

Dupont

Environmental Indicator Evaluation

ADEM

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

POST OFFICE BOX 301463 36130-1463 ♦ 1400 COLISEUM BLVD. 36110-2059

MONTGOMERY, ALABAMA

WWW.ADEM.STATE.AL.US

(334) 271-7700

JAMES W. WARR
DIRECTOR

DON SIEGELMAN
GOVERNOR

November 30, 2001

MEMORANDUM

TO: Stephen A. Cobb, Chief
Hazardous Waste Branch
Land Division

THRU: Vernon H. Crockett, Chief *VHC*
Industrial Facilities Section
Land Division

FROM: Brian C. Espy *BCE*
Industrial Facilities Section
Land Division

SUBJ: Evaluation of status under the RCRA Info Corrective Action Environmental Indicator Event Codes (CA725 and CA750) for the at DuPont Mobile Manufacturing Center, (DuPont) facility in Axis, Mobile County, Alabama
EPA I.D. Number: ALD 093 179 315

Facsimiles: (334)
Administration: 271-7950
General Counsel: 394-4332
Air: 279-3044
Land: 279-3050
Water: 279-3051
Groundwater: 270-5631
Field Operations: 272-8131
Laboratory: 277-6718
Mining: 394-4326
Education/Outreach: 394-4383

I. PURPOSE OF MEMO

This memo is written to formalize an evaluation of the DuPont Mobile Manufacturing Center Axis, Alabama facility's status in relation to the following corrective action event codes defined in the Resource Conservation and Recovery Act Information (RCRA Info) database:

- 1) Current Human Exposures Under Control (CA725),
- 2) Migration of Contaminated Groundwater Under Control (CA750).

Concurrence by the Hazardous Waste Branch Chief is required prior to entering these event codes into RCRA Info. Your concurrence with the interpretations provided in the following paragraphs and the subsequent recommendations is satisfied by dating and signing at the appropriate location within Attachments 1 and 2.

II. HISTORY OF ENVIRONMENTAL INDICATOR EVALUATIONS AT THE FACILITY AND REFERENCE DOCUMENTS

This particular evaluation is the second evaluation for the DuPont Mobile Manufacturing Center Axis, Alabama facility (Axis facility). A previous evaluation was completed by the Environmental Protection Agency (EPA), dated July 09, 1996.



III. FACILITY SUMMARY

The du Pont de Nemours and Co. Inc. (DuPont) Mobile Manufacturing Center manufactures herbicides and insecticides for agricultural uses as well as a few specialty chemicals. The facility is located near the community of Axis, Alabama, approximately 25 miles north of the city of Mobile. The facility occupies roughly 510 acres, with the westernmost 160 acres containing the manufacturing plant. DuPont is bordered to the north by Acordis Cellulosic Fibers Inc., formerly Courtaulds of North America, Ltd., to the west by U.S. Highway 43, to the east by the Mobile River, and to the south by undeveloped woodland owned by Alabama Power.

The facility was underdeveloped prior to the construction of the original manufacturing unit (Unit A) by Shell Chemical Company in 1968. Additional manufacturing units were constructed in 1978 (Unit B) and 1980 (Unit C). Shell Chemical Company owned and operated the facility until it was sold to DuPont on October 1, 1986. DuPont has assumed total control and responsibility for the site.

In 1982, Shell initiated a hydrological assessment of the site, including the installation and monitoring of 49 wells. A contaminant plume including carbon tetrachloride, chloroform, trichloroethylene, methylene chloride, 1,2,4-trichlorobenzene, atrazine and Bladex was discovered. In May 1985, Shell proposed the installation of two extraction wells along the northern property line. The system began operating in December 1985. Recovered groundwater is routed to the wastewater treatment system, which discharges to the Mobile River under a NPDES permit.

Two RCRA Facility Assessments (RFAs) were conducted at this facility, the first in 1983 by Shell, which identified three Solid Waste Management Units (SWMUs): 1) the Former Landfill Area; 2) the Six Acre Foot Pond; and 3) the Four-Acre Foot Pond. The second RFA was performed by A.T. Kearney in 1991. It recommended a RCRA Facility Investigation (RFI) for 3 additional SWMUs and Confirmatory Sampling for 6 SWMUs and 4 Areas of Concern (AOCs). Structural Integrity Testing (SIT) was recommended for 14 sumps and 5 basins.

DuPont received a RCRA operating permit as well as a Hazardous and Solid Waste Amendments (HSWA) permit in March 1987. The HSWA portion of the permit required a RFI for the three SWMUs identified in the 1983 RFA. As part of the RFI Work Plan submitted on August 7, 1987 and approved in May 1988, DuPont agreed to submit an interim letter and status report to EPA. This status report, submitted in November of 1988, included a documentation of current soil and groundwater at the site and a brief summary of the RFI Work Plan. It was entitled "Task 9.2 Status Report / RFI Work Plan" and proposed the installation of six monitoring wells within the manufacturing area and two monitoring wells and one soil boring at the Four-Acre Foot Pond. This was approved by EPA in November 1992.

On August 18, 1989, an area of contaminated soil was discovered by DuPont while excavating a trench for placement of electrical conduits. On August 30, 1989, DuPont notified EPA and the Alabama Department of Environmental Management (ADEM) of this area and the Agencies determined that it was a newly identified SWMU, identified as the Field Burner Area. A RFI Report was submitted in September 1991 and revised in September 1992, in response to EPA and ADEM comments. These comments called for groundwater sampling to be conducted in conjunction with the RFI, which was to be conducted under the HSWA permit modification discussed below.

Subsequent to the second RFA, the HSWA permit was modified on February 26, 1993 to include 3 additional SWMUs requiring RFI and additional 6 SWMUs and 4 AOCs requiring Confirmatory Sampling. SIT was required for 14 sumps and 5 basins. A Confirmatory Sampling Work Plan was submitted March 1993 and revised April 1996. A SIT Work Plan was approved June 1994 and a SIT Report was submitted in May 1996. Included with the draft permit in August 1992 was a request from EPA and ADEM that DuPont install monitoring wells along the facility's northern boundary to determine the effects of heavy pumping from the surficial aquifer at the neighboring Courtaulds facility (presently Acordis). DuPont submitted a work plan entitled "RFI Work Plan for Additional Perimeter Monitoring Wells." This plan was verbally approved by EPA in July 1993. On March 10, 1997 ADEM accepted DuPont's Certification of Closure of the former Boiler and Industrial Furnace (BIF) Units. A Permit Renewal as a HSWA - only corrective action permit was issued by ADEM on July 21, 1997. On July 29, 1998, ADEM approved DuPont's Confirmatory Sampling (CS) Report. An Interim Measures (IM) Workplan dated October 1, 1998, as revised January 6, 1999 was submitted due to the hazardous constituents present in the groundwater not being contained in the extraction well system as described in the 1997 Annual Report. The IM Workplan was approved by the Department on February 3, 1999. On August 23, 1999 ADEM approved the RFI Work Plan dated October 30, 1998, as revised April 8, 1999. The Monitoring Well Plugging and Abandonment Work Plan was approved by ADEM on June 9, 2000. The Confirmatory Sampling Work Plan for SWMU 4D was approved June 14, 2000 by ADEM.

The RFI Report dated March 10, 2000, as revised September 22, 2000 as well as the Phase 2 RFI Work Plan dated September 22, 2000 was approved by ADEM on October 27, 2000. The RFI Report provided information for characterizing and detecting potential releases from selected SWMUs at DuPont. The report concluded that three SWMUs (SWMUs 59, 68, and 77) contained constituents that exceeded risk-based screening levels. The Phase 2 RFI Work Plan's purpose was to collect additional data needed to determine the degree and extent of the hazardous constituents that exceeded risk-based screening levels recognized in the initial RFI at SWMU 59 (Field Burning Area), SWMU 68 (Six Acre Pond), and SWMU 77 (Former Landfill). On February 21, 2001 DuPont submitted a Corrective Measures Study (CMS) Work Plan which addressed SWMU 59, SWMU 77, and site-wide groundwater. The Department issued DuPont a Notice of Deficiency (NOD) regarding the CMS Work Plan. DuPont sent a revised CMS Work Plan dated October 31, 2001, which addressed the comments issued by the Department.

IV. CONCLUSION FOR CA725

It is recommended that **YE** be entered into RCRA Info for **CA725** for DuPont. Based on the results of soil sampling and analysis conducted to characterize potential releases from SWMUs at DuPont under the RCRA Facility Investigation (RFI) Report, constituents were detected above appropriately protective risk-based criteria. The criteria used in evaluating the soil data were those specified in the SWMU Corrective Action Permit and approved in the CS and RFI work plans, consisting of guidance set forth in Section 2.5 of *Soil Screening Guidance: User's Guide* (EPA/540/R-96/018, April 1996) and *Soil Screening Guidance: Technical Background document* (EPA/540/R-95/128, May 1996).

Based on the analytical results for all the SWMUs evaluated during these programs, constituents were found at concentrations greater than either the residential risk-based criteria or the industrial risk-based criteria for surface and subsurface soils. However, upon recognition of this fact, the Department requested a review of the risks associated with SWMUs 59 and 77 by the Risk Assessment and Toxicology Branch of the Alabama Department of Public Health (ADPH). ADPH responded by stating, "cumulative risks from contaminants from each of the sites was below levels at which any remedial action would be necessary....It was assumed that the primary route of exposure to contaminants from the soil sites would be via an inhalation pathway from contaminant materials that could volatilize and be released from the ground. The calculations of exposure estimates indicated that these sources under current operating conditions, posed no risk to workers at the site or individuals in areas surrounding the DuPont Mobile Manufacturing Center."

V. CONCLUSION FOR CA750

It is recommended that **YE** be entered into RCRA Info for **CA750** for DuPont. Based on review and analysis of the May 1997 through May 2001 groundwater monitoring data, it appears that the contaminant plume at this site is not migrating and is under hydraulic control. Also, it appears that the pump-and-treat system continues to provide a hydraulic barrier to plume migration. Two additional nested well pairs proposed by the facility along the northern property boundary will provide additional data for plume delineation.

In addition, based on review of the statistical data trends, it appears that chlorinated organic compounds may be undergoing natural degradation processes in groundwater. Additional data analysis should be conducted over time to monitor natural degradation products in groundwater.

Attachments: 1. CA725: Current Human Exposures Under Control
 2. CA750: Migration of Contaminated Groundwater Under Control

ATTACHMENT I
DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo Code (CA725)
Current Human Exposures Under Control

Facility Name: DuPont Mobile Manufacturing Center
Facility Address: P.O. Box 525, Axis, Mobile County, Alabama 36505
Facility EPA ID #: ALD 093 179 315

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

If yes - check here and continue with #2 below,

If no - re-evaluate existing data, or

If data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993 (GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Current Human Exposures Under Control Environmental Indicator (EI) RCRAInfo Event Code (CA725)

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRA Info national database ONLY as long as they remain true (i.e., RCRA INFO status codes must be changed when the regulatory authorities become aware of contrary information).

- Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be “contaminated”¹ above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

Media	Yes	No	?	Rationale/Key Contaminants
Groundwater	X			
Air (indoors) ²		X		
Surface Soil (e.g., <2 ft)	X			
Surface Water		X		
Sediment		X		
Subsurface Soil (e.g., >2 ft)	X			
Air (outdoors)		X		

_____ If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

 X If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale:

¹“Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

²Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

Current Human Exposures Under Control Environmental Indicator (EI) RCRAInfo Event Code (CA725)

Surface and Subsurface Soil:

Based on the results of soil sampling and analysis conducted to characterize potential releases from SWMUs at DuPont under the RCRA Facility Investigation (RFI) Report, constituents were detected above risk-based criteria appropriate for unrestricted land use. The criteria used in evaluating the soil data were those specified in the SWMU Corrective Action Permit for DuPont and approved in the RFI Work Plan. Based on the analytical results for all the SWMUs evaluated during these programs, with the exception of SWMUs 59, 68, and 77, no constituents were found at concentrations greater than the site-specific Soil Screening Levels (SSLs). The SSLs were developed from the *Soil Screening Guidance: Users Guide* for surface and subsurface soils. A thorough discussion of the development of the soil screening levels can be found in the RFI Report dated March 10, 2000. Furthermore, a CMS is currently in progress for SWMUs 59, 77, and groundwater site-wide.

Groundwater:

Historical and recent sampling conducted at DuPont confirms that hazardous constituents are present in groundwater at concentrations above risk-based criteria for protection of human health and the environment. Analytical results for groundwater samples collected at DuPont illustrate detection of a limited number of hazardous constituents (mostly VOCs reported above laboratory detection limits). All of the constituents detected were reported at a concentrations that exceeded Maximum Contaminant Levels (MCLs) with the exception of cis-1,2-dichloroethene and 1-1-dichloroethene. Those constituents exceeding their respective MCL values were chloroform, methylene chloride, carbon tetrachloride, trichloroethene, 1,2,4 trichlorobenzene, and tetrachloroethylene. Additional monitoring wells will be installed north of DuPont's boundary, in the southern parcel of Accordis' property during the first quarter of year 2002.

Surface water/Sediment:

Sampling of soil in the stormwater drainage ditches at DuPont during the CS and RFI indicated that there are no constituents present in the ditches at concentrations above the applicable screening criteria. DuPont's storm water drainage system releases into the Mobile River in accordance with an NPDES permit issued by the Department. A regional study of the Mobile River's surface water and sediment was conducted in 1993 and 1994, but did not detect any significant contamination downstream from the facility. In addition, there are no currently known or suspected releases of constituents from SWMUs to surface water.

Air:

Sampling of the soils at SWMUs 59 and 77 indicated elevated levels of VOCs were above site-specific soil screening levels within the 0-2 foot range. Therefore, the Department requested a review of the risks associated with SWMUs 59 and 77 by the Risk Assessment and Toxicology Branch of the Alabama Department of Public Health (ADPH). ADPH responded by stating, "cumulative risks from contaminants ... was below levels at which any remedial action would be necessary. It was assumed that the primary route of exposure to contaminants ... would be via an inhalation pathway from contaminant materials that could volatilize and be released from the ground. The calculations of exposure estimates indicated that...under current operating conditions, (these sources) posed no risk to workers at the site or individuals in areas surrounding the DuPont Mobile Manufacturing Center."

Current Human Exposures Under Control Environmental Indicator (EI) RCRAInfo Event Code (CA725)

References:

RCRA Facility Investigation Report, March 10, 2000
RCRA Facility Investigation Phase 2 Work Plan, September 22, 2000
Corrective Measures Study Work Plan (draft), February 21, 2001
Drinking Water Standards and Health Advisories, Summer 2000
Alabama Department of Public Health Memorandum, September 06, 2001

Current Human Exposures Under Control Environmental Indicator (EI) RCRAInfo Event Code (CA725)

3. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

<u>Summary Exposure Pathway Evaluation Table</u> <u>Potential Human Receptors (Under Current Conditions)</u>							
<u>“Contami- nated” Media</u>	<u>Residents</u>	<u>Workers</u>	<u>Day- Care</u>	<u>Construction</u>	<u>Trespassers</u>	<u>Recreation</u>	<u>Food³</u>
<u>Groundwater</u>	no	no	no	no	no	no	no
<u>Air (indoors)</u>	N/C	N/C	N/C	N/C	N/C	N/C	N/C
<u>Soil (surface, e.g., <2 ft)</u>	no	no	no	no	no	no	No
<u>Surface Water</u>	N/C	N/C	N/C	N/C	N/C	N/C	N/C
<u>Sediment</u>	N/C	N/C	N/C	N/C	N/C	N/C	N/C
<u>Soil (subsurface, e.g., >2 ft)</u>	no	no	no	no	no	no	no
<u>Air (outdoors)</u>	N/C	N/C	N/C	N/C	N/C	N/C	N/C

Instructions for Summary Exposure Pathway Evaluation Table:

1. For Media which are not “contaminated” as identified in #2, please strike-out specific Media, including Human Receptors’ spaces, or enter “N/C” for not contaminated.
2. Enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have assigned spaces in the above table. While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

- X If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- _____ If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.

³Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

Current Human Exposures Under Control Environmental Indicator (EI) RCRAInfo Event Code (CA725)

_____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale:

Soil samples collected at the Field Burner Area (SWMU 59) were contaminated with volatile organic compounds (VOCs) and pesticides, many of which are located in the 0-2 ft. bgs range. The maximum concentrations of chloroform, 1,1,2,2-tetrachloroethane, tetrachloroethene, trichloroethene, dichloroacetic acid, pentachloroacetophenone (PCAP), and *Rabon* (tetrachlorovinphos) were all found in concentrations greater than the site-specific soil screening levels. DuPont has installed a fence barrier as an institutional control to minimize exposure to this area.

Soil samples collected at the Former Landfill (SWMU 77) indicated that five samples ranging in depth from 10 to 28 feet bgs contained detectable concentrations of one (or more) of five VOCs. The maximum concentrations of chloroform, 1,2,4-trichlorobenzene, trichloroethene, dichloroacetic acid, and *Rabon* (tetrachlorovinphos) were all found in concentrations greater than the site-specific soil screening levels. The upper zone of soil, ranging from 0 to 10 feet bgs, contains clean fill material that was applied after the SWMU had been excavated. Currently, direct contact to with subsurface soil is only possible in the event of excavation; however exposure to workers is prevented by DuPont's excavation permitting procedure. This procedure requires the signature of several facility personnel, including environmental personnel.

Under the current conditions at DuPont, there is not a complete pathway between the groundwater contamination and human receptors. The facility utilizes the LeMoyne Water District as their source of potable water; therefore, the affected groundwater is not currently being used. The flow of groundwater is currently to the north, which is away from the public water supply wells located to the south. Hence, the contaminated groundwater at the site does not pose a risk to the public supply wells. In addition, the groundwater does not contaminate any surface water.

References:

RCRA Facility Investigation Report, March 10, 2000
RCRA Facility Investigation Phase 2 Work Plan, September 22, 2000
Corrective Measures Study Work Plan (draft), February 21, 2001
Drinking Water Standards and Health Advisories, Summer 2000

Current Human Exposures Under Control Environmental Indicator (EI) RCRAInfo Event Code (CA725)

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**⁴ (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?

_____ If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

_____ If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

_____ If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s): _____

⁴If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

Current Human Exposures Under Control Environmental Indicator (EI) RCRAInfo Event Code (CA725)

5. Can the "significant" exposures (identified in #4) be shown to be within acceptable limits?

_____ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

_____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and

Reference(s): _____

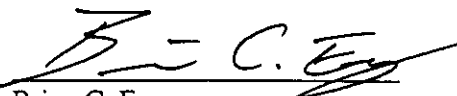
Current Human Exposures Under Control Environmental Indicator (EI) RCRA Info Event Code (CA725)

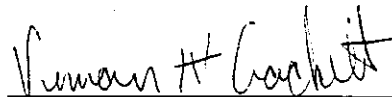
6. Check the appropriate RCRA INFO status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):


YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the DuPont Mobile Manufacturing Center. facility, EPA ID # ALD 093 179 315, located at Highway 43 in Axis, Mobile County, Alabama under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

NO - "Current Human Exposures" are NOT "Under Control."

IN - More information is needed to make a determination.

Completed by:  Date November 30, 2001
Brian C. Espy
Industrial Facilities Section
Hazardous Waste Branch
Land Division

Supervisor:  Date November 30, 2001
Vernon H. Crockett, Chief
Industrial Facilities Section
Hazardous Waste Branch
Land Division

Supervisor:  ^{Dec. 27, 2001}
Date November 30, 2001⁵
Stephen A. Cobb, Chief
Hazardous Waste Branch
Land Division

⁵FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

Current Human Exposures Under Control Environmental Indicator (EI) RCRAInfo Event Code (CA725)

Locations where References may be found:

Alabama Department of Environmental Management
1400 Coliseum Boulevard
Montgomery, Alabama 36110

U.S. EPA Region 4
61 Forsythe Street
Atlanta Federal Center
Atlanta, Georgia 30303

DuPont Mobile Manufacturing Center
P.O. Box 525
Axis, Alabama 36505

Contact telephone and e-mail numbers

Mr. Brian C. Espy, ADEM
(334) 271.7749
bespy@adem.state.al.us

Ms. Frieda L. Ward, DuPont Mobile Manufacturing Center
(251) 679-5204
Frieda.L.Ward@usa.dupont.com

ATTACHMENT 2
DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo Event Code (CA750)
Migration of Contaminated Groundwater Under Control

Facility Name: DuPont Mobile Manufacturing Center
Facility Address: P.O. Box 525, Axis, Mobile County, Alabama 36505
Facility EPA ID #: ALD 093 179 315

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

If yes - check here and continue with #2 below,

If no - re-evaluate existing data, or

If data are not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

RCRA Corrective Action Environmental Indicator (EI) RCRAInfo Event Code (CA750)

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRA INFO national database ONLY as long as they remain true (i.e., RCRA INFO status codes must be changed when the regulatory authorities become aware of contrary information).

2. Is **groundwater** known or reasonably suspected to be "**contaminated**"¹ above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

If unknown - skip to #8 and enter "IN" status code.

Rationale:

As indicated in Attachment 1 of the Environmental Indicator evaluation for the DuPont facility (Documentation of Environmental Indicator Determination, CA 725 – Current Human Exposures Under Control), historical and recent sampling conducted at DuPont confirms that Appendix IX constituents are present in groundwater at concentrations above risk-based criteria for protection of human health and the environment. Analytical results for groundwater samples collected at DuPont illustrate detection of a limited number of Appendix IX constituents (mostly VOCs reported above laboratory detection limits). All of the constituents detected were reported at a concentrations that exceeded Maximum Contaminant Levels (MCLs) with the exception of cis-1,2-dichloroethene and 1-1-dichloroethene. Those constituents exceeding their respective MCL values were chloroform, methylene chloride, carbon tetrachloride, trichloroethene, 1,2,4 trichlorobenzene, and tetrachloroethylene. Additional monitoring wells will be installed north of DuPont's boundary, in the southern parcel of Accordis' property during the first quarter of year

¹"Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

RCRA Corrective Action Environmental Indicator (EI) RCRAInfo Event Code (CA750) 2002.

References:

- RCRA Facility Investigation Report, March 10, 2000
 - 2000 Annual Report Self-Activated Corrective Action Plan, February 28, 2001
 - EPA Drinking Water Standards and Health Advisories, Summer 2000
 - RCRA Facility Investigation – Phase 2 Work Plan, September 22, 2000
3. Has the **migration** of contaminated groundwater **stabilized** such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”⁶ as defined by the monitoring locations designated at the time of this determination?

 X If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”⁶).

 If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the “existing area of groundwater contamination”⁶) - skip to #8 and enter “NO” status code, after providing an explanation.

 If unknown - skip to #8 and enter “IN” status code.

Rationale:

Sampling conducted at DuPont from May 1998 through May 2001 confirms that the migration of contaminated groundwater is under control. The sampling results also indicate that no statistically significant upward or downward trends were identified at a 99% confidence interval for any constituent tested.

During the determination of whether or not the plume has been delineated or not the Department utilized a *Microsoft Excel*® spreadsheet provided by DuPont, which included analytical data from May 1997 through May 2001. Total volatile organic compound (VOC) concentrations (ug/L) were determined for individual wells during each semi-annual sampling event. Total VOC concentrations from semi-annual sampling events were summed and averaged for the calendar year in which the events occurred.

Monitoring well locations were digitized from maps submitted in the facility’s annual groundwater monitoring reports. Monitoring well locations were assigned “X-Y” coordinates and average total VOC concentrations for year 1998 through May 2001 were assigned “Z”

⁶“existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

RCRA Corrective Action Environmental Indicator (EI) RCRAInfo Event Code (CA750)

coordinates. The data was transferred digitally into the mapping software *Surfer*® v.6 by Golden Software. The resulting isoconcentration maps are included in Appendix A.

Based on review of the isoconcentration maps (Appendix A) and data from monitoring locations proximate to the outer perimeter of the plume, it appears that the migration of contaminated groundwater is under control. Also, it appears that the recovery well pump-and-treat system continues to control hydraulic migration and lower overall VOC concentrations.

The Department furthered their investigation in order to confirm the results of the plume being considered delineated. To do this, the Department conducted a statistical analysis for select VOCs in each monitoring well for the period between May 1997 and May 2001 (Appendix B). All chlorinated hydrocarbon constituents detected in groundwater from May 1997 through May 2001 were included in the analysis.

Constituents (ug/L)

- Cis-1,2-Dichloroethene
- 1,1-Dichloroethene
- 1,2,4-Trichlorobenzene
- Carbon Tetrachloride
- Chloroform
- Methylene Chloride
- Trichloroethene
- Tetrachloroethylene

The test chosen to determine statistically significant trends in constituent concentrations was the intrawell (within well) "Sen's Slope Test" which is a combination of Sen's Slope Estimator and Mann-Kendall statistical tests. A "trend" is the general increase or decrease in observed concentrations over time. The software used for statistical calculations was *Sanitas*® v.7.5 by IDT.

The Mann Kendall test is nonparametric, meaning that it does not depend on an assumption of a particular underlying concentration distribution. Two possible hypotheses are tested: 1) No significant trend of a constituent exists over time; and, 2) A significant upward (or downward) trend of a constituent concentration exists over time. The Sen's Slope Estimator is an intrawell statistical test that provides an estimate of the rate of change (i.e. slope) of concentrations over time.

Review of the concentration versus time trend analyses indicates that no statistically significant upward or downward trends were identified at 99% confidence level (two-tailed) for any constituent tested in any well at the facility.

Increasing trends (positive Sen's Slope and Mann Kendall statistic) were identified for the following constituents and wells; however, as stated above, none were identified as statistically significant:

Constituent	Well	Reason
Cis-1,2-Dichloroethene	MOB-54	Detects/ Increasing Detection Limit
1,1-Dichloroethene	MOB-54	Increasing Detection Limit
1,2,4, Trichlorobenzene	MOB-54	Increasing Detection Limit

RCRA Corrective Action Environmental Indicator (EI) RCRAInfo Event Code (CA750)

	MOB E4	Detect
Chloroform	MOB-62	Detects
	MOB-67	Detects
	MOB-76	Detects
Trichloroethene	MOB-59	Detects
	MOB E1	Detects
Tetrachloroethylene	MOB-54	Increasing Detection Limit

Decreasing trends (negative Sen's Slopes and Mann Kendall statistics) or no trends were identified for the remaining constituents and wells. However, as stated above, none were identified as statistically significant. Decreasing trends were noted in all wells with carbon tetrachloride detects.

Based on review and analysis of the May 1997 through May 2001 groundwater monitoring data, it appears that the contaminant plume at this site is not migrating and is under hydraulic control. Also, it appears that the pump-and-treat system continues to provide a hydraulic barrier to plume migration. Two additional nested well pairs proposed by the facility along the northern property boundary will provide additional data for plume delineation.

In addition, based on review of the statistical data trends, it appears that chlorinated organic compounds may be undergoing natural degradation processes in groundwater. Additional data analysis should be conducted over time to monitor natural degradation products in groundwater.

References:

- RCRA Facility Investigation Report, March 10, 2000
- 2000 Annual Report Self-Activated Corrective Action Plan, February 28, 2001
- Combined *Microsoft Excel*® spreadsheet of groundwater monitoring data for May 1997 through May 2001 provided by DuPont
- EPA Drinking Water Standards and Health Advisories, Summer 2000
- RCRA Facility Investigation – Phase 2 Work Plan, September 22, 2000

4. Does “contaminated” groundwater **discharge** into **surface water** bodies?

_____ If yes - continue after identifying potentially affected surface water bodies.

 X If no - skip to #7 (and enter a “YE” status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater “contamination” does not enter surface water bodies.

_____ If unknown - skip to #8 and enter “IN” status code.

Rationale:

A region study of the Mobile River’s surface water and sediment was conducted in 1993 and 1994, but did not detect any significant contamination downstream from the facility. In addition,

RCRA Corrective Action Environmental Indicator (EI) RCRAInfo Event Code (CA750)

there are no currently known or suspected releases of constituents from SWMUs to surface water.

References:

- RCRA Facility Investigation Report, March 10, 2000
- United States Environmental Protection Agency Region 4 E.I. for duPont de Nemours, July 9, 1996

5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration⁸ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature and number of discharging contaminants, or environmental setting) which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration⁸ of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) providing a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration⁸ of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater "levels," providing the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identifying if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale and

Reference(s): _____

³As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

RCRA Corrective Action Environmental Indicator (EI) RCRAInfo Event Code (CA750)

6. Can the **discharge** of “contaminated” groundwater into surface water be shown to be “**currently acceptable**” (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁴)?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site’s surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment “levels,” as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of “contaminated” groundwater can not be shown to be “**currently acceptable**”) - skip to #8 and enter “NO” status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter “IN” status code.

Rationale and
Reference(s): _____

⁴Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

RCRA Corrective Action Environmental Indicator (EI) RCRAInfo Event Code (CA750)

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the “existing area of contaminated groundwater?”

 YE If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the “existing area of groundwater contamination.”

 If no - enter “NO” status code in #8.

 If unknown - enter “IN” status code in #8.

Rationale:

A map of the facility is provided in Figure 1 along with the well/measurement locations. These locations along with the wells that will be installed during the first quarter of 2002 will be tested on a timeframe that will be determined during the Corrective Measures process. Currently, DuPont is sampling groundwater on a semi-annual basis. The purpose of continuing the sampling of the wells is to verify the expectation that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the “existing area of groundwater contamination.” The groundwater sampling events will occur during the spring and fall of the year. Other groundwater activities are described below.


- CMS Work Plan approval by the Department. (Begin Day 1; Duration 1 Day)
- Prepare for RFI Phase 2 Mobilization. (Begin Day 2; Duration 30 Days)
- Perform use survey for groundwater. (Begin Day 2; Duration 65 Days)
- Develop site-wide flow and transport model. (Begin Day 2; Duration 90 Days)
- Perform Natural Attenuation Modeling. (Begin Day 127; Duration 90 Days)
- Perform Permeable Reactive Barrier Column Tests. (Begin Day 252; Duration 90 Days)
- Data Evaluation and Interim Report Preparation. (Begin Day 371; Duration 40 Days)
- Submit Draft Interim CMS Report to ADEM. (Begin Day 427; Duration 1 Day)

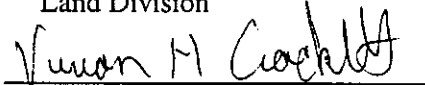
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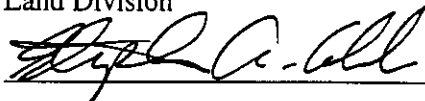
- 2000 Annual Report Self-Activated Corrective Action Plan, February 28, 2001
- RCRA Facility Investigation – Phase 2 Work Plan, September 22, 2000
- Corrective Measures Study Work Plan, October 31, 2001 (currently under Departmental review)

8. RCRA Corrective Action Environmental Indicator (EI) RCRAInfo Event Code (CA750)
Check the appropriate RCRA INFO status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

- YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the DuPont Mobile Manufacturing Center. facility, EPA ID # ALD 093 179 315, located at Highway 43, in Axis, Mobile County, Alabama. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.
- NO - Unacceptable migration of contaminated groundwater is observed or expected.
- IN - More information is needed to make a determination.

Completed by:  Date November 30, 2001
Brian C. Espy
Industrial Facilities Section
Hazardous Waste Branch
Land Division

Supervisor:  Date November 30, 2001
Vernon H. Crockett, Chief
Industrial Facilities Section
Hazardous Waste Branch
Land Division

Supervisor:  Date Dec. 27, 2001
~~November 30, 2001~~
Stephen A. Cobb, Chief
Hazardous Waste Branch
Land Division

RCRA Corrective Action Environmental Indicator (EI) RCRAInfo Event Code (CA750)
Locations where References may be found:

Alabama Department of Environmental Management
1400 Coliseum Boulevard
Montgomery, Alabama 36110

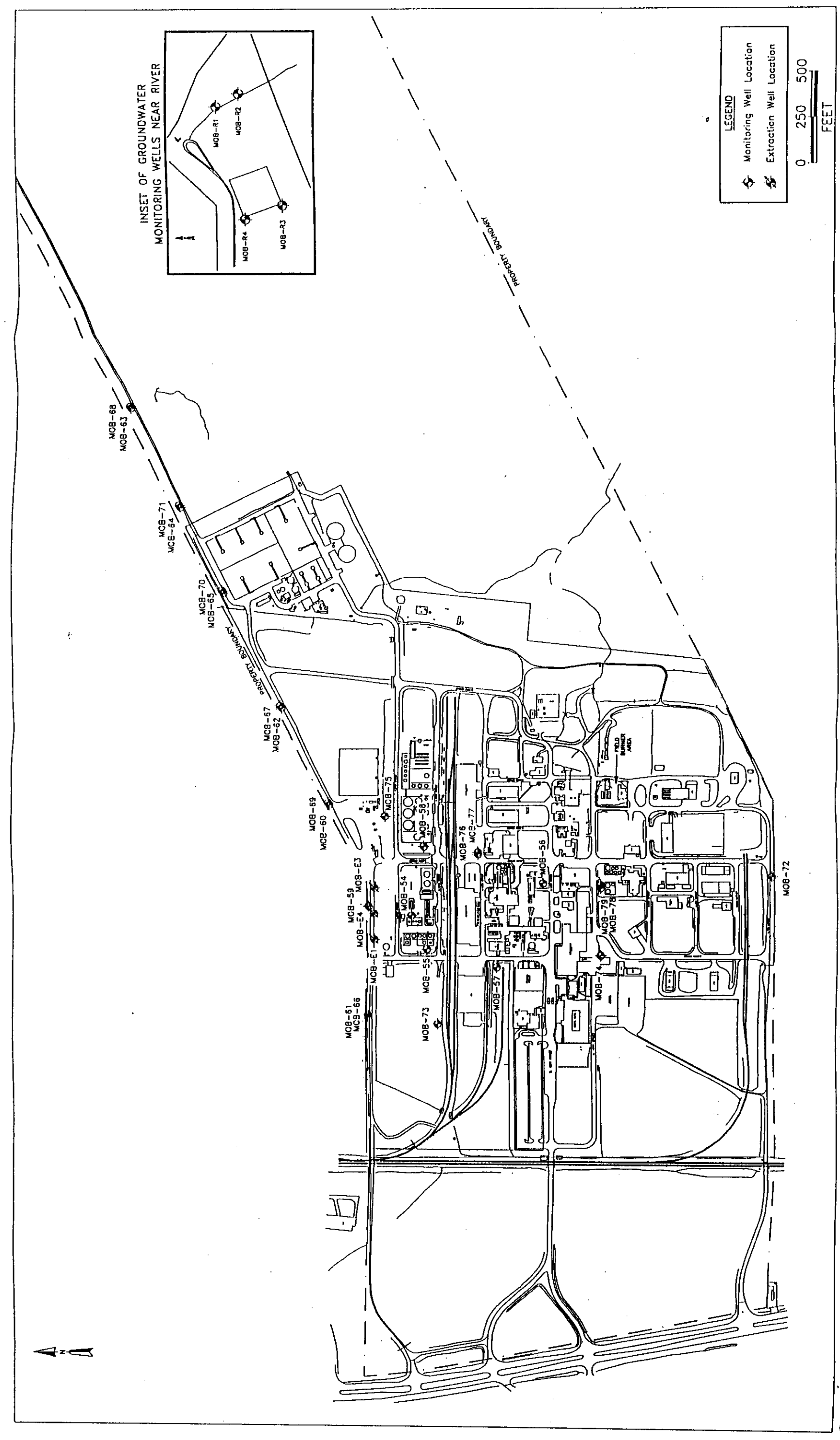
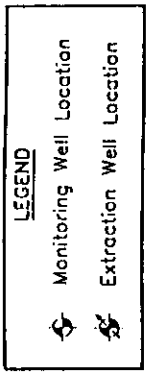
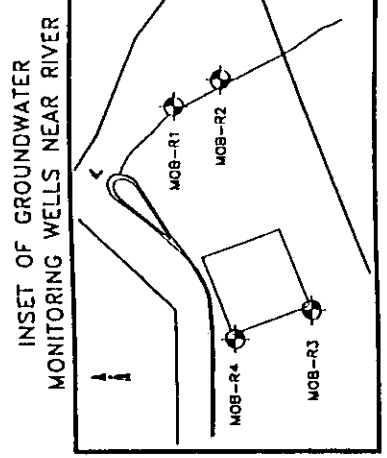
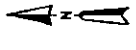
U.S. EPA Region 4
61 Forsythe Street
Atlanta Federal Center
Atlanta, Georgia 30303

DuPont Mobile Manufacturing Center
P.O. Box 525
Axis, Alabama 36505

Contact telephone and e-mail numbers

Mr. Brian C. Espy, ADEM
(334) 271.7749
bespy@adem.state.al.us

Ms. Frieda L. Ward, DuPont Mobile Manufacturing Center
(251) 679-5204
Frieda.L.Ward@usa.dupont.com



FILE: MOBILE\GEO\MAPS\WELLOC98

DUPONT

Corporate Remediation Group
An Alliance between
 DuPont and URS Diamond
 140 Cypress Station Drive, Suite 140
 Houston, Texas 77059

TITLE:
 Well Location Map
 2000 Annual Report Self Activated Corrective Action Plan
 DuPont Mobile Manufacturing Center

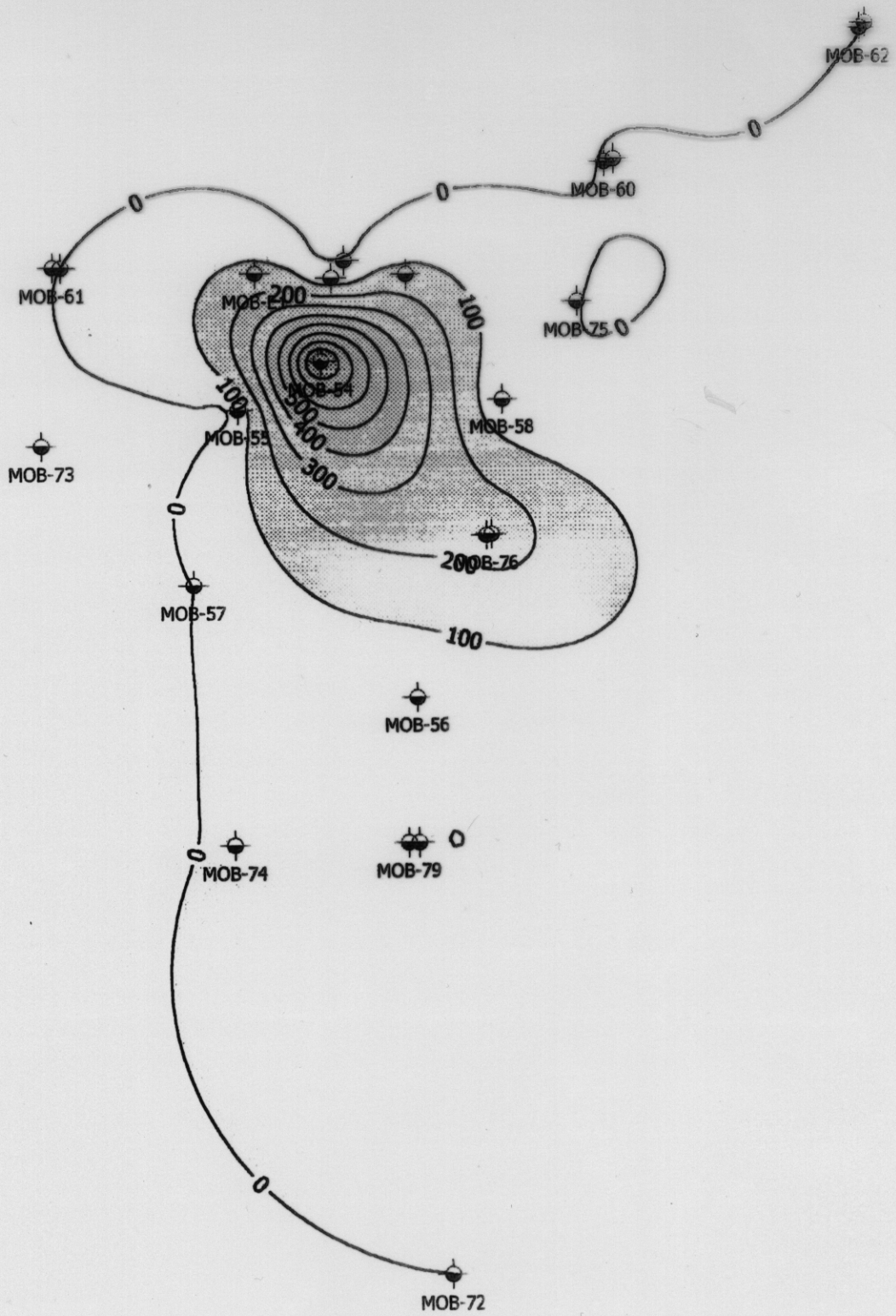
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 APPD: RLL
 REV.:

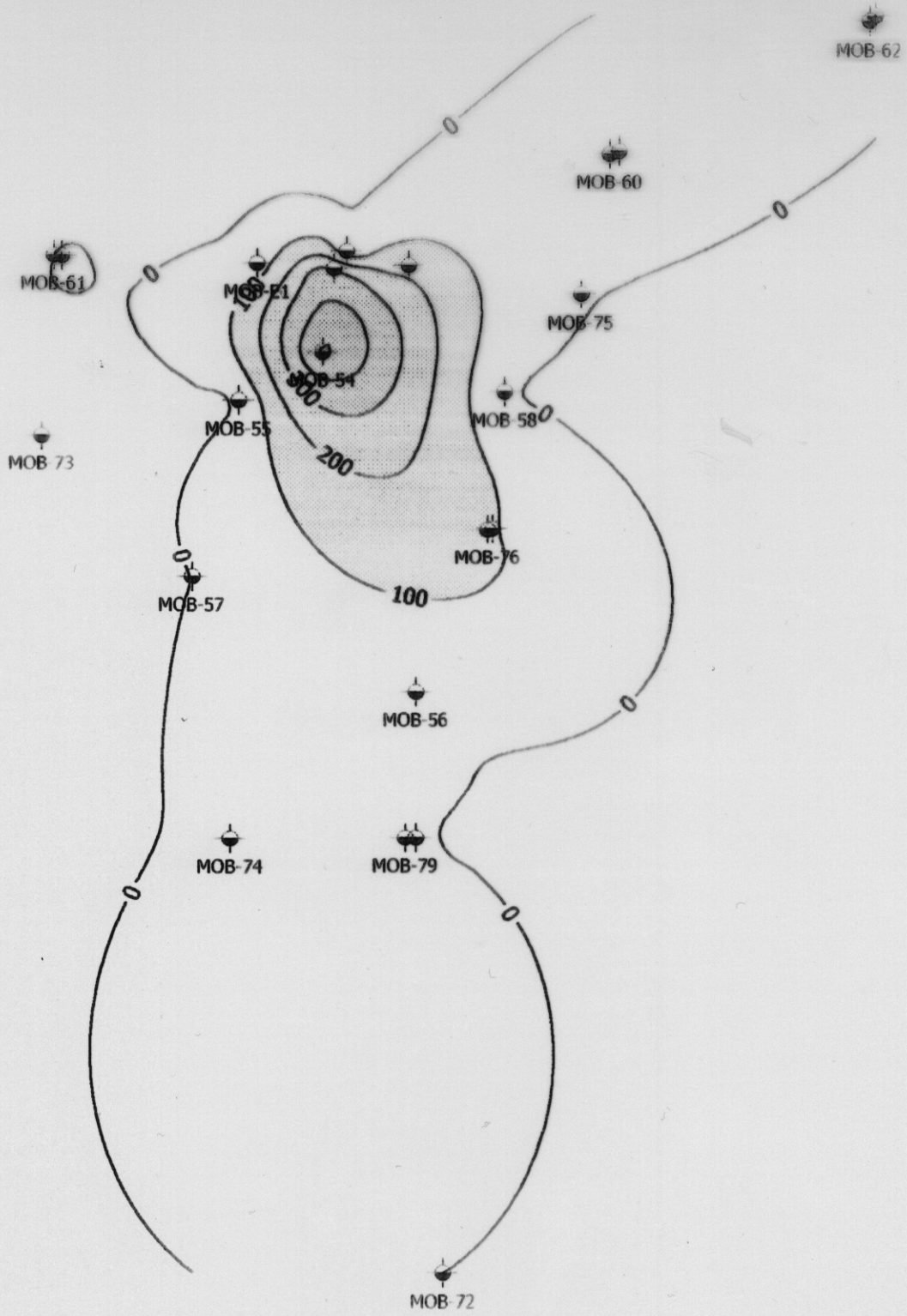
PROJECT NO.: 4133-02
 FIGURE NO.: 1

Appendix A

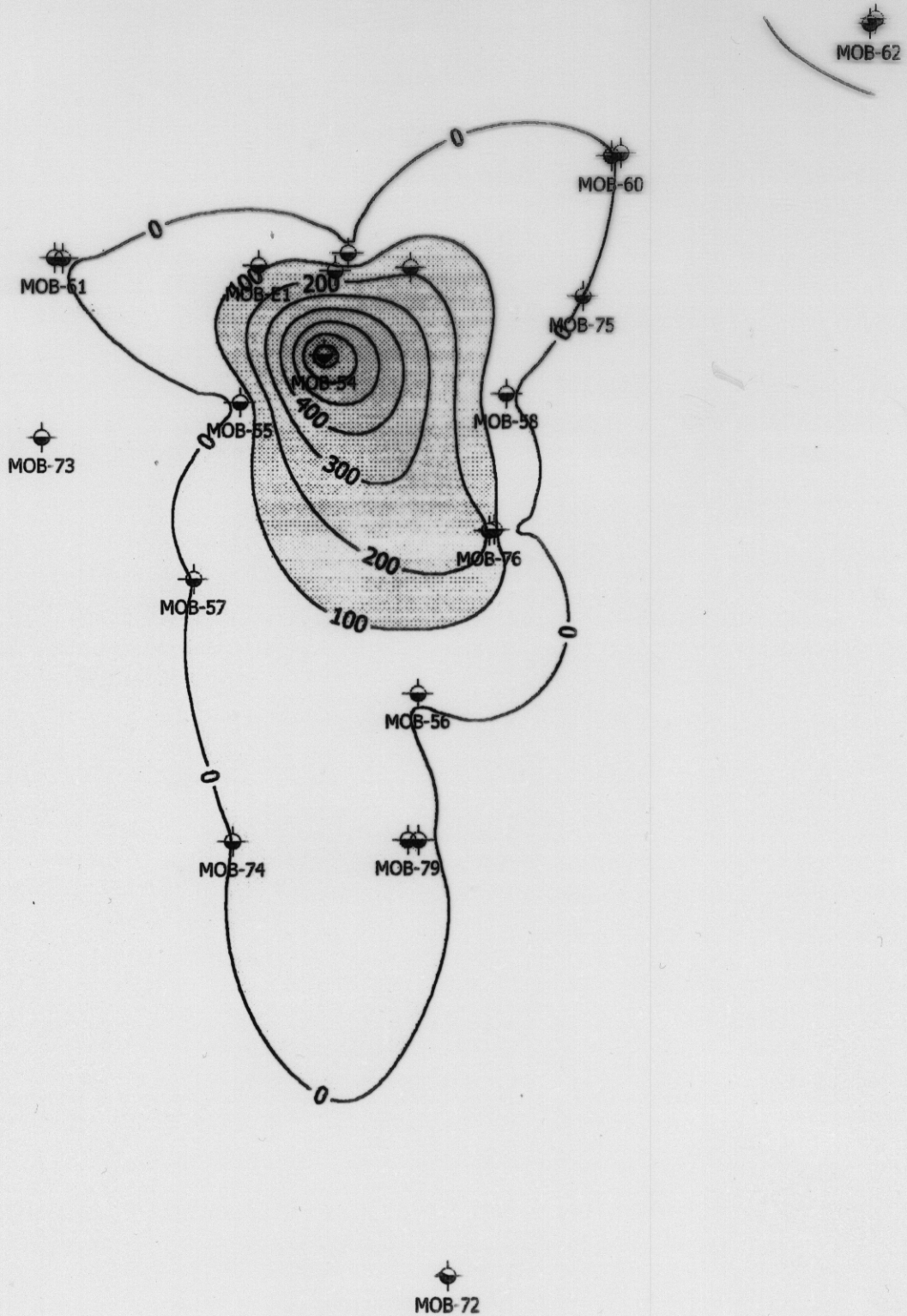
1998



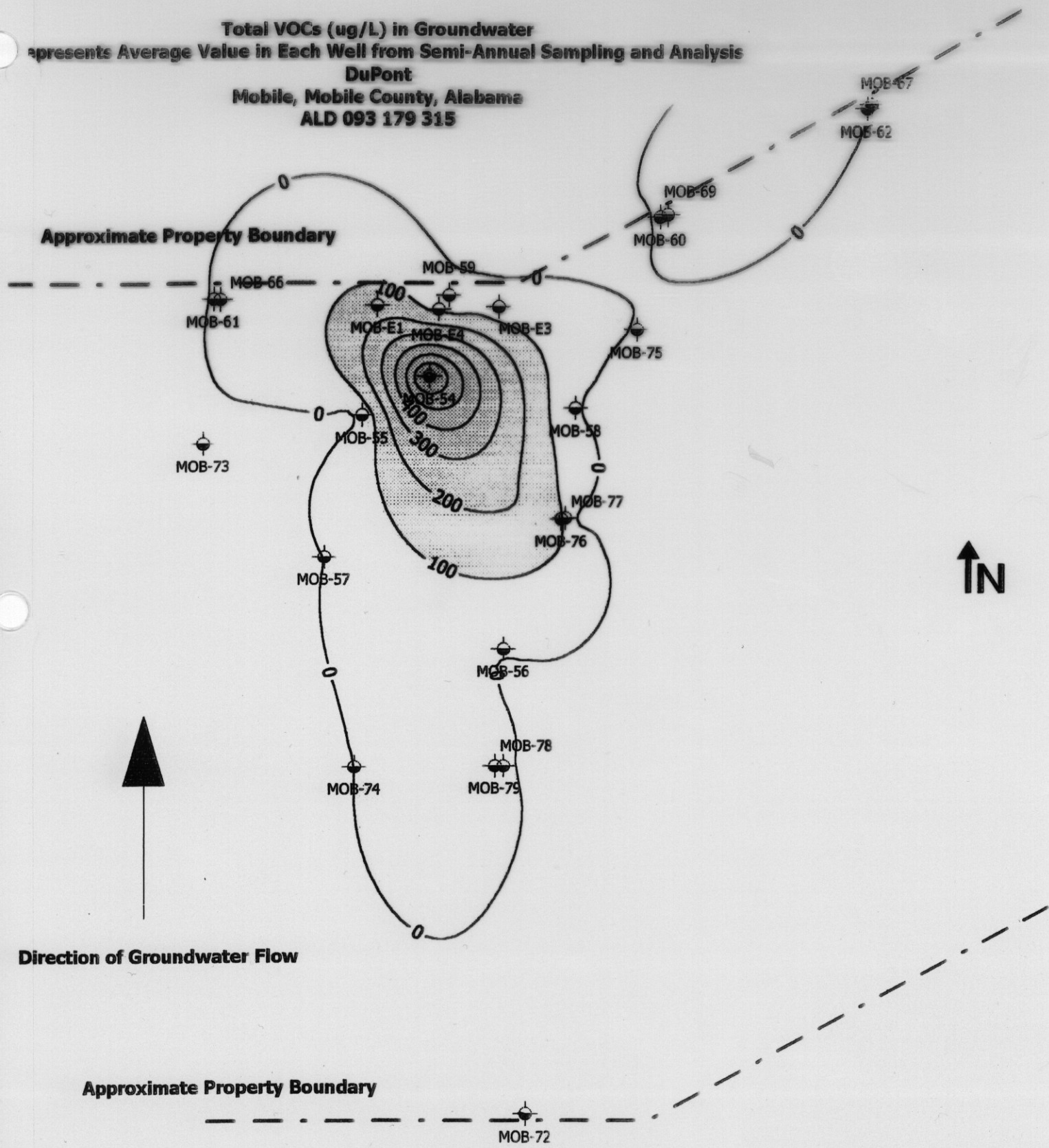
1999



2000



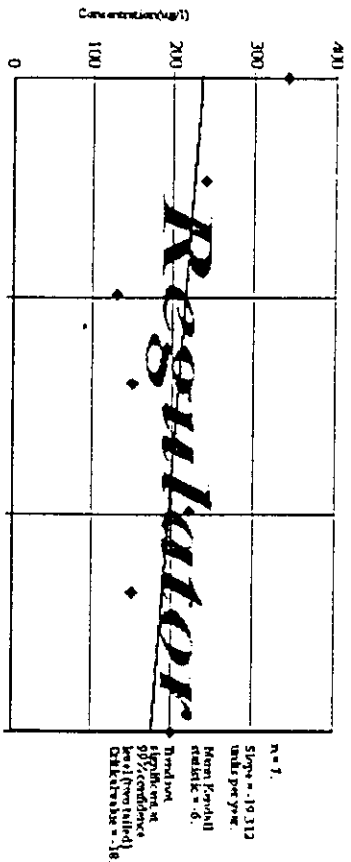
Total VOCs (ug/L) in Groundwater
represents Average Value in Each Well from Semi-Annual Sampling and Analysis
DuPont
Mobile, Mobile County, Alabama
ALD 093 179 315



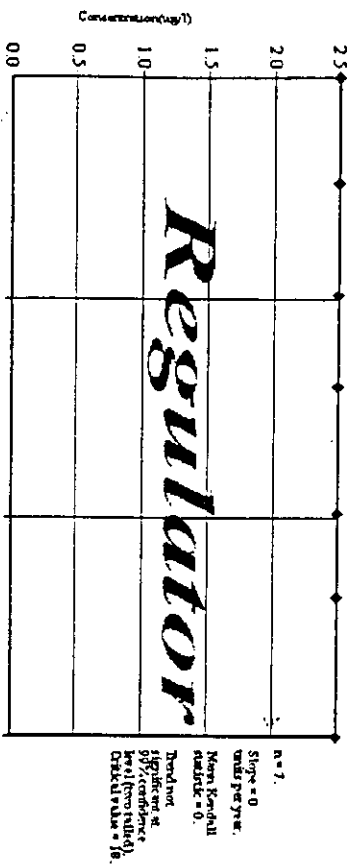
Appendix B

Carbon Tetrachloride

SEN'S SLOPE ESTIMATOR
MOB-54



SEN'S SLOPE ESTIMATOR
MOB-56

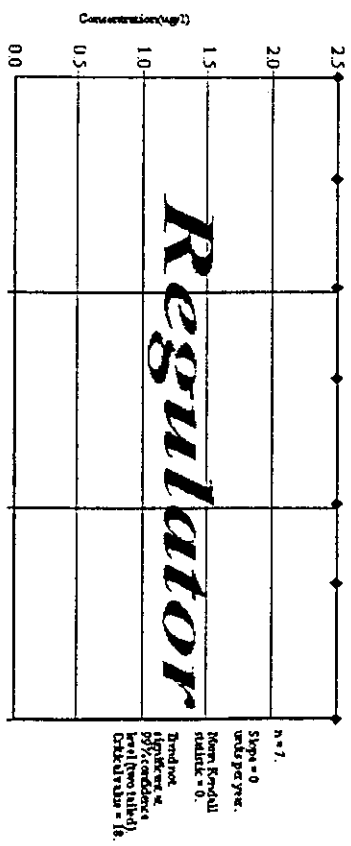


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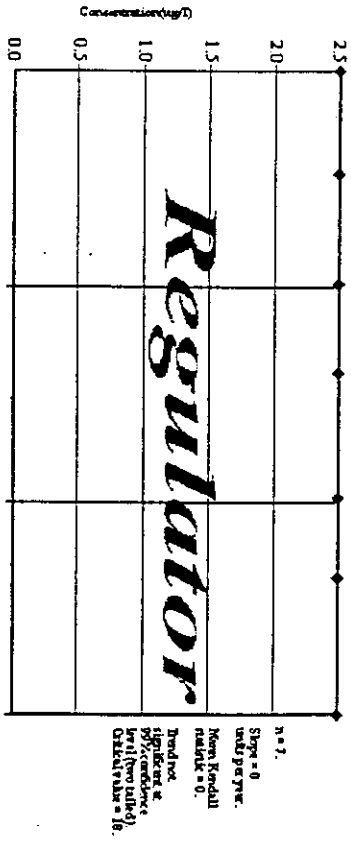
Facility: Leveau X
Client: Regulatory Use

Data File: DUP01T
View: _Bndh_

SEN'S SLOPE ESTIMATOR
MOB-55



SEN'S SLOPE ESTIMATOR
MOB-57

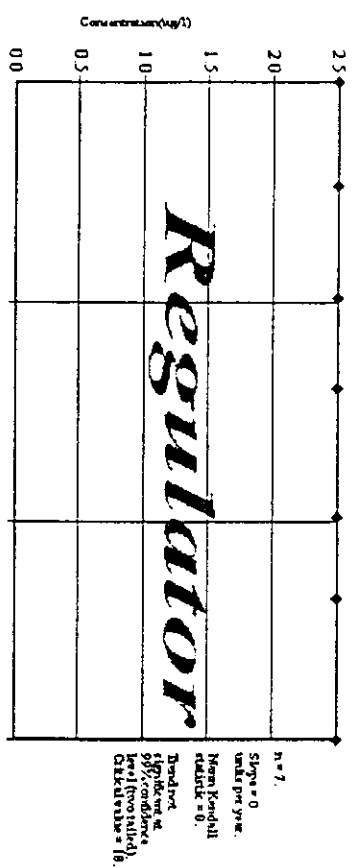


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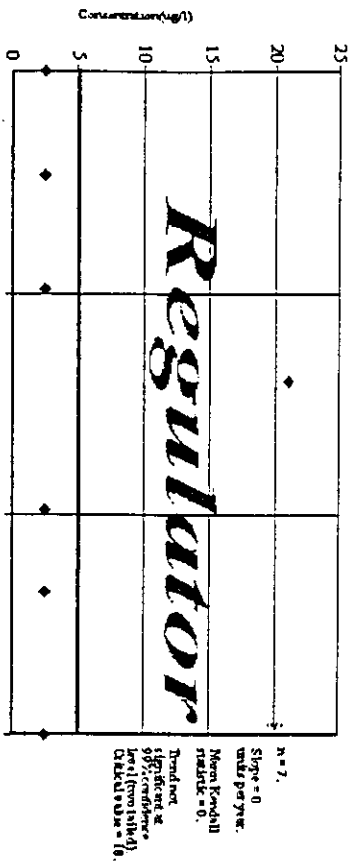
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View: _Bndh_

SEN'S SLOPE ESTIMATOR
MOB-58



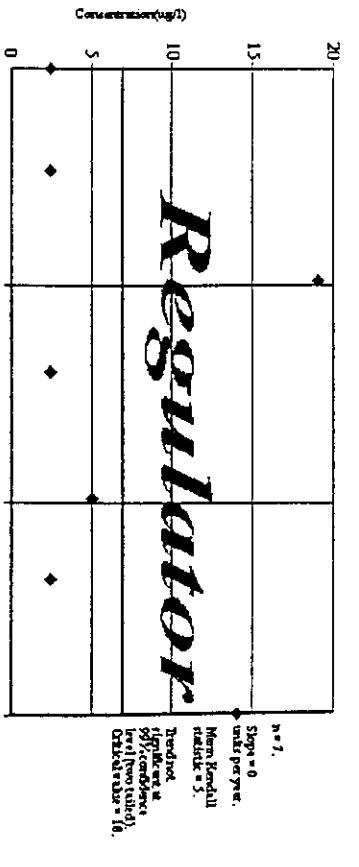
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Data File: DUP01T
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-60



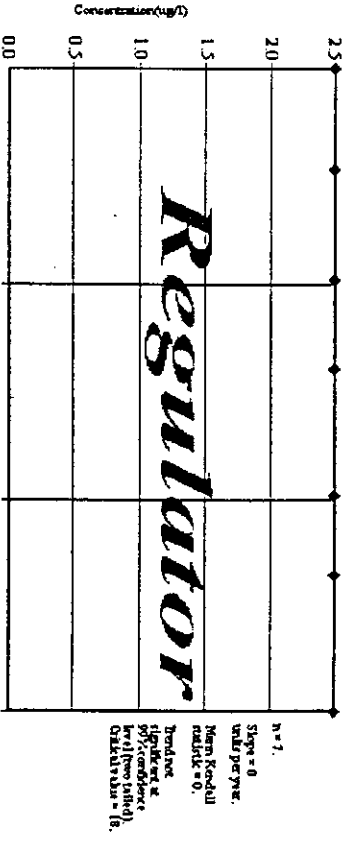
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SEN'S SLOPE ESTIMATOR
MOB-59



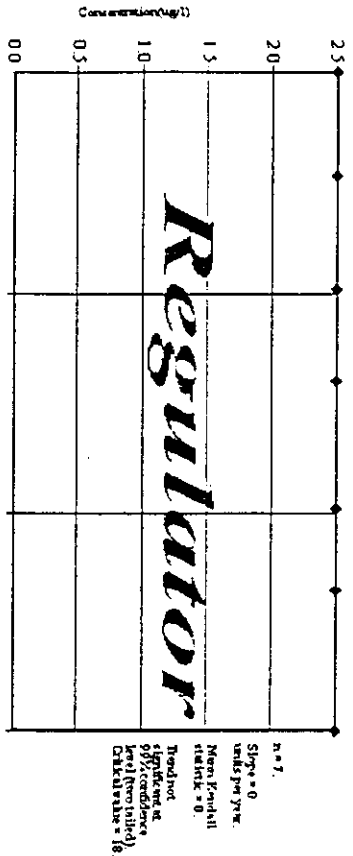
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SEN'S SLOPE ESTIMATOR
MOB-61



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SEN'S SLOPE ESTIMATOR
MOB-62



May 1998

May 1999

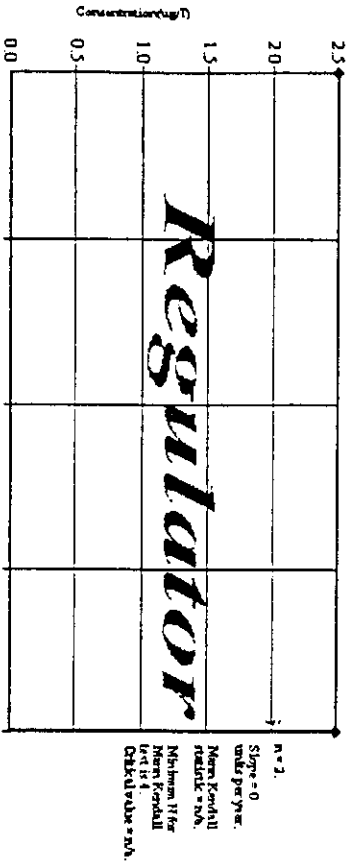
May 2001

Concentration: Carbon tetrachloride (ug/l)
Date: 10/30/01, 9:53 AM

Facility: Lumball X
Client: Regulatory Use

Data File: DUPORT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-64



May 1998

Aug 1998

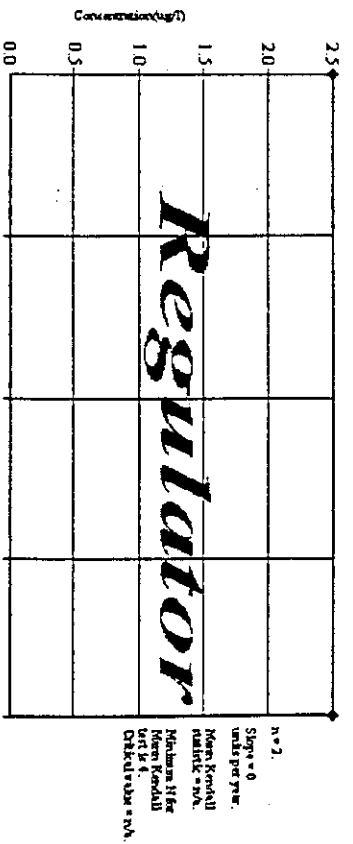
Nov 1998

Concentration: Carbon tetrachloride (ug/l)
Date: 10/30/01, 9:53 AM

Facility: Lumball X
Client: Regulatory Use

Data File: DUPORT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-63



May 1998

Aug 1998

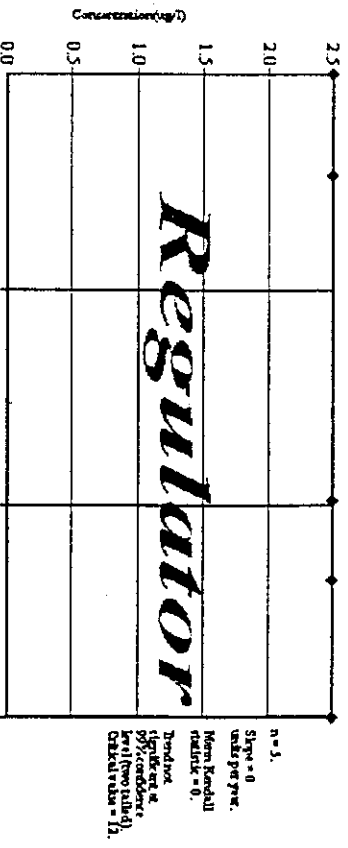
Nov 1998

Concentration: Carbon tetrachloride (ug/l)
Date: 10/30/01, 9:53 AM

Facility: Lumball X
Client: Regulatory Use

Data File: DUPORT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-65



May 1998

Nov 1999

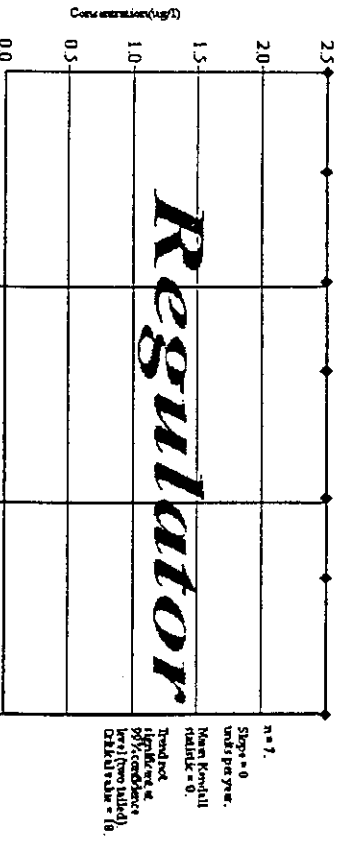
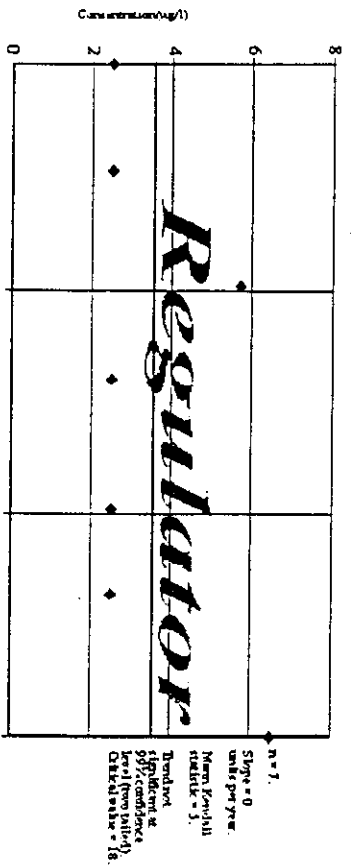
Jan 2001

Concentration: Carbon tetrachloride (ug/l)
Date: 10/30/01, 9:53 AM

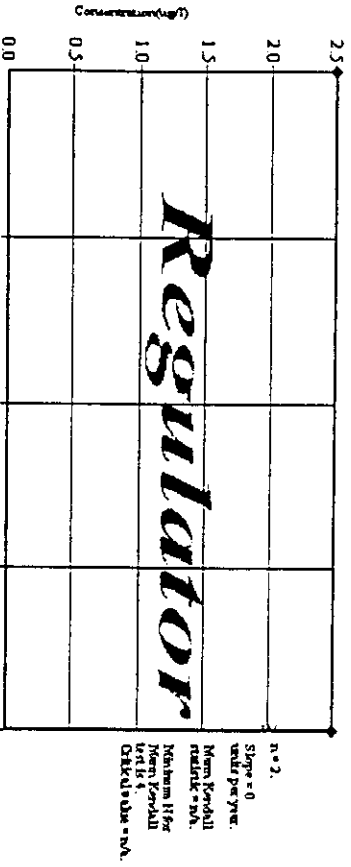
Facility: Lumball X
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Data File: DUPORT
View: _Back_

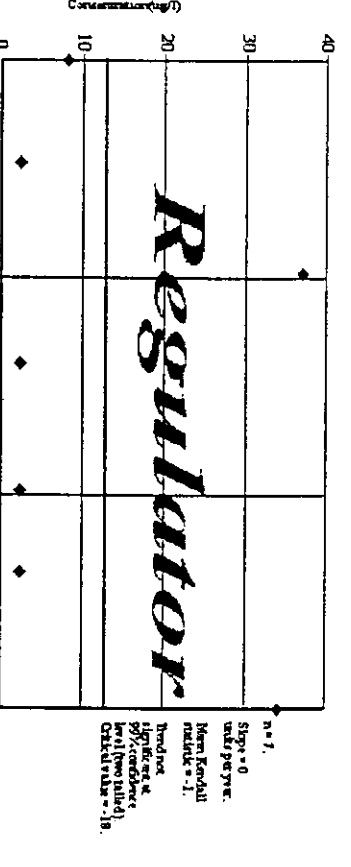
SEN'S SLOPE ESTIMATOR
MOB-66



SEN'S SLOPE ESTIMATOR
MOB-68



SEN'S SLOPE ESTIMATOR
MOB-69



Confidential: Carbon tetrachloride (ug/l)
Date: 10/30/01, 9:53 AM

Facility: Landfill X
Client: Regulatory Use

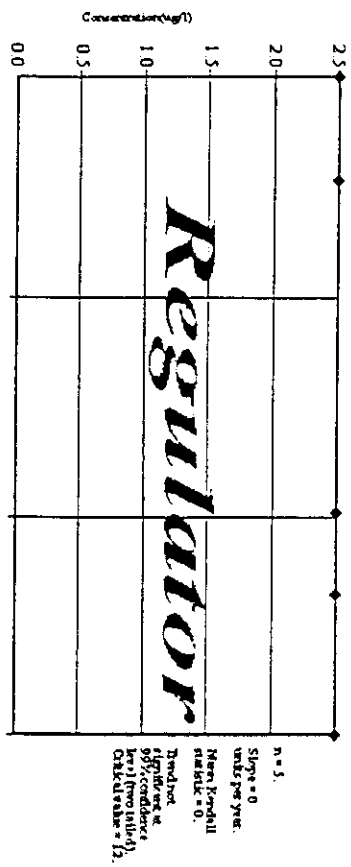
Data File: DUPONT
View: Batch

Confidential: Carbon tetrachloride (ug/l)
Date: 10/30/01, 9:53 AM

Facility: Landfill X
Client: Regulatory Use

Data File: DUPONT
View: Batch

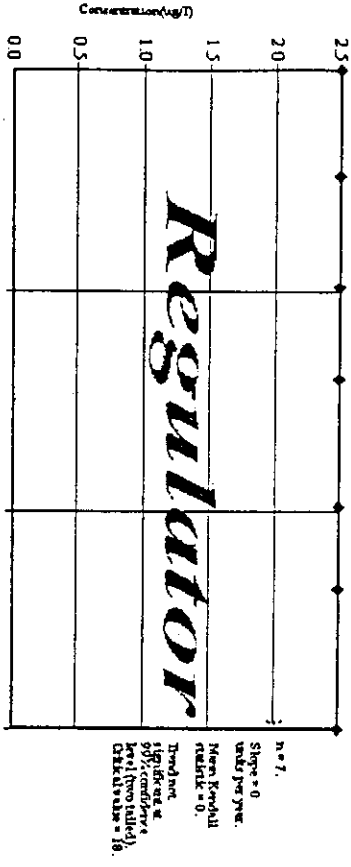
SEN'S SLOPE ESTIMATOR
MOB-70



May 1998 Nov 1999 Jan 2001

Concentration: Carbon tetrachloride (µg/l)
Date: 10/30/01, 9:53 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Batch

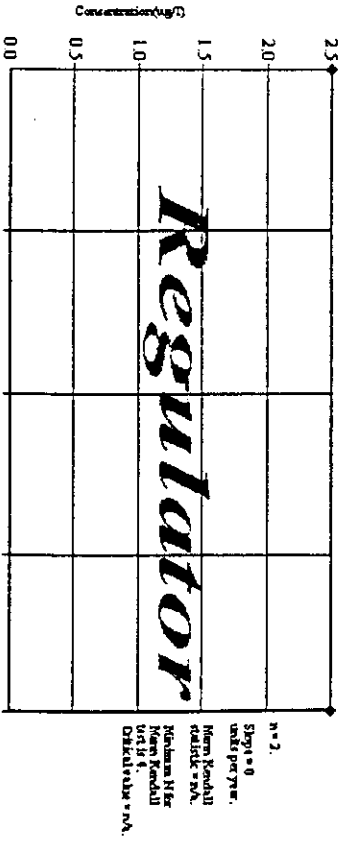
SEN'S SLOPE ESTIMATOR
MOB-73



May 1998 Nov 1999 May 2001

Concentration: Carbon tetrachloride (µg/l)
Date: 10/30/01, 9:53 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Batch

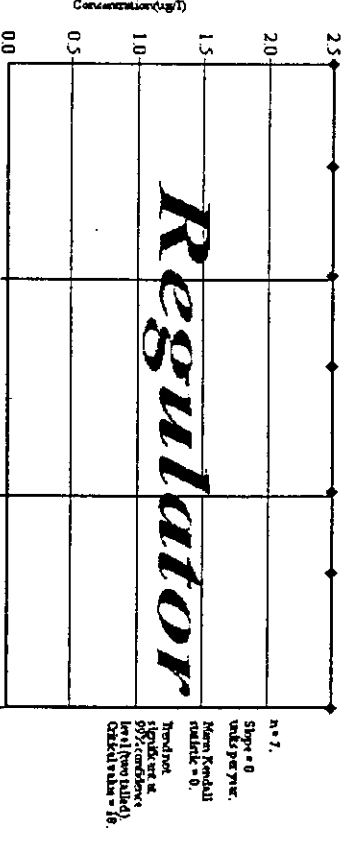
SEN'S SLOPE ESTIMATOR
MOB-71



May 1998 Aug 1998 Nov 1998

Concentration: Carbon tetrachloride (µg/l)
Date: 10/30/01, 9:53 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Batch

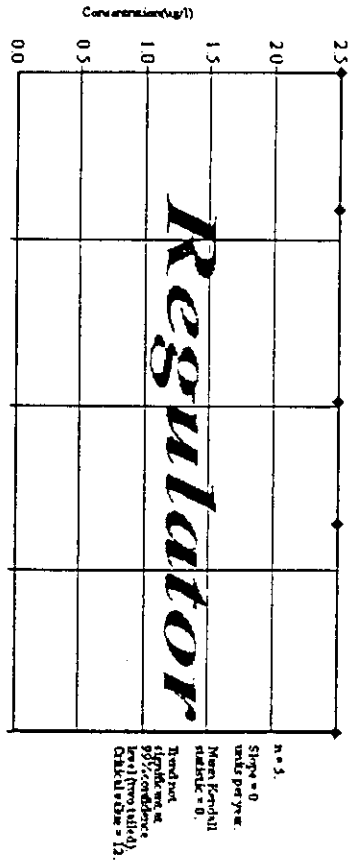
SEN'S SLOPE ESTIMATOR
MOB-74



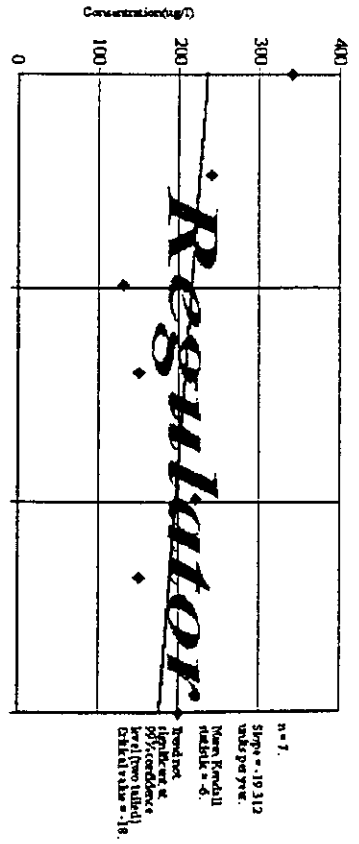
May 1998 Nov 1999 May 2001

Concentration: Carbon tetrachloride (µg/l)
Date: 10/30/01, 9:53 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Batch

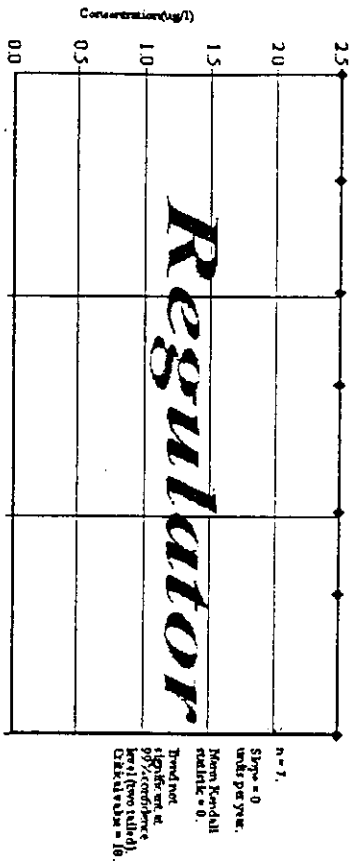
SEN'S SLOPE ESTIMATOR
CNA-07



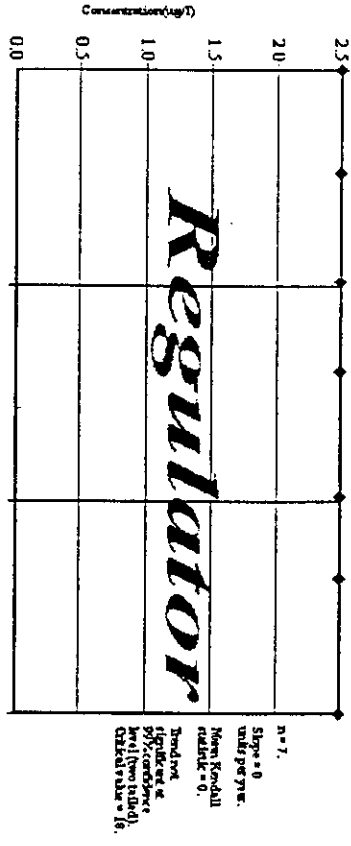
SEN'S SLOPE ESTIMATOR
MOB-54



SEN'S SLOPE ESTIMATOR
MOB-55



SEN'S SLOPE ESTIMATOR
MOB-56



Consolidated: Carbon Monoxide(ug/l)
Date: 10/20/01, 10:01 AM

Facility: Lendall X
Client: Regulatory Use

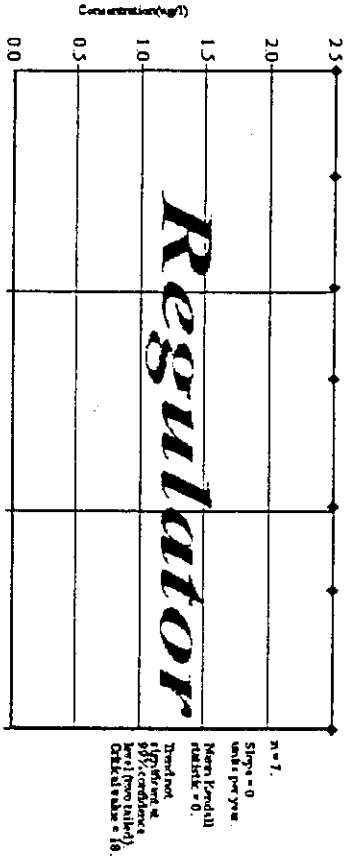
Data File: DUPONT
View: _Back_

Consolidated: Carbon Monoxide(ug/l)
Date: 10/20/01, 10:01 AM

Facility: Lendall X
Client: Regulatory Use

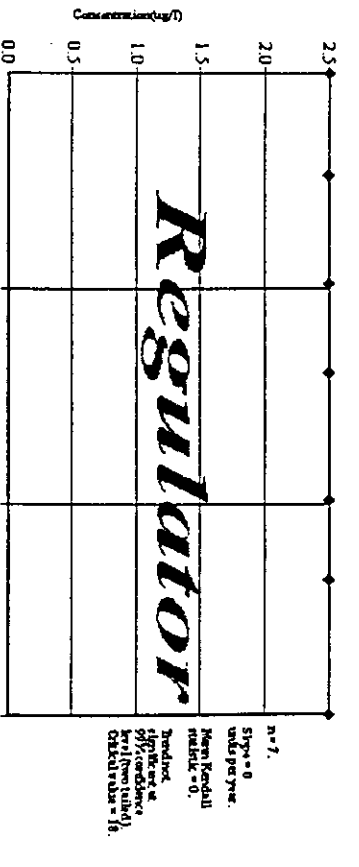
Data File: DUPONT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-74



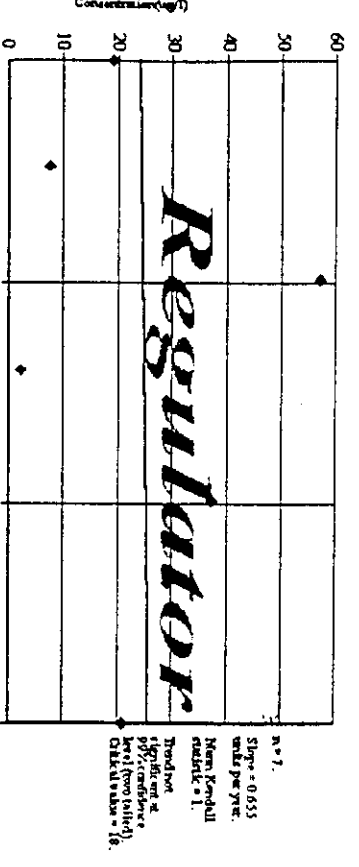
Concentration: Carbon tetrachloride (ug/l)
Date: 10/30/01, 10:02 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-75



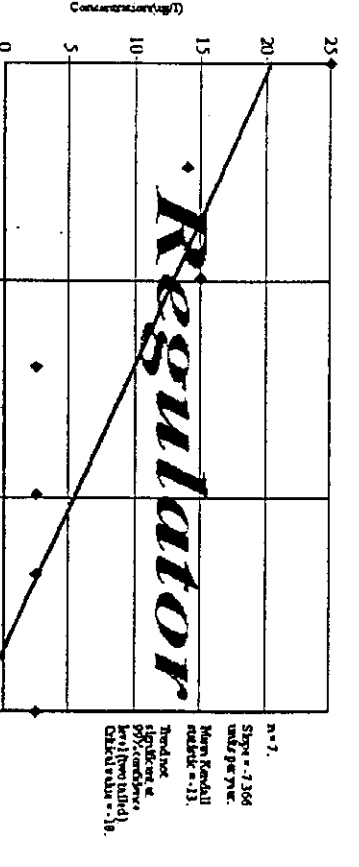
Concentration: Carbon tetrachloride (ug/l)
Date: 10/30/01, 10:02 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-76



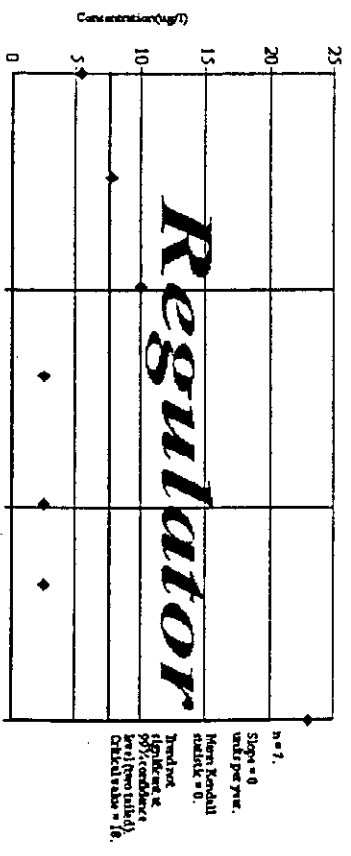
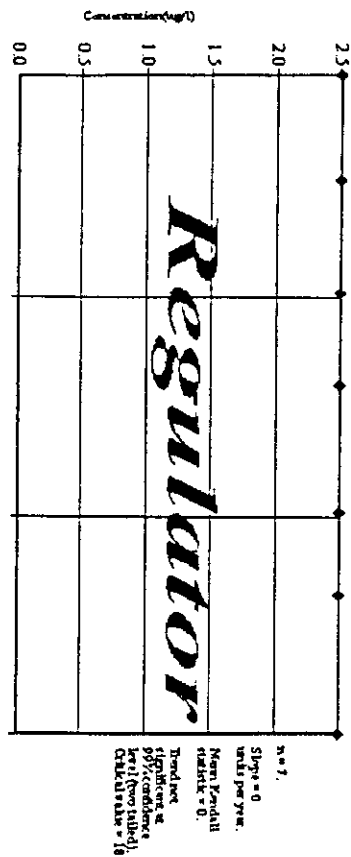
Concentration: Carbon tetrachloride (ug/l)
Date: 10/30/01, 10:02 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-77



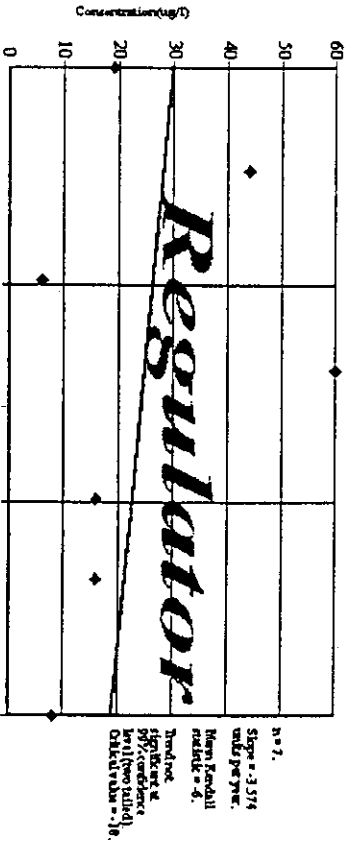
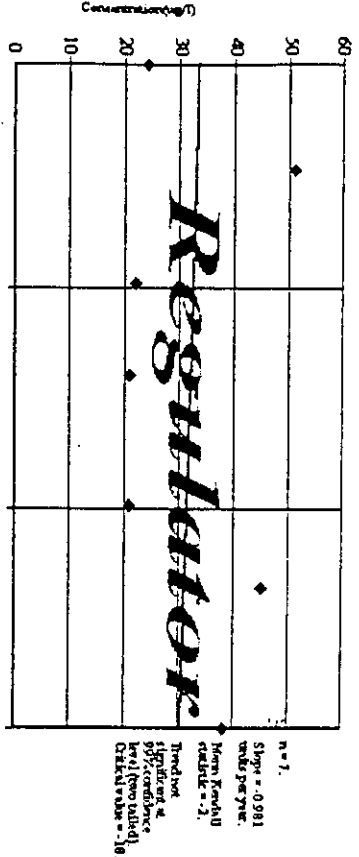
Concentration: Carbon tetrachloride (ug/l)
Date: 10/30/01, 10:02 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-78



SEN'S SLOPE ESTIMATOR
MOB-79

SEN'S SLOPE ESTIMATOR
MOB-E1



SEN'S SLOPE ESTIMATOR
MOB-E3

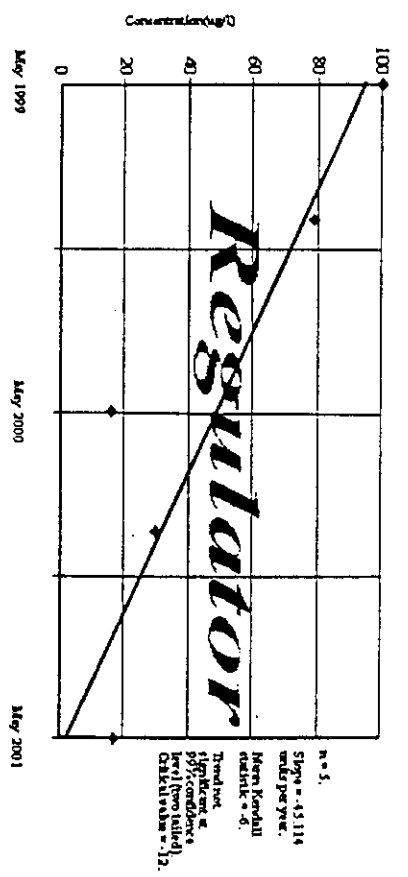
Client: Lumball X
Facility: Regulatory Use
Date: 10/30/01, 10:03 AM

Client: Lumball X
Facility: Regulatory Use
Date: 10/30/01, 10:03 AM

Client: Lumball X
Facility: Regulatory Use
Date: 10/30/01, 10:03 AM

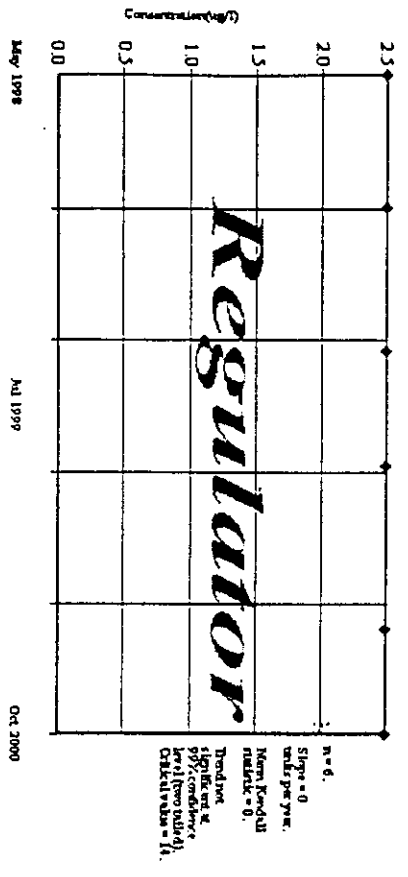
Client: Lumball X
Facility: Regulatory Use
Date: 10/30/01, 10:03 AM

SEN'S SLOPE ESTIMATOR
MOB-EM



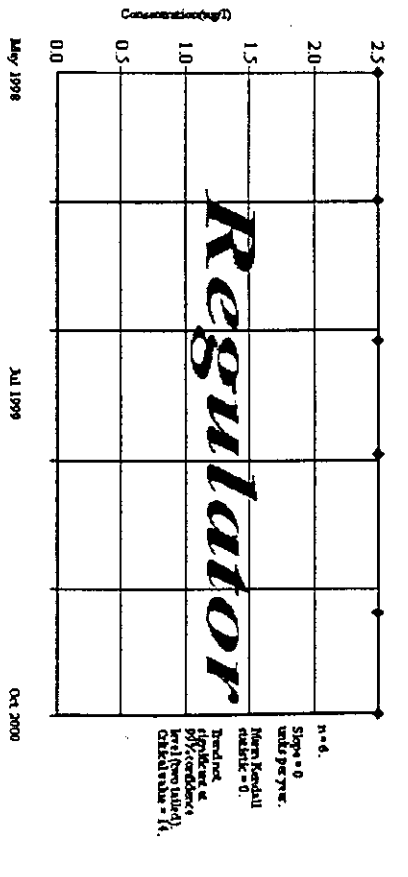
Constituent: Carbon tetrachloride (ug/d)
Date: 10/20/01, 10:02 AM
Facility: Lovell X
Client: Regulatory Use
Data File: DUPONT
View: _BndL_

SEN'S SLOPE ESTIMATOR
MOB-R2



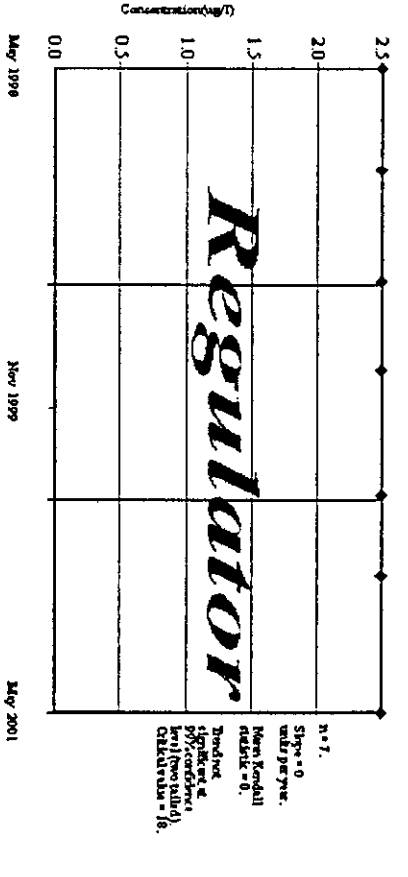
Constituent: Carbon tetrachloride (ug/d)
Date: 10/20/01, 10:02 AM
Facility: Lovell X
Client: Regulatory Use
Data File: DUPONT
View: _BndL_

SEN'S SLOPE ESTIMATOR
MOB-R1



Constituent: Carbon tetrachloride (ug/d)
Date: 10/20/01, 10:02 AM
Facility: Lovell X
Client: Regulatory Use
Data File: DUPONT
View: _BndL_

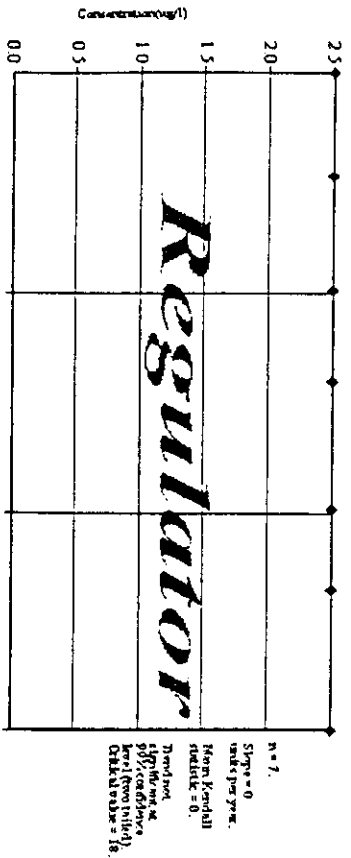
SEN'S SLOPE ESTIMATOR
MOB-R3



Constituent: Carbon tetrachloride (ug/d)
Date: 10/20/01, 10:02 AM
Facility: Lovell X
Client: Regulatory Use
Data File: DUPONT
View: _BndL_

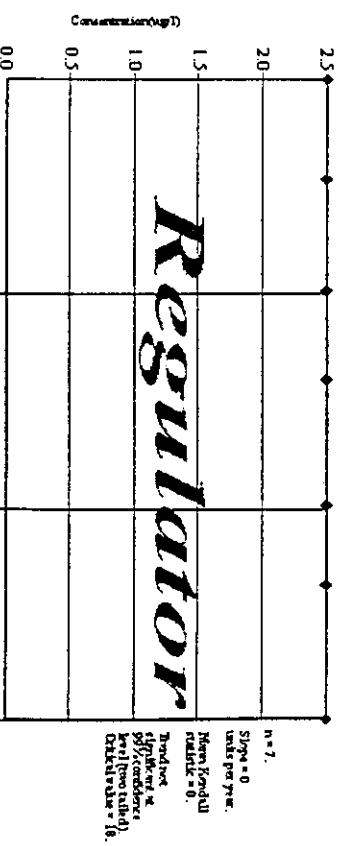
1,2,4-Trichlorobenzene

SEN'S SLOPE ESTIMATOR
MOB-R3



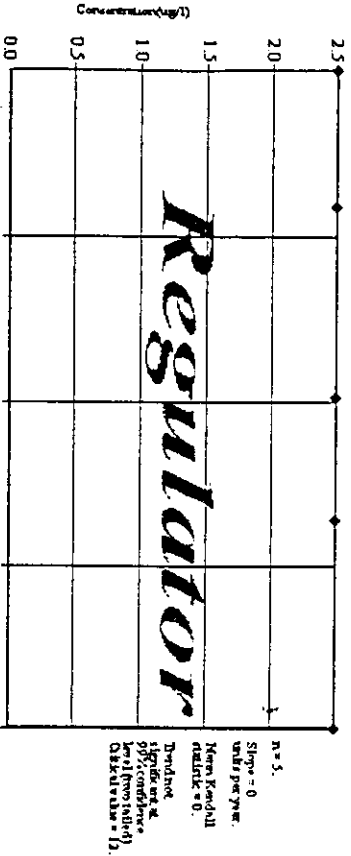
Condition: 11-Regulatory Use (g/d)
Date: 10/30/01, 9:30 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP-DHT
View: _Bnd_

SEN'S SLOPE ESTIMATOR
MOB-R4



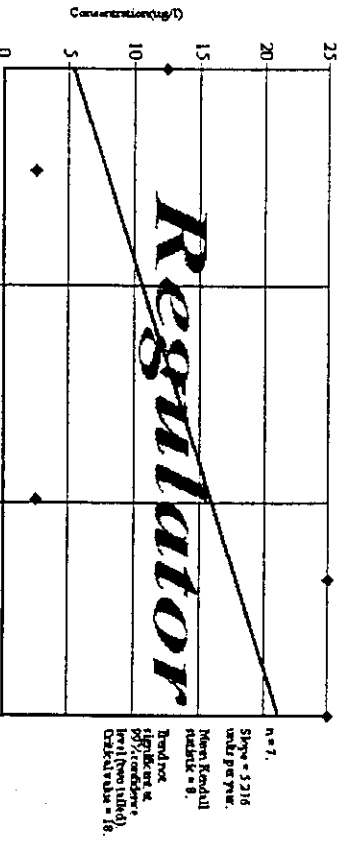
Condition: 11-Regulatory Use (g/d)
Date: 10/30/01, 9:30 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP-DHT
View: _Bnd_

SEN'S SLOPE ESTIMATOR
CNA-07



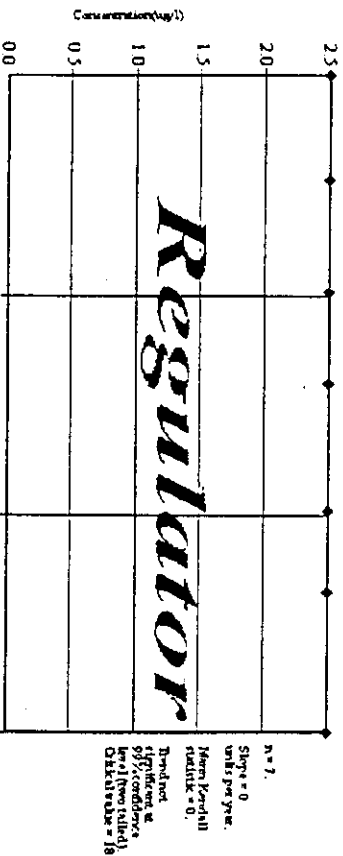
Condition: 11-Regulatory Use (g/d)
Date: 10/30/01, 9:30 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP-DHT
View: _Bnd_

SEN'S SLOPE ESTIMATOR
MOB-S4



Condition: 11-Regulatory Use (g/d)
Date: 10/30/01, 9:30 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP-DHT
View: _Bnd_

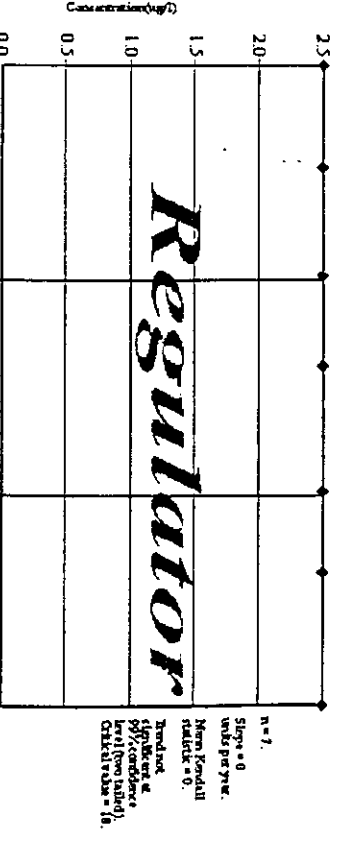
SEN'S SLOPE ESTIMATOR
MOB-55



May 1998 Nov 1999 May 2001

Concentration: 114-234-166-166-166-166-166 (ug/l)
Date: 10/20/01, 9:30 AM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

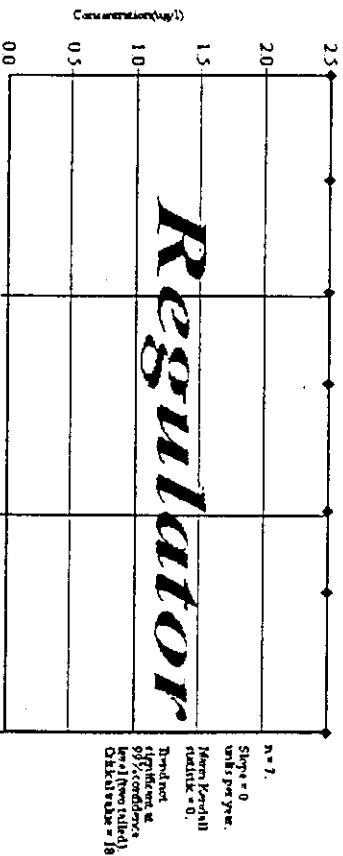
SEN'S SLOPE ESTIMATOR
MOB-56



May 1998 Nov 1999 May 2001

Concentration: 114-234-166-166-166-166-166 (ug/l)
Date: 10/20/01, 9:30 AM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

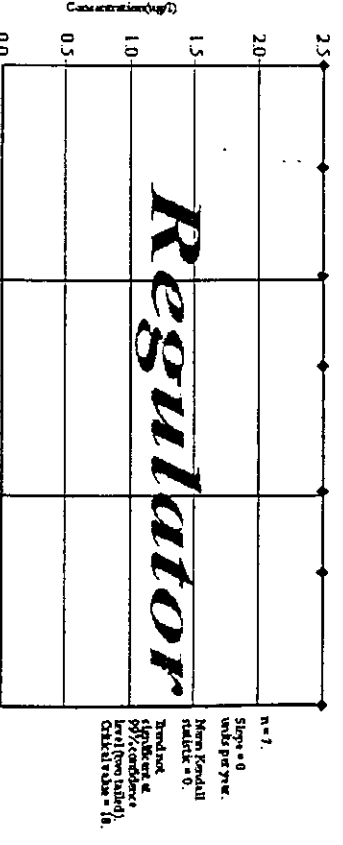
SEN'S SLOPE ESTIMATOR
MOB-57



May 1998 Nov 1999 May 2001

Concentration: 114-234-166-166-166-166-166 (ug/l)
Date: 10/20/01, 9:30 AM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

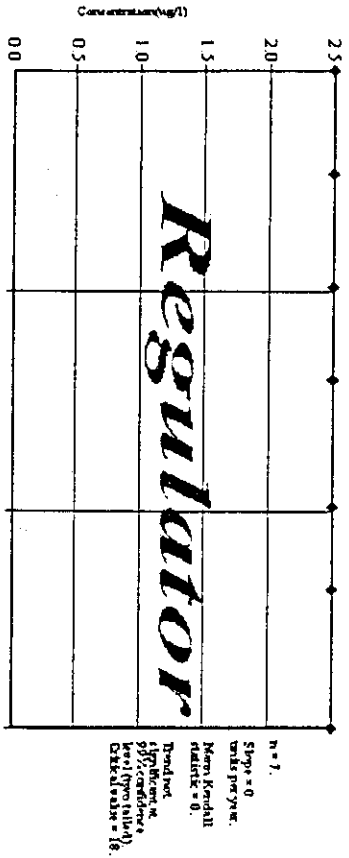
SEN'S SLOPE ESTIMATOR
MOB-58



May 1998 Nov 1999 May 2001

Concentration: 114-234-166-166-166-166-166 (ug/l)
Date: 10/20/01, 9:30 AM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-59



May 1998

Nov 1999

May 2001

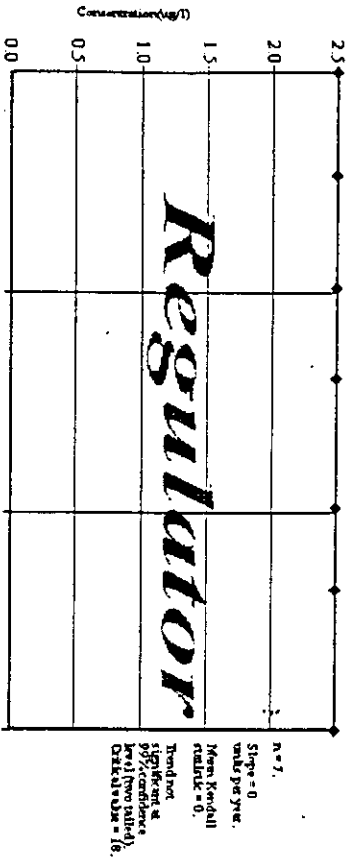
Condition: 114-Baldwinshomene (kg/d)

Date: 10/30/01, 9:30 AM

Facility: Leveall X
Client: Regulatory Use

Data File: DUPONT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-61



May 1998

Nov 1999

May 2001

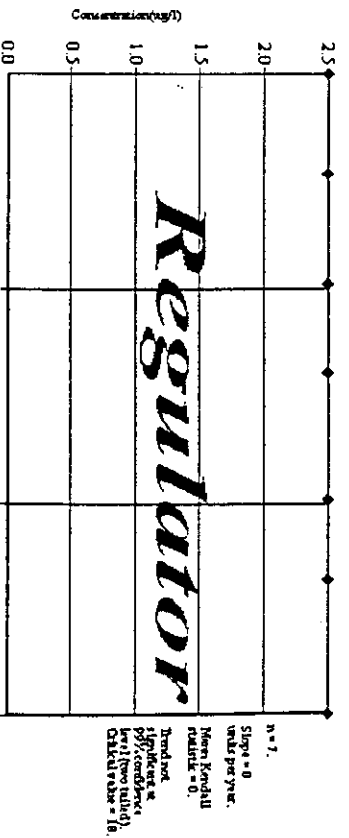
Condition: 114-Baldwinshomene (kg/d)

Date: 10/30/01, 9:30 AM

Facility: Leveall X
Client: Regulatory Use

Data File: DUPONT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-60



May 1998

Nov 1999

May 2001

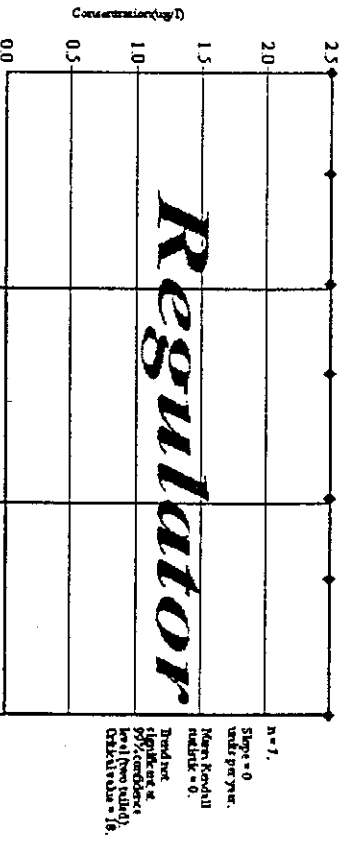
Condition: 114-Baldwinshomene (kg/d)

Date: 10/30/01, 9:30 AM

Facility: Leveall X
Client: Regulatory Use

Data File: DUPONT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-62



May 1998

Nov 1999

May 2001

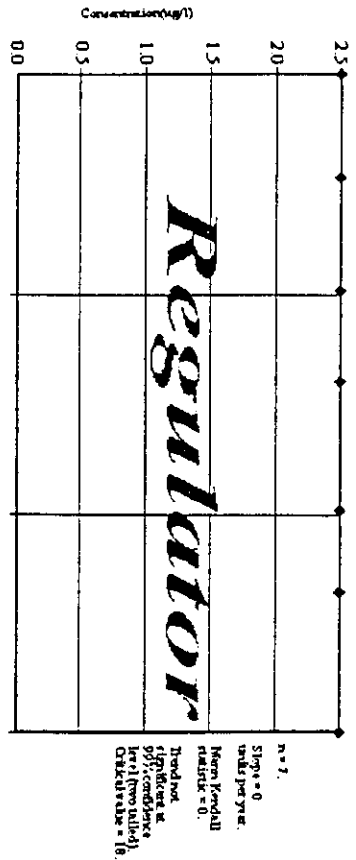
Condition: 114-Baldwinshomene (kg/d)

Date: 10/30/01, 9:30 AM

Facility: Leveall X
Client: Regulatory Use

Data File: DUPONT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-67



May 1998

Nov 1999

May 2001

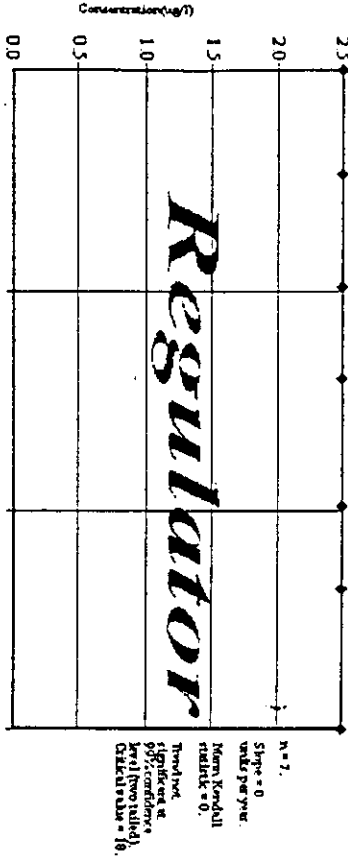
Consistent: 124 Threshold values (ug/l)

Date: 10/30/01, 9:51 AM

Facility: Landfill X
Client: Regulatory Use

Data File: DUP01T
View: _Bndh_

SEN'S SLOPE ESTIMATOR
MOB-69



May 1998

Nov 1999

May 2001

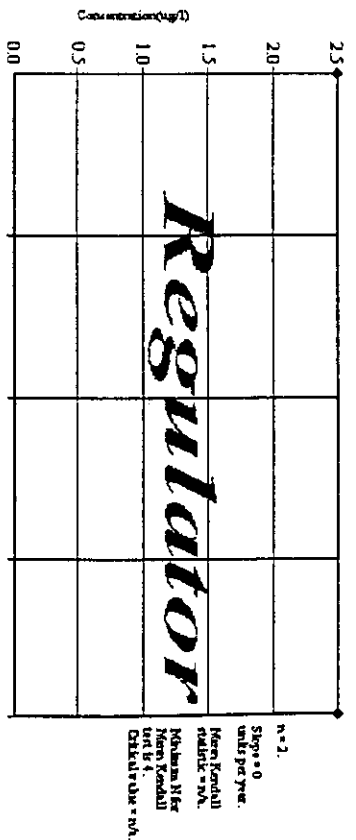
Consistent: 124 Threshold values (ug/l)

Date: 10/30/01, 9:51 AM

Facility: Landfill X
Client: Regulatory Use

Data File: DUP01T
View: _Bndh_

SEN'S SLOPE ESTIMATOR
MOB-68



May 1998

Aug 1999

Nov 1999

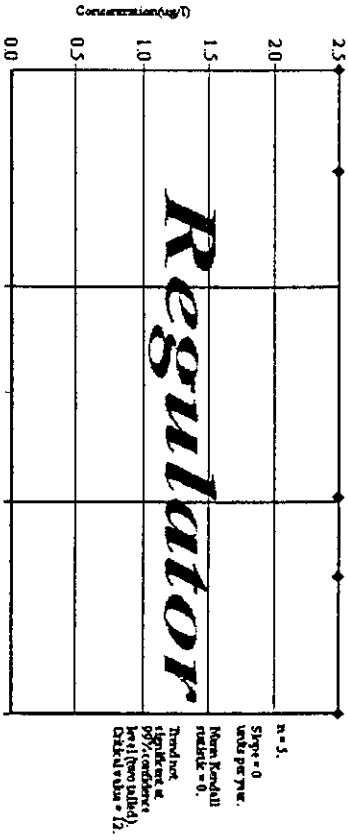
Consistent: 124 Threshold values (ug/l)

Date: 10/30/01, 9:51 AM

Facility: Landfill X
Client: Regulatory Use

Data File: DUP01T
View: _Bndh_

SEN'S SLOPE ESTIMATOR
MOB-70



May 1998

Nov 1999

Jan 2001

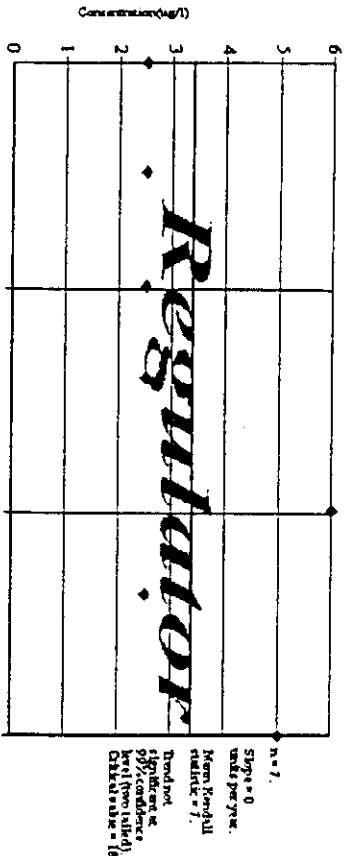
Consistent: 124 Threshold values (ug/l)

Date: 10/30/01, 9:51 AM

Facility: Landfill X
Client: Regulatory Use

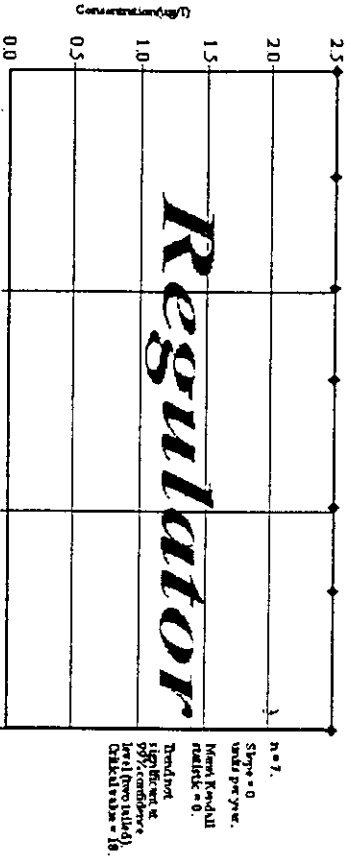
Data File: DUP01T
View: _Bndh_

SEN'S SLOPE ESTIMATOR
MOB-76



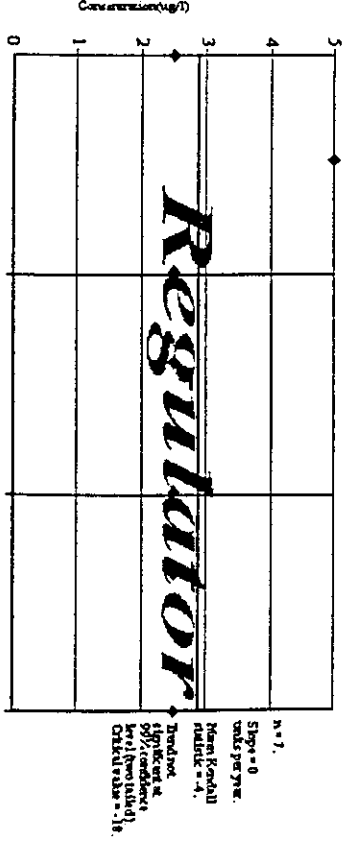
Condition: 114-Baldwinbeamone (g/g)
 Date: 10/20/01, 9:31 AM
 Facility: Leveau X
 Client: Regulatory Use
 Data File: DUPONT
 View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-78



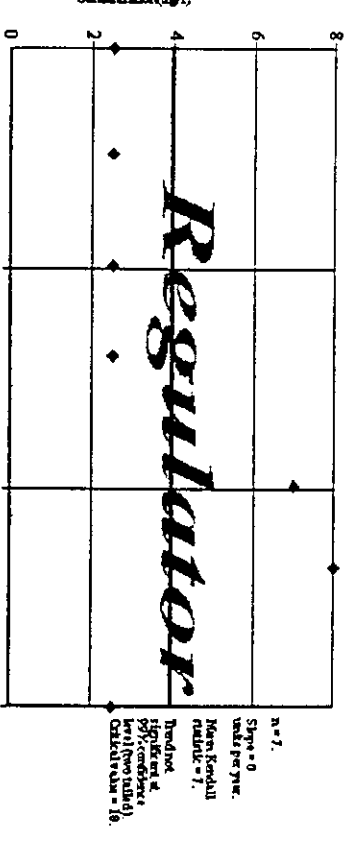
Condition: 114-Baldwinbeamone (g/g)
 Date: 10/20/01, 9:31 AM
 Facility: Leveau X
 Client: Regulatory Use
 Data File: DUPONT
 View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-77



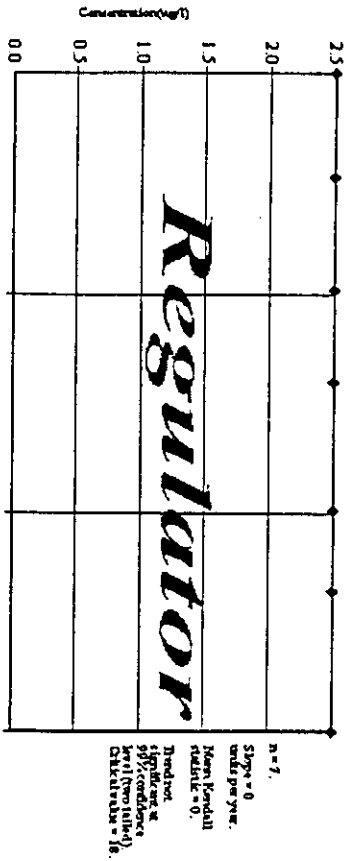
Condition: 114-Baldwinbeamone (g/g)
 Date: 10/20/01, 9:31 AM
 Facility: Leveau X
 Client: Regulatory Use
 Data File: DUPONT
 View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-79

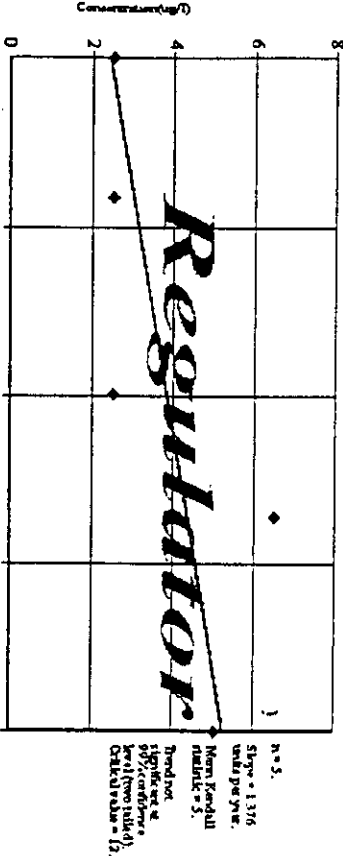


Condition: 114-Baldwinbeamone (g/g)
 Date: 10/20/01, 9:31 AM
 Facility: Leveau X
 Client: Regulatory Use
 Data File: DUPONT
 View: _Batch_

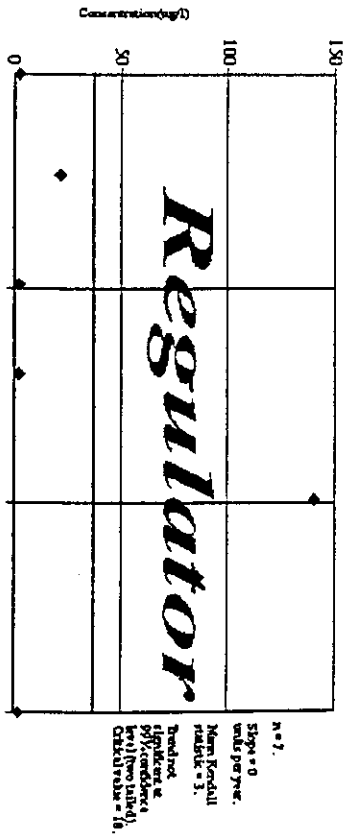
SEN'S SLOPE ESTIMATOR
MOB-EI



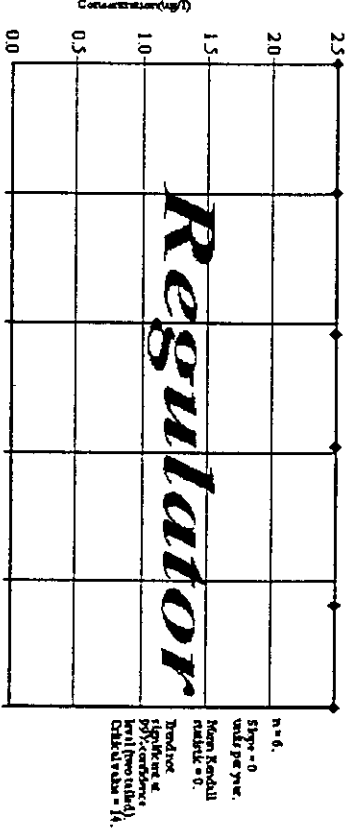
SEN'S SLOPE ESTIMATOR
MOB-EM



SEN'S SLOPE ESTIMATOR
MOB-E3



SEN'S SLOPE ESTIMATOR
MOB-R1



Condition: 116-Tribalwatershed (42/0)
Date: 10/30/01, 9:31 AM

Facility: Leveaux
Client: Regulatory Use

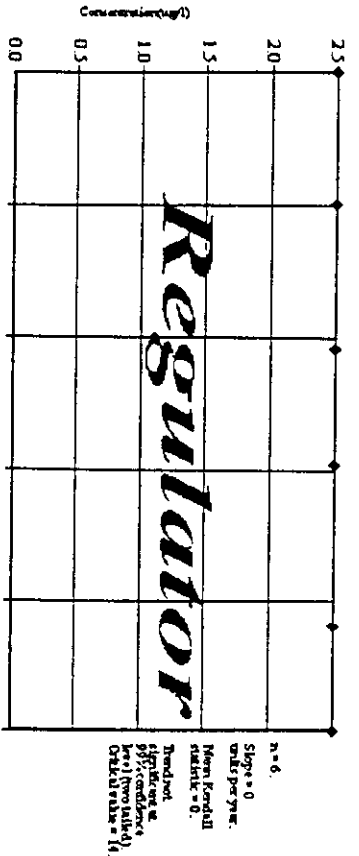
Data File: DUP-OIT
View: _Bnd_

Condition: 116-Tribalwatershed (42/0)
Date: 10/30/01, 9:31 AM

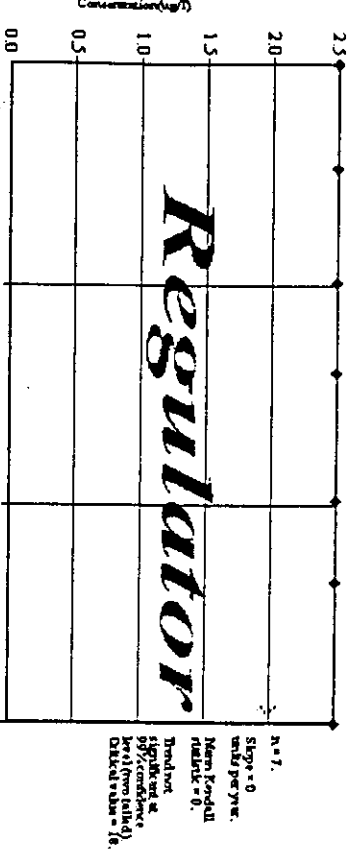
Facility: Leveaux
Client: Regulatory Use

Data File: DUP-OIT
View: _Bnd_

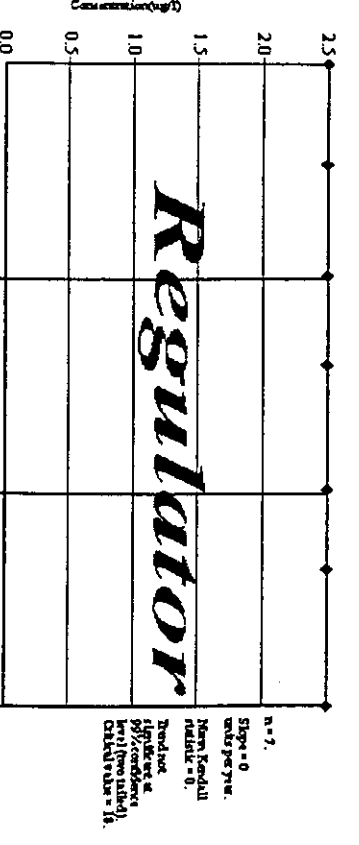
SEN'S SLOPE ESTIMATOR
MOB-R2



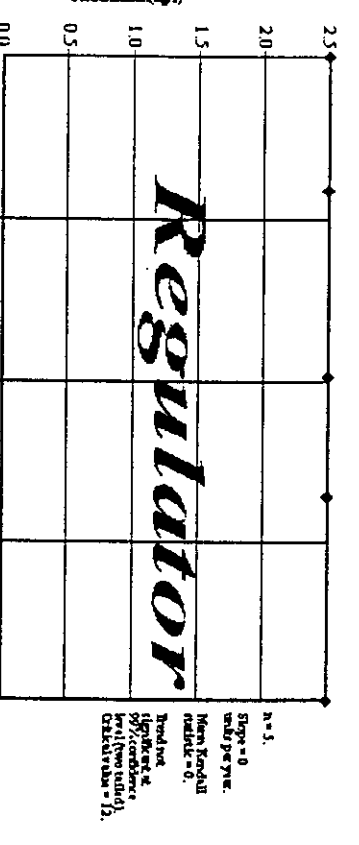
SEN'S SLOPE ESTIMATOR
MOB-R4



SEN'S SLOPE ESTIMATOR
MOB-R3



SEN'S SLOPE ESTIMATOR
CNA-07



Conductant: 114 Middlebrook (ug/l)
Date: 10/30/01, 9:31 AM

Facility: Lowell X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

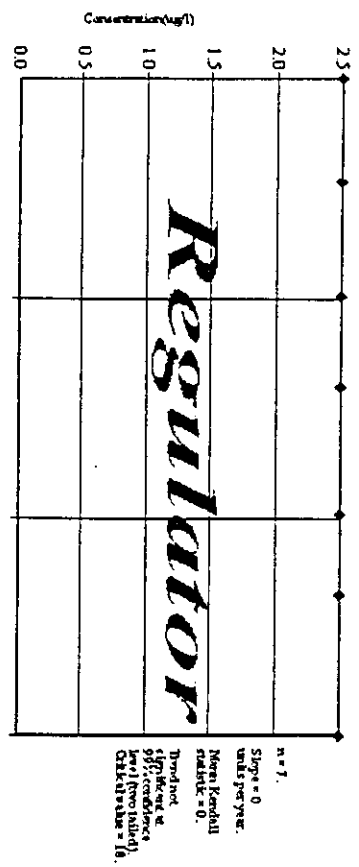
Conductant: Carbon trioxide (ug/l)
Date: 10/30/01, 9:31 AM

Facility: Lowell X
Client: Regulatory Use

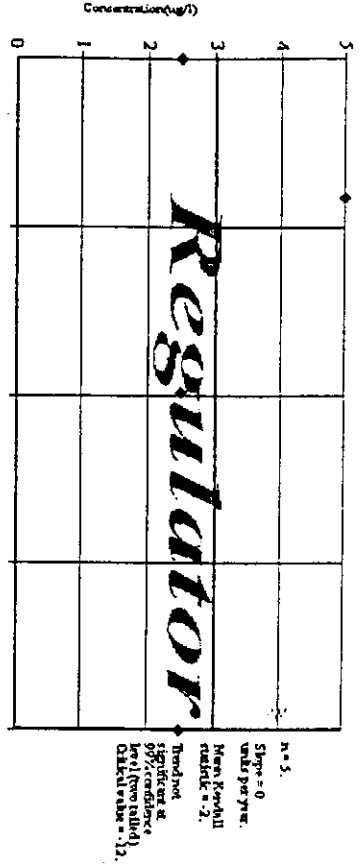
Data File: DUPONT
View: _Batch_

Methylene Chloride

SEN'S SLOPE ESTIMATOR
MOB-R3



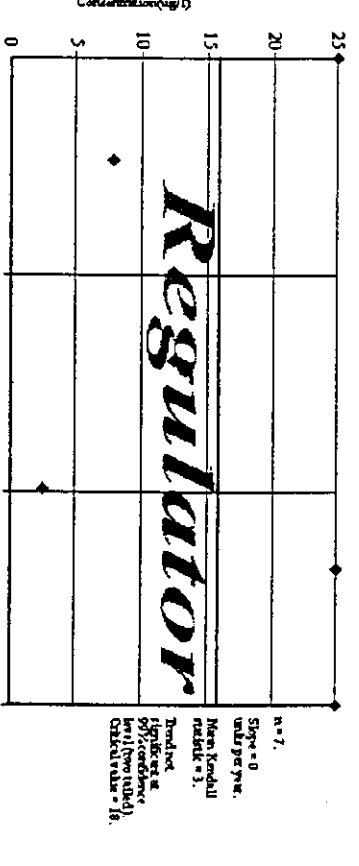
SEN'S SLOPE ESTIMATOR
CNA-07



SEN'S SLOPE ESTIMATOR
MOB-R4



SEN'S SLOPE ESTIMATOR
MOB-54



Confounder: Methylene chloride (ug/l)
Date: 10/20/01, 10:03 AM

Facility: Lenoell X
Client: Regulatory Use

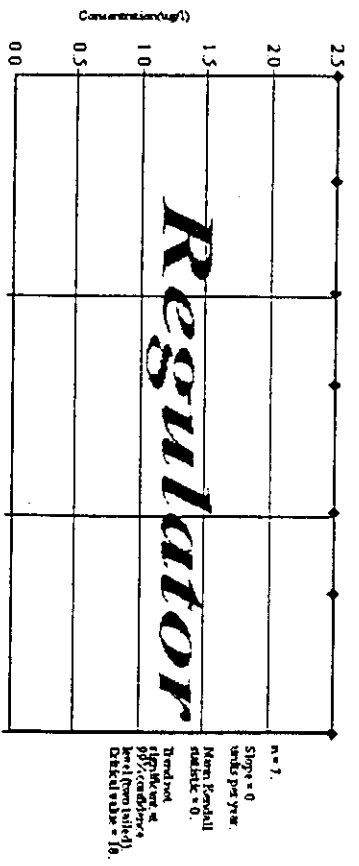
Data File: DUP0HT
View: _Both_

Confounder: Methylene chloride (ug/l)
Date: 10/20/01, 10:03 AM

Facility: Lenoell X
Client: Regulatory Use

Data File: DUP0HT
View: _Both_

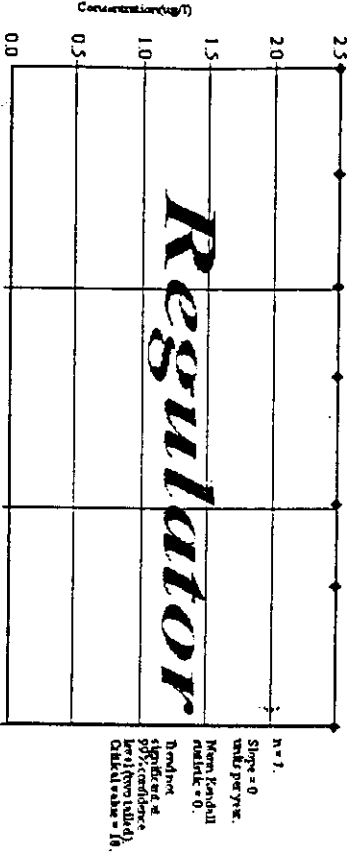
SEN'S SLOPE ESTIMATOR
MOB-55



May 1998 Nov 1999 May 2001

Condition: Madylene Obsolete (ug/l)
Date: 10/30/01, 10:03 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPORT
View: Both

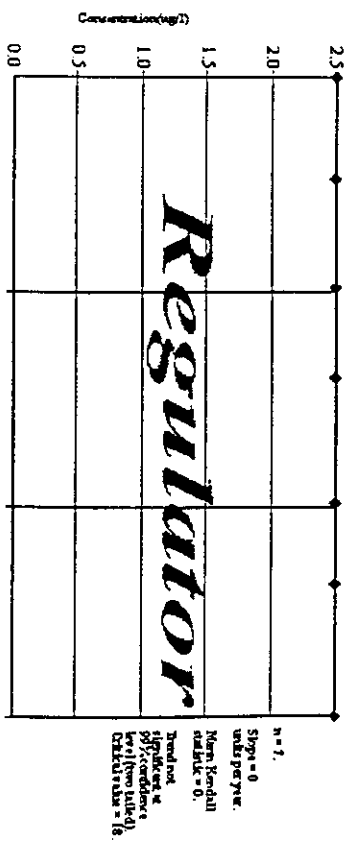
SEN'S SLOPE ESTIMATOR
MOB-57



May 1998 Nov 1999 May 2001

Condition: Madylene Obsolete (ug/l)
Date: 10/30/01, 10:03 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPORT
View: Both

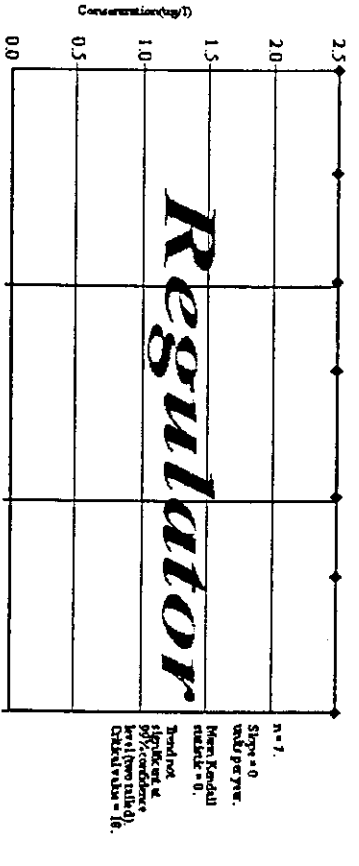
SEN'S SLOPE ESTIMATOR
MOB-56



May 1998 Nov 1999 May 2001

Condition: Madylene Obsolete (ug/l)
Date: 10/30/01, 10:03 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPORT
View: Both

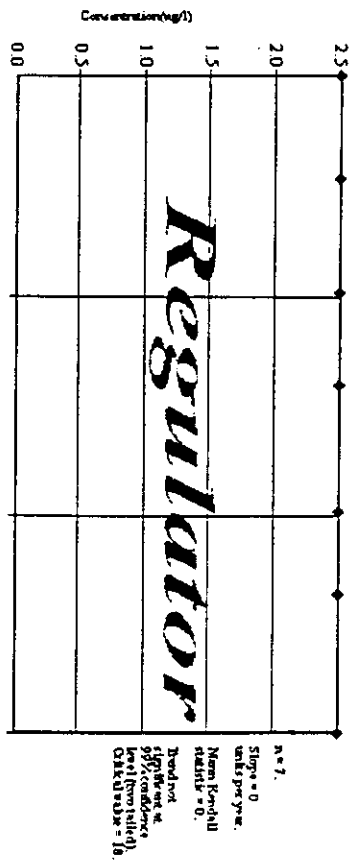
SEN'S SLOPE ESTIMATOR
MOB-58



May 1998 Nov 1999 May 2001

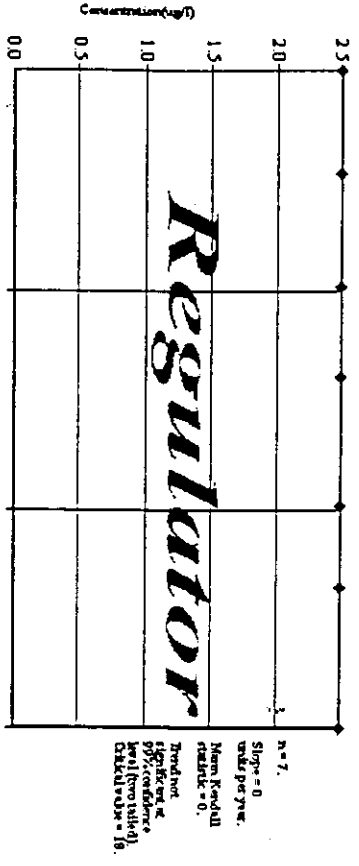
Condition: Madylene Obsolete (ug/l)
Date: 10/30/01, 10:03 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPORT
View: Both

SEN'S SLOPE ESTIMATOR
MOB-59



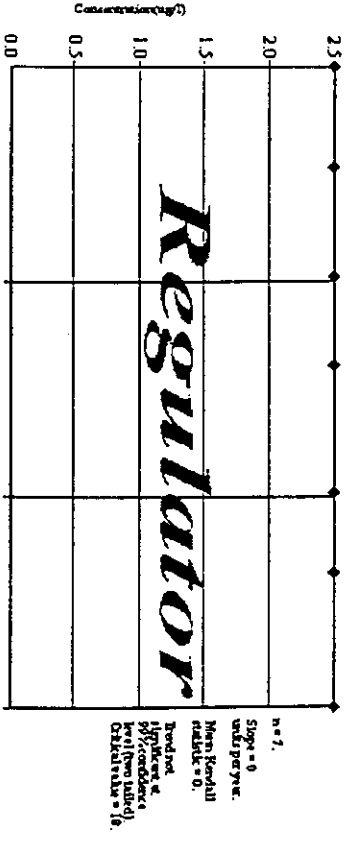
Condition: Methylenediamide (ug/d)
Date: 10/20/01, 10:03 AM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-61



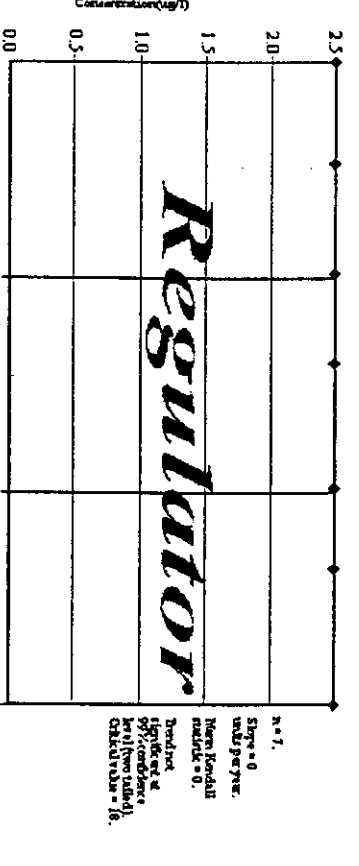
Condition: Methylenediamide (ug/d)
Date: 10/20/01, 10:04 AM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-60



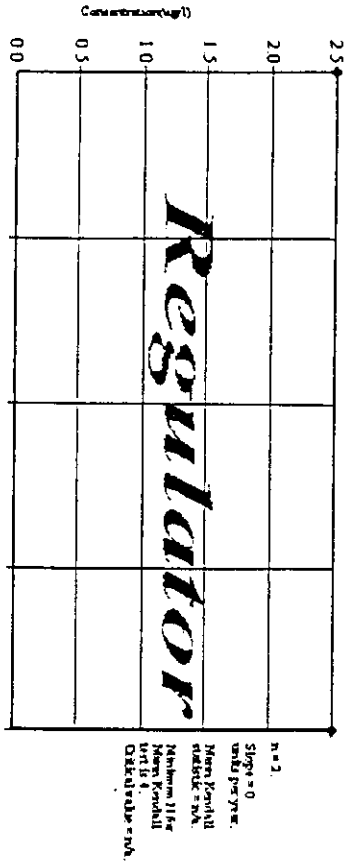
Condition: Methylenediamide (ug/d)
Date: 10/20/01, 10:04 AM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-62



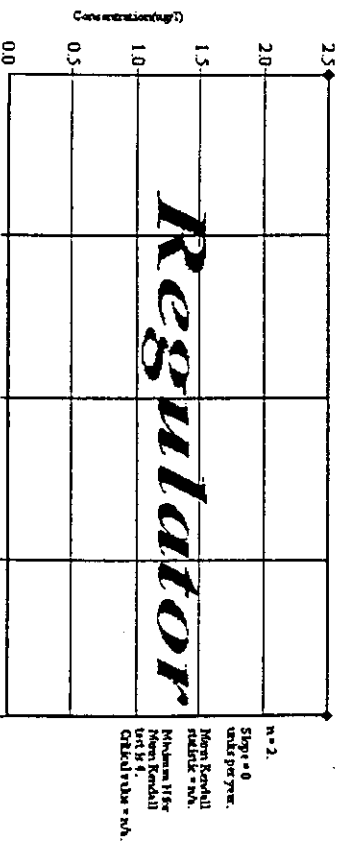
Condition: Methylenediamide (ug/d)
Date: 10/20/01, 10:04 AM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-63



Concentration: $\mu\text{g/dl}$
Date: 10/30/01, 10:04 AM
Facility: Level III X
Client: Regulatory Use
View: Back
Data File: DUPORT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-64



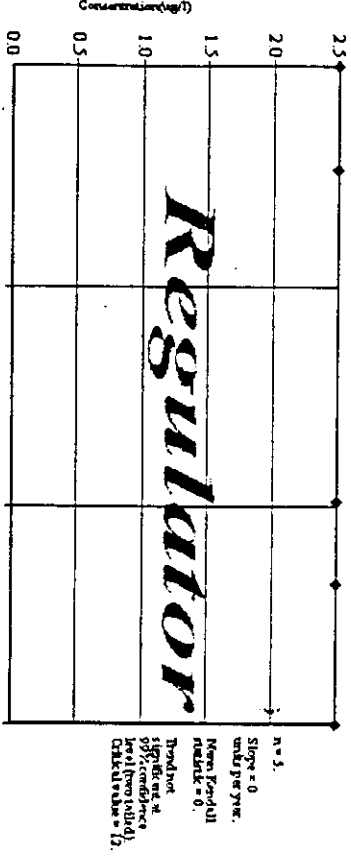
Concentration: $\mu\text{g/dl}$
Date: 10/30/01, 10:04 AM
Facility: Level III X
Client: Regulatory Use
View: Back
Data File: DUPORT
View: Back

1

1

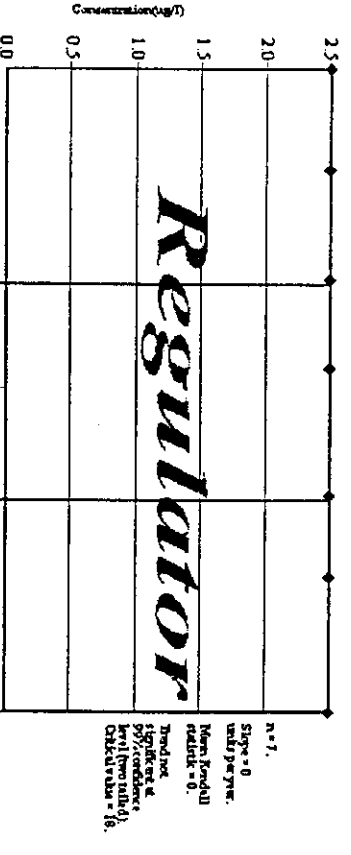
1

SEN'S SLOPE ESTIMATOR
MOB-65



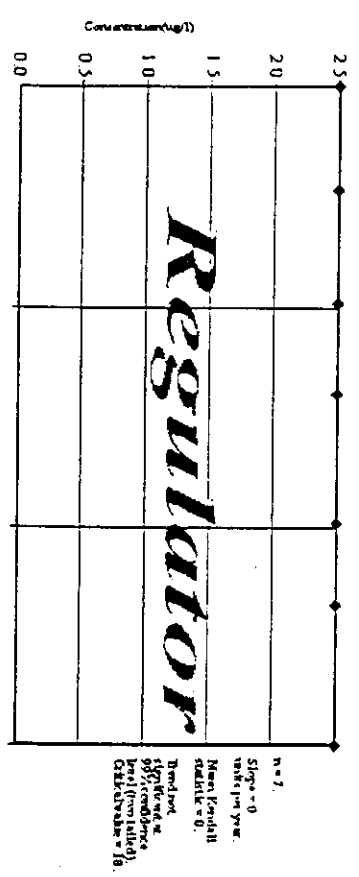
Concentration: $\mu\text{g/dl}$
Date: 10/30/01, 10:04 AM
Facility: Level III X
Client: Regulatory Use
View: Back
Data File: DUPORT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-66



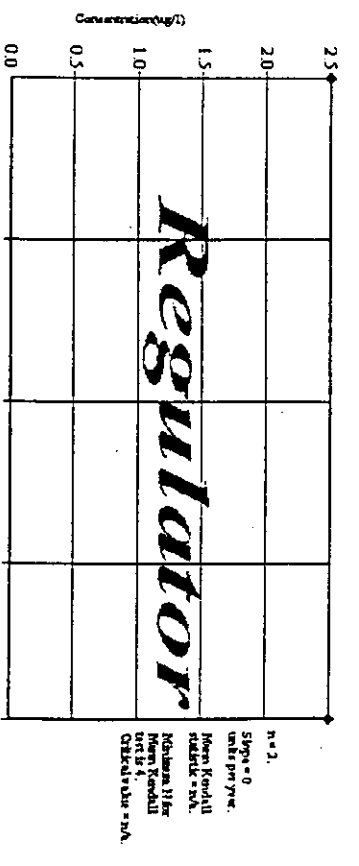
Concentration: $\mu\text{g/dl}$
Date: 10/30/01, 10:04 AM
Facility: Level III X
Client: Regulatory Use
View: Back
Data File: DUPORT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-67



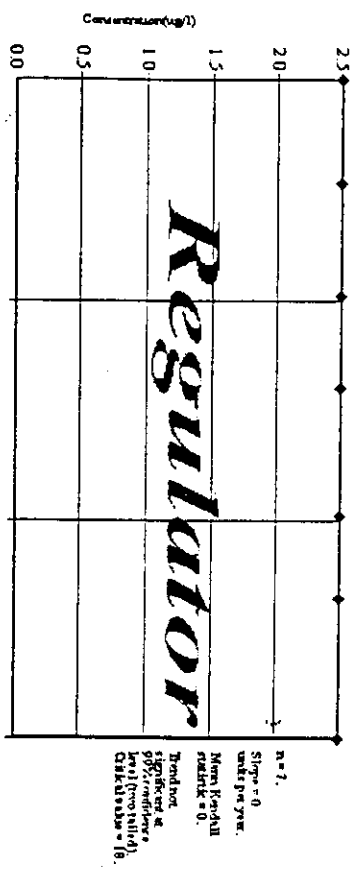
Condition: Methylenediamine (ug/d)
Date: 10/30/01, 10:04 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-68



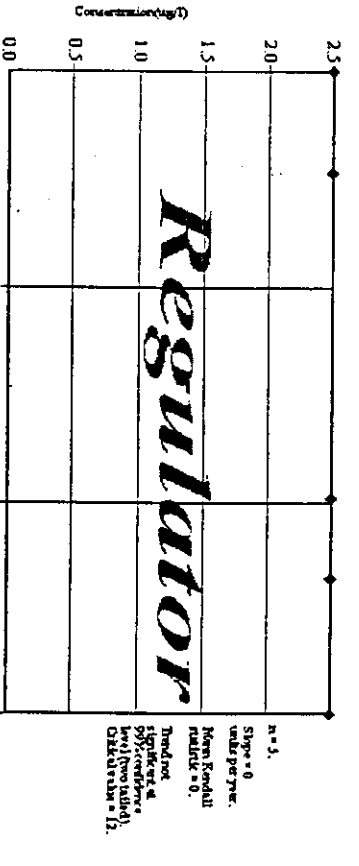
Condition: Methylenediamine (ug/d)
Date: 10/30/01, 10:04 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-69



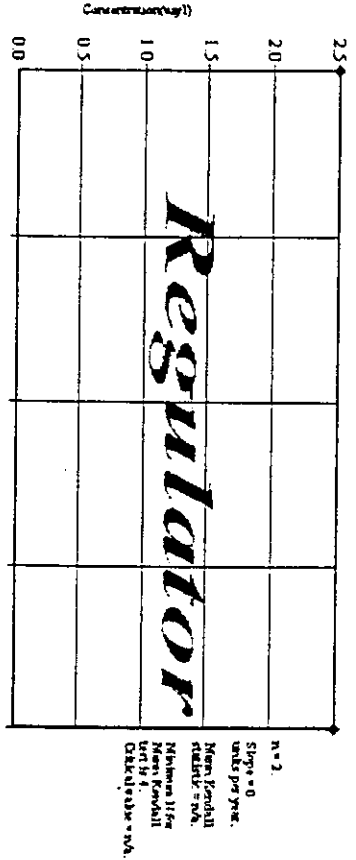
Condition: Methylenediamine (ug/d)
Date: 10/30/01, 10:04 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-70



Condition: Methylenediamine (ug/d)
Date: 10/30/01, 10:04 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-71



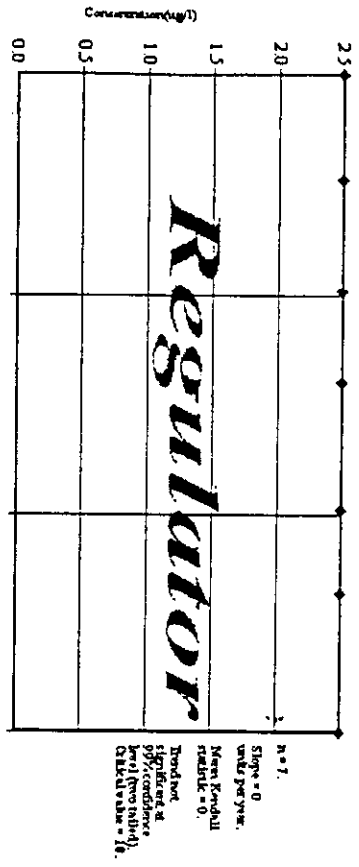
Conductant: Madhya Pradesh (ug/l)
Date: 10/30/01, 10:04 AM

Facility: Lumbini X
Client: Regulatory Use
View: _Batch_

Conductant: Madhya Pradesh (ug/l)
Date: 10/30/01, 10:04 AM

Facility: Lumbini X
Client: Regulatory Use
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-74



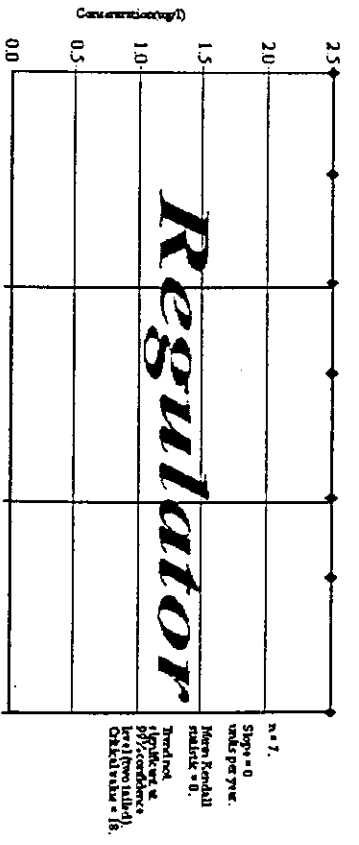
Conductant: Madhya Pradesh (ug/l)
Date: 10/30/01, 10:04 AM

Facility: Lumbini X
Client: Regulatory Use
View: _Batch_

Conductant: Madhya Pradesh (ug/l)
Date: 10/30/01, 10:04 AM

Facility: Lumbini X
Client: Regulatory Use
View: _Batch_

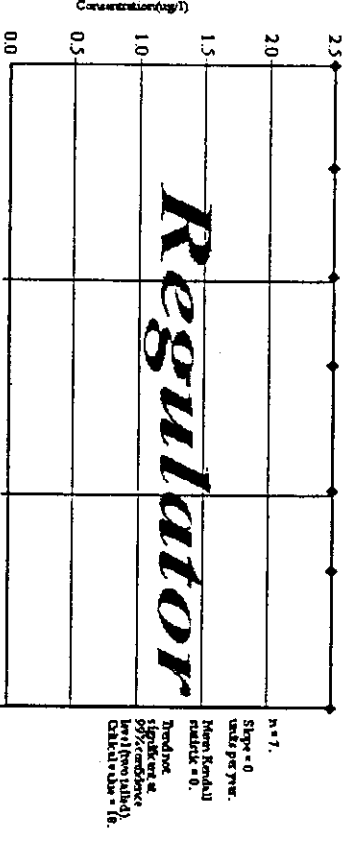
SEN'S SLOPE ESTIMATOR
MOB-73



Conductant: Madhya Pradesh (ug/l)
Date: 10/30/01, 10:04 AM

Facility: Lumbini X
Client: Regulatory Use
View: _Batch_

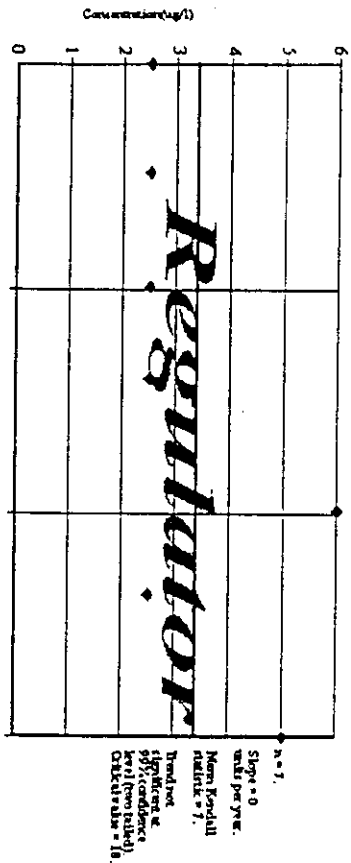
SEN'S SLOPE ESTIMATOR
MOB-75



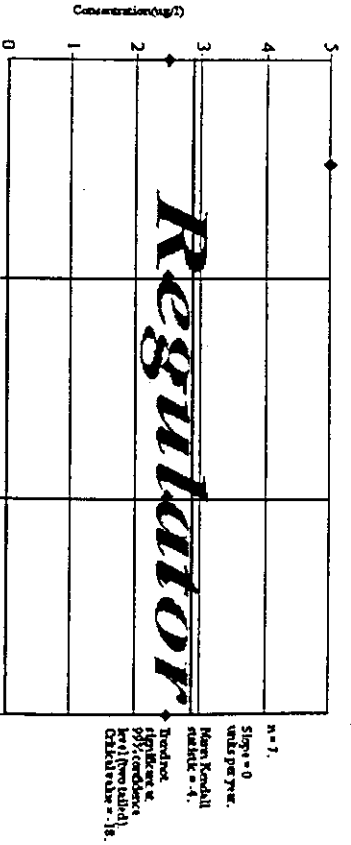
Conductant: Madhya Pradesh (ug/l)
Date: 10/30/01, 10:04 AM

Facility: Lumbini X
Client: Regulatory Use
View: _Batch_

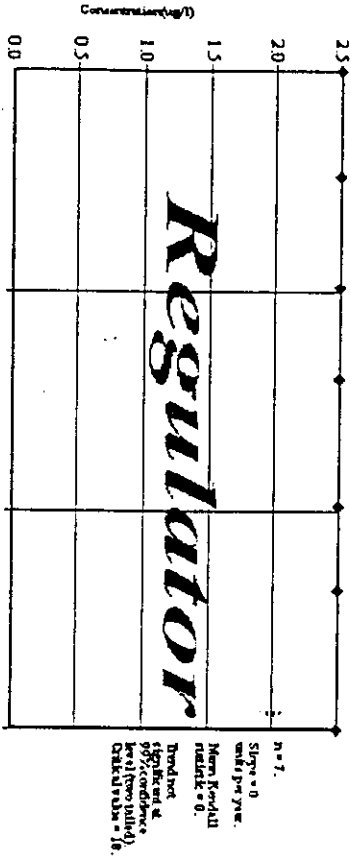
SEN'S SLOPE ESTIMATOR
MOB-76



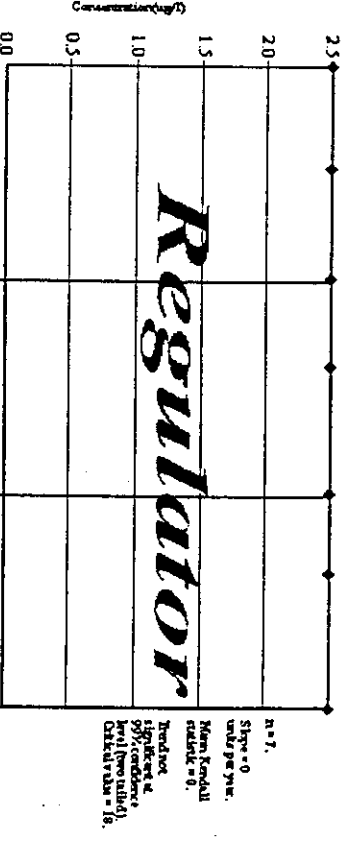
SEN'S SLOPE ESTIMATOR
MOB-77



SEN'S SLOPE ESTIMATOR
MOB-78



SEN'S SLOPE ESTIMATOR
MOB-79



Concentration: Methylmercury (ug/d)
Date: 10/30/01, 10:04 AM

Facility: Landfill X
Client: Regulatory Use

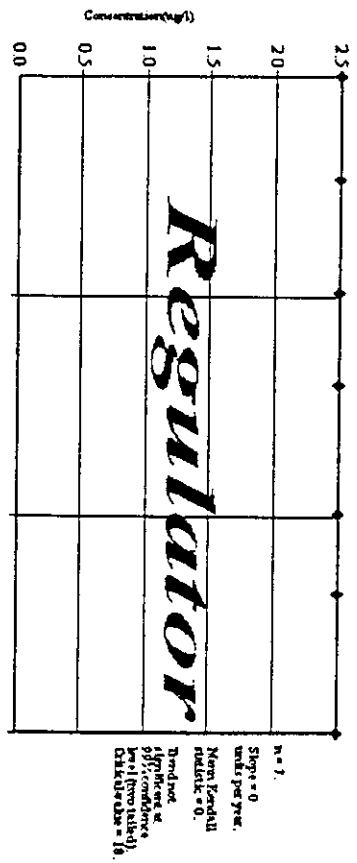
Data File: DUP OHT
View: _Bnd_

Concentration: Methylmercury (ug/d)
Date: 10/30/01, 10:04 AM

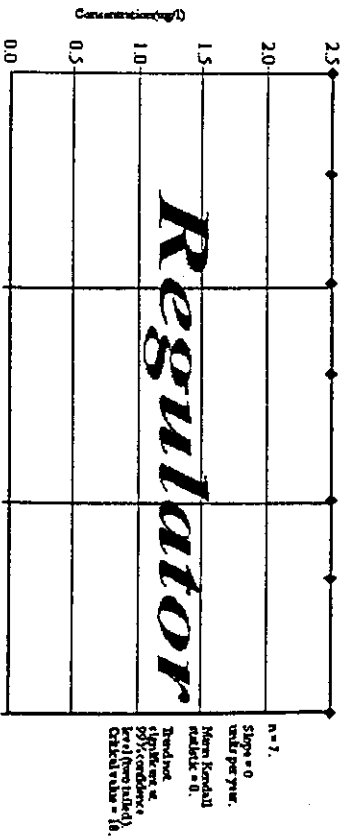
Facility: Landfill X
Client: Regulatory Use

Data File: DUP OHT
View: _Bnd_

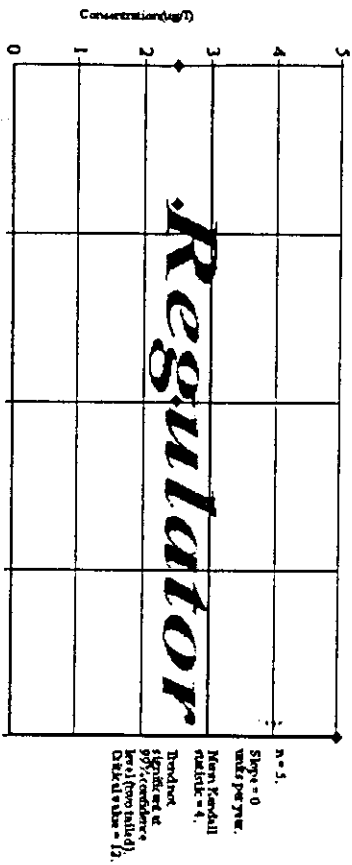
SEN'S SLOPE ESTIMATOR
MOB-EI



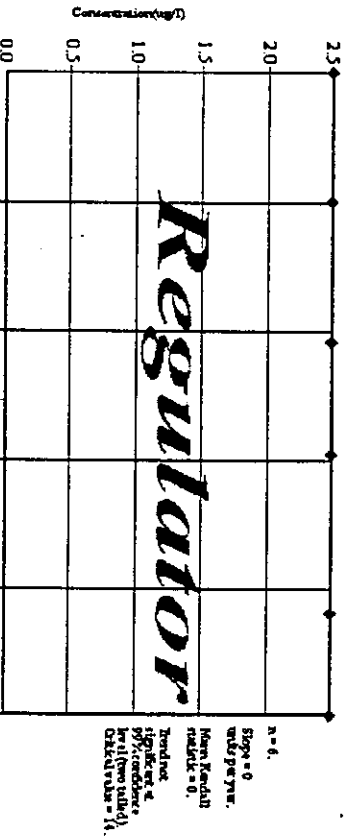
SEN'S SLOPE ESTIMATOR
MOB-E3



SEN'S SLOPE ESTIMATOR
MOB-EA



SEN'S SLOPE ESTIMATOR
MOB-RI



Constituent: Methylene Chloride (ug/d)
Date: 10/30/01, 10:04 AM

Facility: Landfill X
Client: Regulatory Use

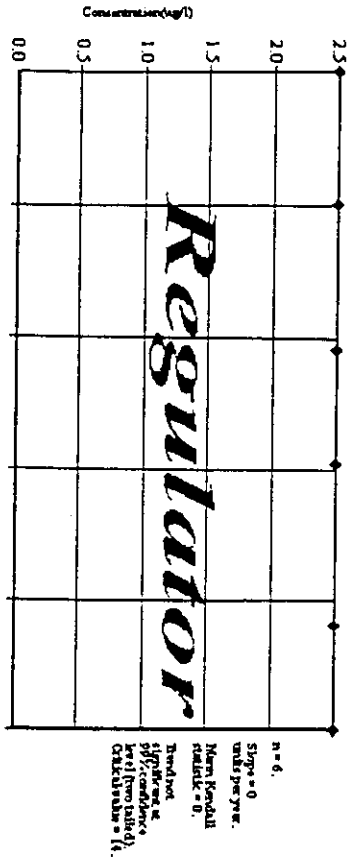
Data File: DUPONT
View: Beach

Constituent: Methylene Chloride (ug/d)
Date: 10/30/01, 10:04 AM

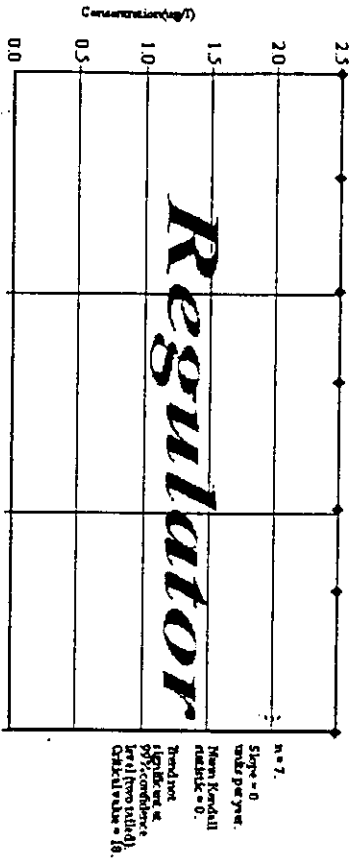
Facility: Landfill X
Client: Regulatory Use

Data File: DUPONT
View: Beach

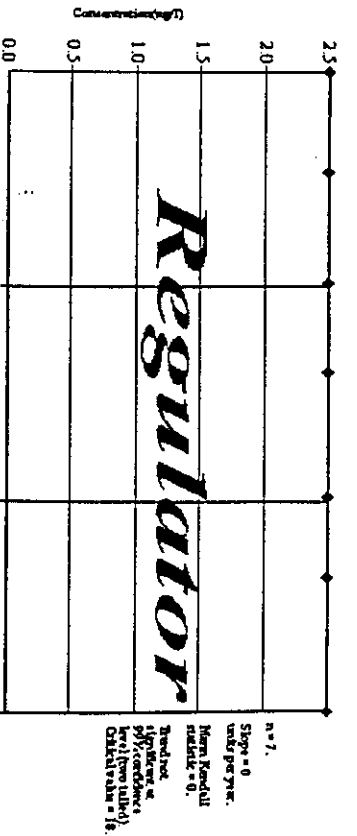
SEN'S SLOPE ESTIMATOR
MOB-R2



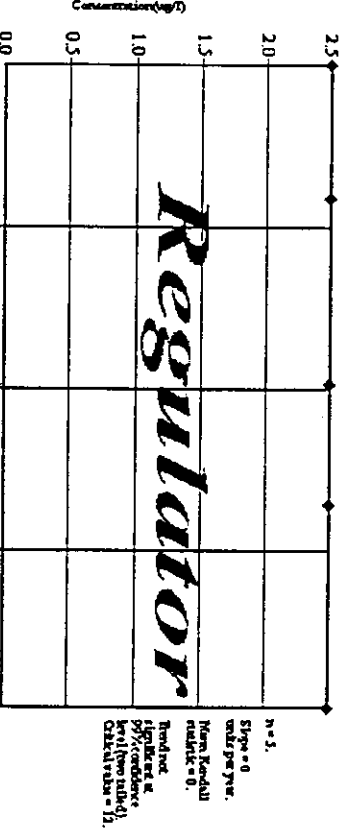
SEN'S SLOPE ESTIMATOR
MOB-R4



SEN'S SLOPE ESTIMATOR
MOB-R3



SEN'S SLOPE ESTIMATOR
CNA-07



Condition: Methylene Oxide (µg/l)
Date: 10/30/01, 10:01 AM

Facility: Levee X
Client: Regulatory Use

Data File: DUP-01T
View: Best

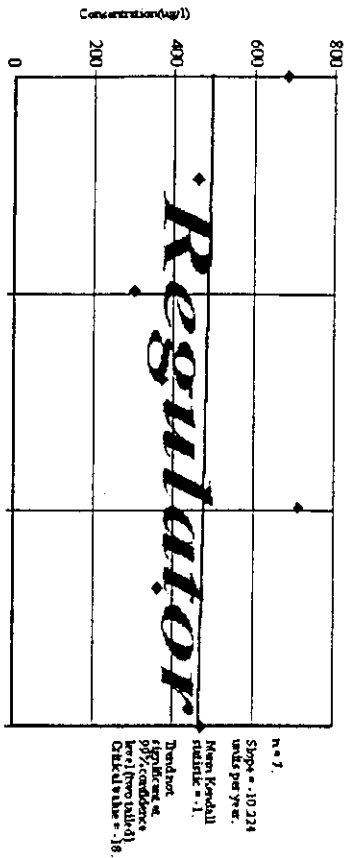
Condition: Methylene Oxide (µg/l)
Date: 10/30/01, 10:01 AM

Facility: Levee X
Client: Regulatory Use

Data File: DUP-01T
View: Best

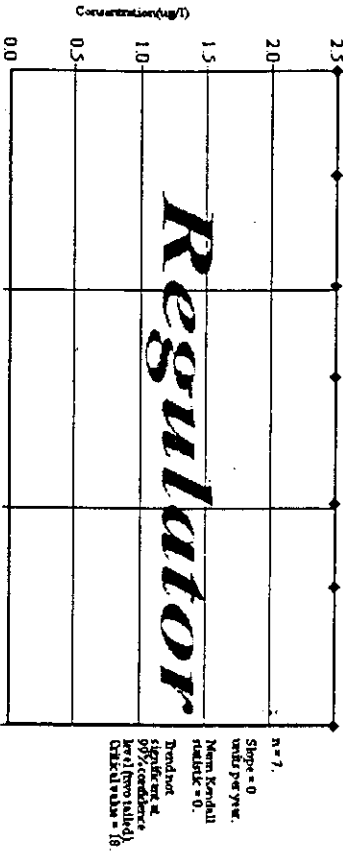
Trichloroethene

SEN'S SLOPE ESTIMATOR
MOB-54



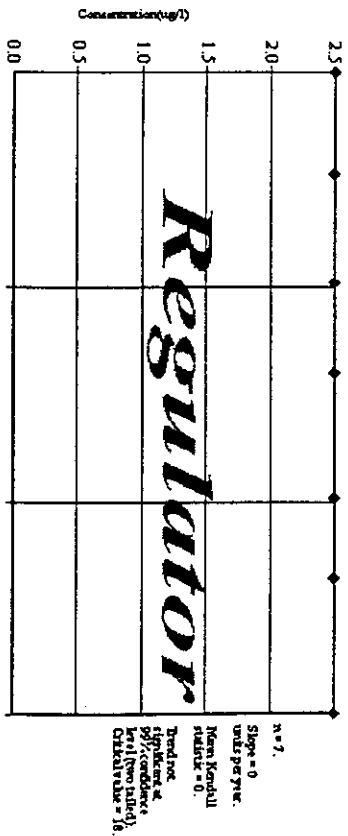
Condition: Toluene (ug/l)
Date: 10/30/01, 10:03 AM
Facility: Lendell X
Client: Regulatory Use
Data File: DUPONT
View: Best

SEN'S SLOPE ESTIMATOR
MOB-56



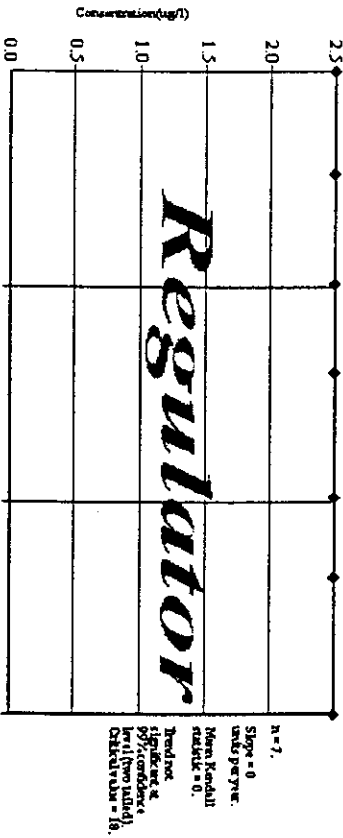
Condition: Toluene (ug/l)
Date: 10/30/01, 10:03 AM
Facility: Lendell X
Client: Regulatory Use
Data File: DUPONT
View: Best

SEN'S SLOPE ESTIMATOR
MOB-55



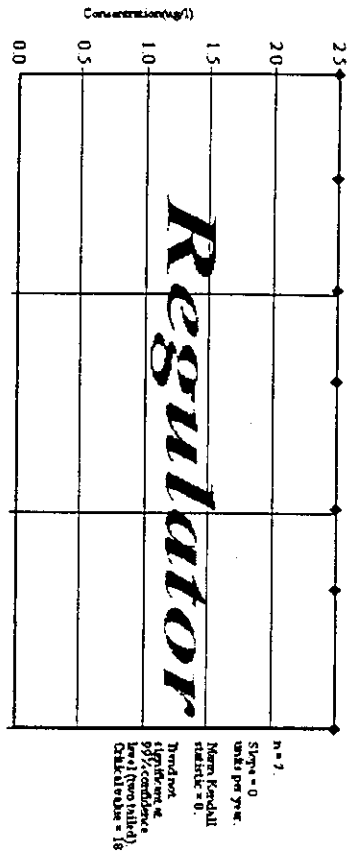
Condition: Toluene (ug/l)
Date: 10/30/01, 10:03 AM
Facility: Lendell X
Client: Regulatory Use
Data File: DUPONT
View: Best

SEN'S SLOPE ESTIMATOR
MOB-57

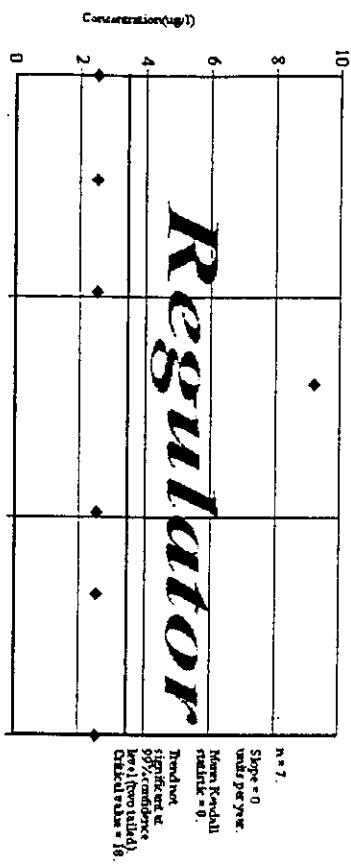


Condition: Toluene (ug/l)
Date: 10/30/01, 10:03 AM
Facility: Lendell X
Client: Regulatory Use
Data File: DUPONT
View: Best

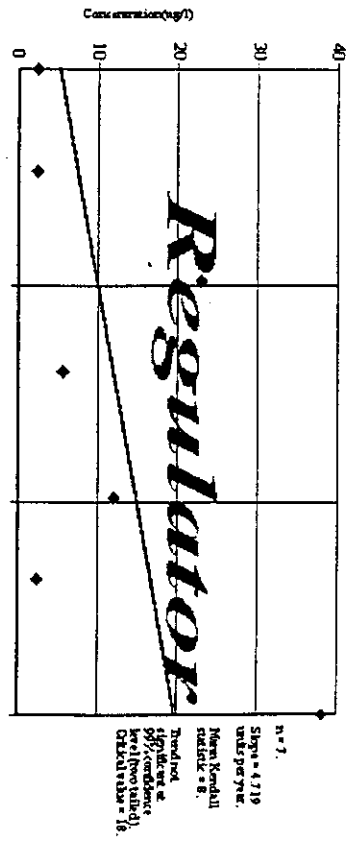
SEN'S SLOPE ESTIMATOR
MOB-58



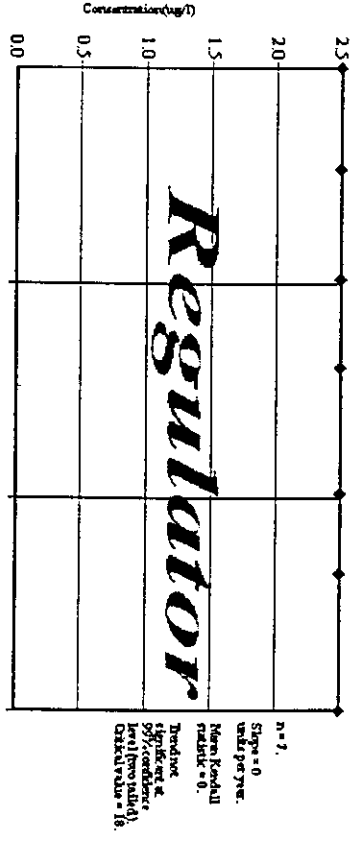
SEN'S SLOPE ESTIMATOR
MOB-60



SEN'S SLOPE ESTIMATOR
MOB-59



SEN'S SLOPE ESTIMATOR
MOB-61



Constituent: Trichloroethylene (ug/l)
Date: 10/30/01, 10:05 AM

Facility: Landfill X
Client: Regulatory Use

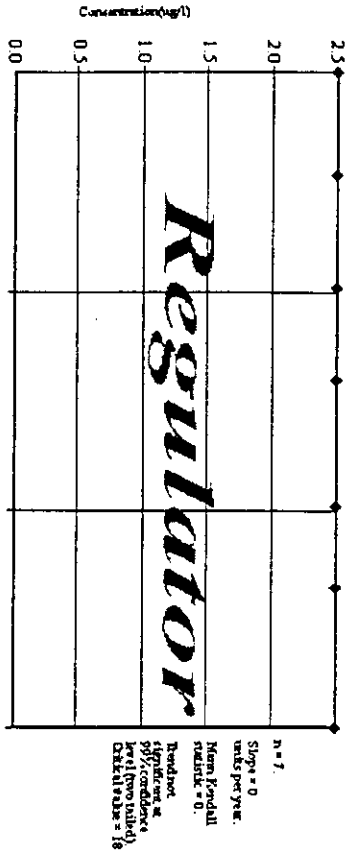
Data File: DUPONT
View: Batch

Constituent: Trichloroethylene (ug/l)
Date: 10/30/01, 10:05 AM

Facility: Landfill X
Client: Regulatory Use

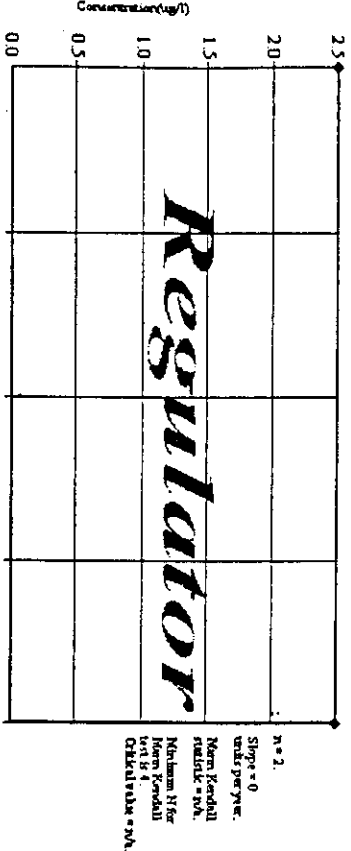
Data File: DUPONT
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-62



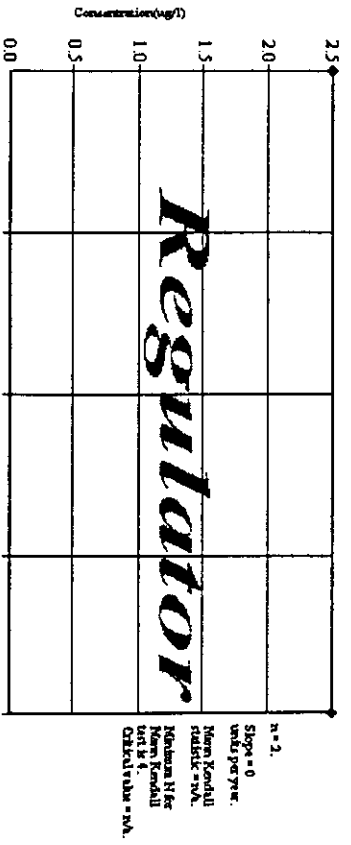
Concentration: TotalSewerage (µg/l)
Date: 10/30/01, 10:05 AM
Facility: Lendall X
Client: Regulatory Use
Data File: DUPONT
View: Best

SEN'S SLOPE ESTIMATOR
MOB-64



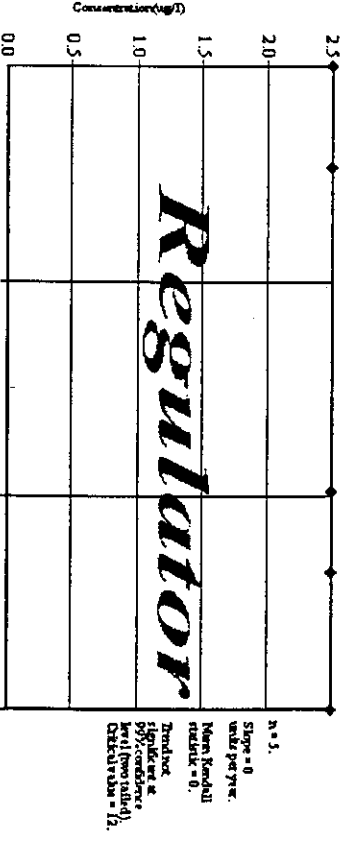
Concentration: TotalSewerage (µg/l)
Date: 10/30/01, 10:05 AM
Facility: Lendall X
Client: Regulatory Use
Data File: DUPONT
View: Best

SEN'S SLOPE ESTIMATOR
MOB-63



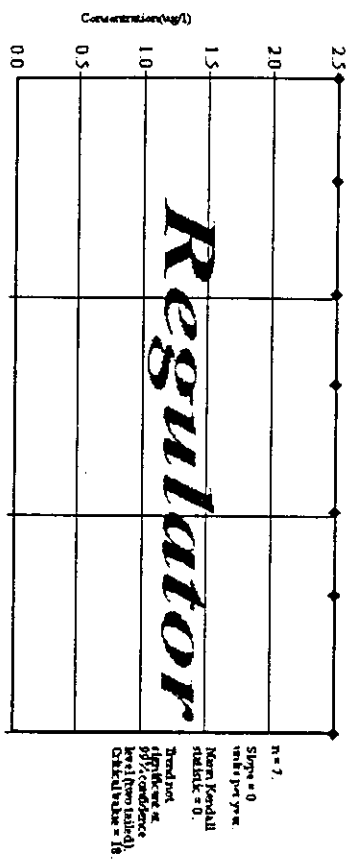
Concentration: TotalSewerage (µg/l)
Date: 10/30/01, 10:05 AM
Facility: Lendall X
Client: Regulatory Use
Data File: DUPONT
View: Best

SEN'S SLOPE ESTIMATOR
MOB-65



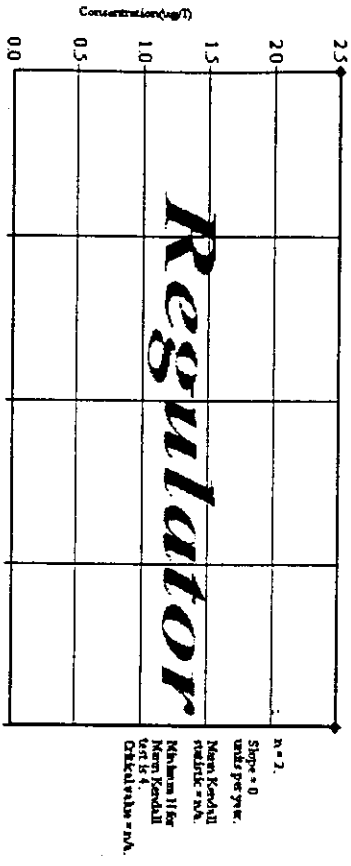
Concentration: TotalSewerage (µg/l)
Date: 10/30/01, 10:05 AM
Facility: Lendall X
Client: Regulatory Use
Data File: DUPONT
View: Best

SEN'S SLOPE ESTIMATOR
MOB-66



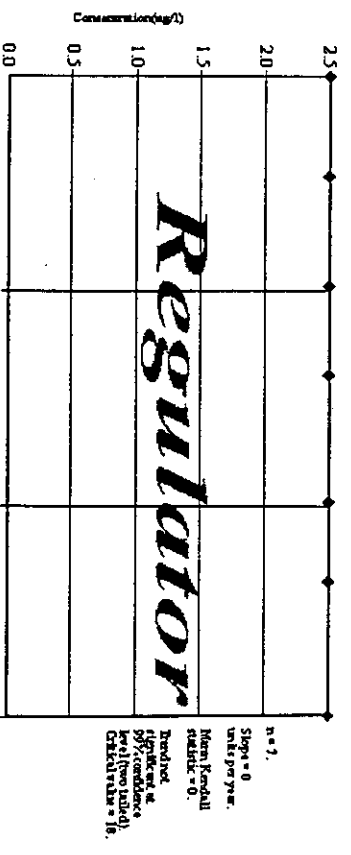
Coordinate: Talsarsedane (ug/l)
Date: 10/30/01, 10:05 AM
Facility: Lendall X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-68



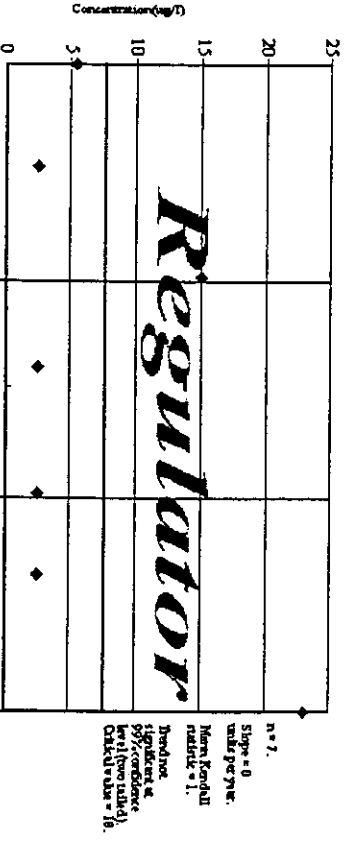
Coordinate: Talsarsedane (ug/l)
Date: 10/30/01, 10:05 AM
Facility: Lendall X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-67



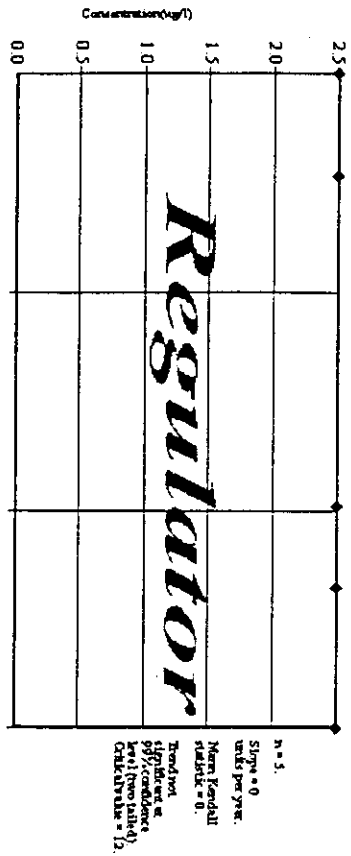
Coordinate: Talsarsedane (ug/l)
Date: 10/30/01, 10:05 AM
Facility: Lendall X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-69



Coordinate: Talsarsedane (ug/l)
Date: 10/30/01, 10:05 AM
Facility: Lendall X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-70

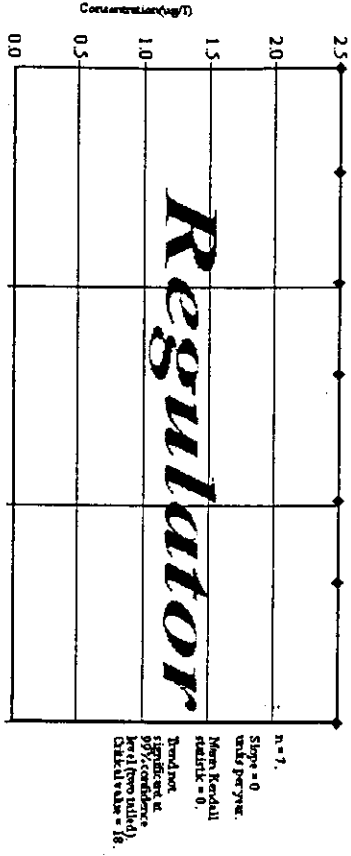


n = 3
Slope = 0
units per year.
Mean Kendall
statistic = 0.
Trend test
significance at
99% confidence
level (two tailed)
CRITICAL VALUE = 12.

May 1998 Nov 1999 Jan 2001

Concentration: Trichloroethylene (ug/l)
Date: 10/20/01, 10:05 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Graph

SEN'S SLOPE ESTIMATOR
MOB-73

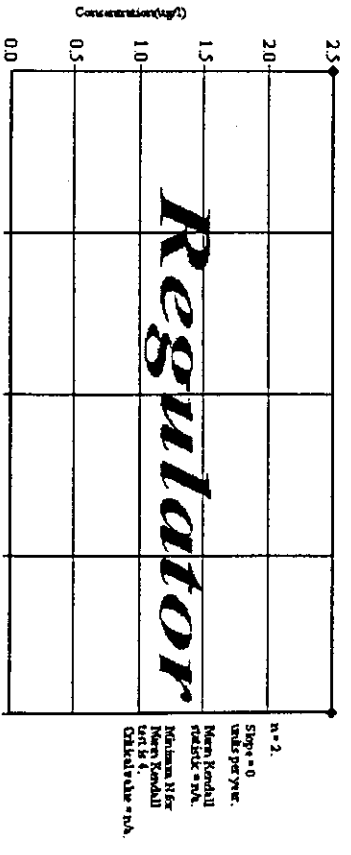


n = 7
Slope = 0
units per year.
Mean Kendall
statistic = 0.
Trend test
significance at
99% confidence
level (two tailed)
CRITICAL VALUE = 18.

May 1998 Nov 1999 May 2001

Concentration: Trichloroethylene (ug/l)
Date: 10/20/01, 10:05 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Graph

SEN'S SLOPE ESTIMATOR
MOB-71

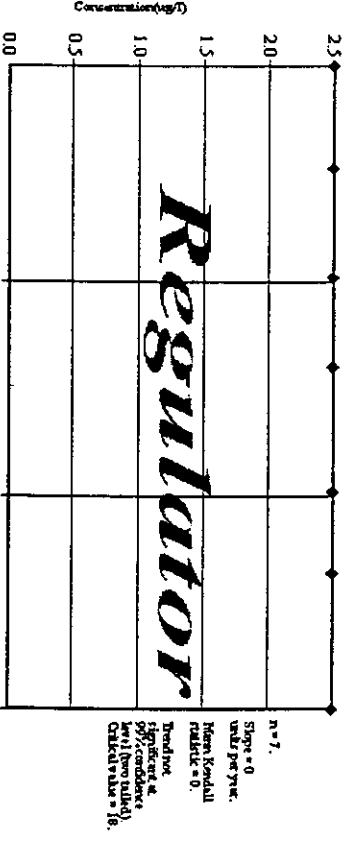


n = 2
Slope = 0
units per year.
Mean Kendall
statistic = NaN.
Minimum N for
test is 3
CRITICAL VALUE = NaN.

May 1998 Aug 1998 Nov 1999

Concentration: Trichloroethylene (ug/l)
Date: 10/20/01, 10:05 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Graph

SEN'S SLOPE ESTIMATOR
MOB-74

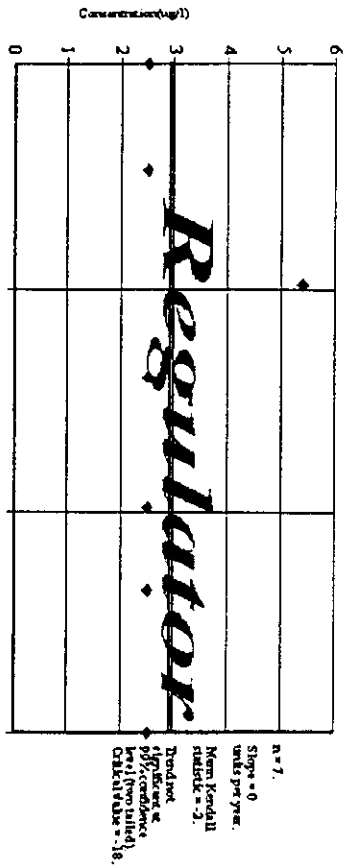


n = 7
Slope = 0
units per year.
Mean Kendall
statistic = 0.
Trend test
significance at
99% confidence
level (two tailed)
CRITICAL VALUE = 18.

May 1998 Nov 1999 May 2001

Concentration: Trichloroethylene (ug/l)
Date: 10/20/01, 10:05 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Graph

SEN'S SLOPE ESTIMATOR
MOB-75



May 1998

Nov 1998

May 1999

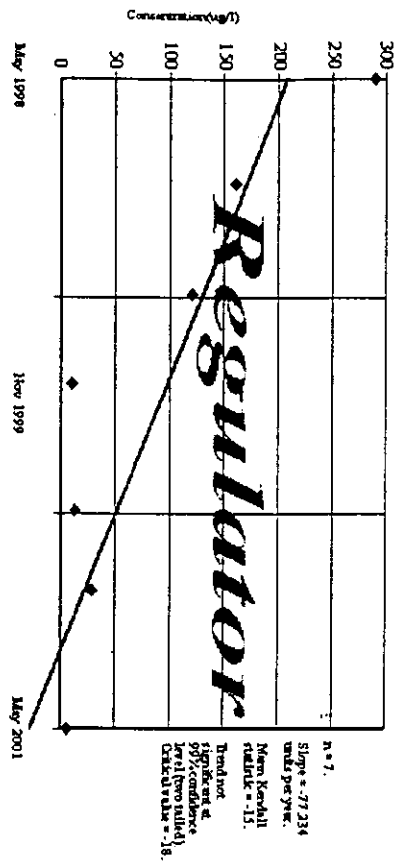
May 2001

Concentration: TotalMercury (µg/l)
Date: 10/20/01, 10:05 AM

Facility: Leadmill X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-77

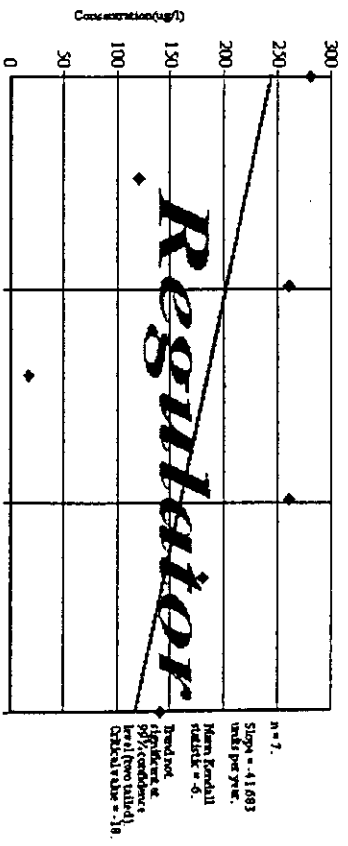


Concentration: TotalMercury (µg/l)
Date: 10/20/01, 10:05 AM

Facility: Leadmill X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-76



May 1998

Nov 1998

May 1999

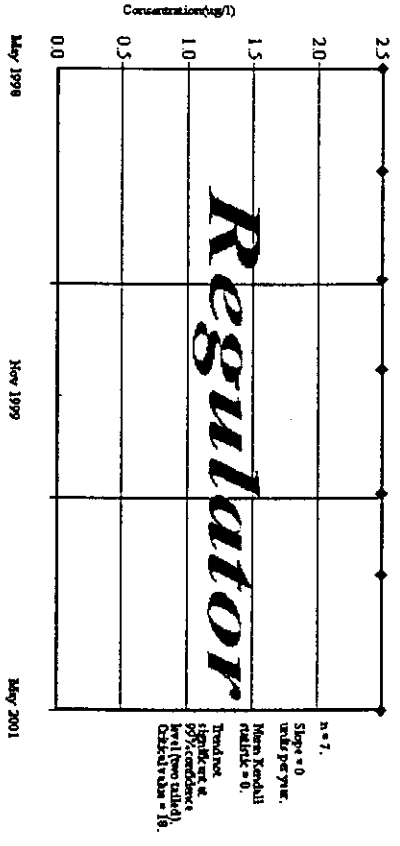
May 2001

Concentration: TotalMercury (µg/l)
Date: 10/20/01, 10:05 AM

Facility: Leadmill X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-78

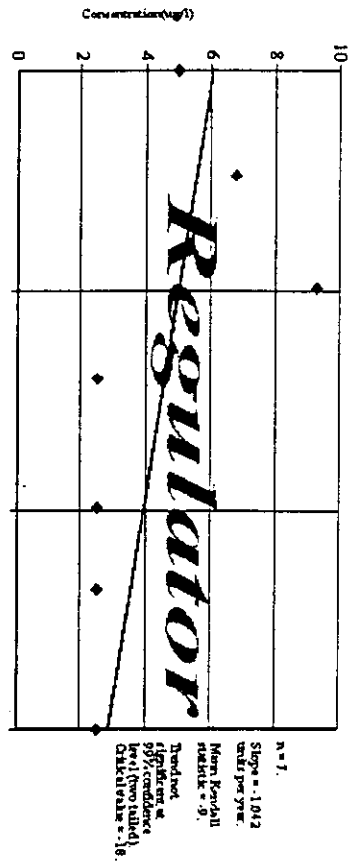


Concentration: TotalMercury (µg/l)
Date: 10/20/01, 10:05 AM

Facility: Leadmill X
Client: Regulatory Use

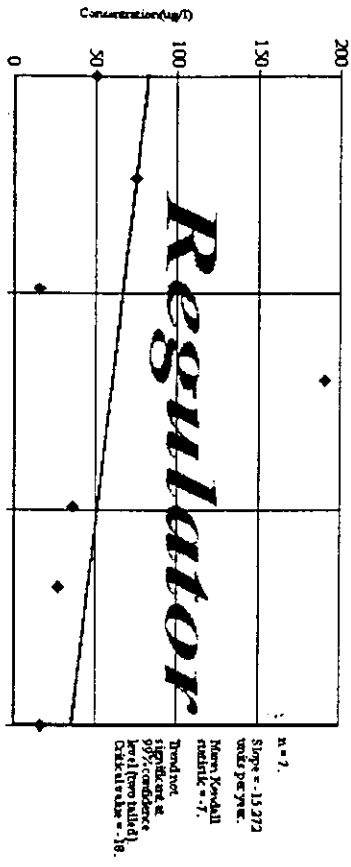
Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-79



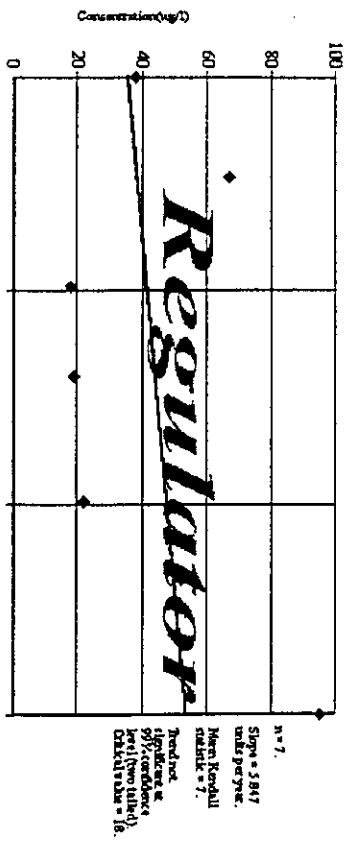
Condition: Trichloroethylene (ug/dl)
Date: 10/20/01, 10:05 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Best

SEN'S SLOPE ESTIMATOR
MOB-E3



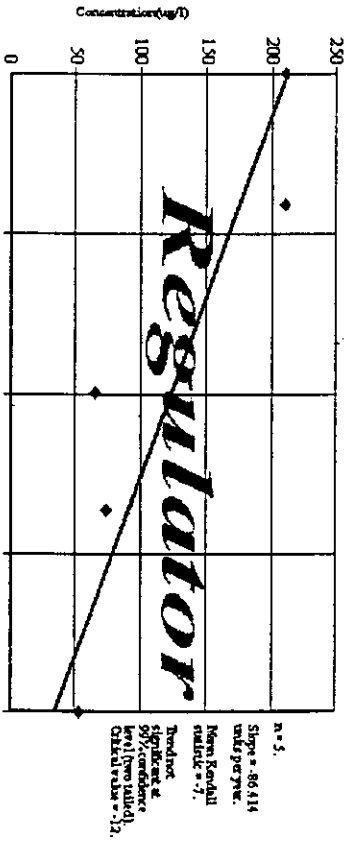
Condition: Trichloroethylene (ug/dl)
Date: 10/20/01, 10:05 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Best

SEN'S SLOPE ESTIMATOR
MOB-E1



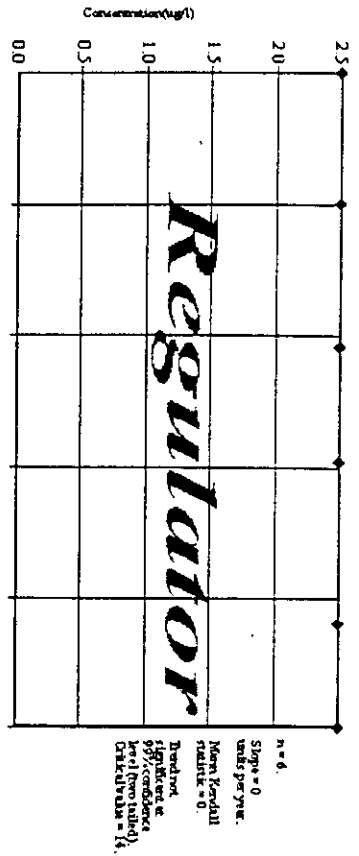
Condition: Trichloroethylene (ug/dl)
Date: 10/20/01, 10:05 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Best

SEN'S SLOPE ESTIMATOR
MOB-E4



Condition: Trichloroethylene (ug/dl)
Date: 10/20/01, 10:05 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUPONT
View: Best

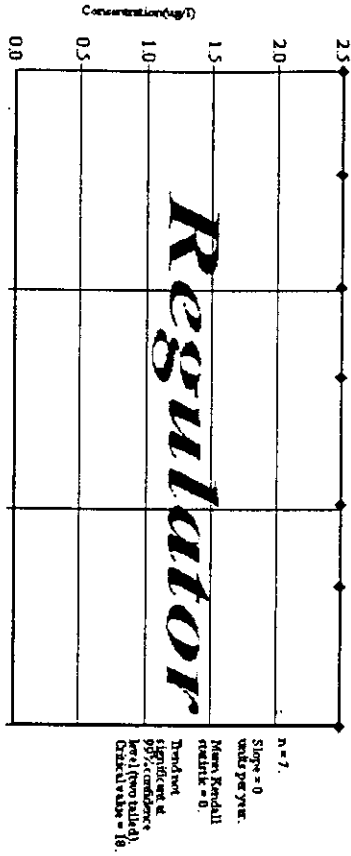
SEN'S SLOPE ESTIMATOR
MOB-R1



May 1998 Jul 1999 Oct 2000

Client: Thibaultevidence (ug/l)
Date: 10/30/01, 10:05 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Back_

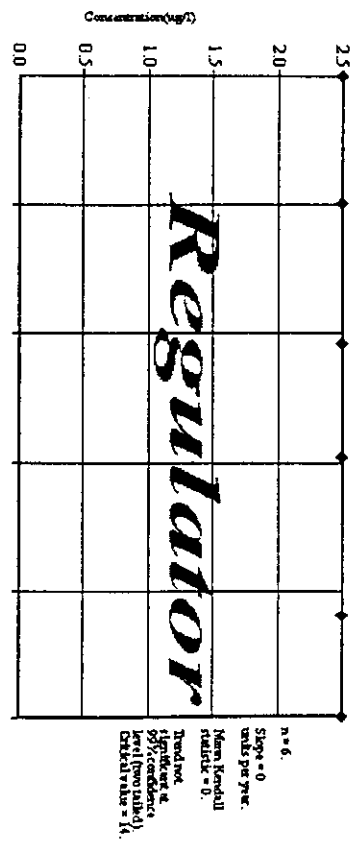
SEN'S SLOPE ESTIMATOR
MOB-R3



May 1998 Nov 1999 May 2001

Client: Thibaultevidence (ug/l)
Date: 10/30/01, 10:06 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Back_

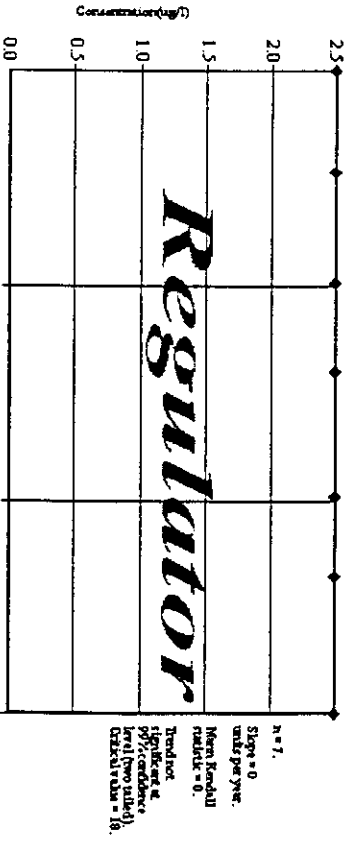
SEN'S SLOPE ESTIMATOR
MOB-R2



May 1998 Jul 1999 Oct 2000

Client: Thibaultevidence (ug/l)
Date: 10/30/01, 10:05 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-R4

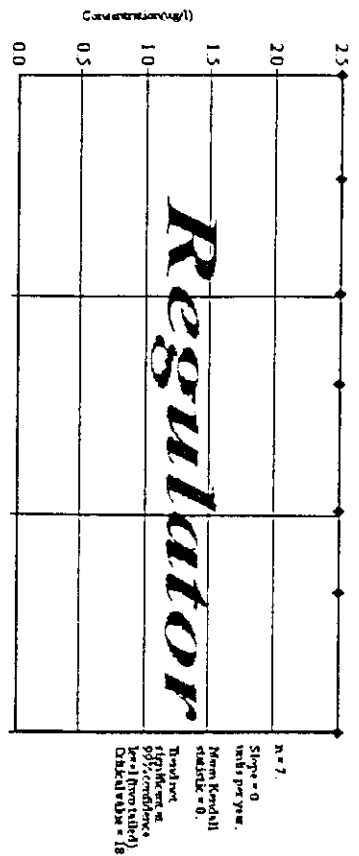


May 1998 Nov 1999 May 2001

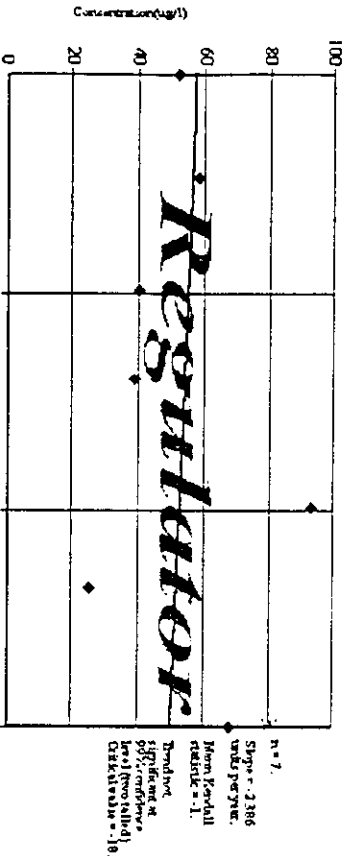
Client: Thibaultevidence (ug/l)
Date: 10/30/01, 10:06 AM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Back_

Chloroform

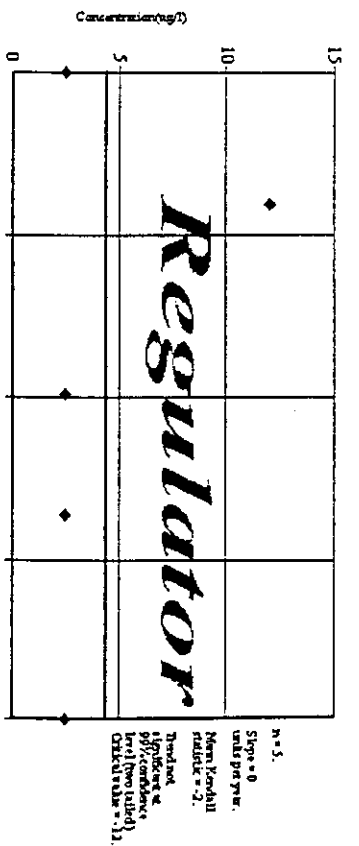
SENI'S SLOPE ESTIMATOR
MOB-IR4



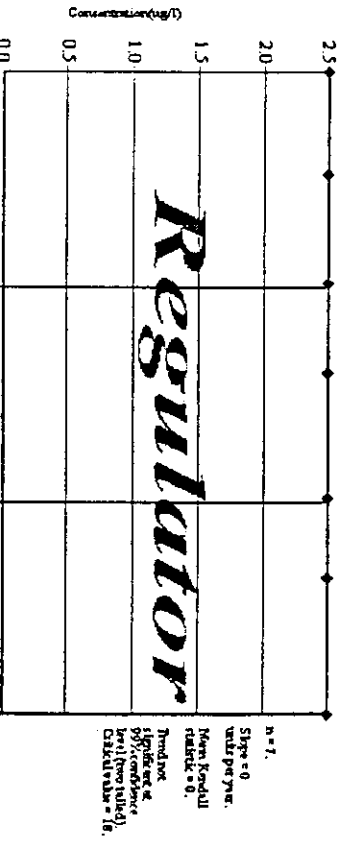
SENI'S SLOPE ESTIMATOR
MOB-54



SENI'S SLOPE ESTIMATOR
CNA-07



SENI'S SLOPE ESTIMATOR
MOB-55



Client: Regulatory Use
Date: 10/30/01, 10:02 AM

Client: Regulatory Use

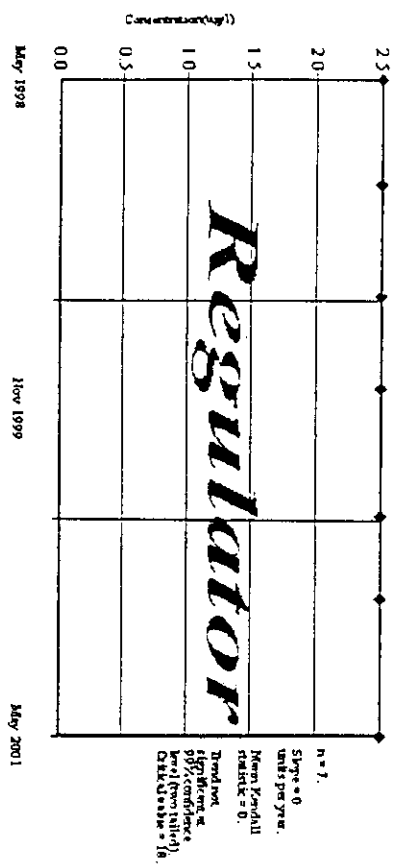
View: _Batch_

Date: 10/30/01, 10:02 AM

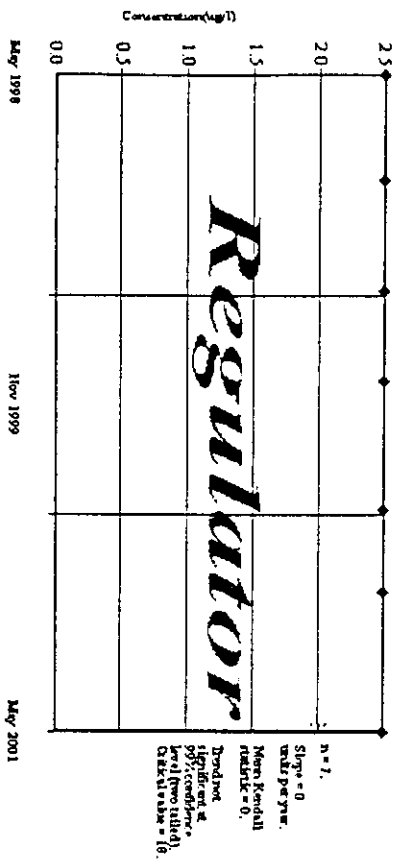
Client: Regulatory Use

View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-56



SEN'S SLOPE ESTIMATOR
MOB-58

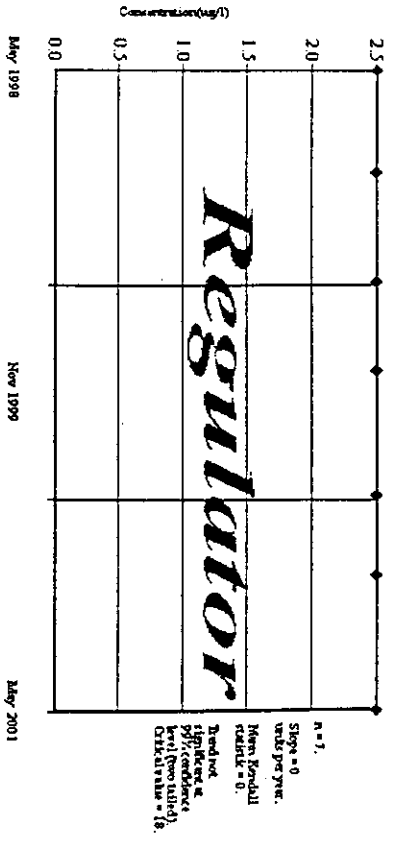


Condition: Calverdam (4q/0)
Date: 10/30/01, 10:03 AM

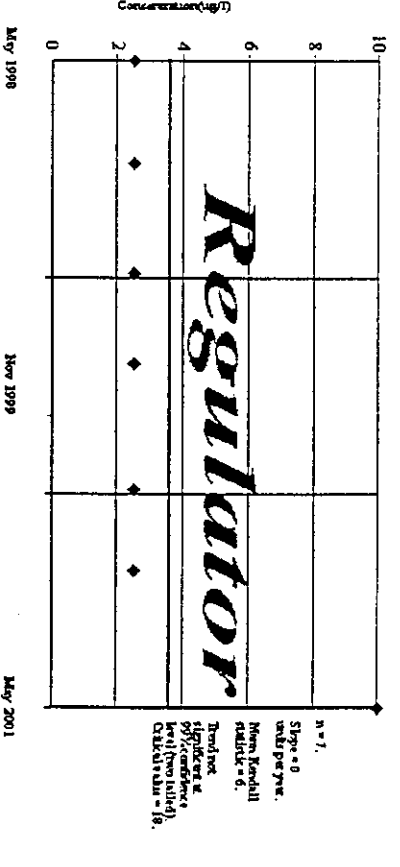
Facility: Leidsch X
Client: Regulatory Use

Data File: DUP-01T
View: _Bndh_

SEN'S SLOPE ESTIMATOR
MOB-57



SEN'S SLOPE ESTIMATOR
MOB-59

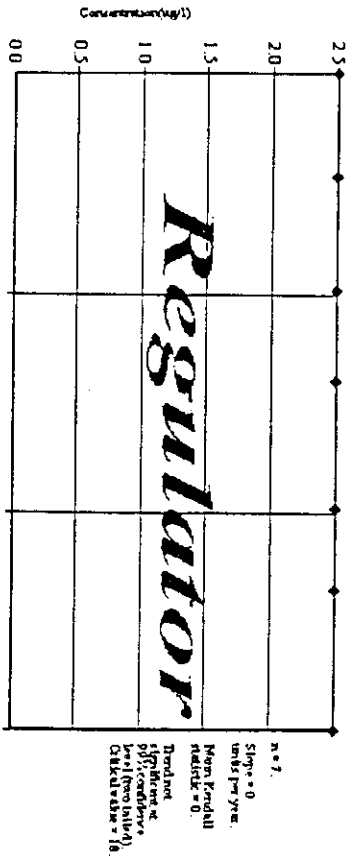


Condition: Calverdam (4q/0)
Date: 10/30/01, 10:03 AM

Facility: Leidsch X
Client: Regulatory Use

Data File: DUP-01T
View: _Bndh_

SEN'S SLOPE ESTIMATOR
MOB-60

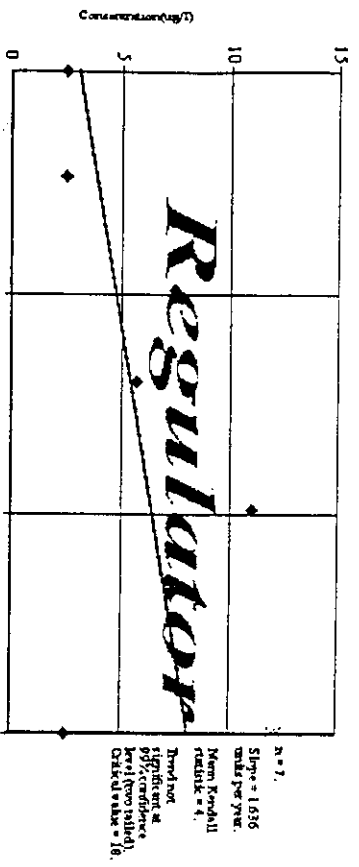


May 1998 Nov 1999 May 2001

Concentration: Chloroform (µg/l)
Date: 10/30/01, 10:03 AM
Client: Regulatory Use

Facility: Landfill X
Data File: DUP01T
View: Best

SEN'S SLOPE ESTIMATOR
MOB-62

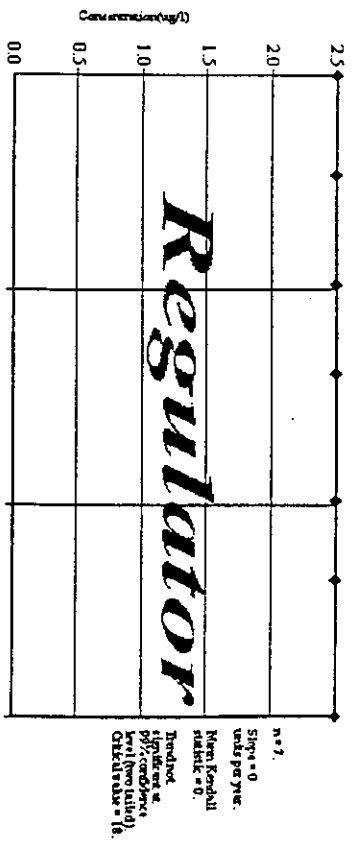


May 1998 Nov 1999 May 2001

Concentration: Chloroform (µg/l)
Date: 10/30/01, 10:03 AM

Facility: Landfill X
Data File: DUP01T
View: Best

SEN'S SLOPE ESTIMATOR
MOB-61

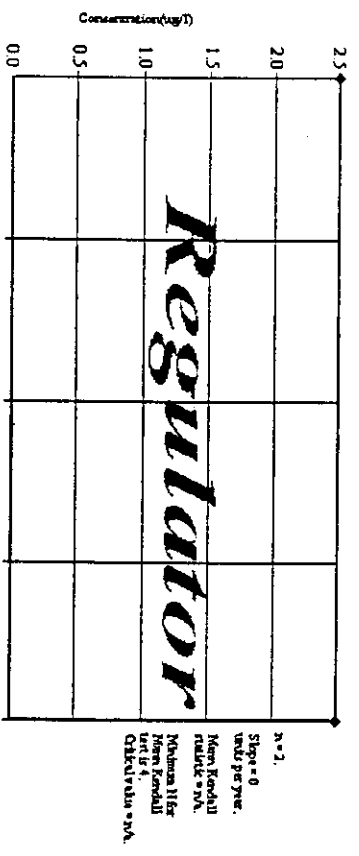


May 1998 Nov 1999 May 2001

Concentration: Chloroform (µg/l)
Date: 10/30/01, 10:03 AM
Client: Regulatory Use

Facility: Landfill X
Data File: DUP01T
View: Best

SEN'S SLOPE ESTIMATOR
MOB-63

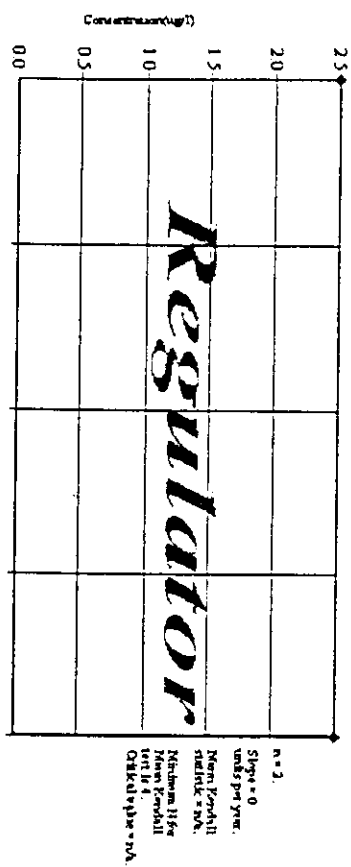


May 1998 Aug 1998 Nov 1998

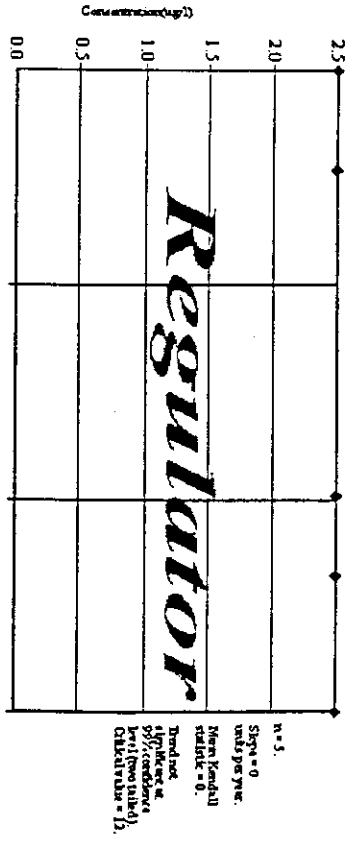
Concentration: Chloroform (µg/l)
Date: 10/30/01, 10:03 AM

Facility: Landfill X
Data File: DUP01T
View: Best

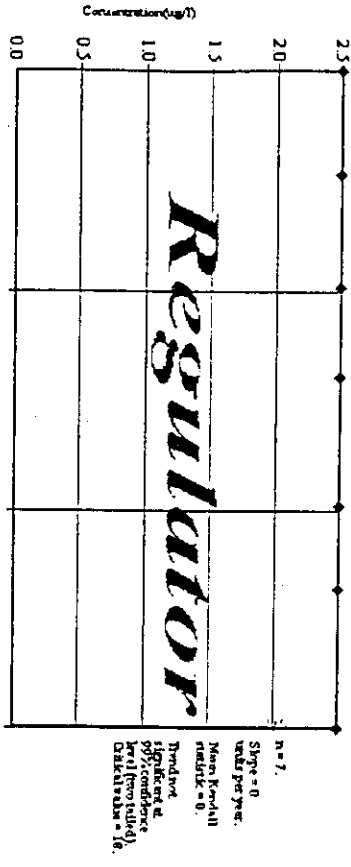
SEN'S SLOPE ESTIMATOR
MOB-6-1



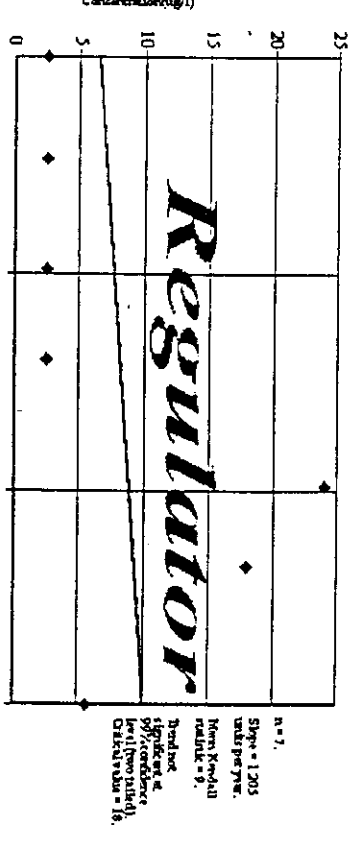
SEN'S SLOPE ESTIMATOR
MOB-65



SEN'S SLOPE ESTIMATOR
MOB-66



SEN'S SLOPE ESTIMATOR
MOB-67



Client: Lendall X
Date: 10/20/01, 10:03 AM

Client: Regulatory Use

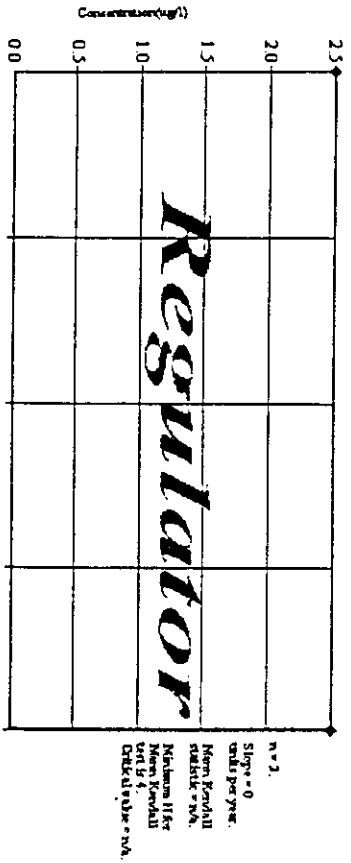
Data File: DUP01T
View: _BndL_

Client: Lendall X
Date: 10/20/01, 10:03 AM

Client: Regulatory Use

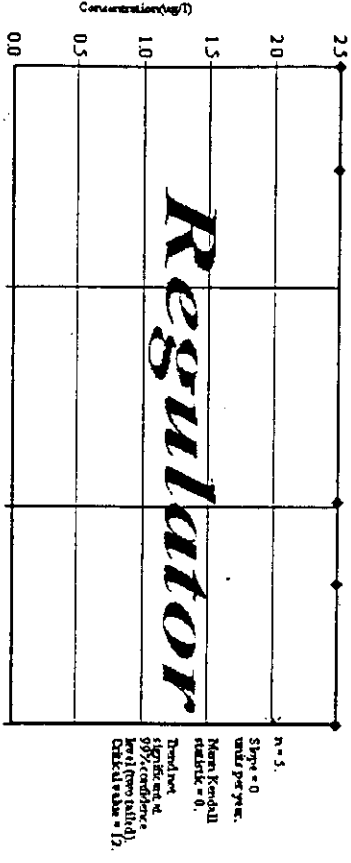
Data File: DUP01T
View: _BndL_

SEN'S SLOPE ESTIMATOR
MOB-68



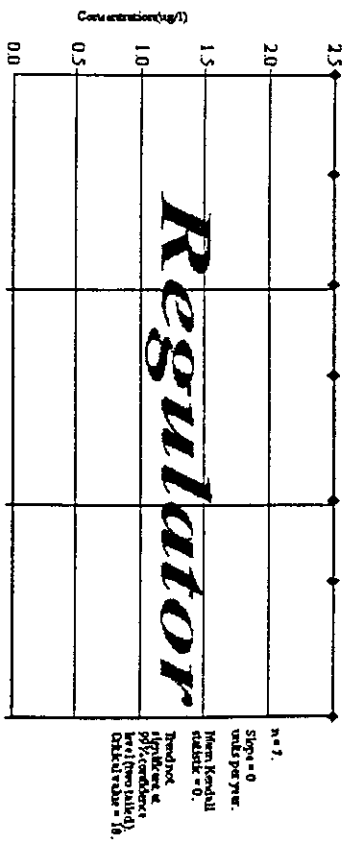
Credential: Chandraam (ug/l)
Date: 10/30/01, 10:03 AM
Fidelity: Lowell X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-70



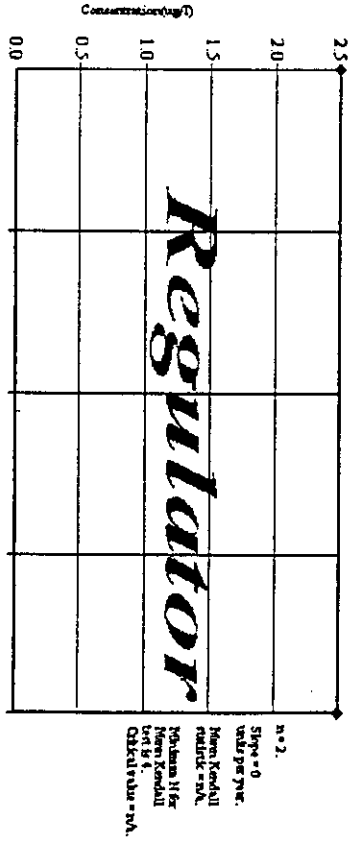
Credential: Chandraam (ug/l)
Date: 10/30/01, 10:03 AM
Fidelity: Lowell X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-69



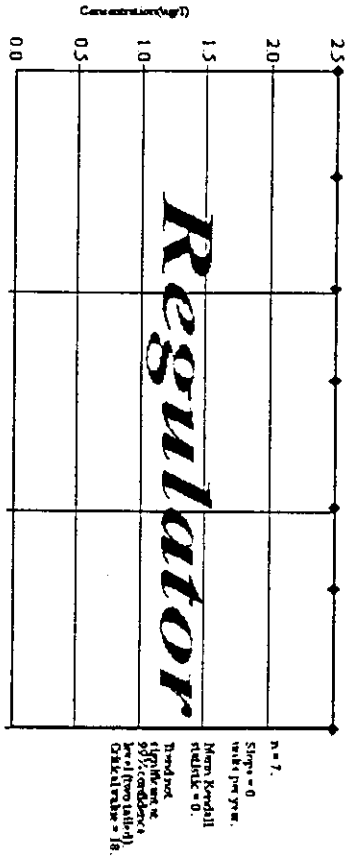
Credential: Chandraam (ug/l)
Date: 10/30/01, 10:03 AM
Fidelity: Lowell X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-71



Credential: Chandraam (ug/l)
Date: 10/30/01, 10:03 AM
Fidelity: Lowell X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-73



May 1998

Nov 1999

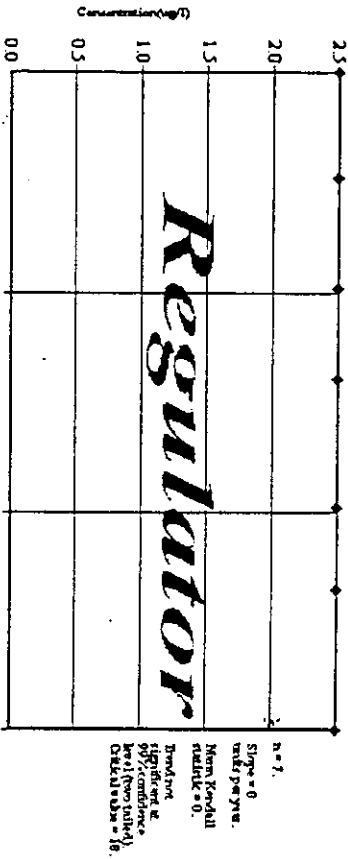
May 2001

Conducted: Chantrelson (ug/l)
Date: 10/30/01, 10:03 AM

Facility: Landfill X
Client: Regulatory Use

Data File: DUPONT
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-75



May 1998

Nov 1999

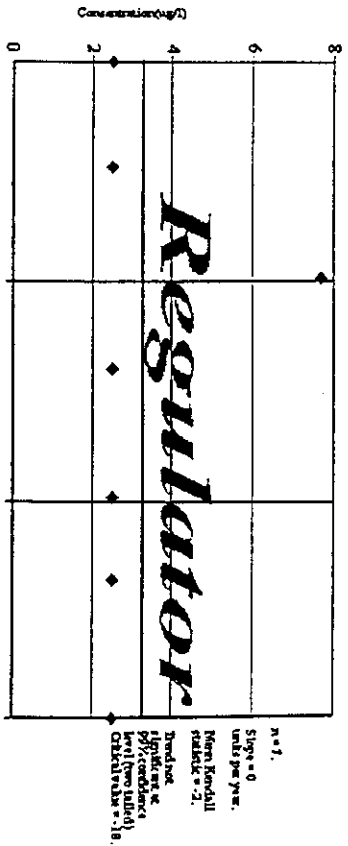
May 2001

Conducted: Chantrelson (ug/l)
Date: 10/30/01, 10:03 AM

Facility: Landfill X
Client: Regulatory Use

Data File: DUPONT
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-74



May 1998

Nov 1999

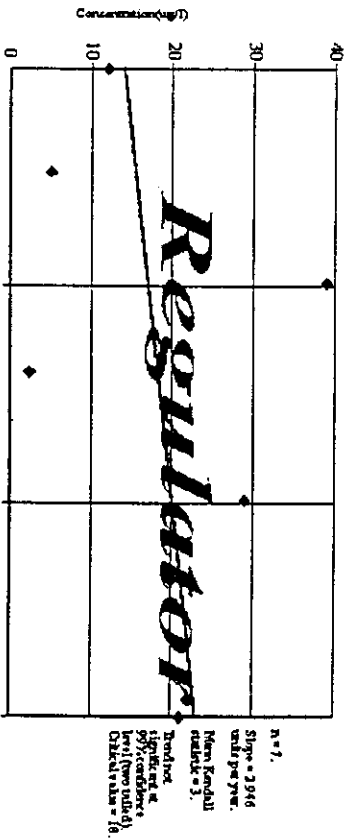
May 2001

Conducted: Chantrelson (ug/l)
Date: 10/30/01, 10:03 AM

Facility: Landfill X
Client: Regulatory Use

Data File: DUPONT
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-76



May 1998

Nov 1999

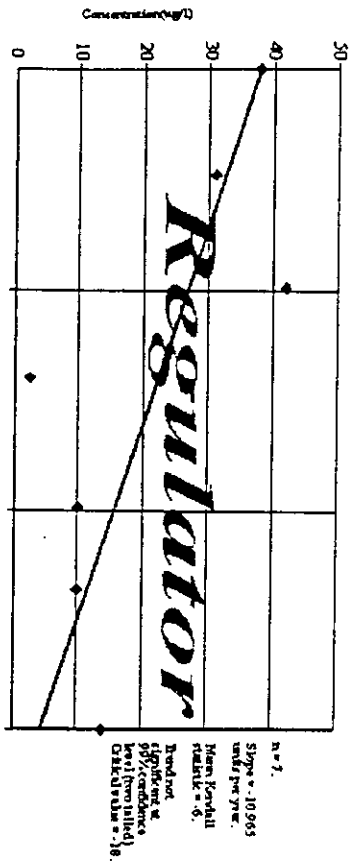
May 2001

Conducted: Chantrelson (ug/l)
Date: 10/30/01, 10:03 AM

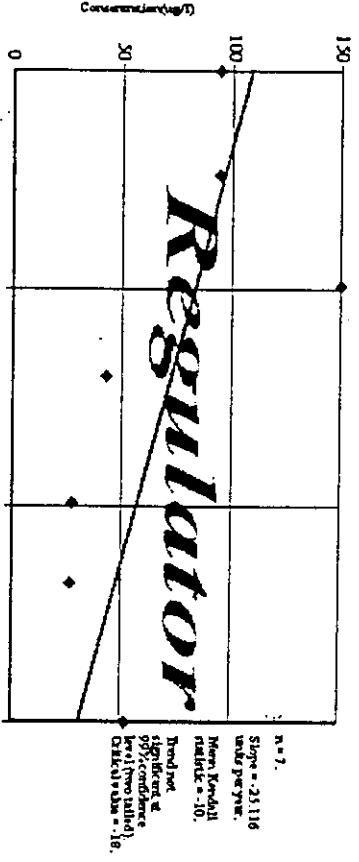
Facility: Landfill X
Client: Regulatory Use

Data File: DUPONT
View: Batch

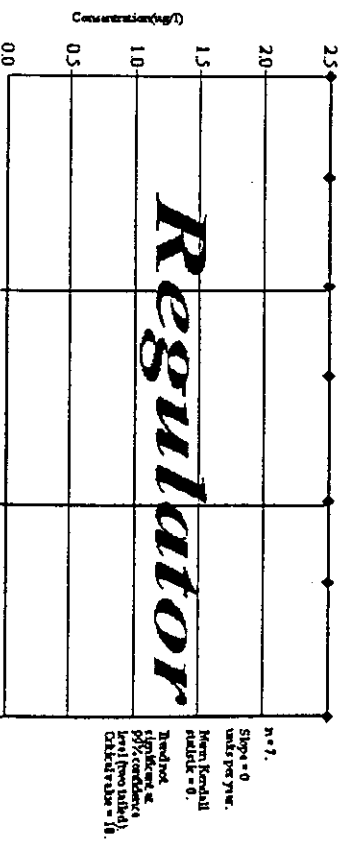
SEN'S SLOPE ESTIMATOR
MOB-77



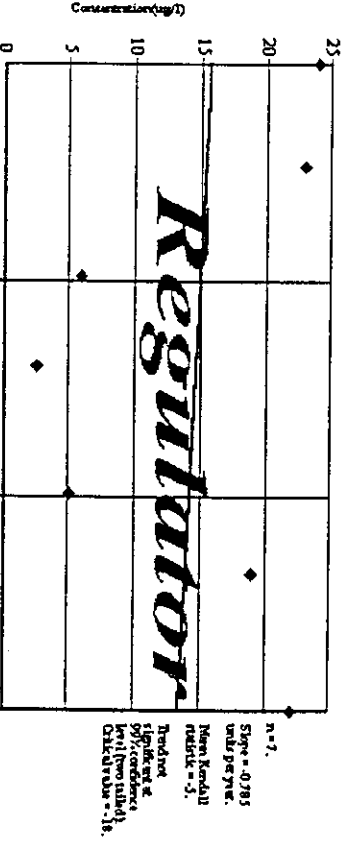
SEN'S SLOPE ESTIMATOR
MOB-79



SEN'S SLOPE ESTIMATOR
MOB-78



SEN'S SLOPE ESTIMATOR
MOB-EI



Client: Landfill X
Date: 10/30/01, 10:03 AM

Client: Regulatory Use

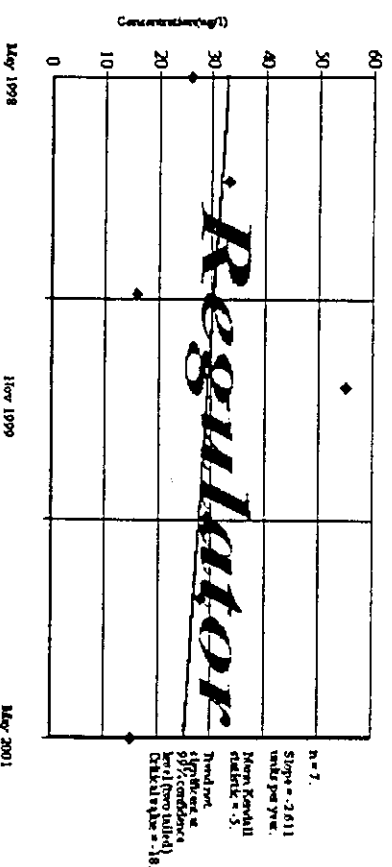
Data File: DUP-01T
View: _BndA_

Client: Landfill X
Date: 10/30/01, 10:03 AM

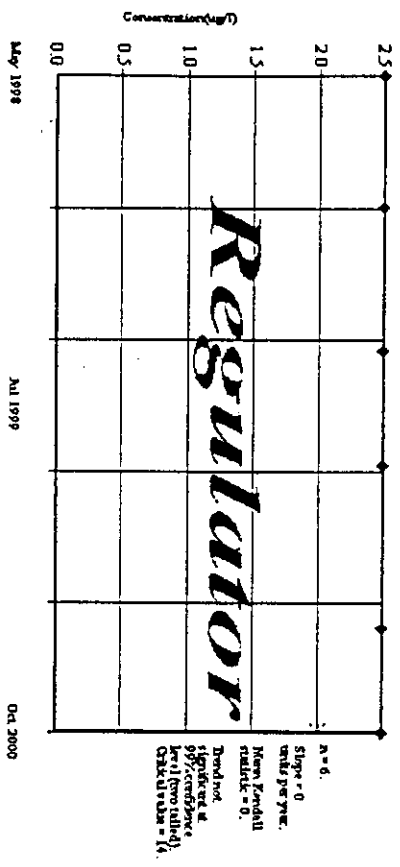
Client: Regulatory Use

Data File: DUP-01T
View: _BndA_

SEN'S SLOPE ESTIMATOR
MOB-E3



SEN'S SLOPE ESTIMATOR
MOB-R1

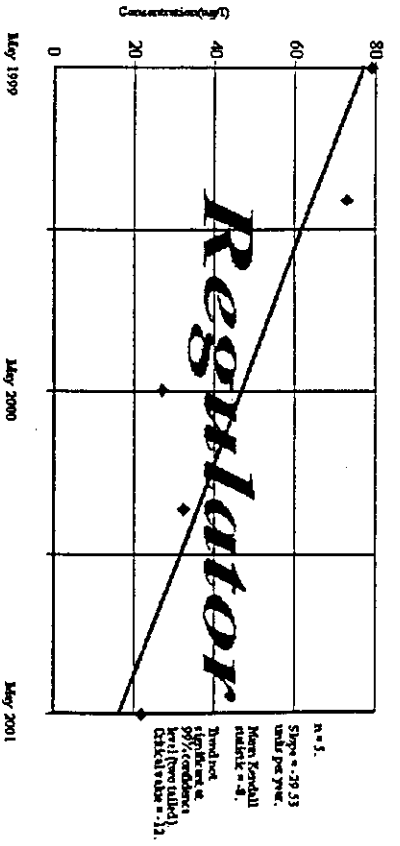


Coordinates: Charleston (44/0)
 Date: 10/30/01, 10:03 AM

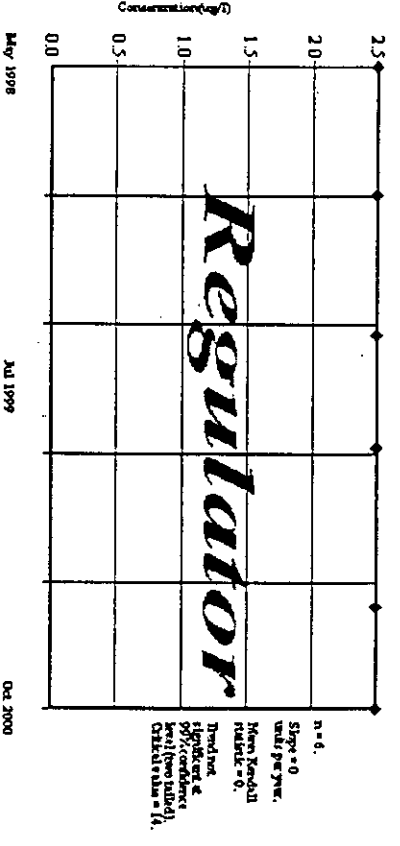
Facility: Lumball X
 Client: Regulatory Use

Data File: DUPORT
 View: Best

SEN'S SLOPE ESTIMATOR
MOB-E4



SEN'S SLOPE ESTIMATOR
MOB-R2



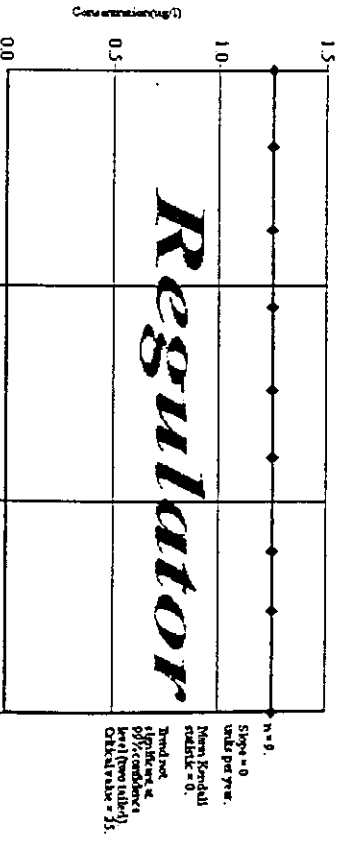
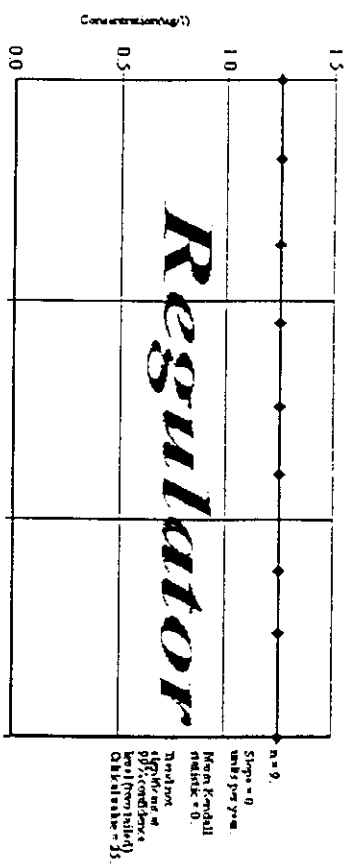
Coordinates: Charleston (44/0)
 Date: 10/30/01, 10:03 AM

Facility: Lumball X
 Client: Regulatory Use

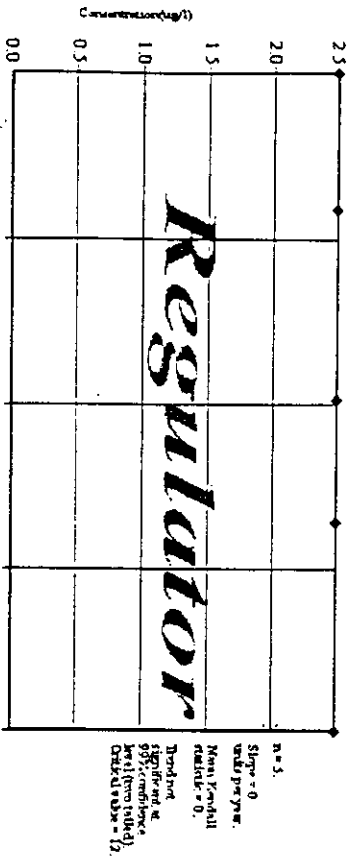
Data File: DUPORT
 View: Best

Tetrachloroethylene

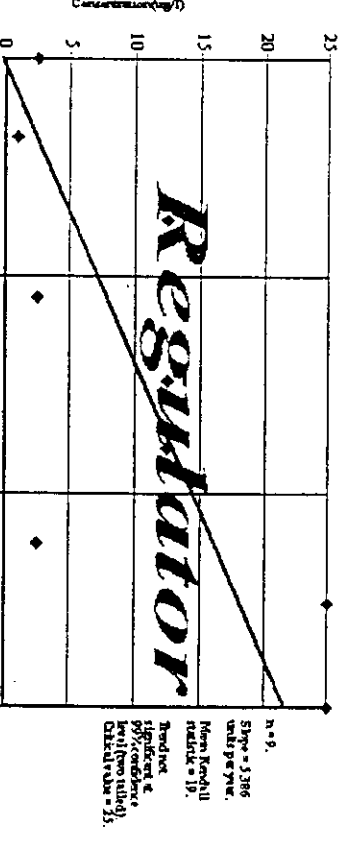
SEN'S SLOPE ESTIMATOR
MOB-R3



SEN'S SLOPE ESTIMATOR
CNA-07



SEN'S SLOPE ESTIMATOR
MOB-54



Consultant: TetraScience, Inc. (ug/d)
Date: 11/1/01, 2:27 PM

Facility: Landfill X
Client: Regulatory Use

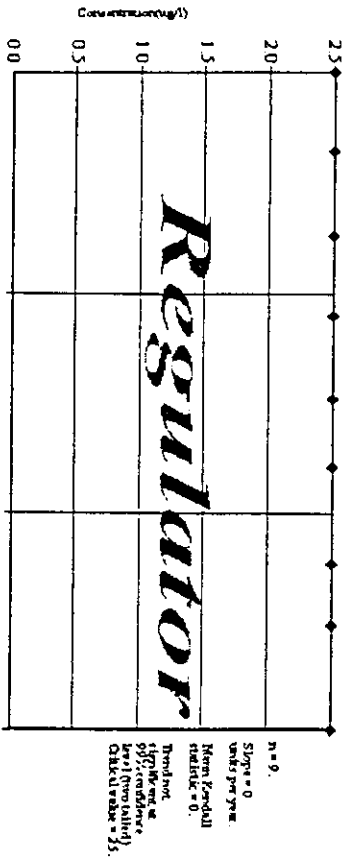
Data File: DUP-01T
View: _Both_

Consultant: TetraScience, Inc. (ug/d)
Date: 11/1/01, 2:27 PM

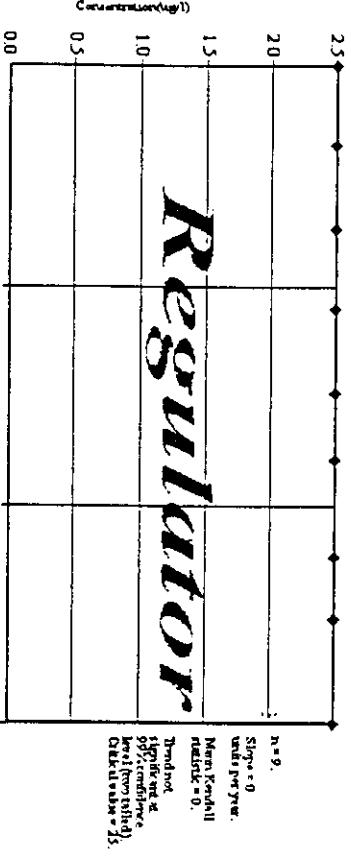
Facility: Landfill X
Client: Regulatory Use

Data File: DUP-01T
View: _Both_

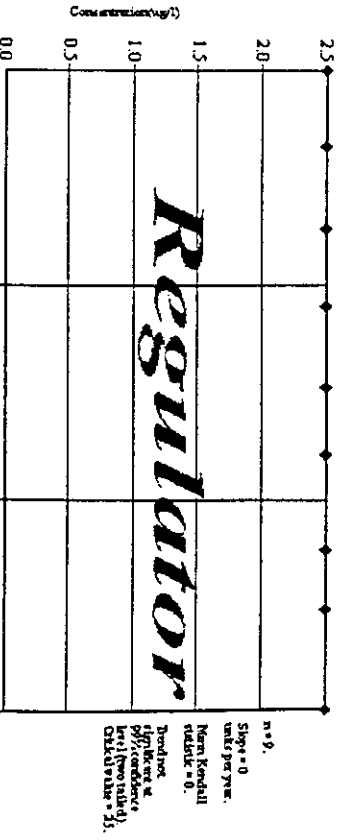
SEN'S SLOPE ESTIMATOR
MOB-55



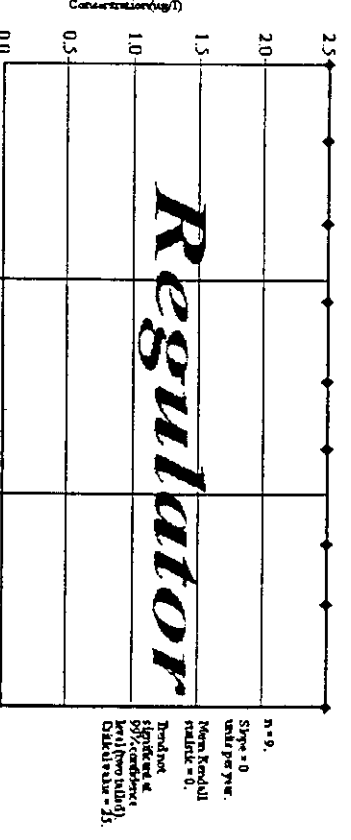
SEN'S SLOPE ESTIMATOR
MOB-57



SEN'S SLOPE ESTIMATOR
MOB-56



SEN'S SLOPE ESTIMATOR
MOB-58



Condition: Tetrachloroethylene (Fig. 4)
Date: 11/1/01, 3:27 PM

Facility: Lowell X
Client: Regulatory Use

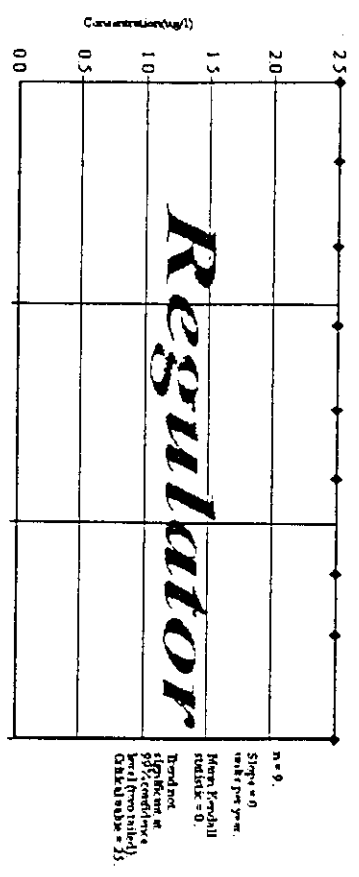
Data File: DUPORT
View: Batch

Condition: Tetrachloroethylene (Fig. 4)
Date: 11/1/01, 3:27 PM

Facility: Lowell X
Client: Regulatory Use

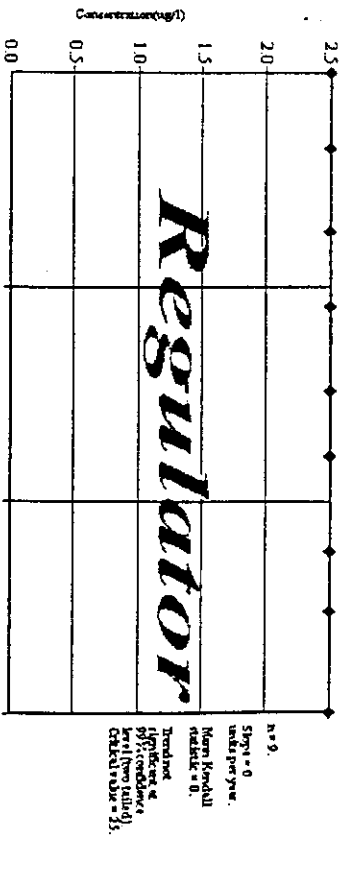
Data File: DUPORT
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-59



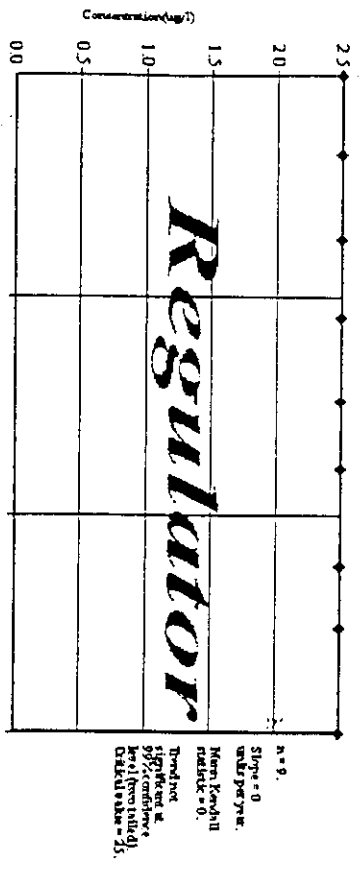
Condition: Toluene/ethylene (ug/l)
Date: 11/10/1, 2:37 PM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-60



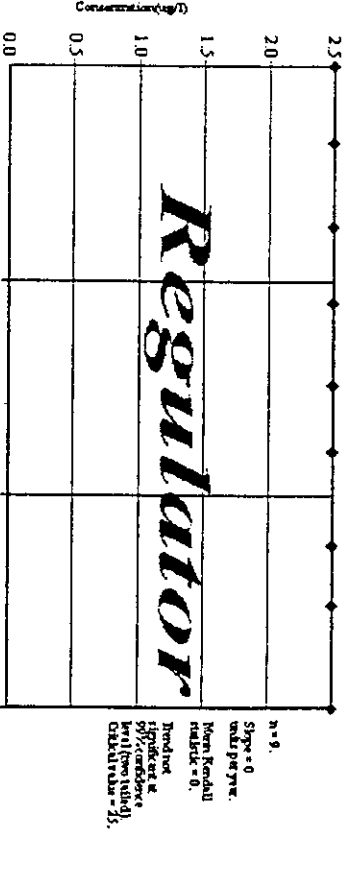
Condition: Toluene/ethylene (ug/l)
Date: 11/10/1, 2:37 PM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-61



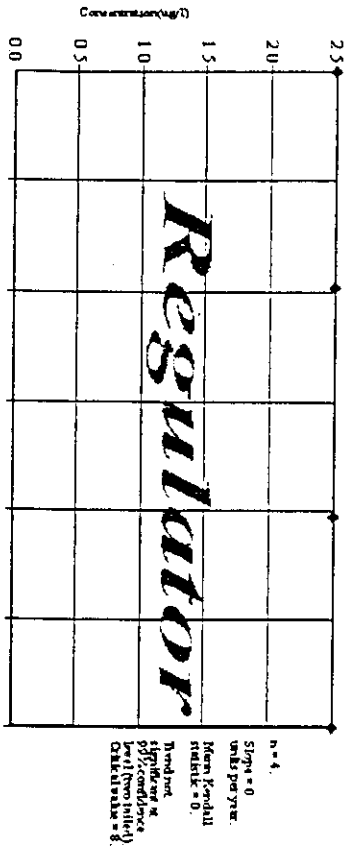
Condition: Toluene/ethylene (ug/l)
Date: 11/10/1, 2:37 PM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-62



Condition: Toluene/ethylene (ug/l)
Date: 11/10/1, 2:37 PM
Facility: Landfill X
Client: Regulatory Use
Data File: DUP01T
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-63



May 1997 Feb 1998 Nov 1998

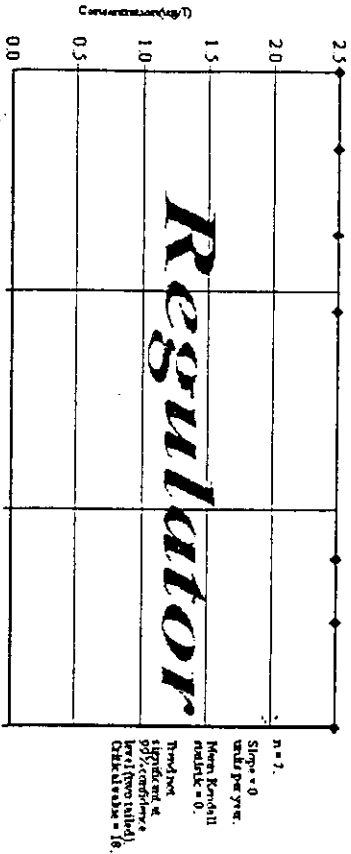
Condition: Tetrachloroethylene (ug/l)

Date: 11/1/01, 3:27 PM

Facility: Lumball X
Client: Regulatory Use

Data File: DUP01T
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-65



May 1997 May 1999 Jan 2001

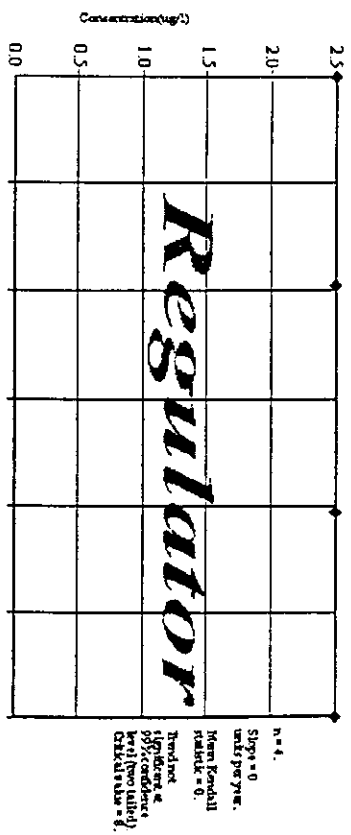
Condition: Tetrachloroethylene (ug/l)

Date: 11/1/01, 3:27 PM

Facility: Lumball X
Client: Regulatory Use

Data File: DUP 01T
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-64



May 1997 Feb 1998 Nov 1998

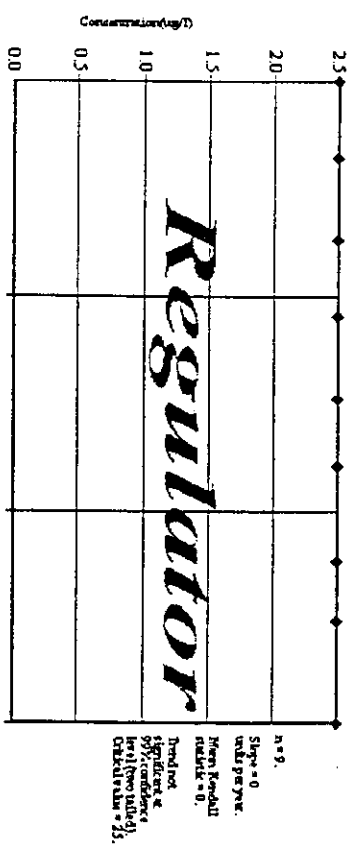
Condition: Tetrachloroethylene (ug/l)

Date: 11/1/01, 3:27 PM

Facility: Lumball X
Client: Regulatory Use

Data File: DUP01T
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-66



May 1997 May 1999 May 2001

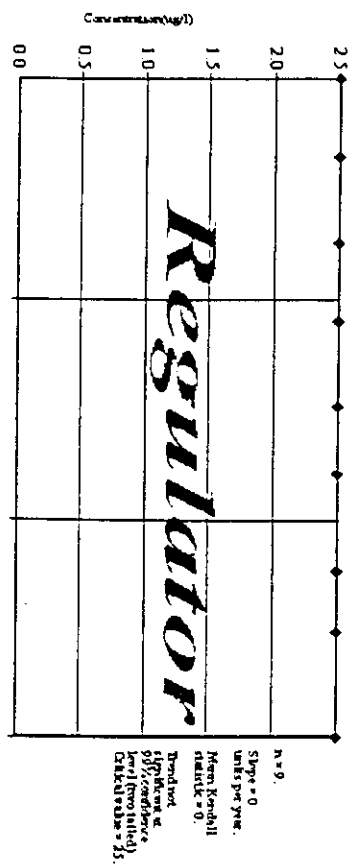
Condition: Tetrachloroethylene (ug/l)

Date: 11/1/01, 3:27 PM

Facility: Lumball X
Client: Regulatory Use

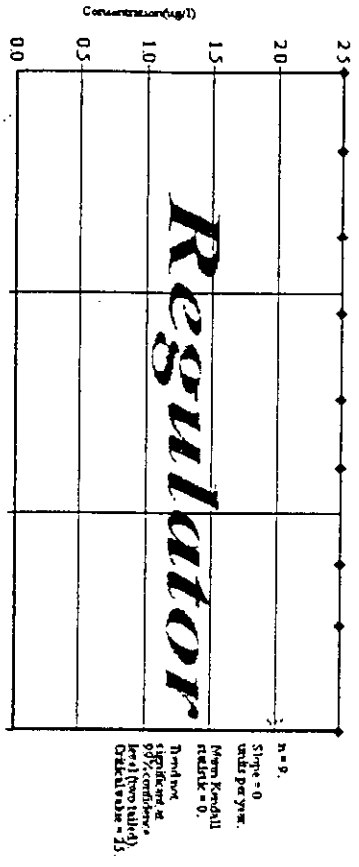
Data File: DUP01T
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-67



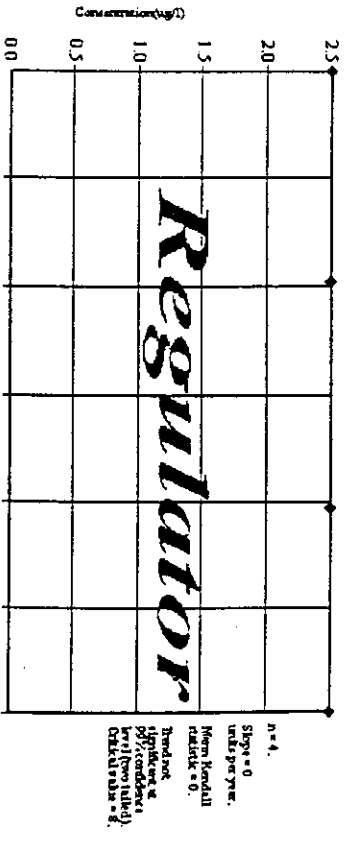
Conditioned: Technicals\regplane (ug/l)
Date: 11/1/01, 2:27 PM
Client: Regulatory Use
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-69



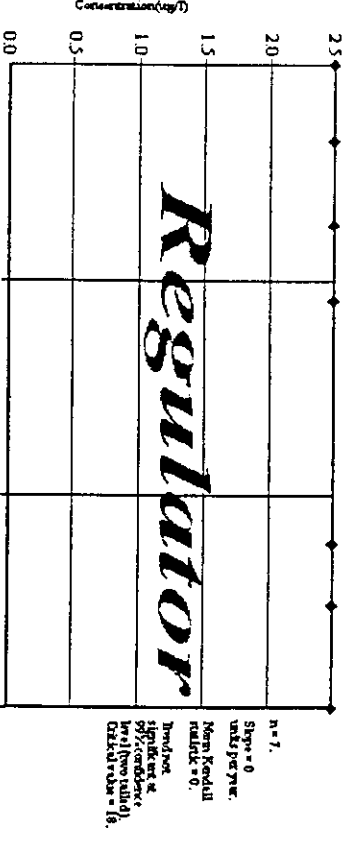
Conditioned: Technicals\regplane (ug/l)
Date: 11/1/01, 2:27 PM
Client: Regulatory Use
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-68



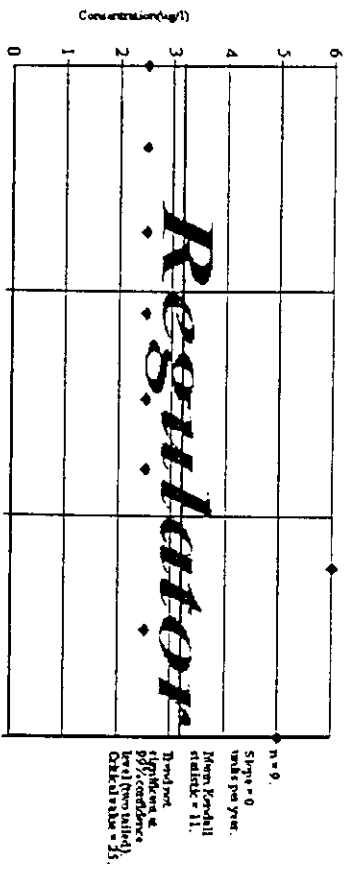
Conditioned: Technicals\regplane (ug/l)
Date: 11/1/01, 2:27 PM
Client: Regulatory Use
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-70

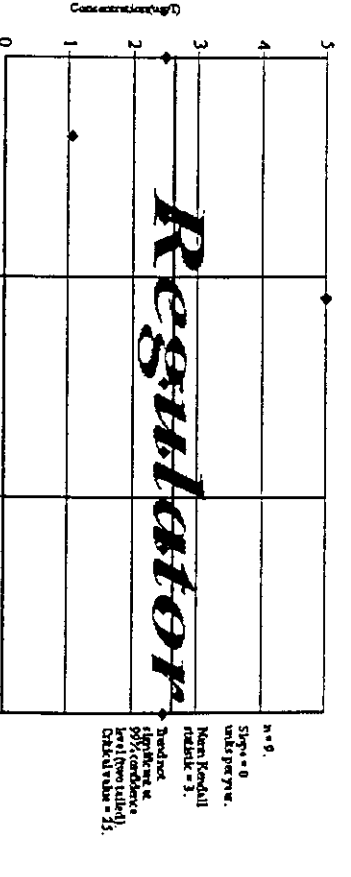


Conditioned: Technicals\regplane (ug/l)
Date: 11/1/01, 2:27 PM
Client: Regulatory Use
View: Batch

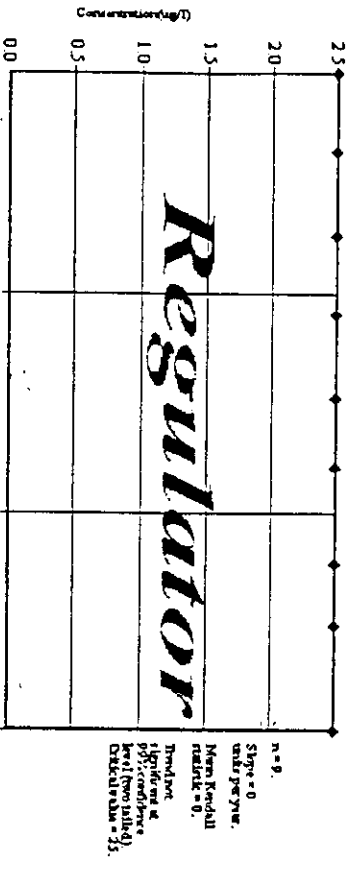
SEN'S SLOPE ESTIMATOR
MOB-76



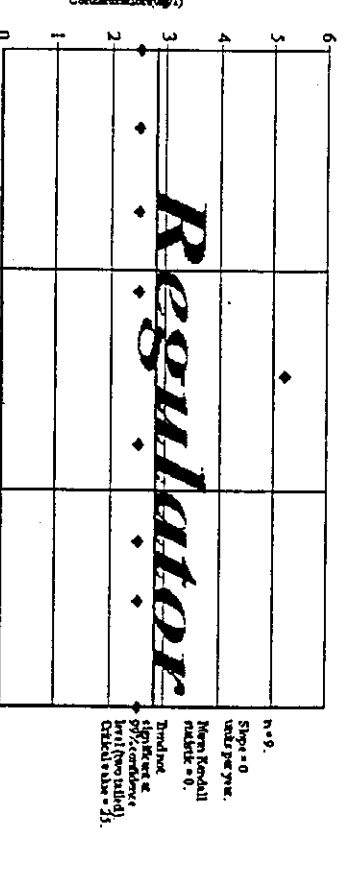
SEN'S SLOPE ESTIMATOR
MOB-77



SEN'S SLOPE ESTIMATOR
MOB-78



SEN'S SLOPE ESTIMATOR
MOB-79



Coordinate: Technical Support (ug/l)
Date: 11/10/1, 2:28 PM

Facility: Lumball X
Client: Regulatory Use

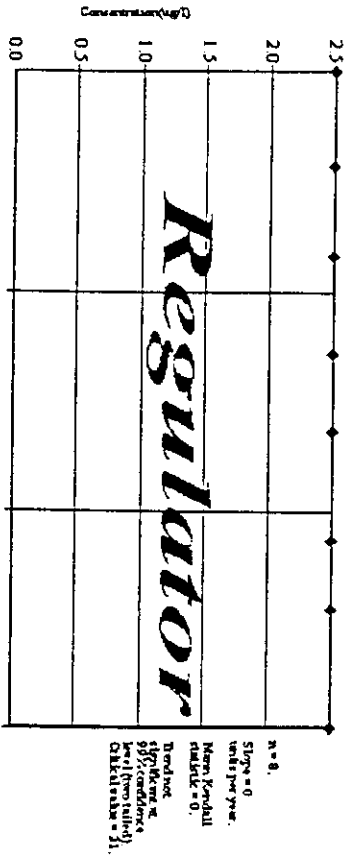
Data File: DUPONT
View: Back

Coordinate: Technical Support (ug/l)
Date: 11/10/1, 2:28 PM

Facility: Lumball X
Client: Regulatory Use

Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-E1



Nov 1997

Aug 1999

May 2001

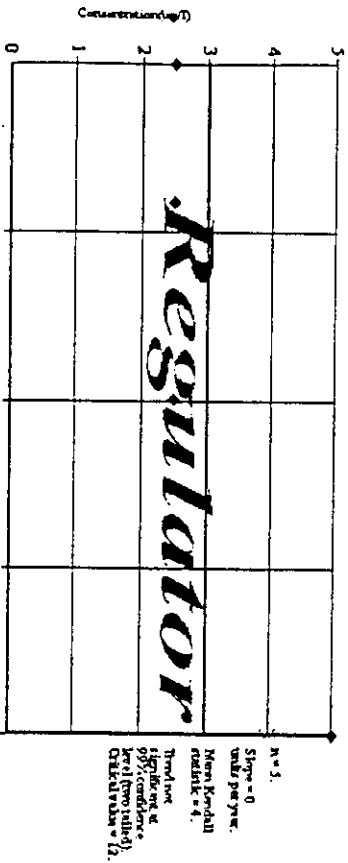
Consultant: Technometrics, Inc. (Fig. 4)

Date: 11/1/01, 3:28 PM

Facility: Lumball X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-E1



May 1999

May 2000

May 2001

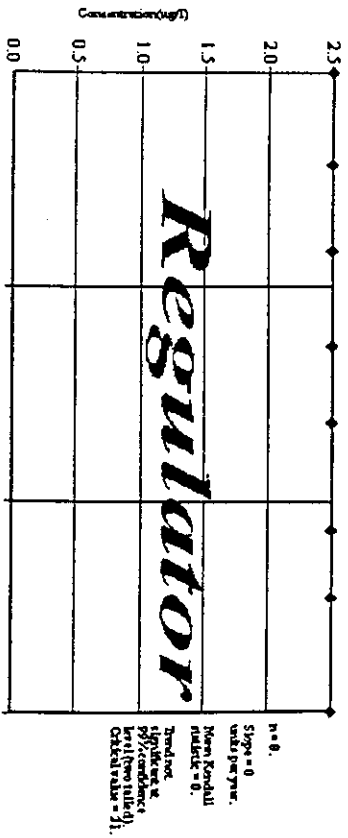
Consultant: Technometrics, Inc. (Fig. 4)

Date: 11/1/01, 3:28 PM

Facility: Lumball X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-E3



Nov 1997

Aug 1999

May 2001

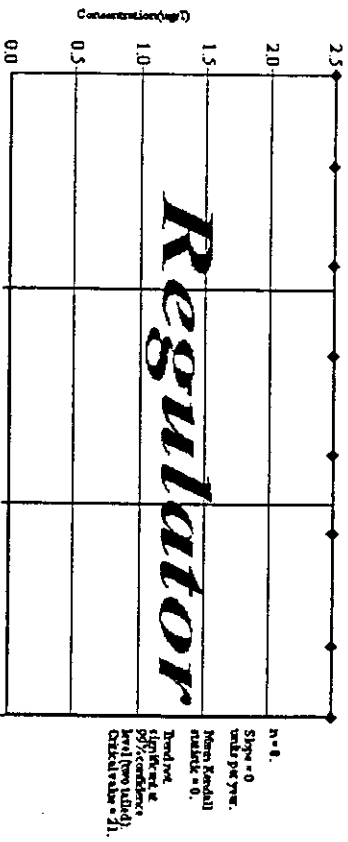
Consultant: Technometrics, Inc. (Fig. 4)

Date: 11/1/01, 3:28 PM

Facility: Lumball X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-R1



Jan 1999

Oct 2000

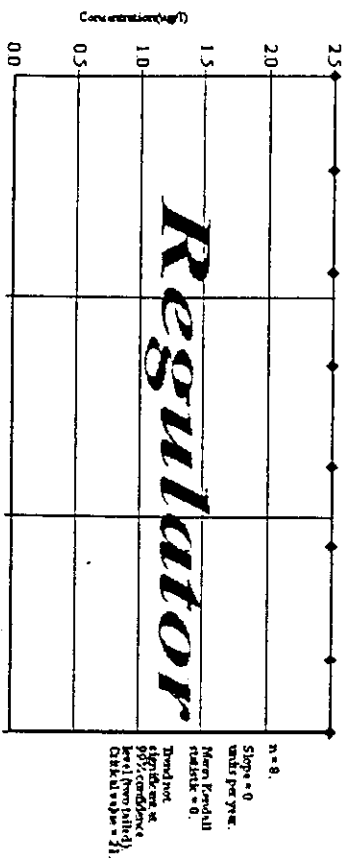
Consultant: Technometrics, Inc. (Fig. 4)

Date: 11/1/01, 3:28 PM

Facility: Lumball X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-R2



May 1997

Jan 1999

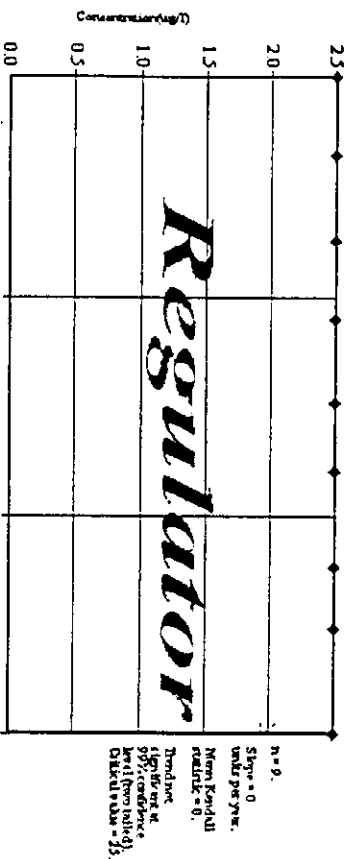
Oct 2000

Client: Terebinto S.p.A.

Date: 11/10/13 20 PM

Operator: Regulatory Use

SEN'S SLOPE ESTIMATOR
MOB-R4



May 1997

May 1999

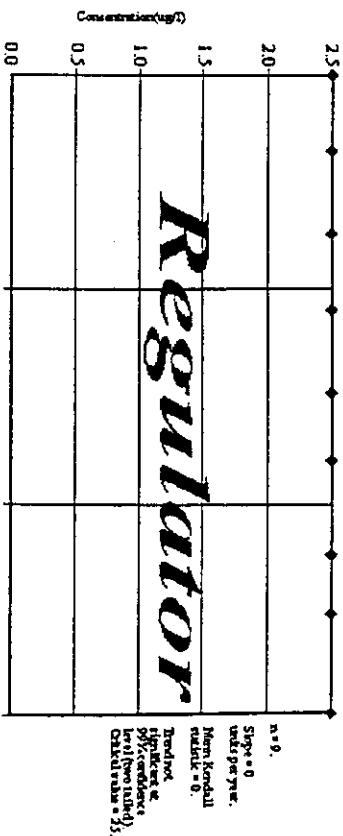
May 2001

Client: Terebinto S.p.A.

Operator: Regulatory Use

Date: 11/10/13 20 PM

SEN'S SLOPE ESTIMATOR
MOB-R3



May 1997

May 1999

May 2001

Client: Terebinto S.p.A.

Date: 11/10/13 20 PM

Operator: Regulatory Use

SEN'S SLOPE ESTIMATOR
MOB-R4

May 1997

May 1999

May 2001

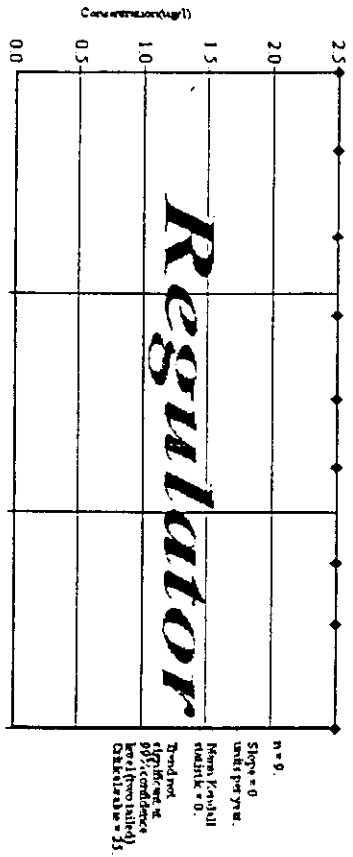
Client: Terebinto S.p.A.

Operator: Regulatory Use

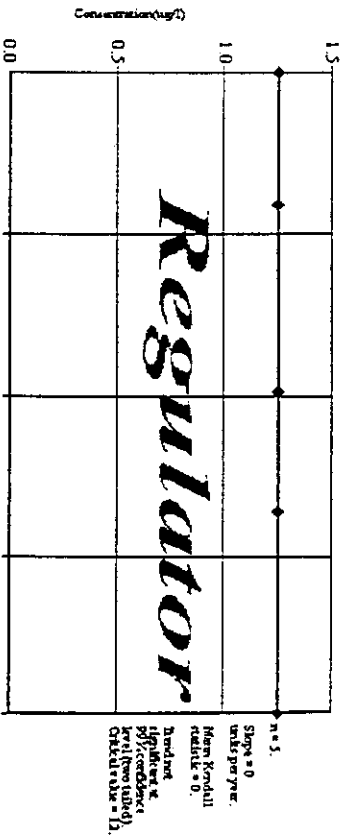
Date: 11/10/13 20 PM

Cis-1,2-Dichloroethene

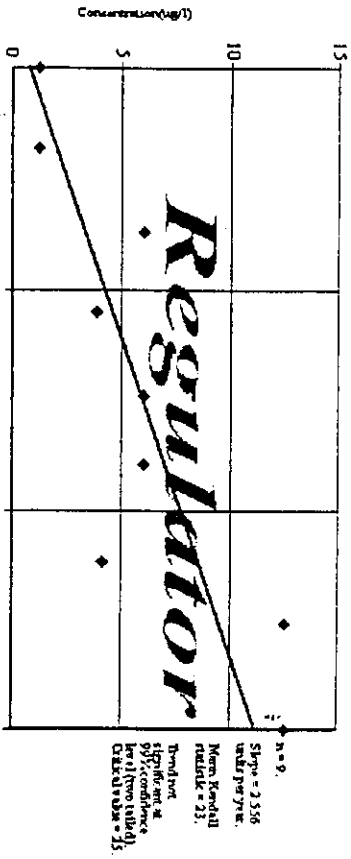
SEN'S SLOPE ESTIMATOR
MOB-1A



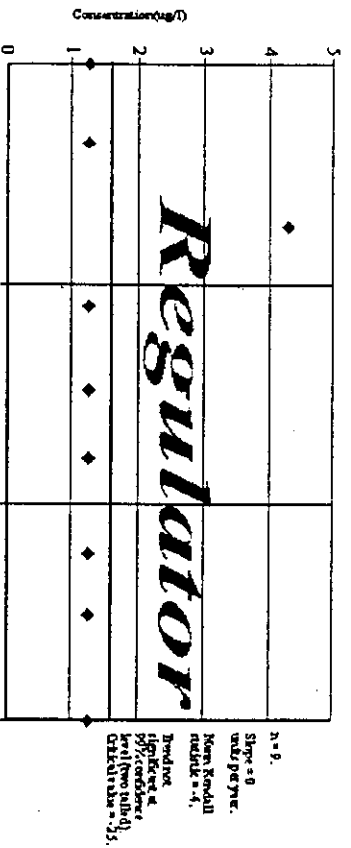
SEN'S SLOPE ESTIMATOR
CNA-07



SEN'S SLOPE ESTIMATOR
MOB-54



SEN'S SLOPE ESTIMATOR
MOB-55



Concentration: da-11-Mobsterschone (ug/l)
Date: 11/1/01, 2:26 PM

Facility: Landfill X
Client: Regulatory Use

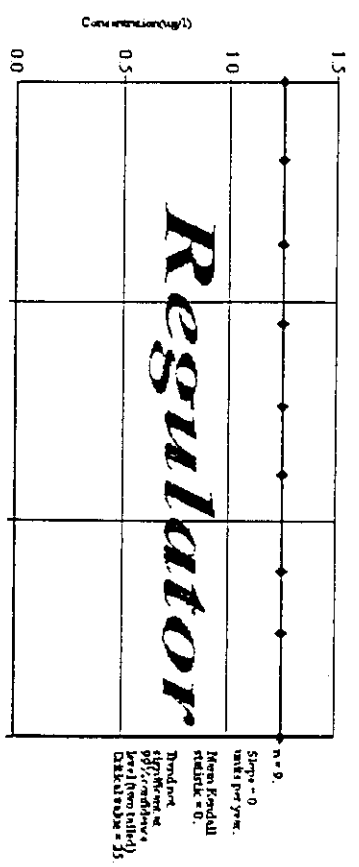
Data File: DUPORT
View: _Back_

Concentration: da-11-Mobsterschone (ug/l)
Date: 11/1/01, 2:26 PM

Facility: Landfill X
Client: Regulatory Use

Data File: DUPORT
View: _Back_

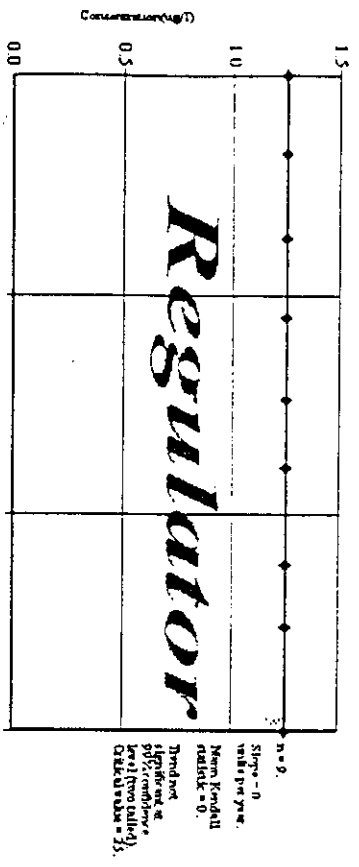
SEN'S SLOPE ESTIMATOR
MOB-56



n = 9.
Slope = 0
units per year.
Mean Kendall
statistic = 0.
Trend not
significant at
95% confidence
level (two tailed).
Critical Value = 35.

Condition: da-13: Bickelwafelone (g/g)
Date: 11/1/01, 2:26 PM
Facility: Lendall X
Client: Regulatory Use
Data File: DUP01T
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-58



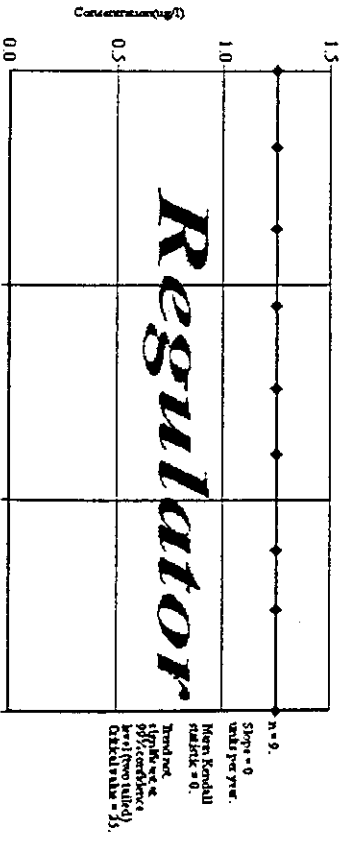
n = 9.
Slope = 0
units per year.
Mean Kendall
statistic = 0.
Trend not
significant at
95% confidence
level (two tailed).
Critical Value = 35.

Condition: da-13: Bickelwafelone (g/g)
Date: 11/1/01, 2:26 PM

Facility: Lendall X
Client: Regulatory Use

Data File: DUP01T
View: Batch

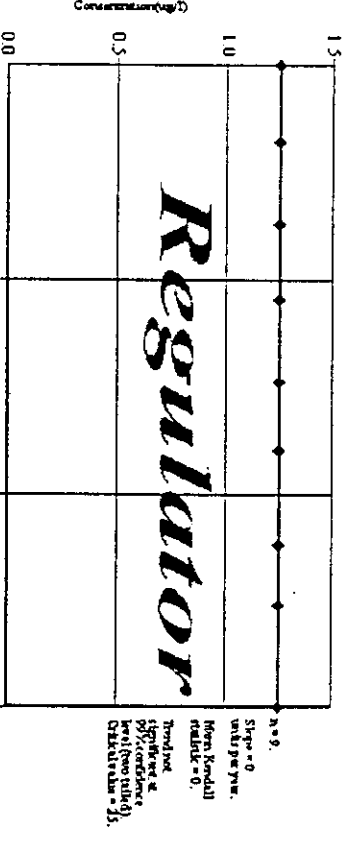
SEN'S SLOPE ESTIMATOR
MOB-57



n = 9.
Slope = 0
units per year.
Mean Kendall
statistic = 0.
Trend not
significant at
95% confidence
level (two tailed).
Critical Value = 35.

Condition: da-13: Bickelwafelone (g/g)
Date: 11/1/01, 2:26 PM
Facility: Lendall X
Client: Regulatory Use
Data File: DUP01T
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-59



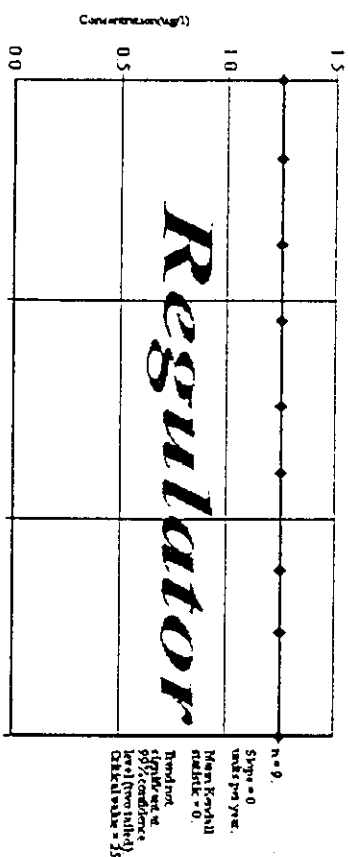
n = 9.
Slope = 0
units per year.
Mean Kendall
statistic = 0.
Trend not
significant at
95% confidence
level (two tailed).
Critical Value = 35.

Condition: da-13: Bickelwafelone (g/g)
Date: 11/1/01, 2:26 PM

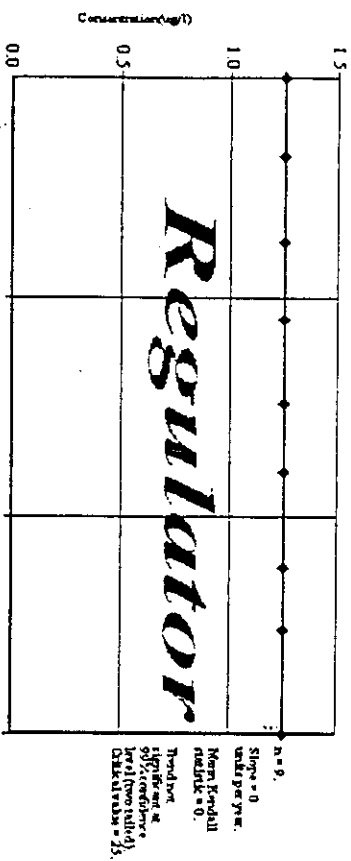
Facility: Lendall X
Client: Regulatory Use

Data File: DUP01T
View: Batch

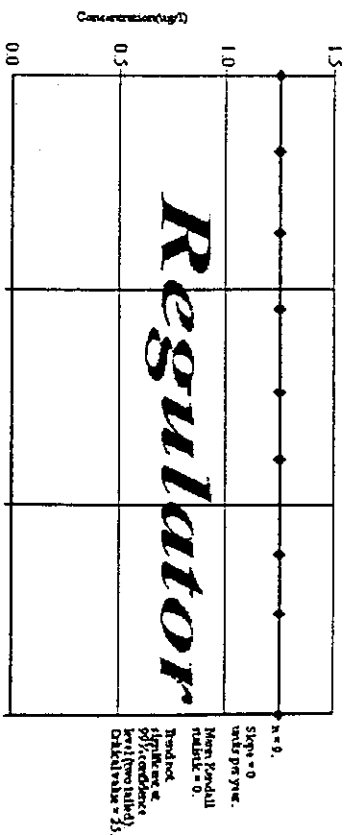
SENI'S SLOPE ESTIMATOR
MOB-60



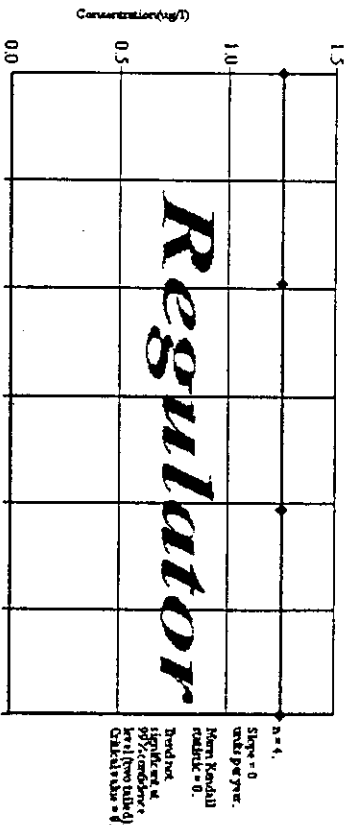
SENI'S SLOPE ESTIMATOR
MOB-62



SENI'S SLOPE ESTIMATOR
MOB-61



SENI'S SLOPE ESTIMATOR
MOB-63



Concentration: da-12: Baktensvorne (ug/l)
Date: 11/1/01, 2:26 PM

Facility: Landfill X
Client: Regulatory Use

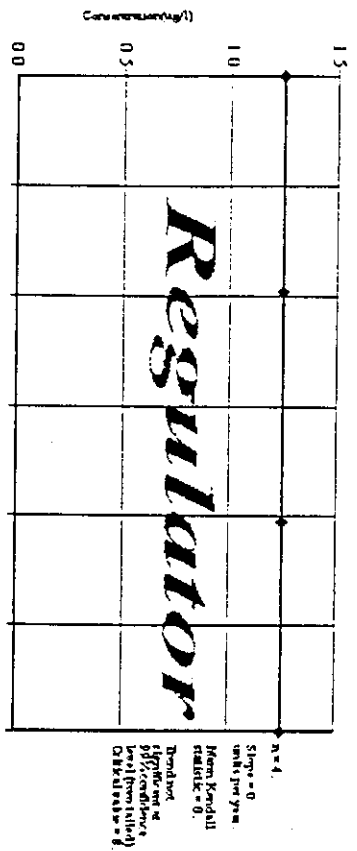
Data File: DUPONT
View: _Batch_

Concentration: da-12: Baktensvorne (ug/l)
Date: 11/1/01, 2:26 PM

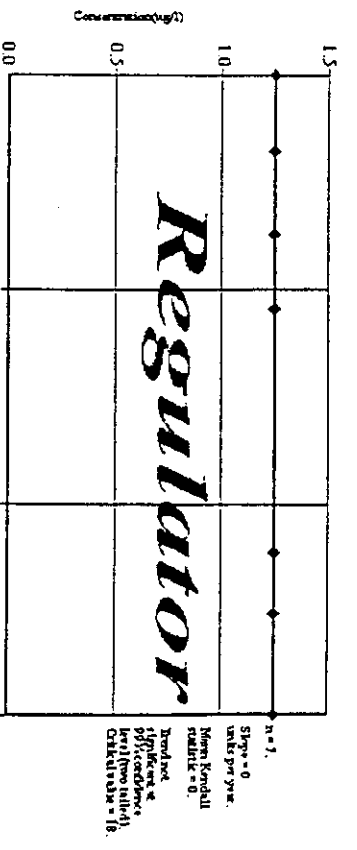
Facility: Landfill X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

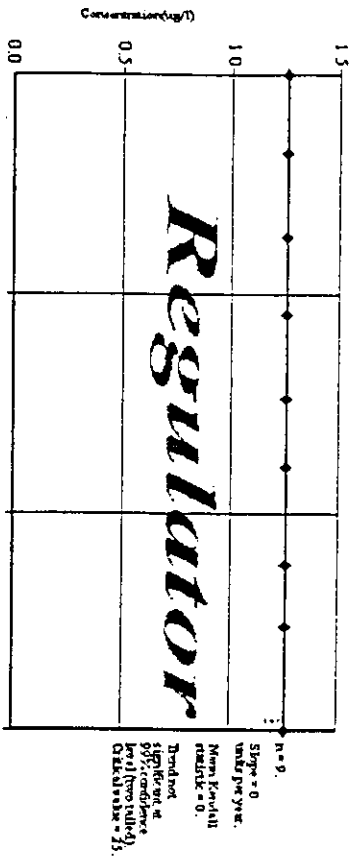
SEN'S SLOPE ESTIMATOR
MOB-64



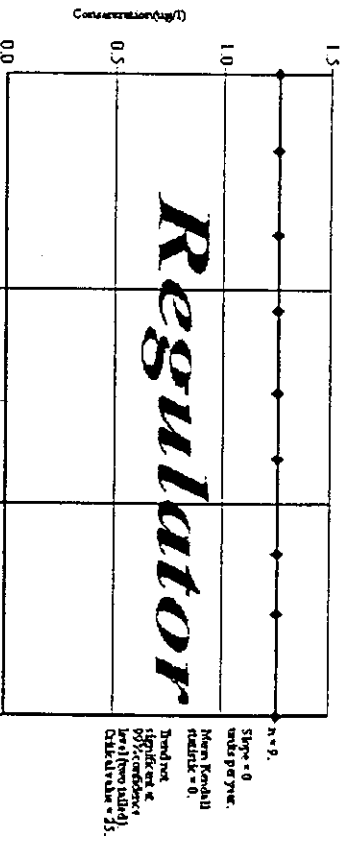
SEN'S SLOPE ESTIMATOR
MOB-65



SEN'S SLOPE ESTIMATOR
MOB-66



SEN'S SLOPE ESTIMATOR
MOB-67



Condition: dr-12-Buckeye-ohio (ug/l)
Date: 11/1/01, 3:26 PM

Facility: Landfill X
Client: Regulatory Use

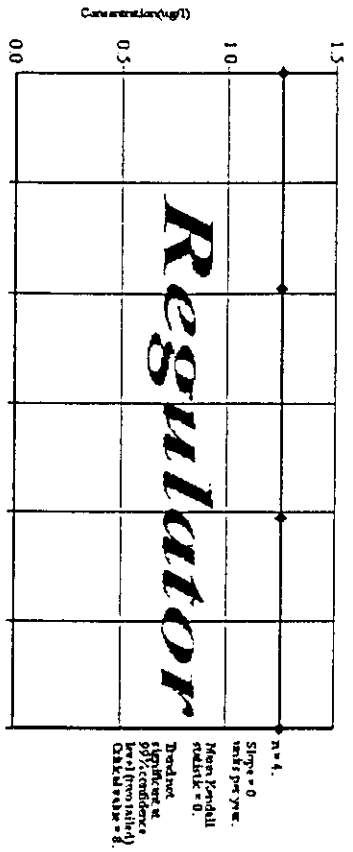
Data File: DUP-01T
View: _Batch_

Condition: dr-12-Buckeye-ohio (ug/l)
Date: 11/1/01, 3:26 PM

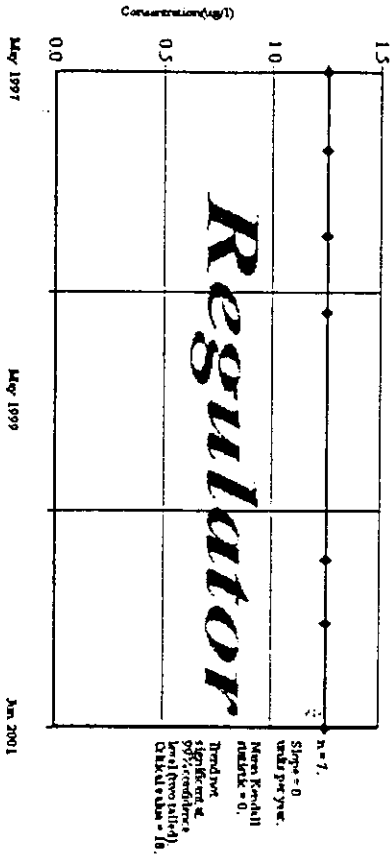
Facility: Landfill X
Client: Regulatory Use

Data File: DUP-01T
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-68



SEN'S SLOPE ESTIMATOR
MOB-70

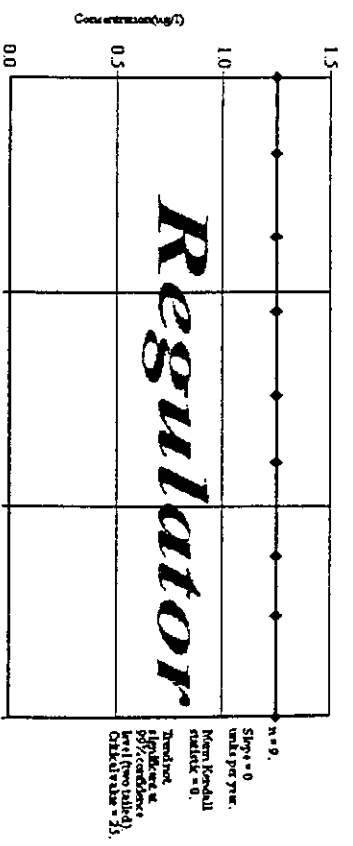


Consistent: da 12: Backscattered (ug/l)
Date: 11/1/01, 2:36 PM

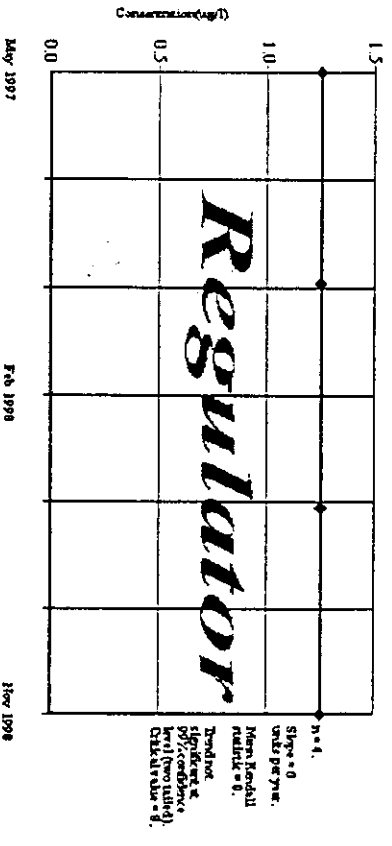
Facility: Leach X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-69



SEN'S SLOPE ESTIMATOR
MOB-71

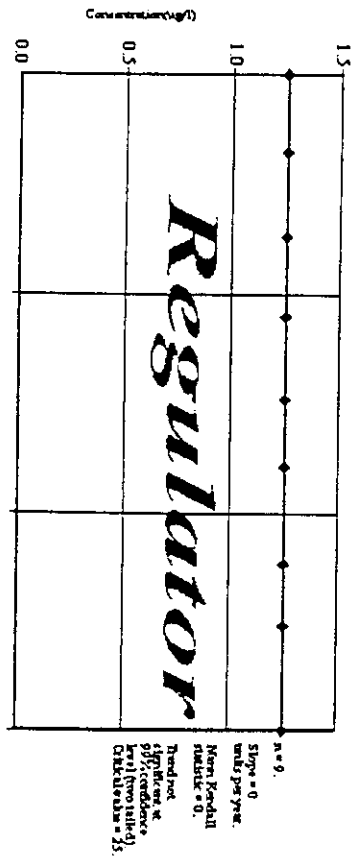


Consistent: da 12: Backscattered (ug/l)
Date: 11/1/01, 2:36 PM

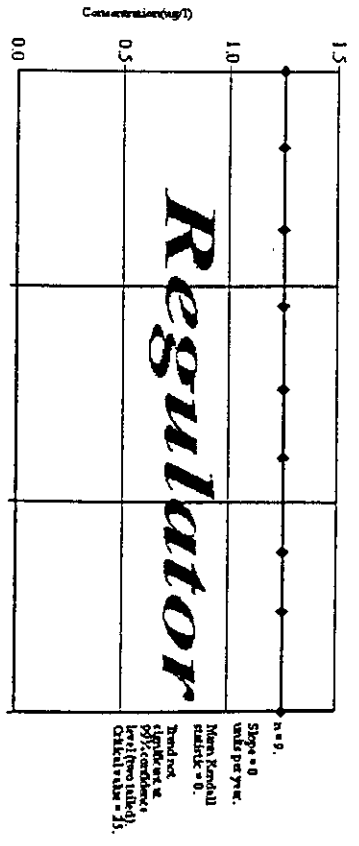
Facility: Leach X
Client: Regulatory Use

Data File: DUPONT
View: _Batch_

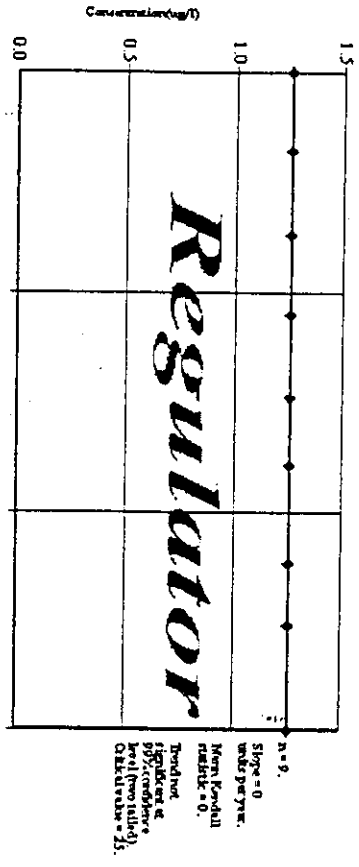
SEN'S SLOPE ESTIMATOR
MOB-73



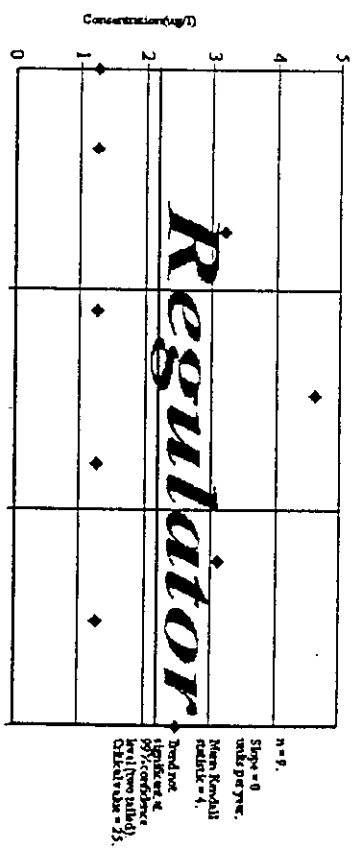
SEN'S SLOPE ESTIMATOR
MOB-74



SEN'S SLOPE ESTIMATOR
MOB-75



SEN'S SLOPE ESTIMATOR
MOB-76



EventDate: da:11:00:00:00:00:00 (µg/d)
Date: 11/1/01, 3:26 PM

Facility: Lowell X
Client: Regulatory Use

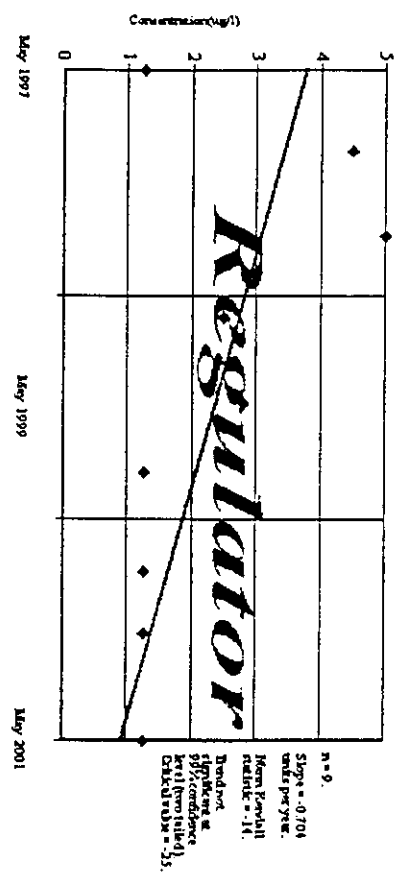
Data File: DUP01T
View: _Batch_

EventDate: da:11:00:00:00:00:00 (µg/d)
Date: 11/1/01, 3:26 PM

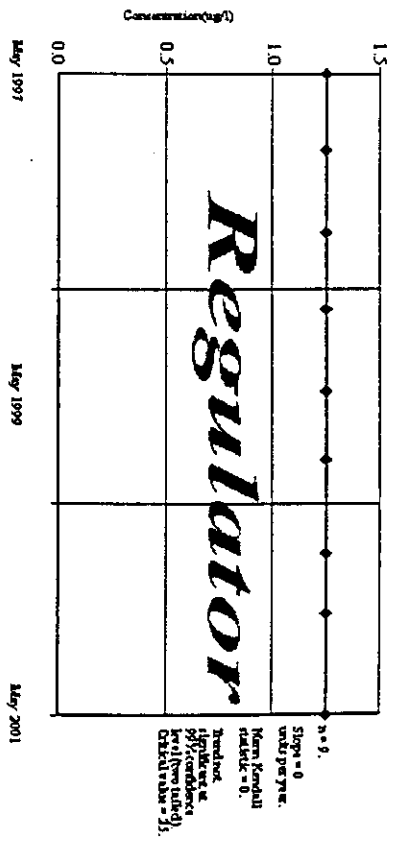
Facility: Lowell X
Client: Regulatory Use

Data File: DUP01T
View: _Batch_

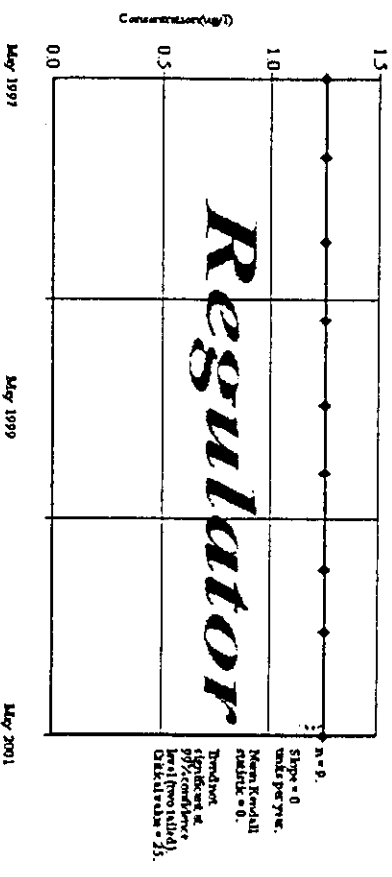
SEN'S SLOPE ESTIMATOR
MOB-77



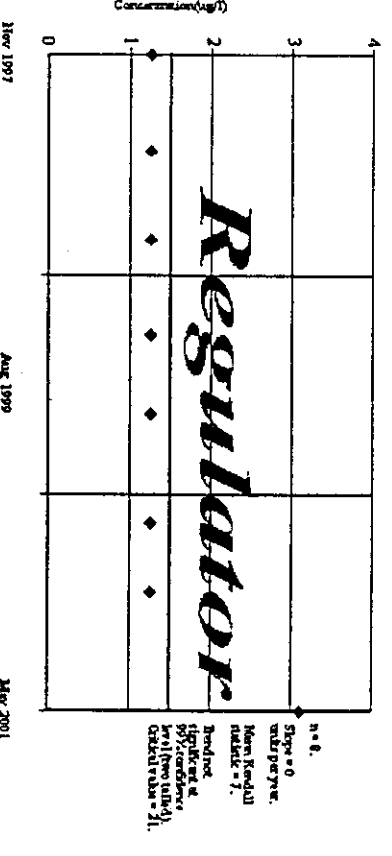
SEN'S SLOPE ESTIMATOR
MOB-78



SEN'S SLOPE ESTIMATOR
MOB-79



SEN'S SLOPE ESTIMATOR
MOB-E1



Client: Regulatory Use
View: _Batch_

Client: Regulatory Use

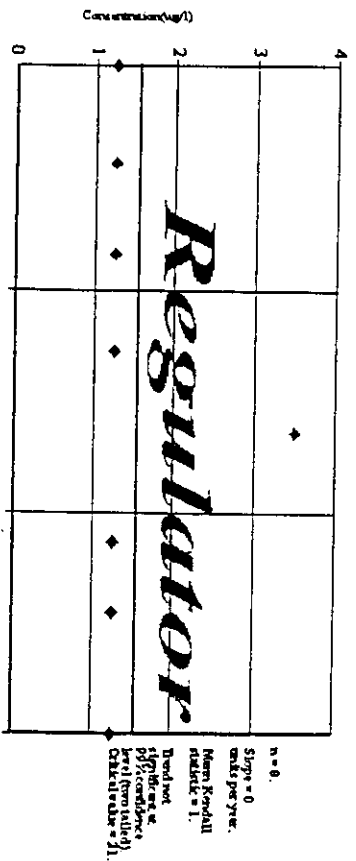
View: _Batch_

Client: Regulatory Use

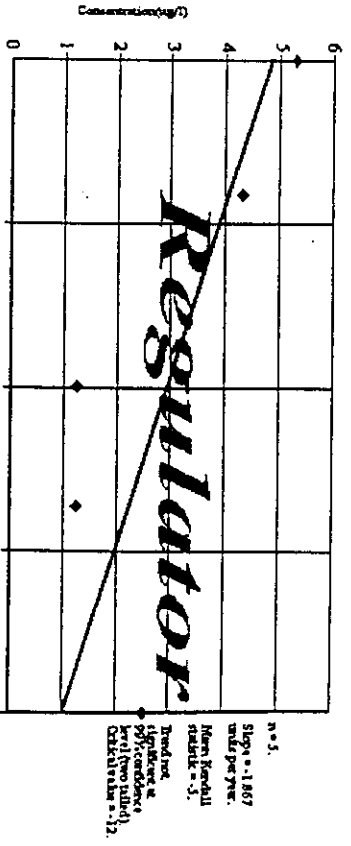
View: _Batch_

View: _Batch_

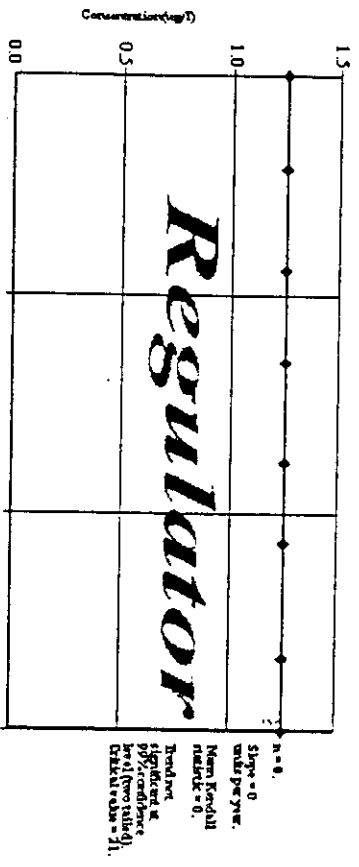
SEN'S SLOPE ESTIMATOR
MOB-E3



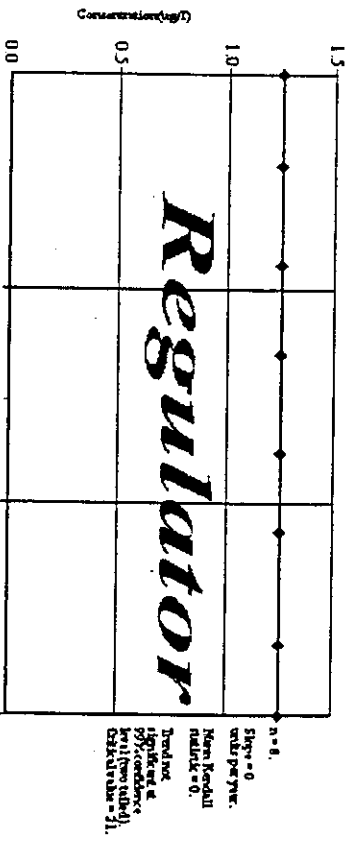
SEN'S SLOPE ESTIMATOR
MOB-E4



SEN'S SLOPE ESTIMATOR
MOB-R1



SEN'S SLOPE ESTIMATOR
MOB-R2



Coordinates: da-12-Baldersviken (44/0)
 Date: 11/10/1, 2:37 PM

Facility: Lundell X
 Client: Regulatory Use

Data File: DUPDHT
 View: _BndA_

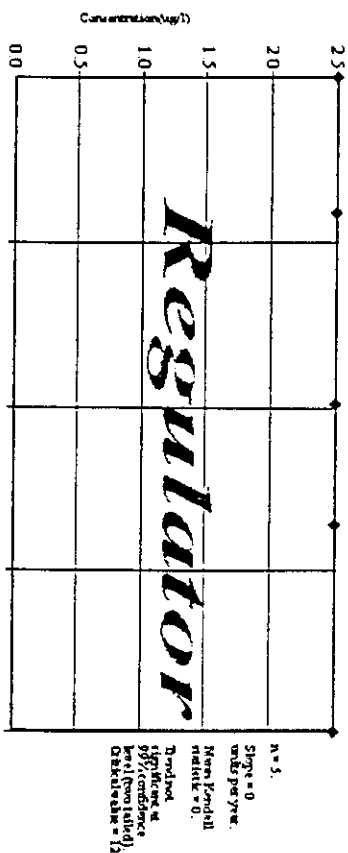
Coordinates: da-12-Baldersviken (44/0)
 Date: 11/10/1, 2:37 PM

Facility: Lundell X
 Client: Regulatory Use

Data File: DUPDHT
 View: _BndA_

1,1-Dichloroethene

SEN'S SLOPE ESTIMATOR
CNA-07



May 1997

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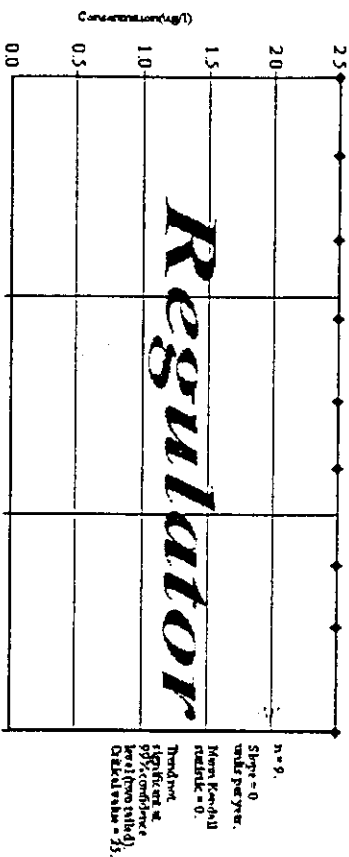
Concentration: 11:30:00 (ug/l)

Date: 11/10/1, 2:34 PM

Facility: Lewisville
Client: Regulatory Use

Data File: DUP.DHT
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-55



May 1997

May 1999

May 2001

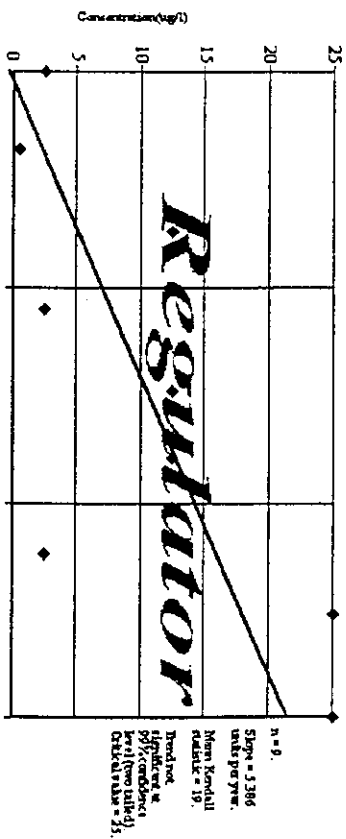
Concentration: 11:30:00 (ug/l)

Date: 11/10/1, 2:34 PM

Facility: Lewisville
Client: Regulatory Use

Data File: DUP.DHT
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-54



May 1997

May 1999

May 2001

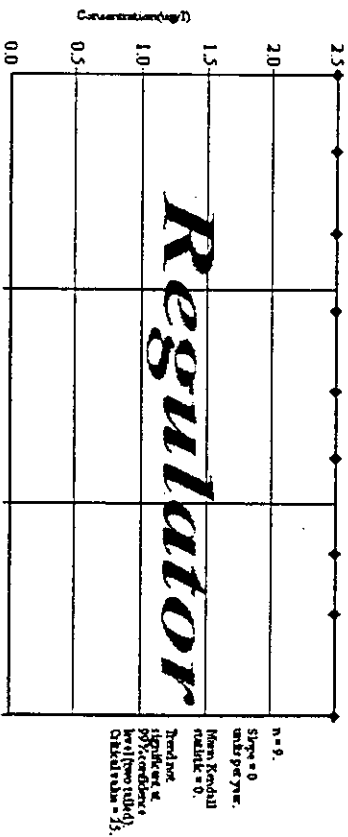
Concentration: 11:30:00 (ug/l)

Date: 11/10/1, 2:34 PM

Facility: Lewisville
Client: Regulatory Use

Data File: DUP.DHT
View: Batch

SEN'S SLOPE ESTIMATOR
MOB-56



May 1997

May 1999

May 2001

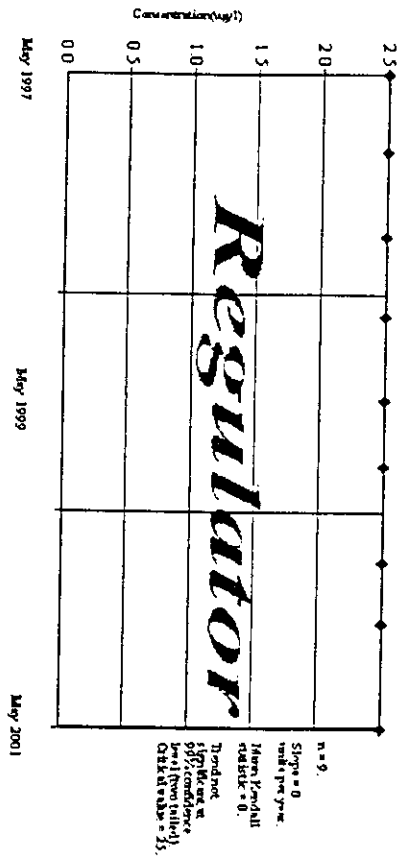
Concentration: 11:30:00 (ug/l)

Date: 11/10/1, 2:35 PM

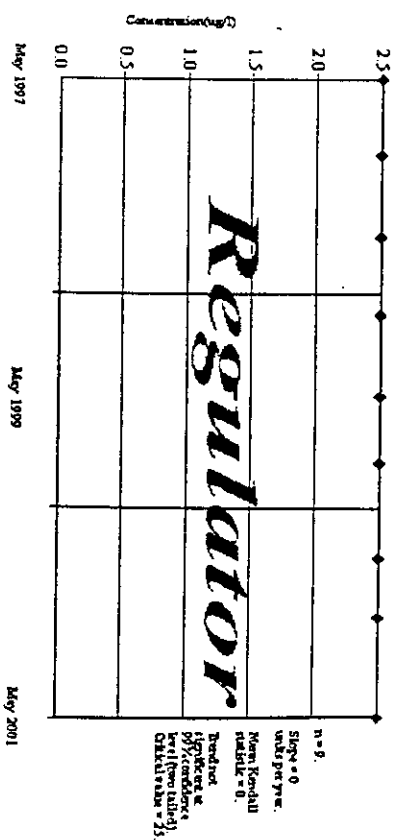
Facility: Lewisville
Client: Regulatory Use

Data File: DUP.DHT
View: Batch

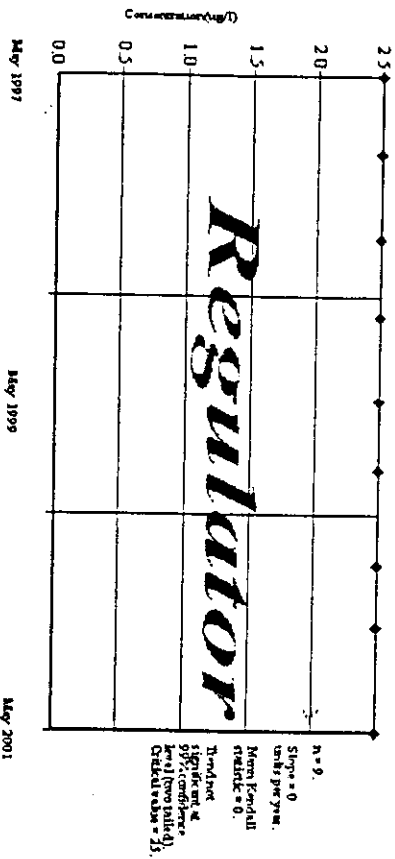
SEN'S SLOPE ESTIMATOR
MOB-57



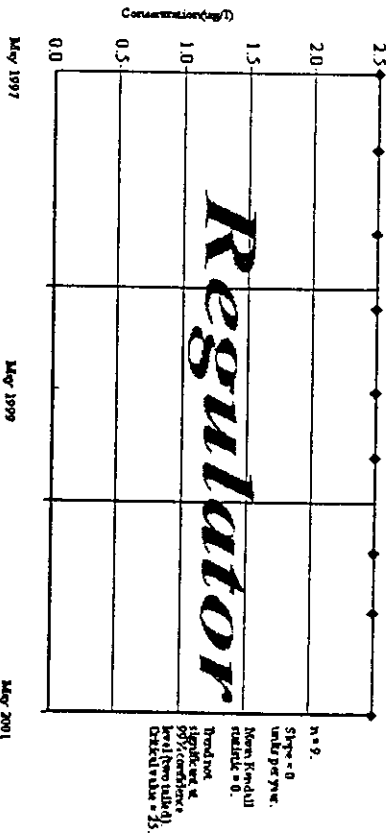
SEN'S SLOPE ESTIMATOR
MOB-58



SEN'S SLOPE ESTIMATOR
MOB-59



SEN'S SLOPE ESTIMATOR
MOB-60



Concentration: 11_Mobilization (mg/l)
Date: 11/10/01, 3:25 PM

Facility: Landfill X
Client: Regulatory Use

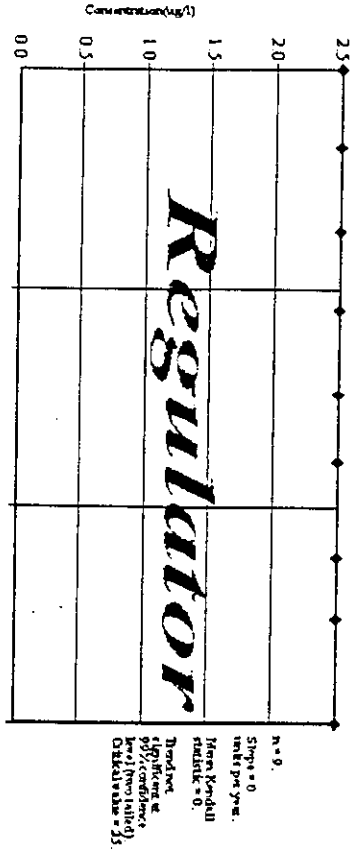
Data File: DUP.0HT
View: _Batch_

Concentration: 11_Mobilization (mg/l)
Date: 11/10/01, 3:25 PM

Facility: Landfill X
Client: Regulatory Use

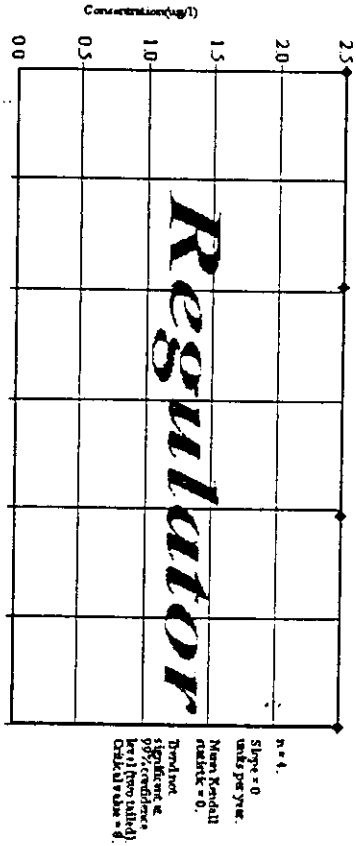
Data File: DUP.0HT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-61



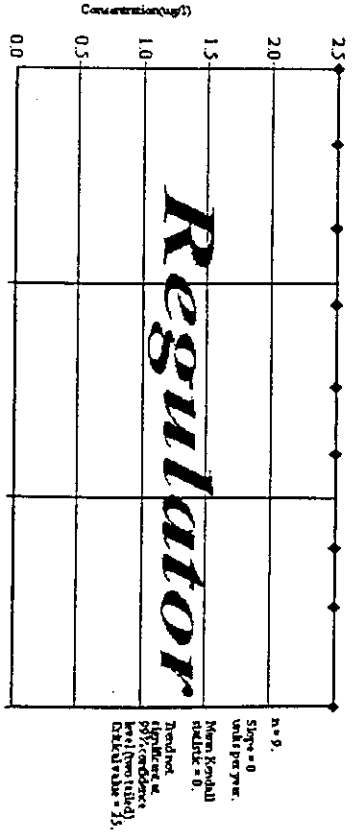
Conditioned: 11:30:00 AM on 05/11/01 2:35 PM
Date: 11/10/01 2:35 PM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-63



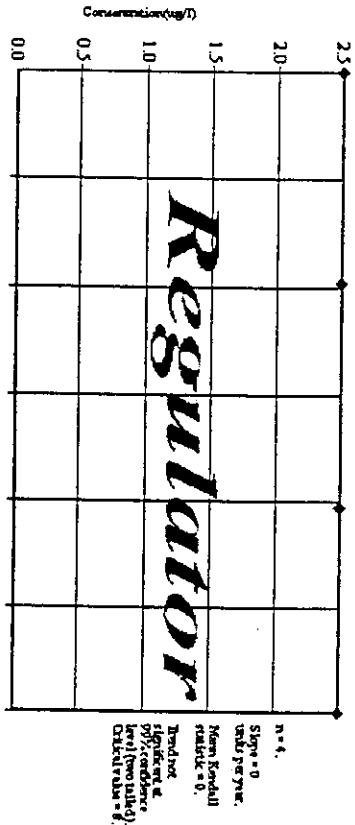
Conditioned: 11:30:00 AM on 05/11/01 2:35 PM
Date: 11/10/01 2:35 PM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-62



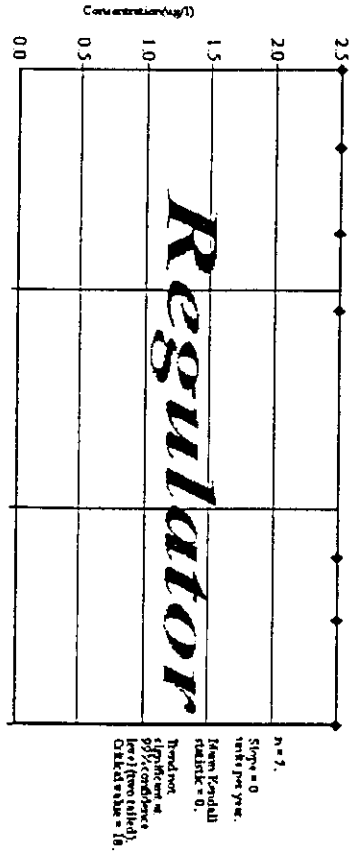
Conditioned: 11:30:00 AM on 05/11/01 2:35 PM
Date: 11/10/01 2:35 PM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-64



Conditioned: 11:30:00 AM on 05/11/01 2:35 PM
Date: 11/10/01 2:35 PM
Facility: Leveaux X
Client: Regulatory Use
Data File: DUPONT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-65



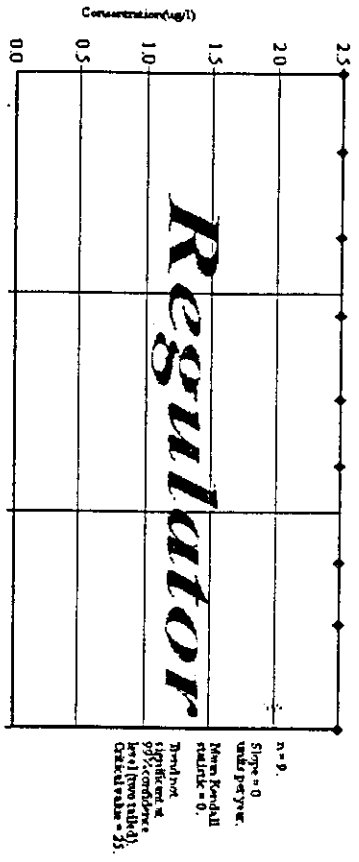
Created: 11:30:00 AM (g/d)

Date: 11/1/01, 2:35 PM

Facility: LINDALL
Client: Regulatory Use

Data File: DUPONT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-67



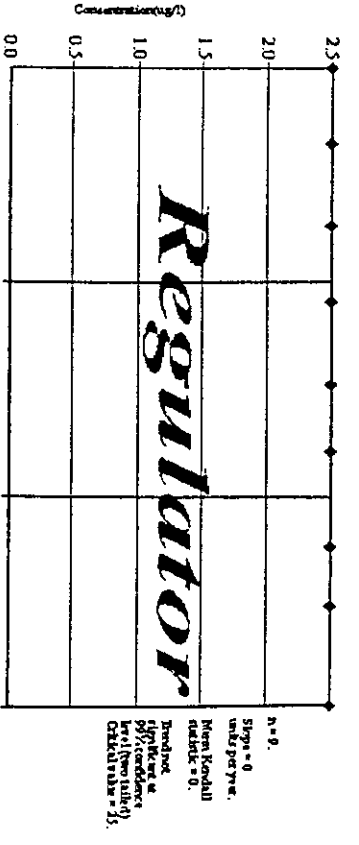
Created: 11:30:00 AM (g/d)

Date: 11/1/01, 2:35 PM

Facility: LINDALL
Client: Regulatory Use

Data File: DUPONT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-66



Created: 11:30:00 AM (g/d)

Date: 11/1/01, 2:35 PM

Facility: LINDALL
Client: Regulatory Use

Data File: DUPONT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-68



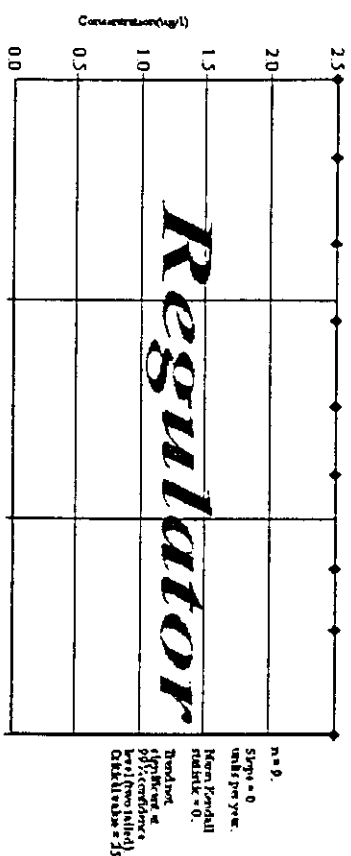
Created: 11:30:00 AM (g/d)

Date: 11/1/01, 2:35 PM

Facility: LINDALL
Client: Regulatory Use

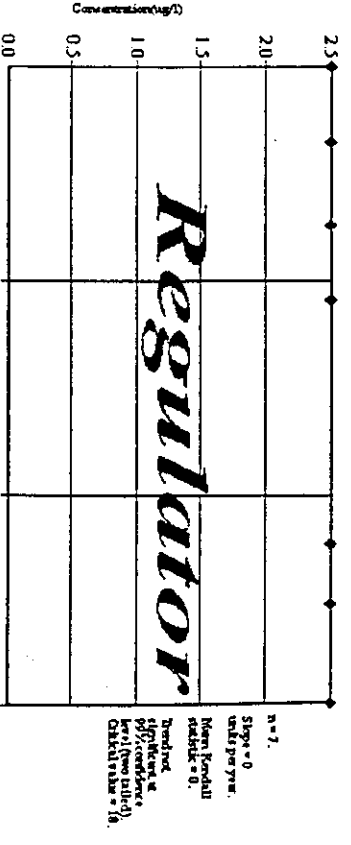
Data File: DUPONT
View: _Back_

SEN'S SLOPE ESTIMATOR
MOB-69



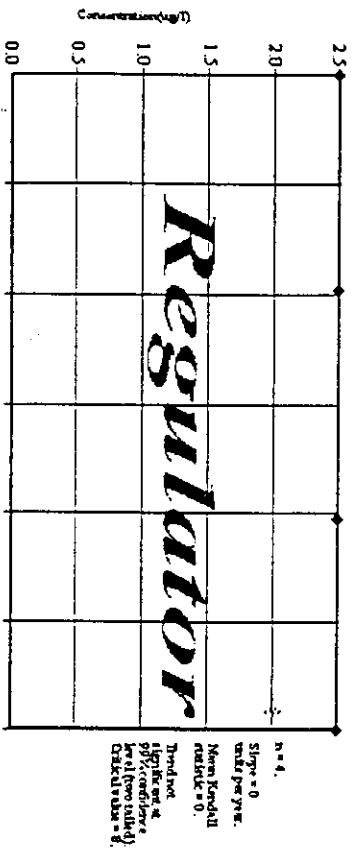
Condition: 11: M0300000000 (ug/l)
Date: 11/1/01, 3:35 PM
Facility: Levee III
Client: Regulatory Use
Data File: DUP0HT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-70



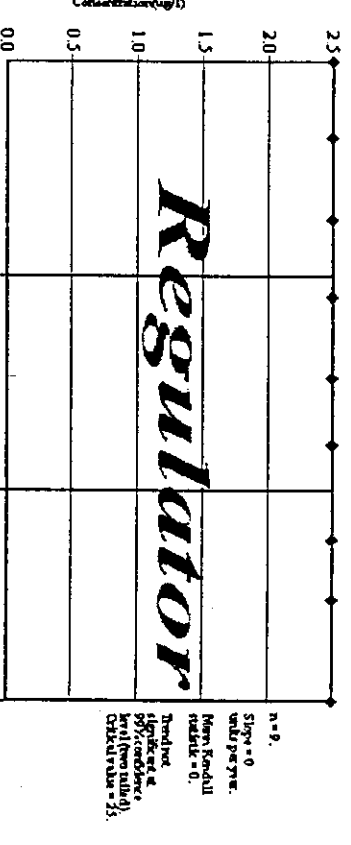
Condition: 11: M0300000000 (ug/l)
Date: 11/1/01, 3:35 PM
Facility: Levee III
Client: Regulatory Use
Data File: DUP0HT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-71



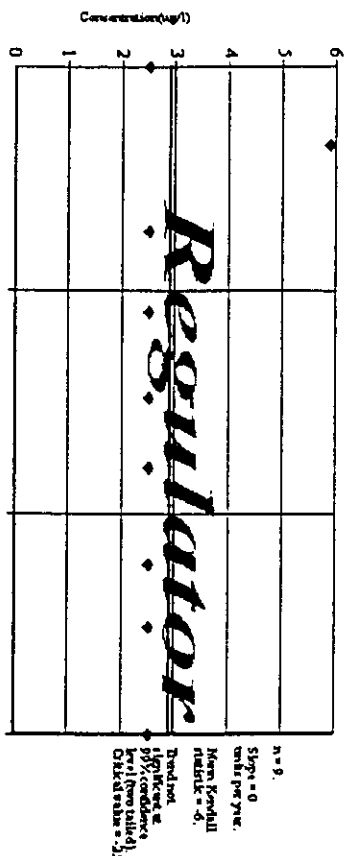
Condition: 11: M0300000000 (ug/l)
Date: 11/1/01, 3:35 PM
Facility: Levee III
Client: Regulatory Use
Data File: DUP0HT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-73



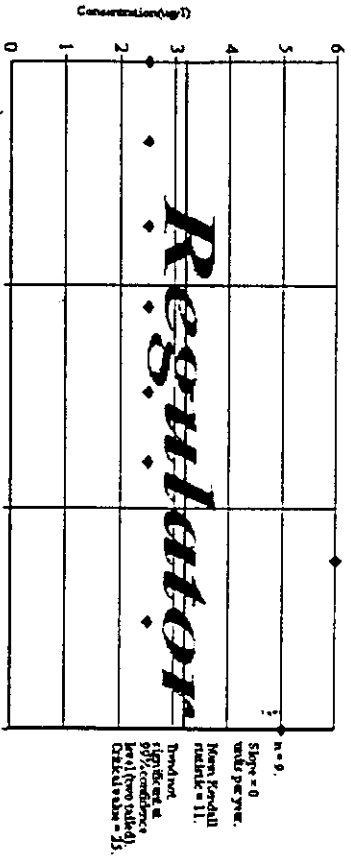
Condition: 11: M0300000000 (ug/l)
Date: 11/1/01, 3:35 PM
Facility: Levee III
Client: Regulatory Use
Data File: DUP0HT
View: Back

SEN'S SLOPE ESTIMATOR
MOB-74



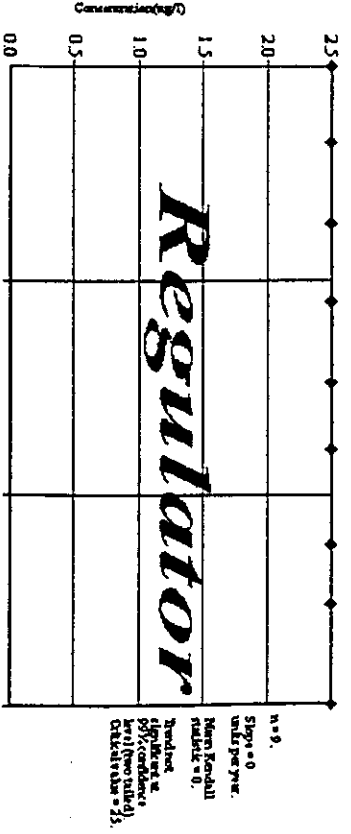
Condition: 11:30:00am-08:00pm (ug/d)
 Date: 11/1/01, 2:35 PM
 Facility: Lenoir X
 Client: Regulatory Use
 Data File: DUPONT
 View: Best

SEN'S SLOPE ESTIMATOR
MOB-76



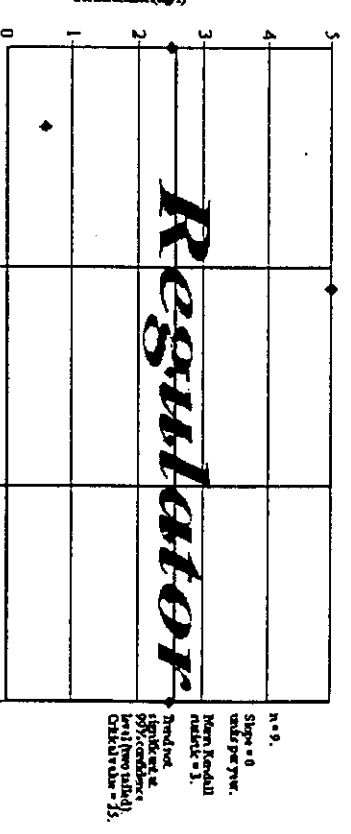
Condition: 11:30:00am-08:00pm (ug/d)
 Date: 11/1/01, 2:35 PM
 Facility: Lenoir X
 Client: Regulatory Use
 Data File: DUPONT
 View: Best

SEN'S SLOPE ESTIMATOR
MOB-75



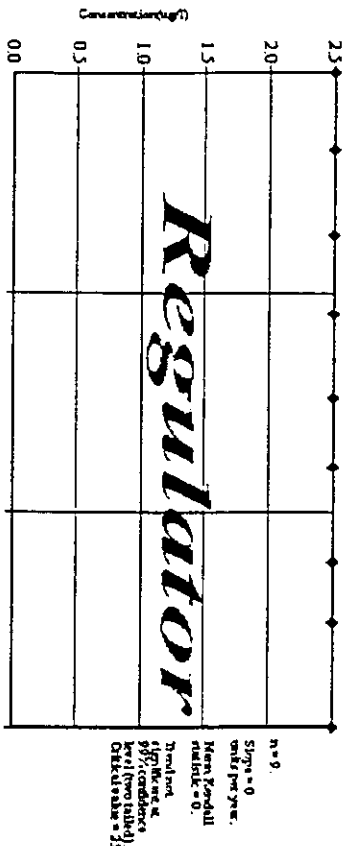
Condition: 11:30:00am-08:00pm (ug/d)
 Date: 11/1/01, 2:35 PM
 Facility: Lenoir X
 Client: Regulatory Use
 Data File: DUPONT
 View: Best

SEN'S SLOPE ESTIMATOR
MOB-77



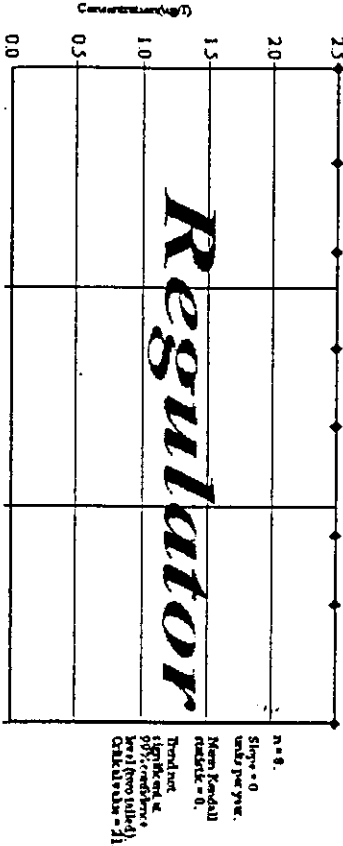
Condition: 11:30:00am-08:00pm (ug/d)
 Date: 11/1/01, 2:35 PM
 Facility: Lenoir X
 Client: Regulatory Use
 Data File: DUPONT
 View: Best

SEN'S SLOPE ESTIMATOR
MOB-78



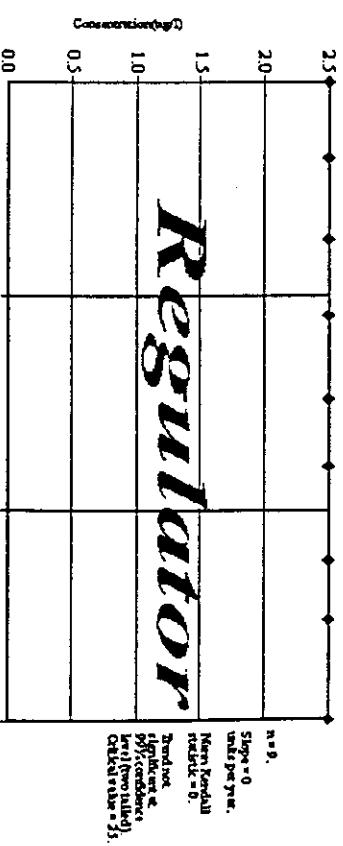
Concentration: 11: Bubblyweldone (ug/d)
Date: 11/1/01, 2:33 PM
Facility: Lendau X
Client: Regulatory Use
Data File: DUPORT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-EI



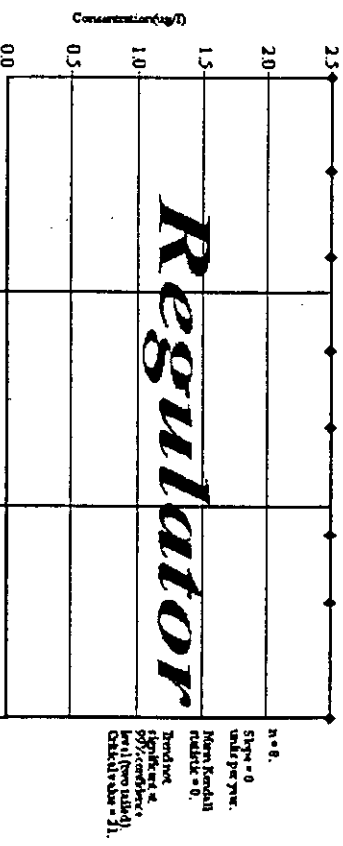
Concentration: 11: Bubblyweldone (ug/d)
Date: 11/1/01, 2:33 PM
Facility: Lendau X
Client: Regulatory Use
Data File: DUPORT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-79



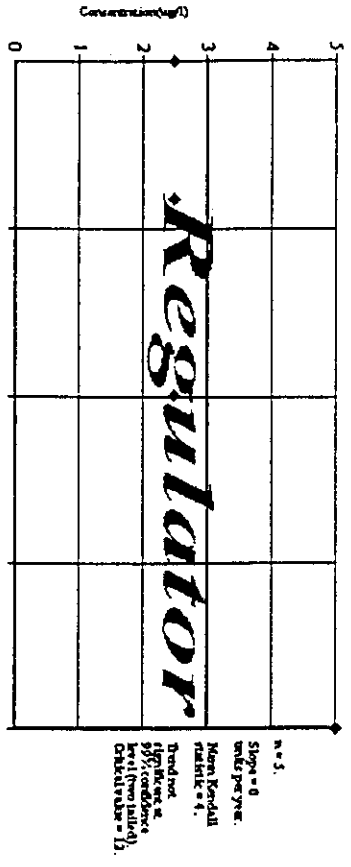
Concentration: 11: Bubblyweldone (ug/d)
Date: 11/1/01, 2:33 PM
Facility: Lendau X
Client: Regulatory Use
Data File: DUPORT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-E3



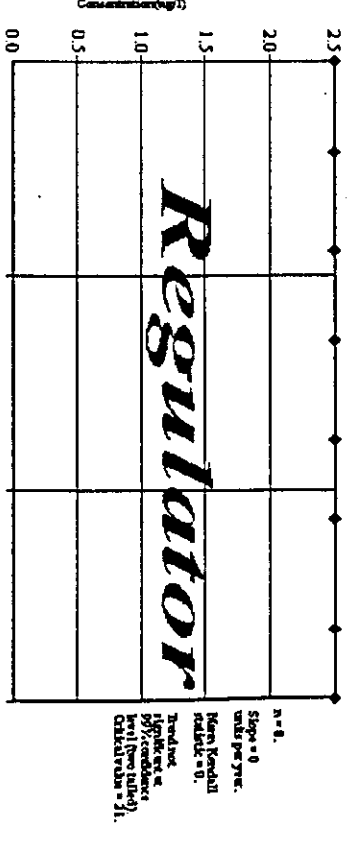
Concentration: 11: Bubblyweldone (ug/d)
Date: 11/1/01, 2:33 PM
Facility: Lendau X
Client: Regulatory Use
Data File: DUPORT
View: _Batch_

SEN'S SLOPE ESTIMATOR
MOB-E1



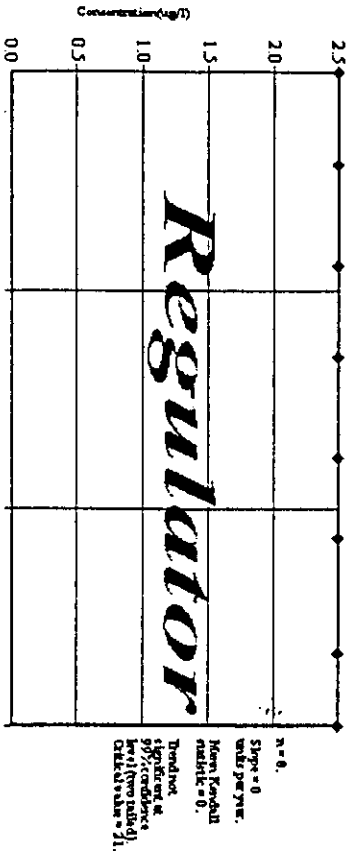
Credential: 11-Baldwinville (ug/l)
Date: 11/1/01, 2:35 PM
Facility: Lardell X
Client: Regulatory Use
Data File: DUPORT
View: _Data_

SEN'S SLOPE ESTIMATOR
MOB-R1



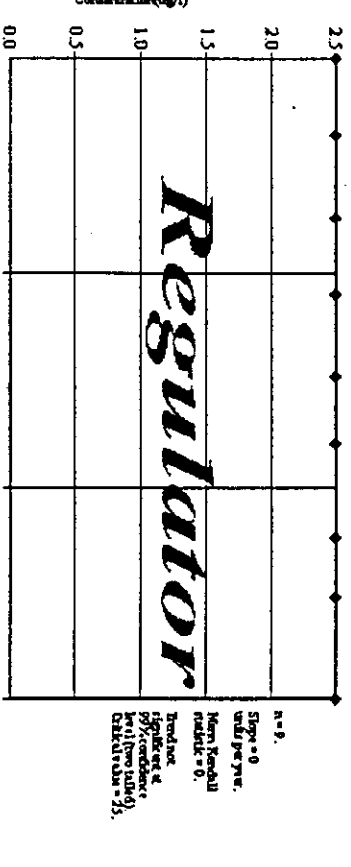
Credential: 11-Baldwinville (ug/l)
Date: 11/1/01, 2:35 PM
Facility: Lardell X
Client: Regulatory Use
Data File: DUPORT
View: _Data_

SEN'S SLOPE ESTIMATOR
MOB-R2



Credential: 11-Baldwinville (ug/l)
Date: 11/1/01, 2:35 PM
Facility: Lardell X
Client: Regulatory Use
Data File: DUPORT
View: _Data_

SEN'S SLOPE ESTIMATOR
MOB-R3



Credential: 11-Baldwinville (ug/l)
Date: 11/1/01, 2:35 PM
Facility: Lardell X
Client: Regulatory Use
Data File: DUPORT
View: _Data_