1994 ANNUAL GROUNDWATER MONITORING REPORT

DuPont Impoundment Operable Unit Long-Term Groundwater Monitoring Program

Lawrence Todtz Farm Landfill NPL Site Camanche, Iowa

DUPONT

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Prepared for

E.I. DuPONT DE NEMOURS AND CO., INC.

CH2M HILL — Milwaukee, WI — May 1995

1994 Annual Groundwater Monitoring Report

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Lawrence Todtz Farm Landfill NPL Site Camanche, Iowa

Prepared for
E. I. du Pont de Nemours and Co., Inc.
Wilmington, Delaware

Prepared by
CH2M HILL

May 1995

Executive Summary

Through an administrative agreement with the U.S. Environmental Protection Agency (EPA), E. I. du Pont de Nemours and Company, Inc., conducted an operable unit Remedial Investigation/Feasibility Study (RI/FS) and Remedial Design/Remedial Action (RD/RA) of an industrial impoundment that DuPont had used to dispose of cellophane process waste. The impoundment occupies a portion of the Lawrence Todtz Farm Landfill National Priorities List (NPL) Site in Camanche, Iowa.

As a condition of the remedial action, DuPont was required to implement a long-term groundwater monitoring program to assess changes in groundwater quality over time. If concentrations of selected chemical constituents (i.e., trigger compounds) exceed predetermined action levels in selected wells, further remedial actions are required.

During 1993, the trigger compound tetrahydrofuran (THF) was detected three times at monitoring well DU-05 S. Confirmation sampling conducted in August 1993 was inconclusive, and no THF was detected during semiannual sampling in October 1993. An action level exceedance was not confirmed, and no additional actions beyond quarterly monitoring of DU-05-S were required.

During quarterly sampling of DU-05-S during January 1994, DuPont voluntarily agreed also to sample all the other shallow aquifer downgradient wells. Sampling indicated that no trigger compounds were present at concentrations exceeding action levels in any compliance well.

The fifth round of semiannual groundwater sampling occurred the last week of April 1994. Sampling indicated that THF was present in DU-05-S at a concentration exceeding 80 percent of the Level 1 Action Level (Level 1_{80}). THF was also detected at perimeter wells DU-04-S and DU-07-S but at concentrations below which further actions are required. Confirmation sampling conducted on June 29, 1994 indicated that THF was present in DU-05-S, but at a concentration below the Level 1_{50}. THF was also present at DU-04-S at a concentration below the Level 1_{50}.

The sixth round of semiannual groundwater sampling occurred the first week of October 1994. No trigger compounds were detected above the Level 1_{50}.

Sampling was performed during the first week of January 1995 at monitoring well DU-05-S only. Sampling results indicated that THF was not present at this time.

During the April 1994 sampling event the soil cover was inspected for erosion damage and adequacy of vegetative cover, and the fence was inspected for damage and structural integrity. Two large animal holes observed under the fence near DU-10-S during previous events were filled before the October 1994 sampling round. Temporary maintenance of the gate latch was performed during the January 1995 sampling event, and arrangements for final

adjustments were made. No additional maintenance requirements were observed. Regularly scheduled maintenance (i.e., mowing, weed control) will continue in the spring of 1995.

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Introduction

This report was prepared to document groundwater monitoring performed at the Lawrence Todtz Farm Landfill site during January, April, June, and October 1994, and January 1995. It also documents the April and October 1994 inspection of the soil cover over the impoundment. Inspection and groundwater monitoring are being performed as part of the remedial action implemented for the DuPont Impoundment Operable Unit as required by the Consent Decree between DuPont and the U.S. government.

Background

Through an administrative agreement with the U.S. EPA, DuPont conducted an operable unit RI/FS and RD/RA of an industrial impoundment DuPont had used to dispose of cellophane process wastes. The impoundment occupies part of the Todtz Farm Landfill NPL site about 1 mile west of Camanche, Iowa.

As a condition of the remedial action, DuPont was required to implement a long-term groundwater monitoring program to assess changes in groundwater quality. If concentrations of selected contaminants (i.e., trigger compounds) exceed predetermined action levels in selected wells, further remedial actions must be implemented. Monitoring well locations are shown in Figure 1. DuPont is also required to regularly inspect and maintain the soil cover constructed during implementation of the remedial action.

Further action may be required if the concentration of a trigger compound exceeds certain percentages of predetermined action levels. The action levels, selected wells, and further remedial actions are described in greater detail in the *Long-Term Groundwater Quality Assurance Project Plan* (QAPP; CH2M HILL, April 1991) and *Level 1 and Level 2 Statements of Work* (CH2M HILL, April 1991). The Level 1 and Level 2 concentration limits are presented in Table 1.

If results of the cover inspection indicate that soil cover or site fence damage has occurred, the EPA must be notified and repairs must be made in accordance with the *Soil Cover and Fence Maintenance Plan* (CH2M HILL, October 1992).

Overview of Shallow Monitoring Well Sampling Program

In accordance with the Consent Decree, shallow wells at the site are to be sampled semiannually for 5 years following the completion of non-contingent remedial actions. The original sampling schedule was governed by completing the non-contingent remedial construction and required that wells be sampled in January and July of each year. The first three sampling rounds (July 1991, January and July 1992) followed this schedule. Because of problems typically encountered when sampling during winter months, DuPont requested that the sampling schedule be shifted to allow sampling during April and October. The EPA

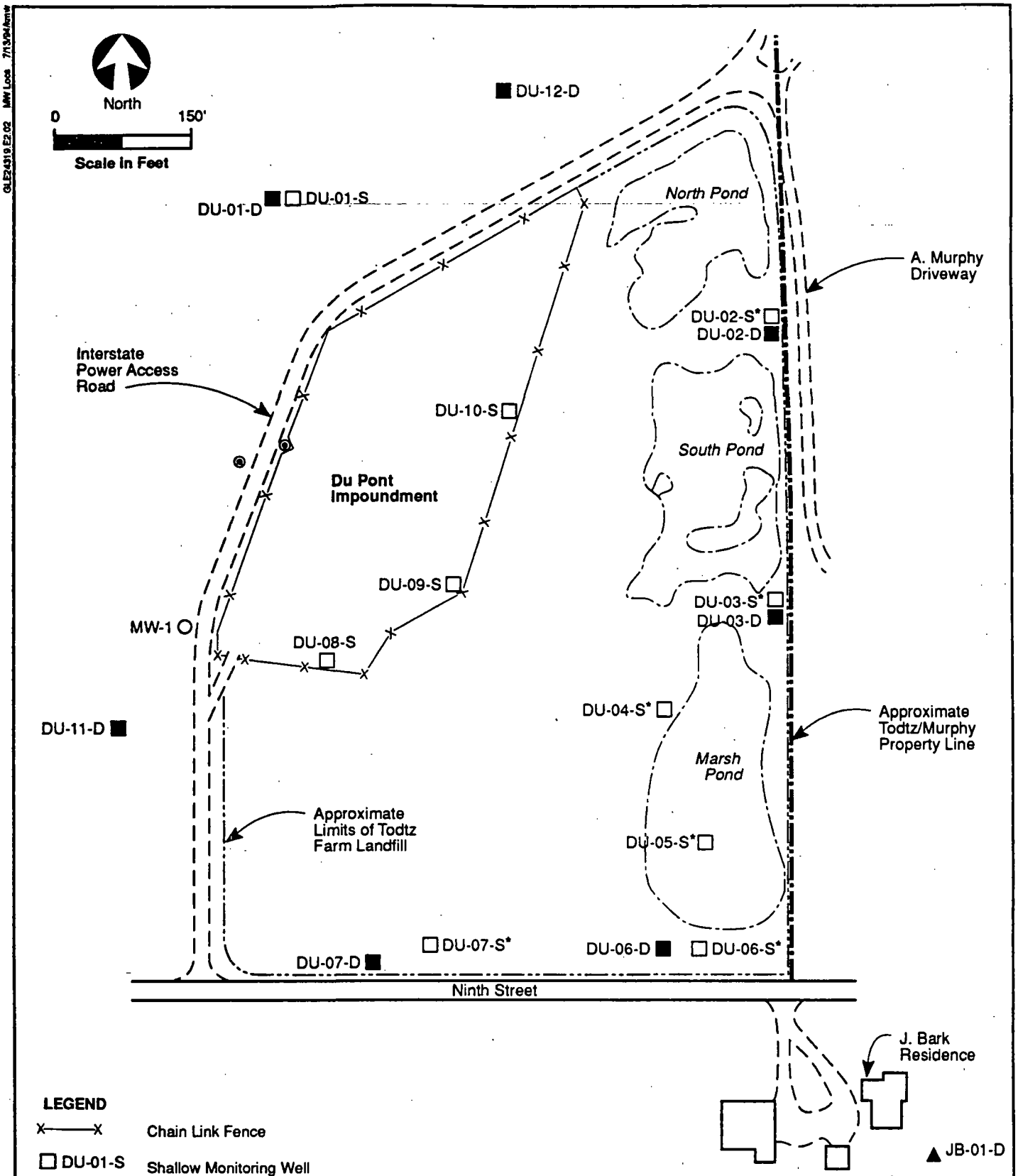

FIGURE 1
Monitoring Well Locations
Du Pont Impoundment RA
Todtz Farm Landfill Site

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Table 1
Trigger Compound Concentration Limits
DuPont Impoundment RA
Todtz Farm Landfill NPL Site

Monitoring Well	Concentration Limits (µg/L)							
	Carbon Disulfide		Tetrahydrofuran		Chromium (VI)		Arsenic	
	Level 1	Level 2	Level 1	Level 2	Level 1	Level 2	Level 1	Level 2
DU-02-S	250	1750	50	350	50	50	125	250
DU-03-S	250	1750	50	350	50	50	125	250
DU-04-S	500	3500	100	700	100	NA*	NA*	NA*
DU-05-S	250	1750	50	350	50	50	NA*	NA*
DU-06-S	250	1750	50	350	50	50	50	75
DU-07-S	250	1750	50	350	50	50	50	75

*NA = Not Applicable

authorized revising the sampling schedule, and the fourth groundwater sampling round occurred during April 1993.

Semiannual sampling of all shallow site wells for total metals, VOCs, and several conventional parameters will continue to be performed in April and October through 1995 after which time the wells will be sampled annually per Consent Decree requirements

Overview of the Deep Monitoring Well Sampling Program

The Consent Decree required that deep monitoring wells be sampled semiannually for 2 years following the completion of non-contingent remedial actions in June 1991. If no contaminants related to the DuPont impoundment were detected above background concentrations during that period, the wells were to be sampled every 5 years thereafter. Because no contaminants were detected in deep wells during the 2 years from June 1991 to April 1993, deep wells are not required to be sampled again until April 1998.

Deviations from the Program

During the April 1993 sampling round, THF was detected in monitoring well DU-05-S at a concentration of 41 µg/L, which exceeded 80 percent of the Level 1 Action Level (Level 1_{80}) for THF at this location. Per the provisions of the Consent Decree, DU-05-S was sampled again on June 8 to verify whether this exceedance had actually occurred. Analytical results indicated the presence of THF at about 100 µg/L. In accordance with the requirements of the Consent Decree, this confirmed a Level 1_{80} exceedance, and it was necessary to prepare a Treatment Evaluation Study for the DuPont Impoundment Operable Unit. DuPont Environmental Remediation Services (DERS) submitted the draft Treatment Evaluation Study to the EPA on September 22, 1993. The Treatment Evaluation Study was revised to address the EPA's comments, and the revised report was submitted on December 6, 1993.

In addition to confirming the Level 1_{80} exceedance, the June verification sampling results indicated that 100 percent of the Level 1 Action Level (Level 1_{100}) had been exceeded. (The Level 1_{100} for THF at DU-05-S is 50 µg/L).

DU-05-S was sampled again in August 1993 to determine (verify) whether the Level 1_{100} exceedance had truly occurred. EPA representatives were present to observe and split samples for independent analysis. DuPont's results for the August sampling event appeared to verify the Level 1_{100} exceedance. However, results of the EPA's split sample analysis indicated that THF concentrations were below the Level 1_{50}. Because of the inconsistency between the split data, EPA determined that the Level 1_{100} exceedance was not confirmed and that quarterly sampling of DU-05-S should be implemented.

DU-05-S was sampled again in October 1993 as part of the regularly scheduled semi-annual monitoring program (which also coincided with the next quarterly sampling event). The analytical results showed that THF was not detected. In addition, none of the Level 1_{50}

trigger values were exceeded for any compound in any other compliance well, so no additional remedial action was required. However, in accordance with the consent decree, DU-05-S continued to be sampled quarterly, Quarterly sampling continues until four successive quarters of data show THF not to be present above the Level 1_{50}. The October 1993 event was considered the first of the quarterly events.

DuPont's position had been that a probable cause for the THF exceedances was mobilization of a small slug of impoundment pore water from construction of the soil cover. While record rainfall and flood conditions existed at the site during 1993, no explanations of THF exceedances related to these phenomenon could be offered. The high water conditions could affect transport time and direction of a small release from the impoundment, but not enough information was available to evaluate these effects.

As part of the DU-05-S quarterly sampling routine, DuPont also voluntarily agreed to sample the downgradient perimeter wells (DU-02-S, DU-03-S, DU-04-S, DU-06S, and DU-07S) for total metals and VOCs for the 1994 calendar year. So, in addition to the regularly scheduled April and October sampling events, samples were also collected from these wells in January and June.

An additional requirement imposed by EPA was to have DuPont submit operations plans for slurry wall construction. The Draft Operations Plan was prepared by DERS and submitted in April of 1995.

Purpose and Scope

Regularly scheduled semiannual sampling of all shallow wells took place in April and October. In addition, DU-05-S continued to be sampled quarterly in 1994 as a result of the Level 1_{80} exceedance that had occurred in April 1993. DU-02-S, DU-03-S, DU-04-S, DU-06-S, and DU-07-S were voluntarily sampled on a quarterly basis to further assess groundwater quality trends. Quarterly sampling occurred in January and June 1994 and January 1995. A chronological summary of 1994 activities is presented below.

The scope of work for the January 1994 quarterly sampling round consisted of:

- Sampling monitoring well DU-05-S in quadruplicate by collecting four successive and discrete groundwater samples and submitting them for analysis of target compound list (TCL) volatile organic compounds (VOCs) plus THF
- Collecting one sample from DU-05-S for analysis of total metals
- Collecting samples from downgradient wells DU-02-S, DU-03-S, DU-04-S, DU-06-S and DU-07-S for analysis of total metals and VOCs
- Assessing the validated analytical data

The scope of work for the regularly scheduled April 1994 semiannual sampling event consisted of:

- Collecting groundwater and quality control samples from the 10 network shallow monitoring wells for chemical analysis
- Collecting groundwater samples from the James Bark residential drinking water well for chemical analysis (Although this is not required by the Consent Decree, DuPont is sampling the well voluntarily.)
- Inspecting the site cover and fence to identify damaged areas
- Assessing validated groundwater analytical data
- Measuring groundwater levels in the 10 shallow network monitoring wells and plotting groundwater contours for the shallow aquifer

The scope of work for the June 1994 quarterly sampling round consisted of:

- Collecting samples from downgradient wells DU-02-S, DU-03-S, DU-04-S, DU-06-S, and DU-07-S for analysis of total metals and VOCs (Quadruplicate VOC samples were taken from DU-05-S.)
- Assessing the validated analytical data
- Measuring groundwater levels in the network monitoring wells

The scope of work for the October 1994 sampling program consisted of:

- Collecting groundwater and quality control samples from the 10 network shallow monitoring wells for chemical analysis (Quadruplicate VOC samples were taken from DU-04-S and DU-05-S per prior agreement with EPA.)
- Inspecting the site cover and fence to identify damaged areas
- Assessing validated groundwater analytical data
- Measuring groundwater levels in the network monitoring wells and plotting groundwater contours

DU-05-S was sampled in January 1995 for VOCs only as part of the quarterly monitoring program implemented for that well. Water levels were collected from all shallow monitoring wells.

Field Work

Personnel

Dave Shekoski of CH2M HILL and DuPont Clinton Plant Environmental Specialist Dan DuVall collected samples from DU-02-S, DU-03-S, DU-04-S, DU-05-S, DU-06-S, and DU-07-S on January 26. Jan Lydigsen of Jacobs Engineering Group, representing U.S. EPA, was present to observe the sampling and collect split samples from wells DU-03-S, DU-05-S, and DU-07-S.

On April 25, Dan DuVall, Michael DeStefano of DuPont's corporate remediation group, DERS, and CH2M HILL sampling team members Mark Hinchey, Alan Parker, and Dave Shekoski conducted the regularly scheduled semiannual sampling of all shallow monitoring wells and inspected the soil cover. Craig Ellis of Jacobs Engineering Group representing the EPA was onsite to collect split samples from monitoring wells DU-04-S and DU-05-S.

On June 29, Dave Shekoski and Dan DuVall sampled wells DU-02-S, DU-03-S, DU-04-S, DU-06-S, and DU-07-S in conjunction with the quarterly sampling of DU-05-S. Jan Lydigsen of Jacobs Engineering Group representing the EPA was onsite to collect split samples from wells DU-04-S, DU-05-S and DU-06-S in June 1994

On October 4, Dave Shekoski and Dan DuVall, accompanied by Jeff Lamont and Melani Krug of CH2M HILL, conducted the regularly scheduled semiannual sampling of all shallow monitoring wells and inspected the soil cover. Nancy Swyers and Dave Drake of the EPA were onsite to observe and split samples from DU-02-S (metals only), DU-05-S, and impoundment well DU-08-S.

On January 24, 1995, DU-05-S was sampled by Dave Shekoski and Dan DuVall. Brian Rundell and Craig Ellis of Jacobs Engineering Group representing the EPA were present to observe and to collect a split sample from DU-05-S.

Cover and Fence Inspection

The soil cover was inspected to identify areas of localized settlement, erosion damage, and damage to the site fence. Field observations for April and October were recorded on the *Cover Inspection Site Plan* (see Appendix A). No significant damage to the fence or cap was observed.

Groundwater Levels

Before sampling the monitoring wells, depth to water was measured using an electronic water level indicator. Groundwater depths and elevations for January, April, June, and October 1994, and January 1995, as well as previous sampling events are listed in Table 2. Groundwater depths and elevations for the deep monitoring wells were not recorded in June.

Table 2
Groundwater Depths and Elevations
Du Pont Impoundment RA
Todtz Farm Landfill NPL Site

Shallow Monitoring Well	NGVD Top of Riser Elevation (ft)	NGVD Groundwater Elevation (ft)								Jan-94		Apr-94		Jun-94		Oct-94		Jan-95	
		Jul-91	Jan-92	Apr-92	Jul-92	Apr-93	Jun-93	Aug-93	Oct-93	Depth of Water Below Top of Riser (ft)	NGVD Groundwater Elevation (ft)	Depth of Water Below Top of Riser (ft)	NGVD Groundwater Elevation (ft)	Depth of Water Below Top of Riser (ft)	NGVD Groundwater Elevation (ft)	Depth of Water Below Top of Riser (ft)	NGVD Groundwater Elevation (ft)	Depth of Water Below Top of Riser (ft)	NGVD Groundwater Elevation (ft)
DU-01-S	594.58	584.0	586.2		585.2	588.1		588.0	586.2			8.32	586.26			10.64	583.94	9.68	584.90
DU-02-S	590.79	581.2	582.5		582.2	583.5		583.6	583.3	7.91	582.88	7.80	582.99	8.36	582.43	9.41	581.38	8.52	582.27
DU-03-S	587.61	580.3	581.9	582.4	581.5	583.0		582.9	582.5	5.63	581.98	5.71	581.90	5.93	581.78	7.04	580.57	6.22	581.39
DU-04-S	585.27	579.2	581.0		580.3	582.1		583.4	579.2	4.65	580.62	4.25	581.02	4.68	580.59	5.87	579.40	5.17	580.10
DU-05-S	583.16	577.2	578.4		578.5	582.7	582.5	582.8	580.7	4.56	578.60	3.71	579.45	4.20	578.96	6.03	577.13	5.19	577.97
DU-06-S	604.23	577.3	578.0		578.3	582.3		582.4	580.3	25.92	578.31	25.02	579.21	25.58	578.65	27.24	576.99	26.45	577.78
DU-07-S	598.36	579.2	579.2		579.4	582.0		581.4	580.5	19.17	579.19	18.70	579.66	17.90	580.46	19.31	579.05	20.36	578.00
DU-08-S	595.35	586.1	586.6		586.8	587.6		587.8	587.6			8.18	587.17			9.52	585.83	9.15	586.20
DU-09-S	593.78	583.2	584.1		584.3	584.7		585.0	584.5			9.32	584.46			11.50	582.28	10.38	583.40
DU-10-S	594.05	584.2	585.1		585.6	586.2		586.4	585.7			7.80	586.25			11.43	582.62	9.09	584.96

NGVD = National Geodetic Vertical Datum

[1] This water level was measured after sampling. Based on groundwater elevations in adjacent wells, it is believed that the well was not allowed to fully recharge and that the elevation is in error.

Groundwater elevation contours for the shallow aquifer for April and October 1994, and January 1995 are shown in Figures 2, 2a, and 2b, respectively. Water levels indicate that the general direction of groundwater flow in the shallow aquifer is to the southeast at gradients ranging from 0.005 to 0.02 ft/ft.

Sampling Procedures

Sampling procedures are outlined in Section 4 of the QAPP. All sampling was performed in accordance with those procedures with the following exceptions:

- When the QAPP was prepared, it was assumed an in-line measurement apparatus would be used to obtain field parameter measurements. At the recommendation of the dedicated pump manufacturer (QED), field parameters were measured using field portable conductivity and pH meters.

- To meet holding times, the QAPP stated that hexavalent chromium samples would be collected only after 2:00 P.M. and shipped Federal Express to the laboratory the same day. Instead samples were collected throughout the day and delivered by special messenger to the laboratory once a day.

- The QAPP stated that depth to water, purge volume, pH, conductivity, and temperature data would be recorded on field data sheets. The field data were instead recorded in field notebooks.

- The QAPP stated that filtered metal samples would be collected in addition to the total metal samples required by the Consent Decree. DuPont had voluntarily collected and analyzed filtered samples during the four previous semiannual sampling events. Because no significant differences were observed between the dissolved (filtered) and total (unfiltered) samples, DuPont has decided not to collect or analyze filtered metals.

At EPA's request, DuPont changed the procedure by which it collected quadruplicate samples for verification testing. This change occurred after the June sampling event. Before this time DuPont had purged the well of five casing volumes before collecting each successive quadruplicate sample. In this way the quadruplicate samples were actually four discrete samples that DuPont believed better fit the objectives of statistical proof that an exceedance had occurred. EPA was of the opinion that quadruplicates should be collected as four split samples immediately after the well had been purged of five casing volumes. EPA agreed that all of the data collected using the old method were valid and acceptable and should be included as part of the historical data base.

Quadruplicate samples were collected from DU-05-S in June using the old method. Quadruplicate samples collected from DU-05-S in October were obtained using EPA's preferred method. In January 1995, only a single sample was collected from DU-05-S

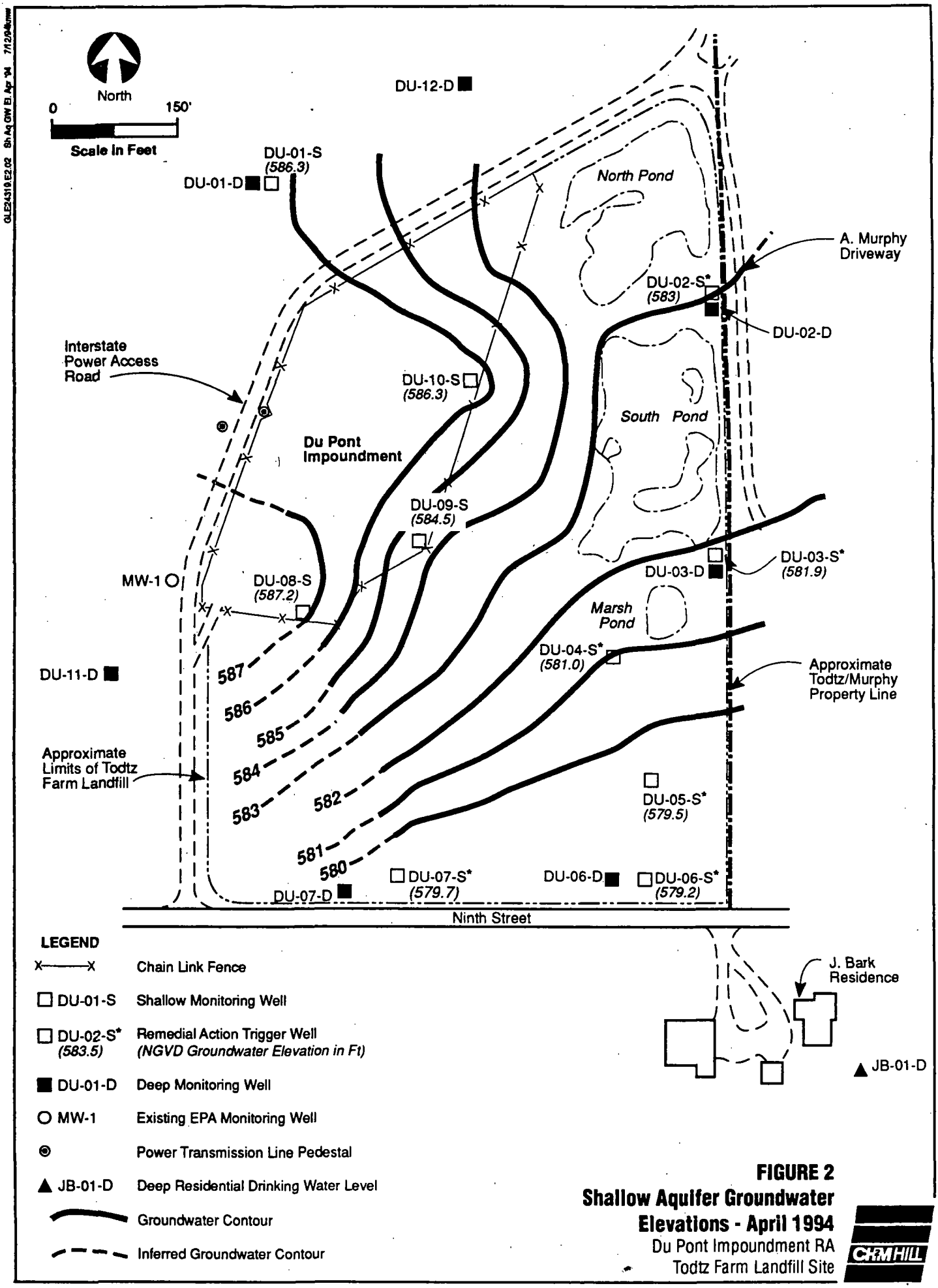

FIGURE 2
Shallow Aquifer Groundwater Elevations - April 1994
Du Pont Impoundment RA
Todtz Farm Landfill Site

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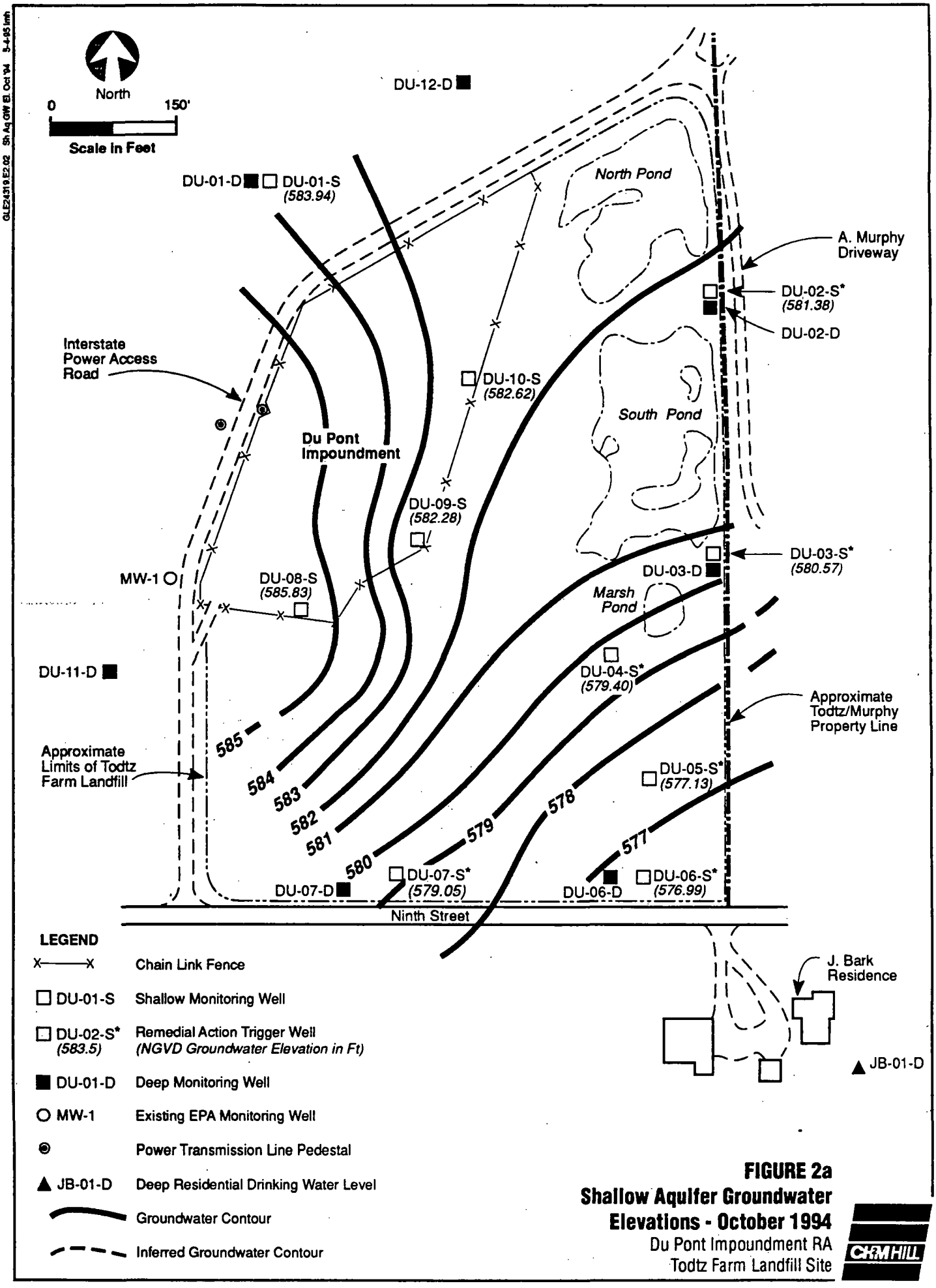

FIGURE 2a
Shallow Aquifer Groundwater Elevations - October 1994
Du Pont Impoundment RA
Todtz Farm Landfill Site

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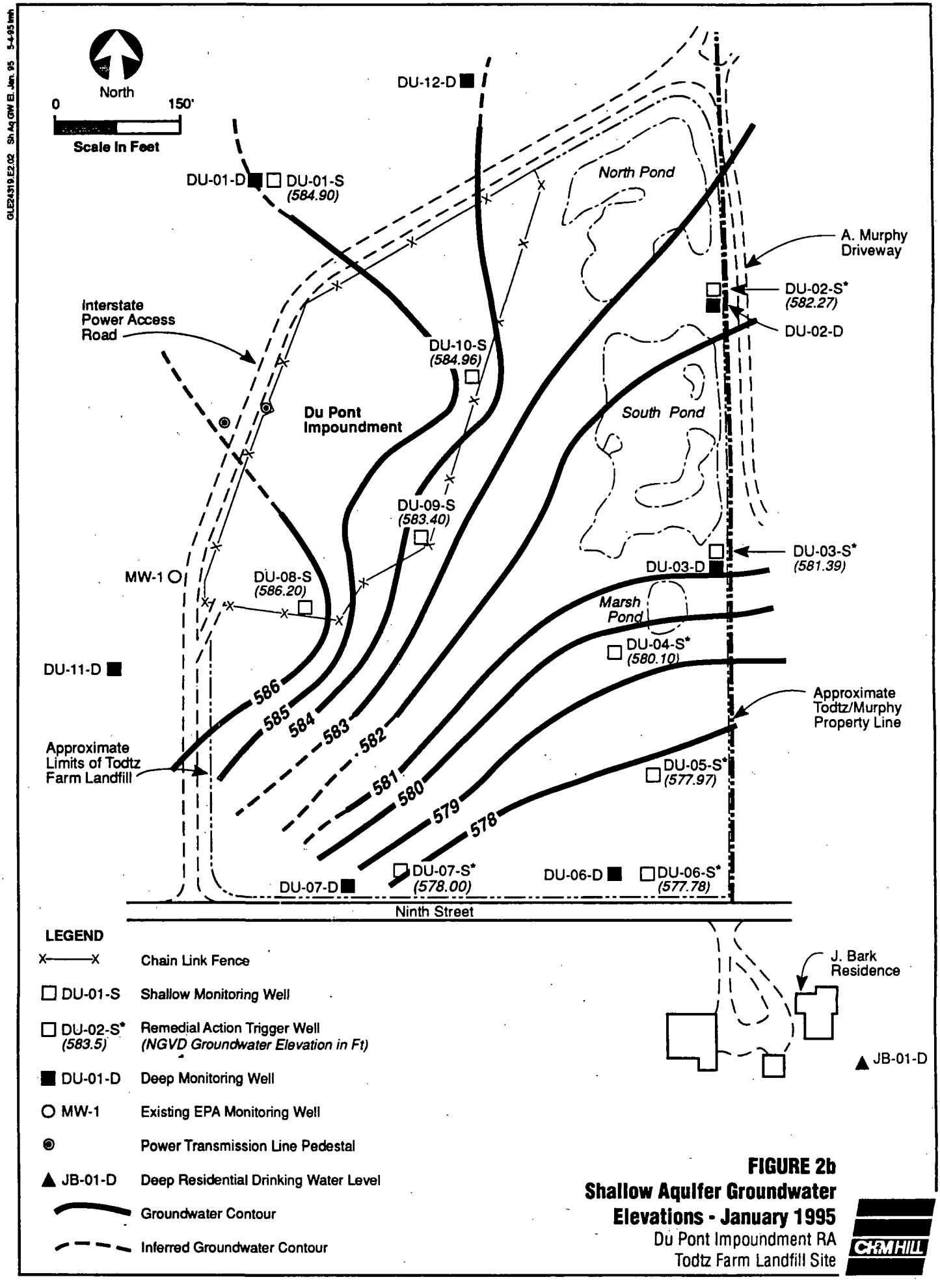

FIGURE 2b
Shallow Aquifer Groundwater Elevations - January 1995
Du Pont Impoundment RA
Todtz Farm Landfill Site

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Table 3
Groundwater Monitoring Analyte List
Du Pont Impoundment RA
Todtz Farm Landfill NPL Site

Volatile Organic Compounds	Metals
Chloromethane	Aluminum
Bromomethane	Antimony
Vinyl Chloride	Arsenic[a]
Chloroethane	Barium
Methylene Chloride	Beryllium
Acetone	Cadmium
Carbon Disulfide[a]	Calcium
1,1-Dichloroethene	Chromium
1,1-Dichloroethane	Chromium VI[a]
1,2-Dichloroethene (total)	Cobalt
Chloroform	Copper
1,2-Dichloroethane	Iron
2-Butanone	Lead
1,1,1-Trichloroethane	Magnesium
Carbon Tetrachloride	Manganese
Vinyl Acetate	Mercury
Bromodichloromethane	Nickel
1,1,2,2-Tetrachloroethane	Potassium
1,2-Dichloropropane	Selenium
cis-1,3-Dichloropropene	Silver
Trichloroethene	Sodium
Dibromochloromethane	Thallium
1,1,2-Trichloroethane	Vanadium
Benzene	Zinc
trans-1,3-Dichloropropene	
Bromoform	**Other Analytes**
2-Hexanone	
4-Methyl-2-pentanone	Total Organic Carbon (TOC)
Tetrachloroethene	Sulfate
Toluene	Chloride
Chlorobenzene	Total Organic Halogen (TOX)
Ethylbenzene	Phenols
Styrene	Sulfide
Xylenes (total)	
Tetrahydrofuran[a]	

Note: Semivolatile organic compounds will be analyzed only if 80% of the Level 2 Action Limit Concentration is exceeded in a given compliance well.

[a]Indicates a remedial action trigger compound.

because THF was not detected in the previous sample, and thus there was no need to verify this result through statistical procedures.

Purge water from previous sampling events was disposed of at the Camanche POTW in October in accordance with applicable requirements. About 35 gallons of purge water were collected during the October event and stored in the site shed. The purge water will be disposed of at the Camanche POTW at a later date.

Field work is documented in field books 3 and 4, which are maintained with the project files in CH2M HILL's Milwaukee office. A table summarizing field parameters for the 1994 and January 1995 sampling events as well as previous events is contained in Appendix B.

Samples were maintained under the chain-of-custody procedures outlined in the QAPP. Copies of the chain-of-custody forms for 1994 and January 1995 are contained in Appendix C.

Samples collected in January, April, and June 1994 were analyzed by IT Corporation's laboratory in Austin, Texas. Quanterra purchased the laboratory in the latter part of 1994, so samples collected in October 1994 and January 1995 were analyzed by Quanterra.

Data Interpretation

Data Validation

During the January sampling event, water samples collected from the shallow downgradient monitoring wells were analyzed for VOCs and total metals. Analysis was also performed on four quality control samples, consisting of one field duplicate, one matrix spike/matrix spike duplicate (MS/MSD) pair, and one trip blank.

During the April sampling event, water samples collected from the 10 network shallow monitoring wells were analyzed for VOCs, selected conventional parameters, and total metals. Water samples collected from the James Bark well were analyzed for VOCs and total metals. Analysis was also performed on four quality control samples, consisting of one field duplicate, one MS/MSD pair, and one trip blank.

During the June 1994 quarterly sampling event, water samples collected from the shallow downgradient monitoring wells were analyzed for VOCs and total metals. Analysis was also performed on four quality control samples, consisting of one field duplicate, one matrix spike/matrix spike duplicate (MS/MSD) pair, and one trip blank.

During the October 1994 sampling event, water samples collected from the 10 network shallow monitoring wells were analyzed for VOCs, selected conventional parameters, and total metals. Analysis was also performed on four quality control samples, consisting of one field duplicate, one MS/MSD pair, and one trip blank.

During the January 1995 sampling event, a water sample was collected from DU-05-S and was analyzed for VOCs. Analysis was also performed on three quality control samples, consisting of one MS/MSD pair, and one trip blank.

Concentration levels for volatile and inorganic parameters were measured using procedures described in the U.S. EPA Contract Laboratory Program (CLP) *Statement of Work for Organic Analysis* (SOW No. 288) and the *Statement of Work for Inorganic Analysis* (SOW No. 788). Concentration levels for conventional parameters were measured using procedures described in the U.S. EPA *Methods for Chemical Analysis of Water and Wastes* (EPA-600/4-79-020). The list of targeted parameters includes the CLP Target Analyte List (minus cyanide), the Target Compound List (plus THF), and select non-CLP conventional parameters. The parameters analyzed are listed in Table 3.

Laboratory data packages for the 1994 and January 1995 sampling events, including raw data, are kept with the project files in CH2M HILL's Milwaukee Office. The packages are not included with this report because of their length.

CH2M HILL performed data validation to determine if overall data quality objectives were met. Analytical deficiencies for 1994 and January 1995 sampling events are described in detail in the validation review (Appendix D). All data were determined to be usable for the intended purposes.

The analytical results were entered into a *Paradox* database for evaluation and into *Microsoft Excel* spreadsheets for presentation in this report. Tables providing results and qualifiers for all analytes tested during the 1994 and January 1995 sampling events are contained in Appendix E. Summaries of indicator and other parameters detected during the 1994 and January 1995 events, as well as from previous events, are contained in Appendix F. Because deep monitoring wells were not sampled, no summaries of deep monitoring well historical data are included.

Analytical Summary

Analytical results are discussed below. They are compared to results from previous sampling rounds and, if appropriate, notable differences are pointed out. The discussions are grouped according to shallow perimeter wells, bedrock perimeter wells, and berm wells.

The presence of methylene chloride and acetone in samples has been attributed to laboratory contamination. Their presence in individual samples is not discussed further.

Total organic carbon (TOC) concentrations were notably higher in many samples during the October 1993 sampling event. TOC concentrations for the 1994 and January 1995 sampling events were similar to those observed before October 1993. TOC concentrations are addressed under "Conclusions" but are not discussed for individual samples.

Shallow Perimeter Monitoring Wells

No action level was exceeded for any trigger compound in any shallow perimeter monitoring well in 1994. Because THF had been detected above the Level 1_{80} in monitoring well DU-05-S, confirmation sampling of the well is required. THF was also observed in DU-04-S during June 1994, but it was present below the Level 1_{50} and no additional actions are required.

No other significant changes in VOCs were observed in the shallow perimeter monitoring wells since the previous sampling events. The analytical results are discussed for each well.

DU-01-S (Background)

Figure 3 shows that arsenic was not detected in April but was present in October at a concentration of 4.6 µg/L. Arsenic was detected in October 1993 at a concentration of 3.3 µg/L and has occurred sporadically in this concentration range for the last several years. No other trigger compounds were detected in any sampling event. In addition, no VOCs or significant changes in concentrations of metals were observed.

DU-02-S

Carbon disulfide, which was detected at a very low estimated concentration of 1 µg/L for the first time during October 1993, was detected at a concentration of 5.8 µg/L in October 1994 (Figure 4). The concentration of carbon disulfide is less than the Level 1_{50} trigger value of 125 µg/L established for this well.

THF, detected only once previously (July 1991 at a concentration of 14.5 µg/L), was detected at a concentration of 4.6 µg/L in October 1994.

Results for total arsenic, present at a concentrations of about 35 µg/L in June 1994, are generally consistent with previous results, although the concentration increased to about 53 µg/L in October 1994. Arsenic concentrations remained below the historical high concentration of 84 µg/L observed in March 1988. The concentration of total arsenic is less than the Level 1_{50} trigger value of 62.5 µg/L established for arsenic in this well.

DU-03-S

THF, not present since April 1993 when it was detected at a concentration of 10 µg/L, was detected in June 1994 also at a concentration of 10 µg/L. The concentration decreased to 2.4 µg/L in October 1994 (Figure 5).

Total arsenic has occurred sporadically over the life of the long-term monitoring program, exhibiting cyclic (possibly seasonal) highs and lows. 1994 saw a slight but steady increase in concentrations beginning with a concentration of 17.6 µg/L in January increasing to 42.6 µg/L in October. However arsenic showed a similar pattern in 1993 where it was

GLE24319.E3 RP DU-01S 5-11-95 mjl

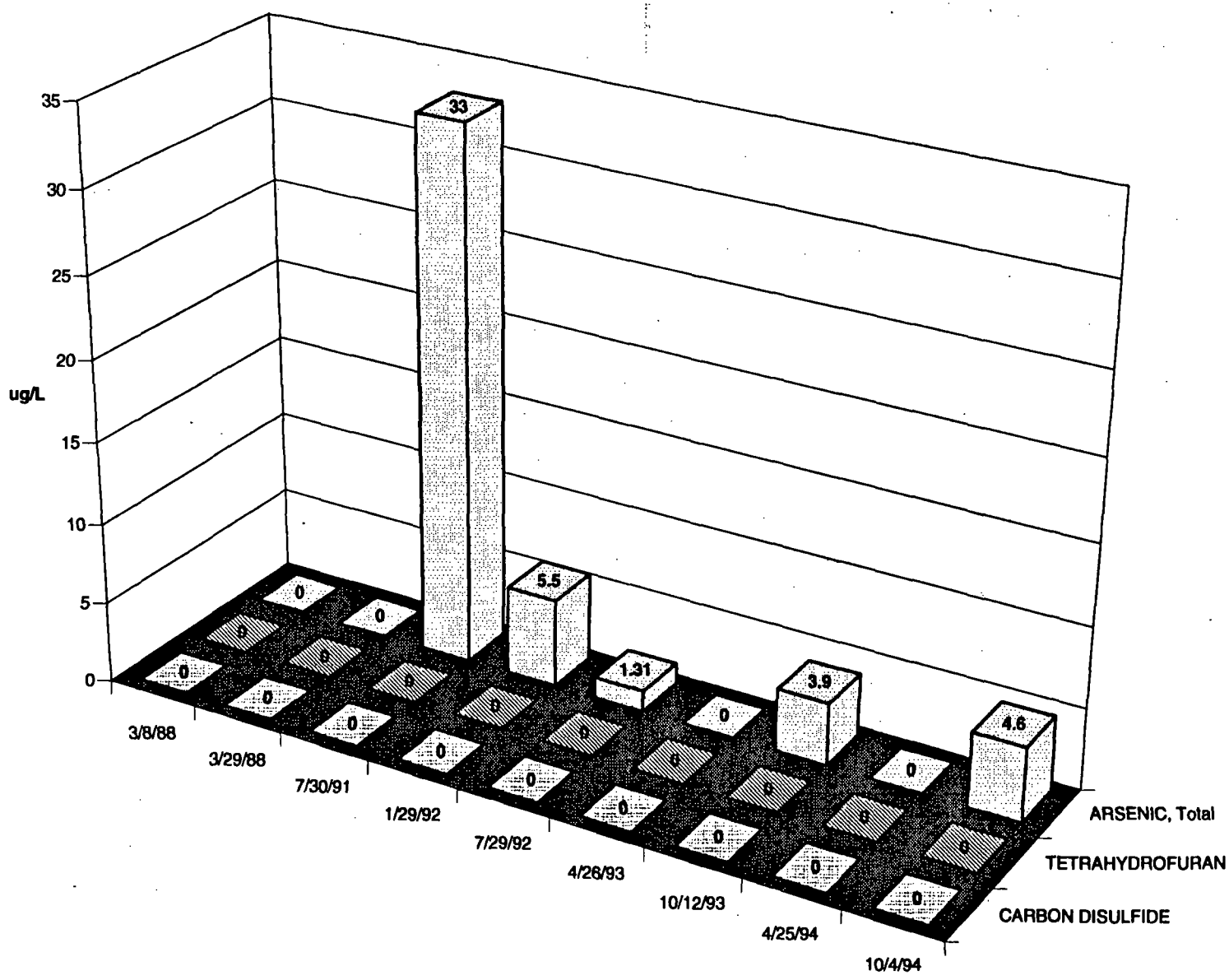


FIGURE 3
Monitoring Well DU-01-S
Du Pont Impoundment RA
Todtz Farm Landfill Site

CH2MHILL

GLE24319.E3.RP DU-02S 5-11-95 mjl

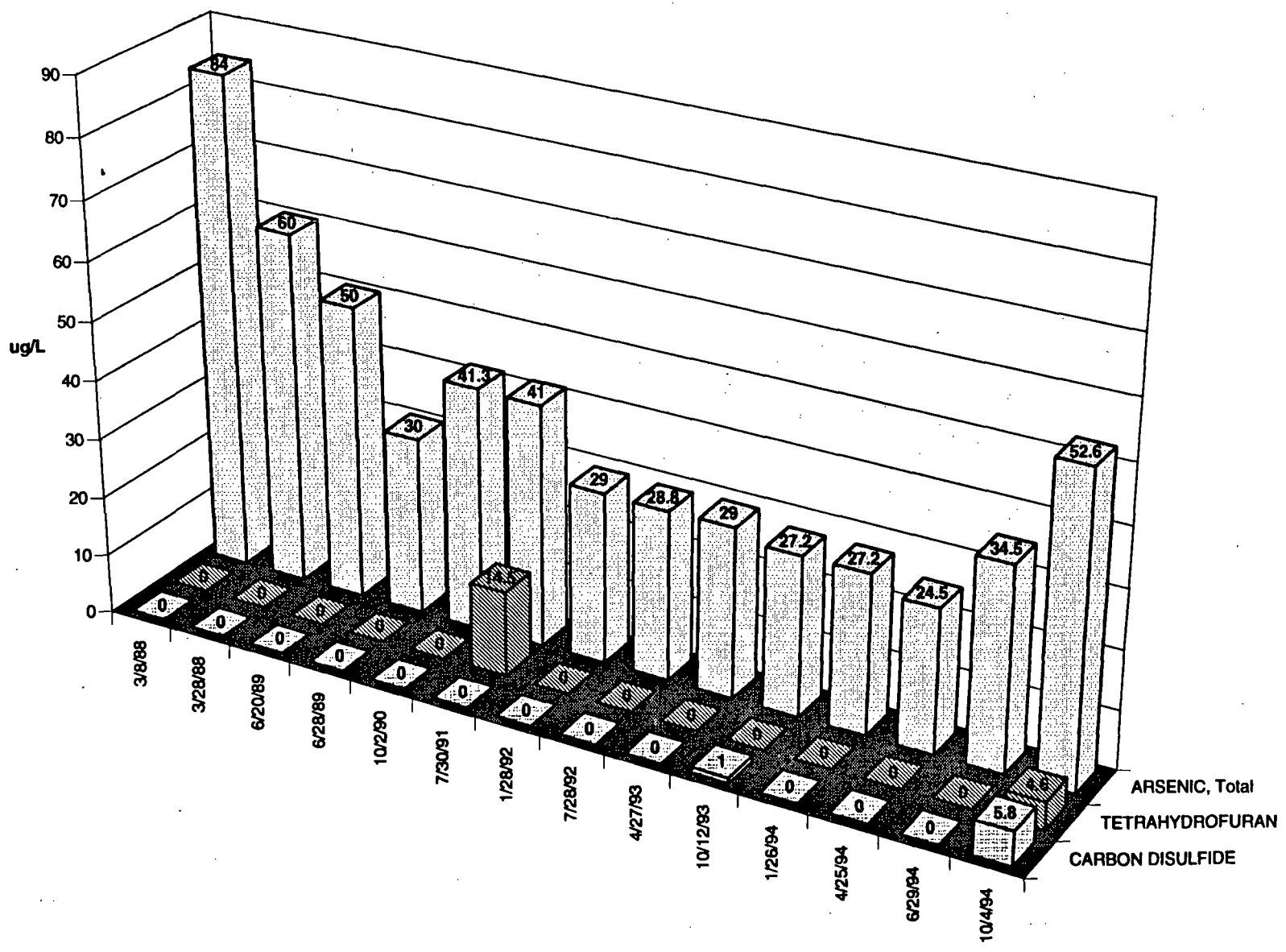


FIGURE 4
Monitoring Well DU-02-S
Du Pont Impoundment RA
Todtz Farm Landfill Site

CH2MHILL

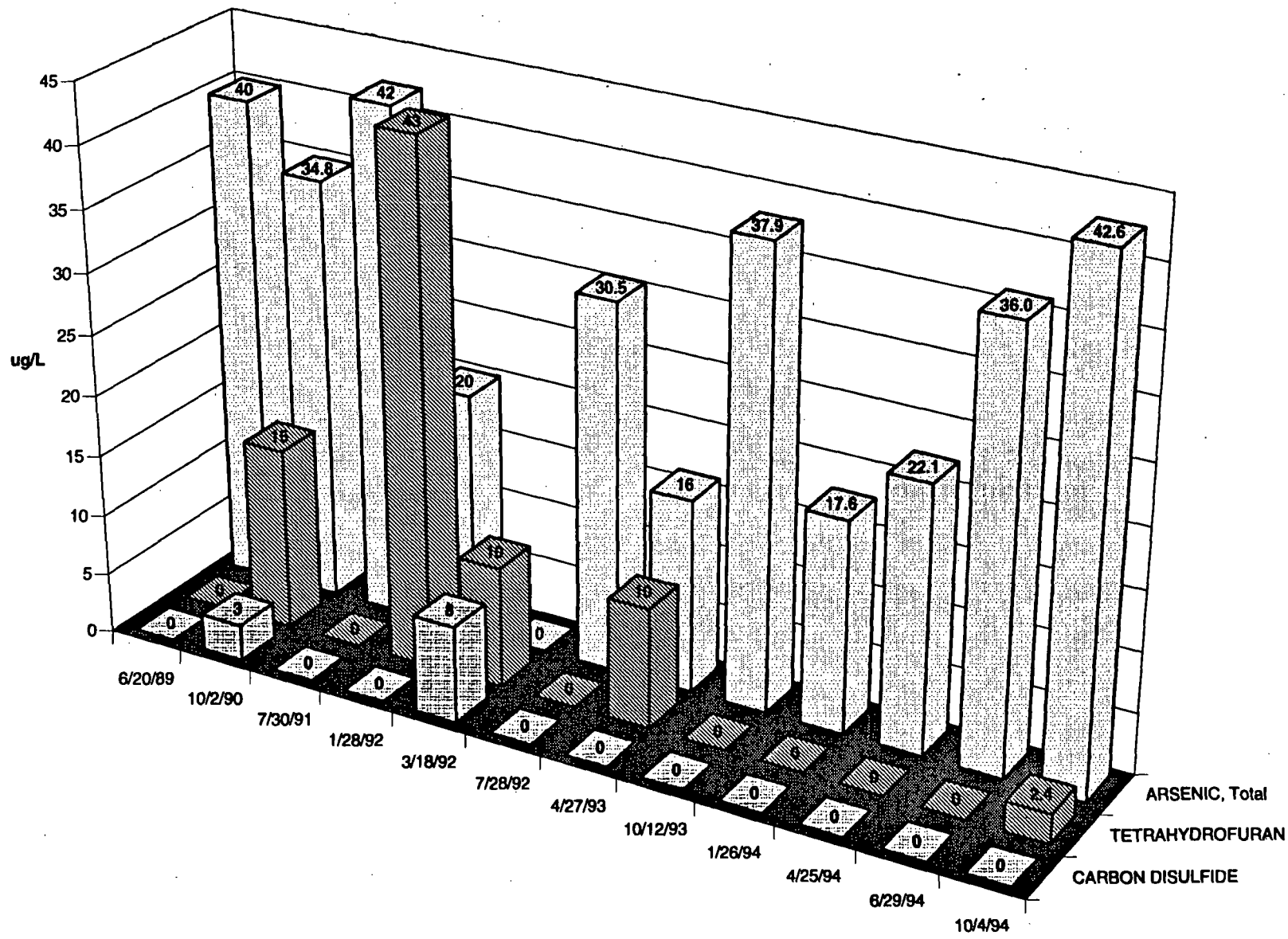


FIGURE 5
Monitoring Well DU-03-S
Du Pont Impoundment RA
Todtz Farm Landfill Site

CH2MHILL

detected in April at 16 µg/L and increased to 37.9 µg/L in October. Thus the 1994 results are not seen as a cause for concern.. Concentrations of arsenic remain below the Level 1_{50} of 62.5 µg/L.

Carbon disulfide was detected in June 1994 at a concentration of 5 µg/L but was not detected in January, April, or October. The June occurrence was the first since March 1992, when it was detected at 8 µg/L. The June occurrence is below the Level 1_{50} value of 125 µg/L established for carbon disulfide in the well.

DU-04-S

Figure 6 presents a snapshot of the historic distribution of trigger compounds in DU-06S. THF was detected in April 1994 at a concentration of 20 µg/L and in June at a concentration of 36 µg/L. This is the first occurrence of THF since it was detected at a concentration of 11B µg/L in July 1992. (The EPA split sample from the April 1994 event showed THF at a concentration of 47 µg/L.)

In response, DuPont voluntarily collected quadruplicate samples from DU-04S in October 1994. THF was detected in only one of the four quads at a concentration of 22 µg/L. No other VOCs were detected in DU-04-S.

The Level 1_{100} for this well is 100 µg/L, which makes the Level 1_{50} 50 µg/L. None of the THF action levels for the well were exceeded.

Total arsenic was detected at an estimated concentration of about 2.5LT µg/L in June and 5 µg/L in October. The arsenic concentrations are consistent with previous results. There is no trigger value for arsenic at DU-04-S.

Iron concentrations appear to have stabilized relative to fluctuations observed during previous events. This may indicate that previous fluctuations were the result of EPA test pit excavations conducted in the municipal part of the landfill in 1992 and/or the flooding that occurred at the site in 1993.

DU-05-S

The historical occurrence of THF in DU-05-S was discussed earlier in this report.

THF was not detected in January 1994. In April it was detected in four samples at concentrations of 38, 34, 42, and 37 µg/L. (EPA split samples for the second and fourth of the quadruplicates showed THF concentrations at 57 and 63 µg/L.) Based on the t-test evaluation presented in the QAPP (using DuPont data), the 95 percent confidence interval is 32.5 µg/L to 43 µg/L. Therefore, April samples collected by DuPont indicate an apparent Level 1_{80} exceedance. The EPA was formally notified of these concentrations in a letter from Dan DuVall to Nancy Swyers/US EPA dated June 1, 1994.

GLE24316.E3.RP DU-04S 5-11-95 mjl

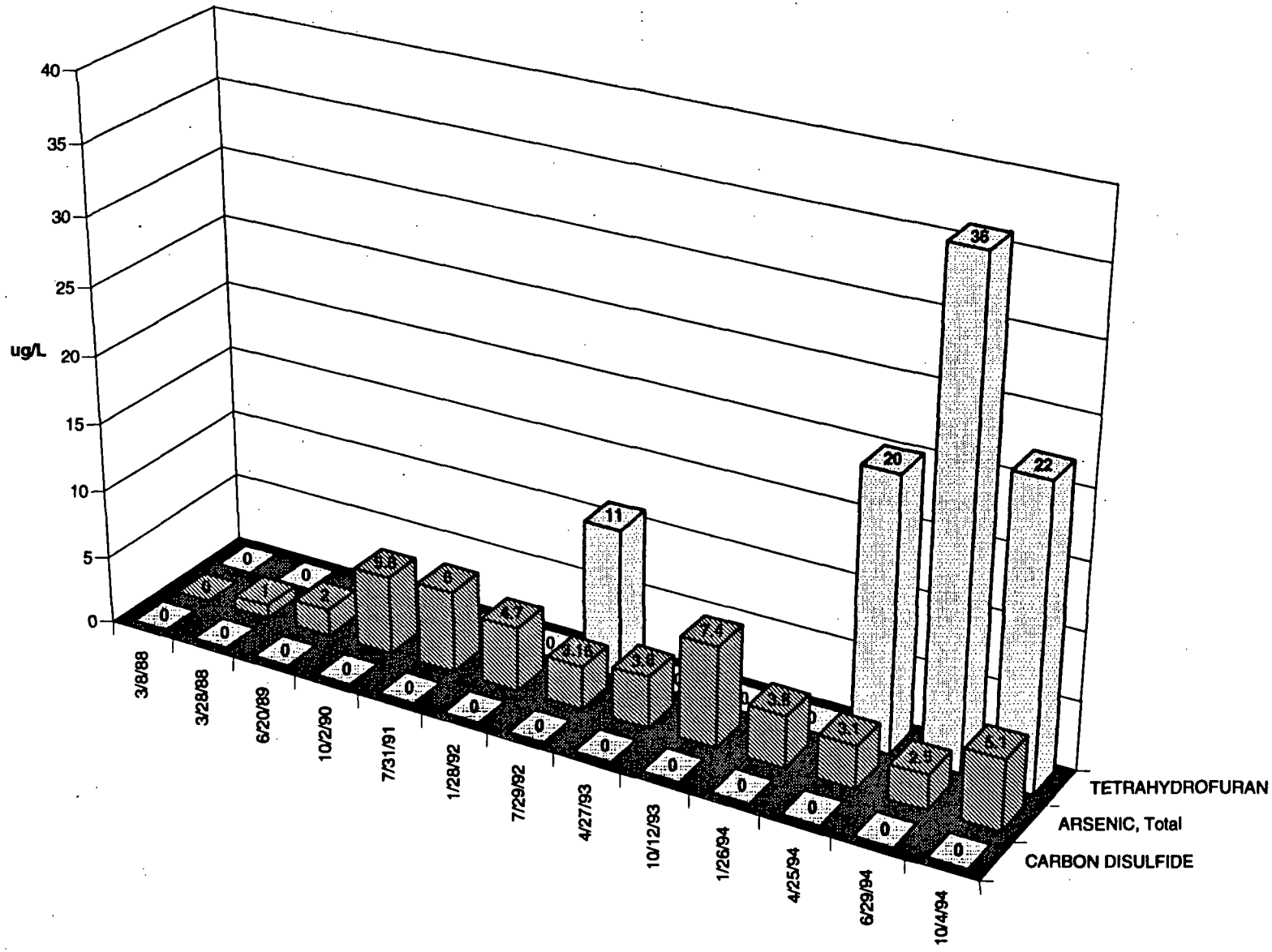


FIGURE 6
Monitoring Well DU-04-S
Du Pont Impoundment RA
Todtz Farm Landfill Site

CH2M HILL

In accordance with the Consent Decree, well DU-05-S was resampled in quadruplicate on June 29, 1994, to verify the April data. THF was detected in June 1994 in only one of the four quadruplicate samples at a concentration of 12 µg/L (Figure 7). THF was not detected in either October 1994 or January 1995. Therefore the Level 1_{80} exceedance was not confirmed, and no action beyond continued quarterly monitoring is required. If the April 1995 results are below the Level 1_{50}, sampling of DU-05-S will revert back to semiannual sampling because four consecutive quarters (June and October 1994 and January and April 1995) will have been below the Level 1_{50}, thereby satisfying the Consent Decree requirements.

No other VOCs were detected. There were no significant changes in concentrations of metals.

DU-06-S

No detectable concentrations of VOCs were observed in well DU-06-S (Figure 8), which is consistent with historical data from that location. The estimated concentrations of arsenic observed were 8.0 µg/L in June 1994 and 9.3 µg/L in October, which is consistent with previous results. Arsenic concentrations remain below the Level 1_{50} value of 25 µg/L established for arsenic in the well.

DU-07-S

Chlorobenzene was not detected in either June or October 1994. Chlorobenzene was detected at a concentrations of about 6 µg/L in both January and April 1994. Chlorobenzene had also been detected at 34 µg/L in October 1993.

The concentration of THF declined from 22 µg/L in April 1994 to 4.1 µg/L in June (Figure 9). April 1994 was the first occurrence of THF at the well since July 1991. The THF concentrations is below the Level 1_{50} of 25 µg/L.

Carbon disulfide was detected for the first time at the well in June 1994 at a concentration of 5 µg/L; it was not detected in October 1994.

Concentrations of total arsenic declined steadily throughout 1994 from their recent high of 9.8 µg/L in October 1993. Concentrations were 4.5 µg/L in January, 3.6 µg/L in April, 2.2 µg/L in June, and non-detect in October. Concentrations remain well below the Level 1_{50} concentration of 25 µg/L established for arsenic in the well.

Impoundment Berm Wells

DuPont continues to monitor impoundment berm wells DU-08-S, DU-09-S, and DU-10-S, originally installed by the EPA as monitoring wells MW-5, MW-4, and MW-3. The wells are not compliance wells and are monitored for temporal changes in water quality. Observations are discussed by well.

GLE24319.E3.RP DU-05S 5-11-95 mjl

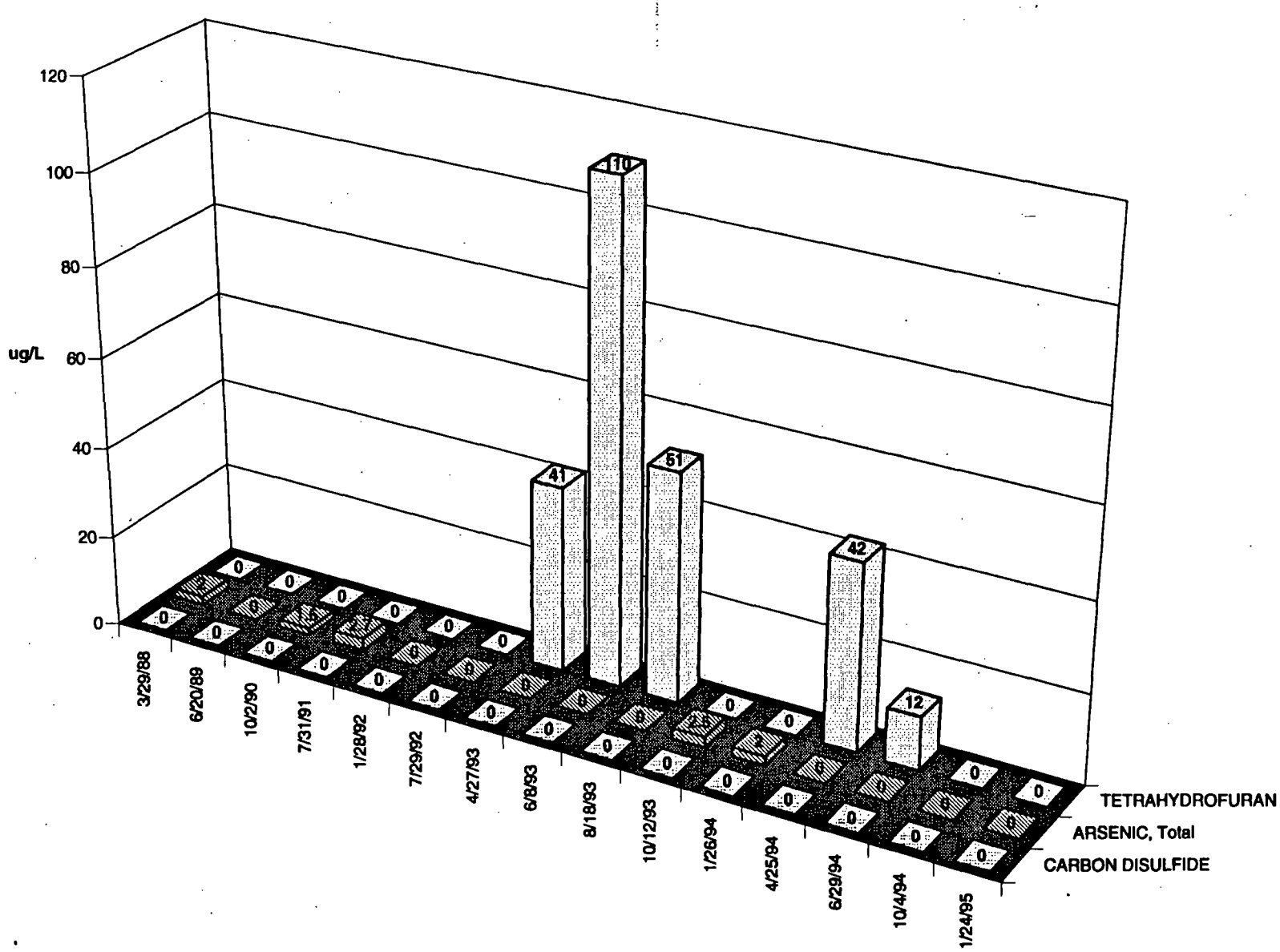


FIGURE 7
Monitoring Well DU-05-S
Du Pont Impoundment RA
Todtz Farm Landfill Site

CH2M HILL

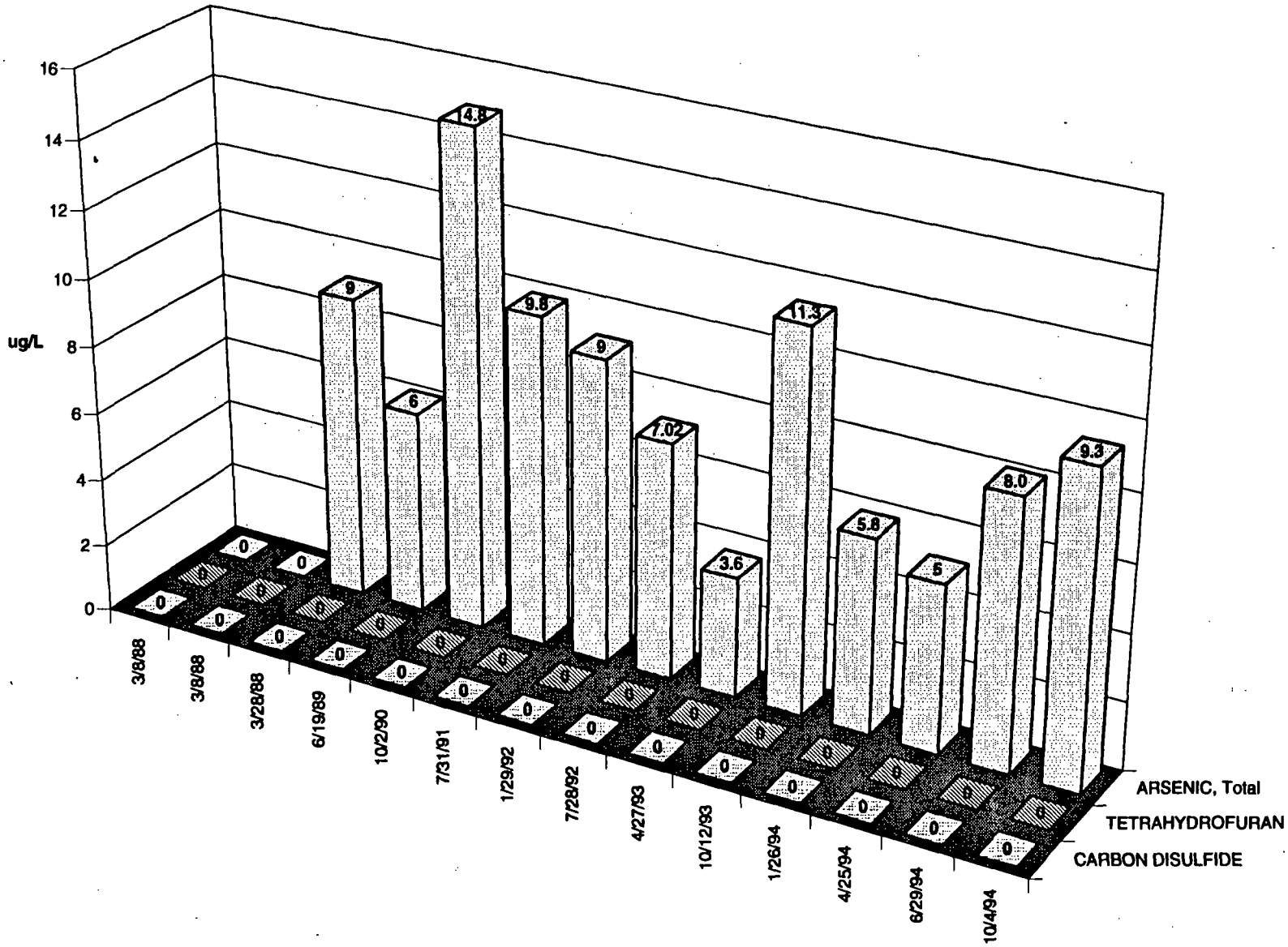


FIGURE 8
Monitoring Well DU-06-S
Du Pont Impoundment RA
Todtz Farm Landfill Site

CH2MHILL

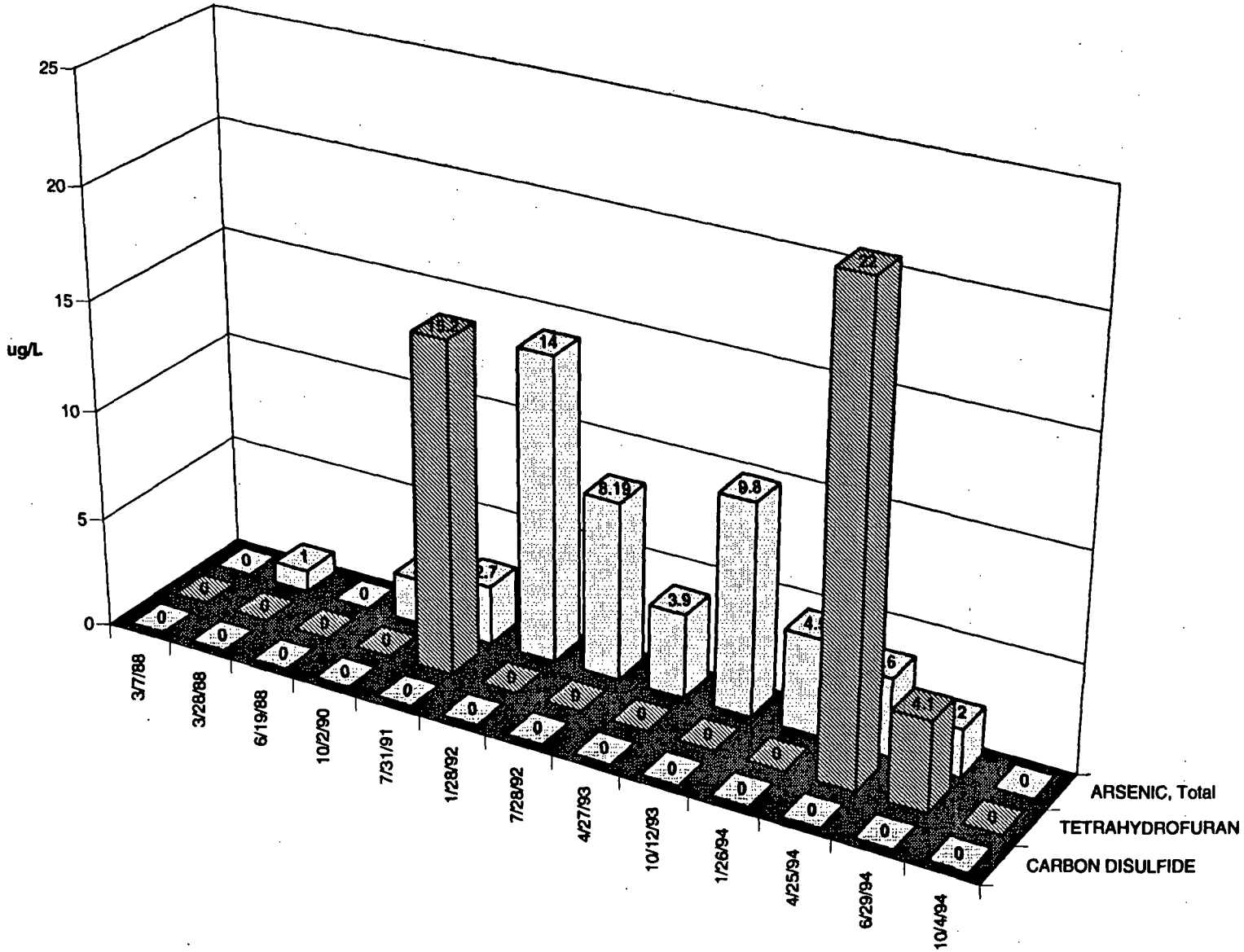


FIGURE 9
Monitoring Well DU-07-S
Du Pont Impoundment RA
Todtz Farm Landfill Site

CH2M HILL

DU-08-S

The VOCs toluene (810 µg/L) and THF (54,000 µg/L) were detected in October 1994. The VOCs acetone (660 µg/L), THF (46,000 µg/L), and toluene (830 µg/L) were detected in April 1994. The concentration of THF has increased to that observed during October 1993. The October 1993 THF concentration had increased significantly from previous semiannual sampling rounds but remained notably below the maximum concentration observed during the RI (Figure 10).

Carbon disulfide, which had been observed at its highest concentration (370J µg/L) since the RI in October 1993, was detected during October 1994 at a concentration of 180J µg/L.

With the exception of total organic halides and sulfide, the concentration of conventional water quality parameters similar to those observed in April (and notably higher than those observed before October 1993). As with most of the site wells, TOC concentrations decreased since October 1993. In October 1994 concentrations of total organic halides, at 1,750 µg/L, are the highest observed at the well.

DU-09-S

Figure 11 presents a historical summary of trigger compound distribution in DU-09-S. THF was not detected in October 1994 after being detected in April 1994 at a concentration of 350 µg/L. THF concentrations continue to be well below the high of 85,900 µg/L observed in March 1988. While methylene chloride has not been attributed to laboratory contamination, its presence at a concentration of 1.7J µg/L is suspect.

The concentration of total arsenic (20.6 µg/L) in October 1994 was similar to those seen during previous sampling events.

With the exception of sulfate, TOC, and total organic halides, which decreased, conventional water quality parameters are relatively consistent with previous sampling events.

DU-10-S

THF was detected in October 1994 at a concentration of 560 µg/L. This is an increase in concentrations compared to previous sampling events (Figure 12). Carbon disulfide, which was not detected in April 1994, was detected in October 1994 at a concentration of 39 µg/L, the highest concentration observed since July 1991.

Toluene (4.9J µg/L) was observed in October 1994 at a concentration similar to those previously observed. Also, 4-methyl-2-pentanone was observed for the third time at a concentration of 11 µg/L. While methylene chloride has not been attributed to laboratory contamination, its presence at a concentration of 1.3J µg/L is suspect.

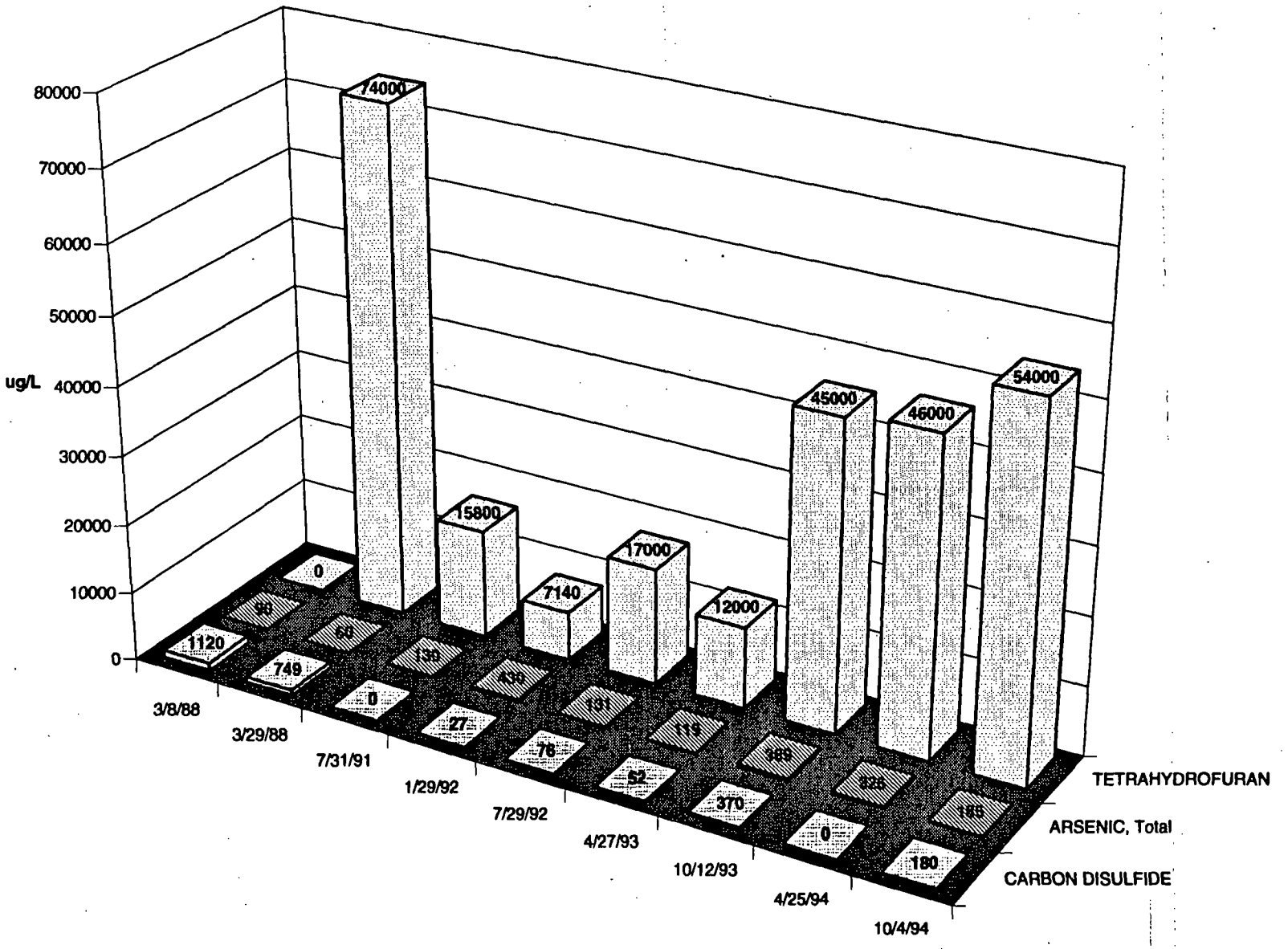


FIGURE 10
Monitoring Well DU-08-S
Du Pont Impoundment RA
Todtz Farm Landfill Site

CH2M HILL

GLE24319.E3 RP DU-09S 5-11-95 mjl

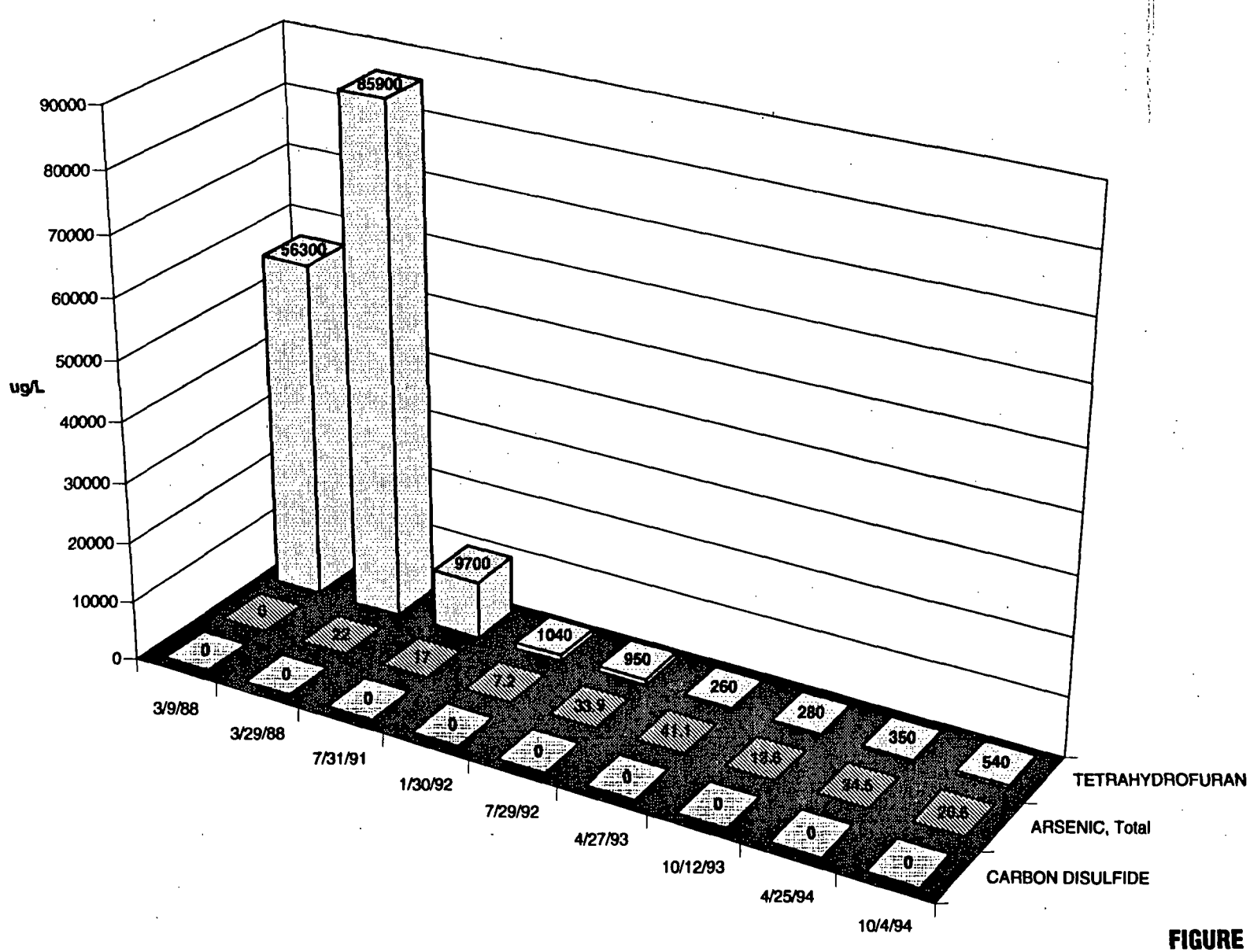


FIGURE 11
Monitoring Well DU-09-S
Du Pont Impoundment RA
Todtz Farm Landfill Site

CH2MHILL

GLE24319 E3.RP DU-010S 5-11-95 mjl

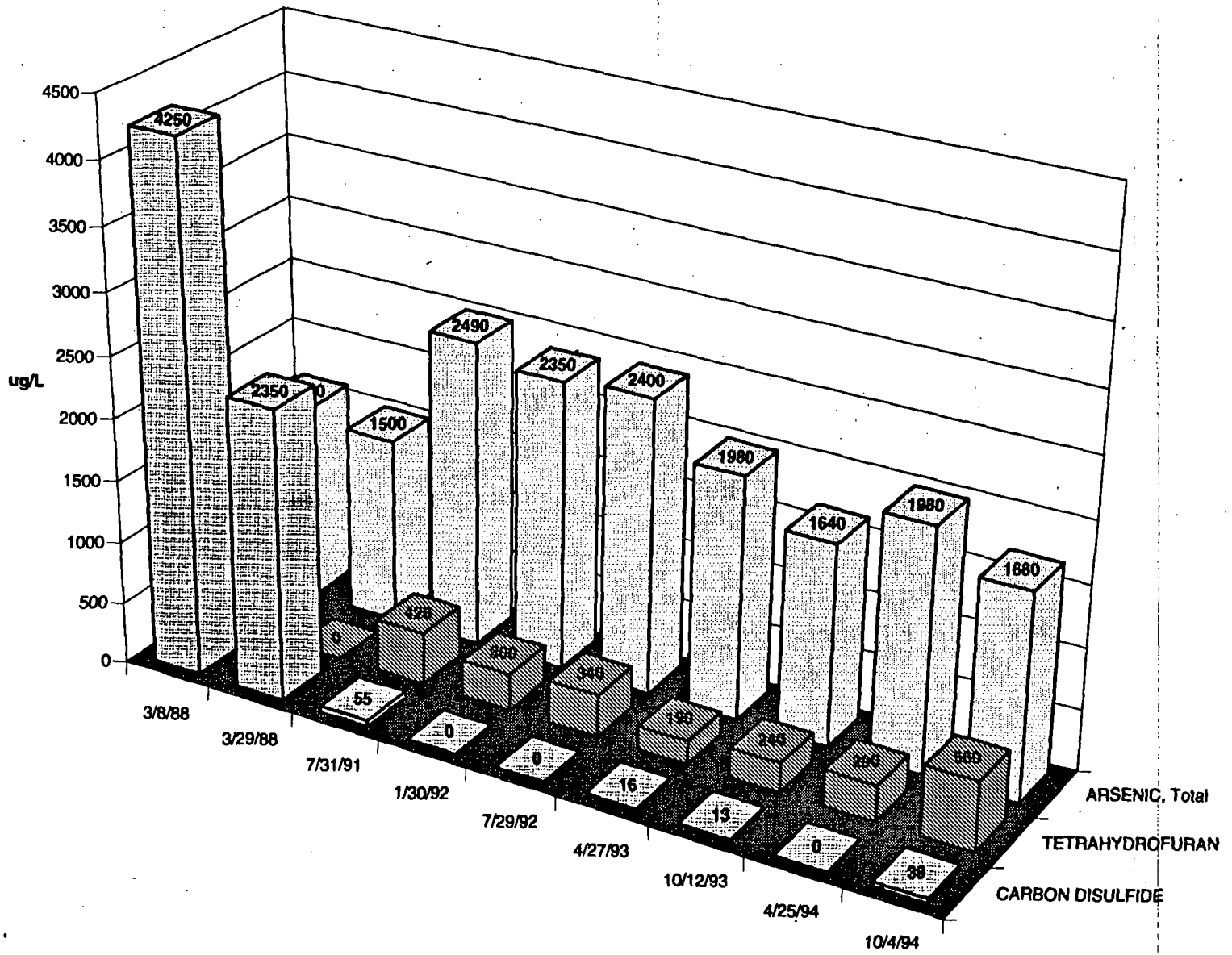


FIGURE 12
Monitoring Well DU-10-S
Du Pont Impoundment RA
Todtz Farm Landfill Site

CH2MHILL

Total arsenic was detected at a concentration of 1,680 µg/L in October 1994. This concentration is similar to the concentrations previously observed at the well. Except for sulfide and TOC, concentrations of conventional water quality parameters were similar to those previously observed at the well.

Conclusions

Impoundment Source Characteristics

Concentrations of the trigger compounds carbon disulfide and THF continue to be significantly lower than the concentrations observed before soil cover construction. April 1994 marks almost 3 years since the completion of remedial construction. Concentrations of THF and carbon disulfide have consistently been significantly below those observed during remedial investigation activities. While data are limited, they do indicate that remedial construction has reduced trigger compound concentrations at the source perimeter. Groundwater elevations and fluctuations in compound concentrations at the impoundment perimeter will continue to be evaluated.

Shallow Aquifer

TOC concentrations observed in June and October 1994 were generally similar to those observed before October 1993. Explanations for the increased October 1993 concentrations included increased biological activity associated with the wet conditions that existed throughout the summer of 1993 or flood conditions flushing the vadose zone and introducing organic material into the wells. As the flood conditions abated before April 1994 sampling, decreased TOC concentrations support these explanations.

With the exception of THF in DU-05-S during April 1994, no trigger compounds were observed at or above action levels in any compliance well. THF was also observed at DU-04-S in June 1994. DuPont has hypothesized that the presence of THF at DU-05-S is the result of mobilization of a small slug of impoundment pore water from construction of the soil cover in 1991. With the decrease in settlement, the corresponding mobilization of THF should be minimized. This decrease in THF migration is supported by the analytical results for well DU-05-S.

Previous results for DU-05-S indicated that the slug had attenuated. The occurrence of THF at DU-04-S indicates that the locations and time period over which the slug was observed could be affected by changing hydraulic conditions.

Consent Decree Requirements

Cover Maintenance

Animal holes were discovered under the fence in the area of DU-10-S, and the gate latch for the fence has moved slightly out of alignment with the gate locking rod, making it difficult to lock the gate. This damage was repaired in early fall of 1994. The impoundment cover will be mowed and slopes will be sprayed to control weed growth. Repairs will be made in accordance with the *Soil Cover and Fence Maintenance Plan* (CH2M HILL, October 1992).

Groundwater Issues

Validated analytical results for samples collected by DuPont from DU-05-S in June 1993 indicated that the Level 1_{80} trigger value for THF was exceeded. In response, DuPont completed and submitted a report documenting the treatment evaluation study per the requirements of the Consent Decree. EPA did not require that other predesign activities be completed until circumstances required the actual implementation of the remedy.

Because predesign investigation activities would damage the soil cover, vegetation, and berm and possibly have a detrimental effect on surrounding environmental quality, it is recommended that these activities be postponed until a Level 1_{100} exceedance has been verified. If EPA concurs, no additional activities (beyond continued monitoring) will be taken until circumstances require actual implementation of the remedy.

In accordance with the Consent Decree, DU-05-S was resampled on June 29, 1994, October 4, 1994, and January 24, 1995. Samples were also collected from the other downgradient perimeter wells. The EPA has agreed that the January 1995 sampling event will serve as the required third quarterly event for DU-05-S.

Conclusion Summary

THF was detected at monitoring well DU-05-S above the Level 1_{80} value. DuPont's position has been that a probable cause for the exceedance was mobilization of a small slug of impoundment pore water from construction of the soil cover. The absence of THF in October 1993 and January 1994 indicates that the slug may be significantly affected by changing hydraulic conditions. Record flood conditions at the site during 1993 created hydraulic conditions that had not been observed at the site since remedial activities began.

Decreasing source concentrations at the site perimeter wells indicate that remedial construction may have slowed steady-state migration from the impoundment.

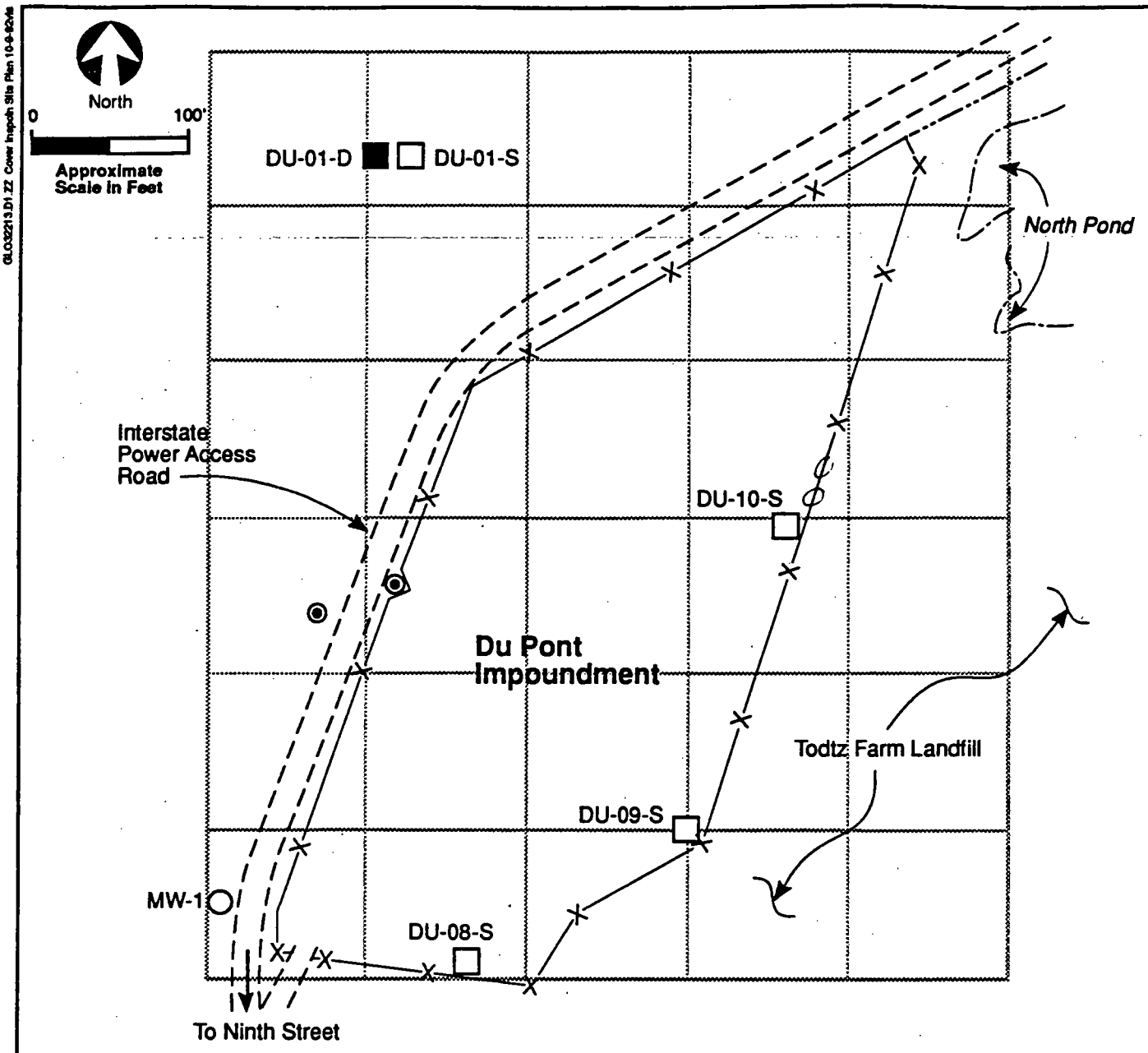
Based on current and previous sampling results, DuPont continues to recommend monitoring to verify that the THF occurrences were anomalous. No additional remedial action is

recommended at this time, as risks to the public health resulting from additional remedial construction at the site would be greater than risks posed by existing conditions.

APPENDIX A

COVER SITE INSPECTION PLAN

GLO32213.D1 ZZ Cover Inspch Site Plan 10-9-92vls



LEGEND

X——X	Chain Link Fence
□ DU-01-S	Shallow Monitoring Well
■ DU-01-D	Deep Monitoring Well
○ MW-1	Existing EPA Monitoring Well
●	Power Transmission Line Pedestal

FIELD OBSERVATION NOTATIONS

- Localized Settlement
- Distressed Vegetation
- Erosion Damage
- Area of Fence Requiring Repair

Description of required maintenance

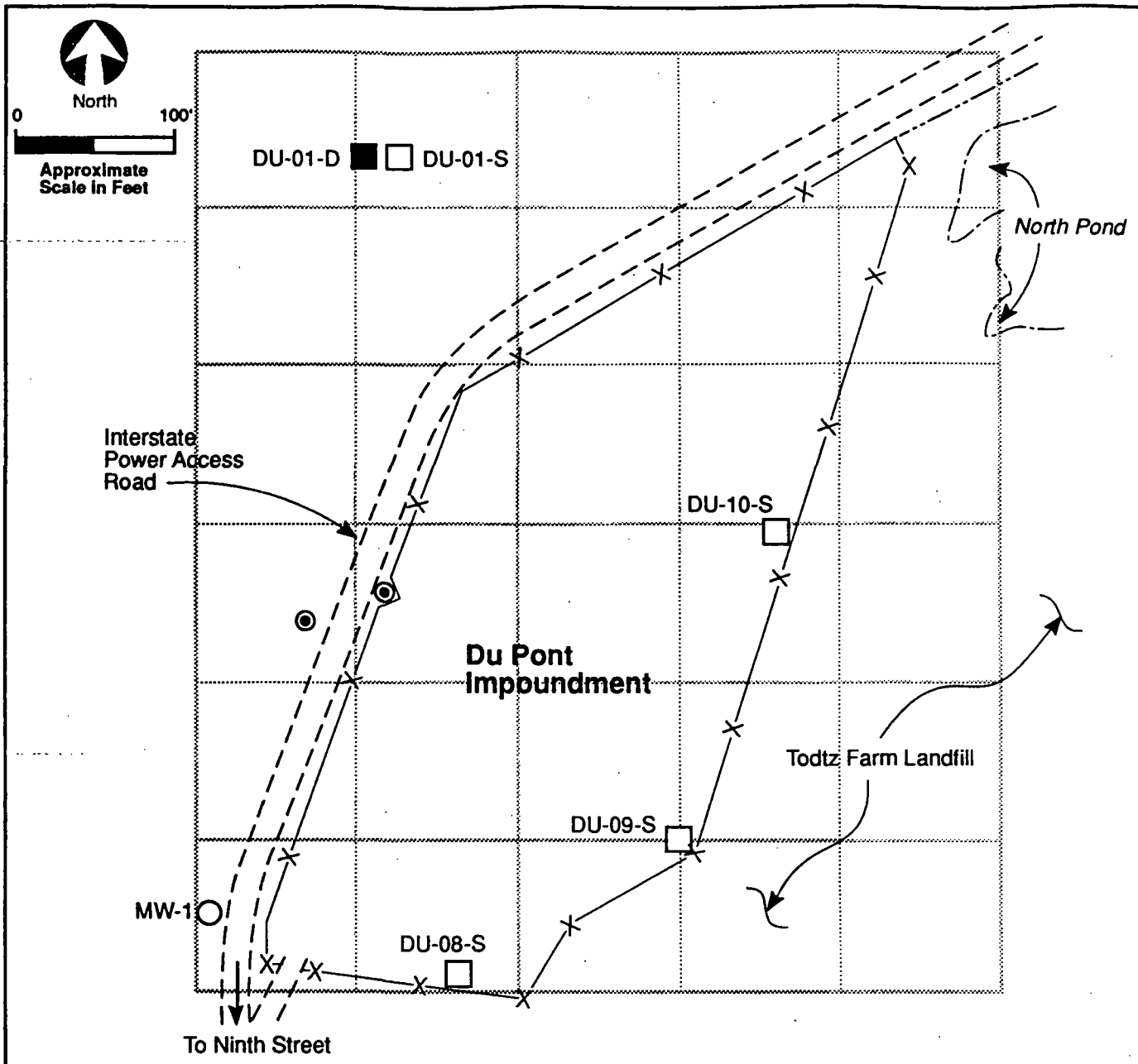
- Two large animal burrows or holes beneath fence north of DU-10S. Add large stone to deter entry
- Gate latch misaligned. Replace receiving pipe in ground to correct alignment

Inspection date 23 April 94

Inspected by [signature]

Cover Inspection Site Plan
Du Pont Impoundment RA
Todtz Farm Landfill Site

GL032213.D1.ZZ Cover Inspctn Site Plan 10-4-94rb



LEGEND

X——X	Chain Link Fence
□ DU-01-S	Shallow Monitoring Well
■ DU-01-D	Deep Monitoring Well
○ MW-1	Existing EPA Monitoring Well
◉	Power Transmission Line Pedestal

FIELD OBSERVATION NOTATIONS

- Localized Settlement
- Distressed Vegetation
- Erosion Damage
- Area of Fence Requiring Repair

Description of required maintenance

- AN ANIMAL HOLE WAS FOUND ON THE NORTH BANK.
- ROCKS WILL BE MOVED TO LOW AREAS OUTSIDE FENCE IN SOUTHEAST CORNER WHERE EROSION WAS OBSERVED IN THE PAST.
- EROSION REPAIR NORTH OF DU-10-S APPEARS IN GOOD CONDITION.
- GATE WILL BE REPAIRED. DIFFICULT TO OPERATE.

Inspection date 10-4-94

Inspected by [signature]

Cover Inspection Site Plan
Du Pont Impoundment RA
Todtz Farm Landfill Site

APPENDIX B

SUMMARY OF FIELD PARAMETERS

DuPont Impoundment Operable Unit
Todtz Farm Landfill NPL Site
Summary of Field Parameters
January 1994 Sampling / April 1994 Sampling / Historical Data
(Page 1 of 2)

Monitoring Well	July 1991				January 1992				July 1992				April 1993				October 1993				January 1994				April 1994			
	pH	Temp (°C)	Field Cond (µmhos/cm)	Cond at 25° C (µmhos/cm)	pH	Temp (°C)	Field Cond (µmhos/cm)	Cond at 25° C (µmhos/cm)	pH	Temp (°C)	Field Cond (µmhos/cm)	Cond at 25° C (µmhos/cm)	pH	Temp (°C)	Field Cond (µmhos/cm)	Cond at 25° C (µmhos/cm)	pH	Temp (°C)	Field Cond (µmhos/cm)	Cond at 25° C (µmhos/cm)	pH	Temp (°C)	Field Cond (µmhos/cm)	Cond at 25° C (µmbos/cm)	pH	Temp (°C)	Field Cond (µmhos/cm)	Cond at 25° C (µmhos/cm)
DU-01-S	7.09	17	502	595	7.57	6	280	446	7.28	16	477	579	6.24	9	340	487	6.34	12	235	309					6.70	13	228	296
DU-02-S	8.07	20	1217	1360	7.16	10	420	597	7.90	16	679	828	8.18	11	663	907	NR	NR	NR	NR	7.38	8	342	506	7.35	NR	484	
DU-03-S	7.63	22	1652	1760	7.78	5	560	920	8.06	19	1208	1356	6.97	7	425	646	7.91	14	550	696	7.18	3	365	640	7.40	NR	674	
DU-04-S	7.35	19	1794	2026	7.10	7	1200	1829	7.33	18	1277	1477	7.21	11	1263	1729	7.49	17	950	1134	6.41	12	710	945	7.05	16	1239	1493
DU-05-S	7.04	24	1816	1837	7.06	5	1150	1861	7.40	19	1565	1756	7.29	7	914	1393	7.57	11	620	857	6.87	3	660	1138	NR	NR	NR	
DU-06-S	7.51	25	1240	1240	6.93	11	850	1160	7.79	16	847	1025	6.88	7	557	851	7.72	16	418	505	7.48	6	352	553	7.07	13	638	822
DU-07-S	6.78	27	1300	1252	6.50	13	950	1232	6.95	18	1116	1280	6.20	12	1207	1594	7.04	15	460	569	6.30	9	760	1110	6.74	19	1141	1300
DU-08-S	7.65	18	619	711	7.23	12	2300	3060	7.73	14	4010	5040	7.02	11	2400	3302	7.66	11	6200	8463					NR	NR	NR	
DU-09-S	7.21	25	200	200	7.00	9	1280	1843	6.43	15	1911	2346	6.92	12	1902	2537	7.46	11	1050	1433					7.31	19	1834	2076
DU-10-S	9.45	21	805	868	9.70	10	3850	5396	9.97	14	1509	1915	9.65	13	1469	1887	10.27	11	980	1338					NR	NR	NR	
James Bark	7.70	23	569	592	7.00	10	1280	1794	8.05	14	591	754	6.78	13	497	645	7.77	14	415	525					NR	NR	NR	

NR - Not Recorded
NS - Not Sampled

DuPont Impoundment Operable Unit
Todtz Farm Landfill NPL Site
Summary of Field Parameters
January 1994 Sampling / April 1994 Sampling / Historical Data
(Page 2 of 2)

Monitoring Well	June 1994				October 1994				January 1995			
	pH	Temp (°C)	Field Cond (µmhos/cm)	Cond at 25° C (µmhos/cm)	pH	Temp (°C)	Field Cond (µmhos/cm)	Cond at 25° C (µmhos/cm)	pH	Temp (°C)	Field Cond (µmhos/cm)	Cond at 25° C (µmhos/cm)
DU-01-S	NS	NS	NS	NS	7.79	15	342	428	NS	NS	NS	NS
DU-02-S	7.55	14.6	552	697	7.83	16.5	550	663	NS	NS	NS	NS
DU-03-S	7.06	19.1	965	1099	8.14	17.5	920	1082	NS	NS	NS	NS
DU-04-S	6.85	17.4	1331	1570	7.69	17.5	990	1165	NS	NS	NS	NS
DU-05-S	6.68	19.7	1041	1165	7.55	18.0	820	953	6.27	4.6	1476	2493
DU-06-S	7.00	11.8	562	764	8.18	14.0	650	774	NS	NS	NS	NS
DU-07-S	6.23	16.5	976	1176	7.33	13.0	750	987	NS	NS	NS	NS
DU-08-S	NS	NS	NS	NS	8.25	13.0	6000	7895	NS	NS	NS	NS
DU-09-S	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DU-10-S	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
James Bark												

NR - Not Recorded
NS - Not Sampled

APPENDIX C

CHAIN OF CUSTODY FORMS

January 1994 Sampling Event

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 416750
Page 1 of ___

Project Name/No. [1] TODTZ.FARM
Sample Team Members [2]
Profit Center No. [3]
Project Manager [4] Chris Ohland
Purchase Order No. [6]
Required Report Date [11] MS/MSD (02;03;04;06;07)

Samples Shipment Date [7]
Lab Destination [8] ITC
Lab Contact [9] Cindy Quy
Project Contact/Phone [12] Dan Duvall
Carrier/Waybill No. [13] 8644202943

Bill to: [5] CONOCO
1000 S. Pine
Ponca City, OK 74601

Report to: [10] Chris Ohland
CH2M-Hill
310 W. Wisconsin, S-700
Milwaukee, WI 53203

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Preservative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
DU-02-S	WATER	1-26-94 15:00	G/S	2x 40ml	HCL	VOL	Good 1°C 1-27-94	E3284030
			P	1000ml	HNO3	Metals		
			BP	125ml	NONE	Chloride		
			BR	125ml	NONE	SULFATE		
			P	125ml	NAOH/ ZNA	SULFIDE		
			AG	1000ml	H2SO4	TOC		
			AG	1000ml	NONE	TOH		
			AG	500ml	H2SO4	PHENOL		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: [25]
Return to Client ☐ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: [26]
Normal ☐ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) Bottles Lorie Chmiel IT	Date: 1-26-94 Time: 1800	1. Received by [28] (Signature/Affiliation)	Date: 1-25-94 Time: 15:00
2. Relinquished by (Signature/Affiliation)	Date: 1-26-94 Time: 1603	2. Received by (Signature/Affiliation) Lorie Chmiel IT	Date: 1-27-94 Time: 0725
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

White: To accompany samples Yellow: Field copy *See back of form for special instructions.

0002213

01/x01

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 416751
Page 1 of ___

Project Name/No. 1 TODTZ.FARM
Sample Team Members 2
Profit Center No. 3
Project Manager 4 Chris Ohland
Purchase Order No. 6
Required Report Date 11 MS/MSD (02,03,04,06,07) Dep

Samples Shipment Date 7
Lab Destination 8 ITC
Lab Contact 9 CINDY QUY
Project Contact/Phone 12 Dan Duvall
Carrier/Waybill No. 13 8644202443 ... 1-27-94

Bill to: 5 CONOCO
1000 S. Pine
Ponca City, OK 74601

Report to: 10 Chris Ohland
CH2M-HILL
310 W. Wisconsin, S-700
Milwaukee, WI 53203

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
DU-03-S	WATER	1-26-94 14:20	G/S	2X 40ml	HCL	VOL	Good ... 1-27-94	83284030
↓	↓	↓	P	1000ml	HNO3	Metals	↓	
			BP	125ml	NONE	Chloride		
			BP	125ml	NONE	Sulfate		
			P	125ml	NAOH/ ZNA	SULFIDE		
			~~X~~ AG	1000ml	H2SO4	TOC		
			AG	1000ml	NONE	TOH		
			AG	500ml	H2SO4	PHENOL		

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: 25
Return to Client ☐ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by 28 (Signature/Affiliation) [signature] IT	Date: 1-20-93 Time: 1800	1. Received by 28 (Signature/Affiliation) [signature]	Date: 1-25-94 Time: 1500
2. Relinquished by (Signature/Affiliation) [signature]	Date: 1-26-94 Time: 16:09	2. Received by (Signature/Affiliation) [signature] IT	Date: 1-27-94 Time: 0925
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

000214

MCA 2/15

w 101 ww 9

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 416754
Page 1 of ___

Project Name/No. [1] TODTZ. FARM
Sample Team Members [2]
Profit Center No. [3]
Project Manager [4] Chris Ohland
Purchase Order No. [6]
Required Report Date [11] MS/MSD (02,03,04,06,07) Dep

Samples Shipment Date [7]
Lab Destination [8] ITC
Lab Contact [9] Cindy Quy
Project Contact/Phone [12] Dan Duvall
Carrier/Waybill No. [13] 8644202943 cc 1-27-94

Bill to: [5] CONOCO
1000 S. Pine
Ponca City, OK 74601

Report to: [10] Chris Ohland
CH2M-Hill
310 W. Wisconsin, S-700
Milwaukee, WI 53203

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
DU-04-S	WATER	1-26-94 11:12	G/S	3x 40ml	HCL	VOL	Good 1's cc 1-27-94	B3240030
			P	1000ml	HNO3	Metals		
			BP	125ml	NONE	Chloride		
			BP	125ml	NONE	Sulfate		
			P	125ml	NAOH/ ZNA	Sulfide		
			AG	1000ml	H2SO4	TOC		
			AG	1000ml	NONE	TOH		
			AG	500ml	H2SO4	Phenol		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: [25]
Return to Client ☐ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: [26]
Normal ☐ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) Kevin Church II	Date: 1-26-94 Time: 1800	1. Received by [28] (Signature/Affiliation)	Date: 1-25-94 Time: 15:00
2. Relinquished by (Signature/Affiliation)	Date: 1-26-94 Time: 16:10	2. Received by (Signature/Affiliation) Kevin Church II	Date: 1-27-94 Time: 0925
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

000215

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 416756
Page 1 of ___

Project Name/No.[1] TODTZ. FARM
Sample Team Members[2]
Profit Center No.[3]
Project Manager[4] Chris Ohland
Purchase Order No.[6]
Required Report Date[11] MS/MSD (02,03;04;06;07) Dep

Samples Shipment Date[7]
Lab Destination[8] ITC
Lab Contact[9] Cindy Quy
Project Contact/Phone[12] Dan Duvall
Carrier/Waybill No.[13] 8644202943 Lab 1-27-94

Bill to:[5] CONOCO
1000 S. Pine
Ponca City, OK 74601

Report to:[10] Chris Ohland
CH2M-HILL
310 W. Wisconsin, S-700
Milwaukee, WI 53203

ONE CONTAINER PER LINE

Sample Number[14]	Sample Description/Type[15]	Date/Time Collected[16]	Container Type[17]	Sample Volume[18]	Pre-servative[19]	Requested Testing Program[20]	Condition on Receipt[21]	Disposal Record No.[22]
DU-06-S	WATER	1-26-94 08:57	G/S	2x 40ml	HCL	VOL	Good 1°C 2x C 1-27-94	83384030
			P	1000ml	HNO3	Metals		
			~~GP~~	125ml	NONE	Chloride		
			~~GP~~	125ml	NONE	Sulfate		
			P	125ml	NAOH/ ZNA	Sulfide		
			AG	1000ml	H2SO4	TOC		
			AG	1000ml	NONE	TOH		
			AG	500ml	H2SO4	Phenol		

Special Instructions:[23]

Possible Hazard Identification:[24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal:[25]
Return to Client ☐ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required:[26]
Normal ☐ Rush ☐

QC Level:[27]
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by[28] (Signature/Affiliation) Karen Chmelik IT	Date: 1-26-94 Time: 1800	1. Received by[28] (Signature/Affiliation)	Date: 1-25-94 Time: 15:00
2. Relinquished by (Signature/Affiliation)	Date: 1-26-94 Time: 15:55	2. Received by (Signature/Affiliation) Karen Chmelik IT	Date: 1-27-94 Time: 0925
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments:[29]

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

000215

MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 416758
Page 1 of ___

Project Name/No. [1] TODTZ.FARM
Sample Team Members [2]
Profit Center No. [3]
Project Manager [4] Chris Ohland
Purchase Order No. [6]
Required Report Date [11] MS/MSD (02,03,04,06,07) Dep

Samples Shipment Date [7]
Lab Destination [8] ITC
Lab Contact [9] Cindy Quy
Project Contact/Phone [12] Dan Duvall
Carrier/Waybill No. [13] 8644202943 LL 1-27-94

Bill to: [5] CONOCO
1000 S. Pine
Ponca City, OK 74601

Report to: [10] Chris Ohland
CH2M-HILL
310 W. Wisconsin, S-700
Milwaukee, WI 53203

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Preservative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
DU-06-6-MS	WATER	1-26-94 08:57	G/S	2X 40ml	HCL	VOL	Good 1°C LL 1-27-94	8328403O
			P	1000ml	HNO3	Metals		
			~~Gl~~	125ml	NONE	Chloride		
			~~Gl~~	125ml	NONE	Sulfate		
			P	125ml	NAOH/ ZNA	Sulfide		
			AG	1000ml	H2s04	TOC		
			AG	1000ml	NONE	TOH		
			AG	500ml	H2SO4	Phenol		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: [25]
Return to Client ☐ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: [26]
Normal ☐ Rush ☐ Bonus

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) Lori Chard IT	Date: 1-20 93 Time: 1800	1. Received by [28] (Signature/Affiliation)	Date: 1-25-94 Time: 15:00
2. Relinquished by (Signature/Affiliation)	Date: 1-26-94 Time: 15 50	2. Received by (Signature/Affiliation) Lori Chard IT	Date: 1-27-94 Time: 0925
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

IT2000

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 416760
Page 1 of ____

Project Name/No. [1] TODTZ.FARM
Sample Team Members [2]
Profit Center No. [3]
Project Manager [4] Chris Ohland
Purchase Order No. [6]
Required Report Date [11] MS/MSD (02;03;04;06;07) Dep

Samples Shipment Date [7]
Lab Destination [8] ITC
Lab Contact [9] Cindy Quy
Project Contact/Phone [12] Dan Duvall
Carrier/Waybill No. [13] 8644202143 cc 1-27-94

Bill to: [5] CONOCO
1000 S. Pine
Ponca City, OK 74601

Report to: [10] Chris Ohland
CH2M-HILL
310 W. Wisconsin, S-700
Milwaukee, WI 53203

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Preservative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
DU-06-S-MSD	WATER	1-26-94 09:57	G/S	2X 40ml	HCL	VOL	Good 1°C cc 1-27-94	83284030
			P	1000ml	HNO3	Metals		
			BP	125ml	NONE	Chloride		
			BP	125ml	NONE	Sulfate		
			P	125ml	NAOH/ ZNA	Sulfide		
			AG	1000ml	H2SO4	TOC		
			AG	1000ml	NONE	TOH		
			AG	500ml	H2SO4	Phenol		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: [25]
Return to Client ☐ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: [26]
Normal ☐ Rush ☐ 08771

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) Lorri Church IT	Date: 1-26 94 Time: 1800	1. Received by [28] (Signature/Affiliation)	Date: 1-25-94 Time: 15:00
2. Relinquished by (Signature/Affiliation)	Date: 1-26 94 Time: 15:50	2. Received by (Signature/Affiliation) Lorri Church IT	Date: 1-27-94 Time: 0925
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

MCA 3/15/91

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 416757
Page 1 of ____

Project Name/No. [1] TODTZ.FARM
Sample Team Members [2] DAVID L. SHEKOSKI
Profit Center No. [3]
Project Manager [4] Chris Ohland
Purchase Order No. [6]
Required Report Date [11] MS/MSD (02,03,04,06,07) Dep

Samples Shipment Date [7] 1-26-94
Lab Destination [8] ITC
Lab Contact [9] Cindy Quy
Project Contact/Phone [12] Dan Duvall
Carrier/Waybill No. [13] 8644202943 via 1-27-94

Bill to: [5] CONOCO
1000 S. Pine
Ponca City, OK 74601

Report to: [10] Chris Ohland
CH2M-HILL
310 W. Wisconsin, S-700
Milwaukee, WI 53203

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Preservative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
DU-07-S	WATER	1-26-94 10:13	G/S	2x 40ml	CHL	VOL	Good 1°C via 1-27-94	B3284030
			P	1000ml	HNO3	Metals		
			~~BP~~	125ml	NONE	Chloride		
			~~BP~~	125ml	NONE	Sulfate		
			P	125ml	NAOH/ZNA	Sulfide		
			AG	1000ml	NONE	TOC		
			AG	1000ml	NONE	TOH		
			AG	500ml	H2SO4	Phenol		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: [25]
Return to Client ☐ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: [26]
Normal ☐ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) Lorri Chmd IT	Date: 1-26-94 Time: 1800	1. Received by [28] (Signature/Affiliation) CH2M HILL	Date: 1-25-94 Time: 15:00
2. Relinquished by (Signature/Affiliation)	Date: 1-26-94 Time: 15:33	2. Received by (Signature/Affiliation) Lorri Chmd IT	Date: 1-27-94 Time: 0925
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

000219

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 416759
Page 1 of ____

Project Name/No.[1] TODTZ.FARM
Sample Team Members[2] DAVID L. SHEKOSKI
Profit Center No.[3]
Project Manager[4] Chris Ohland
Purchase Order No.[6]
Required Report Date[11] MS/MSD (02,03,04,06,07) Dep

Samples Shipment Date[7] 1-26-94
Lab Destination[8] ITC
Lab Contact[9] Cindy Quy
Project Contact/Phone[12] Dan Duvall
Carrier/Waybill No.[13] 8644205143 cc 1-27-94

Bill to:[5] CONOCO
1000 S. Pine
Ponca City, OK 74601

Report to:[10] Chris Ohland
CH2M-HILL
310 W. Wisconsin, S-700
Milwaukee, WI 53203

ONE CONTAINER PER LINE

Sample Number[14]	Sample Description/Type[15]	Date/Time Collected[16]	Container Type[17]	Sample Volume[18]	Preservative[19]	Requested Testing Program[20]	Condition on Receipt[21]	Disposal Record No.[22]
DU-07-S-DUP	WATER	1-26-94 10:13	G/S	2x 40ml	HCL	VOL	Good 1°C cc 1-27-94	B3284030
			P	1000ml	HNO3	Metals		
			GP 1-31-94	125ml	NONE	Chloride		
			GP	125ml	NONE	Sulfate		
			P	125ml	NAOH/ ZNA	Sulfide		
			AG	1000ml	H2SO4	TOC		
			AG	1000ml	NONE	TOH		
			AG	500ml	H2SO4	Phenol		

Special Instructions:[23]

Possible Hazard Identification:[24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal:[25]
Return to Client ☐ Disposal by Lab ☐ Archive [mos.]

Turnaround Time Required:[26]
Normal ☐ Rush ☐

QC Level:[27]
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by[28] (Signature/Affiliation) Barnes Louis Crouch IT	Date: 1-20-93 Time: 1800	1. Received by[28] (Signature/Affiliation)	Date: 1-25-94 Time: 15:00
2. Relinquished by (Signature/Affiliation)	Date: 1-26-94 Time: 15:33	2. Received by (Signature/Affiliation) Louis Crouch IT	Date: 1-27-94 Time: 0925
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments:[29]

White: To accompany samples Yellow: Field copy

*See back of form for special instructions.

DOCUMENT

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 416761
Page 1 of ___

Project Name/No. [1] TODTZ.FARM
Sample Team Members [2]
Profit Center No. [3]
Project Manager [4] Chris Ohland
Purchase Order No. [6]
Required Report Date [11] MS/MSD (02,03,04,06,07) Dep

Samples Shipment Date [7]
Lab Destination [8] ITC
Lab Contact [9] Cindy Quy
Project Contact/Phone [12] Dan Duvall
Carrier/Waybill No. [13] 8644202743 cc 1-27-94

Bill to: [5] CONOCO
1000 S. Pine
Ponca City, OK 74601

Report to: [10] Chris Ohland
CH2M-HILL
310 W. Wisconsin, S-700
Milwaukee, WI 53203

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Preservative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
DU-05-S	WATER	1-26-94 11:54	P	1000ml	HNO3	Metals	Good 1°C 1-27-94	8
			BP	125ml	NONE	Chloride		
			BP	125ml	NONE	Sulfate		
			P	125ml	NAOH/ ZNA	Sulfide		
			AG	1000ml	H2SO4	TOC		
			AG	1000ml	NONE	TOH		
			AG	500ml	H2SO4	Phenol		
Trip Blank	Water	1-20-94 1700	G/S	40ml	HCL	VOL		83284030

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: [25]
Return to Client ☐ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: [26]
Normal ☐ Rush ☐

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) Bottles Louis Chmiel IT — Date: 1-20-94 Time: 1800	1. Received by [28] (Signature/Affiliation) — Date: 1-25-94 Time: 15:00
2. Relinquished by (Signature/Affiliation) — Date: 1-26-94 Time: 15:56	2. Received by (Signature/Affiliation) Louis Chmiel IT — Date: 1-27-94 Time: 0925
3. Relinquished by (Signature/Affiliation) — Date: Time:	3. Received by (Signature/Affiliation) — Date: Time:

Comments: [29]

I22000

White: To accompany samples Yellow: Field copy

*See back of form for special instructions

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INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 416735
Page 1 of 1

Project Name/No.[1] DUPONT / TODTZ
Sample Team Members[2]
Profit Center No.[3] N/A
Project Manager[4] CHRIS OHLAND
Purchase Order No.[6] N/A
Required Report Date[11]

Samples Shipment Date[7]
Lab Destination[8] ITAS AUSTIN
Lab Contact[9] CINDY QUY
Project Contact/Phone[12]
Carrier/Waybill No. 8644202943

Bill to:[5] CONOCO, INC.

Report to:[10] CH2M HILL
310 W. WISCONSIN SUITE 700
MILWAUKEE, WI 53203
ATTN: CHRIS OHLAND

ONE CONTAINER PER LINE

Sample Number[14]	Sample Description/Type[15]	Date/Time Collected[16]	Container Type[17]	Sample Volume[18]	Preservative[19]	Requested Testing Program[20]	Condition on Receipt[21]	Disposal Record No.[22]
DU-05-S-1	groundwater	1-26-94 11:54	glass	2x40ml	HCl	CLPSRV CLPV_T	Good 1°C KKC 1.27.94	B354030
DU-05-S-2	groundwater	1-26-94 12:15	glass	2x40ml	HCl	CLPSRV CLPV_T		
DU-05-S-3	groundwater	1-26-94 12:35	glass	2x40ml	HCl	CLPSRV CLPV_T		
DU-05-S-4	groundwater	1-26-94 1303	glass	2x40ml	HCl	CLPSRV CLPV_T		
TRIP BLANK	org. free water	1-17-94 1700	glass	1x40ml	HCl	CLPSRV CLPV_T		B354030 KKC
						1-17-94 DC		

Special Instructions:[23] **ANALYZE FOR THF PLUS 8240 LIST**

Possible Hazard Identification:[24]
Non-hazard [X] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ]

Sample Disposal:[25]
Return to Client [ ] Disposal by Lab [X] Archive (mos.)

Turnaround Time Required:[26]
Normal [X] Rush [ ]

QC Level:[27]
I. [ ] II. [ ] III. [ ] Project Specific (specify):

1. Relinquished by[28] (Signature/Affiliation) Bottles ITG/C	Date: 1-17-94 Time: 800	1. Received by[28] (Signature/Affiliation) Bottles	Date: 1/21/94 Time: 0835
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: 1/26/94 Time: 1557	3. Received by (Signature/Affiliation) JT	Date: 1-27-94 Time: 0925

Comments:[29]

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

MCA 3/15/91

April 1994 Sampling Event

NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY: CH2M Hill
ADDRESS: P.O. Box 2090 · Milw, WI 53201
PHONE: (414) 272 - 2426 FAX:
PROJECT NAME/LOCATION: DuPont - Tech Farm
PROJECT NUMBER: GLE24319.E2
PROJECT MANAGER: C. LAWRENCE

REPORT TO: Chris Ohland
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY: M L HINCHEY (PRINT NAME) — SIGNATURE
(PRINT NAME) — SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	GRAB	COMP.	# OF CONTAINERS TYPE	MATRIX	PRESERVED Y/N	ANALYSES: Chromium (VI)	COMMENTS
4/25/94	17:40	DU-01S	Y		Poly	Equator	N	Y	
	13:25	DU-02S							
	13:25	DU-02S-FR							
	14:09	DU-03S							
	14:40	DU-04S							
	15:30	DU-05S							
	12:55	DU-06S							
	12:55	DU-06S-MS							
	12:55	DU-06S-MSD							
	12:42	DU-08S							
	15:45	DU-09S							
	12:25	DU-10S							
	11 47	DU-07S							

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: 6°C

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS — DATE

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
	4/25/94 16:42	Mick Ream		4/25/94 7:15P	M-Rien

METHOD OF SHIPMENT

REMARKS:

PT.1 - ORIGINAL - WHITE PT.2 - NET PROJECT MANAGER - YELLOW PT.3 - CUSTOMER COPY - PINK

conoco

Environmental Sample Chain of Custody and Shipping
Research and Engineering

B404292-

No. 0311

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	AIRBILL 851465658

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX

Employee(s) Sampling

Remarks

Other Employee(s) Handling

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL	
DU-01-S	4-25-94	11:15	WATER-G	40 ML	G/S	3	HCl	X								3355040
DU-01-S			WATER-G	1000ML	P	1	HNO3		X							
DU-01-S			WATER-G	250 ML	AG	1	NONE			X						
DU-01-S			WATER-G	250 ML	AG	1	NONE				X					
DU-01-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X				
DU-01-S			WATER-G	1000ML	P	1	H2SO4						X			
DU-01-S			WATER-G	100ML	AG	1	NONE							X		
DU-01-S			WATER-G	500 ML	AG	1	H2SO4								X	

WD

Signatures

	Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time
	[signature] IT	4/20/94 1800	[signature]	4-25-94 16:45
	Relinquished by	Date/Time	Received by	Date/Time
	[signature]	4-25-94 16 45	[signature] C.C IT	4/26/94 0924
	Relinquished by	Date/Time	Received by	Date/Time
	Relinquished by	Date/Time	Received by	Date/Time
	Relinquished by	Date/Time	Received by	Date/Time

Condition of Samples Upon Arrival at Final Destination

Good

Signature [signature] C.C Date 4/26/94

Temp. of Samples on Arrival (Temp. sensitive analysis only)

4°C

Signature [signature] C.C Date 4/26/94

CONOCO

Environmental Sample Chain of Custody and Log
Research and Engineering

B404293

No. 28326

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX

Employee(s) Sampling	Remarks
	AIRBILL 851465692

Other Employee(s) Handling

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	PHENOL
DU-02-S	4-25-94	13:25	WATER-G	40 ML	G/S	3	HCl	X							
DU-02-S			WATER-G	1000ML	P	1	HNO3		X						
DU-02-S			WATER-G	250 ML	AG	1	NONE			X					
DU-02-S			WATER-G	250 ML	AG	1	NONE				X				
DU-02-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-02-S			WATER-G	1000ML	P	1	H2SO4						X		
DU-02-S			WATER-G	1000ML	AG	1	NONE							X	
DU-02-S			WATER-G	500 ML	AG	1	H2SO4								X

B335040

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
[signature] IT	4/20/94 1800	[signature]	4-25-94 07:30	
Relinquished by	Date/Time	Received by	Date/Time	Good
[signature]	4-25-94 15:48	[signature] IT	4/26/94 0924	Signature [signature] Date 4/26/94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	10 °C
Relinquished by	Date/Time	Received by	Date/Time	Signature [signature] Date 4/26/94

X3-10-91

conoco

Environmental Sample Chain of Custody and Tracking
Research and Engineering

B404293

No. 0675

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( ) -

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX

Employee(s) Sampling	Remarks
	AIRBILL 851465592

Other Employee(s) Handling

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL								
DU-02 -S-FR	4-25-94	13:25	WATER	40 ML	G/S	3	HCl	X								B33550410							
DU-02 -S-FR	↓	↓	WATER	1000ML	P	1	HNO3		X														
DU-02 -S-FR			WATER	250 ML	AG	1	NONE			X													
DU-02 -S-FR			WATER	250 ML	AG	1	NONE				X												
DU-02 -S-FR			WATER	500 ML	P	1	NAOH/ZNAC					X											
DU-02 -S-FR			WATER	1000ML	P	1	H2SO4						X										
DU-02 -S-FR			WATER	1000ML	AG	1	NONE							X									
DU-02 -S-FR			WATER	500 ML	AG	1	H2SO4								X								
TRIP BLANK	↓	↓	WATER	40 ML	G/S	2	HCl	X															

shipped 4/20/94 1700
Th 4/26/94

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
[signature] IT	4/20/94 1800	[signature]	4-25-94 07:30	
Relinquished by [signature]	Date/Time 4-25-94 15:48	Received by [signature] IT	Date/Time 4/26/94 0924	Good
Relinquished by	Date/Time	Received by	Date/Time	Signature [signature] Date 4/26/94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	1°C
Relinquished by	Date/Time	Received by	Date/Time	Signature [signature] Date 4/26/94

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157 X3, 10-91

ANALYZING LAB COPY

conoco

Environmental Sample Chain of Custody and Log

Research and Engineering

B404293

No. 28369

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX
Employee(s) Sampling: DVR	Remarks: AIRBILL 851465592
Other Employee(s) Handling	

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-03-S	4-25-94		WATER-G	40 ML	G/S	3	HCl	X							
DU-03-S			WATER-G	1000ML	P	1	HNO3		X						
DU-03-S			WATER-G	250 ML	AG	1	NONE			X					
DU-03-S			WATER-G	250 ML	AG	1	NONE				X				
DU-03-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-03-S			WATER-G	1000ML	P	1	H2SO4						X		
DU-03-S			WATER-G	1000ML	AG	1	NONE							X	
DU-03-S			WATER-G	500 ML	AG	1	H2SO4								X

B3355040

ITC0000

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
[signature] IT	4/20/94 1800	[signature]	4-25-94 0730	
Relinquished by: [signature]	Date/Time 4-25-94 1511	Received by: [signature] IT	Date/Time 4/26/94 0924	Signature: [signature] RVR
Relinquished by	Date/Time	Received by	Date/Time	Signature: [signature] Date 4/26/94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	1°C
Relinquished by	Date/Time	Received by	Date/Time	Signature: [signature] Date 4/26/94

7-X2-10-91

conoco

Environmental Sample Chain of Custody and Log

Research and Engineering

B404292-

No. 20360

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 851465658 1	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732		AIRBILL 851465681	
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL	
DU-04-S	4-25-94	14:40	WATER-G	40 ML	G/S	3	HCl	X								3355040
DU-04-S	↓	↓	WATER-G	1000ML	P	1	HNO3		X							
DU-04-S			WATER-G	250 ML	AG	1	NONE			X						
DU-04-S			WATER-G	250 ML	AG	1	NONE				X					
DU-04-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X				
DU-04-S			WATER-G	1000ML	P	1	H2SO4						X			
DU-04-S			WATER-G	1000ML	AG	1	NONE							X		
DU-04-S			WATER-G	500 ML	AG	1	H2SO4								X	
Trip Blank 2	4/20/94	1200														

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
[signature] IT	4/20/94 1800	[signature]	4-25-94 0730	GOOD CHAIN
Relinquished by [signature]	Date/Time 4-25-94 1645	Received by [signature] IT	Date/Time 0924 4/26/94	
Relinquished by	Date/Time	Received by	Date/Time	Signature [signature] Date 4/26/94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only) 4°C
Relinquished by	Date/Time	Received by	Date/Time	Signature [signature] Date 4/26/94

conoco

Environmental Sample Chain of Custody and Log
Research and Engineering

No. 26720

B104292

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	851465658 1

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX
Employee(s) Sampling	Remarks
Other Employee(s) Handling	

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL	
DU-05-S-1	4-25-94	15:09	WATER-G	40 ML	G/S	3	HCl	X								3355040
DU-05-S-2		15:15	WATER-G	40 ML	G/S	3	HCl	X								
DU-05-S-3		15:21	WATER-G	40 ML	G/S	3	HCl	X								
DU-05-S-4		15:40	WATER-G	40 ML	G/S	3	HCl	X								
DU-05-S		15:24	WATER-G	1000ML	P	1	HNO3		X							
DU-05-S			WATER-G	250 ML	AG	1	NONE			X						
DU-05-S			WATER-G	250 ML	AG	1	NONE				X					
DU-05-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X				
DU-05-S			WATER-G	1000ML	P	1	H2SO4						X			
DU-05-S			WATER-G	1000ML	AG	1	NONE							X		
DU-05-S			WATER-G	500 ML	AG	1	H2SO4								X	

1622000

Signatures

Relinquished by	Date/Time	Received by	Date/Time
Bottles Relinquished by	4/20/94 1800	Bottles Received by	4-25-94 07:30
Relinquished by	4-25-94 16:45	Received by	4/26/94 0924
Relinquished by		Received by	
Relinquished by		Received by	
Relinquished by		Received by	

Condition of Samples Upon Arrival at Final Destination: Good

Signature: B. C. C— IT — Date: 4/26/94

Temp. of Samples on Arrival (Temp. sensitive analysis only): 4°C

Signature: B. C. C— — Date: 4/26/94

conoco

Environmental Sample Chain of Custody and Log

Research and Engineering

B404293

No. 26716

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )

Facility Address: DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732

Transporter Address:

Facility Supervisor: DAN DUVALL

Method of Shipping: OVERNIGHT AIR

Process Producing Sample: TODTZ FARM SITE

Special Shipping Instructions: PACK IN WET ICE TO ITC LAB AUSTIN TX

Employee(s) Sampling:

Remarks: AIRBILL 851465592

Other Employee(s) Handling:

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	PHENOL
DU-06-S	4-25-94	12:55	WATER-G	40 ML	G/S	3	HCl	X							
DU-06-S			WATER-G	1000ML	P	1	HNO3		X						
DU-06-S			WATER-G	250 ML	AG	1	NONE			X					
DU-06-S			WATER-G	250 ML	AG	1	NONE				X				
DU-06-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-06-S			WATER-G	1000ML	P	1	H2SO4						X		
DU-06-S			WATER-G	1000ML	AG	1	NONE							X	
DU-06-S			WATER-G	500 ML	AG	1	H2SO4								X

Signatures

	Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time
	[signature] IT	4/20/94 1800	[signature]	4-25-94 0730
	Relinquished by	Date/Time	Received by	Date/Time
	[signature]	4-25-94 1619	[signature] C.C IT	4/26/94 0924
	Relinquished by	Date/Time	Received by	Date/Time
	Relinquished by	Date/Time	Received by	Date/Time
	Relinquished by	Date/Time	Received by	Date/Time
	linquished by	Date/Time	Received by	Date/Time

Condition of Samples Upon Arrival at Final Destination: Good 4C

Signature: [signature] C.C Date: 4/26/94

Temp. of Samples on Arrival (Temp. sensitive analysis only): 4C

Signature: [signature] C.C Date: 4/26/94

62000

conoco

Environmental Sample Chain of Custody and Log

Research and Engineering

B404293

No. 26677

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( ) -

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX

Employee(s) Sampling	Remarks
	AIRBILL 851465592

Other Employee(s) Handling

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	PHENOL
DU-06 -S-MS	4-25-94	12 ST	WATER-G	40 ML	G/S	3	HCl	X			ONLY 2 RECD W/SAMPLE NUMBER.				
DU-06 -S-MS			WATER-G	1000ML	P	1	HNO3		X						
DU-06 -S-MS			WATER-G	250 ML	AG	1	NONE			X					
DU-06 -S-MS			WATER-G	250 ML	AG	1	NONE				X				
DU-06 -S-MS			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-06 -S-MS			WATER-G	1000ML	P	1	H2SO4						X		
DU-06 -S-MS			WATER-G	1000ML	AG	1	NONE							X	
DU-06 -S-MS			WATER-G	500 ML	AG	1	H2SO4								X

CCCUUU

Signatures

	Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time
	[signature] IT	4/20/94 1800	[signature]	4-25-94 1030
	Relinquished by	Date/Time	Received by	Date/Time
	[signature]	4-25-94 1630	[signature] IT	4/26/94 0924
	Relinquished by	Date/Time	Received by	Date/Time
		0730 DW		
	Relinquished by	Date/Time	Received by	Date/Time
	Relinquished by	Date/Time	Received by	Date/Time
	inquished by	Date/Time	Received by	Date/Time

Condition of Samples Upon Arrival at Final Destination

GOOD * SEE RVR

Signature [signature] Date 4/26/94

Temp. of Samples on Arrival (Temp. sensitive analysis only)

4 °C

Signature [signature] Date 4/26/94

conoco

Environmental Sample Chain of Custody and [illegible]g

Research and Engineering

No. 26681

B4042.93

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX
Employee(s) Sampling	Remarks
[signature]	AIRBILL 851465592
Other Employee(s) Handling	

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-06 -S-MSD	4-25-94	12:55	WATER-G	40 ML	G/S	3	HCl	X							
DU-06 -S-MSD			WATER-G	1000ML	P	1	HNO3		X						
DU-06 -S-MSD			WATER-G	250 ML	AG	1	NONE			X	RED BROKEN				
DU-06 -S-MSD			WATER-G	250 ML	AG	1	NONE				X				
DU-06 -S-MSD			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-06 -S-MSD			WATER-G	1000ML	P	1	H2SO4						X		
DU-06 -S-MSD			WATER-G	1000ML	AG	1	NONE							X	
DU-06 -S-MSD	↓	↓	WATER-G	500 ML	AG	1	H2SO4								X
Trip Blank 4	4/20/94	1700													

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
[signature] IT	4/22/94 1800	[signature]	4-25-94 0730	GOOD EXCEPT AS NOTED ON COR
Relinquished by [signature]	Date/Time 4-25-94 16:19	Received by [signature] IT	Date/Time 4/26/94 0924	Signature [signature] Date 4/26/94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	4°C
Relinquished by	Date/Time	Received by	Date/Time	Signature [signature] Date 4/26/94

conoco

Environmental Sample Chain of Custody and Log
Research and Engineering

No. 5710

B404292

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	AIRBILL 8514656592

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX
Employee(s) Sampling	Remarks
Other Employee(s) Handling	

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-07-S	4-25-94	13:10	WATER-G	40 ML	G/S	3	HCl	X							
DU-07-S			WATER-G	1000ML	P	1	HNO3		X						
DU-07-S			WATER-G	250 ML	AG	1	NONE			X					
DU-07-S			WATER-G	250 ML	AG	1	NONE				X				
DU-07-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-07-S			WATER-G	1000ML	P	1	H2SO4						X		
DU-07-S			WATER-G	1000ML	AG	1	NONE							X	
DU-07-S			WATER-G	500 ML	AG	1	H2SO4								X

335040

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
[signature] IT	4/20/94 1800	[signature]	4-25-94 07:30	GOOD
Relinquished by [signature]	Date/Time 4-25-94 16:45	Received by [signature] IT	Date/Time 4/26/94 0924	Signature [signature] Date 4/26/94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	4°C
Relinquished by	Date/Time	Received by	Date/Time	Signature [signature] Date 4/26/94

Signatures

conoco

Environmental Sample Chain of Custody and
Research and Engineering

B404292

No. 105

Project Number	

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX
Employee(s) Sampling	Remarks
Other Employee(s) Handling	

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-08-S	04/25/94	12:42	WATER-G	40 ML	G/S	3	HCl	X							
DU-08-S			WATER-G	1000ML	P	1	HNO3		X						
DU-08-S			WATER-G	250 ML	AG	1	NONE			X					
DU-08-S			WATER-G	250 ML	AG	1	NONE				X				
DU-08-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-08-S			WATER-G	1000ML	P	1	H2SO4						X		
DU-08-S			WATER-G	1000ML	AG	1	NONE							X	
DU-08-S			WATER-G	500 ML	AG	1	H2SO4								X
Trip Blank 3	4/20/94	1200													

3355040

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time
	4/20/94 1800		4/25/94 0700
Relinquished by	Date/Time	Received by	Date/Time
	4/25/94 16:52		4/26/94 0824
Relinquished by	Date/Time	Received by	Date/Time
Relinquished by	Date/Time	Received by	Date/Time
Relinquished by	Date/Time	Received by	Date/Time

Condition of Samples Upon Arrival at Final Destination: Good

Signature: Date: 4/26/94

Temp. of Samples on Arrival (Temp. sensitive analysis only): 4°C

Signature: Date: 4/26/94

Signatures

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Environmental Sample Chain of Custody and
Research and Engineering

No. 0690

B404292

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( ) -

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX
Employee(s) Sampling	Remarks
Other Employee(s) Handling	

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	PHENOL	
DU-09-S	4/25/94	15:45	WATER-G	40 ML	G/S	3	HCl	X								3355040
DU-09-S			WATER-G	1000ML	P	1	HNO3		X							
DU-09-S			WATER-G	250 ML	AG	1	NONE			X						
DU-09-S			WATER-G	250 ML	AG	1	NONE				X					
DU-09-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X				
DU-09-S			WATER-G	1000ML	P	1	H2SO4						X			
DU-09-S			WATER-G	1000ML	AG	1	NONE							X		
DU-09-S			WATER-G	500 ML	AG	1	H2SO4								X	

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Signatures

	Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time
1		4/30/94 1800		4/25/94 0700
2	Relinquished by	Date/Time 4/25/94 16:50	Received by	Date/Time 4/26/94 0924
3	Relinquished by	Date/Time	Received by	Date/Time
4	Relinquished by	Date/Time	Received by	Date/Time
5	Relinquished by	Date/Time	Received by	Date/Time

Condition of Samples Upon Arrival at Final Destination: GOOD

Signature: [signature] Date: 4/26/94

Temp. of Samples on Arrival (Temp. sensitive analysis only): 4°C

Signature: [signature] Date: 4/26/94

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Environmental Sample Chain of Custody and Log

Research and Engineering

B4042.92

No. 10660

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( ) -

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX
Employee(s) Sampling	Remarks
Other Employee(s) Handling	

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL	
DU-10-S	4/25/94	12:25	WATER-G	40 ML	G/S	3	HCl	X								335040
DU-10-S			WATER-G	1000ML	P	1	HNO3		X							
DU-10-S			WATER-G	250 ML	AG	1	NONE			X						
DU-10-S			WATER-G	250 ML	AG	1	NONE				X					
DU-10-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X				
DU-10-S			WATER-G	1000ML	P	1	H2SO4						X			
DU-10-S			WATER-G	1000ML	AG	1	NONE							X		
DU-10-S			WATER-G	500 ML	AG	1	H2SO4								X	

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
	4/26/94 1800		4/25/94 0700	GOOD
Relinquished by	Date/Time	Received by	Date/Time	Signature / Date
	4/25/94 16:50		4/26/94 0924	4/26/94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
				4°C
Relinquished by	Date/Time	Received by	Date/Time	Signature / Date
				4/26/94
Relinquished by	Date/Time	Received by	Date/Time	

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Environmental Sample Chain of Custody and [illegible]
Research and Engineering

B404292

No. 6662

Project Number	

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( ) -

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	AIRBILL 851465618

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX
Employee(s) Sampling	Remarks
Other Employee(s) Handling	

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	PHENOL	
JB-01-D	4-25-94	11:40	WATER	40 ML	G/S	3	HCl	X								33556
JB-01-D	↓	↓	WATER	1000ML	P	1	HNO3		X							

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
[illegible] IT	4/25/94 1800	[illegible]	4-25-94 07:30	Good
Relinquished by	Date/Time	Received by	Date/Time	
[illegible]	4-25-94 16:45	B. C. C. IT	4/26/94 0824	Signature B. C. C. Date 4/26/94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	4°C
Relinquished by	Date/Time	Received by	Date/Time	Signature B. C. C. Date 4/26/94

Type or Print Data

Signature

June 1994 Sampling Event

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Environmental Sample Chain of Custody and Log
Research and Engineering

B406559

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Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 851465616	( )

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	in 6-30-94

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX
Employee(s) Sampling	Remarks
Other Employee(s) Handling	

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-02-S	6-29-94	12:27	WATER-G	40 ML	G/S	3	HCl	X							
DU-02-S			WATER-G	1000ML	P	1	HNO3		X						
DU-02-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-02-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-02-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-02-S			WATER-G	1000ML	AG	1	NONE							X	
~~TRIP BLANK #1~~	~~06/22/94~~	~~1700~~	~~WATER~~	~~40 ML~~ 125	~~G/S~~	~~3~~	~~HCl~~	~~X~~							

Signatures

	Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
1	[signature] IT	6/22/94 1800	[signature]	6/28/94 1253	Good
2	[signature]	6/29/94 1400	[signature]	6/29/94 1400	Signature [signature] Date 6-30-94
3	[signature]	6/29/94 1440	[signature] IT	6-30-94 0900	Temp. of Samples on Arrival (Temp. sensitive analysis only)
4	Relinquished by	Date/Time	Received by	Date/Time	1°C
5	Relinquished by	Date/Time	Received by	Date/Time	
6	Relinquished by	Date/Time	Received by	Date/Time	Signature [signature] Date 6-30-94

Environmental Sample Chain of Custody and Log
Research and Engineering

B406555

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 851465616	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732		on 6-30-94	
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-02-S-MS	6-29-94	12:35	WATER-G	40 ML	G/S	3	HCl	X							
DU-02-S-MS			WATER-G	1000ML	P	1	HNO3		X						
DU-02-S-MS			WATER-G	250 ML	AG	1	NONE			X	X				
DU-02-S-MS			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-02-S-MS			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-02-S-MS			WATER-G	1000ML	AG	1	NONE							X	

Signatures

Relinquished by	Date/Time	Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
[signature]	6/22/94 1800	[signature]	6/28/94 1253	Good
[signature]	6/29/94 1400	[signature]	6/29/94 1400	
[signature]	6/29/94 1440	[signature] FT	6-30-94 0906	Signature [signature] Date 6-30-94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	1°C
Relinquished by	Date/Time	Received by	Date/Time	Signature [signature] Date 6-30-94

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Environmental Sample Chain of Custody and Log
Research and Engineering

B406559

No. 26403

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TOOTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 851465616	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732		on 6-30-94	
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TOOTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX		
Employee(s) Sampling	**Remarks**		
DVA			
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-02-S-MSD	6/29/94	12:41	WATER-G	40 ML	G/S	3	HCl	X							
DU-02-S-MSD			WATER-G	1000ML	P	1	HNO3		X						
DU-02-S-MSD			WATER-G	250 ML	AG	1	NONE			X	X				
DU-02-S-MSD			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-02-S-MSD			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-02-S-MSD			WATER-G	1000ML	AG	1	NONE							X	

Signatures

	Date/Time		Date/Time	
Bottles Relinquished by IT	6/29/94 1800	Bottles Received by DK Duvall	6/29/94 1253	Condition of Samples Upon Arrival at Final Destination
Relinquished by DK Duvall	6/29/94 1400	Received by	6/29/94 1400	Good
Relinquished by	6/29/94 1440	Received by IT	6-30-94 0965	Signature K. Chan Date 6-30-94
Relinquished by		Received by		Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by		Received by		1°C
Relinquished by		Received by		Signature K. Chan Date 6-30-94

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Environmental Sample Chain of Custody and Log
Research and Engineering

B406559

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Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 851465616	( ) -
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732		on 6-30-94	
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-03-S	6-29-94	11:53	WATER-G	40 ML	G/S	3	HCl	X							
DU-03-S			WATER-G	1000ML	P	1	HNO3		X						
DU-03-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-03-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-03-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-03-S			WATER-G	1000ML	AG	1	NONE							X	

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
IT	6/22/94 1800		6/28/94 1255	Good
Relinquished by	Date/Time	Received by	Date/Time	
	6/29/94 1400		6/29/94 1400	
Relinquished by	Date/Time	Received by	Date/Time	Signature / Date
	6/29/94 14:20	IT	6-30-94 0906	6-30-94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
				°C
Relinquished by	Date/Time	Received by	Date/Time	
Relinquished by	Date/Time	Received by	Date/Time	Signature / Date
				6-30-94

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Environmental Sample Chain of Custody and Log
Research and Engineering

B406559

No. 64U4

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 851465161	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732		in 6-30-94	
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-04-S	6-29-94	10:30	WATER-G	40 ML	G/S	3	HCl	X							
DU-04-S			WATER-G	1000ML	P	1	HNO3		X						
DU-04-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-04-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-04-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-04-S			WATER-G	1000ML	AG	1	NONE							X	

Signatures

	Date/Time		Date/Time	
Bottles Relinquished by	6/22/94 1800	Bottles Received by	6/28/94	1253
Relinquished by	6/29/94 1440	Received by	6/29/94	1440
Relinquished by	6/29/94 1500	Received by	6.30.94	0906
Relinquished by	Date/Time	Received by	Date/Time	
Relinquished by	Date/Time	Received by	Date/Time	
Relinquished by	Date/Time	Received by	Date/Time	

Condition of Samples Upon Arrival at Final Destination: Good

Signature: Date: 6-30-94

Temp. of Samples on Arrival (Temp. sensitive analysis only): °C

Signature: Date: 6-30-94

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Environmental Sample Chain of Custody and Log
Research and Engineering

B406559

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 851465616	( ) -

Facility Address: DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732
Transporter Address: in 6-30-94
Facility Supervisor: DAN DUVALL
Method of Shipping: OVERNIGHT AIR
Process Producing Sample: TODTZ FARM SITE
Special Shipping Instructions: PACK IN WET ICE TO ITC LAB AUSTIN TX
Employee(s) Sampling:
Remarks:
Other Employee(s) Handling:

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-04-S-DUP FR	6-29-94	10:35	WATER-G	40 ML	G/S	3	HCl	X							
DU-04-S-DUP FR			WATER-G	1000ML	P	1	HNO3		X						
DU-04-S-DUP FR			WATER-G	250 ML	AG	1	NONE			X	X				
DU-04-S-DUP FR			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-04-S-DUP FR			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-04-S-DUP FR			WATER-G	1000ML	AG	1	NONE							X	
~~TRIP BLANK #2~~	~~06/22/94~~	~~1700~~	~~WATER~~	~~40 ML~~	~~G/S~~	~~3~~	~~HCl~~	~~X~~							
			WS												

Signatures

	Date/Time		Date/Time	
Bottles Relinquished by	6/22/94 1800	Bottles Received by	6/29/94	1253
Relinquished by	6/29/94 1440	Received by	6/29/94	1440
Relinquished by	6/29/94 1500	Received by	6-30-94	0906
Relinquished by		Received by		
Relinquished by		Received by		
Relinquished by		Received by		

Condition of Samples Upon Arrival at Final Destination: Good
Signature: Date 6-30-94
Temp. of Samples on Arrival (Temp. sensitive analysis only): 1°C
Signature: Date 6-30-94

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Environmental Sample Chain of Custody and Log

Research and Engineering

B406559

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 851465614	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732			
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
~~DU-05-S~~			WATER-G	40 ML	G/S	~~12~~	HCl	X							
DU-05-S	6-29-94	08:04	WATER-G	1000ML	P	1	HNO3		X						
DU-05-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-05-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-05-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-05-S			WATER-G	1000ML	AG	1	NONE							X	
DU-05-S-1				40 ml	G/S	3	HCl	X							
DU-05-S-2		08:28				3		X							
DU-05-S-3		08:41				3		X							
DU-05-S-4		08:56				3		X							
TRIP BLANK #1	6-22-94	17:00	WATER	40ml	G/S	3		X							

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
	6/22/94 1800		6/28/94 1253	Good
Relinquished by	Date/Time DATE 6/29/94	Received by	Date/Time 6/29/94 14:40	
Relinquished by	Date/Time 6/29/94 1500	Received by	Date/Time 6-30-94 0906	Signature Date 6-30-94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	1°C
Relinquished by	Date/Time	Received by	Date/Time	Signature Date 6-30-94

WHITE: LAB COPY

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Environmental Sample Chain of Custody and Log

Research and Engineering

B406559

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 851465161	( )

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	Lic 6-30-94

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX

Employee(s) Sampling	Remarks

Other Employee(s) Handling

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-06-S	6-29-94	10:02	WATER-G	40 ML	G/S	3	HCl	X							
DU-06-S	↓	↓	WATER-G	1000ML	P	1	HNO3		X						
DU-06-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-06-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-06-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-06-S			WATER-G	1000ML	AG	1	NONE							X	

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time
[signature] IT	6/27/94 1800	[signature]	6/28/94 1253
Relinquished by [signature]	Date/Time 6/24/94 1400	Received by [signature]	Date/Time 6/29/94 1400
Relinquished by [signature]	Date/Time 6/29/94 14:20	Received by [signature] IT	Date/Time 6-30-94 0906
Relinquished by	Date/Time	Received by	Date/Time
Relinquished by	Date/Time	Received by	Date/Time
Relinquished by	Date/Time	Received by	Date/Time

Condition of Samples Upon Arrival at Final Destination: Good

Signature [signature] Date 6-30-94

Temp. of Samples on Arrival (Temp. sensitive analysis only): 1°C

Signature [signature] Date 6-30-94

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Environmental Sample Chain of Custody and Log

Research and Engineering

B406559

No. 26391

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 851465616	( ) -

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	in 6-30-94

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO ITC LAB AUSTIN TX

Employee(s) Sampling	Remarks

Other Employee(s) Handling

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-07-S	6.29.94	13:36	WATER-G	40 ML	G/S	3	HCl	X							
DU-07-S	↓	↓	WATER-G	1000ML	P	1	HNO3		X						
DU-07-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-07-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-07-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-07-S			WATER-G	1000ML	AG	1	NONE							X	
~~TRIP BLANK #3~~	~~06/22/94~~	~~1700~~	~~WATER~~	~~40 ML~~	~~G/G~~	~~3~~	~~HCl~~	~~X~~							~~X~~ 6/29/94

Signatures

	Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time
	[signature] IT	6/22/94 1800	[signature] DuVall	6/28/94 1253
	[signature] DuVall	6/29/94 1400	[signature]	6/29/94 1400
	[signature]	6/29/94 14.20	[signature] IT	6.30.94 0906
	Relinquished by	Date/Time	Received by	Date/Time
	Relinquished by	Date/Time	Received by	Date/Time
	Relinquished by	Date/Time	Received by	Date/Time

Condition of Samples Upon Arrival at Final Destination: Good

Signature [signature] Date 6-30-94

Temp. of Samples on Arrival (Temp. sensitive analysis only): 1°C

Signature [signature] Date 6-30-94

October 1994 Sampling Event

conoco

Environmental Sample Chain of Custody and Log

Research and Engineering

B410064

No. 35685

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 9206934334	( )

Facility Address: DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732

Transporter Address:

Facility Supervisor: DAN DUVALL

Method of Shipping: OVERNIGHT AIR

Process Producing Sample: TODTZ FARM SITE

Special Shipping Instructions: PACK IN WET ICE TO QUANTERRA, AUSTIN TX

Employee(s) Sampling: D. DuVall

Remarks:

Other Employee(s) Handling:

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	MFTALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-01-S	10-4-94	14:05	WATER-G	40 ML	G/S	3	HCl	X							
DU-01-S			WATER-G	1000ML	P	1	HNO3		X						
DU-01-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-01-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-01-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-01-S			WATER-G	1000ML	AG	1	NONE							X	
TRIP BLANK-01	9/23/94	1200	WATER	40 ML	G/S	3	HCl	X							

Signature

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
D. DuVall	9/23/94 1800	D. DuVall	9/27/94 1128	GOOD
D. DuVall	10/4/94 0700	D. Stahl	10-4-94 0700	
D. Stahl	10/4/94 1612	Jennie Odette	10-5-94 0915	Signature J. Odette Date 10-5-94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
				3°C
Relinquished by	Date/Time	Received by	Date/Time	
Relinquished by	Date/Time	Received by	Date/Time	Signature J. Odette Date 10-5

conoco

Environmental Sample Chain of Custody and Log
Research and Engineering

B410064

No. 35684

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732			
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	*Special Shipping Instructions*		
TODTZ FARM SITE	PACK IN WET ICE TO QUANTERRA, AUSTIN TX		
Employee(s) Sampling	Remarks		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	PHENOL
DU-02-S	10-4-94	10:50	WATER-G	40 ML	G/S	3	HCl	X							
DU-02-S			WATER-G	1000ML	P	1	HNO3		X						
DU-02-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-02-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-02-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-02-S	↓	↓	WATER-G	1000ML	AG	1	NONE							X	

A10004280

Signatures

	Date/Time		Date/Time		
Bottles Relinquished by	9/23/94 1800	Bottles Received by	9/27/94 1128	Condition of Samples Upon Arrival at Final Destination	
Relinquished by	10/4/94 0700	Received by	10-4-94 07:00	GOOD	
Relinquished by	10/4/94 1612	Received by	10-5-94 0415	Signature	Date 10-5
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)	
				3°C	
Relinquished by	Date/Time	Received by	Date/Time		
Relinquished by	Date/Time	Received by	Date/Time	Signature	Date 10-5

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Environmental Sample Chain of Custody and Log

Research and Engineering

B410064

No. 35683

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )

Facility Address	Transporter Address
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732	

Facility Supervisor	Method of Shipping
DAN DUVALL	OVERNIGHT AIR

Process Producing Sample	Special Shipping Instructions
TODTZ FARM SITE	PACK IN WET ICE TO QUANTERRA, AUSTIN TX
Employee(s) Sampling	Remarks
Other Employee(s) Handling	

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-02-S-DUP	10-4-94	10:50	WATER-G	40 ML	G/S	3	HCl	X							
DU-02-S-DUP			WATER-G	1000ML	P	1	HNO3		X						
DU-02-S-DUP			WATER-G	250 ML	AG	1	NONE			X	X				
DU-02-S-DUP			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-02-S-DUP			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-02-S-DUP	↓	↓	WATER-G	1000ML	AG	1	NONE							X	

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
[signature] DT	9/23/94 1800	[signature]	9/27/94 1128	Good
Relinquished by [signature]	Date/Time 10/4/94 0700	Received by [signature]	Date/Time 10-4-94 07:00	
Relinquished by [signature]	Date/Time 10/4/94 1612	Received by [signature]	Date/Time 10-5-94 10:15	Signature [signature] Date 10-5
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	3°C
Relinquished by	Date/Time	Received by	Date/Time	Signature [signature] Date 10-5

Environmental Sample Chain of Custody and Log

CONOCO — Research and Engineering

B410064

No. 35687

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TOOTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )

Facility Address: DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732

Transporter Address:

Facility Supervisor: DAN DUVALL

Method of Shipping: OVERNIGHT AIR

Process Producing Sample: TOOTZ FARM SITE

Special Shipping Instructions: PACK IN WET ICE TO QUANTERRA, AUSTIN TX

Employee(s) Sampling: D. Duvall

Remarks:

Other Employee(s) Handling:

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
OU-03-S	10-4-94	11:15	WATER-G	40 ML	G/S	3	HCl	X							
OU-03-S	↓	↓	WATER-G	1000ML	P	1	HNO3		X						
OU-03-S			WATER-G	250 ML	AG	1	NONE			X	X				
OU-03-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
OU-03-S			WATER-G	250 ML	AG	1	H2SO4						X		X
OU-03-S			WATER-G	1000ML	AG	1	NONE							X	

A0004222

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
D. Duvall QI	9/23/94 1800	D. Duvall	9/27/94 1132	GOOD
D. Duvall	10/4/94 0700	D. Duvall	10-4-94 07:00	
D. Duvall	10-4-94 16:00	Dawn Dolt QI	10-5-94 0915	Signature: D. Duvall — Date: 10 5
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
				3.0 C
Relinquished by	Date/Time	Received by	Date/Time	
Relinquished by	Date/Time	Received by	Date/Time	Signature: D. Duvall — Date: 10 5

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Environmental Sample Chain of Custody and Log
Research and Engineering

B410064

No. 35681

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 920 0939 305	( )

Facility Address: DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732

Transporter Address:

Facility Supervisor: DAN DUVALL

Method of Shipping: OVERNIGHT AIR

Process Producing Sample: TODTZ FARM SITE

Special Shipping Instructions: PACK IN WET ICE TO QUANTERRA, AUSTIN TX

Employee(s) Sampling: [signature]

Remarks:

Other Employee(s) Handling:

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
OU-03-S-MS	10.4.94	11:15	WATER-G	40 ML	G/S	3	HCl	X							
OU-03-S-MS			WATER-G	1000ML	P	1	HNO3		X						
OU-03-S-MS			WATER-G	250 ML	AG	1	NONE			X	X				
OU-03-S-MS			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
OU-03-S-MS			WATER-G	250 ML	AG	1	H2SO4						X		X
OU-03-S-MS			WATER-G	1000ML	AG	1	NONE							X	

A000423

Signatures

	Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time
	[signature]	9/23/94 1800	[signature]	9/27/94 1132
	Relinquished by [signature]	Date/Time 10/4/94 0700	Received by [signature]	Date/Time 10-4-94 07:00
	Relinquished by [signature]	Date/Time 10-4-94 16:00	Received by [signature]	Date/Time 10-5-94 0915
	Relinquished by	Date/Time	Received by	Date/Time
	Relinquished by	Date/Time	Received by	Date/Time
	Relinquished by	Date/Time	Received by	Date/Time

Condition of Samples Upon Arrival at Final Destination: GOOD

Signature: [signature] Date: 10-5

Temp. of Samples on Arrival (Temp. sensitive analysis only): 3°C

Signature: [signature] Date: 10-5

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Environmental Sample Chain of Custody and Log

Research and Engineering

B410064

No. 35680

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732			
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TODTZ FARM SITE	PACK IN WET ICE TO QUANTERRA, AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-03-S-MSD	10-4-94	11:15	WATER-G	40 ML	G/S	3	HCl	X							
DU-03-S-MSD	↓	↓	WATER-G	1000ML	P	1	HNO3		X						
DU-03-S-MSD			WATER-G	250 ML	AG	1	NONE			X	X				
DU-03-S-MSD			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-03-S-MSD			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-03-S-MSD			WATER-G	1000ML	AG	1	NONE							X	

A0004224

Signatures

	Date/Time		Date/Time	
Bottles Relinquished by	9/23/94 1800	Bottles Received by	9/27/94 1132	Condition of Samples Upon Arrival at Final Destination
Relinquished by	10/4/94 0700	Received by	10-4-94 07:00	GOOD
Relinquished by	10-4-94 16:06	Received by	10-5-94 0915	Signature — Date 10-5
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only) 1C
Relinquished by	Date/Time	Received by	Date/Time	2C
Relinquished by	Date/Time	Received by	Date/Time	Signature — Date 10-5

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Environmental Sample Chain of Custody and Log
Research and Engineering

B410064

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TOOTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 920093 9325	( )
Facility Address		**Transporter Address** DW 10-5-94	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732			
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TOOTZ FARM SITE	PACK IN WET ICE TO QUANTERRA, AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
OU-04-S-01	10-4-94	12:32	WATER-G	40 ML	G/S	3	HCl	X							
OU-04-S-02		12:33	WATER-G	40 ML	G/S	3	HCl	X							
OU-04-S-03		12:34	WATER-G	40 ML	G/S	3	HCl	X							
OU-04-S-04		12:35	WATER-G	40 ML	G/S	3	HCl	X							
OU-04-S			WATER-G	1000ML	P	1	HNO3		X						
OU-04-S			WATER-G	250 ML	AG	1	NONE			X	X				
OU-04-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
OU-04-S			WATER-G	250 ML	AG	1	H2SO4						X		X
OU-04-S			WATER-G	1000ML	AG	1	NONE							X	

A0000425

Signatures

Relinquished by	Date/Time	Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
Bottles Relinquished by QT	9/27/94 1800	Bottles Received by	9/27/94 1121	
Relinquished by	10/4/94 0700	Received by	10-4-94 07:00	Good
Relinquished by QT	10/4/94 1612	Received by QT	10-5-94 0915	Signature — Date 10-5-94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	10 C
Relinquished by	Date/Time	Received by	Date/Time	Signature — Date 10-5-94

LAB FILE COPY

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Environmental Sample Chain of Custody and Log
Research and Engineering

B4/10064

No. 35611

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TOOTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 920939334	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732		OW-10-5-94	
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TOOTZ FARM SITE	PACK IN WET ICE TO QUANTERRA, AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-05-S	10-4-94	12:17	WATER-G	40 ML	G/S	3	HCl	X							
DU-05-S			WATER-G	1000ML	P	1	HNO3		X						
DU-05-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-05-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-05-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-05-S			WATER-G	1000ML	AG	1	NONE							X	

A0004426

Signatures

	Date/Time		Date/Time	
Bottles Relinquished by	9/23/94 1200	Bottles Received by	9/23/94 1121	Condition of Samples Upon Arrival at Final Destination
Relinquished by	10/4/94 0700	Received by	10-4-94 07:00	Good
Relinquished by	10/4/94 1612	Received by	10-5-94 0915	Signature — Date 10-5-94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	1°C
Relinquished by	Date/Time	Received by	Date/Time	Signature — Date 10-5-94

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Environmental Sample Chain of Custody and Log
Research and Engineering

B410064

NO. 355676

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TOOTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 9200939334 DW 10-5-94	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732			
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TOOTZ FARM SITE	PACK IN WET ICE TO QUANTERRA, AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-06-S	10-4-94	13:15	WATER-G	40 ML	G/S	3	HCl	X							
DU-06-S			WATER-G	1000ML	P	1	HNO3		X						
DU-06-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-06-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-06-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-06-S			WATER-G	1000ML	AG	1	NONE							X	

A0004271

Signatures

	Date/Time		Date/Time	
Bottles Relinquished by	9/23/94 1800	Bottles Received by	9/27/94 1121	Condition of Samples Upon Arrival at Final Destination
Relinquished by	10/4/94 0700	Received by	10-4-94 07:00	Good
Relinquished by	10/4/94 1612	Received by	10-5-94 0415	Signature Date 10-5-94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	1°C
Relinquished by	Date/Time	Received by	Date/Time	Signature Date 10-5-94

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Environmental Sample Chain of Custody and Log
Research and Engineering

No. 35674

B410064

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 920934316	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732		DW 10-5-94	
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TODTZ FARM SITE	PACK IN WET ICE TO QUANTERRA, AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
OU-08-S	10-4-94	09:15	WATER-G	40 ML	G/S	3	HCl	X							
OU-08-S			WATER-G	1000ML	P	1	HNO3		X						
OU-08-S			WATER-G	250 ML	AG	1	NONE			X	X				
OU-08-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
OU-08-S			WATER-G	250 ML	AG	1	H2SO4						X		X
OU-08-S	↓	↓	WATER-G	1000ML	AG	1	NONE							X	

A00042S

Signatures

	Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
	QI	9/23/94 1800		9/27/94 1115	
		10/4/94 0700		10-4-94 0700	Good
		10/4/94 1612	QI	10-5-94 0915	Signature / Date 10-5-94
	Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
	Relinquished by	Date/Time	Received by	Date/Time	1°C
	Relinquished by	Date/Time	Received by	Date/Time	Signature / Date 10-5-94

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Environmental Sample Chain of Custody and Log
Research and Engineering

G4/10064

No. 35673

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
IODIZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 820939316	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732		DW - 10-5-94	
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
IODIZ FARM SITE	PACK IN WET ICE TO QUANTERRA, AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	No.	Analysis Req. ▶ Preservative	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	PHENOL
DU-09-S	10.4.94	13:00	WATER-G	40 ML	G/S	3	HCl	X							
DU-09-S			WATER-G	1000ML	P	1	HNO3		X						
DU-09-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-09-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-09-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-09-S	↓	↓	WATER-G	1000ML	AG	1	NONE							X	

A0004430

Signatures

	Date/Time		Date/Time	
Bottles Relinquished by	9/23/94 1200	Bottles Received by	9/27/94	1115
Relinquished by	10/4/94 0700	Received by	10-4-94	0700
Relinquished by	10/4/94 1612	Received by	10-5-94	0915
Relinquished by		Received by		
Relinquished by		Received by		
Relinquished by		Received by		

Condition of Samples Upon Arrival at Final Destination: Good

Signature: Date: 10-5-94

Temp. of Samples on Arrival (Temp. sensitive analysis only): 1°C

Signature: Date: 10-5-94

conoco

Environmental Sample Chain of Custody and Log

Research and Engineering

B410064

No. 35672

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TODTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 920093925 SW 10-5-94	( )
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732			
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TODTZ FARM SITE	PACK IN WET ICE TO QUANTERRA, AUSTIN TX		
Employee(s) Sampling	**Remarks**		
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative ▶	VOA	METALS	CHLORIDE	SULFATE	SULFIDE	TOC	TOH	TPHENOL
DU-10-S	10-4-94	13:55	WATER-G	40 ML	G/S	3	HCl	X							
DU-10-S			WATER-G	1000ML	P	1	HNO3		X						
DU-10-S			WATER-G	250 ML	AG	1	NONE			X	X				
DU-10-S			WATER-G	500 ML	P	1	NAOH/ZNAC					X			
DU-10-S			WATER-G	250 ML	AG	1	H2SO4						X		X
DU-10-S	↓	↓	WATER-G	1000ML	AG	1	NONE							X	

Signatures

	Date/Time		Date/Time	
Bottles Relinquished by	9/23/94 1800	Bottles Received by	9/27/94 1115	Condition of Samples Upon Arrival at Final Destination
Relinquished by	10/4/94 0700	Received by	10-4-94 07:00	Good
Relinquished by	10/4/94 1612	Received by	10-5-94 0915	Signature — Date 10-5-94
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	1°C
Relinquished by	Date/Time	Received by	Date/Time	Signature — Date 10-5-94

NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY CH2M HILL
ADDRESS 411 E. WISCONSIN AV. STE 1600, MILWAUKEE, WI 53202
PHONE (414) 272-2426 FAX
PROJECT NAME/LOCATION DU PONT - TODTZ FARM
PROJECT NUMBER
PROJECT MANAGER

REPORT TO:
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY
DAVID L. SHEKOSKI (PRINT NAME) SIGNATURE

(PRINT NAME) SIGNATURE

						# and Type of Containers					ANALYSES												
										POLY(1L)	HEXACHROME												COMMENTS
10/4/94	14:05	DU-Ø1-S	GW	X						X	X											
	10:50	DU-Ø2-S									X											
	11:15	DU-Ø3-S									X											USE FOR MS/MSD
	10:50	DU-Ø2-S DUP									X											
	12:35	DU-Ø4-S									X											
	12:17	DU-Ø5-S									X											
	13:15	DU-Ø6-S									X											
	10:00	DU-Ø7-S									X											
	09:15	DU-Ø8-S									X											
	13:00	DU-Ø9-S									X											
↓	13:55	DU-1Ø-S	↓	↓						↓	X											

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO
FIELD FILTERED? YES / (NO)
COC SEALS PRESENT AND INTACT? (YES) / NO
VOLATILES FREE OF HEADSPACE? ~~YES~~ NO
TEMPERATURE UPON RECEIPT: 5.1
Bottles supplied by NET? (YES) NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS DATE

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
	10-4-94 | 15:50	D Hall 10-4-94 15:50	D Hall	10/4 | 6:40	

METHOD OF SHIPMENT

REMARKS:

January 1995 Sampling Event

Environmental Sample Chain of Custody Log

Conoco — Research and Engineering

3501292

No. 35602

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
TOOTZ FARM SITE	(319) 244-4465	FEDERAL EXPRESS 275274215	(800) 238-5355
Facility Address		**Transporter Address**	
DUPONT CLINTON PLANT US HWY 67 CLINTON IA 52732		1/25/95	
Facility Supervisor		**Method of Shipping**	
DAN DUVALL		OVERNIGHT AIR	
Process Producing Sample	**Special Shipping Instructions**		
TOOTZ FARM SITE	PACK IN WET ICE TO QUANTERRA, AUSTIN TX		
Employee(s) Sampling	**Remarks**		
DAN P DuVALL (DuPont)			
Other Employee(s) Handling			
DAVID L. SHEKOSKI (CH2M Hill)			

Sample ID No and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	VOA
OU-05-S	01/24/95	0845	WATER-G	40 ML	G/S	3	HCl	X
OU-05-S-MS	01/24/95	0845	WATER-G	40 ML	G/S	3	HCl	X
OU-05-S-MSD	01/24/95	0845	WATER-G	40 ML	G/S	3	HCl	X
~~FIELD BLANK~~	~~01/24/95~~	~~0845~~	~~WATER~~	~~40 ML~~	~~G/S~~	~~3~~	~~HCl~~	~~X~~ DFD 1/24/95
TRIP BLANK-01	1-16-95	1200	WATER	40 ML	G/S	3	HCl	X

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
Lorri Ehmcke QS	1-17-95 1800	DP DuVall	1/18/95 1215	
Relinquished by	Date/Time	Received by	Date/Time	
DP DuVall	1/24/95 0930	[illegible] QT	1/25/95 0959	
Relinquished by	Date/Time	Received by	Date/Time	Signature / Date
				[illegible] 1/25/95
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
				1°C
Relinquished by	Date/Time	Received by	Date/Time	Signature / Date
				[illegible] 1/25/95

5-167 X3, 10-91

ANALYZING LAB

Appendix D
Validation Review

January 1994 Sampling Event

MKE100147D9.WP5/8

TECHNICAL MEMORANDUM CH2MHILL

PREPARED FOR: Chris Lawrence/PHL

PREPARED BY: Lori Bootz/GLR

COPIES: Chris Ohland/GLR

DATE: February 21, 1994

SUBJECT: Du Pont Impoundment Operable Unit
Todtz Farm Landfill NPL Site
January 1994 Sampling Data Validation

PROJECT: GLE24319.E2

Introduction

Water samples were collected from 10 monitoring wells on January 26, 1994. Samples were sent to IT Analytical Services (ITAS) laboratory by overnight delivery to Austin, Texas for testing of selected volatile organic, metals, and conventional analyses.

Data validation was performed by CH2M HILL to determine if overall project objectives were met. Analytical deficiencies associated with the data are presented below.

Volatile Organics

No major problems were encountered.

Acetone was detected in four of the field samples as well as the trip blank sample at concentration levels below the method reporting limits. Acetone is a common laboratory contaminant. Samples which showed concentrations for acetone less than 10X the amount measured in the blank sample were qualified as blank contaminated (''B'').

2-Hexanone initial and continuing calibrations showed relative standard deviations (RSD) greater than 30 percent and 25 percent respectively, and were qualified as nondetected (''UJ'') for concentrations not detected above the reporting limit for the samples associated with the respective calibrations.

Metals

No major problems were encountered.

Several postdigestion spike recoveries of arsenic, lead, and selenium were not within control limits. The detected concentration of arsenic in sample DU-06-S was flagged as estimated ("J"). The remaining arsenic (DU-05-S), lead (DU-02, -03, -04-S), and selenium (DU-04-S) sample concentrations were nondetected and flagged as estimated ("LT").

Low levels of the following analytes were found in the calibration blanks associated with the field samples: aluminum, cadmium, cobalt, copper, nickel, silver, and thallium. Samples which showed concentrations for the analytes listed less than 5X the amount measured in the blank samples were qualified as "U," estimated. Zinc was measured in the laboratory prep blank at 4.41 μg/L. Samples with concentrations less than 5X the amount measured in the prep blank were qualified as estimated ("U").

Inorganics

No major problems were encountered.

MKE100147DC.WP5

April 1994 Sampling Event

TECHNICAL MEMORANDUM CH2MHILL

PREPARED FOR: Chris Lawrence/PHL

PREPARED BY: Lori Bootz/GLO

COPIES: Chris Ohland/GLO

DATE: May 27, 1994

SUBJECT: Du Pont Impoundment Operable Unit
Todtz Farm Landfill NPL Site
April 1994 Sampling Data Validation

PROJECT: GLO24319.E2.02

Introduction

Water samples were collected from 10 monitoring wells and 1 residential well on April 25, 1994. Samples were sent to IT Analytical Services (ITAS) laboratory by overnight delivery to Austin, Texas for testing of selected volatile organic, total metals, and conventional analyses. Hexavalent chromium samples were transported by courier to National Environmental Testing (NET) laboratory in Bartlett, Illinois.

Data validation was performed by CH2M HILL to determine if overall project objectives were met. Analytical deficiencies associated with the data are presented below.

Volatile Organics

No major problems were encountered.

Three samples were diluted due to the presence of target compounds above the calibration range. Samples DU-09-S and DU-08-S were rerun diluted at dilution factors of 2 and 1000, respectively. Sample DU-10-S was diluted by a factor of 2.5.

Samples DU-08-S and DU-09-S were diluted to accurately quantify tetrahydrofuran (THF).

Methylene chloride and acetone were detected in two of the field samples at concentration levels below the method reporting limits. Methylene chloride and acetone are used routinely in the laboratory as extraction solvents and may have entered the field sample as a laboratory contaminant, however both the associated trip and lab blank QC data did not demonstrate that the presence of methylene chloride and acetone are a result of contamination, so the results remain qualified as "J," estimated.

Tetrahydrofuran was detected, as summarized below, in the four samples collected in quadruplicate at monitoring well DU-05-S:

Field Sample ID	THF (μg/L)
DU-05-S-01	38
DU-05-S-02	34
DU-05-S-03	42
DU-05-S-04	37

These concentrations exceed 50 percent of the groundwater contaminant concentration Level 1 Action Level of 50 μg/L.

Metals

No major problems were encountered.

Several postdigestion spike recoveries of lead, selenium, and thallium were not within control limits. The detected concentration of lead in sample DU-10-S was flagged as estimated, "J." Thallium and selenium concentrations were nondetected and flagged as estimated "UJ."

Low levels of zinc and lead were found in the prep blanks associated with the field samples. Samples with concentrations less than 5X the amount of zinc and lead measured in the prep blanks were qualified as "U," not detected (Zinc: DU-01-S, DU-03-S, DU-05-S, DU-07-S and DU-09-S; Lead: DU-01-S and JB-01-D).

Samples DU-08-S and DU-10-S were diluted due to matrix interferences. Hexavalent chromium samples DU-07-S, DU-08-S and DU-10-S were diluted due to low lab spike recoveries.

Inorganics

No major problems were encountered.

DU-10-S and DU-08-S were diluted for sulfate, chloride and TOC due to color interferences.

June 1994 Sampling Event

TECHNICAL MEMORANDUM

CH2M HILL

PREPARED FOR: Chris Lawrence/PHL

PREPARED BY: Lori Bootz/GLR

COPIES: Chris Ohland/GLR

DATE: August 25, 1994

SUBJECT: DuPont Impoundment Operable Unit
Todtz Farm Landfill NPL Site
June 1994 Sampling Data Validation

PROJECT: GLE24319.E2.02

Introduction

Water samples were collected from six monitoring wells on June 29, 1994. Samples were sent to Quanterra (formerly IT Analytical Services-ITAS) laboratory by overnight delivery to Austin, Texas, for testing of selected volatile organic, metals, and conventional analyses.

Data validation was performed by CH2M HILL to determine if overall project objectives were met. Analytical deficiencies associated with the data are presented below.

Volatile Organics

No major problems were encountered.

Acetone was detected in five of the field samples as well as the trip blank sample at concentration levels at or above the method reporting limits. Acetone is a common laboratory contaminant. Samples which showed concentrations for acetone less than 10X the amount measured in the blank sample were qualified as blank contaminated (''B'').

Methylene chloride was detected in three of the field samples as well as the laboratory blanks at concentration levels below the method reporting limits. Methylene chloride is a common laboratory contaminant. Samples which showed concentrations for methylene chloride less than 10X the amount measured in the blank sample were qualified as blank contaminated (''B'').

Metals

No major problems were encountered.

Thallium postdigestion spike sample recoveries, with the exception of sample DU-06-S, were not within control limits (85 to 115 percent). Thallium sample concentrations were nondetect and flagged as estimated ("UJ"). Several postdigestion spike sample recoveries of arsenic, and selenium were outside control limits. The detected concentrations of arsenic in samples DU-02-S and DU-04-S, and selenium in sample DU-03-S, were flagged as estimated ("J").

The mercury matrix spike performed on sample DU-02-S was outside control limits (75 to 125 percent) at 127 percent. Qualification was applied to mercury detected samples as estimated ("J").

Low levels of copper, zinc, and lead were found in the laboratory prep blanks associated with the field samples. Samples with concentrations less than 5 times the amount measured in the blank samples were qualified ("U"), not detected (copper: DU-05-S, DU-06-S, DU-07-S; zinc: DU-04-S-FR, DU-06-S, DU-07-S; and lead: DU-04-S).

Iron, manganese, and potassium concentrations detected in the field replicate sample, DU-04-S-FR, did not correlate with sample DU-04-S. Laboratory QA/QC and method performance for these parameters were acceptable. Field logbooks were reviewed for anomalies, none were found. No explanation can be offered for the discrepancy. The sample and field replicate were qualified as estimated ("J") for iron, manganese and potassium.

Inorganics

No major problems were encountered.

DU-03-S and DU-05-S were diluted for sulfate because of the presence of target analytes at concentration levels greater than the instrument calibration range. DU-06-S, DU-07-S, and DU-04-S-FR were diluted for total organic halides (TOX) due to the presence of target analytes at concentration levels greater than the instrument calibration range.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V55911
DU-02-S

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-11

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >GX911

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/13/94 05:17

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	5.0	U	
67-64-1	Acetone	7.8	J	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

8/11/94

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-02-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: QUANAU Case No.: SAS No.: SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-11B

Level (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	22.9	U		P	
7440-36-0	Antimony	19.4	U		P	
7440-38-2	Arsenic	34.5		+	F	J
7440-39-3	Barium	286			P	
7440-41-7	Beryllium	3.5	U		P	
7440-43-9	Cadmium	2.4	U		P	
7440-70-2	Calcium	35100			P	
7440-47-3	Chromium	2.8	U		P	
7440-48-4	Cobalt	2.9	U		P	
7440-50-8	Copper	1.6	U		P	
7439-89-6	Iron	2310			P	
7439-92-1	Lead	0.70	U		F	
7439-95-4	Magnesium	24400			P	
7439-96-5	Manganese	1860			P	
7439-97-6	Mercury	0.07	U	N	AV	~~UJ~~ YD U
7440-02-0	Nickel	6.3	U		P	
7440-09-7	Potassium	1030	B		P	LT
7782-49-2	Selenium	1.0	U		F	
7440-22-4	Silver	2.1	U		P	
7440-23-5	Sodium	61200			P	
7440-28-0	Thallium	1.6	U	W	F	UJ
7440-62-2	Vanadium	16.5	B		P	LT
7440-66-6	Zinc	1.1	U		P	
	Cyanide				NR	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

YD 8/10/94

Comments:

FORM I - IN

7/88

1

WET CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE #: DU-02-S

Lab Name: QUANTERRA_AUSTIN Contract: TODTZ_FARM

Lab Code: QUANAU Case No.: _____ SAS No.: _____ SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-11C

Level (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	5.0	U		WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	5000			AS
376.2	Sulfide	91.6			WC
375.4	Sulfate	5000	U		WC
415.1	TOC	2350			WC

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

WET CHEMISTRY FORM I

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V55907
DU-03-S

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-07

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >G5597

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/12/94 21:34

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1.2	~~BJ~~	B
67-64-1	Acetone	18	B	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

8/11/94

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-03-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: QUANAU Case No.: SAS No.: SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-07B

Level (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	22.9	U		P	
7440-36-0	Antimony	19.4	U		P	
7440-38-2	Arsenic	36.0			F	
7440-39-3	Barium	362			P	
7440-41-7	Beryllium	3.5	U		P	
7440-43-9	Cadmium	2.4	U		P	
7440-70-2	Calcium	64500			P	
7440-47-3	Chromium	2.8	U		P	
7440-48-4	Cobalt	2.9	U		P	
7440-50-8	Copper	1.6	U		P	
7439-89-6	Iron	5410			P	
7439-92-1	Lead	0.70	U		F	
7439-95-4	Magnesium	31900			P	
7439-96-5	Manganese	2850			P	
7439-97-6	Mercury	0.08	B	N	AV	J
7440-02-0	Nickel	6.3	U		P	
7440-09-7	Potassium	2790	B		P	LT
7782-49-2	Selenium	1.0	B	W	F	J
7440-22-4	Silver	2.1	U		P	
7440-23-5	Sodium	117000			P	
7440-28-0	Thallium	1.6	U	W	F	UJ
7440-62-2	Vanadium	19.3	B		P	LT
7440-66-6	Zinc	1.1	U		P	
	Cyanide				NR	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

HB 8/10/94

FORM I - IN

7/88

1

WET CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE #: DU-03-S

Lab Name: QUANTERRA_AUSTIN Contract: TODTZ_FARM

Lab Code: QUANAU Case No.: _____ SAS No.: _____ SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-07C

Level (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	11.6			WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	6900			WC
376.2	Sulfide	77.3			WC
375.4	Sulfate	43900			WC
415.1	TOC	6020			WC

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

_____

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_____

WET CHEMISTRY FORM I

000334

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V55906
DU-04-S

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-06

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >GX596

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/13/94 04:22

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	5.0	U	
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	36		

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

DU-04-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: QUANAU Case No.: SAS No.: SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-06B

Level (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	22.9	U		P	
7440-36-0	Antimony	19.4	U		P	
7440-38-2	Arsenic	2.1	B	W	F	J
7440-39-3	Barium	305			P	
7440-41-7	Beryllium	3.5	U		P	
7440-43-9	Cadmium	2.4	U		P	
7440-70-2	Calcium	107000			P	
7440-47-3	Chromium	2.8	U		P	
7440-48-4	Cobalt	2.9	U		P	
7440-50-8	Copper	1.6	U		P	
7439-89-6	Iron	1850			P	J
7439-92-1	Lead	0.84	B		F	U
7439-95-4	Magnesium	42900			P	
7439-96-5	Manganese	634			P	J
7439-97-6	Mercury	0.08	B	N	AV	J
7440-02-0	Nickel	6.3	U		P	
7440-09-7	Potassium	8360			P	J
7782-49-2	Selenium	1.0	U		F	
7440-22-4	Silver	2.1	U		P	
7440-23-5	Sodium	114000			P	
7440-28-0	Thallium	1.6	U	W	F	UJ
7440-62-2	Vanadium	22.2	B		P	LT
7440-66-6	Zinc	1.1	U		P	
	Cyanide				NR	

yo 8/10/94

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

7/88

000008

1

EPA SAMPLE #

WET CHEMISTRY ANALYSES DATA SHEET

DU-04-S

Lab Name: QUANTERRA_AUSTIN Contract: TODTZ_FARM

Lab Code: QUANAU Case No.: SAS No.: SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-06C

Level (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	62.0			WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	18700			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	8000			WC
415.1	TOC	17500			WC

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

WET CHEMISTRY FORM I

000335

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V55910
DU-04-S-FR

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-10

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >G5910

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/12/94 22:57

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	5.0	U	
67-64-1	Acetone	40	B	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	1.1	J	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	34		

VB 8/11/94

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-04-S-FR___

Lab Name: QUANTERRA_AUSTIN_____ Contract: _____

Lab Code: QUANAU Case No.: _____ SAS No.: _____ SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-10B

Level (low/med): LOW__ Date Received: 06/29/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	22.9	U		P	
7440-36-0	Antimony	19.4	U		P	
7440-38-2	Arsenic	2.5	B		F	LT
7440-39-3	Barium	283			P	
7440-41-7	Beryllium	3.5	U		P	
7440-43-9	Cadmium	2.4	U		P	
7440-70-2	Calcium	105000			P	
7440-47-3	Chromium	3.1	B		P	LT
7440-48-4	Cobalt	2.9	U		P	
7440-50-8	Copper	1.9	B		P	LT
7439-89-6	Iron	653			P	J
7439-92-1	Lead	0.70	U		F	
7439-95-4	Magnesium	43400			P	
7439-96-5	Manganese	453			P	J
7439-97-6	Mercury	0.07	B	N	AV	J
7440-02-0	Nickel	6.3	U		P	
7440-09-7	Potassium	6390			P	J
7782-49-2	Selenium	1.0	U		F	
7440-22-4	Silver	2.1	U		P	
7440-23-5	Sodium	110000			P	
7440-28-0	Thallium	1.6	U	W	F	UJ
7440-62-2	Vanadium	24.3	B		P	LT
7440-66-6	Zinc	1.2	B		P	U
	Cyanide				NR	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN

7/88

1

WET CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE #: DU-04-S-FR

ab Name: QUANTERRA_AUSTIN Contract: TODTZ_FARM

Lab Code: QUANAU Case No.: _____ SAS No.: _____ SDG No.: SDG009

atrix (soil/water): WATER Lab Sample ID: B406559-10C

evel (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	63.5			WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	17800			WC
376.2	Sulfide	51.6			WC
375.4	Sulfate	11500			WC
415.1	TOC	17000			WC

GB 8/10/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

WET CHEMISTRY FORM I

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

V55901
DU-05-S-1

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-01

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >G5591

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/12/94 19:16

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	5.0	U	
67-64-1	Acetone	14	B	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	12		

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-05-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: QUANAU Case No.: SAS No.: SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-05B

Level (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	22.9	U		P	
7440-36-0	Antimony	19.4	U		P	
7440-38-2	Arsenic	2.1	U		F	
7440-39-3	Barium	171	B		P	LT
7440-41-7	Beryllium	3.5	U		P	
7440-43-9	Cadmium	2.4	U		P	
7440-70-2	Calcium	79200			P	
7440-47-3	Chromium	2.8	U		P	
7440-48-4	Cobalt	6.6	B		P	LT
7440-50-8	Copper	4.6	B		P	U
7439-89-6	Iron	654			P	
7439-92-1	Lead	0.70	U		F	
7439-95-4	Magnesium	28700			P	
7439-96-5	Manganese	5810			P	
7439-97-6	Mercury	0.08	B	N	AV	J
7440-02-0	Nickel	31.2	B		P	LT
7440-09-7	Potassium	9030			P	
7782-49-2	Selenium	1.0	U		F	
7440-22-4	Silver	2.1	U		P	
7440-23-5	Sodium	101000			P	
7440-28-0	Thallium	1.6	U	W	F	UJ
7440-62-2	Vanadium	20.8	B		P	LT
7440-66-6	Zinc	1.1	U		P	
	Cyanide				NR	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

YB 8/10/94

Comments:

FORM I - IN

7/88

000010

1

EPA SAMPLE #

WET CHEMISTRY ANALYSES DATA SHEET

DU-05-S

Lab Name: QUANTERRA_AUSTIN Contract: TODTZ_FARM

Lab Code: QUANAU Case No.: _____ SAS No.: _____ SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-05C

Level (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	123			WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	13000			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	4410000			WC
415.1	TOC	5840			WC

7/28/10/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

WET CHEMISTRY FORM I

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V55902
DY-05-S-2

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-02

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >G5592

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/12/94 19:44

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	5.0	U	
67-64-1	Acetone	24	B	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	0.9	J	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	8.1	J	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V55903
DU-05-S-3

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-03

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >G5593

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/12/94 20:11

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	0.6	~~JB~~	B
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	0.8	J	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	8.6	J	

 9/8/1994

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V55904
DU-05-S-4

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-04

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >GY594

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/13/94 06:59

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5.0	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5.0	U
75-35-4	1,1-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
540-59-0	1,2-Dichloroethene (total)	5.0	U
67-66-3	Chloroform	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
75-27-4	Bromodichloromethane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
79-01-6	Trichloroethene	5.0	U
124-48-1	Dibromochloromethane	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
71-43-2	Benzene	5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	U
75-25-2	Bromoform	5.0	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
108-88-3	Toluene	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
100-42-5	Styrene	5.0	U
1330-20-7	Xylenes (total)	5.0	U
109-99-9	Tetrahydrofuran	6.8	J

Data validation Qualifier

08/11/94

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V55908
DU-06-S

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-08

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >G5598

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/12/94 22:02

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1.1	~~BJ~~	B
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

YB 8/11/94

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-06-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: QUANAU Case No.: SAS No.: SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-08B

Level (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	22.9	U		P	
7440-36-0	Antimony	19.4	U		P	
7440-38-2	Arsenic	8.0	B		F	LT
7440-39-3	Barium	163	B		P	LT
7440-41-7	Beryllium	3.5	U		P	
7440-43-9	Cadmium	2.4	U		P	
7440-70-2	Calcium	42500			P	
7440-47-3	Chromium	2.8	U		P	
7440-48-4	Cobalt	2.9	U		P	
7440-50-8	Copper	2.2	B		P	u
7439-89-6	Iron	2090			P	
7439-92-1	Lead	0.70	U		F	
7439-95-4	Magnesium	20400			P	
7439-96-5	Manganese	2750			P	
7439-97-6	Mercury	0.07	U	N	AV	u
7440-02-0	Nickel	6.3	U		P	
7440-09-7	Potassium	2340	B		P	LT
7782-49-2	Selenium	1.0	U		F	
7440-22-4	Silver	2.3	B		P	LT
7440-23-5	Sodium	68900			P	
7440-28-0	Thallium	1.6	U		F	
7440-62-2	Vanadium	17.4	B		P	LT
7440-66-6	Zinc	1.3	B		P	u
	Cyanide				NR	

8/10/94

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

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EPA SAMPLE #

DU-06-S

WET CHEMISTRY ANALYSES DATA SHEET

Lab Name: QUANTERRA_AUSTIN Contract: TODTZ_FARM

Lab Code: QUANAU Case No.: _____ SAS No.: _____ SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-08C

Level (low/med): LOW Date Received: 06/29/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	17.6			WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	6350			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	5000	U		WC
415.1	TOC	4760			WC

ygs 8/10/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V55909
DU-07-S

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-09

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >GX599

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/13/94 04:49

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	5.0	U	
67-64-1	Acetone	9.6	J	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	2.1	J	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	3.1	J	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	4.1	J	

JB 8/11/94

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-07-S ___

Lab Name: QUANTERRA_AUSTIN_____ Contract: _____

Lab Code: QUANAU Case No.: _____ SAS No.: _____ SDG No.: SDG009

Matrix (soil/water): WATER Lab Sample ID: B406559-09B

Level (low/med): LOW__ Date Received: 06/29/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	22.9	U		P	
7440-36-0	Antimony	19.4	U		P	
7440-38-2	Arsenic	2.2	B		F	LT
7440-39-3	Barium	303			P	
7440-41-7	Beryllium	3.5	U		P	
7440-43-9	Cadmium	2.4	U		P	
7440-70-2	Calcium	103000			P	
7440-47-3	Chromium	2.8	U		P	
7440-48-4	Cobalt	4.4	B		P	LT
7440-50-8	Copper	3.4	B		P	U
7439-89-6	Iron	9430			P	
7439-92-1	Lead	0.70	U		F	
7439-95-4	Magnesium	36900			P	
7439-96-5	Manganese	933			P	
7439-97-6	Mercury	0.07	U	N	AV	U
7440-02-0	Nickel	6.3	U		P	
7440-09-7	Potassium	10000			P	
7782-49-2	Selenium	1.0	U		F	
7440-22-4	Silver	2.1	U		P	
7440-23-5	Sodium	72300			P	
7440-28-0	Thallium	1.6	U	W	F	UJ
7440-62-2	Vanadium	23.7	B		P	LT
7440-66-6	Zinc	1.9	B		P	U
	Cyanide				NR	

JPS 8/10/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN

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WET CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE #: DU-07-S

ab Name: QUANTERRA_AUSTIN Contract: TODTZ_FARM

Lab Code: QUANAU Case No.: _____ SAS No.: _____ SDG No.: SDG009

atrix (soil/water): WATER Lab Sample ID: B406559-09C

Level (low/med): LOW Date Received: 06/29/94

Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	39.8			WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	6350			AS
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	5000	U		WC
415.1	TOC	6400			WC

YB 8/10/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

WET CHEMISTRY FORM I

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V55914
TRIP BLANK

Lab Name: Quanterra Contract:

Lab Code: Austin Case No.: SAS No.: SDG No.: 009

Matrix: (soil/water) Water Lab Sample ID: B406559-14

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >G5914

Level: (low/med) Low Date Received: 06/30/94

% Moisture: not dec. Date Analyzed: 07/12/94 17:25

Column: (pack/cap) Cap Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data validation qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	10	U	
67-64-1	Acetone	25	B	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5.0	U	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

DB 8/11/94

October 1994 Sampling Event

TECHNICAL MEMORANDUM CH2M HILL

PREPARED FOR: Chris Lawrence/PHL

PREPARED BY: Lori Bootz and Dong-Son Pham/GLR

COPIES: Chris Ohland/GLR

DATE: November 29, 1994

SUBJECT: DuPont Impoundment Operable Unit
Todtz Farm Landfill NPL Site
October 1994 Sampling Data Validation

PROJECT: GLE24319.E2.02

Introduction

Water samples were collected from 10 monitoring wells on October 4, 1994. Samples were sent to Quanterra laboratory (formerly IT Analytical Services—ITAS) by overnight delivery to Austin, Texas, for testing of selected volatile organic, metals, and conventional analyses. Hexavalent chromium samples were transported by courier to National Environmental Testing (NET) laboratory in Bartlett, Illinois.

Data validation was performed by CH2M HILL to determine if overall project objectives were met. Analytical deficiencies associated with the data are presented below.

Volatile Organics

No major problems were encountered.

Acetone was detected in eight of the field samples as well as the trip blank sample at concentration levels below the method reporting limits. Acetone is a common laboratory contaminant. Samples which showed concentrations for acetone less than 10X the amount measured in the blank sample were qualified as blank contaminated (''B'').

Methylene chloride was detected in nine of the field samples as well as the trip and laboratory blank samples at concentration levels below the method reporting limits. Methylene chloride is a common laboratory contaminant. Samples which showed concentrations for methylene chloride less than 10X the amount measured in the blank sample were qualified as blank contaminated (''B'').

Dibromochloromethane and bromoform were detected in the trip blank sample at concentration levels below the method reporting limits. No qualification was necessary as the compounds were undetected in the field samples.

DU-08-S, DU-09-S, and DU-10-S were diluted at factors of 500X, 5X and 5X respectively, to accurately quantify tetrahydrofuran (THF).

Metals

No major problems were encountered.

Selenium postdigestion spike sample recoveries, with the exception of samples DU-01-S and DU-10-S, were not within control limits (85 to 115 percent). Selenium sample concentrations were nondetect and flagged as estimated (''UJ''). Several postdigestion spike sample recoveries of lead and thallium were outside control limits. The detected concentration of thallium in sample DU-08-S was flagged as estimated (''J''). The remaining thallium and lead sample concentrations were nondetected and flagged as estimated (''UJ'').

Sample DU-04-S was diluted for selenium at a factor of 5X to minimize matrix interferences. Samples DU-08-S and DU-10-S were reported for selenium with elevated detection limits due to 10X dilutions performed for matrix interferences. Sample DU-08-S was diluted 10X due to the presence of arsenic above the instrument calibration range.

The cadmium and lead matrix spikes performed on sample DU-03-S were outside control limits (75 to 125 percent) at 72 percent and 134 percent respectively. Qualification was applied to cadmium and lead detected samples as estimated (''J''), and cadmium nondetected samples as estimated (''UJ'').

Low levels of calcium, iron, sodium, thallium, and nickel were found in the laboratory prep blanks associated with the field samples. Samples with concentrations less than 5X the amount measured in the blank samples were qualified as nondetected ''U,'' (nickel only: DU-01-S, DU-02-S-FR, DU-03-S, DU-04-S, DU-05-S, DU-06-S, and DU-07-S).

Low levels of the following analytes were found in the calibration blanks associated with the field samples: vanadium, zinc, magnesium, and selenium. Samples which showed concentrations for the analytes listed less than 5X the amount measured in the blank

samples were qualified as nondetected "U," (vanadium: DU-02-S, and DU-02-S-FR; zinc: DU-04-S, and DU-09-S).

Aluminum results were qualified as estimated ("J"/"UJ"), because the ICP serial dilution criteria was outside control limits (± 10 percent difference) at 14 percent.

Sample DU-08-S was analyzed by the Method of Standard Additions to accurately quantify the lead concentration and to eliminate matrix interferences. The calibration curve criteria ($r \geq 0.995$) was not met at $r = 0.98$ and $r = 0.90$. The sample was qualified for lead as estimated ("UJ").

Inorganics

No major problems were encountered.

DU-06-S was qualified as nondetected ("U"), for total organic halides (TOX) due to low level blank contamination found in the laboratory calibration blank associated with the samples.

The following list includes samples which were analyzed with dilution factors (DF) due to analyte concentrations above the calibration range:

Sample No.	Analyte	DF
DU-01-S	Sulfate	2
DU-08-S	Sulfide	500
DU-08-S	TOX	50
DU-09-S	Chloride	10
DU-10-S	Phenol	4
DU-05-S	TOX	2
DU-03-S	TOX	2

Sample DU-10-S was diluted at 50X for TOX due to column breakthrough.

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WET CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE #: DU-01-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: Case No.: SAS No.: SDG No.: 010

Matrix (soil/water): WATER Lab Sample ID: B410064-01C

Level (low/med): LOW Date Received: 10/05/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	5.0	U		WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	17000			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	45000			WC
415.1	TOC	1000	U		WC

11/21/94

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

WET CHEMISTRY FORM I

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U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-01-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: Case No.: SAS No.: SDG No.: 010

Matrix (soil/water): WATER Lab Sample ID: B410064-01B

Level (low/med): LOW Date Received: 10/05/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	Data validation qualifier
7429-90-5	Aluminum	8070		E	P	J
7440-36-0	Antimony	18.0	U		P	
7440-38-2	Arsenic	4.6	B		F	LT
7440-39-3	Barium	166	B		P	LT
7440-41-7	Beryllium	0.37	B		P	LT
7440-43-9	Cadmium	2.7	U	N	P	UJ
7440-70-2	Calcium	52700			P	
7440-47-3	Chromium	11.2			P	
7440-48-4	Cobalt	10.1	B		P	LT
7440-50-8	Copper	18.0	B		P	LT
7439-89-6	Iron	14300			P	
7439-92-1	Lead	7.3		N	F	J
7439-95-4	Magnesium	19900			P	
7439-96-5	Manganese	802			P	
7439-97-6	Mercury	0.10	U		AV	
7440-02-0	Nickel	31.0	B		P	U
7440-09-7	Potassium	2910	B		P	LT
7782-49-2	Selenium	2.2	U		F	
7440-22-4	Silver	2.9	U		P	
7440-23-5	Sodium	8610			P	
7440-28-0	Thallium	1.6	U		F	
7440-62-2	Vanadium	9.5	B		P	LT
7440-66-6	Zinc	26.7			P	
7440-31-5	Tin				NR	

yjc 11/7/94

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994

Sample No. : 279207

NET Job No.: 94.07781

Sample Description: DU-01-S; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 14:05
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<0.1 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

MX : A 10x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

yb 11/7/94

OCEAN GROUP

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-01-S
V06401

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C0641

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/14/94 17:08

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1.5	~~JB~~	B
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-01-S
V06401

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C0641

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/14/94 17:08

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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WET CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE #: DU-02-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: Case No.: SAS No.: SDG No.: 010

Matrix (soil/water): WATER Lab Sample ID: B410064-02C

Level (low/med): LOW Date Received: 10/05/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	5.0	U		WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	6400			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	5300			WC
415.1	TOC	3400			WC

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

WET CHEMISTRY FORM I

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

DU-02-S

Lab Name: QUANTERRA_AUSTIN_____ Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010___

Matrix (soil/water): WATER Lab Sample ID: B410064-02B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	49.7	B	E	P	J
7440-36-0	Antimony	18.0	U		P	
7440-38-2	Arsenic	52.6			F	
7440-39-3	Barium	556			P	
7440-41-7	Beryllium	0.20	U		P	
7440-43-9	Cadmium	2.7	U	N	P	UJ
7440-70-2	Calcium	43600			P	
7440-47-3	Chromium	2.1	U		P	
7440-48-4	Cobalt	2.6	U		P	
7440-50-8	Copper	1.1	U		P	
7439-89-6	Iron	2200			P	
7439-92-1	Lead	1.2	U	N	F	UJ
7439-95-4	Magnesium	28000			P	
7439-96-5	Manganese	1800			P	
7439-97-6	Mercury	0.10	U		AV	
7440-02-0	Nickel	4.7	U		P	
7440-09-7	Potassium	1470	B		P	LT
7782-49-2	Selenium	2.2	U	W	F	UJ
7440-22-4	Silver	2.9	U		P	
7440-23-5	Sodium	81900			P	
7440-28-0	Thallium	1.6	U		F	
7440-62-2	Vanadium	7.2	B		P	U
7440-66-6	Zinc	1.1	U		P	
7440-31-5	Tin				NR	

YS 11/7/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994
Sample No. : 279208
NET Job No.: 94.07781

Sample Description: DU-02-S; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 10:50
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<0.1 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

10/17/94

MX : A 10x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-02-S
V06402

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-02

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C0642

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/14/94 17:41

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1.4	~~JB~~ B
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5.8	
75-35-4	1,1-Dichloroethene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
540-59-0	1,2-Dichloroethene (total)	5.0	U
67-66-3	Chloroform	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
108-05-4	Vinyl Acetate	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon Tetrachloride	5.0	U
75-27-4	Bromodichloromethane	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	U
79-01-6	Trichloroethene	5.0	U
124-48-1	Dibromochloromethane	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
71-43-2	Benzene	5.0	U
10061-02-6	Trans-1,3-Dichloropropene	5.0	U
75-25-2	Bromoform	5.0	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U
108-88-3	Toluene	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U
100-42-5	Styrene	5.0	U
1330-20-7	Xylenes (total)	5.0	U
109-99-9	Tetrahydrofuran	10	U

Data validator Qualifier

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-02-S
V06402

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C0642

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/14/94 17:41

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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WET CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE #: DU-02-S-DUP

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: Case No.: SAS No.: SDG No.: 010

Matrix (soil/water): WATER Lab Sample ID: B410064-03C

Level (low/med): LOW Date Received: 10/05/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	5.0	U		WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	6500			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	5000	U		WC
415.1	TOC	3400			WC

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

WET CHEMISTRY FORM I

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-02-S-DUP

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: Case No.: SAS No.: SDG No.: 010

Matrix (soil/water): WATER Lab Sample ID: B410064-03B

Level (low/med): LOW Date Received: 10/05/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	28.4	B	E	P	J
7440-36-0	Antimony	18.0	U		P	
7440-38-2	Arsenic	52.2			F	
7440-39-3	Barium	555			P	
7440-41-7	Beryllium	0.20	U		P	
7440-43-9	Cadmium	2.7	U	N	P	UJ
7440-70-2	Calcium	42500			P	
7440-47-3	Chromium	2.1	U		P	
7440-48-4	Cobalt	2.6	U		P	
7440-50-8	Copper	1.1	U		P	
7439-89-6	Iron	2140			P	
7439-92-1	Lead	1.2	U	WN	F	UJ
7439-95-4	Magnesium	27600			P	
7439-96-5	Manganese	1770			P	
7439-97-6	Mercury	0.10	U		AV	
7440-02-0	Nickel	5.7	B		P	U
7440-09-7	Potassium	1470	B		P	LT
7782-49-2	Selenium	2.2	U	W	F	UJ
7440-22-4	Silver	2.9	U		P	
7440-23-5	Sodium	81000			P	
7440-28-0	Thallium	1.6	U		F	
7440-62-2	Vanadium	3.9	B		P	U
7440-66-6	Zinc	1.1	U		P	
7440-31-5	Tin				NR	

YB 11/7/94

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994

Sample No. : 279212

NET Job No.: 94.07781

Sample Description: DU-02-S Dup; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 10:50
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<0.1 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

YB 11/7/94

MX : A 10x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-02-S-DUP
V06403

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-03

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C0643

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/14/94 18:14

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1.4	~~JB~~	B
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	4.5	J	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	4.6	J	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-02-S-DUP
V06403

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C0643

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/14/94 18:14

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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EPA SAMPLE #

WET CHEMISTRY ANALYSES DATA SHEET

DU-03-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: Case No.: SAS No.: SDG No.: 010

Matrix (soil/water): WATER Lab Sample ID: B410064-04C

Level (low/med): LOW Date Received: 10/05/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	51.0			WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	12500			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	13500			WC
415.1	TOC	10200			WC

10/14/94

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

WET CHEMISTRY FORM I

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-03-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: Case No.: SAS No.: SDG No.: 010

Matrix (soil/water): WATER Lab Sample ID: B410064-04B

Level (low/med): LOW Date Received: 10/05/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	13.1	B	E	P	J
7440-36-0	Antimony	18.0	U		P	
7440-38-2	Arsenic	42.6			F	
7440-39-3	Barium	272			P	
7440-41-7	Beryllium	0.20	U		P	
7440-43-9	Cadmium	2.7	U	N	P	UJ
7440-70-2	Calcium	45200			P	
7440-47-3	Chromium	2.1	U		P	
7440-48-4	Cobalt	2.6	U		P	
7440-50-8	Copper	1.1	U		P	
7439-89-6	Iron	3840			P	
7439-92-1	Lead	1.2	U	N	F	UJ
7439-95-4	Magnesium	22600			P	
7439-96-5	Manganese	1740			P	
7439-97-6	Mercury	0.10	U		AV	
7440-02-0	Nickel	6.7	B		P	U
7440-09-7	Potassium	3200	B		P	LT
7782-49-2	Selenium	2.2	U	W	F	UJ
7440-22-4	Silver	2.9	U		P	
7440-23-5	Sodium	202000			P	
7440-28-0	Thallium	1.6	U		F	
7440-62-2	Vanadium	7.6	B		P	LT
7440-66-6	Zinc	1.1	U		P	
7440-31-5	Tin				NR	

YB 11/7/94

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994

Sample No. : 279209

NET Job No.: 94.07781

Sample Description: DU-03-S; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 11:15
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<0.1 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

yb 11/7/94

MX : A 10x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-03-S
V06404

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-04

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >CR404

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/17/94 11:24

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data validation qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1.1	J	B
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	2.4	J	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-03-S
V06404

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >CR404

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/17/94 11:24

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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EPA SAMPLE #

WET CHEMISTRY ANALYSES DATA SHEET

DU-04-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010___

Matrix (soil/water): WATER Lab Sample ID: B410064-11C

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration units : UG/L_

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	24.4			WC
420.1	Phenolics	62.5	U		WC
325.2	Chloride	44000			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	9900			WC
415.1	TOC	17000			WC

yp 11/4/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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WET CHEMISTRY FORM I

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-04-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010___

Matrix (soil/water): WATER Lab Sample ID: B410064-11B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	109	B	E	P	J
7440-36-0	Antimony	21.5	B		P	LT
7440-38-2	Arsenic	5.1	B		F	LT
7440-39-3	Barium	348			P	
7440-41-7	Beryllium	0.20	U		P	
7440-43-9	Cadmium	2.7	U	N	P	UJ
7440-70-2	Calcium	123000			P	
7440-47-3	Chromium	4.6	B		P	LT
7440-48-4	Cobalt	2.6	U		P	
7440-50-8	Copper	8.9	B		P	LT
7439-89-6	Iron	1910			P	
7439-92-1	Lead	3.2		N	F	J
7439-95-4	Magnesium	51600			P	
7439-96-5	Manganese	392			P	
7439-97-6	Mercury	0.10	U		AV	
7440-02-0	Nickel	8.2	B		P	U
7440-09-7	Potassium	6640			P	
7782-49-2	Selenium	11.0	U	W	F	UJ
7440-22-4	Silver	2.9	U		P	
7440-23-5	Sodium	181000			P	
7440-28-0	Thallium	1.6	U		F	
7440-62-2	Vanadium	13.5	B		P	LT
7440-66-6	Zinc	1.6	B		P	U
7440-31-5	Tin				NR	

JB 11/7/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994

Sample No. : 279213

NET Job No.: 94.07781

Sample Description: DU-04-S; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 12:35
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<0.1 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

YB 11/7/94

MX : A 10x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-04-S-01
V06407

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-07

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C0647

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/14/94 20:27

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data validator Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1.7	~~JB~~	B
67-64-1	Acetone	8.7	~~J~~	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-04-S-01
V06407

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-07

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C0647

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/14/94 20:27

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

DU-04-S-02
V06408

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-08

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C0648

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/14/94 21:00

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1.8	~~JB~~	B
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-04-S-02
V06408

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-08

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C0648

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/14/94 21:00

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-04-S-03
V06409

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-09

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C0649

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/14/94 21:33

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1.7	~~JB~~	B
67-64-1	Acetone	5.0	~~J~~	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	5.1	J	

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-04-S-03
V06409

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-09

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C0649

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/14/94 21:33

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-04-S-04
V06410

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-10

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C6410

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/14/94 22:06

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1.7	~~JB~~	B
67-64-1	Acetone	7.8	~~J~~	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	22		

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-04-S-04
V06410

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-10

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C6410

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/14/94 22:06

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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WET CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE #: DU-05-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: Case No.: SAS No.: SDG No.: 010

Matrix (soil/water): WATER Lab Sample ID: B410064-12C

Level (low/med): LOW Date Received: 10/05/94

% Solids: 0.0

Concentration units : UG/L

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	51.0			WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	34000			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	15000			WC
415.1	TOC	16000			WC

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

WET CHEMISTRY FORM I

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-05-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010___

Matrix (soil/water): WATER Lab Sample ID: B410064-12B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	18.6	B	E	P	J
7440-36-0	Antimony	18.0	U		P	
7440-38-2	Arsenic	1.3	U		F	
7440-39-3	Barium	146	B		P	LT
7440-41-7	Beryllium	0.20	U		P	
7440-43-9	Cadmium	2.7	U	N	P	UJ
7440-70-2	Calcium	63000			P	
7440-47-3	Chromium	2.1	U		P	
7440-48-4	Cobalt	3.6	B		P	LT
7440-50-8	Copper	1.3	B		P	LT
7439-89-6	Iron	915			P	
7439-92-1	Lead	1.2	U	WN	F	UJ
7439-95-4	Magnesium	22600			P	
7439-96-5	Manganese	5380			P	
7439-97-6	Mercury	0.10	U		AV	
7440-02-0	Nickel	21.6	B		P	U
7440-09-7	Potassium	7830			P	
7782-49-2	Selenium	2.2	U	W	F	UJ
7440-22-4	Silver	2.9	U		P	
7440-23-5	Sodium	120000			P	
7440-28-0	Thallium	1.6	U		F	
7440-62-2	Vanadium	9.3	B		P	LT
7440-66-6	Zinc	1.1	U		P	
7440-31-5	Tin				NR	

YC 11/14/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994

Sample No. : 279214

NET Job No.: 94.07781

Sample Description: DU-05-S; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 12:17
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<0.1 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

JB 11/7/94

MX : A 10x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-05-S
V06412

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-12

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C6412

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/14/94 22:39

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	2.6	~~JB~~	B
67-64-1	Acetone	5.4	~~J~~	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-05-S
V06412

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-12

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C6412

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/14/94 22:39

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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EPA SAMPLE #

WET CHEMISTRY ANALYSES DATA SHEET

DU-06-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010__

Matrix (soil/water): WATER Lab Sample ID: B410064-13C

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration units : UG/L_

Method No	Analyte	Concentration	C	Q	M	Data validation qualifier
450.1	TOX	7.6			WC	U
420.1	Phenolics	50.0	U		WC	
325.2	Chloride	10000			WC	
376.2	Sulfide	50.0	U		WC	
375.4	Sulfate	6000			WC	
415.1	TOC	8300			WC	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

WET CHEMISTRY FORM I

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-06-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010___

Matrix (soil/water): WATER Lab Sample ID: B410064-13B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	Data validation qualifiers
7429-90-5	Aluminum	17.8	B	E	P	J
7440-36-0	Antimony	22.5	B		P	LT
7440-38-2	Arsenic	9.3	B		F	LT
7440-39-3	Barium	242			P	
7440-41-7	Beryllium	0.20	U		P	
7440-43-9	Cadmium	2.7	U	N	P	UJ
7440-70-2	Calcium	56100			P	
7440-47-3	Chromium	2.1	U		P	
7440-48-4	Cobalt	3.0	B		P	LT
7440-50-8	Copper	1.4	B		P	LT
7439-89-6	Iron	3240			P	
7439-92-1	Lead	1.2	U	N	F	UJ
7439-95-4	Magnesium	26400			P	
7439-96-5	Manganese	3940			P	
7439-97-6	Mercury	0.10	U		AV	
7440-02-0	Nickel	7.1	B		P	U
7440-09-7	Potassium	3250	B		P	LT
7782-49-2	Selenium	2.2	U	W	F	UJ
7440-22-4	Silver	2.9	U		P	
7440-23-5	Sodium	96600			P	
7440-28-0	Thallium	1.6	U		F	
7440-62-2	Vanadium	10.5	B		P	LT
7440-66-6	Zinc	1.1	U		P	
7440-31-5	Tin				NR	

4/30/1/7/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994

Sample No. : 279215

NET Job No.: 94.07781

Sample Description: DU-06-S; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 13:15
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<0.1 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

MB 11/7/94

MX : A 10x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-06-S
V06413

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-13

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C6413

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/14/94 23:12

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	2.4	JB	B
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-D6-S
V06413

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-13

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C6413

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/14/94 23:12

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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EPA SAMPLE #

DU-07-S

WET CHEMISTRY ANALYSES DATA SHEET

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010___

Matrix (soil/water): WATER Lab Sample ID: B410064-14B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration units : UG/L_

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	19.6			WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	11000			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	5000	U		WC
415.1	TOC	5900			WC

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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WET CHEMISTRY FORM I

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-07-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010___

Matrix (soil/water): WATER Lab Sample ID: B410064-14B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifiers
7429-90-5	Aluminum	7.7	U	E	P	UJ
7440-36-0	Antimony	18.0	U		P	
7440-38-2	Arsenic	1.3	U		F	
7440-39-3	Barium	254			P	
7440-41-7	Beryllium	0.20	U		P	
7440-43-9	Cadmium	2.7	U	N	P	UJ
7440-70-2	Calcium	103000			P	
7440-47-3	Chromium	2.1	U		P	
7440-48-4	Cobalt	3.3	B		P	LT
7440-50-8	Copper	1.1	U		P	
7439-89-6	Iron	5260			P	
7439-92-1	Lead	1.2	U	N	F	UJ
7439-95-4	Magnesium	37100			P	
7439-96-5	Manganese	1040			P	
7439-97-6	Mercury	0.10	U		AV	
7440-02-0	Nickel	11.9	B		P	U
7440-09-7	Potassium	11000			P	
7782-49-2	Selenium	2.2	U	W	F	UJ
7440-22-4	Silver	2.9	U		P	
7440-23-5	Sodium	68000			P	
7440-28-0	Thallium	1.6	U		F	
7440-62-2	Vanadium	11.8	B		P	LT
7440-66-6	Zinc	1.1	U		P	
7440-31-5	Tin				NR	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994

Sample No. : 279216

NET Job No.: 94.07781

Sample Description: DU-07-S; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<0.1 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

UB 11/7/94

MX : A 10x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

OCEAN GROUP

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-07-S
V06414

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-14

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C6414

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/14/94 23:45

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	2.6	~~JB~~	B
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	2.2	J	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-07-S
V06414

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-14

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C6414

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/14/94 23:45

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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6.					
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WET CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE #: DU-08-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010___

Matrix (soil/water): WATER Lab Sample ID: B410064-16B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration units : UG/L_

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	1750			WC
420.1	Phenolics	96.4			WC
325.2	Chloride	680000			WC
376.2	Sulfide	140000			WC
375.4	Sulfate	25000	U		WC
415.1	TOC	210000			WC

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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WET CHEMISTRY FORM I

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-08-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010__

Matrix (soil/water): WATER Lab Sample ID: 8410064-16B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	Data Validation Qualifier
7429-90-5	Aluminum	612	B	E	P	J
7440-36-0	Antimony	180	U		P	
7440-38-2	Arsenic	185			F	
7440-39-3	Barium	582	B		P	LT
7440-41-7	Beryllium	2.0	U		P	
7440-43-9	Cadmium	27.0	U	N	P	UJ
7440-70-2	Calcium	112000			P	
7440-47-3	Chromium	98.4	B		P	LT
7440-48-4	Cobalt	126	B		P	LT
7440-50-8	Copper	11.0	U		P	
7439-89-6	Iron	1830			P	
7439-92-1	Lead	1.2	U	+N	F	UJ
7439-95-4	Magnesium	54500			P	
7439-96-5	Manganese	630			P	
7439-97-6	Mercury	0.10	U		AV	
7440-02-0	Nickel	597			P	
7440-09-7	Potassium	5660	U		P	
7782-49-2	Selenium	22.0	U	W	F	UJ
7440-22-4	Silver	29.0	U		P	
7440-23-5	Sodium	2210000			P	
7440-28-0	Thallium	1.6	U	W	F	UJ
7440-62-2	Vanadium	144	B		P	LT
7440-66-6	Zinc	66.6	B		P	LT
7440-31-5	Tin				NR	

YB 1/11/94

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994

Sample No. : 279217

NET Job No.: 94.07781

Sample Description: DU-08-S; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 09:15
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<10 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

10/11/94

MX : A 1000x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-08-S
V06416

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-16

Sample wt/vol: 0.1 (g/ml) ML Lab File ID: >CR416

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/17/94 14:27

Column: (pack/cap) CAP Dilution Factor: 50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	500	U	
74-83-9	Bromomethane	500	U	
75-01-4	Vinyl Chloride	500	U	
75-00-3	Chloroethane	500	U	
75-09-2	Methylene Chloride	74	~~J~~	B B
67-64-1	Acetone	530		
75-15-0	Carbon Disulfide	180	J	
75-35-4	1,1-Dichloroethene	250	U	
75-34-3	1,1-Dichloroethane	250	U	
540-59-0	1,2-Dichloroethene (total)	250	U	
67-66-3	Chloroform	250	U	
107-06-2	1,2-Dichloroethane	250	U	
108-05-4	Vinyl Acetate	500	U	
78-93-3	2-Butanone	500	U	
71-55-6	1,1,1-Trichloroethane	250	U	
56-23-5	Carbon Tetrachloride	250	U	
75-27-4	Bromodichloromethane	250	U	
78-87-5	1,2-Dichloropropane	250	U	
10061-01-5	cis-1,3-Dichloropropene	250	U	
79-01-6	Trichloroethene	250	U	
124-48-1	Dibromochloromethane	250	U	
79-00-5	1,1,2-Trichloroethane	250	U	
71-43-2	Benzene	250	U	
10061-02-6	Trans-1,3-Dichloropropene	250	U	
75-25-2	Bromoform	250	U	
108-10-1	4-Methyl-2-Pentanone	250	U	
591-78-6	2-Hexanone	500	U	
127-18-4	Tetrachloroethene	500	U	
79-34-5	1,1,2,2-Tetrachloroethane	250	U	
108-88-3	Toluene	810		
108-90-7	Chlorobenzene	250	U	
100-41-4	Ethylbenzene	250	U	
100-42-5	Styrene	250	U	
1330-20-7	Xylenes (total)	250	U	
109-99-9	Tetrahydrofuran	55000	E	5400

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-08-S
V06416

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-16

Sample wt/vol: 0.10 (g/mL) ML Lab File ID: >CR416

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/17/94 14:27

Column: (pack/cap) CAP Dilution Factor: 50

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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EPA SAMPLE #

WET CHEMISTRY ANALYSES DATA SHEET

DU-09-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010__

Matrix (soil/water): WATER Lab Sample ID: B410064-17B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration units : UG/L_

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	5.0	U		WC
420.1	Phenolics	50.0	U		WC
325.2	Chloride	94000			WC
376.2	Sulfide	50.0	U		WC
375.4	Sulfate	5000	U		WC
415.1	TOC	4470			WC

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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WET CHEMISTRY FORM I

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-09-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010___

Matrix (soil/water): WATER Lab Sample ID: B410064-17B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M	Data validation Qualifier
7429-90-5	Aluminum	75.8	B	E	P	J
7440-36-0	Antimony	19.4	B		P	LT
7440-38-2	Arsenic	20.6			F	
7440-39-3	Barium	170	B		P	LT
7440-41-7	Beryllium	0.20	U		P	
7440-43-9	Cadmium	2.7	U	N	P	UJ
7440-70-2	Calcium	89900			P	
7440-47-3	Chromium	2.1	U		P	
7440-48-4	Cobalt	6.5	B		P	LT
7440-50-8	Copper	1.4	B		P	LT
7439-89-6	Iron	10500			P	
7439-92-1	Lead	1.2	U	N	F	UJ
7439-95-4	Magnesium	38600			P	
7439-96-5	Manganese	742			P	
7439-97-6	Mercury	0.10	U		AV	
7440-02-0	Nickel	47.7			P	
7440-09-7	Potassium	1260	B		P	LT
7782-49-2	Selenium	2.2	U	W	F	UJ
7440-22-4	Silver	2.9	U		P	
7440-23-5	Sodium	127000			P	
7440-28-0	Thallium	1.6	U		F	
7440-62-2	Vanadium	10.3	B		P	LT
7440-66-6	Zinc	2.8	B		P	LT
7440-31-5	Tin				NR	

LPD 1/7/04

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994

Sample No. : 279218

NET Job No.: 94.07781

Sample Description: DU-09-S; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 13:00
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<0.1 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

YB 11/7/94

MX : A 10x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-09-S
V06417

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-17

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >CR417

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/17/94 13:21

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	1.1	J	B
67-64-1	Acetone	12		B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	1.7	J	
109-99-9	Tetrahydrofuran	~~510~~ 540	E	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-09-S
V06417

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-17

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >CR417

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/17/94 13:21

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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EPA SAMPLE #

WET CHEMISTRY ANALYSES DATA SHEET

DU-10-S

Lab Name: QUANTERRA_AUSTIN Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 010___

Matrix (soil/water): WATER Lab Sample ID: B410064-18B

Level (low/med): LOW__ Date Received: 10/05/94

% Solids: __0.0

Concentration units : UG/L_

Method No	Analyte	Concentration	C	Q	M
450.1	TOX	1760			WC
420.1	Phenolics	408			WC
325.2	Chloride	340000			WC
376.2	Sulfide	16000			WC
375.4	Sulfate	50000	U		WC
415.1	TOC	24500			WC

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

WET CHEMISTRY FORM I

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

DU-10-S

Lab Name: QUANTERRA_AUSTIN Contract:

Lab Code: Case No.: SAS No.: SDG No.: 010

Matrix (soil/water): WATER Lab Sample ID: B410064-188

Level (low/med): LOW Date Received: 10/05/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	Data validator Qualifier
7429-90-5	Aluminum	1280	B	E	P	J
7440-36-0	Antimony	360	U		P	
7440-38-2	Arsenic	1680			F	
7440-39-3	Barium	441	B		P	LT
7440-41-7	Beryllium	4.0	U		P	
7440-43-9	Cadmium	54.0	U	N	P	UJ
7440-70-2	Calcium	13600	B		P	LT
7440-47-3	Chromium	165	B		P	LT
7440-48-4	Cobalt	402	B		P	LT
7440-50-8	Copper	34.7	B		P	LT
7439-89-6	Iron	9100			P	
7439-92-1	Lead	31.6		N	F	J
7439-95-4	Magnesium	41600	B		P	LT
7439-96-5	Manganese	409			P	
7439-97-6	Mercury	0.33			AV	
7440-02-0	Nickel	2920			P	
7440-09-7	Potassium	11300	U		P	
7782-49-2	Selenium	22.0	U		F	
7440-22-4	Silver	58.0	U		P	
7440-23-5	Sodium	4190000			P	
7440-28-0	Thallium	1.6	U	W	F	UJ
7440-62-2	Vanadium	1240			P	
7440-66-6	Zinc	70.3	B		P	LT
7440-31-5	Tin				NR	

YBall 1/94

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 W. Bartlett Rd.
Bartlett, IL 60103
Tel: (708) 289-3100
Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. David Shekoski
CH2M HILL
411 E. Wisconsin Ave.
Suite 1600
Milwaukee, WI 53202

10/10/1994
Sample No. : 279240
NET Job No.: 94.07781

Sample Description: DU-10-S; Grab
DuPont-Todtz Farm

Date Taken: 10/04/1994
Time Taken: 13:55
IEPA Cert. No. 100221

Date Received: 10/04/1994
Time Received: 18:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Chromium, hexavalent	<10 U	MX	mg/L	10/04/1994	0.01	dsf	628	3500D(4) 7196(1)

JSB 11/7/94

MX : A 1000x dilution was required due to sample matrix; analyte is not detected.
See Case Narrative

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DU-10-S
V06418

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-18

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >CR418

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/17/94 13:54

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data validation qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	5.0	U	
67-64-1	Acetone	43		B
75-15-0	Carbon Disulfide	39		
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	1.3	J	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	11		
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	4.9	J	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	360	E	SGC

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DU-10-S
V06418

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-18

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >CR418

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/17/94 13:54

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIP BLANK 01
V06419

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-19

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C6419

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. Date Analyzed: 10/15/94 01:58

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifiers
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	2.6	JB	DSP B
67-64-1	Acetone	6.1	J	B
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	1.2	J	DSP J
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	1.4	J	DSP J
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRIP BLANK 01
V06419

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 010

Matrix: (soil/water) WATER Lab Sample ID: B410064-19

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C6419

Level: (low/med) LOW Date Received: 10/05/94

% Moisture: not dec. 0 Date Analyzed: 10/15/94 01:58

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/l or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

January 1995 Sampling Event

MKE100147D9.WP5/12

TECHNICAL MEMORANDUM

CH2MHILL

PREPARED FOR: Chris Lawrence/PHL

PREPARED BY: Lori Bootz

COPIES: Chris Ohland/GLR

DATE: February 15, 1995

SUBJECT: DuPont Impoundment Operable Unit
Todtz Farm Landfill NPL Site
January 1995 Sampling Data Validation

PROJECT: GLE24319.E2.02

Introduction

One sample from monitoring well DU-05-S and a trip blank were collected on January 24, 1995. Samples were sent to Quanterra laboratory (formerly IT Analytical Services - ITAS) by overnight delivery to Austin, Texas for testing of selected volatile organic compounds.

Data validation was performed by CH2M HILL to determine if overall project objectives were met. Analytical deficiencies associated with the data are presented below.

Volatile Organics

No major problems were encountered.

Methylene chloride was detected in DU-05-S at a concentration well below the method reporting limits. Methylene chloride is used routinely in the laboratory as an extraction solvent and may have entered the field sample as a laboratory contaminant. While methylene chloride was not measured and reported in the QC samples associated with the samples, Quanterra frequently detects methylene chloride at 10-ug/L in the method blanks. DU-05-S was qualified for methylene chloride as blank contaminated ("B").

DuPont Impoundment Operable Unit
Todtz Farm Landfill NPL Site
January 1995 Validated Analytical Results Summary

Field Sample Identification:	DU-05-S	TRIP BLANK-01
Date of Sample Collection:	1/24/95	1/24/95
Laboratory Sample Identification:	V29201	V29204
Conventional Parameters (mg/L)		
Total Organic Halides	NA	NA
Phenolics	NA	NA
Chloride	NA	NA
Sulfide	NA	NA
Sulfate	NA	NA
Total Organic Carbon	NA	NA
Metal Parameters (µg/L)		
Aluminum	NA	NA
Antimony	NA	NA
Arsenic	NA	NA
Barium	NA	NA
Beryllium	NA	NA
Cadmium	NA	NA
Calcium	NA	NA
Chromium	NA	NA
Cobalt	NA	NA
Copper	NA	NA
Iron	NA	NA
Lead	NA	NA
Magnesium	NA	NA
Manganese	NA	NA
Mercury	NA	NA
Nickel	NA	NA
Potassium	NA	NA
Selenium	NA	NA
Silver	NA	NA
Sodium	NA	NA
Thallium	NA	NA
Vanadium	NA	NA
Zinc	NA	NA
Volatile Organic Parameters (µg/L)		
Chloromethane	10 U	10 U
Bromomethane	10 U	10 U
Vinyl Chloride	10 U	10 U
Chloroethane	10 U	10 U
Methylene Chloride	0.5 B	5.0 U
Acetone	10 U	10 U
Carbon Disulfide	5.0 U	5.0 U
1,1-Dichloroethene	5.0 U	5.0 U
1,1-Dichloroethane	5.0 U	5.0 U
1,2-Dichloroethene (total)	5.0 U	5.0 U
Chloroform	5.0 U	5.0 U
1,2-Dichloroethane	5.0 U	5.0 U
2-Butanone	10 U	10 U
1,1,1-Trichloroethane	5.0 U	5.0 U
Carbon Tetrachloride	5.0 U	5.0 U
Vinyl Acetate	10 U	10 U
Bromodichloromethane	5.0 U	5.0 U
1,2-Dichloropropane	5.0 U	5.0 U
cis 1,3 Dichloropropene	5.0 U	5.0 U
Trichloroethene	5.0 U	5.0 U
Dibromochloromethane	5.0 U	5.0 U
1,1,2-Trichloroethane	5.0 U	5.0 U
Benzene	5.0 U	5.0 U
trans 1,3-Dichloropropene	5.0 U	5.0 U
Bromoform	5.0 U	5.0 U
4-Methyl-2-Pentanone	10 U	10 U
2-Hexanone	10 U	10 U
Tetrachloroethene	10 U	10 U
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U
Toluene	5.0 U	5.0 U
Chlorobenzene	5.0 U	5.0 U
Ethylbenzene	5.0 U	5.0 U
Styrene	5.0 U	5.0 U
Xylene (total)	5.0 U	5.0 U
Tetrahydrofuran	10 U	10 U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V29201
DU-05-S

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 011

Matrix: (soil/water) WATER Lab Sample ID: B501292-01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >E2921

Level: (low/med) LOW Date Received: 01/25/95

% Moisture: not dec. Date Analyzed: 01/31/95 08:03

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	0.5	J	B
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

yp 2/15/95

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

V29204
Trip Blank

Lab Name: QUANTERRA, AUSTIN Contract: TODTZ FARM

Lab Code: QTR Case No.: SAS No.: SDG No.: 011

Matrix: (soil/water) WATER Lab Sample ID: B501292-04

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >E2924

Level: (low/med) LOW Date Received: 01/25/95

% Moisture: not dec. Date Analyzed: 01/31/95 07:35

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q	Data Validation Qualifier
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	U	
75-01-4	Vinyl Chloride	10	U	
75-00-3	Chloroethane	10	U	
75-09-2	Methylene Chloride	5.0	U	
67-64-1	Acetone	10	U	
75-15-0	Carbon Disulfide	5.0	U	
75-35-4	1,1-Dichloroethene	5.0	U	
75-34-3	1,1-Dichloroethane	5.0	U	
540-59-0	1,2-Dichloroethene (total)	5.0	U	
67-66-3	Chloroform	5.0	U	
107-06-2	1,2-Dichloroethane	5.0	U	
108-05-4	Vinyl Acetate	10	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5.0	U	
56-23-5	Carbon Tetrachloride	5.0	U	
75-27-4	Bromodichloromethane	5.0	U	
78-87-5	1,2-Dichloropropane	5.0	U	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	
79-01-6	Trichloroethene	5.0	U	
124-48-1	Dibromochloromethane	5.0	U	
79-00-5	1,1,2-Trichloroethane	5.0	U	
71-43-2	Benzene	5.0	U	
10061-02-6	Trans-1,3-Dichloropropene	5.0	U	
75-25-2	Bromoform	5.0	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	
108-88-3	Toluene	5.0	U	
108-90-7	Chlorobenzene	5.0	U	
100-41-4	Ethylbenzene	5.0	U	
100-42-5	Styrene	5.0	U	
1330-20-7	Xylenes (total)	5.0	U	
109-99-9	Tetrahydrofuran	10	U	

APPENDIX C

HISTORICAL SAMPLING SUMMARY

DuPont Impoundment Operable Unit
Lawrence Todtz Farm Landfill NPL Site
October 1994 Validated Analytical Results Summary

Field Sample Identification:	DU-01-S	DU-02-S	DU-02-S-FR	DU-03-S	DU-04-S	DU-04-S-01	DU-04-S-02	DU-04-S-03	DU-04-S-04	DU-05-S	DU-06-S	DU-07-S	DU-08-S	DU-09-S	DU-10-S	TRIP BLANK
Date of Sample Collection:	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94	10/4/94
Laboratory Sample Identification:	B410064-01	B410064-02	B410064-03	B410064-04	B410064-11	B410064-07	B410064-08	B410064-09	B410064-10	B410064-12	B410064-13	B410064-14	B410064-16	B410064-17	B410064-18	B410064-19
Conventional Parameters (mg/L)																
Total Organic Halides	0.005 U	0.005 U	0.005 U	0.051	0.024	NA	NA	NA	NA	0.051	0.008 U	0.02	1.75	0.005 U	1.76	NA
Phenolics	0.05 U	0.05 U	0.05 U	0.05 U	0.06 U	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.096	0.05 U	0.408	NA
Chloride	17	6.4	6.5	12.5	44	NA	NA	NA	NA	34	10	11	680	94	340	NA
Sulfide	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	140	0.05 U	16	NA
Sulfate	45	5.3	5 U	13.5	9.9	NA	NA	NA	NA	15	6	5 U	25 U	5 U	50 U	NA
Total Organic Carbon	1 U	3.4	3.4	10.2	17	NA	NA	NA	NA	16	8.3	5.9	210	4.47	24.5	NA
Total Metals (µg/L)																
Aluminum	8070 J	49.7 J	28.4 J	13.1 J	109 J	NA	NA	NA	NA	18.6 J	17.8 J	7.7 UJ	612 J	75.8 J	1280 J	NA
Antimony	18 U	18 U	18 U	18 U	21.5 LT	NA	NA	NA	NA	18 U	22.5 LT	18 U	180 U	19.4 LT	360 U	NA
Arsenic	4.6 LT	52.6	52.2	42.6	5.1 LT	NA	NA	NA	NA	1.3 U	9.3 LT	1.3 U	185	20.6	1680	NA
Barium	166 LT	556	555	272	348	NA	NA	NA	NA	146 LT	242	254	582 LT	170 LT	441 LT	NA
Beryllium	0.37 LT	0.2 U	0.2 U	0.2 U	0.2 U	NA	NA	NA	NA	0.2 U	0.2 U	0.2 U	2 U	0.2 U	4 U	NA
Cadmium	2.7 UJ	2.7 UJ	2.7 UJ	2.7 UJ	2.7 UJ	NA	NA	NA	NA	2.7 UJ	2.7 UJ	2.7 UJ	27 UJ	2.7 UJ	54 UJ	NA
Calcium	52700	43600	42500	45200	123000	NA	NA	NA	NA	63000	56100	103000	112000	89900	13600 LT	NA
Chromium	11.2	2.1 U	2.1 U	2.1 U	4.6 LT	NA	NA	NA	NA	2.1 U	2.1 U	2.1 U	98.4 LT	2.1 U	165 LT	NA
Chromium (VI)	100 U	100 U	100 U	100 U	100 U	NA	NA	NA	NA	100 U	100 U	100 U	10000 U	100 U	10000 U	NA
Cobalt	10.1 LT	2.6 U	2.6 U	2.6 U	2.6 U	NA	NA	NA	NA	3.6 LT	3 LT	3.3 LT	126 LT	6.5 LT	402 LT	NA
Copper	18 LT	1.1 U	1.1 U	1.1 U	8.9 LT	NA	NA	NA	NA	1.3 LT	1.4 LT	1.1 U	11 U	1.4 LT	34.7 LT	NA
Iron	14300	2200	2140	3840	1910	NA	NA	NA	NA	915	3240	5260	1830	10500	9100	NA
Lead	7.3 J	1.2 UJ	1.2 UJ	1.2 UJ	3.2 J	NA	NA	NA	NA	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.2 UJ	31.6 J	NA
Magnesium	19900	28000	27600	22600	51600	NA	NA	NA	NA	22600	26400	37100	54500	38600	41600 LT	NA
Manganese	802	1800	1770	1740	392	NA	NA	NA	NA	5380	3940	1040	630	742	409	NA
Mercury	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.33	NA
Nickel	31 U	4.7 U	5.7 U	6.7 U	8.2 U	NA	NA	NA	NA	21.6 U	7.1 U	11.9 U	597	47.7	2920	NA
Potassium	2910 LT	1470 LT	1470 LT	3200 LT	6640	NA	NA	NA	NA	7830	3250 LT	11000	5660 U	1260 LT	11300 U	NA
Selenium	2.2 U	2.2 UJ	2.2 UJ	2.2 UJ	11 UJ	NA	NA	NA	NA	2.2 UJ	2.2 UJ	2.2 UJ	22 UJ	2.2 UJ	22 U	NA
Silver	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	NA	NA	NA	NA	2.9 U	2.9 U	2.9 U	29 U	2.9 U	58 U	NA
Sodium	8610	81900	81000	202000	181000	NA	NA	NA	NA	120000	96600	68000	2210000	127000	4190000	NA
Thallium	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	NA	NA	NA	NA	1.6 U	1.6 U	1.6 U	1.6 UJ	1.6 U	1.6 UJ	NA
Vanadium	9.5 LT	7.2 U	3.9 U	7.6 LT	13.5 LT	NA	NA	NA	NA	9.3 LT	10.5 LT	11.8 LT	144 LT	10.3 LT	1240	NA
Zinc	26.7	1.1 U	1.1 U	1.1 U	1.6 U	NA	NA	NA	NA	1.1 U	1.1 U	1.1 U	66.6 LT	2.8 LT	70.3 LT	NA
Volatile Organic Parameters (µg/L)																
Chloromethane	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	500 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	500 U	10 U	10 U	10 U
Vinyl Chloride	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	500 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	500 U	10 U	10 U	10 U
Methylene Chloride	1.5 B	1.4 B	1.4 B	1.1 B	NA	1.7 B	1.8 B	1.7 B	1.7 B	2.6 B	2.4 B	2.6 B	74 B	1.1 B	5 U	2.6 B
Acetone	10 U	10 U	10 U	10 U	NA	8.7 B	10 U	5 B	7.8 B	5.4 B	10 U	10 U	530 B	12 B	43 B	6.1 B
Carbon Disulfide	5 U	5.8	4.5 J	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	180 J	5 U	39	5 U
1,1-Dichloroethene	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
1,2-Dichloroethene (total)	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
Chloroform	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
2-Butanone	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	500 U	10 U	10 U	10 U
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
Carbon Tetrachloride	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
Vinyl Acetate	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	500 U	10 U	10 U	10 U
Bromodichloromethane	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
1,2-Dichloropropane	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
cis 1,3 Dichloropropene	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
Dibromochloromethane	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	1.2 J
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
Benzene	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	1.3 J	5 U
trans 1,3-Dichloropropene	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	1.4 J
4-Methyl-2-Pentanone	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U	10 U	11	10 U
2-Hexanone	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	500 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	500 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
Toluene	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	810	5 U	4.9 J	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	2.2 J	250 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	5 U	5 U	5 U
Xylene (total)	5 U	5 U	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	250 U	1.7 J	5 U	5 U
Tetrahydrofuran	10 U	10 U	4.6 J	2.4 J	NA	10 U	10 U	5.1 J	22	10 U	10 U	10 U	54000	540	560	10 U

DuPont Impoundment Operable Unit
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Sample Number		DU-10-S	DU-10-S01	DUFR10S01	DU-10-S	DU-10-S	DU-10-S	DU-10-S	DU-10-S	DU-10-S	JB01D01	JB01D02	JB01D03	JB01D	JB01D	JB-01-D	JB-01-D	JB-01-D
Date Sampled		3/29/88	7/31/91	7/31/91	1/30/92	7/29/92	04/27/93	10/12/93	4/25/94	10/4/94	7/30/91	7/30/91	7/30/91	1/30/92	7/29/92	04/27/93	10/12/93	4/25/94
Detected Analytes		Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q
Aluminum, Total	µg/L	350	114 LT	96 LT	150 J	219	1210 LT			1280 J						17.1 LT	26.9 J	
Antimony, Total	µg/L																	
ARSENIC, Total	µg/L	1500	2490	2210	2350	2400	1980	1640	1980	1680								
Barium, Total	µg/L	440	760	970	1200	643	580 LT	653 LT	433 LT	441 LT					10 LT	17.2 LT	19.9 LT	18.8 LT
Beryllium, Total	µg/L	1 J		1.6 LT	1.4 J	3.2 LT												
Cadmium, Total	µg/L																	
Calcium, Total	µg/L	8300	9000	13000	12000	9120	10500 LT	12300 LT	7380 LT	13600 LT	57000 J	52000 J	52000 J	59000	55500	55300	60300	56700
Chromium, Total	µg/L	140	320	270	350	200	156	40.7 LT	157	165 LT								
CHROMIUM (VI), Total	µg/L																	
Cobalt, Total	µg/L	530	520	260	570	513	414 LT	95.7 LT	480 LT	402 LT								
Copper, Total	µg/L	6 J		5.9 LT	8.9 J	29.9				34.7 LT	21 LT	22 LT	44		10.4 LT	5.2 LT	8.3 LT	12.6 LT
Iron, Total	µg/L	1500	10500	940	1300	1180	862 LT	903 LT	892 LT	9100	180	160	160	210	379	270	108	130
Lead, Total	µg/L	6 J	31	33	34	15 J	13.8	34.8		31.6 J	12	13	13	5.5	2.2 LT		1.9 LT	
Magnesium, Total	µg/L	2300	8600	22000	14000	11700	18300 LT	30400 LT	6570 LT	41600 LT	38000	34000	34000	38000	37300	39200	38100	36900
Manganese, Total	µg/L	260	490	780	640	509	455	519	285	409	13 LT	5.5 LT	5.7 LT	44	19.6	23	3.8 LT	4.4 LT
Mercury, Total	µg/L	1 J	0.4	0.57	0.89	0.81	0.68	0.51	0.93	0.33								
Nickel, Total	µg/L	2300	4000	3100	3600	3510	2770	1280	2880	2920								
Potassium, Total	µg/L	1200	2420 LT	3000 LT	2500 J	2190 LT									671 LT	833 LT		
Selenium, Total	µg/L	10			4.6 J	6.94 LT	7.2 LT										2.1 J	
Silver, Total	µg/L		6.31 LT	3.8 LT								2 LT	2.7 LT					
Sodium, Total	µg/L	5350000	6540000	5520000	6080000 LT	5830000 J	4810000	3410000	5250000	4190000	4500 LT	4000 LT	4000 LT	4000 LT	4350 LT	4670 LT	4590 LT	4230 LT
Thallium, Total	µg/L																	
Vanadium, Total	µg/L	1200	2600	2300	2700	2230	1800	1260	1840	1240								
Zinc, Total	µg/L	500	139	130	140	119	61 LT	56.1 LT	90.3 LT	70.3 LT	270	230	300	500	129	156	354	198
Aluminum, Soluble	µg/L		120 LT	110 LT	170 J	135 LT		NA	NA	NA						33.3 LT	NA	NA
Antimony, Soluble	µg/L		12 LT		17 J			NA	NA	NA							NA	NA
ARSENIC, Soluble	µg/L		2390	2260	2130	2130	1460	NA	NA	NA							NA	NA
Barium, Soluble	µg/L		740	690	880	749	493 LT	NA	NA	NA					4.44 LT	17.2 LT	NA	NA
Beryllium, Soluble	µg/L				4.4 J			NA	NA	NA							NA	NA
Calcium, Soluble	µg/L		8600	8000	13000	9530 J	8440 LT	NA	NA	NA	56000	58000	34000	57000	49400 J	54800	NA	NA
Chromium, Soluble	µg/L		310	300	310	162	109	NA	NA	NA							NA	NA
CHROMIUM (VI), Soluble	µg/L							NA	NA	NA							NA	NA
Cobalt, Soluble	µg/L		470	490	520	236	340 LT	NA	NA	NA							NA	NA
Copper, Soluble	µg/L		21 LT	10 LT	12 J	3.03 LT	14.9 LT	NA	NA	NA					3.31 LT	1.9 LT	NA	NA
Iron, Soluble	µg/L		990	880	1100	897	397 LT	NA	NA	NA	63 LT				83 LT	74.9 LT	NA	NA
Lead, Soluble	µg/L		35	34	42	30.6	25.4	NA	NA	NA	3	2.3 LT	1.3 LT	2 J	8.85	1 LT	NA	NA
Magnesium, Soluble	µg/L		7900	7100	22000	17400 J	15500 LT	NA	NA	NA	37000	38000	11000	37000	32800 J	37000	NA	NA
Manganese, Soluble	µg/L		500	460	760	547	436	NA	NA	NA				41	10.4 LT	19.2	NA	NA
Mercury, Soluble	µg/L		0.51	0.45	0.78	0.8	0.56	NA	NA	NA							NA	NA
Nickel, Soluble	µg/L		3800	3500	3400	2800	2230	NA	NA	NA							NA	NA
Potassium, Soluble	µg/L		4800 LT	2600 LT	2900 J	2420 LT		NA	NA	NA			1900 LT	5600	597 LT	847 LT	NA	NA
Selenium, Soluble	µg/L				3.8 J	4.86 LT		NA	NA	NA						1.7 LT	NA	NA
Silver, Soluble	µg/L				3.6 J			NA	NA	NA			6.5 LT				NA	NA
Sodium, Soluble	µg/L		5920000	5500000	5540000	5250000 J	4000000	NA	NA	NA	3100 LT	3300 LT	3700 LT		3660 LT	4260 LT	NA	NA
Thallium, Soluble	µg/L							NA	NA	NA							NA	NA
Vanadium, Soluble	µg/L		2400	2300	2300	2140	1520	NA	NA	NA						11.9 LT	NA	NA
Zinc, Soluble	µg/L		130	120	120	214	36.2 LT	NA	NA	NA	160	140		400	48	61	NA	NA
1,1,1-Trichloroethane	µg/L																	
1,1,2,2-Tetrachloroethene	µg/L																	
2-Butanone	µg/L						5 J											
2-Hexanone	µg/L						9 J											
4-Methyl-2-Pentanone	µg/L							8 J	9.4 J	11								
Acetone	µg/L		56.1	53.2		29 B	21		16	43 B								
Benzene	µg/L		2.3 J		2.43 J	2 J	1 J	2 J		1.3 J								
Bromoform	µg/L																	
CARBON DISULFIDE	µg/L	2350	52.9	55			16	13		39								
Chlorobenzene	µg/L																	
Ethylbenzene	µg/L																	
Methyl-iso-butyl ketone	µg/L		19.6	18.3	15.7													
Methylene chloride	µg/L		7.18 B	6.5 B		5 B	1 B		3.6 J						1 B			
Styrene	µg/L																	
TETRAHYDROFURAN	µg/L		428	378	300	340	190	240	290	560								
Toluene	µg/L		8.9 B	8.81 B	7.99	8 J	5	8 J	7.2 J	4.9 J								
Xylene (total)	µg/L																	
Chloride	mg/L	766	420	430	558	472	280	500	492	340	2.2	2	2.3	3.1	2.3	2.2	NA	NA
Phenolics, Total	mg/L		0.121	0.089		0.061		0.26 J	0.171	0.408							NA	NA
Sulfide as S	mg/L	1000	50	23	110	118	NA	89	96.3	16						84 J	NA	NA
Sulfate as SO4	mg/L	790	62.2	58	176	145	520	430			6.8	5.6	5.9	6.2	5.5	6.8	NA	NA
Total Organic Carbon	mg/L	2265	1335	1510	3345	1640	570	1200	1410	24.5	1.8	4.2	3.1	1.6	1.2		NA	NA
Total Organic Halides (TOX)	µg/L		2315	3110	2470	3850	590	2900	1550	1760	14	16	13.5		24	14	NA	NA

DuPont Impoundment Operable Unit
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Sample Number		DU-08-S		DU-08-S		DU-08-S01		DU-08-S		DU-08-S		DU-08-S		DU-08-S		DU-08-S		OU-08-S		DU-09-S		DU-09-S		DU-09-S01		DU90S		DU-09-S		DU-09-S		DU-09-S		DU-09-S		DU-09-S		DU-10-S	
Data Sampled		3/8/88		3/29/88		7/31/91		1/29/92		7/29/92		04/27/93		10/12/93		4/25/94		10/4/94		3/9/88		3/29/88		7/31/91		1/30/92		7/29/92		04/27/93		10/12/93		4/25/94		10/4/94		3/8/88	
Detected Analytes		Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q
Aluminum, Total	µg/L	310		390				420		124	LT	385	LT	801	LT	478	LT	612	J			2				54	J	144	LT	353				253		75.8	J	290	
Antimony, Total	µg/L							98						340	J															32.9	J			19.4	LT		
ARSENIC, Total	µg/L	90		60		130		430		131		119		389		326		185				22	J	17		7.2	J	33.9		41.1		13.6		34.5		20.6		1600	
Barium, Total	µg/L	285		320		370				407		477		796	LT	733	LT	582	LT	523		480		400		370		212		217		311		198	LT	170	LT	487	
Beryllium, Total	µg/L									0.34	LT																	0.27	LT										
Cadmium, Total	µg/L																																	2	LT				
Calcium, Total	µg/L	49500		70600		140000	J	140000		142000		140000		156000		140000		112000		77200		89700		110000	J	160000		144000		162000		133000		147000		89900		8600	
Chromium, Total	µg/L	25		45		67		62		48.9		91.5		64.8	LT	119		98.4	LT									7.03	LT	33				7.3	LT			1500	J
CHROMIUM (VI), Total	µg/L											20																											
Cobalt, Total	µg/L	45		70		36	LT	48	J	48	LT	37.5	LT	95	LT	101	LT	126	LT									11.3	LT	8.6	LT	6.7	LT	8.1	LT	6.5	LT	600	
Copper, Total	µg/L					5	J	10.2	LT	10.9	LT					13.6	LT					7	J					8.31	LT	2.3	LT			3.9	LT	1.4	LT	19	J
Iron, Total	µg/L	6800		5500		16100		11100		5080		13600		3330		6440		1830		2200		2900		1900		6700		20800		29000		12600		18800		10500		1600	
Lead, Total	µg/L	7				9.2		4.55	J	3	LT	2.5	J									5	J					6.07	J									14	
Magnesium, Total	µg/L	24300		33600		67000	J	630000		62900		65700		67000		62700		54500		35600		43000		62000	J	87000		71900		87400		65900		74800		38600		40200	J
Manganese, Total	µg/L	1070		1650		1300		1400		894		868		908		752		630		6440		4820		1940		4100		2760		3280		1830		2500		742		390	
Mercury, Total	µg/L																																	34.2	LT				
Nickel, Total	µg/L	160		300		290		260		231		215		402		431		597		42		54		160		54		176		82.5		25.5	LT			47.7		2360	
Potassium, Total	µg/L	5300	J	9100		9100		6000		4160	LT	4360	LT	16400	LT					1500	J	2800		1400	LT	1200	J	1080	LT	723	LT	1340	LT			1260	LT	1500	J
Selenium, Total	µg/L																							1	LT					1.1	LT							20	
Silver, Total	µg/L																																	2.2	LT				
Sodium, Total	µg/L	662000		1360000		1320000	J	925000	LT	912000	J	707000		2160000		1950000		2210000		114000		250000		340000	J	310000	LT	213000	J	179000		168000		141000		127000		4840000	
Thallium, Total	µg/L																																						
Vanadium, Total	µg/L	46	J	74		57		36	J	32.2	LT	39.3	LT	9.4	LT	127	LT	144	LT			16	J							10.6	LT					10.3	LT	1300	
Zinc, Total	µg/L	75		68		460		180		65.7		35.3	LT	119	LT	123		66.6	LT	30		21				7.1	J	8.1	LT	5.6	LT					2.8	LT	420	
Aluminum, Soluble	µg/L														NA		NA		NA												NA		NA		NA			
Antimony, Soluble	µg/L					12	LT	14	J						NA		NA		NA										29.1	LT	NA		NA		NA			
ARSENIC, Soluble	µg/L					120		76	LT	99.7		117			NA		NA		NA					8.6	LT	7.9	J	28.9		27.4		NA		NA		NA			
Barium, Soluble	µg/L					340		310		394		360	LT		NA		NA		NA					250		390		195	LT	171	LT	NA		NA		NA			
Beryllium, Soluble	µg/L														NA		NA		NA												NA		NA		NA			
Calcium, Soluble	µg/L					120000		120000		130000	J	132000			NA		NA		NA					90000		140000		145000	J	158000		NA		NA		NA			
Chromium, Soluble	µg/L					29		17		15.2		17.3	LT		NA		NA		NA												NA		NA		NA			
CHROMIUM (VI), Soluble	µg/L											20			NA		NA		NA												NA		NA		NA			
Cobalt, Soluble	µg/L					45	LT	30	J	27.7	LT	40.5	LT		NA		NA		NA									9.84	LT	7.8	LT	NA		NA		NA			
Copper, Soluble	µg/L							5.4	J						NA		NA		NA							5.1	J	6.61	LT			NA		NA		NA			
Iron, Soluble	µg/L					1800		12600		2410		4890			NA		NA		NA					6900		8200		15300		18100		NA		NA		NA			
Lead, Soluble	µg/L					3.8		2.7	LT	10.1					NA		NA		NA									14.4				NA		NA		NA			
Magnesium, Soluble	µg/L					58000		50000		60300	J	60500			NA		NA		NA					52000		72000		76500	J	83100		NA		NA		NA			
Manganese, Soluble	µg/L					1200		1300		896		812			NA		NA		NA					1930		2550		2890		3230		NA		NA		NA			
Mercury, Soluble	µg/L														NA		NA		NA												NA		NA		NA			
Nickel, Soluble	µg/L					240		130		163		194	LT		NA		NA		NA					39	LT	36	J	129		51.8		NA		NA		NA			
Potassium, Soluble	µg/L					9900		5600		4240	LT	5940	LT		NA		NA		NA					2200	LT	1500	J	1050	LT	1290	LT	NA		NA		NA			
Selenium, Soluble	µg/L											1	LT		NA		NA		NA											1.6	LT	NA		NA		NA			
Silver, Soluble	µg/L							2.4	J						NA		NA		NA							3.2	J					NA		NA		NA			
Sodium, Soluble	µg/L					1300000		740000		825000	J	785000			NA		NA		NA					140000		240000		224000	J	173000		NA		NA		NA			
Thallium, Soluble	µg/L														NA		NA		NA											1.4	LT	NA		NA		NA			
Vanadium, Soluble	µg/L					52		28	J	26.4	LT	54.1	LT		NA		NA		NA											19.5	LT	NA		NA		NA			
Zinc, Soluble	µg/L					23		11	J	32					NA		NA		NA							18	J	23.7				NA		NA		NA			
1,1,1-Trichloroethane	µg/L																																						
1,1,2,2-Tetrachloroethane	µg/L																																						
2-Butanone	µg/L											2	J																										
2-Hexanone	µg/L	30.2	J																																				
4-Methyl-2-Pentanone	µg/L																																						
Acetone	µg/L	388	J	524	J					8	B					660		530	B			90	J			13.3				20						12	B		
Benzene	µg/L	19.6	J	20	J			4.52	J	7		5	J									4.4	J			1.31	J	2	J										
Bromoform	µg/L																																						
CARBON DISULFIDE	µg/L	1120		749	J			27		76		52		370	J			180	J																			4250	
Chlorobenzene	µg/L																																						
Ethylbenzene	µg/L							1.45	J	2	J																												
Methyl-iso-butyl ketone	µg/L			59	J																																		
Methylene chloride	µg/L	74.8		33	J					3	B			690	B			74	B			364	J									1	B	2.3	J	1.1	B		
Styrene	µg/L																																						
TETRAHYDROFURAN	µg/L			74000		15800		7140		17000		12000		45000		46000		54000		56300	J	85900	J	9700		1040		950		260		280	J	350					
Toluene	µg/L	1080		2270	J	128	J	70.8		120		140		1200	J	830		810										1	J										
Xylene (total)	µg/L																											2	J	2	J					1.7	J		
Chloride	mg/L	120		136		134		79.2		122		81		670		442		680		352		316		218		246		128		110		62		80.8		94		707	
Phenolics, Total	mg/L													0.19	J	0.09		0.096																					
Sulfide as S	mg/L	53		210		8.4		4.4		53.3		52	J	210		230				0.18		0.22								9.6	J	33						1160	
Sulfate as SO4	mg/L	170		160				25.1		16		17		340		171		140		21		19		119		158		135		130		52		83.2				680	
Total Organic Carbon	mg/L	154		89.6		112		409		66.5		43		1000		306		210		42.5		57		45.9		15.9		14.2		6.9		110		7.2		4.47		525	
Total Organic Halides (TOX)	µg/L					698		73		511		370		2		900		1750						46		31		90		120		9.6		7.5					

DuPont Impoundment Operable Unit
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Sample Number		DU-12-D02		DU-12-D03		DU-12-D		DU-12-D		DU-12-D	
Date Sampled		8/1/91		8/ /91		1/29/92		7/28/92		04/26/93	
Detected Analytes		Value	Q	Value	Q	Value	Q	Value	Q	Value	Q
Aluminum, Total	µg/L									51.9	LT
Antimony, Total	µg/L										
ARSENIC, Total	µg/L										
Barium, Total	µg/L							22.3	LT	30.2	LT
Beryllium, Total	µg/L										
Cadmium, Total	µg/L										
Calcium, Total	µg/L	73000		52000		63000		62600		64400	
Chromium, Total	µg/L										
CHROMIUM (VI), Total	µg/L										
Cobalt, Total	µg/L										
Copper, Total	µg/L										
Iron, Total	µg/L					34	J	4.52	LT		
Lead, Total	µg/L	1.1	LT								
Magnesium, Total	µg/L	43000		30000		36000		37400		39400	
Manganese, Total	µg/L	11	LT	6.5	LT			6.27	LT		
Mercury, Total	µg/L										
Nickel, Total	µg/L										
Potassium, Total	µg/L	1100	LT					658	LT		
Selenium, Total	µg/L									2	LT
Silver, Total	µg/L	29									
Sodium, Total	µg/L	5000		3300	LT	4100	LT	4940	LT	5010	
Thallium, Total	µg/L										
Vanadium, Total	µg/L							3.25	LT		
Zinc, Total	µg/L										
Aluminum, Soluble	µg/L									36.9	LT
Antimony, Soluble	µg/L										
ARSENIC, Soluble	µg/L										
Barium, Soluble	µg/L							15.1	LT	29.2	LT
Beryllium, Soluble	µg/L										
Calcium, Soluble	µg/L	57000		56000		57000		51300	J	62700	
Chromium, Soluble	µg/L										
CHROMIUM (VI), Soluble	µg/L										
Cobalt, Soluble	µg/L										
Copper, Soluble	µg/L	5.6	LT							1.4	LT
Iron, Soluble	µg/L					20	J				
Lead, Soluble	µg/L					2.5	LT	2.06	LT		
Magnesium, Soluble	µg/L	33000		32000		34000		31300	J	36800	
Manganese, Soluble	µg/L					5.8	J				
Mercury, Soluble	µg/L	0.13	LT								
Nickel, Soluble	µg/L										
Potassium, Soluble	µg/L							276	J	881	LT
Selenium, Soluble	µg/L									1.5	LT
Silver, Soluble	µg/L										
Sodium, Soluble	µg/L	3800	LT	3700	LT	4500	J	3790	LT	4620	LT
Thallium, Soluble	µg/L										
Vanadium, Soluble	µg/L									14.9	LT
Zinc, Soluble	µg/L			4	LT	4.2	J	4.27	LT		
1,1,1-Trichloroethane	µg/L										
1,1,2,2-Tetrachloroethane	µg/L										
2-Butanone	µg/L										
2-Hexanone	µg/L										
4-Methyl-2-Pentanone	µg/L										
Acetone	µg/L										
Benzene	µg/L										
Bromoform	µg/L										
CARBON DISULFIDE	µg/L										
Chlorobenzene	µg/L										
Ethylbenzene	µg/L										
Methyl-iso-butyl ketone	µg/L										
Methylene chloride	µg/L	7.65	B	7.22	B	6.29	B	3	B	1	B
Styrene	µg/L										
TETRAHYDROFURAN	µg/L										
Toluene	µg/L										
Xylene (total)	µg/L										
Chloride	mg/L	3.9		3.9		5.7		4.8		4.4	
Phenolics, Total	mg/L										
Sulfide as S	mg/L									73	J
Sulfate as SO4	mg/L	20.8		20.7		18.6		20.8		25	
Total Organic Carbon	mg/L	4.85		4.75		1.7					
Total Organic Halides (TOX)	µg/L	7				16		6.5			

DuPont Impoundment Operable Unit
Lawrence Todtz Ferm Landfill NPL Site
Sampling/Historical Data
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Sample Number		DU-06-D01		DU-06-D02		DU-06-D03		DU-06-D		DU-06-D		DU-06-D		DU-06-D-FR		DU-07-D01		DU-07-D02		DU-07-D03		DU-07-D		DU-07-D		DU-07-D		DU-11-D02		DU-11-D03		DU-11-D		DU-11-D		DU-11-D		DU-12-D01	
Date Sampled		7/31/91		7/31/91		7/31/91		1/29/92		7/28/92		04/26/93		04/26/93		8/1/91		8/1/91		8/1/91		1/29/92		7/28/92		04/26/93		7/31/91		7/31/91		1/29/92		7/29/92		04/26/93		8/1/91	
Detected Analytes		Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q
Aluminum, Total	µg/L			120	LT							59.5	LT	51.3	LT											61.8	LT					1500		437		201			
Antimony, Total	µg/L																																						
ARSENIC, Total	µg/L																																						
Barium, Total	µg/L									20.5	LT	30.6	LT	30.8	LT									37.6	LT	29.8	LT							20.4	LT	24.3	LT		
Beryllium, Total	µg/L																																						
Cadmium, Total	µg/L																																						
Calcium, Total	µg/L	51000	J	56000	J	49000	J	57000		55100		58000		58600		72000		66000		63000		61000		56800		61100		73000		72000		70000		72600		75400		74000	
Chromium, Total	µg/L																																					4.7	LT
CHROMIUM (VI), Total	µg/L																																						
Cobalt, Total	µg/L																																						
Copper, Total	µg/L																							3.99	LT	1.7	LT												
Iron, Total	µg/L							24	J			14	LT			120		46	LT	34	LT			18.4	LT	22.2	LT	80	LT	100		950		299		233		35	LT
Lead, Total	µg/L							1.13								1.6	LT											0.83	LT	0.83	LT	1.4	J	1.52	LT			1.4	LT
Magnesium, Total	µg/L	29000	J	31000		28000	J	31000		29600		32700		33300		36000		33000		31000		29000		27700		31000		36000		35000		33000		34500		37500		44000	
Manganese, Total	µg/L			27	J											13	LT	8.2	LT	7	LT							11	LT	11	LT			3.21	LT	1.6	LT	18	
Mercury, Total	µg/L									0.13	LT																												
Nickel, Total	µg/L											9.4	LT																										
Potassium, Total	µg/L									755	LT					1400	LT							505	LT	815	LT	20000		3500	LT			475	LT				
Selenium, Total	µg/L					1.4	LT					1.9	LT	1.7	LT											2	LT									2.1	LT		
Silver, Total	µg/L															31		2.8	LT									700		100								3.6	LT
Sodium, Total	µg/L	8700	J	8900		7100	J	4700	LT	4260	LT	4850	LT	5010		5800		5300		5000		5300	LT	5410	J	5520		11000		10000		7700	LT	9340	J	8930		5300	
Thallium, Total	µg/L																																						
Vanadium, Total	µg/L																																						
Zinc, Total	µg/L													2.2	LT									383		4.9	LT	7.4	LT	7.1	LT								
Aluminum, Soluble	µg/L							54	J			32.6	LT	44.8	LT											29.1	LT									37.1	LT		
Antimony, Soluble	µg/L																																						
ARSENIC, Soluble	µg/L																																						
Barium, Soluble	µg/L									16.8	LT	29.7	LT	29.6	LT									16.3	LT	29.2	LT							11.8	LT	22.9	LT		
Beryllium, Soluble	µg/L																																						
Calcium, Soluble	µg/L	45000		50000		50000		55000		53700	J	56800		56800		61000		50900		58000		58000		56000	J	60000		57000		57000		64000		57200	J	73900		63000	
Chromium, Soluble	µg/L																																						
CHROMIUM (VI), Soluble	µg/L																																						
Cobalt, Soluble	µg/L																																						
Copper, Soluble	µg/L							14	J			1.2	LT	3.9	LT									3.03	LT			6.8	LT	7.2	LT					2.2	LT	9.1	LT
Iron, Soluble	µg/L							46	J	18	LT	10.2	LT									20	J	23.4	LT	13.6	LT									17.6	LT		
Lead, Soluble	µg/L	1.2	LT	2.6	LT	0.93	LT	3.7		10										1	LT	2.1	J	15.9								3.9							
Magnesium, Soluble	µg/L	25000		28000		28000		30000		29200	J	30800		30900		30000		24000		28000		28000		27300	J	29200		28000		27000		31000		27500	J	34900		37000	
Manganese, Soluble	µg/L																																						
Mercury, Soluble	µg/L																																						
Nickel, Soluble	µg/L													6.1	LT																								
Potassium, Soluble	µg/L									389	LT			881	LT									432	LT											881	LT		
Selenium, Soluble	µg/L											1.9	LT	1.6	LT											1.9	LT									2.2	LT		
Silver, Soluble	µg/L																																						
Sodium, Soluble	µg/L	7500		7800		7000		5600		4490	LT	4410	LT	4420	LT	4700	LT	3800	LT	4600	LT	5400		4570	LT	5110		8200		7900		8400		7060	J	8290		4500	LT
Thallium, Soluble	µg/L																																						
Vanadium, Soluble	µg/L											13.6	LT	14.9	LT											13.9	LT									16.4	LT		
Zinc, Soluble	µg/L							11	J	23		1.2	LT	1.7	LT							6.2	J	35.8		1.3	LT												
1,1,1-Trichloroethane	µg/L																																						
1,1,2,2-Tetrachloroethane	µg/L																																						
2-Butanone	µg/L																																						
2-Hexanone	µg/L																																						
4-Methyl-2-Pentanone	µg/L																																						
Acetone	µg/L																							5	B														
Benzene	µg/L																																						
Bromoform	µg/L																																						
CARBON DISULFIDE	µg/L																																						
Chlorobenzene	µg/L																																						
Ethylbenzene	µg/L																																						
Methyl-iso-butyl ketone	µg/L																																						
Methylene chloride	µg/L									2	B					B		7	B	6.6	B			2	B			7.5	B	7.74	B			3	B			6.63	B
Styrene	µg/L																																						
TETRAHYDROFURAN	µg/L																																						
Toluene	µg/L																																						
Xylene (total)	µg/L																																						
Chloride	mg/L	1.4		1.3		1.2		3		1.4		1.1		1.3		2.4		2.6		2.4		4		3.3		3.3		16.9		16.6		19.5		21.6		24		4.1	
Phenolics, Total	mg/L																																						
Sulfide as S	mg/L											50	J	11	J											3.8	J					0.07				75	J		
Sulfate as SO4	mg/L	5.7		5.8		5.8										13.8		14.3		13.4		21.4		12.1		19		38.1		37.5		45.1		51.8		55		20.1	
Total Organic Carbon	mg/L	2.3		2.4		4.8		2.7								5.15		3.75		6.35		1.8		2.55				4.2		3.45		1.9		2.05				3.25	
Total Organic Halides (TOX)	µg/L	31		16.5		13		7		12.5				16		7.5		24		5		10		7		11		16		21.5		15		26.5		9		17.5	

DuPont Impoundment Operable Unit
Lawrence Todtz Farm Landfill NPL Site
Sampling/Historical Data
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Sample Number		DU-01-D01	DU-01-D02	DU-01-D03	DU-01-D	DU-01-D	DU-01-DFR	DU-01-D	DU-02-D01	DU-02-D02	DU-02-D03	DU-02-D	DU-02-D	DU-02-D	DU-03-D01	DU-03-D02	DU-03-D03	DU-03-D	DU-03-D	DU-03-D
Date Sampled		7/30/91	7/30/91	7/30/92	1/28/92	7/29/92	7/29/92	04/26/93	7/30/91	7/30/91	7/30/91	1/28/92	7/28/92	04/26/93	7/30/91	7/30/91	7/30/91	1/29/92	7/28/92	04/26/93
Detected Analytes		Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q
Aluminum, Total	µg/L					114 LT	140 LT	105 LT			1600			58.6 LT						52.1 LT
Antimony, Total	µg/L																			
ARSENIC, Total	µg/L																			
Barium, Total	µg/L					17.3 LT	17.3 LT	23.6 LT					21.8 LT	28.7 LT					13.2 LT	21.7 LT
Beryllium, Total	µg/L												0.22 LT							
Cadmium, Total	µg/L																			
Calcium, Total	µg/L	54000 J	54000 J	53000 J	58000	58800	58900	58800	75000 J	77000 J	75000 J	79000	78400	77300	53000 J	54000 J	55000 J	62000	57600	61900
Chromium, Total	µg/L																			
CHROMIUM (VI), Total	µg/L																			
Cobalt, Total	µg/L																			
Copper, Total	µg/L	17 LT	11 LT	18 LT		3.65 LT							3.13 LT		21 LT					
Iron, Total	µg/L	38 LT	31 U	36 LT	49 J	204	257	79.5 LT					22.4 LT	33.6 LT	34 LT		140			
Lead, Total	µg/L	16	13	9.9		1.81 LT	2.36 LT		2.3 LT	5.3	1.6 LT				9.9					
Magnesium, Total	µg/L	30000	30000	29000	31000	31800	32200	33500	43000 J	44000 J	43000 J	42000	42400	44100	33000	35000 J	35000 J	37000	35000	39400
Manganese, Total	µg/L	9 LT	6.6 LT	6.5 LT		6.27 LT	6.46 LT						4.74 LT		9.6 LT				2.07 LT	
Mercury, Total	µg/L																			
Nickel, Total	µg/L																			
Potassium, Total	µg/L					353 LT	381 LT						692 LT	1010 LT					555 LT	
Selenium, Total	µg/L							2.3 LT						1.5 LT						1.9 LT
Silver, Total	µg/L			2.6 LT											3.6 LT					
Sodium, Total	µg/L	3700 LT	3500 LT	3700 LT	3000 LT	3920 LT	3790 LT	3920 LT	6200 J	6200 J	5900 J	5300 LT	6100 J	6170	4500 LT	4200 LT	4100 LT		4330 LT	4780 LT
Thallium, Total	µg/L																			
Vanadium, Total	µg/L																			
Zinc, Total	µg/L	150	97	150			2.97 LT		21						140	38				
Aluminum, Soluble	µg/L							37.4 LT						26.4 LT						24 LT
Antimony, Soluble	µg/L																			
ARSENIC, Soluble	µg/L																	2 J		
Barium, Soluble	µg/L					13.2 LT	11.5 LT	23.7 LT					16.5 LT	28.5 LT					11.8 LT	21.4 LT
Beryllium, Soluble	µg/L																			
Calcium, Soluble	µg/L	58000	60000	57000	58000	58300 J	55200 J	58700	61000	75000	64000	76000	72900 J	79000	62000	50000	58000	60000	58400 J	61300
Chromium, Soluble	µg/L																			
CHROMIUM (VI), Soluble	µg/L																			
Cobalt, Soluble	µg/L																			
Copper, Soluble	µg/L					3.31 LT	3.86 LT	2 LT	7.3 LT				4.69 LT	1.5 LT					6.47 LT	1.9 LT
Iron, Soluble	µg/L	110				33.1 LT	54.3 LT	19.8 LT				29 J	23 LT						46.6 LT	
Lead, Soluble	µg/L	2.2 LT	1.6 LT			10.4	6.63			0.69 LT		2.1 J	13.3		2.8 LT	1.4 LT	0.69 LT	2.7 J	11.9	
Magnesium, Soluble	µg/L	32000	33000	31000	32000	32200 J	30300 J	32200	34000	42000	36000	42000	40100 J	43300	38000	32000	36000	37000	35400 J	37200
Manganese, Soluble	µg/L				4.4 J				3.8 LT	3.4 LT		9.4 J						5.4 J	11 LT	
Mercury, Soluble	µg/L		0.14 LT																	
Nickel, Soluble	µg/L																			
Potassium, Soluble	µg/L					229 LT	324 J						606 LT	763 LT					655 LT	847 LT
Selenium, Soluble	µg/L							1.6 LT						1.7 LT						1.3 LT
Silver, Soluble	µg/L				3.3 J							3.8 J						2.5 J		
Sodium, Soluble	µg/L	2800 LT	2800 LT	2700 LT	4000 J	3670 LT	3450 LT	3820 LT	4800 LT	5900	4900 LT	6100	5770 J	6160	3900 LT	3700 LT	4300 LT	4700 J	5930 J	4430 LT
Thallium, Soluble	µg/L																			
Vanadium, Soluble	µg/L							14.2 LT						15.3 LT						15.4 LT
Zinc, Soluble	µg/L					44.4	28.1	1.7 LT				6.5 J	43.2					5.6 J	40	
1,1,1-Trichloroethane	µg/L																			
1,1,2,2-Tetrachloroethane	µg/L																			
2-Butanone	µg/L																			
2-Hexanone	µg/L																			
4-Methyl-2-Pentanone	µg/L																			
Acetone	µg/L																			
Benzene	µg/L																			
Bromoform	µg/L																			
CARBON DISULFIDE	µg/L																			
Chlorobenzene	µg/L																			
Ethylbenzene	µg/L																			
Methyl-iso-butyl ketone	µg/L																			
Methylene chloride	µg/L				7.36 B	4 B	2 B					7.3 B	3 B						6 B	
Styrene	µg/L																			
TETRAHYDROFURAN	µg/L																			
Toluene	µg/L																			
Xylene (total)	µg/L																			
Chloride	mg/L	2 LT	2.2	1.8	2.1	2.9	2.2	2	5.5	5.8	5.3	7	7	6.4	3.5	2.7	2.7	4.9	4	3.5
Phenolics, Total	mg/L																			0.12
Sulfide as S	mg/L							14 J						80 J						81 J
Sulfate as SO4	mg/L	7.3	7.2	6	5.8	5.9	6.2	8.1	28.2	29.2	28.6	30.3	28.7	32	20.1	15.6	14.7	14.3	14.6	15
Total Organic Carbon	mg/L	1.95	1.85	3.75	1.4	3.8	4.3		3.35	3.7	2.9	1.8	1.3		3.95	4.75	6.2	2	1.9	
Total Organic Halides (TOX)	µg/L	17	32.5	16.5	7	26	19.5		28	26.5	28.5	5	19	6.1	13.5	26	24.5		11	34

DuPont Impoundment Operable Unit
Lawrence Todtz Farm Landfill NPL Site
Sampling/Historical Data
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Sample Number	TBDU07D01	TBDU08S01	TBDU2S02	TB-DU03S	TB-JB01D	TB-DU11D	TB-DU03S	TB-DU02S	TB-DU11D	TBLK-1	TBLK-2	TBLK-1	TBLK-1	TBLK-1	TBLK-1	TBLK-1	TBLK-1
Date Sampled	8/1/91	7/31/91	7/30/91	1/28/92	1/30/92	1/29/92	7/28/92	7/28/92	7/29/92	4/26/93	4/27/93	6/8/93	10/12/93	1/26/94	4/25/94	6/29/94	10/4/94
Detected Analytes	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q
Aluminum, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ARSENIC, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM (VI), Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc, Total µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aluminum, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ARSENIC, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CHROMIUM (VI), Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc, Soluble µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane µg/L																	
1,1,2,2-Tetrachloroethane µg/L		2.44 B															
2-Butanone µg/L																	
2-Hexanone µg/L																	
4-Methyl-2-Pentanone µg/L																	
Acetone µg/L									6 B					5.6 B		25 B	6.1 B
Benzene µg/L																	
Bromoform µg/L										2 J	2 J				0.9 J		1.4 J
CARBON DISULFIDE µg/L																	
Chlorobenzene µg/L																	
Dibromochloromethane µg/L															0.7 J		1.2 J
Ethylbenzene µg/L																	
Methyl-iso-butyl ketone µg/L																	
Methylene chloride µg/L	7.93 B			7.5 B			2 B	5 B	3 B	2 B	2 B	7 B					2.6 B
Styrene µg/L																	
TETRAHYDROFURAN µg/L							3 J		5 B								
Toluene µg/L																	
Xylene (total) µg/L																	
Trichloroethene µg/L																	
Chloride mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenolics, Total mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide as S mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate as SO4 mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DuPont Impoundment Operable Unit
Lawrence Todtz Farm Landfill NPL Site
Sampling/Historical Data
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Sample Number		DU-07-S	DU-07-S	DU-07-S	DU-07-S	DU-07-S01	DU-07-S	DU-07-S	DU-07-S	DU-07-S	DU-07-S	DU-07-S-FR	DU-07-S	DU-07-S	DU-07-S
Date Sampled		3/7/88	3/28/88	6/19/88	10/2/90	7/31/91	1/28/92	7/28/92	04/27/93	10/12/93	1/26/94	1/26/94	4/25/94	6/29/94	10/4/94
Detected Analytes		Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q
Aluminum, Total	µg/L				655				67.6 LT						
Antimony, Total	µg/L						49 J			33.3 J					
ARSENIC, Total	µg/L		1 J		2.1 J	2.7 LT	14	8.19 LT	3.9 LT	9.8 LT	3.8 LT	4.5 LT	3.6 LT	2.2 LT	
Barium, Total	µg/L	510	440		378	200	1000	711	592	875	361	361	377	303	254
Beryllium, Total	µg/L							0.26 LT		1 LT					
Cadmium, Total	µg/L						1.6 J	4.42 LT							
Calcium, Total	µg/L	131000	127000		119000	77000 J	150000	124000	134000	120000	95300	98192	112000	103000	103000
Chromium, Total	µg/L				23.6		19		7.4 LT						
CHROMIUM (VI), Total	µg/L										NA	NA			
Cobalt, Total	µg/L				5.8 J				6.5 LT	23 LT		9.3 LT	9.8 LT	4.4 LT	3.3 LT
Copper, Total	µg/L				6.8 J			6.76 LT	9.2 LT	4.6 LT					
Iron, Total	µg/L	23000	25300	200	4990	10500	82300	50500	34100	56900	19000	21236	25000	9430	5260
Lead, Total	µg/L						1.3 J	1.13 LT							
Magnesium, Total	µg/L	53000	52000		44600	31000 J	54000	45300	50700	43300	35100	35399	62700	36900	37100
Manganese, Total	µg/L	1940	15400	2700	3320	970	1870	1430	1140	2260	1190	1109	1700	933	1040
Mercury, Total	µg/L														
Nickel, Total	µg/L		8		46		33 J	8.39 LT	20.7 LT	15.1 LT		9.3 LT	9.3 LT		
Potassium, Total	µg/L	15600	16700		23400	9700	17000	14100	18900	13300	11300	10688	10500	10000	11000
Selenium, Total	µg/L							4.16 LT							
Silver, Total	µg/L									3.7 LT					
Sodium, Total	µg/L	48700	50600	42300	51100	74000	130000 LT	76800 J	58600	73100	89200	88117	74900	72300	68000
Thallium, Total	µg/L														
Vanadium, Total	µg/L				7.7 J		11 J	6.97 LT	13.3 LT	7.5 LT				23.7 LT	11.8 LT
Zinc, Total	µg/L	40	24		33.4	15 LT		15.6 LT	2.4 LT			14.3 LT	14.3 LT		
Aluminum, Soluble	µg/L									NA	NA	NA		NA	NA
Antimony, Soluble	µg/L						18 J			NA	NA	NA		NA	NA
ARSENIC, Soluble	µg/L						3.7 LT			NA	NA	NA		NA	NA
Barium, Soluble	µg/L				386	320	400	320	306	NA	NA	NA		NA	NA
Beryllium, Soluble	µg/L									NA	NA	NA		NA	NA
Calcium, Soluble	µg/L				119000	130000	140000	118000 J	130000	NA	NA	NA		NA	NA
Chromium, Soluble	µg/L						2.2 J			NA	NA	NA		NA	NA
CHROMIUM (VI), Soluble	µg/L									NA	NA	NA		NA	NA
Cobalt, Soluble	µg/L									NA	NA	NA		NA	NA
Copper, Soluble	µg/L					8.4 LT			5.2 LT	NA	NA	NA		NA	NA
Iron, Soluble	µg/L				30.6 J	16900	23300	20000	455	NA	NA	NA		NA	NA
Lead, Soluble	µg/L				7.4	0.69 LT		10.7		NA	NA	NA		NA	NA
Magnesium, Soluble	µg/L				46800	48000	52000	42700 J	48900	NA	NA	NA		NA	NA
Manganese, Soluble	µg/L				3380	1500	1650	1370	1070	NA	NA	NA		NA	NA
Mercury, Soluble	µg/L									NA	NA	NA		NA	NA
Nickel, Soluble	µg/L				30.7 J		11 J		10.9 LT	NA	NA	NA		NA	NA
Potassium, Soluble	µg/L					16000	17000	13000	18400	NA	NA	NA		NA	NA
Selenium, Soluble	µg/L								1.3 LT	NA	NA	NA		NA	NA
Silver, Soluble	µg/L									NA	NA	NA		NA	NA
Sodium, Soluble	µg/L				56700	120000	120000	71900 J	56700	NA	NA	NA		NA	NA
Thallium, Soluble	µg/L									NA	NA	NA		NA	NA
Vanadium, Soluble	µg/L								16.2 LT	NA	NA	NA		NA	NA
Zinc, Soluble	µg/L					51	8.7 J	19.9 LT	3 LT	NA	NA	NA		NA	NA
1,1,1-Trichloroethane	µg/L														
1,1,2,2-Tetrachloroethane	µg/L														
2-Butanone	µg/L														
2-Hexanone	µg/L														
4-Methyl-2-Pentanone	µg/L														
Acetone	µg/L											3.6 B		9.6 B	
Benzene	µg/L				3 J	5.26					1.2 J	1.2 J	1.5 J	2.1 J	
Bromoform	µg/L														
CARBON DISULFIDE	µg/L														
Chlorobenzene	µg/L				34	9.34 J	6.93			34	5.2	5.8	6.2	3.1 J	2.2 J
Dibromochloromethane	µg/L														
Ethylbenzene	µg/L														
Methyl-iso-butyl ketone	µg/L														
Methylene chloride	µg/L							1 B							2.6 B
Styrene	µg/L														
TETRAHYDROFURAN	µg/L					15.2							22	4.1 J	
Toluene	µg/L														
Xylene (total)	µg/L														
Trichloroethene	µg/L														
Chloride	mg/L	18.6	16.9	11.1	21.5	19.3	20.2	13.6	12	9.9	13.1	12.8	10.3	6.35	11
Phenolics, Total	mg/L														
Sulfide as S	mg/L	0.33		0.25					66 J	30	98	98			
Sulfate as SO4	mg/L	6		40	12.3	6 3		6.1					9.1		
Total Organic Carbon	mg/L	20.1	18.5	3.4	21	16.6	28.1	23.1	14	140	8.8	9	11.3	6.40	5.90
Total Organic Halides (TOX)	µg/L				89	78.5	77	59	70	37	50	30	50.2	39.8	20

DuPont Impoundment Operable Unit
Lawrence Todtz Farm Landfill NPL Site
Sampling/Historical Data
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Sample Number / Date Sampled / Detected Analytes		DU-06-S 3/8/88 Value	Q	DU-06-S 3/8/88 Value	Q	DU-06-S 3/28/88 Value	Q	DU-06-S 3/28/88 Value	Q	DU-06-S 6/19/89 Value	Q	DU-06-S 10/2/90 Value	Q	DU-06-S01 7/31/91 Value	Q	DU-06-S02 7/31/91 Value	Q	DU-06-S03 7/31/91 Value	Q	DU-06-S 1/29/92 Value	Q	DU-06-S 7/28/92 Value	Q	DU-06-S 04/27/93 Value	Q	DU-06-S 10/12/93 Value	Q	DU-06-S-FR 10/12/93 Value	Q	DU-06-S 1/26/94 Value	Q	DU-06-S 4/25/94 Value	Q	DU-06-S 6/29/94 Value	Q	DU-06-S 10/4/94 Value	Q
Aluminum, Total	µg/L					120						408												41.7	LT											17.8	J
Antimony, Total	µg/L																																			22.5	LT
ARSENIC, Total	µg/L					9	J	9		6		14.8		9.8	LT	9.3	LT	6.9	LT	9	J	7.02	LT	3.6	LT	9.3	J	11.3	J	5.8	J	5	LT	8.0	LT	9.3	LT
Barium, Total	µg/L	301		370		290		290				229		220		230		220		470		173	LT	120	LT	196	LT	196	LT	179	LT	156	LT	163	LT	242	
Beryllium, Total	µg/L																																				
Cadmium, Total	µg/L																																				
Calcium, Total	µg/L	38800		38500		35700		35700				42800		43000	J	46000	J	44000	J	130000		41300		31000		52000		51700		45500		44600		42500		56100	
Chromium, Total	µg/L											5.6	J																								
CHROMIUM (VI), Total	µg/L																													NA							
Cobalt, Total	µg/L																																			3	LT
Copper, Total	µg/L			9	J	7	J	7	J					10	LT	7.6	LT	9.4	LT					1.1	LT			1.9	LT			4.4	LT			1.4	LT
Iron, Total	µg/L					38	J	95	J	220		1970		1100		1100		1100		6900		1310		1300		2150		2070		1860		2110		2090		3240	
Lead, Total	µg/L					2	J	1	J					12				12																			
Magnesium, Total	µg/L	26400		26200		27200		26800				25900		17000		18000		18000		59000		17400		19100		23100		23200		22300		22000		20400		26400	
Manganese, Total	µg/L	1980		1960		1950		2020		2800		3430		4510	J	4860	J	4730	J	16900		3450		1640		3400		3360		4090		3180		2750		3940	
Mercury, Total	µg/L																			1																	
Nickel, Total	µg/L					8	J	11	J			16.6	J					8.1	LT					7.6	LT												
Potassium, Total	µg/L	2800	J	2700	J	3000		2500				3090	J	4200	LT	4500	LT	4300	LT	4900	J	3880	LT	2160	LT	3970	LT	4050	LT	2190	LT	8070		2340	LT	3250	LT
Selenium, Total	µg/L					1	J																														
Silver, Total	µg/L																	3.7	LT							2.8	LT	2.7	LT					2.3	LT		
Sodium, Total	µg/L	244000		242000		249000		245000		263000		117000		140000		140000		140000		120000	LT	136000	J	71000		44100		44200		51900		47400		68900		96600	
Thallium, Total	µg/L																																				
Vanadium, Total	µg/L																																	17.4	LT	10.5	LT
Zinc, Total	µg/L	23		25		21		24				21		100		97		110						3.6	LT	21		25.2				17.6	LT				
Aluminum, Soluble	µg/L																									NA		NA		NA		NA		NA		NA	
Antimony, Soluble	µg/L																									NA		NA		NA		NA		NA		NA	
ARSENIC, Soluble	µg/L											14		8	LT	8.3	LT	8.2	LT	9.8	J	2.5	LT	1.6	LT	NA		NA		NA		NA		NA		NA	
Barium, Soluble	µg/L											193	J	210		220		210		500		152	LT	106	LT	NA		NA		NA		NA		NA		NA	
Beryllium, Soluble	µg/L																									NA		NA		NA		NA		NA		NA	
Calcium, Soluble	µg/L											45700		48000		50000		49000		130000		38400	J	30400		NA		NA		NA		NA		NA		NA	
Chromium, Soluble	µg/L																			3.5	J					NA		NA		NA		NA		NA		NA	
CHROMIUM (VI), Soluble	µg/L																									NA		NA		NA		NA		NA		NA	
Cobalt, Soluble	µg/L																									NA		NA		NA		NA		NA		NA	
Copper, Soluble	µg/L											33.6										3.59	LT	1.3	LT	NA		NA		NA		NA		NA		NA	
Iron, Soluble	µg/L											23.3	J	1100		1100		1100		6500		1060		1050		NA		NA		NA		NA		NA		NA	
Lead, Soluble	µg/L											9.4		1.8	LT			0.63	LT	2.7	J	8.61				NA		NA		NA		NA		NA		NA	
Magnesium, Soluble	µg/L											26400		19000		20000		19000		57000		16200	J	17900		NA		NA		NA		NA		NA		NA	
Manganese, Soluble	µg/L											3470		4640		5280		4860		16400		3220		1570		NA		NA		NA		NA		NA		NA	
Mercury, Soluble	µg/L																									NA		NA		NA		NA		NA		NA	
Nickel, Soluble	µg/L											12.4								10	J	6.9	LT			NA		NA		NA		NA		NA		NA	
Potassium, Soluble	µg/L											3300	J	4600	LT	4800	LT	5000		5000		3550	LT	2440	LT	NA		NA		NA		NA		NA		NA	
Selenium, Soluble	µg/L																									NA		NA		NA		NA		NA		NA	
Silver, Soluble	µg/L																									NA		NA		NA		NA		NA		NA	
Sodium, Soluble	µg/L											126000		150000		150000		150000		120000		128000	J	67700		NA		NA		NA		NA		NA		NA	
Thallium, Soluble	µg/L																									NA		NA		NA		NA		NA		NA	
Vanadium, Soluble	µg/L																									NA		NA		NA		NA		NA		NA	
Zinc, Soluble	µg/L											47.4								11	J	52.5				NA		NA		NA		NA		NA		NA	
1,1,1-Trichloroethane	µg/L																																				
1,1,2,2-Tetrachloroethane	µg/L																																				
2-Butanone	µg/L																																				
2-Hexanone	µg/L																																				
4-Methyl-2-Pentanone	µg/L																																				
Acetone	µg/L																																				
Benzene	µg/L																																				
Bromoform	µg/L																																				
CARBON DISULFIDE	µg/L																																				
Chlorobenzene	µg/L																																				
Dibromochloromethane	µg/L																																				
Ethylbenzene	µg/L																																				
Methyl-iso-butyl ketone	µg/L																																				
Methylene chloride	µg/L	5.01																		5.64	B	3	B											1.1	B	2.4	B
Styrene	µg/L																																				
TETRAHYDROFURAN	µg/L																																				
Toluene	µg/L			4.14																																	
Xylene (total)	µg/L																																				
Trichloroethene	µg/L																																				
Chloride	mg/L	18.4		19.1		18.9		18.6				14.5		16.6		16.8		16.5		32		12.7		9.5		8.3		8.3		9.7		7.59		6.35		10	
Phenolics, Total	mg/L																																				
Sulfide as S	mg/L	0.1		0.23		0.12		0.34																90	J	56	J			100							
Sulfate as SO4	mg/L	140		140		140		130				46.6		14.3		19.5		20.8		272		11		34		15		16		51.1		24.6				6	
Total Organic Carbon	mg/L	18.1		12.8		11.1		10				15.4		13.5		13.5		12.75		20.8		11.3		5.6		31		30		4		3.48		4.76		8.3	
Total Organic Halides (TOX)	µg/L											29		29		31		40.5		48		21.5		26		12				7.5		8.8		17.6			

DuPont Impoundment Operable Unit
Lawrence Todtz Farm Landfill NPL Site
Sampling/Historical Data
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Sample Number	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S	DU-05-S
Date Sampled	3/29/88	6/20/89	10/2/90	7/31/91	1/28/92	7/29/92	04/27/93	6/8/93	8/18/93	10/12/93	1/26/94	4/25/94	6/29/94	10/4/94	1/24/95
Detected Analytes	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q	Value Q
Aluminum, Total µg/L							40.9 LT	NA	NA	55.5 U				18.6 J	N/A
Antimony, Total µg/L								NA	NA	27.3 J					N/A
ARSENIC, Total µg/L	2		1.6 J	2.7 LT				NA	NA	2.5 LT	2 LT				N/A
Barium, Total µg/L	310		270	230	160 J	138 LT	85.4 LT	NA	NA	97.9 LT	161 LT	147 LT	171 LT	146 LT	N/A
Beryllium, Total µg/L			0.2 J					NA	NA						N/A
Cadmium, Total µg/L			2.9 J					NA	NA						N/A
Calcium, Total µg/L	129000		194000	120000 J	240000	90700	81300	NA	NA	70800	104000	94300	79200	63000	N/A
Chromium, Total µg/L					5.4 J			NA	NA						N/A
CHROMIUM (VI), Total µg/L								NA	NA		NA				N/A
Cobalt, Total µg/L			18.1 J					NA	NA			9.1 LT	6.6 LT	3.6 LT	N/A
Copper, Total µg/L	11		58.1		8.4 J	13 LT	5.4 LT	NA	NA	3.2 LT		5.5 LT		1.3 LT	N/A
Iron, Total µg/L	102	9	78.3 J	580	120	81.9 LT	259	NA	NA	380	794	443	654	915	N/A
Lead, Total µg/L	1		7.4					NA	NA						N/A
Magnesium, Total µg/L	44400		6000	36000 J	67000	33000	29300	NA	NA	23700	39000	34200	28700	22600	N/A
Manganese, Total µg/L	430	47	8540	7890	190	4160	2460	NA	NA	2190	8170	7550	5810	5380	N/A
Mercury, Total µg/L								NA	NA				0.08 J		N/A
Nickel, Total µg/L	20		65.4	17 LT		21.2 LT	17.3 LT	NA	NA	16.5 LT	35.4 LT	51.4	31.2 LT		N/A
Potassium, Total µg/L	26600		26100	15000	20000	13000	8570	NA	NA	11300	11500	8900	9030	7830	N/A
Selenium, Total µg/L	3							NA	NA						N/A
Silver, Total µg/L								NA	NA						N/A
Sodium, Total µg/L	178000	187000	312000	160000 J	130000 LT	123000 J	87500	NA	NA	101000	92900	94500	101000	120000	N/A
Thallium, Total µg/L								NA	NA						N/A
Vanadium, Total µg/L								NA	NA				20.8 LT	9.3 LT	N/A
Zinc, Total µg/L	13 J		61.8			2.49 LT	2.4 LT	NA	NA						N/A
Aluminum, Soluble µg/L							60.3 LT	NA	NA	NA	NA	NA	NA	NA	N/A
Antimony, Soluble µg/L								NA	NA	NA	NA	NA	NA	NA	N/A
ARSENIC, Soluble µg/L								NA	NA	NA	NA	NA	NA	NA	N/A
Barium, Soluble µg/L				190 LT	150 J	131 LT	79.5 LT	NA	NA	NA	NA	NA	NA	NA	N/A
Beryllium, Soluble µg/L								NA	NA	NA	NA	NA	NA	NA	N/A
Calcium, Soluble µg/L				87000	230000	88200 J	79600	NA	NA	NA	NA	NA	NA	NA	N/A
Chromium, Soluble µg/L					11			NA	NA	NA	NA	NA	NA	NA	N/A
CHROMIUM (VI), Soluble µg/L								NA	NA	NA	NA	NA	NA	NA	N/A
Cobalt, Soluble µg/L								NA	NA	NA	NA	NA	NA	NA	N/A
Copper, Soluble µg/L					15 J	9.64 LT	5.9 LT	NA	NA	NA	NA	NA	NA	NA	N/A
Iron, Soluble µg/L				400	92 J	97 LT	244	NA	NA	NA	NA	NA	NA	NA	N/A
Lead, Soluble µg/L				0.69 LT	2.3 J	27.8		NA	NA	NA	NA	NA	NA	NA	N/A
Magnesium, Soluble µg/L				29000	65000	32300 J	27300	NA	NA	NA	NA	NA	NA	NA	N/A
Manganese, Soluble µg/L				6310	180	4060	2350	NA	NA	NA	NA	NA	NA	NA	N/A
Mercury, Soluble µg/L								NA	NA	NA	NA	NA	NA	NA	N/A
Nickel, Soluble µg/L				12 LT	8.9 J	21.8 LT	17 LT	NA	NA	NA	NA	NA	NA	NA	N/A
Potassium, Soluble µg/L				13000	19000	12600	8090	NA	NA	NA	NA	NA	NA	NA	N/A
Selenium, Soluble µg/L								NA	NA	NA	NA	NA	NA	NA	N/A
Silver, Soluble µg/L								NA	NA	NA	NA	NA	NA	NA	N/A
Sodium, Soluble µg/L				130000	130000	119000 J	80700	NA	NA	NA	NA	NA	NA	NA	N/A
Thallium, Soluble µg/L								NA	NA	NA	NA	NA	NA	NA	N/A
Vanadium, Soluble µg/L							14.7 LT	NA	NA	NA	NA	NA	NA	NA	N/A
Zinc, Soluble µg/L					5.7 J	42.6	4 LT	NA	NA	NA	NA	NA	NA	NA	N/A
1,1,1-Trichloroethane µg/L															
1,1,2,2-Tetrachloroethane µg/L															
2-Butanone µg/L															
2-Hexanone µg/L															
4-Methyl-2-Pentanone µg/L															
Acetone µg/L											4.4 B 3.8 B	4.5 J	14 B 24 B	5.4 B	
Benzene µg/L															
Bromoform µg/L															
CARBON DISULFIDE µg/L															
Chlorobenzene µg/L															
Dibromochloromethane µg/L															
Ethylbenzene µg/L					36.3										
Methyl-iso-butyl ketone µg/L															
Methylene chloride µg/L					7.79 B	1 B		0.9 B					0.6 B	2.6 B	
Styrene µg/L					12.3										
TETRAHYDROFURAN µg/L							41	110 110 91 93	48 50 51 51			38 34 42 37	12 8.1 J 8.6 J 6.8 J		
Toluene µg/L					1.03 J										
Xylene (total) µg/L															
Trichloroethene µg/L													0.9 J 0.8 J		
Chloride mg/L	54.5	54.5	74.3	30.2	43.8	25.3	16	NA	NA	13	21.9	19.1	13.0	34	N/A
Phenolics, Total mg/L								NA	NA						N/A
Sulfide as S mg/L	0.07	0.07					92	NA	NA	41	84				N/A
Sulfate as SO4 mg/L	110	110	97.8	38.8	333	57.1	46	NA	NA	24	25	25.8	4410	15	N/A
Total Organic Carbon mg/L	30.4	30.4	68.7	25.75	31.3	18.7	10	NA	NA	61	15.2	12.6	5.84	16.0	N/A
Total Organic Halides (TOX) µg/L			178	89	82	56		NA	NA	20	46	48	123	51	N/A

DuPont Impoundment Operable Unit
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Sample Number		DU-04-S		DU-04-S		DU-04-S01		DU-04-S		DU-04-S		DU-04-S		DU-04-S		DU-04-S		DU-04-S		DU-04-S-FR		DU-04-S			
Date Sampled		3/28/88		6/20/89		10/2/90		7/31/91		1/28/92		7/29/92		04/27/93		10/12/93		1/26/94		4/25/94		6/29/94		6/29/94		10/4/94	
Detected Analytes		Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q
Aluminum, Total	µg/L	45	J			498				58	J			88	LT											109	J
Antimony, Total	µg/L																									21.5	LT*
ARSENIC, Total	µg/L	1	J	2		5.8	J	6	LT	4.7	J	3.16	LT	3.8	LT	7.4	LT	3.8	LT	3.1	LT	2.1	J	2.5	LT	5.1	LT
Barium, Total	µg/L	150				310		300		340		251		229		246		276		241		305		283		348	
Beryllium, Total	µg/L											0.21	LT														
Cadmium, Total	µg/L									1	J																
Calcium, Total	µg/L	50300				110000		170000	J	180000		145000		101000		122000		112000		107000		107000		105000		123000	
Chromium, Total	µg/L					13.4		6.2	LT			5.63	LT			13.6		4.9	LT	3.8	LT			3.1	LT	4.6	LT
CHROMIUM (VI), Total	µg/L																	NA									
Cobalt, Total	µg/L																										
Copper, Total	µg/L	6	J			10.9	J	13	LT	16	J	5.37	LT	3.2	LT	3	LT							1.9	LT	8.9	LT
Iron, Total	µg/L	8100		1380		1280		440		19700		1400		11200		3960		3840		6770		1850	J	653	J	1910	
Lead, Total	µg/L	13				14.9				5.8		17.2	J	2.7	LT			1	LT							3.2	J
Magnesium, Total	µg/L	19600				36600		61000	J	65000		53200		44500		50300		48300		46100		42900		43400		51600	
Manganese, Total	µg/L	740		2730		935		1200		2080		886		860		706		674		597		634	J	453	J	392	
Mercury, Total	µg/L																					0.08	J	0.07	J		
Nickel, Total	µg/L	20	J			23.6	J																				
Potassium, Total	µg/L	7300				9270		13000		9500		9510		7940		6120		6050	J	4140	LT	8360	J	6390	J	6640	
Selenium, Total	µg/L																	1	LT								
Silver, Total	µg/L																										
Sodium, Total	µg/L	191000		194000		197000		210000	J	160000	LT	159000	J	143000		133000		119000		100000		114000		110000		181000	
Thallium, Total	µg/L																										
Vanadium, Total	µg/L					14	J					4.83	LT	7.4	LT	13.1	LT					22.2	LT	24.3	LT	13.5	LT
Zinc, Total	µg/L	32				35.5		38		11	J	5.52	LT	7.7	LT	4.4	LT										
Aluminum, Soluble	µg/L													60.2	LT		NA		NA		NA		NA		NA		NA
Antimony, Soluble	µg/L																NA		NA		NA		NA		NA		NA
ARSENIC, Soluble	µg/L					4.4	J	2.1	LT	3.5	LT	2.71	LT	2.8	LT		NA		NA		NA		NA		NA		NA
Barium, Soluble	µg/L					272		150	LT	240		212		198	LT		NA		NA		NA		NA		NA		NA
Beryllium, Soluble	µg/L																NA		NA		NA		NA		NA		NA
Calcium, Soluble	µg/L					102000		99000		160000		141000	J	96900			NA		NA		NA		NA		NA		NA
Chromium, Soluble	µg/L											4.07	LT				NA		NA		NA		NA		NA		NA
CHROMIUM (VI), Soluble	µg/L																NA		NA		NA		NA		NA		NA
Cobalt, Soluble	µg/L																NA		NA		NA		NA		NA		NA
Copper, Soluble	µg/L					9.3	J	8.2	LT			5.78	LT	1.9	LT		NA		NA		NA		NA		NA		NA
Iron, Soluble	µg/L					65.2	J	31	LT	5300		519		4790			NA		NA		NA		NA		NA		NA
Lead, Soluble	µg/L					9.1		2.6	LT	1.5	J	9.78					NA		NA		NA		NA		NA		NA
Magnesium, Soluble	µg/L					35700		38000		61000		52500	J	40400			NA		NA		NA		NA		NA		NA
Manganese, Soluble	µg/L					931		510		1200		622		674			NA		NA		NA		NA		NA		NA
Mercury, Soluble	µg/L																NA		NA		NA		NA		NA		NA
Nickel, Soluble	µg/L					17.2	J										NA		NA		NA		NA		NA		NA
Potassium, Soluble	µg/L					9670		6200		5500		6680		7310			NA		NA		NA		NA		NA		NA
Selenium, Soluble	µg/L																NA		NA		NA		NA		NA		NA
Silver, Soluble	µg/L									2.8	J						NA		NA		NA		NA		NA		NA
Sodium, Soluble	µg/L					204000		120000		140000		139000	J	118000			NA		NA		NA		NA		NA		NA
Thallium, Soluble	µg/L																NA		NA		NA		NA		NA		NA
Vanadium, Soluble	µg/L					9	J					7.04	LT	17.1	LT		NA		NA		NA		NA		NA		NA
Zinc, Soluble	µg/L					34.6				4.9	J	31		3.6	LT		NA		NA		NA		NA		NA		NA
1,1,1-Trichloroethane	µg/L																										
1,1,2,2-Tetrachloroethane	µg/L																							1.1	J		
2-Butanone	µg/L																										
2-Hexanone	µg/L																										
4-Methyl-2-Pentanone	µg/L																										
Acetone	µg/L											6	B					12	B	3.5	J			40	B	8.7	B
Benzene	µg/L																										
Bromoform	µg/L																										
CARBON DISULFIDE	µg/L																										
Chlorobenzene	µg/L																										
Dibromochloromethane	µg/L																										
Ethylbenzene	µg/L																										
Methyl-iso-butyl ketone	µg/L																										
Methylene chloride	µg/L									6.98	B	1	B			0.8	B									1.7	B
Styrene	µg/L																										
TETRAHYDROFURAN	µg/L											11	B							20		36		34			
Toluene	µg/L																										
Xylene (total)	µg/L																										
Chloride	mg/L	18.7				34.3		44.9		39.2		33.8		19		22		27.3		21.6		18.7		17.8		44	
Phenolics, Total	mg/L																										
Sulfide as S	mg/L	0.14												5.4	J			35						0.0516			
Sulfate as SO4	mg/L	62				13.4		44.7		311		54.4		25		12		11				8.0		11.5		9.9	
Total Organic Carbon	mg/L	18.8				34.8		66.85		38		30.4		25		190		18.1		16.7		17.5		17.0		17	
Total Organic Halides (TOX)	µg/L					162		152		70		86.5		30		38		59		78		62		63.5		24	

DuPont Impoundment Operable Unit
Lawrence Todtz Farm Landfill NPL Site
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Sample Number / Date Sampled / Detected Analytes		DU-03-S 6/20/89 Value Q	DU-03-S 10/2/90 Value Q	DU-03-S01 7/30/91 Value Q	DU-03-S02 7/30/91 Value Q	DU-03-S03 7/30/91 Value Q	DU-03-S 1/28/92 Value Q	DU-03-S01 3/18/92 Value Q	DU-03-S02 3/18/92 Value Q	DU-03-S03 3/18/92 Value Q	DU-03-S04 3/18/92 Value Q	DU-03-S 7/28/92 Value Q	DU-03-SFR 7/28/92 Value Q	DU-03-S 04/27/93 Value Q	DU-03-S-FR 04/27/93 Value Q	DU-03-S 10/12/93 Value Q	DU-03-S 1/26/94 Value Q	DU-03-S 4/25/94 Value Q	DU-03-S 6/29/94 Value Q	DU-03-S 10/4/94 Value Q
Aluminum, Total	µg/L		23600											63 LT	62.4 LT					13.1 J
Antimony, Total	µg/L																			
ARSENIC, Total	µg/L	40	34.8	30	37	42	20					30.1	30.5	16	15.2	37.9	17.6	22.1	36.0	42.6
Barium, Total	µg/L		204	210	210	210	190 J					252	245	180 LT	178 LT	198 LT	224	178 LT	362	272
Beryllium, Total	µg/L																			
Cadmium, Total	µg/L																			
Calcium, Total	µg/L		135000	39000 J	40000 J	39000 J	31000					39100	38100	38100	38000	38400	40200	35800	64500	45200
Chromium, Total	µg/L		48.4																	
CHROMIUM (VI), Total	µg/L																NA			
Cobalt, Total	µg/L		16.9 J																	
Copper, Total	µg/L		65.8	8.5 LT	13 LT	17 LT														
Iron, Total	µg/L	150	30600	2200	2100	2100	2700					2180	2220	3090	3160	2880	1760	2880	5410	3840
Lead, Total	µg/L		19.9	19	16	14	1.6 J										1 LT			
Magnesium, Total	µg/L		51000	24000	25000	25000	21000					24700	24600	21900	21800	20200	27500	18500	31900	22600
Manganese, Total	µg/L	26	1040	1670 J	1760 J	1610 J	1560					1300	1260	1460	1450	1400	915	1710	2850	1740
Mercury, Total	µg/L					0.27													0.08 J	
Nickel, Total	µg/L		46.5		10 LT	9.5 LT								6.3 LT						
Potassium, Total	µg/L		5410	3600 LT	3700 LT	3800 LT	2500 J					3870 LT	3760 LT	2200 LT	1400 LT	2580 LT	1150 LT	1950 LT	2790 LT	3200 LT
Selenium, Total	µg/L																		1.0 J	
Silver, Total	µg/L				3.3 LT	3.2 LT														
Sodium, Total	µg/L	569000	193000	230000	240000	270000	210000 LT					218000 J	218000 J	95700	95400	99600	36500	70500	117000	202000
Thallium, Total	µg/L																			
Vanadium, Total	µg/L		72.9																19.3 LT	7.6 LT
Zinc, Total	µg/L		111	120	160	170								5.4 LT	5.4 LT					
Aluminum, Soluble	µg/L		264													NA	NA	NA	NA	NA
Antimony, Soluble	µg/L		35.3				13 J									NA	NA	NA	NA	NA
ARSENIC, Soluble	µg/L			26	30 J	34 J	29 J					26	28.6	15.3	16.3	NA	NA	NA	NA	NA
Barium, Soluble	µg/L		31.4 J	190 LT	190 LT	190 LT	190 LT					239	246	173 LT	178 LT	NA	NA	NA	NA	NA
Beryllium, Soluble	µg/L															NA	NA	NA	NA	NA
Calcium, Soluble	µg/L		6920	40000	42000	41000	33000					37500 J	38300 J	37900	37500	NA	NA	NA	NA	NA
Chromium, Soluble	µg/L															NA	NA	NA	NA	NA
CHROMIUM (VI), Soluble	µg/L															NA	NA	NA	NA	NA
Cobalt, Soluble	µg/L															NA	NA	NA	NA	NA
Copper, Soluble	µg/L		17.8 J									2020	2100			NA	NA	NA	NA	NA
Iron, Soluble	µg/L		290	2000	2200	2300	2500							2830	2870	NA	NA	NA	NA	NA
Lead, Soluble	µg/L		8.4		0.97 LT	0.8 LT						7.21	10.7			NA	NA	NA	NA	NA
Magnesium, Soluble	µg/L		3560 J	24000	26000	26000	22000					23700 J	24300 J	20800	20800	NA	NA	NA	NA	NA
Manganese, Soluble	µg/L		53.5	1710	1830	1820	1570					1230	1280	1400	1420	NA	NA	NA	NA	NA
Mercury, Soluble	µg/L				0.14 LT											NA	NA	NA	NA	NA
Nickel, Soluble	µg/L													7.8 LT	10.1 LT	NA	NA	NA	NA	NA
Potassium, Soluble	µg/L		1430	3700 LT	3900 LT	4000 LT	2700 J					3690 LT	3840 LT	1980 LT	2730 LT	NA	NA	NA	NA	NA
Selenium, Soluble	µg/L													1.8 LT	1.3 LT	NA	NA	NA	NA	NA
Silver, Soluble	µg/L															NA	NA	NA	NA	NA
Sodium, Soluble	µg/L		224000	230000	260000	260000	210000 J					218000 J	229000 J	94700	93000	NA	NA	NA	NA	NA
Thallium, Soluble	µg/L															NA	NA	NA	NA	NA
Vanadium, Soluble	µg/L		15.1 J									2.34 LT		15.4 LT		NA	NA	NA	NA	NA
Zinc, Soluble	µg/L		24.5				9.6 J					36.4	28.2			NA	NA	NA	NA	NA
1,1,1-Trichloroethane	µg/L																			
1,1,2,2-Tetrachloroethane	µg/L																			
2-Butanone	µg/L																			
2-Hexanone	µg/L		10																	
4-Methyl-2-Pentanone	µg/L																			
Acetone	µg/L		15										6 B						18 B	
Benzene	µg/L												2 J							
Bromoform	µg/L																			
CARBON DISULFIDE	µg/L		3 J						5 J	8										
Chlorobenzene	µg/L												9							
Dibromochloromethane	µg/L																			
Ethylbenzene	µg/L																			
Methyl-iso-butyl ketone	µg/L		8 J																	
Methylene chloride	µg/L						8 B	4 B		4 B	5 B	3 B	1 B						1.2 B	1.1 B
Styrene	µg/L																			
TETRAHYDROFURAN	µg/L		15				43	10	10 U	10 U	10 U			10						2.4 J
Toluene	µg/L																			
Xylene (total)	µg/L																			
Chloride	mg/L		8.8	16.4	17.8	18.1	16					12.5	12.7	11	11	9.1	11.1	8.1	6.9	12.5
Phenolics, Total	mg/L														0.28					
Sulfide as S	mg/L		0.24											88 J	9.4 J	34	100	0.06	0.077	
Sulfate as SO4	mg/L		33.1	76	81.1	106	106					47.8	50.4	38	42	15	43.3	16.7	43.9	13.5
Total Organic Carbon	mg/L		11.8	14.6	16.5	20.8	12.4					16.3	16.15	4.4	4.6	55	2.9	4.61	6.02	10.2
Total Organic Halides (TOX)	µg/L		14	31	45	24	24					35	44	14	14		5.4	13	11.6	51

DuPont Impoundment Operable Unit
Lawreace Todtz Farm Landfill NPL Site
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Sample Number / Date Sampled / Detected Analytes		DU-02-S 3/8/88 Value Q	DU-02-S 3/28/88 Value Q	DU-02-S 6/28/89 Value Q	DU-02-S 6/28/89 Value Q	DU-02-S 10/2/90 Value Q	DU-02-S01 7/30/91 Value Q	DU-02-S02 7/30/91 Value Q	DU-02-S03 7/30/91 Value Q	DU-02-S 1/28/92 Value Q	DU-02-S-FR 1/28/92 Value Q	DU-02-S 7/28/92 Value Q	DU-02-S 04/27/93 Value Q	DU-02-S 10/12/93 Value Q	DU-02-S 1/26/94 Value Q	DU-02-S 4/25/94 Value Q	DU-02-S-FR 4/25/94 Value Q	DU-02-S 6/29/94 Value Q	DU-02-S 10/4/94 Value Q	DU-02-S-FR 10/4/94 Value Q
Aluminum, Total	µg/L	800	810			1030							37.2 LT						49.7 J	28.4 J
Antimony, Total	µg/L																			
ARSENIC, Total	µg/L	84	60	50	30	41.3	34	41	34	29	26	28.8	29	27.2	27.2	24.5	22.8	34.5 J	52.6	52.2
Barium, Total	µg/L	169 J	230			118	280	200	270	180 J	180 J	218	184 LT	103 LT	238	234	227	286	556	555
Beryllium, Total	µg/L													1.5 LT						
Cadmium, Total	µg/L																			
Calcium, Total	µg/L	3800 J	3100			21900	33000 J	24000 J	33000 J	33000	31000	27700	32300	28900	51600	36200	35400	35100	43600	42500
Chromium, Total	µg/L					9.1 J														
CHROMIUM (VI), Total	µg/L														NA					
Cobalt, Total	µg/L																			
Copper, Total	µg/L	17 J	6 J			11.1 J	16 LT	12 LT	10 LT					1.4 LT						
Iron, Total	µg/L	6300	7000	360	19000	8640	400	280	380	610	540	693	1180	378	3830	2960	2800	2310	2200	2140
Lead, Total	µg/L		39 J			3.6	14	21	18						1 LT					
Magnesium, Total	µg/L	760 J	740 J			10600	23000	16000	22000	20000	19000	20800	21000	19300	27600	24900	24400	24400	28000	27600
Manganese, Total	µg/L	130	180	280	1450	971	870 J	610 J	860 J	560	520	623	357	150	2120	2370	2290	1860	1800	1770
Mercury, Total	µg/L																			
Nickel, Total	µg/L	29 J	18 J			12.2			8.2 LT											
Potassium, Total	µg/L	560 J	66			917 J	2000 LT	1600 LT	1900 LT	1100 J	1200 J	1480 LT	957 LT	1680 LT	1390			1030 LT	1470 LT	1470 LT
Selenium, Total	µg/L																			
Silver, Total	µg/L						2 LT		2.3 LT					2.7 LT						
Sodium, Total	µg/L	329000	295000	364000	298000	77500	130000	94000	130000	140000 LT	140000 LT	116000 J	96600	70300	69000	34400	34000	61200	81900	81000
Thallium, Total	µg/L																			
Vanadium, Total	µg/L	23 J	12 J			6.2 J												16.5 LT		
Zinc, Total	µg/L	54	49			35.4	170	130	110			3.6 LT	1.3 LT							
Aluminum, Soluble	µg/L					32 J								NA	NA	NA	NA	NA	NA	NA
Antimony, Soluble	µg/L													NA	NA	NA	NA	NA	NA	NA
ARSENIC, Soluble	µg/L					20.4	23	28 J	30 J	28	28 LT	18.6	22.9	NA	NA	NA	NA	NA	NA	NA
Barium, Soluble	µg/L					67.1 J	240	250	270	170 J	160 J	202	174 LT	NA	NA	NA	NA	NA	NA	NA
Beryllium, Soluble	µg/L													NA	NA	NA	NA	NA	NA	NA
Calcium, Soluble	µg/L					19100	34000	35000	36000	29000	29000	26700 J	31900	NA	NA	NA	NA	NA	NA	NA
Chromium, Soluble	µg/L													NA	NA	NA	NA	NA	NA	NA
CHROMIUM (VI), Soluble	µg/L													NA	NA	NA	NA	NA	NA	NA
Cobalt, Soluble	µg/L													NA	NA	NA	NA	NA	NA	NA
Copper, Soluble	µg/L					11.5 J								NA	NA	NA	NA	NA	NA	NA
Iron, Soluble	µg/L					105	260	210	170	170	230	263	333	NA	NA	NA	NA	NA	NA	NA
Lead, Soluble	µg/L					10.3		0.8 LT	1.3 LT	1.5 J	4.4	8.61		NA	NA	NA	NA	NA	NA	NA
Magnesium, Soluble	µg/L					8880	23000	23000	24000	19000	19000	19800 J	20200	NA	NA	NA	NA	NA	NA	NA
Manganese, Soluble	µg/L					652	770	850	920	480	470	595	357	NA	NA	NA	NA	NA	NA	NA
Mercury, Soluble	µg/L						0.14 LT	0.14 LT						NA	NA	NA	NA	NA	NA	NA
Nickel, Soluble	µg/L													NA	NA	NA	NA	NA	NA	NA
Potassium, Soluble	µg/L					881	2700 LT	2500 LT	2100 LT	1300 J	1300 J	1410 LT	854 LT	NA	NA	NA	NA	NA	NA	NA
Selenium, Soluble	µg/L												1.6 LT	NA	NA	NA	NA	NA	NA	NA
Silver, Soluble	µg/L									2 J	2 J			NA	NA	NA	NA	NA	NA	NA
Sodium, Soluble	µg/L					71600	140000	140000	140000	140000	140000	109000 J	92200	NA	NA	NA	NA	NA	NA	NA
Thallium, Soluble	µg/L													NA	NA	NA	NA	NA	NA	NA
Vanadium, Soluble	µg/L													NA	NA	NA	NA	NA	NA	NA
Zinc, Soluble	µg/L					41.4				5.7 J		40		NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	µg/L																			
1,1,2,2-Tetrachloroethane	µg/L																			
2-Butanone	µg/L																			
2-Hexanone	µg/L																			
4-Methyl-2-Pentanone	µg/L																			
Acetone	µg/L																	7.8 B		
Benzene	µg/L																			
Bromoform	µg/L																			
CARBON DISULFIDE	µg/L													1 J					5.8	4.5 J
Chlorobenzene	µg/L																			
Dibromochloromethane	µg/L																			
Ethylbenzene	µg/L																			
Methyl-iso-butyl ketone	µg/L																			
Methylene chloride	µg/L									7.2 B	6 B	1 B							1.4 B	1.4 B
Styrene	µg/L																			
TETRAHYDROFURAN	µg/L						14.5	9.25 J												4.6 J
Toluene	µg/L										1.06 J									
Xylene (total)	µg/L										1.38 J									
Chloride	mg/L	138	136			5.1	12.2	11.5	11.3	8.1	9	9.8	6.4	6	7.6	5.19	5.12	5.0	6.4	6.5
Phenolics, Total	mg/L																			
Sulfide as S	mg/L	2.2	5.5			0.72							94 J	49				0.0916		
Sulfate as SO4	mg/L	39	100			8.7	64.9	67.8	57.7	55.8	67.1	35.5	19	6.1	35.1	17.6	18.7		5.3	
Total Organic Carbon	mg/L	9.3	7.7			7.6	4.85	8.15	12.1	5.9	6.4	4.95	2.4	31	2	1.57	1.53	2.35	3.4	3.4
Total Organic Halides (TOX)	µg/L					30	30	19	20.5	12	11	13	6.6	6.5		9.7				

DuPont Impoundment Operable Unit
Lawrence Todtz Farm Landfill NPL Site
Sampling/Historical Data
(Page 1 of 4)

Sample Number		DU-01-S		DU-01-S		DU-01-S01		DU-01-S02		DU-01-S03		DU-01-S		DU-01-SFR		DU-01-S		DU-01-S		DU-01-S		DU-01-S	
Date Sampled		3/8/88		3/29/88		7/30/91		7/30/91		7/30/91		1/29/92		1/29/92		7/29/92		04/26/93		10/12/93		4/25/94		10/4/94	
Detected Analytes		Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q
Aluminum, Total	µg/L	170	J	940		2600		410				200		8800		991		128	LT	805		107	LT	8070	J
Antimony, Total	µg/L											21	J							36.7	J				
ARSENIC, Total	µg/L					2.2	LT			33				5.5	J	1.31	LT			3.9	LT			4.6	LT
Barium, Total	µg/L	130	J	140		95	LT	98	LT	88	LT	99	J	250		118	LT	78.3	LT	105	LT	43.9	LT	166	LT
Beryllium, Total	µg/L																							0.37	LT
Cadmium, Total	µg/L																								
Calcium, Total	µg/L	74000		90300		35000	J	43000	J	44000	J	56000		60000		55000		39800		36800		24700		52700	
Chromium, Total	µg/L													30		4	LT					3		11.2	
CHROMIUM (VI), Total	µg/L																								
Cobalt, Total	µg/L													11	J									10.1	LT
Copper, Total	µg/L	19	J	4	J	27		16	LT	19	LT			27		5.72	LT	1.8	LT	5	LT	2	LT	18	LT
Iron, Total	µg/L			990		3300		820		450		430		18100		1630		175		1560		219		14300	
Lead, Total	µg/L					17		22		8.8				11		1.42	LT			2.3	LT			7.3	J
Magnesium, Total	µg/L	26500		32500		12000		14000		15000		18000		20000				13100		12200		8170		19900	
Manganese, Total	µg/L	854		15300		140	J	81	J	44	J	16		1610		81.9		8.2	LT	169		9.5	LT	802	
Mercury, Total	µg/L					0.14	LT							5.1											
Nickel, Total	µg/L	34	J	26	J									46		6.26	LT	7.4	LT						
Potassium, Total	µg/L	2500	J	2400		2600	LT	2400	LT	2500	LT	1500J		3100J		1870	LT			1710	LT			2910	LT
Selenium, Total	µg/L																	2.4	LT	1.9	LT	1.5	LT		
Silver, Total	µg/L																								
Sodium, Total	µg/L	20900		23400		5100		6400		6400		3500	LT	3800	LT	7640	J	3450	LT	4640	LT	3350	LT	8610	
Thallium, Total	µg/L																								
Vanadium, Total	µg/L													24	J									9.5	LT
Zinc, Total	µg/L	29		49		190		140		140				32		16.1	LT	2.2	LT	6.3	LT			2.67	
Aluminum, Soluble	µg/L					330												29.4	LT	NA		NA		NA	
Antimony, Soluble	µg/L											20J								NA		NA		NA	
ARSENIC, Soluble	µg/L																			NA		NA		NA	
Barium, Soluble	µg/L					64	LT	69	LT	72	LT	110	J	110	J	92.3	LT	74.2	LT	NA		NA		NA	
Beryllium, Soluble	µg/L																			NA		NA		NA	
Calcium, Soluble	µg/L					42000		47000		50000		55000		54000		48800	J	40000		NA		NA		NA	
Chromium, Soluble	µg/L											3	J							NA		NA		NA	
CHROMIUM (VI), Soluble	µg/L																			NA		NA		NA	
Cobalt, Soluble	µg/L																			NA		NA		NA	
Copper, Soluble	µg/L					19	LT	14	LT	13	LT							2.6	LT	NA		NA		NA	
Iron, Soluble	µg/L					470				28	LT	32	J	44	J	24.2	LT			NA		NA		NA	
Lead, Soluble	µg/L					3.3		2.5	LT	2	LT					9.03				NA		NA		NA	
Magnesium, Soluble	µg/L					14000		16000		17000		18000		18000		15600	J	12500		NA		NA		NA	
Manganese, Soluble	µg/L					28		6	LT	8.1	LT									NA		NA		NA	
Mercury, Soluble	µg/L					0.14	LT			0.14	LT									NA		NA		NA	
Nickel, Soluble	µg/L															5.88	LT	10	LT	NA		NA		NA	
Potassium, Soluble	µg/L					3000	LT	3000	LT	3000	LT	1500	J	1600	J	1460	LT	1640	LT	NA		NA		NA	
Selenium, Soluble	µg/L																	2.8	LT	NA		NA		NA	
Silver, Soluble	µg/L																			NA		NA		NA	
Sodium, Soluble	µg/L					4900	LT	5700		6200		4400	J	4300	J	4760	LT	3310	LT	NA		NA		NA	
Thallium, Soluble	µg/L																			NA		NA		NA	
Vanadium, Soluble	µg/L																			NA		NA		NA	
Zinc, Soluble	µg/L									6.9	LT	17	J	7.1	J	32.5		2.6	LT	NA		NA		NA	
1,1,1-Trichloroethane	µg/L					2.4	J																		
1,1,2,2-Tetrachloroethane	µg/L																								
2-Butanone	µg/L																								
2-Hexanone	µg/L																								
4-Methyl-2-Pentanone	µg/L																								
Acetone	µg/L			192																					
Benzene	µg/L																								
Bromoform	µg/L																								
CARBON DISULFIDE	µg/L																								
Chlorobenzene	µg/L																								
Dibromochloromethane	µg/L																								
Ethylbenzene	µg/L																								
Methyl-iso-butyl ketone	µg/L																								
Methylene chloride	µg/L			612	J							6.5	B			2	B			1	B			1.5	B
Styrene	µg/L																								
TETRAHYDROFURAN	µg/L																								
Toluene	µg/L			20.9	J							2.8	J												
Xylene (total)	µg/L																								
Chloride	mg/L	22.3		29		13.2		14.4		16		8.8		8.8		28.7		7.7		7.2		7.24		17	
Phenolics, Total	mg/L																								
Sulfide as S	mg/L	0.23		0.42														70	J	42					
Sulfate as SO4	mg/L	76		140		45.7		53.6		53.1		20.1		38.1		31.1		30		32		30.4		45	
Total Organic Carbon	mg/L	9.3		16		2.8		2.3		2.9		1.7		1.9		2		1.3		19		1.41			
Total Organic Halides (TOX)	µg/L					23		14.5		12		10		16		19		12		12		5.5			