.6	9.2	39.6	5.9	
112	41.5	579.8E	548.1J	115100J	100&10000
MW 1-A	5U	5U	18.9	48.1	5
MW 1A-Out	5U	5U	1U	1U	
MW 12-A	5U	5U	29.5	1.6	
MW 13-A	5U	5U	13.0	18.7	
MW 14-A	5U	5U	49.3	270.8	10

Sample ID	trans-1,2-DCE (ug/L)	cis-1,2-DCE (ug/L)	TCE (ug/L)	PCE (ug/L)	Dilution Factor
Decon Supply	5U	5U	1U	1U	
Post Decon	5U	5U	1U	1U	
Post Decon 9/25 AM	5UJ	5UJ	1UJ	1UJ	
Post Decon 9/25 PM	5UJ	5UJ	1UJ	1UJ	
Post Decon 9/26	5UJ	5UJ	1UJ	1UJ	
Post Decon 9/27	5U	5U	1U	1U	
Post Decon 9/28	5U	5U	1U	1U	
Post Decon 9/29	5U	5U	1U	1U	
Purge 9/23	5U	5U	38.1	28.3	
Purge Water 9/29	5U	5U	1.6	1U	
Purge Water 9/30	20.4	5U	20.3	2.1	
Purge Water 9/30 B	5U	5U	10.6	1.1	
Purge Water 9/30 C	5UJ	21.3J	10.9J	2.0J	
Rinsate 9/22	5U	5U	1U	1U	
Rinsate 9/23	5U	5U	1U	1U	
Rinsate 9/24	5UJ	5UJ	1UJ	1UJ	
Rinsate 9/25	5UJ	5UJ	1UJ	1UJ	
Rinsate 9/28	5U	5U	1U	1U	
Rinsate 9/29	5U	5U	1U	1U	
Rinsate-9/26	5UJ	5UJ	1UJ	1UJ	
Rinsate-9/27	5U	5U	1U	1U	

U=sample result was below the detection limit
J=sample result was estimated

Table 3-2

Sample ID	trans-1,2-DCE (ug/kg)	cis-1,2-DCE (ug/kg)	TCE (ug/kg)	PCE (ug/kg)	Dilution Factor
S-1 1-3'	7.1U	7.1U	1.5	7.2	
S-1 6-8'	8.4U	8.4U	1.7U	1.7U	
S-2 1-3'	6.7U	6.7U	2.5	17.6	
S-2 6-8'	7.0U	7.0U	3.0	79.6E	
S-3 1-3'	5.9U	102.3	2574.0	38950.0	100&1000
S-3 6-8'	6.4U	13.3	37.3	985.5	50
S-4 1-3'	7.6U	7.6U	3.0	1728J	100
S-4 6-8'	8.0U	8.0U	18.5	1013J	1000

Sample ID	trans-1,2-DCE (ug/kg)	cis-1,2-DCE (ug/kg)	TCE (ug/kg)	PCE (ug/kg)	Dilution Factor
S-5 1-3'	6.0U	6.0U	12.1UJ	177.2J	10
S-5 6-8'	8.2U	8.2U	40.1	1849J	100
S-6 1-3'	6.9U	116.0	32.8	40.2	
S-6 6-8'	6.5U	6.9	28.2	200.8J	10
S-7 1-3'	34.4	211.8E	275.8E	13280J	1000
S-7 6-8'	7.3U	7.3U	1.5U	23.8	
S-8 1-3'	6.5U	6.5U	1.3U	1.3U	

U=sample result was below the detection limit
J=sample result was estimated

3.3 INITIAL CALIBRATIONS

Due to the increasing sensitivity of the instrument, it was necessary to calibrate four times during the course of this project. TCE on the first initial calibration (ICAL) had a %RSD of 30.21% which is outside the QC limits, however the correlation coefficient for TCE was 0.9973. The calibration was accepted using linear regression, not the average Calibration Factor (CF), for quantitation. The second ICAL was calibrated in this manner for trans-1,2-DCE and PCE. All other ICALs were calibrated for all analytes using the CF.

3.3 CONTINUING CALIBRATIONS

A continuing calibration (CCAL) must be run every 12 hours to ensure that the instrument is functioning properly. Over the course of the project eight CCALs were run. All CCALs met the QC limits set in the method or another ICAL was analyzed.

3.2 MATRIX SPIKE AND MATRIX SPIKE DUPLICATE

Six matrix spike (MS) and matrix spike duplicate (MSD) analyses were run. All MS/MSDs were within QC limits.

3.4 FINAL CALIBRATION

On four occasions the final calibration (FCAL) was not within QC limits set in the method. The samples analyzed prior to the failed FCALs were flagged as estimated values only.

Appendix C

Table C-1: Geoprobe™ Ground Water Sampling Data Summary

Table C-2: Geoprobe™ Soil Sampling Data Summary

Tab

GEOPROBE™ GROUND WATER SAMPLING DATA SUMMARY
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

Bore Hole #	Location	Date	Time	HNu (ppm)	Screened Interval (feet BGS)	Water Level (feet BGS)	pH	Cond. (mS/cm)	Temp. °C	Turb. (NTU)	VOC ML	VOC EPA	D. As EPA	Geoprobe	Comments
1	135' west of 27th Ave.	09-24-98	0830	12	18–22	18.56	7.36	0.486	16.4	53	2	4	y	7	Purged ⅓ gallon.
2	28' east of 27th Ave.	09-24-98	0925	0	18–22	15.24	7.2	0.506	16.4	>1,000	1	4	y	7	Purged 1 gallon.
3	106' east of 23rd Ave.	09-24-98	1055	0	18–22	17.68	7.19	0.496	18	132	1	4	y	7	Purged 1 gallon.
4	8' east of MW-12A	09-22-98	0830	5	17–21	15.45	6.97	0.533	15.2	108	y(2)	n	n	7	Purged ⅓ gallon. 1 sample with peristaltic pump; 1 sample with foot valve.
5	17.7' north of 10th St.	09-24-98	1135	0	18–22	18.45	7.29	0.492	19.7	96	1	4	n	7	Purged ⅓ gallon.
6	9' west of MW-13A	09-22-98	0950	0	19–23	16.9	7.21	0.505	15.9	118	y(2)	n	n	7	Purged ⅓ gallon. 1 sample with peristaltic pump; 1 sample with foot valve.
7	8' north of MW-1A	09-22-98	1040	1.5	19–23	16.78	7.08	0.492	16	>1,000	y(2)	n	n	7	Purged ⅓ gallon. 1 sample with peristaltic pump; 1 sample with foot valve.
8	160' east of 21st Ave.	09-24-98	1305	0	18–22	16.03	7.12	0.466	20	121	1	4		7	Purged 1 gallon.
9	34.2' west of 27th Ave. 94.0' south of 12 St.	09-22-98	1754	NA	17–21	18.5	6.7	1.2	19	160	y	y	y	709	HNu not available.
10	12' east of 26th Ave.	09-24-98	1525	0	18–22	15.17	7.12	0.499	22.5	195	2	4	n	7	Purged 1 gallon.
11	8' east of MW-14	09-21-98	1700	0	20–24	16.75	7.37	0.621	16.1	>1,000	y(2)	n	n	7	Purged ⅓ gallon. 1 sample with peristaltic pump; 1 sample with foot valve.
12	~60' south of 12th St.	09-22-98	0946	0	17–21	16.58	6.7	1.4	15	>1,000	y	y	n	709	Purged ½ gallon.
13	126.4' west of 29th Ave.	09-22-98	1405	0	17–21	20	7.03	1.05	18.5	3	1	4	n	7	Purged 1 gallon.
14	36.7' east of 29th Ave.	09-22-98	1503	2.5	17–21	20	6.99	0.642	18.9	115	1	4	y	7	Purged 1 gallon.
15	60.5' west of 27th Ave.	09-22-98	1555	NA	17–21	20.08	6.9	1.9	18	70	y	y	n	709	HNu not available. Became clear with 1 liter purged.
16	57' west of 26th Ave.	09-22-98	1505	NA	17–21	NA	7	1.7	18	80	y	y	y	709	HNu not available. Forgot depth.
17	84.7' east of 26th Ave.	09-22-98	1408	NA	17–21	16.67	7	1.2	17	80	y	y	n	709	HNu not available.
18	~175' east of 25th Ave.	09-22-98	1145	NA	17–21	17.25	6.8	1.3	16	40	y	y	n	709	HNu not available.
19	135' west of 23rd Ave.	09-25-98	0945	0	18–22	17.3	6.76	1.44	18.7	130	2	4	n	7	Purged ½ gallon.
20	~30' east of 23rd Ave.	09-22-98	1055	NA	17–21	16.25	6.8	1.9	15	>1,000	y	y	n	709	HNu not available.
21	149' east of 31st Ave.	09-22-98	1635	0	20–24	17.85	7.25	0.573	20.7	31	1	4	y	7	Purged 1 gallon.
22	153.5' east of 29th Ave.	09-23-98	0820	3	20–24	19.85	7.13	0.64	15.8	52	1	4	n	7	Purged 1 gallon.
23	74.7' west of 27th Ave.	09-23-98	0190	0	18–22	19.73	7.21	0.99	16.7	123	1	4	y	7	Purged ½ gallon.
24	73.7' east of 26th Ave.	09-23-98	1051	NA	17–21	17	6.97	1.12	16.7	574	y	y	y	709	
25	95' west of 24th Ave.	09-23-98	1008	NA	17–21	NA	7.03	1.51	16.2	999	y	y	y	709	HNu not available. Remained turbid after 1.5 gallons.
26	109.5' east of 23rd Ave.	09-23-98	0850	NA	17–21	16	6.8	1.24	15.7	990	y	y	n	709	HNu not available.
27	117.3' west of 21st Ave.	09-22-98	1655	NA	17–21	15.5	6.9	1.2	19	990	y	y	y	709	HNu not available. Very turbid, even after ½ gallon purge.
28	152' east of 30th Ave.	09-23-98	1105	0	18–22	18.65	7.15	1.33	16.7	334	1	4	y	7	Purged ½ gallon.
29	138.5' east of 28th Ave.	09-23-98	1205	0	18–22	18.78	7	0.513	18.8	451	1	4	y	7	Purged ½ gallon.
30	12' east of 26th Ave.	09-23-98	1405	0	18–22	15.02	7.32	0.538	18.4	>1,000	1	4	n	7	Purged ½ gallon.
31	173' west of 23rd Ave.	09-23-98	1400	NA	17–21	15	6.99	1.55	17.7	999	y	y	y	709	Grey colored sample.
32	166' east of 21st Ave.	09-23-98	1300	NA	17–21	16	7.03	1.24	15.7	55	y	y	n	709	Tubing had many bubbles. Recharge problem.
33	159' south of 17th St.	09-23-98	1716	0	18–22	15.42	7.28	0.589	184	>1,000	1	4	y	7	Purged ½ gallon.
34	24.3' north of 16th St.	09-23-98	1545	1.5	18–22	12.75	7.33	0.622	17.4	>1,000	1	4	n	7	Purged ½ gallon.
35	151' east of 25th Ave.	09-23-98	1445	0	18–22	12.57	7.39	0.567	18.3	>1,000	1	4	n	7	Purged ½ gallon.
36	179' west of 22nd Ave.	09-23-98	1615	NA	17–21	NA	7.28	1.28	18.3	10	y	y	y	709	Difficulty maintaining flow.

Table 1

GEOPROBE™ GROUND WATER SAMPLING DATA SUMMARY
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

Bore Hole #	Location	Date	Time	HNu (ppm)	Screened Interval (feet BGS)	Water Level (feet BGS)	pH	Cond. (mS/cm)	Temp. °C	Turb. (NTU)	VOC ML	VOC EPA	D. As EPA	Geoprobe	Comments
37	145.2' west of 20th Ave.	09-23-98	1438	NA	17–21	16	7.04	1.81	16.3	999	y	y	n	709	Grey colored sample.
38	161' west of 18th Ave.	09-23-98	1658	NA	17–21	NA	7.04	1.35	16.1	999	y	y	y	709	
39	43' west of 30th Ave.	09-25-98	1241	NA	17–21	16.9	6.98	1.26	17.6	764	y	y	y	7	
40	42.5' east of 29th Ave.	09-25-98	1322	NA	17–21	14.6	6.98	1.32	17.7	>1,000	y	y	n	7	
41	33' west of 27th Ave.	09-25-98	1040	0	18–22	21	7.83	0.98	20.8	276	2	4	y	7	Purged ⅛ gallon.
42	33' east of 26th Ave.	09-25-98	1240	0	18–22	14.38	7.05	1.18	18.8	127	2	4	n	7	Purged ⅛ gallon.
43	37' south of 17th St.	09-25-98	1645	0	18–22	13.15	7.05	1.13	23.1	121	2	4	n	7	Purged ½ gallon.
44	152' west of 24th Ave.	09-25-98	1315	0.5	18–22	17.8	6.96	1.01	20.6	>1,000	2	4	y	7	Purged ⅛ gallon.
45	29' west of 23rd Ave.	09-25-98	1425	0	18–22	13.18	7.02	0.846	21.6	>1,000	2	4	n	7	Purged ⅛ gallon.
46	28.8' west of 22nd Ave.	09-25-98	1525	1.5	18–22	13.1	7.04	1.31	24.2	>1,000	2	4	y	7	Purged ¾ gallon.
47	44.5' west of 29th Ave.	09-25-98	1407	NA	17–21	14.5	7.09	1.23	18.3	>1,000	y	y	n	7	
48	44.5' east of 28th Ave.	09-25-98	1500	NA	17–21	NA	7.45	1.1	22.7	679	y	y	n	7	Took 5 minutes to fill Horiba cup. Could have increased temperature.
49	43.5' west of 26th Ave.	09-25-98	1615	NA	17–21	NA	7.14	1.27	20.1	>1,000	y	y	n	7	
50	44' west of 24th on south side of alley	09-25-98	1654	NA	17–21	15	7.21	1.12	20.3	>1,000	y	y	n	7	
51	42.5' east of 23rd Ave.	09-26-98	0930	NA	17–21	12	6.45	1.35	17.8	612	y	y	n	7	
52	41.0' west of n/s alley	09-26-98	1012	NA	17–21	12	6.94	1.46	17.6	>1,000	y	y	n	7	
53	46' west of 27th Ave.	09-26-98	1235	NA	17–21	12.5	6.84	1.36	19.3	>1,000	y	y	y	7	Went to 21' because of difficulty at 54.
54	42.5' east of 25th Ave.	09-26-98	1200	NA	14–18	15.5	7.07	1.27	23.2	225	y	y	n	7	Difficulty with water volume. Had to let it recharge to get sample.
55	44.3' west of 23rd Ave.	09-27-98	1037	NA	17–21	NA	6.45	1.44	18	5	y	y	n	7	
56	42' west of 22nd Ave.	09-26-98	1050	NA	17–21	12	6.89	1.67	18.2	277	y	y	n	7	
57	44.5' east of 31st Ave.	09-27-98	1400	0	12–16	13.56	7.05	1.4	23.3	>999	2	4	y	7	Purged ⅛ gallon.
58	41.5' west of 26th Ave.	09-27-98	1330	NA	14–18	13	6.95	1.68	19	2	y	y	n	7	
59	41.8' west of 26th Ave.	09-27-98	1235	NA	14–18	12.5	6.9	1.32	19.2	>1,000	y	y	n	7	
60	41.5' west of 24th Ave.	09-27-98	1155	NA	14–18	12	6.86	1.35	18.9	>1,000	y	y	y	7	
61	32' west of 23rd Ave.	09-27-98	1220	0	9–13	11.75	7.08	2.61	21	100	2	4	n	7	Purged ⅛ gallon.
62	21' west of 32nd Ave.	09-27-98	1310	0	11–15	13.3	7.04	1.25	22.7	112	2	4	n	7	Purged ⅛ gallon.
63	26' east of 28th Ave.	09-26-98	1255	0	11–15	12.7	6.99	1.25	23.2	114	2	4	y	7	Purged ½ gallon.
64	26' east of 25th Ave.	09-27-98	1005	0	12–16	11.8	7	1.42	18.3	737	2	4	n	7	Purged ⅛ gallon.
65	28' east of 24th Ave.	09-27-98	1040	0	9–13	11.6	6.93	1.61	18.6	733	2	4	n	7	Purged ⅛ gallon.
66	27.4' west of 22nd Ave.	09-27-98	1100	1	9–13	11.3	6.97	0.477	19.8	112	2	4	y	7	Purged ⅛ gallon.
67	34.6' west of 32nd Ave.	09-28-98	0945	0	12–16	13.71	7	1.46	18.8	108	2	4	n	7	Purged ⅛ gallon.
68	35.9' east of 31st Ave.	09-28-98	0900	0	12–16	12.77	6.95	1.26	18.9	107	2	4	n	7	Purged ⅛ gallon.
69	157' west of 26th Ave.	09-26-98	1204	0	11–15	12.5	6.92	1.12	23.2	114	2	4	n	7	Purged ⅛ gallon.
70	26' west of 25th Ave.	09-26-98	1105	0	11–15	12	6.97	1.7	22.2	188	2	4	y	7	Purged ⅜ gallon.
71	33.5' east of 24th Ave.	09-26-98	1015	0	9–13	12	6.98	1.66	22.6	265	2	4	n	7	Purged ⅛ gallon.
72	28' west of 22nd Ave.	09-26-98	0900	0	18–22	10.2	7.02	1.3	20.7	>1,000	2	4	y	7	Purged ⅜ gallon.
73	31' east of 27th Ave.	09-20-98	1044	0	18–22	15.91	7.03	1.2	19.2	94	2	4	n	7	Purged ⅛ gallon.
74	43' west of 23rd Ave.	09-28-98	1130	0	12–16	14.15	7.14	2.27	19.5	231	2	4	n	7	Purged ⅛ gallon.
75	42' east of 23rd Ave.	09-28-98	1315	0	12–16	13.36	7	1.69	19.8	118	2	4	n	7	Purged ⅛ gallon.

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GEOPROBE™ GROUND WATER SAMPLING DATA SUMMARY
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

Bore Hole #	Location	Date	Time	HNu (ppm)	Screened Interval (feet BGS)	Water Level (feet BGS)	pH	Cond. (mS/cm)	Temp. °C	Turb. (NTU)	VOC ML	VOC EPA	D. As EPA	Geoprobe	Comments
76	53' west of 22nd Ave.	09-28-98	1350	0	12–16	12.4	7.07	2	19.9	204	2	4	n	7	Purged ⅛ gallon.
77	44' west of 14th Ave.	09-28-98	1440	NA	17–21	NA	6.84	1.49	17.1	804	y	y	y	709	
78	147.3' east of 25th Ave.	09-28-98	1435	0	15–19	16.21	6.97	1.27	24.1	107	2	4	n	7	Purged ⅛ gallon.
79	121' west of 22nd Ave.	09-28-98	1520	0	15–19	15	7.04	1.66	21.4	107	2	4	n	7	Purged ⅛ gallon.
80	41.5' east of 20th Ave.	09-28-98	1445	NA	17–21	12	6.94	1.43	20.6	>1,000	y	y	n	709	
81	40.5' west of 18th Ave.	09-28-98	1530	NA	14–18	11.5	6.83	1.31	20.4	>1,000	y	y	n	709	
82	179.5' west of 23rd Ave.	09-28-98	1606	NA	17–21	20	6.85	1.28	21.2	>1,000	y	y	n	709	
83	38' west of 17th Ave.	09-28-98	1355	NA	17–21	13.5	7	1.43	19.5	>1,000	y	y	n	709	
84	10' south of MW-15	09-28-98	1320	NA	17–21	14.25	6.88	0.91	19.4	>1,000	y	y	n	709	
85	6' north of MW-3C	09-28-98	1701	NA	17–21	14.5	6.68	1.11	19.8	>1,000	y	y	n	709	
86	49.5' west of 18th Ave.	09-28-98	1645	2	15–19	14.5	6.99	1.33	21.1	765	2	4	y	7	Purged ⅛ gallon.
87	53' east of 21st Ave.	09-28-98	1730	NA	17–21	15.5	6.89	1.24	19.8	10	y	y	n	709	10 for turbidity off as sample was turbid.
88	47' west of 18th Ave.	09-28-98	1555	0	15–19	15	6.87	1.49	21.4	81	2	4	n	7	Purged ⅛ gallon.
89	112' south of intersection 12th/30th 46' east	09-26-98	0835	NA	17–21	19.5	6.38	1.75	18.6	49	y	y	y	7	
90	118.5' south 45' west of 12th and 29th intersection.	09-27-98	0955	NA	20–24	21.5	6.22	1.39	16.8	104	y	y	n	7	Attempted to collect at 17'–21'—no water —had to start another hole.
91	78.4' south of 17th St.	09-26-98	0820	0	18–22	21.52	6.62	1.09	20.7	115	2	4	n	7	Purged ⅛ gallon.
92	78' south of 17th St.	09-27-98	0925	0	18–22	21.15	6.82	1.29	18.5	85	2	4	n	7	Purged ⅛ gallon.
93	95.4' west of 26th Ave.	09-29-98	0825	0	12–16	10.28	6.95	1.43	18.7	106	2	4	y	7	Purged ⅛ gallon.
94	124.5' east of 26th Ave.	09-29-98	0850	0	14–18	10	6.96	1.66	17.6	23	2	4	n	7	Purged ⅛ gallon.
95	446.5' east of 26th Ave.	09-29-98	1000	0	12–16	11.44	7.06	1.37	18.9	>1,000	2	4	n	7	Purged ⅛ gallon
96	465' east of 26th Ave.	09-29-98	1450	0	9–13	12	6.99	1.46	23.1	492	2	4	n	7	Purged ⅛ gallon
97	103' west of 25th Ave.	09-29-98	1135	2	9–13	12.1	7.21	1.56	23.4	>1,000	2	4	n	7	Purged ⅛ gallon
98	85' east of 25th Ave.	09-29-98	1045	0	9–13	11.8	6.8	1.33	21	>1,000	2	4	n	7	Purged ⅛ gallon
99	44' east of 27th Ave.	09-29-98	1540	0	12–16	11.15	6.83	1.46	22.2	770	2	4	n	7	Purged ⅛ gallon
100	47.5' west of 25th Ave.	09-29-98	1605	0	12–16	NA	7	1.44	21.6	>1,000	2	4	n	7	Purged ⅛ gallon
101	42' west of 25th Ave.	09-29-98	1535	NA	14–18	12	6.98	1.11	22.3	>1,000	y	y	n	709	
102	46.5' east of 24th Ave.	09-29-98	1611	NA	14–18	10.75	6.97	1.33	20.4	>1,000	y	y	n	709	
103	45' west of 25th Ave.	09-29-98	1454	NA	14–18	11.75	7.08	1.07	22	>1,000	y	y	n	709	
104	45.5' west of 27th Ave.	09-29-98	1140	NA	17–21	19.5	6.74	1.27	19.6	298	y	y	n	709	
105	65' east of 26th Ave.	09-29-98	1326	NA	17–21	18	6.87	0.94	21.5	546	y	y	n	709	
106	MW-10	09-29-98	1049	NA	17–21	18.5	6.72	0.804	19	587	y	y	n	709	
107	179' east of 29th Ave.	09-29-98	1000	NA	17–21	16.75	6.77	1.16	17	>1,000	y	y	y	709	
108	45.5' east of 25th Ave.	09-29-98	0615	NA	14–18	11.8	6.82	1.03	17.1	>1,000	y	y	n	709	
109	at MW-11	09-29-98	0845	NA	17–21	13	6.53	0.728	16.6	>1,000	y	y	y	709	
110	110' east of 31st Ave., 340' north of 10th Ave.	09-29-98	1405	NA	17–21	18.5	6.53	1.25	20.5	43	y	y	n	709	
111	23' east of 27th Ave., 89' south of 10th St.	09-30-98	1425	1	15–19	16.02	6.68	1.89	21.4	>1,000	2	4	n	7	Purged ⅛ gallon
112	S-7	09-30-98	1636	NA	11–15	11.98	6.73	1.87	20.8	>1,000	2	4	n	7	Purged ⅛ gallon

Table 1

GEOPROBE™ GROUND WATER SAMPLING DATA SUMMARY
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

Bore Hole #	Location	Date	Time	HNu (ppm)	Screened Interval (feet BGS)	Water Level (feet BGS)	pH	Cond. (mS/cm)	Temp. °C	Turb. (NTU)	VOC ML	VOC EPA	D. As EPA	Geoprobe	Comments
94A	25' north of edge of 23rd St.	09-29-98	1205	0	12–16	12.61	6.83	1.44	23.5	>1,000	2	4	n	7	Purged ⅛ gallon
95A	3' north of edge of 23rd St.	09-29-98	1305	4	14–18	13.18	6.77	0.764	23.2	195	2	4	n	7	Purged ⅛ gallon
98A	76.5' west of 24th Ave.	09-29-98	1430	0	9–13	11.91	6.99	1.74	23.4	>1,000	2	4	n	7	Purged ⅛ gallon

Table C-2

GEOPROBE™ SOIL SAMPLING DATA SUMMARY
10TH STREET SITE—COLUMBUS, NEBRASKA
September—October 1998

Borehole #	Location	Date	Time	HNu (ppm)	Sampled Interval (feet BGS)	Soil Description	VOC ML	VOC EPA	Geoprobe
S-1	See Map	09-30-98	0854	5	1-3	Black silty clay. Track sand and gravel.	2	3	7
S-1	See Map	09-30-98	0905	Background	6-8	Fine to medium sand.	2	3	7
S-2	See Map	09-30-98	0910	7	1-3	Black silty clay. Fill in upper ¼.	2	3	7
S-2	See Map	09-30-98	0940	Background	6-8	Tan fine to medium sand. Traces of sandy, silty clay.	2	3	7
S-3	See Map	09-30-98	0953	11	1-3	Upper 1/5 fill. Rest dark grey silty clay with traces of sand and gravel.	2	3	7
S-3	See Map	09-30-98	1005	3	6-8	Tan silty clay (upper 8"). Tank silty fine to medium sand (rest).	2	3	7
S-4	See Map	09-30-98	1340	3	1-3	Black silty clay (upper 8" concrete and sand fill).	2	3	7
S-4	See Map	09-30-98	1347	5	6-8	Upper 18" tan silty fine sand; lower 6" medium to coarse sand.	2	3	7
S-5	See Map	09-30-98	1500	1	1-3	Upper 6" gravel and sand fill. Bottom dark brown to dark silty clay.	2	3	7
S-5	See Map	09-30-98	1510	4	6-8	Upper 5" olive silty clay. Middle 12" tank fine sand. Below 7" fine to medium sand.	2	3	7
S-6	See Map	09-30-98	1530	20 Towards Bottom	1-3	Dark grey silty clay.	2	3	7
S-6	See Map	09-30-98	1540	3	6-8	Top 18" olive silty clay. Bottom 6" medium to coarse sand.	2	3	7
S-7	See Map	09-30-98	1555	70	1-3	Top 6" sand and gravel fill. Middle 6" dark grey silty clay. Bottom 12" olive clay and silt.	2	3	7
S-7	See Map	09-30-98	1610	7	6-8	Tan fine to medium sand.	2	3	7
S-8	See Map	09-30-98	1755	NA	1-3	Top 18" fill. Bottom 6" black silty clay.	2	3	7
??	Trip Blank	10-01-98	1130	NA	NA	NA			

Appendix D

EPA Region 7 Analytical Data Package

including:

Chain of Custody

Field Sheets

Laboratory Approved Analytical Results

W 9/25/98

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Carroll Sommerhauser	10th Street	22-24 / 09 / 98	1 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: 12 CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (4 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
PSICS001	1				1	X					
002					1						
003					1						
004					1						
005	1										
006	1										* 2 cubis sent in for QC purposes. Not relabeled with "S" in QC coded area. m 9/28/98
~~007~~ (QD)	1										
008	1										
009	1				1						
010	1										
011	1										

Not Complete

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

X COMMERCIAL CARRIER: Federal Express

_____ COURIER

_____ SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] SEALED ☐ UNSEALED ☐	9/24/98	1600	[signature] 9/25/98 SEALED ☐ UNSEALED ☐	Transport to Lab
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
SEALED ☐ UNSEALED ☐			SEALED ☐ UNSEALED ☐	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
SEALED ☐ UNSEALED ☐			SEALED ☐ UNSEALED ☐	

(PSICS)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

9/25/98

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Darrell Sonnenberger	10th Street	22-09-98	2 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: 1-L CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (3 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
PS ICS 012	1					X					
013	1										
014	1										
015	1										
016	1										
017					1						
018					1						
019					1						
020					1						
021					1						
022					1						
023					1						
024					1						
025	1										

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

_____ ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

X COMMERCIAL CARRIER: FedExpress

_____ COURIER

_____ SAMPLER CONVEYED

_____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] X SEALED ☐ UNSEALED ☐	9/24/98	1600	[signature] 9/25/98 0930 SEALED ☐ UNSEALED ☐	Transport to Lab
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
☐ SEALED ☐ UNSEALED			☐ SEALED ☐ UNSEALED	
RELINQUISHED BY	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
☐ SEALED ☐ UNSEALED			☐ SEALED ☐ UNSEALED	

Resat 30 dup 10/1/9

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Paul Doherty / Darrell Sommerhauser	10th St. Site PS1Cs	29 30 9 98	1 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
PS1Cs-Ø25	2					X					
-Ø26	1				1						
-Ø27	1				1						
-Ø28	1				1						
-Ø29	1										
-Ø30	1										
-Ø31	1										
-Ø32	1										
-Ø33	1										
-Ø34	1										
-Ø35	1										
-Ø36	1										
-Ø37	1										
-Ø38	1										
-Ø39	1										
-Ø40	1										
-Ø41	1										
-Ø42					1						
-Ø43					1						
-Ø44					1						
-Ø45					1						
-Ø46					1						
-Ø47					1						
-Ø48					1						

DESCRIPTION OF SHIPMENT

___ PIECE(S) CONSISTING OF ___ BOX(ES)

2 ICE CHEST(S); OTHER ___

MODE OF SHIPMENT

___ COMMERCIAL CARRIER: ___

___ COURIER

X SAMPLER CONVEYED

___ (SHIPPING DOCUMENT NUMBER)

9/30/98 330pm

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Larry Barr ☐ SEALED ☐ UNSEALED X	9/30/98	1525	Diann Sandridge ☐ SEALED ☐ UNSEALED X	analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Paul Doherty / Darrell Sommer	Lower 10th St. Site	30 / 9 / 98	2 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
PS1CS-Q49					1	X					
-Q51					1						
-Q52					1						
-Q53					1						
-Q54					1						
-Q55					1						
-Q56					1						
-Q57					1						
-Q58					1						
-Q59F	1				1						Q61 + Q63
-Q6CF					1						
-Q61*					1						*No "F" on Rinsate
-Q63*					1						Sample - Removed
-Q50					1						after sample receipt
											M 10/1/98

DESCRIPTION OF SHIPMENT

___ PIECE(S) CONSISTING OF ___ BOX(ES)

2 ICE CHEST(S); OTHER ___

MODE OF SHIPMENT

___ COMMERCIAL CARRIER: ___

___ COURIER

X SAMPLER CONVEYED

___ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Larry Baer ☐ SEALED ☐ UNSEALED ☒	9-30-98	1525	Dawn Sandidge ☐ SEALED ☒ UNSEALED	Analyze
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

10/2/98

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Paul Doherty / Darrell Sommerhauser	10th St Site PS1CS	9-29 & 10-1 / 98	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE	VOA 2 BOTTLES	VOA 4 BOTTLES	VOA SET (3 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
PS1CS-0062				1		X					
-0063				1		X					
-101					1		X				
-102					1		X				
-103					1		X				
-104					1		X				
-105					1		X				
-106					1		X				
-107					1		X				
-108					1		X				
-109					1		X				
-110					1		X				
-111					1		X				
-112					1		X				
-113					1		X				
-114					1		X				
-115					1		X				
-116F			1				X				

None to Follow
Complete
Ronald Lee 10-1-98

DESCRIPTION OF SHIPMENT

___ PIECE(S) CONSISTING OF ___ BOX(ES)

1 ICE CHEST(S); OTHER ___

MODE OF SHIPMENT

___ COMMERCIAL CARRIER: ___

___ COURIER

X SAMPLER CONVEYED

___ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Ronald Lee ☐ SEALED ☒ UNSEALED	10-2-98	0931	Mitch Robles ☐ SEALED ☒ UNSEALED	Analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7 EPA 2000/D

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 0001

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-23-98 **Sample Time:** 1400 **Sampler:** Baer / Schademann

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 31

Sample Description:

pH: 6.99

cond.: 1.55 mS/cm

temp.: 17.7 °C

turbitity: 999 NTU

Other Comments/Property Owner Information:

City of Columbus
c/o Merlin Lindahl - City Engineer
Box 1677
Columbus, NE (402)-564-8584

SAMPLE LOCATION MAP

S

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 002

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.23.98 **Sample Time:** 1545 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~ RJS

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 34

Sample Description:

pH: 7.33

cond.: 0.622 mS / cm

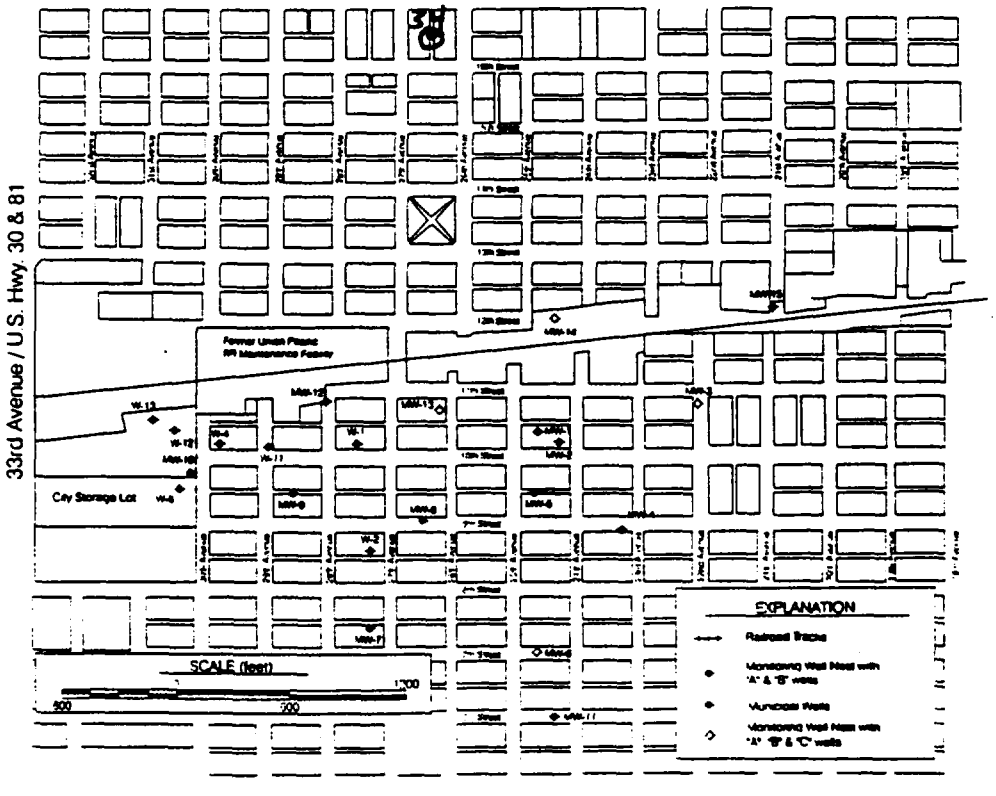
temp.: 17.4 °C

turbitity: >1000 NTU

Other Comments/Property Owner Information:

See See Sample QP1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 003

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.22.98 **Sample Time:** 1754 **Sampler:** Beer / Schedeman

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~ RJS

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 9

Sample Description:

pH: 6.7

cond.: 1.2 m μS / cm

temp.: 19 °C

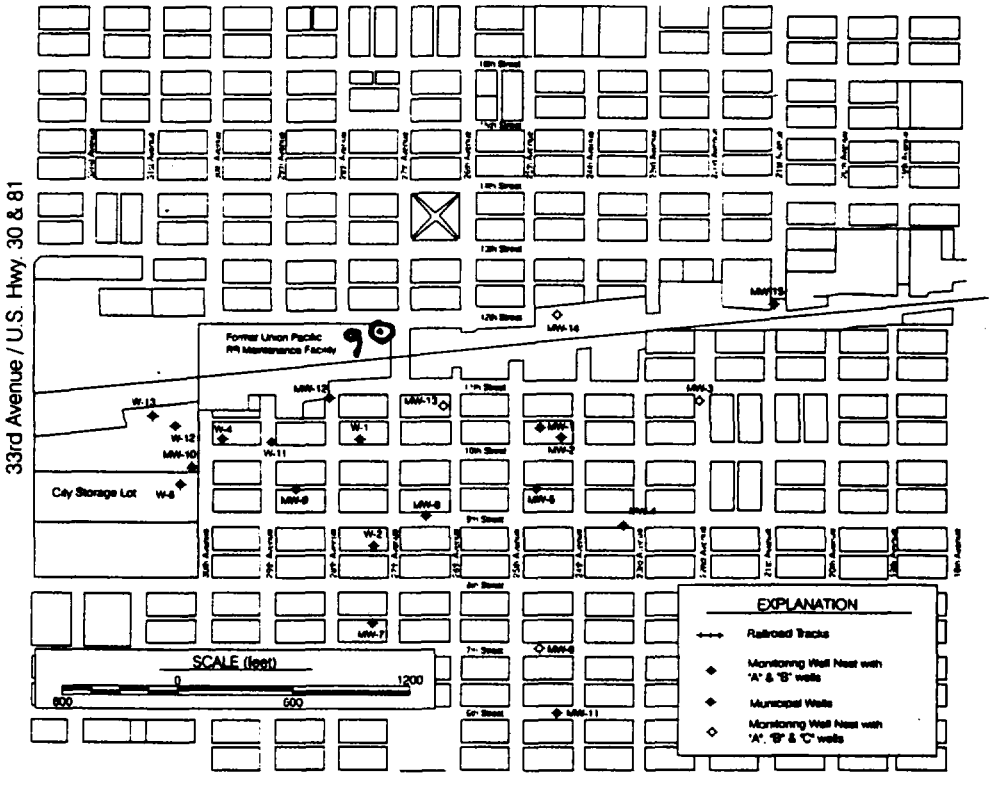
turbitity: 160 NTU

Other Comments/Property Owner Information:

City of Columbus
c/o Lindahl
PO Box 1677
Columbus, NE 68602
(402) 564-8584

Union Pacific RR
J.M. Martin
1800 Farnam St
Omaha, NE 68102
(308) 389-2284

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 004

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.23.98 **Sample Time:** 1405 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 30

Sample Description:

pH: 7.32

cond.: 0.538 mS / cm

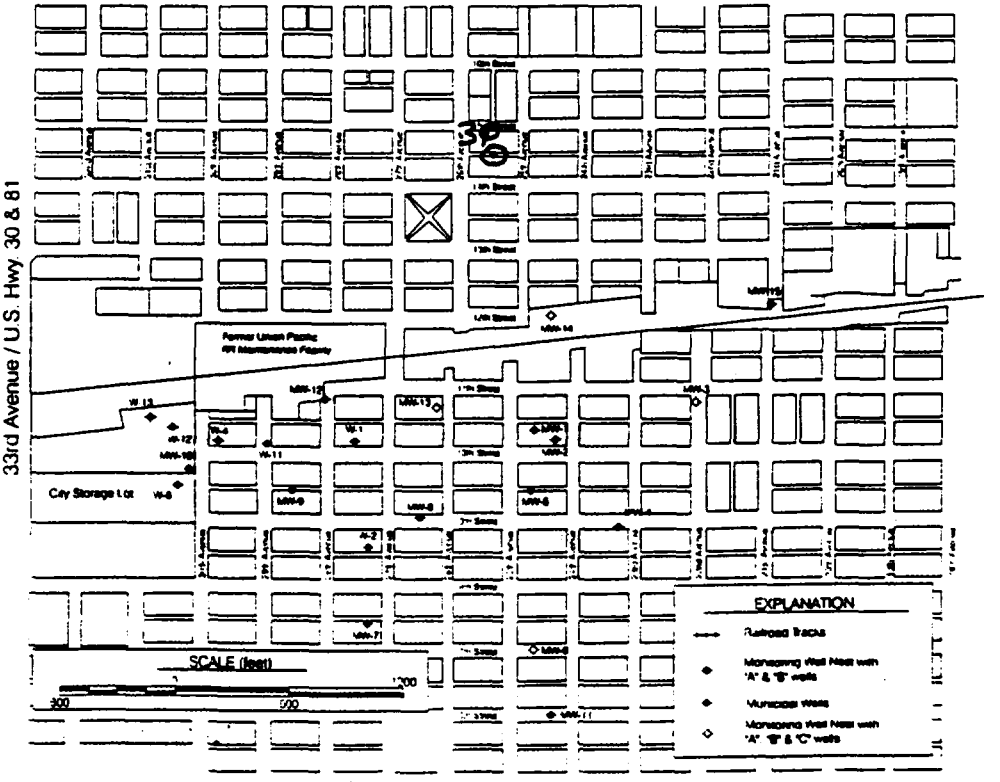
temp.: 18.4 °C

turbitity: 71,000 NTU

Other Comments/Property Owner Information:

See Sample # 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 005

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.22.98 **Sample Time:** 1635 **Sampler:** Fletcher/ Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~ RSS
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 21

Sample Description:

pH: 7.25

cond.: 0.573 mS/cm

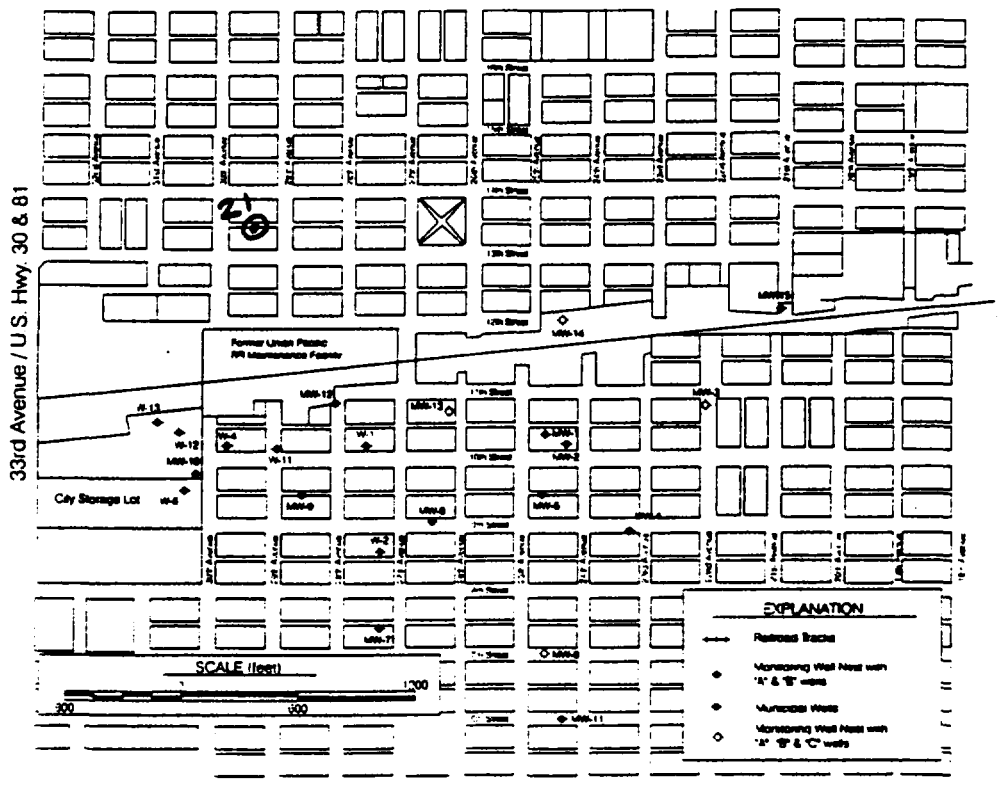
temp.: 20.7 °C

turbitity: 31 NTU

Other Comments/Property Owner Information:

See Sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 004

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.23.98 **Sample Time:** 1615 **Sampler:** Schoonover / Beer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	HCL, 4° C	W13	~~LDL VOC~~ RJS
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP) * Double volume sent for QC purposes per field correction 9/28/98

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 36

Sample Description:

pH: 7.28

cond.: 1.28 ~~µS~~ mS / cm

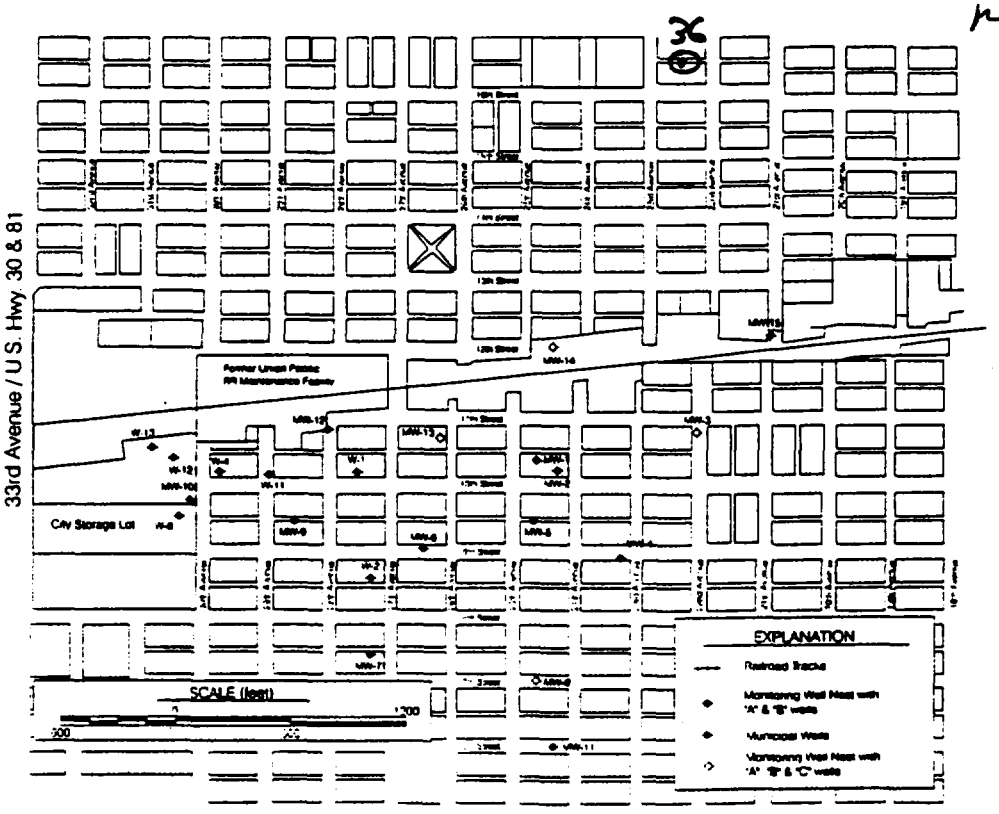
temp.: 18.3 °C

turbitity: 10 NTU

Other Comments/Property Owner Information:

See Sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 008

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.24.98 **Sample Time:** 1055 **Sampler:** Keller/Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 3

Sample Description:

pH: 7.19

cond.: 0.496 mμS / cm

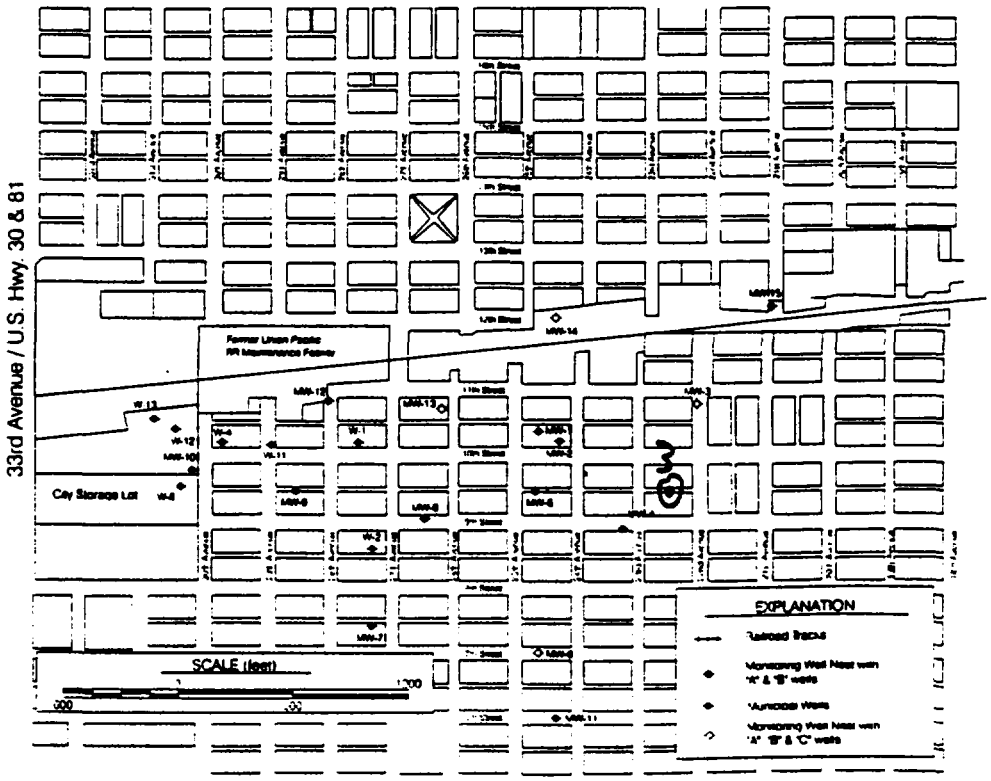
temp.: 18.0 °C

turbitity: 132 NTU

Other Comments/Property Owner Information:

See Sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 009

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.22.98 **Sample Time:** 1503 **Sampler:** Keller / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 14

Sample Description:

pH: 6.99

cond.: 0.642 mS / cm

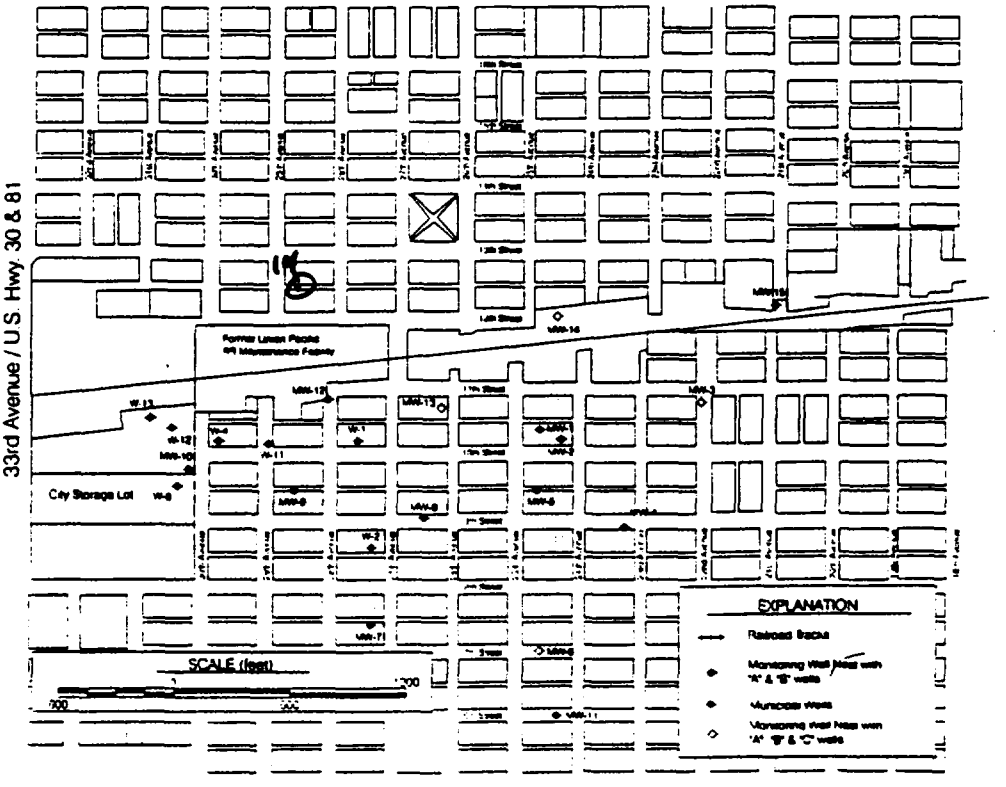
temp.: 18.9 °C

turbitity: 115 NTU

Other Comments/Property Owner Information:

See sample 3

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 010

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.23.98 **Sample Time:** 1245 **Sampler:** Keller / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~ RJS
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 29

Sample Description:

pH: 7.0

cond.: 0.513 m µS / cm

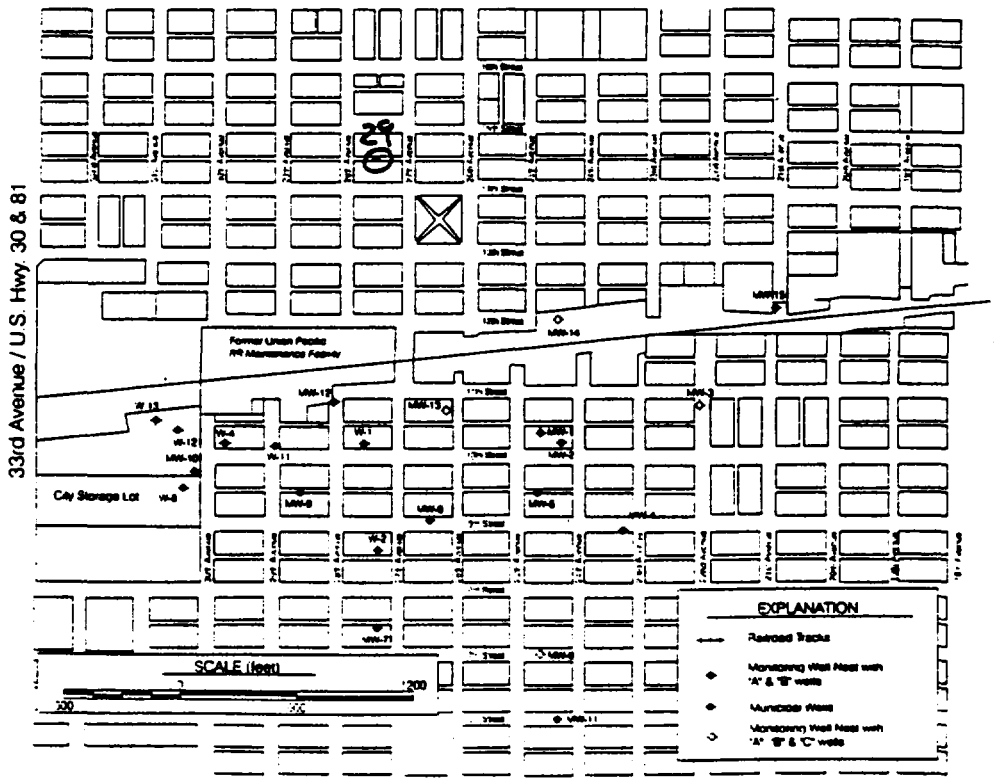
temp.: 18.8 °C

turbitity: 451 NTU

Other Comments/Property Owner Information:

See Single 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 911

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.23.98 **Sample Time:** 1716 **Sampler:** Keller/Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~WI3~~	~~LDL VOC~~ RSJ
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 33

Sample Description:

pH: 7.28

cond.: 0.589 mS / cm

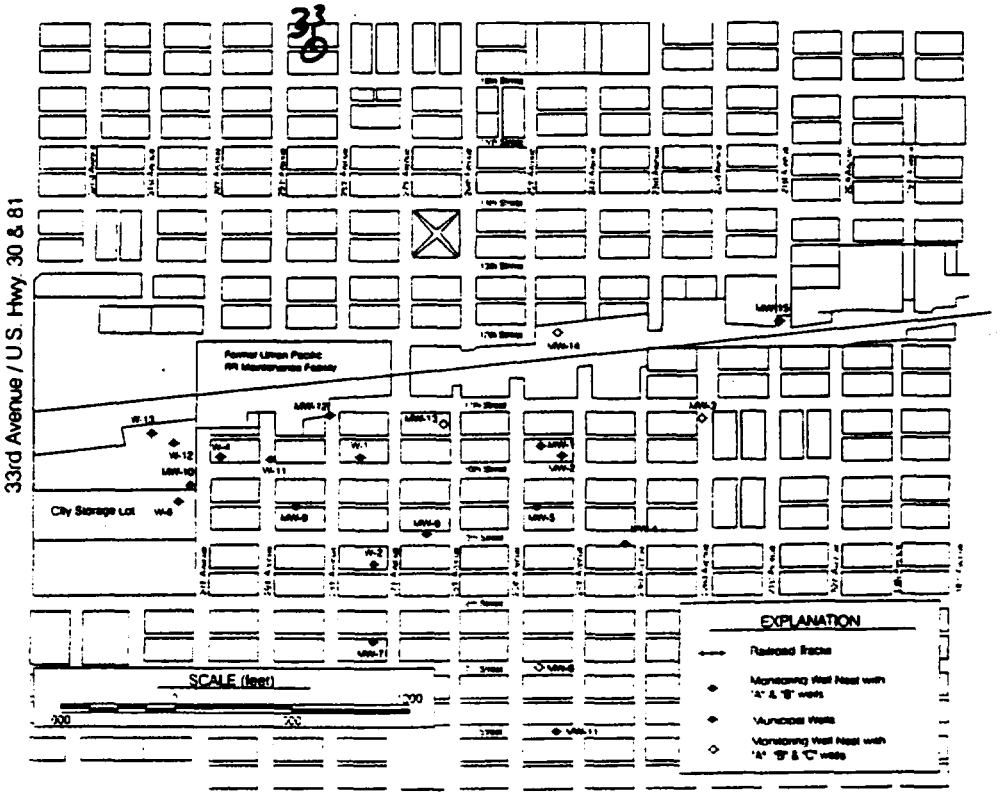
temp.: 18.4 °C

turbitity: >1,000 NTU

Other Comments/Property Owner Information:

See sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 012

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.22.98 **Sample Time:** 1655 **Sampler:** S. Hademenos / Peer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~WI3~~	~~LDL VOC~~ RJS
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 27

Sample Description:

pH: 6.9

cond.: 1.2 m µS / cm

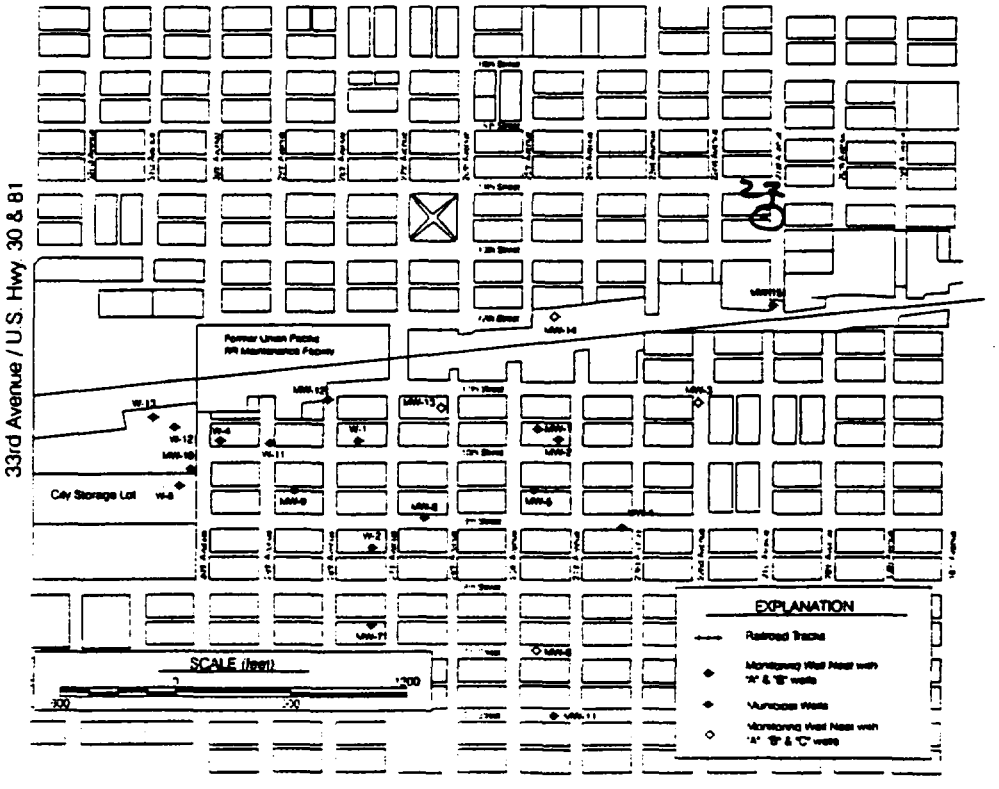
temp.: 19 °C

turbitity: 999 NTU

Other Comments/Property Owner Information:

See Sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Ø13

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.24.98 **Sample Time:** Ø925 **Sampler:** Fletche /Beer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~ RSJ
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 2

Sample Description:

pH: 7.2

cond.: 0.506 mS / cm

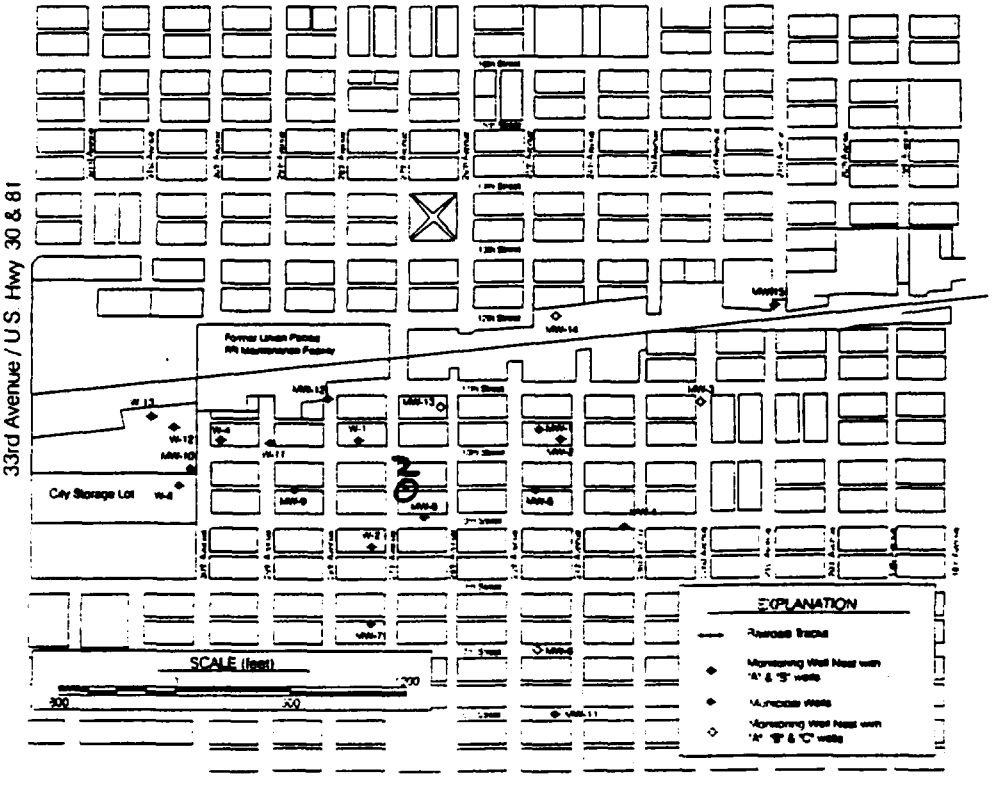
temp.: 16.4 °C

turbitity: >1000 NTU

Other Comments/Property Owner Information:

See Sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 014

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.24.98 **Sample Time:** 0830 **Sampler:** Keller / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~ RJS
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 1

Sample Description:

pH: 7.36

cond.: 0.486 mS / cm

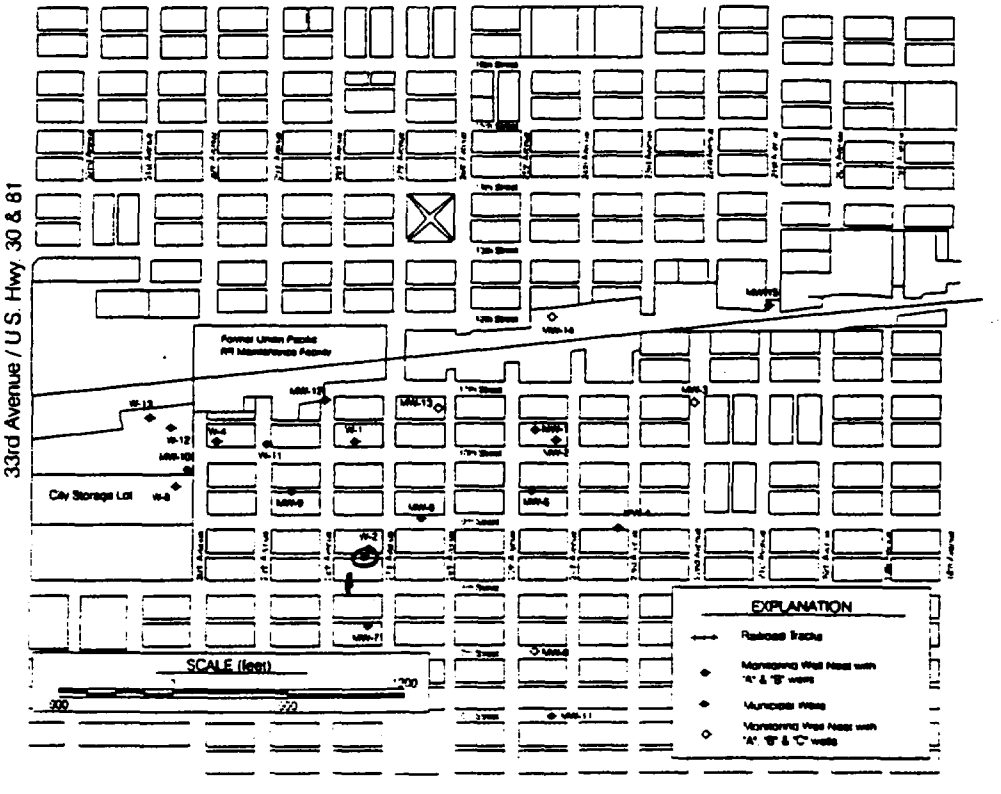
temp.: 16.4 °C

turbitity: 0.486 NTU

Other Comments/Property Owner Information:

See Sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: ~~015 AR 1505~~ 015

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.22.98 **Sample Time:** ~~1505~~ AR 1505 **Sampler:** Beer / Schedonnen

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	HCL, 4° C	WI3	~~LDL VOC~~ RSS
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 16

Sample Description:

pH: ~~6.9~~ AR 7.0

cond.: ~~1.9~~ AR 1.7 mS / cm

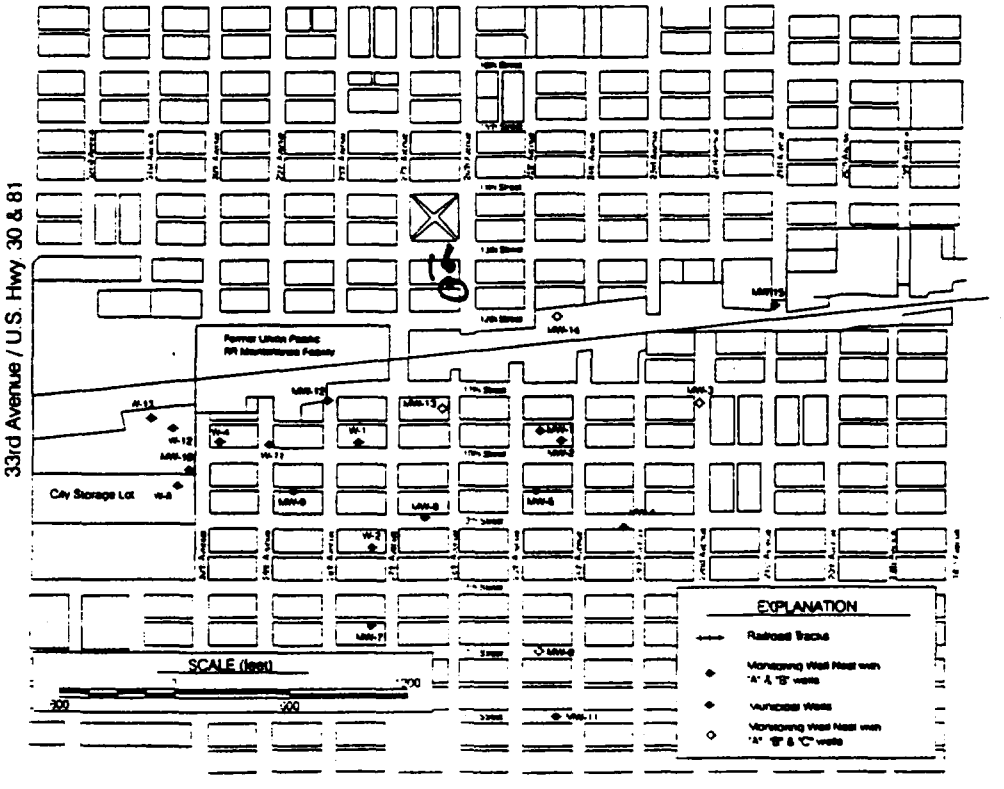
temp.: ~~18.8~~ 18 °C

turbitity: ~~120~~ 80 NTU

Other Comments/Property Owner Information:

See Sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Ø16

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.23.98 **Sample Time:** 1051 **Sampler:** Schuleman / Beer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~ (no sample rec'd.)
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 24

Sample Description:

pH: 6.97

cond.: 1.12 mS / cm

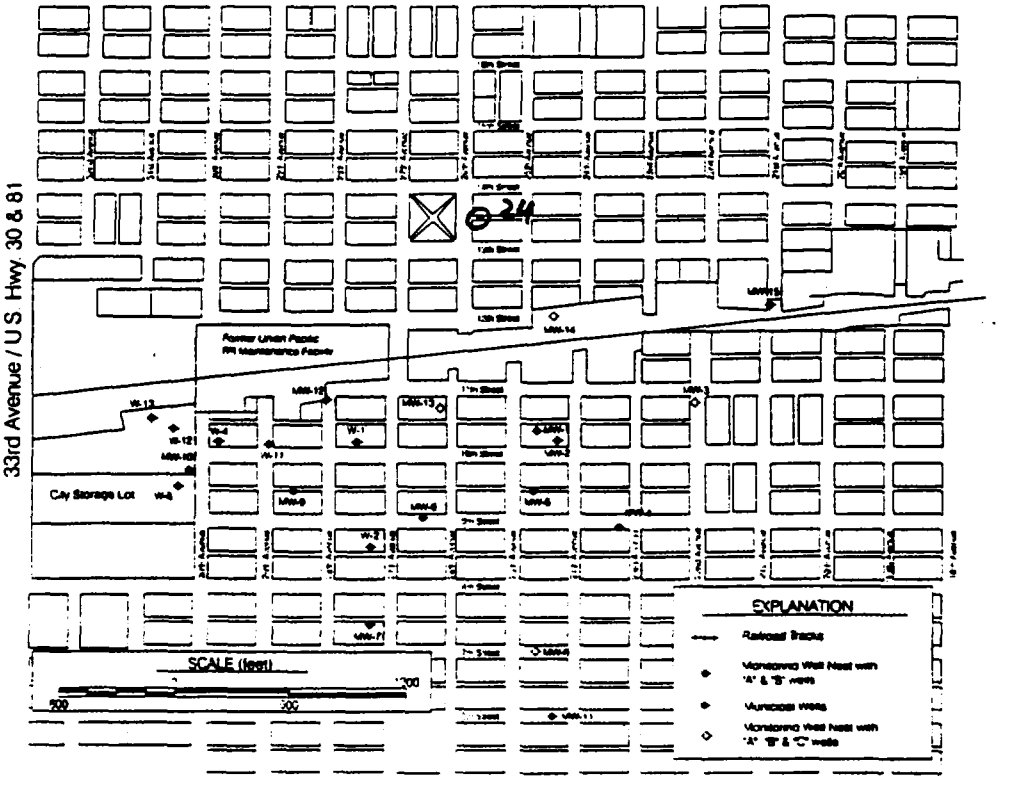
temp.: 16.7 °C

turbitity: 574 NTU

Other Comments/Property Owner Information:

cc sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Ø17

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.23.98 **Sample Time:** 1445 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 35

Sample Description:

pH: 7.39

cond.: 0.567 mS/cm µS/cm

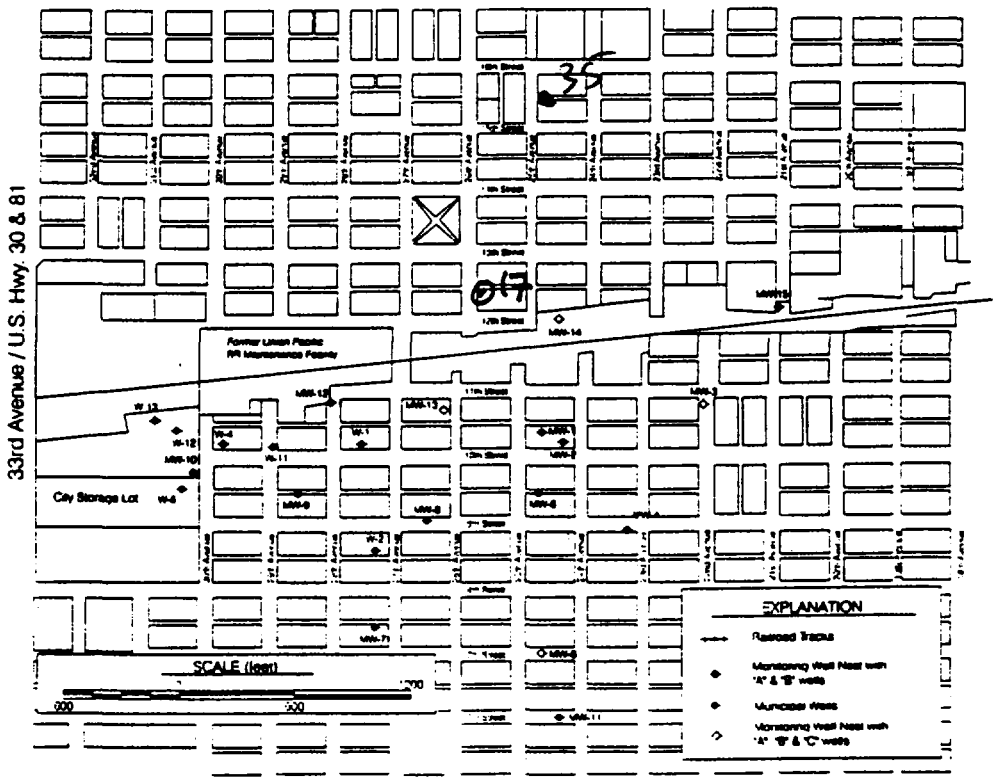
temp.: 18.3 °C

turbitity: >1000 NTU

Other Comments/Property Owner Information:

See Sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Φ18

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 7.22.98 **Sample Time:** 1055 **Sampler:** Beer/Schedeman

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~ RJS

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 2Φ

Sample Description:

pH: 6.8

cond.: 1.9 mS / cm

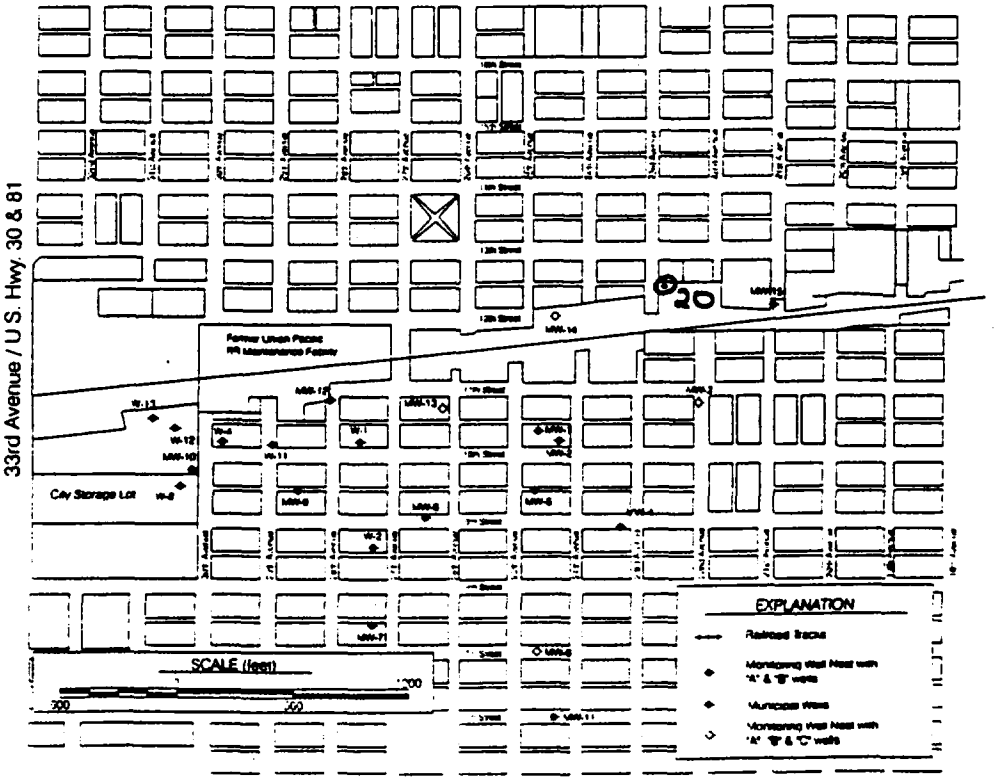
temp.: 15 °C

turbitity: >1,000 NTU

Other Comments/Property Owner Information:

see sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Ø19

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.22.99 **Sample Time:** 0946 **Sampler:** Schadoman / Beer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~ (no sample submitted.)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 12

Sample Description:

pH: 6.7

cond.: 1.4 mS / cm

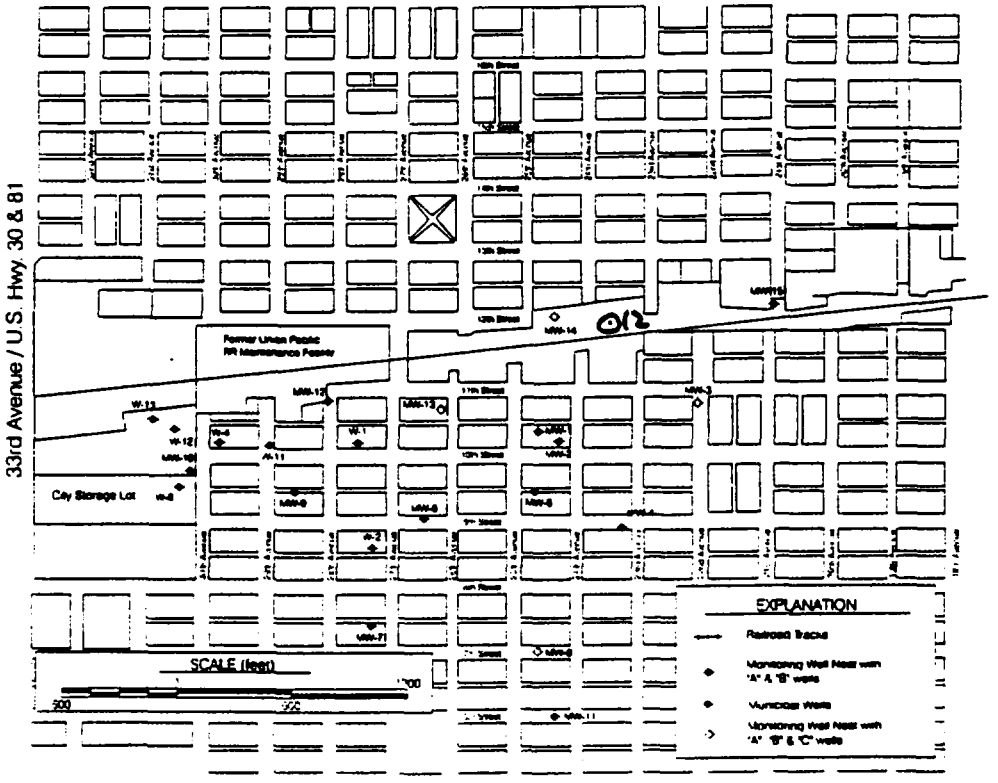
temp.: 15 °C

turbitity: 7/100 NTU

Other Comments/Property Owner Information:

See Sample 3

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Ø2 Ø

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.22.98 **Sample Time:** ~~1455~~ AR 1408 **Sampler:** Beer / Schlodemann

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1-L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 17

Sample Description:

pH: ~~6.8~~ AR 7.0

cond.: ~~1.9~~ AR 1.2 mS / cm

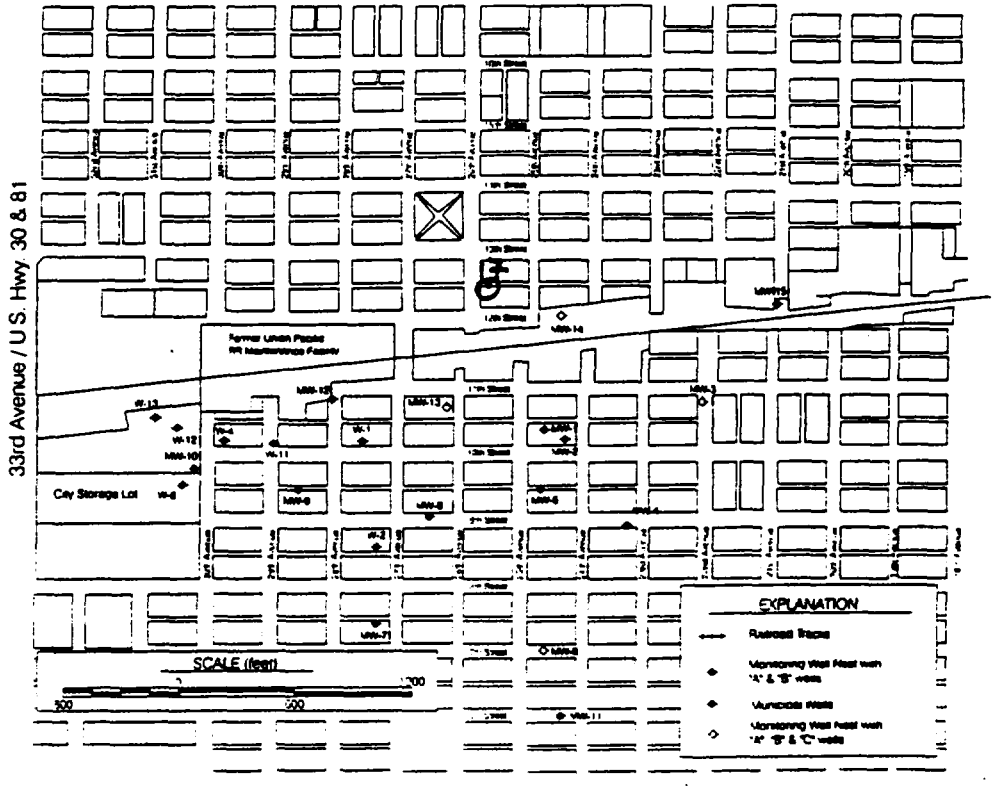
temp.: ~~15~~ AR 17 °C

turbitity: ~~>1,000~~ AR 80 NTU

Other Comments/Property Owner Information:

See sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 021

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.23.98 **Sample Time:** 1300 **Sampler:** S. Holomon Beer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	Arsenic (Dissolved by ICAP) RJS

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 32

Sample Description:

pH: 7.03

cond.: 1.24 mS / cm

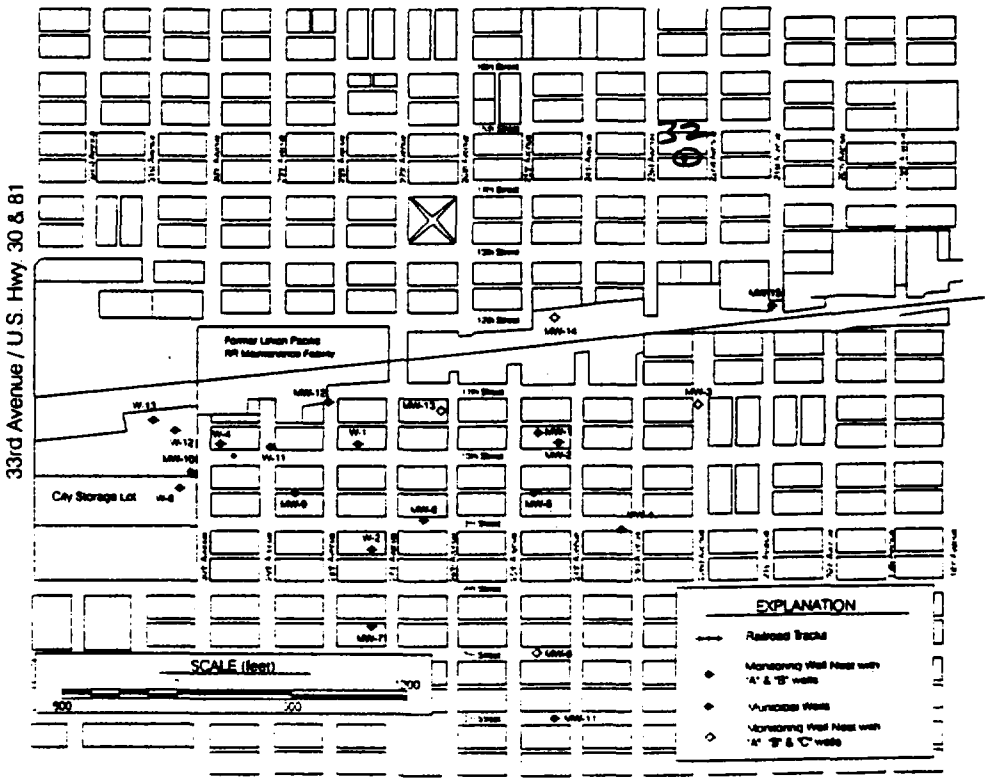
temp.: 16.7 °C

turbitity: 55 NTU

Other Comments/Property Owner Information:

See Sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 022

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.23.98 **Sample Time:** 1057 **Sampler:** Schlemm/ Beer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~ RJS

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 24

Sample Description:

pH: 6.97

cond.: 1.12 mS / cm

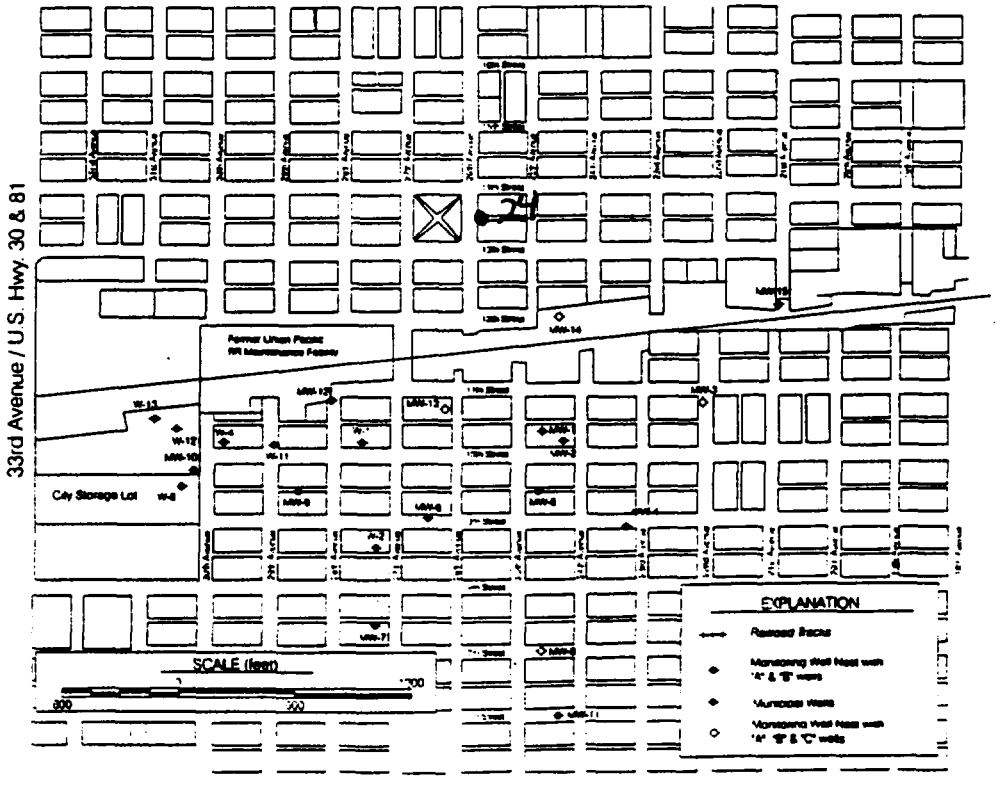
temp.: 16.7 °C

turbitity: 574 NTU

Other Comments/Property Owner Information:

See sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 023

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.22.98 **Sample Time:** 1145 **Sampler:** Schedeman / Beer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 18

Sample Description:

pH: 6.8

cond.: 1.3 mS / cm

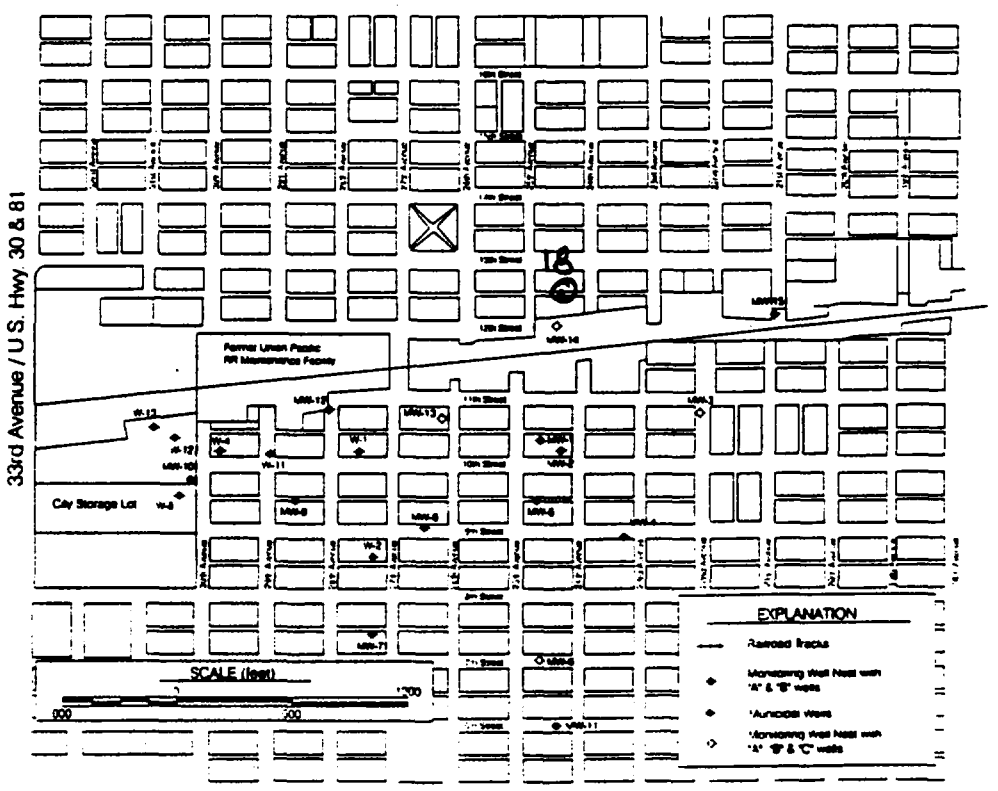
temp.: 16 °C

turbitity: 40 NTU

Other Comments/Property Owner Information:

See sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 924

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.23.98 **Sample Time:** 1615 **Sampler:** Schademan / Beer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~ RJS

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 36

Sample Description:

pH: 7.28

cond.: 1.28 mS/cm (µS/cm)

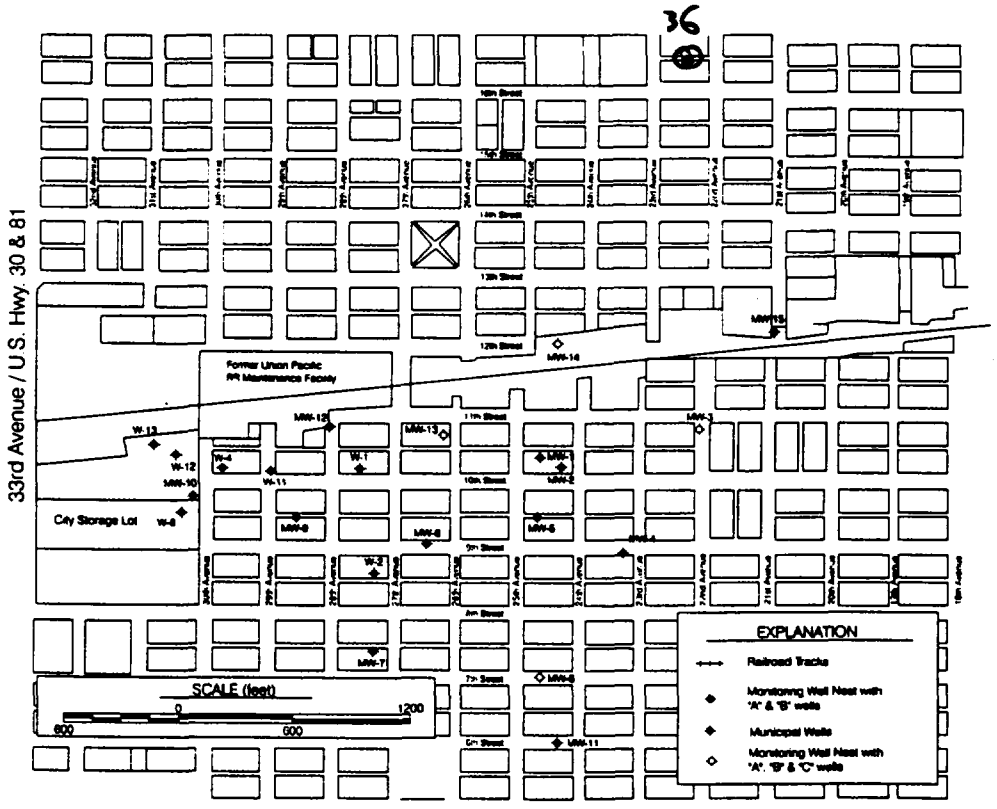
temp.: 18.3 °C

turbitity: 10 NTU

Other Comments/Property Owner Information:

See sample 1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 025

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-25-98 **Sample Time:** 1017 **Sampler:** Deer/ Schadegann

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~ RJS	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~ RJS
~~1 L cubitainer~~	HNO_3, 4° C	~~WM37~~ WM03	Arsenic (~~Dissolved~~ Total by ICAP) RJS
2 - 1L cubitainers			

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

2917 10th St.
Columbus, NE
(See map)

Sample Description:

pH: 6.81

cond.: 0.709 mS / cm

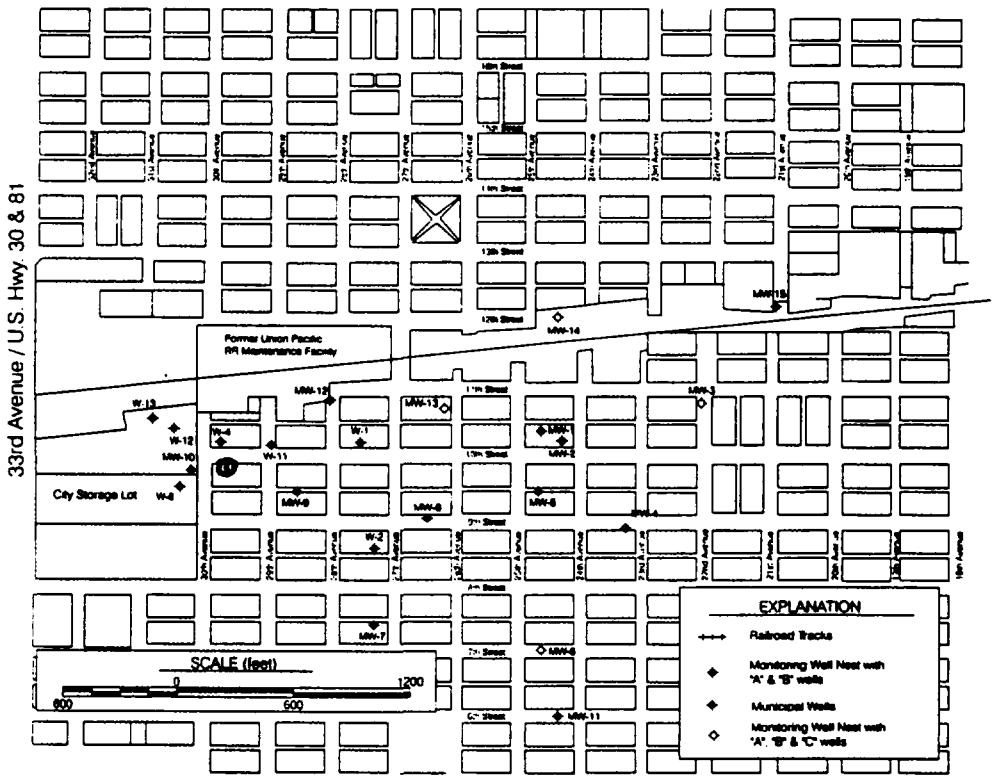
temp.: 15.3 °C

turbitity: 0 NTU

Other Comments/Property Owner Information:

Roger Henak
2917 10th St.
Columbus, Ne.

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 026

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.27.98 **Sample Time:** 1155 **Sampler:** Schademan, Bauer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

dia: water **Sample Area:** **Aliquots:**

Sample Location:

Location 6Q

Sample Description:

pH: 6.86

cond.: 1.35 ~~m~~ µS / cm

temp.: 18.7 °C

turbitity: >1,000 NTU

Other Comments/Property Owner Information:

See sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Φ2 7

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.25-98 **Sample Time:** 1525 **Sampler:** Icelle/Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

dia: water **Sample Area:** **Aliquots:**

Sample Location:

Location #46

Sample Description:

pH: 7.01

cond.: 1.31 mS / cm

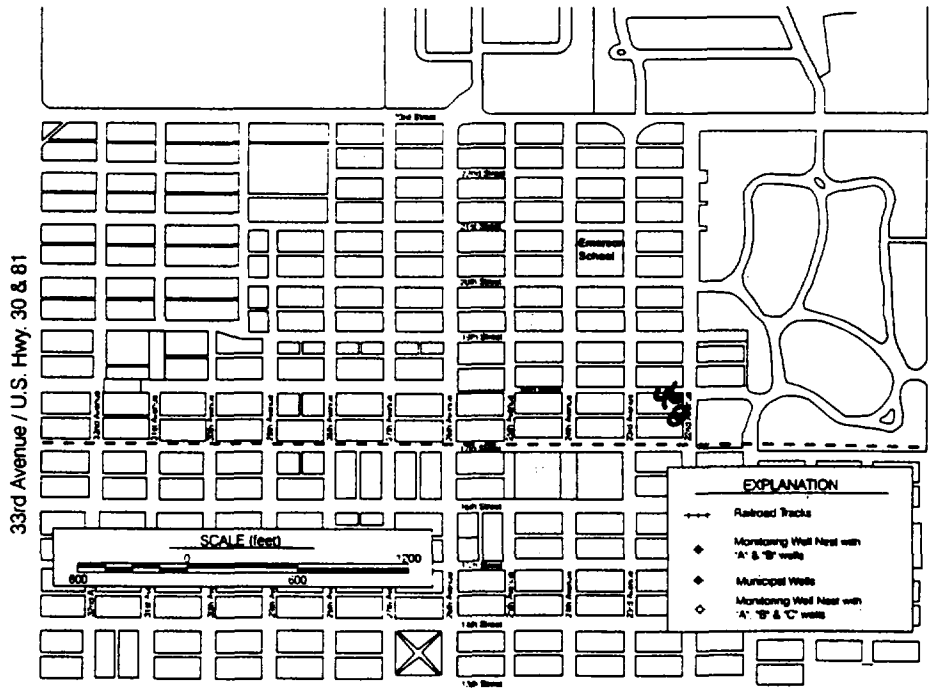
temp.: 24.2 °C

turbitity: >1,000 NTU

Other Comments/Property Owner Information:

See sample #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 028

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.26.98 **Sample Time:** 1145 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location #70

Sample Description:

pH: 6.97

cond.: 1.70 mS / cm

temp.: 22.2 °C

turbitity: 198 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 029

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.27.99 **Sample Time:** 1400 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Sample Location 57

Sample Description:

pH: 7.05

cond.: 1.41 mS / cm

temp.: 23.3 °C

turbitity: >1000 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 434

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.25.98 **Sample Time:** 1315 **Sampler:** Keller / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~ JDF
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 44

Sample Description:

pH: 6.96

cond.: 1.01 mS / cm

temp.: 20.6 °C

turbitity: >1000 NTU

Other Comments/Property Owner Information:

See Sple #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 631

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 09.25.98 **Sample Time:** 1241 **Sampler:** Schiedeman/ Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 39

Sample Description:

pH: 6.98

cond.: 1.26 mS / cm (µS / cm)

temp.: 17.6 °C

turbitity: 764 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Ø32

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.25.98 **Sample Time:** 1040 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 41

Sample Description:

pH: 7.33

cond.: 0.98 ~~m~~ µS / cm

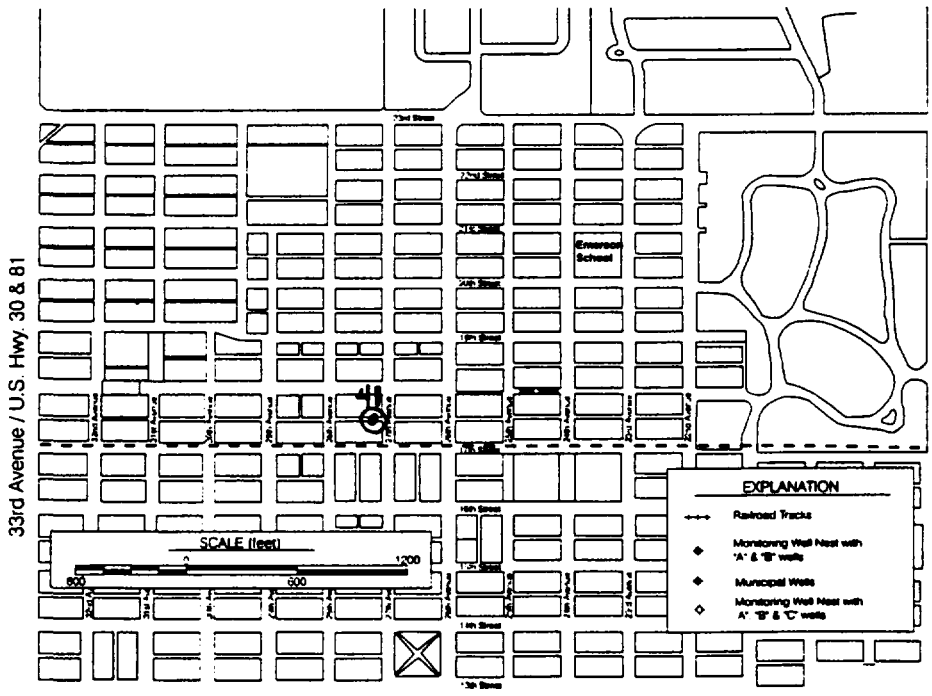
temp.: 20.8 °C

turbitity: 276 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 033

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.26.98 **Sample Time:** 1235 **Sampler:** Beer / Schiedemeier

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	LDL VOC
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 53

Sample Description:

pH: 6.84

cond.: 1.36 mS / cm

temp.: 19.3 °C

turbitity: >1000 NTU

Other Comments/Property Owner Information:

See Sple #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Φ34

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.26.98 **Sample Time:** 1253 **Sampler:** Feller / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 63

Sample Description:

pH: 6.99

cond.: 1.25 mS / cm

temp.: 23.2 °C

turbitity: 114 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Ø35

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.26.98 **Sample Time:** 0900 **Sampler:** Fletcher/Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 72

Sample Description:

pH: 7.02

cond.: 1.30 mS / cm

temp.: 20.2 °C

turbitity: >1000 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Ø36

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-28-98 **Sample Time:** 1440 **Sampler:** Schademann / Bar

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 77

Sample Description:

pH: 6.84

cond.: 1.49 mS / cm

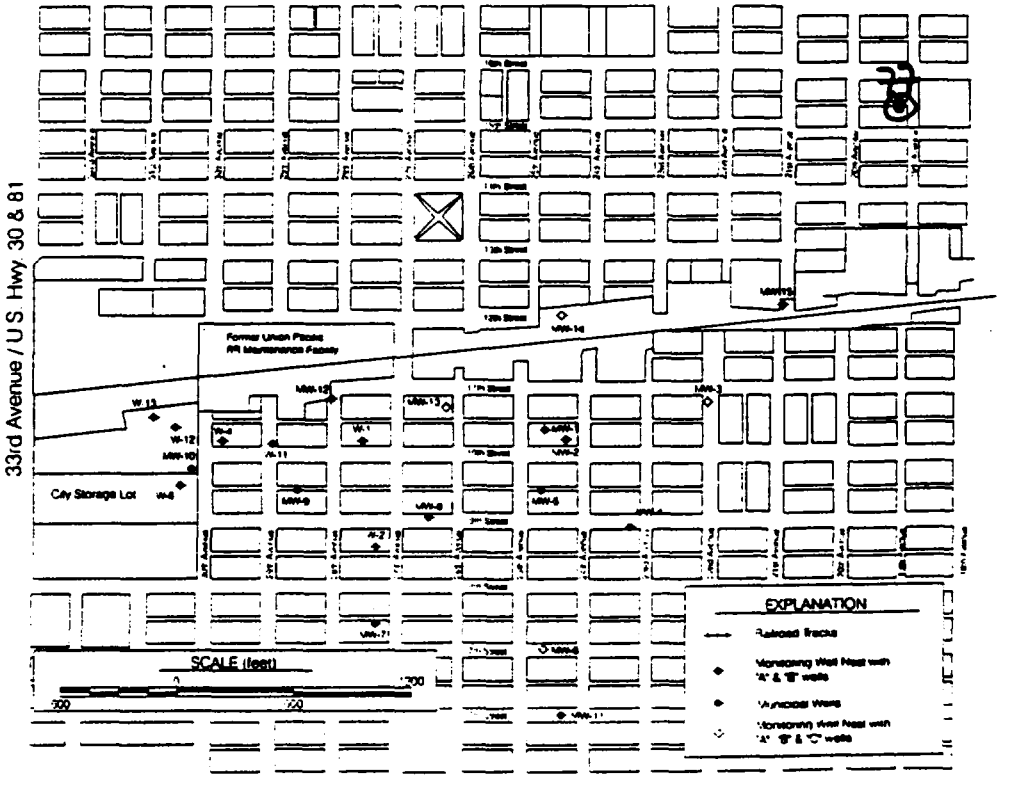
temp.: 17.1 °C

turbitity: 804 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 037

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.28.98 **Sample Time:** 1645 **Sampler:** Keller / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~WI3~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Lawton 86

Sample Description:

pH: 6.99

cond.: 1.33 mS / cm

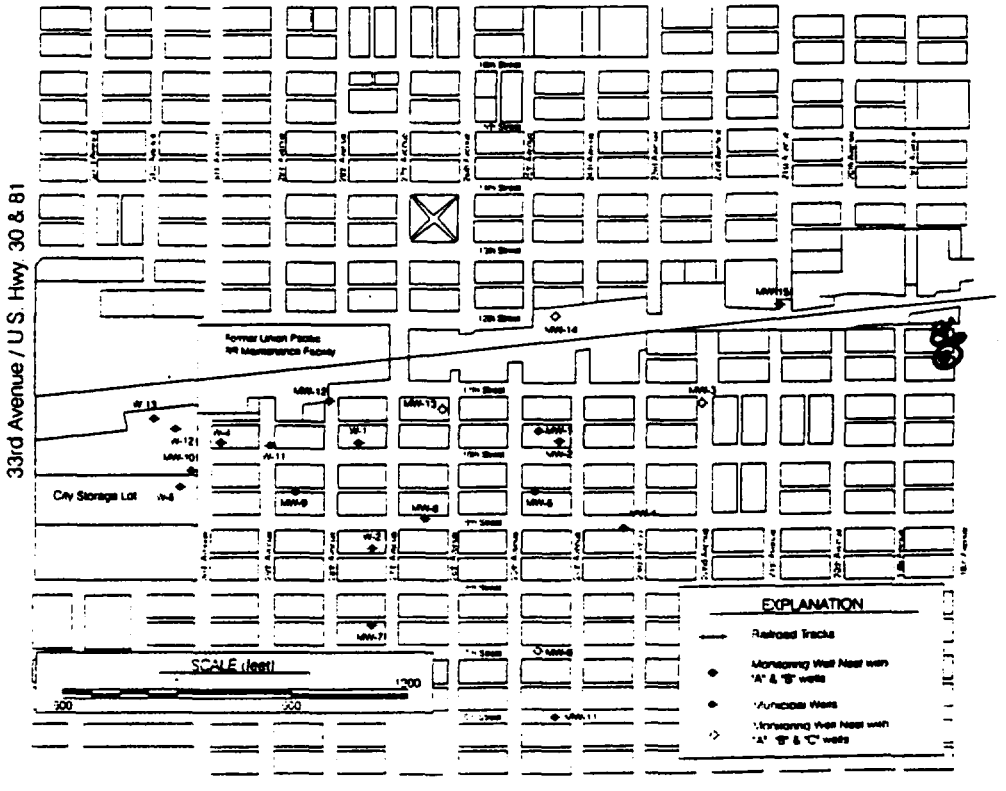
temp.: 21.1 °C

turbitity: 765 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 038

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 09.26.98 **Sample Time:** 0935 **Sampler:** Schebaum/ Beer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 89

Sample Description:

pH: 6.38

cond.: 1.75 mS / cm

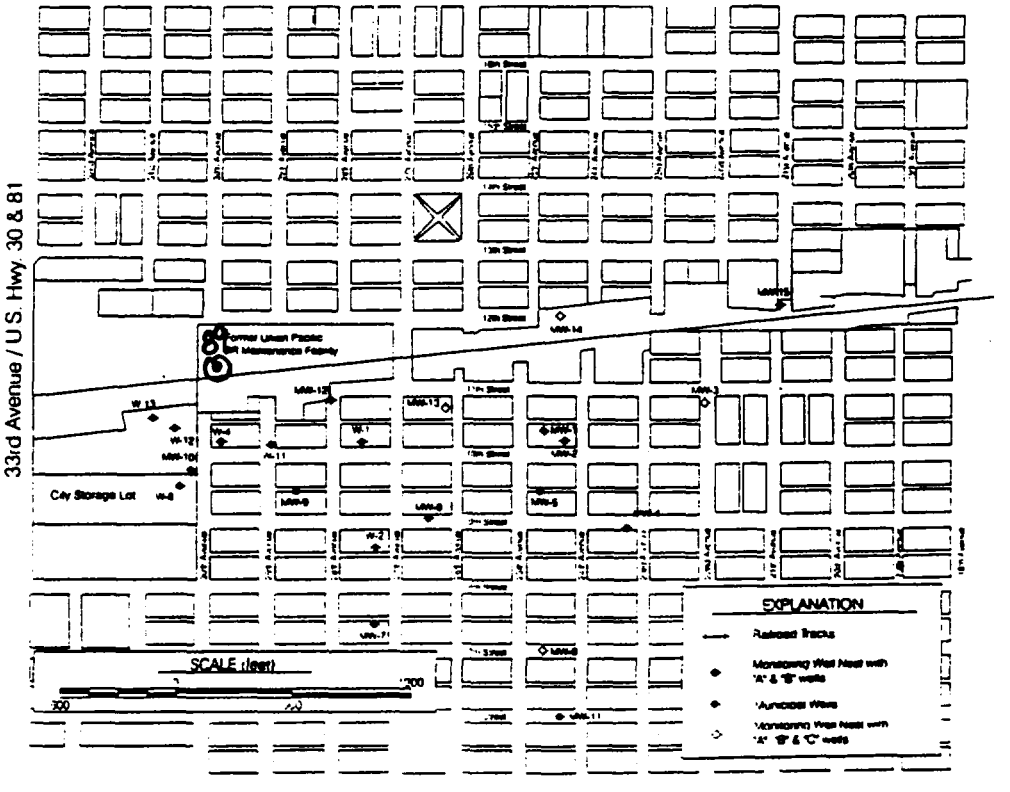
temp.: 18.6 °C

turbitity: 49 NTU

Other Comments/Property Owner Information:

see Sample # 3

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Ø39

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.98 **Sample Time:** Ø 825 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 93

Sample Description:

pH: 6.95

cond.: 1.43 ~~m~~ µS / cm

temp.: 18.7 °C

turbitity: 106 NTU

Other Comments/Property Owner Information:

see Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 044

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.98 **Sample Time:** 1000 **Sampler:** Schiedeman/ Baer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	WI3	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 107

Sample Description:

pH: 6.77

cond.: 1.16 mS / cm

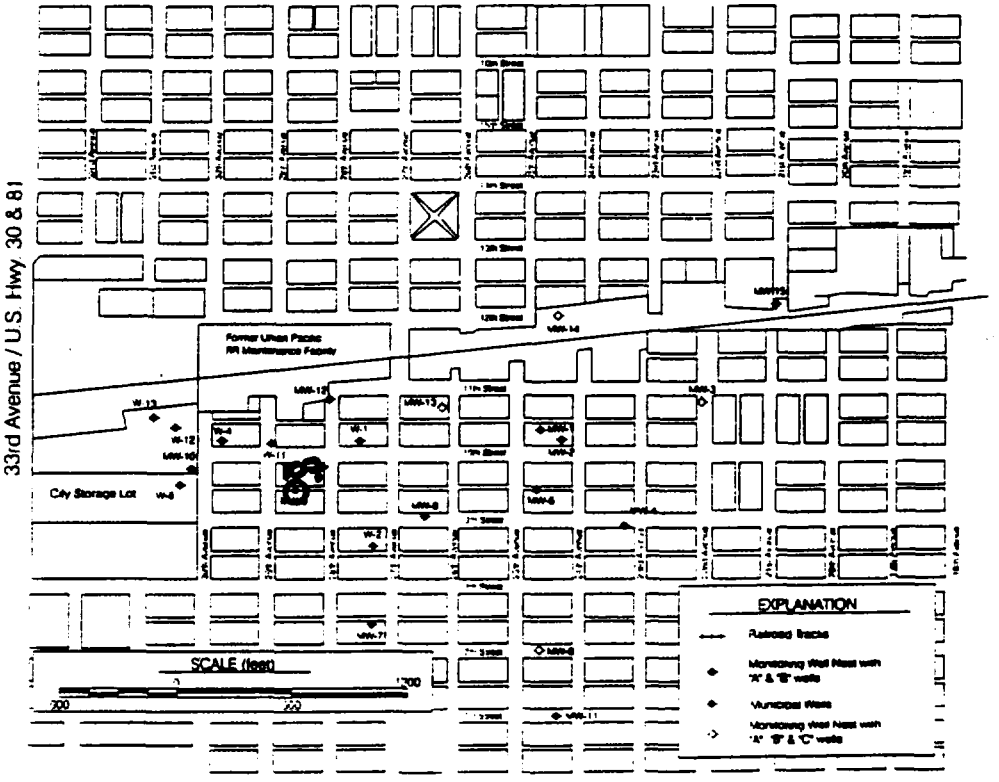
temp.: 17.0 °C

turbitity: >1,000 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 041

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.93 **Sample Time:** 0845 **Sampler:** Baer/Schadegan

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	~~HCL, 4° C~~	~~W13~~	~~LDL VOC~~
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 109

Sample Description:

pH: 6.53

cond.: 0.728 mS / cm

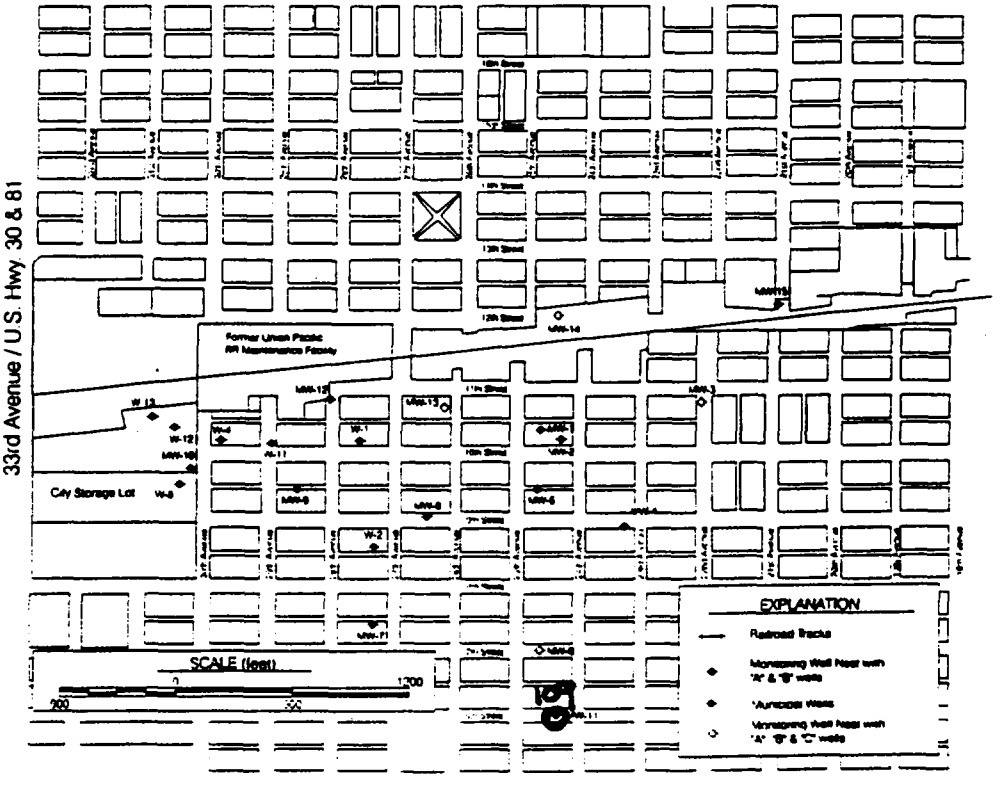
temp.: 16.6 °C

turbitity: 71,000 NTU

Other Comments/Property Owner Information:

See Sayle #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 042

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.24.98 **Sample Time:** 0925 **Sampler:** Fletcher/ Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 2

Sample Description:

pH: 7.2

cond.: 0.506 ~~m~~ µS / cm

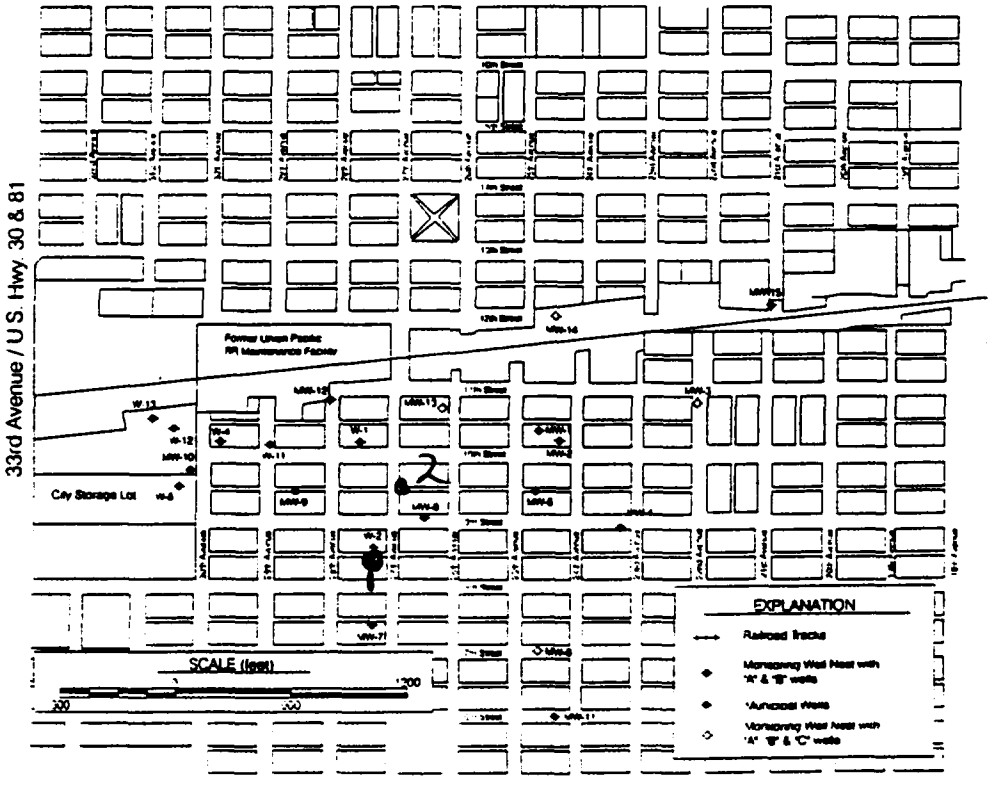
temp.: 16.4 °C

turbitity: 71000 NTU

Other Comments/Property Owner Information:

See sayle #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 043

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.25.98 **Sample Time:** 1645 **Sampler:** Keller / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 43

Sample Description:

pH: 7.06

cond.: 1.13 mS / cm

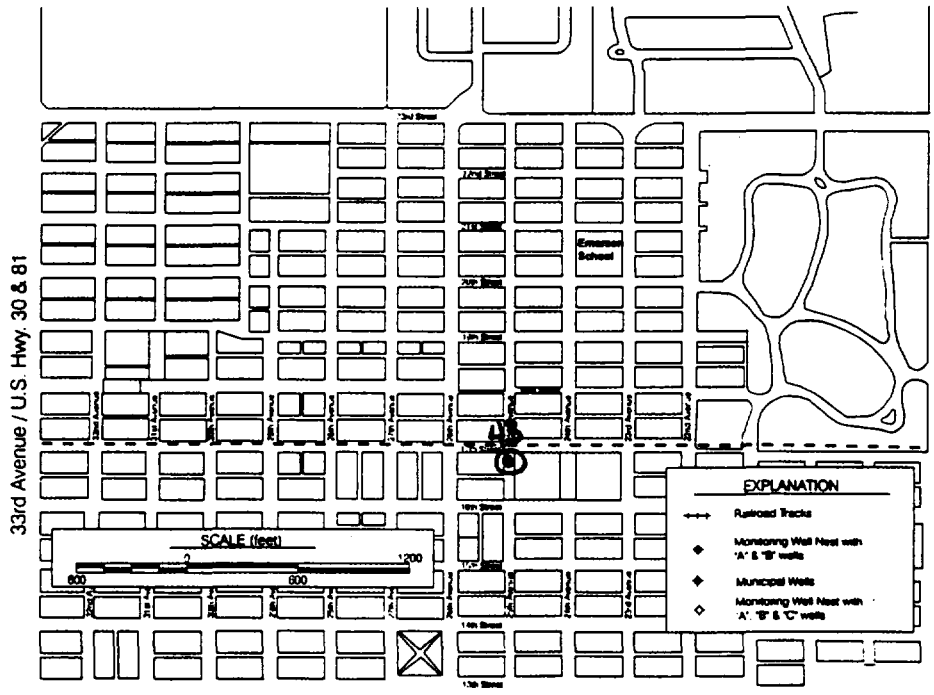
temp.: 23.1 °C

turbitity: 121 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 044

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.26.98 **Sample Time:** 1050 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 56

Sample Description:

pH: ~~11.96~~ 6.89

cond.: ~~PR LOT~~ 1.67 mS / cm

temp.: ~~PR 20.0~~ 18.2 °C

turbitity: ~~PR >1000~~ 277 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 545

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 09.26.98 **Sample Time:** 1200 **Sampler:** Schabenoo / Baer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location ~~55~~ 54

Sample Description:

pH: 7.07

cond.: 1.27 ~~m~~ µS / cm

temp.: 23.2 °C

turbitity: 225 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 946

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.27.98 **Sample Time:** 1005 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L eubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 64

Sample Description:

pH: 7.0

cond.: 1.42 mS / cm

temp.: 18.7 °C

turbitity: 737 NTU

Other Comments/Property Owner Information:

See Sample # 1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 947

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.27.18 **Sample Time:** 1040 **Sampler:** Keller / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 65

Sample Description:

pH: 6.93

cond.: 1.61 ~~m~~ µS / cm

temp.: 68.6 °C

turbitity: 733 NTU

Other Comments/Property Owner Information:

See Sayle #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: ~~0003~~ 0048

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.28.98 **Sample Time:** 0900 **Sampler:** Keller / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location ~~0003~~ 0048

Sample Description:

pH: 6.98

cond.: 1.26 ~~m~~ µS / cm

temp.: 18.9 °C

turbitity: 107 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 649

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.28.98 **Sample Time:** 1450 **Sampler:** Fletcher/ Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Location 96

Sample Description:

pH: 6.99

cond.: 1.46 mS / cm

temp.: 23.1 °C

turbitity: 992 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 050

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.98 **Sample Time:** 1135 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Matrix: water **Sample Area:** **Aliquots:**

Sample Location:

Location 97

Sample Description:

pH: 7.21

cond.: 1.56 mS / cm

temp.: 23.4 °C

turbitity: >1,000 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 051

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 09.29.98 **Sample Time:** 1045 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Matrix: water **Sample Area:** **Aliquots:**

Sample Location:

Location 98

Sample Description:

pH: 6.8

cond.: 1.33 mS / cm

temp.: 21.0 °C

turbitity: >1000 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 052

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.98 **Sample Time:** 1605 **Sampler:** Keller/ Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	WM37	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Matrix: water **Sample Area:** **Aliquots:**

Sample Location:

Location 100

Sample Description:

pH: 7.01

cond.: 1.44 mS/cm

temp.: 21.6 °C

turbitity: 7000 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 053

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.98 **Sample Time:** 1535 **Sampler:** Schiderman/ Bier

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

a: water **Sample Area:** **Aliquots:**

Sample Location:

Location 101

Sample Description:

pH: 6.98

cond.: 1.11 m~~µ~~S / cm

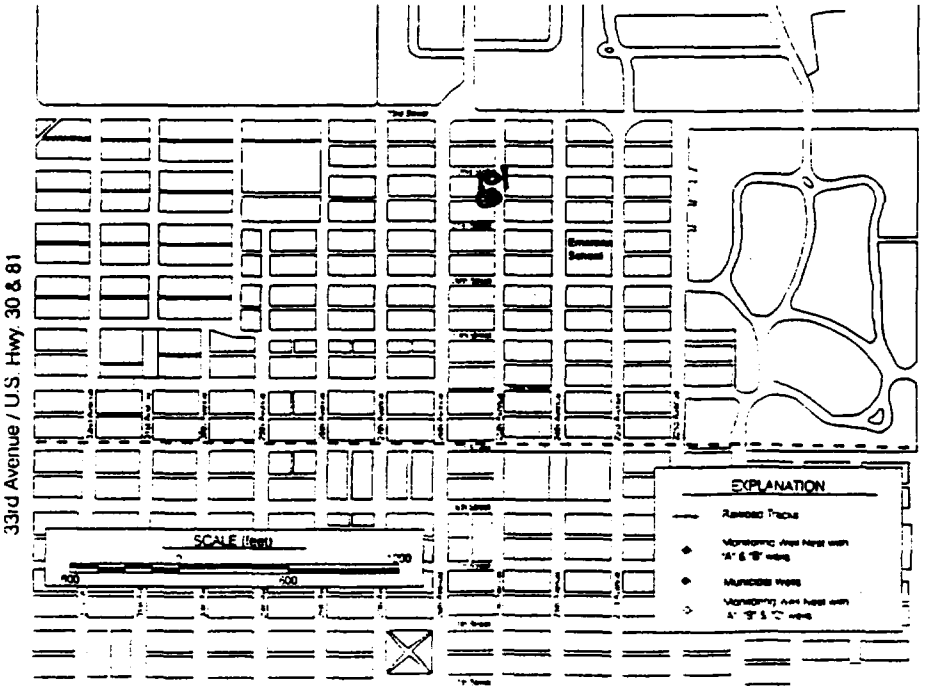
temp.: 22.3 °C

turbitity: 71,000 NTU

Other Comments/Property :r Information:

See Sample #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Φ54

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.98 **Sample Time:** 1611 **Sampler:** Schlemmer/ Beer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

ia: water **Sample Area:** **Aliquots:**

Sample Location:

Location 102

Sample Description:

pH: 6.97

cond.: 1.33 mS / cm

temp.: 20.4 °C

turbitity: >1,000 NTU

Other Comments/Property er Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 055

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.98 **Sample Time:** 1454 **Sampler:** Beer / Schiedemeyer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

a: water **Sample Area:** **Aliquots:**

Sample Location:

Location 103

Sample Description:

pH: 7.08

cond.: 1.07 mS / cm

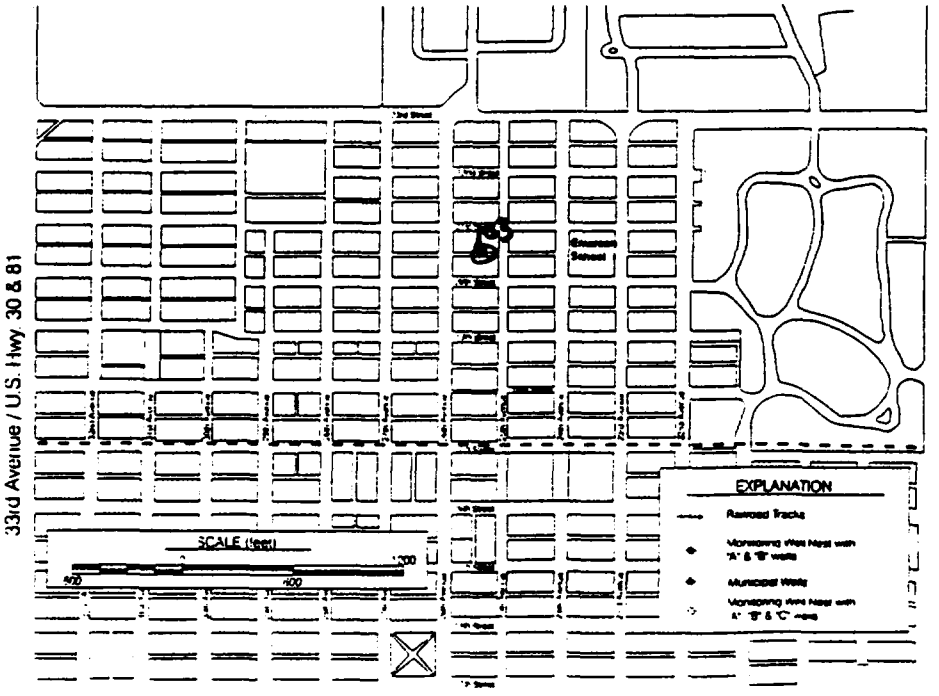
temp.: 22.0 °C

turbitity: 71000 NTU

Other Comments/Property Information:

See Sample #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 056

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.98 **Sample Time:** 1205 **Sampler:** Ice lle / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1-L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Matrix: water **Sample Area:** **Aliquots:**

Sample Location:

Location 94A

Sample Description:

pH: 6.83

cond.: 1.44 mS / cm

temp.: 23.5 °C

turbitity: 71,000 NTU

Other Comments/Property Owner Information:

See Sample #1

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 057

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.98 **Sample Time:** 1305 **Sampler:** Keller / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

.: water **Sample Area:** **Aliquots:**

Sample Location:

Location 95A

Sample Description:

pH: ~~6.83~~ 6.77

cond.: ~~1.44~~ 0.76 mS / cm

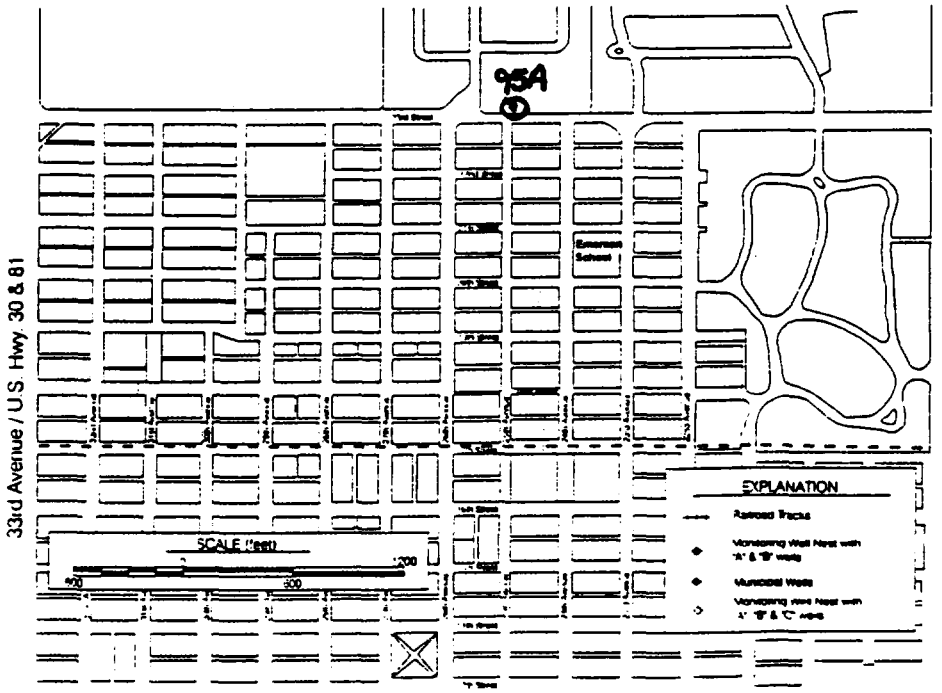
temp.: ~~23.5~~ 23.2 °C

turbitity: ~~>1000~~ 195 NTU

Other Comments/Property Information:

See Sample #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 458

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.29.98 **Sample Time:** 1430 **Sampler:** Fletcher / Keller

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

a: water **Sample Area:** **Aliquots:**

Sample Location:

Location 98A

Sample Description:

pH: 6.99

cond.: 1.74 ~~µ~~mS / cm

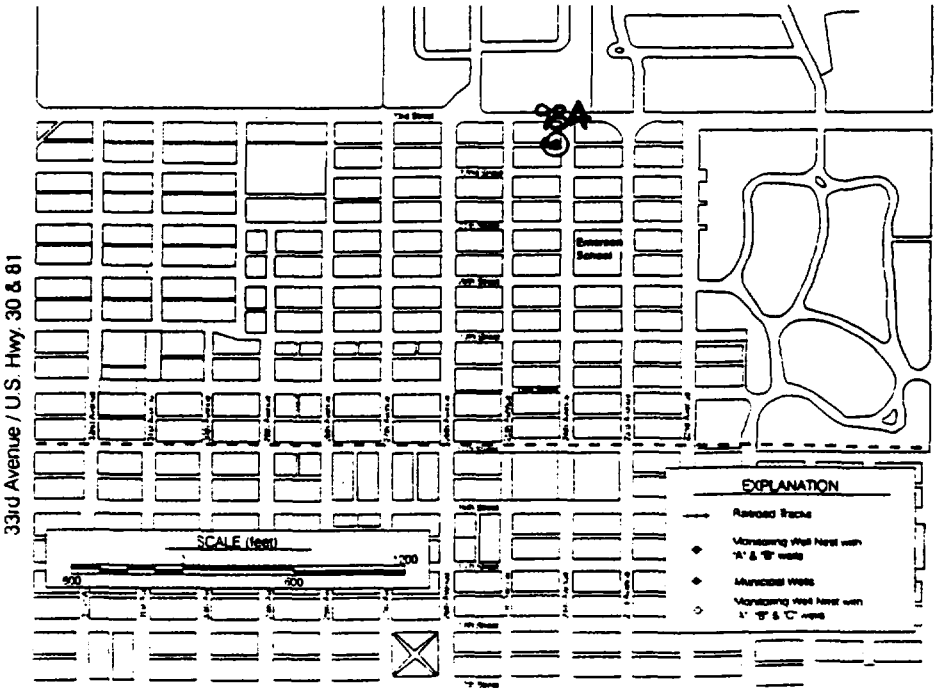
temp.: 23.4 °C

turbitity: 71,000 NTU

Other Comments/Property Information:

See Location #1

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 859-F

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9/30/98 **Sample Time:** 0900 **Sampler:** Schabemann

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Field Blank w/ HPLC water for the VOCs; EPA-supplied DI for Diss. As.

Sample Description:

pH:

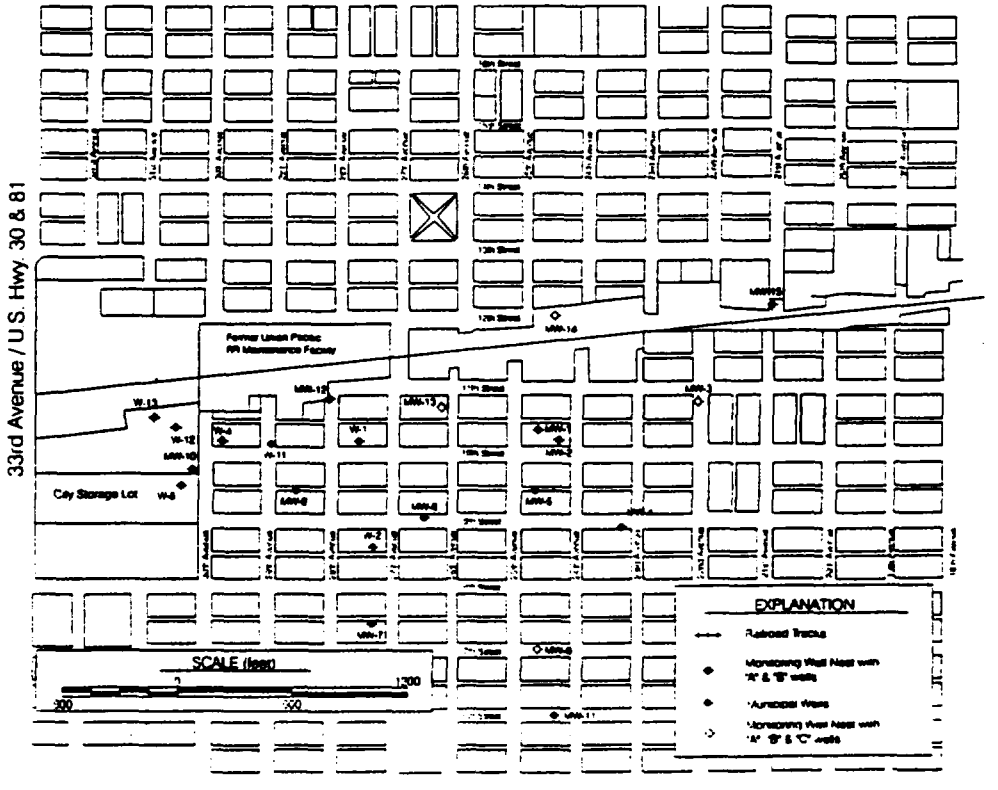
cond.: µS / cm

temp.: °C

turbitity: NTU

Other Comments/Property Owner Information:

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 060-F

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 0900 **Sampler:** Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L cubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Trip Blank

Sample Description:

pH: —

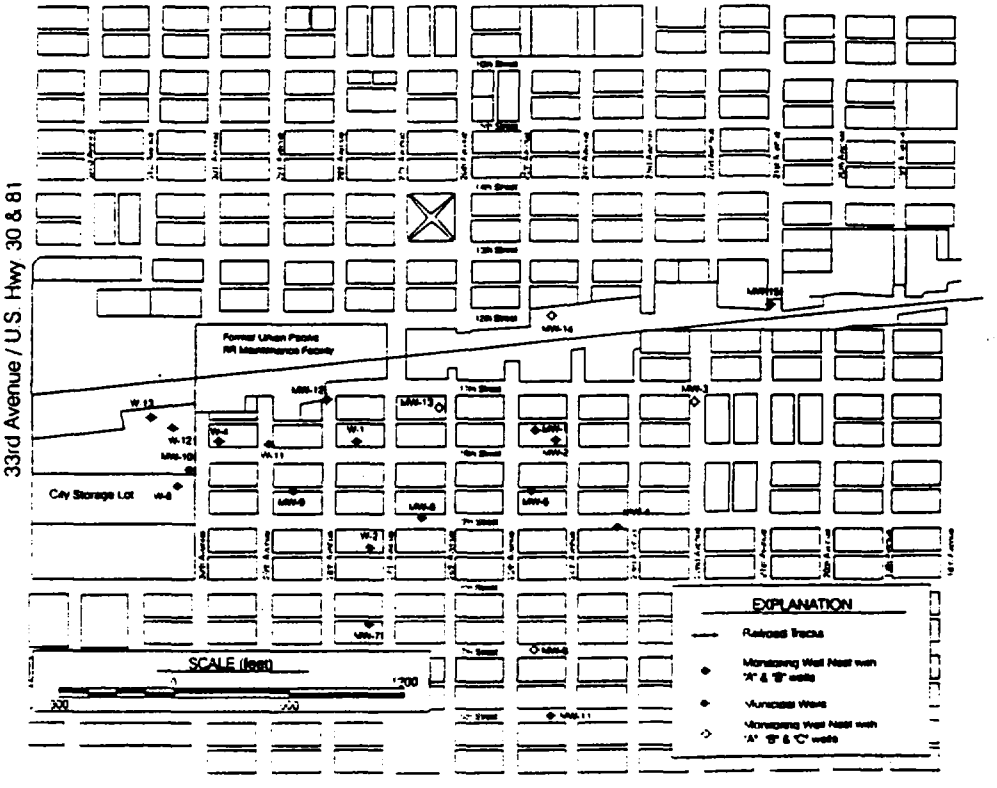
cond.: — **µS / cm**

temp.: — **°C**

turbitity: — **NTU**

Other Comments/Property Owner Information:

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 061-KF

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9.30.98 **Sample Time:** 0915 **Sampler:** Seemore Schademann

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
1 L cubitainer	HNO_3, 4° C	WM37	Arsenic (Dissolved by ICAP)

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:
Rinsate through decomed gw sampler. Collected w/ EPA supplied DI water for diss. As. & HPLC wtr for VOCs

Sample Description:

pH:

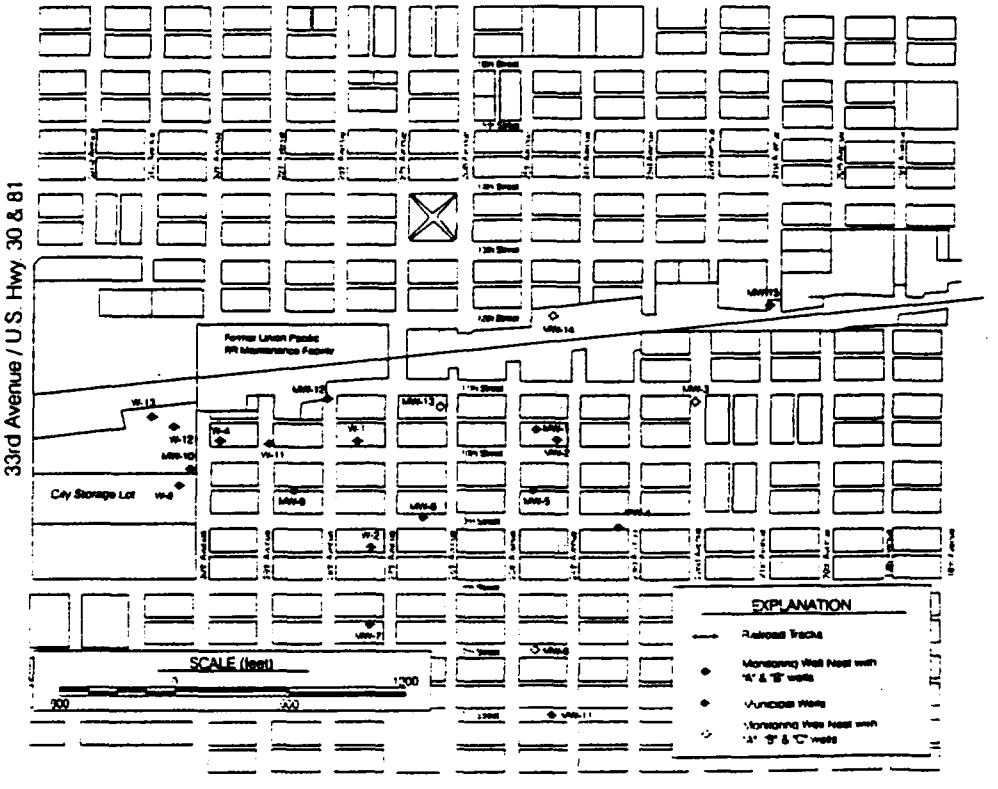
cond.: µS / cm

temp.: °C

turbitity: NTU

Other Comments/Property Owner Information:

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: C62

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1425 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4X40ml	HCl, 4°C	W13	LDL VOC
			2 vials not received.

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

111

Sample Description:

pH: 6.68

cond.: 1,890 µS / cm

temp.: 21.4 °C

turbitity: >1000 NTU

Other Comments/Property Owner Information:

City of Columbus
c/o Merlin Lindahl
Box 1677
Columbus, NE 68601
(402) 564-8584

SAMPLE LOCATION MAP

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 863-X

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9/30/98 **Sample Time:** 1030 **Sampler:** S. Halemeier

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC
~~1 L eubitainer~~	~~HNO_3, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~

SAMPLE DESCRIPTION

Media: water **Sample Area:** **Aliquots:**

Sample Location:

Rinsate of soil sampler (w/ acetate sleeve) collected w/ HPLC water

Sample Description:

pH:

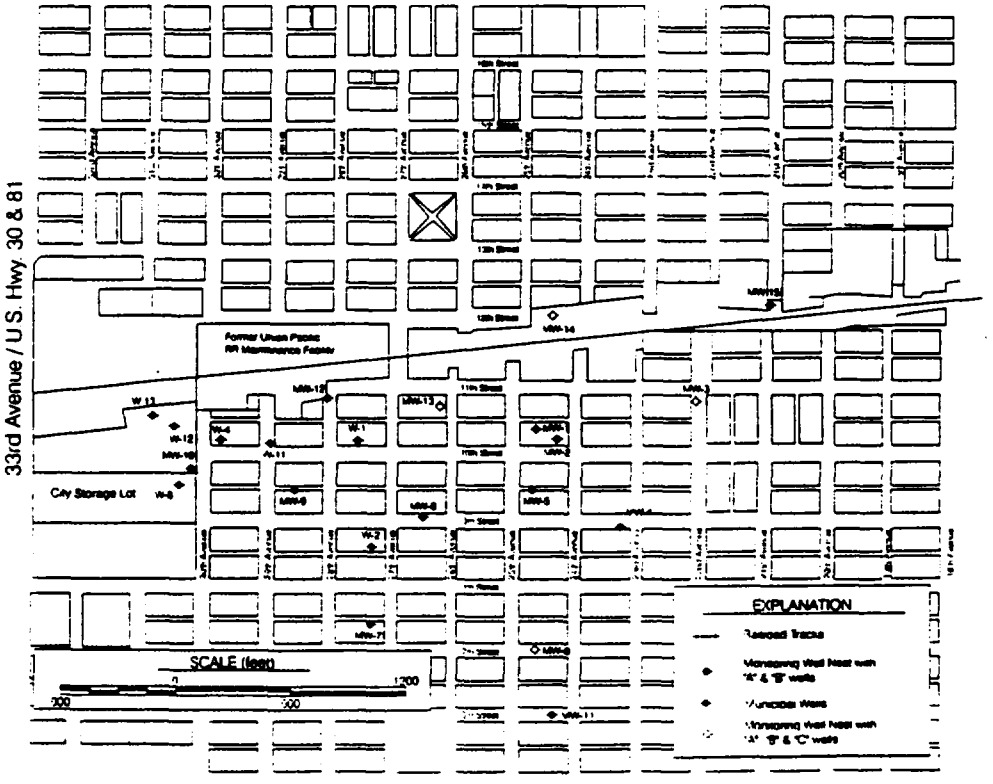
cond.: µS / cm

temp.: °C

turbitity: NTU

Other Comments/Property Owner Information:

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: Q64

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1636 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
4 x 40 mL vial	HCL, 4° C	W13	LDL VOC > 2 vials not preserved.
~~1-L cubitainer~~	~~HNO$_3$, 4° C~~	~~WM37~~	~~Arsenic (Dissolved by ICAP)~~ AR

SAMPLE DESCRIPTION

a: water **Sample Area:** **Aliquots:**

Sample Location:

112

(same location as S-7)

Sample Description:

pH: 6.73

cond.: 1,870 µS / cm

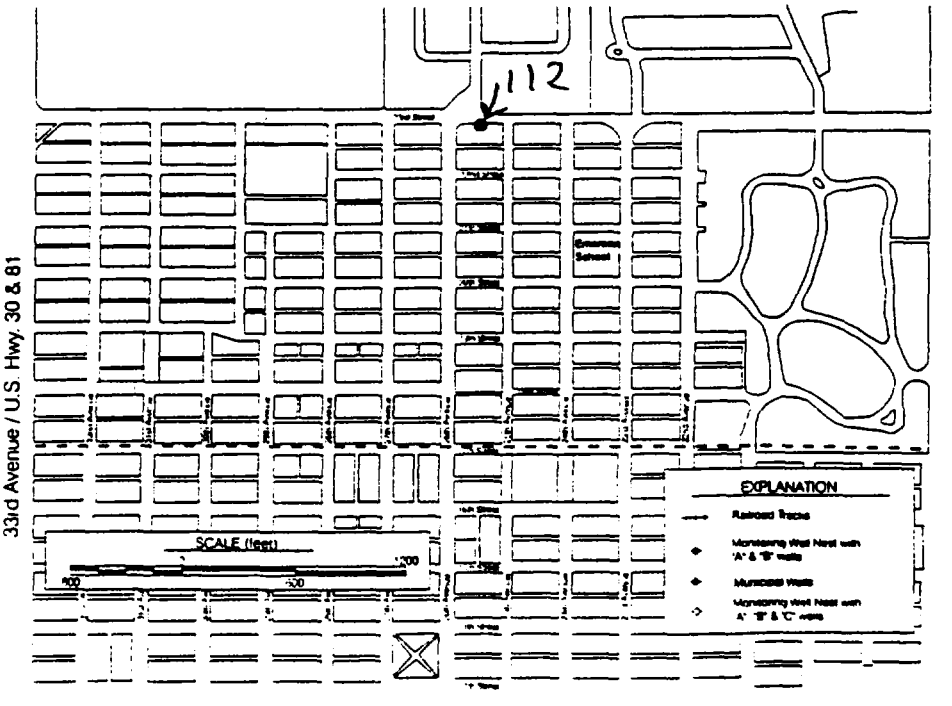
temp.: 20.8 °C

turbitity: >1000 NTU

Other Comments/Property er Information:

Dean Soulliere
Franklin Life Bldg.
1470 25th Ave
Columbus NE 68601
(402) 564-1265

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 101

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 0854 **Sampler:** Ramold / Baer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC Add (SG07)% solids

SAMPLE DESCRIPTION

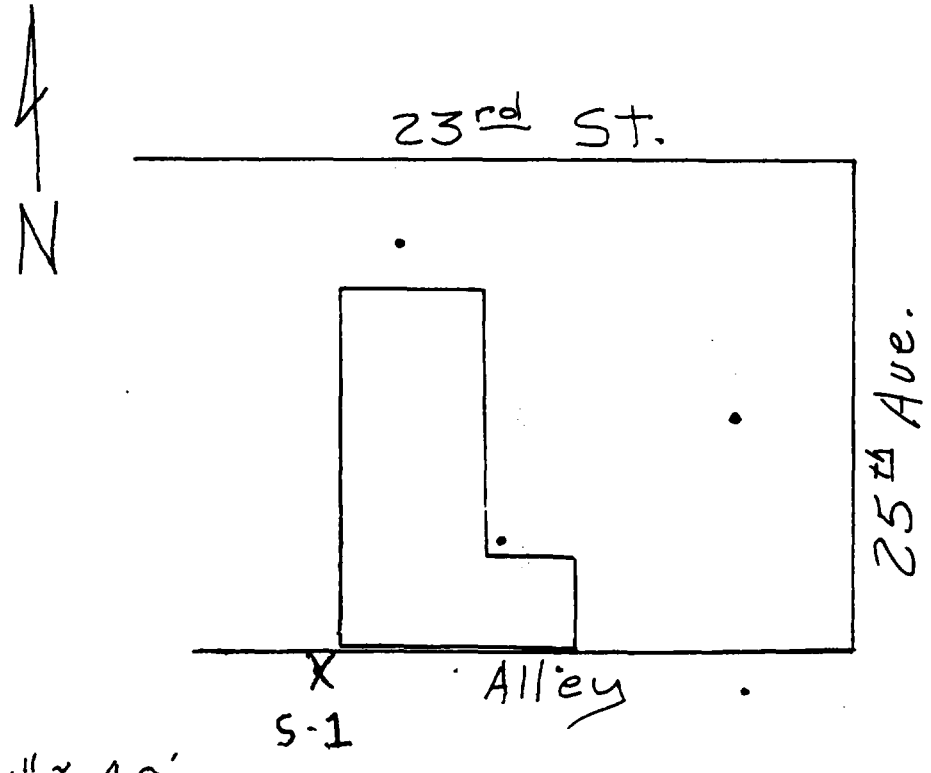
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-1 1'-3'

Sample Description:

Other Comments/Property Owner Information:
City of Columbus
c/o Merlin Lindahl
Box 1677
Columbus NE 68601
(402) 564-8584

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 102

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 0905 **Sampler:** Ramold / Baer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC (SG07) % solids

SAMPLE DESCRIPTION

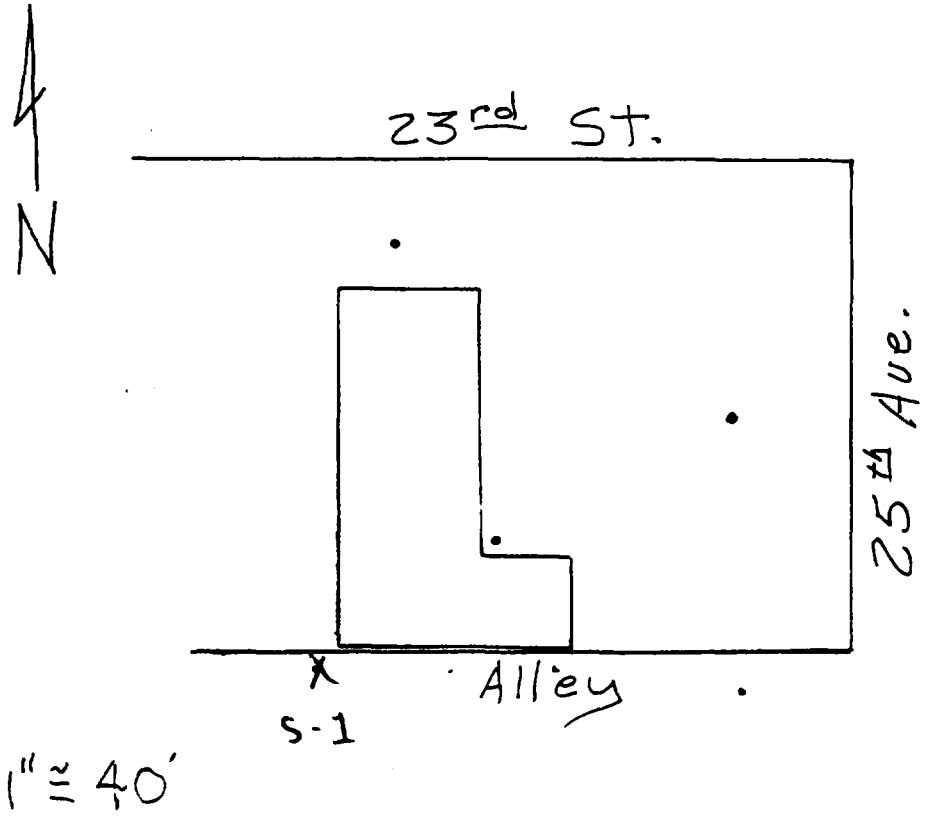
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-1 6'-8'

Sample Description:

Other Comments/Property Owner Information:
see sample 101

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 103

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 0910 **Sampler:** Ramold / Bacon

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC (SG07)% solids

SAMPLE DESCRIPTION

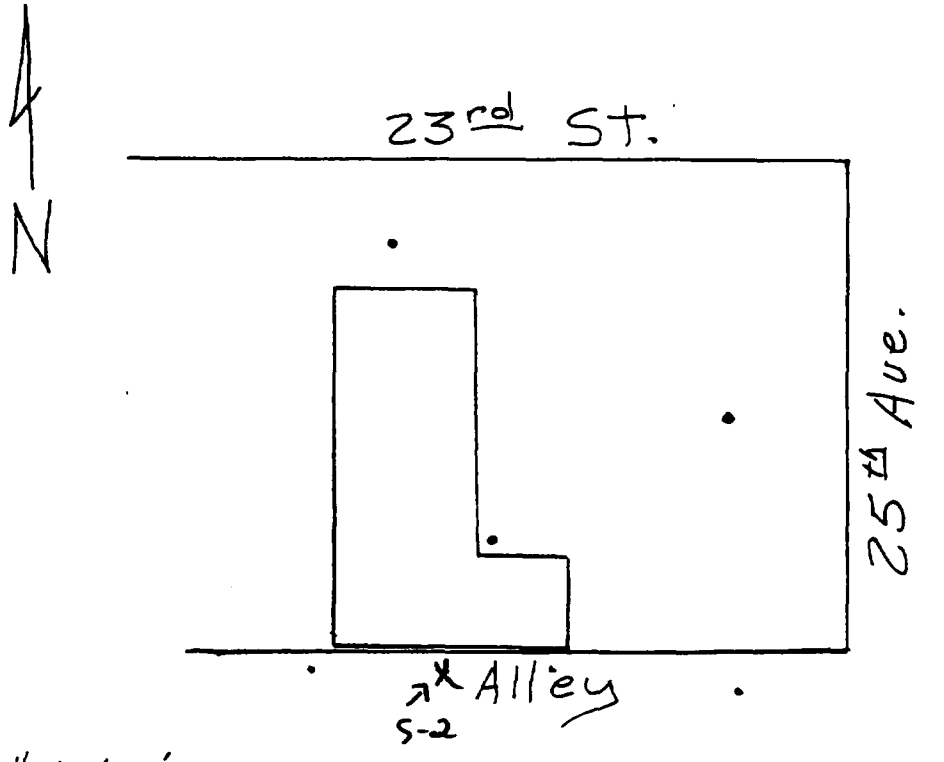
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-2 1'-3'

Sample Description:

Other Comments/Property Owner Information:
see sample 101

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 104

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 0940 **Sampler:** Baer / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC (8607)% solids

SAMPLE DESCRIPTION

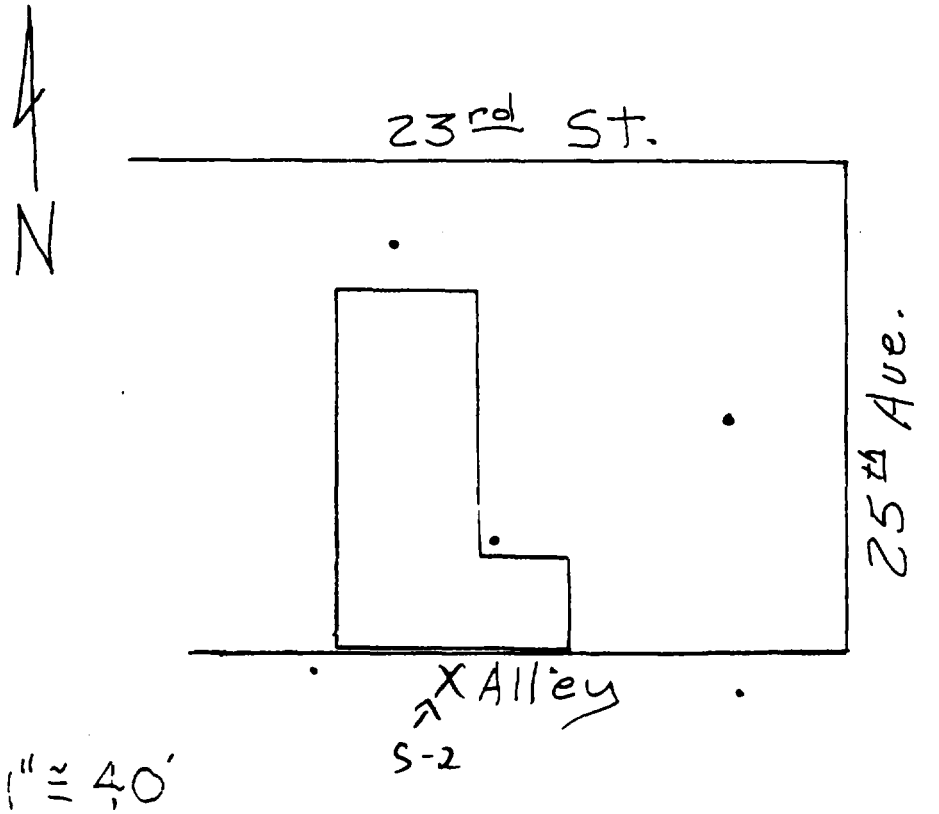
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-2 6'-8'

Sample Description:

Other Comments/Property Owner Information:
see sample 101

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 105

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 0953 **Sampler:** Ramold / Baer

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC Add (SC07)% solids

SAMPLE DESCRIPTION

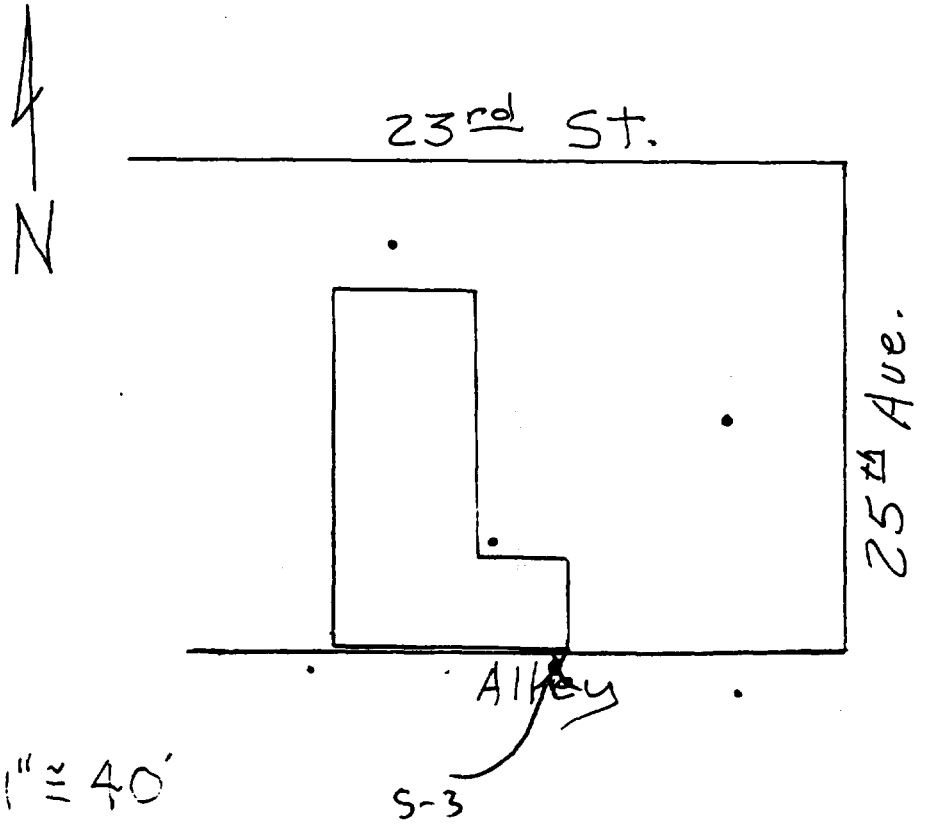
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-3 1'-3'

Sample Description:

Other Comments/Property Owner Information:
see sample 101

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 106

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1005 **Sampler:** Baer / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC Add (8007)% solids

SAMPLE DESCRIPTION

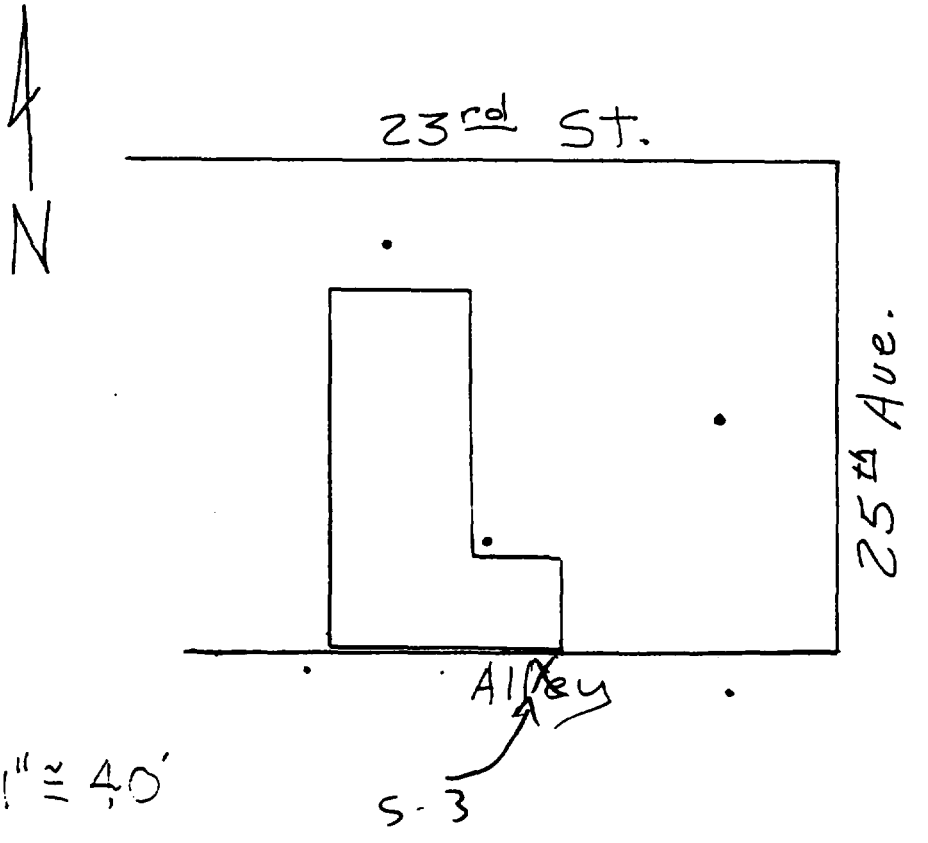
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-3 6'-8'

Sample Description:

Other Comments/Property Owner Information:
see sample 101

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 107

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1340 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC Add (SC07)% solids

SAMPLE DESCRIPTION

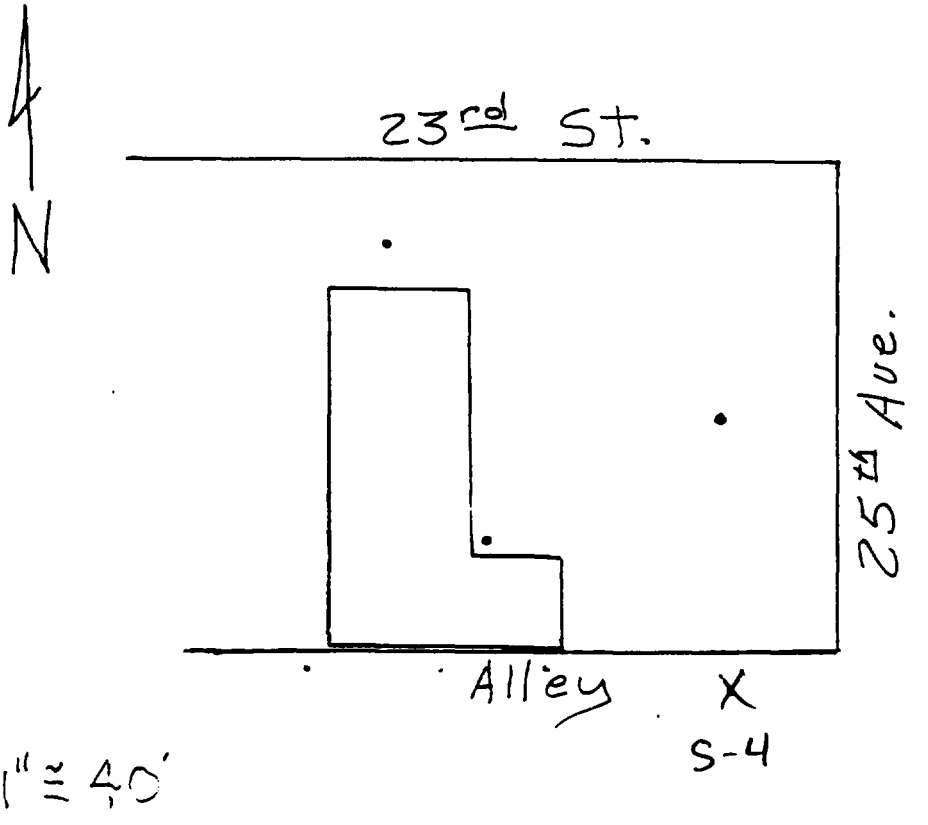
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-4 1'-3'

Sample Description:

Other Comments/Property Owner Information:
See Sample 101

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 108

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1347 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC Add (SC07)% solids

SAMPLE DESCRIPTION

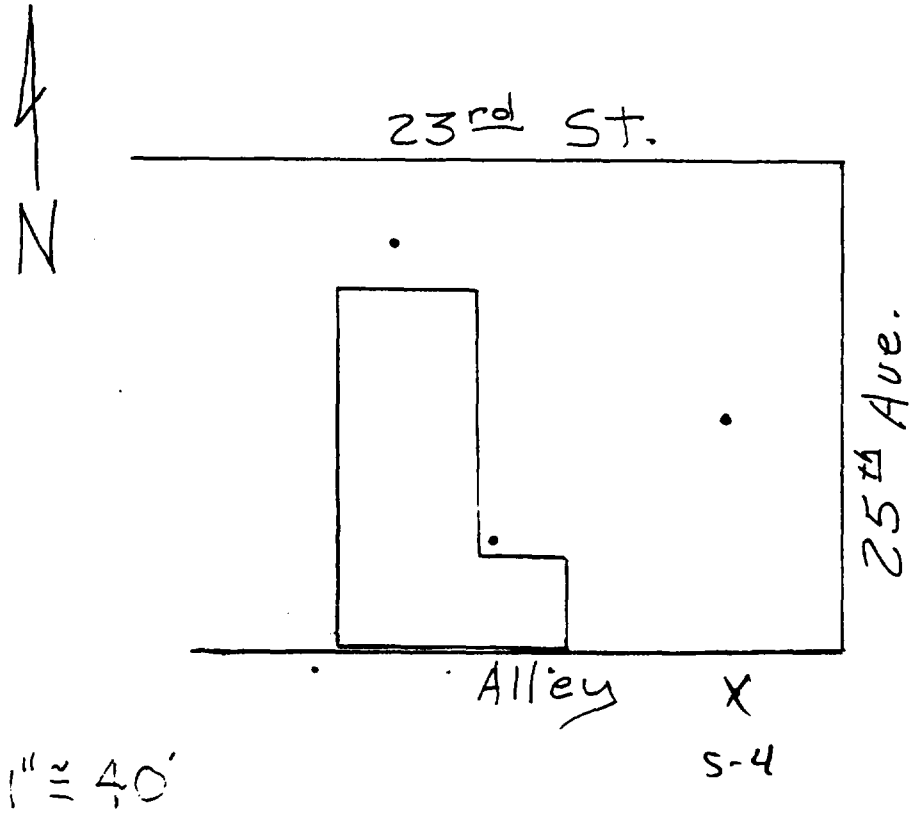
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-4 6'-8'

Sample Description:

Other Comments/Property Owner Information:
see sample 101

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 109

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1500 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC (SC07)% solids

SAMPLE DESCRIPTION

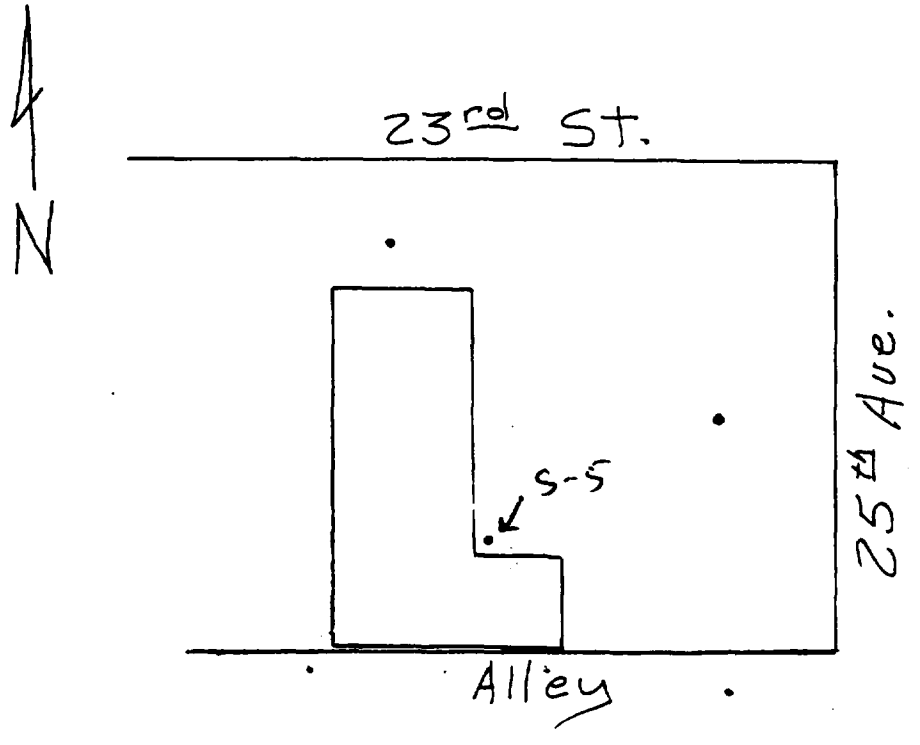
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-5 1'-3'

Sample Description:

Other Comments/Property Owner Information:
Dean Soulliere
Franklin Life Bldg
1470 25th Ave
Columbus NE 68601
(402) 564-1285

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 110

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1510 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC Add (8007)% solids

SAMPLE DESCRIPTION

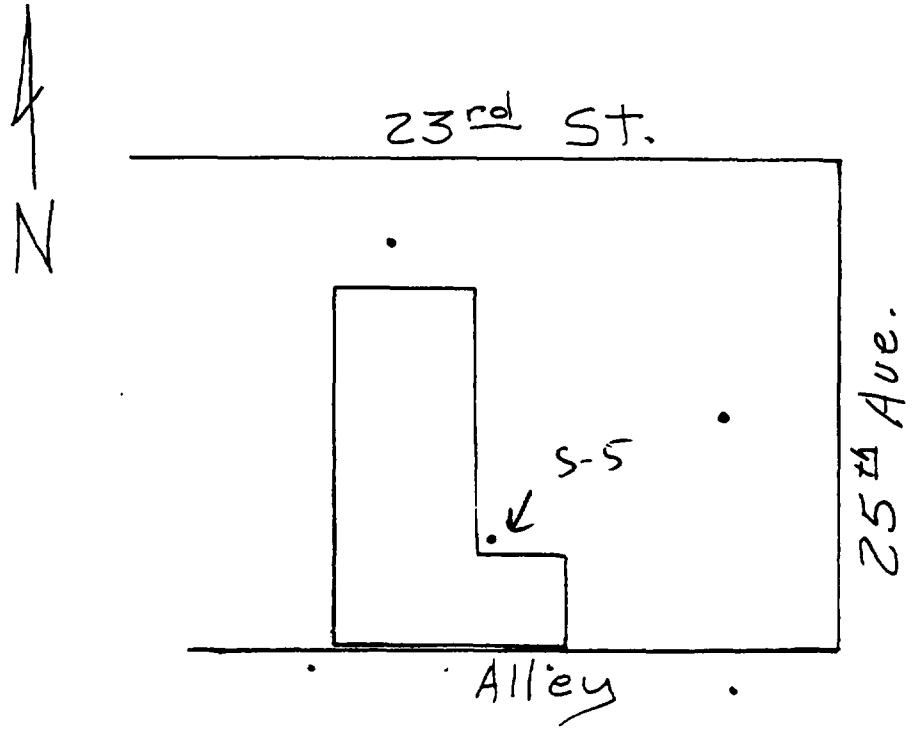
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-5 6'-8'

Sample Description:

Other Comments/Property Owner Information:
see sample 109

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 111

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1530 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC Add (8007)% solids

SAMPLE DESCRIPTION

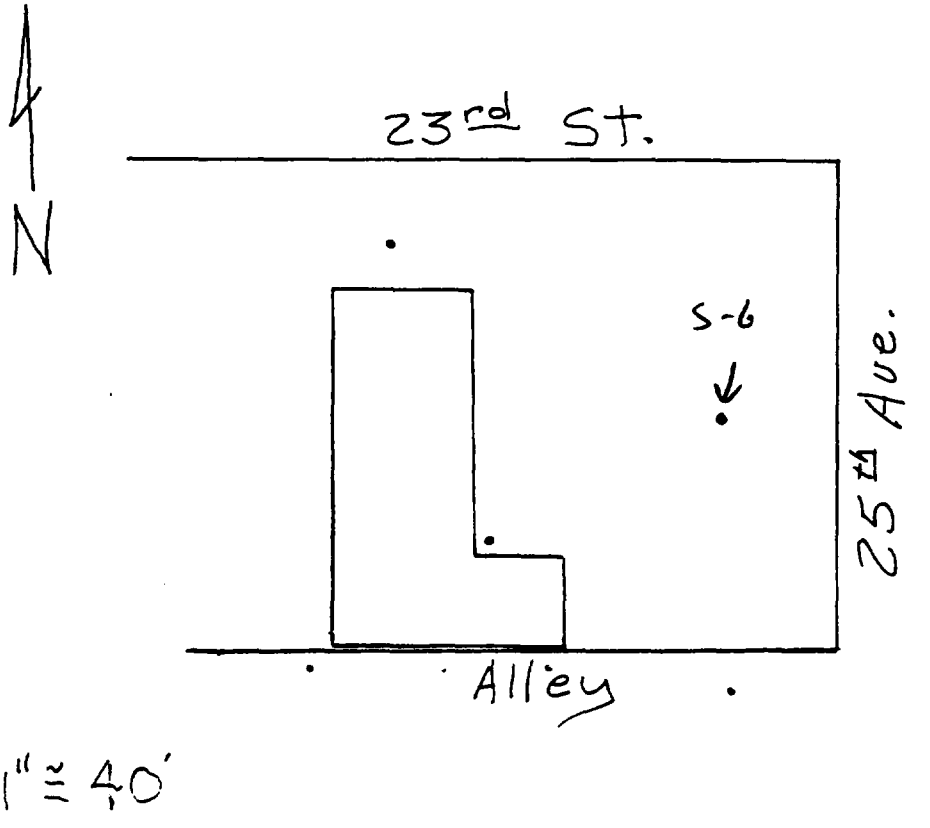
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-6 1'-3'

Sample Description:

Other Comments/Property Owner Information:
see sample 109

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 112

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1540 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC Add (SC07) & Cl...

SAMPLE DESCRIPTION

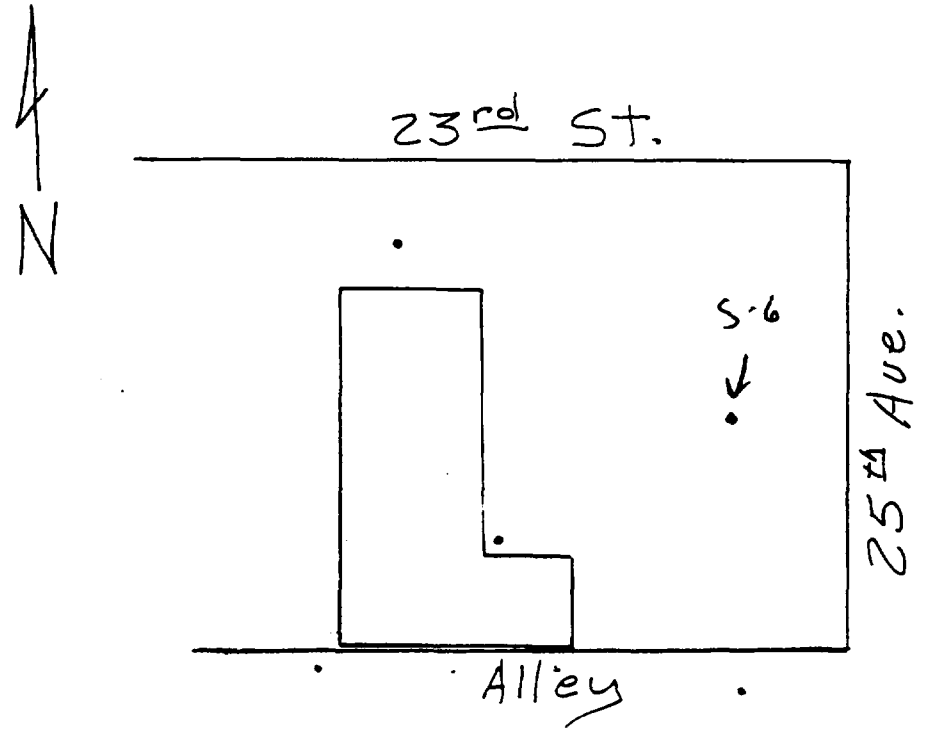
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-6 6'-8'

Sample Description:

Other Comments/Property Owner Information:
see sample 109

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 113

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1555 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC Add (8007)% solids

SAMPLE DESCRIPTION

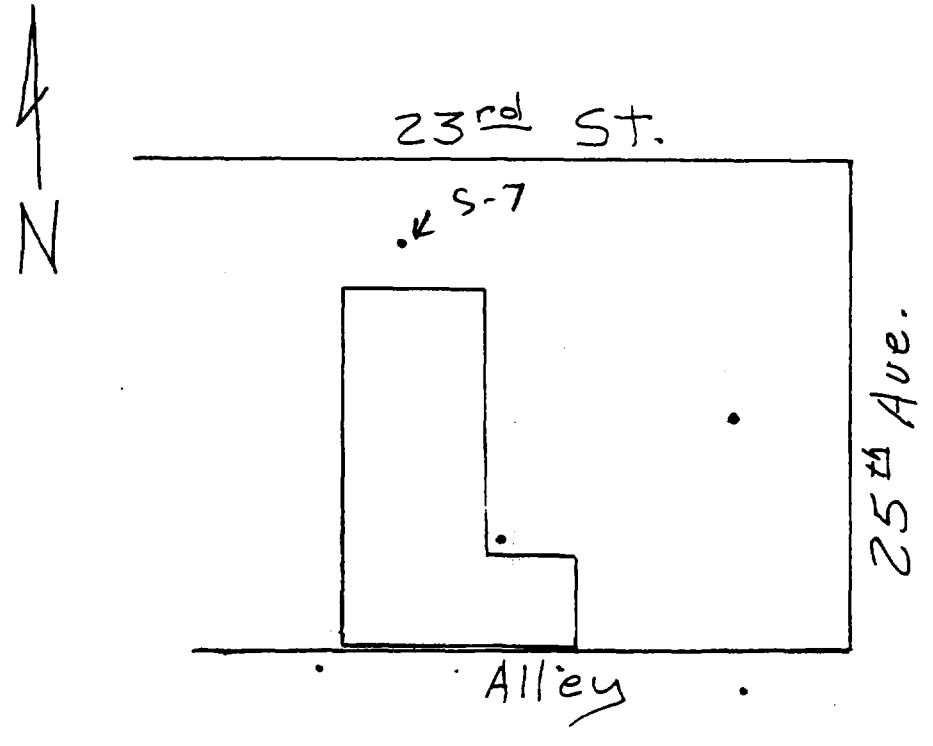
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-7 1'-3'

Sample Description:

Other Comments/Property Owner Information:
see sample 109

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 114

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1610 **Sampler:** Ramold / Fletcher

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
3 x 20 mL vial	DI H_2O,4° C	SV	VOC Add (SOO7)% solids

SAMPLE DESCRIPTION

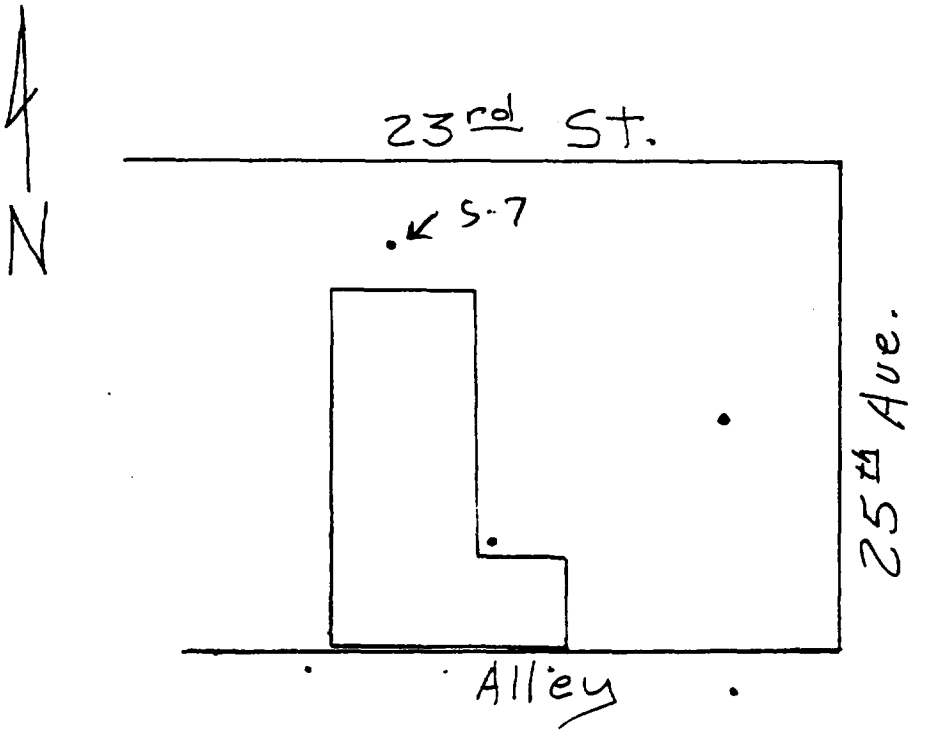
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
S-7 6'-8'

Sample Description:

Other Comments/Property Owner Information:
see sample 109

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 115

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: 9-30-98 **Sample Time:** 1755 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~4 x 40 mL vial~~	HCL, 4° C	W13	~~LDL VOC~~
~~1 L cubitainer~~	HNO_3, 4° C	WM37	~~Arsenic (Dissolved by ICAP)~~
3 X 2 mL	DI H_2O, HCl, 4°C	SV	VOC (8007)% solids

SAMPLE DESCRIPTION

Matrix: ~~water~~ soil **Sample Area:** **Aliquots:**

Sample Location:

S-8 1'-3'

Sample Description:

pH: NA

cond.: µS / cm

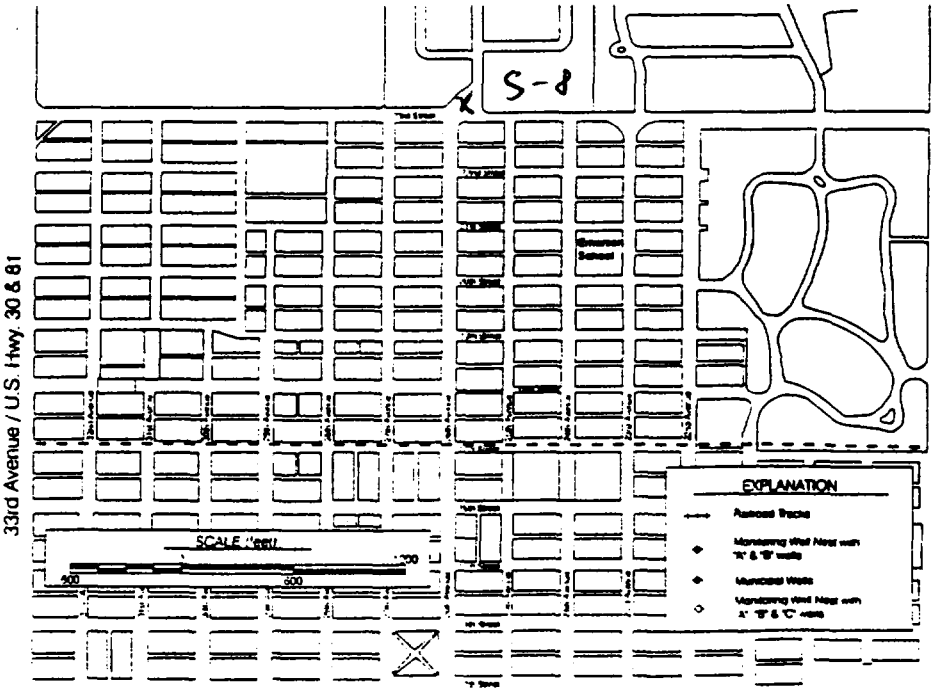
temp.: °C

turbitity: NTU

Other Comments/Property Information:

See Sample 101

SAMPLE LOCATION MAP



FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION VII
Superfund Division, 726 Minnesota Avenue, K.C., KS 66101

Activity: 10th Street Site, Columbus, NE **Activity #: PS1CS**

Sample #: 116 F

EPA Project Leader: Darrell Sommerhauser / EPA RPM **E&E/START Project Manager: Ron Ramold**

Sample Date: ~~9-30-98~~ RC 10-1-98 **Sample Time:** 1130 **Sampler:** Fletcher / Ramold

ANALYSIS REQUESTED

Container	Preservative	MGP Code	Analysis
~~2 x 40mL 3 x 20 mL vial~~	DI H_2O,4° C	SV	VOC Add (SOW)% solids

SAMPLE DESCRIPTION

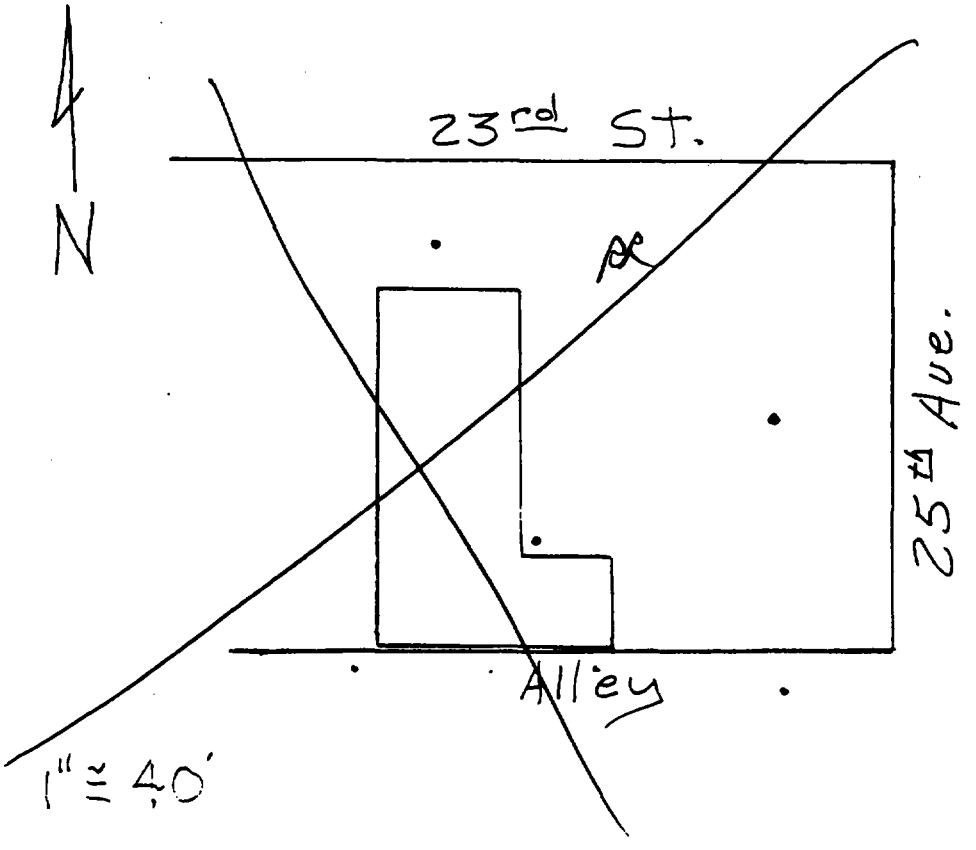
Media: soil **Sample Area:** **Aliquots:**

Sample Location:
trip blank - soil

Sample Description:

Other Comments/Property Owner Information:
NA

SAMPLE LOCATION MAP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

DATE: NOV 5 1998

SUBJECT: Data Transmittal for Activity #: PSICS
Site Description: South Street Site

FROM: for Andrea Jirka, Program Manager
Regional Laboratory, Environmental Services Division

TO: Darrell Sommerhauser
SUPR

Attached is the data transmittal for the above-referenced site. The data contained in this transmittal have been approved by the Regional Laboratory. This should be considered a ____ Partial or X Complete data transmittal (completes transmittal of 10/28/98). The Project Leader should notify the Regional Laboratory with 14 days of any changes in the LAST analytical database. If you have any questions, comments, or data changes, please contact Dee Simmons at 551-5129.

Attachment

cc: Analytical Data File

ANALYSIS REQUEST REPORT

FOR ACTIVITY: PS1CS

SOMMERHAUSER, D. 11/05/98 12:51:25

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

ALL REAL SAMPLES AND FIELD Q.C.

* LABO APPROVED

FY: 98 ACTIVITY: PS1CS DESCRIPTION: 10TH STREET SITE LOCATION: COLUMBUS NEBRASKA

STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: L30

LABO DUE DATE IS 11/ 1/98. REPORT DUE DATE IS 11/30/98.

INSPECTION DATE: 10/ 1/98 ALL SAMPLES RECEIVED DATE: 10/02/98

ALL DATA APPROVED BY LABO DATE: 11/05/98 FINAL REPORT TRANSMITTED DATE: 00/00/00

EXPECTED LABO TURNAROUND TIME IS 30 DAYS EXPECTED REPORT TURNAROUND TIME IS 60 DAYS

ACTUAL LABO TURNAROUND TIME IS 34 DAYS ACTUAL REPORT TURNAROUND TIME IS 0 DAYS

SITE CODE: SITE:

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	LAY- SECT ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		W	LOCATION 31	1	COLUMBUS	NEBRASKA			09/23/98	14:00	/ /	:
002		W	LOCATION 34	1	COLUMBUS	NEBRASKA			09/23/98	15:45	/ /	:
003		W	LOCATION 9	1	COLUMBUS	NEBRASKA			09/22/98	17:54	/ /	:
004		W	LOCATION 30	1	COLUMBUS	NEBRASKA			09/23/98	14:05	/ /	:
005		W	LOCATION 21	1	COLUMBUS	NEBRASKA			09/22/98	16:35	/ /	:
006		W	LOCATION 36	1	COLUMBUS	NEBRASKA			09/23/98	16:15	/ /	:
008		W	LOCATION 3	1	COLUMBUS	NEBRASKA			09/24/98	10:55	/ /	:
009		W	LOCATION 14	1	COLUMBUS	NEBRASKA			09/22/98	15:03	/ /	:
010		W	LOCATION 29	1	COLUMBUS	NEBRASKA			09/23/98	12:05	/ /	:
011		W	LOCATION 33	1	COLUMBUS	NEBRASKA			09/23/98	17:16	/ /	:
012		W	LOCATION 27	1	COLUMBUS	NEBRASKA			09/22/98	16:55	/ /	:
013		W	LOCATION 2	1	COLUMBUS	NEBRASKA			09/24/98	09:25	/ /	:
014		W	LOCATION 1	1	COLUMBUS	NEBRASKA			09/24/98	08:30	/ /	:
015		W	LOCATION 16	1	COLUMBUS	NEBRASKA			09/22/98	15:55	/ /	:
016		W	LOCATION 24	1	COLUMBUS	NEBRASKA			09/23/98	10:51	/ /	:
017		W	LOCATION 35	1	COLUMBUS	NEBRASKA			09/23/98	14:45	/ /	:
018		W	LOCATION 20	1	COLUMBUS	NEBRASKA			09/22/98	10:55	/ /	:
019		W	LOCATION 12	1	COLUMBUS	NEBRASKA			09/22/98	09:46	/ /	:
020		W	LOCATION 17	1	COLUMBUS	NEBRASKA			09/22/98	10:55	/ /	:
021		W	LOCATION 32	1	COLUMBUS	NEBRASKA			09/23/98	13:00	/ /	:
022		W	LOCATION 24	1	COLUMBUS	NEBRASKA			09/23/98	10:51	/ /	:
023		W	LOCATION 18	1	COLUMBUS	NEBRASKA			09/22/98	11:45	/ /	:
024		W	LOCATION 36	1	COLUMBUS	NEBRASKA			09/23/98	16:15	/ /	:

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	SECT	LAY-ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
025		W	2917 10TH STREET	1	COLUMBUS	NEBRASKA				09/25/98	10:17	/ /	:
026		W	LOCATION 60	1	COLUMBUS	NEBRASKA				09/27/98	11:55	/ /	:
027		W	LOCATION 46	1	COLUMBUS	NEBRASKA				09/25/98	15:25	/ /	:
028		W	LOCATION 70	1	COLUMBUS	NEBRASKA				09/26/98	11:05	/ /	:
029		W	LOCATION 57	1	COLUMBUS	NEBRASKA				09/27/98	14:00	/ /	:
030		W	LOCATION 44	1	COLUMBUS	NEBRASKA				09/25/98	13:15	/ /	:
031		W	LOCATION 39	1	COLUMBUS	NEBRASKA				09/25/98	12:41	/ /	:
032		W	LOCATION 41	1	COLUMBUS	NEBRASKA				09/25/98	10:40	/ /	:
033		W	LOCATION 53	1	COLUMBUS	NEBRASKA				09/26/98	12:35	/ /	:
034		W	LOCATION 63	1	COLUMBUS	NEBRASKA				09/26/98	12:55	/ /	:
035		W	LOCATION 72	1	COLUMBUS	NEBRASKA				09/26/98	09:00	/ /	:
036		W	LOCATION 77	1	COLUMBUS	NEBRASKA				09/28/98	14:40	/ /	:
037		W	LOCATION 86	1	COLUMBUS	NEBRASKA				09/28/98	16:45	/ /	:
038		W	LOCATION 89	1	COLUMBUS	NEBRASKA				09/26/98	08:35	/ /	:
039		W	LOCATION 93	1	COLUMBUS	NEBRASKA				09/29/98	08:25	/ /	:
040		W	LOCATION 107	1	COLUMBUS	NEBRASKA				09/29/98	10:00	/ /	:
041		W	LOCATION 109	1	COLUMBUS	NEBRASKA				09/29/98	08:45	/ /	:
042		W	LOCATION 2	1	COLUMBUS	NEBRASKA				09/24/98	09:25	/ /	:
043		W	LOCATION 43	1	COLUMBUS	NEBRASKA				09/25/98	16:45	/ /	:
044		W	LOCATION 56	1	COLUMBUS	NEBRASKA				09/26/98	10:50	/ /	:
045		W	LOCATION 54	1	COLUMBUS	NEBRASKA				09/26/98	12:00	/ /	:
046		W	LOCATION 64	1	COLUMBUS	NEBRASKA				09/27/98	10:05	/ /	:
047		W	LOCATION 65	1	COLUMBUS	NEBRASKA				09/27/98	10:40	/ /	:
048		W	LOCATION 68	1	COLUMBUS	NEBRASKA				09/28/98	09:00	/ /	:
049		W	LOCATION 96	1	COLUMBUS	NEBRASKA				09/29/98	14:50	/ /	:
050		W	LOCATION 97	1	COLUMBUS	NEBRASKA				09/29/98	11:35	/ /	:
051		W	LOCATION 98	1	COLUMBUS	NEBRASKA				09/29/98	10:45	/ /	:
052		W	LOCATION 100	1	COLUMBUS	NEBRASKA				09/29/98	16:05	/ /	:
053		W	LOCATION 101	1	COLUMBUS	NEBRASKA				09/29/98	15:35	/ /	:
054		W	LOCATION 102	1	COLUMBUS	NEBRASKA				09/29/98	16:11	/ /	:
055		W	LOCATION 103	1	COLUMBUS	NEBRASKA				09/29/98	14:54	/ /	:
056		W	LOCATION 94A	1	COLUMBUS	NEBRASKA				09/29/98	12:05	/ /	:
057		W	LOCATION 95A	1	COLUMBUS	NEBRASKA				09/29/98	13:05	/ /	:
058		W	LOCATION 98A	1	COLUMBUS	NEBRASKA				09/29/98	14:30	/ /	:
059	F	W	FIELD BLANK	1	COLUMBUS	NEBRASKA				09/30/98	09:00	/ /	:
060	F	W	TRIP BLANK	1	COLUMBUS	NEBRASKA				09/30/98	09:00	/ /	:
061		W	DECON GW RINSATE SAMPLE	1	COLUMBUS	NEBRASKA				09/30/98	09:15	/ /	:
062		W	SAMPLE LOCATION 111	1	COLUMBUS	NEBRASKA				09/30/98	14:25	/ /	:
063		W	RINSATE OF SOIL SAMPLER	1	COLUMBUS	NEBRASKA				09/30/98	10:30	/ /	:
064		W	SAMPLE LOCATION 112 (SAME AS S-7)	1	COLUMBUS	NEBRASKA				09/30/98	16:36	/ /	:
101		S	S-1 (1-3')	1	COLUMBUS	NEBRASKA				09/30/98	08:54	/ /	:
102		S	S-1 (6-8')	1	COLUMBUS	NEBRASKA				09/30/98	09:05	/ /	:
103		S	S-2 (1-3')	1	COLUMBUS	NEBRASKA				09/30/98	09:10	/ /	:
104		S	S-2 (6-8')	1	COLUMBUS	NEBRASKA				09/30/98	09:40	/ /	:
105		S	S-3 (1-3')	1	COLUMBUS	NEBRASKA				09/30/98	09:53	/ /	:
106		S	S-3 (6-8')	1	COLUMBUS	NEBRASKA				09/30/98	10:05	/ /	:
107		S	S-4 (1-3')	1	COLUMBUS	NEBRASKA				09/30/98	13:40	/ /	:
108		S	S-4 (6-8')	1	COLUMBUS	NEBRASKA				09/30/98	13:47	/ /	:
109		S	S-5 (1-3')	1	COLUMBUS	NEBRASKA				09/30/98	15:00	/ /	:
110		S	S-5 (6-8')	1	COLUMBUS	NEBRASKA				09/30/98	15:10	/ /	:
111		S	S-6 (1-3')	1	COLUMBUS	NEBRASKA				09/30/98	15:30	/ /	:
112		S	S-6 (6-8')	1	COLUMBUS	NEBRASKA				09/30/98	15:40	/ /	:
113		S	S-7 (1-3')	1	COLUMBUS	NEBRASKA				09/30/98	15:55	/ /	:
114		S	S-7 (6-8')	1	COLUMBUS	NEBRASKA				09/30/98	16:10	/ /	:

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC NO	SECT	LAY-ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
115		S	S-8 (1-3')	1	COLUMBUS	NEBRASKA				09/30/98	17:55	/ /	:
116	F	S	SOIL TRIP BLANK	1	COLUMBUS	NEBRASKA				10/01/98	11:30	/ /	:

EXPLANATION OF CODES AND INFORMATION ON ANALYSIS REQUEST DETAIL REPORT

SAMPLE INFORMATION:

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER (A 3-DIGIT NUMBER WHICH IN COMBINATION WITH THE ACTIVITY NUMBER AND QCC, PROVIDES AN UNIQUE NUMBER FOR EACH SAMPLE FOR IDENTIFICATION PURPOSES)

QCC = QUALITY CONTROL CODE (A ONE-LETTER CODE USED TO DESIGNATE SPECIFIC QC SAMPLES. THIS FIELD WILL BE BLANK FOR ALL NON-QC OR ACTUAL SAMPLES):
- B = CAL INCREASED CONCENTRATION FOR A LAB SPIKED DUP SAMPLE
- D = MEASURED VALUE FOR FIELD DUPLICATE SAMPLE
- F = MEASURED VALUE FOR FIELD BLANK
- G = MEASURED VALUE FOR METHOD STANDARD
- H = TRUE VALUE FOR METHOD STANDARD
- K = CAL INCREASED CONCENTRATION FOR FIELD SPIKED DUP SAMPLE
- L = MEASURED VALUE FOR A LAB DUPLICATE SAMPLE
- M = MEASURED VALUE FOR LAB BLANK
- N = MEASURED CONCENTRATION OF FIELD SPIKED DUPLICATE
- P = MEASURED VALUE FOR PERFORMANCE STANDARD
- R = CAL INCREASED CONCENTRATION RESULTING FROM LAB SPIKE
- S = MEASURED CONCENTRATION OF LAB SPIKED SAMPLE
- T = TRUE VALUE OF PERFORMANCE STANDARD
- W = MEASURED CONCENTRATION OF LAB SPIKED DUPLICATE
- Y = MEASURED CONCENTRATION OF FIELD SPIKED SAMPLE
- Z = CAL INCREASED CONCENTRATION RESULTING FROM FIELD SPIKE
- 1 = MEASURED VALUE OF FIRST SPIKED REPLICATE
- 2 = MEASURED VALUE OF SECOND SPIKED REPLICATE
- 3 = MEASURED VALUE OF THIRD SPIKED REPLICATE
- 4 = MEASURED VALUE OF FOURTH SPIKED REPLICATE
- 5 = MEASURED VALUE OF FIFTH SPIKED REPLICATE
- 6 = MEASURED VALUE OF SIXTH SPIKED REPLICATE
- 7 = MEASURED VALUE OF SEVENTH SPIKED REPLICATE

M = MEDIA CODE (A ONE-LETTER CODE DESIGNATING THE MEDIA OF THE SAMPLE):
- A = AIR H = HAZARDOUS WASTE/OTHER
- S = SOLID (SOIL, SEDIMENT, SLUDGE)
- T = TISSUE (PLANT & ANIMAL)
- W = WATER (GROUND WATER, SURFACE WATER, WASTE WATER, DRINKING WATER)

DESCRIPTION = A SHORT DESCRIPTION OF THE LOCATION WHERE SAMPLE WAS COLLECTED

AIRS/STORET LOC. NO. = THE SPECIFIC LOCATION ID NUMBER OF EITHER OF THESE NATIONAL DATABASE SYSTEMS, AS APPROPRIATE

DATE/TIME INFORMATION = SPECIFIC INFORMATION REGARDING WHEN THE SAMPLE WAS COLLECTED
- BEG. DATE = DATE SAMPLING WAS STARTED
- BEG. TIME = TIME SAMPLING WAS STARTED
- END DATE = DATE SAMPLING WAS COMPLETED
- END TIME = TIME SAMPLING WAS COMPLETED
- NOTE: A GRAB SAMPLE WILL CONTAIN ONLY BEG. DATE/TIME
  A TIMED COMPOSITE SAMPLE WILL CONTAIN BOTH BEG AND END DATE/TIME TO DESIGNATE DURATION OF SAMPLE COLLECTION

OTHER CODES
- V = VALIDATED

ANALYTICAL RESULTS/MEASUREMENTS INFORMATION:

COMPOUND = MGP (MEDIA-GROUP-PARAMETER) CODE AND NAME OF THE MEASURED CONSTITUENT OR CHARACTERISTIC OF EACH SAMPLE

UNITS = SPECIFIC UNITS IN WHICH RESULTS ARE REPORTED:
- C = CENTIGRADE (CELSIUS) DEGREES
- CFS = CUBIC FEET PER SECOND
- GPM = GALLONS PER MINUTE
- IN = INCHES
- I.D. = SPECIES IDENTIFICATION
- KG = KILOGRAM
- L = LITER
- LB = POUNDS
- MG = MILLIGRAMS (1 X 10-3 GRAMS)
- MGD = MILLION GALLONS PER DAY
- MPH = MILES PER HOUR
- MV = MILLIVOLT
- M/F = MALE/FEMALE
- M2 = SQUARE METER
- M3 = CUBIC METER
- NA = NOT APPLICABLE
- NG = NANOGRAMS (1 X 10-9 GRAMS)
- NTU = NEPHELOMETRIC TURBIDITY UNITS
- PC/L = PICO (1 X 10-12) CURRIES PER LITER
- PG = PICOGRAMS (1 X 10-12 GRAMS)
- P/CM2 = PICOGRAMS PER SQUARE CENTIMETER
- SCM = STANDARD CUBIC METER (1 ATM, 25 C)
- SQ FT = SQUARE FEET
- SU = STANDARD UNITS (PH)
- UG = MICROGRAMS (1 X 10-6 GRAMS)
- UMHOS = MICROMHOS/CM (CONDUCTIVITY UNITS)
- U/CC2 = MICROGRAMS PER 100 SQUARE CENTIMETERS
- U/CM2 = MICROGRAMS PER SQUARE CENTIMETER
- 1000G = 1000 GALLONS
- +/- = POSITIVE/NEGATIVE
- # = NUMBER

DATA QUALIFIERS = SPECIFIC CODES USED IN CONJUNCTION WITH DATA VALUES TO PROVIDE ADDITIONAL INFORMATION ON THE REPORTED RESULTS, OR USED TO EXPLAIN THE ABSENCE OF A SPECIFIC VALUE:
- BLANK = IF FIELD IS BLANK, NO REMARKS OR QUALIFIERS ARE PERTINENT. FOR FINAL REPORTED DATA, THIS MEANS THAT THE VALUES HAVE BEEN REVIEWED AND FOUND TO BE ACCEPTABLE FOR USE.
- I = INVALID SAMPLE/DATA - VALUE NOT REPORTED
- J = THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED QUANTITY
- K = ACTUAL VALUE OF SAMPLE IS < VALUE REPORTED
- L = ACTUAL VALUE OF SAMPLE IS > VALUE REPORTED
- M = DETECTED BUT BELOW THE LEVEL OF REPORTED VALUE FOR ACCURATE QUANTIFICATION
- O = PARAMETER NOT ANALYZED
- U = THE MATERIAL WAS ANALYZED FOR, BUT WAS NOT DETECTED. THE ASSOCIATED NUMERICAL VALUE IS THE SAMPLE DETECTION LIMIT.

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	001		002		003		004		005	
#F01 TEMPERATURE, WATER	'C	17.7		17.4		19		18.4		20.7	
#F05 PH, FIELD	SU	6.99		7.33		6.7		7.32		7.25	
#F10 CONDUCTIVITY (FIELD)	UMHOS	1550		622		1200		538		573	
#G30 TURBIDITY	NTU	999		1000		160		1000		31	
#M37 ARSENIC, DISSOLVED, BY ICAP	UG/L									7.14	U
#M60 ARSENIC, DISSOLVED, BY AA	UG/L	15.8									
#W40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U		
#W41 BROMOMETHANE, BY GC/MS LDL	UG/L	1.7	U	1.7	U	1.7	U	1.7	U		
#W42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U		
#W43 CHLOROETHANE, BY GC/MS LDL	UG/L	2.2	U	2.2	U	2.2	U	2.2	U		
#W44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1.2	U	1.2	U	1.2	U	1.2	U		
#W45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	1.6	U	1.6	U	1.6	U	1.6	U		
#W46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U		
#W48 CHLOROFORM, BY GC/MS LDL	UG/L	0.36	U	0.36	U	0.36	U	0.36	U		
#W49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.37	U	0.37	U	0.37	U	0.38			
#W50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.58	U	0.58	U	0.58	U	0.58	U		
#W51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.19	U	0.19	U	0.19	U	0.19	U		
#W52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.28	U	0.28	U	0.28	U	0.28	U		
#W53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U		
#W54 BENZENE, BY GC/MS LDL	UG/L	0.14	U	0.14	U	0.14	U	0.17			
#W55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	84		0.54	U	83		270			
#W56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.63	U	0.63	U	0.63	U	0.63	U		
#W57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.29	U	0.29	U	0.29	U	0.29	U		
#W58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.38	U	0.38	U	0.38	U	0.38	U		
#W59 BROMOFORM, BY GC/MS LDL	UG/L	0.17	U	0.17	U	0.17	U	0.17	U		
#W60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	3.5		0.31	U	7.1		260			

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	001		002		003		004		005
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.54	U	0.54	U	0.54	U	0.54	U	
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.64	U	0.64	U	0.64	U	0.64	U	
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.23	U	0.23	U	0.23	U	0.23	U	
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.31	U	0.31	U	0.31	U	0.31	U	
WW65 ACETONE, BY GC/MS LDL	UG/L	9.0	U	9.0	U	9.0	U	9.0	U	
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1.1	U	1.1	U	1.1	U	1.1	U	
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3.0	U	3.0	U	3.0	U	3.0	U	
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3.2	U	3.2	U	3.2	U	3.2	U	
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.79	U	0.79	U	0.79	U	0.79	U	
WW70 STYRENE, BY GC/MS LDL	UG/L	0.34	U	0.34	U	0.34	U	0.34	U	
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.82	U	0.82	U	0.82	U	0.82	U	
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.22	U	0.22	U	0.22	U	0.22	U	
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.40	U	0.40	U	0.40	U	0.40	U	
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.46	U	0.46	U	0.46	U	0.46	U	
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.36	U	0.36	U	0.36	U	0.36	U	
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.35	U	0.35	U	0.35	U	0.35	U	
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	0.84	U	0.84	U	0.84	U	0.93		
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	3.5		0.84	U	4.0		7.5		
ZZ01 SAMPLE NUMBER	NA	001		002		003		004		005
ZZ02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS		PS1CS		PS1CS

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	006	008	009	010	011
WF01 TEMPERATURE, WATER	'C	18.3	18.0	18.9	18.8	18.4
WF05 PH, FIELD	SU	7.28	7.19	6.99	7.0	7.28
WF10 CONDUCTIVITY (FIELD)	UMHOS	1280	496	642	513	589
WG30 TURBIDITY	NTU	10	132	115	451	1000
WM37 ARSENIC, DISSOLVED, BY ICAP	UG/L	7.14 U	7.14 U		7.14 U	7.14 U
WM60 ARSENIC, DISSOLVED, BY AA	UG/L			1.66 U		
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L			1.3 U		
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L			1.7 U		
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L			1.3 U		
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L			2.2 U		
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L			1.2 U		
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L			1.6 U		
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L			0.43 U		
WW48 CHLOROFORM, BY GC/MS LDL	UG/L			0.36 U		
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L			0.37 U		
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L			0.58 U		
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L			0.19 U		
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L			0.28 U		
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L			0.43 U		
WW54 BENZENE, BY GC/MS LDL	UG/L			0.27		
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L			1.0		
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L			0.63 U		
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L			0.29 U		
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L			0.38 U		
WW59 BROMOFORM, BY GC/MS LDL	UG/L			0.17 U		
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L			0.31 U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	006	008	009		010	011
WW61 TOLUENE, BY GC/MS LDL	UG/L			0.71			
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L			0.64	U		
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L			0.23	U		
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L			0.31	U		
WW65 ACETONE, BY GC/MS LDL	UG/L			9.0	U		
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L			1.1	U		
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L			3.0	U		
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L			3.2	U		
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L			0.79	U		
WW70 STYRENE, BY GC/MS LDL	UG/L			0.34	U		
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L			0.82	U		
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L			0.63			
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L			0.40	U		
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L			0.46	U		
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L			0.36	U		
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L			0.35	U		
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L			6.9			
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L			8.7			
ZZ01 SAMPLE NUMBER	NA	006	008	009		010	011
ZZ02 ACTIVITY CODE	NA	PS1CS	PS1CS	PS1CS		PS1CS	PS1CS

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	012	013	014	015	016
WF01 TEMPERATURE, WATER	'C	19.0	16.4	16.4	18.0	16.7
WF05 PH, FIELD	SU	6.9	7.2	7.36	7.0	6.97
WF10 CONDUCTIVITY (FIELD)	UMHOS	1200	506	486	1700	1120
WG30 TURBIDITY	NTU	999	1000	0.486	80	574
WM37 ARSENIC, DISSOLVED, BY ICAP	UG/L	7.14 U	7.14 U			
WM60 ARSENIC, DISSOLVED, BY AA	UG/L			60.6	8.63	1.84
ZZ01 SAMPLE NUMBER	NA	012	013	014	015	016
ZZ02 ACTIVITY CODE	NA	PS1CS	PS1CS	PS1CS	PS1CS	PS1CS

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	017		018		019		020		021	
WF01 TEMPERATURE, WATER	'C	18.3		15.0		15.0		17.0		15.7	
WF05 PH, FIELD	SU	7.39		6.8		6.7		7.0		7.03	
WF10 CONDUCTIVITY (FIELD)	UMHOS	567		1900		1400		1200		1240	
WG30 TURBIDITY	NTU	1000		1000		1000		80		55	
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.37	U	0.37	U	0.37	U	0.37	U	0.42	
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
WW54 BENZENE, BY GC/MS LDL	UG/L	0.16		3.8		0.14	U	0.14	U	0.14	U
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	260		11		25		44		37	
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	48		10		41		3.0		51	
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	017		018		019		020		021	
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U
WW65 ACETONE, BY GC/MS LDL	UG/L	9.0	U	9.0	U	9.0	U	9.0	U	9.0	U
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3.2	U	3.2	U	3.2	U	3.2	U	3.2	U
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
WW70 STYRENE, BY GC/MS LDL	UG/L	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.28		0.22	U	0.22	U	0.22	U	0.22	U
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	0.84	U	0.84	U	0.84	U	7.7		0.84	U
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	6.8		1.0		1.1		16		1.5	
ZZ01 SAMPLE NUMBER	NA	017		018		019		020		021	
ZZ02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS		PS1CS		PS1CS	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	022		023		024		025		026	
WF01 TEMPERATURE, WATER	'C	16.7		16.0		18.3		15.3		18.9	
WF05 PH, FIELD	SU	6.97		6.8		7.28		6.81		6.86	
WF10 CONDUCTIVITY (FIELD)	UMHOS	1120		1300		1280		709		1350	
WG30 TURBIDITY	NTU	574		40		10				1000	
WM27 ARSENIC, TOTAL, BY AA	UG/L							41.0			
WM37 ARSENIC, DISSOLVED, BY ICAP	UG/L									7.14	U
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U			1.3	U
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	1.7	U	1.7	U	1.7	U			1.7	U
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U			1.3	U
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2.2	U	2.2	U	2.2	U			2.2	U
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1.2	U	1.2	U	1.2	U			1.2	U
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	1.6	U	1.6	U	1.6	U			1.6	U
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U			0.43	U
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	0.36	U	0.36	U	0.36	U			0.36	U
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.41		0.37	U	0.37	U			0.46	
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.58	U	0.58	U	0.58	U			0.58	U
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.19	U	0.19	U	0.19	U			0.19	U
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.28	U	0.28	U	0.28	U			0.28	U
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U			0.43	U
WW54 BENZENE, BY GC/MS LDL	UG/L	10		0.44		0.14	U			0.42	
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	160		19		170				380	
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.63	U	0.63	U	0.63	U			0.63	U
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.29	U	0.29	U	0.29	U			0.29	U
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.38	U	0.38	U	0.38	U			0.38	U
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.17	U	0.17	U	0.17	U			0.17	U
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	130		51		0.31	U			220	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	022		023		024		025		026	
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.54	U	0.54	U	0.54	U			0.54	U
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.64	U	0.64	U	0.64	U			0.64	U
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.23	U	0.23	U	0.23	U			0.23	U
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.31	U	0.31	U	0.31	U			0.31	U
WW65 ACETONE, BY GC/MS LDL	UG/L	9.0	U	9.0	U	9.0	U			9.0	U
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1.1	U	1.1	U	1.1	U			1.1	U
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3.0	U	3.0	U	3.0	U			3.0	U
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3.2	U	3.2	U	3.2	U			3.2	U
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.79	U	0.79	U	0.79	U			0.79	U
WW70 STYRENE, BY GC/MS LDL	UG/L	0.34	U	0.34	U	0.34	U			0.34	U
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.82	U	0.82	U	0.82	U			0.82	U
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.22	U	0.22	U	0.22	U			0.22	U
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.40	U	0.40	U	0.40	U			0.40	U
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.46	U	0.46	U	0.46	U			0.46	U
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.36	U	0.36	U	0.36	U			0.36	U
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.35	U	0.35	U	0.35	U			0.35	U
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	1.2		0.84	U	19				2.8	
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	8.0		1.9		37				58	
ZZ01 SAMPLE NUMBER	NA	022		023		024		025		026	
ZZ02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS		PS1CS		PS1CS	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	027		028		029	030		031	
WF01 TEMPERATURE, WATER	'C	24.2		22.2		23.3	20.6		17.6	
WF05 PH, FIELD	SU	7.01		6.97		7.05	6.96		6.98	
WF10 CONDUCTIVITY (FIELD)	UMHOS	1310		1700		1410	1010		1260	
WG30 TURBIDITY	NTU	1000		188		1000	1000		764	
WM37 ARSENIC, DISSOLVED, BY ICAP	UG/L	7.14	U				7.14	U	7.14	U
WM60 ARSENIC, DISSOLVED, BY AA	UG/L			15.9		3.16				
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1.3	U	1.3	U					
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	1.7	U	1.7	U					
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1.3	U	1.3	U					
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2.2	U	2.2	U					
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1.2	U	1.2	U					
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	1.6	U	1.7						
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.43	U	0.67						
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	0.36	U	0.36	U					
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.37	U	0.37	U					
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.58	U	19						
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.19	U	0.19	U					
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.28	U	0.28	U					
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.43	U	0.43	U					
WW54 BENZENE, BY GC/MS LDL	UG/L	0.14		0.21						
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	470		380						
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.63	U	0.63	U					
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.29	U	0.29	U					
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.38	U	0.38	U					
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.17	U	0.17	U					
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	0.31	U	29000						

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	027		028		029	030	031
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.54	U	0.54	U			
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.64	U	0.64	U			
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.23	U	0.23	U			
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.31	U	0.31	U			
WW65 ACETONE, BY GC/MS LDL	UG/L	9.0	U	9.0	U			
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1.1	U	1.1	U			
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3.0	U	3.0	U			
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3.2	U	3.2	U			
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.79	U	0.79	U			
WW70 STYRENE, BY GC/MS LDL	UG/L	0.34	U	0.34	U			
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.82	U	0.82	U			
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.22	U	0.22	U			
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.40	U	0.40	U			
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.46	U	0.46	U			
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.36	U	0.36	U			
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.35	U	0.54				
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	14		16				
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	42		150				
ZZ01 SAMPLE NUMBER	NA	027		028		029	030	031
ZZ02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS	PS1CS	PS1CS

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	032	033	034	035	036
WF01 TEMPERATURE, WATER	'C	20.8	19.3	23.2	20.2	17.1
WF05 PH, FIELD	SU	7.53	6.84	6.99	7.02	6.84
WF10 CONDUCTIVITY (FIELD)	UMHOS	980	1360	1250	1300	1490
WG30 TURBIDITY	NTU	276	1000	114	1000	804
WM37 ARSENIC, DISSOLVED, BY ICAP	UG/L	7.14 U	7.14 U		7.14 U	
WM60 ARSENIC, DISSOLVED, BY AA	UG/L			13.6		6.19
ZZ01 SAMPLE NUMBER	NA	032	033	034	035	036
ZZ02 ACTIVITY CODE	NA	PS1CS	PS1CS	PS1CS	PS1CS	PS1CS

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	037	038	039	040	041
WF01 TEMPERATURE, WATER	'C	21.1	18.6	18.7	17.0	16.6
WF05 PH, FIELD	SU	6.99	6.38	6.95	6.77	6.53
WF10 CONDUCTIVITY (FIELD)	UMHOS	1330	1750	14330	1160	728
WG30 TURBIDITY	NTU	765	49	106	1000	1000
WM37 ARSENIC, DISSOLVED, BY ICAP	UG/L		7.14 U	7.14 U	7.14 U	7.14 U
WM60 ARSENIC, DISSOLVED, BY AA	UG/L	319				
ZZ01 SAMPLE NUMBER	NA	037	038	039	040	041
ZZ02 ACTIVITY CODE	NA	PS1CS	PS1CS	PS1CS	PS1CS	PS1CS

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	042		043		044		045		046	
WF01 TEMPERATURE, WATER	'C	16.4		23.1		18.2		23.2		18.3	
WF05 PH, FIELD	SU	7.2		7.05		6.89		7.07		7.0	
WF10 CONDUCTIVITY (FIELD)	UMHOS	506		1130		1670		1270		1420	
WG30 TURBIDITY	NTU	1000		121		277		225		737	
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.37	U	0.38		0.84		0.37	U	0.37	U
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
WW54 BENZENE, BY GC/MS LDL	UG/L	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	73		280		0.54	U	22		160	
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	12		940		0.31	U	840		25	
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	042		043		044		045		046	
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U
WW65 ACETONE, BY GC/MS LDL	UG/L	9.0	U	9.0	U	9.0	U	9.0	U	9.0	U
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3.2	U	3.2	U	3.2	U	3.2	U	3.2	U
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
WW70 STYRENE, BY GC/MS LDL	UG/L	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.26		0.22	U	0.22	U	0.22	U	0.22	U
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	5.9		1.3		0.84	U	0.84	U	1.4	
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	15		18		0.84	U	14		13	
ZZ01 SAMPLE NUMBER	NA	042		043		044		045		046	
ZZ02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS		PS1CS		PS1CS	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	047		048		049		050		051	
WF01 TEMPERATURE, WATER	'C	18.6		18.9		23.1		23.4		21.0	
WF05 PH, FIELD	SU	6.93		6.95		6.99		7.21		6.8	
WF10 CONDUCTIVITY (FIELD)	UMHOS	1160		1260		1460		1560		1330	
WG30 TURBIDITY	NTU	733		107		492		1000		1000	
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.58	U	0.58	U	0.58	U	2.2		0.58	U
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
WW54 BENZENE, BY GC/MS LDL	UG/L	0.14	U	0.14	U	0.14	U	0.17		0.58	
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	13		3.2		6.4		86		98	
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	23		0.91		5.2		5100		1100	
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	047		048		049		050		051	
W63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
W64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U
W65 ACETONE, BY GC/MS LDL	UG/L	9.0	U	9.0	U	9.0	U	9.0	U	9.0	U
W66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
W67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
W68 HEXANONE, 2- BY GC/MS LDL	UG/L	3.2	U	3.2	U	3.2	U	3.2	U	3.2	U
W69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
W70 STYRENE, BY GC/MS LDL	UG/L	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
W72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U
W73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U
W74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
W75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U
W76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
W77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
W78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	0.84	U	4.9		0.84	U	4.5		0.84	U
W79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	1.5		4.1		0.84	U	37		26	
Z01 SAMPLE NUMBER	NA	047		048		049		050		051	
Z02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS		PS1CS		PS1CS	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	052		053		054		055		056	
WF01 TEMPERATURE, WATER	'C	21.6		22.3		20.4		22.0		23.5	
WF05 PH, FIELD	SU	7.01		6.98		6.97		7.08		6.83	
WF10 CONDUCTIVITY (FIELD)	UMHOS	1440		1110		1330		1070		1440	
WG30 TURBIDITY	NTU	1000		1000		1000		1000		1000	
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
WW54 BENZENE, BY GC/MS LDL	UG/L	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	0.54	U	42		17		0.54	U	0.54	U
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	0.31	U	6.1		12		6.8		1.2	
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	052		053		054		055		056	
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U
WW65 ACETONE, BY GC/MS LDL	UG/L	9.0	U	9.0	U	9.0	U	9.0	U	9.0	U
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3.2	U	3.2	U	3.2	U	3.2	U	3.2	U
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
WW70 STYRENE, BY GC/MS LDL	UG/L	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.22	U	0.22	U	0.22	U	0.22	U	0.22	U
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	0.84	U	1.4		0.84	U	0.84	U	0.84	U
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	0.84	U	5.8		4.1		0.84	U	0.84	U
ZZ01 SAMPLE NUMBER	NA	052		053		054		055		056	
ZZ02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS		PS1CS		PS1CS	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	057		058		059 F		060 F		061	
WF01 TEMPERATURE, WATER	'C	23.2		23.4							
WF05 PH, FIELD	SU	6.77		6.99							
WF10 CONDUCTIVITY (FIELD)	UMHOS	760		1740							
WG30 TURBIDITY	NTU	195		1000							
WM37 ARSENIC, DISSOLVED, BY ICAP	UG/L					7.14	U			7.14	U
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	19	U	1.2	U	1.2	U	1.2	U	1.2	U
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	0.36	U	0.36	U	11		0.36	U	5.4	
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.37	U	0.37	U	0.37	U	0.37	U	0.37	U
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.58	U	0.58	U	0.58	U	0.58	U	0.58	U
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
WW54 BENZENE, BY GC/MS LDL	UG/L	920		0.14	U	0.14	U	0.14	U	0.14	U
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	0.54	U	2.1		0.54	U	0.54	U	0.54	U
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.63	U	0.63	U	0.63	U	0.63	U	0.63	U
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.29	U	0.29	U	0.29	U	0.29	U	0.29	U
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.38	U	0.38	U	0.38	U	0.38	U	0.38	U
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	0.31	U	48		0.31	U	0.31	U	0.31	U
WW61 TOLUENE, BY GC/MS LDL	UG/L	96		0.54	U	0.54	U	0.54	U	0.54	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	057		058		059 F		060 F		061	
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.23	U	0.23	U	0.23	U	0.23	U	0.23	U
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	490		0.31	U	0.31	U	0.31	U	0.31	U
WW65 ACETONE, BY GC/MS LDL	UG/L	76		9.0	U	150		9.0	U	120	
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	46		3.0	U	3.0	U	3.1		6.9	
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3.2	U	3.2	U	3.2	U	3.2	U	3.2	U
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U
WW70 STYRENE, BY GC/MS LDL	UG/L	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	760		0.22	U	0.31		0.22	U	0.22	U
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	26		0.40	U	0.40	U	0.40	U	0.40	U
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.46	U	0.46	U	0.46	U	0.46	U	0.46	U
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.36	U	0.36	U	0.36	U	0.36	U	0.36	U
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	0.84	U	0.84	U	0.84	U	0.84	U	0.84	U
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	0.84	U	0.84	U	0.84	U	0.84	U	0.84	U
ZZ01 SAMPLE NUMBER	NA	057		058		059		060		061	
ZZ02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS		PS1CS		PS1CS	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	062	063	064	101		102	
SG07 SOLIDS, PERCENT	%				77.9		81.2	
SV03 CHLOROMETHANE, BY GC/MS	UG/KG				19	U	17	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG				37	U	34	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG				28	U	26	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG				28	U	26	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG				19	U	17	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG				9.3	U	8.6	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG				9.3	U	8.6	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG				9.3	U	8.6	U
SV11 CHLOROFORM, BY GC/MS	UG/KG				9.3	U	8.6	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG				9.3	U	8.6	U
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG				9.3	U	8.6	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG				9.3	U	8.6	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG				9.3	U	8.6	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG				9.3	U	8.6	U
SV17 BENZENE, BY GC/MS	UG/KG				9.3	U	8.6	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG				9.3	U	8.6	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG				9.3	U	8.6	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG				9.3	U	8.6	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG				9.3	U	8.6	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG				9.3	U	8.6	U
SV24 BROMOFORM, BY GC/MS	UG/KG				9.3	U	8.6	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG				9.3	U	8.6	U
SV26 TOLUENE, BY GC/MS	UG/KG				9.3	U	8.6	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG				9.3	U	8.6	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG				9.3	U	8.6	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	062		063		064		101		102	
SV29 ETHYL BENZENE, BY GC/MS	UG/KG							9.3	U	8.6	U
SV30 ACETONE, BY GC/MS	UG/KG							19	U	17	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG							9.3	U	8.6	U
SV32 METHYL ETHYL KETONE	UG/KG							19	U	17	U
SV34 HEXANONE, 2-	UG/KG							19	U	17	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG							19	U	17	U
SV36 STYRENE, BY GC/MS	UG/KG							9.3	U	8.6	U
SV44 DICHLOROBENZENE,1,4-	UG/KG							9.3	U	8.6	U
SV49 XYLENE, ORTHO	UG/KG							9.3	U	8.6	U
SV57 XYLENE, M AND/OR P	UG/KG							9.3	U	8.6	U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG							9.3	U	8.6	U
SV61 DICHLOROBENZENE, 1, 2-	UG/KG							9.3	U	8.6	U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG							9.3	U	8.6	U
WF01 TEMPERATURE, WATER	'C	21.4				20.8					
WF05 PH, FIELD	SU	6.68				6.73					
WF10 CONDUCTIVITY (FIELD)	UMHOS	1890				1870					
WG30 TURBIDITY	NTU	1000				1000					
WW40 CHLOROMETHANE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.3	U				
WW41 BROMOMETHANE, BY GC/MS LDL	UG/L	1.7	U	1.7	U	1.7	U				
WW42 VINYL CHLORIDE, BY GC/MS LDL	UG/L	1.3	U	1.3	U	1.8					
WW43 CHLOROETHANE, BY GC/MS LDL	UG/L	2.2	U	2.2	U	2.2	U				
WW44 METHYLENE CHLORIDE (DICHLOROMETHANE) LD	UG/L	1.2	U	1.2	U	1.2	U				
WW45 DICHLOROETHYLENE, 1,1- BY GC/MS LDL	UG/L	1.6	U	1.6	U	5.4					
WW46 DICHLOROETHANE, 1,1- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.67					
WW48 CHLOROFORM, BY GC/MS LDL	UG/L	0.36	U	9.9		1.5					
WW49 DICHLOROETHANE, 1,2- BY GC/MS LDL	UG/L	0.37	U	0.37	U	0.37	U				

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	062		063		064		101	102
WW50 TRICHLOROETHANE, 1,1,1- BY GC/MS LDL	UG/L	0.58	U	0.58	U	260			
WW51 CARBON TETRACHLORIDE, BY GC/MS LDL	UG/L	0.19	U	0.19	U	0.19	U		
WW52 BROMODICHLOROMETHANE, BY GC/MS LDL	UG/L	0.28	U	0.28	U	0.28	U		
WW53 DICHLOROPROPANE, 1,2- BY GC/MS LDL	UG/L	0.43	U	0.43	U	0.43	U		
WW54 BENZENE, BY GC/MS LDL	UG/L	0.18		0.14	U	0.41			
WW55 TRICHLOROETHYLENE, BY GC/MS LDL	UG/L	23		0.54	U	220			
WW56 DICHLOROPROPYLENE, CIS 1,3- BY GC/MS LD	UG/L	0.63	U	0.63	U	0.63	U		
WW57 DIBROMOCHLOROMETHANE, BY GC/MS LDL	UG/L	0.29	U	0.29	U	0.29	U		
WW58 TRICHLOROETHANE, 1,1,2- BY GC/MS LDL	UG/L	0.38	U	0.38	U	0.38	U		
WW59 BROMOFORM, BY GC/MS LDL	UG/L	0.17	U	0.17	U	0.17	U		
WW60 TETRACHLOROETHYLENE, BY GC/MS LDL	UG/L	5.7		0.31	U	120000			
WW61 TOLUENE, BY GC/MS LDL	UG/L	0.54	U	0.54	U	12			
WW62 TETRACHLOROETHANE, 1,1,2,2- BY GC/MS, L	UG/L	0.64	U	0.64	U	0.64	U		
WW63 CHLOROBENZENE, BY GC/MS LDL	UG/L	0.23	U	0.23	U	0.51			
WW64 ETHYLBENZENE, BY GC/MS LDL	UG/L	0.31	U	0.31	U	0.99			
WW65 ACETONE, BY GC/MS LDL	UG/L	9.0	U	110		9.0	U		
WW66 CARBON DISULFIDE, BY GC/MS LDL	UG/L	1.1	U	1.1	U	1.1	U		
WW67 METHYL ETHYL KETONE (2-BUTANONE) LDL	UG/L	3.0	U	5.2		3.0	U		
WW68 HEXANONE, 2- BY GC/MS LDL	UG/L	3.2	U	3.2	U	3.2	U		
WW69 4-METHYL-2-PENTANONE (MIBK) BY GC/MS LD	UG/L	0.79	U	0.79	U	0.79	U		
WW70 STYRENE, BY GC/MS LDL	UG/L	0.34	U	0.34	U	0.34	U		
WW72 DICHLOROPROPYLENE, TRANS 1,3- BY GC/MS	UG/L	0.82	U	0.82	U	0.82	U		
WW73 XYLENE, M AND/OR P BY GC/MS LDL	UG/L	0.22	U	0.25		2.5			
WW74 XYLENE, ORTHO BY GC/MS LDL	UG/L	0.40	U	0.40	U	0.87			
WW75 DICHLOROBENZENE, 1,4- (PARA) BY GC/MS L	UG/L	0.46	U	0.46	U	0.46	U		
WW76 DICHLOROBENZENE, 1,3- (META) BY GC/MS L	UG/L	0.36	U	0.36	U	0.36	U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	062	063	064	101	102
WW77 DICHLOROBENZENE, 1,2- (ORTHO) BY GC/MS	UG/L	0.35 U	0.35 U	0.35 U		
WW78 DICHLOROETHYLENE, 1,2- (TRANS) BY GC/MS	UG/L	7.1	0.84 U	32		
WW79 DICHLOROETHYLENE, 1,2- (CIS) BY GC/MS L	UG/L	8.9	0.84 U	520		
ZZ01 SAMPLE NUMBER	NA	062	063	064	101	102
ZZ02 ACTIVITY CODE	NA	PS1CS	PS1CS	PS1CS	PS1CS	PS1CS

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	103		104		105		106		107	
SG07 SOLIDS, PERCENT	%	66.9		78.2		62.7		79.9		72.2	
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	28	U	15	U	23	U	19	U	37	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	55	U	31	U	47	U	37	U	75	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	41	U	23	U	35	U	28	U	56	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	41	U	23	U	35	U	28	U	56	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	28	U	15	U	23	U	19	U	37	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV11 CHLOROFORM, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV17 BENZENE, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	14	U	7.7	U	440		9.3	U	19	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV24 BROMOFORM, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	21		8.3		25000		150		600	
SV26 TOLUENE, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	103		104		105		106		107	
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV30 ACETONE, BY GC/MS	UG/KG	28	U	15	U	23	U	19	U	37	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV32 METHYL ETHYL KETONE	UG/KG	28	U	15	U	23	U	19	U	37	U
SV34 HEXANONE, 2-	UG/KG	28	U	15	U	23	U	19	U	37	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	28	U	15	U	23	U	19	U	37	U
SV36 STYRENE, BY GC/MS	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV44 DICHLOROBENZENE,1,4-	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV49 XYLENE, ORTHO	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV57 XYLENE, M AND/OR P	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	14	U	7.7	U	12	U	9.3	U	19	U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	14	U	7.7	U	69		9.3	U	19	U
ZZ01 SAMPLE NUMBER	NA	103		104		105		106		107	
ZZ02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS		PS1CS		PS1CS	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	108		109		110		111		112	
SG07 SOLIDS, PERCENT	%	80.4		67.1		79.8		75.6		82.6	
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	24	U	25	U	23	U	18	U	19	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	48	U	49	U	46	U	35	U	38	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	36	U	37	U	35	U	27	U	29	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	36	U	37	U	35	U	27	U	29	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	24	U	25	U	23	U	18	U	19	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV11 CHLOROFORM, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV17 BENZENE, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	12	U	12	U	13		15		9.5	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV24 BROMOFORM, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	530		170		390		37		92	
SV26 TOLUENE, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	108		109		110		111		112	
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV30 ACETONE, BY GC/MS	UG/KG	24	U	25	U	23	U	18	U	19	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV32 METHYL ETHYL KETONE	UG/KG	24	U	25	U	23	U	18	U	19	U
SV34 HEXANONE, 2-	UG/KG	24	U	25	U	23	U	18	U	19	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	24	U	25	U	23	U	18	U	19	U
SV36 STYRENE, BY GC/MS	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV44 DICHLOROBENZENE,1,4-	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV49 XYLENE, ORTHO	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV57 XYLENE, M AND/OR P	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	12	U	12	U	12	U	8.9	U	9.5	U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	12	U	12	U	12	U	79		9.5	U
ZZ01 SAMPLE NUMBER	NA	108		109		110		111		112	
ZZ02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS		PS1CS		PS1CS	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	113		114		115		116	F	
SG07 SOLIDS, PERCENT	%	69.1		82.0		75.3		98.8		
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	35	U	19	U	30	U	12	U	
SV04 BROMOMETHANE, BY GC/MS	UG/KG	71	U	37	U	60	U	24	U	
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	53	U	28	U	45	U	18	U	
SV06 CHLOROETHANE, BY GC/MS	UG/KG	53	U	28	U	45	U	18	U	
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	35	U	19	U	30	U	12	U	
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	18		9.3	U	15	U	6.1	U	
SV11 CHLOROFORM, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV17 BENZENE, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	130		9.3	U	15	U	6.1	U	
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV24 BROMOFORM, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	6400		9.3	U	15	U	6.1	U	
SV26 TOLUENE, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 8-PS1CS

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

COMPOUND	UNITS	113		114		115		116	F	
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV30 ACETONE, BY GC/MS	UG/KG	35	U	19	U	30	U	12	U	
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV32 METHYL ETHYL KETONE	UG/KG	35	U	19	U	30	U	12	U	
SV34 HEXANONE, 2-	UG/KG	35	U	19	U	30	U	12	U	
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	35	U	19	U	30	U	12	U	
SV36 STYRENE, BY GC/MS	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV44 DICHLOROBENZENE,1,4-	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV49 XYLENE, ORTHO	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV57 XYLENE, M AND/OR P	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	18	U	9.3	U	15	U	6.1	U	
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	140		9.3	U	15	U	6.1	U	
ZZ01 SAMPLE NUMBER	NA	113		114		115		116		
ZZ02 ACTIVITY CODE	NA	PS1CS		PS1CS		PS1CS		PS1CS		

LABORATORY APPROVED DATA
PROJECT LEADER APPROVAL PENDING

ACTIVITY PS1CS 10TH STREET SITE

THE PROJECT LEADER SHOULD CIRCLE ONE - STORET, AIRS, OR ARCHIVE.

CIRCLE ONE: STORET AIRS ARCHIVE

DATA APPROVED BY LABO FOR TRANSMISSION TO PROJECT LEADER ON 11/05/98 12:51:25 BY M. Thomas.