SITE INVESTIGATION

EMERALD PUBLIC WATER SUPPLY SITE

(NED986369239)

EMERALD, NEBRASKA

PREPARED FOR:

U. S. ENVIRONMENTAL PROTECTION AGENCY

PREPARED BY:

NEBRASKA DEPARTMENT OF ENVIRONMENTAL CONTROL

September 30, 1991

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Section 1: Introduction

The Emerald Public Water Supply Site (NED986369239) was identified as a potential hazardous waste site on January 3, 1990. The Nebraska Department of Environmental Control (NDEC) has completed a Preliminary Assessment (PA) of the site on July 9, 1990. The PA recommends that further investigation is necessary.

Under a Multi-Site Cooperative Agreement with Region VII of the U.S. Environmental Protection Agency (EPA), NDEC has performed a Site Investigation (SI) in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. The objective of this SI is to further evaluate the impacts of the site to human health and the environment.

Section 2: Site Background

2.1 Location

The Village of Emerald, Nebraska is located in the northwestern portion of Lancaster County (T10N, R5E). It is approximately three miles west of Lincoln on highway 6, at the intersection of West 84th and "O" Streets. The coordinates of the site are 40° 48' 50" N Latitude and 96° 59' 41" W Longitude (Fig. 1).

2.2 Water Supply System

The Village of Emerald has no municipal well to supply the whole village currently. All domestic water for residences, industrial units, commercial units, and an elementary school is derived from their own wells. Well construction data is not available, most of them are described by their owners as shallow wells, with one exception at Nebraska Truck Company which has a well deeper than 100 feet(Ref. 1). Figure 2 shows the relative locations of these wells.

Due to the ground water contamination identified at the village, the elementary school has been supplied with bottled water by the Lancaster County School District #5 since the fall of 1989 (Ref. 2). The Village of Emerald has received approximately $178.660 from Community Development Block Grant of Nebraska (App. 3), to install a new municipal well for the village. Two test holes have been drilled, and the village is expecting to use the new well for its water supply by the end of 1991.

2.3 Drinking Water Contamination History

The Emerald ground water was first found to be contaminated when the school water supply was sampled on October 10, 1989 by the Lincoln - Lancaster County Health Department (LLCHD), and the test results showed up to 64.7 micrograms per liter (ug/l) of 1,2-dichloroethane and other volatile organic chemicals (VOC's). Twenty wells within and around the town were sampled for VOC's (Fig. 2) in response to the detected contamination. Thirteen wells showed contamination in this sampling event. Among the contaminants detected, 1,2-dichloroethane (1,2-DCA), 1,1-dichloroethylene (1,1-DCCE) and methylene chloride exceeded the Maximum Contaminants Level (MCL) of drinking water standard, and trichloroethylene (TCE) and 1,1,1-trichloroethane (1,1,1-TCA) approached MCL's.

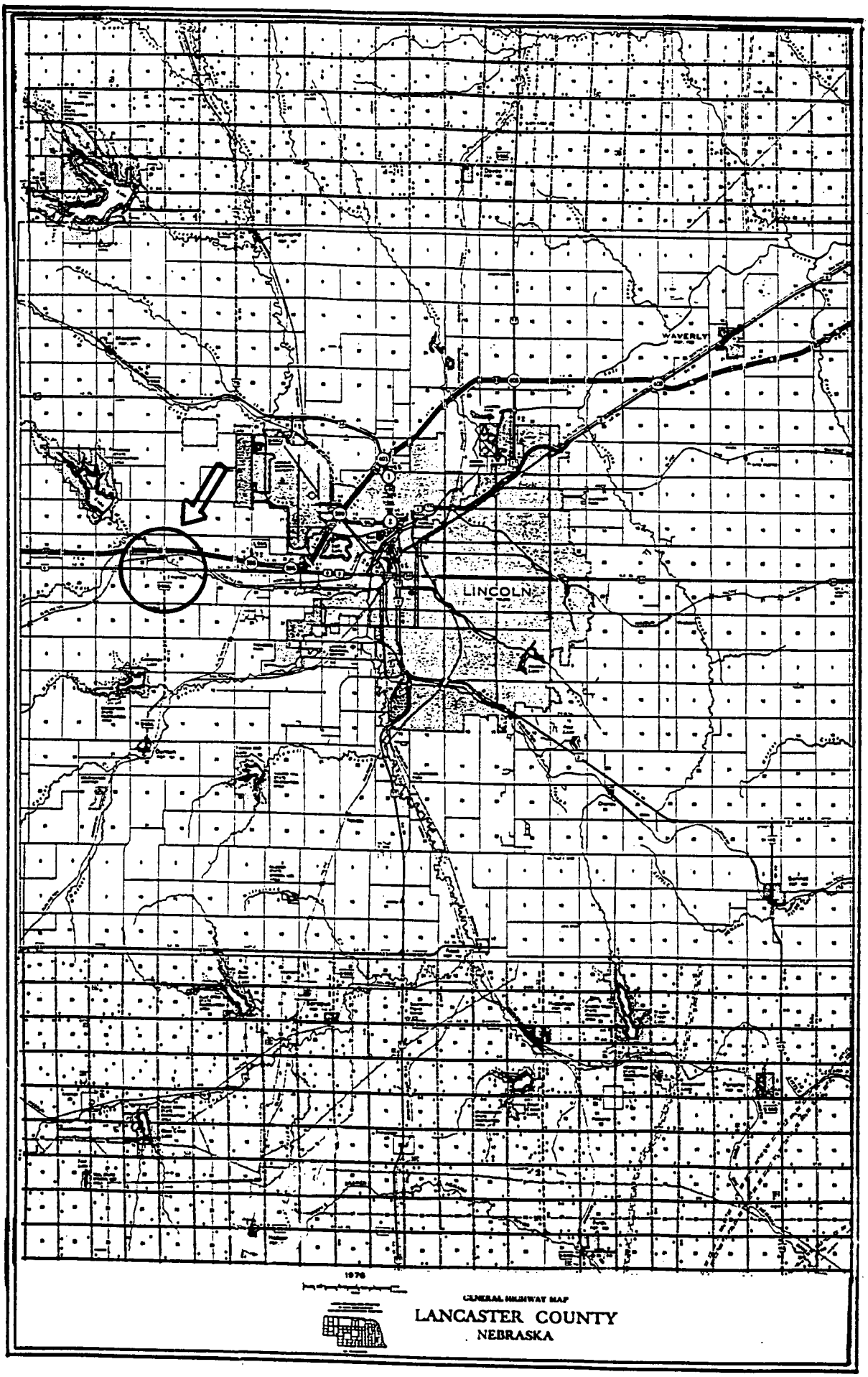


FIGURE 1 SITE LOCATION MAP: EMERALD PUBLIC WATER SUPPLY SITE, NEBRASKA

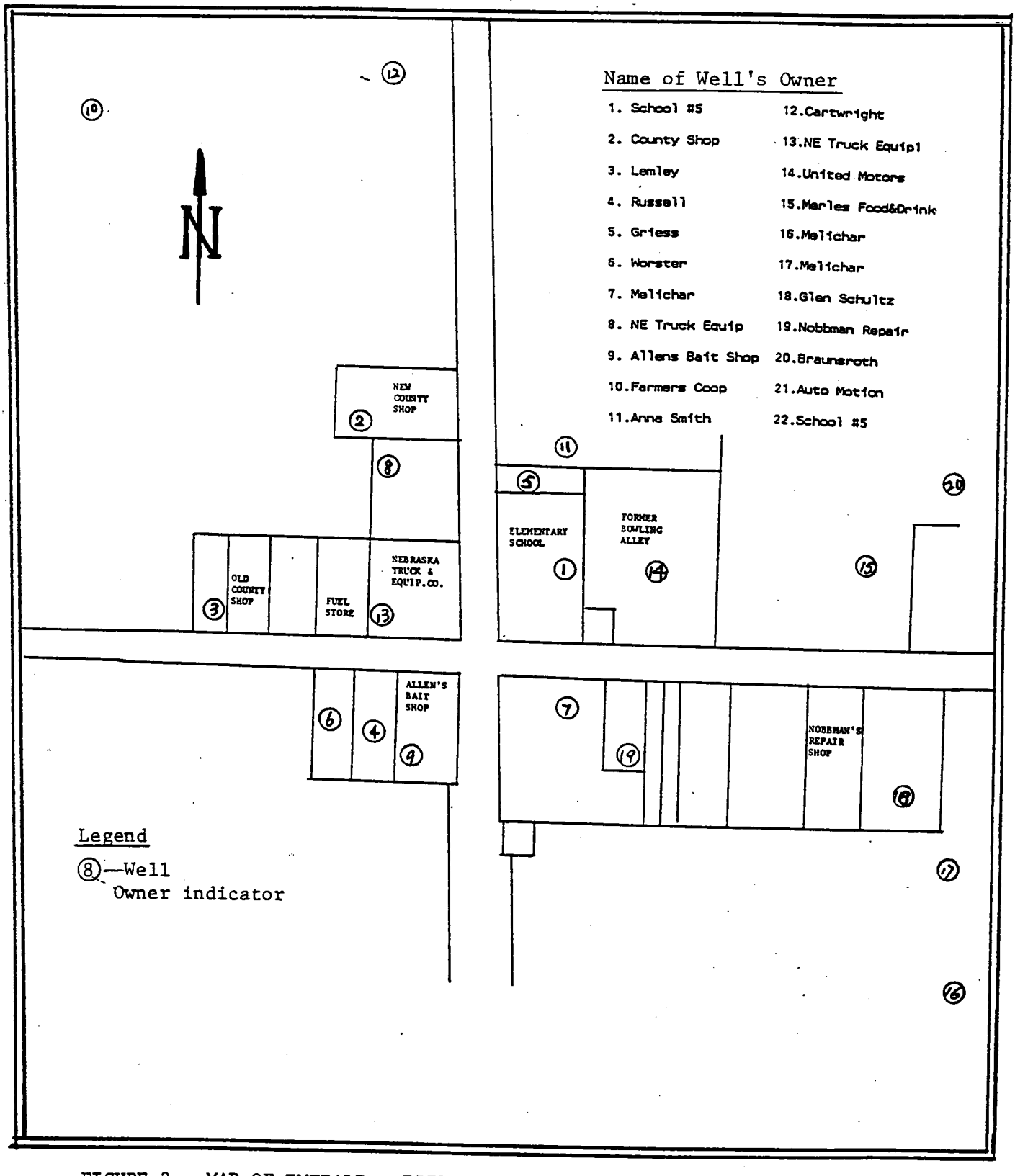


FIGURE 2 MAP OF EMERALD: PRIVATE WELL LOCATIONS (NOT TO SCALE)

The other contaminants detected were carbon tetrachloride (CCl_4), 1,1-dichloroethane (1,1-DCA), tetrachloroethylene (PCE), benzene, toluene, and dichloromethane (CH_2Cl_2).

In February and May of 1991, Ecology and Environment, Inc. (E & E) was given the task by EPA Region VII to conduct a field sampling investigation in order to assess the total area under potential impact, to determine the extent and probable source(s) of VOC contamination in the soils and the ground water. During this survey, 50 soil-gas locations were sampled either analyzed on site or delivered back to EPA's Lab, and 20 wells were sampled for VOC analysis. All sampling results are presented in Section 3, and the ground water contamination by above mentioned hazardous substances was further confirmed by these sampling events.

2.4 Potential Contamination Source Areas

During the Preliminary Assessment, several former and present potential contamination sources have been identified (Ref. 3, Fig. 3). These sources basically related to auto repair and gas stations, involving parts washing, body painting and stripping, solvent usage and oil storage activities. The location of these potential sources are in close proximity to resident's drinking water wells.

There is little information available to assess past waste disposal methods and management practices for each of these potential sources.

2.5 Remedial Actions to Date

Site Identification	January 3, 1990, NDEC
Preliminary Assessment	July 9, 1990, NDEC
Field Sampling Work	February 13 & 14, 1991, EPA
Follow-up Field work	May 30, 1991, EPA
Site Investigation	September 20, 1991, NDEC

Section 3: Field Investigation

3.1 Ground Water Survey

Table 3-1 presents the summarized ground water survey results.

Ground water samples were taken from the 20 wells within or nearby the Village of Emerald. Three sampling events have been conducted. The Lincoln Lancaster County Health Department sampled these wells between December 1989 and January 1990; The Ecology and Environment Inc. conducted the second and third sampling in February and May 1991 respectively under a contract with EPA Region VII. The water test results from the second run was not included in Table 3-1 since EPA had quality assurance questions regarding the analysis.

Figure 3 presents the concentration distribution of each chemical detected. For each location the highest concentration detected was marked.

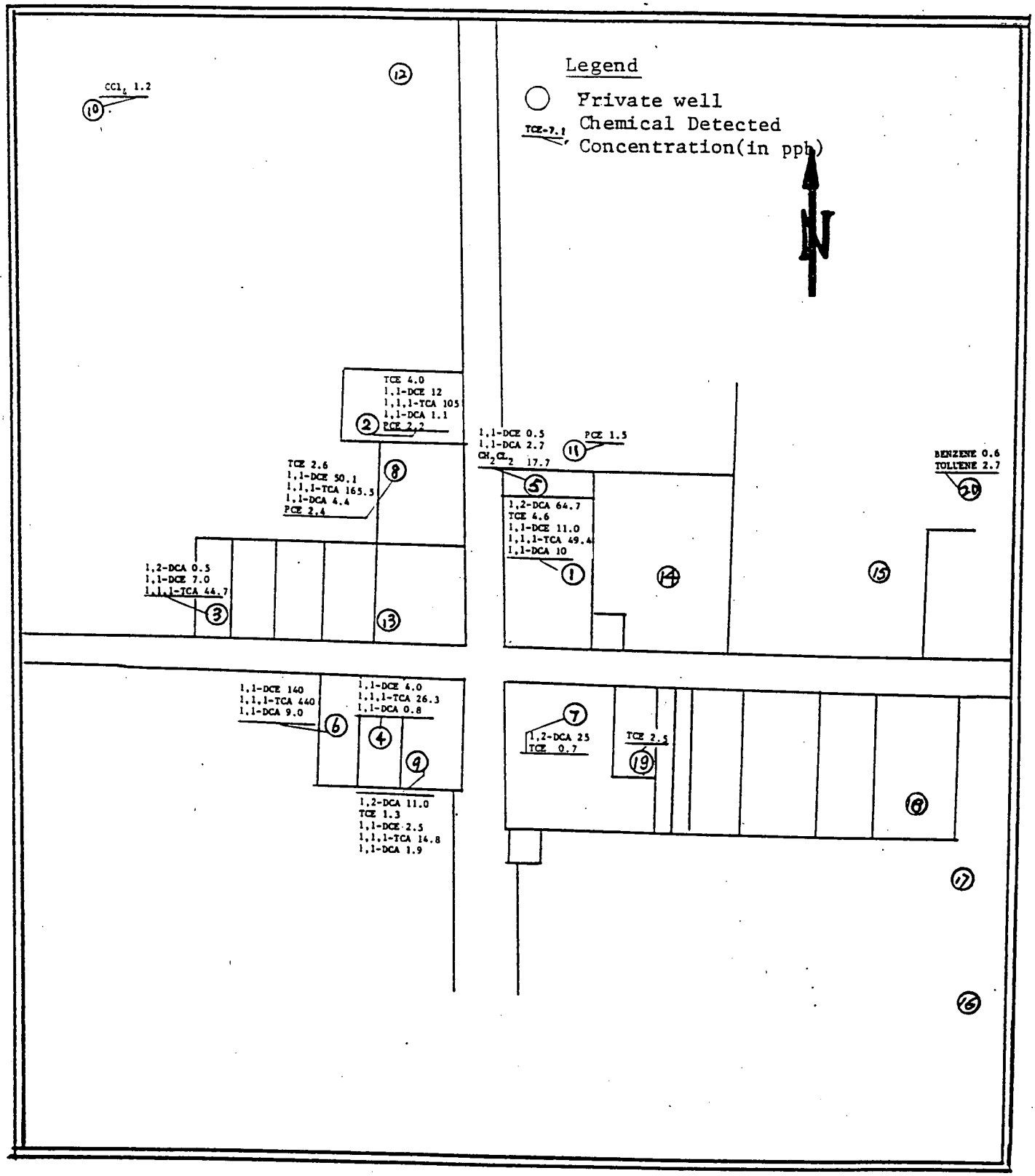


FIGURE 3 GROUND WATER SURVEY RESULTS AT EMERALD SITE (NOT TO SCALE)

Table 3-1 Water Sample Results (in ppb), Emerald, Nebraska

Location	1,2-DCA	TCE	1,1-DCE	1,1,1-TCA	1,1-DCA	PCE	CCl_4	CH_2Cl_2	Benzene	Toluene	Date
1.School #5	27.1	4.6	2.3	49.4	10.0						12-01-89
	64.7	2.5	10.0	15.9	7.2						10-10-89
			11.0	21.0							05-30-91
2.County Shop		2.5	12.2	105.4	1.1	2.2					12-01-89
		4.0	6.0	28.0							05-30-91
3.Lemley	0.5		7.1	44.7							12-20-89
			7.0	30.0							05-30-91
4.Russell			1.7	26.3	0.8						12-20-89
			4.0	21							05-30-91
5.Griess			0.5		2.7			17.7			12-20-89
					2.0						05-30-91
6.Worster		0.8	8.1	45.5	2.1						12-22-89
			140.0	440.0	9.0						05-30-91
7.Melichar		0.7									12-14-89
	25.0										05-30-91
8.NE Truck Equip		2.6	50.1	165.5	4.4	2.4					12-14-89
				3.0							05-30-91
9.Allens Bait Shop	5.1	1.3	2.5	14.8	1.9						12-14-89
	11.0		1.0	8.0	1.0						05-30-91
10.Farmers Coop							1.2				12-27-89
											05-30-91
11.Anna Smith						1.5					12-01-89
											05-30-91
12.Cartwright											12-20-89
											05-30-91
13.NE Truck Equipl											12-14-89
											05-30-91
14.United Motors											12-01-89
											05-30-91
15.Merles Food & Drink											12-01-89
											05-30-91
16.Melichar											01-24-90
											05-30-91
17.Glen Schultz											12-27-89
											05-30-91
18.Nobbman Repair											01-23-90
											05-30-91
19.Braunsroth		2.5									01-23-90
											05-30-91
20.Auto Motion									0.6	2.7	01-23-90
											05-30-91

According to this survey a ground water plume with several hazardous substances exists at the intersection of Highway 6 and West 84 Street. The locations of the highest concentrations for different chemicals changed with time. Well 13 has not showed the contamination although it is located between other contaminated wells (Well 13 is the well which is known deeper than 100 feet). Several wells located at eastern and northern portion of Emerald show no contamination.

3.2 Soil Gas Investigation

Soil gas investigation at the Emerald site was conducted on February 13 and 14, and May 30 of 1991 by the Ecology and Environment, Inc., under a contract with EPA Region VII. The sampling points and results were presented in Figure 4 and Table 3-2.

As shown by the sampling results, tetrachloroethylene and trichloroethylene have similar distribution patterns with high concentrations at points 6 and 4 (Nebraska Truck and Equipment Company), and with reduced concentrations around these two points (Figure 4-b). 1,1-dichloroethylene, 1,1-dichloroethane and 1,1,1-trichloroethane were detected mainly at point 31 (backyard of Nebraska Truck and Equipment Company), point 16 (former bowling alley), and point 9 (former county shop). 1,2-dichloroethane was only detected at point 16. Dichloromethane was detected at point 15 (former bowling alley). Pentane, heptane, hexane, and benzene showed up at point 38 (Allen's Bait Shop) at very high concentrations (Figure 4-a).

Section 4: Physical Geography

4.1 Topography

Northern Lancaster County is located in rolling hills and valley topographic region of Nebraska (Ref. 4), which is a portion of the Central Low land provinces of the Interior Plains Physiographic division. The elevation of Emerald is about 1,200 feet (Ref. 5).

4.2 Drainage

Emerald located at the stream terraces physiographic area of Middle Creek, which flows through the northeast edge of the town and is one of the major tributaries of Salt Creek. Salt Creek and its major tributaries consist of the drainageway of Emerald area (Ref. 4).

4.3 Soils and Geology

The soils at Emerald were classified as silty clay loam, with 0 to 2 percent slopes. This type of soil generally has a permeability range from 0.2 to 0.6 in/hr, and a available water capacity range from 0.21 to 0.23 in/in. (Ref. 4).

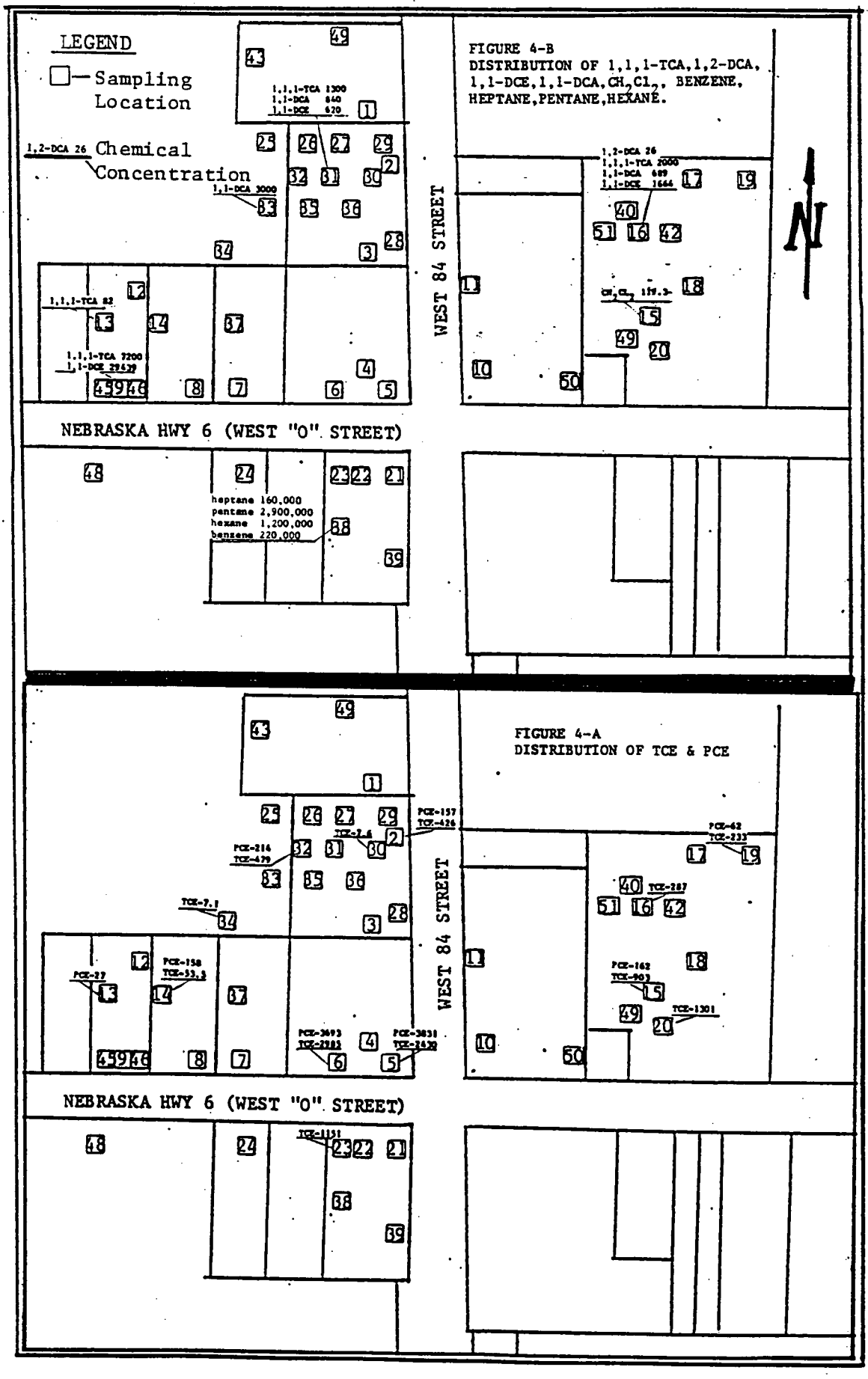


FIGURE 4 SOIL GAS SURVEY RESULTS: LOCATIONS AND CONCENTRATION (in ppbv)
(NOT TO SCALE)

The bedrock in Lancaster County is Pennsylvanian and Permain age limestone with interbedded shale and sandstone of the Dakota Group of Cretaceous age. Emerald is located upon the bedrock of the Dakota Group (Ref. 5). Unconsolidated sediment of Quaternary age overlies the bedrock in the county.

4.4 Ground Water (Ref. 5)

Local geology indicates there are two aquifers underlying the Village of Emerald. The upper aquifer is about 20 feet deep from ground surface. This aquifer consists of quaternary sands and gravels with a saturated thickness range from 5 to 10 feet. The estimated transmissivity of the aquifer is 5,000 gallons per day per foot. This aquifer is localized and is not in connection with other aquifers. The lower aquifer at this site is classified as Dakota aquifer which is about 100 feet below the ground surface. the saturated thickness of its sandstone range from 20 to 48 feet. The estimated transmissivity of the Dakota formation is 2,000-7,000 gallons per day, per foot.

The general ground water movement in this area is to the north and northeast.

4.5 Climate

The climate of Northern Lancaster County is continental and subhumid. The average annual precipitation is 28.6 inches. of which approximately 40% (12 inches) falls during the April through September period. Average snowfall is 24 inches. Typically the region exhibits a wide variation in seasonal precipitation and temperatures (Ref. 4).

4.6 Wetland

A topographic map of the area (Ref. 6) shows numerous artificially flooded wetlands, and intermittent and permanent streams occur in this area, primarily associated with Middle Creek. Two lakes. Pawnee Lake and Conastoga Lake, and their associated state Recreation Areas are located within the vicinity of Emerald.

4.7 Land Use

The predominant land use within the vicinity of Emerald is dryland agriculture (Ref. 4).

4.8 Population

The population of Emerald is 60 (Ref. 6). School District No. 5 currently has 30 people (including students, teachers and other assistants). Numerous dwellings surround the town.

4.9 Critical Environment

The following federally listed and proposed threatened and endangered species may occur in the vicinity of Emerald (Ref. 9).

Listed Species	Expected Occurrence
Bald Eagle (Holiaeetus Leucocephalus)	Migration, winter resident
Peregrine Falcon (Falco peregrinus)	Migration
Western prairie fringed orchid (Platantera praeclara)	Tall-grass prairie

Section 5: Hazardous Substances Characteristics

5.1 Toxicity and Environmental Fate (Ref. 11)

Toxicity and Environmental Fate of VOCs detected at the Emerald site are listed in Table 5-1.

5.2 Chemical and Physical Properties

The chemical and physical properties of hazardous substances detected at Emerald ground water were listed in table 5-2.

TABLE 5-1 TOXICITY AND ENVIRONMENTAL FATE OF VOCS DETECTED AT EMERALD

Compound	EPA MCL* ppb	EPA Carcinogen Group*	Use & Potential Sources	Potential Effected Organs	Environmental Fate
1,2-DCA	5	B_2	Solvent, degreaser, grain fumigants, cleaning agents, insecticide sprays.	lungs kidneys	resistant to biodegradation
1,1-DCA	—	—	solvent degreaser, cleaning agents.	liner kidneys	—
TCE	5	B_2	degreasers, solvents, paint strippers, insecticides, adhesives.	liver kidneys nerves skin	resistent to biodegradation in subsurface. Degradation in the atmosphere. Estimated half-life is about 7 days.
1,1-DCE	7	C	adhesives, plastics, solvents, refrigerants.	liner renal dysfunition skin eyes	biodegradation in soil or water environmental
PCE	5	B_2	degreasers, dry cleaning agents, solvents, chemical, intermediate.	CNS, eyes lungs, liner kidney, heart skin, mucuous membranes	resistent to biodegradation and hydolysis
1,1,1,-TCA	200	D	—	—	—
Dichloromethane	—	C	food additive, solvents, paint remover, insecticide, metal degreasing, aerosol use.	CNS, Heart liver, kidneys bone morrow cardiovascular system	resistant to biodegration and strongly affected by pH and temperature. Estimated half-life is 18 months at 25°C
Carbon Tetrachloride	5	B_2	dry cleaning agents grain fumigants, solvents pesticides, additives, refrigerants, propellants	liver nausea kidneys renal	Evaporation very fast Resistant to degradation
Benzene	5	A	solvents, leaky gasoline storage tanks, & landfills	CNS, Bone morrow Red blood cells platelets	biodegradation in shallow, aerobic ground water
Toluene	2000	—	chemical extract solvents, component of gasoline	nervous system	rapidly degraded in the atmosphere. Very slow in water. Rapid biodegradation in shallow groundwater

* MCL = EPA Maximum Contaminant Level for drinking water

* CNS = Central nervous system

* Carcinogen Group of EPA:
A = Human carcinogen
B = Probable human carcinogen
B_1 = Limited evidence of carcinogenicity in Humans
B_2 = A combination of sufficient evidence in animals and inadequate or no evidence in humans
C = Possible human carcinogen
D = Not classifiable as to human carcinogenicity
E = Evidence of non-carcinogenicity for humans

REFERENCE 11

TABLE 5-2 CHEMICAL AND PHYSICAL PROPERTIES OF CHEMICALS DETECTED AT EMERALD SITE

Compound	Formula	MW (g/mol)	Density (g/mol)	bp (°C)	solubility (mg/l)(water	Vapor Pressure (mm Hg)	Henry's constant(at 20°C) ($Atm-m^3/mole$)
1,2-Dichloroethane	CH_2ClCH_2Cl	99.0	1.24	87.0	8700	82.0	1.1×10^{-3}
Trichloroethylene	$CHCl=CCl_2$	131.4	1.46	87.0	1100	74.0	4.8×10^{-3}
1,1-Dichloroethylene	$CH_2=CCl_2$	96.95	1.2129	31.7	2500	31.7	0.19
1,1,1-Trichloroethane	CH_3CCl_3	133.4	1.34	74.0	720	124.0	7.2×10^{-3}
1,1-Dichloroethane	CH_3CHCl_2	98.97	1.1680	57.3	—	54.70	--
Tetrachloroethylene	$CCl_2=CCl_2$	165.8	1.62	121.0	140	18.6	19.8×10^{-3}
Dichloromethane	CH_2Cl_2	84.94	1.3255	39.75	20,000	40.7	2.03×10^{-3}
Carbon Tetrachloride	CCl_4	153.8	1.59	77.0	800	113.0	23.2×10^{-3}
Benzene	C_6H_6	78.11	0.8787	80.1	1000	80.1	5.5×10^{-3}
Toluene	$C_6H_5CH_3$	92.13	0.866	110.6	515	110.6	6.66×10^{-3}

AWWA, 1983

The MERCK INDEX (10th Edition)

Clayton (1981)

Section 6: Quality Assurance/Quality Control Review

6.1 Ground water Sampling Data

The first run of ground water analysis were conducted by the laboratory of Nebraska Health Department under the Lab's QA/QC control.

The second and third runs of ground water analyses were conducted by EPA Region VII's laboratory and went through EPA's QA/QC control and review.

6.2 Soil Gas Data

Soil gas data was obtained from two parts, in-situ photovac analytical data and laboratory analytical data. Both parts of data were obtained under EPA's QA/QC control.

Section 7: Conclusions and Recommendation

The soil-gas survey and ground water survey performed at this site have pinpointed a source area of the ground water contamination, which is the area around the intersection of Nebraska highway 6 and west 84 Street. Based on the soil gas results, the "hot spot" of trichloroethylene and tetrachloroethylene was at the location of Nebraska Truck and Equipment Co., less concentration of these two contaminants were detected around this location. Other contaminants detected showed less clear patterns of distribution.

At the location of Alan's Bait Shop, heptane, pentane, hexane, and benzene were detected in soil gas at high concentrations. These chemicals are commonly associated with petroleum contamination sites. The detection of these chemicals may indicate a petroleum release to the ground surface at this location.

The Nebraska Department of Environmental Control recommends the Emerald public water supply site be referred to CERCLA for follow-up. The Superfund Unit has referred the potential release of petroleum products at Allen's Bait Shop to Ground Water Section of NDEC for further investigation.

References

1. Emily Chen, conversation with Ron Marquart regarding Emerald Wells, September 13, 1991. The Nebraska Department of Environmental Control, Lincoln, Nebraska.

2. Randy Schademan, Memorandum about Removal Assessment at Emerald Public Water Supply Site, April 13, 1990, Ecology and Environment, Inc., Overland Park, Kansas.

3. Emily Chen, Preliminary Assessment for Emerald Public Water Supply Site, June 14, 1990. The Nebraska Department of Environmental Control, Lincoln, Nebraska.

4. USDA Soil Conservation Service, Soil Survey of Lancaster County, Nebraska, May 1980.

5. Dean E. Holly, Hydrogeology of Northern Lancaster County, Nebraska, M. S. thesis, University of Nebraska - Lincoln, October 1980.

6. NDEC, Emerald Public Water Supply Site File (Superfund Site), Lincoln, Nebraska.

7. Durand Reiber, Memorandum about Quality Assurance Sampling Plan for Emerald Ground Water Contamination, September 11, 1990. Ecology and Environment, Inc., Overland Park, Kansans.

8. NDEC, Carbon Tetrachloride - Literature Review, April 1990, Lincoln, Nebraska.

9. NDEC, Groundwater Section file: Edwards Site - Emerald, Nebraska, No. UG-#10267-SMS-1030, Lincoln, Nebraska.

10. Michael J. LeValley, Information on Threatened and Endangered Species, March 14, 1990. U.S. Department of the Interior, Fish and Wildlife Service, Grand Island, Nebraska.

11. Toxicological Profiles for:

1.1,1-TCA	published in	1990
1.2-DCA	published in	1989
1.1-DCA	published in	1990
TCE	published in	1988
1.1-DCE	published in	1989
PCE	published in	1989
CH_2Cl_2	published in	1990
CCl_4	published in	1989
benzene	published in	1988
toluene	published in	1989

Agency for Toxic Substances and Disease Registry, Atlanta, Georgia.

12. Dan Schulz, Report on irrigated acres, registered wells and land use within three miles of Emerald, Nebraska, May 15, 19890. Lower Platte South Natural Resources District, Nebraska.

APPENDIX 1

SOIL GAS SURVEY RESULTS

9/6/91

FROM THE DESK OF . . .

E. Durand Reiber

RECEIVED
SEP 09 1991
DEPARTMENT OF ENVIRONMENTAL CONTROL

Dear Ms. Chen,

Please excuse my hurried hand-written note & map, but limited time in the office still prevents me from addressing this site. The map indicates all soil gas locations: (1 thru 39 from the first event, 40 thru ~~44~~ 50 from the second). The other chart gives both the on site phovac (photo) analysis results, & the corresponding lab results for those points where we also collected a Summa cannister.

Unfortunately, during our second trip out, the photovac would not operate properly & we do not have a backup, therefore, we could

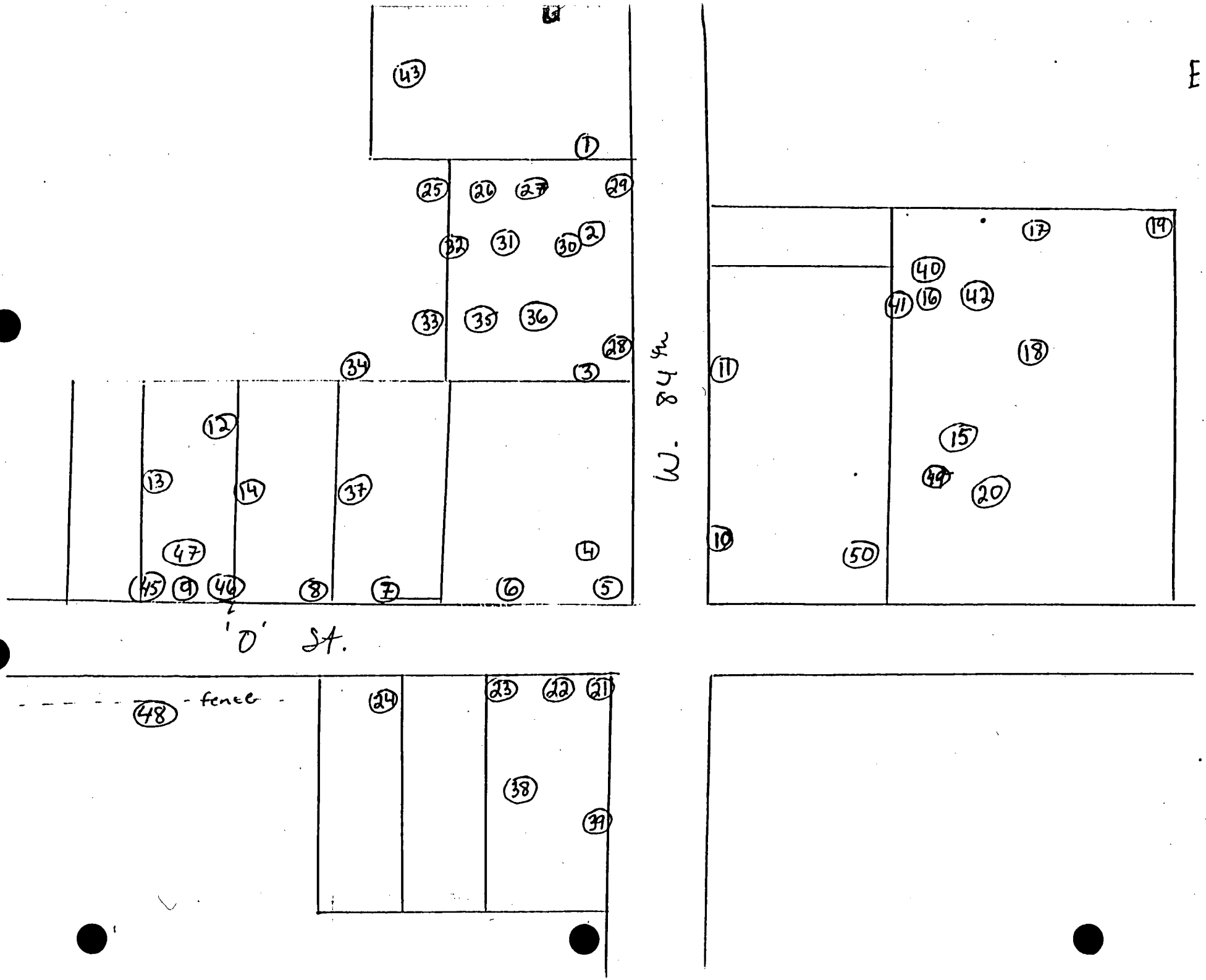
ecology and environment, inc.
CLOVERLEAF BUILDING 3, 6405 METCALF, OVERLAND PARK, KANSAS 66202, TEL. 913 432-9961
International Specialists in the Environment

only collect summa canisters at strategic points based on our first trip out. The EPA only had 11 canisters, which limited us even more.

I hope this gives you adequate information for completion of the SI. It is my sincere hope to complete this repot in the next month, however, I'm anticipating at least 3 more weeks in the field at a removal site, then one week at another site, leaving me no time for the writing of repots till October ?!

Sincerely,

Durand Reiber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ecology and environment, inc.
CLOVERLEAF BUILDING 3, 6405 METCALF, OVERLAND PARK, KANSAS 66202, TEL. 913/432-9961
International Specialists in the Environment

April 8, 1991

Emily Chen
Nebraska Department of Environmental Control
P.O Box 98922
Lincoln, Nebraska 68509-8922

Dear Ms. Chen,

Enclosed are the data results of the Emerald water and soil gas samples submitted for laboratory analysis. The water samples were analyzed under a special analytical services contract through EPA, while the soil gas samples were analyzed by the Region VII EPA laboratory. The EPA data review (also enclosed) of the water results found the data to be 'questionable'. However, it correlates well with previous sample data. You can find the well locations under the 'description' field on the first page of the data transmittal.

Eleven out of the 39 soil gas sample points analyzed on site were sent to the lab for analysis. Unfortunately, the sample points (locations) and the associated on-site analytical results are plotted and color-coded on a large, hard map, and I do not have the time right now (today) to transfer all this information to something that I can send you in the mail. I have added the sample points to the description field on the first page, and enclosed a rough map of these sample points. The points in red are those analyzed by the lab for which you have the results. The points in blue and black were those analyzed on site; black symbolizes those which were nondetect, and blue symbolizes those for which TCE, 1,1-DCE, PCE, or CH2CL2 were detected. I will try to get the missing data (on-site analysis) to you within the next week, as time permits.

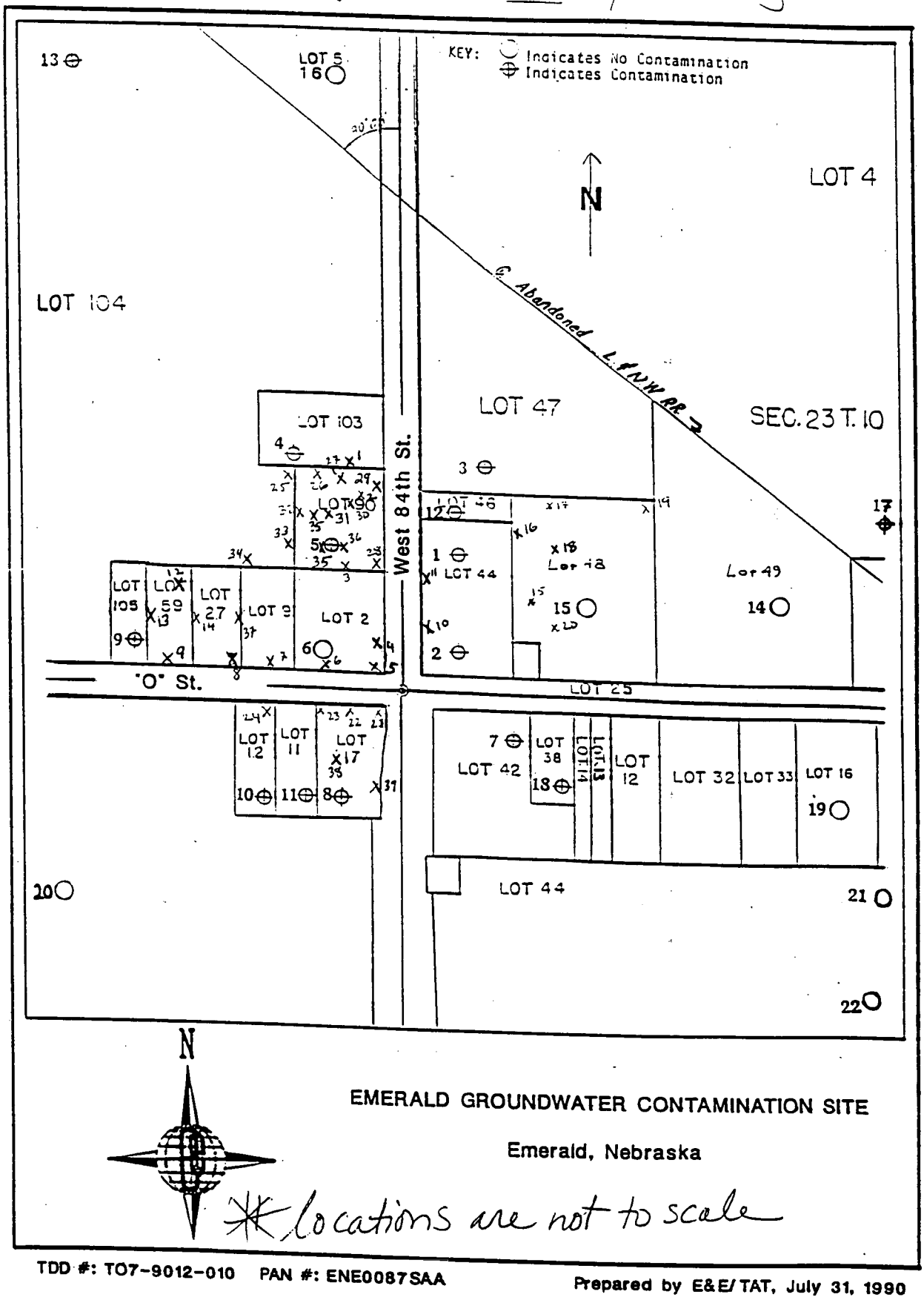
As stated during our phone conversation today, we are planning to resume the Emerald field investigation on April 29, 1991, in conjunction with four other investigations in Nebraska! I will keep you informed of our plans, and try to get all the above missing information to you as soon as possible.

Sincerely,

Durand Reiber
Environmental Scientist
Ecology & Environment, Inc.
Technical Assistance Team

DR
Enclosure

X = sample points analyzed on site; nondetect
X = sample points analyzed on site; VOCs detected
X = sample points analyzed on site AND by laboratory (results enclosed)



TDD #: TO7-9012-010 PAN #: ENE0087SAA

Prepared by E&E/TAT, July 31, 1990

Figure 2: Emerald, Nebraska Site Map

APPENDIX 2

LAB REPORT OF GROUND WATER
TEST RESULTS

ENVIRONMENTAL SERVICES ASSISTANCE TEAM -- ZONE II

ICF Technology Incorporated

ManTech Environmental Technology, Inc.

The Bionetics Corp.

ESAT Region VII
ManTech Env.Tech.Inc.
25 Funston Road
Kansas City, KS 66115
(913) 236-3881

To: Larry Marchin & Barry Evans
Data Review Task Monitors
Thru: Harold Brown, Ph.D.
ESAT Deputy Project Officer, EPA
From: Janet Muse
Senior Scientist, ESAT
Thru: Ronald A. Ross
Region VII ESAT Team Leader, Mantech

Date: March 18 1991
Subject: Review of organic data for Emerald Groundwater

ASGN #: 745
TID #: 07-9009-509
ICF Acct. #: 302-26-509-02
ManTech Sales Order : 1073-509
ESAT Doc. Control #:..... ESAT-VII-509-0131

These data were reviewed according to the "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses," and the Region VII Organic Data Review Training Manual as guidance. The following comments and attached data sheets are a result of the ESAT review of the above mentioned data from the contract laboratory.

CASE NO.: 6053G
SITE: Emer. Groundwater
REVIEWER: J. MUSE
MATRIX: Water

LABORATORY: SWOK
METHOD NO.: CS0288A
EPA ACTIVITY NO.: DKX04

SAS Sample No.	EPA Sample No.
6053G001	DKX04201
6053G002	DKX04202
6053G003	DKX04203
6053G004	DKX04204
6053G005	DKX04205
6053G006	DKX04206
6053G007	DKX04207
6053G008	DKX04208
6053G009	DKX04209
6053G010	DKX04210
6053G011	DKX04211
6053G012	DKX04212
6053G013	DKX04213
6053G014	DKX04214
6053G015	DKX04215
6053G016	DKX04216
6053G017	DKX04217
6053G018	DKX04218
6053G019	DKX04218D
6053G020	DKX04219F

And QC samples DKX04900M, 901M, 210R, 210S, 211R, AND 211S.

General

This data review assignment covers TWENTY WATER samples analyzed for Low Detection Limit volatile organics for SAS #6053G. One field blank, one field duplicate, and 4 QC samples were included in this assignment. No organic traffic reports were present.

1. Holding Times and Preservation

The holding time requirements for these samples were met for both halogenated and aromatic compounds.

2. GC/MS Performance

All CLP criteria for GC/MS performance were met for a 50 nanogram injection of 4-bromofluorobenzene.

3. Method Blanks / Field Blank

Positive hits for target compounds in the blanks were only reported positive in the sample after the blank rule was applied. That is, positive hits for methylene chloride in the samples were reported and coded with a "U" unless they were greater than 10-times the level in the daily blank.

Acetone and 2-butanone were reported in the field blank, DKX04219F. No data was qualified due to these compounds found in the field blank.

4. Initial Calibration

All response factors met applicable criteria. All compounds met the 35% criteria for RSD. Response factors for gases were greater than 5.0. However some compounds eluting in the middle of the run were only 0.1 - 0.2.

5. Continuing Calibrations

Only chloromethane was outside the 25% Difference for response factors on the continuing calibrations for volatile analysis. Since no positive hits were found for this outlier in the samples, no data was qualified due to the continuing calibrations.

6. Surrogate Recoveries

Surrogate recoveries were within CLP control limits in all cases.

7. Internal Standard Areas

Met applicable criteria.

8. Matrix Spike / Matrix Spike Duplicate

Since the lab did not receive sufficient sample volume for any of the samples to do both a MS and MSD, only an MS was analyzed for two sets of samples, 210MS and 211MS.

Recoveries were within QC limits for all compounds in DKX04210MS.

1,1 Dichloroethene was outside QC limits for recovery in DKX04211MS. No data was qualified by the MS.

Discussion

Data was only sent for a 1:10 dilution of sample DKX04201 requesting low detection limit analysis. 1,1 Dichloroethane was present at 9 ug/L (.9 x 10) in this diluted sample. Since the 1:10 dilution raises the detection limit to 10U for this compound, 1,1 Dichloroethane was reported as 10U in the sample.

In samples DKX04201, -208, -211, -214, -219, 1,1 Dichloroethene was incorrectly reported as 1,2 Dichloroethene(total). The laboratory's problems with reporting of these compounds can also be seen in the MS for DKX04211. The % Recovery for 1,1 dichloroethene in this MS was 160.4%. If the lab had subtracted the 6 ug/L of 1,1 dichloroethene found in the original sample instead of reporting it as 1,2 dichloroethene(total), the % Recovery for 1,1 dichloroethene in the MS would have been 100.4%.

The retention times for target compounds in the initial calibration eluted ~2 minutes faster at the beginning of the run than those same compounds in the continuing calibrations. Towards the end of the run, retention times were more closely matched. Samples retention times varied ~0.1 - 0.2 when compared to their continuing calibration, as well as retention times from one continuing calibration to the next continuing calibration.

Summary

This data package borders the lines of acceptability in terms of requirements for overall accuracy, precision and completeness. Most problems were identified and corrected. However, a couple of samples had several compounds in them. Because of the lab's problems with inconsistent retention times the data becomes questionable.

ANALYSIS REQUEST REPORT

PRELIMINARY DATA
SUBJECT TO REVISION

FOR ACTIVITY: DKX04

MICHALOWSKI, M.

03/20/91 09:56:59

* LABO APPROVED

FY: 91 ACTIVITY: DKX04 DESCRIPTION: EMERALD GROUNDWATER LOCATION: NEBRASKA

STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: A34

LABO DUE DATE IS 4/ 5/91. REPORT DUE DATE IS 4/20/91.

INSPECTION DATE: 2/19/91 ALL DATA APPROVED BY LABO DATE: 03/20/91 FINAL REPORT TRANSMITTED DATE: 00/00/00

EXPECTED LABO TURNAROUND TIME IS 45 DAYS EXPECTED REPORT TURNAROUND TIME IS 60 DAYS

ACTUAL LABO TURNAROUND TIME IS 29 DAYS ACTUAL REPORT TURNAROUND TIME IS 0 DAYS

Soil Gas

Water

Seneca Pits:

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CONT.	CITY	STATE	AIRS/ STORET LOC NO	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		A	SUMMA CANNISTER 1-EMERALD GW - 28	1	1	EMERALD	NEBRASKA		02/14/91	08:00	02/14/91	11:50
002		A	SUMMA CANNISTER 2-EMERALD GW - 29	1	1	EMERALD	NEBRASKA		02/14/91	10:00	02/14/91	10:45
003		A	SUMMA CANNISTER 3-EMERALD GW - 16	1	1	EMERALD	NEBRASKA		02/14/91	09:05	02/14/91	09:05
004		A	SUMMA CANNISTER 4-EMERALD GW - 31	1	1	EMERALD	NEBRASKA		02/14/91	10:11	02/14/91	10:15
005		A	SUMMA CANNISTER 5-EMERALD GW - 33	1	1	EMERALD	NEBRASKA		02/14/91	12:05	02/14/91	14:30
006		A	SUMMA CANNISTER 6-EMERALD GW - 34	1	1	EMERALD	NEBRASKA		02/14/91	14:40	02/14/91	15:10
007		A	SUMMA CANNISTER 7-EMERALD GW - 35	1	1	EMERALD	NEBRASKA		02/14/91	15:00	02/14/91	15:10
008		A	SUMMA CANNISTER 8-EMERALD GW - 37	1	1	EMERALD	NEBRASKA		02/14/91	16:30	02/14/91	:
009		A	SUMMA CANNISTER 9-EMERALD GW - 9	1	1	EMERALD	NEBRASKA		02/14/91	14:50	02/14/91	17:10
010		A	SUMMA CANNISTER10-EMERALD GW - 13	1	1	EMERALD	NEBRASKA		02/14/91	17:05	02/14/91	18:00
011		A	SUMMA CANNISTER11-EMERALD GW - 38	1	1	EMERALD	NEBRASKA		02/14/91	08:00	02/14/91	08:05
012	F	A	SUMMA CANNISTER FIELD BLANK	1	1	EMERALD	NEBRASKA		02/15/91	:	/ /	:
201		W	BOB WORSTER RESIDENTIAL WELL, RT. 6	1	2	EMERALD	NEBRASKA		02/15/91	12:30	02/15/91	12:40
202		W	FAE HINTRICHS/BRAUNSWORTH, RT.6	1	2	EMERALD	NEBRASKA		02/15/91	12:50	02/15/91	13:00
203		W	AUTO MOTION, 8100 W."O" STR.	1	2	EMERALD	NEBRASKA		02/15/91	13:40	02/15/91	13:50
204		W	HOUSE OF BOATS, 8200 W. "O" STREET	1	2	EMERALD	NEBRASKA		02/15/91	14:00	02/15/91	14:10
205		W	MERLE'S FOOD AND DRINK	1	2	EMERALD	NEBRASKA		02/15/91	14:15	02/15/91	14:20
206		W	LENA EDWARDS & NEIGHBOR 8113 W."S"STR	1	2	EMERALD	NEBRASKA		02/15/91	14:30	02/15/91	14:40
207		W	CROSSROAD BAIT, 8401 W. "O" STREET	1	2	EMERALD	NEBRASKA		02/15/91	14:50	02/15/91	15:00
208		W	NE TRUCK & EQUIP, RT. 6	1	2	EMERALD	NEBRASKA		02/15/91	15:10	02/15/91	15:15
209		W	MELICHAR, RT. 6	1	2	EMERALD	NEBRASKA		02/15/91	15:30	02/15/91	15:40
210		W	LINCOLN ANNUITY, RT. 6	1	2	EMERALD	NEBRASKA		02/15/91	15:45	02/15/91	15:55
211		W	LEMLEY RT. 6	1	2	EMERALD	NEBRASKA		02/15/91	16:00	02/15/91	16:10
212		W	RON GREISS, RT. 6	1	2	EMERALD	NEBRASKA		02/15/91	16:15	02/15/91	16:25
213		W	COUNTY CHOP, RT.6	1	2	EMERALD	NEBRASKA		02/15/91	17:00	02/15/91	17:10
214		W	RUSSELL, 8421 W. "O" STREET	1	2	EMERALD	NEBRASKA		02/15/91	17:30	02/15/91	17:35
215		W	LYNCH, DAN, 8250 W. "O" STREET	1	2	EMERALD	NEBRASKA		02/15/91	17:45	02/15/91	17:50

PRELIMINARY DATA
SUBJECT TO REVISION

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE STATUS	# CONT.	CITY	STATE	AIRS/ STORET LOC NO	BEG. DATE	BEG. TIME	END. DATE	END. TIME
216		W	HARRY NOBBMAN, 8101 W."O" STREET	1	2	EMERALD	NEBRASKA		02/15/91	17:55	02/15/91	18:00
217		W	JANE SWANSON, RT. 6, BOX 206	1	2	EMERALD	NEBRASKA		02/15/91	18:05	02/15/91	18:10
218		W	EMERAL ELEMENTARY SCHOOL 206	1	2	EMERALD	NEBRASKA		02/15/91	18:18	02/15/91	18:22
218	D	W	EMERALDELEMENTARY SCHOOL 206-DUPLICATE	1	2	EMERALD	NEBRASKA		02/15/91	18:22	02/15/91	18:25
219	F	W	EMERALD GROUNDWATER-FIELD BLANK	1	1	EMERALD	NEBRASKA		02/15/91	18:27	02/15/91	18:28

TABLE OF CODES

PRELIMINARY DATA SUBJECT TO REVISION

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER
QCC = QUALITY CONTROL SAMPLE/AUDIT CODE
M = MEDIA OF SAMPLE (A=AIR, T=TISSUE, H=HAZARDOUS MATERIAL, S=SEDIMENT/SOIL, W=WATER)
AIRS/STORET LOC. NO. = A SAMPLING SITE LOCATION IDENTIFICATION NUMBER
BEG. DATE = THE DATE SAMPLING WAS STARTED
BEG. TIME = THE TIME SAMPLING WAS STARTED
END. DATE = THE DATE SAMPLING WAS ENDED
END. TIME = THE TIME SAMPLING WAS STOPPED

A = RESERVED
B = RESERVED
PES = PESTICIDES BY CONTRACT
= DIOXINS/FURANS BY EPA
E = EXPLOSIVES BY CONTRACT
FLD = FIELD MEASUREMENTS BY EPA
G = MINERALS & DISSOLVED MATERIALS BY EPA
HER = HERBICIDES BY EPA
I = ION CHROMATOGRAPHY ANALYSES BY EPA
MC = METALS BY CONTRACT
BNC = BASE NEUTRALS BY CONTRACT
L = FISH PHYSICAL DATA BY EPA
MET = METALS BY EPA
N = FISH TISSUE PARAMETERS BY EPA
VC = VOLATILES BY CONTRACT
P = PESTICIDES BY EPA
Q = FLASH POINT ANALYSES BY EPA
R = RESERVED
BN = SEMIVOLATILE BY EPA
T = CYANIDE PHENOL BY EPA
U = RESERVED
VOA = VOLATILE ORGANICS BY EPA
HC = HERBICIDES BY CONTRACT
X = RESERVED
Y = RESERVED
TRK = ACTIVITY TRACKING PARAMETERS BY EPA

STORET DETECTION IDENTIFIERS
BLANK = NO REMARKS
J = DATA REPORTED BUT NOT VALID BY APPROVED QC PROCEDURES
I = INVALID SAMPLE/DATA - VALUE NOT REPORTED
U = LESS THAN (MEASUREMENT DETECTION LIMIT)
M = DETECTED BUT BELOW THE LEVEL FOR ACCURATE QUANTIFICATION
O = PARAMETER NOT ANALYZED

CONTRACTOR/ IN HOUSE / FIELD MEDIA GROUPS
FIELD = * * * = AF.HF.SF.TF.WF.ZZ
CONTRACTOR = * = HA.HC.HJ.HK.HO.SC.SJ.SK.SO.SW.TC.TJ. TK.TO.TW.WA.WC.WE.WJ.WK.WO.WW
IN HOUSE = . = ALL OTHERS

QUALITY CONTROL AUDIT CODES
A = TRUE VALUE FOR CALIBRATION STANDARD
B = CONCENTRATION RESULTING FROM DUPLICATE LAB SPIKE
C = MEASURED VALUE FOR CALIBRATION STANDARD
D = MEASURED VALUE FOR FIELD DUPLICATE
F = MEASURED VALUE FOR FIELD BLANK
G = MEASURED VALUE FOR METHOD STANDARD
H = TRUE VALUE FOR METHOD STANDARD
K = CONCENTRATION RESULTING FROM DUPLICATE FIELD SPIKE
L = MEASURED VALUE FOR LAB DUPLICATE
M = MEASURED VALUE FOR LAB BLANK
N = MEASURED VALUE FOR DUPLICATE FIELD SPIKE
P = MEASURED VALUE FOR PERFORMANCE STANDARD
R = CONCENTRATION RESULTING FROM LAB SPIKE
S = MEASURED VALUE FOR LAB SPIKE
T = TRUE VALUE OF PERFORMANCE STANDARD
W = MEASURED VALUE FOR DUPLICATE LAB SPIKE
Y = MEASURED VALUE FOR FIELD SPIKE
Z = CONCENTRATION RESULTING FROM FIELD SPIKE

MEDIA CODES
A = AIR
T = BIOLOGICAL (PLANT & ANIMAL) TISSUE
H = HAZARDOUS MATERIALS/MAN MADE PRODUCTS
S = SEDIMENT, SLUDGE & SOIL
W = WATER

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

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	001		002		003		004		005		006	
AU01 PENTANE BY GC/MSD	UG/M3	25	U	150		25	U	250	U	250	U	63	U
AU02 1,1,2-TRICHLOROTRIFLUOROETHANE BY GC/M	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AU03 HEXANE BY GC/MSD	UG/M3	25	U	69		25	U	250	U	250	U	63	U
AU04 HEPTANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AU05 OCTANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AU06 NONAME BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AU07 ISOPROPYLBENZENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AU08 1,3,5-TRIMETHYLBENZENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AU09 1,2,4-TRIMETHYLBENZENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AU10 1,3-DICHLOROBENZENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AU11 DECANE BY GC/MSD	UG/M3	50	U	130	U	50	U	500	U	500	U	130	U
AU12 1,2-DICHLOROBENZENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AU13 1,2,4-TRICHLOROBENZENE BY GC/MSD	UG/M3	250	U	630	U	250	U	2500	U	2500	U	630	U
AU14 HEXACHLOROBUTADIENE BY GC/MSD	UG/M3	250	U	630	U	250	U	2500	U	2500	U	630	U
AV40 CHLOROMETHANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV41 VINYL CHLORIDE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV42 BROMOMETHANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV43 CHLOROETHANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV44 ACETONITRILE BY GC/MSD	UG/M3	500	U	1300	U	500	U	5000	U	5000	U	1300	U
AV47 ACRYLONITRILE BY GC/MSD	UG/M3	250	U	630	U	250	U	2500	U	2500	U	630	U
AV48 BROMOETHANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV49 1,1-DICHLOROETHYLENE BY GC/MSD	UG/M3	25	U	63	U	200		520		250	U	63	U
AV50 METHYLENE CHLORIDE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV51 ALLYL CHLORIDE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV52 TRANS-1,2-DICHLOROETHYLENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV53 1,1-DICHLOROETHANE BY GC/MSD	UG/M3	25	U	63	U	280		640		300		63	U

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKXO2 SAMNO: 006 QCC: _ MEDIA: AIR PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: PT #47
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: EPA
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	12:02	EAST: ____
END:	05/30/91	12:06	NORTH: ____
			DOWN: ____

CONTAINER/FILTER TYPE: _ NUMBER _____
PUMP/MOTOR TYPE: _ NUMBER _____
FLOW INDICATOR: ON: _____ OFF: _____

TIME OF DAY		TIME INDICATOR	
ON:	__:__	ON:	_____
OFF:	__:__	OFF:	_____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
CANISTER	LIME	NONE	A93	GC/MSD TARGET VOCS

COMMENTS:
SUMMA FROM PT #48, END PRESSURE=0" HG

Depth = 11'

4 min. to fill

SAMPLE COLLECTED BY : Schademan

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX04 SAMNO: 007 QCC: _ MEDIA: AIR PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: PT #40
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: EPA
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	13:50	EAST: ____
END:	05/30/91	14:15	NORTH: ____
			DOWN: ____

CONTAINER/FILTER TYPE: _ NUMBER _____
PUMP/MOTOR TYPE: _ NUMBER _____
FLOW INDICATOR: ON: _____ OFF: _____

TIME OF DAY: ON: __:__ OFF: __:__
TIME INDICATOR: ON: _____ OFF: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
CANISTER	LIME	NONE	A93	GC/MSD TARGET VOCS

COMMENTS:
SUMMA FROM PT #40, END PRESSURE=5" HG

Depth = 10'

25 min. to fill

SAMPLE COLLECTED BY : Tarwater

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 008 QCC: _ MEDIA: AIR PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: PT #42
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: EPA
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	14:02	EAST: ____
END:	05/30/91	14:38	NORTH: ____
			DOWN: ____

CONTAINER/FILTER TYPE: _ NUMBER _____
PUMP/MOTOR TYPE: _ NUMBER _____
FLOW INDICATOR: ON: _____ OFF: _____

TIME OF DAY: ON: __:__ OFF: __:__
TIME INDICATOR: ON: _____ OFF: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
CANISTER	LIME	NONE	A93	GC/MSD TARGET VOCS

COMMENTS:
SUMMA FROM PT #42, END PRESSURE=4" HG

Depth = 11'

36 min. to fill

SAMPLE COLLECTED BY : Schademann

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 009 QCC: _ MEDIA: AIR PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE

REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: PT #49
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: EPA
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	14:34	EAST: ____
END:	05/30/91	14:48	NORTH: ____
			DOWN: ____

CONTAINER/FILTER TYPE: _ NUMBER _____
PUMP/MOTOR TYPE: _ NUMBER _____
FLOW INDICATOR: ON: _____ OFF: _____

TIME OF DAY: ON: __:__ OFF: __:__
TIME INDICATOR: ON: _____ OFF: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
CANISTER	LIME	NONE	A93	GC/MSD TARGET VOCS

COMMENTS:
SUMMA FROM PT #49, END PRESSURE=4" HG

Depth = 11'

14 min. to fill

SAMPLE COLLECTED BY : Tarwater

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX04 SAMNO: 010 QCC: _ MEDIA: AIR PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: PT #50
LOCATION: EMERALD NE DATE TIME FROM REF PT
CASE/BATCH/SMO: _____ LAB: EPA BEG: 05/30/91 15:11 EAST: ____
STORET/SAROAD NO: _____ END: 05/30/91 15:40 NORTH: ____
SECTION: ___ LAYER: _ DOWN: ____

CONTAINER/FILTER TYPE: _ NUMBER _____ TIME OF DAY TIME INDICATOR
PUMP/MOTOR TYPE: _ NUMBER _____ ON: __:__ ON: _____
FLOW INDICATOR: ON: _____ OFF: _____ OFF: __:__ OFF: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
CANISTER	LIME	NONE	A93	GC/MSD TARGET VOCS

COMMENTS:
SUMMA FROM PT #50, END PRESSURE=3" HG

Depth=11'

29 min. to fill

SAMPLE COLLECTED BY : J. Schademann

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	001		002		003		004		005		006	
AV55 CIS-1,2-DICHLOROETHYLENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV56 CHLOROFORM BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV57 1,2-DICHLOROETHANE BY GC/MSD	UG/M3	25	U	63	U	26		250	U	250	U	63	U
AV58 1,1,1-TRICHLOROETHANE BY GC/MSD	UG/M3	25	U	63	U	[illegible]		[illegible]		250	U	63	U
AV59 BENEZENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV60 CARBON TETRACHLORIDE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV61 1,2-DICHLOROPROPANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV62 BROMODICHLOROMETHANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV63 TRICHLOROETHYLENE BY GC/MSD	UG/M3	25	U	63	U	[illegible]		250	U	250	U	63	U
AV64 CIS-1,3-DICHLOROPROPYLENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV66 TRANS-1,3-DICHLOROPROPYLENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV67 1,1,2-TRICHLOROETHANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV68 TOLUENE BY GC/MSD	UG/M3	[illegible]		[illegible]		[illegible]		[illegible]		250	U	63	U
AV69 DIBROMOCHLOROMETHANE BY GC/MSD	UG/M3	50	U	130	U	50	U	500	U	500	U	130	U
AV71 1,2-DIBROMOETHANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV72 TETRACHLOROETHYLENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV73 1,1,1,2-TETRACHLOROETHANE BY GC/MSD	UG/M3	50	U	130	U	50	U	500	U	500	U	130	U
AV74 CHLOROBENZENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV75 ETHYL BENZENE BY GC/MSD	UG/M3	25	U	63	U	[illegible]		250	U	250	U	63	U
AV76 BROMOFORM BY GC/MSD	UG/M3	50	U	130	U	50	U	500	U	500	U	130	U
AV77 P-XYLENE BY GC/MSD	UG/M3	[illegible]		63	U	[illegible]		250	U	250	U	63	U
AV78 M-XYLENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV79 STYRENE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
AV80 O-XYLENE BY GC/MSD	UG/M3	25	U	63	U	[illegible]		250	U	250	U	63	U
AV81 1,1,2,2-TETRACHLOROETHANE BY GC/MSD	UG/M3	25	U	63	U	25	U	250	U	250	U	63	U
ZZ01 SAMPLE NUMBER	NA	001		002		003		004		005		006	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	001	002	003	004	005	006
ZZ02 ACTIVITY CODE	NA	DKX04	DKX04	DKX04	DKX04	DKX04	DKX04

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	007		008		009		010		011		012F	
AU01 PENTANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	[illegible]		25	U
AU02 1.1.2-TRICHLOROTRIFLUOROETHANE BY GC/M	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AU03 HEXANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	[illegible]		25	U
AU04 HEPTANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	[illegible]		25	U
AU05 OCTANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AU06 NONAME BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AU07 ISOPROPYLBENZENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AU08 1.3.5-TRIMETHYLBENZENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AU09 1.2.4-TRIMETHYLBENZENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AU10 1.3-DICHLOROBENZENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AU11 DECANE BY GC/MSD	UG/M3	500	U	50	U	500	U	50	U	50000	U	50	U
AU12 1.2-DICHLOROBENZENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AU13 1.2.4-TRICHLOROBENZENE BY GC/MSD	UG/M3	2500	U	250	U	2500	U	250	U	250000	U	250	U
AU14 HEXACHLOROBUTADIENE BY GC/MSD	UG/M3	2500	U	250	U	2500	U	250	U	250000	U	250	U
AV40 CHLOROMETHANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV41 VINYL CHLORIDE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV42 BROMOMETHANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV43 CHLOROETHANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV44 ACETONITRILE BY GC/MSD	UG/M3	5000	U	500	U	5000	U	500	U	500000	U	500	U
AV47 ACRYLONITRILE BY GC/MSD	UG/M3	2500	U	250	U	2500	U	250	U	250000	U	250	U
AV48 BROMOETHANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV49 1.1-DICHLOROETHYLENE BY GC/MSD	UG/M3	250	U	25	U	[illegible]		25	U	25000	U	25	U
AV50 METHYLENE CHLORIDE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV51 ALLYL CHLORIDE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV52 TRANS-1.2-DICHLOROETHYLENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV53 1.1-DICHLOROETHANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	007		008		009		010		011		012F	
AV55 CIS-1.2-DICHLOROETHYLENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV56 CHLOROFORM BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV57 1.2-DICHLOROETHANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV58 1.1.1-TRICHLOROETHANE BY GC/MSD	UG/M3	250	U	25	U	2200		82		25000	U	25	U
AV59 BENEZENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	220000		25	U
AV60 CARBON TETRACHLORIDE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV61 1.2-DICHLOROPROPANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV62 BROMODICHLOROMETHANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV63 TRICHLOROETHYLENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV64 CIS-1.3-DICHLOROPROPYLENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV66 TRANS-1.3-DICHLOROPROPYLENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV67 1.1.2-TRICHLOROETHANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV68 TOLUENE BY GC/MSD	UG/M3	250	U	25	U	250	U	550		25000	U	25	U
AV69 DIBROMOCHLOROMETHANE BY GC/MSD	UG/M3	500	U	50	U	500	U	50	U	50000	U	50	U
AV71 1.2-DIBROMOETHANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	26	
AV72 TETRACHLOROETHYLENE BY GC/MSD	UG/M3	250	U	25	U	250	U	27		25000	U	25	U
AV73 1.1.1.2-TETRACHLOROETHANE BY GC/MSD	UG/M3	500	U	50	U	500	U	50	U	50000	U	50	U
AV74 CHLOROBENZENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV75 ETHYL BENZENE BY GC/MSD	UG/M3	250	U	25	U	250	U	100		25000	U	25	U
AV76 BROMOFORM BY GC/MSD	UG/M3	500	U	50	U	500	U	50	U	50000	U	50	U
AV77 P-XYLENE BY GC/MSD	UG/M3	250	U	25	U	250	U	2700		25000	U	25	U
AV78 M-XYLENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV79 STYRENE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
AV80 O-XYLENE BY GC/MSD	UG/M3	250	U	25	U	250	U	52		25000	U	25	U
AV81 1.1.2.2-TETRACHLOROETHANE BY GC/MSD	UG/M3	250	U	25	U	250	U	25	U	25000	U	25	U
ZZ01 SAMPLE NUMBER	NA	007		008		009		010		011		012	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	007	008	009	010	011	012F
ZZ02 ACTIVITY CODE	NA	DKX04	DKX04	DKX04	DKX04	DKX04	DKX04

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	201	202	203	204	205	206
WF01 WATER TEMP	°C	50.5	51.9	57.0	50.5	54.9	54.2
WF05 PH, FIELD	SU	7.5	7.3	7.16	7.5	7.35	7.45
WV03 CHLOROMETHANE	UG/L	20 U	2 U	2 U	2 U	2 U	2 U
WV04 BROMOMETHANE	UG/L	20 U	2 U	2 U	2 U	2 U	2 U
WV05 VINYL CHLORIDE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV06 CHLOROETHANE	UG/L	20 U	2 U	2 U	2 U	2 U	2 U
WV07 METHYLENE CHLORIDE	UG/L	20 U	1 U	1 U	1 U	1 U	1 U
WV08 1,1-DICHLOROETHENE (Ethylene) 1,1-DCE	UG/L	102	1 U	1 U	1 U	3	1 U
WV09 1,1-DICHLOROETHANE 1,1-DCA	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV10 1,2-DICHLOROETHENE, TOTAL 1,2-DCA	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV11 CHLOROFORM	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV12 1,2-DICHLOROETHANE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV13 1,1,1-TRICHLOROETHANE 1,1,1-TCA	UG/L	340	1 U	1 U	1 U	1 U	1 U
WV14 CARBON TETRACHLORIDE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV15 BROMODICHLOROMETHANE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV16 1,2-DICHLOROPROPANE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV17 BENZENE	UG/L	10 U	1 U	1 U	1 U	2	1 U
WV19 TRICHLOROETHENE (TCE)	UG/L	10 U	1 U	1 U	1 U	3	1 U
WV20 CIS-1,3-DICHLOROPROPENE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV21 DIBROMOCHLOROMETHANE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV22 1,1,2-TRICHLOROETHANE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV24 BROMOFORM	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV25 TETRACHLOROETHENE (PCE)	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV26 TOLUENE	UG/L	10 U	1 U	1 U	1 U	2	1 U
WV27 1,1,2,2-TETRACHLOROETHANE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV28 CHLOROBENZENE	UG/L	10 U	1 U	1 U	1 U	2	1 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	201	202	203	204	205	206
WV29 ETHYL BENZENE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV30 ACETONE	UG/L	20 U	2 U	[illegible]	2 U	2 U	2 U
WV31 CARBON DISULFIDE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV32 2-BUTANONE	UG/L	20 U	2 U	2 U	2 U	2 U	2 U
WV33 VINYL ACETATE	UG/L	20 U	2 U	2 U	2 U	2 U	2 U
WV34 2-HEXANONE	UG/L	20 U	2 U	2 U	2 U	2 U	2 U
WV35 4-METHYL-2-PENTANONE	UG/L	20 U	2 U	2 U	2 U	2 U	2 U
WV36 STYRENE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV37 XYLENES, TOTAL	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
WV40 TRANS-1,3-DICHLOROPROPENE	UG/L	10 U	1 U	1 U	1 U	1 U	1 U
ZZ01 SAMPLE NUMBER	NA	201	202	203	204	205	206
ZZ02 ACTIVITY CODE	NA	DKX04	DKX04	DKX04	DKX04	DKX04	DKX04

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	207	208	209	210	211	212
WF01 WATER TEMP	°C	49.8	57.8	41.3	53.2	49.3	52.2
WF05 PH. FIELD	SU	6.77	7.32	7.0	7.0	7.17	7.4
WV03 CHLOROMETHANE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV04 BROMOMETHANE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV05 VINYL CHLORIDE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV06 CHLOROETHANE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV07 METHYLENE CHLORIDE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV08 1,1-DICHLOROETHENE (1,1-DCE)	UG/L	1 U	[illegible]	1 U	1 U	[illegible]	1 U
WV09 1,1-DICHLOROETHANE (1,1-DCA)	UG/L	1 U	[illegible]	1 U	1 U	1 U	1 U
WV10 1,2-DICHLOROETHENE, TOTAL	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV11 CHLOROFORM	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV12 1,2-DICHLOROETHANE	UG/L	[illegible]	1 U	16	1 U	1 U	1 U
WV13 1,1,1-TRICHLOROETHANE	UG/L	[illegible]	[illegible]	[illegible] U	1 U	[illegible]	1 U
WV14 CARBON TETRACHLORIDE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV15 BROMODICHLOROMETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV16 1,2-DICHLOROPROPANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV17 BENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV19 TRICHLOROETHENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV20 CIS-1,3-DICHLOROPROPENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV21 DIBROMOCHLOROMETHANE	UG/L	1 U	1 U	U	1 U	1 U	1 U
WV22 1,1,2-TRICHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV24 BROMOFORM	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV25 TETRACHLOROETHENE (PCE)	UG/L	1 U	[illegible]	1 U	1 U	1 U	1 U
WV26 TOLUENE	UG/L	1 U	1 U	U	1 U	1 U	1 U
WV27 1,1,2,2-TETRACHLOROETHANE	UG/L	1 U	1 U	U	1 U	1 U	1 U
WV28 CHLOROBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	207	208	209	210	211	212
WV29 ETHYL BENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV30 ACETONE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV31 CARBON DISULFIDE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV32 2-BUTANONE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV33 VINYL ACETATE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV34 2-HEXANONE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV35 4-METHYL-2-PENTANONE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV36 STYRENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV37 XYLENES, TOTAL	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV40 TRANS-1,3-DICHLOROPROPENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
ZZ01 SAMPLE NUMBER	NA	207	208	209	210	211	212
ZZ02 ACTIVITY CODE	NA	DKX04	DKX04	DKX04	DKX04	DKX04	DKX04

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	213	214	215	216	217	218
WF01 WATER TEMP	°C	59.0	53.3	48.7	48.8	58.0	57.0
WF05 PH. FIELD	SU	6.8	7.15	7.3	7.15	7.23	6.8
WV03 CHLOROMETHANE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV04 BROMOMETHANE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV05 VINYL CHLORIDE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV06 CHLOROETHANE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV07 METHYLENE CHLORIDE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV08 1,1-DICHLOROETHENE	UG/L	[illegible]	[illegible]	1 U	1 U	1 U	[illegible]
WV09 1,1-DICHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	[illegible]
WV10 1,2-DICHLOROETHENE, TOTAL	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV11 CHLOROFORM	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV12 1,2-DICHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	[illegible]
WV13 1,1,1-TRICHLOROETHANE	UG/L	[illegible]	[illegible]	1 U	1 U	1 U	[illegible]
WV14 CARBON TETRACHLORIDE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV15 BROMODICHLOROMETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV16 1,2-DICHLOROPROPANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV17 BENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV19 TRICHLOROETHENE	UG/L	1 U	1 U	1 U	1 U	1 U	[illegible]
WV20 CIS-1,3-DICHLOROPROPENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV21 DIBROMOCHLOROMETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV22 1,1,2-TRICHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV24 BROMOFORM	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV25 TETRACHLOROETHENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV26 TOLUENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV27 1,1,2,2-TETRACHLOROETHANE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV28 CHLOROBENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX09 SAMNO: 002 QCC: _ MEDIA: AIR PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: EMERALD GW
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: EPA
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

DATE TIME FROM REF PT
BEG: 05/30/91 9:12 EAST: ____
END: 05/30/91 9:12 NORTH: ____
DOWN: ____

CONTAINER/FILTER TYPE: _ NUMBER _____
PUMP/MOTOR TYPE: _ NUMBER _____
FLOW INDICATOR: ON: _____ OFF: _____

TIME OF DAY TIME INDICATOR
ON: __:__ ON: _____
OFF: __:__ OFF: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
CANISTER	LIME	NONE	A93	GC/MSD TARGET VOCS

COMMENTS:
UMMA FROM PT 44
Depth = 10'
filled to 25 cc.
Ending Pressure = C

SAM COLLECTED BY : Schaelemann

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 003 QCC: _ MEDIA: AIR PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: PT #45
LOCATION: EMERALD NE DATE TIME FROM REF PT
CASE/BATCH/SMO: _____ LAB: EPA BEG: 05/30/91 10:31 EAST: ____
STORET/SAROAD NO: _____ END: 05/30/91 10:44 NORTH: ____
SECTION: ___ LAYER: _ DOWN: ____

CONTAINER/FILTER TYPE: _ NUMBER _____ TIME OF DAY TIME INDICATOR
PUMP/MOTOR TYPE: _ NUMBER _____ ON: __:__ ON: _____
FLOW INDICATOR: ON: _____ OFF: _____ OFF: __:__ OFF: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
CANISTER	LIME	NONE	A93	GC/MSD TARGET VOCS

COMMENTS:
SUMMA FROM PT #45, END PRESSURE=5" HG

Depth = 11'

13 minutes to fill

SP COLLECTED BY : Tarwater

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 004 QCC: _ MEDIA: AIR PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: PT #46
LOCATION: EMERALD NE DATE TIME FROM REF PT
CASE/BATCH/SMO: _____ LAB: EPA BEG: 05/30/91 11:08 EAST: ____
STORET/SAROAD NO: _____ END: 05/30/91 11:37 NORTH: ____
SECTION: ___ LAYER: _ DOWN: ____

CONTAINER/FILTER TYPE: _ NUMBER _____ TIME OF DAY TIME INDICATOR
PUMP/MOTOR TYPE: _ NUMBER _____ ON: __:__ ON: _____
FLOW INDICATOR: ON: _____ OFF: _____ OFF: __:__ OFF: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
CANISTER	LIME	NONE	A93	GC/MSD TARGET VOCS

COMMENTS:
SUMMA FROM PT #46, END PRESSURE=5" HG

Depth = 10'

29 min. to fill

SAMPLE COLLECTED BY : Schademann

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKXQ2 SAMNO: 005 QCC: _ MEDIA: AIR PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: PT #47
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: EPA
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	11:27	EAST: ____
END:	05/30/91	12:16	NORTH: ____
			DOWN: ____

CONTAINER/FILTER TYPE: _ NUMBER _____
PUMP/MOTOR TYPE: _ NUMBER _____
FLOW INDICATOR: ON: _____ OFF: _____

TIME OF DAY		TIME INDICATOR	
ON:	__:__	ON:	_____
OFF:	__:__	OFF:	_____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
CANISTER	LIME	NONE	A93	GC/MSD TARGET VOCS

COMMENTS:
SUMMA FROM PT #47, END PRESSURE=5" HG

Depth = 10'

49 min. to fill

SAMPLE COLLECTED BY : Tarwater

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	213	214	215	216	217	218
WV29 ETHYL BENZENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV30 ACETONE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV31 CARBON DISULFIDE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV32 2-BUTANONE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV33 VINYL ACETATE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV34 2-HEXANONE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV35 4-METHYL-2-PENTANONE	UG/L	2 U	2 U	2 U	2 U	2 U	2 U
WV36 STYRENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV37 XYLENES, TOTAL	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
WV40 TRANS-1,3-DICHLOROPROPENE	UG/L	1 U	1 U	1 U	1 U	1 U	1 U
ZZ01 SAMPLE NUMBER	NA	213	214	215	216	217	218
ZZ02 ACTIVITY CODE	NA	DKX04	DKX04	DKX04	DKX04	DKX04	DKX04

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	218D		219F	
WF01 WATER TEMP	°C	57.0			
WF05 PH, FIELD	SU	6.8			
WV03 CHLOROMETHANE	UG/L	2	U	2	U
WV04 BROMOMETHANE	UG/L	2	U	2	U
WV05 VINYL CHLORIDE	UG/L	1	U	1	U
WV06 CHLOROETHANE	UG/L	2	U	2	U
WV07 METHYLENE CHLORIDE	UG/L	1	U	1	U
WV08 1,1-DICHLOROETHENE	UG/L	[illegible]		1	U
WV09 1,1-DICHLOROETHANE	UG/L	[illegible]		1	U
WV10 1,2-DICHLOROETHENE, TOTAL	UG/L	1	U	1	U
WV11 CHLOROFORM	UG/L	1	U	1	U
WV12 1,2-DICHLOROETHANE	UG/L	[illegible]		1	U
WV13 1,1,1-TRICHLOROETHANE	UG/L	[illegible]		1	U
WV14 CARBON TETRACHLORIDE	UG/L	1	U	1	U
WV15 BROMODICHLOROMETHANE	UG/L	1	U	1	U
WV16 1,2-DICHLOROPROPANE	UG/L	1	U	1	U
WV17 BENZENE	UG/L	1	U	1	U
WV19 TRICHLOROETHENE	UG/L	[illegible]		1	U
WV20 CIS-1,3-DICHLOROPROPENE	UG/L	1	U	1	U
WV21 DIBROMOCHLOROMETHANE	UG/L	1	U	1	U
WV22 1,1,2-TRICHLOROETHANE	UG/L	1	U	1	U
WV24 BROMOFORM	UG/L	1	U	1	U
WV25 TETRACHLOROMETHANE	UG/L	1	U	1	U
WV26 TOLUENE	UG/L	1	U	1	U
WV27 1,1,2,2-TETRACHLOROETHANE	UG/L	1	U	1	U
WV28 CHLOROBENZENE	UG/L	1	U	1	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-DKX04

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	218D		219F					
WV29 ETHYL BENZENE	UG/L	1	U	1	U				
WV30 ACETONE	UG/L	2	U	[redacted]					
WV31 CARBON DISULFIDE	UG/L	1	U	1	U				
WV32 2-BUTANONE	UG/L	2	U	[redacted]					
WV33 VINYL ACETATE	UG/L	2	U	2	U				
WV34 2-HEXANONE	UG/L	2	U	2	U				
WV35 4-METHYL-2-PENTANONE	UG/L	2	U	2	U				
WV36 STYRENE	UG/L	1	U	1	U				
WV37 XYLENES, TOTAL	UG/L	1	U	1	U				
WV40 TRANS-1,3-DICHLOROPROPENE	UG/L	1	U	1	U				
ZZ01 SAMPLE NUMBER	NA	218		219					
ZZ02 ACTIVITY CODE	NA	DKX04		DKX04					

FROM THE DESK OF

E. Durand Reiber

RECEIVED
AUG 21 1991
DEPARTMENT OF
ENVIRONMENTAL CONTROL

Emily, I was unable to print out the completed chart for some unknown reason, but here is the Data Transmittal from EPA. For water sample locations, you can cross reference the sample # with the field sheet to determine which residence or business it was obtained from.

Sorry its taking so long, but Time-Critical Removal Actions always take priority!

Sincerely,
Durand

ecology and environment, inc.
CLOVERLEAF BUILDING 3, 6405 METCALF, OVERLAND PARK, KANSAS 66202, TEL. 913 432-9961
International Specialists in the Environment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

Date: JUL 22 1991

MEMORANDUM

SUBJECT: Data Transmittal for Activity #: NKX02
Site Description: Emerald GW

FROM: Andrea Jirka
Chief, Laboratory Branch, ENSV

TO: Thomas T. Holloway, Ph.D.
Chief, EP&R/ENSV

ATTN: M. Muchalowski

Attached is the data transmittal for the above referenced site. This should be considered a ____ Partial or X Complete data transmittal (completes transmittal of _____). If you have any questions or comments, please contact Dee Simmons at 551-5129.

cc: Data File
Durand Reiber
E&E/TAT

RECEIVED
JUL 25

RECYCLE

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKXQ SAMNO: 011 QCC: F MEDIA: AIR PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: FIELD BLANK
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: EPA
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

DATE TIME
BEG: 05/30/91 __:__
END: 05/30/91 __:__

FROM REF PT
EAST: _____
NORTH: _____
DOWN: _____

CONTAINER/FILTER TYPE: _ NUMBER _____
PUMP/MOTOR TYPE: _ NUMBER _____
FLOW INDICATOR: ON: _____ OFF: _____

TIME OF DAY TIME INDICATOR
ON: __:__ ON: _____
OFF: __:__ OFF: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
CANISTER	LIME	NONE	A93	GC/MSD TARGET VOCS

COMMENTS:
FIELD BLANK

SAMPLE COLLECTED BY : N/A

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX04 SAMNO: 201 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: CO SHOP
LOCATION: NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	08:45	EAST: ____
END:	05/30/91	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
CO SHOP, T=67.6, PH=7.18,

SAMPLE COLLECTED BY : Reiber

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX04 SAMNO: 202 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: SCHOOL
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	09:10	EAST: _____
END:	05/30/91	__:__	NORTH: _____
			DOWN: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
SCHOOL, T=67.4, PH=6.78

SAMPLE COLLECTED BY : Reiher

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX04 SAMNO: ~~218~~ 202 QCC: D MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: SCHOOL- DUPLICATE
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	09:10	EAST: ____
END:	05/30/91	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
SCHOOL -DUPLICATE OF 202

Temp = 61.4°
pH = 6.18

SAMPLE COLLECTED BY : Rieber

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX03 SAMNO: 203 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: NTE
LOCATION: EMERALD NE DATE TIME FROM REF PT
CASE/BATCH/SMO: _____ LAB: SAS BEG: 05/30/91 09:30 EAST: _____
STORET/SAROAD NO: _____ END: 05/30/91 __:__ NORTH: _____
SECTION: ___ LAYER: _ DOWN: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS: '
NTE, T=63.3, PH=7.14'

SAMPLE COLLECTED BY : Ruber

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, S 66115

FY: 91 ACTNO: NKX04 3 SAMNO: 204 SOC: _ MEDIA: WATER SL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
FT: LONGITUDE:000 00 00

SAMPLE DES: CR BAIT SHOP
LOCATION: EMERALD NE DATE TIME FROM REF PT
CASE/BATCH/SMO: _____ LOG: SAS BEG: 05/30/91 09:50 EAST: ____
STORET/SAROAD NO: _____ END: 05/30/91 __:__ NORTH: ____
SECTION: ___ LAYER: _ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
3 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
CR BAIT SHOP' T=+2.5,' PH=7.16'

SAMPLE COLLECTED BY : Reber

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX04 SAMNO: 205 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: LINCOLN ANNUITY
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	10:15	EAST: ____
END:	05/30/91	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
LINCOLN ANNUITY, T=60.2, PH=7.15 .

SAMPLE COLLECTED BY : Reber

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX0A SAMNO: 206 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: WORSTER
LOCATION: EMERALD NE DATE TIME FROM REF PT
CASE/BATCH/SMO: _____ LAB: SAS BEG: 05/30/91 11:00 EAST: _____
STORET/SAROAD NO: _____ END: 05/30/91 __:__ NORTH: _____
SECTION: ___ LAYER: _ DOWN: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
WORSTER, 'T=62.4', PH=6.99'

SAMPLE COLLECTED BY : Pirkle

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX04 SAMNO: 207 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: RUSSEL
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	14:15	EAST: ____
END:	05/30/91	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
RUSSEL, 'T=61.7', 'PH=7.44'

SAM COLLECTED BY : Reiber

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX04 SAMNO: 208 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: MELICHAR
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	14:30	EAST: ____
END:	05/30/91	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
MELICHAR, T=58.9°, PH=6.84 .

SAMPLE COLLECTED BY : Ruiker

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX04 SAMNO: 209 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: PT# 44
LOCATION: EMERALD NE DATE TIME FROM REF PT
CASE/BATCH/SMO: _____ LAB: SAS BEG: 05/30/91 17:00 EAST: _____
STORET/SAROAD NO: _____ END: 05/30/91 __:__ NORTH: _____
SECTION: ___ LAYER: _ DOWN: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
PT# 44, 16 FEET NO PARAMETERS TAKEN

SAMPLE COLLECTED BY : Ruber

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 210 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP

LOCATION: EMERALD NE

REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: TATE/HINRICH

LOCATION: EMERALD NE

CASE/BATCH/SMO: _____ LAB: SAS

STORET/SAROAD NO: _____

SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	14:55	EAST: ____
END:	05/30/91	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:

TATE/HINRICH, 'T=58.9', 'PH=7.03'

SAMPLE COLLECTED BY : Eisher

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 211 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: NOBBMAN
LOCATION: EMERALD NE DATE TIME FROM REF PT
CASE/BATCH/SMO: _____ LAB: SAS BEG: 05/30/91 15:20 EAST: _____
STORET/SAROAD NO: _____ END: 05/30/91 __:__ NORTH: _____
SECTION: ___ LAYER: _ DOWN: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
NOBBMAN, T=56.7, PH=7.16

SAI COLLECTED BY : Reiker

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 212 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: MERLES RESTAURNAT
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	15:50	EAST: ____
END:	05/30/91	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
MERLES RESTAURANT, T=58.3, PH=7.26

SAMPLE COLLECTED BY : Reibel

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 213 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD

SAMPLE DES: LYNCH
LOCATION: EMERALD

REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

CASE/BATCH/SMO: _____ LAB: SAS

STORET/SAROAD NO: _____

	DATE	TIME	FROM REF PT
BEG:	05/30/91	16:00	EAST: ____
END:	05/30/91	__:__	NORTH: ____
			DOWN: ____

SECTION: ___ LAYER: _

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
LYNCH, 'T=58.3, 'PH=7.29'

SAMPLE COLLECTED BY : Ziber

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX04 SAMNO: 214 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: SWANSON
LOCATION: EMERALD NE DATE TIME FROM REF PT
CASE/BATCH/SMO: _____ LAB: SAS BEG: 05/30/91 16:50 EAST: ____
STORET/SAROAD NO: _____ END: 05/30/91 __:__ NORTH: ____
SECTION: ___ LAYER: _ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
SWANSON, T=58.1', PH=7.09'

SAMPLE COLLECTED BY : R. Baker

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX03 SAMNO: 215 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: GREISS
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	17:15	EAST: ____
END:	05/30/91	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
GREISS, T=59.5, PH=7.18

SAMPLE COLLECTED BY : Richter

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX03 SAMNO: 216 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE REF LATITUDE: 00 00 00
PT: LONGITUDE:000 00 00

SAMPLE DES: FUSS
LOCATION: EMERALD NE DATE TIME FROM REF PT
CASE/BATCH/SMO: _____ LAB: SAS BEG: 05/30/91 18:25 EAST: ____
STORET/SAROAD NO: _____ END: 05/30/91 __:__ NORTH: ____
SECTION: ___ LAYER: _ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
FUSS, T=56.5, PH=7.28

Background

SAM COLLECTED BY : Rubi

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKXO~~4~~ SAMNO: 217 QCC: F MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: FIELD BLANK
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	05/30/91	19:30	EAST: ____
END:	05/30/91	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
2 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS:
FIELD BLANK

SAMPLE COLLECTED BY : Dubi

SAS#6373G-20

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 219 GCC: _ MEDIA: WATER FL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF PT: LATITUDE: 00 00 00
LONGITUDE: 000 00 00

SAMPLE DES: GROUNDWATER SAMPLE
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	/ /	:	EAST: ____
END:	06/07/91	09:00	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
4 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS: SAMPLE COLLECTED FROM AUTOMOTION, BODY SHOP.

pH =

Temp =

SAMPLE COLLECTED BY : Jim Kudlinski

SHS# 63736-2

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 220 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF LATITUDE: 00 00 00
PT: LONGITUDE: 000 00 00

SAMPLE DES: GW WATER SAMPLE
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

DATE TIME FROM REF PT
BEG: / / : EAST: _____
END: 06/07/91 09:30 NORTH: _____
DOWN: _____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
4 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS: SAMPLE COLLECTED FROM GRIFFIN'S HOUSE OF BOATS

SAMPLE COLLECTED BY : Jim Kudlicka

SHS# 6373G - 22

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 221 QCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF LATITUDE: 00 00 00
PT: LONGITUDE: 000 00 00

SAMPLE DES: GROUND WATER SAMPLE
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

	DATE	TIME	FROM REF PT
BEG:	/ /	:	EAST: ____
END:	06/07/91	09:50	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
4 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS: SAMPLE COLLECTED FROM ~~LEROY EDWARDS~~ SMITH HOME

SAMPLE COLLECTED BY : Jim Rollins/EC

SAS# 63736 - 23

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 91 ACTNO: NKX02 SAMNO: 222 GCC: _ MEDIA: WATER PL: MIKE MICHALOWSKI

ACTIVITY DES: EMERALD GW--FOLLOW UP
LOCATION: EMERALD NE
REF LATITUDE: 00 00 00
PT: LONGITUDE: 000 00 00

SAMPLE DES: GROUND WATER SAMPLE
LOCATION: EMERALD NE
CASE/BATCH/SMO: _____ LAB: SAS
STORET/SAROAD NO: _____
SECTION: ___ LAYER: _

DATE TIME FROM REF PT
BEG: / / : EAST: ____
END: 06/07/91 10:15 NORTH: ____
DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	COLOR	PRESERVATIVE	MGP	NAME
4 VOA VIALS	LIME	ICED	WV	VOLATILES

COMMENTS: SAMPLE COLLECTED FROM LEMLEY HOME

SAMPLE COLLECTED BY : Jim Kudlin, K.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

DATE: 7/11/91

SUBJECT: Activity Number: NKX02
Site Description: Emerald Groundwater

FROM: Pam Evans
ENSV/LABO/CLPM

TO: LABO Primary File

Comments regarding the subject activity are as follows:

Sample Number:

Sample NKX02 209 was shipped to the CLP lab according to our paperwork. However, the lab states in the case narrative that sample NKX02 209 was not received. As a result, there is no data to be reported for this sample.

VOA NA 0

ENVIRONMENTAL SERVICES ASSISTANCE TEAM -- Zone II

ICF Technology, Inc.

ManTech Environmental Technology, Inc.

The Bionetics Corp.

ESAT Region VII
ManTech Env. Tech, Inc.
25 Funston Road
Kansas City, KS 66115
(913) 236-3881

TO: Larry Marchin and Barry Evans
Data Review Task Monitors
THRU: Harold Brown, Ph.D.
ESAT Deputy Project Officer, EPA

FROM: Paula Woodland PAW
ESAT Chemist
THRU: Ronald A. Ross
ESAT Team Manager

DATE: JuLY 8, 1991
SUBJECT: Review of organic data for **Emerald Groundwater.**

TID# 07-9103-535
ASSIGNMENT# 856
ICF ACCT# 26-535-02
NSI S.O.# 1073-535
ESAT Document No. ESAT-VII-535-0102

These data were reviewed primarily according to the "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses," February 1988 revision with changes given in the Region VII Organic Data Review Training Manual and EPA memorandums.

The following comments and attached data sheets are a result of the ESAT review, according to EPA policies, of the following data from the contract laboratory.

CASE NO.: 6373G
SITE: Emerald Groundwater
REVIEWER: Paula Woodland

LABORATORY: INTECH
METHOD NO.: CS0288A
EPA ACTIVITY NO.: NKX02
MATRIX: WATER

VOLATILES
(WATER)

SMO Sample No.	EPA Sample No.	SMO Sample No.	EPA Sample No.
6373G001	NKX02201	6373G013	NKX02214
6373G002	NKX02202	6373G014	NKX02215
6373G003	NKX02203	6373G015	NKX02216
6373G004	NKX02204	6373G016	NKX02217F
6373G005	NKX02205	6373G017	NKX02202D
6373G006	NKX02206	6373G018	NKX02901P
6373G007	NKX02207	6373G019	NKX02212
6373G008	NKX02208	6373G020	NKX02219
6373G010	NKX02210	6373G021	NKX02220
6373G011	NKX02211	6373G022	NKX02221
6373G012	NKX02213	6373G023	NKX02222

GENERAL

This data review assignment covers 22 WATER samples analyzed for VOLATILES for case number 6373G. One field blank, one field duplicate, and one performance evaluation sample were included with this assignment.

1. **Holding Times and Preservation**

Technical holding times were exceeded for aromatic compounds in some of the samples. Benzene was coded J in sample NKX02208.

2. **GC/MS Tuning**

All relative ion abundances were within the established control limits.

3. **Initial and Continuing Calibration**

A. The average RRF in the initial and continuing calibration checks were within established control limits, except for 2-butanone in the continuing calibration checks. All results for 2-butanone were invalidated.

B. The %RSD was within established control limits in the initial calibration check, but the %D was out of control for two compounds in the continuing calibration checks, however these compounds were non-detect in all of the samples.

4. **Internal Standard Response**

All internal standard criteria were within control limits.

5. **Blanks**

Methylene chloride, acetone, trichloroethene, and toluene were detected in the laboratory blanks or the field blank. Methylene chloride was coded U in samples NKX02203, -208, -214, -215, -216, -217F and -901P by the blank rule. Trichloroethene was coded U in samples NKX02202 and -210 by the blank rule.

6. **Surrogate Recovery**

All surrogate compound recoveries were within control limits.

7. **Matrix Spike/Matrix Spike Duplicate Recovery**

The spike recovery for the matrix spike and matrix spike duplicate were within established control limits. One %RPD out of five was outside of the control limits. No coding was performed.

8. Compound Identification and Quantitation

Due to the requested review level, results listed on the summary forms were used for the review. These results were not checked against the raw data for accuracy, and calculations were not verified.

9. Summary

Methylene chloride and trichloroethene were coded U in a few samples by the blank rule. All 2-butanone results were invalidated by continuing calibration outliers. Benzene was coded J in sample NKX02208 by the holding time outlier. EPADA data sheets are attached.

ANALYSIS REQUEST REPORT

FOR ACTIVITY: NKX02

07/22/91 16:24:12

PRELIMINARY DATA
SUBJECT TO REVISION

MICHALOWSKI, M.

* LABO APPROVED

FY: 91 ACTIVITY: NKX02 DESCRIPTION: EMERALD GROUNDWATER LOCATION: EMERALD NEBRASKA

STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: A36

LABO DUE DATE IS 7/ 7/91. REPORT DUE DATE IS 10/ 5/91.

INSPECTION DATE: 6/ 7/91 ALL SAMPLES RECEIVED DATE: 06/07/91

ALL DATA APPROVED BY LABO DATE: 07/22/91 FINAL REPORT TRANSMITTED DATE: 00/00/00

EXPECTED LABO TURNAROUND TIME IS 30 DAYS EXPECTED REPORT TURNAROUND TIME IS 120 DAYS

ACTUAL LABO TURNAROUND TIME IS 45 DAYS ACTUAL REPORT TURNAROUND TIME IS 0 DAYS

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE STATUS	# CONT.	CITY	STATE	AIRS/ STORET LOC NO	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	08:38	05/30/91	08:41
002		A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	09:12	05/30/91	09:12
003		A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	10:31	05/30/91	10:44
004		A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	11:08	05/30/91	11:37
005		A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	11:27	05/30/91	12:16
006		A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	12:02	05/30/91	12:06
007		A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	13:50	05/30/91	14:15
008		A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	14:02	05/30/91	14:38
009		A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	14:34	05/30/91	14:48
010		A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	15:11	05/30/91	15:40
011	F	A	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	:	05/30/91	:
201		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	08:45	05/30/91	:
202		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	09:10	/ /	:
202	D	W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	09:10	/ /	:
203		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	09:30	/ /	:
204		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	09:50	/ /	:
205		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	10:15	/ /	:
206		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	11:00	/ /	:
207		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	14:15	/ /	:
208		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	14:30	/ /	:
209		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	17:00	/ /	:
210		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	14:55	/ /	:
211		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	15:20	/ /	:
212		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	15:50	/ /	:
213		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	16:00	/ /	:

PRELIMINARY DATA
SUBJECT TO REVISION

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE STATUS	# CONT.	CITY	STATE	AIRS/ STORET LOC NO	BEG. DATE	BEG. TIME	END. DATE	END. TIME
214		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	16:50	/ /	:
215		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	17:15	/ /	:
216		W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	2	EMERALD	NEBRASKA		05/30/91	18:25	/ /	:
217	F	W	EMERALD GROUNDWATER-FOLLOWUP STUDY	1	1	EMERALD	NEBRASKA		05/30/91	19:30	/ /	:
219		W	EMERALD GROUNDWATER-BODY SHOP	1	1	EMERALD	NEBRASKA		06/07/91	09:00	/ /	:
220		W	EMERALD GROUNDWATER-GRIFFINS HOUSEBOAT	1	1	EMERALD	NEBRASKA		06/07/91	09:30	/ /	:
221		W	EMERALD GROUNDWATER-LENA HOME	1	1	EMERALD	NEBRASKA		06/07/91	09:50	/ /	:
222		W	EMERALD GROUNDWATER-LEMLEY HOME	1	1	EMERALD	NEBRASKA		06/07/91	10:15	/ /	:

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	001		002		003		004		005	
AU01 PENTANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AU02 1,1,2-TRICHLOROTRIFLUOROETHANE BY GC/MS	UG/M3	50	U	50	U	50	U	170	U	50	U
AU03 HEXANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AU04 HEPTANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AU05 OCTANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AU06 NONAME BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AU07 ISOPROPYLBENZENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AU08 1,3,5-TRIMETHYLBENZENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AU09 1,2,4-TRIMETHYLBENZENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AU10 1,3-DICHLOROBENZENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AU11 DECANE BY GC/MSD	UG/M3	100	U	100	U	100	U	330	U	100	U
AU12 1,2-DICHLOROBENZENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AU13 1,2,4-TRICHLOROBENZENE BY GC/MSD	UG/M3	500	U	500	U	500	U	1700	U	500	U
AU14 HEXACHLOROBUTADIENE BY GC/MSD	UG/M3	500	U	500	U	500	U	1700	U	500	U
AV40 CHLOROMETHANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV41 VINYL CHLORIDE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV42 BROMOMETHANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV43 CHLOROETHANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV44 ACETONITRILE BY GC/MSD	UG/M3	1000	U	1000	U	1000	U	3300	U	1000	U
AV47 ACRYLONITRILE BY GC/MSD	UG/M3	500	U	500	U	500	U	1700	U	500	U
AV48 BROMOETHANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV49 1,1-DICHLOROETHYLENE BY GC/MSD	UG/M3	50	U	50	U	2200		35000		50	U
AV50 METHYLENE CHLORIDE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV51 ALLYL CHLORIDE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV52 TRANS-1,2-DICHLOROETHYLENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV53 1,1-DICHLOROETHANE BY GC/MSD	UG/M3	50	U	50	U	50	U	480		50	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	001		002		003		004		005	
AV55 CIS-1,2-DICHLOROETHYLENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV56 CHLOROFORM BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV57 1,2-DICHLOROETHANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV58 1,1,1-TRICHLOROETHANE BY GC/MSD	UG/M3	50	U	85		2000		83000		50	U
AV59 BENEZENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV60 CARBON TETRACHLORIDE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV61 1,2-DICHLOROPROPANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV62 BROMODICHLOROMETHANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV63 TRICHLOROETHYLENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV64 CIS-1,3-DICHLOROPROPYLENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV66 TRANS-1,3-DICHLOROPROPYLENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV67 1,1,2-TRICHLOROETHANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV68 TOLUENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV69 DIBROMOCHLOROMETHANE BY GC/MSD	UG/M3	100	U	100	U	100	U	330	U	100	U
AV71 1,2-DIBROMOETHANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV72 TETRACHLOROETHYLENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV73 1,1,1,2-TETRACHLOROETHANE BY GC/MSD	UG/M3	100	U	100	U	100	U	330	U	100	U
AV74 CHLOROBENZENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV75 ETHYL BENZENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV76 BROMOFORM BY GC/MSD	UG/M3	100	U	100	U	100	U	330	U	100	U
AV77 P-XYLENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV78 M-XYLENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV79 STYRENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV80 O-XYLENE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
AV81 1,1,2,2-TETRACHLOROETHANE BY GC/MSD	UG/M3	50	U	50	U	50	U	170	U	50	U
ZZ01 SAMPLE NUMBER	NA	001		002		003		004		005	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	001	002	003	004	005
ZZ02 ACTIVITY CODE	NA	NKX02	NKX02	NKX02	NKX02	NKX02

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	006		007		008		009		010	
AU01 PENTANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AU02 1,1,2-TRICHLOROTRIFLUOROETHANE BY GC/MS	UG/M3	100	U	50	U	50	U	50	U	50	U
AU03 HEXANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AU04 HEPTANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AU05 OCTANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AU06 NONAME BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AU07 ISOPROPYLBENZENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AU08 1,3,5-TRIMETHYLBENZENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AU09 1,2,4-TRIMETHYLBENZENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AU10 1,3-DICHLOROBENZENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AU11 DECANE BY GC/MSD	UG/M3	200	U	100	U	100	U	100	U	100	U
AU12 1,2-DICHLOROBENZENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AU13 1,2,4-TRICHLOROBENZENE BY GC/MSD	UG/M3	1000	U	500	U	500	U	500	U	500	U
AU14 HEXACHLOROBUTADIENE BY GC/MSD	UG/M3	1000	U	500	U	500	U	500	U	500	U
AV40 CHLOROMETHANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV41 VINYL CHLORIDE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV42 BROMOMETHANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV43 CHLOROETHANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV44 ACETONITRILE BY GC/MSD	UG/M3	2000	U	1000	U	1000	U	1000	U	1000	U
AV47 ACRYLONITRILE BY GC/MSD	UG/M3	1000	U	500	U	500	U	500	U	500	U
AV48 BROMOETHANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV49 1,1-DICHLOROETHYLENE BY GC/MSD	UG/M3	8700		50	U	180		50	U	50	U
AV50 METHYLENE CHLORIDE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV51 ALLYL CHLORIDE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV52 TRANS-1,2-DICHLOROETHYLENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV53 1,1-DICHLOROETHANE BY GC/MSD	UG/M3	130		50	U	100		50	U	50	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	006		007		008		009		010	
AV55 CIS-1.2-DICHLOROETHYLENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV56 CHLOROFORM BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV57 1.2-DICHLOROETHANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV58 1.1.1-TRICHLOROETHANE BY GC/MSD	UG/M3	43000		50	U	660		50	U	50	U
AV59 BENEZENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV60 CARBON TETRACHLORIDE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV61 1.2-DICHLOROPROPANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV62 BROMODICHLOROMETHANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV63 TRICHLOROETHYLENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV64 CIS-1.3-DICHLOROPROPYLENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV66 TRANS-1.3-DICHLOROPROPYLENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV67 1.1.2-TRICHLOROETHANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV68 TOLUENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	57	
AV69 DIBROMOCHLOROMETHANE BY GC/MSD	UG/M3	200	U	100	U	100	U	100	U	100	U
AV71 1.2-DIBROMOETHANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV72 TETRACHLOROETHYLENE BY GC/MSD	UG/M3	110		50	U	50	U	50	U	50	U
AV73 1.1.1.2-TETRACHLOROETHANE BY GC/MSD	UG/M3	200	U	100	U	100	U	100	U	100	U
AV74 CHLOROBENZENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV75 ETHYL BENZENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV76 BROMOFORM BY GC/MSD	UG/M3	200	U	100	U	100	U	100	U	100	U
AV77 P-XYLENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV78 M-XYLENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV79 STYRENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV80 O-XYLENE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
AV81 1.1.2.2-TETRACHLOROETHANE BY GC/MSD	UG/M3	100	U	50	U	50	U	50	U	50	U
ZZ01 SAMPLE NUMBER	NA	006		007		008		009		010	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKXO2

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	006	007	008	009	010
ZZO2 ACTIVITY CODE	NA	NKXO2	NKXO2	NKXO2	NKXO2	NKXO2

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	011F		201	202	202D	203
AU01 PENTANE BY GC/MSD	UG/M3	50	U				
AU02 1,1,2-TRICHLOROTRIFLUOROETHANE BY GC/MS	UG/M3	50	U				
AU03 HEXANE BY GC/MSD	UG/M3	50	U				
AU04 HEPTANE BY GC/MSD	UG/M3	50	U				
AU05 OCTANE BY GC/MSD	UG/M3	50	U				
AU06 NONAME BY GC/MSD	UG/M3	50	U				
AU07 ISOPROPYLBENZENE BY GC/MSD	UG/M3	50	U				
AU08 1,3,5-TRIMETHYLBENZENE BY GC/MSD	UG/M3	50	U				
AU09 1,2,4-TRIMETHYLBENZENE BY GC/MSD	UG/M3	50	U				
AU10 1,3-DICHLOROBENZENE BY GC/MSD	UG/M3	50	U				
AU11 DECANE BY GC/MSD	UG/M3	100	U				
AU12 1,2-DICHLOROBENZENE BY GC/MSD	UG/M3	50	U				
AU13 1,2,4-TRICHLOROBENZENE BY GC/MSD	UG/M3	500	U				
AU14 HEXACHLOROBUTADIENE BY GC/MSD	UG/M3	500	U				
AV40 CHLOROMETHANE BY GC/MSD	UG/M3	50	U				
AV41 VINYL CHLORIDE BY GC/MSD	UG/M3	50	U				
AV42 BROMOMETHANE BY GC/MSD	UG/M3	50	U				
AV43 CHLOROETHANE BY GC/MSD	UG/M3	50	U				
AV44 ACETONITRILE BY GC/MSD	UG/M3	1000	U				
AV47 ACRYLONITRILE BY GC/MSD	UG/M3	500	U				
AV48 BROMOETHANE BY GC/MSD	UG/M3	50	U				
AV49 1,1-DICHLOROETHYLENE BY GC/MSD	UG/M3	50	U				
AV50 METHYLENE CHLORIDE BY GC/MSD	UG/M3	50	U				
AV51 ALLYL CHLORIDE BY GC/MSD	UG/M3	50	U				
AV52 TRANS-1,2-DICHLOROETHYLENE BY GC/MSD	UG/M3	50	U				
AV53 1,1-DICHLOROETHANE BY GC/MSD	UG/M3	50	U				

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	011F		201	202	202D	203
AV55 CIS-1,2-DICHLOROETHYLENE BY GC/MSD	UG/M3	50	U				
AV56 CHLOROFORM BY GC/MSD	UG/M3	50	U				
AV57 1,2-DICHLOROETHANE BY GC/MSD	UG/M3	50	U				
AV58 1,1,1-TRICHLOROETHANE BY GC/MSD	UG/M3	50	U				
AV59 BENEZENE BY GC/MSD	UG/M3	50	U				
AV60 CARBON TETRACHLORIDE BY GC/MSD	UG/M3	50	U				
AV61 1,2-DICHLOROPROPANE BY GC/MSD	UG/M3	50	U				
AV62 BROMODICHLOROMETHANE BY GC/MSD	UG/M3	50	U				
AV63 TRICHLOROETHYLENE BY GC/MSD	UG/M3	50	U				
AV64 CIS-1,3-DICHLOROPROPYLENE BY GC/MSD	UG/M3	50	U				
AV66 TRANS-1,3-DICHLOROPROPYLENE BY GC/MSD	UG/M3	50	U				
AV67 1,1,2-TRICHLOROETHANE BY GC/MSD	UG/M3	50	U				
AV68 TOLUENE BY GC/MSD	UG/M3	50	U				
AV69 DIBROMOCHLOROMETHANE BY GC/MSD	UG/M3	100	U				
AV71 1,2-DIBROMOETHANE BY GC/MSD	UG/M3	50	U				
AV72 TETRACHLOROETHYLENE BY GC/MSD	UG/M3	50	U				
AV73 1,1,1,2-TETRACHLOROETHANE BY GC/MSD	UG/M3	100	U				
AV74 CHLOROBENZENE BY GC/MSD	UG/M3	50	U				
AV75 ETHYL BENZENE BY GC/MSD	UG/M3	50	U				
AV76 BROMOFORM BY GC/MSD	UG/M3	100	U				
AV77 P-XYLENE BY GC/MSD	UG/M3	50	U				
AV78 M-XYLENE BY GC/MSD	UG/M3	50	U				
AV79 STYRENE BY GC/MSD	UG/M3	50	U				
AV80 O-XYLENE BY GC/MSD	UG/M3	50	U				
AV81 1,1,2,2-TETRACHLOROETHANE BY GC/MSD	UG/M3	50	U				
WF01 WATER TEMP	'C			67.6	67.4	67.4	63.3

TABLE OF CODES

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER
QCC = QUALITY CONTROL SAMPLE/AUDIT CODE
M = MEDIA OF SAMPLE (A=AIR, T=TISSUE, H=HAZARDOUS MATERIAL, S=SEDIMENT/SOIL, W=WATER)
AIRS/STORET LOC. NO. = A SAMPLING SITE LOCATION IDENTIFICATION NUMBER
BEG. DATE = THE DATE SAMPLING WAS STARTED
BEG. TIME = THE TIME SAMPLING WAS STARTED
END. DATE = THE DATE SAMPLING WAS ENDED
END. TIME = THE TIME SAMPLING WAS STOPPED
A = RESERVED
B = RESERVED
PES = PESTICIDES BY CONTRACT
= DIOXINS/FURANS BY EPA
E = EXPLOSIVES BY CONTRACT
FLD = FIELD MEASUREMENTS BY EPA
G = MINERALS & DISSOLVED MATERIALS BY EPA
HER = HERBICIDES BY EPA
I = ION CHROMATOGRAPHY ANALYSES BY EPA
MC = METALS BY CONTRACT
BNC = BASE NEUTRALS BY CONTRACT
L = FISH PHYSICAL DATA BY EPA
MET = METALS BY EPA
N = FISH TISSUE PARAMETERS BY EPA.
VC = VOLATILES BY CONTRACT
P = PESTICIDES BY EPA
Q = FLASH POINT ANALYSES BY EPA
R = RESERVED
BN = SEMIVOLATILE BY EPA
T = CYANIDE PHENOL BY EPA
U = RESERVED
VOA = VOLATILE ORGANICS BY EPA
HC = HERBICIDES BY CONTRACT
X = RESERVED
Y = RESERVED
TRK = ACTIVITY TRACKING PARAMETERS BY EPA

STORET DETECTION IDENTIFIERS
BLANK = NO REMARKS
J = DATA REPORTED BUT NOT VALID BY APPROVED QC PROCEDURES
I = INVALID SAMPLE/DATA - VALUE NOT REPORTED
U = LESS THAN (MEASUREMENT DETECTION LIMIT)
M = DETECTED BUT BELOW THE LEVEL FOR ACCURATE QUANTIFICATION
O = PARAMETER NOT ANALYZED

CONTRACTOR/ IN HOUSE / FIELD MEDIA GROUPS
FIELD = * * * = AF,HF,SF,TF,WF,ZZ
CONTRACTOR = * = HA,HC,HJ,HK,HO,SC,SJ,SK,SO,SW,TC,TJ, TK,TO,TW,WA,WC,WE,WJ,WK,WO,WW
IN HOUSE = * = ALL OTHERS

PRELIMINARY DATA SUBJECT TO REVISION

QUALITY CONTROL AUDIT CODES
A = TRUE VALUE FOR CALIBRATION STANDARD
B = CONCENTRATION RESULTING FROM DUPLICATE LAB SPIKE
C = MEASURED VALUE FOR CALIBRATION STANDARD
D = MEASURED VALUE FOR FIELD DUPLICATE
F = MEASURED VALUE FOR FIELD BLANK
G = MEASURED VALUE FOR METHOD STANDARD
H = TRUE VALUE FOR METHOD STANDARD
K = CONCENTRATION RESULTING FROM DUPLICATE FIELD SPIKE
L = MEASURED VALUE FOR LAB DUPLICATE
M = MEASURED VALUE FOR LAB BLANK
N = MEASURED VALUE FOR DUPLICATE FIELD SPIKE
P = MEASURED VALUE FOR PERFORMANCE STANDARD
R = CONCENTRATION RESULTING FROM LAB SPIKE
S = MEASURED VALUE FOR LAB SPIKE
T = TRUE VALUE OF PERFORMANCE STANDARD
W = MEASURED VALUE FOR DUPLICATE LAB SPIKE
Y = MEASURED VALUE FOR FIELD SPIKE
Z = CONCENTRATION RESULTING FROM FIELD SPIKE

MEDIA CODES
A = AIR
T = BIOLOGICAL (PLANT & ANIMAL) TISSUE
H = HAZARDOUS MATERIALS/MAN MADE PRODUCTS
S = SEDIMENT, SLUDGE & SOIL
W = WATER

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

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA SUBJECT TO REVISION

COMPOUND	UNITS	011F	Co. shop 201		School 202		202D		NTE 203	
WF05 PH, FIELD	SU		7.18		6.78		6.78		7.14	
WV03 CHLOROMETHANE	UG/L		2.0	U	2.0	U	2.0	U	2.0	U
WV04 BROMOMETHANE	UG/L		2.0	U	2.0	U	2.0	U	2.0	U
WV05 VINYL CHLORIDE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV06 CHLOROETHANE	UG/L		2.0	U	2.0	U	2.0	U	2.0	U
WV07 METHYLENE CHLORIDE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV08 1,1-DICHLOROETHENE	UG/L		6.0		11		11		1.0	U
WV09 1,1-DICHLOROETHANE	UG/L		1.0	U	1.0	U	8.0		1.0	U
WV10 1,2-DICHLOROETHENE, TOTAL	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV11 CHLOROFORM	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV12 1,2-DICHLOROETHANE	UG/L		1.0	U	17		16		1.0	U
WV13 1,1,1-TRICHLOROETHANE	UG/L		28		21		21		3.0	
WV14 CARBON TETRACHLORIDE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV15 BROMODICHLOROMETHANE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV16 1,2-DICHLOROPROPANE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV17 BENZENE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV19 TRICHLOROETHENE	UG/L		4.0		1.0	U	1.0	U	1.0	U
WV20 CIS-1,3-DICHLOROPROPENE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV21 DIBROMOCHLOROMETHANE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV22 1,1,2-TRICHLOROETHANE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV24 BROMOFORM	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV25 TETRACHLOROETHENE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV26 TOLUENE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV27 1,1,2,2-TETRACHLOROETHANE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV28 CHLOROBENZENE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV29 ETHYL BENZENE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	011F	201		202		202D		203	
WV30 ACETONE	UG/L		2.0	U	2.0	U	2.0	U	2.0	U
WV31 CARBON DISULFIDE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV32 2-BUTANONE	UG/L		NA	I	NA	I	NA	I	NA	I
WV33 VINYL ACETATE	UG/L		2.0	U	2.0	U	2.0	U	2.0	U
WV34 2-HEXANONE	UG/L		2.0	U	2.0	U	2.0	U	2.0	U
WV35 4-METHYL-2-PENTANONE	UG/L		2.0	U	2.0	U	2.0	U	2.0	U
WV36 STYRENE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV37 XYLENES, TOTAL	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
WV40 TRANS-1,3-DICHLOROPROPENE	UG/L		1.0	U	1.0	U	1.0	U	1.0	U
ZZ01 SAMPLE NUMBER	NA	011	201		202		202		203	
ZZ02 ACTIVITY CODE	NA	NKX02	NKX02		NKX02		NKX02		NKX02	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA SUBJECT TO REVISION

COMPOUND	UNITS	Allens Bait/Gas 204		Lincoln Fuel 205		Worcester 206		Russel 207		Melcher 208	
WF01 WATER TEMP	°C	62.5		60.2		62.4		61.7		58.9	
WF05 PH. FIELD	SU	7.16		7.15		6.99		7.44		6.84	
WV03 CHLOROMETHANE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV04 BROMOMETHANE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV05 VINYL CHLORIDE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV06 CHLOROETHANE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV07 METHYLENE CHLORIDE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV08 1,1-DICHLOROETHENE	UG/L	1.0		1.0	U	140		4.0		1.0	U
WV09 1,1-DICHLOROETHANE	UG/L	1.0		1.0	U	9.0		1.0	U	1.0	U
WV10 1,2-DICHLOROETHENE, TOTAL	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV11 CHLOROFORM	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV12 1,2-DICHLOROETHANE	UG/L	11		1.0	U	1.0	U	1.0	U	25	
WV13 1,1,1-TRICHLOROETHANE	UG/L	8.0		1.0	U	440		21		1.0	U
WV14 CARBON TETRACHLORIDE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV15 BROMODICHLOROMETHANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV16 1,2-DICHLOROPROPANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV17 BENZENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	J
WV19 TRICHLOROETHENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV20 CIS-1,3-DICHLOROPROPENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV21 DIBROMOCHLOROMETHANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV22 1,1,2-TRICHLOROETHANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV24 BROMOFORM	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV25 TETRACHLOROETHENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV26 TOLUENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV27 1,1,2,2-TETRACHLOROETHANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV28 CHLOROBENZENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	204		205		206		207		208	
WV29 ETHYL BENZENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV30 ACETONE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV31 CARBON DISULFIDE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV32 2-BUTANONE	UG/L	NA	I	NA	I	NA	I	NA	I	NA	I
WV33 VINYL ACETATE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV34 2-HEXANONE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV35 4-METHYL-2-PENTANONE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV36 STYRENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV37 XYLENES, TOTAL	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV40 TRANS-1,3-DICHLOROPROPENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
ZZ01 SAMPLE NUMBER	NA	204		205		206		207		208	
ZZ02 ACTIVITY CODE	NA	NKX02		NKX02		NKX02		NKX02		NKX02	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA SUBJECT TO REVISION

COMPOUND	UNITS			pt. 44 209		Tate/Hinrich 210		Nobbman 211		Meeks Rest. 212		Lynch 213	
WF01 WATER TEMP	°C					58.9		56.7		58.3		58.3	
WF05 PH, FIELD	SU					7.03		7.16		7.26		7.29	
WV03 CHLOROMETHANE	UG/L	NA	0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV04 BROMOMETHANE	UG/L	NA	0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV05 VINYL CHLORIDE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV06 CHLOROETHANE	UG/L	NA	0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV07 METHYLENE CHLORIDE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV08 1,1-DICHLOROETHENE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV09 1,1-DICHLOROETHANE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV10 1,2-DICHLOROETHENE, TOTAL	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV11 CHLOROFORM	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV12 1,2-DICHLOROETHANE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV13 1,1,1-TRICHLOROETHANE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV14 CARBON TETRACHLORIDE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV15 BROMODICHLOROMETHANE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV16 1,2-DICHLOROPROPANE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV17 BENZENE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV19 TRICHLOROETHENE	UG/L	NA	0	2.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV20 CIS-1,3-DICHLOROPROPENE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV21 DIBROMOCHLOROMETHANE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV22 1,1,2-TRICHLOROETHANE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV24 BROMOFORM	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV25 TETRACHLOROETHENE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV26 TOLUENE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV27 1,1,2,2-TETRACHLOROETHANE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV28 CHLOROBENZENE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	209		210		211		212		213	
WV29 ETHYL BENZENE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U
WV30 ACETONE	UG/L	NA	0	2.0	U	2.0	U	2.0	U	2.0	U
WV31 CARBON DISULFIDE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U
WV32 2-BUTANONE	UG/L	NA	0	NA	I	NA	I	NA	I	NA	I
WV33 VINYL ACETATE	UG/L	NA	0	2.0	U	2.0	U	2.0	U	2.0	U
WV34 2-HEXANONE	UG/L	NA	0	2.0	U	2.0	U	2.0	U	2.0	U
WV35 4-METHYL-2-PENTANONE	UG/L	NA	0	2.0	U	2.0	U	2.0	U	2.0	U
WV36 STYRENE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U
WV37 XYLENES, TOTAL	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U
WV40 TRANS-1.3-DICHLOROPROPENE	UG/L	NA	0	1.0	U	1.0	U	1.0	U	1.0	U
ZZ01 SAMPLE NUMBER	NA	209		210		211		212		213	
ZZ02 ACTIVITY CODE	NA	NKX02		NKX02		NKX02		NKX02		NKX02	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA SUBJECT TO REVISION

COMPOUND	UNITS	Swanson 214		Greiss 215		Fuss Background 216		217F		Automation 219	
WF01 WATER TEMP	°C	58.1		59.5		56.5					
WF05 PH, FIELD	SU	7.09		7.18		7.28					
WV03 CHLOROMETHANE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV04 BROMOMETHANE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV05 VINYL CHLORIDE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV06 CHLOROETHANE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV07 METHYLENE CHLORIDE	UG/L	1.0	U	1.0	U	1.0	U	2.0	U	1.0	U
WV08 1,1-DICHLOROETHENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV09 1,1-DICHLOROETHANE	UG/L	1.0	U	2.0		1.0	U	1.0	U	1.0	U
WV10 1,2-DICHLOROETHENE, TOTAL	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV11 CHLOROFORM	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV12 1,2-DICHLOROETHANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV13 1,1,1-TRICHLOROETHANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV14 CARBON TETRACHLORIDE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV15 BROMODICHLOROMETHANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV16 1,2-DICHLOROPROPANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV17 BENZENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV19 TRICHLOROETHENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV20 CIS-1,3-DICHLOROPROPENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV21 DIBROMOCHLOROMETHANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV22 1,1,2-TRICHLOROETHANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV24 BROMOFORM	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV25 TETRACHLOROETHENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV26 TOLUENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV27 1,1,2,2-TETRACHLOROETHANE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV28 CHLOROBENZENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	214		215		216		217F		219	
WV29 ETHYL BENZENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV30 ACETONE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV31 CARBON DISULFIDE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV32 2-BUTANONE	UG/L	NA	I	NA	I	NA	I	NA	I	NA	I
WV33 VINYL ACETATE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV34 2-HEXANONE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV35 4-METHYL-2-PENTANONE	UG/L	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
WV36 STYRENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV37 XYLENES, TOTAL	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
WV40 TRANS-1,3-DICHLOROPROPENE	UG/L	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
ZZ01 SAMPLE NUMBER	NA	214		215		216		217		219	
ZZ02 ACTIVITY CODE	NA	NKX02		NKX02		NKX02		NKX02		NKX02	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	Griffin's 220		Smith 221		Lemley 222			
WV03 CHLOROMETHANE	UG/L	2.0	U	2.0	U	2.0	U		
WV04 BROMOMETHANE	UG/L	2.0	U	2.0	U	2.0	U		
WV05 VINYL CHLORIDE	UG/L	1.0	U	1.0	U	1.0	U		
WV06 CHLOROETHANE	UG/L	2.0	U	2.0	U	2.0	U		
WV07 METHYLENE CHLORIDE	UG/L	1.0	U	1.0	U	1.0	U		
WV08 1,1-DICHLOROETHENE	UG/L	1.0	U	1.0	U	7.0			
WV09 1,1-DICHLOROETHANE	UG/L	1.0	U	1.0	U	1.0	U		
WV10 1,2-DICHLOROETHENE, TOTAL	UG/L	1.0	U	1.0	U	1.0	U		
WV11 CHLOROFORM	UG/L	1.0	U	1.0	U	1.0	U		
WV12 1,2-DICHLOROETHANE	UG/L	1.0	U	1.0	U	1.0	U		
WV13 1,1,1-TRICHLOROETHANE	UG/L	1.0	U	1.0	U	30			
WV14 CARBON TETRACHLORIDE	UG/L	1.0	U	1.0	U	1.0	U		
WV15 BROMODICHLOROMETHANE	UG/L	1.0	U	1.0	U	1.0	U		
WV16 1,2-DICHLOROPROPANE	UG/L	1.0	U	1.0	U	1.0	U		
WV17 BENZENE	UG/L	1.0	U	1.0	U	1.0	U		
WV19 TRICHLOROETHENE	UG/L	1.0	U	1.0	U	1.0	U		
WV20 CIS-1,3-DICHLOROPROPENE	UG/L	1.0	U	1.0	U	1.0	U		
WV21 DIBROMOCHLOROMETHANE	UG/L	1.0	U	1.0	U	1.0	U		
WV22 1,1,2-TRICHLOROETHANE	UG/L	1.0	U	1.0	U	1.0	U		
WV24 BROMOFORM	UG/L	1.0	U	1.0	U	1.0	U		
WV25 TETRACHLOROETHENE	UG/L	1.0	U	1.0	U	1.0	U		
WV26 TOLUENE	UG/L	1.0	U	1.0	U	1.0	U		
WV27 1,1,2,2-TETRACHLOROETHANE	UG/L	1.0	U	1.0	U	1.0	U		
WV28 CHLOROBENZENE	UG/L	1.0	U	1.0	U	1.0	U		
WV29 ETHYL BENZENE	UG/L	1.0	U	1.0	U	1.0	U		
WV30 ACETONE	UG/L	2.0	U	2.0	U	2.0	U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 1-NKX02

PRELIMINARY DATA
SUBJECT TO REVISION

COMPOUND	UNITS	220		221		222			
WV31 CARBON DISULFIDE	UG/L	1.0	U	1.0	U	1.0	U		
WV32 2-BUTANONE	UG/L	NA	I	NA	I	NA	I		
WV33 VINYL ACETATE	UG/L	2.0	U	2.0	U	2.0	U		
WV34 2-HEXANONE	UG/L	2.0	U	2.0	U	2.0	U		
WV35 4-METHYL-2-PENTANONE	UG/L	2.0	U	2.0	U	2.0	U		
WV36 STYRENE	UG/L	1.0	U	1.0	U	1.0	U		
WV37 XYLENES, TOTAL	UG/L	1.0	U	1.0	U	1.0	U		
WV40 TRANS-1,3-DICHLOROPROPENE	UG/L	1.0	U	1.0	U	1.0	U		
ZZ01 SAMPLE NUMBER	NA	220		221		222			
ZZ02 ACTIVITY CODE	NA	NKX02		NKX02		NKX02			

ACTIVITY NKX02 EMERALD GROUNDWATER

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 07/22/91 16:24:12 BY

APPENDIX 3

SITE INFORMATION

STATE

2 area towns split water system funds

■ Block grant for Walton, Emerald one of 36 announced by Orr.

The communities of Walton and Emerald in Lancaster County will share a $260,800 Community Development Block Grant for new water systems.

It was one of 36 grants, totaling $7.1 million, announced Wednesday by Gov. Kay Orr.

The federal grants will help maintain the quality of life in rural areas, the governor said.

"For eight years, CDBG funds have contributed to increased housing and employment opportunities and have helped improve public facilities and services in our rural communities," Orr said. "The 1990 grants continue this tradition."

THE LANCASTER COUNTY grants to Emerald, located several miles west of Lincoln, and Walton, several miles east of Lincoln, will be administered by the Lincoln Action Program, which helped the towns apply. Residents will match funds to help with the projects.

The money will be used to tie the 70 residents of Walton into an existing rural water system and to find a site, drill a well and pipe water to the 60 residents of Emerald.

Wells in both communities were found to be contaminated with a dangerous level of organic compounds, said M.J. Rose, LAP deputy director. Residents were told not to drink or bathe in the water.

The money will be split with approximately $178,660 for Emerald and $82,140 for Walton, Rose said.

The annual community block grant allocation to the state declined from $12 million in 1982 to $10.1 million this year, said Steve Charleston of the state Economic Development Department. In addition, the cities of Lincoln and Omaha receive funds directly from the federal government.

The $7.1 million in community development grants this year included some money carried over from last year, plus $1 million transferred from the economic development component of the program which is intended for business grants, he said. Approximately $4 million remains for economic development.

Towns that received grants announced Wednesday:

Arnold, $200,000, housing rehabilitation and administration.
Cairo, $200,000, housing rehabilitation and administration.
Cook, $200,000, acquisition, water well, water distribution, housing rehabilitation and administration.
Elmwood, $200,000, water distribution.
Elwood, $200,000, streets.
Franklin, 98,200, water distribution.
Funk, $200,000, water well, distribution and storage.
Gering, $300,000, acquisition, demolition, clearance, relocation, housing rehabilitation and administration, code enforcements.
Greeley, $200,000, housing rehabilitation and administration.
Greenwood, $200,000, flood drain, housing rehabilitation and administration.
Hastings, $300,000, acquisition, demolition, public facilities, streets, water distribution, housing rehabilitation and administration.
Hemingford, $200,000, water distribution and storage.
Henry, $79,500, water distribution.
Holbrook, $200,000, water well.
Kearney, $300,000, day care.
Kimball, $219,000, flood drain.
Lancaster Co. $260,800, acquisition, water well, distribution and storage.
Loomis, $200,000, housing rehabilitation and administration.
Lyman, $200,000, demolition, streets, storm sewers, clearance, housing rehabilitation and administration.
Mitchell, $200,000, streets, water distribution, housing rehabilitation and administration.
Obert, $45,200, water distribution.
Oconto, $200,000, housing rehabilitation and administration.
Ogallala, $300,000, water well and distribution.
Ord, $53,900, community center.
Peru, $200,000, sanitation, housing rehabilitation and administration.
Pilger, $200,000, water well, distribution and storage.
Plattsmouth, $300,000, streets, storm sewer, sanitation, water distribution, housing rehabilitation and administration.
Riverdale, $200,00, water well, distribution and storage.
Rulo, $200,000, streets, housing rehabilitation and administration.
Shelby, $200,000, water well, housing rehabilitation and administration.
St. Edward, $170,400, housing rehabilitation and administration.
St. Helena, $200,000, acquisition, sanitation, sewage treatment.
Table Rock, $200,000, acquisition, demolition, water distribution and storage.
Tecumseh, $200,000, public facilities, streets, housing rehabilitation and administration.
Verdon, $200,000, streets, water distribution, housing rehabilitation and administration.
Wakefield, $143,000, acquisition, demolition, housing rehabilitation and administration.

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NE	NED986369239

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Emerald Public Water Supply	Intersection of Neb. Hwy 6 & West 84 st. of Lincoln				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Emerald	NE	68502	Lancaster	01	01

09 COORDINATES LATITUDE 40 48 50.0 LONGITUDE 96 50 41.0

10 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☒ E. MUNICIPAL ☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
4 / 4 / 90 (MONTH DAY YEAR)	☒ ACTIVE ☐ INACTIVE	_____ BEGINNING YEAR _____ ENDING YEAR X UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☒ E. STATE ☐ F. STATE CONTRACTOR _____ (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Emily Chen	Program Specialist	NDEC	(402) 471-3388

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
			( )
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Tom Toogood	Owner of Auto Motion		(402) 474-4590
Len Allen	Owner of Allen's Bait Shop		(402) 475-5959
Larry Lewis	Owner of Nebraska Truck's		(402) 475-8471
David Jakoubek	Operator of County Shop		(402) 471 7792
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	9:00 a.m.	Clear

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Rich Schlenker	NDEC Hazardous Waste Section	(402) 471-3388

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Emily Chen	Hazardous Waste	HW section	(402) 471-3388	09 / 13 / 91 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NE	NED986369239

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 60
02 ☐ OBSERVED (DATE: Oct. 10, 1989)
04 NARRATIVE DESCRIPTION
☐ POTENTIAL ☐ ALLEGED

01 ☐ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____)
04 NARRATIVE DESCRIPTION
☐ POTENTIAL ☐ ALLEGED

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____)
04 NARRATIVE DESCRIPTION
☐ POTENTIAL ☐ ALLEGED

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____)
04 NARRATIVE DESCRIPTION
☐ POTENTIAL ☐ ALLEGED

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____)
04 NARRATIVE DESCRIPTION
☐ POTENTIAL ☐ ALLEGED

01 ☐ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: _____ (Acres)
02 ☐ OBSERVED (DATE: _____)
04 NARRATIVE DESCRIPTION
☐ POTENTIAL ☐ ALLEGED

01 ☐ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____)
04 NARRATIVE DESCRIPTION
☐ POTENTIAL ☐ ALLEGED

01 ☐ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____)
04 NARRATIVE DESCRIPTION
☐ POTENTIAL ☐ ALLEGED

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____)
04 NARRATIVE DESCRIPTION
☐ POTENTIAL ☐ ALLEGED

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER _____ (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER _____ (Specify)

05 OTHER

- ☐ A. BUILDINGS ON SITE

06 AREA OF SITE

_____ (Acres)

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☐ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NE	NED986369239

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☒ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☒ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☐ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
_____ (ft)	8 (ft)	_____	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE		
		SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
_____ (in)	_____ (in)	_____ %		_____ %

09 FLOOD POTENTIAL

SITE IS IN _____ YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. _____ (mi)	B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

_____ (mi)

ENDANGERED SPECIES: _____

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS	
		PRIME AG LAND	AG LAND
A. _____ (mi)	B. _____ (mi)	C. _____ (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NDEC Emerald Public Water Supply

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

EPA

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NE	NED986369239

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER		
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	
01 NAME	02 D+B NUMBER		
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	
01 NAME	02 D+B NUMBER		
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	
01 NAME	02 D+B NUMBER		
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE		
05 CITY	06 STATE	07 ZIP CODE	

PARENT COMPANY *(If applicable)*

08 NAME	09 D+B NUMBER	
10 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	11 SIC CODE	
12 CITY	13 STATE	14 ZIP CODE
08 NAME	09 D+B NUMBER	
10 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	11 SIC CODE	
12 CITY	13 STATE	14 ZIP CODE
08 NAME	09 D+B NUMBER	
10 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	11 SIC CODE	
12 CITY	13 STATE	14 ZIP CODE
08 NAME	09 D+B NUMBER	
10 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	11 SIC CODE	
12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) *(List most recent first)*

01 NAME	02 D+B NUMBER	
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) *(If applicable; list most recent first)*

01 NAME	02 D+B NUMBER	
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	
03 STREET ADDRESS *(P.O. Box, RFD #, etc.)*	04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION *(Cite specific references, e.g., state files, sample analysis, reports)*

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NE	NED986369239

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NE	NED986369239

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)