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2	1	Cog. Mgr. J.W. Hunt	[signature]	5/9/96							
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Abstract: This document is a plan that identifies the information needed to address relevant issues concerning short-term and long-term storage and long-term management of tanks which are identifed to have tank characterization reports for fiscal year 1997.

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LIST OF TERMS

DQO	Data Quality Objective
DST	double-shell tank
FY	Fiscal Year
RGS	retained gas sampler
SST	single-shell tank
TCP	Tank Characterization Plan
TCR	Tank Characterization Report
TWAP	Tank Waste Analysis Plan
TWRS	Tank Waste Remediation System

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1.0 INTRODUCTION

This draft Tank Waste Analysis Plan (TWAP) describes the activities of the Tank Waste Remediation System (TWRS) Characterization Project to plan, schedule, obtain, and document characterization information on Hanford Site waste tanks. This information is required to meet the commitments of end users and the *Hanford Federal Facility Agreement and Consent Order* (Ecology et al. 1994), also known as the Tri-Party Agreement. This TWAP applies to activities scheduled for completion in Fiscal Year (FY) 1997.

This draft is based on the best information available as of May 1996. Ongoing activities, such as revision of the *Tank Waste Characterizaton Basis* (Brown et al. 1995), revision of the data quality objectives (DQO), issue closures, discussions with the Washington State Department of Ecology, and high-level management decisions may affect the scope of this TWAP prior to its final issue in August 1996.

1.1 PROGRAM DATA QUALITY OBJECTIVE REQUIREMENTS

Each TWRS engineering, operating, and safety program has the responsibility to evaluate the information needs for safely operating and monitoring facilities that store, receive, retrieve, treat, or dispose of waste materials. The information required by each program is assembled and documented through the data quality objective (DQO) process (EPA 1994). The DQO process documentation defines information needs, information use, data quality, boundary requirements, and special handling requirements pertinent to sampling and analyses.

The TWRS Characterization Project assembles the requirements for information into specific instructions for sampling and analyses. The DQOs and supplemental requirement documents are listed in Section 5.0.

1.2 PROGRAMS SUPPORTED BY THIS TANK WASTE ANALYSIS PLAN

In order of priority, TWRS current program needs include addressing pertinent safety issues, ongoing process activities, and disposal needs. The timing and priority of each activity may change as the program progresses. Changes will be reflected in revisions to tank-specific Tank Characterization Plans (TCPs).

Elements of this TWAP are designed to satisfy requirements of the following safety, operating, and engineering programs:

- Safety programs and subordinate organizations addressing specific safety issues include Ferrocyanide (Meacham et al. 1995), Organic (Turner et al. 1995), Flammable Gas (McDuffie 1995), Vapor (Osborne and Buckley 1995), and generic Safety Screening (Dukelow et al. 1995). DQOs address the information needed to support resolution of each safety issue.

- The TWRS Plant Project is responsible for receiving wastes from operating facilities, saltwell pumping, and waste tank content transfers in the tank farms. A Compatibility DQO (Fowler 1995) has been issued that establishes the rules for evaluating important characteristics of wastes before transfer and acceptance for storage.

- Retrieval, pretreatment, and disposal programs include the following which were issued in FY 1995: the Pretreatment and Disposal DQO (Slankas et al. 1995), Strategy (Kupfer et al. 1995) and the Retrieval DQO (Bloom and Nguyen 1995).

1.3 OVERALL TANK WASTE GENERIC ANALYSIS REQUIREMENTS

Double-shell tanks (DSTs) and single-shell tanks (SSTs) will be sampled and analyzed to provide data to identify or verify safety issues and to provide a basis for closure of these issues. The *Tank Safety Screening Data Quality Objective* (Dukelow et al. 1995), hereafter referred to as safety screening DQO, initiates the analyses for safety issues.

If inadequate information exists to determine an appropriate number of samples, two vertical profiles of the waste will be obtained to meet the sampling and analytical requirements for the safety screening DQO. These profiles may be obtained using core, auger (for shallow tanks), or grab samples. The primary analytical requirements for the safety screening of a tank are energetics, total alpha activity, and flammable gas concentrations (Dukelow et al. 1995). Moisture is used to correct energetics to a dry basis, not as a primary analyte. Density measurement is used to convert total alpha to units of grams per liter. Depending on results from the primary analyses, secondary safety screening analyses may be required. Secondary analyses may include total organic carbon, total cyanide, and/or specific radionuclides.

All underground tanks (177) must be vapor sampled for organic solvent screening according to *Recommendation 93-5 Implementation Plan* (DOE-RL 1996). Information needs for vapor must also satisfy the *Data Quality Objectives for Tank Hazardous Vapor Safety Screening* (Osborne and Buckley 1995); and for rotary mode the *Rotary Core Vapor Sampling Data Quality Objective* (Price 1994) and the *Data Quality Objective for Regulatory Requirements for Hazardous And Radioactive Air Emissions Sampling and Analysis* (Mulkey and Markillie 1995) as amended by the *Status of the Current Understanding of the Toxic Air Pollutants (TAPS) and Hanford Tank Farm Vapor Space Characterization, and Recommended Path Forward and Justification for Continued RMCS Exhauster Operations* (Laws 1996).

1.4 TANK WASTE GENERIC ANALYSIS REQUIREMENTS FOR SPECIFIC TANK GROUPS

Tanks on the Ferrocyanide Watch List will be sampled and analyzed according to the *Data Requirements for the Ferrocyanide Safety Issue Developed Through the Data Quality Objectives Process* (Meacham et al. 1995), hereafter referred to as Ferrocyanide DQO. Organic Watch List SSTs sampling and analysis activities are addressed in the *Data Quality Objective to Support Resolution of the Organic Complexant Safety Issue* (Turner et al. 1995), hereafter referred to as Organic DQO. Flammable gas requirements for DST core samples are discussed in the *Data Requirements for Core Sample Analysis Developed Through the Data Quality Objectives Process* (McDuffie 1995), hereafter referred to as Flammable Gas DQO. Potential waste compatibility analytical needs to address waste transfer into and within the DST system are addressed in the *Data Quality Objective for Tank Farms Waste Compatibility Program* (Fowler 1995). Pretreatment and disposal data needs are discussed in *Data Needs and Attendant Data Quality Objectives for Tank Waste Pretreatment and Disposal* (Slankas et al. 1995) and *Strategy for Sampling Hanford Site Tank Wastes for Development of Disposal Technology* (Kupfer et al. 1995). Retrieval needs are discussed in *Characterization Data Needs for Development, Design, and Operation of Retrieval Equipment Developed Through the Data Quality Objective Process* (Bloom and Nguyen 1995). The *Historical Model Evaluation Data Requirements* DQO (Simpson and McCain 1995), hereafter referred to as the Historical DQO, identifies information needed to evaluate the quality of models of tank composition developed from process records.

The ferrocyanide DQO is used as a guide for characterizing tanks on the Ferrocyanide Watch List. It concludes that the most reliable information will be obtained from core samples, and that an average of two core samples, taken from risers separated by maximum distances, will provide data of sufficient quality to enable decision makers to resolve the safety issues. Primary parameters, fuel concentration (energetics), moisture content, nickel content, and nickel/fuel will be used to help determine the safety status of a tank.

The flammable gas DQO is primarily concerned with the potential for retained gas in DST Watch List tanks. Physical, chemical, and radiochemical measurements of core samples are additional concerns.

The organic DQO focuses on tanks that contain or may contain, based on safety screening, organic compounds above established decision thresholds. It identifies the information needed to assess whether tanks should be retained or added to the Organic Watch List. The sampling and analyses prescribed by this DQO will be used to help support safety classification of these tanks. The sampling requirements of the organic DQO are a minimum of two profiles separated to the maximum extent possible by existing risers. Application of this DQO to non-Organic Watch List tanks is discussed in *Preliminary Safety Criteria for Organic Watch List Tanks at the Hanford Site* (Webb et al. 1995)

The pretreatment strategy has prioritized 47 SSTs and 12 DSTs for sampling and characterization to support key TWRS decisions associated with both pretreatment and vitrification. The strategy outlines the process testing to be performed on waste samples. Only the sample material is provided by the Characterization Project. No analyses are required. Tank sample selections based on historical sources will be confirmed by the historical DQO. In addition to the tanks specified in the strategy, sample material from other tanks may be supplied to the pretreatment/disposal programs to augment their information bases.

The historical DQO has identified 20 bounding tanks and alternatives to each. The DQO identifies the acquisition and analysis of samples from each tank to determine the range of composition encountered in each major waste type which has contributed to the overall tank contents. The identified analyses measure primary cations, anions, and radionuclides that bound waste processing and safe storage. The current version of the DQO does not specify a requirement for number of samples or a confidence requirement. In addition to the primary bounding tanks identified in the DQO, the historical evaluation analyses may be applied to other tanks to augment the information available regarding waste type composition.

The *Characterization Data Needs for Development, Design, and Operation of Retrieval Equipment Developed Through the Data Quality Objective Process* (Bloom and Nguyen 1995) requires sample material from tank 241-AZ-101 to help determine several physical properties. Obtaining sample material from other tanks is not planned or required at this time.

1.5 TANK WASTE CHARACTERIZATION BASIS

The *Tank Waste Characterization Basis* (Brown et al. 1995) was written to prioritize tanks for core sampling and to develop a core sampling schedule. The document provides technical justification and establishes priorities for core sampling and analyses of a tank group. The sampling schedule applies operational constraints to determine specific tanks to be sampled within the tank group. Based on the resulting schedule, this TWAP is produced. Data requirements, which are met by methods other than core sampling, are integrated into the overall schedule. Information gained from the sampling and analysis effort is subsequently used to update the document. The characterization basis prioritization process was based on the following seven issues:

- Safety Screening
- Historical
- Ferrocyanide
- Organic
- Flammable Gas
- Retrieval
- Pretreatment.

In producing the *Tank Waste Characterization Basis* (Brown et al. 1995), the *Tank Safety Screening Data Quality Objective* (Babad et al. 1995) and the pretreatment strategy (Kupfer et al. 1995) were used to prioritize all tanks. The historical DQO was used for all SSTs even though the calculated priority value was zero on many tanks. SST tank specific TCPs reflect the use of the historical DQO for prioritization purposes, but application of DQO sampling and analysis requirements are applied for specifically identified tanks only.

Brown et al. (1995) is currently being revised. When the revision is released, much of the information in this section may change.

1.6 TANK WASTE ANALYSIS PLAN CONTENTS

This draft FY 1997 Tank Waste Analysis Plan outlines in Sections 2.0, 3.0, and 4.0, the following documents to be produced in FY 1997:

- Tank Characterization Plans, Section 2.0
- Tank Characterization Reports, Section 3.0
- Sampling schedules, Section 4.0.

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2.0 TANK CHARACTERIZATION PLAN

The Tank Characterization Plan (TCP) is the program management plan for a specific tank. It provides an at-time-of-publication schedule of tank characterization activities and a summary of those activities.

2.1 BASIS FOR TANK CHARACTERIZATION PLANS

The basis for selecting tanks for characterization is the necessity to resolve immediate safety issues, to verify assumptions supporting safety screening strategies, to confirm historical data and models, and to acquire waste samples for process development and testing. Appendix A shows the outline for a TCP.

2.2 TANK CHARACTERIZATION PLAN LIST

Appendix B lists specific tank TCPs to be issued in support of FY 1997 activities. The TCPs apply to the same tanks for which FY 1997 Tank Characterization Reports (TCRs) are currently identified. Each TCP has been assigned a supporting document number and is issued as a standalone document. These plans are provided as part of Tri Party Agreement Milestone M44-01C.

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3.0 TANK CHARACTERIZATION REPORT

3.1 PURPOSE AND CONTENT OF TANK CHARACTERIZATION REPORTS

The Tank Characterization Report (TCR) addresses all currently developed characterization information about a waste tank. It is provided for end users and stakeholders. The format is standardized to facilitate searches for specific information, and the document is built through an iterative process. Available historical records are augmented by results of current activities (sampling and analyses since May 1989) and earlier verified data. The document compares the current analytical data and historical estimates of chemical inventory and provides the results of that comparison. The TCR identifies DQO and revision numbers applicable at the time the information was gathered.

The TCRs will be updated quarterly as needed when tank wastes are added or removed and when new information is obtained. Appendix C shows the outline of a TCR.

3.2 TANK CHARACTERIZATION REPORTS IDENTIFIED FOR FISCAL YEAR 1997

Appendix D lists the 40 TCRs currently identified for FY 1997. However, in accordance with the current RL Multi-Year Program Plan, only 15 of these TCRs will be issued in FY 1997. The 15 TCRs will be selected and prepared from the list of 40 listed in Appendix D.

The TCR list includes tanks for which sampling and analysis efforts were completed or will be completed in FY 1996, but which were not included in TCRs issued in FY 1996. Some information generated in FY 1997 will not be included in TCR documentation until FY 1998.

The 40 TCRs include 15 of the 28 tanks which are referred to as high priority tanks. Tables 9-2 and 9-4 of Brown et al. (1995) identify 28 high priority tanks for core sampling, tanks which are believed will provide optimal information from sampling and analysis in support of programmatic needs. Because of constraints described below, these 28 tanks have not all been sampled prior to the sampling of other tanks.

Six of the 28 high priority tanks were originally scheduled for push mode core sampling. Two tanks have been sampled: B-104 and S-107. The other four tanks (AW-101, AN-103, AN-104, and AN-105) require push mode sampling using sampling truck #1 with the retained gas sampler (RGS). The RGS became available in January 1996. To maintain effective use of sampling crews and systems while waiting for deployment of the RGS, the following four tanks, which were not on the high priority list, were push mode sampled: B-203, B-204, BX-104, and BX-112. Tank AW-101 also was push mode sampled with the RGS. The results of this sampling effort will be published in a revision to the TCR for tank AW-101 produced in FY 1995. The other three tanks requiring RGS will be sampled in FY 1997.

The other 22 high priority tanks were originally scheduled for rotary mode core sampling. Because of concerns about flammable gas safety, rotary mode core sampling is not currently authorized in any tank. However, rotary mode core sampling tests completed on tanks BY-108 and BY-110 in October 1995 revealed that some waste types, previously thought to require rotary core sampling, could be sampled using push mode core sampling instead. Therefore, 10 of the 22 tanks have been push mode core sampled: (BY-104, BY-105, BY-106, BY-108, BY-110, S-101, S-102, U-105, U-107, and U-109). TCRs for these tanks will be produced in FY 1996. Tank S-110 also has been push mode core sampled; U-108 is currently being sampled. TCRs for tanks S-110 and U-108 will be produced in FY 1997.

The remaining 10 of the 22 high priority tanks still are considered to require rotary mode core sampling. This will not be authorized until a safety analysis is approved and modifications are made to the rotary mode core sampling systems. The authorization is expected in August 1996. However, no sampling results will be available in TCRs until FY 1997. Until rotary mode core sampling is resumed, and the remaining high priority tanks are sampled, alternate tanks have been designated for push mode core sampling (Eberlein 1996). Although the alternate tanks are high value, they are not on the list of 28 high priority tanks.

3.3 CHARACTERIZATION FOCUS

Analyses in progress are expected to provide sufficient assurance that interim safe storage and later operations including retrieval can be safely performed. When final decisions have been made on the mode of retrieval, further evaluation will be required to assure safety of retrieval operations. Complete characterization of tank waste will probably not be completed until the waste is retrieved for pretreatment processing. At that time, tank contents theoretically will have become homogenized.

3.4 DATA RESTRICTION FOR TANK CHARACTERIZATION REPORTS

Tri-Party Agreement Milestone change number M-44-93-01 states: "Because data obtained prior to May 1989 did not have quality assurance and quality control assured under the Tri-Party Agreement, acceptable characterization data will be based on some sampling and analysis of each waste phase for each DST and SST as specified through the DQO process." Therefore, pre-May 1989 data alone will not constitute an acceptable TCR although such data should be discussed where appropriate. Later solid/liquid phase analyses will be based on core and auger samples, pure liquid phase analyses will be based on grab samples, and vapor phase analyses will be based on vapor samples.

4.0 SCHEDULES

4.1 OVERALL SAMPLING SCHEDULE

Appendix E is the sampling schedule (Stanton 1996) based on the Tri-Party Agreement Milestone M-44-09, which calls for issuing TCRs in accordance with approved TCPs during FY 1997 and beyond to FY 2000. This Level 1 schedule is consistent with program management as described in Brown et al. (1995). The schedule is subject to change because of unexpected operational constraints, the availability of sample and laboratory resources, and changes in program priorities.

4.2 DEVIATIONS AND CHANGE CONTROL

Scheduled sampling events, the potential need to issue new or revised TCPs, the production of TCRs, and the order in which these events occur are subject to change because of shifting priorities, resource availability, and unexpected operational constraints. It is the intent of the TWRS Characterization Project, however, to accomplish the scope of work indicated by the schedule and within the planned time period. Significant program deviations and changes will be documented by controlled revisions (Engineering Change Notices) to this plan. These Engineering Change Notices will provide reasons for the schedule change and the impact to the original schedule. Minor changes such as adding, deleting, or changing the sampling order of tanks will be addressed at unit managers meetings and will be documented by ECNs as required.

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APPENDIX A

TANK CHARACTERIZATION PLAN CONTENT

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APPENDIX A

TANK CHARACTERIZATION PLAN CONTENT

1.0 INTRODUCTION

2.0 PROGRAM ELEMENTS REQUIRING INFORMATION FOR 241-X-XXX

- 2.1 GENERAL SAFETY ISSUES
- 2.2 SPECIFIC SAFETY ISSUES
  - 2.2.1 Ferrocyanide
  - 2.2.2 Organic
  - 2.2.3 High Heat
  - 2.2.4 Flammable Gas
  - 2.2.5 Vapor
  - 2.2.6 Criticality
- 2.3 CONTINUING OPERATIONS
  - 2.3.1 Compatibility/Stabilization
  - 2.3.2 Evaporator
- 2.4 DOUBLE-SHELL TANK WASTE ANALYSIS PLAN
- 2.5 DISPOSAL
  - 2.5.1 Retrieval
  - 2.5.2 Pretreatment/Vitrification
- 2.6 HISTORICAL MODEL EVALUATION

3.0 HOW INFORMATION WILL BE OBTAINED

4.0 PRIORITY OF INFORMATION REQUIREMENTS

5.0 WHEN INFORMATION WILL BE AVAILABLE

6.0 REFERENCES

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APPENDIX B

FISCAL YEAR 1997 TANK CHARACTERIZATION PLAN LIST

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APPENDIX B

FISCAL YEAR 1997 TANK CHARACTERIZATION PLAN LIST

Table B-1. Fiscal Year 1997 Tank Characterization Plan List.

Tank	Planned DQO Analyses[1]	TCP Document Number
A-101	3, 5, 6, 7	WHC-SD-WM-TP-331, Rev. 1
A-104	5, 6, 9	WHC-SD-WM-TP-247. Rev. 1
A-105	6, 9	WHC-SD-WM-TP-445, Rev. 0
AN-103	1, 6	WHC-SD-WM-TP-383, Rev. 1
AN-104	1, 6	WHC-SD-WM-TP-384, Rev. 1
AN-105	1, 6	WHC-SD-WM-TP-385, Rev. 1
AX-101	5, 6, 7	WHC-SD-WM-TP-332, Rev. 1
AX-104	6, 9	WHC-SD-WM-TP-243, Rev. 1
B-108	5, 6, 9	WHC-SD-WM-TP-421, Rev. 1
BY-102	6	WHC-SD-WM-TP-446, Rev. 0
BY-103	2, 3, 6, 7	WHC-SD-WM-TP-231, Rev. 2
C-102	3, 6	WHC-SD-WM-TP-206, Rev. 2
C-104	5, 6	WHC-SD-WM-TP-208, Rev. 1
S-103	5, 6, 9	WHC-SD-WM-TP-387, Rev. 1
S-105	6	WHC-SD-WM-TP-388, Rev. 1
S-106	6, 9	WHC-SD-WM-TP-389, Rev. 1
S-108	5, 6	WHC-SD-WM-TP-390, Rev. 1
S-109	6, 9	WHC-SD-WM-TP-392, Rev. 2
S-110	5, 6, 7	WHC-SD-WM-TP-205, Rev. 2
S-111	3, 6, 7	WHC-SD-WM-TP-317, Rev. 1
S-112	5, 6, 7	WHC-SD-WM-TP-391, Rev. 1
SX-101	5, 6, 7	WHC-SD-WM-TP-450, Rev. 0
SX-103	3, 5, 6, 7	WHC-SD-WM-TP-313, Rev. 1

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Table B-1. Fiscal Year 1997 Tank Characterization Plan List.

Tank	Planned DQO Analyses[1]	TCP Document Number
SX-104	5, 6, 7	WHC-SD-WM-TP-321, Rev. 1
SX-107	6, 9	WHC-SD-WM-TP-443, Rev. 0
SX-109	6	WHC-SD-WM-TP-334, Rev. 1
SX-115	6, 9	WHC-SD-WM-TP-325, Rev. 1
T-103	6, 9	WHC-SD-WM-TP-424, Rev. 1
TX-101	6, 9	WHC-SD-WM-TP-393, Rev. 1
TX-105	3, 6	WHC-SD-WM-TP-293, Rev. 1
TX-111	5, 6	WHC-SD-WM-TP-399, Rev. 1
TX-116	5, 6, 9	WHC-SD-WM-TP-403, Rev. 1
TX-118	2, 3, 5, 6	WHC-SD-WM-TP-241, Rev. 1
TY-102	6, 9	WHC-SD-WM-TP-486, Rev. 0
TY-103	2, 6	WHC-SD-WM-TP-300, Rev. 1
U-101	6, 9	WHC-SD-WM-TP-370, Rev. 0
U-102	3, 6, 7, 9	WHC-SD-WM-TP-451, Rev. 0
U-103	3, 6, 7	WHC-SD-WM-TP-288, Rev. 2
U-106	3, 6, 7	WHC-SD-WM-TP-245, Rev. 1
U-108	3, 6, 7	WHC-SD-WM-TP-315, Rev. 1

Notes:

[1]1 = Flammable gas
2 = Ferrocyanide
3 = Organic
4 = Pretreatment
5 = Historical
6 = Safety screening
7 = Compatibility
8 = Retrieval
9 = Vapor

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APPENDIX C

TANK CHARACTERIZATION REPORT CONTENT

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APPENDIX C

TANK CHARACTERIZATION REPORT CONTENT

1.0 INTRODUCTION

- 1.1 PURPOSE
- 1.2 SCOPE

2.0 HISTORICAL TANK INFORMATION

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- 2.2 TANK DESIGN AND BACKGROUND
- 2.3 PROCESS KNOWLEDGE
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  - 2.4.1 Surface Level Readings
  - 2.4.2 Internal Tank Temperature
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- 3.1 DESCRIPTION OF 19XX SAMPLING EVENT
  - 3.1.1 Sample Handling (19XX)
  - 3.1.2 Sample Analysis (19XX)
- 3.2 DESCRIPTION OF 19XX SAMPLING EVENT
- 3.3 HISTORICAL SAMPLING EVENTS

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- 4.1 DATA PRESENTATION

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- 5.1 ASSESSMENT OF SAMPLING AND ANALYTICAL RESULTS
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  - 5.1.2 Quality Control Assessment of Analytical Data
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5.5.1 Safety Evaluation
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5.5.3 Environmental Evaluation (if applicable)
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5.5.5 Historical Evaluation (if applicable)

6.0 CONCLUSION AND RECOMMENDATIONS

7.0 REFERENCES

APPENDICES (Sampling Event Data, Analytical Procedures, Photographs [if applicable])

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APPENDIX D

TANK CHARACTERIZATION REPORTS IDENTIFIED FOR FISCAL YEAR 1997

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APPENDIX D

TANK CHARACTERIZATION REPORTS IDENTIFIED FOR FISCAL YEAR 1997

Table D-1. Tank Characterization Reports Identified For Fiscal Year 1997.

Tank	Sampling Event Type
A-101	Grab, Rotary
A-104	Auger, Vapor
A-105	Auger, Vapor
AN-103	Push
AN-104	Push
AN-105	Push
AX-101	Grab, Rotary
AX-104	Auger, Vapor
B-108	Push, Vapor
BY-102	Rotary
BY-103	Rotary
C-102	Rotary
C-104	Rotary
S-103	Rotary, Vapor
S-105	Rotary
S-106	Rotary, Vapor
S-108	Rotary
S-109	Rotary, Vapor
S-110	Rotary
S-111	Grab, Push
S-112	Grab, Rotary
SX-101	Grab, Rotary
SX-103	Grab, Rotary

Table D-1. Tank Characterization Reports Identified For Fiscal Year 1997.

Tank	Sampling Event Type
SX-104	Grab, Rotary
SX-107	Rotary, Vapor
SX-109	Rotary
SX-115	Auger, Vapor
T-103	Auger, Grab, Vapor
TX-101	Rotary, Vapor
TX-105	Rotary
TX-111	Rotary
TX-116	Rotary, Vapor
TX-118	Rotary
TY-102	Rotary, Vapor
TY-103	Rotary
U-101	Auger, Grab, Vapor
U-102	Grab, Push, Vapor
U-103	Grab, Push
U-106	Push
U-108	Push

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APPENDIX E

LEVEL 1 TANK SAMPLING SCHEDULE

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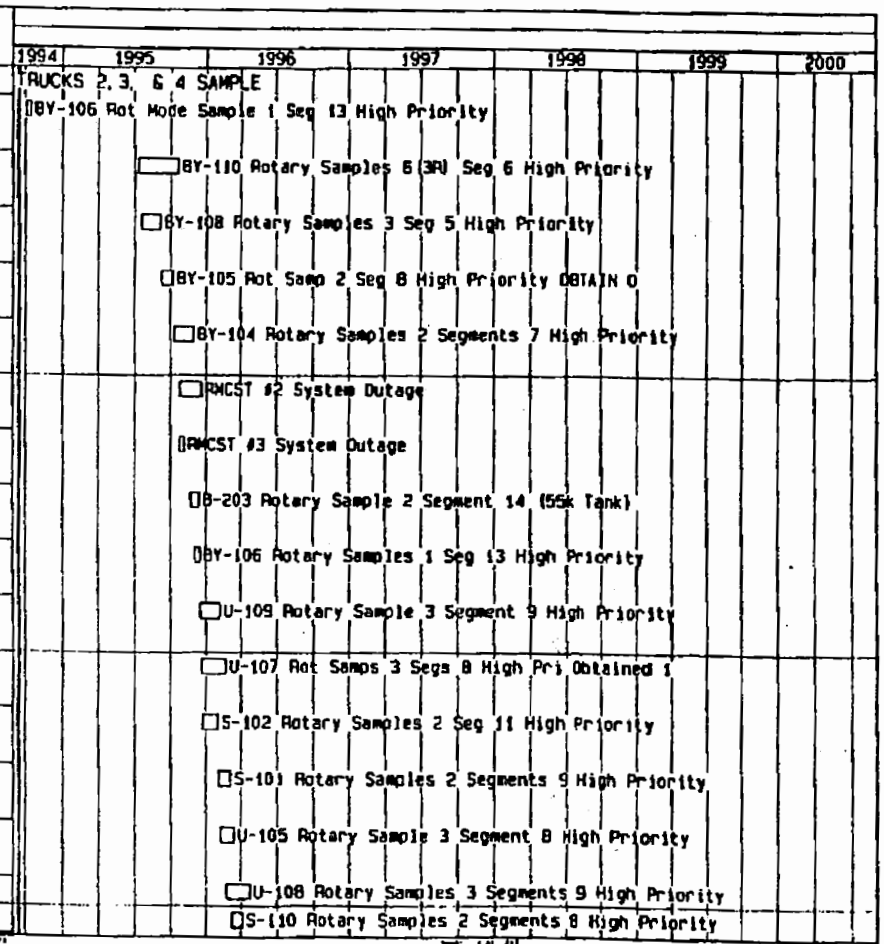
APPENDIX E

LEVEL 1 TANK SAMPLING SCHEDULE

A Level 1 Baseline Sampling Schedule (Stanton 1996) dated April 17, 1996, follows. This schedule is subject to change based on unexpected operational constraints, changed priorities, or resource availability.

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
RS04-4	30CT94	14OCT94	10
Completed AS 20OCT94 AF 25JAN95			
RS20-4	10JUL95	20OCT95	75
Completed AS 10JUL95 AF 20OCT95			
RS25-4	17JUL95	4SEP95	36
Complete AS 14JUL95 AF 18AUG95			
RS01-4	6SEP95	6OCT95	23
Completed AS 21AUG95 AF 06OCT95			
RS03-4	9OCT95	29NOV95	36
Completed AS 06OCT95 AF 15NOV95			
RS08-4	23OCT95	18DEC95	39
Completed AS 23OCT95 AF 29DEC95			
RS90-4	23OCT95	3NOV95	10
Completed AS 02OCT95 AF 19OCT95			
RS47-4	20NOV95	13DEC95	16
Completed AS 19OCT95 AF 14DEC95			
RS23-4	30NOV95	15DEC95	12
Completed AS 16NOV95 AF 19DEC95			
RS40-4	14DEC95	6FEB96	32
Completed AS 15DEC95 AF 19JAN96			
RS30-4	18DEC95	21FEB96	40
Completed AS 16JAN96 AF 28MAR96			
RS58-4	21DEC95	1FEB96	24
Completed AS 02JAN96 AF 08MAR96			
RS35-4	2FEB96	5MAR96	22
Completed AS 12MAR96 AF 03APR96			
RS39-4	7FEB96	13MAR96	25
Completed AS 22JAN96 AF 18MAR96			
RS37-4	22FEB96	23APR96	44
RS65-4	6MAR96	4APR96	22



Plot Date 11APR96
Data Date 15SEP94
Project Start 10CT93
Project Finish 15MARQD

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SAMPLING SCHEDULE Rev 4.6

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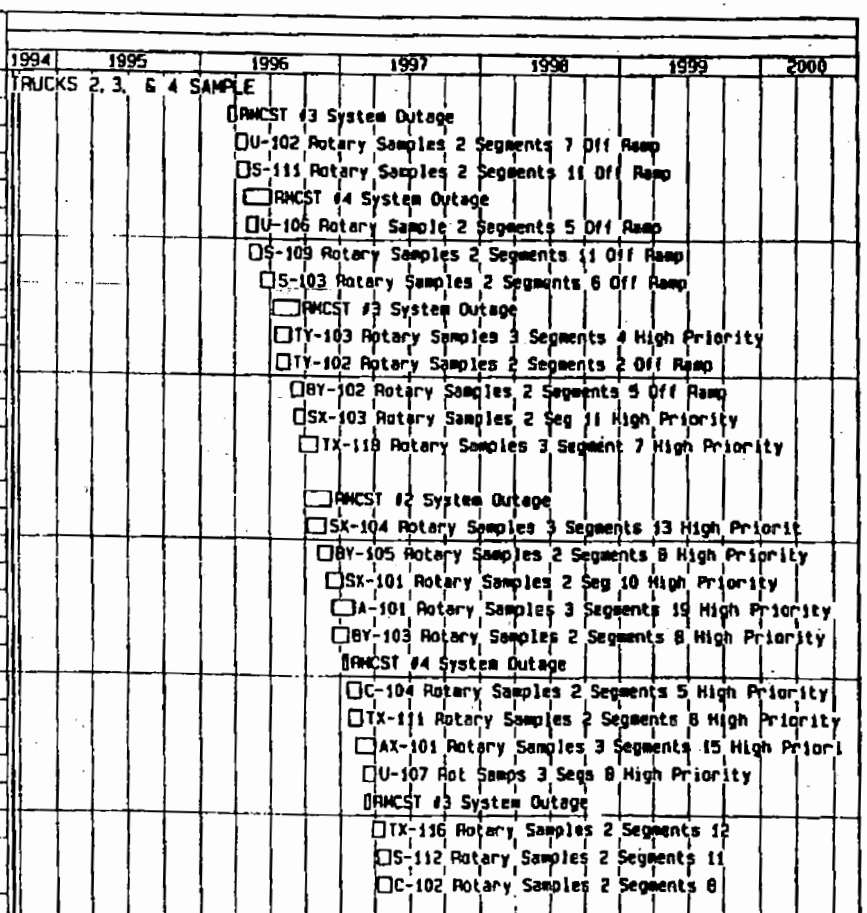
Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
RS0E-4	14MAR96	3APR96	15
RS80-4	4APR96	1MAY96	20
RSAA-4	5APR96	6MAY96	22
RS07-4	24APR96	3JUL96	50
RS06-4	2MAY96	30MAY96	20
RS64-4	7MAY96	6JUN96	22
RS59-4	7JUN96	12JUL96	24
RS88-4	8JUL96	16SEP96	50
RS21-4	15JUL96	23AUG96	30
RS72-4	19JUL96	21AUG96	24
RS56-4	26AUG96	27SEP96	24
RS44-4	3SEP96	30SEP96	20
RS24-4	17SEP96	5NOV96	36
TX-118 Sludge\saltcake - 1 core saltcake			
RS89-4	30SEP96	10DEC96	50
RS11-4	8OCT96	26NOV96	36
RS41-4	5NOV96	11DEC96	24
RS45-4	27NOV96	6JAN97	20
RS34-4	11DEC96	7FEB97	36
RS29-4	12DEC96	23JAN97	24
RS0A-4	7JAN97	20JAN97	10
RS48-4	21JAN97	25FEB97	24
RS73-4	24JAN97	28FEB97	24
RS38-4	10FEB97	2APR97	36
RS36-4	3MAR97	3APR97	24
RSCA-4	5MAR97	18MAR97	10
RS78-4	25MAR97	25APR97	24
RS43-4	8APR97	9MAY97	24
RS87-4	9APR97	12MAY97	24



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Data Date 15SEP94
Project Start 10CT93
Project Finish 15MAR10

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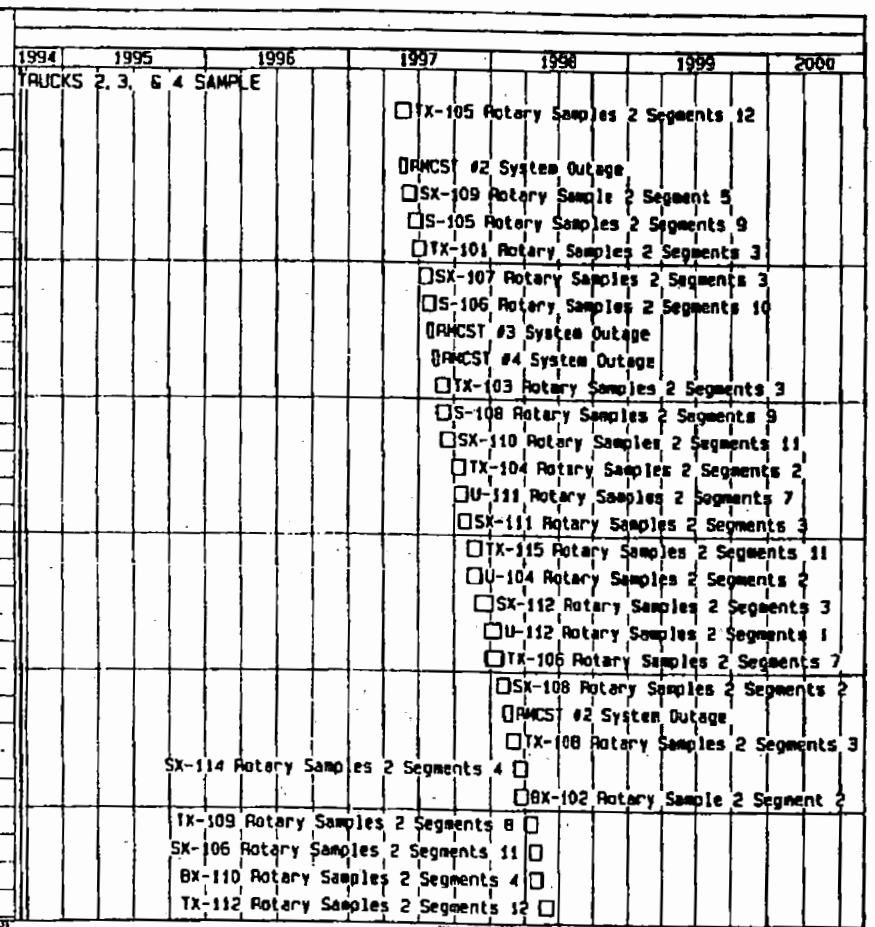
Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
RS32-4	2MAY97	9JUN97	24
TK 105 Sludge\saltcake - 1 core saltcake			
RS0A-4	14MAY97	30MAY97	10
RS12-4	19MAY97	24JUN97	24
RS60-4	4JUN97	8JUL97	24
RS83-4	16JUN97	18JUL97	24
RS10-4	1JUL97	4AUG97	24
RS61-4	11JUL97	13AUG97	24
RSCB-4	25JUL97	7AUG97	10
RSD8-4	8AUG97	21AUG97	10
RS84-4	14AUG97	18SEP97	24
RS63-4	18AUG97	22SEP97	24
RS13-4	28AUG97	20CT97	24
RS67-4	26SEP97	29OCT97	24
RS05-4	20CT97	4NOV97	24
RS14-4	13OCT97	13NOV97	24
RS77-4	5NOV97	10DEC97	24
RS85-4	5NOV97	10DEC97	24
RS15-4	24NOV97	8JAN98	24
RS86-4	17DEC97	29JAN98	24
RS6B-4	22DEC97	3FEB98	24
RS46-4	19JAN98	19FEB98	24
RS88-4	5FEB98	27FEB98	15
RS69-4	13FEB98	20MAR98	24
RS16-4	4MAR98	6APR98	24
RS09-4	6MAR98	8APR98	24
RS70-4	1APR98	4MAY98	24
RS31-4	14APR98	15MAY98	24
RS50-4	15APR98	18MAY98	24
RS74-4	11MAY98	15JUN98	24



Plot Date 11APR96
Data Date 15SEP94
Project Start 10CT93
Project Finish 15JUN00

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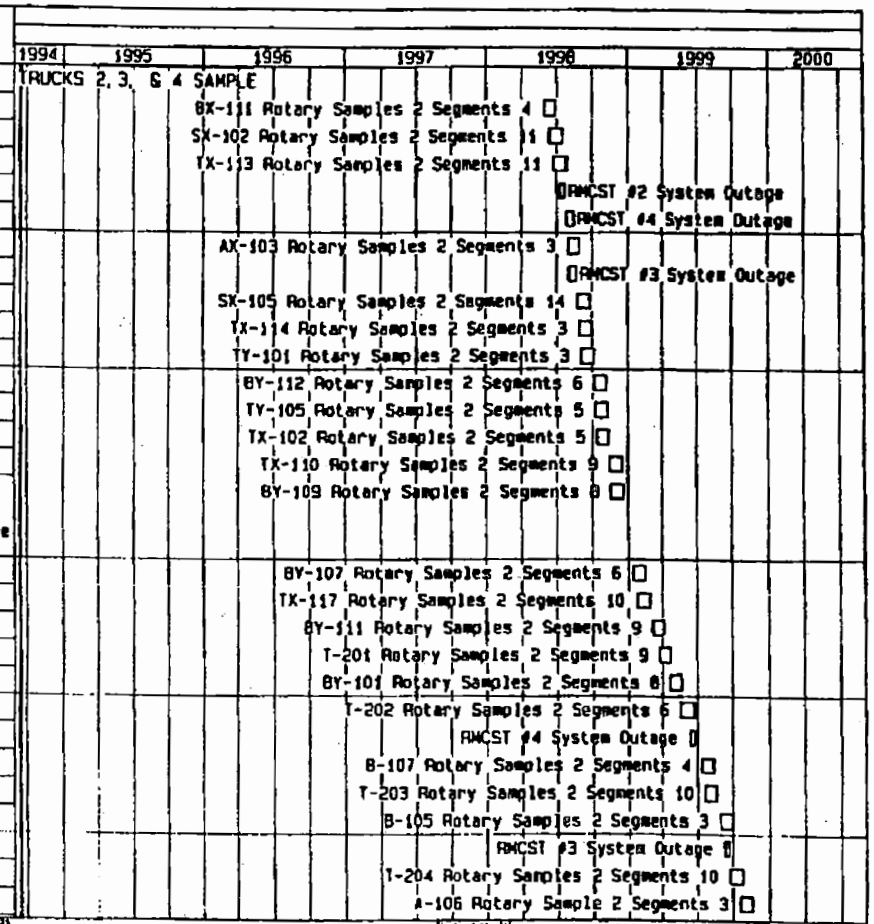
Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
TRUCKS 2, 3, & 4 SAMPLE			
RS51-4	27MAY98	29JUN98	24
RS33-4	11JUN98	16JUL98	24
RS75-4	22JUN98	27JUL98	24
RSBC-4	8JUL98	21JUL98	10
RSDC-4	24JUL98	13AUG98	15
RS52-4	28JUL98	28AUG98	24
RSCC-4	31JUL98	20AUG98	15
RS42-4	21AUG98	25SEP98	24
RS76-4	26AUG98	30SEP98	24
RS22-4	1SEP98	6OCT98	24
RS28-4	5OCT98	5NOV98	24
RS94-4	7OCT98	9NOV98	24
RS66-4	12OCT98	12NOV98	24
RS71-4	13NOV98	18DEC98	24
RS93-4	17NOV98	22DEC98	24
BY-109 Sludge\saltcake - 2 cores Additional sludge\saltcake - 1 core			
RS26-4	13JAN99	15FEB99	24
RS79-4	22JAN99	26FEB99	24
RS27-4	4MAR99	5APR99	23
RS18-4	23MAR99	23APR99	24
RS49-4	20APR99	21MAY99	24
RS19-4	18MAY99	22JUN99	24
RSDD-4	9JUN99	22JUN99	10
RS54-4	12JUL99	12AUG99	24
RS81-4	20JUL99	20AUG99	24
RS55-4	27AUG99	10CT99	24
RSCD-4	8SEP99	21SEP99	10
RS82-4	22SEP99	25OCT99	24
RS53-4	18OCT99	18NOV99	24



Plot Date 11APR96
Data Date 15SEP9
Project Start 1OCT93
Project Finish 15APR00

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Date	Revision	Checked	Approved

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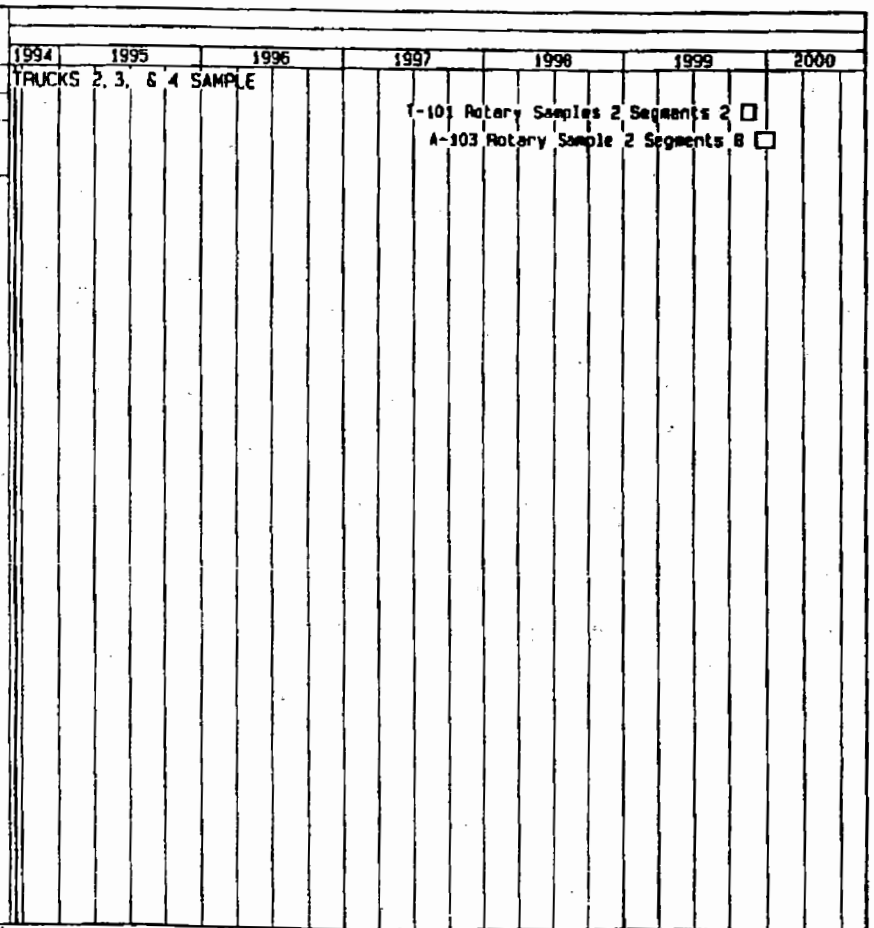
ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
RS17-4	1NOV99	6DEC99	24
RS57-4	7DEC99	20JAN00	24
A-103 Sludge\saltcake - 1000 ml scaling			



Data Date 11APR96
Plan Date 15SEP96
Project Start 10CT93
Project Finish 15MAR00

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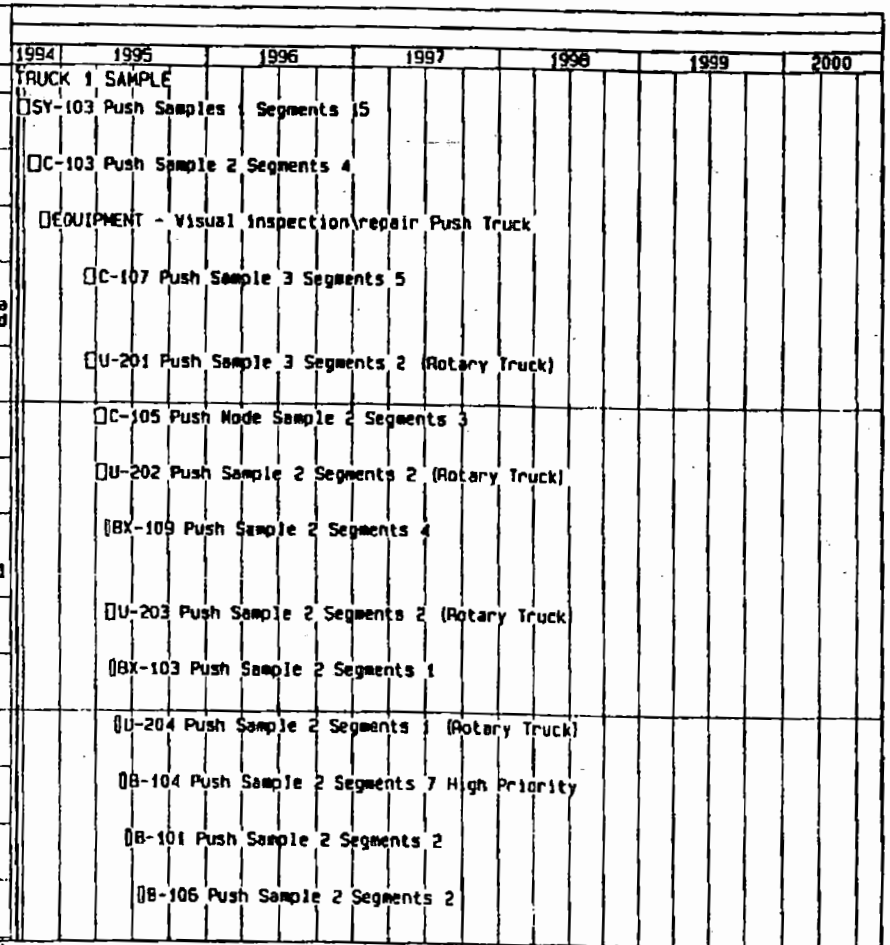
Date	Revision	Checked	Approved

9613449.1157

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
PS02-4	15SEP94	12OCT94	20
COMPLETED AS	31AUG94	AF 30CT94	
PS05-4	13OCT94	9NOV94	20
COMPLETED	AS 20OCT94	AF 9FEB95	
PS25-10	10NOV94	20EC94	15
Completed AS 2NOV94 AF 9JAN95			
PS68-4	1MAR95	28MAR95	20
C-107 Sludge\saltcake sample - 2000 ml sca Additional sludge\saltcake 1000ml ad			
Completed AS 1MAR95 AF 10MAR95			
PS16-4	6MAR95	31MAR95	20
Completed AS 8MAR95 AF 21MAR95			
PS25-4	29MAR95	25APR95	20
Completed AS 13MAR95	AF 23MAR95		
PS17-4	3APR95	26APR95	18
Completed AS 21MAR95 AF 24MAR95			
PS65-4	26APR95	5MAY95	8
BX-109 Sludge\saltcake - 1000 ml scaling Additional sludge\saltcake - 200 ml			
Completed AS 27MAY95	AF 19MAY95		
PS18-4	27APR95	19MAY95	17
Completed AS 27MAR95 AF 3APR95			
PS60-4	8MAY95	18MAY95	9
Completed AS 22MAY95 AF 30MAY95			
PS19-4	22MAY95	1JUN95	9
Completed AS 3APR95 AF 6APR95			
PS08-4	2JUN95	14JUN95	9
Completed AS 31MAY95 AF 14JUN95			
PS48-4	15JUN95	28JUN95	10
Completed AS 15JUN95 AF 27JUN95			
PS50-4	17JUL95	28JUL95	10
Completed AS 29JUN95 AF 15JUL95			



Plot Date 11APR96
Data Date 15SEP94
Project Start 19CT93
Project Finish 15MAR00

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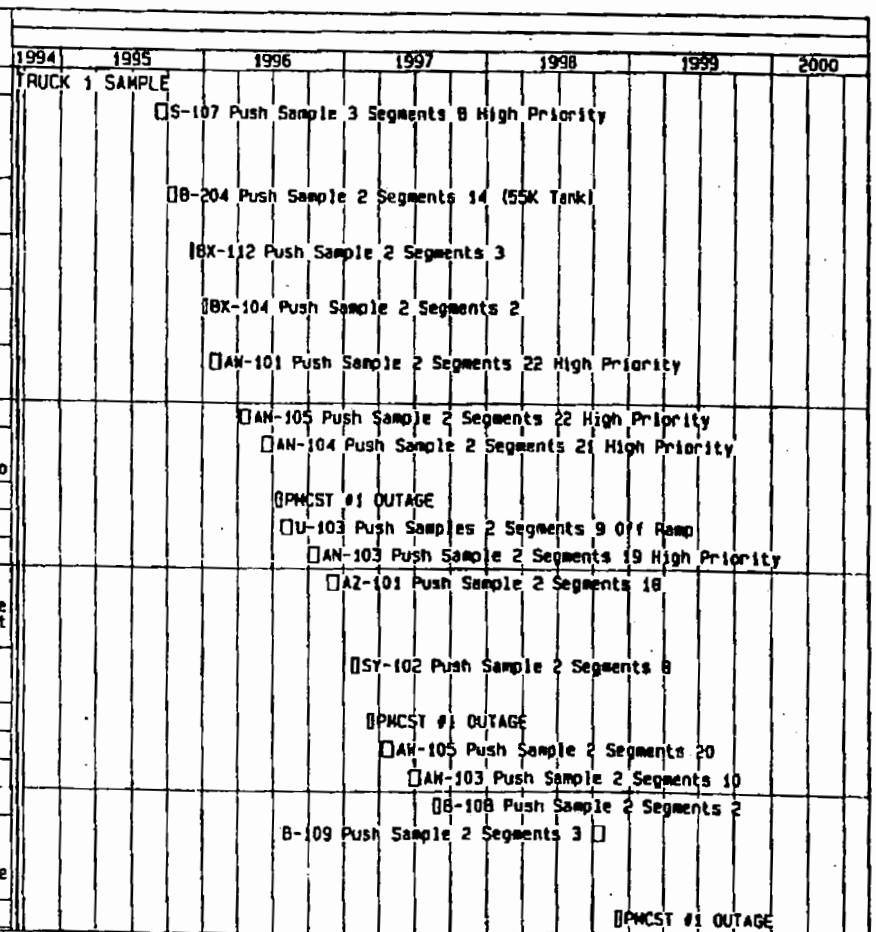
Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
PS13-4	31AUG95	28SEP95	21
S-107 Sludge\saltcake 1000 ml scaling Completed AS 14AUG95 AF 30SEP95			
PS67-4	20CT95	23OCT95	16
Completed AS 6OCT95 AF 19OCT95			
PS64-4	29NOV95	5DEC95	5
Completed AS 21DEC95 AF 27DEC95			
PS61-4	2JAN96	12JAN96	9
Completed AS 2JAN96 AF 6JAN96			
PS03-4	22JAN96	16FEB96	20
AW-101 Supernatant - 5500 ml			
PS26-4	8APR96	3MAY96	20
PS31-4	4JUN96	1JUL96	20
AN-104 Supernatant - 2500ml (Privitizatio			
PS06-4	11JUL96	24JUL96	10
PS09-4	25JUL96	21AUG96	20
PS33-4	10CT96	28OCT96	20
PS43-4	19NOV96	18DEC96	20
AZ-101 Supernatant - 4.0 liters Pretreatme AZ-101 Supernatant - 2.5 liters Privitazat			
PS55-4	20JAN97	7FEB97	15
SY-102 Pretreatment sludge only - 150 g			
PS70-4	5MAR97	18MAR97	10
PS41-4	9APR97	6MAY97	20
PS10-4	16JUN97	14JUL97	20
PS51-4	19AUG97	3SEP97	10
PS63-4	10CT98	28OCT98	20
B-109 Sludge\saltcake 1000 ml scaling Additional sludge\saltcake 400 ml re			
PS71-4	30NOV98	11DEC98	10



Plot Date :11APR96
Data Date :5SEP94
Project Start :10CT93
Project Finish :5MAR00

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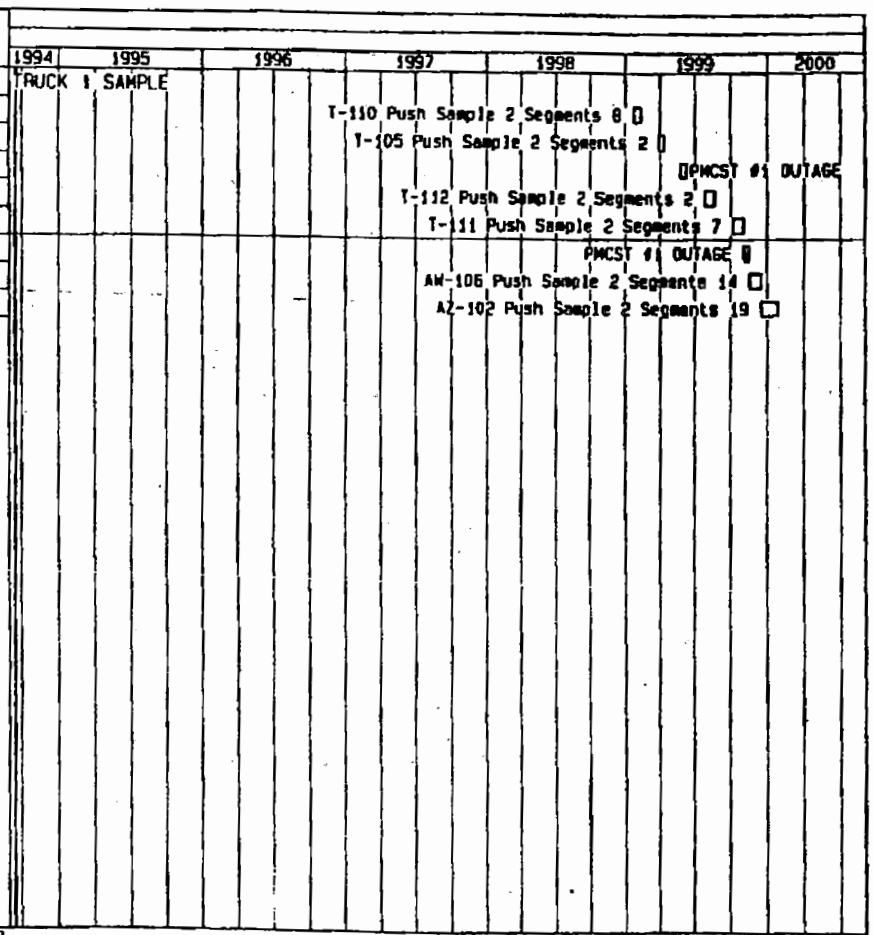
DATE	REVISION	CHECKED	APPROVED

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
PS34-4	21JAN99	10FEB99	15
PS15-4	29MAR99	9APR99	10
PS72-4	24MAY99	8JUN99	10
PS56-4	26JUL99	20AUG99	20
PS69-4	6OCT99	2NOV99	20
PS73-4	3NOV99	16NOV99	10
PS04-4	17NOV99	16DEC99	20
PS23-4	17DEC99	26JAN00	20



Plot Date 11APR96
Data Date 15SEP94
Project Start 10OCT93
Project Finish 15MAR00

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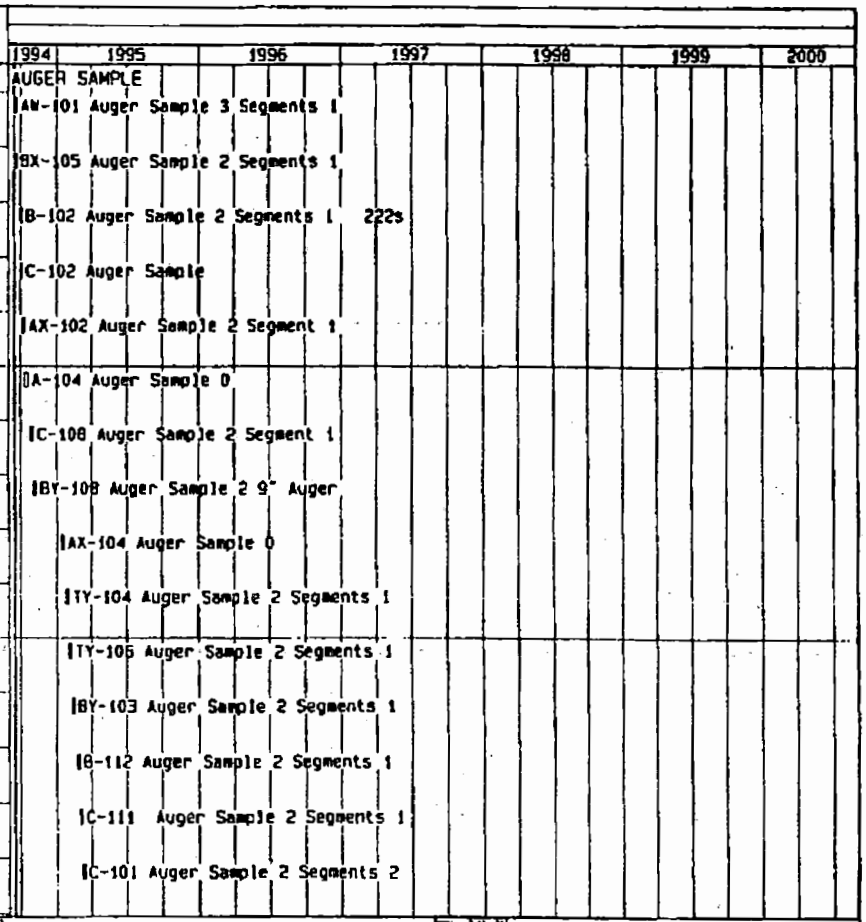
AS OF 11APR96 Mr G Stanton / Mr G Carver

Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
AS04-4	15SEP94	21SEP94	5
Completed AS 23JAN95 AF 27JAN95			
AS08-4	15SEP94	21SEP94	5
Completed AS 28SEP94 AF 06OCT94			
AS05-4	29SEP94	5OCT94	5
Completed AS 12OCT94 AF 17OCT94			
AS99-4	29SEP94	5OCT94	5
Completed AS 29DEC94 AF 13JAN95			
AS10-4	6OCT94	12OCT94	5
Completed AS 6FEB95 AF 14FEB95			
AS11-4	13OCT94	19OCT94	5
Completed AS 25OCT94 AF 10NOV94			
AS14-4	27OCT94	2NOV94	5
Completed AS 11NOV94 AF 15DEC94			
AS98-4	3NOV94	9NOV94	5
Completed AS 16DEC94 AF 30DEC94			
AS06-4	11JAN95	17JAN95	5
Completed AS 14FEB95 AF 17FEB95			
AS37-4	25JAN95	31JAN95	5
Completed AS 21FEB95 AF 24FEB95			
AS25-4	1FEB95	7FEB95	5
Completed AS 27FEB95 AF 3MAR95			
AS30-4	8FEB95	14FEB95	5
Completed AS 6MAR95 AF 10MAR95			
AS21-4	22FEB95	28FEB95	5
Completed AS 13MAR95 AF 17MAR95			
AS15-4	1MAR95	7MAR95	5
Completed AS 22MAR95 AF 25MAR95			
AS07-4	8MAR95	14MAR95	5
Completed AS 29MAR95 AF 30MAR95			



Plot Date 11SEP96
Data Date 15SEP94
Project Start 10CT93
Project Finish 15MAR00

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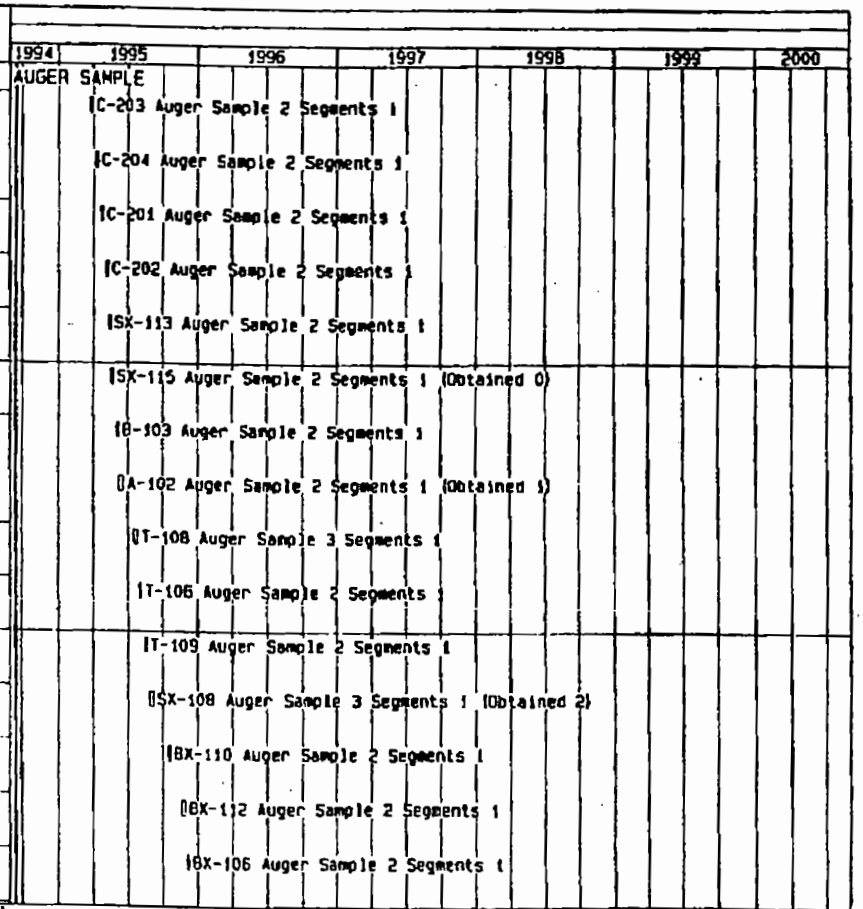
REVISED TANK FARMS SAMPLING SCHEDULE
SAMPLING SCHEDULE Rev 4.6

45 Dr 11/APR/96 W G Stanton / W G Carver

Date	Revision	Checked	Approved

9613048.1141

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
AS17-4	22MAR95	28MAR95	5
Completed AS 3APR95 AF 6APR95			
AS27-4	5APR95	11APR95	5
Completed AS 10APR95 AF 2MAY95			
AS20-4	19APR95	25APR95	5
Completed AS 2MAY95 AF 3MAY95			
AS16-4	3MAY95	9MAY95	5
Completed AS 4MAY95 AF 5MAY95			
AS22-4	10MAY95	16MAY95	5
Completed AS 9MAY95 AF 10MAY95			
AS23-4	17MAY95	23MAY95	5
Completed AS 16MAY95 AF 18MAY95			
AS13-4	1JUN95	7JUN95	5
Completed AS 24MAY95 AF 2JUN95			
AS28-4	8JUN95	19JUN95	8
Completed AS 6JUN95 AF 8JUN95			
AS19-4	17JUL95	26JUL95	8
Completed AS 14JUL95 AF 25JUL95			
AS24-4	31JUL95	4AUG95	5
Completed AS 25JUL95 AF 11AUG95			
AS34-4	14AUG95	18AUG95	5
Completed AS 14AUG95 AF 22AUG95			
AS40-4	28AUG95	6SEP95	8
Completed AS 14SEP95 AF 27SEP95			
AS38-4	16OCT95	20OCT95	5
Completed AS 9OCT95 AF 16OCT95			
AS32-4	20NOV95	28NOV95	5
COMPLETED AS 13NOV95 AF 17NOV95			
AS31-4	4DEC95	8DEC95	5
Completed AS 04DEC95 AF 20DEC95			



Plot Date 11APR96
Data Date 15SEP94
Project Start 10OCT94
Project Finish 15MAR00

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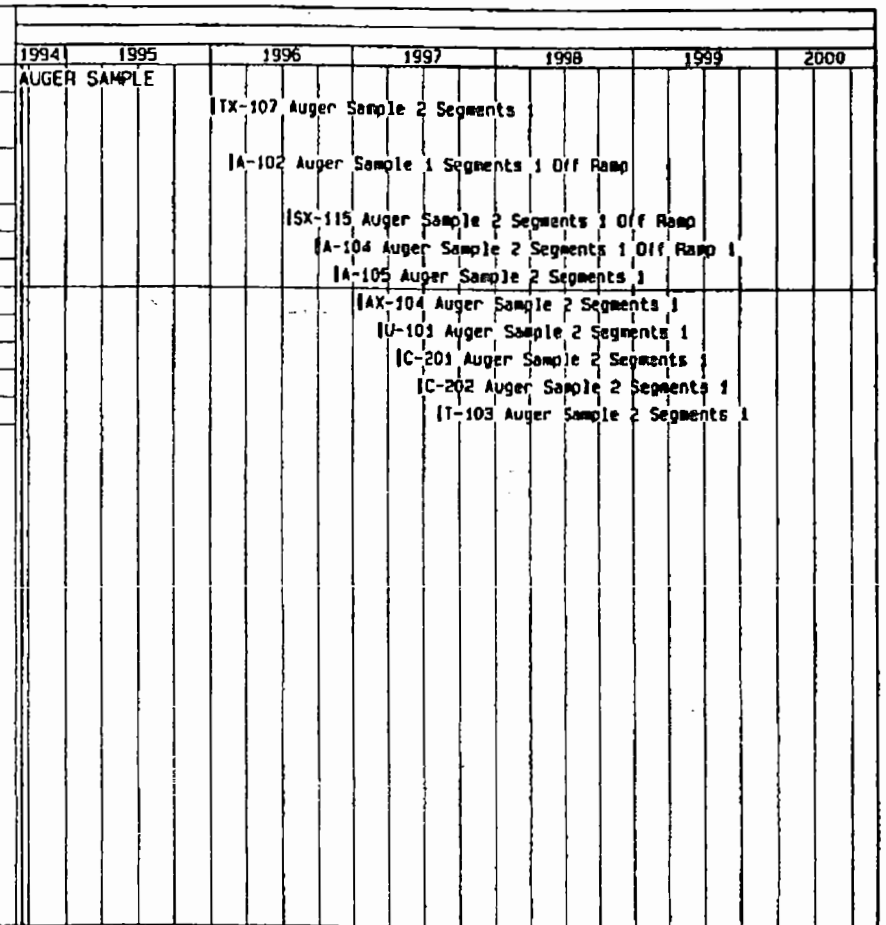
AS OF 11/APR/96 W G Stanton / W G Carver

Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
AUGER SAMPLE			
AS36-4	3JAN96	9JAN96	5
Completed	AS 08JAN96	AF 17JAN96	
AS53-4	20FEB96	23FEB96	4
Completed	AS 18MAR96	AF 21MAR96	
AS39-4	15JUL96	19JUL96	5
AS12-4	27SEP96	30CT96	5
AS02-4	15NOV96	21NOV96	5
AS41-4	16JAN97	22JAN97	5
AS29-4	10MAR97	14MAR97	5
AS54-4	28APR97	2MAY97	5
AS55-4	19JUN97	25JUN97	5
AS18-4	8AUG97	14AUG97	5



Plot Date 11APR96
Data Date 15SEP94
Project Start 10CT93
Project Finish 15AUG97

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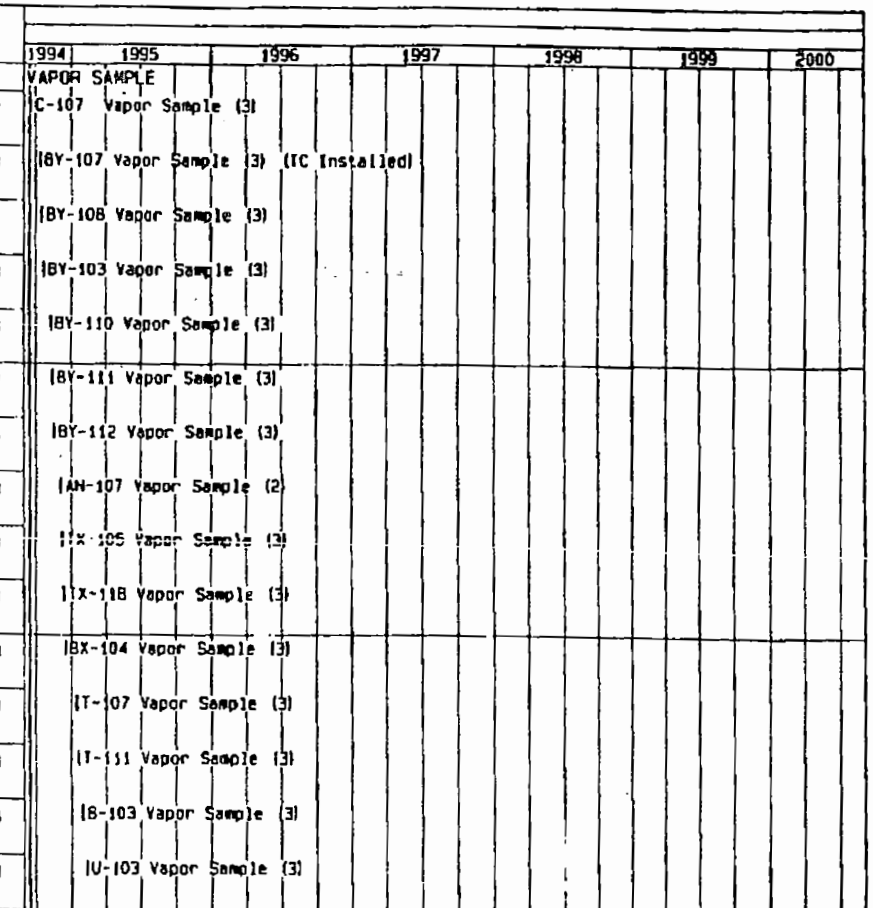
AS OF 11APR96 PR G Stanton / PR G Carver

Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
VAPOR SAMPLE			
VS02-4	15SEP94	19SEP94	3
Completed AS 28SEP94 AF 29SEP94			
VS0K-4	11OCT94	13OCT94	3
Completed AS 25OCT94 AF 26OCT94			
VSE6-4	14OCT94	18OCT94	3
Completed AS 27OCT94 AF 27OCT94			
VS0M-4	19OCT94	21OCT94	3
Completed AS 31OCT94 AF 01NOV94			
VS0N-4	7NOV94	9NOV94	3
Completed AS 10NOV94 AF 11NOV94			
VS52-4	10NOV94	14NOV94	3
Completed AS 15NOV94 AF 16NOV94			
VSZB-4	15NOV94	17NOV94	3
Completed AS 17NOV94 AF 18NOV94			
VS35-4	1DEC94	5DEC94	3
Completed AS 20DEC94 AF 21DEC94			
VS0Q-4	6DEC94	8DEC94	3
Completed AS 19DEC94 AF 21DEC94			
VS0R-4	9DEC94	13DEC94	3
Completed AS 15DEC94 AF 16DEC94			
VS0G-4	14DEC94	16DEC94	3
Completed AS 29DEC94 AF 30DEC94			
VS03-4	12JAN95	16JAN95	3
Completed AS 17JAN95 AF 18JAN95			
VS09-4	17JAN95	19JAN95	3
Completed AS 19JAN95 AF 20JAN95			
VS45-4	27JAN95	31JAN95	3
Completed AS 07FEB95 AF 8FEB95			
VS10-4	8FEB95	10FEB95	3
Completed AS 13FEB95 AF 15FEB95			



Plot Date 11APR95
Data Date 15SEP94
Project Start 10OCT93
Project Finish 15MAR00

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REVISED TANK FARMS SAMPLING SCHEDULE
SAMPLING SCHEDULE Rev 4.6

AS OF 11/APR/95 Mr G Stanton / Mr C Carver

Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR	
				1994 1995 1996 1997 1998 1999 2000
				VAPOR SAMPLE
VS0A-4	13FEB95	15FEB95	3	U-107 Vapor Sample (3)
Completed AS 16FEB95 AF 17FEB95				
VS14-4	16FEB95	21FEB95	3	U-105 Vapor Sample (3)
Completed AS 23FEB95 AF 24FEB95				
VS66-4	8MAR95	10MAR95	3	U-111 Vapor Sample (3)
Completed AS 27FEB95 AF 28FEB95				
VS89-4	13MAR95	15MAR95	3	U-106 Vapor Sample (3)
Completed AS 6MAR95 AF 8MAR95				
VS0S-4	23MAR95	27MAR95	3	S-102 Vapor Sample (3)
Completed AS 13MAR95 AF 14MAR95				
VS07-4	28MAR95	30MAR95	3	S-111 Vapor Sample (3)
Completed AS 15MAR95 AF 21MAR95				
VS0B-4	31MAR95	4APR95	3	SX-103 Vapor Sample (3)
Completed AS 22MAR95 AF 23MAR95				
VS0F-4	5APR95	7APR95	3	SX-106 Vapor Sample (3)
Completed AS 23MAR95 AF 24MAR95				
VS08-10	10APR95	14APR95	5	VSS Maintenance Window
Completed AS 27MAR95 AF 30MAR95				
VS08-4	17APR95	19APR95	3	TY-101 Vapor Sample (3)
Completed AS 5APR95 AF 6APR95				
VS0C-4	20APR95	24APR95	3	TY-103 Vapor Sample (3)
Completed AS 10APR95 AF 11APR95				
VS0D-4	25APR95	27APR95	3	TY-104 Vapor Sample (3)
Completed AS 12APR95 27APR95				
VS05-4	5MAY95	9MAY95	3	A-101 Vapor Sample (3)
Completed AS 6JUN95 AF 9JUN95				
VS32-4	17MAY95	19MAY95	3	AX-101 Vapor Sample (3)
Completed AS 12JUN95 AF 15JUN95				
VS33-4	22MAY95	24MAY95	3	AX-103 Vapor Sample (3)
Completed AS 20JUN95 AF 21JUN95				

Plot Date 11APR95
Data Date 15SEP94
Project Start 10C(3)
Project Finish 15MAR96

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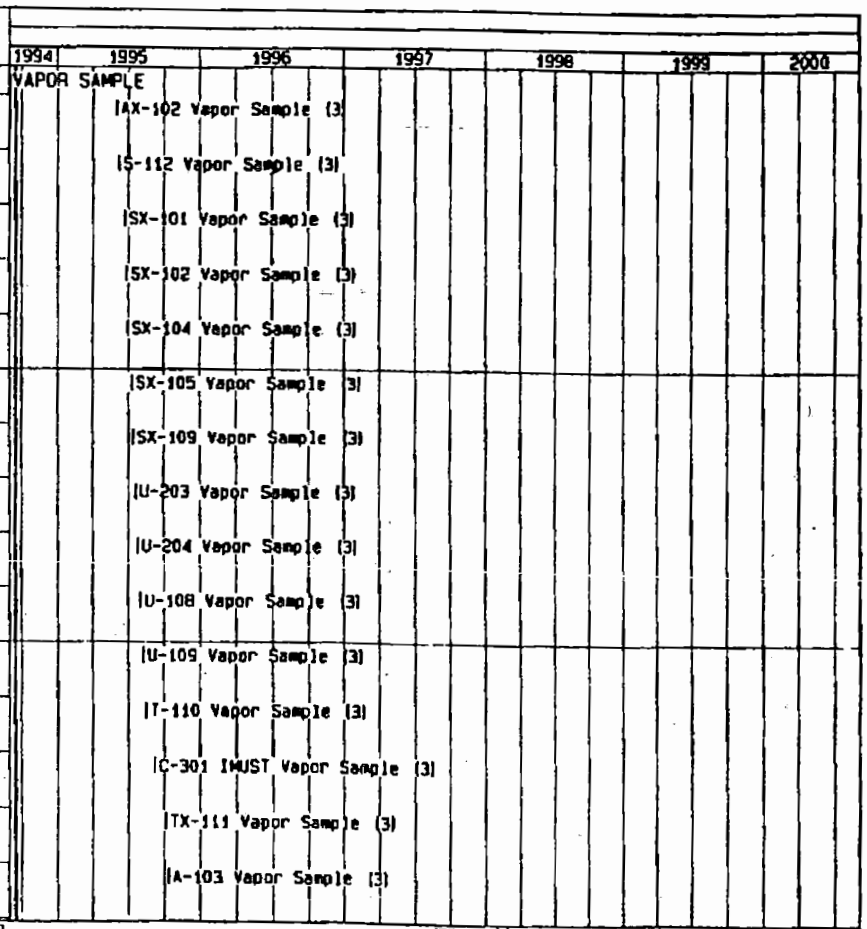
AS OF 11/APR/95 BY G. Starion / Mr G Carver

DATE	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
VS06-4	30MAY95	1JUN95	3
Completed AS 26JUN95 AF 28JUN95			
VS30-4	6JUN95	8JUN95	3
Completed AS 10JUL95 AF 11JUL95			
VS39-4	20JUN95	22JUN95	3
Completed AS 20JUL95 AF 21JUL95			
VS40-4	23JUN95	27JUN95	3
Completed AS 18JUL95 AF 19JUL95			
VS41-4	28JUN95	30JUN95	3
Completed AS 24JUL95 AF 25JUL95			
VS42-4	7JUL95	11JUL95	3
Completed AS 25JUL95 AF 26JUL95			
VS70-4	12JUL95	14JUL95	3
Completed AS 26JUL95 AF 01AUG95			
VS15-4	19JUL95	21JUL95	3
Completed AS 5AUG95 AF 9AUG95			
VS16-4	24JUL95	26JUL95	3
Completed AS 7AUG95 AF 8AUG95			
VS04-4	31JUL95	2AUG95	3
Completed AS 28AUG95 AF 29AUG95			
VS71-4	7AUG95	9AUG95	3
Completed AS 9AUG95 AF 16AUG95			
VS11-4	14AUG95	16AUG95	3
Completed AS 30AUG95 AF 31AUG95			
VS17-4	5SEP95	7SEP95	3
Completed AS 29SEP95 AF 29SEP95			
VSU3-4	20CT95	4OCT95	3
Completed AS 11OCT95 AF 12OCT95			
VS18-4	9OCT95	11OCT95	3
Completed AS 06NOV95 AF 09NOV95			



Plot Date 11APR96
Data Date 15SEP94
Project Start 10CT93
Project Finish 15MAR97

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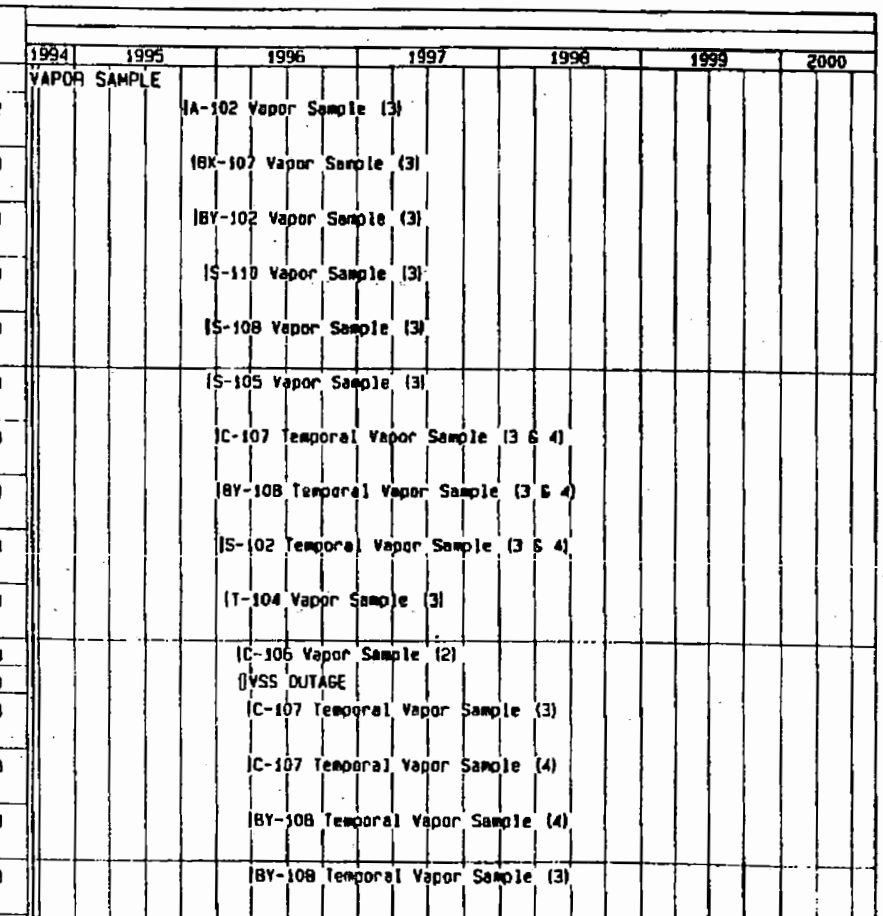
AS OF 11APR96 W G Stanton / W G Carver

Date	Revision	Checked	Approved

9513948.1146

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
VS21-4	12OCT95	13OCT95	2
Completed AS 10NOV95 AF 10NOV95			
VS19-4	1NOV95	3NOV95	3
Completed AS 16NOV95 AF 17NOV95			
VS56-4	6NOV95	8NOV95	3
Completed AS 20NOV95 AF 21NOV95			
VST5-4	4DEC95	6DEC95	3
COMPLETED AS 4DEC95 AF 5DEC95			
VST3-4	8DEC95	12DEC95	3
Completed AS 5DEC95 AF 6DEC95			
VSTD-4	13DEC95	15DEC95	3
Completed AS 6DEC95 AF 7DEC95			
VSAA-4	2JAN96	4JAN96	3
Completed AS 16JAN96 AF 17JAN96			
VSOH-4	5JAN96	9JAN96	3
Completed AS 22JAN96 AF 23JAN96			
VSOJ-4	12JAN96	16JAN96	3
Completed AS 24JAN96 AF 26JAN96			
VSOL-4	29JAN96	31JAN96	3
Completed AS 06FEB96 AF 07FEB96			
VS12-4	28FEB96	1MAR96	3
VS01-4	4MAR96	15MAR96	10
VS72-4	25MAR96	27MAR96	3
Completed AS 25MAR96 AF 26MAR96			
VSAB-4	25MAR96	27MAR96	3
Completed AS 25MAR96 AF 26MAR96			
VSAH-4	27MAR96	29MAR96	3
Completed AS 27MAR96 AF 28MAR96			
VS73-4	28MAR96	1APR96	3
Completed AS 27MAR96 AF 28MAR96			



Plot Date 11APR96
Data Date 15SEP94
Project Start 10CT92
Project Finish 15MAR00

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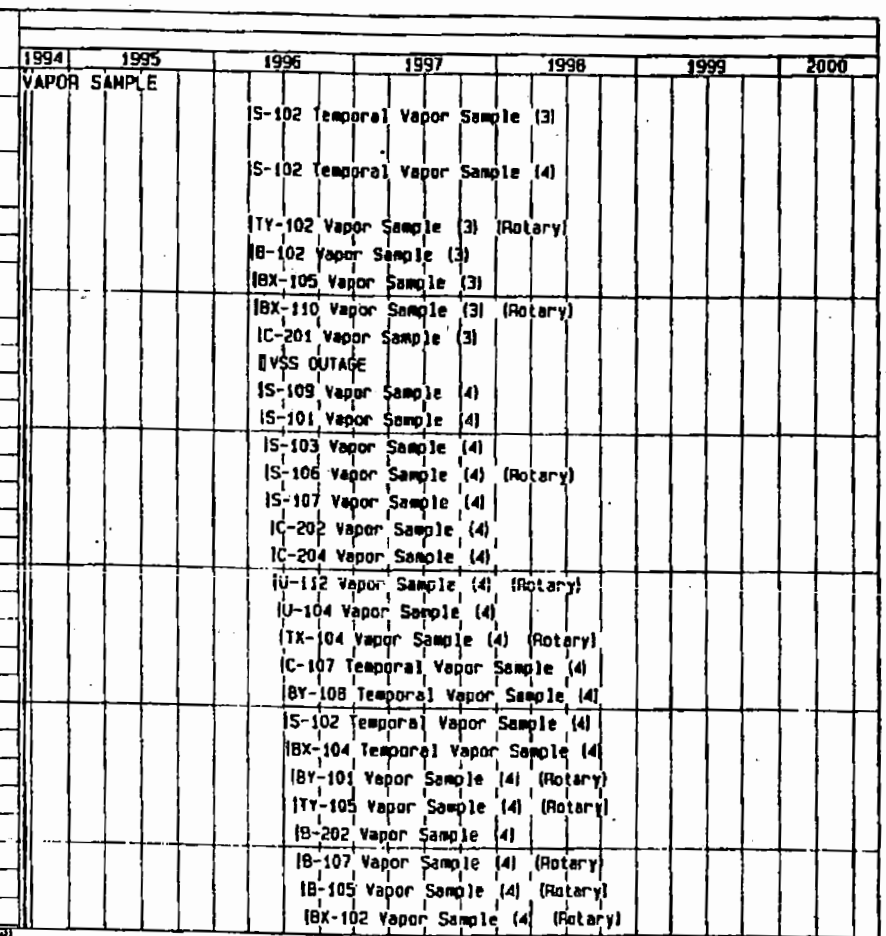
AS OF 11/APR/96 W G Stanton / W G Carver

Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
VS74-4	1APR96	3APR96	3
Completed	AS 02APR96	AF 03APR96	
VSAL-4	1APR96	3APR96	3
Completed	AS 02APR96	AF 03APR96	
VSU2-4	4APR96	8APR96	3
VS22-4	9APR96	11APR96	3
VS24-4	16APR96	18APR96	3
VSS0-4	19APR96	23APR96	3
VS25-4	30APR96	2MAY96	3
VS02-4	3MAY96	16MAY96	10
VST4-4	3MAY96	6MAY96	2
VSS8-4	7MAY96	8MAY96	2
VSS9-4	16MAY96	17MAY96	2
VST1-4	20MAY96	21MAY96	2
VS20-4	22MAY96	23MAY96	2
VS26-4	3JUN96	4JUN96	2
VS27-4	5JUN96	6JUN96	2
VSG6-4	7JUN96	10JUN96	2
VSG5-4	19JUN96	20JUN96	2
VST7-4	25JUN96	26JUN96	2
VSAC-4	27JUN96	28JUN96	2
VSAJ-4	1JUL96	2JUL96	2
VSAM-4	3JUL96	8JUL96	2
VSAF-4	11JUL96	12JUL96	2
VSR9-4	23JUL96	24JUL96	2
VS43-4	29JUL96	30JUL96	2
VS23-4	2AUG96	5AUG96	2
VSX8-4	8AUG96	9AUG96	2
VSS5-4	20AUG96	21AUG96	2
VSX9-4	28AUG96	29AUG96	2



Plot Date 11APR96
Data Date 15SEP94
Project Start 10CT93
Project Finish 15AUG00

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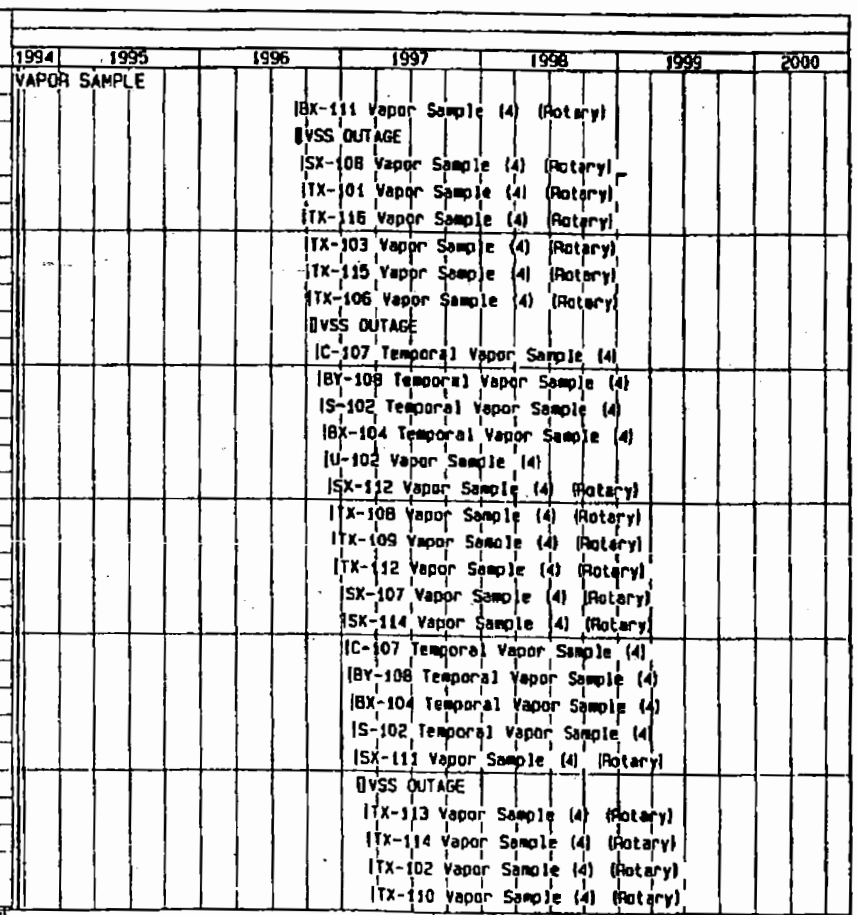
SAMPLING SCHEDULE Rev 4.6

AS OF 11APR/96 Mr. B. Stanton / Mr. G. Carver

Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
VSS1-4	3SEP96	4SEP96	2
VSO3-4	5SEP96	18SEP96	10
VSY1-4	19SEP96	20SEP96	2
VSP3-4	23SEP96	24SEP96	2
VSP8-4	25SEP96	26SEP96	2
VSP4-4	10CT96	20CT96	2
VSP7-4	30CT96	4OCT96	2
VST8-4	9OCT96	10OCT96	2
VSO4-4	15OCT96	28OCT96	10
VSAD-4	31OCT96	1NOV96	2
VSAK-4	6NOV96	7NOV96	2
VSAN-4	12NOV96	13NOV96	2
VSAG-4	18NOV96	19NOV96	2
VSPO-4	22NOV96	25NOV96	2
VSY5-4	2DEC96	3DEC96	2
VSI9-4	6DEC96	9DEC96	2
VSU6-4	12DEC96	13DEC96	2
VSU4-4	18DEC96	19DEC96	2
VSX0-4	2JAN97	3JAN97	2
VSY6-4	8JAN97	9JAN97	2
VSAT-4	15JAN97	16JAN97	2
VSAR-4	21JAN97	22JAN97	2
VSAP-4	27JAN97	28JAN97	2
VSAS-4	31JAN97	3FEB97	2
VSY4-4	6FEB97	7FEB97	2
VSO5-4	12FEB97	27FEB97	10
VSP5-4	4MAR97	5MAR97	2
VSP6-4	10MAR97	11MAR97	2
VST6-4	14MAR97	17MAR97	2
VSU1-4	20MAR97	21MAR97	2



Plot Date 11APR96
Data Date 15SEP94
Project Start 10CT93
Project Finish 15MAR20

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Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR	1994	1995	1996	1997	1998	1999	2000
VAPOR SAMPLE										
VSP9-4	26MAR97	27MAR97	2				TX-117 Vapor Sample (4) (Rotary)			
VSY3-4	1APR97	2APR97	2				SX-110 Vapor Sample (4) (Rotary)			
VSP1-4	7APR97	8APR97	2				T-203 Vapor Sample (4) (Rotary)			
VSP2-4	11APR97	14APR97	2				T-204 Vapor Sample (4) (Rotary)			
VSY7-4	22APR97	23APR97	2				T-101 Vapor Sample (4) (Rotary)			
VSY8-4	8MAY97	9MAY97	2				T-201 Vapor Sample (4) (Rotary)			
VSY9-4	15MAY97	16MAY97	2				T-202 Vapor Sample (4) (Rotary)			
VSB0-4	22MAY97	23MAY97	2				A-104 Vapor Sample (4)			
VSB1-4	3JUN97	4JUN97	2				A-105 Vapor Sample (4)			
VSB2-4	10JUN97	11JUN97	2				A-106 Vapor Sample (4) (Rotary)			
VSB3-4	17JUN97	18JUN97	2				AX-104 Vapor Sample (4)			
VSB4-4	24JUN97	25JUN97	2				B-101 Vapor Sample (4)			
VSB5-4	1JUL97	2JUL97	2				B-104 Vapor Sample (4)			
VSB6-4	9JUL97	10JUL97	2				B-106 Vapor Sample (4)			
VSB7-4	16JUL97	17JUL97	2				B-108 Vapor Sample (4)			
VSB8-4	23JUL97	24JUL97	2				B-109 Vapor Sample (4)			
VSB9-4	30JUL97	31JUL97	2				B-110 Vapor Sample (4)			
VSBA-4	6AUG97	7AUG97	2				B-111 Vapor Sample (4)			
VSBB-4	13AUG97	14AUG97	2				B-112 Vapor Sample (4)			
VSBC-4	20AUG97	21AUG97	2				B-201 Vapor Sample (4)			
VSBD-4	27AUG97	28AUG97	2				B-203 Vapor Sample (4)			
VSBE-4	5SEP97	8SEP97	2				B-204 Vapor Sample (4)			
VSCD-4	12SEP97	15SEP97	2				BY-109 Vapor Sample (4)			
VSBF-4	19SEP97	22SEP97	2				BX-101 Vapor Sample (4)			
VSBG-4	26SEP97	29SEP97	2				BX-103 Vapor Sample (4)			
VSBH-4	3OCT97	6OCT97	2				BX-106 Vapor Sample (4)			
VSBI-4	10OCT97	13OCT97	2				BX-108 Vapor Sample (4)			
VSBJ-4	21OCT97	22OCT97	2				BX-109 Vapor Sample (4)			
VSBK-4	30OCT97	31OCT97	2				BX-112 Vapor Sample (4)			
VSBL-4	3NOV97	4NOV97	2				C-203 Vapor Sample (4)			

Plot Date 11APR96
Data Date 15SEP94
Project Start 1OCT93
Project Finish 15AUG02

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SAMPLING SCHEDULE Rev 4.6

AS OF 11/APR/96 BY G. Stanton / Mr. G. Carver

Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR	1994	1995	1996	1997	1998	1999	2000
				VAPOR SAMPLE						
VSBN-4	10NOV97	11NOV97	2					S-104 Vapor Sample (4)		
VSBN-4	19NOV97	20NOV97	2					SX-113 Vapor Sample (4)		
VSBP-4	2DEC97	3DEC97	2					SX-115 Vapor Sample (4)		
VSBQ-4	4DEC97	5DEC97	2					T-102 Vapor Sample (4)		
VSBR-4	8DEC97	9DEC97	2					T-103 Vapor Sample (4)		
VSBS-4	15DEC97	16DEC97	2					T-105 Vapor Sample (4)		
VSBT-4	22DEC97	23DEC97	2					T-106 Vapor Sample (4)		
VSBU-4	8JAN98	9JAN98	2					T-108 Vapor Sample (4)		
VSBV-4	12JAN98	13JAN98	2					T-109 Vapor Sample (4)		
VSBW-4	19JAN98	20JAN98	2					T-112 Vapor Sample (4)		
VSBX-4	27JAN98	28JAN98	2					TX-107 Vapor Sample (4)		
VSBY-4	3FEB98	4FEB98	2					TY-106 Vapor Sample (4)		
VSBZ-4	10FEB98	11FEB98	2					U-101 Vapor Sample (4)		
VSCA-4	18FEB98	19FEB98	2					U-110 Vapor Sample (4)		
VSCB-4	27FEB98	2MAR98	2					U-201 Vapor Sample (4)		
VSCC-4	3MAR98	4MAR98	2					U-202 Vapor Sample (4)		

Plot Date 11SEP96
Data Date 15SEP96
Project Start 10OCT93
Project Finish 15MAR99

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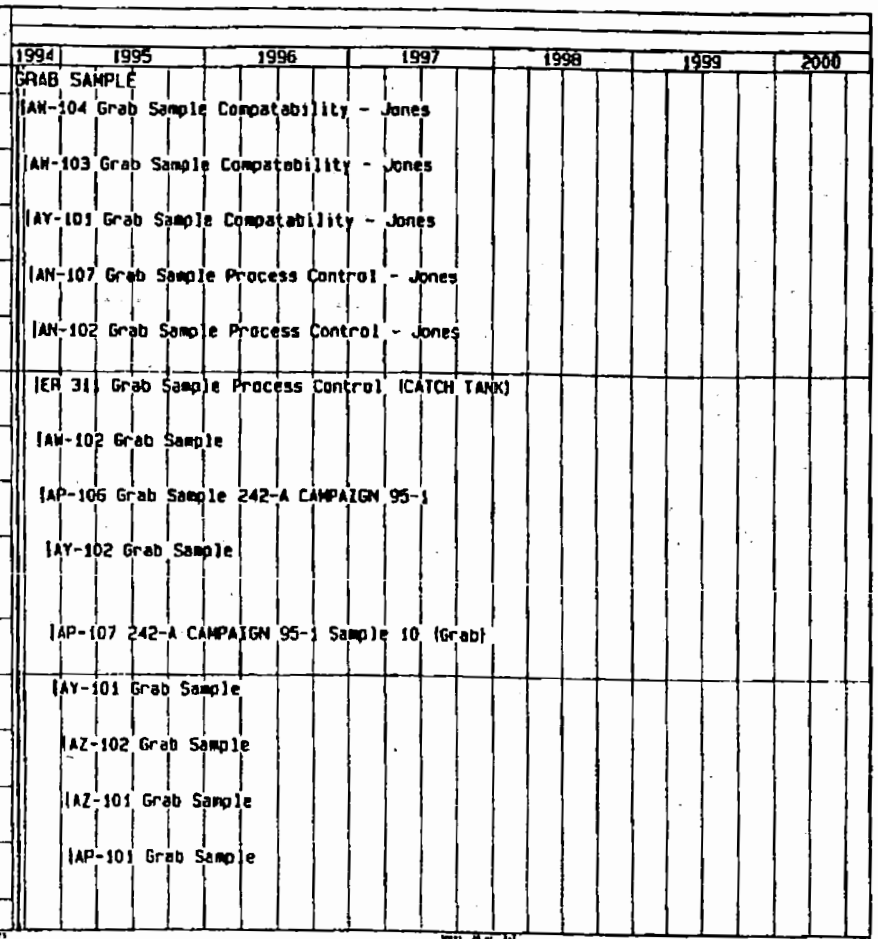
SAMPLING SCHEDULE Rev 4.6

AS OF 11/APR/96 Nr 6 Stanlin / Nr. 6 Carver

Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
GS56-4	26SEP94	28SEP94	3
Completed AS 27SEP94 AF 28SEP94			
GS57-4	30CT94	5OCT94	3
Completed AS 29SEP94 AF 29SEP94			
GS60-4	10OCT94	12OCT94	3
Completed AS 07OCT94 AF 7OCT94			
GS81-4	17OCT94	19OCT94	3
Completed AS 17OCT94 AF 18OCT94			
GS58-4	24OCT94	26OCT94	3
Completed AS 19OCT94 AF 21OCT94			
GS55-4	31OCT94	2NOV94	3
Completed AS 28OCT94 AF 28OCT94			
GS92-4	7NOV94	9NOV94	3
Completed AS 07NOV94 AF 09NOV94			
GS25-4	14NOV94	16NOV94	3
Completed AS 07NOV94 AF 17NOV94			
GS66-4	30NOV94	2DEC94	3
Obtain 200 ml sludge. Completed AS 06DEC94 AF 07DEC94			
GS20-4	8DEC94	12DEC94	3
Completed AS 30JAN95 AF 2FEB95			
GS63-4	15DEC94	19DEC94	3
Completed AS 27DEC94 AF 29DEC94			
GS61-4	9JAN95	11JAN95	3
Completed AS 21FEB95 AF 22FEB95			
GS62-4	16JAN95	18JAN95	3
Completed AS 27FEB95 AF 3MAR95			
GS06-4	23JAN95	25JAN95	3
Completed AS 15DEC94 AF 15DEC94			



Plot Date 11APR96
Data Date 15SEP94
Project Start 1OCT93
Project Finish 15APR98

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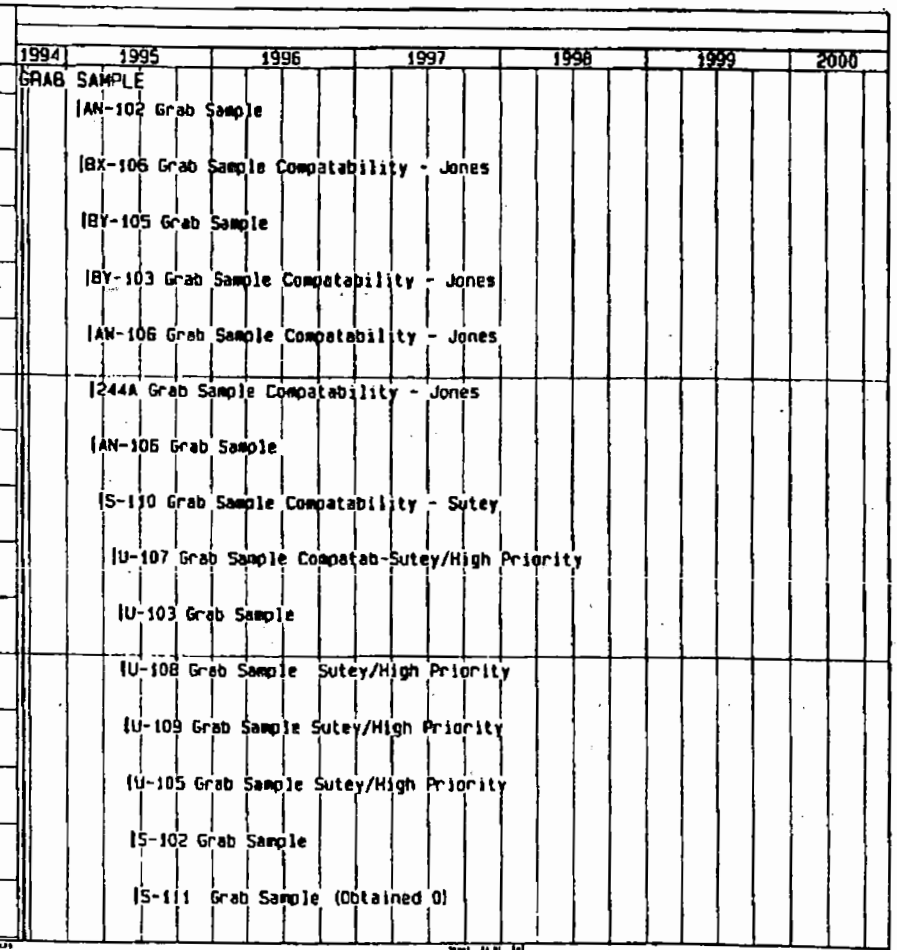
SAMPLING SCHEDULE Rev 4.6

AS OF 11/APR/96 W G Stanton / W G Carver

Date	Revision	Checked	Approved

9613148.1152

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
GRAB SAMPLE			
GS15-4	30JAN95	1FEB95	3
Completed AS 14FEB95 AF 15FEB95			
GS33-4	6FEB95	8FEB95	3
Completed AS 14MAR95 AF 16MAR95			
GS29-4	13FEB95	15FEB95	3
Completed AS 21MAR95 AF 22MAR95			
GS30-4	21FEB95	23FEB95	3
Completed AS 22MAR95 AF 23MAR95			
GS17-4	27FEB95	1MAR95	3
Completed AS 7MAR95 AF 9MAR95			
GS54-4	2MAR95	6MAR95	3
Completed AS 23MAR95 AF 23MAR95			
GS10-4	7MAR95	9MAR95	3
Completed AS 3APR95 AF 6APR95			
GS12-4	24MAR95	28MAR95	3
Completed AS 5APR95 AF 7APR95			
GS08-4	26APR95	28APR95	3
Completed AS 10APR95 AF 13APR95			
GS39-4	11MAY95	15MAY95	3
Completed AS 23MAY95 AF 24MAY95			
GS42-4	18MAY95	22MAY95	3
Completed AS 30MAY95 AF 31MAY95			
GS43-4	25MAY95	30MAY95	4
Completed AS 1JUN95 AF 9JUN95			
GS40-4	2JUN95	6JUN95	3
Completed AS 12JUN95 AF 16JUN95			
GS14-4	9JUN95	13JUN95	3
Completed AS 20JUN95 AF 23JUN95			
GS90-4	16JUN95	20JUN95	3
Completed AS 23JUN95 AF 23JUN95			



Plot Date 11APR95
Data Date 15SEP94
Project Start 10OCT93
Project Finish 15MAR00

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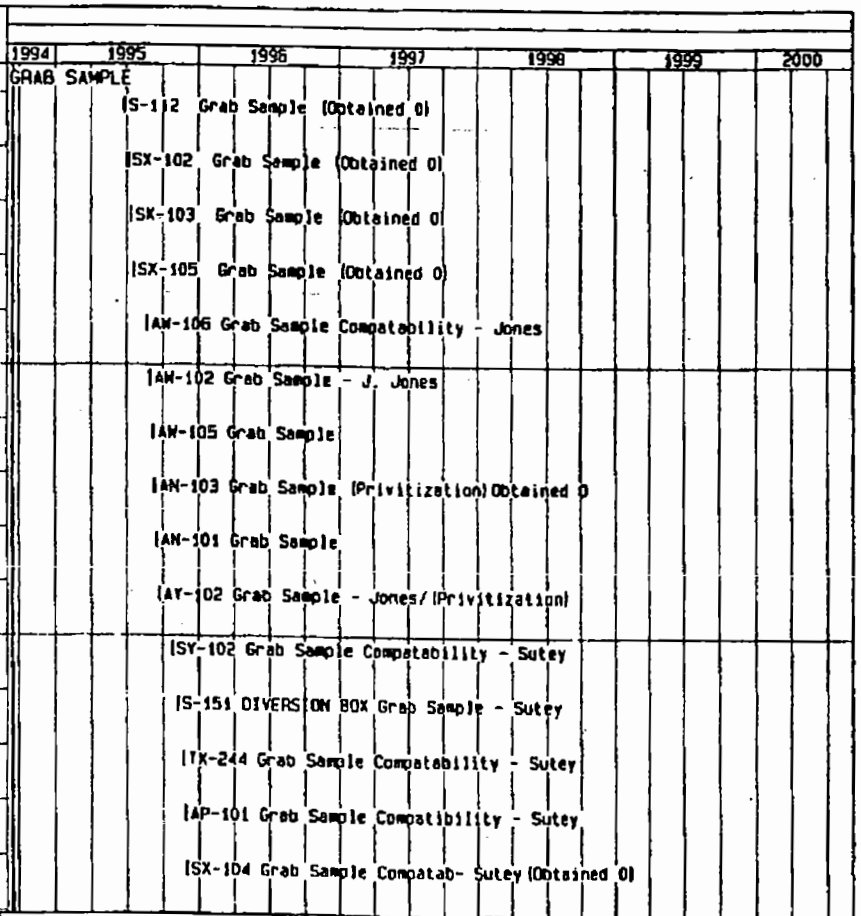
AS OF 11/07/95 Mr G Stanton / Mr G Carver

Date	Revision	Checked	Approved

9612148.1153

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
GRAB SAMPLE			
GS93-4	23JUN95	27JUN95	3
Completed AS 26JUN95 AF 28JUN95			
GS94-4	30JUN95	6JUL95	3
Completed AS 30JUN95 AF 6JUL95			
GS95-4	11JUL95	13JUL95	3
Completed AS 30JUN95 AF 7JUL95			
GS96-4	18JUL95	20JUL95	3
Completed AS 11JUL95 AF 12JUL95			
GS24-4	21AUG95	23AUG95	3
Completed AS 23AUG95 AF 24AUG95			
GS91-4	28AUG95	30AUG95	3
Completed AS 24AUG95 AF 25AUG95			
GS13-4	5SEP95	7SEP95	3
Completed AS 28AUG95 AF 29AUG95			
GS64-4	8SEP95	12SEP95	3
Completed AS 8SEP95 AF 8SEP95			
GS04-4	13SEP95	15SEP95	3
Completed AS 31AUG95 AF 6SEP95			
GS41-4	20SEP95	21SEP95	2
Completed AS 18SEP95 AF 18SEP95			
GS88-4	23OCT95	25OCT95	3
Completed AS 19OCT95 AF 20OCT95			
GS67-4	6NOV95	8NOV95	3
Completed AS 08NOV95 AF 10NOV95			
GS89-4	20NOV95	22NOV95	3
Completed AS 08NOV95 AF 10NOV95			
GS71-4	27NOV95	28NOV95	2
Completed AS 09NOV95 AF 10NOV95			
GS35-4	29NOV95	1DEC95	3
Completed AS 20NOV95 AF 23NOV95			



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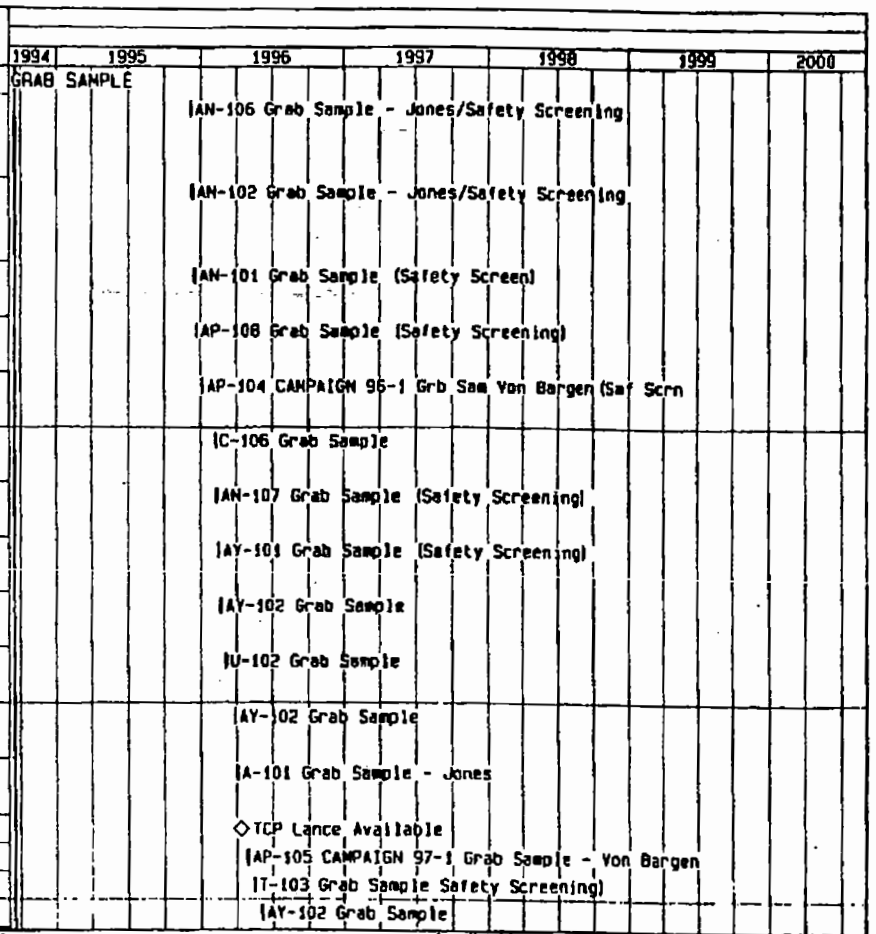
ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR
GS87-4	4DEC95	6DEC95	3
Completed AS 17NOV95 AF 21NOV95			
Completed Again AS 29DEC95 AF 29DEC95			
GS86-4	7DEC95	11DEC95	3
Completed AS 27NOV95 AF 30NOV95			
Completed Again AS 12DEC95 AF 12DEC95			
GS50-4	14DEC95	18DEC95	3
Completed AS 11DEC95 AF 12 DEC95			
GSAA-4	19DEC95	21DEC95	3
Completed AS 02JAN96 AF 05JAN96			
GS45-4	2JAN96	4JAN96	3
Completed AS 18JAN96 AF 23JAN96			
GS19-4	5FEB96	7FEB96	3
Completed AS 5FEB96 AF 1MAR96			
GS16-4	8FEB96	12FEB96	3
Completed AS 11FEB96 15FEB96			
GSAC-4	13FEB96	15FEB96	3
Completed AS 27FEB96 AF 28FEB96			
GS05-4	16FEB96	21FEB96	3
Completed AS 28FEB96 AF 28FEB96			
GS21-4	1MAR96	5MAR96	3
Completed AS 01MAR96 AF 07MAR96			
GS8A-4	25MAR96	27MAR96	3
Completed AS 25MAR96 28MAR96			
GS78-4	1APR96	3APR96	3
Completed AS 02APR96 AF 03APR96			
GS80-4	11APR96		0
GS85-4	25APR96	29APR96	3
GS23-4	14MAY96	16MAY96	3
GS88-4	3JUN96	5JUN96	3



Plot Date 11APR96
Data Date 15SEP94
Project Start 10CT93
Project Finish 15MAR00

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AS OF 11APR96 W. G. Stanton / W. G. Carver

Date	Revision	Checked	Approved

ACTIVITY ID	EARLY START	EARLY FINISH	ORIG DUR	
				GRAB SAMPLE
GS44-4	20JUN96	24JUN96	3	U-101 Grab Sample (Safety Screening)
GS76-4	11JUL96	15JUL96	3	AN-107 Grab Sample - Pretreatment/Privitazation
AN-107 Sludge\Saltcake - 200ml ORNL Supernatant - 5100 ml Additional sludge\saltcake 200 ml r Supernatant - 5.1 liters Pretreatment Supernatant - 2.5 liters Privitazation				
GS77-4	30JUL96	1AUG96	3	AZ-101 Grab Sample - MacLean
GS79-4	2AUG96	6AUG96	3	AX-101 Grab Sample Compatability - Jones
GS84-4	28AUG96	30AUG96	3	AP-108 CAMPAIGN 97-2 Grab Sample - Von Bargen
GS97-4	17SEP96	19SEP96	3	AZ-101 Grab Sample - MacLean
GS74-4	4OCT96	8OCT96	3	AN-107 Grab Sample - (Caustic Addition)
GS83-4	23OCT96	25OCT96	3	AN-107 Grab Sample (Caustic Addition)
GS32-4	28OCT96	30OCT96	3	SX-102 Grab Sample - Sutey
GS75-4	31OCT96	4NOV96	3	AN-107 Grab Sample (Caustic Addition)
GS31-4	18NOV96	21NOV96	3	SX-101 Grab Sample - Sutey
GS65-4	10DEC96	12DEC96	3	AN-107 Grab Sample - Caustic Addition
GS73-4	13DEC96	17DEC96	3	AN-107 Grab Sample - (Caustic Addition)
GS34-4	10JAN97	14JAN97	3	SX-103 Grab Sample - Sutey
GS82-4	29JAN97	31JAN97	3	AN-107 Grab Sample - (Caustic Addition)
GS98-4	19FEB97	21FEB97	3	AZ-101 Grab Sample - MacLean
GS36-4	10MAR97	12MAR97	3	SX-105 Grab Sample - Sutey
GS72-4	25MAR97	27MAR97	3	AN-107 Grab Sample - Caustic Addition
GS99-4	9APR97	11APR97	3	AZ-101 Grab Sample - MacLean
GS37-4	24APR97	28APR97	3	SX-106 Grab Sample - Sutey
GS28-4	9MAY97	13MAY97	3	S-112 Grab Sample - Sutey
GS38-4	29MAY97	2JUN97	3	T-110 Grab Sample - Sutey
GS22-4	13JUN97	17JUN97	3	SX-104 Grab Sample - Sutey
GS27-4	30JUN97	2JUL97	3	S-111 Grab Sample - Sutey

1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000

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