6042

PROJECT SPECIFIC PLAN FOR EXCAVATION CONTROL AND PRECERTIFICATION OF THE AREA 6 WASTE PITS AND GENERAL AREA
(SUPPLEMENT TO 20300-PSP-0011)

ENVIRONMENTAL CLOSURE PROJECT

FERNALD CLOSURE PROJECT
FERNALD, OHIO

OCTOBER 2005

U.S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

20600-PSP-0016
REVISION 0

6042

PROJECT SPECIFIC PLAN FOR EXCAVATION CONTROL AND PRECERTIFICATION OF THE AREA 6 WASTE PITS AND GENERAL AREA (SUPPLEMENT TO 20300-PSP-0011)

Document Number 20600-PSP-0016
Revision 0

October 2005

APPROVAL:

10/6/05
Jyh-Dong Chiou, Project Manager — Date
Environmental Closure Project

10/5/05
Frank Miller, Characterization Manager — Date
Environmental Closure Project

10/6/05
Mike Frank, Real Time Instrumentation Measurement Program — Date
Environmental Closure Project

10/6/05
Tom Buhrlage, Soil Sampling — Date
Environmental Closure Project

10/6/05
Linda Barlow, Waste Acceptance Organization — Date
Environmental Closure Project

10-7-05
Reinhard Friske, Quality Control — Date
Safety, Health and Quality

FERNALD CLOSURE PROJECT

Fluor Fernald, Inc.
P.O. Box 538704
Cincinnati, Ohio 45253-8704

6042

TABLE OF CONTENTS

Page

1.0 Introduction 1-1
1.1 Purpose 1-1
1.2 Scope 1-1
1.3 Variance/Field Change Notice (V/FCN) Documentation 1-1
1.4 Key Personnel 1-2

2.0 Area-Specific Work Remaining Status 2-1
2.1 Waste Pits and General Area 2-1
2.1.1 History 2-1
2.1.2 Predesign 2-1
2.1.3 Excavation Control 2-1
2.1.3.1 ASCOCs 2-1
2.1.3.2 Excavation Types 2-2
2.1.3.3 Locations 2-2
2.1.4 Precertification 2-3

3.0 Instrumentation and Techniques ..... Sec. 3 and 4
3.1 Measurement Instrumentation and Techniques ..... Sec. 3 and 4
3.1.1 Real-Time ..... Sec. 3 and 4
3.1.1.1 Sodium Iodide Data Acquisition (RTRAK, RSS, GATOR, EMS) .. Sec. 3 and 4
3.1.1.2 HPGe Data Acquisition ..... Sec. 3 and 4
3.1.1.3 Excavation Monitoring System ..... Sec. 3 and 4
3.1.1.4 Radon Monitor ..... Sec. 3 and 4
3.1.2 Surface Moisture Measurements ..... Sec. 3 and 4
3.2 Real-Time Measurement Identification ..... Sec. 3 and 4
3.3 Real-Time Data Mapping ..... Sec. 3 and 4
3.4 Real-Time Surveying ..... Sec. 3 and 4

4.0 Predesign ..... Sec. 3 and 4

5.0 Excavation Control Measures ..... Sec. 5 and 6
5.1 Excavation Design Control Requirements ..... Sec. 5 and 6
5.1.1 Contamination Zone ..... Sec. 5 and 6
5.1.2 Floors, Roads, and Foundations ..... Sec. 5 and 6
5.1.3 Real-Time Lift Scans ..... Sec. 5 and 6
5.1.4 Above-WAC Lift Scans ..... Sec. 5 and 6
5.2 Organic Screening and Physical Sampling Requirements ..... Sec. 5 and 6
5.2.1 Above-WAC Photoionization Detector (PID)/Gas Chromatograph (GC) Screening ..... Sec. 5 and 6
5.2.2 All Other Physical Sample Requirements ..... Sec. 5 and 6
5.2.3 PID Screening and Physical Sampling Procedures ..... Sec. 5 and 6
5.2.4 Physical Sample Identification ..... Sec. 5 and 6

6.0 Precertification ..... Sec. 5 and 6
6.1 Initial Precertification NaI Scan at Base of Design Grade ..... Sec. 5 and 6
6.2 Precertification HPGe Measurements in 20 ppm FRL (Uranium) Areas ..... Sec. 5 and 6
6.3 Precertification HPGe Measurements in 82 ppm FRL (Uranium) Areas ..... Sec. 5 and 6
6.4 Delineating Hot Spots Following Precertification HPGe Measurements ..... Sec. 5 and 6

7.0 Quality Assurance/Quality Control Requirements ..... Sec. 7 through 11
7.1 Quality Control Samples - Real-Time Measurements and Physical Samples ..... Sec. 7 through 11
7.2 Data Validation ..... Sec. 7 through 11
7.2.1 Physical Sample Data Validation ..... Sec. 7 through 11
7.2.3 Real-Time Data Verification/Validation ..... Sec. 7 through 11
7.3 Applicable Documents, Methods and Standards ..... Sec. 7 through 11
7.4 Surveillances ..... Sec. 7 through 11
7.5 Implementation and Documentation of Variance/Field Change Notices (V/FCN) ..... Sec. 7 through 11

8.0 Safety and Health ..... Sec. 7 through 11

9.0 Equipment Decontamination ..... Sec. 7 through 11

10.0 Disposition of Wastes ..... Sec. 7 through 11

11.0 Data and Records Management ..... Sec. 7 through 11
11.1 Real-Time ..... Sec. 7 through 11
11.2 Physical Samples ..... Sec. 7 through 11

APPENDICES

Appendix A Variance/Field Change Notices to the Area 6 Waste Pits and General Area Excavation Control and Precertification PSP, Revision A

LIST OF TABLES

Table 1-1 Key Personnel
Table 2-1 Limits for Area 6 Waste Pits and General Area Excavation Control COCs
Table 2-2 Above-WAC Areas and COCs for Area 6 General Area
Table 2-3 Excavation Monitoring/Sampling Requirements for Area 6 Waste Pits and General Area

LIST OF FIGURES

Figure 1-1 Area 6 Waste Pits and General Area
Figure 2-1 Area 6 General Area, Above WAC Areas #1 and #2
Figure 2-2 Area 6 General Area, Above-WAC Areas #4 through #8
Figure 2-3 Area 6 Waste Pits and General Area, Unbound Above-FRL Areas

LIST OF ACRONYMS AND ABBREVIATIONS

ASCOC	area-specific constituent of concern
BSL	Biodenitrification Surge Lagoon
COC	constituent of concern
DOE	U.S. Department of Energy
EMS	Environmental Monitoring System
FACTS	Fernald Analytical Computerized Tracking System
FCP	Fernald Closure Project
FRL	final remediation level
GC	gas chromatograph
HPGe	high-purity germanium (detector)
MDC	minimum detection concentration
mg/kg	milligrams per kilogram
NaI	sodium iodide
OU	Operable Unit
pCi/g	picoCuries per gram
PID	photo ionization detector
ppm	parts per million
PSP	Project Specific Plan
PWID	Project Waste Identification and Disposition
RSS	Radiation Scanning System
RTIMP	Real Time Instrumentation Measurement Program
RTRAK	Real-Time Radiation Tracking System
RWP	Radiological Work Permit
SED	Sitewide Environmental Database
SP	Soil Pile
SWL	Solid Waste Landfill
SWM	Storm Water Management (Pond)
V/FCN	Variance/Field Change Notice
WAC	waste acceptance criteria
WAO	Waste Acceptance Organization
WPRAP	Waste Pits Remedial Action Project

1.0 INTRODUCTION

This Project Specific Plan (PSP) describes the data collection activities necessary to support excavation control and precertification activities within the Area 6 Waste Pits and General Area. This PSP only represents the specific information regarding soils within this area. The general information that is routinely addressed in a PSP can be found in 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation.* While this PSP has section headings similar to a full-length PSP, where the information in the section is identical to the information in the General PSP (20300-PSP-0011), a reference to the General PSP is made and the information is not repeated.

1.1 PURPOSE

The purpose of this PSP is to provide specific direction regarding the excavation control and precertification of soils within the Area 6 Waste Pits and General Area (see Figure 1-1). The Area 6 Waste Pits are a grouping of the six former waste pits (Waste Pits 1 through 6), the former Burn Pit, and the former Clearwell. The General Area represents the Waste Pits Remedial Action Project (WPRAP) Support Area, the WPRAP Process Area, the Biodenitrification Surge Lagoon (BSL), Storm Water Management (SWM) Pond, Soil Stockpile (SP) 7 Footprint, Locomotive Maintenance Building and Railyard, the former Solid Waste Landfill (SWL) Area, and the area west of the Waste Pits (not including Paddys Run). Specific information on reasons to sample, sample location, number of borings, depth intervals, and constituents of concern will be documented according to Section 1.3.

1.2 SCOPE

The area included within the scope of this PSP is the Area 6 Waste Pits and General Area (see Figure 1-1). The area is approximately 86 acres and generally includes the Waste Pit and Operable Unit (OU) 1 process areas, BSL, OU1 railyard, SP-7 above-waste acceptance criteria (WAC) Stockpile Area, former SWL, and a majority of the remaining site railroad system. The schedule for implementation of this PSP began in July 2005. Precertification of this area will begin following successful completion of the excavation control process and prior to certification.

This PSP is not considered a work authorization document (for implementation of fieldwork) per SH-0012, Work Permits. Work authorization documents directing the implementation of fieldwork, per SH-0012, may include applicable Environmental Services procedures, Fluor Fernald work permits, Radiological Work Permits (RWPs), penetration permits, and other applicable permits.

1.3 VARIANCE/FIELD CHANGE NOTICE (V/FCN) DOCUMENTATION

The Variance/Field Change Notice (V/FCN) process is utilized to document the occurrence of two situations. The first is to document a change in protocol occurring when a modification in the

characterization approach is required [e.g., a different decision process for defining the extent of contamination or for verifying that soil is below-WAC or below-final remediation level (FRL) concentrations]. Factors that will be considered under special circumstances include safety of the workers, cost effectiveness, the need for a timely response, and impending weather conditions. This type of V/FCN requires agency approval prior to implementation.

The second situation requiring a V/FCN is to provide documentation of sampling and analytical activities and to provide variable information that is dependent upon field conditions and cannot be specified initially in this PSP. As part of the excavation control process, the collection of physical samples will be documented in applicable field logs and with V/FCNs. Additionally, the Data Group Form, FS-F-5157 will be generated per Procedure EW-1021, Preparation of the Project Waste Identification and Disposition (PWID) Report, following the generation of data from the analysis of physical samples. In this situation the use of this V/FCN form is not used to document a change in the protocol of this PSP, but is used to document sampling and analytical activities in order to demonstrate that these activities are compliant with the protocols of this PSP. Appendix A contains the V/FCNs associated with Revision A of this PSP.

If a V/FCN is required, the Characterization Manager or designee will document the change and requirements through the V/FCN process in accordance with Section 7.5 of the General PSP.

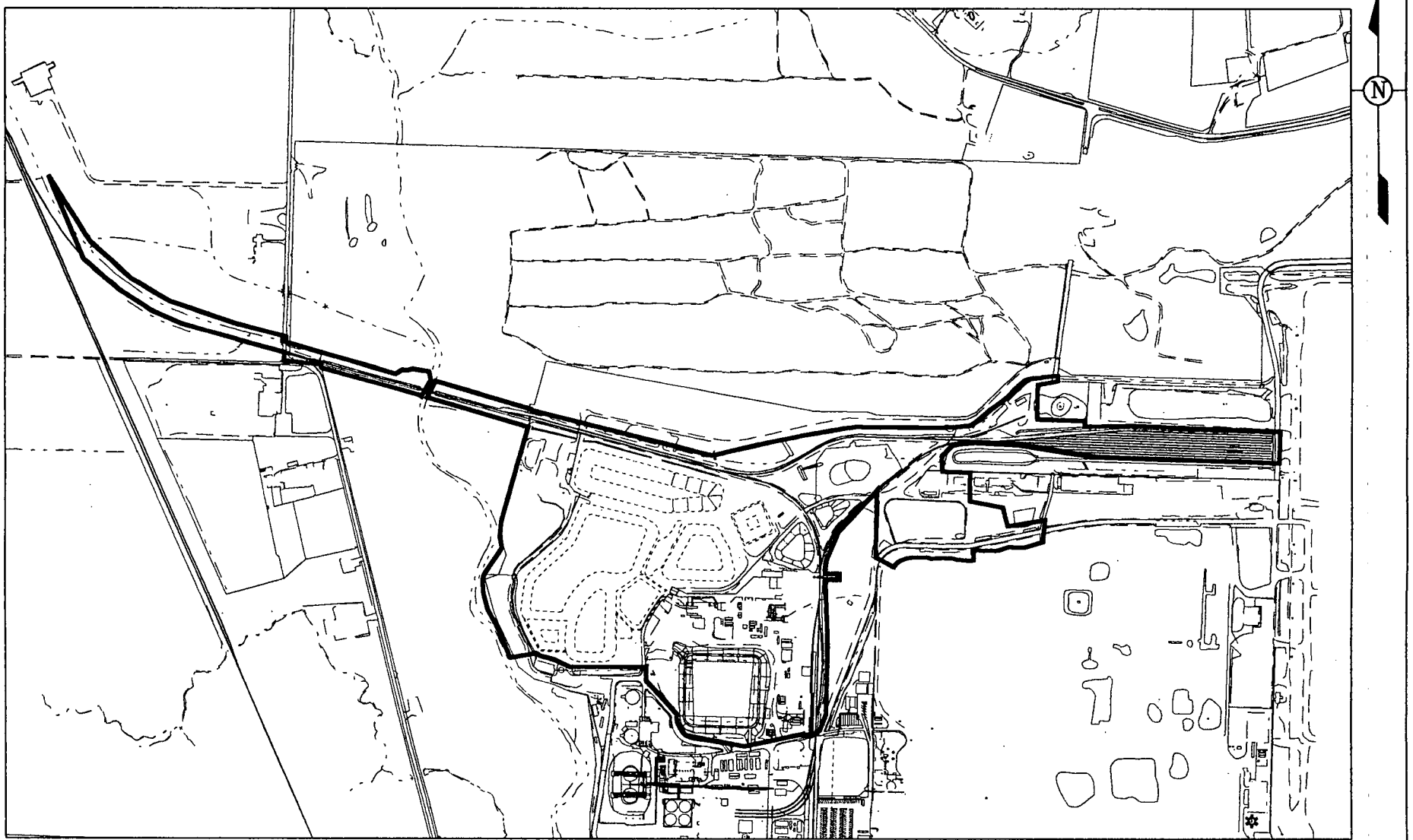
1.4 KEY PERSONNEL

Key project personnel responsible for performance of the project are listed in Table 1-1.

TABLE 1-1
KEY PERSONNEL

Title	Primary	Alternate
Department of Energy (DOE) Contact	Johnny Reising	TBD
Project Manager	Jyh-Dong Chiou	Frank Miller
Characterization Manager	Frank Miller	Krista Flaugh
Area 6 - Lead	Krista Flaugh	Debbie Brennan
RTIMP Manager	Mike Frank	Dale Seiller
Soil Sampling Manager	Tom Buhrlage	Jim Hey
Surveying Manager	Jim Schwing	Andy Clinton/Eric Harman
WAO Contact	Linda Barlow	Pat Shanks
Construction Manager	Bill Zebick	Brian Bearer
Engineering Lead	Tony Snider	Dave Russell
Laboratory Contact	Paul McSwigan	Amy Meyer
Data Validation Contact	Jim Chambers	Baohe Chen
Field Data Validation Contact	Dee Dee Edwards	Jim Chambers
Data Management Lead	Krista Flaugh	Debbie Brennan
Radiological Control Contact	Corey Fabricante	Mike Schneider
FACTS/SED Database Contact	Kym Lockard	Susan Marsh
Quality Control Contact	Reinhard Friske	Darren Wessel
Safety and Health Contact	Gregg Johnson	Pete Bolig

FACTS - Fernald Analytical Computerized Tracking System
RTIMP - Real Time Instrumentation Measurement Program
SED - Sitewide Environmental Database
WAO - Waste Acceptance Organization



LEGEND:

A6 WASTE PITS
GENERAL AREA BOUNDARY

SCALE

800 400 0 800 FEET

v:\02fm12\dgn\a6_gen_flg.dgn
STATE PLANAR COORDINATE SYSTEM 1983

FIGURE 1-1. AREA 6 WASTE PITS GENERAL AREA

27-SEP-2005

2.0 AREA-SPECIFIC WORK REMAINING STATUS

2.1 WASTE PITS AND GENERAL AREA

2.1.1 History

Roughly half of the scope is comprised of Waste Pits, which were established during production and remediated under OU1. The majority of the other half of the scope is the area surrounding the Waste Pits much of which was used in support of treatment of pit material and subsequent transportation of this material. The remaining miscellaneous areas served no major purpose during the history of site operations.

2.1.2 Predesign

Section 2.1.2 is not applicable to this PSP.

2.1.3 Excavation Control

2.1.3.1 ASCOCs

The preliminary list of area-specific constituents of concern (ASCOCs) found in Table 2-7 of the Sitewide Excavation Plan, data from the predesign investigations associated with the Area 6 Waste Pits and General Area, and historical information resulted in the primary and secondary constituents of concern (COCs) presented in Table 2-1.

The data collected in Area 6 Waste Pits and General Area was compared to the On-Site Disposal Facility WAC. There were two constituents found to exceed WAC (technetium-99 and total uranium) in Area 6 General Area during the characterization process. As state in Section 2 of the *Excavation Plan for the Area 6 Waste Pits and General Area*, the above-WAC material in the Area 6 Waste Pits is being removed under the OU1 Remediation. Several COCs were found to exceed the FRL in both the Waste Pits and the General Area during the characterization process. In areas where radiological COCs were identified as above-FRL or above-WAC (except for technetium-99), excavation will be controlled through the use of real time measurement systems. In areas where non-radiological COCs or technetium-99 was identified as above-FRL or above-WAC, physical sampling will control excavation.

The evaluation of the list of preliminary ASCOCs from the previously mentioned PSPs resulted in the following list of COCs for excavation control of the Waste Pits Area. The list of primary COCs is unchanged and will be carried through to certification. Additionally, two secondary COC were identified for the General Area as shown below.

Primary COCs

- Total Uranium
- Radium-226
- Radium-228
- Thorium-228
- Thorium-232

Secondary COCs

- Technetium-99

The above list of COCs will be used to verify that the planned excavation limits are sufficient to capture the above-FRL contamination during excavation. Note that the entire ASCOC list applicable to this area will be re-evaluated during the certification design process to determine which of the ASCOCs will be carried into certification. As always, this evaluation as well as the justification for the retention or elimination of any COC will be presented in the Certification Design Letter for agency review and approval.

2.1.3.2 Excavation Types

The types of excavation identified in the Area 6 Waste Pits and General Area are either above-WAC (driven by total uranium or technetium-99) or above-FRL (driven by total uranium, or thorium-232). There are nine known above-WAC areas in the Area 6 General Area. Several above-FRL areas for Area 6 Waste Pits and General Area were identified (for more information, refer to Section 2 of the Excavation Plan for this area). Therefore, the types of excavation identified for the Area 6 Waste Pits and General Area will be for both above-WAC and above-FRL areas. Real-time scanning for all radiological constituents except technetium-99 will be performed for above-WAC and above-FRL radiological areas per 20300-PSP-0011, Section 5.1. Table 2-1 lists the excavation control COCs and their limits within the Area 6 Waste Pits and General Area. Table 2-3 addresses the excavation monitoring and sampling requirements for this area.

2.1.3.3 Locations

The areas identified as being above-WAC within the Area 6 General Area are summarized in Table 2-2 and illustrated in Figures 2-1 and 2-2. It should be noted that Above-WAC Area 3 has been removed. For more information on this, refer to Section 2 of the Excavation Plan.

There were many constraints for predesign sampling in the Waste Pits and General Areas including field conditions, ongoing operations, existing structures, and protection of the Great Miami Aquifer. Details of the constraints are described in the predesign PSPs. As a result, some of the above-FRL areas are not

completely bound. See Figure 2-3. The intent was to immediately capture the known contamination in order to protect the Great Miami Aquifer. In areas where discrete bounding has not been completed, excavation control with real-time scanning or physical sampling at the proposed design grade for FRL verification will be utilized to demonstrate that the contamination has been removed. If the results of this excavation control scanning or sampling at the designed depth demonstrate above-FRL conditions, additional impacted soil will be removed and real-time scanning or sampling will be completed until below-FRL conditions are reached. The results of all such excavation control samples in the areas that have not been discretely bounded will be submitted to the agencies as they are received for their concurrence that all contamination has been removed. The above-FRL areas that were completely bounded will be controlled through real time monitoring systems, which will be scanning the entire area. Discrete excavation areas are covered in the Excavation Plan

2.1.4 Precertification

Precertification will be performed per 20300-PSP-0011, Section 3.0 and Section 6.0.

TABLE 2-1
LIMITS FOR AREA 6 WASTE PITS AND GENERAL AREA EXCAVATION CONTROL COCs

Primary COCs	WAC	MDC	FRL
Total Uranium	1030 mg/kg	8.2 mg/kg	82 mg/kg
Radium-226	NA	0.17 pCi/g	1.7 pCi/g
Radium-228	NA	0.18 pCi/g	1.8 pCi/g
Thorium-228	NA	0.17 pCi/g	1.7 pCi/g
Thorium-232	NA	0.15 pCi/g	1.5 pCi/g
Secondary COCs	**WAC**	**MDC***	**FRL**
Technetium-99	29.1 pCi/g	2.91 pCi/g	30.0 pCi/g

* Note that when WAC is < FRL, MDC will be based on WAC.

MDC - minimum detectable concentration
mg/kg - milligrams per kilogram
pCi/g - picoCuries per gram

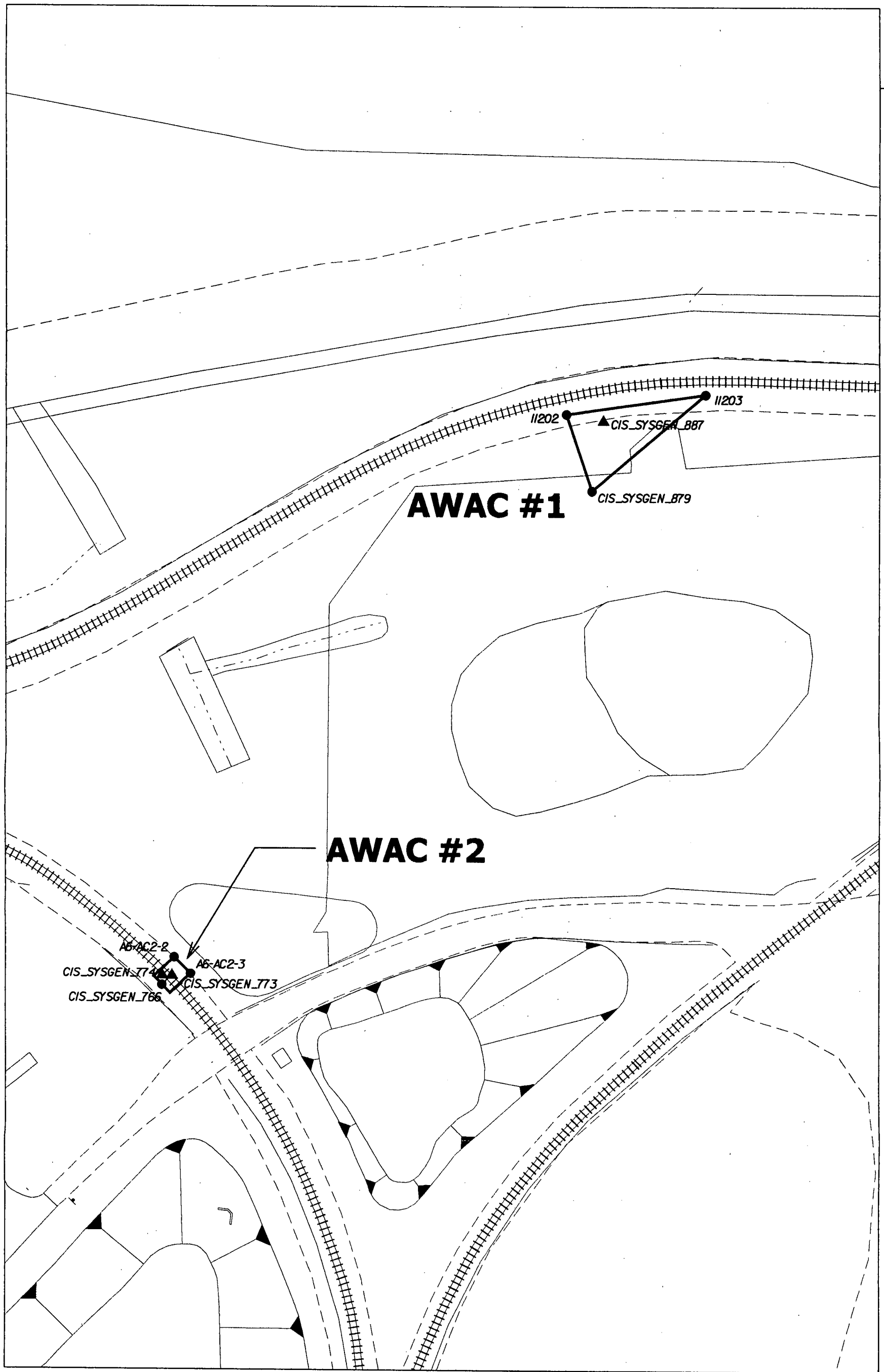
TABLE 2-2
ABOVE-WAC AREAS AND COCs FOR AREA 6 GENERAL AREA

Above-WAC Area	Location	Contaminant Driving Excavation
1	North of the former Solid Waste Landfill	Total Uranium
2	Southwest of the former Solid Waste Landfill	Total Uranium
4	Southwest of the SWM Pond	Technetium-99
5	East of the road Southeast of Waste Pit 4	Total Uranium
6	Northwest of the BSL and South of Waste Pit 4	Total Uranium
7	West of the Material Handling Building	Total Uranium
8	Footprint of the Material Handling Building and Railcar Building	Technetium-99
9	Footprint of SP-7	Total Uranium and Technetium-99
10	Biodenitrification Surge Lagoon	Total Uranium

TABLE 2-3
EXCAVATION MONITORING/SAMPLING REQUIREMENTS FOR AREA 6 WASTE PITS AND GENERAL AREA

Type of Contamination Zone	Types of Samples/Measurements and Data Use		
	Sideslope of Each Excavation Lift	Floor of Each Excavation Lift	Floor/Sideslope at Design Depth for Contamination Zone
Above-FRL Uranium	• NaI for Uranium (WAC)	• NaI for Uranium (WAC)	• NaI for Uranium WAC/FRL*
Above-FRL Thorium-232	• NaI for Thorium-232/ Uranium (WAC)	• NaI for Thorium-232/ Uranium (WAC)	• NaI forThorium-232/ Uranium WAC/FRL*
Above-WAC Uranium	• NaI for Uranium (WAC)	• None	• NaI for Uranium WAC/FRL*
Above-WAC Technetium-99	• NaI for Uranium (WAC) • Physical Sample for Tc-99	• None	• NaI for Uranium WAC/FRL* • Physical Sample for Tc-99

* During sodium iodide (NaI) uranium WAC scan, the data collected will be evaluated later for precertification purposes by reviewing concentrations of thorium-232 and radium-226, as well as thorium-228 and radium-228 based on equilibrium, in comparison to their respective FRLs.



LEGEND:

▲ ABOVE-WAC BORING

● BOUNDING BORING

SCALE

60 30 0 60 FEET

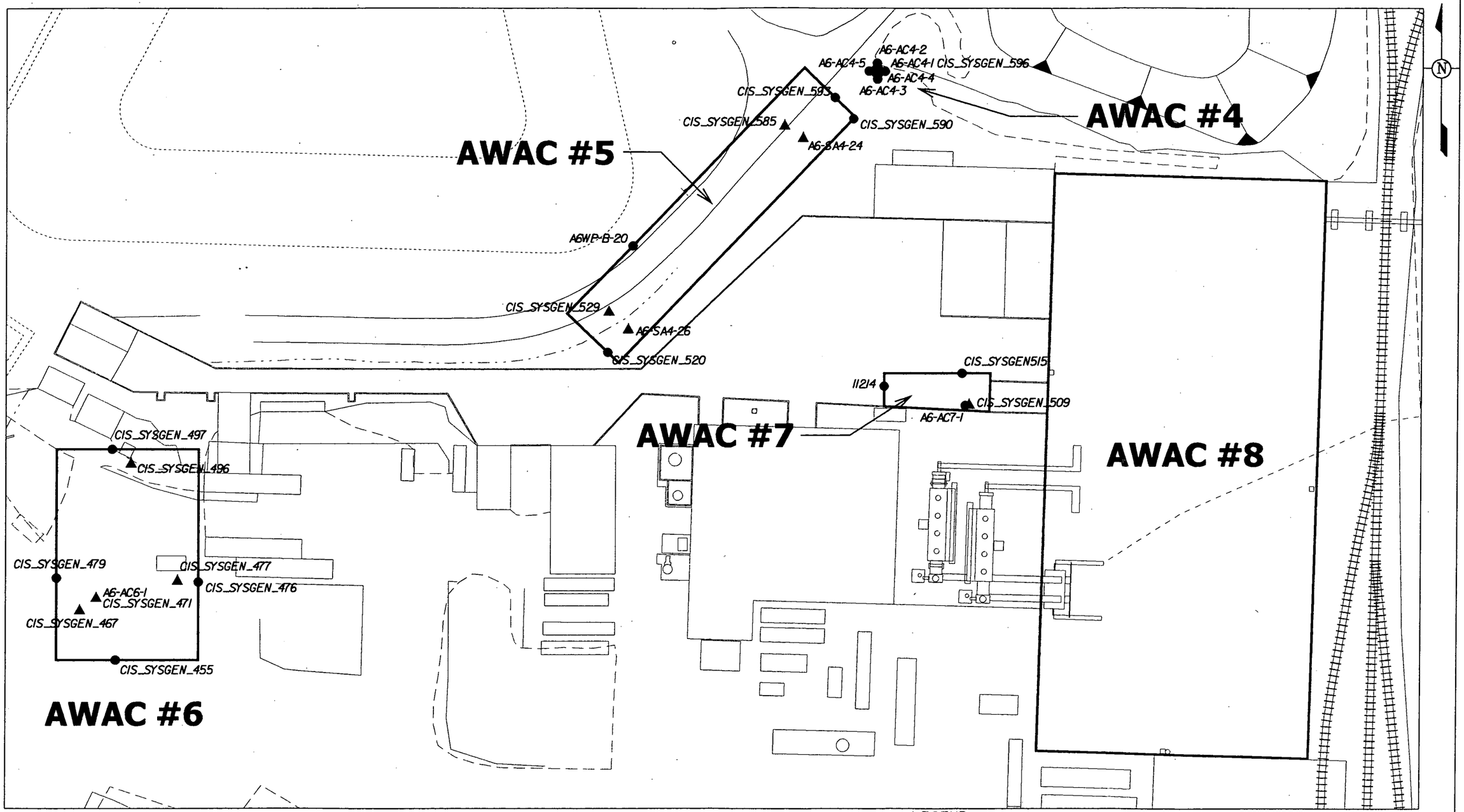
FIGURE 2-1. AREA 6 GENERAL AREA, ABOVE-WAC AREAS #1 AND #2

STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

v:\e2fml2\dgn\ep_avac_2a.dgn

6042



LEGEND:

▲ ABOVE-WAC BORING

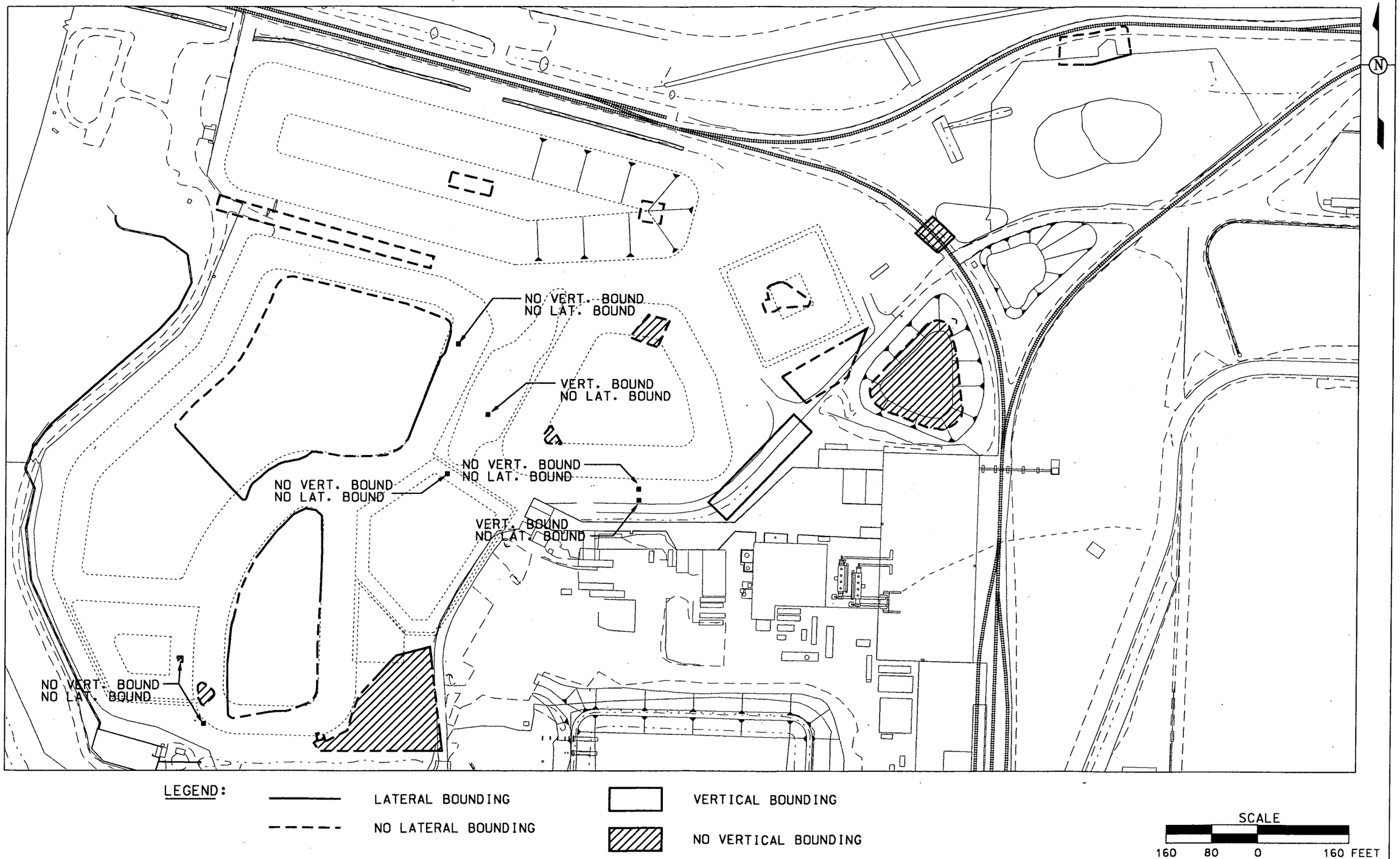
● BOUNDING BORING

SCALE

60 30 0 60 FEET

v:\2fm12\dgn\wp_awac_1a.dgn STATE PLANAR COORDINATE SYSTEM 1983 27-SEP-2005

FIGURE 2-2. AREA 6 GENERAL AREA, ABOVE-WAC AREAS #4 THROUGH #8



v:\42fm12\dgn\wp_fr1_003.dgn STATE PLANAR COORDINATE SYSTEM 1983 05-OCT-2005

FIGURE 2-3. AREA 6 WASTE PITS AND GENERAL AREA, UNBOUND ABOVE-FRL AREAS

3.0 INSTRUMENTATION AND TECHNIQUES

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for each of the following sections:

3.1 MEASUREMENT INSTRUMENTATION AND TECHNIQUES

3.1.1 Real-Time

3.1.1.1 Sodium Iodide Data Acquisition (RTRAK, RSS, GATOR, EMS)

3.1.1.2 HPGe Data Acquisition

3.1.1.3 Excavation Monitoring System

3.1.1.4 Radon Monitor

3.1.2 Surface Moisture Measurements

3.2 REAL-TIME MEASUREMENT IDENTIFICATION

3.3 REAL-TIME DATA MAPPING

3.4 REAL-TIME SURVEYING

4.0 PREDESIGN

Section 4 is not applicable to this PSP.

5.0 EXCAVATION CONTROL MEASURES

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for each of the following sections:

5.1 EXCAVATION DESIGN CONTROL REQUIREMENTS
5.1.1 Contamination Zone
5.1.2 Floors, Roads and Foundations
5.1.3 Real-Time Lift Scans
5.1.4 Above-WAC Lift Scans
5.2 ORGANIC SCREENING AND PHYSICAL SAMPLING REQUIREMENTS
5.2.1 Above-WAC Photoionization Detector (PID)/Gas Chromatograph (GC) Screening
5.2.2 All Other Physical Sample Requirements
5.2.3 PID Screening and Physical Sampling Procedures
5.2.4 Physical Sample Identification

6.0 PRECERTIFICATION

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for each of the following sections:

6.1 INITIAL PRECERTIFICATION NaI SCAN AT BASE OF DESIGN GRADE
6.2 PRECERTIFICATION HPGE MEASUREMENTS IN 20 PPM FRL (URANIUM) AREAS
6.3 PRECERTIFICATION HPGE MEASUREMENTS IN 82 PPM FRL (URANIUM) AREAS
6.4 DELINEATING HOT SPOTS FOLLOWING PRECERTIFICATION HPGE MEASUREMENTS

7.0 QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for each of the following sections:

7.1 QUALITY CONTROL SAMPLES - REAL-TIME MEASUREMENTS AND PHYSICAL SAMPLES
7.2 DATA VALIDATION
7.2.1 Physical Sample Data Validation
7.2.2 Real-Time Data Verification/Validation
7.3 APPLICABLE DOCUMENTS, METHODS AND STANDARDS
7.4 SURVEILLANCES
7.5 IMPLEMENTATION AND DOCUMENTATION OF VARIANCE/ FIELD CHANGE NOTICES

8.0 SAFETY AND HEALTH

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for this section.

9.0 EQUIPMENT DECONTAMINATION

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for this section.

10.0 DISPOSITION OF WASTES

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for this section.

11.0 DATA AND RECORDS MANAGEMENT

Reference the corresponding section of 20300-PSP-0011, *Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation* for each of the following sections:

11.1 REAL-TIME
11.2 PHYSICAL SAMPLES

6042

APPENDIX A

VARIANCE/FIELD CHANGE NOTICES FOR THE AREA 6 WASTE PITS AND GENERAL AREA EXCAVATION CONTROL AND PRECERTIFICATION PSP, REVISION A

VARIANCE/FIELD CHANGE NOTICE LOG FOR PROJECT SPECIFIC PLAN FOR THE EXCAVATION CONTROL AND PRECERTIFICATION OF AREA 6 WASTE PITS AND GENERAL AREA (SUPPLEMENT TO 20300-PSP-0011)

Variance No.	Variance Date	Variance Description	Significant? (Y or N)	Date Signed	Date Distributed	EPA/OEPA Approval
20600-PSP-0016-1	7/20/05	Documents the collection of two water samples for total uranium from Area 6 Solid Waste Landfill	N	8/2/05	10/6/05	N/A
20600-PSP-0016-2	7/28/05	Variance to sample BSL	N	8/3/05	10/6/05	N/A
20600-PSP-0016-3	8/1/05	Variance to change required analytes from V/FCN 20600-PSP-0016-2 to Envirocare WAC analytes	N	8/5/05	10/6/05	N/A
20600-PSP-0016-4	8/1/05	Variance to amend V/FCN 20600-PSP-0016-22 to sample only 16 of the borings for the full analyte list from the variance	N	8/5/05	10/6/05	N/A
20600-PSP-0016-5	8/1/05	Variance to sample excavated AWAC areas in the BSL	N	8/5/05	10/6/05	N/A
20600-PSP-0016-6	8/5/05	Variance to further sample excavated AWAC areas in the BSL	N	8/9/05	10/6/05	N/A
20600-PSP-0016-7	8/5/05	Variance to sample soil in the southern half and the western side of the BSL	N	8/9/05	10/6/05	N/A
20600-PSP-0016-8	8/9/05	Variance to sample shallow trenches in the sand layer on the northern end of the BSL	N	8/15/05	10/6/05	N/A
20600-PSP-0016-9	8/10/05	Variance to sample excavated AWAC area in the southern half of the BSL	N	8/18/05	10/6/05	N/A
20600-PSP-0016-10		CANCELLED		N/A	N/A	N/A
20600-PSP-0016-11		CANCELLED		N/A	N/A	N/A
20600-PSP-0016-12	8/12/05	Variance to sample water from outside of the northeast corner of the BSL	N	8/23/05	10/6/05	N/A
20600-PSP-0016-13	8/12/05	Variance to sample soil in the northern half of the BSL	N	8/23/05	10/6/05	N/A
20600-PSP-0016-14	8/16/05	Documents the collection of two water samples from the SWM Pond.	N	8/25/05	10/6/05	N/A
20600-PSP-0016-15	8/16/05	Variance to sample the top and outside slopes of the berms of the BSL	N	8/23/05	10/6/05	N/A
20600-PSP-0016-16	8/17/05	Variance to sample the bottom of the trenches created during the removal of drainage pipes in the BSL	N	8/31/05	10/6/05	N/A
20600-PSP-0016-17	8/24/05	Variance to collect 2 samples from the BSL in a former pipe staging area.	N	8/31/05	10/6/05	N/A
20600-PSP-0016-18	8/29/05	Variance to collect additional samples from the entire BSL	N	8/31/05	10/6/05	N/A

6042

Variance No.	Variance Date	Variance Description	Significant? (Y or N)	Date Signed	Date Distributed	EPA/OEPA Approval
20600-PSP-0016-19	9/13/05	Documents the collection of radium-226 samples from Waste Pit 3 to compare the results from a 14- day in-growth period and standard in-growth period for analysis by gamma spectroscopy.	N	9/22/05	10/6/05	N/A
20600-PSP-0016-20	9/14/05	Documents counting the samples that were collected in V/FCN 20600-PSP-0016-19 for radium-226 after a 7 day in-growth period.	N	9/22/05	10/6/05	N/A
20600-PSP-0016-21	9/15/05	Documents the collection of grab soil samples for technetium-99 analysis in the Railcar Loadout Building to confirm/verify the removal of AWAC Technetium-99 contaminated material identified at boring A6-SA4-12.	N	9/28/05	10/6/05	N/A
20600-PSP-0016-22	9/20/05	Documents the collection of soil samples in the southern end of the BSL to confirm removal of radium-226 contamination from the berm.	N	9/29/05	10/6/05	N/A
20600-PSP-0016-23	9/27/05	Documents the collection of physical samples and real time scanning for precertification of trenches created while removing utility lines.	N	10/4/05	10/6/05	N/A
20600-PSP-0016-24	9/29/05	Documents the collection of water from a discovered pipe in the southern portion of the BSL.	N	10/5/05	10/6/05	N/A
20600-PSP-0016-25	10/3/05	Documents the resampling of VOAs from V/FCN 20600-PSP-0016-23.	N	10/5/05	10/6/05	N/A

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-01
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 2
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 07/20/05 60 A 2

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of two water samples for total uranium analysis from the Solid Waste Landfill in Area 6.

The sample will be submitted to the FCP AWWT Laboratory for analysis by KPA. The samples are to be analyzed as both unfiltered and filtered. AWWT laboratory personnel will filter the sample. See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

The sample IDs will be A6-SWL-W-N-1^R and A6-SWL-W-S-1^R

Where:
A6 = Area 6
SWL = Solid Waste Landfill
W = water
N = north; S = south
1, 2, 3, etc = Consecutive Sample Numbers (Locations)
R = total uranium

Surveying required: No
Field QC samples required: No
Field validation required: Yes
Analytical data validation required: No
Data package required: No

Justification:
The water in the Solid Waste Landfill is being tested to determine proper disposition of the water. Per Section 1.3 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Greg Lupton Date: 07/20/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Franke	8-1-05	X	PROJECT MANAGER: J.D. Chiou	7/20/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	7/20/05
X	ANALYTICAL CUSTOMER SUPPORT: Heather Medley	8/2/05		RTIMP Manager	
	WAO		X	SAMPLING MANAGER: T. Buhlage	7/26/05

VARIANCE/FCN APPROVED [X]YES [ ]NO | REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	MDL (Water)
Total Uranium	3 ppb

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Sample Volume/Mass
TAL A	Water	AWWT (Onsite)	B	6 hr	None	6 months	120 mL

* This TAT signifies when the data is due back to the project. (Irrespective of data entry into the database.)

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-02
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 3
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 07/28/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil (sand) samples from the northern half of the BSL. This area is approximately 300' by 150'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

The floor will be divided into a 40' X 40' grid and one location will be sampled in each block. Therefore, approximately 30 samples will be collected from this area.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

Each sample location shall have 2 samples collected – 1 for metals and radionuclides and 1 for /PestPCBs. Therefore, the first sample location shall have 2 Sample IDs (A6E-BSL-S-1^RM and A6E-BSL-S-1^P) and each additional sample ID will be sequentially numbered (e.g. the second sample location Sample IDs are A6E-BSL-S-2^RM and A6E-BSL-S-2^P). One rinsate sample (Sample ID = A6E-BSL-S^X) will be collected with these samples. Where:

A6E = Area 6 Excavation
BSL = Biodenitrification Surge Lagoon
S = sand
1, 2, 3, etc = Consecutive Sample Numbers (Locations)
R = radionuclides
M = metals
P = PCBs
X = Rinsate

releases - 1-33641
2
4
sampled 7/28/05

Surveying required: Yes – the samplers will survey these locations
Field QC samples required: Yes – see above and Attachment 1
Field validation required: Yes
Analytical data validation required: Yes – VSL D if analyses completed
Data package required: COAs for Tc-99, All others full data package if necessary or if analyses completed - 14 day TAT for non-radiological analytes, 30 day TAT for all non-Tc-99 radiological analytes.
Historical data for shipping of the samples to be collected is 1260 mg/kg total uranium from boring A6-BSL-1.

BEGIN WITH TC-99 ANALYSIS AND CAP SAMPLES FOR RADIUM-226 IN GROWTH.
DO NOT START ANY OTHER ANALYSIS UNTIL THE TC-99 DATA IS REVIEWED AND APPROVAL IS GIVEN BY THE PROJECT .

Justification:
This material (sand) is beneath a liner, which was intended to separate the sludge from the sand base, therefore these samples are being collected and real-time scanning is being performed to verify that the liner maintained its integrity.

REQUESTED BY: Krista Flaugh Date: 07/28/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske	7/28/05	X	PROJECT MANAGER: J.D. Chiou	7/28/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	7/28/05
X	ANALYTICAL CUSTOMER SUPPORT: Heather Medley	8/2/05		RTIMP Manager	
X	WAO: Scott Osborn	8/3/05	X	SAMPLING MANAGER: T. Buhrlage	8/2/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	~~3 ppb~~ 300ug/L

TAL 20600-PSP-0016-B

Component	FRL	MDL (Soil)	MDL (Water)
Radium-226	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Radium-228	1.8 pCi/g	0.18 pCi/g	50.0 pCi/L
Thoriuim-228	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Thorium-232	1.5 pCi/g	0.15 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-C

Component	FRL	MDL (Soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

TAL 20600-PSP-0016-E

Component	FRL	MDL (Soil)
Arsenic	12 mg/kg	1.2 mg/kg
Beryllium	1.5 mg/kg	0.15 mg/kg
Lead	400.0 mg/kg	40.0 mg/kg
Mercury	7.5 mg/kg	0.75 mg/kg

TAL 20600-PSP-0016-F

Component	FRL	MDL (Soil)*	MDL (Water)
Cesium-137	1.4 pCi/g	0.14 pCi/g	50.0 pCi/L

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT*	Preservative	Holding Time	Container[b]	Sample Volume/Mass[c]
Rads TAL D	Soil	LSC	B	48 hr.	Cool, 4°C	12 months	Glass or plastic with Teflon-lined lid	500 g
Rads TALs A/B/F		Gamma or Alpha Spec	D/E[a]	30 days				
Metals TAL E		ICP-AES/MS	D/E[a]	14 days		6 months		
Pest/PCBs TAL C	Soil	GC	D/E[a]	14 days	Cool, 4°C	14 days	Glass with Teflon-lined lid	200 g
Rads TALs A/B/D/F	Water (rinsate)	Gamma or Alpha Spec	D/E[a]	30 days	HNO3, pH<2	6 months	Appropriately sized glass or plastic	4 L

[a] Samples will be analyzed according to ASL D requirements (except for Tc-99) but the minimum detection level may cause some analyses to be considered ASL E.

[b] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[c] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at two locations in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

[d] If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

6042

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-03
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 2
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/1/05

6 of 12

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL

This Variance/Field Change Notice (V/FCN) documents amendment of the analyte list requested for 3 of the samples collected in V/FCN 20600-PSP-0016-2. The 3 samples of concern have already been delivered to an off-site laboratory facility and results of Tc-99 are above the OSDF WAC. Therefore, this above-WAC soil(sand) needs to be characterized for Envirocare WAC compliance.

The 3 samples of concern are as follows: A6E-BSL-S-15^RM, A6E-BSL-S-25^RM, and A6E-BSL-S-32^RM.

Each of the 3 samples will be analyzed for the following analyses: radiological, total metals, and pH (TAL G). Radium-226 will be analyzed by Radon Emanation.

See Attachment 1 for the TAL.

changes to 3 samples from 1-33641 T2

Surveying required: NA
Field QC samples required: NA
Field validation required: NA
Analytical data validation required: Yes – VSL B
Data package required: Full data deliverable – 10 day TAT.
Historical data for shipping of the samples to be collected is 1260 mg/kg total uranium from boring A6-BSL-1.

Justification:
These above-WAC soil (sand) samples are being characterized to ensure they meet the Envirocare WAC prior to being moved to SP-7.

REQUESTED BY: Debbie Brennan Date: 8/1/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske	8-1-05	X	PROJECT MANAGER: J.D. Chiou	8/5/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/1/05
X	ANALYTICAL CUSTOMER SUPPORT: Heather Hedley	8/2/05		RTIMP Manager	
X	WAS: Patrick Shanks	8/4/05		SAMPLING MANAGER: T. Buhrlage	8/2/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0014-G
(ASL B)

Analyte	MDL (soil)
Percent Moisture	Per Radiological Method
Total Uranium	8.2 mg/kg
Uranium-235	Best Achievable (pCi/g)
Uranium-238	Best Achievable (pCi/g)
Thorium-230	100 pCi/g
Thorium-232	1.0 pCi/g
Radium-226	1.0 pCi/g
Radium-228	1.0pCi/g
Cesium-137	1.0pCi/g
Technetium-99	2.9 pCi/g
Americium-241	8.5 pCi/g
Neptunium-237	8.5 pCi/g
Potassium-40	3.4 pCi/g
Total Arsenic	10 mg/kg
Total Barium	200 mg/kg
Total Cadmium	2.0 mg/kg
Total Chromium	10.0 mg/kg
Total Lead	10.0 mg/kg
Total Mercury	0.4 mg/kg
Total Selenium	2.0 mg/kg
Total Silver	10.0 mg/kg
Total Zinc	20 mg/kg
PH	NA

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-04
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 1
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/1/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL

This Variance/Field Change Notice (V/FCN) documents the request for analysis of the samples collected under V/FCN 20600-PSP-0016-02.

At this time the following boring locations will be analyzed for the analytes listed on Attachment 1 of V/FCN 20600-PSP-0016-02 (TALs A, B, C, D, E, and F) . This represents half of the samples that were below-WAC for Tc-99.

A6E-BSL-S-1	A6E-BSL-S-9	A6E-BSL-S-19	A6E-BSL-S-29
A6E-BSL-S-3	A6E-BSL-S-11	A6E-BSL-S-21	A6E-BSL-S-31
A6E-BSL-S-5	A6E-BSL-S-13	A6E-BSL-S-23	A6E-BSL-S-33
A6E-BSL-S-7	A6E-BSL-S-17	A6E-BSL-S-27	A6E-BSL-S-35

NOTE: Borings A6E-BSL-S-15 and A6E-BSL-S-25 and A6E-BSL-S-32 are not to be analyzed for these analytes.

DHD 8/17/05

Surveying required: NA
Field QC samples required: NA
Field validation required: NA
Analytical data validation required: Yes – VSL D for completed analyses
Data package required: Full data package for completed analyses - 14 day TAT for non-radiological analytes, 30 day TAT for radiological analytes.

Justification:

V/FCN 20600-PSP-0016-02 specified that the analyses would begin upon approval by the project. This is that approval.

REQUESTED BY: Debbie Brennan Date: 8/1/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske	8-5-05	X	PROJECT MANAGER: J.D. Chiou	8/5/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/1/05
X	ANALYTICAL CUSTOMER SUPPORT:	8/2/05		RTIMP Manager	
X	WAO	8/4/05	X	SAMPLING MANAGER: T. Buhlage	8/2/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-05
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 5
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/1/05

60 48

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil (sand) samples from the northern half of the BSL.

Previously identified above-WAC locations (A6E-BSL-S-15, A6E-BSL-S-25, and A6E-BSL-S-32) have been excavated and physical samples are to be collected for technetium-99 to confirm removal of the above-WAC soil(sand). The confirmation samples are to be collected at the location of the previously sampled location (see Figure 1).

Bounding borings are to be placed 3 feet from the confirmation boring in each of the four cardinal directions.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

Each previously sampled boring location shall have 2 samples collected – 1 for metals and radionuclides and 1 for /PestPCBs. Therefore, the first location shall have 2 Sample IDs (A6E-BSL-S-15A^RM and A6E-BSL-S-15A^P) with an "A" suffix to denote that it is the 2nd sampling event in that location (e.g. the second sample location Sample IDs are A6E-BSL-S-25A^RM and A6E-BSL-S-25A^P).

Each bounding boring location shall have one sample collected – 1 for Tc-99 only. Therefore, the first Sample ID shall be A6E-BSL-S-36^R and thereafter be consecutively numbered (ex. The second bounding boring location will be called A6E-BSL-S-37^R).

One rinsate sample (Sample ID = A6E-BSL-S2-X) will be collected with these samples.

Where:

A6E = Area 6 Excavation
BSL = Biodenitrification Surge Lagoon
S = sand
15A etc = Sample Numbers (Locations) with "A" indicating that this is the 2nd sampling event in this location.
36, 37, etc. = Consecutive Sample Locations
R = radionuclides
M = metals
P = PCBs
X = Rinsate

Surveying required: Yes – the samplers will survey these locations
Field QC samples required: Yes – see above and Attachment 1
Field validation required: Yes
Analytical data validation required: Yes – VSL D if analyses completed
Data package required: COAs for Tc-99, All others full data package if necessary or if analyses completed - 14 day TAT for non-radiological analytes, 30 day TAT for all non-Tc-99 radiological analytes.
Historical data for shipping of the samples to be collected is 1260 mg/kg total uranium from boring A6-BSL-1.

BEGIN WITH TC-99. DO NOT START ANY OTHER ANALYSIS UNTIL THE TC-99 DATA IS REVIEWED AND APPROVAL IS GIVEN BY THE PROJECT.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-05
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 2 of 5
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/1/05

Justification:

These three samples from beneath the liner, was found to be above-FRL for Tc-99. Therefore additional samples were needed to show that all contamination was removed through excavation.

REQUESTED BY: Debbie Brennan Date: 8/1/05

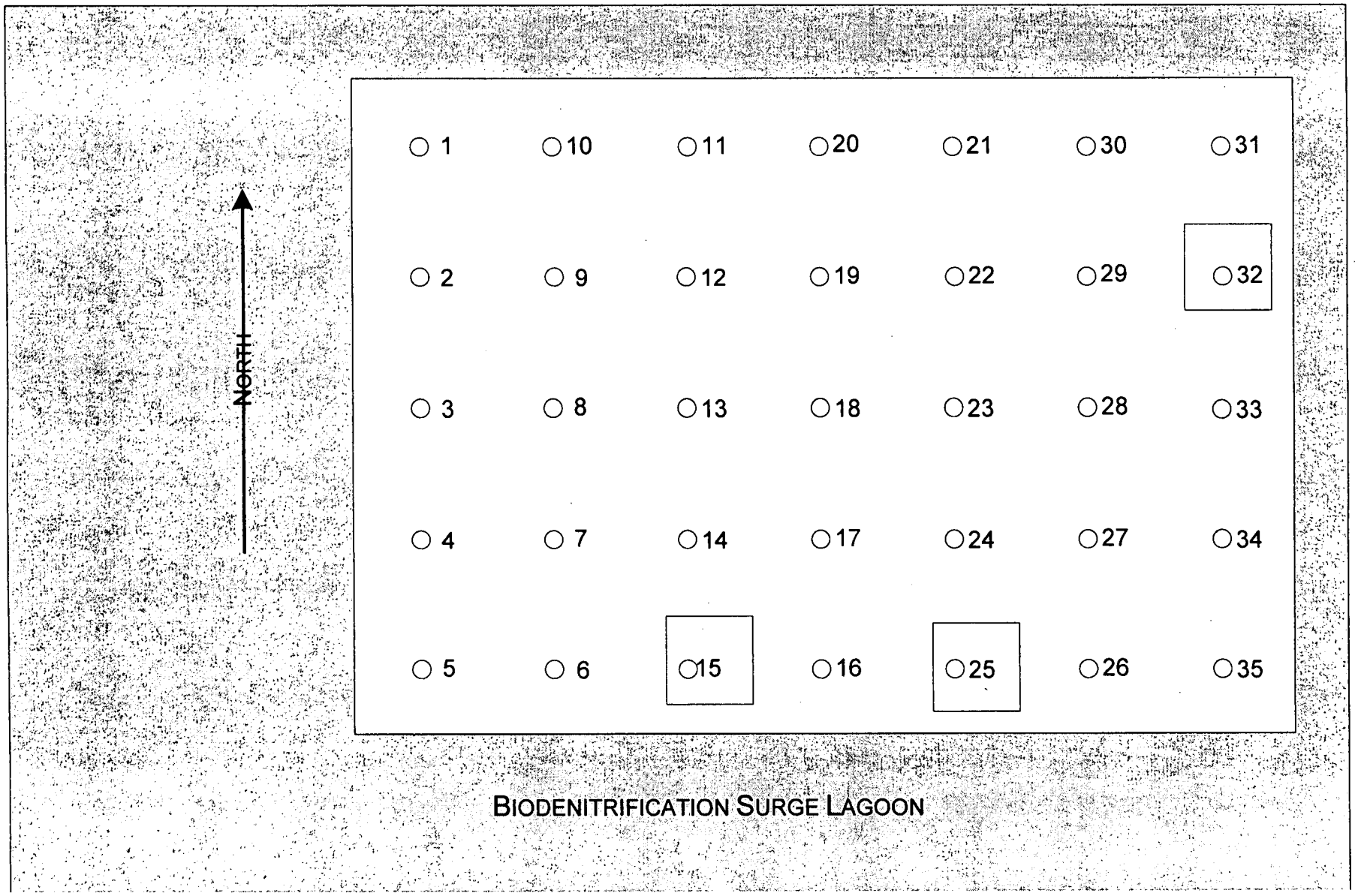
X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske Dan Wessel	8-5-05	X	PROJECT MANAGER: J.D. Chia	8/5/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/2/05
X	ANALYTICAL CUSTOMER SUPPORT: Heather Medley	8/2/05		RTIMP Manager	
X	WKO Patrick Shaba	8/4/05	X	SAMPLING MANAGER: T. Buhrlage Tom Buhrlage	8/2/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

EXCAVATION CONTROL AND PRECERTIFICATION OF THE AREA 6 WASTE PITS AND GENERAL AREA
VARIANCE 20600-PSP-0016-05
NORTHERN HALF OF THE BIODENITRIFICATION SURGE LAGOON
FIGURE 1



6042

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	3 ppb

TAL 20600-PSP-0016-B

Component	FRL	MDL (Soil)	MDL (Water)
Radium-226	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Radium-228	1.8 pCi/g	0.18 pCi/g	50.0 pCi/L
Thoriuim-228	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Thorium-232	1.5 pCi/g	0.15 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-C

Component	FRL	MDL (Soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

TAL 20600-PSP-0016-E

Component	FRL	MDL (Soil)
Arsenic	12 mg/kg	1.2 mg/kg
Beryllium	1.5 mg/kg	0.15 mg/kg
Mercury	7.5 mg/kg	0.75 mg/kg

TAL 20600-PSP-0016-F

Component	FRL	MDL (Soil)*	MDL (Water)
Cesium-137	1.4 pCi/g	0.14 pCi/g	50.0 pCi/L

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT*	Preservative	Holding Time	Container[b]	Sample Volume/Mass[c]
Rads TAL D	Soil	LSC	B	48 hr.	Cool, 4°C	12 months	Glass or plastic with Teflon-lined lid	500 g
Rads TALs A/B/F		Gamma or Alpha Spec	D/E[a]	30 days				
Metals TAL E		ICP-AES/MS	D/E[a]	14 days		6 months		
Pest/PCBs TAL C	Soil	GC	D/E[a]	14 days	Cool, 4°C	14 days	Glass with Teflon-lined lid	200 g
Rads TALs A/B/D/F	Water (rinsate)	Gamma or Alpha Spec	D/E[a]	30 days	HNO3, pH<2	6 months	Appropriately sized glass or plastic	4 L
Rads TAL D	Soil	LSC	B	48 hr.	Cool, 4°C	12 months	Appropriately sized glass or plastic	50 g

[a] Samples will be analyzed according to ASL D requirements (except for Tc-99) but the minimum detection level may cause some analyses to be considered ASL E.

[b] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[c] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at two locations in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

[d] If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-06
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: / of 4
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/5/05

60.42

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of surface soil (sand) samples from the northern half of the BSL in an effort to delineate above-WAC technetium-99 discovered at locations A6E-BSL-S-36, A6E-BSL-S-39, and A6E-BSL-S-46(from V/FCN 20600-PSP-0016-05). Figure 1 provides a general drawing of the approximate area that is to be sampled. Coordinate with the Construction Lead and or WAO representative for the exact location of the area.

Bounding borings are to be placed approximately 3 feet (or at the sidewall) from the confirmation.

1 boring will be collected south of A6E-BSL-S-46.
1 boring will be collected west of A6E-BSL-S-39.
1 boring will be collected north of A6E-BSL-S-36.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

Each previously sampled boring location shall have 1 sample collected for Tc-99. Therefore, the first location shall have Sample ID A6E-BSL-S-36A^R with an "A" suffix to denote that it is the 2nd sampling event in that location (e.g. the second sample location Sample ID is A6E-BSL-S-39A^R).

Each bounding boring location shall have one sample collected for Tc-99. Therefore, the first Sample ID shall be A6E-BSL-S-48^R and thereafter be consecutively numbered (ex. The second bounding boring location will be called A6E-BSL-S-49^R).

One rinsate sample (Sample ID = A6E-BSL-S3-X) will be collected with these samples.

Where:

A6E = Area 6 Excavation
BSL = Biodenitrification Surge Lagoon
S = sand
36A etc = Sample Numbers (Locations) with "A" indicating that this is the 2nd sampling event in this location.
48, 49, etc. = Consecutive Sample Locations
R = radionuclides
X = Rinsate

Surveying required: Yes – the samplers will survey these locations
Field QC samples required: Yes – see above and Attachment 1
Field validation required: Yes
Analytical data validation required: No
Data package required: Results only for Tc-99

Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-06
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 2 of 4
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/5/05

Justification:

These three samples from beneath the liner, were found to be above-FRL for Tc-99. Therefore additional samples were needed to show that all contamination was removed through excavation.

REQUESTED BY: Debbie Brennan Date: 8/5/05

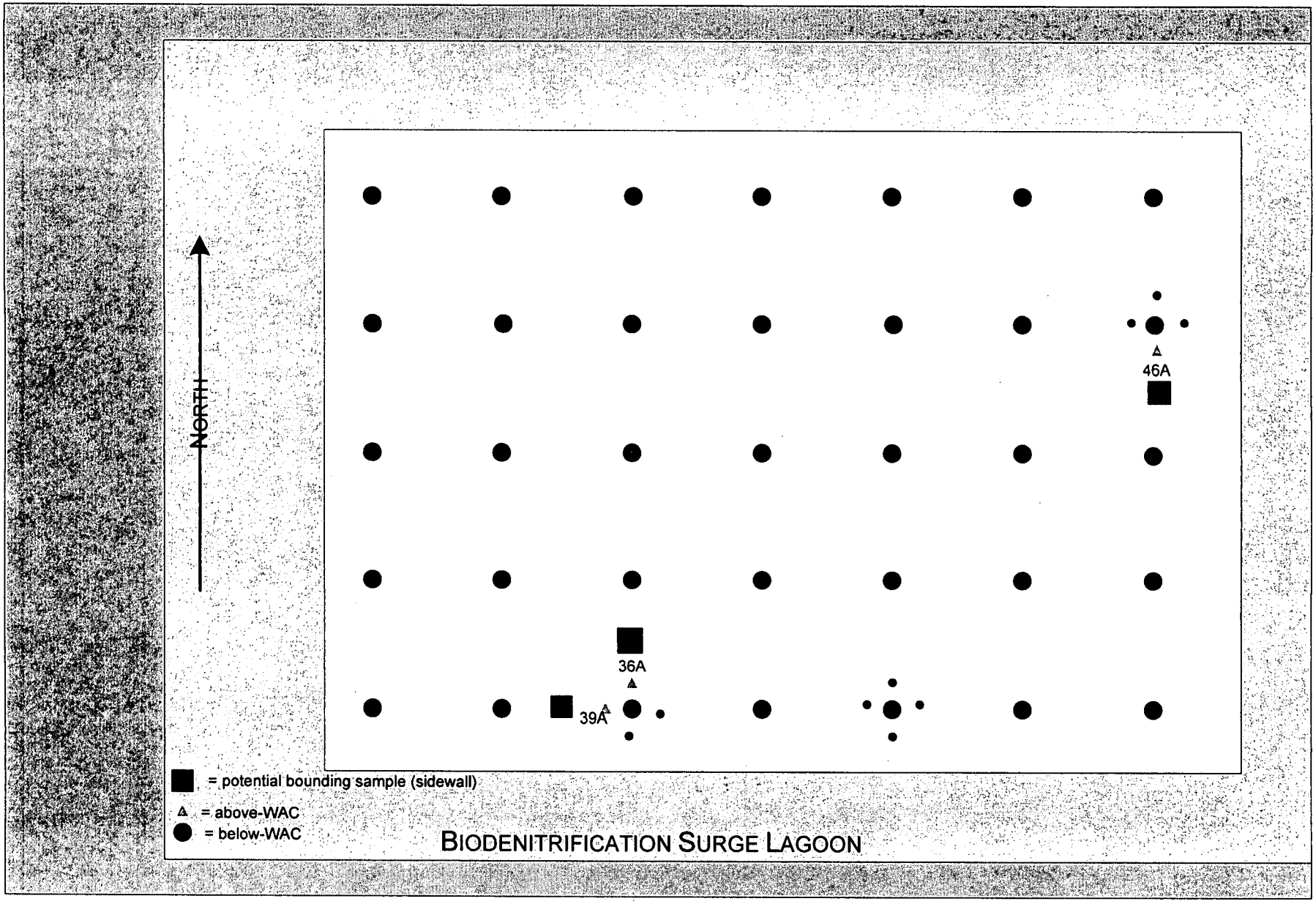
X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske	8.9.05	X	PROJECT MANAGER: J.D. Crane for J.D.	5 Aug 05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/5/05
X	ANALYTICAL CUSTOMER SUPPORT: Martha McCoy	8/9/05		RTIMP Manager	
X	WAO	08/08/05	X	SAMPLING MANAGER: T. Bohrnage	8/8/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

EXCAVATION CONTROL AND PRECERTIFICATION OF THE AREA 6 WASTE PITS AND GENERAL AREA
VARIANCE 20600-PSP-0016-06



3 of 4

6042

ATTACHMENT 1

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT	Preservative	Holding Time	Container[a]	Sample Volume/Mass[b]
Rads TAL D	Soil	LSC	B	48 hr.	None	12 months	Appropriately sized glass or plastic	50 g

[a] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[b] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at two locations in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-07
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 5
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/5/05

60.42

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples from the southern half of the BSL and the western portion of the northern half of the BSL. These areas are approximately 300' by 225' and 75' by 150', respectively. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

The floor and the sidewalls will be divided into a 50' X 50' grid and one location will be sampled in each block. When sampling on the sidewalls alternate the samples high and low along the sidewall. Approximately 50 samples are expected to be collected from this area. See Figure 1 for the approximate area to be covered.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

All odd numbered boring locations (ex. boring locations A6E-SBSL-S-1, A6E-SBSL-S-3, A6E-SBSL-S-5, etc.) shall have 2 bottles collected – 1 for metals and radionuclides and 1 for Pest/PCBs. Therefore, the first sample location shall have 2 Sample IDs (A6E-SBSL-S-1^RM and A6E-SBSL-S-1^P). All evenly numbered sample locations (ex. Boring locations A6E-SBSL-S-2, A6E-SBSL-S-4, A6E-SBSL-S-6, etc.) shall have 1 bottle collected for Tc-99 (e.g. the second sample location Sample ID will be A6E-SBSL-S-2^R). One rinsate sample (Sample ID = A6E-SBSL-S^X) will be collected with these samples.

Where:

A6E = Area 6 Excavation
SBSL = Southern half of the Biodenitrification Surge Lagoon
S = sand
1, 2, 3, etc = Consecutive Sample Numbers (Locations)
R = radionuclides
M = metals
P = PCBs
X = Rinsate

Surveying required: Yes – surveying
Field QC samples required: Yes – see above and Attachment 1
Field validation required: Yes
Analytical data validation required: Yes – VSL D if analyses completed on odd numbered sample locations
Data package required: COAs for Tc-99, All others full data package if necessary or if analyses completed - 14 day TAT for non-radiological analytes, 30 day TAT for all non-Tc-99 radiological analytes.
Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

BEGIN WITH TC-99 ANALYSIS AND CAP SAMPLES FOR RADIUM-226 IN GROWTH.
DO NOT START ANY OTHER ANALYSIS UNTIL THE TC-99 DATA IS REVIEWED AND APPROVAL IS GIVEN BY THE PROJECT .

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-07
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 2 of 5
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/5/05

Justification:
This material is beneath a liner, which was intended to separate the sludge from the sand base, therefore these samples are being collected and real-time scanning is being performed to verify that the liner maintained its integrity.

REQUESTED BY: Debbie Brennan Date: 8/5/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske	8-9-05	X	PROJECT MANAGER: M. Dixon for J. D.	8/9/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/5/05
X	ANALYTICAL CUSTOMER SUPPORT: Heather McCoy	8/5/05		RTIMP Manager	
X	WAO	8/8/05	X	SAMPLING MANAGER: T. Auhrage	8/2/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	3 ppb

TAL 20600-PSP-0016-B

Component	FRL	MDL (Soil)	MDL (Water)
Radium-226	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Radium-228	1.8 pCi/g	0.18 pCi/g	50.0 pCi/L
Thoriuim-228	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Thorium-232	1.5 pCi/g	0.15 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-C

Component	FRL	MDL (Soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

TAL 20600-PSP-0016-E

Component	FRL	MDL (Soil)
Arsenic	12 mg/kg	1.2 mg/kg
Beryllium	1.5 mg/kg	0.15 mg/kg
Mercury	7.5 mg/kg	0.75 mg/kg

TAL 20600-PSP-0016-F

Component	FRL	MDL (Soil)*	MDL (Water)
Cesium-137	1.4 pCi/g	0.14 pCi/g	50.0 pCi/L

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT*	Preservative	Holding Time	Container[b]	Sample Volume/Mass[c]
Rads TAL D	Soil	LSC	B	48 hr.	Cool, 4°C	12 months	Glass or plastic with Teflon-lined lid	500 g
Rads TALs A/B/F		Gamma or Alpha Spec	D/E[a]	30 days				
Metals TAL E		ICP-AES/MS	D/E[a]	14 days		6 months		
Pest/PCBs TAL C	Soil	GC	D/E[a]	14 days	Cool, 4°C	14 days	Glass with Teflon-lined lid	200 g
Rads TALs A/B/D/F	Water (rinsate)	Gamma or Alpha Spec	D/E[a]	30 days	HNO3, pH<2	6 months	Appropriately sized glass or plastic	4 L
Rads TAL D	Soil	LSC	B	48 hr.	Cool, 4°C	12 months	Appropriately sized glass or plastic	50 g

[a] Samples will be analyzed according to ASL D requirements (except for Tc-99) but the minimum detection level may cause some analyses to be considered ASL E.

[b] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[c] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one of the odd locations in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

[d] If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

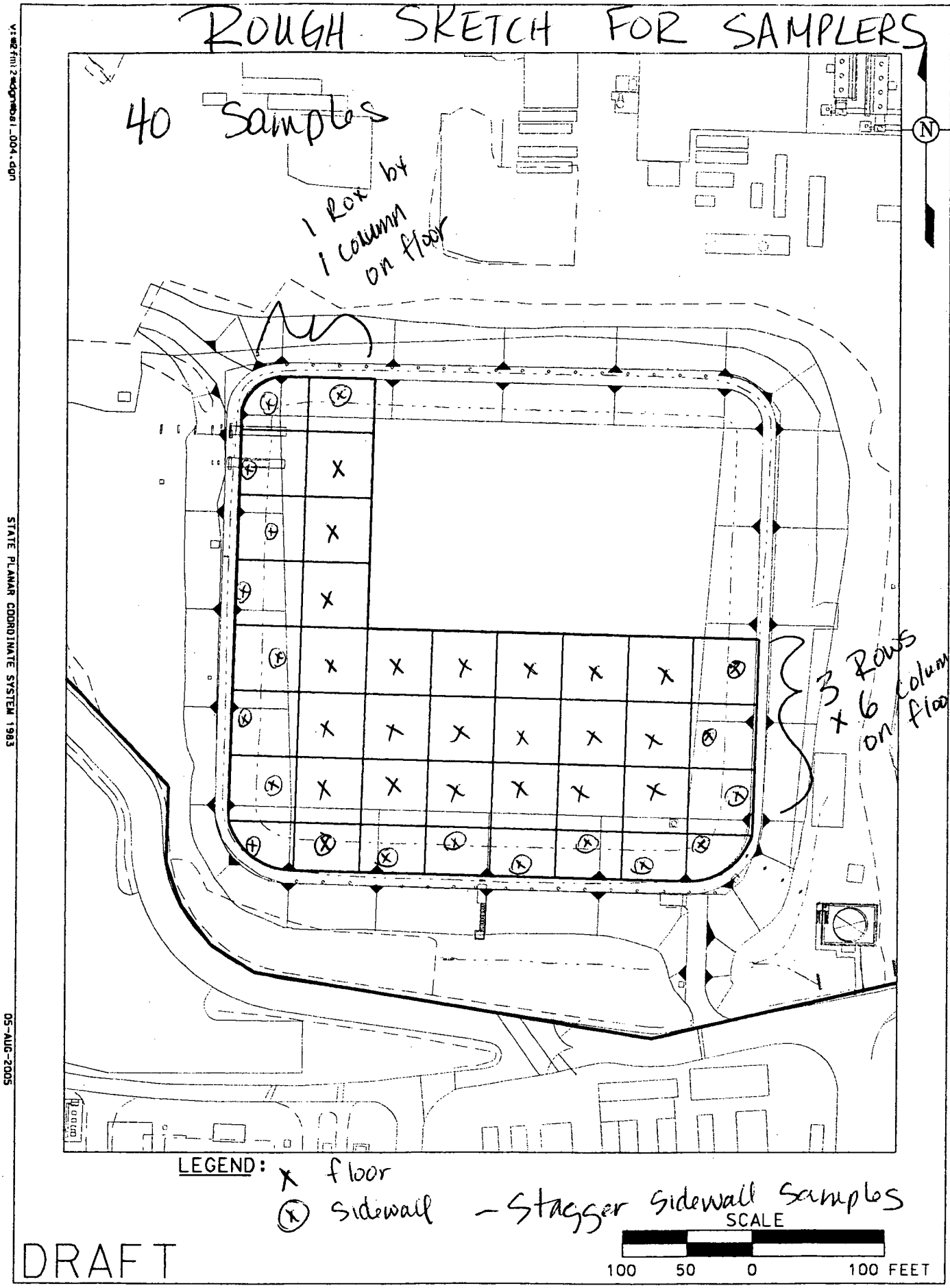

ROUGH SKETCH FOR SAMPLERS
40 Samples
1 Row by 1 column on floor
3 Rows x 6 columns on floor
N
LEGEND:
X floor
X sidewall
- Stagger Sidewall Samples
SCALE
100 50 0 100 FEET
DRAFT
STATE PLANAR COORDINATE SYSTEM 1983
05-AUG-2005

FIGURE 1.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-08
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 2
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/9/05 6042

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil (sand) samples from the shallow trenches created during the removal of piping in the sand layer of the northern half of the BSL. The area in which the piping will be removed is approximately 225' by 150'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

A sample will be collected every 50' along the bottom of the shallow trenches. Therefore, the number of samples collected is expected not to exceed 20.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

All sample locations shall have 1 bottle collected for Tc-99 (e.g. the first sample location collected from this sampling event Sample ID will be A6E-BSL-PTS-1^R).

Where:

A6E = Area 6 Excavation
BSL = Northern half of the Biodenitrification Surge Lagoon
PTS = pipe trench sand
1, 2, 3, etc = Consecutive Sample Numbers (Locations)
R = radionuclides

Surveying required: Yes – surveying
Field QC samples required: No
Field validation required: Yes
Analytical data validation required: No
Data package required: COAs for Tc-99
Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

Justification:

The pipe is being removed as Above-WAC. Therefore, samples of the shallow trenches are needed to verify/confirm that the material that once surrounded these pipes is below-WAC.

REQUESTED BY: Debbie Brennan Date: 8/9/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Fiske	8-9-05	X	PROJECT MANAGER: J. Dickson for J.D.	8/10/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller Denise M Alcala for FM	8/9/05
X	ANALYTICAL CUSTOMER SUPPORT: Heather Medley	8/9/05		RTIMP Manager	
X	WAO: Patrick Shelby	8/15/05	X	SAMPLING MANAGER: T. Bubblage Tom Bubblage	8/9/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT	Preservative	Holding Time	Container[a]	Sample Volume/Mass
Rads TAL D	Soil	LSC	B	48 hr.	None	12 months	Appropriately sized glass or plastic	50 g

[a] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-09
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 4 6042
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/10/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples from the southern half of the BSL.

Previously identified above-WAC location (A6E-SBSL-S-32 from V/FCN 20600-PSP-0016-07) has been excavated and physical samples are to be collected for technetium-99 to confirm removal of the above-WAC soil. The confirmation sample is to be collected at the location of the previously sampled location (see Figure 1).

Bounding borings are to be placed at the edge of the excavation in each of the four cardinal directions.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

Each previously sampled boring location shall have 2 samples collected – 1 for metals and radionuclides and 1 for /PestPCBs. Therefore, the first location shall have 2 Sample IDs (A6E-SBSL-32A^RM and A6E-SBSL-32A^P) with an "A" suffix to denote that it is the 2nd sampling event in that location.

Each bounding boring location shall have one sample collected for Tc-99 only. Therefore, the first Sample ID shall be A6E-SBSL-41^R and thereafter be consecutively numbered (ex. The second bounding boring location will be called A6E-SBSL-42^R).

One rinsate sample (Sample ID = A6E-SBSL-S-X) will be collected with these samples.

Where:

A6E = Area 6 Excavation
SBSL = Southern End of the Biodenitrification Surge Lagoon
32A = Sample Number (Location) with "A" indicating that this is the 2nd sampling event in this location.
41, 42, etc. = Consecutive Sample Locations
R = radionuclides
M = metals
P = PCBs
X = Rinsate

Surveying required: Yes – the samplers will survey these locations
Field QC samples required: Yes – see above and Attachment 1
Field validation required: Yes
Analytical data validation required: Yes – VSL D if analyses completed
Data package required: COAs for Tc-99, All others full data package if necessary or if analyses completed - 14 day TAT for non-radiological analytes, 30 day TAT for all non-Tc-99 radiological analytes.

Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

BEGIN WITH TC-99. DO NOT START ANY OTHER ANALYSIS UNTIL THE TC-99 DATA IS REVIEWED AND APPROVAL IS GIVEN BY THE PROJECT.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-09
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 2 of 4
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/10/05

Justification:

This sample from the western end of the BSL, was found to be above-FRL for Tc-99. Therefore additional samples were needed to show that all contamination was removed through excavation.

REQUESTED BY: Debbie Brennan Date: 8/10/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske	8/18/05	X	PROJECT MANAGER: J.D. Chod for J.D.	11 Aug 05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/11/05
X	ANALYTICAL CUSTOMER SUPPORT:	8/11/05		RTIMP Manager	
X	WAO	8/15/05	X	SAMPLING MANAGER: T. Buhrlage for T.E.B	8/12/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	3 ppb

TAL 20600-PSP-0016-B

Component	FRL	MDL (Soil)	MDL (Water)
Radium-226	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Radium-228	1.8 pCi/g	0.18 pCi/g	50.0 pCi/L
Thoriuim-228	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Thorium-232	1.5 pCi/g	0.15 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-C

Component	FRL	MDL (Soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

TAL 20600-PSP-0016-E

Component	FRL	MDL (Soil)
Arsenic	12 mg/kg	1.2 mg/kg
Beryllium	1.5 mg/kg	0.15 mg/kg
Mercury	7.5 mg/kg	0.75 mg/kg

TAL 20600-PSP-0016-F

Component	FRL	MDL (Soil)*	MDL (Water)
Cesium-137	1.4 pCi/g	0.14 pCi/g	50.0 pCi/L

Pg 3 of 4

6042

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT*	Preservative	Holding Time	Container[b]	Sample Volume/Mass[c]
Rads TAL D	Soil	LSC	B	48 hr.	Cool, 4°C	12 months	Glass or plastic with Teflon-lined lid	500 g
Rads TALs A/B/F		Gamma or Alpha Spec	D/E[a]	30 days				
Metals TAL E		ICP-AES/MS	D/E[a]	14 days		6 months		
Pest/PCBs TAL C	Soil	GC	D/E[a]	14 days	Cool, 4°C	14 days	Glass with Teflon-lined lid	200 g
Rads TALs A/B/D/F	Water (rinsate)	Gamma or Alpha Spec	D/E[a]	30 days	HNO3, pH<2	6 months	Appropriately sized glass or plastic	4 L
Rads TAL D	Soil	LSC	B	48 hr.	Cool, 4°C	12 months	Appropriately sized glass or plastic	50 g

[a] Samples will be analyzed according to ASL D requirements (except for Tc-99) but the minimum detection level may cause some analyses to be considered ASL E.

[b] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[c] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at two locations in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

[d] If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

pg 4 of 4

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-12
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 2
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/12/05 6042

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of one liquid grab sample from the north-east corner of the BSL, outside of the BSL along the northern berm. One sample is required to be collected from the water. The aqueous grab sample will be analyzed offsite for technetium-99 and onsite for total uranium. See Construction Lead or WAO Representative for the location of this sample.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

Two samples shall be collected from this sample location (one bottle for total uranium and two bottles for technetium-99). The sample IDs shall be A6E-NBSL-A-1^R and A6E-NBSL-1^U.

Where:

A6E = Area 6 Excavation
NBSL = Northern End of the Biodenitrification Surge Lagoon
A = Aqueous
1, 2, etc. = Consecutive Sample Locations
R = radionuclides
U = Uranium

Surveying required: No, surveying is not required.
Field QC samples required: No
Field data validation: Yes
Analytical data validation: No
Off-site data package requirements (if applicable): Results only

Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

Justification:

Water was found collecting on the surface adjacent to the ~~BDN~~ BSL outside the northern berm. Sampling is required to confirm/verify that no technetium-99 or uranium contamination is present in this location.

Per Section 1.3 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Debbie Brennan Date: 8/12/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Eriske	8/18/05	X	PROJECT MANAGER: J.D. Davis for J.D.	15 Aug 05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/15/05
X	ANALYTICAL CUSTOMER SUPPORT:	8/23/05		RTIMP Manager	
X	WAO	8/15/05	X	SAMPLING MANAGER: T. Buhrlage	8/17/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	3 ppb

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT*	Preservative	Holding Time	Container[a]	Sample Volume/Mass
TAL A (Rads)	Liquid	**Onsite**	B	None	6 months	Total U = 24 hr	Appropriate glass or plastic container	100 ml
TAL D (Rads)	Liquid	Offsite	B	HNO_3, pH < 2	6 months	Tc-99 = 48 hr	Appropriate glass or plastic container	2 L

[a] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-13
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 3
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 08/12/05 60 42

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples from the northern half of the BSL(floor and the north and east sidewalls). This area is approximately 300' by 200'. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

The entire area will be divided into a 4 x 4 grid (see Figure 1) and one location will be sampled in each block. Therefore, 16 samples are estimated to be collected from this area. When sampling on the sidewalls, alternate the samples high and low along the sidewall. See Figure 1 for the approximate area to be covered.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

Each sample location shall have 2 samples collected – 1 for metals and radionuclides and 1 for /PestPCBs. Therefore, the first sample location shall have 2 Sample IDs (A6E-NBSL-1^RM and A6E-NBSL-1^P) and each additional sample ID will be sequentially numbered (e.g. the second sample location Sample IDs are A6E-NBSL-2^RM and A6E-NBSL-2^P). One rinsate sample (Sample ID = A6E-NBSL-X) will be collected with these samples.

Where:

A6E = Area 6 Excavation
NBSL = Soil in the Northern End of the Biodenitrification Surge Lagoon
1, 2, 3, etc = Consecutive Sample Numbers (Locations)
R = radionuclides
M = metals
P = PCBs
X = Rinsate

Surveying required: Yes – the samplers will survey these locations
Field QC samples required: Yes – see above and Attachment 1
Field validation required: Yes
Analytical data validation required: Yes – VSL D
Data package required: ASL D - 3 day TAT for all parameters except radium-226, 30 day TAT for radium-226.
Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

Justification:
This material is from beneath a liner, therefore these samples are being collected and real-time scanning is being performed in this area to confirm/verify that the liner maintained it's integrity and is below FRL.

REQUESTED BY: Debbie Brennan — Date: 8/12/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Frisk	8-18-05	X	PROJECT MANAGER: D. Chron	15 Aug 05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/15/05
X	ANALYTICAL CUSTOMER SUPPORT: Heather McCoy	8/23/05		RTIMP Manager	
X	WAO: Patrick Shanks	8/15/05	X	SAMPLING MANAGER: T. Buhrlage	8/17/05

VARIANCE/FCN APPROVED [X]YES [ ]NO — REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	3 ppb

TAL 20600-PSP-0016-B

Component	FRL	MDL (Soil)	MDL (Water)
Radium-226	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Radium-228	1.8 pCi/g	0.18 pCi/g	50.0 pCi/L
Thoriuim-228	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Thorium-232	1.5 pCi/g	0.15 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-C

Component	FRL	MDL (Soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

TAL 20600-PSP-0016-E

Component	FRL	MDL (Soil)
Arsenic	12 mg/kg	1.2 mg/kg
Beryllium	1.5 mg/kg	0.15 mg/kg
Mercury	7.5 mg/kg	0.75 mg/kg

TAL 20600-PSP-0016-F

Component	FRL	MDL (Soil)*	MDL (Water)
Cesium-137	1.4 pCi/g	0.14 pCi/g	50.0 pCi/L

2 of 3

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT*	Preservative	Holding Time	Container[b]	Sample Volume/Mass[c]
Rads TAL D	Soil	LSC	B	3 days	Cool, 4°C	12 months	Glass or plastic with Teflon-lined lid	500 g
Rads TALs A/B/F		Gamma or Alpha Spec	D/E[a]	3 days/30 days for radium-226				
Metals TAL E		ICP-AES/MS	D/E[a]	3 days		6 months		
Pest/PCBs TAL C	Soil	GC	D/E[a]	3 days	Cool, 4°C	14 days	Glass with Teflon-lined lid	200 g
Rads TALs A/B/D/F	Water (rinsate)	Gamma or Alpha Spec	D/E[a]	3 days/30 days for radium-226	HNO3, pH<2	6 months	Appropriately sized glass or plastic	4 L

[a] Samples will be analyzed according to ASL D requirements (except for Tc-99) but the minimum detection level may cause some analyses to be considered ASL E.

[b] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[c] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one of the odd locations in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

[d] If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

3 of 3

6042

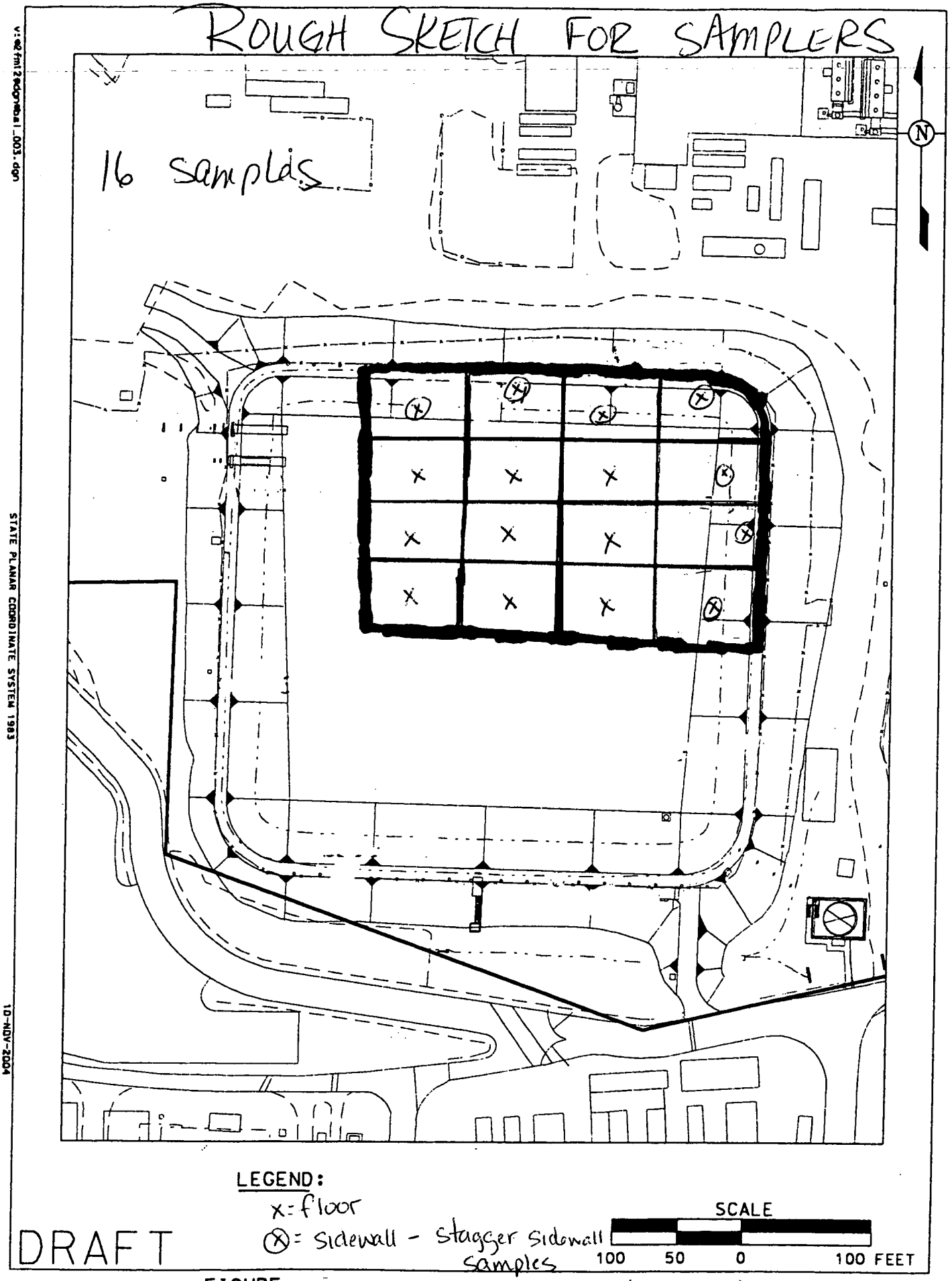


FIGURE
THE BIO-DENITRIFICATION SURGE LAGOON

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-14
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 2
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/17/05

60 42

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of 2 sludge samples from the SWM Pond. One sample will be collected from the north end and one sample will be collected from the south end.

The sludge samples will be analyzed offsite for total uranium (TAL A) and technetium-99 (TAL D). See Attachment 1 for the TALs and the Sampling and Analytical Requirements.

The sample IDs shall be A6E-SWM-SM-1^R and A6E-SWM-SM-2^R.

Where:
A6E = Area 6 Excavation
SWM = SWM Pond
SM = Special Material (sludge)
1, 2, etc. = Consecutive Sample Locations
R = radionuclides

Surveying required: No, surveying is not required.
Field QC samples required: No
Field data validation: Yes
Analytical data validation: No
Off-site data package requirements (if applicable): Results only

Historical data for shipping of the samples to be collected is 283 mg/kg total uranium from boring A6-CPB-5.

Justification:
Sampling is required to determine if the sludge is above-WAC.

Per Section 1.3 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Krista Flaugh Date: 8/17/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Fosse	8-18-05	X	PROJECT MANAGER: D. Chou	18 Aug 05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/16/05
X	ANALYTICAL CUSTOMER SUPPORT:	8/23/05		RTIMP Manager	
X	WAO	8-25-05	X	SAMPLING MANAGER: T. Buhrlage	8/23/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)
Total Uranium	82 mg/kg	8.2 mg/kg

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*
Technetium-99	30.0 pCi/g	2.9 pCi/g

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT*	Preservative	Holding Time	Container[a]	Sample Volume/Mass
TALs A and D (Rads)	Sludge	Offsite	B	48 hours	none	6 months	Appropriate glass or plastic container	500 g

[a] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-15
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 4
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 08/16/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples from the top of the berm and the outside slope of the sidewalls of the BSL. See Figure 1 for approximate area covered. Coordinate with the Construction Lead and/or WAO Representative for this sampling event.

Four samples will be collected on each side alternating between the top of the berm and the outside slope of the sidewall. Therefore, 16 samples are estimated to be collected from this area (8 from the top of the berm and 8 from the outside slope of the sidewall.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

Each sample location shall have 2 samples collected – 1 for metals and radionuclides (TALs A, B, D, E, and F) and 1 for Pest/PCBs (TAL C). Therefore, the first sample location shall have 2 Sample IDs (A6E-BSL-OS-1^RM and A6E-BSL-OS-1^P) and each additional sample ID will be sequentially numbered (e.g. the second sample location Sample IDs are A6E-BSL-OS-2^RM and A6E-BSL-OS-2^P). One rinsate sample (Sample ID = A6E-BSL-OS-X) will be collected with these samples.

Where:

- A6E = Area 6 Excavation
- BSL = Soil from the Biodenitrification Surge Lagoon
- OS = Outside Slope of the Sidewall or Top of Berm for the BSL
- 1, 2, 3, etc = Consecutive Sample Numbers (Locations)
- R = radionuclides
- M = metals
- P = PCBs
- X = Rinsate

Surveying required: Yes – the samplers will field locate these with follow-up by surveyors
Field QC samples required: Yes – see above and Attachment 1
Field validation required: Yes
Analytical data validation required: Yes – VSL D
Data package required: ASL D - 3 day TAT for all parameters except radium-226, 30 day TAT for radium-226.
Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

Justification:
This area needs for samples to be collected and real-time scanning performed to confirm/verify that the soil in this area is below FRL.

REQUESTED BY: Debbie Brennan Date: 8/16/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske	8/18/05	X	PROJECT MANAGER: M. Chow	18/Aug/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/16/05
X	ANALYTICAL CUSTOMER SUPPORT: Heather Reddell	8/23/05		RTIMP Manager	
X	WAO: Patrick Shanks	8/31/05	X	SAMPLING MANAGER: T. Buhrage	8/23/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	3 ppb

TAL 20600-PSP-0016-B

Component	FRL	MDL (Soil)	MDL (Water)
Radium-226	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Radium-228	1.8 pCi/g	0.18 pCi/g	50.0 pCi/L
Thoriuim-228	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Thorium-232	1.5 pCi/g	0.15 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-C

Component	FRL	MDL (Soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

TAL 20600-PSP-0016-E

Component	FRL	MDL (Soil)
Arsenic	12 mg/kg	1.2 mg/kg
Beryllium	1.5 mg/kg	0.15 mg/kg
Mercury	7.5 mg/kg	0.75 mg/kg

TAL 20600-PSP-0016-F

Component	FRL	MDL (Soil)*	MDL (Water)
Cesium-137	1.4 pCi/g	0.14 pCi/g	50.0 pCi/L

2 of 3

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT*	Preservative	Holding Time	Container[b]	Sample Volume/Mass[c]
Rads TAL D	Soil	LSC	B	3 days	Cool, 4°C	12 months	Glass or plastic with Teflon-lined lid	500 g
Rads TALs A/B/F		Gamma or Alpha Spec	D/E[a]	3 days/30 days for radium-226				
Metals TAL E		ICP-AES/MS	D/E[a]	3 days		6 months		
Pest/PCBs TAL C	Soil	GC	D/E[a]	3 days	Cool, 4°C	14 days	Glass with Teflon-lined lid	200 g
Rads TALs A/B/D/F	Water (rinsate)	Gamma or Alpha Spec	D/E[a]	3 days/30 days for radium-226	HNO3, pH<2	6 months	Appropriately sized glass or plastic	4 L

[a] Samples will be analyzed according to ASL D requirements (except for Tc-99) but the minimum detection level may cause some analyses to be considered ASL E.

[b] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[c] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one of the odd locations in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

[d] If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

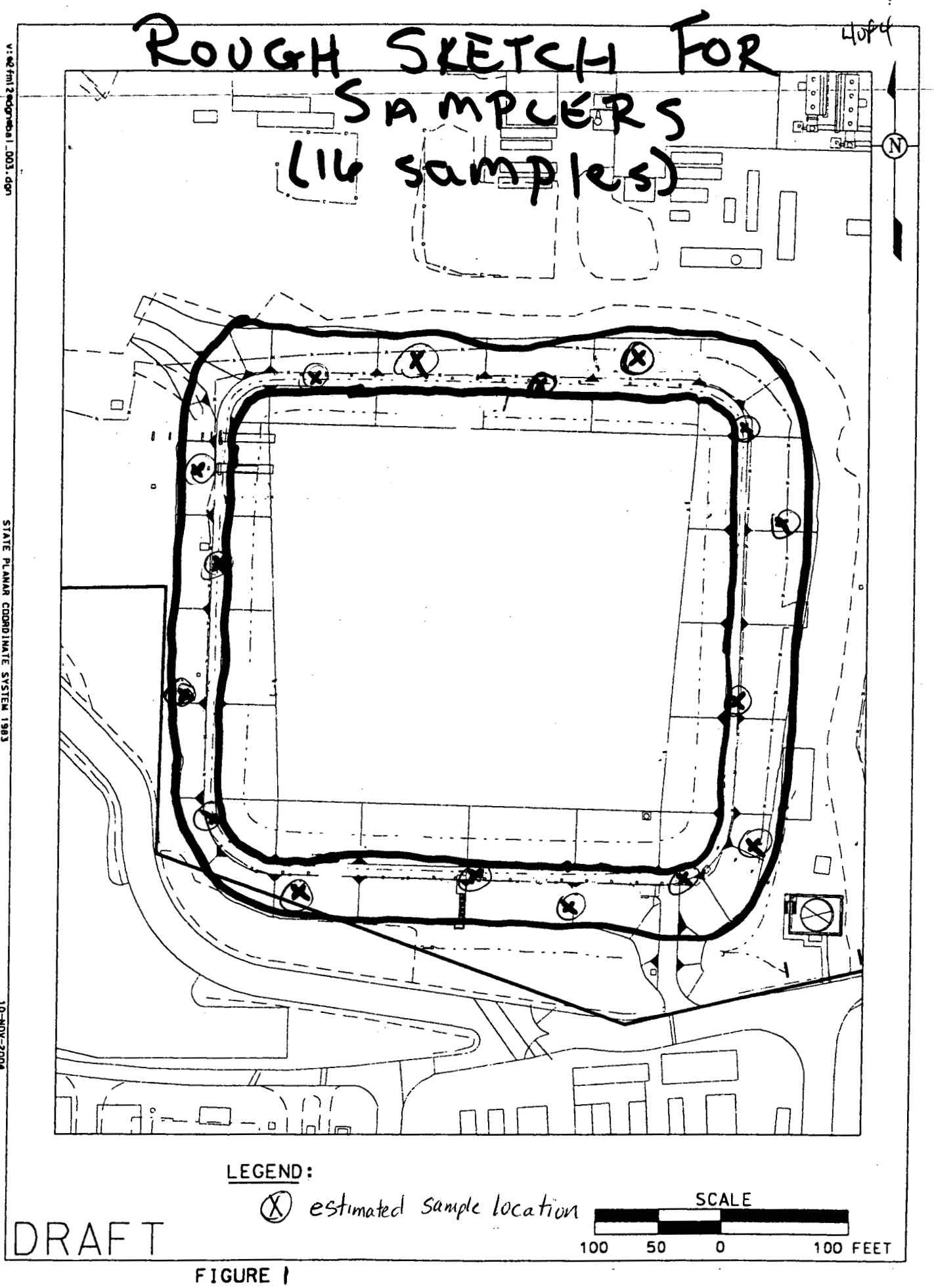


FIGURE 1
THE BIO-DENITRIFICATION SURGE LAGOON

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-16
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 4
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/17/05

60 42

VARIANCE / FIELD CHANGE NOTICE (Include justification):
DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples from the bottom of the trenches created during the removal of drainage pipes in the Biosurge Lagoon (BSL). There are four drainage pipes running east to west through the BSL. Also, an additional sample will be taken at a previously identified above-WAC area (sample point 41 from V/FCN 20600-PSP-0016-09) to confirm/verify that excavation removed all AWAC material.

A sample will be collected every 20' along the bottom of the trenches. Therefore, the number of trench samples collected is expected not to exceed 60. One of these samples will be collected to coincide with the previously identified above-WAC location (A6E-SBSL-S-41 from V/FCN 20600-PSP-0016-09) which has been excavated and is to be collected to confirm/verify removal of the above-WAC for technetium-99 contaminated soil.

Also, previously identified above-WAC location (A6E-SBSL-S-41 from V/FCN 20600-PSP-0016-09) will be bound to the north by collecting one sample at the northern edge of the excavation.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

All odd numbered trench boring locations (ex. boring locations A6E-BSL-DT-1, A6E-BSL-DT -3, A6E-BSL-DT -5, etc.) shall have 2 bottles collected – 1 for metals and radionuclides and 1 for Pest/PCBs. Therefore, the first sample location shall have 2 Sample IDs (A6E-BSL-DT-1^RM and A6E-BSL-DT-1^P). All evenly numbered sample locations (ex. Boring locations A6E-BSL-DT-2, A6E-BSL-DT-4, A6E-BSL-DT-6, etc.) shall have 1 bottle collected for Tc-99 (e.g. the second sample location Sample ID will be A6E-BSL-DT-2^R). One rinsate sample (Sample ID = A6E-BSL-DT^X) will be collected with these samples.

The boring location to confirm/verify that excavation removed all of the AWAC Tc-99 shall have one sample collected for Tc-99. Therefore, the Sample ID shall be A6E-SBSL-45^R.

Where:

- A6E = Area 6 Excavation
- BSL = BioSurge Lagoon
- SBSL = Southern Half of the Biosurge Lagoon
- DT = Drainage Trench
- 1, 2, 3, etc = Consecutive Sample Numbers (Locations)
- R = radionuclides
- M = metals
- P = PCBs
- X = Rinsate

Surveying required: Yes – field located by sampling with follow-up by surveying
Field QC samples required: Yes – see above and Attachment 1
Field validation required: Yes
Analytical data validation required: Yes – VSL D if analyses in addition to Tc-99 completed
Data package required: See Attachment 1

Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-16
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 2 of 4
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/17/05

BEGIN WITH TC-99. DO NOT START ANY OTHER ANALYSIS UNTIL THE TC-99 DATA IS REVIEWED AND APPROVAL IS GIVEN BY THE PROJECT.

Justification:

Drainage pipe was removed from the BSL. Sampling is required to verify/confirm that no contamination was present in the bottom of the trenches created by this excavation.

Sample A6E-SBSL-41 on the floor of the BSL for Tc-99, therefore following the removal of the drainage pipe sampling is required to verify/confirm that the AWAC material has been removed.

REQUESTED BY: Debbie Brennan Date: 8/17/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske	8-18-05	X	PROJECT MANAGER: J.D. Chase for S.D.	18 Aug 05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/18/05
X	ANALYTICAL CUSTOMER SUPPORT: Heather Medley	8/23/05		RTIMP Manager	
X	WAC: Patrick Thornton	8/31/05	X	SAMPLING MANAGER: T. Bohnage	8/23/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	3 ppb

TAL 20600-PSP-0016-B

Component	FRL	MDL (Soil)	MDL (Water)
Radium-226	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Radium-228	1.8 pCi/g	0.18 pCi/g	50.0 pCi/L
Thoriuim-228	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Thorium-232	1.5 pCi/g	0.15 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-C

Component	FRL	MDL (Soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

TAL 20600-PSP-0016-E

Component	FRL	MDL (Soil)
Arsenic	12 mg/kg	1.2 mg/kg
Beryllium	1.5 mg/kg	0.15 mg/kg
Mercury	7.5 mg/kg	0.75 mg/kg

TAL 20600-PSP-0016-F

Component	FRL	MDL (Soil)*	MDL (Water)
Cesium-137	1.4 pCi/g	0.14 pCi/g	50.0 pCi/L

6042
3of4

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT*	Preservative	Holding Time	Container[b]	Sample Volume/Mass[c]
Rads TAL D	Soil	LSC	B	3 days	Cool, 4°C	12 months	Glass or plastic with Teflon-lined lid	500 g
Rads TALs A/B/F		Gamma or Alpha Spec	D/E[a]	3 days/30 days for radium-226				
Metals TAL E		ICP-AES/MS	D/E[a]	3 days		6 months		
Pest/PCBs TAL C	Soil	GC	D/E[a]	3 days	Cool, 4°C	14 days	Glass with Teflon-lined lid	200 g
Rads TALs A/B/D/F	Water (rinsate)	Gamma or Alpha Spec	D/E[a]	3 days/30 days for radium-226	HNO3, pH<2	6 months	Appropriately sized glass or plastic	4 L

[a] Samples will be analyzed according to ASL D requirements (except for Tc-99) but the minimum detection level may cause some analyses to be considered ASL E.

[b] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[c] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one of the odd locations in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

[d] If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

* Full ASL D data package is due when the Ra-226 is due.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-17
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 1
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/24/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):
DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of 2 grab soil samples from the Biosurge Lagoon (BSL) in a former pipe staging area.

These samples are to be collected to confirm/verify that no above-WAC for technetium-99 contaminated soil is present in a precertified area due to staging activities.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

The sampling locations shall have one bottle collected for Tc-99 (TAL D). Therefore, the first Sample ID shall be A6E-BSL-PS-1^R.

Where:

A6E = Area 6 Excavation
BSL = BioSurge Lagoon
PS = Pipe Staging
1, 2 = Consecutive Sample Numbers (Locations)
R = radionuclides

Surveying required: Yes – field located by sampling with follow-up by surveying
Field QC samples required: No
Field validation required: Yes
Analytical data validation required: No
Data package required: results only

Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

Justification:
Drainage pipe was removed from a precertified area in the southeast corner of the BSL and staged in the area. Sampling is required to verify/confirm that no contamination was introduced into this area as a result of these activities.

REQUESTED BY: Debbie Brennan Date: 8/24/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Foster	8/30/05	X	PROJECT MANAGER: J.D. Cadou	8/24/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/24/05
X	ANALYTICAL CUSTOMER SUPPORT:	8/24/05		RTIMP Manager	
X	WAC	8/31/05	X	SAMPLING MANAGER: T. Bubbage	8/24/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*
Technetium-99	30.0 pCi/g	2.9 pCi/g

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT	Preservative	Holding Time	Container[a]	Sample Volume/Mass
TAL D (Tc-99)	Soil	Offsite	B	48 hours	none	6 months	Appropriate glass or plastic container	50 g

[a] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-18
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 7
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/29/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):
DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples from the BioSurge Lagoon (BSL) area. There will be 24 samples collected for VOAs, SVOAs, and Dioxins from previously sampled locations on the north end of the BSL (V/FCN 9), the south end of the BSL (V/FCN 7), and from the outer sides of the BSL berms (V/FCN 15). These samples are being collected to confirm/verify that no above-FRL areas exist for any of the ASCOCs for this area. Please refer to Figure 1 for sample locations.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements. See Attachment 2 for Sample Table.

In addition, duplicates will be collected at two of the sample locations (see Attachment 2 – one location on the north half of the BSL and one on the south). These two duplicates will also have radiological, PCBs/Pesticides and metals samples collected (TALs A through F).

Therefore the first boring location will have 3 bottles taken (1 for VOAs, 1 for SVOAs, and 1 for Dioxins) and be named A6E-SBSL-1^L, A6E-SBSL-1^S and A6E-SBSL-1^D respectively. These samples will have rinsates/container blanks collected as outlined in the PSP.

Where:

- A6E = Area 6 Excavation
- SBSL = Southern end of the BioSurge Lagoon (NBSL = northern end of the BSL, BSL-OS = top of berm and outer slope of the BSL)
- 1, 2 = Consecutive Sample Numbers (Locations)
- L = volatile organic analyses (S = Semi-volatile organic analyses, D = Dioxins, R = Radiological analyses, M = Metals, P = PCBs/Pesticides)
- D = Duplicate
- X = Rinsate (Y = container blank)

Surveying required: Yes – by surveyors
Field QC samples required: Yes
Field validation required: Yes
Analytical data validation required: Yes – VSL D
Data package required: ASL D

Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-18
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 2 of 7
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 8/29/05

Justification:

Sampling is needed to verify/confirm that no above-FRL ASCOCs for this area are present.

REQUESTED BY: Debbie Brennan Date: 8/29/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Fiske	8/30/05	X	PROJECT MANAGER: J.D. Chiou	8/29/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	8/29/05
X	ANALYTICAL CUSTOMER SUPPORT:	8/29/05		RTIMP Manager	
X	WAO	8/31/05	X	SAMPLING MANAGER: T. Buhrlage	8/31/05

VARIANCE/FCN APPROVED [X]YES [ ]NO

REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	3 ppb

TAL 20600-PSP-0016-B

Component	FRL	MDL (Soil)	MDL (Water)
Radium-226	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Radium-228	1.8 pCi/g	0.18 pCi/g	50.0 pCi/L
Thoriuim-228	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Thorium-232	1.5 pCi/g	0.15 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-C

Component	FRL	MDL (Soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

TAL 20600-PSP-0016-E

Component	FRL	MDL (Soil)
Arsenic	12 mg/kg	1.2 mg/kg
Beryllium	1.5 mg/kg	0.15 mg/kg
Mercury	7.5 mg/kg	0.75 mg/kg

TAL 20600-PSP-0016-F

Component	FRL	MDL (Soil)*	MDL (Water)
Cesium-137	1.4 pCi/g	0.14 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-H

Component	FRL	MDL (Soil)
benzo(a)anthracene	20.0 mg/kg	2.0 mg/kg
benzo(a)pyrene	2.0 mg/kg	0.2 mg/kg
benzo(b)fluoranthene	20.0 mg/kg	2.0 mg/kg
benzo(k)fluoranthene	200.0 mg/kg	20.0 mg/kg
chrysene	2000.0 mg/kg	200.0 mg/kg
dibenzo(a,h)anthracene	2.0 mg/kg	0.2 mg/kg
indeno(1,2,~~6~~3-cd)pyrene	20.0 mg/kg	2.0 mg/kg

TAL 20600-PSP-0016-I

Component	FRL	MDL (Soil)
Bromodichloromethane	4.0 mg/kg	0.4 mg/kg
1,1,-Dichloroethene	0.41 mg/kg	0.041 mg/kg
Tetrachloroethene	3.6 mg/kg	0.36 mg/kg

TAL 20600-PSP-0016-J

Component	FRL	MDL (Soil)
Heptachlorodibenzo-p-dioxin	830 ng/kg	83 ng/kg
Octachlorodibenzo-p-dioxin	8800 ng/kg	880 ng/kg

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT	Preservative	Holding Time	Container[b]	Sample Volume/Mass[c,d]
Rads TAL D	Soil	LSC	D/E[a]	48 hr.	Cool, 4°C	12 months	Glass or plastic with Teflon-lined lid	500 g
Rads TALs A/B/F		Gamma or Alpha Spec	D/E[a]	30 days				
Metals TAL E		ICP-AES/MS	D/E[a]	14 days		6 months		
Pest/PCBs TAL C	Soil	GC	D/E[a]	14 days	Cool, 4°C	14 days	Glass with Teflon-lined lid	200 g
Rads TALs A/B/D/F	Water (rinsate)	Gamma or Alpha Spec	D/E[a]	30 days	HNO3, pH<2	6 months	Appropriately sized glass or plastic	4 L

Rads TAL D	Soil	LSC	D/E[a]	48 hr.	Cool, 4°C	12 months	Appropriately sized glass or plastic	50 g
TAL H (SVOA)	Soil	Offsite	D/E[a]	14 day	Cool, 4°C	14 day	glass with teflon lined lid	50 g
TAL I (VOA)	Soil	Offsite	D/E[a]	14 day	Cool, 4°C (also for % moisture)	48 hours	3-5 g. Encore samplers and 1-1 oz. (30 mL) wide mouth glass for % moisture analyses (fill to zero headspace)	See Container (fill to zero headspace)
					Freeze, –20 to -7 °C (Cool, 4°C for % moisture)	7 – 12 days		
TAL I (VOA)	Trip Blank (liquid)	Offsite	D/E[a]	14 day	H_2SO_4 pH < 2	14 days	3 x 40 ml Glass vial with Teflon lined septa	120 ml (fill to zero headspace)
TAL J (Dioxins)	Soil	Offsite	D/E[a]	14 day	Cool, 4°C	14 day	glass with teflon lined lid	90 g

[a] Samples will be analyzed according to ASL D requirements but the minimum detection level may cause some analyses to be considered ASL E.

[b] Sample container types may be changed at the direction fo the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[c] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one location in the CU in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

[d] If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

ATTACHMENT 2

Boring ID	Sample ID	TAL	Northing	Easting
A6E-SBSL-1	A6E-SBSL-1^L	HIJ	480960.5	1347707
	A6E-SBSL-1^S			
	A6E-SBSL-1^D			
A6E-SBSL-3	A6E-SBSL-3^L	HIJ	480967.336	1347595.661
	A6E-SBSL-3^S			
	A6E-SBSL-3^D			
A6E-SBSL-7	A6E-SBSL-7^L	HIJ	480931.384	1347444.33
	A6E-SBSL-7^S			
	A6E-SBSL-7^D			
A6E-SBSL-11	A6E-SBSL-11^L	HIJ	480905.608	1347645.13
	A6E-SBSL-11^S			
	A6E-SBSL-11^D			
A6E-SBSL-15D	A6E-SBSL-15^L	ABCDEFHIJ	480883.97	1347591.746
	A6E-SBSL-15^S			
	A6E-SBSL-15^L-D			
	A6E-SBSL-15^S-D			
	A6E-SBSL-15^D			
	A6E-SBSL-15^D-D			
	A6E-SBSL-15^RM-D			
	A6E-SBSL-15^P-D			
A6E-SBSL-17	A6E-SBSL-17^L	HIJ	480889.275	1347489.305
	A6E-SBSL-17^S			
	A6E-SBSL-17^D			
A6E-SBSL-26	A6E-SBSL-25^L	HIJ	480859.4	1347353
	A6E-SBSL-25^S			
	A6E-SBSL-25^D			
A6E-SBSL-27	A6E-SBSL-27^L	HIJ	480895.8	1347332
	A6E-SBSL-27^S			
	A6E-SBSL-27^D			
A6E-SBSL-31	A6E-SBSL-31^L	HIJ	480969.995	1347352.595
	A6E-SBSL-31^S			
	A6E-SBSL-31^D			
A6E-SBSL-33	A6E-SBSL-33^L	HIJ	481008.3	1347390
	A6E-SBSL-33^S			
	A6E-SBSL-33^D			
A6E-SBSL-35	A6E-SBSL-35^L	HIJ	481119	1347391
	A6E-SBSL-35^S			
	A6E-SBSL-35^D			
A6E-NBSL-3	A6E-NBSL-3^L	HIJ	481000	1347612
	A6E-NBSL-3^S			
	A6E-NBSL-3^D			
A6E-NBSL-7	A6E-NBSL-7^L	HIJ	481063.5	1347544
	A6E-NBSL-7^S			
	A6E-NBSL-7^D			

ATTACHMENT 2

6042

A6E-NBSL-8D	A6E-NBSL-8^L	ABCDEFHIJ	481067.4	1347471
	A6E-NBSL-8^S			
	A6E-NBSL-8^D			
	A6E-NBSL-8^L-D			
	A6E-NBSL-8^S-D			
	A6E-NBSL-8^D-D			
	A6E-NBSL-8^RM-D			
	A6E-NBSL-8^P-D			
A6E-NBSL-11	A6E-NBSL-11^L	HIJ	481115.3	1347624
	A6E-NBSL-11^S			
	A6E-NBSL-11^D			
A6E-NBSL-13	A6E-NBSL-13^L	HIJ	481167.2	1347699
	A6E-NBSL-13^S			
	A6E-NBSL-13^D			
A6E-NBSL-16	A6E-NBSL-16^L	HIJ	481188.7	1347476
	A6E-NBSL-16^S			
	A6E-NBSL-16^D			
A6E-BSL-OS-1	A6E-BSL-OS-1^L	HIJ	481206.6	1347369
	A6E-BSL-OS-1^S			
	A6E-BSL-OS-1^D			
A6E-BSL-OS-6	A6E-BSL-OS-6^L	HIJ	481061.8	1347741
	A6E-BSL-OS-6^S			
	A6E-BSL-OS-6^D			
A6E-BSL-OS-8	A6E-BSL-OS-8^L	HIJ	480829.5	1347722
	A6E-BSL-OS-8^S			
	A6E-BSL-OS-8^D			
A6E-BSL-OS-10	A6E-BSL-OS-10^L	HIJ	480792.8	1347564
	A6E-BSL-OS-10^S			
	A6E-BSL-OS-10^D			
A6E-BSL-OS-13	A6E-BSL-OS-13^L	HIJ	480909.8	1347311
	A6E-BSL-OS-13^S			
	A6E-BSL-OS-13^D			
A6E-BSL-OS-15	A6E-BSL-OS-15^L	HIJ	481026.9	1347314
	A6E-BSL-OS-15^S			
	A6E-BSL-OS-15^D			
A6E-BSL-OS-16	A6E-BSL-OS-16^L	HIJ	481094	1347289
	A6E-BSL-OS-16^S			
	A6E-BSL-OS-16^D			

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-19
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 2
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 9/13/05 60 42

VARIANCE / FIELD CHANGE NOTICE (Include justification):

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples from 4 locations for radium-226 (TAL K) analysis from Waste Pit 3. This sampling is being done to compare the radium-226 results of a 14 day in-growth period and the standard in-growth period.

These samples will be collected from a known above-FRL radium-226 area **and** a known below-FRL radium-226 area. Coordinate with Mike Frank, supervisor of Real-Time Monitoring, for the exact location of the above-FRL and below-FRL radium-226 areas. Two locations will be field located in the known above-FRL radium-226 area and two locations will be field located in the known below-FRL radium-226 area. At each location, 1 grab sample will be collected for radium-226 analysis; therefore 4 samples will be collected for this sampling event. **Please note that each sample container will have 2 sample identifiers as described in Attachment 1. One sample identifier will be for the 14 day in-growth data and one sample identifier will be for the standard in-growth data.**

TAL K, the Sampling and Analytical Requirements, and the Sampling Identifiers are listed on Attachment 1.

Surveying required: No, surveying is not required.
Field QC samples required: No
Field data validation: Yes
Analytical data validation: Yes, VSL B
Off-site data package requirements (if applicable): ASL D Package.

Historical data for shipping of the samples to be collected is 2450 mg/kg total uranium from boring A6WP-3F-02.

KEF 9/14/05

Justification:
These samples will support a study that compares reproducibility between a shortened in-growth and the standard ~~im~~ in-growth timeframe.

Per Section 1.3 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Krista Flaugh Date: 9/13/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Fricke	9/16/05	X	PROJECT MANAGER: J.D. Chiou	9/14/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	9/13/05
X	ANALYTICAL CUSTOMER SUPPORT:	9/22/05		RTIMP Manager	
	WAO		X	SAMPLING MANAGER: T. Buhrlage	9/15/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

TAL 20600-PSP-0016-K

Component	FRL	MDL (Soil)
Radium-226	1.7 pCi/g	0.17 pCi/g

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Method	Sample Matrix	Lab	ASL	TAT[a]	Preservative	Holding Time	Container[b]	Sample Volume/Mass
TAL K (Radium-226)	Gamma Spec.[a] 14 day in-growth and standard in-growth	Soil	Offsite	D	30 day	none	12 months	Appropriate glass or plastic container	300 g

[a] Each sample will be capped and after 14 days the sample will be counted. The sample will then be recounted after the standard in-growth time. Each result will be reported under a different sample identifier, such that the result with the 14 day in-growth will be reported with the sample that ends with "-14D-R" and the result with the standard in-growth will be reported with the sample that ends with "-STD-R"

[b] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, and SCQ requirements are met.

AREA	LOCATION ID	SAMPLE ID		TAL	in-growth
In above-FRL radium-226 area	A6WP-P3A-1	same container	A6WP-P3A-1^14D-R	K	14 day
			A6WP-P3A-1^STD-R	K	standard
In above-FRL radium-226 area	A6WP-P3A-2	same container	A6WP-P3A-2^14D-R	K	14 day
			A6WP-P3A-2^STD-R	K	standard
In below-FRL radium-226 area	A6WP-P3B-1	same container	A6WP-P3B-1^14D-R	K	14 day
			A6WP-P3B-1^STD-R	K	standard
In below-FRL radium-226 area	A6WP-P3B-2	same container	A6WP-P3B-2^14D-R	K	14 day
			A6WP-P3B-2^STD-R	K	standard

where:

A6WP = Area 6 Waste Pits
P3 = Waste Pit 3
A = Above-FRL Radium-226 Area
B = Below-FRL Radium-226 Area
1, 2, etc = consecutive sample location
14D = 14 day in-growth
STD = Standard in-growth
R = Radiological

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-20
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 2
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 9/14/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

This Variance/Field Change Notice (V/FCN) documents counting the samples that were collected in V/FCN 20600-PSP-0016-19 for radium-226 (TAL K) after a 7 day in-growth period.

Each sample container collected under V/FCN 20600-PSP-0016-19 will now have 3 sample identifiers as described in Attachment 1 of this V/FCN and of V/FCN 20600-PSP-0016-19. One sample identifier will be for the 7 day in-growth data, one sample identifier will be for the 14 day in-growth data, and one sample identifier will be for the standard period in-growth data.

The Sampling Identifiers for the 7 day in-growth data are listed on Attachment 1 of this V/FCN.

Surveying required: No, surveying is not required.
Field QC samples required: No
Field data validation: Yes
Analytical data validation: Yes, VSL B
Off-site data package requirements (if applicable): ASL D Package.

Historical data for shipping of the samples to be collected is 2450 mg/kg total uranium from boring A6WP-3F-02.

Justification:
These samples will support a study that compares reproducibility between a shortened in-growth and the standard in-growth timeframe.

Per Section 1.3 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Krista Flaugh Date: 9/14/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Piske	9/16/05	X	PROJECT MANAGER: J.D. Chiou	9/16/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	9/14/05
X	ANALYTICAL CUSTOMER SUPPORT:	9/22/05		RTIMP Manager	
	WAO		X	SAMPLING MANAGER: T. Buhrlage	9/15/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

AREA	LOCATION ID	SAMPLE ID	IN-GROWTH PERIOD	CORRESPONDING SAMPLE IDS FROM V/FCN 19
In above-FRL radium-226 area	A6WP-P3A-1	A6WP-P3A-1^7D-R	7 day	same container A6WP-P3A-1^14D-R A6WP-P3A-1^STD-R
In above-FRL radium-226 area	A6WP-P3A-2	A6WP-P3A-2^7D-R	7 day	same container A6WP-P3A-2^14D-R A6WP-P3A-2^STD-R
In below-FRL radium-226 area	A6WP-P3B-1	A6WP-P3B-1^7D-R	7 day	same container A6WP-P3B-1^14D-R A6WP-P3B-1^STD-R
In below-FRL radium-226 area	A6WP-P3B-2	A6WP-P3B-2^7D-R	7 day	same container A6WP-P3B-2^14D-R A6WP-P3B-2^STD-R

where:

A6WP = Area 6 Waste Pits
P3 = Waste Pit 3
A = Above-FRL Radium-226 Area
B = Below-FRL Radium-226 Area
1, 2, etc = consecutive sample location
7D = 7 day in-growth
R = Radiological

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-21
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 2
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 9/15/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This V/FCN documents the collection of grab soil samples for technetium-99 (TAL D) analysis in the Railcar Loadout Building to confirm/verify the removal of AWAC Technetium-99 contaminated material identified at boring A6-SA4-12. The excavated area is approximately 20' x 20' with no sidewalls. Coordinate with the Construction Lead and/or the WAO representative for this sampling event.

Because the excavation area is 40 feet or less in any direction, two samples at representative spacing will be collected in each direction; there fore, a minimum of four samples will be collected from the floor of the area for a total of approximately 4 samples.

The first sample identifier shall be A6E-RLB-1^R. Each additional sample identifier will be sequentially numbered (e.g. second sample identifier is A6E-RLB-2^R.

Where:
A6E = Area 6 Excavation Control
RLB = Railcar Loadout Building
1, 2, etc. = Consecutive Sample Location
R = Radiological (Tc-99)

Data from boring A6-SA4-12 will be used for shipment of these samples, 9.69 ppm total uranium.
Surveying required: Yes, the samplers will survey the locations.
Field QC samples required: No
Field data validation required: Yes
Analytical data validation required: No
Offsite data package requirements: Results only

Justification:
An above-WAC technetium-99 area in the Railcar Loadout Building has been excavated. Physical sampling is required to confirm/verify that all of the AWAC material has been removed. Per Section 1.3 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Krista Flaugh Date: 9/15/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske	9/16/05	X	PROJECT MANAGER: J.D. Chiou	9/16/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	9/15/05
X	ANALYTICAL CUSTOMER SUPPORT:	9/22/05		RTIMP Manager	
X	WAO	9/28/05	X	SAMPLING MANAGER: T. Burhage	9/27/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*
Technetium-99	30.0 pCi/g	2.9 pCi/g

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT	Preservative	Holding Time	Container[a]	Sample Volume/Mass
TAL D (Tc-99)	Soil	Offsite	B	48 hours	none	6 months	Appropriate glass or plastic container	50 g

[a] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-22
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 3
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 9/20/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples from the ~~southwestern~~ southern portion of the Biodenitrification Surge Lagoon (BSL) area to confirm/verify the removal of radium-226 contamination from this area. There will be 5 samples collected for radium-226 (TAL K). Please refer to Figure 1 for approximate sample locations.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

Therefore the first boring location will be named A6E-BSL-RC-1^R.
Where:

A6E = Area 6 Excavation
BSL = Biodenitrification Surge Lagoon
RC = Removal of Radium-226 contamination confirmatory
1, 2 = Consecutive Sample Numbers (Locations)
R = Radiological analyses

Surveying required: Yes – field located by samplers with follow-up by surveyors
Field QC samples required: No
Field validation required: Yes
Analytical data validation required: No
Data package required: ASL B

Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

Justification:
Sampling is needed to verify/confirm that no above-FRL radium-226 for this area are present.

REQUESTED BY: Debbie Brennan Date: 9/20/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Friske	9-22-05	X	PROJECT MANAGER: J.D. Chou	9/20/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	9/20/05
X	ANALYTICAL CUSTOMER SUPPORT:	9-22-05		RTIMP Manager	
X	WAO: Lawrence Love	9-22-05	X	SAMPLING MANAGER: T. Buhrlage	9/27/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-K

Component	FRL	MDL (Soil)
Radium-226	1.7 pCi/g	0.17 pCi/g

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Method	Sample Matrix	Lab	ASL	TAT[a]	Preservative	Holding Time	Container[a]	Sample Volume/ Mass
TAL K (Radium-226)	Gamma Spec.	Soil	Offsite	D	30 day	none	12 months	Appropriate glass or plastic container	300 g

[a] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, and SCQ requirements are met.

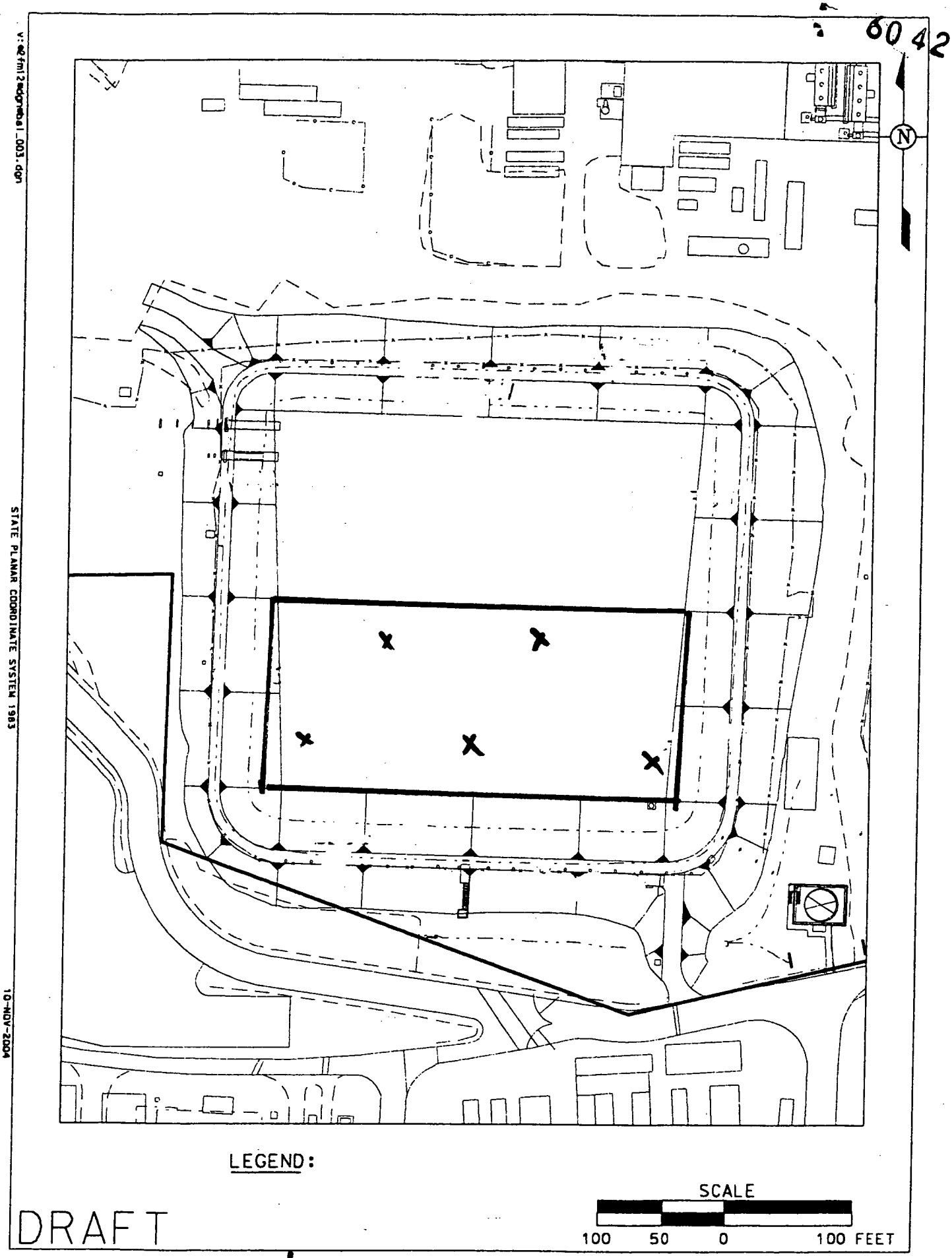


FIGURE 1
THE BIO-DENITRIFICATION SURGE LAGOON

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-23
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 4
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 9/27/05

6042

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of grab soil samples from paddys created to represent the trench made during excavation of utilities on the west and south end of the Biodenitrification Surge Lagoon (BSL) Paddys were collected every 50' along the trench. Consult the construction or WAO lead for the location of the paddys. Samples will be collected for VOAs (TAL I), SVOAs (TAL H), Rads (TALs A, B, D, and F), Metals (TAL E), and PCBs/Pest(TAL C). These samples are being collected to confirm/verify that no above-FRL areas exist for any of the ASCOCs for this trenched area. See Attachment 1 for the TALs and the Sampling and Analytical Requirements.

Therefore, the first boring location will have sample Ids A6E-BSL-TP-1^RM, A6E-BSL-TP-1^L, A6E-BSL-TP-1^S, and A6E-BSL-TP-1^P. The first trip blank will be called A6E-BSL-TP-L-TB with any subsequent trip blanks being identified by adding consecutive numbers to the end of the sample Id.

Where:

- A6E = Area 6 Excavation
- BSL = Biodenitrification Surge Lagoon
- TP = Samples of paddys from bottom of trench
- 1, 2 = Consecutive Sample Numbers (Locations)
- L = volatile organic analyses (S = Semi-volatile organic analyses, R = Radiological analyses, M = Metals, P = PCBs/Pesticides)
- D = Duplicate
- X = Rinsate (Y = container blank)

Surveying required: Yes – field located with follow-up by surveyors
Field QC samples required: Yes
Field validation required: Yes
Analytical data validation required: Yes – ASL D
Data package required: ASL D
Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

Justification:
Samples are required to confirm/verify that no above-FRL areas exist for any of the ASCOCs for this trenched area

Per Section 1.3 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Debbie Brennan Date: 9/27/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Frike	9-29-05	X	PROJECT MANAGER: T. Gibson	9/28/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	9/28/05
X	ANALYTICAL CUSTOMER SUPPORT:	10-4-05		RTIMP Manager	
X	WAO	9-29-05	X	SAMPLING MANAGER: T. Buhrage	10/4/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	300 ppb

TAL 20600-PSP-0016-B

Component	FRL	MDL (Soil)	MDL (Water)
Radium-226	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Radium-228	1.8 pCi/g	0.18 pCi/g	50.0 pCi/L
Thoriuim-228	1.7 pCi/g	0.17 pCi/g	50.0 pCi/L
Thorium-232	1.5 pCi/g	0.15 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-C

Component	FRL	MDL (Soil)
Aroclor-1254	0.13 mg/kg	0.013 mg/kg
Dieldrin	0.015 mg/kg	0.0015 mg/kg

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

TAL 20600-PSP-0016-E

Component	FRL	MDL (Soil)	MDL (Water)
Arsenic	12 mg/kg	1.2 mg/kg	20 ug/L
Beryllium	1.5 mg/kg	0.15 mg/kg	1.0 ug/L
Mercury	7.5 mg/kg	0.75 mg/kg	0.2 ug/L

TAL 20600-PSP-0016-F

Component	FRL	MDL (Soil)*	MDL (Water)
Cesium-137	1.4 pCi/g	0.14 pCi/g	50.0 pCi/L

TAL 20600-PSP-0016-H

Component	FRL	MDL (Soil)
benzo(a)anthracene	20.0 mg/kg	2.0 mg/kg
benzo(a)pyrene	2.0 mg/kg	0.2 mg/kg
benzo(b)fluoranthene	20.0 mg/kg	2.0 mg/kg
benzo(k)fluoranthene	200.0 mg/kg	20.0 mg/kg
chrysene	2000.0 mg/kg	200.0 mg/kg
dibenzo(a,h)anthracene	2.0 mg/kg	0.2 mg/kg
indeno(1,2,3-cd)pyrene	20.0 mg/kg	2.0 mg/kg

TAL 20600-PSP-0016-I

Component	FRL	MDL (Soil)	MDL (Water)
Bromodichloromethane	4.0 mg/kg	0.4 mg/kg	10 ug/L
1,1,-Dichloroethene	0.41 mg/kg	0.041 mg/kg	5 ug/L
Tetrachloroethene	3.6 mg/kg	0.36 mg/kg	10 ug/L

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT	Preservative	Holding Time	Container[b]	Sample Volume/Mass[d]
Rads TAL D	Soil	LSC	D/E[a]	48 hr.	Cool, 4°C	12 months	Glass or plastic with Teflon-lined lid	500 g (1500 g)[c]
Rads TALs A/B/F		Gamma or Alpha Spec	D/E[a]	30 days				
Metals TAL E		ICP-AES/MS	D/E[a]	14 days		6 months		
Pest/PCBs TAL C	Soil	GC	D/E[a]	14 days	Cool, 4°C	14 days	Glass with Teflon-lined lid	200 g (600 g)[c]
Rads TALs A/B/D/F	Water (rinsate)	Gamma or Alpha Spec	D/E[a]	30 days	HNO3, pH<2	6 months	Appropriately sized glass or plastic	4 L
Metals TAL E	Water (rinsate)	ICP-AES/MS	D/E[a]	14 days	HNO3, pH<2	6 months	Appropriately sized glass or plastic	500 mL
TAL H (SVOA)	Soil	Offsite	D/E[a]	14 day	Cool, 4°C	14 day	glass with teflon lined lid	50 g (150 g)[c]

6042

TAL I (VOA)	Soil	Offsite	D/E[a]	14 day	Cool, 4°C (also for % moisture)	48 hours	3-5 g. Encore samplers and 1-1 oz. (30 mL) wide mouth glass for % moisture analyses (fill to zero headspace)	See Container (fill to zero headspace)
					Freeze, –20 to -7 °C (Cool, 4°C for % moisture)	7 – 12 days		
TAL I (VOA)	Trip Blank (liquid)	Offsite	D/E[a]	14 day	H_2SO_4 pH < 2	14 days	3 x 40 ml Glass vial with Teflon lined septa	120 ml (fill to zero headspace)

[a] Samples will be analyzed according to ASL D requirements but the minimum detection level may cause some analyses to be considered ASL E.

[b] Sample container types may be changed at the direction fo the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[c] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one location in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

[d] If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-24
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 2 60 42
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 9/29/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

DRAFT

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the collection of one liquid grab sample from a trench on the southern end of the BSL. This liquid was spilled from a discovered pipe that extended approximately 100' north from the observation sump into the BSL. One sample is required to be collected from the water. The aqueous grab sample will be analyzed offsite for technetium-99 and total uranium. See Construction Lead or WAO Representative for the location of this sample.

See Attachment 1 for the TAL and the Sampling and Analytical Requirements.

The sample collected from this sample location shall be identified as A6E-BSL-A-1^R .

Where:

A6E = Area 6 Excavation
BSL Biodenitrification Surge Lagoon
A = Aqueous
1, 2, etc. = Consecutive Sample Locations
R = radionuclides (Total Uranium and Technetium-99)

Surveying required: No, surveying is not required.
Field QC samples required: No
Field data validation: Yes
Analytical data validation: No
Off-site data package requirements (if applicable): Results only

Historical data for shipping of the samples to be collected is 5.04 ug/L total uranium from sample A6E-NBSL-A-1.

Justification:
While removing a discovered pipe located by the former southern berm of the BSL, liquid spilled out of the pipe and into the trench created to remove the pipe. Sampling is required to verify/confirm that this liquid is not AWAC.

Per Section 1.3 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Debbie Brennan Date: 9/29/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Fiske	10-4-05	X	PROJECT MANAGER: J.D. Chiou	10/4/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	10/4/05
X	ANALYTICAL CUSTOMER SUPPORT: Paul S. McLurgan	10/4/05		RTIMP Manager	
X	WAO: Linda Barlow	10/5/05	X	SAMPLING MANAGER: T. Buhlinger	10/4/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

ATTACHMENT 1

TAL 20600-PSP-0016-A

Component	FRL	MDL (Soil)	MDL (Water)
Total Uranium	82 mg/kg	8.2 mg/kg	3 ppb

TAL 20600-PSP-0016-D

Component	FRL	MDL (Soil)*	MDL (Water)
Technetium-99	30.0 pCi/g	2.9 pCi/g	10 pCi/L

* If the WAC is lower than the established FRL, the MDL will be set at 10 percent of the OSDF WAC.

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Method	ASL	TAT*	Preservative	Holding Time	Container[a]	Sample Volume/Mass
TAL A (Rads) TAL D (Rads)	Liquid	Offsite	B	48 hr	HNO_3, pH < 2	6 months	Appropriate glass or	500 ml

[a] Sample container types may be changed at the direction for the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-25
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 1 of 3
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 10/3/05

VARIANCE / FIELD CHANGE NOTICE (Include justification):

EXCAVATION CONTROL SAMPLING

This Variance/Field Change Notice (V/FCN) documents the resampling of 2 grab soil samples from paddys created to represent trenches made during excavation of utilities on the and south end of the Biodenitrification Surge Lagoon (BSL) for VOAs (TAL I). Consult the construction or WAO lead for the location of the paddys. See Attachment 1 for the TALs and the Sampling and Analytical Requirements.

Because the resamples are to be taken of existing paddys, every effort should be made to collect material from the bottom, center portion of the paddy. The 2 samples to be resampled for VOAs are as follows.

A6E-BSL-TP-8^L
A6E-BSL-SM-1^L

The trip blank shall be identified as A6E-BSL-TP-L-TB3.

Where:

- A6E = Area 6 Excavation
- BSL = Biodenitrification Surge Lagoon
- TP = Samples of paddys from bottom of trench
- SM = Special Material
- 1, 2 = Consecutive Sample Numbers (Locations)
- L = volatile organic analyses
- D = Duplicate
- TB = Trip Blank

Surveying required: NA
Field QC samples required: Yes
Field validation required: Yes
Analytical data validation required: Yes – ASL D
Data package required: ASL D

Historical data for shipping of the samples to be collected is 6.86 mg/kg total uranium from boring A6BSL-B-02.

VARIANCE / FIELD CHANGE NOTICE	Significant? (Yes or No): NO	V/F: 20600-PSP-0016-25
WBS NO.: PROJECT/DOCUMENT/ECDC # 20600-PSP-0016 Rev.A		Page: 2 of 3
PROJECT TITLE: Project Specific Plan For Excavation Control And Precertification Of The Area 6 Waste Pits And General Area		Date: 10/3/05

Justification:

Samples are required to confirm/verify that no above-FRL areas exist for any of the ASCOCs for this trenched area and are being resampled due to the previously collected samples exceeding 2 times the hold time in the lab before analysis.

Per Section 1.3 of the PSP, the collection of physical samples will be documented with a V/FCN.

REQUESTED BY: Debbie Brennan Date: 10/3/05

X IF REQD	VARIANCE/FCN APPROVAL	DATE	X IF REQD	VARIANCE/FCN APPROVAL	DATE
X	QUALITY ASSURANCE: R. Fricke	10/4/05	X	PROJECT MANAGER: J. E. Chico	10/4/05
	DATA QUALITY MANAGEMENT		X	CHARACTERIZATION MANAGER: F. Miller	10/4/05
X	ANALYTICAL CUSTOMER SUPPORT: Paul S. McGurgan	10/4/05		RTIMP Manager	
X	WAO Jenda Barlow	10/6/05	X	SAMPLING MANAGER: T. Buhrage	10/4/05

VARIANCE/FCN APPROVED [X]YES [ ]NO REVISION REQUIRED: [ ]YES [x]NO

DISTRIBUTION

PROJECT MANAGER:	DOCUMENT CONTROL: Jeannie Rosser	OTHER:
QUALITY ASSURANCE:	CHARACTERIZATION MANAGER: Frank Miller	OTHER:
FIELD MANAGER:	OTHER:	OTHER:

TAL 20600-PSP-0016-I

Component	FRL	MDL (Soil)	MDL (Water)
Bromodichloromethane	4.0 mg/kg	0.4 mg/kg	10 ug/L
1,1,-Dichloroethene	0.41 mg/kg	0.041 mg/kg	5 ug/L
Tetrachloroethene	3.6 mg/kg	0.36 mg/kg	10 ug/L

SAMPLING AND ANALYTICAL REQUIREMENTS

Analyte	Sample Matrix	Lab	ASL	TAT	Preservative	Holding Time	Container[b]	Sample Volume/Mass[d]
TAL I (VOA)	Soil	Offsite	D/E[a]	14 day	Cool, 4°C (also for % moisture)	48 hours	3-5 g. Encore samplers and 1-1 oz. (30 mL) wide mouth glass for % moisture analyses (fill to zero headspace)	See Container (fill to zero headspace)[c]
					Freeze, –20 to -7 °C (Cool, 4°C for % moisture)	7 – 12 days		
TAL I (VOA)	Trip Blank (liquid)	Offsite	D/E[a]	14 day	H_2SO_4 pH < 2	14 days	3 x 40 ml Glass vial with Teflon lined septa	120 ml (fill to zero headspace)

[a] Samples will be analyzed according to ASL D requirements but the minimum detection level may cause some analyses to be considered ASL E.

[b] Sample container types may be changed at the direction fo the Field Sampling Lead, as long as the volume requirements, container compatibility requirements, SCQ requirements are met.

[c] At the direction of the Field Sampling Lead, triple the specified volume must be collected for all samples at one location in order for the contract laboratory to perform the required quality control analysis. The samples shall be identified on the Chain of Custody/Request for Analysis forms as "designated for laboratory QC".

[d] If "push tubes" are used for sampling, the off-site laboratories will be sent container blanks. If an alternative sample method is used, a rinsate will be collected by the Field Technicians.

6042

6042

Department of Energy

Ohio Field Office
Fernald Closure Project
175 Tri-County Parkway
Springdale, Ohio 45246
(513) 648-3155

OCT 12 2005

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0002-06

Mr. Thomas Schneider, Project Manager
Ohio Environmental Protection Agency
Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

TRANSMITTAL OF THE FINAL EXCAVATION PLAN FOR AREA 6 WASTE PITS AND GENERAL AREA AND THE REVISED PROJECT SPECIFIC PLAN FOR EXCAVATION CONTROL AND PRECERTIFICATION OF THE AREA 6 WASTE PITS AND GENERAL AREA (SUPPLEMENT TO 20300-PSP-0011)

References:

1) Letter, J. Saric to J. Reising, "Area 6 Waste Pits and General Area Excavation PSP," dated May 24, 2005
2) DOE-0265-05, W. Taylor to J. Saric/T. Schneider, "Transmittal of Responses to Comments on the Draft Excavation Plan for Area 6 Waste Pits and General Area," dated June 21, 2005
3) Letter, T. Schneider to W. Taylor, "Approval - Project Specific Plan for Excavation Control and Precertification of the Area 6 Waste Pits and General Area," dated June 28, 2005
4) DOE-0281-05, W. Taylor to J. Saric/T. Schneider, "Transmittal of Revised Responses to Comments on the Draft Excavation Plan for Area 6 Waste Pits and General Area," dated July 7, 2005
5) Letter, T. Schneider to W. Taylor, "Approval - Revised RTC on the Excavation Plan for Area 6 Waste Pits and General Area," dated July 18, 2005
6) Letter, J. Saric to J. Reising, "Area 6 Waste Pits and General Area Excavation Plan RTC," dated August 25, 2005

Enclosed for your approval are the final Excavation Plan for Area 6 Waste Pits and General Area and the revised Project Specific Plan (PSP) for Excavation Control and Precertification of the Area 6 Waste Pits and General Area (Supplement to 20300-PSP-0011). The PSP was approved by the U.S. Environmental Protection Agency and Ohio Environmental Protection Agency as noted in References 1 and 3, however, it has been revised to incorporate comment responses from the Excavation Plan that affected this document. This PSP also includes variances associated with Revision A. The Excavation Plan has been revised to include the approved comment responses as noted in the remaining references above.

If you have any questions or require additional information, please contact Johnny Reising at (513) 648-3139.

Sincerely,

Johnny Reising

for William J. Taylor
Director

FCP:Reising

Enclosure

6042

Enclosure

cc w/enclosure:
D. Pfister, OH/FCP
J. Reising, OH/FCP
T. Schneider, OEPA-Dayton (three copies of enclosures)
G. Jablonowski, USEPA-V, SR-6J
C. Connell, ATSDR
M. Cullerton, Tetra Tech
M. Shupe, HSI GeoTrans
R. Vandegrift, ODH
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosure:
J. Chiou, Fluor Fernald, Inc./MS88
M. Jewett, Fluor Fernald, Inc./MS1
F. Johnston, Fluor Fernald, Inc./MS12
C. Murphy, Fluor Fernald, Inc./MS1
ECDC, Fluor Fernald, Inc./MS52-7

EXCAVATION PLAN FOR AREA 6 WASTE PITS AND GENERAL AREA

FERNALD CLOSURE PROJECT
FERNALD, OHIO

OCTOBER 2005

U.S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

6042

20600-PL-0005
REVISION 0
FINAL

6042

EXCAVATION PLAN FOR AREA 6 WASTE PITS AND GENERAL AREA

FERNALD CLOSURE PROJECT
FERNALD, OHIO

OCTOBER 2005

U.S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

20600-PL-0005
REVISION 0
FINAL

TABLE OF CONTENTS

Page

List of Acronyms and Abbreviations v
List of Figures iv
List of Tables iv

1.0 Introduction 1-1
1.1 Exclusions 1-3
1.2 Remediation Area Background and Description 1-3
1.2.1 Waste Pit 1 1-3
1.2.2 Waste Pit 2 1-4
1.2.3 Waste Pit 3 1-4
1.2.4 Waste Pit 4 1-4
1.2.5 Waste Pit 5 1-5
1.2.6 Waste Pit 6 1-5
1.2.7 Burn Pit 1-5
1.2.8 Clearwell 1-6
1.2.9 Building 91A (Gas Cleaning System/Water Treatment System Building) 1-6
1.2.10 Building 91B (Material Handling Building) 1-6
1.2.11 Building 91C (Railcar Loading Building) 1-6
1.2.12 Building 91D (Railcar Preparation and Liner Storage Building) 1-6
1.2.13 Building 91E (Maintenance Building) 1-6
1.2.14 Building 91F (Warehouse) 1-7
1.2.15 Building 91G (Truck Wash/Pump House) 1-7
1.2.16 Building 91H (Geo Laboratory) 1-7
1.2.17 Biodenitrification Surge Lagoon 1-7
1.2.18 Storm Water Management Pond (SWM Pond) 1-7
1.2.19 Building 24C Locomotive Maintenance Building 1-7
1.2.20 OU1 Railyard 1-7
1.3 Discussion Areas 1-8
1.4 Scope and General Approach of the Excavation Plan 1-8
1.5 Programmatic Strategy 1-9
1.5.1 Predesign Investigation 1-9
1.5.2 Remedial Design 1-9
1.5.3 Remedial Action 1-10
1.5.4 Precertification 1-10
1.5.5 Certification 1-10
1.5.6 Post-Remedial Action 1-10
1.6 Summary of the Regulatory Drivers 1-11
1.6.1 Permits 1-11
1.6.2 Natural Resource Trusteeship and Related Natural and Cultural Resource Regulations 1-11
1.6.2.1 Threatened and Endangered Species 1-11
1.6.2.2 Wetlands/Floodplains 1-12
1.6.2.3 Resolution of DOE's Liability for Injuries to Natural Resources 1-12
1.6.2.4 Cultural Resource Management 1-13

Page

2.0 Predesign Investigations and Characterization Data 2-1
2.1 Summary of the RI/FS Investigation 2-1
2.1.1 Preliminary Constituents of Concern 2-1
2.1.2 On-Site Disposal Facility Waste Acceptance Criteria 2-1
2.1.3 Final Remediation Levels for Soil 2-1
2.1.4 Hazardous Waste Management Units 2-2
2.1.5 Underground Storage Tanks 2-2
2.1.6 Identification of Potentially Characteristic Areas 2-2
2.2 Summary of Surface and Subsurface Physical Conditions 2-2
2.2.1 High-Leachability Zones 2-3
2.3 Summary of Predesign Investigations 2-3
2.3.1 Above-WAC Areas and Boundaries 2-5
2.3.2 Above-FRL Exceedences Areas and Boundaries 2-8
2.3.3 Real-Time Scanning Within Area 6 Waste Pits and General Area 2-15
2.4 Identification of Area-Specific COCs 2-15

3.0 Remedial Approach 3-1
3.1 Introduction 3-1
3.2 Site Preparation 3-1
3.2.1 Utility Isolation/Protection/Installation 3-1
3.2.2 Remaining Utilities 3-2
3.2.3 Surveying 3-2
3.2.4 Construction Fencing 3-2
3.2.5 Erosion and Sediment Control 3-2
3.2.6 Utility Isolation/Protection/Installation 3-3
3.3 Storm Water Management 3-3
3.3.1 Waste Pits 3-3
3.3.2 WPRAP Process Area 3-4
3.3.3 SP-7 Operational Area 3-4
3.3.4 OU1 Railyard 3-4
3.3.5 Site Storm Water Treatment Capacity 3-4
3.4 Remedial Excavation 3-5
3.4.1 Above-WAC Excavations 3-5
3.4.2 HWMUs and USTs 3-6
3.4.3 General Excavation 3-7
3.4.3.1 Waste Pit 1 3-8
3.4.3.2 Waste Pit 2 3-8
3.4.3.3 Waste Pit 3 3-8
3.4.3.4 Waste Pit 4 3-8
3.4.3.5 Waste Pit 5 3-9
3.4.3.6 Waste Pit 6 3-9
3.4.3.7 Burn Pit 3-9
3.4.3.8 Clearwell 3-9
3.4.3.9 WPRAP Support Area 3-10
3.4.3.10 WPRAP Process Area 3-10
3.4.3.11 Biodenitrification Surge Lagoon 3-10

Page

3.4.3.12 SWM Pond 3-11
3.4.3.13 SP-7 Operational Area 3-12
3.4.3.14 Locomotive Maintenance Building and OU1 Railyard Area 3-12
3.4.3.15 Former Solid Waste Landfill 3-12
3.4.3.16 Area West of Waste Pits 3-13
3.4.4 Utilities Removal 3-13
3.5 At- and Below-Grade Structures 3-14
3.6 Prohibited Materials 3-15
3.7 Interim Restoration 3-15
3.8 Precertification 3-16

References R-1

LIST OF APPENDICES

Appendix A Predesign Characterization Data for Area 6 General Area
Appendix B Real-Time Map of Area 6 Waste Pits and General Area
Appendix C List of Drawings and Technical Specifications

LIST OF TABLES

Table 2-1 Preliminary Area-Specific Constituents of Concern Per Table 2-7 of the Sitewide Excavation Plan
Table 2-2 ASCOCs That Drive Excavation in the Area 6 Waste Pits and General Area
Table 2-3 HWMUs in Area 6 Waste Pits for Closure
Table 2-4 Summary of Items to be Addressed During Excavation Control
Table 3-1 Area 6 General Quantities

LIST OF FIGURES

Figure 1-1 Generalized Sitewide Remediation Areas
Figure 1-2 Area 6 Waste Pits General Area
Figure 2-1 Area 6 Waste Pits General Area
Figure 2-2 RI/FS Borings
Figure 2-3 RI/FS Borings
Figure 2-4 RI/FS Borings
Figure 2-5 RI/FS Borings
Figure 2-6 RI/FS Borings
Figure 2-6A RI/FS Boring Identifications for Figure 2-6
Figure 2-7 RI/FS Borings
Figure 2-8 RI/FS Borings
Figure 2-9 RI/FS Borings
Figure 2-10 Predesign Borings
Figure 2-11 Predesign Borings
Figure 2-12 Predesign Borings
Figure 2-13 Predesign Borings
Figure 2-14 Predesign Borings
Figure 2-15 Predesign Borings
Figure 2-16 Predesign Borings
Figure 2-17 Predesign Borings
Figure 2-18 Area 6 General Area, Above-WAC Areas #1 and #2
Figure 2-19 Area 6 General Area, Above-WAC Areas #4 through #8
Figure 2-20 Area 6 Waste Pits and General Area, Unbound Above-FRL Areas

LIST OF ACRONYMS AND ABBREVIATIONS

ALARA	As Low As Reasonably Achievable
ASCOC	area-specific constituent of concern
AWWT	Advanced Waste Water Treatment (Facility)
BSL	Biodenitrification Surge Lagoon
CAWWT	Converted Advanced Waste Water Treatment (Facility)
CDL	Certification Design Letter
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFC	Certified for Construction
CFR	Code of Federal Regulations
COC	constituent of concern
CT	Construction Traveler
CU	certification unit
D&D	Decontamination and Dismantlement
DOE	U.S. Department of Energy
EMS	Excavation Monitoring System
EPA	U.S. Environmental Protection Agency
FCP	Fernald Closure Project
FRL	final remediation level
GMA	Great Miami Aquifer
gpm	gallons per minutes
HDPE	high density polyethylene
HPGe	high-purity germanium (detector)
HWMU	hazardous waste management unit
IRDP	Integrated Remedial Design Package
mg/kg	milligrams per kilogram
NPDES	National Pollution Discharge Elimination System
NRRP	Natural Resource Restoration Plan
NRTs	Natural Resource Trustees
OEPA	Ohio Environmental Protection Agency
OMTA	OSDF Material Transfer Area
OSDF	On-Site Disposal Facility
OSHA	Occupational Safety and Health Administration
OU	operable unit
PCB	polychlorinated biphenyl
pCi/g	picoCuries per gram
PID	photoionization detector
ppb	part per billion
ppm	parts per million
PSP	Project Specific Plan
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SEP	Sitewide Excavation Plan

LIST OF ACRONYMS AND ABBREVIATIONS
(Continued)

SMTA	Special Materials Transfer Area
SP	Soil Stockpile
SWM	Storm Water Management (Pond)
SWPPP	Storm Water Pollution Prevention Plan
SWRB	Storm Water Retention Basin
TCLP	Toxicity Characteristic Leachate Procedure
UAP	uranyl ammonium phophate
UST	underground storage tank
WAC	waste acceptance criteria
WAO	Waste Acceptance Organization
WPRAP	Waste Pits Remedial Action Project
yd^3	cubic yards

1.0 INTRODUCTION

This Excavation Plan addresses the U.S. Department of Energy's (DOE's) remediation of debris and impacted soil within portions of Area 6 at the Fernald Closure Project (FCP) in southwestern Ohio (Figure 1-1). This includes the remediation of soil underneath the contaminated liners of the Clearwell, Burn Pits, and Waste Pits 1 through 6, as well as, debris and impacted soil from the Waste Pits Remedial Action Project (WPRAP) process and support areas, Biodenitrification Surge Lagoon (BSL), Locomotive Maintenance Building, and Operable Unit (OU) 1 Railyard.

To expedite site cleanup, the FCP was re-organized into nine remediation areas (Figure 1-1) based on the OU concept and including off-site locations adjacent to the FCP property. Area 6 is divided into five components:

- Solid Waste Landfill and Fire Training Facility
- OU1 Stockpile Area
- Former Production Area
- Waste Pits
- General Area

The Area 6 Solid Waste Landfill and Fire Training Facility Integrated Remedial Design Package (IRDP, DOE 2003a), and Area 6 OU1 Stockpile Area IRDP (DOE 2004a) have already been submitted and approved by the regulatory agencies. The Excavation Plan for the Area 6 Former Production Area (DOE 2005a) was submitted to the agencies for review. This document only addresses the remediation of Area 6 Waste Pits and General Area and does not address the remediation of Area 6 as a whole.

The remediation of Area 6 Waste Pits and General Area will be performed using a different approach than has been presented in past Implementation Plans.

Most of the soil remediation of the waste pit footprints is part of an ongoing excavation. The waste pit caps, liners, waste pit materials, as well as visibly detectable product and above-waste acceptance criteria (WAC) materials underneath the liners have been remediated under the OU1 Record of Decision (ROD, DOE 1995a). As such, removal of known above-WAC material from the waste pit footprints is governed by OU1 remediation and is therefore not included in this plan. This plan does cover the subsequent above-final remediation level (FRL) and unexpected above-WAC soil excavation in the Waste Pit footprints.

Conversely, removal of above-WAC soil and debris outside the waste pit footprints is governed by the OU5 and/or OU3 RODs (DOE 1996a and 1996b) and is therefore addressed in this plan. Above-WAC areas are bounded both vertically and laterally by either physical sampling or real time scanning. There are ten known above-WAC areas outside the waste pits and are shown on the design drawings and are detailed in Section 2. Additional above-WAC areas and concrete floors may be discovered during remedial excavation and will be bounded in accordance with the Project Specific Plan (PSP) for Excavation Control of Area 6 Waste Pits and General Area (DOE 2005b). In order to accelerate the construction of an overflow parking lot, above-WAC Area #6 located north of the BSL will be excavated at risk prior to this document being submitted to the agency for review.

For above-FRL soil areas both within and outside the waste pit footprints, bounding of contaminants is governed by the OU5 ROD and is therefore addressed in this plan. Depending on data availability, impacted soil excavations have been bounded in some cases to the last above-FRL sample location or conservatively expanded beyond the last above-FRL sample location based on previous experience and process knowledge. The Excavation Control PSP will be used to determine the extent of excavation beyond the design grade. Due to the nature of this highly disturbed area (by both construction of the OU1 facilities and excavation already conducted by the Waste Pit Project), three-dimensional modeling of the extent of contamination has not been performed for this IRDP as in other IRDPs.

Remedial activities in the Area 6 Waste Pits and General Area will take place in accordance with the OU5 ROD, which addresses remediation of soil, sediment and environmental media. The remedial activities for the remediation of Waste Pit content is being performed in accordance with the OU1 ROD and the Amendment to the OU1 ROD Declaration (DOE 2003b), which addresses the remediation of Waste Pits 1 through 6, the Burn Pit, the Clearwell, and berms, liners, and soil within the OU1 boundary. Remediation of OU1 material is not addressed in this document.

This Excavation Plan and the Sitewide Excavation Plan (SEP, DOE 1998a) satisfy the Amended Consent Agreement [U.S. Environmental Protection Agency (EPA) 1991] requirement for a remedial action (RA) work plan. In addition, this Excavation Plan and the associated remedial design (RD) construction drawings and technical specifications constitute the IRDP, as outlined in the Remedial Design Work Plan for Remedial Actions at OU5 (DOE 1996c). As the integrating document for the IRDP, this Excavation Plan is issued for regulatory agency review of the RD and summarizes the RA scope of work. RAs described in this plan are being conducted in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and corrective action requirements of the Resource Conservation and Recovery Act (RCRA). The Excavation Plan conforms to the general model outline for IRDPs provided in Section 7.0 of the SEP.

The remediation of Area 6 Waste Pits and General Area is scheduled for execution from May 2005 to September 2005.

Section 1.0 of this Excavation Plan describes the scope of work for the Area 6 Waste Pits and General Area, including the remedial background and description, scope and general approach of the Excavation Plan, and programmatic strategy.

1.1 EXCLUSIONS

This document is being submitted to govern a specific area within Remedial Area 6 and does not address the remediation of Area 6 as a whole. As such, the Area 6 components for 1) Solid Waste Landfill and Fire Training Facility, 2) Former Production Area, and 3) OU1 Stockpile Area are excluded from this document. In addition, this document does not address the remediation of waste material within Waste Pits 1 through 6, the Burn Pit, Clearwell, associated caps and contaminated liners, and visible product and known above-WAC material underneath the liners. The remediation of the above-grade structures associated with the OU1 treatment facilities is not addressed in this Excavation Plan [see OU1 Decontamination and Dismantlement Implementation Plan (DOE 2004b) for above-grade remediation scope]. The above-grade remediation of the Locomotive Maintenance Building (24C) and the Methanol Tank (18J) is not addressed in this Excavation Plan [see Miscellaneous Small Structures (Phase II) Implementation Plan for Above-Grade Decontamination and Dismantlement (DOE 2002a), Components 18J and 24C].

1.2 REMEDIATION AREA BACKGROUND AND DESCRIPTION

The Area 6 Waste Pits and General Area is in the western and northern portion of the FCP (see Figure 1-2). The area is approximately 86 acres and generally includes the Waste Pit and OU1 process areas, BSL, OU1 railyard, Soil Stockpile (SP)-7 above-WAC Stockpile Area, former Solid Waste Landfill, and a majority of the remaining site railroad system. The following is a brief description of each major facility or structure within Area 6 Waste Pits and General Area.

1.2.1 Waste Pit 1

Waste Pit 1 was constructed in 1952 and is considered a dry pit, since the waste slurries other than effluent from the general sump were filtered or calcined to remove water before they were placed in the pit. This waste pit received primarily depleted magnesium fluoride slag, and depleted residues with small amounts of trailer cake, uranyl ammonium phophate (UAP) filtrate, graphite/ceramics, and general sump sludge. It was used as a clearwell for liquids removed from Waste Pit 2 in 1958 and 1959. Waste Pit 1 was closed and covered with clean fill in 1959. The OU1 remediation of Waste Pit 1 has been completed.

1.2.2 Waste Pit 2

In 1957, Waste Pit 2 was constructed northeast of Waste Pit 1. Waste Pit 2 is also considered a dry pit and received primarily trailer cake and general sump sludge with smaller amounts of UAP filtrate, raffinate, depleted residues, and graphite/ceramics. Waste Pit 2 was also used as a settling basin for neutralized raffinate during 1958 and 1959, prior to completion of Waste Pit 3, because the drying equipment available at that time could not process all of the raffinate produced by plant operations. Waste Pit 2 was closed and covered with clean fill in 1964. The OU1 remediation of Waste Pit 2 has been completed.

1.2.3 Waste Pit 3

Waste Pit 3 was placed in service in December 1958, and was the first water pit built specifically for settling solids from liquid waste streams. Primarily, lime-neutralized raffinate slurries, as well as contaminated storm water from the Burn Pit, were pumped to Waste Pit 3. After Waste Pit 2 was filled, Waste Pit 3 received general sump sludge, raffinate, trailer cake and slag leach with lesser amounts of water treatment sludge, and thorium wastes. Starting in December 1958, lime sludge from the Water Treatment Plant was added to supplement the lime used for raffinate neutralization. Also, large quantities of neutralized residues from acid leaching of uranium-bearing magnesium fluoride slag were pumped to Waste Pit 3 during the late 1960s, prior to completion of Waste Pit 5. In 1973, fill material, including filter cake, slag leach residue, lime sludge, and flyash, was placed in Waste Pit 3, and construction activities were initiated to cover this waste pit with soil. Waste Pit 3 covering activities were completed in 1977. The OU1 remediation of Waste Pit 3 has been completed.

1.2.4 Waste Pit 4

Waste Pit 4 was constructed in 1960 and received solid wastes that included trailer cake, depleted slag, and depleted residues, with lesser amounts of thorium wastes and graphite/ceramics, as well as unknown quantities of noncombustible wastes. The process residues included filter sludges, raffinates, graphite, magnesium fluoride slag, and pyrophoric uranium-bearing materials. Thorium metal and residues were hauled to the waste pits in drums and were placed in Waste Pit 4, when additional metal recovery was not economically feasible. At least 100 drums were deposited on the west side of this pit. Waste Pit 4 also received noncombustible trash, including cans, concrete, asbestos, and construction rubble. Lime was occasionally added to standing water within Waste Pit 4 for uranium precipitation prior to the transfer of liquids to Waste Pit 5 for settling and discharge. Barium-chloride-contaminated floor sweepings were also disposed in Waste Pit 4 from 1980 to 1983. Disposal activities in Waste Pit 4 were terminated in 1985. Waste Pit 4 was classified as a hazardous waste management unit (HWMU) in 1984, because it was believed that the pit contained characteristic barium waste, since this waste pit was used to dispose of barium chloride salts from May 1981 to April 1983.

The waste pit was closed in 1986. An interim cover placed over the pit in 1988 and 1989. During interim closure, the pit was covered with fill material, clay, and a polyethylene liner. The OU1 remediation of Waste Pit 4 was completed in October 2004.

1.2.5 Waste Pit 5

Waste Pit 5 was constructed and placed into service in 1968. Waste Pit 5 served as a settling basin for slurries in the form of general sump sludge, raffinate, slag leach, water treatment sludge, and thorium waste. Lime sludge was added to this waste pit to supplement the lime used to neutralize the raffinate and heat treatment quench water was discharged directly to Waste Pit 5. The supernatant and sludges produced by the co-precipitation of thorium wastes with barium chloride and aluminum sulfate, and by precipitation of uranium with calcium oxide, were deposited in Waste Pit 5. The discharge of slurried waste materials into Waste Pit 5 was stopped in 1983 and use of this waste pit as a settling basin was discontinued in 1987. The OU1 remediation of Waste Pit 5 was completed in September 2004.

Waste Pit 5 was declared an HWMU in 1991 because, at that time, it was believed that it had received waste water containing solvent concentrations in excess of 25 parts per million (ppm) spent 1,1,1-trichloroethane, an F-listed hazardous waste under RCRA. This designation was re-evaluated, and it was found the discharge concentrations were less than 25 ppm, thus qualifying Waste Pit 5 for the waste water exemption under State of Ohio regulations. Accordingly, the designation of Waste Pit 5 as a HWMU, managing listed wastes, has been withdrawn.

1.2.6 Waste Pit 6

Waste Pit 6 was constructed from September 1978 to June 1979, and received only depleted wastes in the form of depleted slag and depleted residues. Extrusion residue and heat treatment quench water were also deposited in Waste Pit 6. Use of Waste Pit 6 ceased in 1985. The OU1 remediation of Waste Pit 6 was completed in August 2004.

1.2.7 Burn Pit

The clay used to line Waste Pits 1 and 2 during their construction was obtained from an area immediately northeast of Waste Pit 2, which at that time was called the clay pit. A gravel-dumping pad was eventually built up on the north end of the resulting excavation so that trucks could back into the deepest part of the waste pit to dump combustible wastes. Thus, the waste pit became known as the Burn Pit. Although records were not keep on all the materials or amounts deposited, it is known that the Burn Pit was used primarily to burn combustible materials such as laboratory chemicals, pyrophoric materials, reactive chemicals, oils, low-level contaminated combustible material (such as pallets, skids, and cafeteria debris). In addition, several materials were deposited directly into the Burn Pit, including cans, bottles, general

refuse, and laboratory glassware. The Burn Pit was filled in 1968 during the construction of Waste Pit 5. The OU1 remediation of the Burn Pit has been completed.

1.2.8 Clearwell

The Clearwell was construction in 1959 during Waste Pit 3 construction activities and received runoff from the waste pits and surface liquid (supernatant) from Waste Pits 3 and 5. It acted as a final settling basin prior to periodic discharge to the Great Miami River. During OU1 remediation the Clearwell, it was used to collect contaminated surface water from the waste pits. The OU1 remediation of the Clearwell was completed in October 2004.

1.2.9 Building 91A (Gas Cleaning System/Water Treatment System Building)

Building 91A held the components of a gas cleaning system that was used to treat off gases from the dryer system east of the building. This building also contained components of water treatment system used to treat waste water generated from OU1 remediation. Building 91A was taken out of service in October 2004 and Decontamination and Dismantlement (D&D) of the building was completed in January 2005.

1.2.10 Building 91B (Material Handling Building)

Material excavated from the waste pits as part of OU1 remediation was received and stored in Building 91B. Building 91B includes below-grade mixing pits where material could be blended to adjust for moisture content. The D&D of Building 91B was completed in August 2005.

1.2.11 Building 91C (Railcar Loading Building)

Waste pit material that was ready for transportation to the off-site disposal facility was moved from the Material Handling Building to the Railcar Loading Building and stored in one of six bins. When railcars were ready to be loaded, they were moved inside the building and the material was transferred from the bins to empty railcars. The D&D of Building 91C was completed in August 2005.

1.2.12 Building 91D (Railcar Preparation and Liner Storage Building)

In this building, empty railcars were prepped and liners were installed. The D&D of Building 91D was completed in August 2005.

1.2.13 Building 91E (Maintenance Building)

OU1 maintenance activities were performed in this building. The building was divided into contaminated and non-contaminated work areas. Building 91E was taken out of service in October 2004 and D&D of the building was completed in January 2005.

1.2.14 Building 91F (Warehouse)

OU1 project supplies and spare parts were stored in this building. The D&D of Building 91F was completed in July 2005.

1.2.15 Building 91G (Truck Wash/Pump House)

This facility was used to clean articulated dump truck leaving the waste pits before moving to the Material Handling Building.

1.2.16 Building 91H (Geo Laboratory)

The Geo-Laboratory was used to conduct geotechnical analyses on samples of waste pit material.

1.2.17 Biodenitrification Surge Lagoon

The BSL was originally constructed in 1985 as a basin to hold treatment water containing elevated concentrations of nitrates that were to be treated through the Biodenitrification Surge Towers located southeast of the site's western water tower. The lagoon was modified in 1989 by having the original (40 mil thick) synthetic liner replaced with a thicker one (60 mil) and by having a new second synthetic liner and leachate collection system installed over the replaced liner. After the Biodenitrification Towers were removed from service, the BSL became a basin for holding waste water requiring Advanced Waste Water Treatment (AWWT) Facility Phase II treatment.

1.2.18 Storm Water Management Pond (SWM Pond)

The SWM Pond was used to hold waste water generated from OU1 remediation prior to being treated in Building 91A and then pumped for AWWT Phase II treatment via the BSL. Originally this pond collected runoff from the OU1 process area. When remediation of the Clearwell began, the Clearwell could no longer take water from the waste pit excavations. Surface water from the waste pits still under OU1 remediation was then pumped to the SWM Pond for subsequent treatment.

1.2.19 Building 24C Locomotive Maintenance Building

The facility was used to perform maintenance activities on railcars.

1.2.20 OU1 Railyard

The OU1 Railyard was used to store empty and loaded railcars and was used to assemble the unit trains that transported waste material, primarily from the OU1 Remediation Project, to an off-site disposal facility.

1.3 DISCUSSION AREAS

The Area 6 Waste Pits and General Area Remediation Area has been subdivided into 16 distinct subareas for purpose of discussion in Sections 2 and 3 of this document, as follows:

- Waste Pit 1
- Waste Pit 2
- Waste Pit 3
- Waste Pit 4
- Waste Pit 5
- Waste Pit 6 (this includes the general area north and east of Pit 6)
- Burn Pit
- Clearwell (this includes the general area around the Clearwell and south of Pit 1)
- WPRAP Support Area (west)
- WPRAP Process Area (east)
- Biodenitrification Surge Lagoon (otherwise known as the BSL)
- SWM Pond (otherwise known as the OU1 Storm Water Management Pond)
- SP-7 Operational Area
- Locomotive Maintenance Building and OU1 Railyard Area
- Former Solid Waste Landfill Area
- Area West of Waste Pits (this does not include Paddys Run)

1.4 SCOPE AND GENERAL APPROACH OF THE EXCAVATION PLAN

The Area 6 Waste Pits and General Area Excavation Plan consists of the following sections:

- Section 1.0 - Introduction, which summarizes the purpose and scope of this Excavation Plan and describes programmatic strategies and requirements for this remedial action project.

- Section 2.0 - Predesign Investigations and Characterization Data for the Area 6 Waste Pits and General Area, which describes the constituents of concern (COCs) for the Area 6 Waste Pits and General Area, the subsurface conditions, the nature and extent of contamination, and the anticipated excavation boundaries based on Remedial Investigation/Feasibility Study (RI/FS) data and other data collected to fill data gaps.

- Section 3.0 - Remedial Action Approach, which presents the work associated with site preparation, and presents the strategy for above-WAC and RCRA excavations, general excavation to remove contaminated soil, real-time monitoring of the excavation surface, management of waste streams in accordance with final disposition requirements, management of surface and perched water in the excavation, and documentation that the soil in the area meets the FRLs for all COCs.

- Appendix A - Characterization Data for the Area 6 Waste Pits and General Areas, which tabulates predesign characterization data used to develop the remedial strategy.

- Appendix B - Real-Time Map for Area 6 Waste Pits and General Areas

- Appendix C - List of Drawings and Specifications issued with this Excavation Plan.

The area-specific RD/RA process at the FCP is illustrated on Figure 1-1 of the SEP and involves the following steps:

- Predesign investigations
- Remedial design
- Remedial action
- Precertification of excavated areas
- Certification of excavated areas
- Post-remedial action.

1.5 PROGRAMMATIC STRATEGY

This Excavation Plan includes the first of four steps of the programmatic strategy.

Specific performance requirements to accomplish the scope of work presented in this plan are provided in the technical specifications, and the Construction Traveler (CT). The CT will be reviewed and approved by the DOE and Fluor Fernald.

1.5.1 Predesign Investigation

Predesign activities began in the Area 6 Waste Pits and General Area in April 2004. These predesign investigations were conducted to supplement RI/FS information on the nature and extent of contamination in Area 6. These predesign investigations were performed, in general, to identify the extent of soil exceeding the various action levels (i.e., RCRA, WAC, FRL). The specific goals of these predesign sampling investigations included filling data gaps, confirming questionable analytical results, bounding above-WAC or above-FRL areas, and investigating potentially characteristic areas. Section 2.3 addresses the PSPs used to predesign the area addressed in this IRDP.

1.5.2 Remedial Design

The RD began in January 2005 and will continue through completion of the Certified-for-Construction (CFC) package. Title I/II design began in February 2004, and the specifications and drawings submitted with this Excavation Plan build upon the Area 3B/4B/5 and Area 6 Former Production Area construction designs.

The design-grade for excavation is depicted on the construction drawings and is based on:

- RI/FS data on the nature of COC concentrations in soil and perched groundwater
- Data collected during predesign investigations to delineate the extent of contamination for above-WAC, RCRA, and below-WAC zones
- Excavation required to control surface water.

1.5.3 Remedial Action

The RA for the Area 6 Waste Pits and General Area will be performed in accordance with Section 3.0 and is scheduled to begin in May 2005.

The extent of excavation will be based on actual field conditions (e.g., previously unidentified debris), radiological field survey measurements (i.e., real-time surveys), and physical sampling results. In particular, real-time surveys will be used to minimize the excavation volume of above-WAC uranium contamination (Section 3.3) and to evaluate potential increase of the below-FRL soil volume that must be hauled to the On-Site Disposal Facility (OSDF).

Impacted material is defined as soil with above-FRL contamination or man-made materials. Impacted material will be hauled to the OSDF for disposal if OSDF-WAC are met. Impacted material that meets the chemical/radiological WAC, but not the physical WAC, will be size-reduced to achieve the WAC and delivered to the OSDF. Items that are prohibited from disposal in the OSDF will be containerized and shipped off site to a permitted disposal facility.

Interim grading of the Area 6 Waste Pits and General Area will be performed as necessary to maintain safe stable slopes.

1.5.4 Precertification

The precertification of the Area 6 Waste Pits and General Area will be performed in accordance with Sections 3.9.

1.5.5 Certification

As stated in the SEP, a Certification Design Letter (CDL) will be prepared and submitted to the regulatory agencies following completion of the precertification process that summarizes the area-specific remediation completed, results of the precertification activities, and design of the certification sampling and analysis program. Certification of Area 6 Waste Pits and General Area will not be governed by this plan.

1.5.6 Post-Remedial Action

Final restoration of the Area 6 Waste Pits and General Area will follow interim grading and be guided on a sitewide basis by the final version of the Natural Resource Restoration Plan (NRRP, DOE 2002b). Area 6 Waste Pits and General Area post-remedial actions are not addressed by this plan.

1.6 SUMMARY OF THE REGULATORY DRIVERS

The regulatory requirements, criteria and legal obligations that constitute the drivers for FCP remediation activities are presented in Section 1.3.1 of the SEP. Those regulatory drivers applicable to the Area 6 Waste Pits and General Area remediation are summarized in this section.

1.6.1 Permits

The National Pollutant Discharge Elimination System (NPDES) permit (Permit No. 1IO0000*GD), for storm water and waste water discharges to Paddys Run and the Great Miami River, is the permit that is applicable to Area 6 Waste Pits and General Area remediation. Activities involved in the remediation of the Area 6 Waste Pits and General Area are anticipated under the existing NPDES permit; therefore, no modification to the permit is required. Water collected within the excavation area will be pumped from the individual pits to the Cement Pond or the concrete trench that drains to the Cement Pond. Water within the Cement Pond will be pumped for discharge into existing site storm sewer system and drain into the Storm Water Retention Basin (SWRB) for subsequent Converted AWWT (CAWWT). Compliance with the existing permit will be demonstrated through the effective implementation of the FCP Storm Water Pollution Prevention Plan (SWPPP).

1.6.2 Natural Resource Trusteeship and Related Natural and Cultural Resource Regulations

Two mechanisms drive protection of natural resources during remediation: the Natural Resource Trusteeship process and compliance with pertinent federal and state regulations. Both of these mechanisms have been incorporated into Area 6 Waste Pit and General Area remedial strategy.

Conceptual restoration designs for the Area 6 Waste Pits and General Area have been presented to the Trustee Council as part of the NRRP. The proposed restoration, which consists of expanded prairie and wetland habitat, will be implemented after approval of the area specific Natural Resource Restoration Design Plan has been reviewed and approved by the Natural Resource Trustees (NRTs). Implementation of restoration activities will occur as close to the completion of required remediation activities as possible. Regulatory drivers for the management of natural and cultural resources and associated surveys are grouped into three areas: threatened and endangered species protection, wetlands/floodplain protection, and the resolution of DOE's liability for injuries to natural resources.

1.6.2.1 Threatened and Endangered Species

Based on updated FCP property surveys conducted in 1993 through 1994, DOE does not expect to encounter any federal- or state-listed threatened or endangered species or critical habitat in the areas to be addressed by the remediation of Area 6 Waste Pit and General Area. Therefore, no additional threatened or endangered species surveys are planned for the area.

1.6.2.2 Wetlands/Floodplains

The 1993 sitewide wetland delineation identified approximately 36 acres of jurisdictional wetlands and 8.9 acres of waters of the United States within the 1,050-acre property. The 1993 Wetland Delineation was approved by the U.S. Army Corps of Engineers, Louisville District Office, in August 1993. Since the 1993 delineation, DOE has identified an additional 2.27 acres of wetlands that have been formed as the result of construction activities at the FCP. Although DOE plans to avoid or minimize impacts to these areas to the maximum extent practicable during remediation, approximately 11.87 acres of wetlands have been impacted or are planned to be impacted requiring mitigation. These planned impacts will occur as a result of CERCLA remediation activities and have been identified in the appropriate OU RODs. Because dredge and/or fill activities will be carried out under CERCLA, notification to the U.S. Army Corps of Engineers is not required and EPA is the lead agency regarding wetland mitigation. On June 20, 1995, DOE met with representatives from EPA, Ohio Environmental Protection Agency (OEPA), U.S. Fish and Wildlife Service and the Ohio Department of Natural Resources and determined that mitigation would occur on-property to the extent possible and a mitigation ratio of 1:1.5 would apply to wetlands impacted at the FCP.

The NRRP includes DOE plans for conducting wetland mitigation activities at the FCP. The NRRP currently includes plans to conduct two wetland mitigation projects to create the required 17.8 acres of new wetlands. Any additional wetland mitigation required from unanticipated impacts to wetland will be addressed through implementing the NRRP. Dredge and/or fill activities will be subject to the substantive requirements of Sections 404 and 401 of the Clean Water Act. A permit information summary will be prepared for any impact to wetlands at the FCP and will be submitted to the appropriate regulatory agencies.

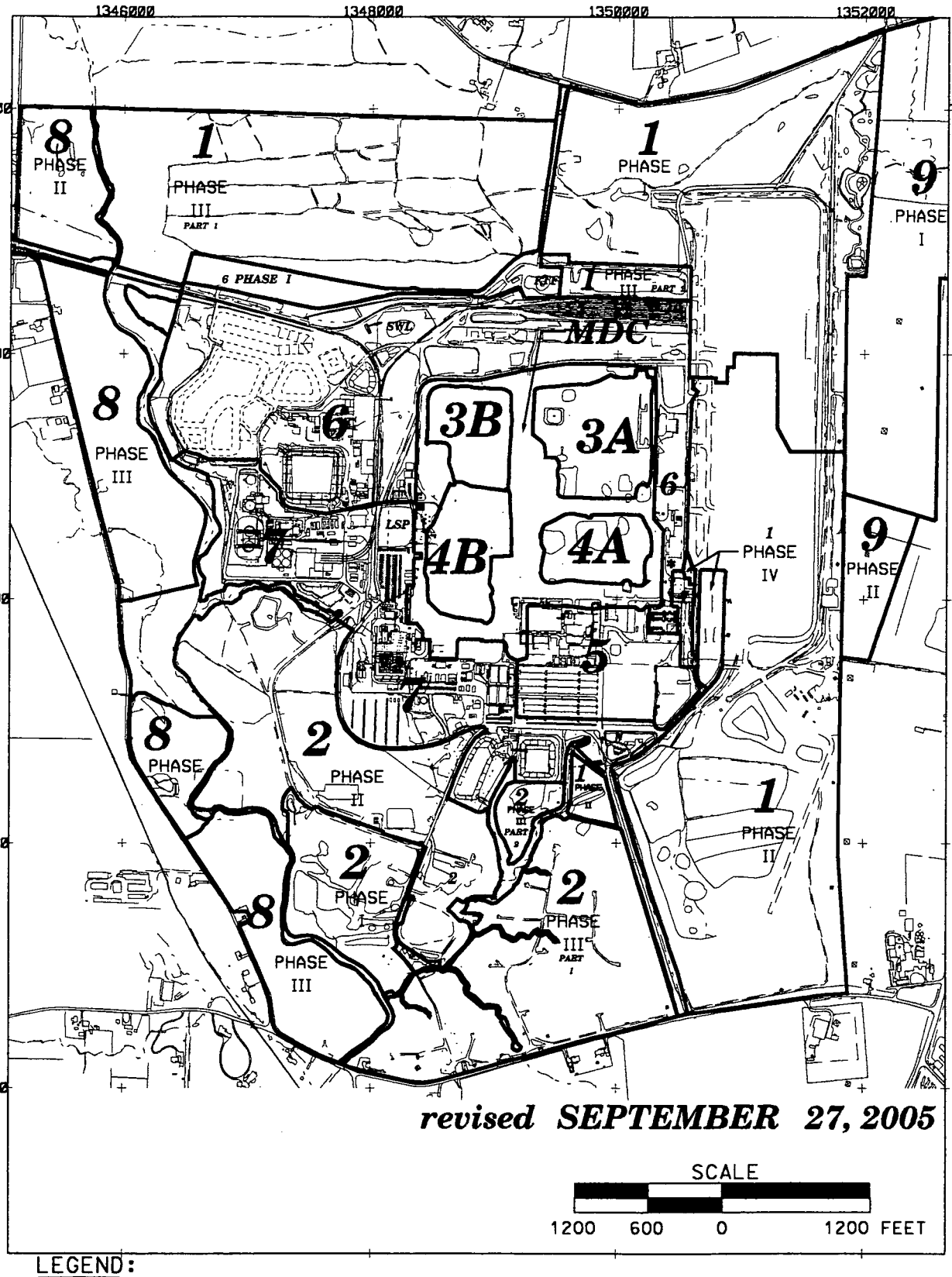
1.6.2.3 Resolution of DOE's Liability for Injuries to Natural Resources

The NRTs are working to resolve liability that DOE faces for injuries to natural resources under CERCLA. In 1986, the State of Ohio filed a claim against DOE for injuries to natural resources. The claim has been in stay while negotiations are proceeding toward resolution. The State of Ohio has designated OEPA as their trustee representative in matters involving natural resource injuries. The Fernald NRTs have jointly developed the NRRP and have tentatively agreed that DOE, through implementation of the plan, will resolve natural resource liability at the FCP, including the 1986 State of Ohio claim. The NRTs signed a Memorandum of Understanding in July 2001 formally agreeing to implementation of the NRRP. The NRTs are currently working on a final settlement agreement.

1.6.2.4 Cultural Resource Management

The DOE, the Ohio Historic Preservation Office, and the Advisory Council on Historic Preservation have entered into a "Programmatic Agreement Regarding Archaeological Investigations at the Fernald Environmental Management Project" dated March 6, 1997 (DOE 1997), pursuant to 36 Code of Federal Regulations (CFR) Part 800.13. Area 6 Waste Pits and General Area was excluded from survey due to past disturbances during site construction and operation. However, any unexpected discoveries of cultural resources during project activities will be managed per the Programmatic Agreement and applicable regulations.

6042



LEGEND:

1 REMEDIATION AREA

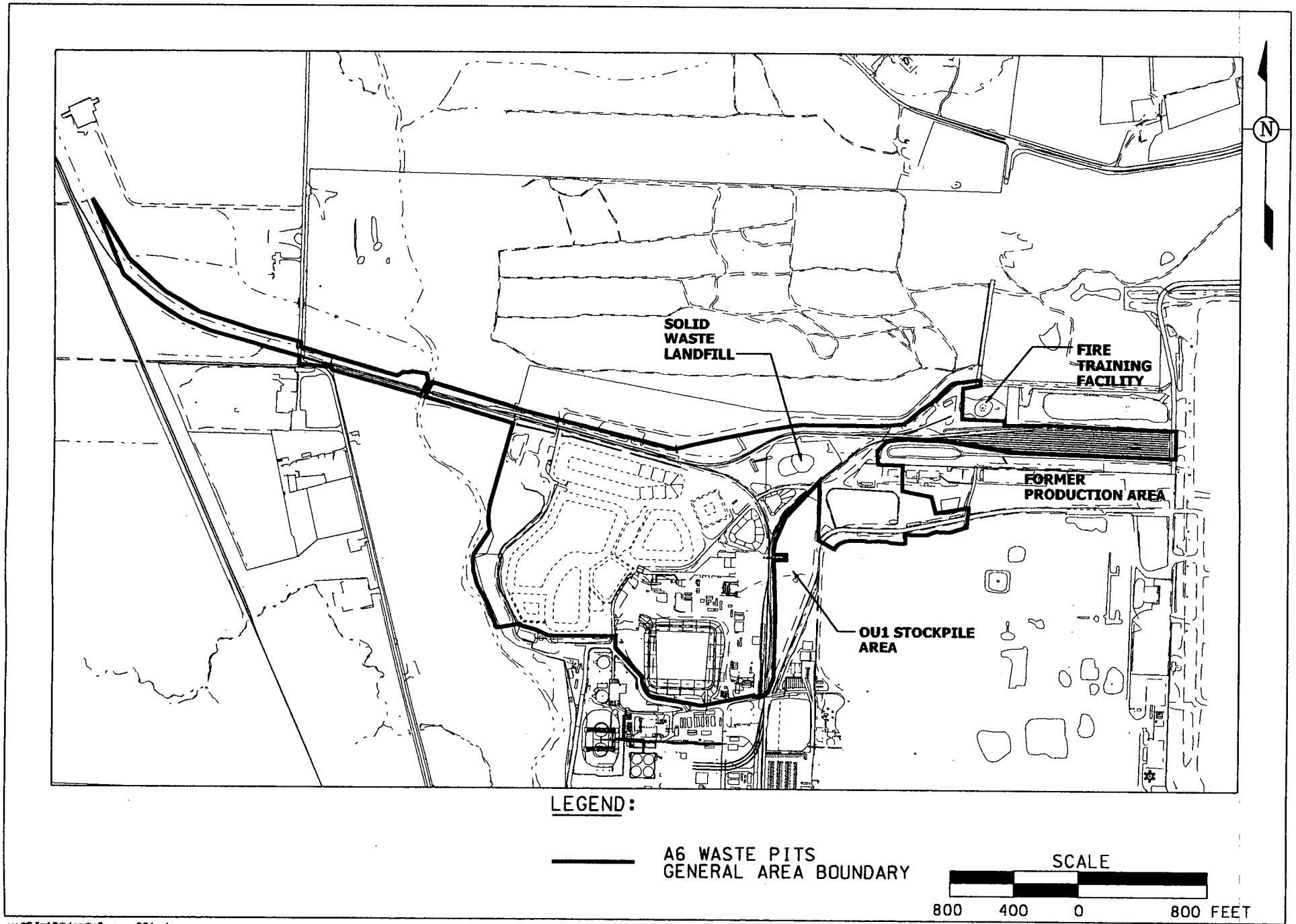
REMEDIATION AREA BOUNDARIES

FIGURE 1-1.
GENERALIZED SITEWIDE REMEDIATION AREAS

V:\5o\31\dgn\dmpart_area.dgn

STATE PLANAR COORDINATE SYSTEM 1983

06-OCT-2005



v:\2fm12\dgn\a6_gen_001.dgn
STATE PLANAR CO[illegible]ATE SYSTEM 1983

FIGURE 1-2. AREA 6 [illegible]STE PITS GENERAL AREA

06[illegible]2005

2.0 PREDESIGN INVESTIGATIONS AND CHARACTERIZATION DATA

2.1 SUMMARY OF THE RI/FS INVESTIGATION

Extensive soil sampling was performed at the FCP in the late 1980s and early 1990s as part of the OU5 RI/FS (DOE 1995b and 1995c) to characterize the nature and extent of contamination resulting from decades of uranium-metal production. Figures 2-1 through 2-9 present locations for RI/FS soil borings in the area defined in this document. Samples collected in the waste pits were of the pit material and will not be included in these figures as they were for the OU1 RI/FS and not part of the investigations for the OU5 ROD. Most locations shown on the figures represent multiple samples collected at various depths (i.e., multiple samples may have been collected at each boring location).

2.1.1 Preliminary Constituents of Concern

Based on results of the RI/FS investigation, the SEP presented a preliminary list of area-specific constituents of concern (ASCOCs) for Remediation Area 6 (Table 2-1) and stated that a more thorough screening of ASCOCs would be performed for each remediation area during the predesign phase. The additional COC screening for Area 6 is discussed in Section 2.4.

2.1.2 On-Site Disposal Facility Waste Acceptance Criteria

The concentration-based OSDF WAC was established in the OU5 ROD (Table 2-1). Soil excavated from Area 6 Waste Pits and General Area must meet these WAC to be eligible for disposal in the OSDF. If soil exceeds the OSDF radiological WAC, it will have to be segregated for off-site disposal. For the special case of soil with above-WAC organic or metal COCs, disposal at the OSDF is permitted if the soil treatment results in the COC levels falling below the established WAC. The Area 6 Waste Pits and General Area RI/FS data were compared to the OSDF WAC and SEP Table 1-4 to identify areas that exceed the OSDF WAC. The results of this comparison were studied to determine the areas that require additional data to delineate the extent of the above-WAC contamination. Sampling performed to further delineate the above-WAC contamination is discussed in Section 2.3.1.

2.1.3 Final Remediation Levels for Soil

Like the OSDF WAC, the OU5 ROD established the FRLs for soil remediation (Table 2-1). FRLs are the cleanup goals for the FCP site and are defined as the average concentration of a contaminant that can remain in the soil and be considered protective of human health and the environment. Remediation in Area 6 Waste Pits and General Area will remove contaminated soil until the residual concentration of contaminants is at or below the respective FRL. The FRL for total uranium is 82 milligrams per kilogram (mg/kg) and a goal driven by the as low as reasonably achievable (ALARA) philosophy has been set to

meet 50 mg/kg. The ALARA goal of 50 mg/kg will be reached if soil exceeding 50 mg/kg is within one lift thickness (i.e., 3 feet ±1 foot) of soil exceeding the uranium FRL of 82 mg/kg.

2.1.4 Hazardous Waste Management Units

A hazardous waste management unit (HWMU) is defined as a contiguous area of land in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. There are 12 HWMUs at the FCP that will be closed during site excavation under the RCRA/CERCLA integrated remedial response. Two of these HWMUs are located within the Area 6 Waste Pits, as follows:

- HWMU 27: Waste Pit 4
- HWMU 42: Waste Pit 5

More information on these HWMUs and their COCs is provided in Table 2-3 of this plan and Table 2-1 of the SEP.

2.1.5 Underground Storage Tanks

There are no known underground storage tanks (USTs) within Area 6 Waste Pits and General Area.

2.1.6 Identification of Potentially Characteristic Area

There are no potentially characteristic areas associated with Area 6 Waste Pits or General Area.

2.2 SUMMARY OF SURFACE AND SUBSURFACE PHYSICAL CONDITIONS

Remediation Area 6 Waste Pits is a grouping of the six former waste pits (Waste Pits 1 through 6), the former Burn Pit, and the Former Clearwell. Remediation Area 6 General Area represents the WPRAP Support Area, the WPRAP Process Area, the BSL, SWM Pond, SP-7 Footprint, Locomotive Maintenance Building and Railyard, the former Solid Waste Landfill Area, and the Area west of the Waste Pits (not including Paddys Run). Various utilities, slabs, footers, and foundations comprise the Area 6 General Area.

Subsurface conditions at the FCP have been described in detail in the OU5 RI/FS documents and in the Geotechnical Engineering Report for Project Order 177 (DOE 1998b). Briefly, the stratigraphic column under Area 6 Waste Pits and General Area is generally fill, glacial deposits, sand and gravel deposits of the Great Miami Aquifer (GMA), and carbonate bedrock. The discussion here is on the fill and glacial deposits, as these are the impacted materials being addressed by the soil remediation activities. Fill is a mixture of gravel and the native deposits of clay, silt and sand that have been moved or mechanically

placed to level areas for building pads and roadbeds. A large amount of gravel was imported into the Area 6 General Area for construction of building pads and roadbeds.

Glacial deposits are comprised primarily of a carbonate clay matrix enclosing muddy stream deposits. The stream deposits are primarily silt and sand with minor gravel and are continuous along the channel traces (primarily northeast to southwest) but discontinuous over broad lateral areas. When present, most of the channel deposits lie between the gray clay and overlying brown clay layers. Over half of Area 6 Waste Pits and General Area is underlain by silty stream and lacustrine deposits. Most of these deposits are 5 to 7 feet thick and lie approximately 6 to 12 feet beneath the surface.

To establish preliminary remedial excavation boundaries in Area 6 Waste Pits and General Area, all historical RI/FS uranium concentration data were pulled from the Sitewide Environmental Database. Figures 2-2 through 2-9 identify the locations of all RI/FS borings. All FRL exceedences were then plotted on a map to determine a preliminary Excavation Plan. This information was used to establish the areas where predesign investigation data were needed to verify and delineate additional remedial excavations that are necessary to capture contamination. Predesign investigation sampling that was performed to further delineate the above-FRL contamination is discussed in Section 2.3.2.

2.2.1 High-Leachability Zones

There are no high-leachability zones in Area 6 Waste Pits and General Area covered under this plan.

2.3 SUMMARY OF PREDESIGN INVESTIGATIONS

Several predesign investigations were conducted to supplement RI/FS information on the nature and extent of remaining contamination in Area 6 Waste Pits and General Area. These predesign investigations were performed, in general, to identify the extent of soil exceeding the various action levels (i.e., WAC and FRL). The specific goals of these predesign sampling investigations included filling data gaps, confirming questionable analytical results, bounding above-WAC or above-FRL areas. There were many constraints for predesign sampling in the Waste Pits and General Areas including field conditions, ongoing operations, existing structures, and protection of the GMA. Details of the constraints are described in the predesign PSPs. As a result, some of the areas are not completely bound. The intent of this Excavation Plan was to immediately capture the known contamination in order to protect the GMA. This Excavation Plan represents the beginning quantity of material that will be excavated. In areas where discrete bounding has not been completed, excavation control with real-time scanning and physical sampling at the proposed design grade for FRL verification will be utilized to demonstrate that the contamination has been removed. If the results of this excavation control scanning or sampling at the designed depth demonstrate above-FRL conditions, additional impacted soil will be removed until

below-FRL conditions are reached. The results of all such excavation control samples in the areas that have not been discretely bounded will be submitted to the agencies as they are received for their concurrence that all contamination has been removed. Figures 2-10 through 2-17 identify the locations of all predesign borings, sampled and not sampled, and Figure 2-20 highlights all of the impacted areas that have not been discretely bound. Table 2-4 lists the areas that will be addressed as excavation control as well as additional sampling to confirm the presence of historical above-WAC and above-FRL results. The following predesign investigations were performed to meet these goals:

- Project Specific Plan for Predesign of Area 6 Subarea 1 (Supplement to 20300-PSP-0011) (DOE 2005c)

  This PSP (referred to in this Excavation Plan as the Area 6 Subarea 1 Predesign PSP) describes the investigation of the areas collectively constituting the General Area and the Former Production Area to the north of Areas 3B and 3A, including the OSDF Material Transfer Area (OMTA) Bulk Debris Staging Area, the Railyard and vicinity, the Locomotive Maintenance Building, the Quonset Hut slab, and West OMTA. The Railyard area is included in this Excavation Plan.

- Project Specific Plan for Predesign of Area 6 Subareas 3 and 4 (Supplement to 20300-PSP-0011) (DOE 2005d)

  This PSP (referred to in this Excavation Plan as the Area 6 Subareas 3 and 4 Predesign PSP) describes the investigation of the area in the northwest quadrant of the property comprising the FCP, including the footprint of the solid-waste landfill and the rail lines not included in Area 6 Subarea 1 and Subarea 2 PSPs, the Treatment Building, Railcar-Loading Facility, and the BSL. Two small portions of Subareas 3 and 4 are excluded from this Excavation Plan, the triangular area east of the OU1 Stockpile Area, part of Subarea 4, and the area north of the railroad in Subarea 3. These two areas were included in the Excavation Plan for Area 6 Former Production Area.

- Project Specific Plan for Predesign Characterization of Sediments in Paddys Run and Associated Drainage Features (DOE 2004c)

  This PSP (referred to in this Excavation Plan as the Stream Corridors PSP) describes the investigation of the streambed and banks (transects), flood plain, debris piles, channels, and bias samples as well as associated bounding samples in Paddys Run, the Storm Sewer Outfall Ditch, and the Pilot Plant Drainage Ditch. The area along Paddys Run west of Waste Pit 3 is included in this Excavation Plan.

- Project Specific Plan for Investigating Subsurface Material from the Northwestern Portion of Waste Pit 3 (DOE 2003c)

  This PSP (referred to in this Excavation Plan as the Waste Pit 3 PSP) describes the investigation of the material underlying the northwestern portion of Waste Pit 3 where the first area of waste excavation was completed. This PSP was developed to aid in obtaining field experience and identifying general statistical parameters necessary to support the development of future PSPs for sampling subsurface material underlying all waste pits in the Waste Storage Area.

- Project Specific Plan for Investigating Subsurface Material from Area 6 Waste Pits 1 through 3, the Clearwell, and the Biodenitrification Surge Lagoon Berm (DOE 2004d)

  This PSP (referred to in this Excavation Plan as the Waste Pits 1-3 PSP) describes the investigation of the berms and the clay liner and soil that remains following the removal of the waste pit material in Waste Pits 1 through 3, the Clearwell. The investigation of the berms of the BSL were also included in this PSP to determine if the liner seeped.

- Project Specific Plan for Investigating Subsurface Material from Waste Pits 4 through 6, and the Burn Pit (DOE 2004e)

  This PSP (referred to in this Excavation Plan as the Waste Pit 4-6 PSP) describes the investigation of the berms, the clay liner, and soil that remains following the removal of the waste pit material in Waste Pits 4 through 6 and the Burn Pit.

- Project Specific Plan for Predesign Sampling in Area 6 SP-7/OU1 Stockpile Area (DOE 2003d)

  This PSP (referred to in this Excavation Plan as the A6 SP-7/OU1 PSP) describes the investigation of the SP-7 footprint and the OU1 Stockpile Area.

The predesign sampling locations in the portions of Area 6 Waste Pits and General Area are shown in Figures 2-10 through 2-17. Appendix A includes all available analytical results from the predesign investigations.

In addition to the physical sampling conducted under the above PSPs, real-time scanning was performed in unpaved and accessible areas. This was accomplished using both mobile and stationary sodium iodide gamma detectors. However, the ability to perform these scans in Area 6 General Area was severely limited due to the presence of pavement, rail lines, and structures covering a large majority of this surface. More information on the real-time scanning and a discussion of the results is provided in Section 2.3.3.

Excavation boundaries for Area 6 Waste Pits and General Area are established based on the following information:

- Above-WAC and uranium above-FRL areas which are manually established based on bounding physical sampling results
- Location of building foundations, support structures, and utilities
- Constructability and safe-slope configurations necessary to effectively excavate the material.

2.3.1 Above-WAC Areas and Boundaries

The above-WAC material in the Area 6 Waste Pits is being removed under the OU1 Remediation on a pit-by-pit basis. There are ten known above-WAC areas in the Area 6 General Area outside of the waste

pits footprints. Six of them are above-WAC for total uranium, one is above-WAC for technetium-99, one is potentially above-WAC for technetium-99, one is the footprint of SP-7, and one is the BSL liner. All ten of these areas will be excavated under OU5 and are discussed in the following paragraphs. The first eight areas as well as their associated bounding borings are shown on Figures 2-18 and 2-19. Above-WAC Area #9 is discussed on Drawing 99X-5500-G-00858 and Above-WAC Area #10 is shown on Drawing 99X-5500-G-00859. As stated before, not all areas are available for sampling at this time. Where necessary, bounding for above-WAC was conservatively set at either nearby structures or based on process knowledge. However, all above-WAC areas will be bound prior to initiating each individual above-WAC excavation.

Above-WAC Area #1 (total uranium)

An above-WAC total uranium result was detected north of the former Solid Waste Landfill at RI/FS location CIS_SYSGEN_887. This above-WAC result was bound vertically with the same boring and laterally with borings 11202, 11203, and CIS_SYSGEN_879. The depth of this excavation extends down to elevation 582 feet.

Above-WAC Area #2 (total uranium)

An above-WAC total uranium result was detected southwest of the former Solid Waste Landfill at RI/FS location CIS_SYSGEN_773. A rail line that runs to the Material Handling Building was placed over top of this location in the mid 1990s. This above-WAC result was at the surface and was not bound vertically. Due to the presence of the rail line this location cannot be sampled to attain vertical bounding at this time. Lateral bounding was achieved to the northwest and southwest with RI/FS borings CIS_SYSGEN_774 and CIS_SYSGEN_766 and to the northeast and southeast by predesign boring A6-AC2-2 and A6-AC2-3. The depth of this excavation extends down to elevation 577 feet.

Above-WAC Area #3 (total uranium)

Prior to the construction of the SWM Pond, an above-WAC total uranium result was detected northeast this area at historical location CIS_SYSGEN_717. Process knowledge indicated that during the construction of the SWM Pond this material was removed; therefore predesign boring A6-AC3-1 was placed in the same location as the historical boring to confirm that the above-WAC material had been removed. Predesign borings A6-AC3-2, A6-AC3-3, and A6-AC4-4 were placed 5 feet to the north, south, and west of this historical location to provide lateral bounding if, in fact, the above-WAC material was still there. All four of these borings were sampled at the same elevation as the historical above-WAC result. All of the results from this predesign sampling were below-FRL; therefore the excavation during the construction of the SWM Pond did truly remove the above-WAC material and additional excavation of this area is not necessary.

Above-WAC Area #4 (technetium-99)

An above-WAC technetium-99 result was detected southwest of the SWM Pond at RI/FS location CIS_SYSGEN_596. This above-WAC result was vertically bound with boring A6-AC4-1 and laterally bound with borings A6-AC4-2, A6-AC4-3, A6-AC4-4, and A6-AC4-5. The depth of this excavation extends down to elevation 581 feet.

Above-WAC Area #5 (total uranium)

Historical above-WAC total uranium results were found in RI/FS borings CIS_SYSGEN_529 and CIC_SYSGEN_585 and predesign borings A6-SA4-24 and A6-SA4-26. All of these borings are located to the east of the road southeast of Waste Pit 4. Vertical bounding has been achieved in all of these borings except for A6-SA4-26, which is above-WAC at the surface (585.7 feet) and the excavation will extend approximately 6 feet below this elevation. Lateral bounding of this above-WAC area is defined by borings A6WP-B-20, CIS_SYSGEN_593, CIS_SYSGEN_590, CIS_SYSGEN_520 and A6-SA4-34. The depth of this above-WAC excavation extends down to elevation 580 feet.

Above-WAC Area #6 (total uranium)

Historical above-WAC total uranium results were found in RI/FS borings CIS_SYSGEN_471, CIS_SYSGEN_467, CIS_SYSGEN_477, and CIS_SYSGEN_496, which are all located northwest of the BSL and south of Waste Pit 4. Vertical bounding has been achieved in all of these borings except for CIS_SYSGEN_471, which was vertically bound by predesign boring A6-AC6-1. This above-WAC area is laterally bounded by RI/FS borings CIS_SYSGEN_497, CIS_SYSGEN_479, CIS_SYSGEN_455, and CIS_SYSGEN_476. The depth of this above-WAC excavation extends down to elevation 582 feet.

Above-WAC Area #7 (total uranium)

An above-WAC total uranium result was detected just west of the Material Handling Building at RI/FS location CIS_SYSGEN_509. Vertical bounding is planned with predesign boring A6-AC7-1, but do to the current field conditions; this boring has not been sampled at this time. As previously stated, excavation will not proceed in this area until this boring has been sampled and the above-WAC uranium has been vertically bounded. This above-WAC location is laterally bounded by RI/FS borings 11214, and CIS_SYSGEN_515 and by structures to the east and south. The depth of this above-WAC excavation is planned to extend down to elevation 577 feet.

Above-WAC Area #8 (technetium-99)

The footprint of the Material Handling Building and Railcar Building is potentially above-WAC for technetium-99. This building is currently in use by the WPRAP and sampling cannot be preformed under this building at this time. Per the Waste Pits 1-3 PSP, the concrete in the Material Handling Building and

Railcar Building will be sampled for technetium-99. Four planned locations will be sampled and biased samples will be field located, assisted by OEPA personnel, at the lowest points in the floors of the loadout bins of the Material Handling Building were waste-handling/loadout operations occurred, at the location where material was staged in the staging areas, and if required, anywhere incidental spills may have occurred in the Railcar Building. As previously stated, excavation will not proceed in this area until sampling has been performed to determine if there is in fact above-WAC material in the footprint. At this time there is no planned above-WAC excavation depth for this area.

Above-WAC Area #9 - Footprint of SP-7 (total uranium and technetium-99)

Following the removal of SP-7 and the excavation of a minimum of 6 inches of the footprint as above-WAC, sampling of the existing footprint will be performed under the A6 SP-7/OU1 PSP. Additionally, a separate Excavation Plan will be submitted for review and approval for the footprint of SP-7.

Above-WAC Area #10 - Biodenitrification Surge Lagoon (BSL)

There are two synthetic liners with a sand layer between them in the bottom of the BSL. The top liner will be removed as above-WAC material. The sand layer will then be sampled to verify that all of the above-WAC material has been removed. The sand layer, bottom liner, and associated under-drain system will then be excavated to the toe of the berms as impacted material. Following this excavation, physical sampling and real-time monitoring of the soil underlying the bottom liner will be performed to determine if additional excavation is required. See Drawing 99X-5500-G-00858.

As discussed in Section 3.4.3.11, this Excavation Plan does not govern the removal of the sediments and residues in the bottom of the BSL that have accumulated on top of the first synthetic liner.

2.3.2 Above-FRL Exceedences Areas and Boundaries

Per Section 1.3, the Area 6 Waste Pits and General Area Remediation Area has been subdivided into 16 distinct subareas for discussion in this section. Below is a discussion of the above-FRL exceedences and boundaries for each of the 16 distinct subareas.

Waste Pit 1

During the predesign investigation, above-FRL results for total uranium, radium-228, thorium-228, and thorium-232 were detected in two borings, A6WP-1F-02 and A6WP-1F-05 on the floor of Waste Pit 1. Both borings were vertically bound. The entire floor of Waste Pit 1 will be excavated to 553 feet. See Drawing 99X-5500-G-00848.

The sidewalls of Waste Pit 1 were also sampled during the predesign investigation to determine if any waste pit material penetrated the liner. Two borings, A6WP-1S-04 and A6WP-1S-06, were above-FRL for total uranium. A6WP-1S-04 is located on the southeast corner and will be excavated to a depth of 569 feet. A6WP-1S-06 is located on the southwest corner and will be excavated to a depth of 564 feet. See Drawing 99X-5500-G-00848.

Predesign borings also identified above-FRL results for total uranium at one boring, A6WP-B-51, southwest of Waste Pit 1. This area will be excavated to a depth 575 feet. See Drawing 99X-5500-G-00854.

Waste Pit 2

During the predesign investigation no above-FRL results were detected on the floor of Waste Pit 2 therefore no above-FRL excavation will be preformed on the floor. See Drawing 99X-5500-G-00848.

The sidewalls of Waste Pit 2 were also sampled during the predesign investigation to determine if any waste pit material penetrated the liner. One boring, A6WP-2S-01, was above-FRL for total uranium. A6WP-2S-01 is located on the northeast sidewall and will be excavated to a depth of 570 feet. See Drawing 99X-5500-G-00848.

Waste Pit 3

During the predesign investigation under the Waste Pits 1-3 PSP there were two predesign borings on the floor of Waste Pit 3, A6WP-3F-02 and A6WP-3F-07 that had above-FRL results for at least one of the following constituents, total uranium, radium-228, thorium-228, thorium-230, and thorium-232. Both borings were vertically bounded at 545 feet. Additionally, nine borings, A6WP3-1 and A6WP3-3 through A6WP3-10, were sampled in the northwest portion of the floor in April 2004 under the Waste Pit 3 PSP. There were above-FRL results for radionuclides, metals, and polychlorinated biphenyl (PCBs) in seven of these borings. All seven of these borings were vertically bounded and the deepest depth of above-FRL material was at 546.4 feet. The northern two-thirds of the floor of Waste Pit 3 will be excavated to 545 feet. See Drawings 99X-5500-G-008549 and 99X-5500-G-00850.

The sidewalls of Waste Pit 3 were also sampled during the predesign investigation to determine if any waste pit material penetrated the liner. One boring, A6WP-3S-04, was above-FRL for thorium-228 and thorium-232. A6WP-3S-04 is located on the northeast sidewall and will be excavated to a depth of 549 feet. See Drawing 99X-5500-G-00850.

Waste Pit 4

During the predesign investigation no above-FRL results were detected on the floor of Waste Pit 4; therefore no above-FRL excavation will be preformed on the floor. See Drawing 99X-5500-G-00851.

The sidewalls of Waste Pit 4 were also sampled during the predesign investigation to determine if any waste pit material penetrated the liner. Two borings, A6WP-4S-01 and A6WP-4S-05, were above-FRL for total uranium. A6WP-4S-01 is located on the southwest corner and will be excavated to a depth of 557 feet. A6WP-4S-05 is located on the northeast corner and will be excavated to a depth of 560 feet. See Drawing 99X-5500-G-00851.

Predesign borings also identified above-FRL results for total uranium at two borings south of Waste Pit 4, A6WP-B-18 and A6WP-B-19. A6WP-B-18 will be excavated to a depth of 581 feet. See Drawing 99X-5500-G-00851. Boring A6WP-B-19 was vertically bound and will be excavated to a depth of 580 feet. See Drawing 99X-5500-G-00855.

Waste Pit 5

During the predesign investigation, above-FRL results for total uranium, radium-228, thorium-228, and thorium-232 were detected in one boring, A6WP-5F-03 on the floor of Waste Pit 5. This boring was vertically bound. A small area in the middle of the floor of Waste Pit 5 will be excavated to 555 feet to capture the above-FRL material. See Drawing 99X-5500-G-00852.

The sidewalls of Waste Pit 5 were also sampled during the predesign investigation to determine if any waste pit material penetrated the liner. One boring, A6WP-5S-06, was above-FRL for total uranium. This boring was vertically bound. A6WP-5S-06 is located on the east sidewall and will be excavated to a depth of 563 feet. See Drawing 99X-5500-G-00852.

Predesign borings also identified above-FRL results for total uranium, radium-228, thorium-228, and thorium-232 at three borings outside of Waste Pit 5, A6WP-B-03, A6WP-B-04, and A6WP-B-05, along the road that runs between Waste Pits 5 and 3. All three of the borings were vertically bounded. The depth of the above-FRL excavation on the west will be 575 feet and going east the depth will go to 578 feet. See Drawing 99X-5500-G-00852.

Per the Waste Pit 4-6 PSP, there are 6 planned predesign borings in the concrete ditch line north of Waste Pit 5. This will ditch will not be sampled until the SWM Pond is no longer in use. This ditch is the overflow path for the SWM Pond. As previously stated in Section 2.3, above-FRL excavation will not proceed in this area until these borings have been sampled

Waste Pit 6 (this includes general area surrounding Waste Pit 6)

During the predesign investigation, above-FRL results for total uranium were detected in three borings, A6WP-6F-01, A6WP-6F-02, and A6WP-6S-08, on the floor of Waste Pit 6. All three of these borings were vertically bound. The depth of the above-FRL excavation on the north half of the floor will extend to 555 feet and on the south half to 558 feet. See Drawing 99X-5500-G-00853.

During the predesign investigation no above-FRL results were detected on the sidewalls of Waste Pit 6; therefore no above-FRL excavation will be preformed on the sidewalls.

The area north and east of Waste Pit 6 had numerous historical locations that were above-FRL for uranium and thorium-232 at the surface. Ten predesign borings, A6WP-B-23 through A6WP-B-32, were placed throughout this area to fill data gaps and to obtain vertical and lateral bounding. During the research for predesign investigation it was determined that the surface of this entire area would be scraped, therefore the predesign samples began at 1.5 feet and extended to 5.5 feet in depth. All of the results from the predesign borings were below FRL. During the above-WAC removal under OU1 a minimum of 6 inches was scraped, therefore this area will be scraped an additional 1 foot from the current topography and this material will be sent to the OSDF as above FRL. See Drawing 99X-5500-G-00853.

The area southeast of Waste Pit 6 also had numerous historical locations that were above-FRL for uranium, thorium-228, and thorium-232. Five predesign borings, A6WP-B-33 through A6WP-B-37, were placed throughout this area to obtain vertical and lateral bounding. Three of these borings, A6WP-B-34, A6WP-B-35, and A6WP-B-37, had above-FRL results for at least one of the following constituents total uranium, radium-228, thorium-228, and throrium-232. All three borings were vertically bound. Using these as bounding borings, the depth of the above-FRL excavation in this area will extend to 576 feet. See Drawing 99X-5500-G-00853.

There is a perched water lens in this area that has historically shown contaminated water. As the excavation reaches design grade in this area, any water that remains from the perched water lens will be sampled. If elevated levels are found, additional excavation will be necessary to remove the source.

Burn Pit

During the predesign investigation, above-FRL results for radium-228 and thorium-232 were detected in one boring, A6WP-BP-06, on the floor of the Burn Pit. This boring was vertically bound. This area will be excavated to 551 feet to capture the above-FRL material. See Drawing 99X-5500-G-00851.

Clearwell (this includes the general area around the Clearwell and south of Pit 1)

During the predesign investigation no above-FRL results were detected on the floor of the Clearwell; therefore no above-FRL excavation will be preformed on the floor.

The sidewalls of the Clearwell were also sampled during the predesign investigation to determine if any waste pit material penetrated the liner. One boring, A6WP-CWS-02, was above-FRL for total uranium and cesium-137. A6WP-CWS-02 is located on the east sidewall and will be excavated to a depth of 548 feet. See Drawing 99X-5500-G-00854.

Predesign borings on the berms around the Clearwell also identified above-FRL results for total uranium at five borings, A6WP-B-52, A6WP-B-56, A6WP-B-64, A6WP-B-65, and A6WP-B-66, southeast of the Clearwell. A 10-foot area around A6WP-B-52 will be excavated to a depth of 569 feet and the remainder of the area will be excavated to a depth of 572 feet. See Drawing 99X-5500-G-00854.

WPRAP Support Area (west)

The WPRAP Support Area had numerous historical locations that were above-FRL for total uranium and radium-226. As described in the Area 6 Subareas 3 and 4 Predesign PSP, the contamination extends to approximately 1.5 feet.

The entire WPRAP Support Area from the west side of the BSL to the north side of the SWM Pond will be excavated for above-FRL total uranium, to an elevation of 581 feet, which corresponds to at least a 1.5-foot excavation. This also includes a portion of the footprint of the Material Handling Building. See Drawing 99X-5500-G-00855.

Historical location WPA15 was above-FRL for arsenic at the 0 to 0.5-foot interval. This historical location falls beneath the liner of the basin that is currently being used for surrogate material from the Silos test operations. This surrogate material was tested and found to be above-FRL for thorium-228 and thorium-232. Predesign borings A6-SA4-16 through 20 were planned to bound the above-FRL arsenic, but due to the current situation the borings could not be sampled. Because this above-FRL arsenic is now co-located with thorium constituents and the excavation of the surrogate along with the liner and an additional 6 inches of soil will be driven by the thorium constituents, the excavation will be controlled for thorium. Arsenic will be retained as an area-specific constituent of concern for certification in this area; therefore the planned arsenic samples previously mentioned will not be sampled.

WPRAP Process Area (east)

The boundaries of this area are designed based on the footprint of the Material Handling Building to remove the structures and piping. The only above-FRL excavation in this area is discussed in the previous paragraph. See Drawings 99X-5500-G-00856 and 99X-5500-G-00857.

BSL Berms

Predesign sampling of the berms of the BSL was performed and there were no above-FRL results in any of the samples. The only excavation needed in this area is the removal of the structure of the BSL itself, which is discussed further in Section 3.

SWM Pond (otherwise known as the OU1 Storm Water Management Pond)

This is a lined basin that is still operational, until it is determined to be non-operational the WAC status of the sediments is unknown; therefore sampling of the sediments will be performed prior to the removal of the sediments as well as the liner. The sediments and liner will be removed as either impacted or above-WAC depending on the results of the sediment sampling. Physical sampling and real-time monitoring of the soil underlying the bottom liner will be performed to determine if additional excavation is required. It is anticipated that this liner maintained its integrity; therefore no above-FRL contamination of the soil beneath it is expected.

SP-7 Operational Area

Following the 6-inch scrape of the footprint as above-WAC, this area will be excavated an additional 1.5 feet as above FRL. No additional excavation has been planned for this area. See Drawing 99X-5500-G-00859.

Locomotive Maintenance Building and OU1 Railyard Area

As described in the Area 6 Subarea 1 Predesign PSP, a field survey investigation of the historical topography of the railyard versus the current soil elevation was completed. During the construction of the railyard, a surface scrape was performed over much of the area, which is expected to have removed any surface contamination. Based on this investigation, the eastern half of the railyard, which could not be investigated during predesign due to rail operations, was cut up to 4 feet. This confirmed the original assumption.

The western half of the railyard was available for investigation. The newly collected samples in this western half did not reproduce the historical above-FRL conditions that they were placed to investigate. However, based on the recent survey information, the western half of the railyard was filled with soil up

to 3 feet. The source of the soil used for fill is unknown. Some of the predesign samples placed in the western half were taken of this fill and again demonstrated no above-FRL condition.

Therefore, the soil beneath the railyard as a whole is considered to be below-FRL and will not be excavated. However, as a conservative measure, the filled section of the railyard will undergo a stratified certification effort whereby both the fill will be a unique certification unit (CU) and the native soil beneath the fill will be a unique CU. See Drawings 99X-5500-G-00860 and 99X-5500-G-00861.

Former Solid Waste Landfill Area

Four historical borings, 11202, 11203, CIS_SYSGEN_882, and CIS_SYSGEN_879, located north of the former Solid Waste Landfill had above-FRL for at least one of the following constituents; arsenic, beryllium, radium-226, and total uranium. This area will be excavated to remove the above-FRL material to a depth of 578 feet. See Drawing 99X-5500-G-00863.

An area east of the former Solid Waste Landfill had approximately twelve historical borings that were above-FRL for total uranium. Lateral bounding was established with predesign borings A6-SA3-75, A6-SA3-76, A6-SA3-77, and A6-SA3-78 and vertical bounding was confirmed with predesign borings A6-SA3-79 and A6-SA3-80. This area will be excavated to remove the above-FRL material to a depth of 587 feet. See Drawing 99X-5500-G-00862.

An area south of the former Solid Waste Landfill had approximately thirteen historical borings that were above-FRL for total uranium at the surface. Predesign borings A6-SA3-82 and A6-SA3-83 and surface/structural features provide the lateral bounding. This area will be excavated 2 feet from the current elevation to remove all of the historical above-FRL material. See Drawing 99X-5500-G-00863.

Area West of Waste Pits (this does not include Paddys Run)

This Excavation Plan governs a portion of the area west of the Waste Pits. This area includes the concrete trench and roadway that runs west of the waste pits and the flood plain west of Waste Pit 3. There is no known above-FRL material in the concrete trench or on the roadway, therefore the concrete trench and the roadway will be removed with no additional above-FRL soil excavation planned.

The flood plain area is located between Paddys Run and Waste Pit 3. During the predesign investigation, one above-FRL result for thorium-232 was detected at boring PRF-2. Vertical bounding was achieved within the same boring and lateral bounding was established with borings PRF-1, PRF-2E, and PRF-3. This above-FRL area will be excavated 1 foot from the current topography. See Drawings 99X-5500-G-00864 and 99X-5500-G-00865.

2.3.3 Real-Time Scanning Within Area 6 Waste Pits and General Area

The real-time map for Area 6 Waste Pits and General Area is located in Appendix B. This map depicts the current coverage obtained by the Real-Time Instrumentation Measurement Program Group.

2.4 IDENTIFICATION OF AREA-SPECIFIC CONSTITUENTS OF CONCERN

Section 2.1.1 identified the preliminary list of COCs for Area 6 Former Production Area, which was based on the results of sampling and analysis performed during the RI/FS investigation. These COCs were evaluated against the design and where the design was extended due to a non-uranium constituent, that constituent was retained as an ASCOC.

Table 2-2 presents the revised list of COCs for Area 6 Waste Pits and General Area. This modified list will be used to verify that the planned remedial excavation limits are sufficient to capture above-FRL contamination. The list in Table 2-2 in no way represents the constituents that will be carried through certification. Note that the ASCOC Lists will again be reevaluated during the certification design process to determine which of the area-wide COCs identified in the SEP will be carried into certification.

TABLE 2-1
PRELIMINARY AREA-SPECIFIC CONSTITUENTS OF CONCERN PER TABLE 2-7 OF THE SITE EXCAVATION PLAN

Primary COCs (Area 6)	FRL	WAC
Radium-226	1.7 pCi/g	NA
Radium-228	1.8 pCi/g	NA
Thorium-228	1.7 pCi/g	NA
Thorium-232	1.5 pCi/g	NA
Uranium, Total (outside a high-leachability area)	82 mg/kg	1030 mg/kg
Uranium, Total (inside a high-leachability area)	20 mg/kg	1030 mg/kg

Secondary COCs (Area 6)	FRL	WAC
Aroclor-1254	0.13 mg/kg	NA
Aroclor-1260	0.13 mg/kg	NA
Arsenic	12 mg/kg	NA
Benzo(a)pyrene	2 mg/kg	NA
Benzo(b)fluoranthene	20 mg/kg	NA
Beryllium	1.5 mg/kg	NA
Bromodichloromethane	4 mg/kg	0.903 mg/kg
Cesium-137	1.4 pCi/g	NA
Dibenzo(a,h)anthracene	2 mg/kg	NA
1,1-Dichloroethene	0.41 mg/kg	11.4 mg/kg
Dieldrin	0.015 mg/kg	NA
Fluoride	78,000 mg/kg	NA
Heptachloradibenzo-p-dioxins	0.00088 mg/kg	NA
Indeno(1,2,3-cd)pyrene	20 mg/kg	NA
Octachlorodibenzo-p-dioxin	0.0088 mg/kg	NA
Technetium-99	30 pCi/g	29.1 pCi/g
Tetrachloroethene	3.6 mg/kg	128 mg/kg
Thorium-230	280 pCi/g	NA

pCi/g - picoCuries per gram

TABLE 2-2
ASCOCs THAT DRIVE EXCAVATION IN THE AREA 6 WASTE PITS AND GENERAL AREA

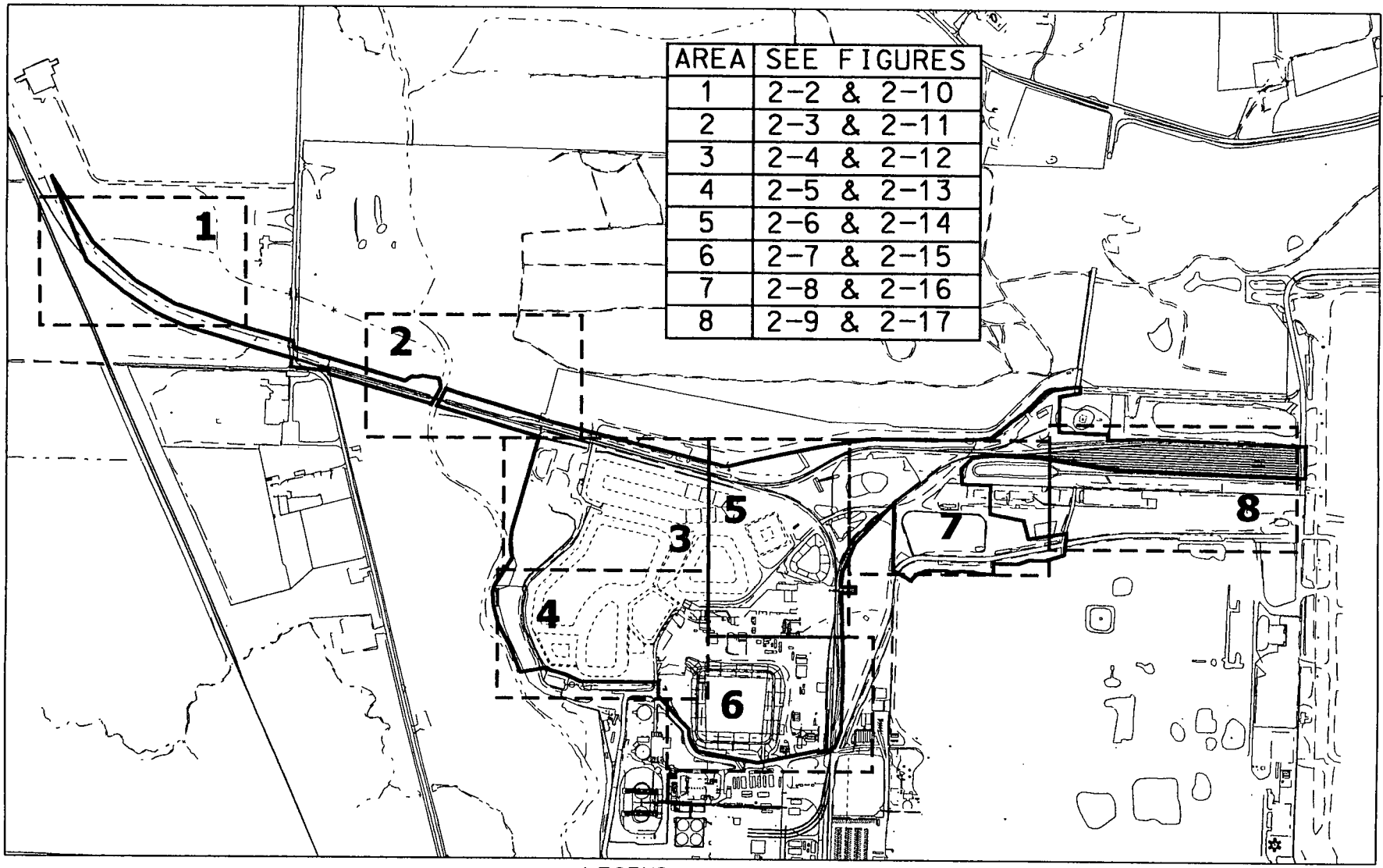
Area 6	
Primary COCs	**Secondary COCs**
Radium-226	Technetium-99
Radium-228	
Thorium-228	
Thorium-232	
Total Uranium	

TABLE 2-3
HWMUs IN AREA 6 WASTE PITS FOR CLOSURE

HWMU		Area	Description	COCs
27	Waste Pit 4	6	Inactive land-based disposal unit. No spills are recorded.	Barium
42	Waste Pit 5	6	Inactive land-based disposal unit. No spills are recorded.	1,1,1-Trichloroethane

TABLE 2-4
SUMMARY OF ITEMS TO BE ADDRESSED DURING EXCAVATION CONTROL

- Above-WAC Area #8 - concrete floor of Material Handling Building
- Material Handling Building footprint
- Above-WAC Area #10 - soil beneath the liners/structures of the BSL
- SWM Pond sediments
- Concrete Ditch Line north of Waste Pit 5
- Rail line and Locomotive Maintenance Building
- Completion of miscellaneous sampling (excavation control)
- Confirmation of historical above-WAC/above-FRL



AREA	SEE FIGURES
1	2-2 & 2-10
2	2-3 & 2-11
3	2-4 & 2-12
4	2-5 & 2-13
5	2-6 & 2-14
6	2-7 & 2-15
7	2-8 & 2-16
8	2-9 & 2-17

LEGEND:

A6 WASTE PITS GENERAL AREA BOUNDARY

SCALE

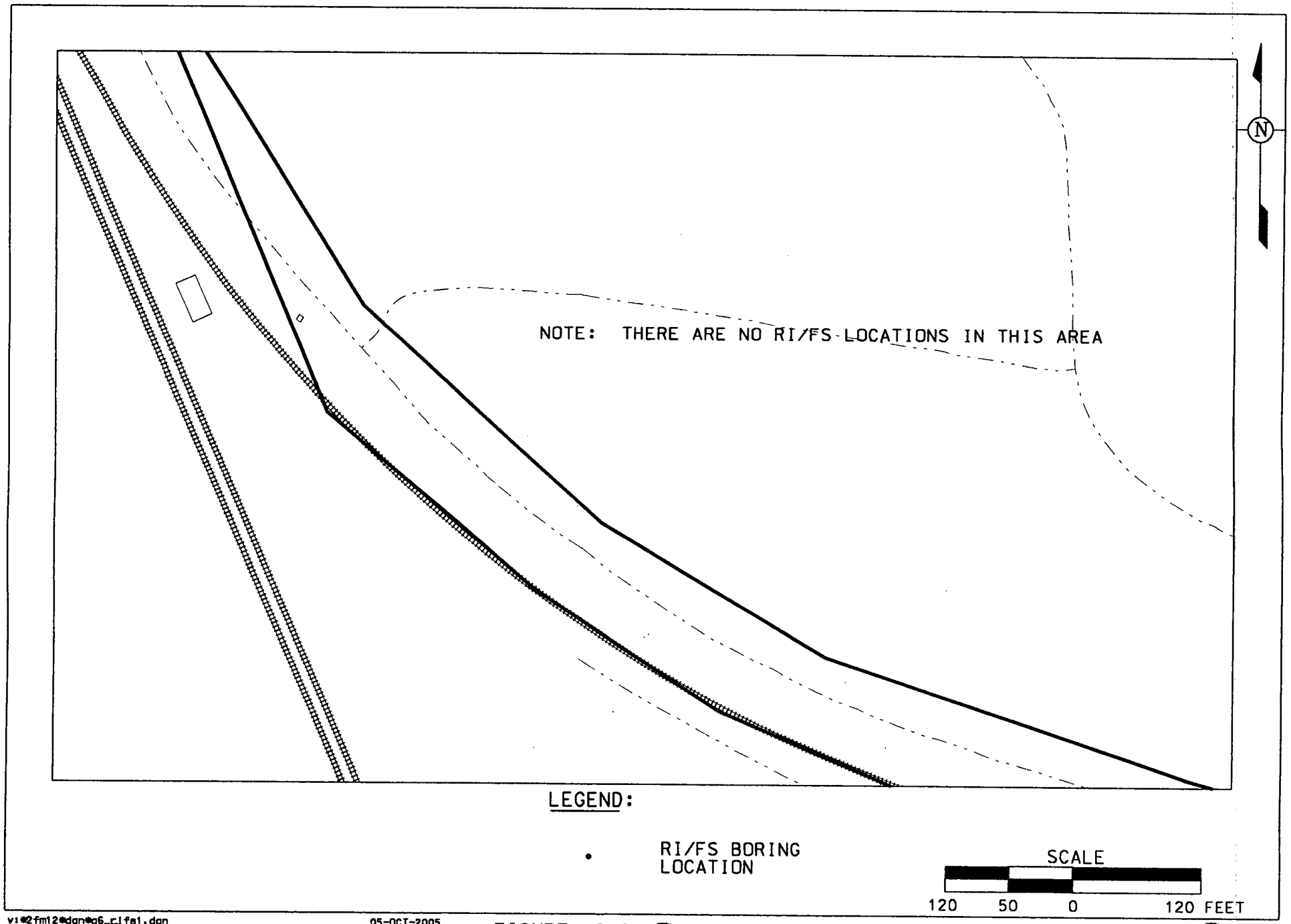
800 400 0 800 FEET

v:\#2fm12\dgn\a6_blocks.dgn
STATE PLANAR COORDINATE SYSTEM 1983

FIGURE 2-1. AREA 6 WASTE PITS GENERAL AREA

05-OCT-2005

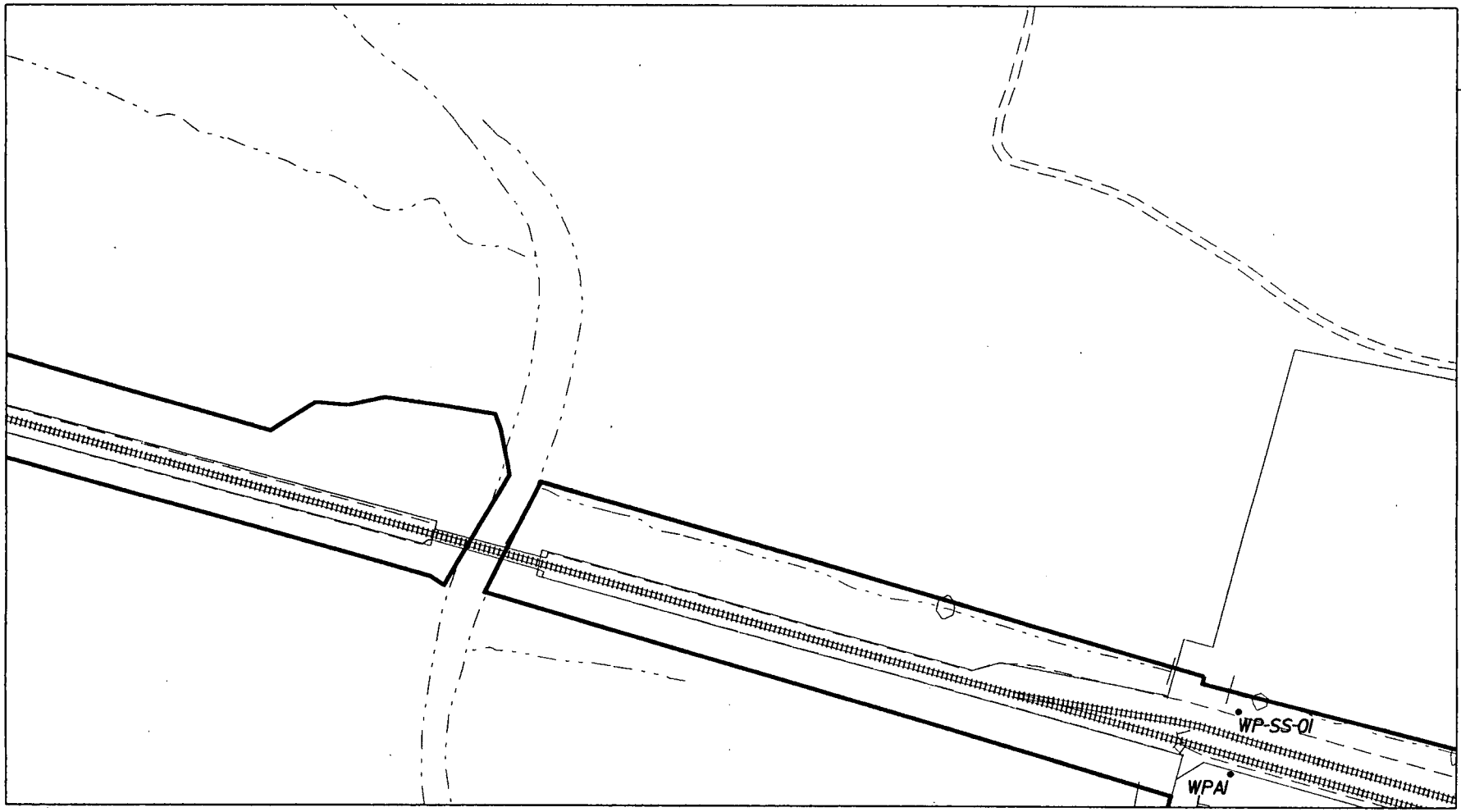
60 42



v:\#2fm12\dgn\a6_cifa1.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-2. RI/FS BORINGS



LEGEND:

• RI/FS BORING LOCATION

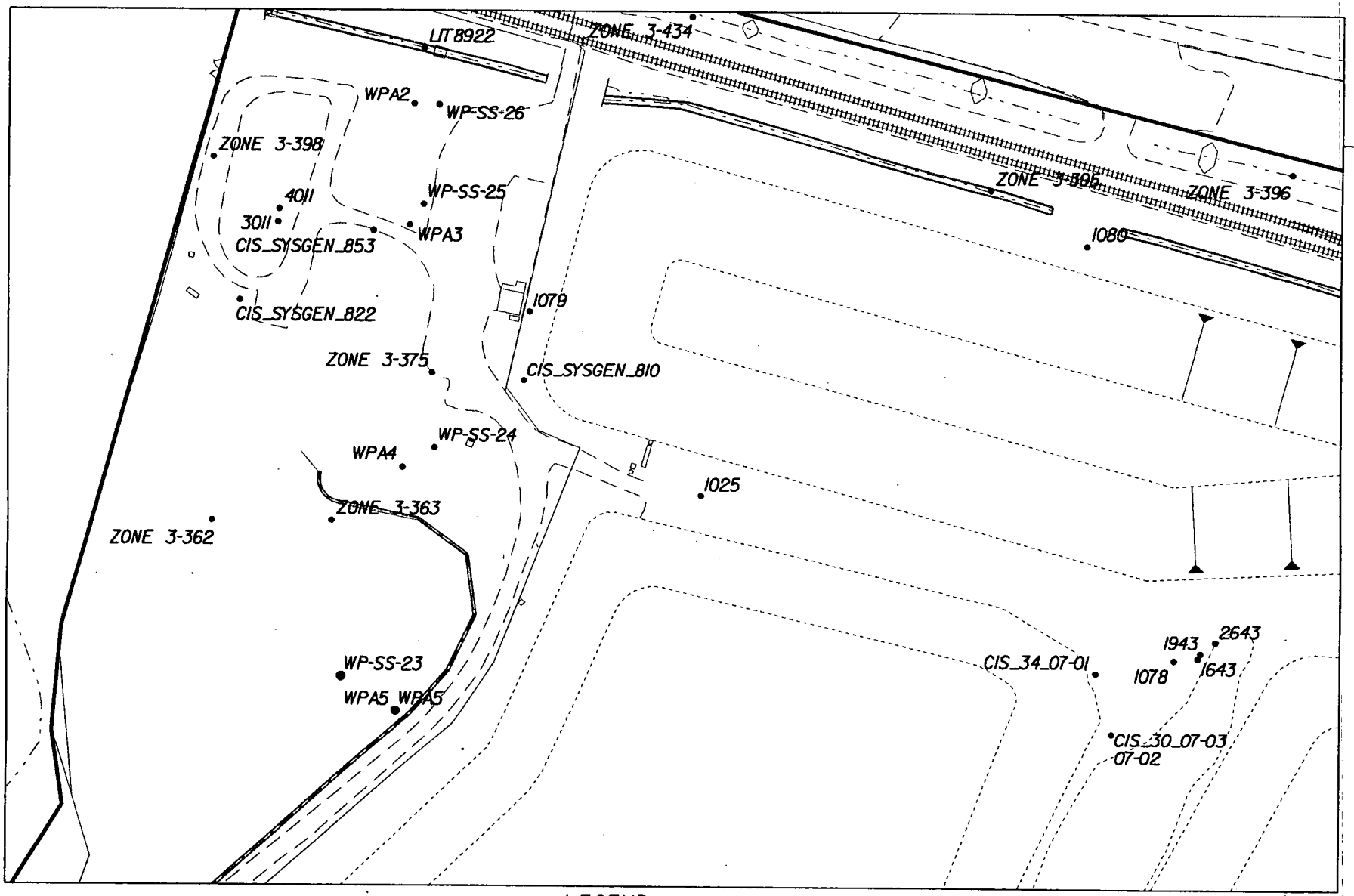
SCALE

120 60 0 120 FEET

v:\#2fm12#dgn\#a6_rifs2.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-3. RI/FS BORINGS



LEGEND:

• RI/FS BORING LOCATION

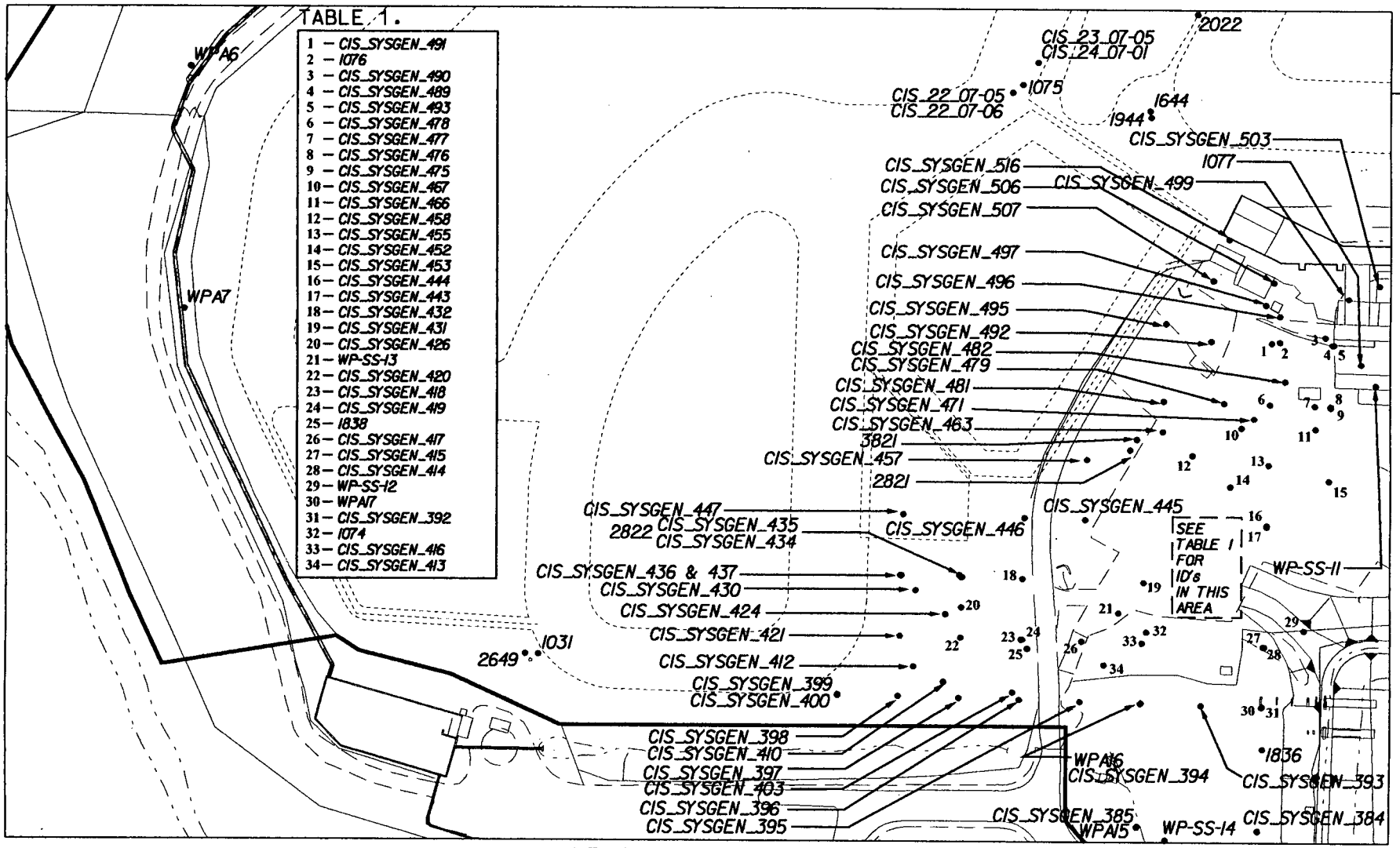
SCALE

120 60 0 120 FEET

v:\#2fm12\dgn\a6_rlfa3.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-4. RI/FS BORINGS



LEGEND:

• RI/FS BORING LOCATION

SCALE

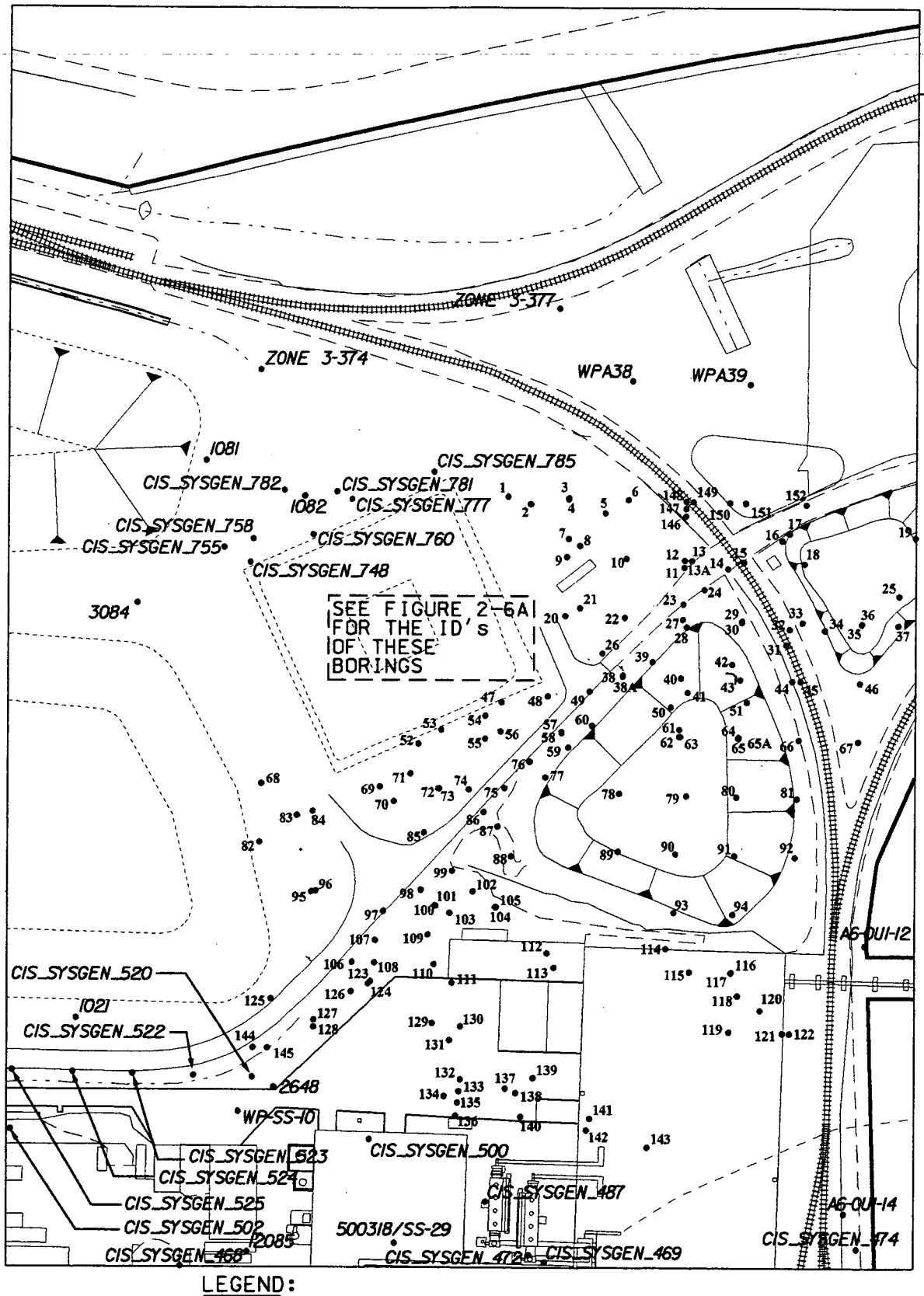
120 60 0 120 FEET

v:\#2fm12\dgn\a6_ri-fs4.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-5. RI/FS BORINGS

60 42



LEGEND:

• RI/FSBORING LOCATION

SCALE

120 60 0 120 FEET

FIGURE 2-6. RI/FS BORINGS

v:\82fm12\dgn\ad6_r1fs5.dgn
STATE PLANAR COORDINATE SYSTEM 1983
05-OCT-2005

6042

TABLE 2.

1 — CIS_SYSGEN_780
2 — CIS_SYSGEN_770
3 — CIS_SYSGEN_778
4 — CIS_SYSGEN_779
5 — CIS_SYSGEN_765
6 — CIS_SYSGEN_775
7 — 3027
8 — 2027
9 — CIS_SYSGEN_753
10 — CIS_SYSGEN_752
11 — CIS_SYSGEN_746
12 — CIS_SYSGEN_751
13A — CIS_SYSGEN_750
13B — CIS_SYSGEN_917
14 — CIS_SYSGEN_744
15 — CIS_SYSGEN_749
16 — CIS_SYSGEN_757
17 — CIS_SYSGEN_762
18 — CIS_SYSGEN_747
19 — CIS_SYSGEN_759
20 — CIS_SYSGEN_728
21 — CIS_SYSGEN_730
22 — CIS_SYSGEN_726
23 — CIS_SYSGEN_732
24 — A6WP-B-31
25 — CIS_SYSGEN_734
26 — CIS_SYSGEN_710
27 — CIS_SYSGEN_725
28 — WP-SS-08
29 — CIS_SYSGEN_724
30 — CIS_SYSGEN_723
31 — CIS_SYSGEN_713
32 — 12078
33 — CIS_SYSGEN_722
34 — CIS_SYSGEN_717
35 — CIS_SYSGEN_720
36 — WPA41
37 — CIS_SYSGEN_719
38A — CIS_SYSGEN_705
38B — CIS_SYSGEN_704
39 — CIS_SYSGEN_707
40 — CIS_SYSGEN_703

41 — CIS_SYSGEN_692
42 — CIS_SYSGEN_706
43 — CIS_SYSGEN_701
44 — CIS_SYSGEN_699
45 — CIS_SYSGEN_698
46 — CIS_SYSGEN_697
47 — CIS_SYSGEN_688
48 — CIS_SYSGEN_691
49 — A6WP-B-32
50 — CIS_SYSGEN_687
51 — CIS_SYSGEN_689
52 — CIS_SYSGEN_665
53 — CIS_SYSGEN_678
54 — CIS_SYSGEN_685
55 — 1083
56 — CIS_SYSGEN_676
57 — CIS_SYSGEN_675
58 — CIS_SYSGEN_674
59 — CIS_SYSGEN_662
60 — CIS_SYSGEN_680
61 — CIS_SYSGEN_679
62 — CIS_SYSGEN_673
63 — CIS_SYSGEN_672
64 — WPA42
65A — CIS_SYSGEN_671
65B — CIS_SYSGEN_670
66 — CIS_SYSGEN_669
67 — CIS_SYSGEN_668
68 — CIS_SYSGEN_648
69 — CIS_SYSGEN_646
70 — CIS_SYSGEN_638
71 — CIS_SYSGEN_654
72 — CIS_SYSGEN_645
73 — CIS_SYSGEN_644
74 — CIS_SYSGEN_643
75 — A6WP-B-34
76 — CIS_SYSGEN_659
77 — CIS_SYSGEN_652
78 — CIS_SYSGEN_642
79 — 11216
80 — CIS_SYSGEN_640

81 — CIS_SYSGEN_639
82 — CIS_SYSGEN_617
83 — 3435
84 — 1646
85 — CIS_SYSGEN_620
86 — CIS_SYSGEN_631
87 — CIS_SYSGEN_625
88 — CIS_SYSGEN_609
89 — WPA43
90 — CIS_SYSGEN_611
91 — CIS_SYSGEN_610
92 — CIS_SYSGEN_608
93 — CIS_SYSGEN_584
94 — CIS_SYSGEN_582
95 — 2019
96 — 3019
97 — CIS_SYSGEN_585
98 — CIS_SYSGEN_593
99 — CIS_SYSGEN_596
100 — CIS_SYSGEN_590
101 — CIS_SYSGEN_589
102 — CIS_SYSGEN_591
103 — CIS_SYSGEN_583
104 — CIS_SYSGEN_587
105 — CIS_SYSGEN_588
106 — CIS_SYSGEN_565
107 — CIS_SYSGEN_572
108 — CIS_SYSGEN_564
109 — CIS_SYSGEN_575
110 — CIS_SYSGEN_563
111 — WP-SS-09
112 — CIS_SYSGEN_568
113 — CIS_SYSGEN_561
114 — CIS_SYSGEN_569
115 — CIS_SYSGEN_560
116 — WPA44
117 — CIS_SYSGEN_559
118 — CIS_SYSGEN_553
119 — CIS_SYSGEN_542
120 — CIS_SYSGEN_551

121 — CIS_SYSGEN_541
122 — CIS_SYSGEN_540
123 — CIS_SYSGEN_556
124 — CIS_SYSGEN_555
125 — 1645
126 — CIS_SYSGEN_554
127 — CIS_SYSGEN_547
128 — CIS_SYSGEN_544
129 — CIS_SYSGEN_546
130 — CIS_SYSGEN_545
131 — CIS_SYSGEN_536
132 — 11125
133 — 11122
134 — 11124
135 — 11214
136 — 11213
137 — 500318/SS-28
138 — CIS_SYSGEN_515
139 — CIS_SYSGEN_519
140 — CIS_SYSGEN_509
141 — 11215
142 — CIS_SYSGEN_501
143 — CIS_SYSGEN_498
144 — CIS_SYSGEN_529
145 — CIS_SYSGEN_528

146 — WP-SS-07
147 — CIS_SYSGEN_766
148 — CIS_SYSGEN_774
149 — CIS_SYSGEN_773
150 — CYS_SYSGEN_772
151 — CIS_SYSGEN_771
152 — CIS_SYSGEN_769

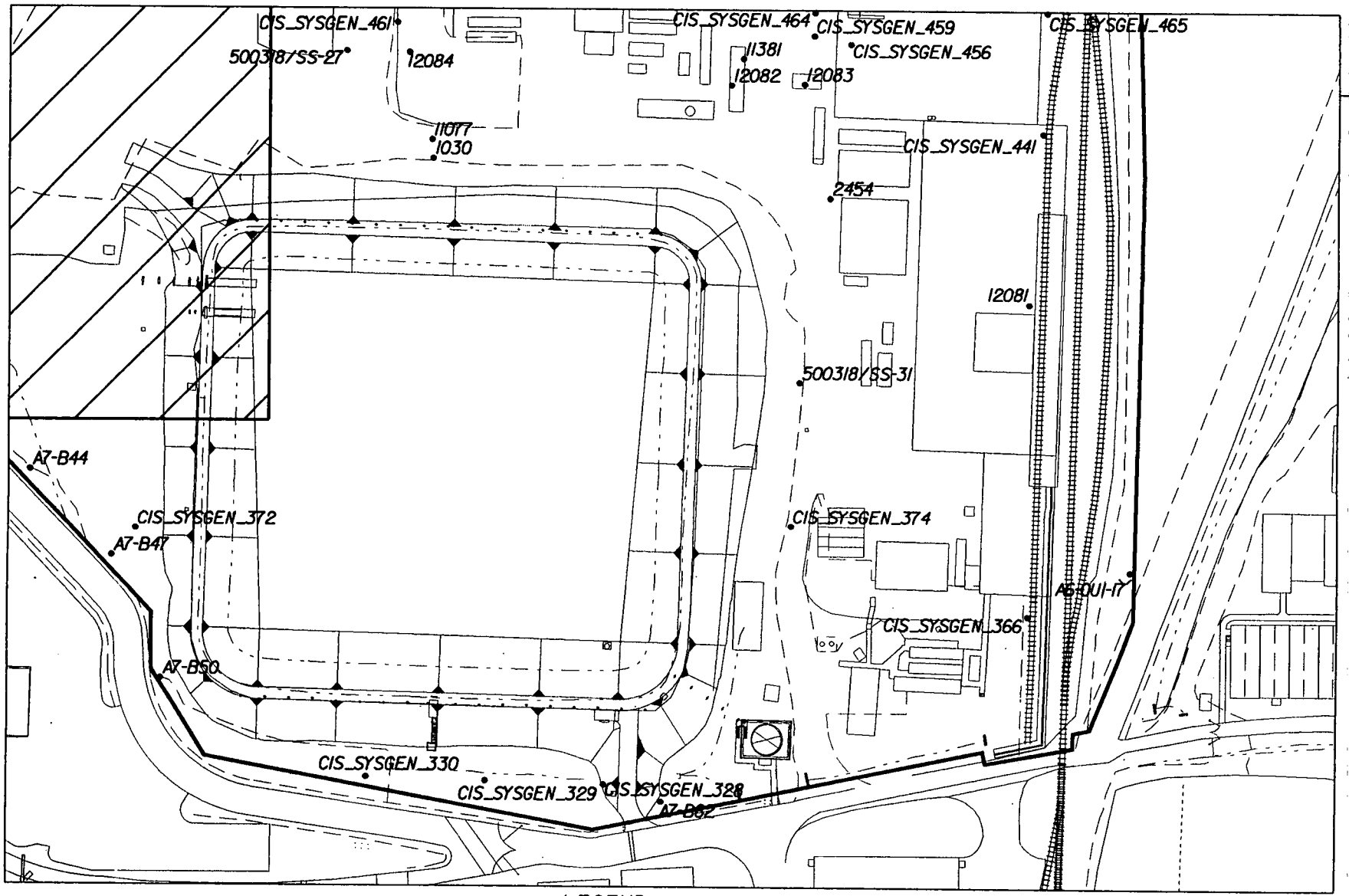
N

v:\82fm12\dgn\ms6_ri-fs5a.dgn

STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-6A. RI/FS BORING IDENTIFICATIONS FOR FIGURE 2-6



LEGEND:

• RI/FS BORING LOCATION

SEE FIGURE 2-5

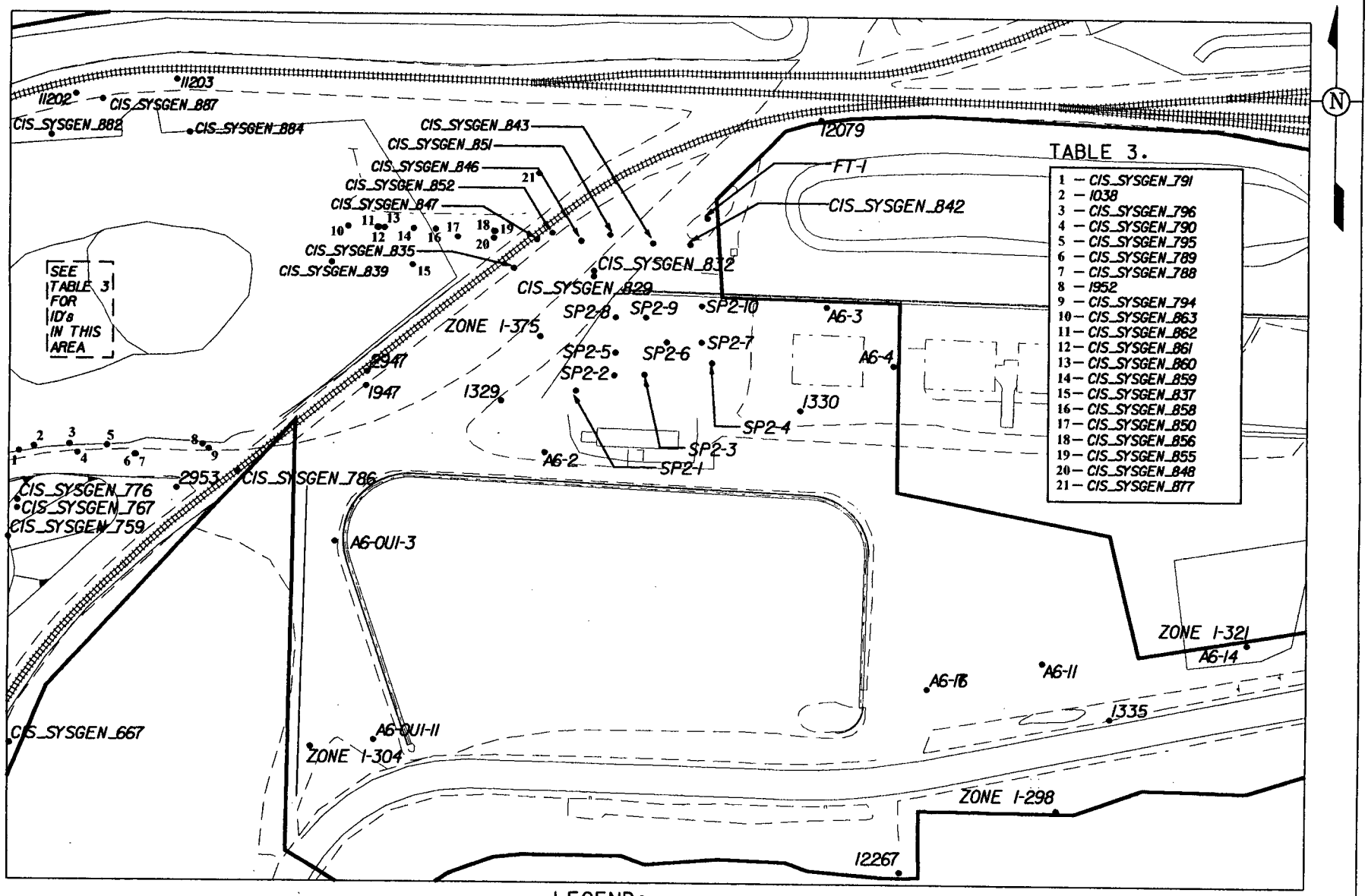
SCALE

120 60 0 120 FEET

v:\#2fm12\dgn\ [redacted] s6.dgn
STATE PLANAR [redacted] NATE SYSTEM 1983

05-OCT-2005

FIGURE 2-7. [redacted] /FS BORINGS



LEGEND:

• RI/FS BORING LOCATION

SCALE

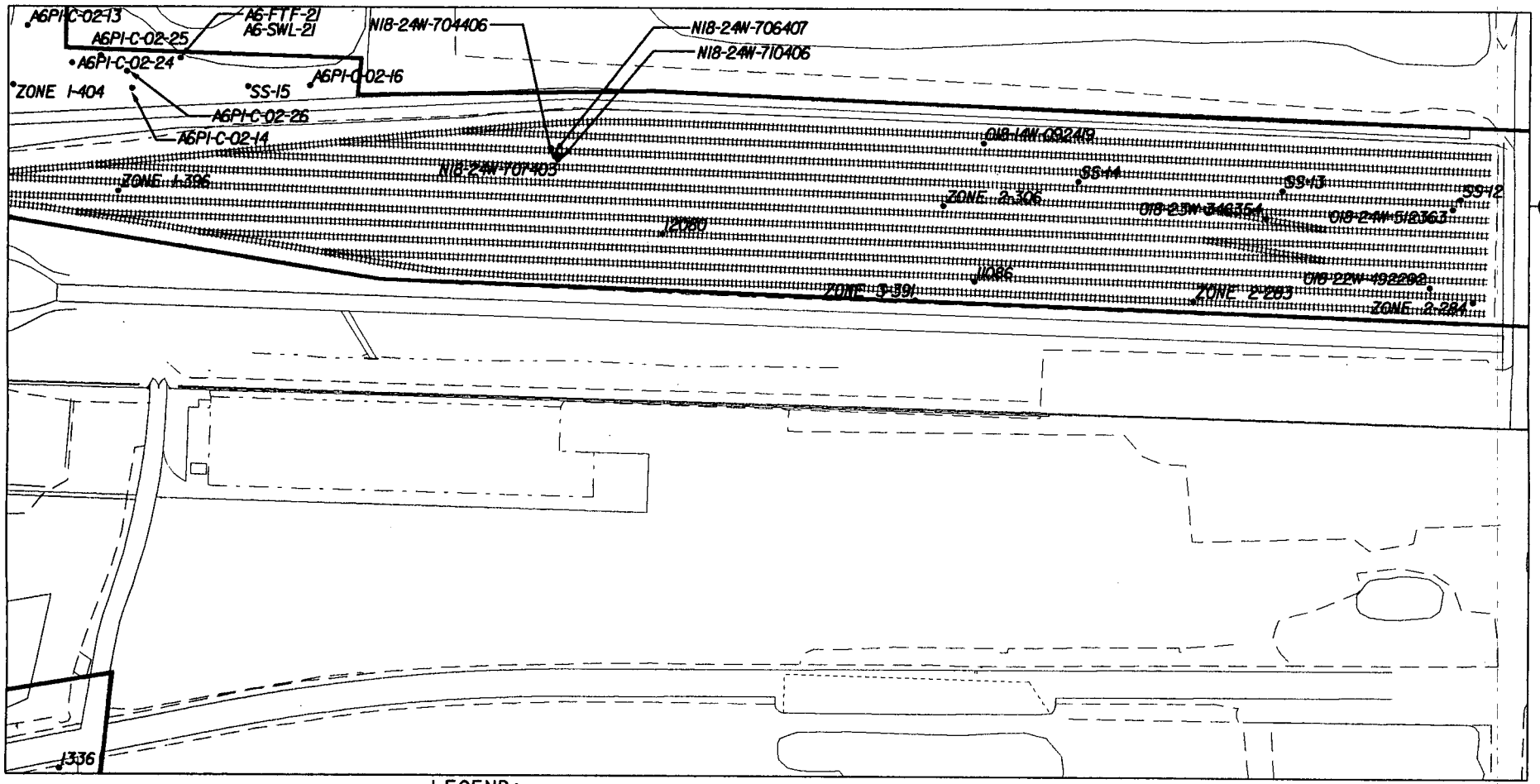
120 60 0 120 FEET

v:\#2fm12\dgn\a6_r1fa7.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-8. RI/FS BORINGS

9042



LEGEND:

• RI/FS BORING LOCATION

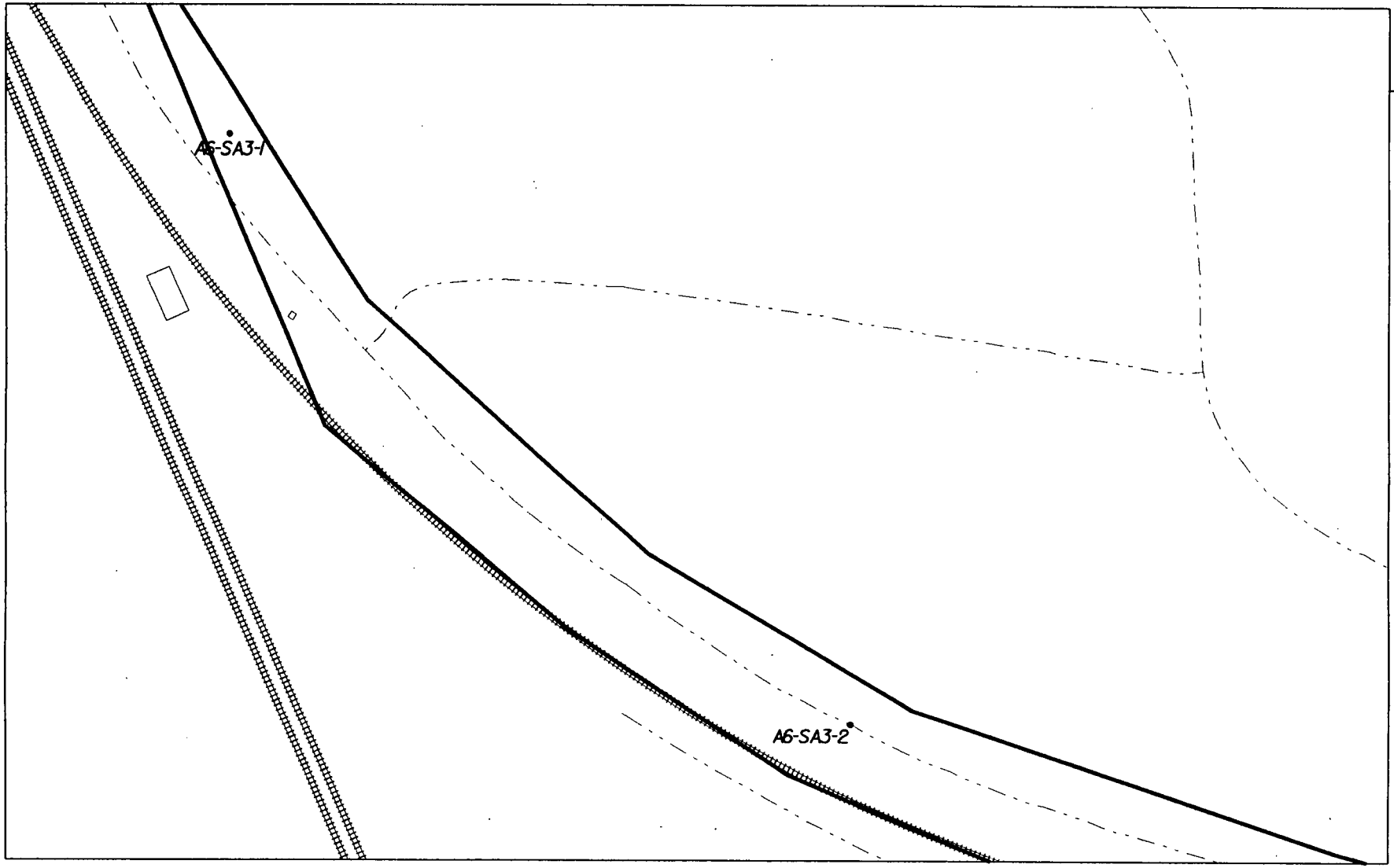
SCALE

120 60 0 120 FEET

v:\02fm12\dgn\ag_rlfa8.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-9. RI/FS BORINGS



LEGEND:

• PREDESIGN BORING LOCATION

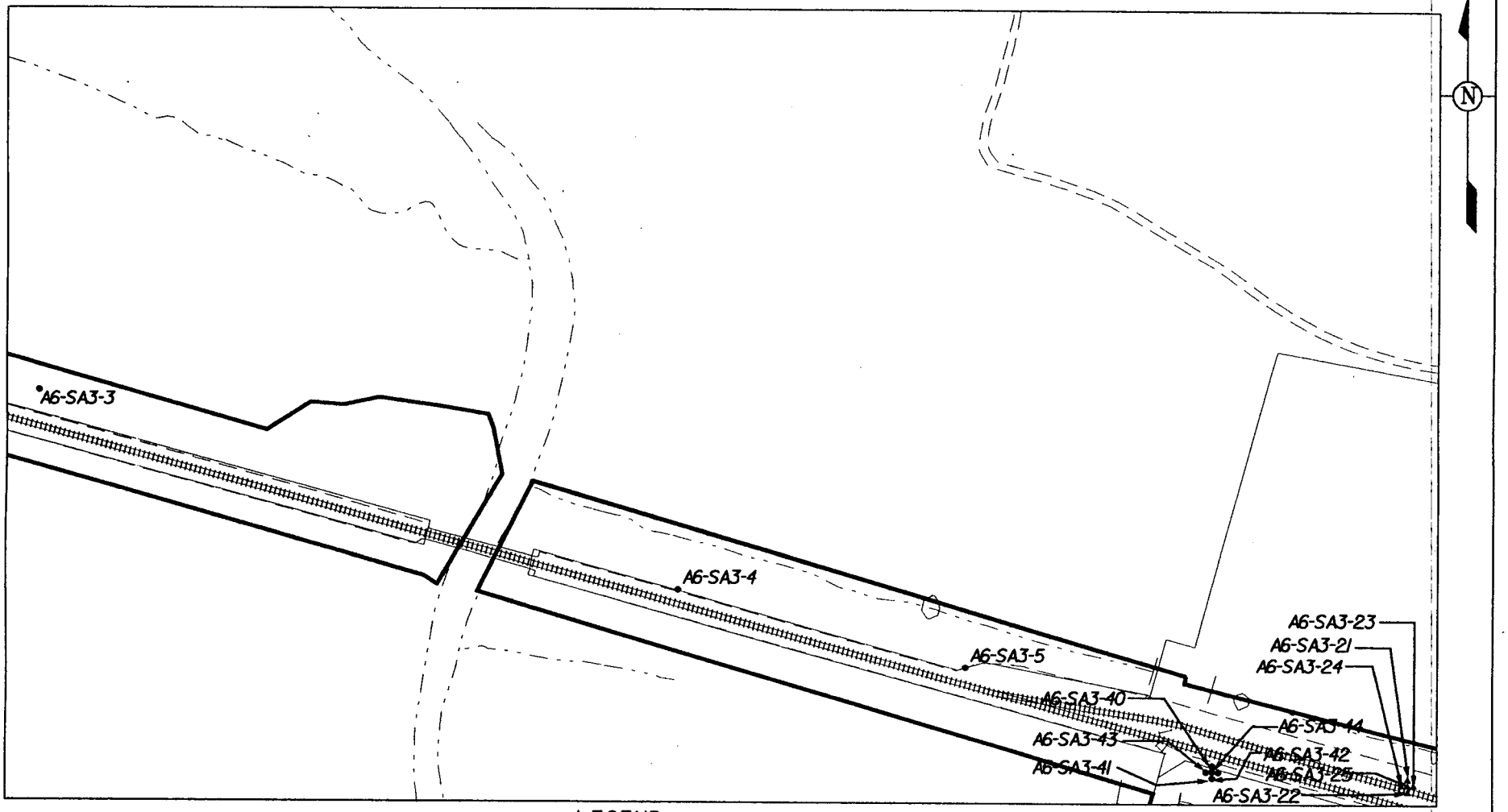
SCALE

120 50 0 120 FEET

v:\2fm12\dgn\a6_prec1.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-10. PREDESIGN BORINGS



LEGEND:

- • PREDESIGN BORING LOCATION
- ▲ PREDESIGN PLANNED BORING LOCATION

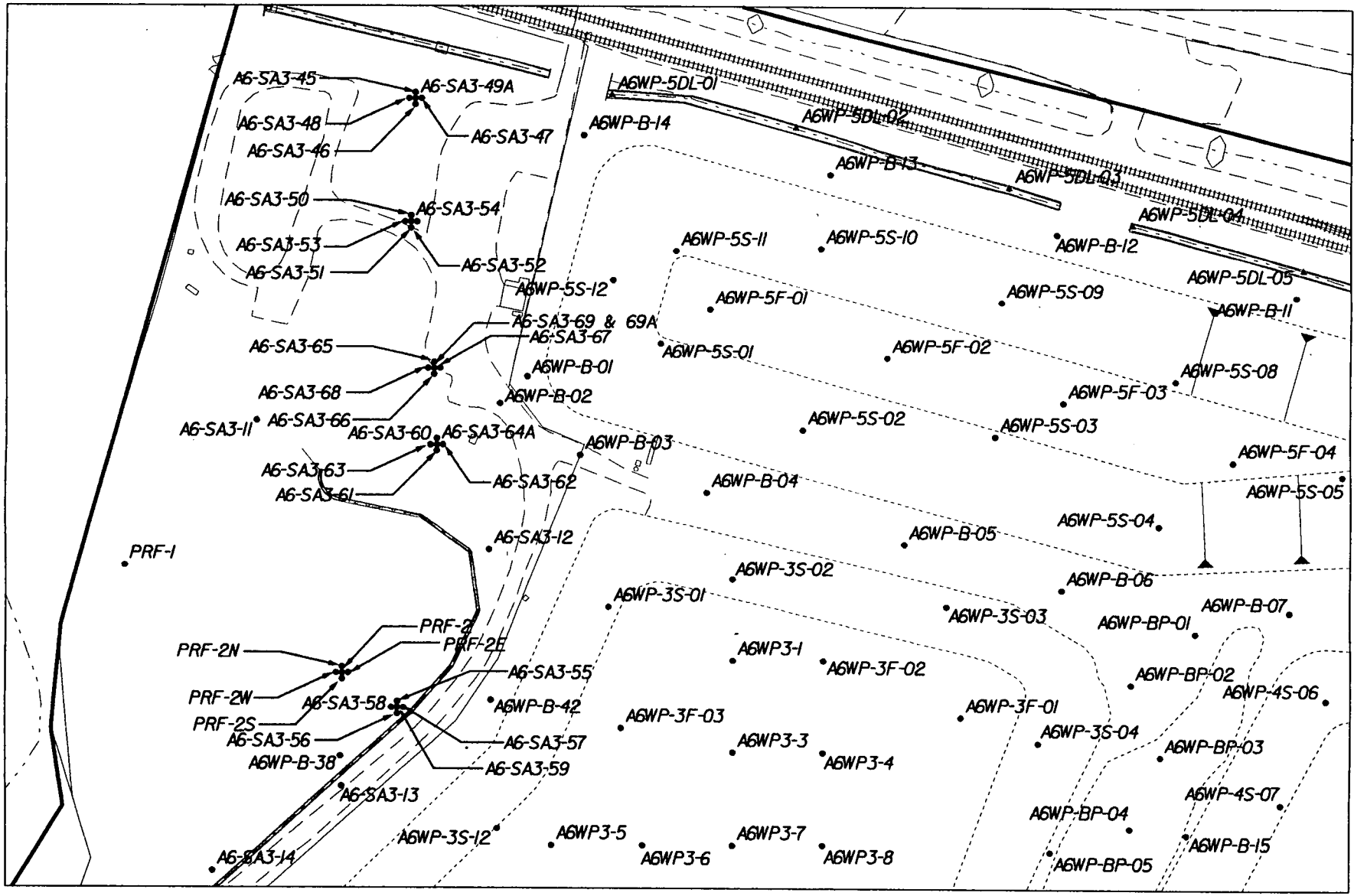
SCALE

120 60 0 120 FEET

v:\#2fm12\dgn\a6_prea2.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-11. PREDESIGN BORINGS

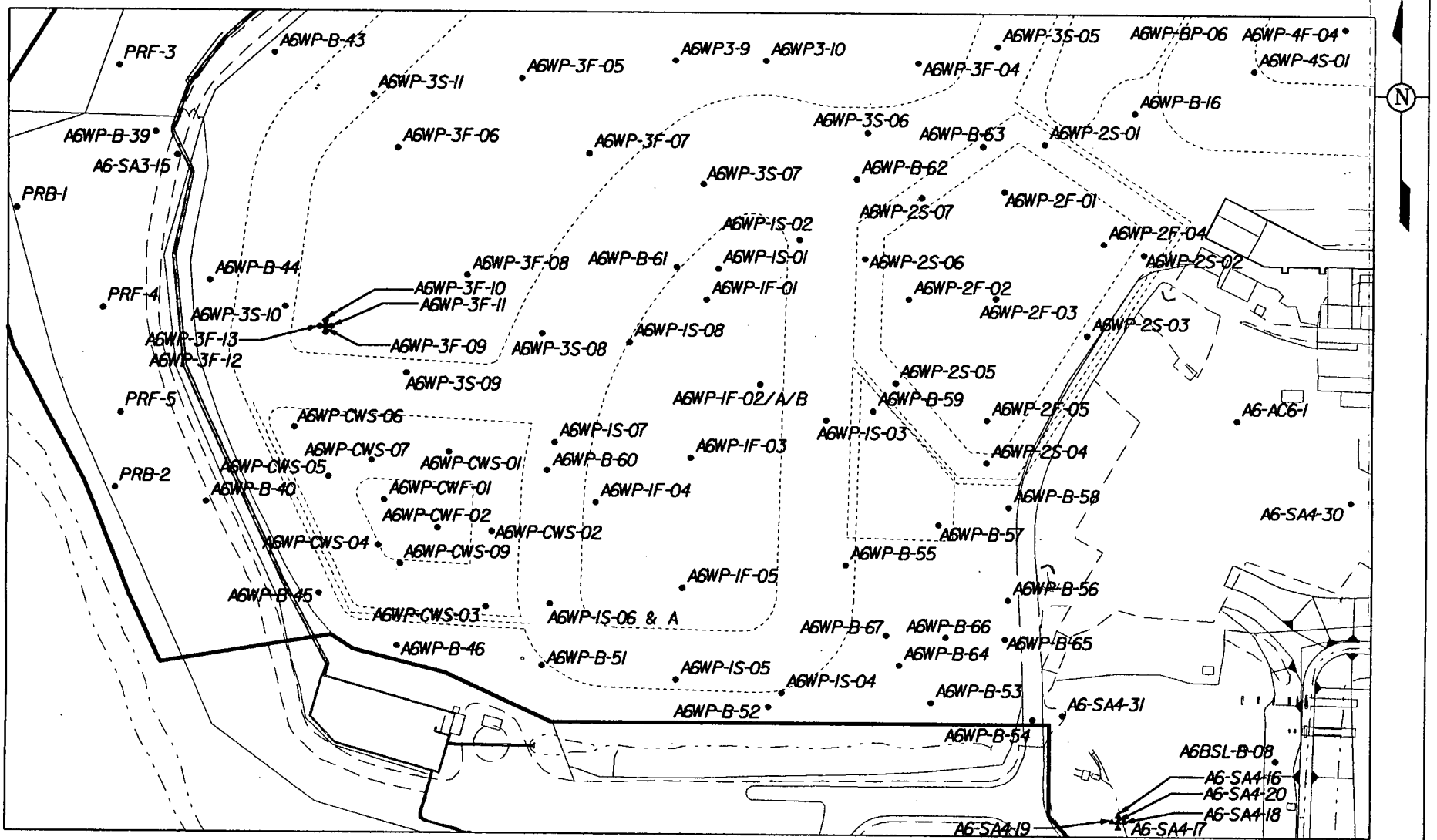


v1#2fm12#dgn#a6_prec3.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-12. PREDESIGN BORINGS

6042



LEGEND:

• PREDESIGN BORING LOCATION

▲ PREDESIGN PLANNED BORING LOCATION

SCALE

120 60 0 120 FEET

v:\#2fm12\dgn\a6_prec4.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-13. PREDESIGN BORINGS

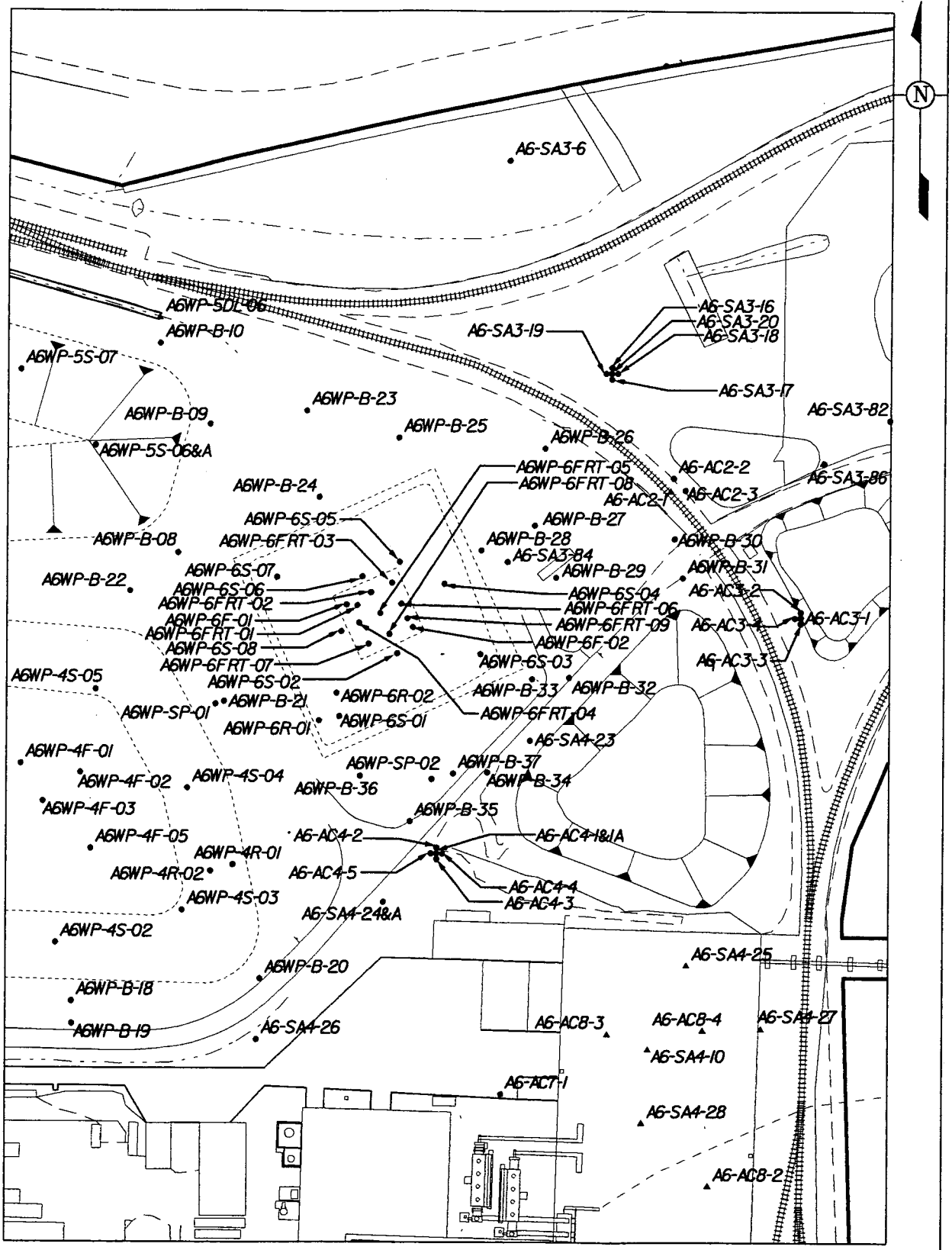
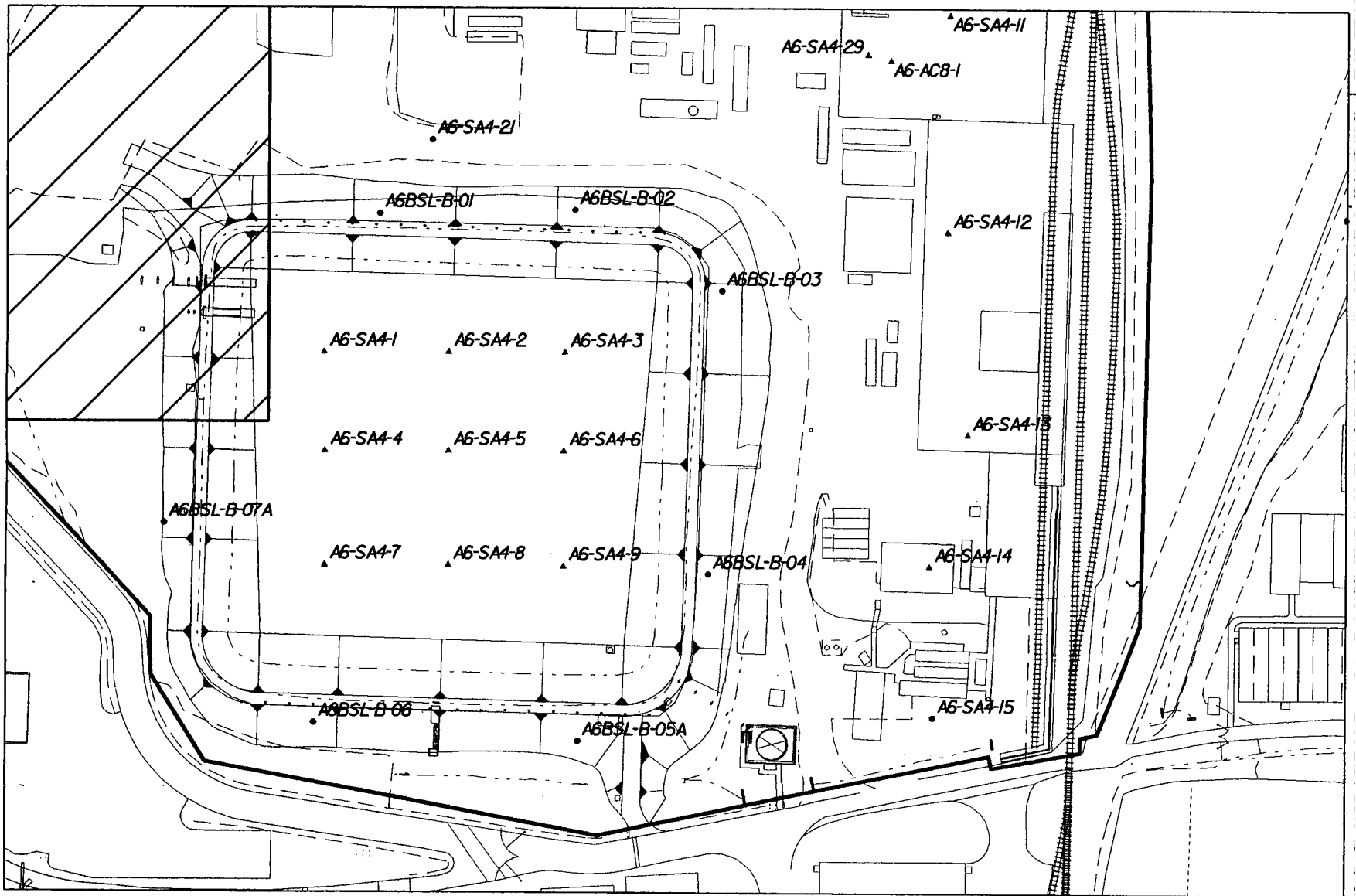


FIGURE 2-14. PREDESIGN BORINGS

V:\82fm12\dgn\ag6_pre05.dgn
STATE PLANAR COORDINATE SYSTEM 1983
05-OCT-2005



LEGEND:

SEE FIGURE 2-13

• PREDESIGN BORING LOCATION

▲ PREDESIGN PLANNED BORING LOCATION

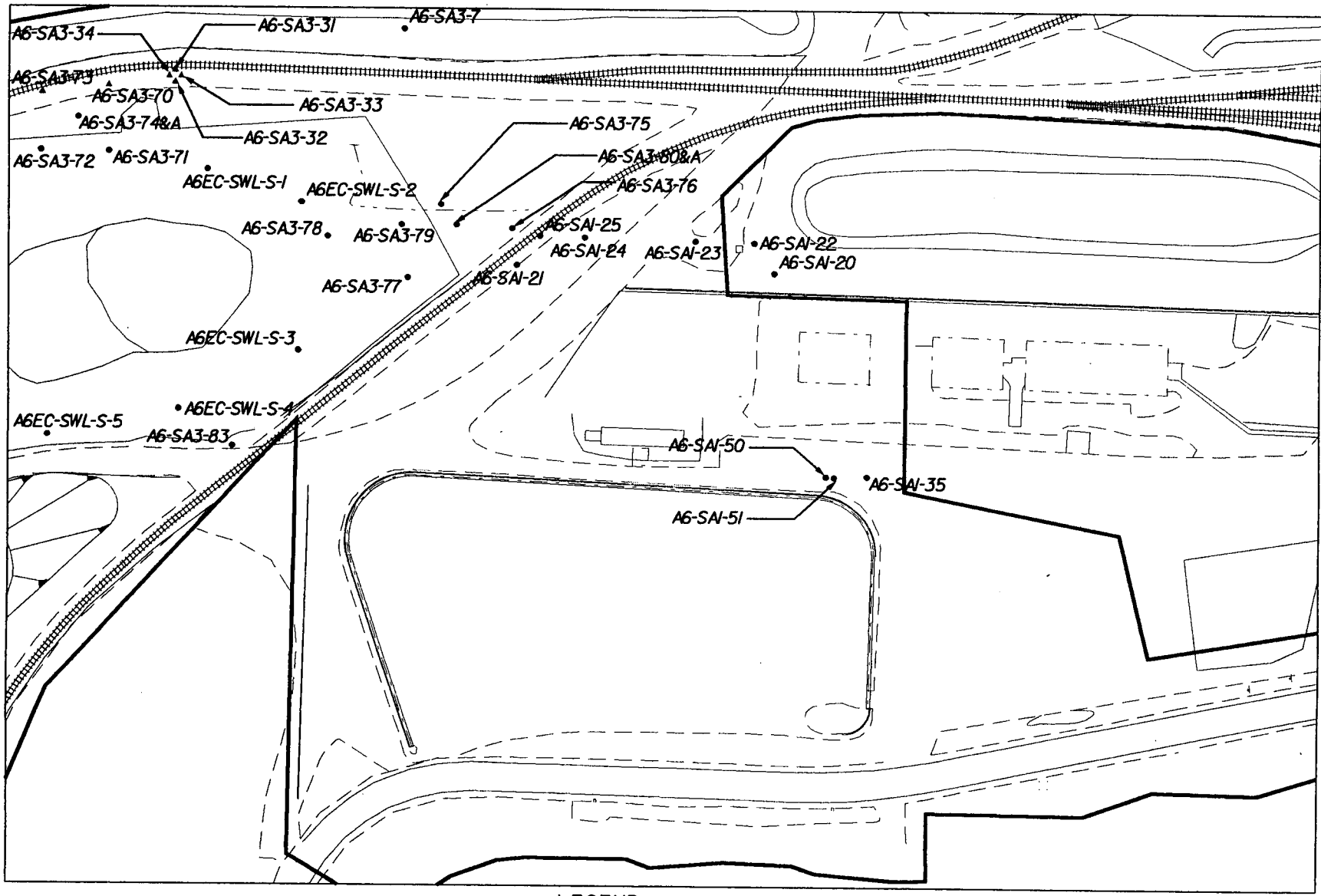
SCALE

120 60 0 120 FEET

v:\#2fm12\#dgn\ac6.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-15. PREDESIGN BORINGS



LEGEND:

- • PREDESIGN BORING LOCATION
- ▲ PREDESIGN PLANNED BORING LOCATION

SCALE

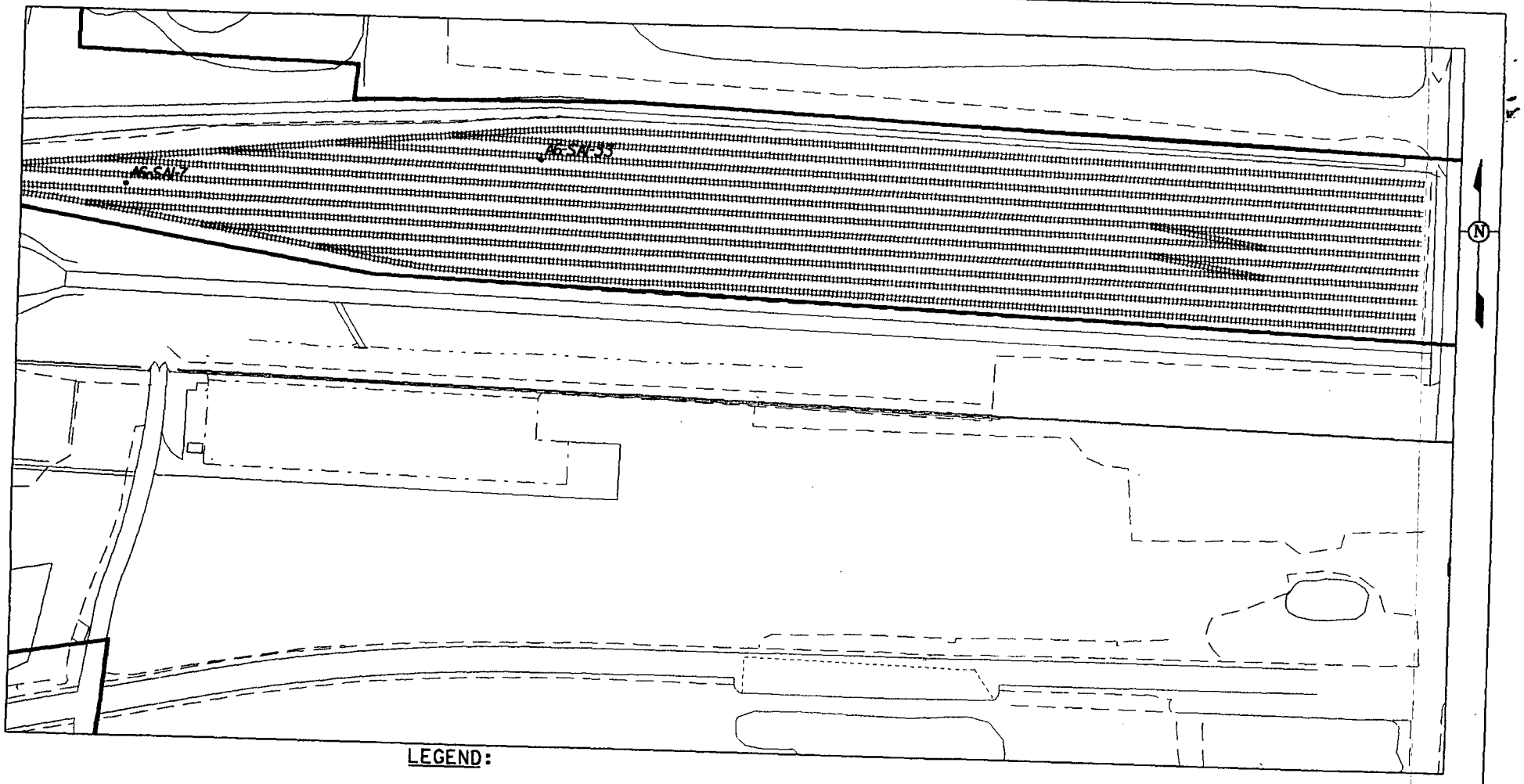
120 60 0 120 FEET

v:\2fmi2\dgn\a6_prea7.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-16. PREDESIGN BORINGS

8042



LEGEND:

• PREDESIGN BORING LOCATION

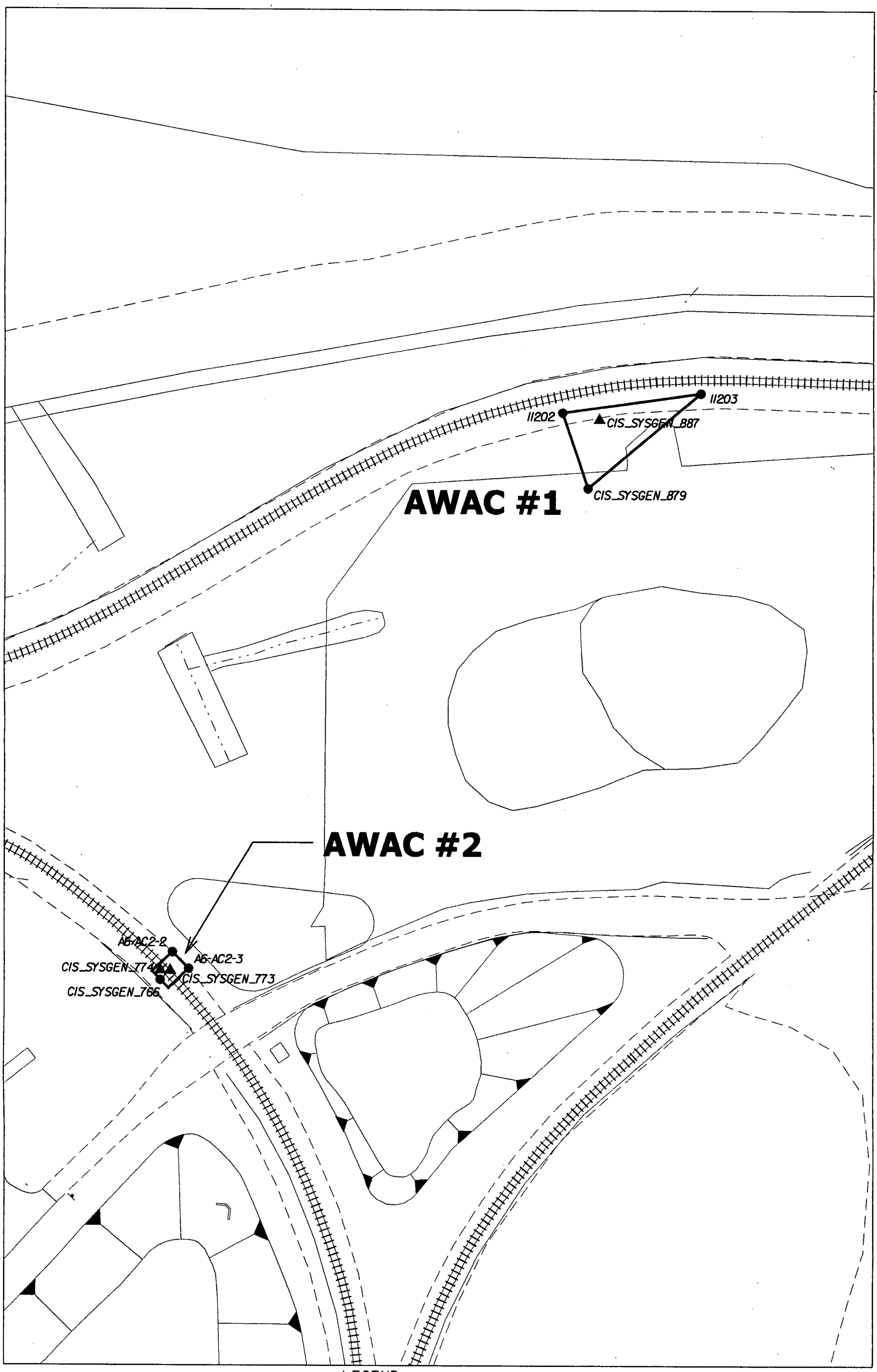
SCALE

120 60 0 120 FEET

v:\e2fm12\dgn\ac6_pred6.dgn
STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

FIGURE 2-17. PREDESIGN BORINGS



LEGEND:

▲ ABOVE-WAC BORING

● BOUNDING BORING

SCALE

60 30 0 60 FEET

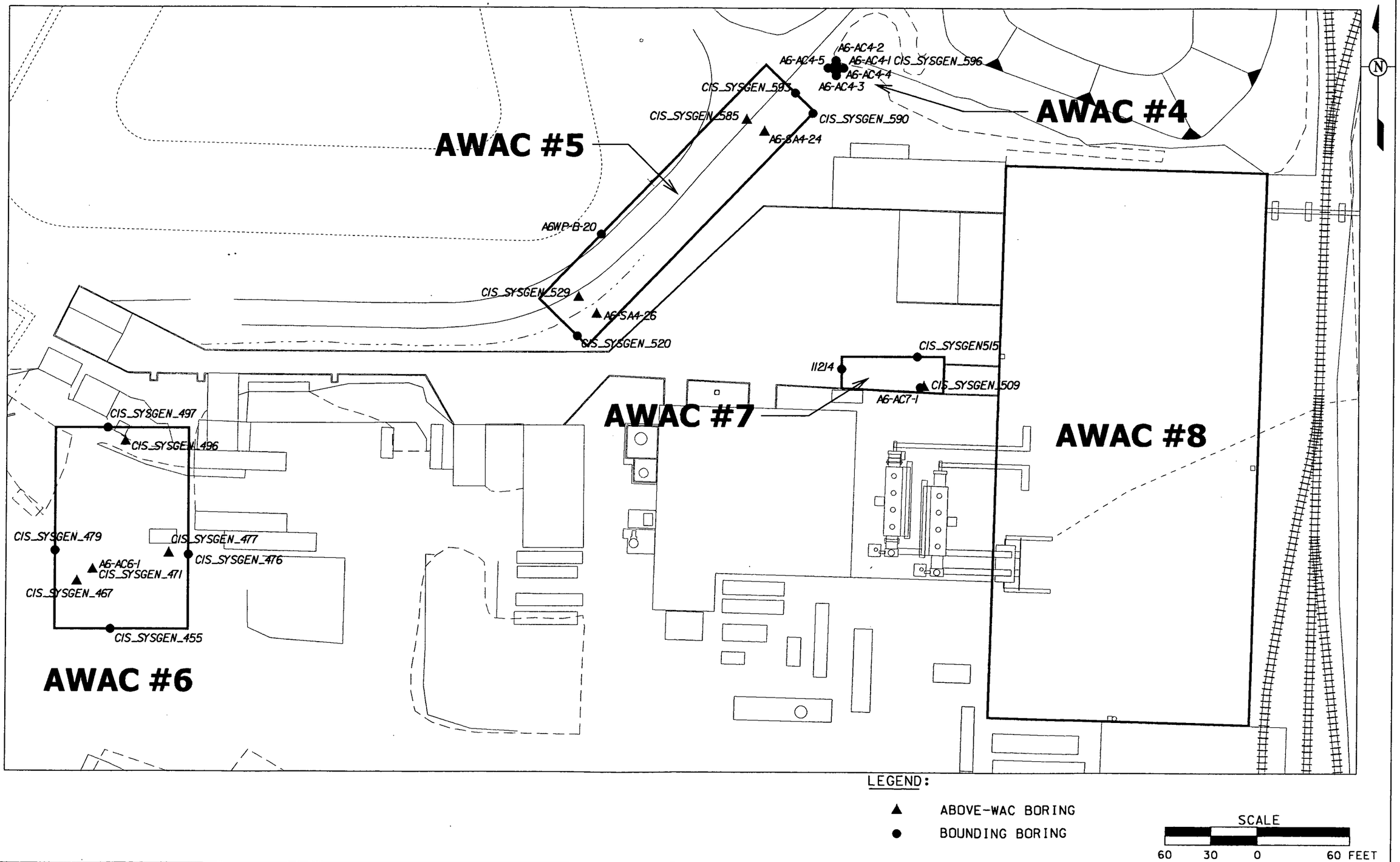
FIGURE 2-18. AREA 6 GENERAL AREA, ABOVE-WAC AREAS #1 AND #2

STATE PLANAR COORDINATE SYSTEM 1983

05-OCT-2005

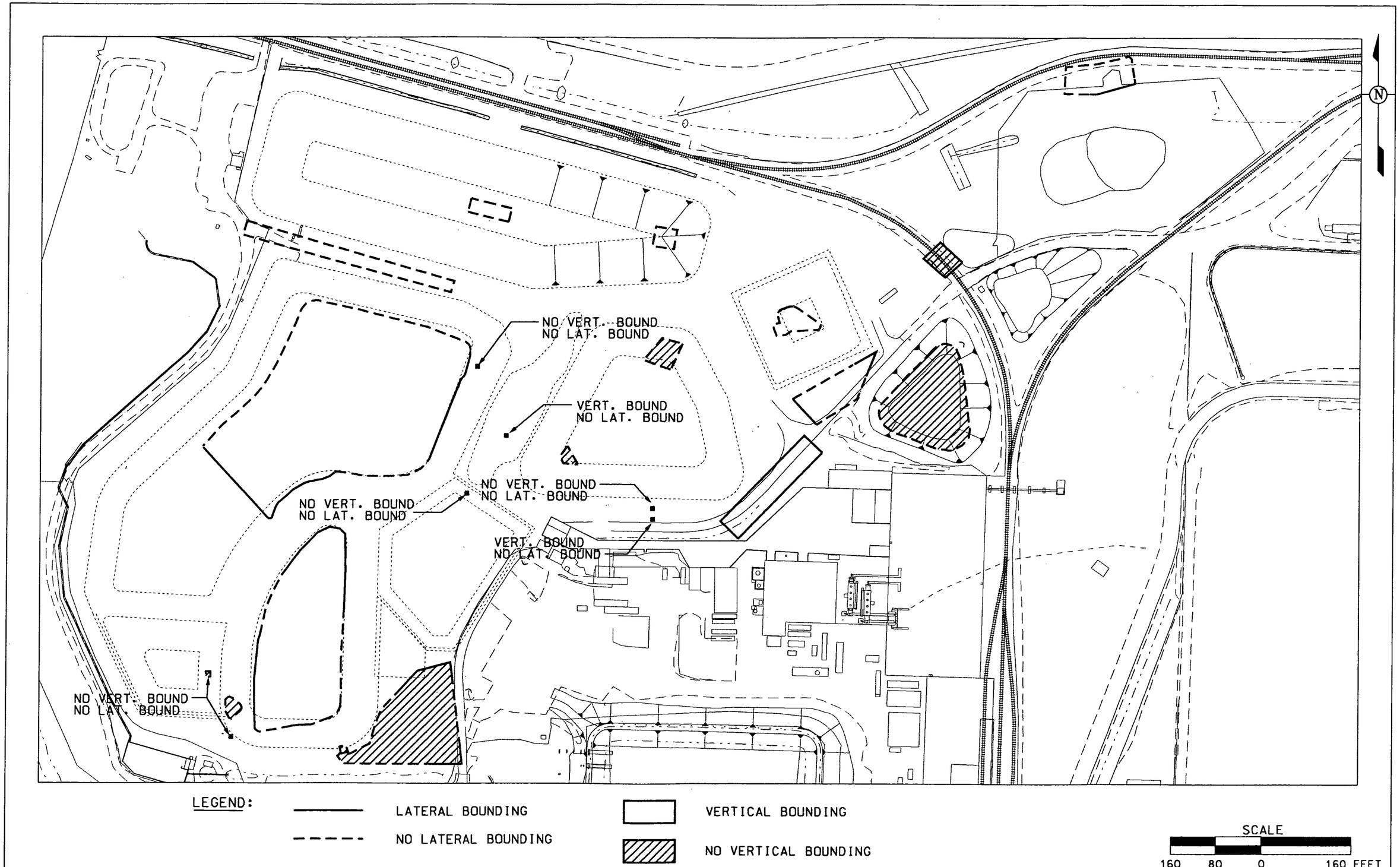
v:\2fm12\dgn\wp_awac2.dgn

6042



v:\2fm12\dgn\wp_awac.dgn STATE PLANAR COORDINATE SYSTEM 1983 05-OCT-2005

FIGURE 2-19. AREA 6 GENERAL AREA, ABOVE-WAC AREAS #4 THROUGH #8



v:\2fm12\dgn\wp_fri_002.dgn STATE PLANAR COORDINATE SYSTEM 1983 05-OCT-2005

FIGURE 2-20. AREA 6 WASTE PITS AND GENERAL AREA, UNBOUND ABOVE-FRL AREAS

3.0 REMEDIAL APPROACH

3.1 INTRODUCTION

This section describes the technical approach to remediation of Remediation Area 6 Waste Pits and General Area (see Figure 1-2). The remedial action approach discussed in this Excavation Plan follows the general guidance provided in Sections 3.0 and 4.0 and Appendix F of the SEP. Construction drawings and technical specifications comprise part of the documentation governing remedial construction activities. Construction activities will be further governed by Construction Traveler (CT) Packages that detail general construction practices, as well as health and safety requirements, for soil excavation and remediation projects at the FCP.

Remedial actions in Area 6 Waste Pits and General Area will begin with site preparation activities, progress into above-WAC soil excavation and at-grade debris removal, and finish with mass excavation of debris and soil exceeding the established FRLs.

3.2 SITE PREPARATION

Site preparation activities associated with this work include isolation, protection, or installation of utilities, surveying, installation of construction fence, establishment of erosion and sediment controls, and designation of haul routes. Real time scanning may be required if site preparation activities involve soil disturbance below a depth of 6 inches. Additional details are provided in the following text and in referenced construction drawings and technical specifications.

3.2.1 Utility Isolation/Protection/Installation

Isolation trenching at the limits of Area 6 Waste Pits and General Area excavations is not required because the vast majority of utility feeds into the areas were previously isolated during Area 3A, 4A, 3B, and 4B isolation trenching. Individual utilities may require isolation at the limit of excavation as identified during design and required for penetration permitting. Research into potential energized utilities entering the excavation areas will be performed during design and during the penetration permitting process. If active/energized utilities are discovered when searching historical information or during field activities, utility engineers will be consulted on utility removal, isolation, and/or protection. Documentation of utility removal, isolation, and protection will be made available to the Construction Manager and will be as-built on the master FCP underground utility grid drawings for reference during excavation. Penetration permitting will focus primarily on ensuring isolation from the Main Electrical Substation at the southernmost limit of Area 6 Waste Pits and General Area, as well as, isolation from pressurized water lines.

Site preparation activities will not involve utility installation, unless culvert installation is necessary at the intersection of personnel or equipment traffic routes and drainage ditches.

3.2.2 Remaining Utilities

To support the OU5 remediation of groundwater under the site, two extraction wells will be installed in the waste pit area after OU5 soil remediation of the pit area has been completed. One well will be installed northwest of Pit 4 and the other well will be installed west of the BSL. Both wells will require electrical power to operate the pumps and a discharge line to pump the water for treatment or injection into the aquifer at a different location. As such, some existing utilities will remain in place to support this longer term remediation. Specifically, there is an overhead 13.2 kV line that feeds power to the OU1 operations east and north of the BSL. Portions of this line and some of the existing utility poles will be refitted to supply electrical power to the well pumps. In addition, there is an underground 12-inch high-density polyethylene (HDPE) line

3.2.3 Surveying

Surveys will be performed to establish excavation boundaries for above-WAC, HWMU, UST, and FRL areas and to determine soil volumes hauled to the OSDF. The individual Area 6 Waste Pits and General Area Grading Plans (see Drawing 99X-5500-X-00846 for listing) illustrates locations of above-WAC, and general FRL excavation areas. The Construction Manager or his designated representative will field locate support facilities, such as laydown areas, cool-down trailers, soil dewatering areas, secondary haul routes, fuel transfer points, and Special Materials Transfer Areas (SMTAs), as needed.

3.2.4 Construction Fencing

Existing radiological control barriers and fencing will remain in place until project boundary fence is established during site preparation activities. Construction safety fence will be installed at the approximate limit of excavation, where existing fence cannot be used, in order to control access into the active work area. Personnel entering and leaving contamination areas will pass through a radiological checkpoint located in the change-out facilities. Vehicles exiting contamination areas will use contaminated haul routes to reach the decontamination and free-release station located near the southern limit of the OSDF.

3.2.5 Erosion and Sediment Control

Prior to soil disturbance, silt fence will be installed downgradient of the proposed excavation area where necessary to provide sediment control during storm events in addition to surrounding vegetation. Excavation water, the combination of surface water and perched groundwater, will be collected in various locations within the excavation throughout Area 6 Waste Pits and General Area, as shown on Dewatering

Plan drawings. To help minimize surface water entering the excavation, the topographic surface outside excavations will be sloped away from the excavation area, where appropriate. Excavation water will be managed as discussed in Section 3.3, Storm Water Management.

3.2.6 Haul Routes

Haul routes to the OSDF and SP-7 will be as shown on the Area 6 Waste Pits and General Area Layout Plan drawing. Haul routes to the OSDF will be from approved access points at the perimeter of the excavation. SP-7 will also be accessible directly from the westernmost limit of the excavation.

3.3 STORM WATER MANAGEMENT

During the removal of debris and impacted soil from the Area 6 Waste Pits and General Area, surface water will be managed primarily from five subareas: Waste Pits, WPRAP Process Area, Stockpile SP-7, and OU1 Railyard.

The following subsections serve as the Area 6 Waste Pits and General Area Surface Water Management Plan.

3.3.1 Waste Pits

Surface water collected within the Waste Pits Area will be pumped or drained to the Cement Pond, located southwest of the Clearwell (see Drawing 99X-5500-G-00866). This will include water pumped from the Clearwell, Burn Pit, and Waste Pits 1 through 6, and water drained from the area just west of the BSL and areas on the western periphery of the Waste Pits Area. Water collected in the Cement Pond will be pumped through a series of existing lines to an existing trench box inlet structure located east of the former Lime Sludge Ponds that is connected to the site storm water sewer system. This will allow water from the Cement Pond to be discharged into the SWRB for subsequent CAWWT treatment.

The Cement Pond will remain in service until the impacted soil underneath the waste pits and areas that drain to the Cement Pond have been remediated. This includes the area west of the BSL and the K-65 Silo Area. The Cement Pond will be remediated as part of the Area 7 Silos Implementation Plan.

To provide additional pumping capacity to counter the decrease in permanently installed pumping capacity in the Cement Pond, temporary pumps will be used to pump water into the Waste Pit 1 footprint as needed.

3.3.2 WPRAP Process Area

The SWM Pond currently collects waste water from the Buildings 91A, 91B, and 91C general area, a limited storm sewer system with catch basins north and east of the BSL (this system is independent of the site's main storm sewer system), and waste water pumped from waste pits that still hold waste pit or waste pit liner materials (see Drawing 99X-5500-G-00866).

Since process water is not allowed to go the SWRB until the waste pit material (including waste pit liner and cap material) has been removed from the site and the demolition of Buildings 91B (Material Handling Building) and 91C (Railcar Loading Building) is complete, water collected in the SWM Pond will undergo CAWWT treatment prior to being discharged off site to the Great Miami River. Surface water will be discharged to the AWWT Building for CAWWT treatment. Once the waste pit material (including waste pit liner and cap material) has been removed from the site and the demolition of Buildings 91B (Material Handling Building) and 91C (Railcar Loading Building) is complete, water collected in the SWM Pond can be discharged to the into the storm sewer system for CAWWT treatment via the SWRB.

In the event the SWM Pond gets overfilled, overflow from the SWM Pond will drain to the Cement Pond via a ditch north of Waste Pit 5 and a concrete trench west of the Waste Pits Area.

3.3.3 SP-7 Operational Area

Runoff from the SP-7 stockpile area will drain through a recently upgraded site storm sewer line that drains to the SWRB for subsequent CAWWT treatment (see Drawing 99X-5500-G-00867). This upgraded site storm sewer line was installed as part of the remediation of Area 6 Former Production Area. No modification will be required to drain the SP-7 excavation areas.

3.3.4 OU1 Railyard

The ditches on both the north and south side of the OU1 Railyard drain to Paddys Run. Because the removal of railroad tracks and underlying ballast material at the OU1 Railyard will be performed as "clean" work, runoff from this area will not require treatment at the CAWWT facilities. Silt fence will be placed around the railyard and approaching track to control sediment in the runoff (see Drawing 99X-5500-G-00867). Disturbance in the drainage to these ditches draining to Paddys Run will initiate checking for sediment loads from the drainage ditch into Paddys Run during rain events.

3.3.5 Site Storm Water Treatment Capacity

The CAWWT project has recently modified the AWWT Expansion system to provide a stormwater/remediation waste water treatment system capable of being operated at a maximum of

600 gallons per minute (gpm). The CAWWT stormwater/remediation waste water treatment system consists of two multimedia filters and one ion exchange. The SWRB will continue to be used as the headworks, providing surge capacity for the modified 600-gpm treatment system until the SWRB is taken out of service for remediation.

Treatment of storm water from the remediation of Area 6 Waste Pit and General Area will be performed by CAWWT treatment.

Since stormwater/remediation waste water treated by CAWWT will go through the same treatment process, there will be no more need to segregate water for treatment purposes. However, process water cannot be discharged to the SWRB; therefore, process waste water will undergo CAWWT treatment routed so that it bypasses the SWRB. Water that goes to the SWRB will go through the same treatment as water that is pumped directly to CAWWT. When discharges to SWRB are not possible due to an excessive water inventory, water will be held within the excavation until sufficient holding capacity is reestablished within the SWRB. To the extent possible, no discharges to the storm sewer system will be made during periods when the SWRB is bypassing, overflowing, or nearing capacity. These actions will be taken consistent with the bypassing provisions included in the NPDES permit.

3.4 REMEDIAL EXCAVATION

Excavation to remove impacted material will follow the general guidance of Excavation Approach D, as discussed in the SEP. Soil and debris associated with an above-WAC area, HWMU, or contaminated with organics will be targeted for early removal to minimize cross contamination.

The generic approach to massive soil excavation is presented in the SEP. Massive soil excavation is in contrast to discrete soil excavation that will be carried out to remove utilities that lie below FRL contamination. In general, above-WAC soil will be excavated in nominal 3-foot lifts not exceeding 4 feet in thickness prior to initiating FRL excavation. The FRL excavation will proceed in nominal 3-foot lifts that will not exceed 4 feet in thickness. Excavation driven by contamination, as shown on Excavation and Grading Plan drawings, will be performed in lifts to allow for visual inspection of excavated soil and the cut surface. Soil surfaces under the gravel, asphalt, and concrete will be scanned with *in situ* gamma spectroscopy techniques to determine if excavation is required outside the established limits of known contamination. Time will be scheduled to allow real-time monitoring of newly exposed soil lying below gravel, asphalt, and concrete surfaces, and between excavation lifts. Real-time monitoring is required to identify potential above-WAC zones prior to general excavation operations.

Unless otherwise noted on the Construction Drawings, slope stability requirements shall be as stated in technical specification Section 02205.

3.4.1 Above-WAC Excavations

As discussed in the following sections, ten above-WAC areas have currently been identified in Area 6 Waste Pits and General Area, accounting for an estimated 8,880 cubic yards (yd^3) of above-WAC soil and debris. Bounding above-WAC areas has been completed to the extent possible, based on area accessibility. Where bounding borings were not possible, landmarks (i.e., edge of building, etc.) were used to conservatively bound the areas. Characterization will be ongoing to bound and quantify known above-WAC areas, as well as, identify and bound additional above-WAC excavations. If found during excavation, real-time monitoring and/or physical sampling will be used, depending on COC, to establish the limits of above-WAC areas. Once identified, an above-WAC area will be staked and a buffer area will be established adjacent to the excavation in accordance with technical specification Section 02205 to control the spread of contamination.

Above-WAC areas will be excavated in nominal 3 feet ± 1 foot lifts. Lifts may be reduced if the opportunity exists to reduce above-WAC soil volumes through more frequent scanning or sampling. Excavated material containing only above-WAC levels of radiological constituents (uranium and/or technetium-99) will be hauled directly to SP-7. Excavated material containing above-WAC levels of organic constituents (i.e., tetrachloroethene) will be hauled to an appropriate stockpile for future treatment. Side slopes will be excavated to 2:1 and monitored to determine material disposition and lateral excavation as necessary to verify that above-WAC contamination has been removed.

When the design grade or excavation floor has been reached, real-time scans and/or physical sampling will be conducted depending on COCs. The Construction Manager may direct further excavation based on results. Equipment used to excavate, load, haul and place above-WAC material will be decontaminated prior to use elsewhere by rinsing until no visible material is present on exterior surfaces.

3.4.2 HWMUs and USTs

Area 6 Waste Pits and General Area contains two HWMUs, HWMU #27 Waste Pit 4, and HWMU #42 Waste Pit 5. Per Table 2-1 of the SEP, the HWMU COCs for Waste Pit 4 is barium and the HWMU COCs for Waste Pit 5 is 1,1,1-trichloroethane. Based on the OU1 ROD dated January 26, 1995, the designation of Waste Pit 5 as a HMWU, managing listed waste, was withdrawn. Based on the OU1 ROD dated January 26, 1995, the designation of Waste Pit 5 as a HMWU, managing listed waste, was withdrawn but Waste Pit 5 was still formally considered an HMWU.

The same sampling and analysis protocol was applied to waste from both Pits 4 and 5 (as well as all the other pits) to meet compliance with Envirocare WAC, which included demonstrating none of the waste was RCRA Hazardous. The sampling methodology was as follows: A composite sample was collected from each rail loadout bin of approximately 600 cubic yards of material for the eight toxicity characteristic leachate procedure (TCLP) metals (including barium, the HWMU concern for Pit 4) as well as screening for volatiles (which would have covered the 1,1,1-trichloroethane concern in Pit 5). Thus each bin had a sample sent to an off-site lab for TCLP analysis for RCRA inorganics (eight TCLP plus zinc) and total beryllium (DOE safety concern). Also, each bin was screened by PID for organics to determine if the result exceeded a threshold value established at the beginning of the project. If the screening threshold level was exceeded, a sample was sent off-site for analysis for TCLP volatile organic analysis/semi-volatile organic analysis/pest and total PCBs. If the sample did not exceed regulatory limits, the screening threshold for future bin photoionization detector (PID) monitoring was "reset" to that value. The final value for this threshold value was 1472 parts per billion (ppb). For the last remaining 10 percent of waste, samples were collected *in situ* and not taken from every bin.

At no time during the bin testing of any pit material did the barium analytical result exceed the RCRA regulatory limit. The same is true for 1,1,1-trichloroethane for those few (less than two dozen) organics analytical samples analyzed when the PID screening threshold was exceeded during bin loading. As such, no HWMU COCs were determined during removal of the waste pit contents from either Pit 4 or 5. See Section 2 for the methodology on the closure of HWMU #42.

There are no known USTs or former UST footprints in Area 6 Waste Pit and General Area requiring excavation and/or demonstration of FRL attainment.

3.4.3 General Excavation

General excavation involves mass removal of above-FRL, but below-WAC soil and debris and below-FRL soil following completion of above-WAC excavation. Above-FRL but below-WAC soil and debris will be excavated and disposed of in the OSDF for achievement of final remediation limits. Removal of below-FRL soil is occasionally necessary for excavation of safe slopes, removal of building footers and foundations, and to promote positive drainage within the excavation area. Excavation of Area 6 Waste Pits and General Area entails removal of approximately 141,000 yd^3 of above-FRL but below-WAC soil and 37,000 yd^3 of debris. Approximately 3,000 yd^3 of below-FRL soil will be excavated from the BSL berm to gain safe access to structures and utilities and stockpiled within the BSL basin after precertification of the bottom of the basin has been performed. Designed excavation contours are shown on Excavation and Grading Plan drawings. Table 3-1 provides soil and debris volume estimates for these excavation activities.

General excavation will include excavation of existing isolation trenches adjacent to excavation areas, cut during Area 3A and 4A site preparation activities. These isolation trenches will be excavated as suspect-contaminated due to the likelihood that impacted material located in the path of the trencher was spread throughout the isolation trench corridor during trenching. These isolation trenches will be excavated to a width of 2 feet and a depth of 12 feet, as measure from the grade elevation at the time the trenches were cut.

3.4.3.1 Waste Pit 1

The excavation of Waste Pit 1 consists of removing the bottom of the pit down to elevation 553 feet (see Drawing 99X-5500-G-00848). This represents an average excavation of approximately 2.5 feet. Minimal known excavation of the sidewalls is required to meet OU5 FRLs. Based on sampling and real-time monitoring results, remaining above-WAC soil was removed to complete the OU1 remediation of the waste pit. Above-WAC material discovered using excavation controls will be disposed of off site.

3.4.3.2 Waste Pit 2

The OU5 soil underneath Waste Pit 2 has yet to be sampled due to the late removal of pit and liner material. As such, depths of excavation cannot be determined for inclusion into the remedial design. Instead, the remedial excavation of Waste Pit 2 will be performed in accordance with the PSP for Excavation Control of Area 6 Waste Pits and General Area. Once OSDF above-WAC materials have been removed from Waste Pit 2 under the OU1 ROD requirements, the remaining soil will be sampled and characterized to determine the depth of excavation required to achieve OU5 FRLs. Above-WAC material discovered using excavation controls will be disposed of off site.

3.4.3.3 Waste Pit 3

The excavation of Waste Pit 3 consists of removing the northeast two-thirds of the bottom of the pit down to elevation 545 feet (see Drawings 99X-5500-G-00849 and 99X-5500-G-00850). This represents an average excavation of approximately 2.5 feet. Minimal known excavation of the sidewalls is required to meet OU5 FRLs. Based on sampling and real-time monitoring results, remaining above-WAC soil was removed to complete the OU1 remediation of the waste pit. Above-WAC material discovered using excavation controls will be disposed of off site.

3.4.3.4 Waste Pit 4

Due to safety concerns, a ramp was excavated near the southeast corner of Pit 4 to facility vehicular and pedestrian access to the bottom and sidewalls of the pit. This allowed access for sampling and real-time monitoring equipment to safely enter the pit. The excavation of Waste Pit 4 consists of removing portions of the northern and southeastern sidewalls of the pit (see Drawing 99X-5500-G-00851). Based

on sampling and real-time monitoring results, remaining above-WAC soil was removed to complete the OU1 remediation of the waste pit. Above-WAC material discovered using excavation controls will be disposed of off site.

3.4.3.5 Waste Pit 5

The excavation of Waste Pit 5 consists of removing a portion of the bottom and a portion of the eastern sidewall of the pit (see Drawing 99X-5500-G-00852). In addition, a portion of the unpaved road immediately south of Pit 5 will be removed. The concrete lining of the ditch just to the north of Pit 5 and associated culverts will be removed. Based on sampling and real-time monitoring results, remaining above-WAC soil was removed to complete the OU1 remediation of the waste pit. Above-WAC material discovered using excavation controls will be disposed of off site.

3.4.3.6 Waste Pit 6

The excavation of Waste Pit 5 consists of removing a portion of the bottom and a portion of the eastern sidewall of the pit (see Drawing 99X-5500-G-00852). In addition, a portion of the unpaved road immediately south of Pit 5 will be removed. The concrete lining of the ditch just to the north of Pit 5 and associated culverts will be removed. Based on sampling and real-time monitoring results, remaining above-WAC soil was removed to complete the OU1 remediation of the waste pit. Above-WAC material discovered using excavation controls will be disposed of off site.

3.4.3.7 Burn Pit

The OU5 soil underneath the Burn Pit has yet to be sampled due to the late removal of pit and liner material. As such, depths of excavation cannot be determined for inclusion into the remedial design. Instead, the remedial excavation of the Burn Pit will be performed in accordance with the PSP for Excavation Control of Area 6 Waste Pits and General Area. Once known OSDF above-WAC materials have been removed from the Burn Pit under the OU1 ROD requirements, the remaining soil will be sampled and characterized to determine the depth of excavation required to achieve OU5 FRLs. Above-WAC material discovered using excavation controls will be disposed of off site.

3.4.3.8 Clearwell

The above-FRL excavation within the footprint of the Clearwell consists of two excavation areas southeast of Pit 1 and one excavation at the toe of the eastern berm of the Clearwell (see Drawing 99X-5500-G-00854). Due to the location and depth of excavation at the toe of the Clearwell berm, personnel cannot safety enter the excavation based on OSHA guild lines without laying back the side slope of the excavation all the way to the top of the berm. Therefore, the sampling and real-time monitoring will be performed remotely. Real-time scanning will first be performed by using the

Excavation Monitoring System (EMS), which can scan the soil from a distance using a sensor on the end of an excavator boom. Sampling will then be performed by having an excavator bring a bucket full of post-excavated soil over to a safe location in which it can be sampled from the bucket. The bucket full will then be placed back in the excavation and compacted. The EMS cannot be used to excavate soil. Once the real-time scanning and sampling of the excavation have been completed, then soil obtained from a certified area will be used to fill the excavation back to the pre-excavation configuration. Based on sampling and real-time monitoring results, remaining above-WAC soil was removed to complete the OU1 remediation of the waste pit. Above-WAC material discovered using excavation controls will be disposed of off site.

3.4.3.9 WPRAP Support Area

The excavation of the WPRAP Support Area consists of one above-WAC excavation (AWAC Area #5) and an above-FRL excavation that extends into the WPRAP Process Area (see Drawing 99X-5500-G-00855).

3.4.3.10 WPRAP Process Area

During OU1 remediation, pit material was placed inside both Building 91B (Material Handling Building) and Building 91C (Railcar Loading Building). The portion of these buildings known or believed to have been in contact with OU1 waste material will be removed as above-WAC material for off-site disposal. This includes at-grade floor slabs of both buildings and below-grade mixing pit slabs in Building 91B. Real-time scanning will be performed underneath removed floor and pit slabs prior to general soil excavation to determine if addition above-WAC excavation is required. Additional excavation of underlying soil will be performed to gain access to below-grade foundations and other manmade structures, as needed (see Drawings 99X-5500-G-00856 and 99X-5500-G-00857). Soil excavated to gain access to building foundations will be disposed as impacted material in the OSDF.

3.4.3.11 Biodenitrification Surge Lagoon

Prior to beginning the remediation of the BSL under this Excavation Plan, the sediments and residues in the bottom of the BSL that have accumulated on top of the synthetic liner will be removed and hauled to SP-7 for disposal as above-WAC material as a site maintenance operation; hence the removal of these sediments and residues are not governed by this Excavation Plan. The top liner, leachate collection system (sand layer and drainage piping), bottom synthetic liner and original underdrain system, BSL structures, and underlying or adjacent impacted soil will be remediated as part of OU5 remediation and removed and disposed accordingly (see Drawing 99X-5500-G-00858).

The top liner system, underlying sand layer, and drainage piping will be removed as above-WAC soil and debris with minimum disturbance to the bottom synthetic liner. Once it has been determined that above-WAC material has been removed from inside the BSL, the remaining bottom synthetic liner and original underdrain system will be sampled to determine OSDF-WAC status. Existing structures and abandoned underground utilities will be removed as impacted material for disposal in the OSDF, unless shown through sampling to be above-WAC material.

After the removal of the above-WAC residue, top liner, underlying sand layer, and drainage piping, the BSL may be used during portions of the fall of 2005 as a place to temporary store water to assure the site doesn't have a stormwater release to Paddys Run. The bottom synthetic liner and original underdrain system will still be in place during this usage. The excavation required to remediate the BSL and adjacent areas is primarily driven to remove existing structures. This includes the Lagoon Leachate Sump, Underdrain Inspection Sump, Lagoon Outlet Structure, Pump Station, and Methanol Storage Tank. These structures will be remediated in accordance with Drawing 99X-5500-G-00858. To increase slope stability during the removal of the Lagoon Leachate Sump, the top of the BSL berm immediately to the north of the sump will be excavated prior to the removal of the sump. This will reduce the height of the excavation to less than 20 feet, and will allow Occupational Safety and Health Administration (OSHA) excavation rules to apply to the excavation under the guidance of an OSHA competent person.

3.4.3.12 SWM Pond

The excavation of the SWM Pond area consists of an above-WAC excavation (AWAC Area #4) and an above-FRL excavation that extends into the WPRAP Process Area (see Drawing 99X-5500-G-00853). In addition, the SWM Pond liner, underdrain system, pumping station, and associated utilities will be removed. During the later phases of the OU1 waste pit remediation, runoff from the waste pit excavations was drained into the SWM Pond. The residues in the SWM Pond have not been sampled and will not be sampled for characterization until the SWM Pond no long receives water that has contacted waste pit source materials. In essence, the waste pit source materials located in the Material Handling Building and the temporary OU1 stockpile just to the west of the Material Handling Building will need to be removed from site before samples of the SWM Pond residues will be taken. It can then be determined if the residues in the bottom of the SWM Pond are above or below WAC. Based on those results, additional sampling of the SWM Pond underdrain system may need to be taken to determine WAC status below the pond liner.

3.4.3.13 SP-7 Operational Area

The excavation and off-site disposal of the SP-7 above-WAC stockpiles is not governed by this Excavation Plan; however, the remediation of the underlying footprint is included in this Excavation Plan. The SP-7 Operational Area is essentially the northwest corner of the Former Production Area as defined by the historical location of the production area security fence. It also includes the area adjacent to the Former Production Area being used to load SP-7 stockpile material onto railcars.

The top 6 inches of soil underneath the footprint of the SP-7 stockpile and the adjacent above-WAC area will be removed as above-WAC material. In order to load the SP-7 above-WAC stockpile materials onto the railcars, the above-WAC material is being pushed from the stockpiles to the loadout zone. This has effectively expanded the SP-7 stockpile above-WAC area northward to the railroad tracks (see Drawing 99X-5500-G-00859). Prior to excavation below this 6-inch scrape in the footprint of the SP-7 above-WAC area, sampling and real-time scanning must be performed on the exposed surface. This will not be piecemealed but will be done after the 6-inch scrape across the SP-7 above-WAC area is completed to lessen the chance of cross-contaminating scanned areas with above-WAC materials. A determination will then be made using excavation controls to determine if addition excavation is required to complete the above-WAC removal.

Generally, the top 2 feet of gravel and soil will be removed from this excavation area. In addition, several structures will be removed. This includes the foundations for the Old Railroad Scale Pit and Quonset Hut #62, the concrete trench immediately north of the Former Production Area security fence, the concrete curb and gutter that surrounds the eastern SP-7 above-WAC stockpile, a number of underground utilities, and a portion of the Impacted Material Haul Road.

3.4.3.14 Locomotive Maintenance Building and OU1 Railyard Area

The excavation at the Locomotive Maintenance Building and the OU1 Railyard will be conducted to remove at- and below-grade structures and utilities (see Drawings 99X-5500-G-00860 and 99X-5500-G-00861). Removal of OU1 Railyard tracks, track hardware, and ties will be removed for subsequent reuse off site (except for one train stop). The railroad ballast from the OU1 Railyard will be used as fill material for previous excavations performed at the Solid Waste Landfill and the Fire Training Facility as part of site restoration. Disposal for the at- and below-grade structures and utilities associated with Locomotive Maintenance Building and the OU1 Railyard will be disposed in the OSDF.

3.4.3.15 Former Solid Waste Landfill

Two above-WAC areas (AWAC Areas #1 and #2) will be remediated within the former Solid Waste Landfill Area (see Drawing 99X-5500-G-00863). Above-WAC Area #1 is located between the former

Solid Waste Landfill excavation and a railroad line. Above-WAC Area #2 is located underneath an active rail line north of the SWM Pond. Since the above-WAC area underneath the railroad track is located near the former Solid Waste Landfill, the tracks and ballasts over this location can be removed while rail service is still available at the site. The portion of railroad track required to maintain a reduced rail service at the time of this excavation is the track section north of Waste Pit 5 to the site property boundary.

If SP-7 is no longer available to temporary stage above-WAC material, then above-WAC material can be loaded directly into railcars.

If both SP-7 and on-site rail service are no longer available, then above-WAC material will be loaded into shipping containers directly at the excavation site and transported by truck for intermodal rail transportation to the off-site disposal facility.

Three above-FRL excavations have been identified within the former Solid Waste Landfill Area (see Drawings 99X-5500-G-00862 and 99X-5500-G-00863). In addition, several culverts and utility poles exist within the area that will be removed.

3.4.3.16 Area West of Waste Pits

The remediation of the area west of the Waste Pits includes one above-FRL excavation located west of Pit 3, one general excavation of a storage laydown area located west of Pit 5, the removal of a concrete trench that drains to the Cement Pond, a few underground utilities, and a concrete lining in a drainage ditch located northwest of Pit 5. The remediation of this area does not include areas governed by the Stream Corridors Pilot Plant Drainage Ditch Excavation Plan and remedial design (DOE 2005e). Since the Cement Pond will continue being utilized after the remediation of the area west of the waste pits, the remaining section of concrete trench that drains into the Cement Pond will be plugged.

3.4.4 Utilities Removal

Utility lines that remain after general excavation has reached the design grade will be removed using a backhoe and trench excavation techniques as detailed on the Civil Detail drawing. A combination of *in situ* gamma measurements and laboratory analyses will be used to demonstrate the soil and bedding material removed from the trench meet OSDF WAC and site FRLs.

Utility overburden soil will be removed and placed in the OSDF as select and/or contouring material. The Construction Manager and Waste Acceptance Organization (WAO) will observe the excavation and stop the excavation of overburden soil when the pipe or bedding material is encountered. Once removed, the

pipes interior will be inspected by WAO to determine its disposition. Pipe that is free of visible process residue it will be size reduced to meet OSDF WAC and placed in the OSDF. Pipe that is deformed, closed or otherwise not amenable to visual inspection of the interior walls will be hauled to SP-7 in accordance with technical specification Section 02205.

If pipe bedding shows no visible signs of pipe leakage, real-time monitoring will be performed on the pipe bedding within the trench using EMS or adjacent to the trench using the high-purity germanium (HPGe) detector tripod. Material will be hauled to SP-7 (exceeds WAC) or to the OSDF based on the results of real-time scanning. If the material is below the OSDF WAC, it will be placed in the OSDF as select impacted material. As necessary, when removing the stockpiled material or pads, underlying areas will be over-excavated to a depth of 6 inches to ensure that contaminated material is removed.

If pipe bedding shows visible signs of pipe leakage, physical sampling will be performed on the pipe bedding within the trench. Material will be hauled to SP-7 (exceeds WAC) or to the OSDF based on the results of physical sampling. If the material is below OSDF WAC, it will be placed in the OSDF as select impacted material.

Utility trenches will be excavated to 2:1 side slopes to stabilize the trenches and to provide a modified design grade. Excavated material will be disposed of in accordance with technical specification Section 02205.

3.5 AT- AND BELOW-GRADE STRUCTURES

Removal of at-grade concrete and asphalt pads/roads will be initiated early to prepare the area for general soil excavation activities. The soil surface below at-grade concrete and asphalt pads/roads will be scanned with *in situ* gamma spectroscopy techniques to determine if excavation is required beyond the limits of known contamination. At- and below-grade structures to be removed from the Area 6 Waste Pits and General Area include slabs and foundations of Buildings 24C, 91A, 91B, 91C, 91D, 91E, 91F, 91G, and 91H; foundations to various structures around the BSL (including the Methanol Tank (18J); various catch basins and manholes; and railroad tracks throughout Area 6. Most foundations within Area 6 Waste Pits and General Area are located within 6 feet of existing grade.

Overburden soil will be removed from around the structure and temporarily stockpiled in the area. If the structure is free of visible process residue it will be size reduced to meet OSDF WAC and placed in the OSDF. If the structure is deformed, closed or otherwise not amenable to visual inspection of the interior walls, it will be hauled to SP-7 in accordance with technical specification Section 02205. Upon removal of the structure, real-time monitoring and/or physical sampling will be performed at the bottom of the

excavation. Based on the results of real-time scanning and/or physical sampling, stockpiled material removed from around the structure will be hauled to the OSDF or used as fill material within the excavation. If OSDF disposal is required, stockpiled material will be over-excavated to a depth of 6 inches to ensure that contaminated material is removed.

Structures that remain after general excavation has reached the design grade will be excavated using a combination of *in situ* gamma measurements and laboratory analyses to demonstrate the soil and bedding material removed from around the structure meet OSDF WAC and site FRLs. Additionally, the surface area above the structure will be precertified with *in situ* gamma spectroscopy measurements prior to excavating the structure.

3.6 PROHIBITED MATERIALS

Section 3.3.2.2 of the SEP identifies special materials that, when encountered, require WAO input before the contractor can determine their disposition. Materials from this list may be encountered in Area 6 Waste Pits and General Area include:

- Asbestos
- Drums and tanks
- Piping and pumps
- Process residues
- Uranium metal
- Miscellaneous debris
- Acid brick

If not specifically prohibited from OSDF disposition, these materials can be placed in the OSDF if they meet the physical and chemical WAC (DOE 1998c), and if a visual inspection of pipe interiors is passed. Materials prohibited from OSDF disposition and materials that do not meet the OSDF WAC will be placed at SP-7 or packaged into containers and placed at the SMTA. In general, special materials that exceed the OSDF WAC, except process residues and uranium metal, will be hauled to SP-7. Process residues and uranium metal will be containerized and placed at the SMTA for disposal at an off-site disposal facility. Information on the identification, management, and tracking of these materials is provided in the SEP (Section 3.6 and Appendix F).

3.7 INTERIM RESTORATION

Interim grading, defined as grading that occurs for slope maintenance and to prevent unsafe working conditions, is dependent on actual field conditions and may occur prior to or after precertification in accordance with technical specification Section 02206, Item 3.5. The frequency of interim grading in a

given excavation will be a function of the slope materials and their ability to maintain the design grade during precipitation events that occur prior to completion of certification and the restoration grading.

3.8 PRECERTIFICATION

Precertification will be performed in accordance with the PSP Guidelines for General Characterization for Sitewide Soil Remediation (DOE 2005f). Precertification activities will commence after the design grade has been reached, the perimeter ditches have been established, and other construction in the area is complete.

The precertification area will be delineated and controlled to prevent cross-contamination of environmental media. Real-time monitoring of the design grade will be performed to precertify the area as attaining the uranium, thorium, and radium FRL goals.

A CDL/PSP for certification of Area 6 will be submitted to the regulatory agencies for review and approval.

TABLE 3-1
AREA 6 GENERAL QUANTITIES

AREA	SUBAREA	TOTAL	CAT 1	CAT 2	ABOVE-WAC
6A	SP-7 Operational Area	16,898	11,159	5,739	0
	SP-7 Below-Grade AWAC	3,926	0	0	3,926
subtotal		**20,824**	**11,159**	**5,739**	**3,926**
6B	Remaining West OMTA	100	100	0	0
subtotal		**100**	**100**	**0**	**0**
6F	Railroad Area	2,360	1,500	860	0
subtotal		**2,360**	**1,500**	**860**	**0**
6G	Bio Surge Lagoon	14,213	10,941	3,272	0
	Bio Surge Lagoon AWAC	2,581	0	0	2,581
subtotal		**16,794**	**10,941**	**3,272**	**2,581**
6H	Concrete Trench	6,390	2,390	4,000	0
	AWAC Area #1	315	0	0	315
	AWAC Area #3	0	0	0	0
subtotal		**6,705**	**2,390**	**4,000**	**315**
6J	Waste Pits Laydown Area	33,380	30,558	2,822	0
	AWAC Area #5	1,393	0	0	1,393
	AWAC Area #6	214	0	0	214
	AWAC Area #7	330	0	0	330
subtotal		**35,317**	**30,558**	**2,822**	**1,937**
6K	Waste Pits Material Handling Facility	24,700	18,368	6,332	0
	AWAC Area #4	4	0	0	4
	AWAC Area #8	0	0	0	0
subtotal		**24,704**	**18,368**	**6,332**	**4**
6L	Waste Pit #6	1,667	1,667	0	0
	Waste Pit #5	1,481	1,481	0	0
	Waste Pit #4	1,521	1,521	0	0
	Waste Pit #3	5,133	5,133	0	0
	Waste Pit #2	8,136	7,936	0	200
	Waste Pit #1	16,463	16,463	0	0
	Clear Well	3,066	1,866	0	1,200
	AWAC Area #2	0	0	0	93
subtotal		**37,560**	**36,067**	**0**	**1,493**
Totals		**144,364**	**111,083**	**23,025**	**10,256**

Notes:
1- All quantities are represented in bank cubic yards.
2- Quantities are based primarily on design calculations and take-offs based on and methodology assumptions.

REFERENCES

U.S. Department of Energy, 1995a, "Record of Decision for Remedial Actions at Operable Unit 1," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1995b, "Remedial Investigation for Operable Unit 5," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1995c, "Feasibility Study for Operable Unit 5," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1996a, "Record of Decision for Remedial Actions at Operable Unit 5," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1996b, "Record of Decision for Remedial Actions at Operable Unit 3," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1996c, "Remedial Design Work Plan for Remedial Actions at Operable Unit 5," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1997, "Programmatic Agreement Among the U.S. Department of Energy, Fernald Office, the Advisory Council on Historic Preservation, and the Ohio Historic Preservation Office Regarding Archeological Investigations at the Fernald Environmental Management Project," March 6, 1997, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1998a, "Sitewide Excavation Plan," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1998b, "Geotechnical Engineering Report for Project Order 177," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 1998c, "Waste Acceptance Criteria Attainment Plan for the On-Site Disposal Facility," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2002a, "Operable Unit 3 Miscellaneous Small Structures Phase II Implementation Plan for Above-Grade Decontamination and Dismantlement," Revision 0, PCN 1, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2002b, "Natural Resource Restoration Plan," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2003a, "Implementation Plan for Area 6 Solid Waste Landfill and Fire Training Facility," Final, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2003b, "Amendment to the Record of Decision for Operable Unit 1," Final, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2003c, "Project Specific Plan for Investigation Subsurface material from the Northwestern Portion of Waste Pit 3," Revision 0, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2003d, "Project Specific Plan for Predesign Sampling in Area 6 SP-7/OU1 Stockpile Area," Revision 1, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2004a, "Implementation Plan for Area 6 Operable Unit 1 Stockpile Area," Final, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2004b "Operable Unit 1 Complex Implementation Plan for Above-Grade Decontamination and Dismantlement," Revision 0, PCN 1, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2004c, "Project Specific Plan for Predesign Characterization of Sediments in Paddys Run and Associated Drainage Features," Revision 1, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2004d, "Project Specific Plan for Investigating Subsurface Material from Area 6 Waste Pits 1 through 3, the Clearwell, and the Biodenitrification Surge Lagoon Berm," Revision 0, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2004e, "Project Specific Plan for Investigating Subsurface Material from Area 6 Waste Pits 4 through 6, and the Burn Pit," Revision 1, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2005a, "Excavation Plan for Area 6 Former Production Area," Final, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2005b, "Project Specific Plan for Excavation Control and Precertification of the Area 6 Waste Pits and General Area," Revision 0, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2005c, "Project Specific Plan for Predesign of Area 6 Subarea 1 (Supplement to 20300-PSP-0011)," Revision 1, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2005d, "Project Specific Plan for Predesign of Area 6 Subareas 3 and 4 (Supplement to 20300-PSP-0011)," Revision 0, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2005e, "Excavation Plan for Stream Corridors Storm Sewer Outfall Ditch," Final, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Department of Energy, 2005f, "Project Specific Plan Guidelines for General Characterization for Sitewide Soil Remediation," Revision 2 PCN 1, Fernald Closure Project, DOE, Fernald Area Office, Cincinnati, Ohio.

U.S. Environmental Protection Agency, 1991, Consent Agreement as Amended under CERCLA Sections 120 and 106(a), in the matter of U.S. Department of Energy, Feed Materials Production Center, Fernald, Ohio, U.S. EPA Region V.

6042

APPENDIX A

PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6BSL-B-01	A6BSL-B-01^14-R	10-Mar-05	6.5	7	Cesium-137	0.0461	pCi/g	UNV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^14-R	10-Mar-05	6.5	7	Radium-228	0.887	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^14-R	10-Mar-05	6.5	7	Technetium-99	0.783	pCi/g	UNV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^14-R	10-Mar-05	6.5	7	Thorium-228	0.912	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^14-R	10-Mar-05	6.5	7	Thorium-230	0.961	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^14-R	10-Mar-05	6.5	7	Thorium-232	0.887	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^14-R	10-Mar-05	6.5	7	Uranium, Total	2.78	mg/kg	UNV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^1-R	10-Mar-05	0	0.5	Cesium-137	0.0479	pCi/g	UNV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^1-R	10-Mar-05	0	0.5	Radium-228	0.842	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^1-R	10-Mar-05	0	0.5	Technetium-99	0.822	pCi/g	UNV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^1-R	10-Mar-05	0	0.5	Thorium-228	0.827	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^1-R	10-Mar-05	0	0.5	Thorium-230	1.13	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^1-R	10-Mar-05	0	0.5	Thorium-232	0.842	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^1-R	10-Mar-05	0	0.5	Uranium, Total	2.54	mg/kg	UNV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^7-R	10-Mar-05	3	3.5	Cesium-137	0.0462	pCi/g	UNV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^7-R	10-Mar-05	3	3.5	Radium-228	0.804	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^7-R	10-Mar-05	3	3.5	Technetium-99	0.816	pCi/g	UNV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^7-R	10-Mar-05	3	3.5	Thorium-228	0.941	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^7-R	10-Mar-05	3	3.5	Thorium-230	0.943	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^7-R	10-Mar-05	3	3.5	Thorium-232	0.804	pCi/g	NV	481216.8	1347462.859
A6BSL-B-01	A6BSL-B-01^7-R	10-Mar-05	3	3.5	Uranium, Total	2.89	mg/kg	NV	481216.8	1347462.859
A6BSL-B-02	A6BSL-B-02^12-R	9-Mar-05	5.5	6	Cesium-137	0.027	pCi/g	UNV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^12-R	9-Mar-05	5.5	6	Radium-228	0.839	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^12-R	9-Mar-05	5.5	6	Technetium-99	0.822	pCi/g	UNV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^12-R	9-Mar-05	5.5	6	Thorium-228	0.931	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^12-R	9-Mar-05	5.5	6	Thorium-230	0.916	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^12-R	9-Mar-05	5.5	6	Thorium-232	0.839	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^12-R	9-Mar-05	5.5	6	Uranium, Total	6.67	mg/kg	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^1-R	9-Mar-05	0	0.5	Cesium-137	0.0505	pCi/g	UNV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^1-R	9-Mar-05	0	0.5	Radium-228	0.871	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^1-R	9-Mar-05	0	0.5	Technetium-99	0.855	pCi/g	UNV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^1-R	9-Mar-05	0	0.5	Thorium-228	1.28	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^1-R	9-Mar-05	0	0.5	Thorium-230	1.05	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^1-R	9-Mar-05	0	0.5	Thorium-232	0.871	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^1-R	9-Mar-05	0	0.5	Uranium, Total	6.86	mg/kg	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^7-R	9-Mar-05	3	3.5	Cesium-137	0.0494	pCi/g	UNV	481219.807	1347625.254

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6BSL-B-02	A6BSL-B-02^7-R	9-Mar-05	3	3.5	Radium-228	0.973	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^7-R	9-Mar-05	3	3.5	Technetium-99	0.862	pCi/g	UNV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^7-R	9-Mar-05	3	3.5	Thorium-228	1.42	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^7-R	9-Mar-05	3	3.5	Thorium-230	1.1	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^7-R	9-Mar-05	3	3.5	Thorium-232	0.973	pCi/g	NV	481219.807	1347625.254
A6BSL-B-02	A6BSL-B-02^7-R	9-Mar-05	3	3.5	Uranium, Total	6.54	mg/kg	NV	481219.807	1347625.254
A6BSL-B-03	A6BSL-B-03^12-R	9-Mar-05	5.5	6	Cesium-137	0.0266	pCi/g	UNV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^12-R	9-Mar-05	5.5	6	Radium-228	0.576	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^12-R	9-Mar-05	5.5	6	Technetium-99	0.777	pCi/g	UNV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^12-R	9-Mar-05	5.5	6	Thorium-228	0.591	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^12-R	9-Mar-05	5.5	6	Thorium-230	0.868	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^12-R	9-Mar-05	5.5	6	Thorium-232	0.576	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^12-R	9-Mar-05	5.5	6	Uranium, Total	1.69	mg/kg	UNV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^1-R	9-Mar-05	0	0.5	Cesium-137	0.0278	pCi/g	UNV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^1-R	9-Mar-05	0	0.5	Radium-228	0.683	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^1-R	9-Mar-05	0	0.5	Technetium-99	0.821	pCi/g	UNV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^1-R	9-Mar-05	0	0.5	Thorium-228	0.864	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^1-R	9-Mar-05	0	0.5	Thorium-230	1.46	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^1-R	9-Mar-05	0	0.5	Thorium-232	0.683	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^1-R	9-Mar-05	0	0.5	Uranium, Total	3.3	mg/kg	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^7-R	9-Mar-05	3	3.5	Cesium-137	0.0245	pCi/g	UNV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^7-R	9-Mar-05	3	3.5	Radium-228	0.651	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^7-R	9-Mar-05	3	3.5	Technetium-99	0.821	pCi/g	UNV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^7-R	9-Mar-05	3	3.5	Thorium-228	0.739	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^7-R	9-Mar-05	3	3.5	Thorium-230	1.01	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^7-R	9-Mar-05	3	3.5	Thorium-232	0.651	pCi/g	NV	481154.01	1347748.057
A6BSL-B-03	A6BSL-B-03^7-R	9-Mar-05	3	3.5	Uranium, Total	3.15	mg/kg	NV	481154.01	1347748.057
A6BSL-B-04	A6BSL-B-04^12-R	10-Mar-05	5.5	6	Cesium-137	0.048	pCi/g	UNV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^12-R	10-Mar-05	5.5	6	Radium-228	0.792	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^12-R	10-Mar-05	5.5	6	Technetium-99	0.827	pCi/g	UNV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^12-R	10-Mar-05	5.5	6	Thorium-228	0.879	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^12-R	10-Mar-05	5.5	6	Thorium-230	1.19	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^12-R	10-Mar-05	5.5	6	Thorium-232	0.792	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^12-R	10-Mar-05	5.5	6	Uranium, Total	2.63	mg/kg	UNV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^1-R	10-Mar-05	0	0.5	Cesium-137	0.0463	pCi/g	UNV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^1-R	10-Mar-05	0	0.5	Radium-228	0.961	pCi/g	NV	480919.665	1347737.377

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6BSL-B-04	A6BSL-B-04^1-R	10-Mar-05	0	0.5	Technetium-99	0.921	pCi/g	UNV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^1-R	10-Mar-05	0	0.5	Thorium-228	0.953	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^1-R	10-Mar-05	0	0.5	Thorium-230	1.16	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^1-R	10-Mar-05	0	0.5	Thorium-232	0.961	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^1-R	10-Mar-05	0	0.5	Uranium, Total	6.63	mg/kg	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^7-R	10-Mar-05	3	3.5	Cesium-137	0.0472	pCi/g	UNV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^7-R	10-Mar-05	3	3.5	Radium-228	0.996	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^7-R	10-Mar-05	3	3.5	Technetium-99	0.801	pCi/g	UNV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^7-R	10-Mar-05	3	3.5	Thorium-228	1.04	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^7-R	10-Mar-05	3	3.5	Thorium-230	1.14	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^7-R	10-Mar-05	3	3.5	Thorium-232	0.996	pCi/g	NV	480919.665	1347737.377
A6BSL-B-04	A6BSL-B-04^7-R	10-Mar-05	3	3.5	Uranium, Total	4.37	mg/kg	NV	480919.665	1347737.377
A6BSL-B-05	A6BSL-B-05^1-R	10-Mar-05	0	0.5	Cesium-137	0.044	pCi/g	UNV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^1-R	10-Mar-05	0	0.5	Radium-228	0.876	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^1-R	10-Mar-05	0	0.5	Technetium-99	0.814	pCi/g	UNV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^1-R	10-Mar-05	0	0.5	Thorium-228	0.936	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^1-R	10-Mar-05	0	0.5	Thorium-230	1.18	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^1-R	10-Mar-05	0	0.5	Thorium-232	0.876	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^1-R	10-Mar-05	0	0.5	Uranium, Total	2.59	mg/kg	UNV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^7-R	10-Mar-05	3	3.5	Cesium-137	0.0529	pCi/g	UNV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^7-R	10-Mar-05	3	3.5	Radium-228	1.02	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^7-R	10-Mar-05	3	3.5	Technetium-99	0.859	pCi/g	UNV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^7-R	10-Mar-05	3	3.5	Thorium-228	1.27	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^7-R	10-Mar-05	3	3.5	Thorium-230	1.37	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^7-R	10-Mar-05	3	3.5	Thorium-232	1.02	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^7-R	10-Mar-05	3	3.5	Uranium, Total	2.82	mg/kg	UNV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^8-R	10-Mar-05	3.5	4	Cesium-137	0.0509	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^8-R	10-Mar-05	3.5	4	Radium-228	1.13	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^8-R	10-Mar-05	3.5	4	Technetium-99	0.837	pCi/g	UNV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^8-R	10-Mar-05	3.5	4	Thorium-228	1.13	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^8-R	10-Mar-05	3.5	4	Thorium-230	1.15	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^8-R	10-Mar-05	3.5	4	Thorium-232	1.13	pCi/g	NV	480783.406	1347628.981
A6BSL-B-05	A6BSL-B-05^8-R	10-Mar-05	3.5	4	Uranium, Total	2.75	mg/kg	UNV	480783.406	1347628.981
A6BSL-B-06	A6BSL-B-06^12-R	11-Mar-05	5.5	6	Cesium-137	0.0732	pCi/g	UNV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^12-R	11-Mar-05	5.5	6	Radium-228	0.858	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^12-R	11-Mar-05	5.5	6	Technetium-99	0.819	pCi/g	UNV	480798.436	1347409.313

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6BSL-B-06	A6BSL-B-06^12-R	11-Mar-05	5.5	6	Thorium-228	0.843	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^12-R	11-Mar-05	5.5	6	Thorium-230	0.967	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^12-R	11-Mar-05	5.5	6	Thorium-232	0.858	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^12-R	11-Mar-05	5.5	6	Uranium, Total	3.56	mg/kg	UNV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^1-R	11-Mar-05	0	0.5	Cesium-137	0.0856	pCi/g	UNV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^1-R	11-Mar-05	0	0.5	Radium-228	0.707	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^1-R	11-Mar-05	0	0.5	Technetium-99	0.832	pCi/g	UNV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^1-R	11-Mar-05	0	0.5	Thorium-228	0.716	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^1-R	11-Mar-05	0	0.5	Thorium-230	0.905	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^1-R	11-Mar-05	0	0.5	Thorium-232	0.707	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^1-R	11-Mar-05	0	0.5	Uranium, Total	3.75	mg/kg	UNV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^7-R	11-Mar-05	3	3.5	Cesium-137	0.0766	pCi/g	UNV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^7-R	11-Mar-05	3	3.5	Radium-228	0.76	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^7-R	11-Mar-05	3	3.5	Technetium-99	0.851	pCi/g	UNV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^7-R	11-Mar-05	3	3.5	Thorium-228	0.938	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^7-R	11-Mar-05	3	3.5	Thorium-230	1.1	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^7-R	11-Mar-05	3	3.5	Thorium-232	0.76	pCi/g	NV	480798.436	1347409.313
A6BSL-B-06	A6BSL-B-06^7-R	11-Mar-05	3	3.5	Uranium, Total	6.2	mg/kg	NV	480798.436	1347409.313
A6BSL-B-07	A6BSL-B-07^1-R	10-Mar-05	0	0.5	Cesium-137	0.0485	pCi/g	UNV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^1-R	10-Mar-05	0	0.5	Radium-228	1.17	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^1-R	10-Mar-05	0	0.5	Technetium-99	0.815	pCi/g	UNV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^1-R	10-Mar-05	0	0.5	Thorium-228	1.09	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^1-R	10-Mar-05	0	0.5	Thorium-230	1.39	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^1-R	10-Mar-05	0	0.5	Thorium-232	1.17	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^1-R	10-Mar-05	0	0.5	Uranium, Total	5.41	mg/kg	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^2-R	10-Mar-05	0.5	1	Cesium-137	0.0453	pCi/g	UNV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^2-R	10-Mar-05	0.5	1	Radium-228	0.735	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^2-R	10-Mar-05	0.5	1	Technetium-99	0.819	pCi/g	UNV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^2-R	10-Mar-05	0.5	1	Thorium-228	0.832	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^2-R	10-Mar-05	0.5	1	Thorium-230	1.01	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^2-R	10-Mar-05	0.5	1	Thorium-232	0.735	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^2-R	10-Mar-05	0.5	1	Uranium, Total	2.54	mg/kg	UNV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^3-R	10-Mar-05	1	1.5	Cesium-137	0.0493	pCi/g	UNV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^3-R	10-Mar-05	1	1.5	Radium-228	0.65	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^3-R	10-Mar-05	1	1.5	Technetium-99	0.81	pCi/g	UNV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^3-R	10-Mar-05	1	1.5	Thorium-228	0.872	pCi/g	NV	480960.957	1347284.237

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6BSL-B-07	A6BSL-B-07^3-R	10-Mar-05	1	1.5	Thorium-230	0.981	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^3-R	10-Mar-05	1	1.5	Thorium-232	0.65	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^3-R	10-Mar-05	1	1.5	Uranium, Total	2.75	mg/kg	UNV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^4-R	10-Mar-05	1.5	2	Cesium-137	0.0471	pCi/g	UNV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^4-R	10-Mar-05	1.5	2	Radium-228	0.826	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^4-R	10-Mar-05	1.5	2	Technetium-99	0.801	pCi/g	UNV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^4-R	10-Mar-05	1.5	2	Thorium-228	0.835	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^4-R	10-Mar-05	1.5	2	Thorium-230	0.906	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^4-R	10-Mar-05	1.5	2	Thorium-232	0.826	pCi/g	NV	480960.957	1347284.237
A6BSL-B-07	A6BSL-B-07^4-R	10-Mar-05	1.5	2	Uranium, Total	2.59	mg/kg	UNV	480960.957	1347284.237
A6BSL-B-08	A6BSL-B-08^13-R	11-Mar-05	6	6.5	Cesium-137	0.0768	pCi/g	UNV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^13-R	11-Mar-05	6	6.5	Radium-228	0.829	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^13-R	11-Mar-05	6	6.5	Technetium-99	0.844	pCi/g	UNV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^13-R	11-Mar-05	6	6.5	Thorium-228	0.701	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^13-R	11-Mar-05	6	6.5	Thorium-230	0.726	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^13-R	11-Mar-05	6	6.5	Thorium-232	0.829	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^13-R	11-Mar-05	6	6.5	Uranium, Total	3.84	mg/kg	UNV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^16-R	11-Mar-05	7.5	8	Cesium-137	0.0721	pCi/g	UNV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^16-R	11-Mar-05	7.5	8	Radium-228	0.624	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^16-R	11-Mar-05	7.5	8	Technetium-99	0.828	pCi/g	UNV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^16-R	11-Mar-05	7.5	8	Thorium-228	0.768	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^16-R	11-Mar-05	7.5	8	Thorium-230	0.781	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^16-R	11-Mar-05	7.5	8	Thorium-232	0.624	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^16-R	11-Mar-05	7.5	8	Uranium, Total	5.11	mg/kg	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^1-R	11-Mar-05	0	0.5	Cesium-137	0.0932	pCi/g	UNV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^1-R	11-Mar-05	0	0.5	Radium-228	1.12	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^1-R	11-Mar-05	0	0.5	Technetium-99	0.885	pCi/g	UNV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^1-R	11-Mar-05	0	0.5	Thorium-228	0.68	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^1-R	11-Mar-05	0	0.5	Thorium-230	1.56	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^1-R	11-Mar-05	0	0.5	Thorium-232	1.12	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^1-R	11-Mar-05	0	0.5	Uranium, Total	5.48	mg/kg	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^7-R	11-Mar-05	3	3.5	Cesium-137	0.0762	pCi/g	UNV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^7-R	11-Mar-05	3	3.5	Radium-228	0.717	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^7-R	11-Mar-05	3	3.5	Technetium-99	0.826	pCi/g	UNV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^7-R	11-Mar-05	3	3.5	Thorium-228	0.756	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^7-R	11-Mar-05	3	3.5	Thorium-230	1.16	pCi/g	NV	481108.791	1347292.074

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6BSL-B-08	A6BSL-B-08^7-R	11-Mar-05	3	3.5	Thorium-232	0.717	pCi/g	NV	481108.791	1347292.074
A6BSL-B-08	A6BSL-B-08^7-R	11-Mar-05	3	3.5	Uranium, Total	3.66	mg/kg	UNV	481108.791	1347292.074
A6WP-3F-02	A6WP-3F-02^1-R	10-Mar-05	0	0.5	Cesium-137	0.356	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^1-R	10-Mar-05	0	0.5	Radium-228	23.9	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^1-R	10-Mar-05	0	0.5	Technetium-99	24.1	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^1-R	10-Mar-05	0	0.5	Thorium-228	26.9	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^1-R	10-Mar-05	0	0.5	Thorium-230	437	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^1-R	10-Mar-05	0	0.5	Thorium-232	23.9	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^1-R	10-Mar-05	0	0.5	Uranium, Total	2450	mg/kg	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^2-R	10-Mar-05	0.5	1	Cesium-137	0.0794	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^2-R	10-Mar-05	0.5	1	Radium-228	4.07	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^2-R	10-Mar-05	0.5	1	Technetium-99	2.65	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^2-R	10-Mar-05	0.5	1	Thorium-228	4.16	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^2-R	10-Mar-05	0.5	1	Thorium-230	70.3	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^2-R	10-Mar-05	0.5	1	Thorium-232	4.07	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^2-R	10-Mar-05	0.5	1	Uranium, Total	287	mg/kg	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^3-R	10-Mar-05	1	1.5	Cesium-137	0.0463	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^3-R	10-Mar-05	1	1.5	Radium-228	0.78	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^3-R	10-Mar-05	1	1.5	Technetium-99	0.952	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^3-R	10-Mar-05	1	1.5	Thorium-228	0.732	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^3-R	10-Mar-05	1	1.5	Thorium-230	0.842	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^3-R	10-Mar-05	1	1.5	Thorium-232	0.78	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^3-R	10-Mar-05	1	1.5	Uranium, Total	2.67	mg/kg	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^4-R	10-Mar-05	1.5	2	Cesium-137	0.0519	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^4-R	10-Mar-05	1.5	2	Radium-228	0.667	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^4-R	10-Mar-05	1.5	2	Technetium-99	0.853	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^4-R	10-Mar-05	1.5	2	Thorium-228	0.679	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^4-R	10-Mar-05	1.5	2	Thorium-230	0.924	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^4-R	10-Mar-05	1.5	2	Thorium-232	0.667	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^4-R	10-Mar-05	1.5	2	Uranium, Total	2.86	mg/kg	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^5-R	10-Mar-05	2	2.5	Cesium-137	0.0455	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^5-R	10-Mar-05	2	2.5	Radium-228	0.578	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^5-R	10-Mar-05	2	2.5	Technetium-99	0.804	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^5-R	10-Mar-05	2	2.5	Thorium-228	0.645	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^5-R	10-Mar-05	2	2.5	Thorium-230	0.652	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^5-R	10-Mar-05	2	2.5	Thorium-232	0.578	pCi/g	NV	481912.532	1346937.417

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-3F-02	A6WP-3F-02^5-R	10-Mar-05	2	2.5	Uranium, Total	2.63	mg/kg	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^6-R	10-Mar-05	2.5	3	Cesium-137	0.0514	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^6-R	10-Mar-05	2.5	3	Radium-228	0.811	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^6-R	10-Mar-05	2.5	3	Technetium-99	0.849	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^6-R	10-Mar-05	2.5	3	Thorium-228	0.746	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^6-R	10-Mar-05	2.5	3	Thorium-230	1.29	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^6-R	10-Mar-05	2.5	3	Thorium-232	0.811	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^6-R	10-Mar-05	2.5	3	Uranium, Total	3.77	mg/kg	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^7-R	10-Mar-05	3	3.5	Cesium-137	0.0595	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^7-R	10-Mar-05	3	3.5	Radium-228	0.64	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^7-R	10-Mar-05	3	3.5	Technetium-99	0.852	pCi/g	UNV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^7-R	10-Mar-05	3	3.5	Thorium-228	0.69	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^7-R	10-Mar-05	3	3.5	Thorium-230	0.964	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^7-R	10-Mar-05	3	3.5	Thorium-232	0.64	pCi/g	NV	481912.532	1346937.417
A6WP-3F-02	A6WP-3F-02^7-R	10-Mar-05	3	3.5	Uranium, Total	5.13	mg/kg	NV	481912.532	1346937.417
A6WP-3F-03	A6WP-3F-03^1-R	10-Mar-05	0	0.5	Cesium-137	0.0483	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^1-R	10-Mar-05	0	0.5	Radium-228	0.877	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^1-R	10-Mar-05	0	0.5	Technetium-99	6.61	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^1-R	10-Mar-05	0	0.5	Thorium-228	0.924	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^1-R	10-Mar-05	0	0.5	Thorium-230	2.88	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^1-R	10-Mar-05	0	0.5	Thorium-232	0.877	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^1-R	10-Mar-05	0	0.5	Uranium, Total	4.73	mg/kg	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^2-R	10-Mar-05	0.5	1	Cesium-137	0.0462	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^2-R	10-Mar-05	0.5	1	Radium-228	0.81	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^2-R	10-Mar-05	0.5	1	Technetium-99	0.975	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^2-R	10-Mar-05	0.5	1	Thorium-228	0.829	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^2-R	10-Mar-05	0.5	1	Thorium-230	1.25	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^2-R	10-Mar-05	0.5	1	Thorium-232	0.81	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^2-R	10-Mar-05	0.5	1	Uranium, Total	2.86	mg/kg	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^3-R	10-Mar-05	1	1.5	Cesium-137	0.0504	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^3-R	10-Mar-05	1	1.5	Radium-228	0.731	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^3-R	10-Mar-05	1	1.5	Technetium-99	0.975	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^3-R	10-Mar-05	1	1.5	Thorium-228	0.809	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^3-R	10-Mar-05	1	1.5	Thorium-230	0.988	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^3-R	10-Mar-05	1	1.5	Thorium-232	0.731	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^3-R	10-Mar-05	1	1.5	Uranium, Total	2.77	mg/kg	UNV	481857.454	1346769.913

60 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-3F-03	A6WP-3F-03^4-R	10-Mar-05	1.5	2	Cesium-137	0.0458	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^4-R	10-Mar-05	1.5	2	Radium-228	0.915	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^4-R	10-Mar-05	1.5	2	Technetium-99	1.02	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^4-R	10-Mar-05	1.5	2	Thorium-228	0.787	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^4-R	10-Mar-05	1.5	2	Thorium-230	1.16	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^4-R	10-Mar-05	1.5	2	Thorium-232	0.915	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^4-R	10-Mar-05	1.5	2	Uranium, Total	2.66	mg/kg	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^5-R	10-Mar-05	2	2.5	Cesium-137	0.0466	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^5-R	10-Mar-05	2	2.5	Radium-228	0.854	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^5-R	10-Mar-05	2	2.5	Technetium-99	1.02	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^5-R	10-Mar-05	2	2.5	Thorium-228	0.784	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^5-R	10-Mar-05	2	2.5	Thorium-230	1.11	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^5-R	10-Mar-05	2	2.5	Thorium-232	0.854	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^5-R	10-Mar-05	2	2.5	Uranium, Total	7.34	mg/kg	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^6-R	10-Mar-05	2.5	3	Cesium-137	0.0428	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^6-R	10-Mar-05	2.5	3	Radium-228	0.7	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^6-R	10-Mar-05	2.5	3	Technetium-99	0.94	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^6-R	10-Mar-05	2.5	3	Thorium-228	0.748	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^6-R	10-Mar-05	2.5	3	Thorium-230	0.7	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^6-R	10-Mar-05	2.5	3	Thorium-232	0.7	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^6-R	10-Mar-05	2.5	3	Uranium, Total	2.43	mg/kg	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^7-R	10-Mar-05	3	3.5	Cesium-137	0.0471	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^7-R	10-Mar-05	3	3.5	Radium-228	0.83	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^7-R	10-Mar-05	3	3.5	Technetium-99	0.965	pCi/g	UNV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^7-R	10-Mar-05	3	3.5	Thorium-228	0.738	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^7-R	10-Mar-05	3	3.5	Thorium-230	0.793	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^7-R	10-Mar-05	3	3.5	Thorium-232	0.83	pCi/g	NV	481857.454	1346769.913
A6WP-3F-03	A6WP-3F-03^7-R	10-Mar-05	3	3.5	Uranium, Total	2.75	mg/kg	NV	481857.454	1346769.913
A6WP-3F-05	A6WP-3F-05^1-R	10-Mar-05	0	0.5	Cesium-137	0.0828	pCi/g	UNV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^1-R	10-Mar-05	0	0.5	Radium-228	1.08	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^1-R	10-Mar-05	0	0.5	Technetium-99	0.919	pCi/g	UNV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^1-R	10-Mar-05	0	0.5	Thorium-228	0.966	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^1-R	10-Mar-05	0	0.5	Thorium-230	7.41	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^1-R	10-Mar-05	0	0.5	Thorium-232	1.08	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^1-R	10-Mar-05	0	0.5	Uranium, Total	11.2	mg/kg	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^2-R	10-Mar-05	0.5	1	Cesium-137	0.136	pCi/g	NV	481672.067	1346658.175

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-3F-05	A6WP-3F-05^2-R	10-Mar-05	0.5	1	Radium-228	1.11	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^2-R	10-Mar-05	0.5	1	Technetium-99	0.917	pCi/g	UNV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^2-R	10-Mar-05	0.5	1	Thorium-228	0.985	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^2-R	10-Mar-05	0.5	1	Thorium-230	1.47	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^2-R	10-Mar-05	0.5	1	Thorium-232	1.11	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^2-R	10-Mar-05	0.5	1	Uranium, Total	3.7	mg/kg	UNV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^3-R	10-Mar-05	1	1.5	Cesium-137	0.0784	pCi/g	UNV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^3-R	10-Mar-05	1	1.5	Radium-228	0.87	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^3-R	10-Mar-05	1	1.5	Technetium-99	0.893	pCi/g	UNV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^3-R	10-Mar-05	1	1.5	Thorium-228	0.846	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^3-R	10-Mar-05	1	1.5	Thorium-230	0.699	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^3-R	10-Mar-05	1	1.5	Thorium-232	0.87	pCi/g	NV	481672.067	1346658.175
A6WP-3F-05	A6WP-3F-05^3-R	10-Mar-05	1	1.5	Uranium, Total	3.69	mg/kg	UNV	481672.067	1346658.175
A6WP-3F-06	A6WP-3F-06^1-R	10-Mar-05	0	0.5	Cesium-137	0.0857	pCi/g	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^1-R	10-Mar-05	0	0.5	Radium-228	1.06	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^1-R	10-Mar-05	0	0.5	Technetium-99	0.941	pCi/g	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^1-R	10-Mar-05	0	0.5	Thorium-228	0.879	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^1-R	10-Mar-05	0	0.5	Thorium-230	1.28	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^1-R	10-Mar-05	0	0.5	Thorium-232	1.06	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^1-R	10-Mar-05	0	0.5	Uranium, Total	3.92	mg/kg	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^2-R	10-Mar-05	0.5	1	Cesium-137	0.0771	pCi/g	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^2-R	10-Mar-05	0.5	1	Radium-228	0.91	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^2-R	10-Mar-05	0.5	1	Technetium-99	0.92	pCi/g	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^2-R	10-Mar-05	0.5	1	Thorium-228	0.841	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^2-R	10-Mar-05	0.5	1	Thorium-230	0.895	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^2-R	10-Mar-05	0.5	1	Thorium-232	0.91	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^2-R	10-Mar-05	0.5	1	Uranium, Total	3.58	mg/kg	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^3-R	10-Mar-05	1	1.5	Cesium-137	0.0753	pCi/g	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^3-R	10-Mar-05	1	1.5	Radium-228	0.997	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^3-R	10-Mar-05	1	1.5	Technetium-99	0.905	pCi/g	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^3-R	10-Mar-05	1	1.5	Thorium-228	0.695	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^3-R	10-Mar-05	1	1.5	Thorium-230	0.718	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^3-R	10-Mar-05	1	1.5	Thorium-232	0.997	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^3-R	10-Mar-05	1	1.5	Uranium, Total	3.52	mg/kg	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^4-R	10-Mar-05	1.5	2	Cesium-137	0.081	pCi/g	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^4-R	10-Mar-05	1.5	2	Radium-228	0.927	pCi/g	NV	481613.969	1346554.124

60 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-3F-06	A6WP-3F-06^4-R	10-Mar-05	1.5	2	Technetium-99	0.816	pCi/g	UNV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^4-R	10-Mar-05	1.5	2	Thorium-228	0.673	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^4-R	10-Mar-05	1.5	2	Thorium-230	1.02	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^4-R	10-Mar-05	1.5	2	Thorium-232	0.927	pCi/g	NV	481613.969	1346554.124
A6WP-3F-06	A6WP-3F-06^4-R	10-Mar-05	1.5	2	Uranium, Total	5.91	mg/kg	NV	481613.969	1346554.124
A6WP-3F-07	A6WP-3F-07^1-R	10-Mar-05	0	0.5	Cesium-137	0.131	pCi/g	UNV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^1-R	10-Mar-05	0	0.5	Radium-228	4.89	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^1-R	10-Mar-05	0	0.5	Technetium-99	8.38	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^1-R	10-Mar-05	0	0.5	Thorium-228	4.38	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^1-R	10-Mar-05	0	0.5	Thorium-230	115	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^1-R	10-Mar-05	0	0.5	Thorium-232	4.89	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^1-R	10-Mar-05	0	0.5	Uranium, Total	456	mg/kg	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^2-R	10-Mar-05	0.5	1	Cesium-137	0.0813	pCi/g	UNV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^2-R	10-Mar-05	0.5	1	Radium-228	1.49	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^2-R	10-Mar-05	0.5	1	Technetium-99	0.892	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^2-R	10-Mar-05	0.5	1	Thorium-228	1.74	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^2-R	10-Mar-05	0.5	1	Thorium-230	21.2	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^2-R	10-Mar-05	0.5	1	Thorium-232	1.49	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^2-R	10-Mar-05	0.5	1	Uranium, Total	57.8	mg/kg	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^3-R	10-Mar-05	1	1.5	Cesium-137	0.0881	pCi/g	UNV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^3-R	10-Mar-05	1	1.5	Radium-228	0.79	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^3-R	10-Mar-05	1	1.5	Technetium-99	0.896	pCi/g	UNV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^3-R	10-Mar-05	1	1.5	Thorium-228	0.846	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^3-R	10-Mar-05	1	1.5	Thorium-230	0.971	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^3-R	10-Mar-05	1	1.5	Thorium-232	0.79	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^3-R	10-Mar-05	1	1.5	Uranium, Total	3.67	mg/kg	UNV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^4-R	10-Mar-05	1.5	2	Cesium-137	0.0879	pCi/g	UNV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^4-R	10-Mar-05	1.5	2	Radium-228	0.676	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^4-R	10-Mar-05	1.5	2	Technetium-99	0.811	pCi/g	UNV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^4-R	10-Mar-05	1.5	2	Thorium-228	0.699	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^4-R	10-Mar-05	1.5	2	Thorium-230	0.733	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^4-R	10-Mar-05	1.5	2	Thorium-232	0.676	pCi/g	NV	481610.164	1346715.058
A6WP-3F-07	A6WP-3F-07^4-R	10-Mar-05	1.5	2	Uranium, Total	7.46	mg/kg	NV	481610.164	1346715.058
A6WP-3F-08	A6WP-3F-08^1-R	10-Mar-05	0	0.5	Cesium-137	0.0537	pCi/g	UNV	481509.681	1346612.938
A6WP-3F-08	A6WP-3F-08^1-R	10-Mar-05	0	0.5	Radium-228	1.05	pCi/g	NV	481509.681	1346612.938
A6WP-3F-08	A6WP-3F-08^1-R	10-Mar-05	0	0.5	Technetium-99	17.6	pCi/g	NV	481509.681	1346612.938

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-3F-08	A6WP-3F-08^1-R	10-Mar-05	0	0.5	Thorium-228	1.1	pCi/g	NV	481509.681	1346612.938
A6WP-3F-08	A6WP-3F-08^1-R	10-Mar-05	0	0.5	Thorium-230	7.04	pCi/g	NV	481509.681	1346612.938
A6WP-3F-08	A6WP-3F-08^1-R	10-Mar-05	0	0.5	Thorium-232	1.05	pCi/g	NV	481509.681	1346612.938
A6WP-3F-08	A6WP-3F-08^1-R	10-Mar-05	0	0.5	Uranium, Total	21.3	mg/kg	NV	481509.681	1346612.938
A6WP-3F-09	A6WP-3F-09^1-R	10-Mar-05	0	0.5	Cesium-137	0.22	pCi/g	NV	481465.918	1346494.26
A6WP-3F-09	A6WP-3F-09^1-R	10-Mar-05	0	0.5	Radium-228	4.97	pCi/g	NV	481465.918	1346494.26
A6WP-3F-09	A6WP-3F-09^1-R	10-Mar-05	0	0.5	Technetium-99	52.3	pCi/g	NV	481465.918	1346494.26
A6WP-3F-09	A6WP-3F-09^1-R	10-Mar-05	0	0.5	Thorium-228	5.92	pCi/g	NV	481465.918	1346494.26
A6WP-3F-09	A6WP-3F-09^1-R	10-Mar-05	0	0.5	Thorium-230	51.6	pCi/g	NV	481465.918	1346494.26
A6WP-3F-09	A6WP-3F-09^1-R	10-Mar-05	0	0.5	Thorium-232	4.97	pCi/g	NV	481465.918	1346494.26
A6WP-3F-09	A6WP-3F-09^1-R	10-Mar-05	0	0.5	Uranium, Total	165	mg/kg	NV	481465.918	1346494.26
A6WP-3S-01	A6WP-3S-01^1-R	10-Mar-05	0	0.5	Cesium-137	0.0269	pCi/g	UNV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^1-R	10-Mar-05	0	0.5	Radium-228	0.758	pCi/g	NV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^1-R	10-Mar-05	0	0.5	Technetium-99	0.844	pCi/g	UNV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^1-R	10-Mar-05	0	0.5	Thorium-228	0.945	pCi/g	NV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^1-R	10-Mar-05	0	0.5	Thorium-230	1.77	pCi/g	NV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^1-R	10-Mar-05	0	0.5	Thorium-232	0.758	pCi/g	NV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^1-R	10-Mar-05	0	0.5	Uranium, Total	9.98	mg/kg	NV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^8-R	10-Mar-05	3.5	4	Cesium-137	0.0286	pCi/g	UNV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^8-R	10-Mar-05	3.5	4	Radium-228	1.01	pCi/g	NV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^8-R	10-Mar-05	3.5	4	Technetium-99	0.952	pCi/g	UNV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^8-R	10-Mar-05	3.5	4	Thorium-228	1.24	pCi/g	NV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^8-R	10-Mar-05	3.5	4	Thorium-230	1.61	pCi/g	NV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^8-R	10-Mar-05	3.5	4	Thorium-232	1.01	pCi/g	NV	481955.935	1346759.38
A6WP-3S-01	A6WP-3S-01^8-R	10-Mar-05	3.5	4	Uranium, Total	6.52	mg/kg	NV	481955.935	1346759.38
A6WP-4F-01	A6WP-4F-01^1-R	12-Feb-05	0	0.17	Technetium-99	0.749	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^1-R	12-Feb-05	0	0.17	Uranium, Total	38.3	mg/kg	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^2-R	12-Feb-05	0.17	0.67	Cesium-137	0.0483	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^2-R	12-Feb-05	0.17	0.67	Radium-228	0.721	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^2-R	12-Feb-05	0.17	0.67	Technetium-99	0.832	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^2-R	12-Feb-05	0.17	0.67	Thorium-228	1.05	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^2-R	12-Feb-05	0.17	0.67	Thorium-230	1.17	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^2-R	12-Feb-05	0.17	0.67	Thorium-232	0.721	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^2-R	12-Feb-05	0.17	0.67	Uranium, Total	2.67	mg/kg	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^3-R	12-Feb-05	0.67	1.17	Cesium-137	0.0267	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^3-R	12-Feb-05	0.67	1.17	Radium-228	0.739	pCi/g	NV	481799.415	1347384.046

60 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-4F-01	A6WP-4F-01^3-R	12-Feb-05	0.67	1.17	Technetium-99	0.848	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^3-R	12-Feb-05	0.67	1.17	Thorium-228	0.732	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^3-R	12-Feb-05	0.67	1.17	Thorium-230	1.14	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^3-R	12-Feb-05	0.67	1.17	Thorium-232	0.739	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^3-R	12-Feb-05	0.67	1.17	Uranium, Total	3.19	mg/kg	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^4-R	14-Feb-05	1.5	2	Cesium-137	0.0276	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^4-R	14-Feb-05	1.5	2	Radium-228	0.614	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^4-R	14-Feb-05	1.5	2	Technetium-99	0.841	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^4-R	14-Feb-05	1.5	2	Thorium-228	0.797	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^4-R	14-Feb-05	1.5	2	Thorium-230	1.26	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^4-R	14-Feb-05	1.5	2	Thorium-232	0.614	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^4-R	14-Feb-05	1.5	2	Uranium, Total	3.4	mg/kg	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^5-R	12-Feb-05	0	0.5	Cesium-137	0.0507	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^5-R	12-Feb-05	0	0.5	Radium-228	0.742	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^5-R	12-Feb-05	0	0.5	Technetium-99	0.871	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^5-R	12-Feb-05	0	0.5	Thorium-228	1.14	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^5-R	12-Feb-05	0	0.5	Thorium-230	0.966	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^5-R	12-Feb-05	0	0.5	Thorium-232	0.742	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^5-R	12-Feb-05	0	0.5	Uranium, Total	2.9	mg/kg	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^6-R	12-Feb-05	0	0.5	Cesium-137	0.034	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^6-R	12-Feb-05	0	0.5	Radium-228	0.787	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^6-R	12-Feb-05	0	0.5	Technetium-99	0.824	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^6-R	12-Feb-05	0	0.5	Thorium-228	0.691	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^6-R	12-Feb-05	0	0.5	Thorium-230	1.08	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^6-R	12-Feb-05	0	0.5	Thorium-232	0.787	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^6-R	12-Feb-05	0	0.5	Uranium, Total	4.19	mg/kg	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^7-R	12-Feb-05	0	0.5	Cesium-137	0.0323	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^7-R	12-Feb-05	0	0.5	Radium-228	0.671	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^7-R	12-Feb-05	0	0.5	Technetium-99	0.819	pCi/g	UNV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^7-R	12-Feb-05	0	0.5	Thorium-228	0.728	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^7-R	12-Feb-05	0	0.5	Thorium-230	0.928	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^7-R	12-Feb-05	0	0.5	Thorium-232	0.671	pCi/g	NV	481799.415	1347384.046
A6WP-4F-01	A6WP-4F-01^7-R	12-Feb-05	0	0.5	Uranium, Total	1.92	mg/kg	NV	481799.415	1347384.046
A6WP-4F-02	A6WP-4F-02^1-R	12-Feb-05	3.5	4	Technetium-99	0.746	pCi/g	UNV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^1-R	12-Feb-05	3.5	4	Uranium, Total	34.1	mg/kg	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^2-R	12-Feb-05	3.5	4	Cesium-137	0.0597	pCi/g	UNV	481791.764	1347435.307

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-4F-02	A6WP-4F-02^2-R	12-Feb-05	3.5	4	Radium-228	1.1	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^2-R	12-Feb-05	3.5	4	Technetium-99	0.771	pCi/g	UNV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^2-R	12-Feb-05	3.5	4	Thorium-228	1.03	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^2-R	12-Feb-05	3.5	4	Thorium-230	8.23	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^2-R	12-Feb-05	0	0.5	Thorium-232	1.1	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^2-R	12-Feb-05	0	0.5	Uranium, Total	32.2	mg/kg	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^3-R	12-Feb-05	0	0.5	Cesium-137	0.0504	pCi/g	UNV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^3-R	12-Feb-05	0	0.5	Radium-228	0.781	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^3-R	12-Feb-05	0	0.5	Technetium-99	0.812	pCi/g	UNV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^3-R	12-Feb-05	0	0.5	Thorium-228	0.826	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^3-R	12-Feb-05	0	0.5	Thorium-230	1.84	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^3-R	12-Feb-05	3.5	4	Thorium-232	0.781	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^3-R	12-Feb-05	3.5	4	Uranium, Total	11.6	mg/kg	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^4-R	12-Feb-05	3.5	4	Cesium-137	0.0481	pCi/g	UNV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^4-R	12-Feb-05	3.5	4	Radium-228	0.722	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^4-R	12-Feb-05	3.5	4	Technetium-99	0.8	pCi/g	UNV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^4-R	12-Feb-05	3.5	4	Thorium-228	0.842	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^4-R	12-Feb-05	3.5	4	Thorium-230	2.6	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^4-R	12-Feb-05	0	0.5	Thorium-232	0.722	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^4-R	12-Feb-05	0	0.5	Uranium, Total	8.86	mg/kg	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^5-R	12-Feb-05	0	0.5	Cesium-137	0.0426	pCi/g	UNV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^5-R	12-Feb-05	0	0.5	Radium-228	0.862	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^5-R	12-Feb-05	0	0.5	Technetium-99	0.953	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^5-R	12-Feb-05	0	0.5	Thorium-228	0.736	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^5-R	12-Feb-05	0	0.5	Thorium-230	0.994	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^5-R	12-Feb-05	3.5	4	Thorium-232	0.862	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^5-R	12-Feb-05	3.5	4	Uranium, Total	5.64	mg/kg	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^6-R	12-Feb-05	3.5	4	Cesium-137	0.047	pCi/g	UNV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^6-R	12-Feb-05	3.5	4	Radium-228	0.7	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^6-R	12-Feb-05	3.5	4	Technetium-99	0.767	pCi/g	UNV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^6-R	12-Feb-05	3.5	4	Thorium-228	0.822	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^6-R	12-Feb-05	3.5	4	Thorium-230	1.04	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^6-R	12-Feb-05	2.17	2.67	Thorium-232	0.7	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^6-R	12-Feb-05	2.17	2.67	Uranium, Total	4.27	mg/kg	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^7-R	12-Feb-05	2.67	3.17	Cesium-137	0.0539	pCi/g	UNV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^7-R	12-Feb-05	2.67	3.17	Radium-228	1	pCi/g	NV	481791.764	1347435.307

60 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-4F-02	A6WP-4F-02^7-R	12-Feb-05	2.67	3.17	Technetium-99	1.19	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^7-R	12-Feb-05	2.67	3.17	Thorium-228	1.22	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^7-R	12-Feb-05	2.67	3.17	Thorium-230	14	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^7-R	12-Feb-05	2.67	3.17	Thorium-232	1	pCi/g	NV	481791.764	1347435.307
A6WP-4F-02	A6WP-4F-02^7-R	12-Feb-05	2.67	3.17	Uranium, Total	54.6	mg/kg	NV	481791.764	1347435.307
A6WP-4F-03	A6WP-4F-03^1-R	12-Feb-05	0	0.5	Cesium-137	0.0542	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^1-R	12-Feb-05	0	0.5	Radium-228	0.764	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^1-R	12-Feb-05	0	0.5	Technetium-99	0.766	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^1-R	12-Feb-05	0	0.5	Thorium-228	0.849	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^1-R	12-Feb-05	0	0.5	Thorium-230	1.83	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^1-R	12-Feb-05	0	0.5	Thorium-232	0.764	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^1-R	12-Feb-05	0	0.5	Uranium, Total	13.6	mg/kg	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^2-R	12-Feb-05	0.5	1	Cesium-137	0.0478	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^2-R	12-Feb-05	0.5	1	Radium-228	0.657	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^2-R	12-Feb-05	0.5	1	Technetium-99	0.776	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^2-R	12-Feb-05	0.5	1	Thorium-228	0.769	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^2-R	12-Feb-05	0.5	1	Thorium-230	0.824	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^2-R	12-Feb-05	0.5	1	Thorium-232	0.657	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^2-R	12-Feb-05	0.5	1	Uranium, Total	4.15	mg/kg	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^3-R	12-Feb-05	1	1.5	Cesium-137	0.0484	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^3-R	12-Feb-05	1	1.5	Radium-228	0.662	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^3-R	12-Feb-05	1	1.5	Technetium-99	0.783	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^3-R	12-Feb-05	1	1.5	Thorium-228	0.879	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^3-R	12-Feb-05	1	1.5	Thorium-230	0.899	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^3-R	12-Feb-05	1	1.5	Thorium-232	0.662	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^3-R	12-Feb-05	1	1.5	Uranium, Total	2.75	mg/kg	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^4-R	12-Feb-05	1.5	2	Cesium-137	0.0504	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^4-R	12-Feb-05	1.5	2	Radium-228	0.631	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^4-R	12-Feb-05	1.5	2	Technetium-99	0.796	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^4-R	12-Feb-05	1.5	2	Thorium-228	0.76	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^4-R	12-Feb-05	1.5	2	Thorium-230	0.684	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^4-R	12-Feb-05	1.5	2	Thorium-232	0.631	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^4-R	12-Feb-05	1.5	2	Uranium, Total	2.74	mg/kg	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^5-R	12-Feb-05	2	2.5	Cesium-137	0.0468	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^5-R	12-Feb-05	2	2.5	Radium-228	0.883	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^5-R	12-Feb-05	2	2.5	Technetium-99	0.778	pCi/g	UNV	481766.477	1347403.327

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-4F-03	A6WP-4F-03^5-R	12-Feb-05	2	2.5	Thorium-228	0.604	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^5-R	12-Feb-05	2	2.5	Thorium-230	1.03	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^5-R	12-Feb-05	2	2.5	Thorium-232	0.883	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^5-R	12-Feb-05	2	2.5	Uranium, Total	2.85	mg/kg	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^6-R	12-Feb-05	2.5	3	Cesium-137	0.0496	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^6-R	12-Feb-05	2.5	3	Radium-228	0.778	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^6-R	12-Feb-05	2.5	3	Technetium-99	0.776	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^6-R	12-Feb-05	2.5	3	Thorium-228	0.581	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^6-R	12-Feb-05	2.5	3	Thorium-230	0.833	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^6-R	12-Feb-05	2.5	3	Thorium-232	0.778	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^6-R	12-Feb-05	2.5	3	Uranium, Total	3.08	mg/kg	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^7-R	12-Feb-05	3	3.5	Cesium-137	0.0619	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^7-R	12-Feb-05	3	3.5	Radium-228	0.749	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^7-R	12-Feb-05	3	3.5	Technetium-99	0.794	pCi/g	UNV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^7-R	12-Feb-05	3	3.5	Thorium-228	0.887	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^7-R	12-Feb-05	3	3.5	Thorium-230	0.802	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^7-R	12-Feb-05	3	3.5	Thorium-232	0.749	pCi/g	NV	481766.477	1347403.327
A6WP-4F-03	A6WP-4F-03^7-R	12-Feb-05	3	3.5	Uranium, Total	3.41	mg/kg	UNV	481766.477	1347403.327
A6WP-4F-04	A6WP-4F-04^1-R	12-Feb-05	0	0.17	Technetium-99	1.07	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^1-R	12-Feb-05	0	0.17	Uranium, Total	53.6	mg/kg	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^2-R	12-Feb-05	0.17	0.67	Cesium-137	0.0998	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^2-R	12-Feb-05	0.17	0.67	Radium-228	0.632	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^2-R	12-Feb-05	0.17	0.67	Technetium-99	0.764	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^2-R	12-Feb-05	0.17	0.67	Thorium-228	0.902	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^2-R	12-Feb-05	0.17	0.67	Thorium-230	0.785	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^2-R	12-Feb-05	0.17	0.67	Thorium-232	0.632	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^2-R	12-Feb-05	0.17	0.67	Uranium, Total	21.9	mg/kg	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^3-R	12-Feb-05	0.67	1.17	Cesium-137	0.0834	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^3-R	12-Feb-05	0.67	1.17	Radium-228	0.634	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^3-R	12-Feb-05	0.67	1.17	Technetium-99	0.789	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^3-R	12-Feb-05	0.67	1.17	Thorium-228	0.773	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^3-R	12-Feb-05	0.67	1.17	Thorium-230	1.27	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^3-R	12-Feb-05	0.67	1.17	Thorium-232	0.634	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^3-R	12-Feb-05	0.67	1.17	Uranium, Total	3.94	mg/kg	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^4-R	12-Feb-05	1.17	1.67	Cesium-137	0.117	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^4-R	12-Feb-05	1.17	1.67	Radium-228	0.771	pCi/g	NV	481716.765	1347346.236

60 42

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-4F-04	A6WP-4F-04^4-R	12-Feb-05	1.17	1.67	Technetium-99	0.771	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^4-R	12-Feb-05	1.17	1.67	Thorium-228	0.774	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^4-R	12-Feb-05	1.17	1.67	Thorium-230	1.21	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^4-R	12-Feb-05	1.17	1.67	Thorium-232	0.771	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^4-R	12-Feb-05	1.17	1.67	Uranium, Total	6.06	mg/kg	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^5-R	12-Feb-05	1.67	2.17	Cesium-137	0.109	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^5-R	12-Feb-05	1.67	2.17	Radium-228	0.517	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^5-R	12-Feb-05	1.67	2.17	Technetium-99	0.78	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^5-R	12-Feb-05	1.67	2.17	Thorium-228	0.912	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^5-R	12-Feb-05	1.67	2.17	Thorium-230	1.11	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^5-R	12-Feb-05	1.67	2.17	Thorium-232	0.517	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^5-R	12-Feb-05	1.67	2.17	Uranium, Total	9.41	mg/kg	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^6-R	12-Feb-05	2.17	2.67	Cesium-137	0.0948	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^6-R	12-Feb-05	2.17	2.67	Radium-228	0.787	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^6-R	12-Feb-05	2.17	2.67	Technetium-99	0.799	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^6-R	12-Feb-05	2.17	2.67	Thorium-228	1.09	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^6-R	12-Feb-05	2.17	2.67	Thorium-230	0.996	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^6-R	12-Feb-05	2.17	2.67	Thorium-232	0.787	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^6-R	12-Feb-05	2.17	2.67	Uranium, Total	4.76	mg/kg	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^7-R	12-Feb-05	2.67	3.17	Cesium-137	0.0908	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^7-R	12-Feb-05	2.67	3.17	Radium-228	0.55	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^7-R	12-Feb-05	2.67	3.17	Technetium-99	0.794	pCi/g	UNV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^7-R	12-Feb-05	2.67	3.17	Thorium-228	0.881	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^7-R	12-Feb-05	2.67	3.17	Thorium-230	0.756	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^7-R	12-Feb-05	2.67	3.17	Thorium-232	0.55	pCi/g	NV	481716.765	1347346.236
A6WP-4F-04	A6WP-4F-04^7-R	12-Feb-05	2.67	3.17	Uranium, Total	4.67	mg/kg	UNV	481716.765	1347346.236
A6WP-4F-05	A6WP-4F-05^1-R	12-Feb-05	0	0.17	Technetium-99	0.793	pCi/g	UNV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^1-R	12-Feb-05	0	0.17	Uranium, Total	17.1	mg/kg	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^2-R	12-Feb-05	0.17	0.67	Cesium-137	0.0959	pCi/g	UNV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^2-R	12-Feb-05	0.17	0.67	Radium-228	1.13	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^2-R	12-Feb-05	0.17	0.67	Technetium-99	0.777	pCi/g	UNV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^2-R	12-Feb-05	0.17	0.67	Thorium-228	1.35	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^2-R	12-Feb-05	0.17	0.67	Thorium-230	5.85	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^2-R	12-Feb-05	0.17	0.67	Thorium-232	1.13	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^2-R	12-Feb-05	0.17	0.67	Uranium, Total	67.1	mg/kg	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^3-R	12-Feb-05	0.67	1.17	Cesium-137	0.101	pCi/g	UNV	481725.56	1347444.744

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-4F-05	A6WP-4F-05^3-R	12-Feb-05	0.67	1.17	Radium-228	0.841	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^3-R	12-Feb-05	0.67	1.17	Technetium-99	0.812	pCi/g	UNV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^3-R	12-Feb-05	0.67	1.17	Thorium-228	1.06	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^3-R	12-Feb-05	0.67	1.17	Thorium-230	3.98	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^3-R	12-Feb-05	0.67	1.17	Thorium-232	0.841	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^3-R	12-Feb-05	0.67	1.17	Uranium, Total	41.1	mg/kg	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^4-R	12-Feb-05	1.17	1.67	Cesium-137	0.0971	pCi/g	UNV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^4-R	12-Feb-05	1.17	1.67	Radium-228	0.673	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^4-R	12-Feb-05	1.17	1.67	Technetium-99	0.794	pCi/g	UNV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^4-R	12-Feb-05	1.17	1.67	Thorium-228	1.15	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^4-R	12-Feb-05	1.17	1.67	Thorium-230	0.849	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^4-R	12-Feb-05	1.17	1.67	Thorium-232	0.673	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^4-R	12-Feb-05	1.17	1.67	Uranium, Total	4.27	mg/kg	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^5-R	12-Feb-05	1.67	2.17	Cesium-137	0.0947	pCi/g	UNV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^5-R	12-Feb-05	1.67	2.17	Radium-228	0.433	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^5-R	12-Feb-05	1.67	2.17	Technetium-99	0.805	pCi/g	UNV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^5-R	12-Feb-05	1.67	2.17	Thorium-228	0.847	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^5-R	12-Feb-05	1.67	2.17	Thorium-230	0.915	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^5-R	12-Feb-05	1.67	2.17	Thorium-232	0.433	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^5-R	12-Feb-05	1.67	2.17	Uranium, Total	6.39	mg/kg	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^6-R	12-Feb-05	2.17	3.17	Cesium-137	0.1	pCi/g	UNV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^6-R	12-Feb-05	2.17	3.17	Radium-228	0.654	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^6-R	12-Feb-05	2.17	3.17	Technetium-99	0.806	pCi/g	UNV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^6-R	12-Feb-05	2.17	3.17	Thorium-228	0.896	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^6-R	12-Feb-05	2.17	3.17	Thorium-230	1.04	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^6-R	12-Feb-05	2.17	3.17	Thorium-232	0.654	pCi/g	NV	481725.56	1347444.744
A6WP-4F-05	A6WP-4F-05^6-R	12-Feb-05	2.17	3.17	Uranium, Total	4.53	mg/kg	UNV	481725.56	1347444.744
A6WP-4R-01	A6WP-4R-01^L	17-Dec-04			1,1-Dichloroethene	0.00102	ug/kg	UNV	481711.674	1347567.44
A6WP-4R-01	A6WP-4R-01^L	17-Dec-04			Tetrachloroethene	0.00102	ug/kg	NV	481711.674	1347567.44
A6WP-4R-01	A6WP-4R-01^L	17-Dec-04			Trichloroethene	0.00169	ug/kg	NV	481711.674	1347567.44
A6WP-4R-01	A6WP-4R-01^L	17-Dec-04			Vinyl chloride	0.00068	ug/kg	UNV	481711.674	1347567.44
A6WP-4R-02	A6WP-4R-02^L	17-Dec-04			1,1-Dichloroethene	0.00098	ug/kg	UNV	481706.088	1347548.433
A6WP-4R-02	A6WP-4R-02^L	17-Dec-04			Tetrachloroethene	0.00098	ug/kg	UNV	481706.088	1347548.433
A6WP-4R-02	A6WP-4R-02^L	17-Dec-04			Trichloroethene	0.00098	ug/kg	UNV	481706.088	1347548.433
A6WP-4R-02	A6WP-4R-02^L	17-Dec-04			Vinyl chloride	0.00098	ug/kg	UNV	481706.088	1347548.433
A6WP-4R-02	A6WP-4R-02^R	17-Dec-04			Technetium-99	0.837	pCi/g	UNV	481706.088	1347548.433

60 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-4R-02	A6WP-4R-02^R	17-Dec-04			Uranium, Total	36	mg/kg	NV	481706.088	1347548.433
A6WP-4S-01	A6WP-4S-01^1-R	17-Feb-05	0	0.5	Cesium-137	0.102	pCi/g	UNV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^1-R	17-Feb-05	0	0.5	Radium-228	0.932	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^1-R	17-Feb-05	0	0.5	Technetium-99	1.04	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^1-R	17-Feb-05	0	0.5	Thorium-228	1.68	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^1-R	17-Feb-05	0	0.5	Thorium-230	10.5	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^1-R	17-Feb-05	0	0.5	Thorium-232	0.932	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^1-R	17-Feb-05	0	0.5	Uranium, Total	136	mg/kg	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^8-R	17-Feb-05	3.5	4	Cesium-137	0.106	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^8-R	17-Feb-05	3.5	4	Radium-228	0.882	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^8-R	17-Feb-05	3.5	4	Technetium-99	0.823	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^8-R	17-Feb-05	3.5	4	Thorium-228	1.27	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^8-R	17-Feb-05	3.5	4	Thorium-230	5.8	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^8-R	17-Feb-05	3.5	4	Thorium-232	0.882	pCi/g	NV	481681.007	1347270.631
A6WP-4S-01	A6WP-4S-01^8-R	17-Feb-05	3.5	4	Uranium, Total	49.1	mg/kg	NV	481681.007	1347270.631
A6WP-4S-02	A6WP-4S-02^1-R	17-Feb-05	0	0.5	Cesium-137	0.0952	pCi/g	UNV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^1-R	17-Feb-05	0	0.5	Radium-228	0.479	pCi/g	NV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^1-R	17-Feb-05	0	0.5	Technetium-99	0.811	pCi/g	UNV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^1-R	17-Feb-05	0	0.5	Thorium-228	0.5	pCi/g	NV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^1-R	17-Feb-05	0	0.5	Thorium-230	0.793	pCi/g	NV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^1-R	17-Feb-05	0	0.5	Thorium-232	0.479	pCi/g	NV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^1-R	17-Feb-05	0	0.5	Uranium, Total	4.75	mg/kg	UNV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^8-R	17-Feb-05	3.5	4	Cesium-137	0.0966	pCi/g	UNV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^8-R	17-Feb-05	3.5	4	Radium-228	0.321	pCi/g	NV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^8-R	17-Feb-05	3.5	4	Technetium-99	0.808	pCi/g	UNV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^8-R	17-Feb-05	3.5	4	Thorium-228	0.553	pCi/g	NV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^8-R	17-Feb-05	3.5	4	Thorium-230	0.772	pCi/g	NV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^8-R	17-Feb-05	3.5	4	Thorium-232	0.321	pCi/g	NV	481643.636	1347414.785
A6WP-4S-02	A6WP-4S-02^8-R	17-Feb-05	3.5	4	Uranium, Total	4.6	mg/kg	UNV	481643.636	1347414.785
A6WP-4S-03	A6WP-4S-03^1-R	17-Feb-05	0	0.5	Cesium-137	0.0968	pCi/g	UNV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^1-R	17-Feb-05	0	0.5	Radium-228	0.416	pCi/g	NV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^1-R	17-Feb-05	0	0.5	Technetium-99	0.811	pCi/g	UNV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^1-R	17-Feb-05	0	0.5	Thorium-228	1.02	pCi/g	NV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^1-R	17-Feb-05	0	0.5	Thorium-230	0.97	pCi/g	NV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^1-R	17-Feb-05	0	0.5	Thorium-232	0.416	pCi/g	NV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^1-R	17-Feb-05	0	0.5	Uranium, Total	10.1	mg/kg	NV	481672.327	1347523.656

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-4S-03	A6WP-4S-03^8-R	17-Feb-05	3.5	4	Cesium-137	0.0985	pCi/g	UNV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^8-R	17-Feb-05	3.5	4	Radium-228	0.717	pCi/g	NV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^8-R	17-Feb-05	3.5	4	Technetium-99	0.783	pCi/g	UNV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^8-R	17-Feb-05	3.5	4	Thorium-228	1.35	pCi/g	NV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^8-R	17-Feb-05	3.5	4	Thorium-230	0.94	pCi/g	NV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^8-R	17-Feb-05	3.5	4	Thorium-232	0.717	pCi/g	NV	481672.327	1347523.656
A6WP-4S-03	A6WP-4S-03^8-R	17-Feb-05	3.5	4	Uranium, Total	4.8	mg/kg	UNV	481672.327	1347523.656
A6WP-4S-04	A6WP-4S-04^1-R	17-Feb-05	0	0.5	Cesium-137	0.0949	pCi/g	UNV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^1-R	17-Feb-05	0	0.5	Radium-228	0.849	pCi/g	NV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^1-R	17-Feb-05	0	0.5	Technetium-99	0.77	pCi/g	UNV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^1-R	17-Feb-05	0	0.5	Thorium-228	0.649	pCi/g	NV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^1-R	17-Feb-05	0	0.5	Thorium-230	1.86	pCi/g	NV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^1-R	17-Feb-05	0	0.5	Thorium-232	0.849	pCi/g	NV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^1-R	17-Feb-05	0	0.5	Uranium, Total	20.5	mg/kg	NV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^8-R	17-Feb-05	3.5	4	Cesium-137	0.0829	pCi/g	UNV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^8-R	17-Feb-05	3.5	4	Radium-228	0.633	pCi/g	NV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^8-R	17-Feb-05	3.5	4	Technetium-99	0.749	pCi/g	UNV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^8-R	17-Feb-05	3.5	4	Thorium-228	0.721	pCi/g	NV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^8-R	17-Feb-05	3.5	4	Thorium-230	0.585	pCi/g	NV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^8-R	17-Feb-05	3.5	4	Thorium-232	0.633	pCi/g	NV	481778.54	1347527.783
A6WP-4S-04	A6WP-4S-04^8-R	17-Feb-05	3.5	4	Uranium, Total	4.1	mg/kg	UNV	481778.54	1347527.783
A6WP-4S-05	A6WP-4S-05^1-R	17-Feb-05	0	0.5	Cesium-137	0.118	pCi/g	UNV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^1-R	17-Feb-05	0	0.5	Radium-228	1.2	pCi/g	NV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^1-R	17-Feb-05	0	0.5	Technetium-99	0.82	pCi/g	UNV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^1-R	17-Feb-05	0	0.5	Thorium-228	1.08	pCi/g	NV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^1-R	17-Feb-05	0	0.5	Thorium-230	10.4	pCi/g	NV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^1-R	17-Feb-05	0	0.5	Thorium-232	1.2	pCi/g	NV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^1-R	17-Feb-05	0	0.5	Uranium, Total	104	mg/kg	NV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^8-R	17-Feb-05	3.5	4	Cesium-137	0.102	pCi/g	UNV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^8-R	17-Feb-05	3.5	4	Radium-228	0.782	pCi/g	NV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^8-R	17-Feb-05	3.5	4	Technetium-99	0.841	pCi/g	UNV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^8-R	17-Feb-05	3.5	4	Thorium-228	0.699	pCi/g	NV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^8-R	17-Feb-05	3.5	4	Thorium-230	0.772	pCi/g	NV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^8-R	17-Feb-05	3.5	4	Thorium-232	0.782	pCi/g	NV	481864.134	1347448.5
A6WP-4S-05	A6WP-4S-05^8-R	17-Feb-05	3.5	4	Uranium, Total	14	mg/kg	NV	481864.134	1347448.5
A6WP-4S-06	A6WP-4S-06^1-R	17-Feb-05	0	0.5	Cesium-137	0.0883	pCi/g	UNV	481881.301	1347352.265

60 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-4S-06	A6WP-4S-06^1-R	17-Feb-05	0	0.5	Radium-228	0.531	pCi/g	NV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^1-R	17-Feb-05	0	0.5	Technetium-99	0.79	pCi/g	UNV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^1-R	17-Feb-05	0	0.5	Thorium-228	0.838	pCi/g	NV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^1-R	17-Feb-05	0	0.5	Thorium-230	1.19	pCi/g	NV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^1-R	17-Feb-05	0	0.5	Thorium-232	0.531	pCi/g	NV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^1-R	17-Feb-05	0	0.5	Uranium, Total	17.8	mg/kg	NV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^8-R	17-Feb-05	3.5	4	Cesium-137	0.0915	pCi/g	UNV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^8-R	17-Feb-05	3.5	4	Radium-228	0.771	pCi/g	NV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^8-R	17-Feb-05	3.5	4	Technetium-99	0.8	pCi/g	UNV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^8-R	17-Feb-05	3.5	4	Thorium-228	0.62	pCi/g	NV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^8-R	17-Feb-05	3.5	4	Thorium-230	0.952	pCi/g	NV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^8-R	17-Feb-05	3.5	4	Thorium-232	0.771	pCi/g	NV	481881.301	1347352.265
A6WP-4S-06	A6WP-4S-06^8-R	17-Feb-05	3.5	4	Uranium, Total	4.98	mg/kg	NV	481881.301	1347352.265
A6WP-4S-07	A6WP-4S-07^1-R	17-Feb-05	0	0.5	Cesium-137	0.101	pCi/g	UNV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^1-R	17-Feb-05	0	0.5	Radium-228	0.624	pCi/g	NV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^1-R	17-Feb-05	0	0.5	Technetium-99	0.805	pCi/g	UNV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^1-R	17-Feb-05	0	0.5	Thorium-228	0.984	pCi/g	NV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^1-R	17-Feb-05	0	0.5	Thorium-230	0.815	pCi/g	NV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^1-R	17-Feb-05	0	0.5	Thorium-232	0.624	pCi/g	NV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^1-R	17-Feb-05	0	0.5	Uranium, Total	4.54	mg/kg	UNV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^8-R	17-Feb-05	3.5	4	Cesium-137	0.107	pCi/g	UNV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^8-R	17-Feb-05	3.5	4	Radium-228	0.697	pCi/g	NV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^8-R	17-Feb-05	3.5	4	Technetium-99	0.818	pCi/g	UNV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^8-R	17-Feb-05	3.5	4	Thorium-228	0.713	pCi/g	NV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^8-R	17-Feb-05	3.5	4	Thorium-230	1.07	pCi/g	NV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^8-R	17-Feb-05	3.5	4	Thorium-232	0.697	pCi/g	NV	481796.456	1347315.464
A6WP-4S-07	A6WP-4S-07^8-R	17-Feb-05	3.5	4	Uranium, Total	5.17	mg/kg	UNV	481796.456	1347315.464
A6WP-5F-01	A6WP-5F-01^1-R	29-Sep-04	0	0.33	Cesium-137	0.0473	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^1-R	29-Sep-04	0	0.33	Radium-228	0.596	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^1-R	29-Sep-04	0	0.33	Technetium-99	1.22	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^1-R	29-Sep-04	0	0.33	Thorium-228	1.04	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^1-R	29-Sep-04	0	0.33	Thorium-230	4.64	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^1-R	29-Sep-04	0	0.33	Thorium-232	0.596	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^1-R	29-Sep-04	0	0.33	Uranium, Total	4.71	mg/kg	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^2-R	29-Sep-04	0.33	0.83	Cesium-137	0.0503	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^2-R	29-Sep-04	0.33	0.83	Radium-228	0.553	pCi/g	NV	482201.756	1346843.168

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5F-01	A6WP-5F-01^2-R	29-Sep-04	0.33	0.83	Technetium-99	0.701	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^2-R	29-Sep-04	0.33	0.83	Thorium-228	0.986	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^2-R	29-Sep-04	0.33	0.83	Thorium-230	4.68	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^2-R	29-Sep-04	0.33	0.83	Thorium-232	0.553	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^2-R	29-Sep-04	0.33	0.83	Uranium, Total	3.41	mg/kg	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^3-R	29-Sep-04	0.83	1.33	Cesium-137	0.0292	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^3-R	29-Sep-04	0.83	1.33	Radium-228	0.547	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^3-R	29-Sep-04	0.83	1.33	Technetium-99	0.672	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^3-R	29-Sep-04	0.83	1.33	Thorium-228	0.616	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^3-R	29-Sep-04	0.83	1.33	Thorium-230	3.95	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^3-R	29-Sep-04	0.83	1.33	Thorium-232	0.547	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^3-R	29-Sep-04	0.83	1.33	Uranium, Total	1.99	mg/kg	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^4-R	29-Sep-04	1.33	1.83	Cesium-137	0.0379	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^4-R	29-Sep-04	1.33	1.83	Radium-228	0.852	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^4-R	29-Sep-04	1.33	1.83	Technetium-99	0.698	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^4-R	29-Sep-04	1.33	1.83	Thorium-228	0.763	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^4-R	29-Sep-04	1.33	1.83	Thorium-230	4.52	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^4-R	29-Sep-04	1.33	1.83	Thorium-232	0.852	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^4-R	29-Sep-04	1.33	1.83	Uranium, Total	2.15	mg/kg	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^5-R	29-Sep-04	1.83	2.33	Cesium-137	0.0505	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^5-R	29-Sep-04	1.83	2.33	Radium-228	0.75	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^5-R	29-Sep-04	1.83	2.33	Technetium-99	0.717	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^5-R	29-Sep-04	1.83	2.33	Thorium-228	1.1	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^5-R	29-Sep-04	1.83	2.33	Thorium-230	4.53	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^5-R	29-Sep-04	1.83	2.33	Thorium-232	0.75	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^5-R	29-Sep-04	1.83	2.33	Uranium, Total	2.03	mg/kg	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^6-R	29-Sep-04	2.33	2.83	Cesium-137	0.0303	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^6-R	29-Sep-04	2.33	2.83	Radium-228	0.783	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^6-R	29-Sep-04	2.33	2.83	Technetium-99	0.693	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^6-R	29-Sep-04	2.33	2.83	Thorium-228	0.782	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^6-R	29-Sep-04	2.33	2.83	Thorium-230	3.81	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^6-R	29-Sep-04	2.33	2.83	Thorium-232	0.783	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^6-R	29-Sep-04	2.33	2.83	Uranium, Total	3.88	mg/kg	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^7-R	29-Sep-04	2.83	3.33	Cesium-137	0.0329	pCi/g	UNV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^7-R	29-Sep-04	2.83	3.33	Radium-228	0.732	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^7-R	29-Sep-04	2.83	3.33	Technetium-99	0.709	pCi/g	UNV	482201.756	1346843.168

60 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5F-01	A6WP-5F-01^7-R	29-Sep-04	2.83	3.33	Thorium-228	0.765	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^7-R	29-Sep-04	2.83	3.33	Thorium-230	3.42	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^7-R	29-Sep-04	2.83	3.33	Thorium-232	0.732	pCi/g	NV	482201.756	1346843.168
A6WP-5F-01	A6WP-5F-01^7-R	29-Sep-04	2.83	3.33	Uranium, Total	4.76	mg/kg	NV	482201.756	1346843.168
A6WP-5F-02	A6WP-5F-02^1-R	29-Sep-04	0	0.5	Cesium-137	0.0493	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^1-R	29-Sep-04	0	0.5	Radium-228	0.814	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^1-R	29-Sep-04	0	0.5	Technetium-99	0.693	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^1-R	29-Sep-04	0	0.5	Thorium-228	0.954	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^1-R	29-Sep-04	0	0.5	Thorium-230	4.14	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^1-R	29-Sep-04	0	0.5	Thorium-232	0.814	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^1-R	29-Sep-04	0	0.5	Uranium, Total	5.6	mg/kg	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^2-R	29-Sep-04	0.5	1	Cesium-137	0.03	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^2-R	29-Sep-04	0.5	1	Radium-228	0.725	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^2-R	29-Sep-04	0.5	1	Technetium-99	0.695	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^2-R	29-Sep-04	0.5	1	Thorium-228	0.757	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^2-R	29-Sep-04	0.5	1	Thorium-230	2.24	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^2-R	29-Sep-04	0.5	1	Thorium-232	0.725	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^2-R	29-Sep-04	0.5	1	Uranium, Total	2.03	mg/kg	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^3-R	29-Sep-04	1	1.5	Cesium-137	0.0302	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^3-R	29-Sep-04	1	1.5	Radium-228	0.664	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^3-R	29-Sep-04	1	1.5	Technetium-99	0.703	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^3-R	29-Sep-04	1	1.5	Thorium-228	0.768	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^3-R	29-Sep-04	1	1.5	Thorium-230	2.84	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^3-R	29-Sep-04	1	1.5	Thorium-232	0.664	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^3-R	29-Sep-04	1	1.5	Uranium, Total	2.96	mg/kg	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^4-R	29-Sep-04	1.5	2	Cesium-137	0.0519	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^4-R	29-Sep-04	1.5	2	Radium-228	0.727	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^4-R	29-Sep-04	1.5	2	Technetium-99	0.693	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^4-R	29-Sep-04	1.5	2	Thorium-228	1.01	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^4-R	29-Sep-04	1.5	2	Thorium-230	2.71	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^4-R	29-Sep-04	1.5	2	Thorium-232	0.727	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^4-R	29-Sep-04	1.5	2	Uranium, Total	2.06	mg/kg	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^5-R	29-Sep-04	2	2.5	Cesium-137	0.0315	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^5-R	29-Sep-04	2	2.5	Radium-228	0.883	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^5-R	29-Sep-04	2	2.5	Technetium-99	0.713	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^5-R	29-Sep-04	2	2.5	Thorium-228	0.814	pCi/g	NV	482161.271	1346989.935

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5F-02	A6WP-5F-02^5-R	29-Sep-04	2	2.5	Thorium-230	3.34	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^5-R	29-Sep-04	2	2.5	Thorium-232	0.883	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^5-R	29-Sep-04	2	2.5	Uranium, Total	4.06	mg/kg	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^6-R	29-Sep-04	2.5	3	Cesium-137	0.031	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^6-R	29-Sep-04	2.5	3	Radium-228	0.712	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^6-R	29-Sep-04	2.5	3	Technetium-99	0.707	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^6-R	29-Sep-04	2.5	3	Thorium-228	0.688	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^6-R	29-Sep-04	2.5	3	Thorium-230	2.89	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^6-R	29-Sep-04	2.5	3	Thorium-232	0.712	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^6-R	29-Sep-04	2.5	3	Uranium, Total	3.49	mg/kg	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^7-R	29-Sep-04	3	3.5	Cesium-137	0.0579	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^7-R	29-Sep-04	3	3.5	Radium-228	0.793	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^7-R	29-Sep-04	3	3.5	Technetium-99	0.687	pCi/g	UNV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^7-R	29-Sep-04	3	3.5	Thorium-228	0.934	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^7-R	29-Sep-04	3	3.5	Thorium-230	3.61	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^7-R	29-Sep-04	3	3.5	Thorium-232	0.793	pCi/g	NV	482161.271	1346989.935
A6WP-5F-02	A6WP-5F-02^7-R	29-Sep-04	3	3.5	Uranium, Total	3.28	mg/kg	UNV	482161.271	1346989.935
A6WP-5F-03	A6WP-5F-03^1-R	29-Sep-04	0	0.33	Cesium-137	0.121	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^1-R	29-Sep-04	0	0.33	Radium-228	1.21	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^1-R	29-Sep-04	0	0.33	Technetium-99	6.75	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^1-R	29-Sep-04	0	0.33	Thorium-228	1.61	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^1-R	29-Sep-04	0	0.33	Thorium-230	26.2	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^1-R	29-Sep-04	0	0.33	Thorium-232	1.21	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^1-R	29-Sep-04	0	0.33	Uranium, Total	149	mg/kg	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^2-R	29-Sep-04	0.33	0.83	Cesium-137	0.0811	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^2-R	29-Sep-04	0.33	0.83	Radium-228	1.89	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^2-R	29-Sep-04	0.33	0.83	Technetium-99	8.68	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^2-R	29-Sep-04	0.33	0.83	Thorium-228	2.16	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^2-R	29-Sep-04	0.33	0.83	Thorium-230	38.4	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^2-R	29-Sep-04	0.33	0.83	Thorium-232	1.89	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^2-R	29-Sep-04	0.33	0.83	Uranium, Total	295	mg/kg	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^3-R	29-Sep-04	0.83	1.33	Cesium-137	0.0549	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^3-R	29-Sep-04	0.83	1.33	Radium-228	0.845	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^3-R	29-Sep-04	0.83	1.33	Technetium-99	0.745	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^3-R	29-Sep-04	0.83	1.33	Thorium-228	0.872	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^3-R	29-Sep-04	0.83	1.33	Thorium-230	3.31	pCi/g	NV	482124.976	1347135.614

6042

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5F-03	A6WP-5F-03^3-R	29-Sep-04	0.83	1.33	Thorium-232	0.845	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^3-R	29-Sep-04	0.83	1.33	Uranium, Total	3.13	mg/kg	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^4-R	29-Sep-04	1.33	1.83	Cesium-137	0.0608	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^4-R	29-Sep-04	1.33	1.83	Radium-228	0.974	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^4-R	29-Sep-04	1.33	1.83	Technetium-99	0.75	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^4-R	29-Sep-04	1.33	1.83	Thorium-228	0.797	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^4-R	29-Sep-04	1.33	1.83	Thorium-230	4.47	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^4-R	29-Sep-04	1.33	1.83	Thorium-232	0.974	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^4-R	29-Sep-04	1.33	1.83	Uranium, Total	6.62	mg/kg	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^5-R	29-Sep-04	1.83	2.33	Cesium-137	0.051	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^5-R	29-Sep-04	1.83	2.33	Radium-228	0.93	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^5-R	29-Sep-04	1.83	2.33	Technetium-99	0.748	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^5-R	29-Sep-04	1.83	2.33	Thorium-228	0.823	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^5-R	29-Sep-04	1.83	2.33	Thorium-230	4.36	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^5-R	29-Sep-04	1.83	2.33	Thorium-232	0.93	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^5-R	29-Sep-04	1.83	2.33	Uranium, Total	3.02	mg/kg	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^6-R	29-Sep-04	2.33	2.83	Cesium-137	0.0437	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^6-R	29-Sep-04	2.33	2.83	Radium-228	0.693	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^6-R	29-Sep-04	2.33	2.83	Technetium-99	0.737	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^6-R	29-Sep-04	2.33	2.83	Thorium-228	0.707	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^6-R	29-Sep-04	2.33	2.83	Thorium-230	3.28	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^6-R	29-Sep-04	2.33	2.83	Thorium-232	0.693	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^6-R	29-Sep-04	2.33	2.83	Uranium, Total	2.6	mg/kg	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^7-R	29-Sep-04	2.83	3.33	Cesium-137	0.0265	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^7-R	29-Sep-04	2.83	3.33	Radium-228	0.653	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^7-R	29-Sep-04	2.83	3.33	Technetium-99	0.737	pCi/g	UNV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^7-R	29-Sep-04	2.83	3.33	Thorium-228	0.551	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^7-R	29-Sep-04	2.83	3.33	Thorium-230	3.53	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^7-R	29-Sep-04	2.83	3.33	Thorium-232	0.653	pCi/g	NV	482124.976	1347135.614
A6WP-5F-03	A6WP-5F-03^7-R	29-Sep-04	2.83	3.33	Uranium, Total	3.31	mg/kg	NV	482124.976	1347135.614
A6WP-5F-04	A6WP-5F-04^1-R	29-Sep-04	0	0.25	Cesium-137	0.0379	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^1-R	29-Sep-04	0	0.25	Radium-228	0.536	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^1-R	29-Sep-04	0	0.25	Technetium-99	0.712	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^1-R	29-Sep-04	0	0.25	Thorium-228	0.577	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^1-R	29-Sep-04	0	0.25	Thorium-230	4.09	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^1-R	29-Sep-04	0	0.25	Thorium-232	0.536	pCi/g	NV	482077.218	1347275.797

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5F-04	A6WP-5F-04^1-R	29-Sep-04	0	0.25	Uranium, Total	8.35	mg/kg	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^2-R	29-Sep-04	0.25	0.75	Cesium-137	0.0214	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^2-R	29-Sep-04	0.25	0.75	Radium-228	0.489	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^2-R	29-Sep-04	0.25	0.75	Technetium-99	0.736	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^2-R	29-Sep-04	0.25	0.75	Thorium-228	0.48	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^2-R	29-Sep-04	0.25	0.75	Thorium-230	3.15	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^2-R	29-Sep-04	0.25	0.75	Thorium-232	0.489	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^2-R	29-Sep-04	0.25	0.75	Uranium, Total	7.66	mg/kg	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^3-R	29-Sep-04	0.75	1.25	Cesium-137	0.0208	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^3-R	29-Sep-04	0.75	1.25	Radium-228	0.504	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^3-R	29-Sep-04	0.75	1.25	Technetium-99	0.739	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^3-R	29-Sep-04	0.75	1.25	Thorium-228	0.455	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^3-R	29-Sep-04	0.75	1.25	Thorium-230	3.35	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^3-R	29-Sep-04	0.75	1.25	Thorium-232	0.504	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^3-R	29-Sep-04	0.75	1.25	Uranium, Total	5.51	mg/kg	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^4-R	29-Sep-04	1.25	1.75	Cesium-137	0.0405	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^4-R	29-Sep-04	1.25	1.75	Radium-228	0.386	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^4-R	29-Sep-04	1.25	1.75	Technetium-99	0.728	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^4-R	29-Sep-04	1.25	1.75	Thorium-228	0.555	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^4-R	29-Sep-04	1.25	1.75	Thorium-230	3.29	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^4-R	29-Sep-04	1.25	1.75	Thorium-232	0.386	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^4-R	29-Sep-04	1.25	1.75	Uranium, Total	3.14	mg/kg	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^5-R	29-Sep-04	1.75	2.25	Cesium-137	0.0241	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^5-R	29-Sep-04	1.75	2.25	Radium-228	0.58	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^5-R	29-Sep-04	1.75	2.25	Technetium-99	0.727	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^5-R	29-Sep-04	1.75	2.25	Thorium-228	0.556	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^5-R	29-Sep-04	1.75	2.25	Thorium-230	3.72	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^5-R	29-Sep-04	1.75	2.25	Thorium-232	0.58	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^5-R	29-Sep-04	1.75	2.25	Uranium, Total	3.57	mg/kg	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^6-R	29-Sep-04	2.25	2.75	Cesium-137	0.032	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^6-R	29-Sep-04	2.25	2.75	Radium-228	0.808	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^6-R	29-Sep-04	2.25	2.75	Technetium-99	0.732	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^6-R	29-Sep-04	2.25	2.75	Thorium-228	0.713	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^6-R	29-Sep-04	2.25	2.75	Thorium-230	3.97	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^6-R	29-Sep-04	2.25	2.75	Thorium-232	0.808	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^6-R	29-Sep-04	2.25	2.75	Uranium, Total	3.81	mg/kg	NV	482077.218	1347275.797

6042

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5F-04	A6WP-5F-04^7-R	29-Sep-04	2.75	3.25	Cesium-137	0.0504	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^7-R	29-Sep-04	2.75	3.25	Radium-228	0.808	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^7-R	29-Sep-04	2.75	3.25	Technetium-99	0.748	pCi/g	UNV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^7-R	29-Sep-04	2.75	3.25	Thorium-228	0.721	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^7-R	29-Sep-04	2.75	3.25	Thorium-230	3.45	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^7-R	29-Sep-04	2.75	3.25	Thorium-232	0.808	pCi/g	NV	482077.218	1347275.797
A6WP-5F-04	A6WP-5F-04^7-R	29-Sep-04	2.75	3.25	Uranium, Total	6.75	mg/kg	NV	482077.218	1347275.797
A6WP-5S-01	A6WP-5S-01^1-R	30-Sep-04	0	0.5	Cesium-137	0.18	pCi/g	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^1-R	30-Sep-04	0	0.5	Radium-228	0.759	pCi/g	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^1-R	30-Sep-04	0	0.5	Technetium-99	12.7	pCi/g	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^1-R	30-Sep-04	0	0.5	Thorium-228	0.946	pCi/g	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^1-R	30-Sep-04	0	0.5	Thorium-230	14.8	pCi/g	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^1-R	30-Sep-04	0	0.5	Thorium-232	0.759	pCi/g	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^1-R	30-Sep-04	0	0.5	Uranium, Total	8.97	mg/kg	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^8-R	30-Sep-04	3.5	4	Cesium-137	0.0507	pCi/g	UNV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^8-R	30-Sep-04	3.5	4	Radium-228	0.822	pCi/g	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^8-R	30-Sep-04	3.5	4	Technetium-99	0.735	pCi/g	UNV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^8-R	30-Sep-04	3.5	4	Thorium-228	0.791	pCi/g	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^8-R	30-Sep-04	3.5	4	Thorium-230	4.09	pCi/g	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^8-R	30-Sep-04	3.5	4	Thorium-232	0.822	pCi/g	NV	482172.969	1346802.351
A6WP-5S-01	A6WP-5S-01^8-R	30-Sep-04	3.5	4	Uranium, Total	4.99	mg/kg	NV	482172.969	1346802.351
A6WP-5S-02	A6WP-5S-02^1-R	30-Sep-04	0	0.5	Cesium-137	0.0447	pCi/g	UNV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^1-R	30-Sep-04	0	0.5	Radium-228	0.661	pCi/g	NV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^1-R	30-Sep-04	0	0.5	Technetium-99	0.723	pCi/g	UNV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^1-R	30-Sep-04	0	0.5	Thorium-228	0.841	pCi/g	NV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^1-R	30-Sep-04	0	0.5	Thorium-230	3.73	pCi/g	NV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^1-R	30-Sep-04	0	0.5	Thorium-232	0.661	pCi/g	NV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^1-R	30-Sep-04	0	0.5	Uranium, Total	2.47	mg/kg	NV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^8-R	30-Sep-04	3.5	4	Cesium-137	0.0494	pCi/g	UNV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^8-R	30-Sep-04	3.5	4	Radium-228	0.811	pCi/g	NV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^8-R	30-Sep-04	3.5	4	Technetium-99	0.734	pCi/g	UNV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^8-R	30-Sep-04	3.5	4	Thorium-228	0.981	pCi/g	NV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^8-R	30-Sep-04	3.5	4	Thorium-230	3.94	pCi/g	NV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^8-R	30-Sep-04	3.5	4	Thorium-232	0.811	pCi/g	NV	482102.182	1346920.024
A6WP-5S-02	A6WP-5S-02^8-R	30-Sep-04	3.5	4	Uranium, Total	4.21	mg/kg	NV	482102.182	1346920.024
A6WP-5S-03	A6WP-5S-03^1-R	30-Sep-04	0	0.5	Cesium-137	0.0393	pCi/g	UNV	482097.265	1347079.256

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5S-03	A6WP-5S-03^1-R	30-Sep-04	0	0.5	Radium-228	0.517	pCi/g	NV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^1-R	30-Sep-04	0	0.5	Technetium-99	0.706	pCi/g	UNV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^1-R	30-Sep-04	0	0.5	Thorium-228	0.566	pCi/g	NV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^1-R	30-Sep-04	0	0.5	Thorium-230	4.72	pCi/g	NV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^1-R	30-Sep-04	0	0.5	Thorium-232	0.517	pCi/g	NV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^1-R	30-Sep-04	0	0.5	Uranium, Total	4.13	mg/kg	NV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^8-R	30-Sep-04	3.5	4	Cesium-137	0.0521	pCi/g	UNV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^8-R	30-Sep-04	3.5	4	Radium-228	0.686	pCi/g	NV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^8-R	30-Sep-04	3.5	4	Technetium-99	0.745	pCi/g	UNV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^8-R	30-Sep-04	3.5	4	Thorium-228	0.72	pCi/g	NV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^8-R	30-Sep-04	3.5	4	Thorium-230	3.88	pCi/g	NV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^8-R	30-Sep-04	3.5	4	Thorium-232	0.686	pCi/g	NV	482097.265	1347079.256
A6WP-5S-03	A6WP-5S-03^8-R	30-Sep-04	3.5	4	Uranium, Total	3.53	mg/kg	NV	482097.265	1347079.256
A6WP-5S-04	A6WP-5S-04^1-R	30-Sep-04	0	0.5	Cesium-137	0.0567	pCi/g	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^1-R	30-Sep-04	0	0.5	Radium-228	1.11	pCi/g	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^1-R	30-Sep-04	0	0.5	Technetium-99	0.734	pCi/g	UNV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^1-R	30-Sep-04	0	0.5	Thorium-228	1.13	pCi/g	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^1-R	30-Sep-04	0	0.5	Thorium-230	6	pCi/g	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^1-R	30-Sep-04	0	0.5	Thorium-232	1.11	pCi/g	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^1-R	30-Sep-04	0	0.5	Uranium, Total	6.27	mg/kg	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^8-R	30-Sep-04	3.5	4	Cesium-137	0.05	pCi/g	UNV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^8-R	30-Sep-04	3.5	4	Radium-228	1.04	pCi/g	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^8-R	30-Sep-04	3.5	4	Technetium-99	0.975	pCi/g	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^8-R	30-Sep-04	3.5	4	Thorium-228	1.38	pCi/g	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^8-R	30-Sep-04	3.5	4	Thorium-230	3.99	pCi/g	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^8-R	30-Sep-04	3.5	4	Thorium-232	1.04	pCi/g	NV	482023.93	1347214.272
A6WP-5S-04	A6WP-5S-04^8-R	30-Sep-04	3.5	4	Uranium, Total	4.83	mg/kg	NV	482023.93	1347214.272
A6WP-5S-05	A6WP-5S-05^1-R	29-Sep-04	0	0.5	Cesium-137	0.0445	pCi/g	UNV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^1-R	29-Sep-04	0	0.5	Radium-228	0.632	pCi/g	NV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^1-R	29-Sep-04	0	0.5	Technetium-99	0.724	pCi/g	UNV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^1-R	29-Sep-04	0	0.5	Thorium-228	0.814	pCi/g	NV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^1-R	29-Sep-04	0	0.5	Thorium-230	4.1	pCi/g	NV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^1-R	29-Sep-04	0	0.5	Thorium-232	0.632	pCi/g	NV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^1-R	29-Sep-04	0	0.5	Uranium, Total	5.14	mg/kg	NV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^8-R	29-Sep-04	3.5	4	Cesium-137	0.0527	pCi/g	UNV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^8-R	29-Sep-04	3.5	4	Radium-228	0.634	pCi/g	NV	482066.053	1347365.616

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5S-05	A6WP-5S-05^8-R	29-Sep-04	3.5	4	Technetium-99	0.746	pCi/g	UNV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^8-R	29-Sep-04	3.5	4	Thorium-228	0.761	pCi/g	NV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^8-R	29-Sep-04	3.5	4	Thorium-230	3.05	pCi/g	NV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^8-R	29-Sep-04	3.5	4	Thorium-232	0.634	pCi/g	NV	482066.053	1347365.616
A6WP-5S-05	A6WP-5S-05^8-R	29-Sep-04	3.5	4	Uranium, Total	3	mg/kg	UNV	482066.053	1347365.616
A6WP-5S-06	A6WP-5S-06^1-R	29-Sep-04	0	0.5	Cesium-137	0.0514	pCi/g	UNV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^1-R	29-Sep-04	0	0.5	Radium-228	1.3	pCi/g	NV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^1-R	29-Sep-04	0	0.5	Technetium-99	8.13	pCi/g	NV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^1-R	29-Sep-04	0	0.5	Thorium-228	1.65	pCi/g	NV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^1-R	29-Sep-04	0	0.5	Thorium-230	30.2	pCi/g	NV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^1-R	29-Sep-04	0	0.5	Thorium-232	1.3	pCi/g	NV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^1-R	29-Sep-04	0	0.5	Uranium, Total	171	mg/kg	NV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^2-U	10-Nov-04	0.5	1	Uranium, Total	4.95	mg/kg	UNV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^3-U	10-Nov-04	1	1.5	Uranium, Total	4.97	mg/kg	UNV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^4-U	10-Nov-04	1.5	2	Uranium, Total	4.91	mg/kg	UNV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^5-U	10-Nov-04	2	2.5	Uranium, Total	4.95	mg/kg	UNV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^6-U	10-Nov-04	2.5	3	Uranium, Total	4.94	mg/kg	UNV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^7-U	10-Nov-04	3	3.5	Uranium, Total	4.94	mg/kg	UNV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^8-R	29-Sep-04	3.5	4	Cesium-137	0.0451	pCi/g	UNV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^8-R	29-Sep-04	3.5	4	Radium-228	0.473	pCi/g	NV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^8-R	29-Sep-04	3.5	4	Technetium-99	0.694	pCi/g	UNV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^8-R	29-Sep-04	3.5	4	Thorium-228	0.514	pCi/g	NV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^8-R	29-Sep-04	3.5	4	Thorium-230	8.19	pCi/g	NV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^8-R	29-Sep-04	3.5	4	Thorium-232	0.473	pCi/g	NV	482075.582	1347447.534
A6WP-5S-06	A6WP-5S-06^8-R	29-Sep-04	3.5	4	Uranium, Total	2.42	mg/kg	UNV	482075.582	1347447.534
A6WP-5S-07	A6WP-5S-07^1-R	30-Sep-04	0	0.5	Cesium-137	0.0507	pCi/g	UNV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^1-R	30-Sep-04	0	0.5	Radium-228	1.02	pCi/g	NV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^1-R	30-Sep-04	0	0.5	Technetium-99	0.72	pCi/g	UNV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^1-R	30-Sep-04	0	0.5	Thorium-228	1.06	pCi/g	NV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^1-R	30-Sep-04	0	0.5	Thorium-230	8.27	pCi/g	NV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^1-R	30-Sep-04	0	0.5	Thorium-232	1.02	pCi/g	NV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^1-R	30-Sep-04	0	0.5	Uranium, Total	5.31	mg/kg	NV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^8-R	30-Sep-04	3.5	4	Cesium-137	0.051	pCi/g	UNV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^8-R	30-Sep-04	3.5	4	Radium-228	1.03	pCi/g	NV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^8-R	30-Sep-04	3.5	4	Technetium-99	0.76	pCi/g	UNV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^8-R	30-Sep-04	3.5	4	Thorium-228	1.13	pCi/g	NV	482140.906	1347382.593

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5S-07	A6WP-5S-07^8-R	30-Sep-04	3.5	4	Thorium-230	4.45	pCi/g	NV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^8-R	30-Sep-04	3.5	4	Thorium-232	1.03	pCi/g	NV	482140.906	1347382.593
A6WP-5S-07	A6WP-5S-07^8-R	30-Sep-04	3.5	4	Uranium, Total	5.17	mg/kg	NV	482140.906	1347382.593
A6WP-5S-08	A6WP-5S-08^1-R	29-Sep-04	0	0.5	Cesium-137	0.0493	pCi/g	UNV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^1-R	29-Sep-04	0	0.5	Radium-228	0.807	pCi/g	NV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^1-R	29-Sep-04	0	0.5	Technetium-99	0.717	pCi/g	UNV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^1-R	29-Sep-04	0	0.5	Thorium-228	0.841	pCi/g	NV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^1-R	29-Sep-04	0	0.5	Thorium-230	4.72	pCi/g	NV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^1-R	29-Sep-04	0	0.5	Thorium-232	0.807	pCi/g	NV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^1-R	29-Sep-04	0	0.5	Uranium, Total	5.42	mg/kg	NV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^8-R	29-Sep-04	3.5	4	Cesium-137	0.0517	pCi/g	UNV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^8-R	29-Sep-04	3.5	4	Radium-228	0.606	pCi/g	NV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^8-R	29-Sep-04	3.5	4	Technetium-99	0.732	pCi/g	UNV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^8-R	29-Sep-04	3.5	4	Thorium-228	0.729	pCi/g	NV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^8-R	29-Sep-04	3.5	4	Thorium-230	4.09	pCi/g	NV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^8-R	29-Sep-04	3.5	4	Thorium-232	0.606	pCi/g	NV	482142.847	1347228.171
A6WP-5S-08	A6WP-5S-08^8-R	29-Sep-04	3.5	4	Uranium, Total	3.7	mg/kg	NV	482142.847	1347228.171
A6WP-5S-09	A6WP-5S-09^1-R	30-Sep-04	0	0.5	Cesium-137	0.0462	pCi/g	UNV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^1-R	30-Sep-04	0	0.5	Radium-228	0.915	pCi/g	NV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^1-R	30-Sep-04	0	0.5	Technetium-99	5.66	pCi/g	NV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^1-R	30-Sep-04	0	0.5	Thorium-228	1.15	pCi/g	NV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^1-R	30-Sep-04	0	0.5	Thorium-230	4.37	pCi/g	NV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^1-R	30-Sep-04	0	0.5	Thorium-232	0.915	pCi/g	NV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^1-R	30-Sep-04	0	0.5	Uranium, Total	5.21	mg/kg	NV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^8-R	30-Sep-04	3.5	4	Cesium-137	0.0421	pCi/g	UNV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^8-R	30-Sep-04	3.5	4	Radium-228	0.483	pCi/g	NV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^8-R	30-Sep-04	3.5	4	Technetium-99	0.686	pCi/g	UNV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^8-R	30-Sep-04	3.5	4	Thorium-228	0.562	pCi/g	NV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^8-R	30-Sep-04	3.5	4	Thorium-230	4.12	pCi/g	NV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^8-R	30-Sep-04	3.5	4	Thorium-232	0.483	pCi/g	NV	482208.268	1347084.206
A6WP-5S-09	A6WP-5S-09^8-R	30-Sep-04	3.5	4	Uranium, Total	3.03	mg/kg	NV	482208.268	1347084.206
A6WP-5S-10	A6WP-5S-10^1-R	30-Sep-04	0	0.5	Cesium-137	0.0469	pCi/g	UNV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^1-R	30-Sep-04	0	0.5	Radium-228	0.818	pCi/g	NV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^1-R	30-Sep-04	0	0.5	Technetium-99	0.807	pCi/g	NV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^1-R	30-Sep-04	0	0.5	Thorium-228	0.836	pCi/g	NV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^1-R	30-Sep-04	0	0.5	Thorium-230	4.87	pCi/g	NV	482252.192	1346934.711

6042

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5S-10	A6WP-5S-10^1-R	30-Sep-04	0	0.5	Thorium-232	0.818	pCi/g	NV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^1-R	30-Sep-04	0	0.5	Uranium, Total	6.1	mg/kg	NV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^8-R	30-Sep-04	3.5	4	Cesium-137	0.0471	pCi/g	UNV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^8-R	30-Sep-04	3.5	4	Radium-228	0.581	pCi/g	NV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^8-R	30-Sep-04	3.5	4	Technetium-99	0.698	pCi/g	UNV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^8-R	30-Sep-04	3.5	4	Thorium-228	0.67	pCi/g	NV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^8-R	30-Sep-04	3.5	4	Thorium-230	3.71	pCi/g	NV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^8-R	30-Sep-04	3.5	4	Thorium-232	0.581	pCi/g	NV	482252.192	1346934.711
A6WP-5S-10	A6WP-5S-10^8-R	30-Sep-04	3.5	4	Uranium, Total	2.67	mg/kg	UNV	482252.192	1346934.711
A6WP-5S-11	A6WP-5S-11^1-R	30-Sep-04	0	0.5	Cesium-137	0.0309	pCi/g	UNV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^1-R	30-Sep-04	0	0.5	Radium-228	0.727	pCi/g	NV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^1-R	30-Sep-04	0	0.5	Technetium-99	8.28	pCi/g	NV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^1-R	30-Sep-04	0	0.5	Thorium-228	0.731	pCi/g	NV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^1-R	30-Sep-04	0	0.5	Thorium-230	4.7	pCi/g	NV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^1-R	30-Sep-04	0	0.5	Thorium-232	0.727	pCi/g	NV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^1-R	30-Sep-04	0	0.5	Uranium, Total	3.78	mg/kg	NV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^8-R	30-Sep-04	3.5	4	Cesium-137	0.031	pCi/g	UNV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^8-R	30-Sep-04	3.5	4	Radium-228	0.683	pCi/g	NV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^8-R	30-Sep-04	3.5	4	Technetium-99	0.702	pCi/g	UNV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^8-R	30-Sep-04	3.5	4	Thorium-228	0.658	pCi/g	NV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^8-R	30-Sep-04	3.5	4	Thorium-230	2.83	pCi/g	NV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^8-R	30-Sep-04	3.5	4	Thorium-232	0.683	pCi/g	NV	482250.115	1346814.726
A6WP-5S-11	A6WP-5S-11^8-R	30-Sep-04	3.5	4	Uranium, Total	5.82	mg/kg	NV	482250.115	1346814.726
A6WP-5S-12	A6WP-5S-12^1-R	30-Sep-04	0	0.5	Cesium-137	0.0481	pCi/g	UNV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^1-R	30-Sep-04	0	0.5	Radium-228	0.723	pCi/g	NV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^1-R	30-Sep-04	0	0.5	Technetium-99	0.698	pCi/g	UNV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^1-R	30-Sep-04	0	0.5	Thorium-228	0.932	pCi/g	NV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^1-R	30-Sep-04	0	0.5	Thorium-230	3	pCi/g	NV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^1-R	30-Sep-04	0	0.5	Thorium-232	0.723	pCi/g	NV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^1-R	30-Sep-04	0	0.5	Uranium, Total	5.56	mg/kg	NV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^8-R	30-Sep-04	3.5	4	Cesium-137	0.0307	pCi/g	UNV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^8-R	30-Sep-04	3.5	4	Radium-228	1.06	pCi/g	NV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^8-R	30-Sep-04	3.5	4	Technetium-99	0.779	pCi/g	UNV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^8-R	30-Sep-04	3.5	4	Thorium-228	1.14	pCi/g	NV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^8-R	30-Sep-04	3.5	4	Thorium-230	3.59	pCi/g	NV	482226.094	1346762.652
A6WP-5S-12	A6WP-5S-12^8-R	30-Sep-04	3.5	4	Thorium-232	1.06	pCi/g	NV	482226.094	1346762.652

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-5S-12	A6WP-5S-12^8-R	30-Sep-04	3.5	4	Uranium, Total	4.32	mg/kg	NV	482226.094	1346762.652
A6WP-6F-01	A6WP-6F-01^13-U	28-Sep-04	6	6.5	Uranium, Total	4.95	mg/kg	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^1-R	2-Sep-04	0	0.5	Cesium-137	0.0969	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^1-R	2-Sep-04	0	0.5	Radium-228	0.563	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^1-R	2-Sep-04	0	0.5	Technetium-99	3.71	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^1-R	2-Sep-04	0	0.5	Thorium-228	0.511	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^1-R	2-Sep-04	0	0.5	Thorium-230	4.92	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^1-R	2-Sep-04	0	0.5	Thorium-232	0.563	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^1-R	2-Sep-04	0	0.5	Uranium, Total	1330	mg/kg	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^2-R	2-Sep-04	0.5	1	Cesium-137	0.0648	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^2-R	2-Sep-04	0.5	1	Radium-228	0.698	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^2-R	2-Sep-04	0.5	1	Technetium-99	0.696	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^2-R	2-Sep-04	0.5	1	Thorium-228	0.86	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^2-R	2-Sep-04	0.5	1	Thorium-230	4.44	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^2-R	2-Sep-04	0.5	1	Thorium-232	0.698	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^2-R	2-Sep-04	0.5	1	Uranium, Total	121	mg/kg	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^3-R	2-Sep-04	1	1.5	Cesium-137	0.061	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^3-R	2-Sep-04	1	1.5	Radium-228	0.822	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^3-R	2-Sep-04	1	1.5	Technetium-99	0.675	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^3-R	2-Sep-04	1	1.5	Thorium-228	0.754	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^3-R	2-Sep-04	1	1.5	Thorium-230	3.99	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^3-R	2-Sep-04	1	1.5	Thorium-232	0.822	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^3-R	2-Sep-04	1	1.5	Uranium, Total	57.3	mg/kg	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^4-R	2-Sep-04	1.5	2	Cesium-137	0.0631	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^4-R	2-Sep-04	1.5	2	Radium-228	0.594	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^4-R	2-Sep-04	1.5	2	Technetium-99	0.683	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^4-R	2-Sep-04	1.5	2	Thorium-228	0.817	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^4-R	2-Sep-04	1.5	2	Thorium-230	3.62	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^4-R	2-Sep-04	1.5	2	Thorium-232	0.594	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^4-R	2-Sep-04	1.5	2	Uranium, Total	35.5	mg/kg	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^5-R	2-Sep-04	2	2.5	Cesium-137	0.0512	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^5-R	2-Sep-04	2	2.5	Radium-228	0.933	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^5-R	2-Sep-04	2	2.5	Technetium-99	0.693	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^5-R	2-Sep-04	2	2.5	Thorium-228	0.821	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^5-R	2-Sep-04	2	2.5	Thorium-230	4.32	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^5-R	2-Sep-04	2	2.5	Thorium-232	0.933	pCi/g	NV	481938.064	1347664.542

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-6F-01	A6WP-6F-01^5-R	2-Sep-04	2	2.5	Uranium, Total	13.8	mg/kg	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^6-R	2-Sep-04	2.5	3	Cesium-137	0.0805	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^6-R	2-Sep-04	2.5	3	Radium-228	0.602	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^6-R	2-Sep-04	2.5	3	Technetium-99	5.57	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^6-R	2-Sep-04	2.5	3	Thorium-228	0.788	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^6-R	2-Sep-04	2.5	3	Thorium-230	5.12	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^6-R	2-Sep-04	2.5	3	Thorium-232	0.602	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^6-R	2-Sep-04	2.5	3	Uranium, Total	872	mg/kg	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^7-R	28-Sep-04	3	3.5	Cesium-137	0.0486	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^7-R	28-Sep-04	3	3.5	Radium-228	0.694	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^7-R	28-Sep-04	3	3.5	Technetium-99	0.818	pCi/g	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^7-R	28-Sep-04	3	3.5	Thorium-228	0.677	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^7-R	28-Sep-04	3	3.5	Thorium-230	3.43	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^7-R	28-Sep-04	3	3.5	Thorium-232	0.694	pCi/g	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^7-R	28-Sep-04	3	3.5	Uranium, Total	2.73	mg/kg	NV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^8-U	28-Sep-04	3.5	4	Uranium, Total	4.93	mg/kg	UNV	481938.064	1347664.542
A6WP-6F-01	A6WP-6F-01^9-U	28-Sep-04	4	4.5	Uranium, Total	4.91	mg/kg	UNV	481938.064	1347664.542
A6WP-6F-02	A6WP-6F-02^1-R	2-Sep-04	0	0.5	Cesium-137	0.0424	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^1-R	2-Sep-04	0	0.5	Radium-228	0.369	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^1-R	2-Sep-04	0	0.5	Technetium-99	0.663	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^1-R	2-Sep-04	0	0.5	Thorium-228	0.387	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^1-R	2-Sep-04	0	0.5	Thorium-230	2.77	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^1-R	2-Sep-04	0	0.5	Thorium-232	0.369	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^1-R	2-Sep-04	0	0.5	Uranium, Total	123	mg/kg	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^2-R	2-Sep-04	0.5	1	Cesium-137	0.0662	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^2-R	2-Sep-04	0.5	1	Radium-228	0.58	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^2-R	2-Sep-04	0.5	1	Technetium-99	0.692	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^2-R	2-Sep-04	0.5	1	Thorium-228	0.618	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^2-R	2-Sep-04	0.5	1	Thorium-230	2.86	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^2-R	2-Sep-04	0.5	1	Thorium-232	0.58	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^2-R	2-Sep-04	0.5	1	Uranium, Total	25	mg/kg	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^3-R	2-Sep-04	1	1.5	Cesium-137	0.0629	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^3-R	2-Sep-04	1	1.5	Radium-228	0.801	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^3-R	2-Sep-04	1	1.5	Technetium-99	0.683	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^3-R	2-Sep-04	1	1.5	Thorium-228	0.826	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^3-R	2-Sep-04	1	1.5	Thorium-230	1.75	pCi/g	NV	481918.604	1347721.926

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-6F-02	A6WP-6F-02^3-R	2-Sep-04	1	1.5	Thorium-232	0.801	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^3-R	2-Sep-04	1	1.5	Uranium, Total	18.2	mg/kg	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^4-R	2-Sep-04	1.5	2	Cesium-137	0.0639	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^4-R	2-Sep-04	1.5	2	Radium-228	0.682	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^4-R	2-Sep-04	1.5	2	Technetium-99	0.697	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^4-R	2-Sep-04	1.5	2	Thorium-228	0.722	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^4-R	2-Sep-04	1.5	2	Thorium-230	3.04	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^4-R	2-Sep-04	1.5	2	Thorium-232	0.682	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^4-R	2-Sep-04	1.5	2	Uranium, Total	5.76	mg/kg	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^5-R	2-Sep-04	2	2.5	Cesium-137	0.0483	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^5-R	2-Sep-04	2	2.5	Radium-228	0.446	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^5-R	2-Sep-04	2	2.5	Technetium-99	0.675	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^5-R	2-Sep-04	2	2.5	Thorium-228	0.598	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^5-R	2-Sep-04	2	2.5	Thorium-230	3.86	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^5-R	2-Sep-04	2	2.5	Thorium-232	0.446	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^5-R	2-Sep-04	2	2.5	Uranium, Total	5.14	mg/kg	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^6-R	28-Sep-04	2.5	3	Cesium-137	0.0382	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^6-R	28-Sep-04	2.5	3	Radium-228	0.515	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^6-R	28-Sep-04	2.5	3	Technetium-99	0.71	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^6-R	28-Sep-04	2.5	3	Thorium-228	0.598	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^6-R	28-Sep-04	2.5	3	Thorium-230	2.65	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^6-R	28-Sep-04	2.5	3	Thorium-232	0.515	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^6-R	28-Sep-04	2.5	3	Uranium, Total	2.27	mg/kg	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^7-R	28-Sep-04	3	3.5	Cesium-137	0.038	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^7-R	28-Sep-04	3	3.5	Radium-228	0.649	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^7-R	28-Sep-04	3	3.5	Technetium-99	0.705	pCi/g	UNV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^7-R	28-Sep-04	3	3.5	Thorium-228	0.608	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^7-R	28-Sep-04	3	3.5	Thorium-230	3.36	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^7-R	28-Sep-04	3	3.5	Thorium-232	0.649	pCi/g	NV	481918.604	1347721.926
A6WP-6F-02	A6WP-6F-02^7-R	28-Sep-04	3	3.5	Uranium, Total	4.19	mg/kg	NV	481918.604	1347721.926
A6WP-6FRT-01	A6WP-6FRT-01^1-RTL	7-Feb-05	0	0.5	Uranium, Total	573	mg/kg	NV	481937.46	1347673.879
A6WP-6FRT-02	A6WP-6FRT-02^1-RTL	7-Feb-05	0	0.5	Uranium, Total	312	mg/kg	NV	481948.723	1347685.284
A6WP-6FRT-03	A6WP-6FRT-03^1-RTL	7-Feb-05	0	0.5	Uranium, Total	150	mg/kg	NV	481957.05	1347703.601
A6WP-6FRT-04	A6WP-6FRT-04^1-RTL	7-Feb-05	0	0.5	Uranium, Total	632	mg/kg	NV	481922.346	1347675.569
A6WP-6FRT-05	A6WP-6FRT-05^1-RTL	7-Feb-05	0	0.5	Uranium, Total	308	mg/kg	NV	481930.654	1347693.462
A6WP-6FRT-06	A6WP-6FRT-06^1-RTL	7-Feb-05	0	0.5	Uranium, Total	86.9	mg/kg	NV	481938.831	1347711.686

6042

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-6FRT-07	A6WP-6FRT-07^1-RTL	7-Feb-05	0	0.5	Uranium, Total	379	mg/kg	NV	481904.183	1347683.487
A6WP-6FRT-08	A6WP-6FRT-08^1-RTL	7-Feb-05	0	0.5	Uranium, Total	351	mg/kg	NV	481912.463	1347701.667
A6WP-6FRT-09	A6WP-6FRT-09^1-RTL	7-Feb-05	0	0.5	Uranium, Total	53.8	mg/kg	NV	481925.974	1347717.19
A6WP-6R-01	A6WP-6R-01^L	17-Dec-04			1,1-Dichloroethene	0.00102	ug/kg	UNV	481837.394	1347641.261
A6WP-6R-01	A6WP-6R-01^L	17-Dec-04			Tetrachloroethene	0.00102	ug/kg	UNV	481837.394	1347641.261
A6WP-6R-01	A6WP-6R-01^L	17-Dec-04			Trichloroethene	0.00102	ug/kg	UNV	481837.394	1347641.261
A6WP-6R-01	A6WP-6R-01^L	17-Dec-04			Vinyl chloride	0.00102	ug/kg	UNV	481837.394	1347641.261
A6WP-6R-02	A6WP-6R-02^L	17-Dec-04			1,1-Dichloroethene	0.000968	ug/kg	UNV	481861.336	1347655.996
A6WP-6R-02	A6WP-6R-02^L	17-Dec-04			Tetrachloroethene	0.000968	ug/kg	UNV	481861.336	1347655.996
A6WP-6R-02	A6WP-6R-02^L	17-Dec-04			Trichloroethene	0.000968	ug/kg	UNV	481861.336	1347655.996
A6WP-6R-02	A6WP-6R-02^L	17-Dec-04			Vinyl chloride	0.000968	ug/kg	UNV	481861.336	1347655.996
A6WP-6S-01	A6WP-6S-01^1-R	1-Sep-04	0	0.5	Cesium-137	0.134	pCi/g	UNV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^1-R	1-Sep-04	0	0.5	Radium-228	0.795	pCi/g	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^1-R	1-Sep-04	0	0.5	Technetium-99	6.55	pCi/g	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^1-R	1-Sep-04	0	0.5	Thorium-228	1.1	pCi/g	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^1-R	1-Sep-04	0	0.5	Thorium-230	8.43	pCi/g	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^1-R	1-Sep-04	0	0.5	Thorium-232	0.795	pCi/g	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^1-R	1-Sep-04	0	0.5	Uranium, Total	2770	mg/kg	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^2-U	28-Sep-04	0.5	1	Uranium, Total	55.2	mg/kg	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^3-U	28-Sep-04	1	1.5	Uranium, Total	4.97	mg/kg	UNV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^4-U	28-Sep-04	1.5	2	Uranium, Total	4.94	mg/kg	UNV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^5-U	28-Sep-04	2	2.5	Uranium, Total	4.96	mg/kg	UNV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^6-U	28-Sep-04	2.5	3	Uranium, Total	4.92	mg/kg	UNV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^7-U	28-Sep-04	3	3.5	Uranium, Total	13.3	mg/kg	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^8-R	1-Sep-04	3.5	4	Cesium-137	0.0283	pCi/g	UNV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^8-R	1-Sep-04	3.5	4	Radium-228	0.448	pCi/g	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^8-R	1-Sep-04	3.5	4	Technetium-99	0.661	pCi/g	UNV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^8-R	1-Sep-04	3.5	4	Thorium-228	0.568	pCi/g	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^8-R	1-Sep-04	3.5	4	Thorium-230	3.31	pCi/g	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^8-R	1-Sep-04	3.5	4	Thorium-232	0.448	pCi/g	NV	481841.094	1347658.55
A6WP-6S-01	A6WP-6S-01^8-R	1-Sep-04	3.5	4	Uranium, Total	3.39	mg/kg	NV	481841.094	1347658.55
A6WP-6S-02	A6WP-6S-02^1-R	1-Sep-04	0	0.5	Cesium-137	0.073	pCi/g	UNV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^1-R	1-Sep-04	0	0.5	Radium-228	0.262	pCi/g	UNV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^1-R	1-Sep-04	0	0.5	Technetium-99	0.87	pCi/g	NV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^1-R	1-Sep-04	0	0.5	Thorium-228	0.118	pCi/g	UNV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^1-R	1-Sep-04	0	0.5	Thorium-230	4.07	pCi/g	NV	481895.781	1347708.22

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-6S-02	A6WP-6S-02^1-R	1-Sep-04	0	0.5	Thorium-232	0.262	pCi/g	UNV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^1-R	1-Sep-04	0	0.5	Uranium, Total	4.21	mg/kg	UNV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^8-R	1-Sep-04	3.5	4	Cesium-137	0.0289	pCi/g	UNV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^8-R	1-Sep-04	3.5	4	Radium-228	0.586	pCi/g	NV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^8-R	1-Sep-04	3.5	4	Technetium-99	0.672	pCi/g	UNV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^8-R	1-Sep-04	3.5	4	Thorium-228	0.598	pCi/g	NV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^8-R	1-Sep-04	3.5	4	Thorium-230	4.18	pCi/g	NV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^8-R	1-Sep-04	3.5	4	Thorium-232	0.586	pCi/g	NV	481895.781	1347708.22
A6WP-6S-02	A6WP-6S-02^8-R	1-Sep-04	3.5	4	Uranium, Total	3.4	mg/kg	NV	481895.781	1347708.22
A6WP-6S-03	A6WP-6S-03^1-R	1-Sep-04	0	0.5	Cesium-137	0.0337	pCi/g	UNV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^1-R	1-Sep-04	0	0.5	Radium-228	0.855	pCi/g	NV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^1-R	1-Sep-04	0	0.5	Technetium-99	0.658	pCi/g	UNV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^1-R	1-Sep-04	0	0.5	Thorium-228	0.752	pCi/g	NV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^1-R	1-Sep-04	0	0.5	Thorium-230	3.74	pCi/g	NV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^1-R	1-Sep-04	0	0.5	Thorium-232	0.855	pCi/g	NV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^1-R	1-Sep-04	0	0.5	Uranium, Total	3.59	mg/kg	NV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^8-R	1-Sep-04	3.5	4	Cesium-137	0.0351	pCi/g	UNV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^8-R	1-Sep-04	3.5	4	Radium-228	0.674	pCi/g	NV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^8-R	1-Sep-04	3.5	4	Technetium-99	0.689	pCi/g	UNV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^8-R	1-Sep-04	3.5	4	Thorium-228	0.729	pCi/g	NV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^8-R	1-Sep-04	3.5	4	Thorium-230	4.36	pCi/g	NV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^8-R	1-Sep-04	3.5	4	Thorium-232	0.674	pCi/g	NV	481895.191	1347781.065
A6WP-6S-03	A6WP-6S-03^8-R	1-Sep-04	3.5	4	Uranium, Total	3.74	mg/kg	NV	481895.191	1347781.065
A6WP-6S-04	A6WP-6S-04^1-R	2-Sep-04	0	0.5	Cesium-137	0.0382	pCi/g	UNV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^1-R	2-Sep-04	0	0.5	Radium-228	0.309	pCi/g	NV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^1-R	2-Sep-04	0	0.5	Technetium-99	0.641	pCi/g	UNV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^1-R	2-Sep-04	0	0.5	Thorium-228	0.426	pCi/g	NV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^1-R	2-Sep-04	0	0.5	Thorium-230	3.69	pCi/g	NV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^1-R	2-Sep-04	0	0.5	Thorium-232	0.309	pCi/g	NV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^1-R	2-Sep-04	0	0.5	Uranium, Total	1.49	mg/kg	UNV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^8-R	2-Sep-04	3.5	4	Cesium-137	0.0227	pCi/g	UNV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^8-R	2-Sep-04	3.5	4	Radium-228	0.078	pCi/g	UNV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^8-R	2-Sep-04	3.5	4	Technetium-99	0.648	pCi/g	UNV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^8-R	2-Sep-04	3.5	4	Thorium-228	0.0382	pCi/g	UNV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^8-R	2-Sep-04	3.5	4	Thorium-230	3.84	pCi/g	NV	481956.18	1347749.301
A6WP-6S-04	A6WP-6S-04^8-R	2-Sep-04	3.5	4	Thorium-232	0.078	pCi/g	UNV	481956.18	1347749.301

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-6S-04	A6WP-6S-04^8-R	2-Sep-04	3.5	4	Uranium, Total	1.2	mg/kg	UNV	481956.18	1347749.301
A6WP-6S-05	A6WP-6S-05^1-R	1-Sep-04	0	0.5	Cesium-137	0.0569	pCi/g	UNV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^1-R	1-Sep-04	0	0.5	Radium-228	0.682	pCi/g	NV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^1-R	1-Sep-04	0	0.5	Technetium-99	0.675	pCi/g	UNV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^1-R	1-Sep-04	0	0.5	Thorium-228	1	pCi/g	NV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^1-R	1-Sep-04	0	0.5	Thorium-230	4.54	pCi/g	NV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^1-R	1-Sep-04	0	0.5	Thorium-232	0.682	pCi/g	NV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^1-R	1-Sep-04	0	0.5	Uranium, Total	9.93	mg/kg	NV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^8-R	1-Sep-04	3.5	4	Cesium-137	0.0353	pCi/g	UNV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^8-R	1-Sep-04	3.5	4	Radium-228	0.61	pCi/g	NV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^8-R	1-Sep-04	3.5	4	Technetium-99	0.684	pCi/g	UNV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^8-R	1-Sep-04	3.5	4	Thorium-228	0.546	pCi/g	NV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^8-R	1-Sep-04	3.5	4	Thorium-230	3.57	pCi/g	NV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^8-R	1-Sep-04	3.5	4	Thorium-232	0.61	pCi/g	NV	481975.139	1347709.991
A6WP-6S-05	A6WP-6S-05^8-R	1-Sep-04	3.5	4	Uranium, Total	6.99	mg/kg	NV	481975.139	1347709.991
A6WP-6S-06	A6WP-6S-06^1-R	2-Sep-04	0	0.5	Cesium-137	0.0887	pCi/g	UNV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^1-R	2-Sep-04	0	0.5	Radium-228	0.302	pCi/g	UNV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^1-R	2-Sep-04	0	0.5	Technetium-99	1.28	pCi/g	NV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^1-R	2-Sep-04	0	0.5	Thorium-228	0.14	pCi/g	UNV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^1-R	2-Sep-04	0	0.5	Thorium-230	4.5	pCi/g	NV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^1-R	2-Sep-04	0	0.5	Thorium-232	0.302	pCi/g	UNV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^1-R	2-Sep-04	0	0.5	Uranium, Total	5.3	mg/kg	UNV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^8-R	2-Sep-04	3.5	4	Cesium-137	0.0245	pCi/g	UNV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^8-R	2-Sep-04	3.5	4	Radium-228	0.574	pCi/g	NV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^8-R	2-Sep-04	3.5	4	Technetium-99	0.663	pCi/g	UNV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^8-R	2-Sep-04	3.5	4	Thorium-228	0.626	pCi/g	NV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^8-R	2-Sep-04	3.5	4	Thorium-230	3.93	pCi/g	NV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^8-R	2-Sep-04	3.5	4	Thorium-232	0.574	pCi/g	NV	481962.55	1347678.122
A6WP-6S-06	A6WP-6S-06^8-R	2-Sep-04	3.5	4	Uranium, Total	2.89	mg/kg	NV	481962.55	1347678.122
A6WP-6S-07	A6WP-6S-07^1-R	1-Sep-04	0	0.5	Cesium-137	0.034	pCi/g	UNV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^1-R	1-Sep-04	0	0.5	Radium-228	0.112	pCi/g	UNV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^1-R	1-Sep-04	0	0.5	Technetium-99	0.633	pCi/g	UNV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^1-R	1-Sep-04	0	0.5	Thorium-228	0.0557	pCi/g	UNV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^1-R	1-Sep-04	0	0.5	Thorium-230	4.05	pCi/g	NV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^1-R	1-Sep-04	0	0.5	Thorium-232	0.112	pCi/g	UNV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^1-R	1-Sep-04	0	0.5	Uranium, Total	2.06	mg/kg	UNV	481961.789	1347604.456

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-6S-07	A6WP-6S-07^8-R	1-Sep-04	3.5	4	Cesium-137	0.0311	pCi/g	UNV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^8-R	1-Sep-04	3.5	4	Radium-228	0.691	pCi/g	NV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^8-R	1-Sep-04	3.5	4	Technetium-99	0.667	pCi/g	UNV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^8-R	1-Sep-04	3.5	4	Thorium-228	0.708	pCi/g	NV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^8-R	1-Sep-04	3.5	4	Thorium-230	4.92	pCi/g	NV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^8-R	1-Sep-04	3.5	4	Thorium-232	0.691	pCi/g	NV	481961.789	1347604.456
A6WP-6S-07	A6WP-6S-07^8-R	1-Sep-04	3.5	4	Uranium, Total	2.21	mg/kg	UNV	481961.789	1347604.456
A6WP-6S-08	A6WP-6S-08^1-R	1-Sep-04	0	0.5	Cesium-137	0.0419	pCi/g	UNV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^1-R	1-Sep-04	0	0.5	Radium-228	0.711	pCi/g	NV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^1-R	1-Sep-04	0	0.5	Technetium-99	0.67	pCi/g	UNV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^1-R	1-Sep-04	0	0.5	Thorium-228	0.688	pCi/g	NV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^1-R	1-Sep-04	0	0.5	Thorium-230	3.57	pCi/g	NV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^1-R	1-Sep-04	0	0.5	Thorium-232	0.711	pCi/g	NV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^1-R	1-Sep-04	0	0.5	Uranium, Total	201	mg/kg	NV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^2-U	28-Sep-04	0.5	1	Uranium, Total	4.93	mg/kg	UNV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^3-U	28-Sep-04	1	1.5	Uranium, Total	4.97	mg/kg	UNV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^4-U	28-Sep-04	1.5	2	Uranium, Total	4.94	mg/kg	UNV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^5-U	28-Sep-04	2	2.5	Uranium, Total	4.98	mg/kg	UNV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^6-U	28-Sep-04	2.5	3	Uranium, Total	4.95	mg/kg	UNV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^7-U	28-Sep-04	3	3.5	Uranium, Total	4.95	mg/kg	UNV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^8-R	1-Sep-04	3.5	4	Cesium-137	0.0539	pCi/g	UNV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^8-R	1-Sep-04	3.5	4	Radium-228	0.584	pCi/g	NV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^8-R	1-Sep-04	3.5	4	Technetium-99	0.666	pCi/g	UNV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^8-R	1-Sep-04	3.5	4	Thorium-228	0.844	pCi/g	NV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^8-R	1-Sep-04	3.5	4	Thorium-230	3.72	pCi/g	NV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^8-R	1-Sep-04	3.5	4	Thorium-232	0.584	pCi/g	NV	481914.902	1347660.144
A6WP-6S-08	A6WP-6S-08^8-R	1-Sep-04	3.5	4	Uranium, Total	4.34	mg/kg	NV	481914.902	1347660.144
A6WP-B-02	A6WP-B-02^1-R	10-Aug-04	0	0.5	Cesium-137	0.0438	pCi/g	UNV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^1-R	10-Aug-04	0	0.5	Radium-228	0.682	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^1-R	10-Aug-04	0	0.5	Technetium-99	0.745	pCi/g	UNV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^1-R	10-Aug-04	0	0.5	Thorium-228	0.73	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^1-R	10-Aug-04	0	0.5	Thorium-230	5.13	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^1-R	10-Aug-04	0	0.5	Thorium-232	0.682	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^1-R	10-Aug-04	0	0.5	Uranium, Total	14.5	mg/kg	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^2-R	10-Aug-04	0.5	1	Cesium-137	0.0402	pCi/g	UNV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^2-R	10-Aug-04	0.5	1	Radium-228	0.788	pCi/g	NV	482123.567	1346669.194

6042

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-02	A6WP-B-02^2-R	10-Aug-04	0.5	1	Technetium-99	0.732	pCi/g	UNV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^2-R	10-Aug-04	0.5	1	Thorium-228	0.725	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^2-R	10-Aug-04	0.5	1	Thorium-230	3.67	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^2-R	10-Aug-04	0.5	1	Thorium-232	0.788	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^2-R	10-Aug-04	0.5	1	Uranium, Total	8.85	mg/kg	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^3-R	10-Aug-04	1	1.5	Cesium-137	0.0484	pCi/g	UNV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^3-R	10-Aug-04	1	1.5	Radium-228	0.724	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^3-R	10-Aug-04	1	1.5	Technetium-99	0.76	pCi/g	UNV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^3-R	10-Aug-04	1	1.5	Thorium-228	0.711	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^3-R	10-Aug-04	1	1.5	Thorium-230	3.9	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^3-R	10-Aug-04	1	1.5	Thorium-232	0.724	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^3-R	10-Aug-04	1	1.5	Uranium, Total	8.19	mg/kg	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^9-R	10-Aug-04	4	4.5	Cesium-137	0.0506	pCi/g	UNV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^9-R	10-Aug-04	4	4.5	Radium-228	0.741	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^9-R	10-Aug-04	4	4.5	Technetium-99	0.731	pCi/g	UNV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^9-R	10-Aug-04	4	4.5	Thorium-228	0.822	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^9-R	10-Aug-04	4	4.5	Thorium-230	4.3	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^9-R	10-Aug-04	4	4.5	Thorium-232	0.741	pCi/g	NV	482123.567	1346669.194
A6WP-B-02	A6WP-B-02^9-R	10-Aug-04	4	4.5	Uranium, Total	4.03	mg/kg	NV	482123.567	1346669.194
A6WP-B-03	A6WP-B-03^1-R	10-Aug-04	0	0.5	Cesium-137	0.0524	pCi/g	UNV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^1-R	10-Aug-04	0	0.5	Radium-228	1.37	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^1-R	10-Aug-04	0	0.5	Technetium-99	0.742	pCi/g	UNV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^1-R	10-Aug-04	0	0.5	Thorium-228	1.86	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^1-R	10-Aug-04	0	0.5	Thorium-230	5.23	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^1-R	10-Aug-04	0	0.5	Thorium-232	1.37	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^1-R	10-Aug-04	0	0.5	Uranium, Total	57.5	mg/kg	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^2-R	10-Aug-04	0.5	1	Cesium-137	0.064	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^2-R	10-Aug-04	0.5	1	Radium-228	3.63	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^2-R	10-Aug-04	0.5	1	Technetium-99	0.712	pCi/g	UNV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^2-R	10-Aug-04	0.5	1	Thorium-228	4.34	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^2-R	10-Aug-04	0.5	1	Thorium-230	6.88	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^2-R	10-Aug-04	0.5	1	Thorium-232	3.63	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^2-R	10-Aug-04	0.5	1	Uranium, Total	173	mg/kg	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^3-R	10-Aug-04	1	1.5	Cesium-137	0.0556	pCi/g	UNV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^3-R	10-Aug-04	1	1.5	Radium-228	2.47	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^3-R	10-Aug-04	1	1.5	Technetium-99	0.746	pCi/g	UNV	482081.794	1346735.668

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-03	A6WP-B-03^3-R	10-Aug-04	1	1.5	Thorium-228	3.24	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^3-R	10-Aug-04	1	1.5	Thorium-230	8.13	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^3-R	10-Aug-04	1	1.5	Thorium-232	2.47	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^3-R	10-Aug-04	1	1.5	Uranium, Total	234	mg/kg	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^4-R	2-Mar-05	1.5	2	Radium-228	2.93	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^4-R	2-Mar-05	1.5	2	Thorium-228	4.04	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^4-R	2-Mar-05	1.5	2	Thorium-232	2.93	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^4-R	2-Mar-05	1.5	2	Uranium, Total	202	mg/kg	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^5-R	2-Mar-05	2	2.5	Radium-228	0.865	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^5-R	2-Mar-05	2	2.5	Thorium-228	1.06	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^5-R	2-Mar-05	2	2.5	Thorium-232	0.865	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^5-R	2-Mar-05	2	2.5	Uranium, Total	4.74	mg/kg	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^6-R	2-Mar-05	2.5	3	Radium-228	0.763	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^6-R	2-Mar-05	2.5	3	Thorium-228	1.09	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^6-R	2-Mar-05	2.5	3	Thorium-232	0.763	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^6-R	2-Mar-05	2.5	3	Uranium, Total	6.37	mg/kg	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^7-R	2-Mar-05	3	3.5	Radium-228	0.805	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^7-R	2-Mar-05	3	3.5	Thorium-228	0.88	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^7-R	2-Mar-05	3	3.5	Thorium-232	0.805	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^7-R	2-Mar-05	3	3.5	Uranium, Total	5.55	mg/kg	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^8-R	2-Mar-05	3.5	4	Radium-228	0.679	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^8-R	2-Mar-05	3.5	4	Thorium-228	0.847	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^8-R	2-Mar-05	3.5	4	Thorium-232	0.679	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^8-R	2-Mar-05	3.5	4	Uranium, Total	6.19	mg/kg	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^9-R	10-Aug-04	4	4.5	Cesium-137	0.0543	pCi/g	UNV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^9-R	10-Aug-04	4	4.5	Radium-228	1.04	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^9-R	10-Aug-04	4	4.5	Technetium-99	0.803	pCi/g	UNV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^9-R	10-Aug-04	4	4.5	Thorium-228	1.34	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^9-R	10-Aug-04	4	4.5	Thorium-230	4.73	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^9-R	10-Aug-04	4	4.5	Thorium-232	1.04	pCi/g	NV	482081.794	1346735.668
A6WP-B-03	A6WP-B-03^9-R	10-Aug-04	4	4.5	Uranium, Total	3.28	mg/kg	UNV	482081.794	1346735.668
A6WP-B-04	A6WP-B-04^1-R	3-Mar-05	0	0.5	Cesium-137	0.223	pCi/g	UJ	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^1-R	3-Mar-05	0	0.5	Radium-228	60.9	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^1-R	3-Mar-05	0	0.5	Technetium-99	3.73	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^1-R	3-Mar-05	0	0.5	Thorium-228	69.9	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^1-R	3-Mar-05	0	0.5	Thorium-230	44.2	pCi/g	-	482051.205	1346840.539

60 42

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-04	A6WP-B-04^1-R	3-Mar-05	0	0.5	Thorium-232	60.9	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^1-R	3-Mar-05	0	0.5	Uranium, Total	316	mg/kg	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^2-R	3-Mar-05	0.5	1	Cesium-137	0.059	pCi/g	U	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^2-R	3-Mar-05	0.5	1	Radium-228	3.14	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^2-R	3-Mar-05	0.5	1	Technetium-99	1.34	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^2-R	3-Mar-05	0.5	1	Thorium-228	4.04	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^2-R	3-Mar-05	0.5	1	Thorium-230	8.91	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^2-R	3-Mar-05	0.5	1	Thorium-232	3.14	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^2-R	3-Mar-05	0.5	1	Uranium, Total	34.7	mg/kg	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^3-R	3-Mar-05	1	1.5	Cesium-137	0.0415	pCi/g	U	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^3-R	3-Mar-05	1	1.5	Radium-228	2.44	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^3-R	3-Mar-05	1	1.5	Technetium-99	0.846	pCi/g	J	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^3-R	3-Mar-05	1	1.5	Thorium-228	3.08	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^3-R	3-Mar-05	1	1.5	Thorium-230	2	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^3-R	3-Mar-05	1	1.5	Thorium-232	2.44	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^3-R	3-Mar-05	1	1.5	Uranium, Total	29.4	mg/kg	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^4-R	3-Mar-05	1.5	2	Cesium-137	0.0452	pCi/g	U	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^4-R	3-Mar-05	1.5	2	Radium-228	0.725	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^4-R	3-Mar-05	1.5	2	Technetium-99	0.862	pCi/g	U	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^4-R	3-Mar-05	1.5	2	Thorium-228	0.895	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^4-R	3-Mar-05	1.5	2	Thorium-230	1.07	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^4-R	3-Mar-05	1.5	2	Thorium-232	0.725	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^4-R	3-Mar-05	1.5	2	Uranium, Total	10.2	mg/kg	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^9-R	3-Mar-05	4	4.5	Cesium-137	0.0481	pCi/g	U	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^9-R	3-Mar-05	4	4.5	Radium-228	0.63	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^9-R	3-Mar-05	4	4.5	Technetium-99	0.86	pCi/g	U	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^9-R	3-Mar-05	4	4.5	Thorium-228	0.766	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^9-R	3-Mar-05	4	4.5	Thorium-230	0.951	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^9-R	3-Mar-05	4	4.5	Thorium-232	0.63	pCi/g	-	482051.205	1346840.539
A6WP-B-04	A6WP-B-04^9-R	3-Mar-05	4	4.5	Uranium, Total	4.33	mg/kg	J	482051.205	1346840.539
A6WP-B-05	A6WP-B-05^1-R	3-Mar-05	0	0.5	Cesium-137	0.0595	pCi/g	U	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^1-R	3-Mar-05	0	0.5	Radium-228	1.93	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^1-R	3-Mar-05	0	0.5	Technetium-99	5.32	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^1-R	3-Mar-05	0	0.5	Thorium-228	2.28	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^1-R	3-Mar-05	0	0.5	Thorium-230	49.4	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^1-R	3-Mar-05	0	0.5	Thorium-232	1.93	pCi/g	-	482008.189	1347004.358

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-05	A6WP-B-05^1-R	3-Mar-05	0	0.5	Uranium, Total	179	mg/kg	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^2-R	3-Mar-05	0.5	1	Cesium-137	0.0435	pCi/g	U	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^2-R	3-Mar-05	0.5	1	Radium-228	0.763	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^2-R	3-Mar-05	0.5	1	Technetium-99	0.849	pCi/g	U	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^2-R	3-Mar-05	0.5	1	Thorium-228	0.738	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^2-R	3-Mar-05	0.5	1	Thorium-230	1.1	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^2-R	3-Mar-05	0.5	1	Thorium-232	0.763	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^2-R	3-Mar-05	0.5	1	Uranium, Total	2.57	mg/kg	U	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^3-R	3-Mar-05	1	1.5	Cesium-137	0.0439	pCi/g	U	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^3-R	3-Mar-05	1	1.5	Radium-228	0.742	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^3-R	3-Mar-05	1	1.5	Technetium-99	0.874	pCi/g	U	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^3-R	3-Mar-05	1	1.5	Thorium-228	0.753	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^3-R	3-Mar-05	1	1.5	Thorium-230	1.21	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^3-R	3-Mar-05	1	1.5	Thorium-232	0.742	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^3-R	3-Mar-05	1	1.5	Uranium, Total	4.74	mg/kg	J	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^9-R	3-Mar-05	4	4.5	Cesium-137	0.0433	pCi/g	U	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^9-R	3-Mar-05	4	4.5	Radium-228	0.727	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^9-R	3-Mar-05	4	4.5	Technetium-99	0.868	pCi/g	U	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^9-R	3-Mar-05	4	4.5	Thorium-228	0.714	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^9-R	3-Mar-05	4	4.5	Thorium-230	0.719	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^9-R	3-Mar-05	4	4.5	Thorium-232	0.727	pCi/g	-	482008.189	1347004.358
A6WP-B-05	A6WP-B-05^9-R	3-Mar-05	4	4.5	Uranium, Total	3.36	mg/kg	J	482008.189	1347004.358
A6WP-B-06	A6WP-B-06^1-R	3-Mar-05	0	0.5	Cesium-137	0.0489	pCi/g	U	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^1-R	3-Mar-05	0	0.5	Radium-228	0.86	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^1-R	3-Mar-05	0	0.5	Technetium-99	4.38	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^1-R	3-Mar-05	0	0.5	Thorium-228	1.26	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^1-R	3-Mar-05	0	0.5	Thorium-230	16.6	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^1-R	3-Mar-05	0	0.5	Thorium-232	0.86	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^1-R	3-Mar-05	0	0.5	Uranium, Total	48.8	mg/kg	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^2-R	3-Mar-05	0.5	1	Cesium-137	0.0256	pCi/g	U	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^2-R	3-Mar-05	0.5	1	Radium-228	0.666	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^2-R	3-Mar-05	0.5	1	Technetium-99	0.864	pCi/g	U	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^2-R	3-Mar-05	0.5	1	Thorium-228	0.688	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^2-R	3-Mar-05	0.5	1	Thorium-230	0.905	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^2-R	3-Mar-05	0.5	1	Thorium-232	0.666	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^2-R	3-Mar-05	0.5	1	Uranium, Total	5.13	mg/kg	-	481970.654	1347134.629

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-06	A6WP-B-06^3-R	3-Mar-05	1	1.5	Cesium-137	0.0233	pCi/g	U	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^3-R	3-Mar-05	1	1.5	Radium-228	0.652	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^3-R	3-Mar-05	1	1.5	Technetium-99	0.86	pCi/g	U	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^3-R	3-Mar-05	1	1.5	Thorium-228	0.682	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^3-R	3-Mar-05	1	1.5	Thorium-230	0.98	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^3-R	3-Mar-05	1	1.5	Thorium-232	0.652	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^3-R	3-Mar-05	1	1.5	Uranium, Total	4.29	mg/kg	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^9-R	3-Mar-05	4	4.5	Cesium-137	0.0453	pCi/g	U	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^9-R	3-Mar-05	4	4.5	Radium-228	0.867	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^9-R	3-Mar-05	4	4.5	Technetium-99	0.877	pCi/g	U	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^9-R	3-Mar-05	4	4.5	Thorium-228	1.15	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^9-R	3-Mar-05	4	4.5	Thorium-230	1.15	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^9-R	3-Mar-05	4	4.5	Thorium-232	0.867	pCi/g	-	481970.654	1347134.629
A6WP-B-06	A6WP-B-06^9-R	3-Mar-05	4	4.5	Uranium, Total	9.71	mg/kg	-	481970.654	1347134.629
A6WP-B-07	A6WP-B-07^1-R	16-Nov-04	0	0.5	Cesium-137	0.048	pCi/g	UNV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^1-R	16-Nov-04	0	0.5	Radium-228	0.748	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^1-R	16-Nov-04	0	0.5	Technetium-99	0.497	pCi/g	UNV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^1-R	16-Nov-04	0	0.5	Thorium-228	0.714	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^1-R	16-Nov-04	0	0.5	Thorium-230	3.78	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^1-R	16-Nov-04	0	0.5	Thorium-232	0.748	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^1-R	16-Nov-04	0	0.5	Uranium, Total	3.01	mg/kg	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^2-R	16-Nov-04	0.5	1	Cesium-137	0.0487	pCi/g	UNV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^2-R	16-Nov-04	0.5	1	Radium-228	0.664	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^2-R	16-Nov-04	0.5	1	Technetium-99	0.499	pCi/g	UNV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^2-R	16-Nov-04	0.5	1	Thorium-228	0.731	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^2-R	16-Nov-04	0.5	1	Thorium-230	3.21	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^2-R	16-Nov-04	0.5	1	Thorium-232	0.664	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^2-R	16-Nov-04	0.5	1	Uranium, Total	5.26	mg/kg	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^3-R	16-Nov-04	1	1.5	Cesium-137	0.0469	pCi/g	UNV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^3-R	16-Nov-04	1	1.5	Radium-228	0.64	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^3-R	16-Nov-04	1	1.5	Technetium-99	0.496	pCi/g	UNV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^3-R	16-Nov-04	1	1.5	Thorium-228	0.737	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^3-R	16-Nov-04	1	1.5	Thorium-230	4.5	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^3-R	16-Nov-04	1	1.5	Thorium-232	0.64	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^3-R	16-Nov-04	1	1.5	Uranium, Total	12.3	mg/kg	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^9-R	16-Nov-04	4	4.5	Cesium-137	0.0454	pCi/g	UNV	481952.856	1347322.51

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-07	A6WP-B-07^9-R	16-Nov-04	4	4.5	Radium-228	0.725	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^9-R	16-Nov-04	4	4.5	Technetium-99	0.493	pCi/g	UNV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^9-R	16-Nov-04	4	4.5	Thorium-228	0.758	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^9-R	16-Nov-04	4	4.5	Thorium-230	3.82	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^9-R	16-Nov-04	4	4.5	Thorium-232	0.725	pCi/g	NV	481952.856	1347322.51
A6WP-B-07	A6WP-B-07^9-R	16-Nov-04	4	4.5	Uranium, Total	5.54	mg/kg	NV	481952.856	1347322.51
A6WP-B-08	A6WP-B-08^1-R	15-Nov-04	0	0.5	Cesium-137	0.157	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^1-R	15-Nov-04	0	0.5	Radium-228	4.24	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^1-R	15-Nov-04	0	0.5	Technetium-99	18.1	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^1-R	15-Nov-04	0	0.5	Thorium-228	5.36	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^1-R	15-Nov-04	0	0.5	Thorium-230	82.9	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^1-R	15-Nov-04	0	0.5	Thorium-232	4.24	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^1-R	15-Nov-04	0	0.5	Uranium, Total	836	mg/kg	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^2-R	15-Nov-04	0.5	1	Cesium-137	0.129	pCi/g	UNV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^2-R	15-Nov-04	0.5	1	Radium-228	8.58	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^2-R	15-Nov-04	0.5	1	Technetium-99	20.6	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^2-R	15-Nov-04	0.5	1	Thorium-228	10.3	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^2-R	15-Nov-04	0.5	1	Thorium-230	100	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^2-R	15-Nov-04	0.5	1	Thorium-232	8.58	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^2-R	15-Nov-04	0.5	1	Uranium, Total	2920	mg/kg	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^3-R	15-Nov-04	1	1.5	Cesium-137	0.0688	pCi/g	UNV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^3-R	15-Nov-04	1	1.5	Radium-228	2.23	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^3-R	15-Nov-04	1	1.5	Technetium-99	3.15	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^3-R	15-Nov-04	1	1.5	Thorium-228	2.38	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^3-R	15-Nov-04	1	1.5	Thorium-230	18.4	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^3-R	15-Nov-04	1	1.5	Thorium-232	2.23	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^3-R	15-Nov-04	1	1.5	Uranium, Total	358	mg/kg	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^4-R	23-Feb-05	1.5	2	Radium-228	0.905	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^4-R	23-Feb-05	1.5	2	Thorium-228	0.99	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^4-R	23-Feb-05	1.5	2	Thorium-232	0.905	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^4-R	23-Feb-05	1.5	2	Uranium, Total	42.7	mg/kg	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^5-R	23-Feb-05	2	2.5	Radium-228	1.07	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^5-R	23-Feb-05	2	2.5	Thorium-228	1.12	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^5-R	23-Feb-05	2	2.5	Thorium-232	1.07	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^5-R	23-Feb-05	2	2.5	Uranium, Total	26.9	mg/kg	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^6-R	23-Feb-05	2.5	3	Radium-228	1.24	pCi/g	NV	481982.835	1347518.92

60 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-08	A6WP-B-08^6-R	23-Feb-05	2.5	3	Thorium-228	1.2	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^6-R	23-Feb-05	2.5	3	Thorium-232	1.24	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^6-R	23-Feb-05	2.5	3	Uranium, Total	8.99	mg/kg	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^7-R	23-Feb-05	3	3.5	Radium-228	1.34	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^7-R	23-Feb-05	3	3.5	Thorium-228	1.34	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^7-R	23-Feb-05	3	3.5	Thorium-232	1.34	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^7-R	23-Feb-05	3	3.5	Uranium, Total	25.1	mg/kg	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^8-R	23-Feb-05	3.5	4	Radium-228	1.48	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^8-R	23-Feb-05	3.5	4	Thorium-228	1.66	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^8-R	23-Feb-05	3.5	4	Thorium-232	1.48	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^8-R	23-Feb-05	3.5	4	Uranium, Total	66.3	mg/kg	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^9-R	15-Nov-04	4	4.5	Cesium-137	0.0516	pCi/g	UNV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^9-R	15-Nov-04	4	4.5	Radium-228	0.941	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^9-R	15-Nov-04	4	4.5	Technetium-99	0.544	pCi/g	UNV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^9-R	15-Nov-04	4	4.5	Thorium-228	1.33	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^9-R	15-Nov-04	4	4.5	Thorium-230	3.86	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^9-R	15-Nov-04	4	4.5	Thorium-232	0.941	pCi/g	NV	481982.835	1347518.92
A6WP-B-08	A6WP-B-08^9-R	15-Nov-04	4	4.5	Uranium, Total	3.1	mg/kg	UNV	481982.835	1347518.92
A6WP-B-09	A6WP-B-09^1-R	30-Sep-04	0	0.5	Cesium-137	0.0266	pCi/g	UNV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^1-R	30-Sep-04	0	0.5	Radium-228	0.715	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^1-R	30-Sep-04	0	0.5	Technetium-99	0.737	pCi/g	UNV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^1-R	30-Sep-04	0	0.5	Thorium-228	0.668	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^1-R	30-Sep-04	0	0.5	Thorium-230	4.14	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^1-R	30-Sep-04	0	0.5	Thorium-232	0.715	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^1-R	30-Sep-04	0	0.5	Uranium, Total	4.59	mg/kg	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^2-R	30-Sep-04	0.5	1	Cesium-137	0.025	pCi/g	UNV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^2-R	30-Sep-04	0.5	1	Radium-228	0.641	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^2-R	30-Sep-04	0.5	1	Technetium-99	0.743	pCi/g	UNV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^2-R	30-Sep-04	0.5	1	Thorium-228	0.67	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^2-R	30-Sep-04	0.5	1	Thorium-230	3.24	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^2-R	30-Sep-04	0.5	1	Thorium-232	0.641	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^2-R	30-Sep-04	0.5	1	Uranium, Total	4.24	mg/kg	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^3-R	30-Sep-04	1	1.5	Cesium-137	0.0424	pCi/g	UNV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^3-R	30-Sep-04	1	1.5	Radium-228	0.702	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^3-R	30-Sep-04	1	1.5	Technetium-99	0.726	pCi/g	UNV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^3-R	30-Sep-04	1	1.5	Thorium-228	1.01	pCi/g	NV	482094.113	1347546.264

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-09	A6WP-B-09^3-R	30-Sep-04	1	1.5	Thorium-230	3.96	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^3-R	30-Sep-04	1	1.5	Thorium-232	0.702	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^3-R	30-Sep-04	1	1.5	Uranium, Total	7.17	mg/kg	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^9-R	30-Sep-04	4	4.5	Cesium-137	0.0473	pCi/g	UNV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^9-R	30-Sep-04	4	4.5	Radium-228	0.767	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^9-R	30-Sep-04	4	4.5	Technetium-99	0.715	pCi/g	UNV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^9-R	30-Sep-04	4	4.5	Thorium-228	0.915	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^9-R	30-Sep-04	4	4.5	Thorium-230	5.05	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^9-R	30-Sep-04	4	4.5	Thorium-232	0.767	pCi/g	NV	482094.113	1347546.264
A6WP-B-09	A6WP-B-09^9-R	30-Sep-04	4	4.5	Uranium, Total	25.8	mg/kg	NV	482094.113	1347546.264
A6WP-B-10	A6WP-B-10^1-R	18-Aug-04	0	0.5	Cesium-137	0.143	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^1-R	18-Aug-04	0	0.5	Radium-228	1.03	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^1-R	18-Aug-04	0	0.5	Technetium-99	1.21	pCi/g	UNV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^1-R	18-Aug-04	0	0.5	Thorium-228	0.929	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^1-R	18-Aug-04	0	0.5	Thorium-230	11.8	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^1-R	18-Aug-04	0	0.5	Thorium-232	1.03	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^1-R	18-Aug-04	0	0.5	Uranium, Total	25.5	mg/kg	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^2-R	18-Aug-04	0.5	1	Cesium-137	0.0467	pCi/g	UNV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^2-R	18-Aug-04	0.5	1	Radium-228	0.966	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^2-R	18-Aug-04	0.5	1	Technetium-99	1.17	pCi/g	UNV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^2-R	18-Aug-04	0.5	1	Thorium-228	0.827	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^2-R	18-Aug-04	0.5	1	Thorium-230	3.11	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^2-R	18-Aug-04	0.5	1	Thorium-232	0.966	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^2-R	18-Aug-04	0.5	1	Uranium, Total	12.9	mg/kg	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^3-R	18-Aug-04	1	1.5	Cesium-137	0.0521	pCi/g	UNV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^3-R	18-Aug-04	1	1.5	Radium-228	0.614	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^3-R	18-Aug-04	1	1.5	Technetium-99	1.24	pCi/g	UNV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^3-R	18-Aug-04	1	1.5	Thorium-228	0.608	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^3-R	18-Aug-04	1	1.5	Thorium-230	1.91	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^3-R	18-Aug-04	1	1.5	Thorium-232	0.614	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^3-R	18-Aug-04	1	1.5	Uranium, Total	5.47	mg/kg	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^8-R	18-Aug-04	3.5	4	Cesium-137	0.0409	pCi/g	UNV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^8-R	18-Aug-04	3.5	4	Radium-228	0.794	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^8-R	18-Aug-04	3.5	4	Technetium-99	1.21	pCi/g	UNV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^8-R	18-Aug-04	3.5	4	Thorium-228	0.809	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^8-R	18-Aug-04	3.5	4	Thorium-230	1.54	pCi/g	NV	482163.973	1347502.801

60 42

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-10	A6WP-B-10^8-R	18-Aug-04	3.5	4	Thorium-232	0.794	pCi/g	NV	482163.973	1347502.801
A6WP-B-10	A6WP-B-10^8-R	18-Aug-04	3.5	4	Uranium, Total	6.54	mg/kg	NV	482163.973	1347502.801
A6WP-B-11	A6WP-B-11^1-R	18-Aug-04	0	0.5	Cesium-137	0.0758	pCi/g	UNV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^1-R	18-Aug-04	0	0.5	Radium-228	0.719	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^1-R	18-Aug-04	0	0.5	Technetium-99	1.07	pCi/g	UNV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^1-R	18-Aug-04	0	0.5	Thorium-228	0.55	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^1-R	18-Aug-04	0	0.5	Thorium-230	4.14	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^1-R	18-Aug-04	0	0.5	Thorium-232	0.719	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^1-R	18-Aug-04	0	0.5	Uranium, Total	7.08	mg/kg	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^2-R	18-Aug-04	0.5	1	Cesium-137	0.0498	pCi/g	UNV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^2-R	18-Aug-04	0.5	1	Radium-228	0.803	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^2-R	18-Aug-04	0.5	1	Technetium-99	1.14	pCi/g	UNV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^2-R	18-Aug-04	0.5	1	Thorium-228	0.688	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^2-R	18-Aug-04	0.5	1	Thorium-230	1.41	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^2-R	18-Aug-04	0.5	1	Thorium-232	0.803	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^2-R	18-Aug-04	0.5	1	Uranium, Total	6.3	mg/kg	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^3-R	18-Aug-04	1	1.5	Cesium-137	0.0365	pCi/g	UNV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^3-R	18-Aug-04	1	1.5	Radium-228	0.741	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^3-R	18-Aug-04	1	1.5	Technetium-99	1.09	pCi/g	UNV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^3-R	18-Aug-04	1	1.5	Thorium-228	0.701	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^3-R	18-Aug-04	1	1.5	Thorium-230	2.16	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^3-R	18-Aug-04	1	1.5	Thorium-232	0.741	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^3-R	18-Aug-04	1	1.5	Uranium, Total	4.63	mg/kg	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^8-R	18-Aug-04	3.5	4	Cesium-137	0.0405	pCi/g	UNV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^8-R	18-Aug-04	3.5	4	Radium-228	1.01	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^8-R	18-Aug-04	3.5	4	Technetium-99	1.09	pCi/g	UNV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^8-R	18-Aug-04	3.5	4	Thorium-228	0.85	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^8-R	18-Aug-04	3.5	4	Thorium-230	1.79	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^8-R	18-Aug-04	3.5	4	Thorium-232	1.01	pCi/g	NV	482213.303	1347327.334
A6WP-B-11	A6WP-B-11^8-R	18-Aug-04	3.5	4	Uranium, Total	6.02	mg/kg	NV	482213.303	1347327.334
A6WP-B-12	A6WP-B-12^1-R	18-Aug-04	0	0.5	Cesium-137	0.14	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^1-R	18-Aug-04	0	0.5	Radium-228	0.914	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^1-R	18-Aug-04	0	0.5	Technetium-99	1.25	pCi/g	UNV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^1-R	18-Aug-04	0	0.5	Thorium-228	0.897	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^1-R	18-Aug-04	0	0.5	Thorium-230	10.8	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^1-R	18-Aug-04	0	0.5	Thorium-232	0.914	pCi/g	NV	482264.327	1347129.909

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-12	A6WP-B-12^1-R	18-Aug-04	0	0.5	Uranium, Total	12.6	mg/kg	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^2-R	18-Aug-04	0.5	1	Cesium-137	0.124	pCi/g	UNV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^2-R	18-Aug-04	0.5	1	Radium-228	0.933	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^2-R	18-Aug-04	0.5	1	Technetium-99	1.2	pCi/g	UNV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^2-R	18-Aug-04	0.5	1	Thorium-228	0.838	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^2-R	18-Aug-04	0.5	1	Thorium-230	3.82	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^2-R	18-Aug-04	0.5	1	Thorium-232	0.933	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^2-R	18-Aug-04	0.5	1	Uranium, Total	9.31	mg/kg	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^3-R	18-Aug-04	1	1.5	Cesium-137	0.0444	pCi/g	UNV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^3-R	18-Aug-04	1	1.5	Radium-228	0.695	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^3-R	18-Aug-04	1	1.5	Technetium-99	1.16	pCi/g	UNV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^3-R	18-Aug-04	1	1.5	Thorium-228	0.743	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^3-R	18-Aug-04	1	1.5	Thorium-230	2.11	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^3-R	18-Aug-04	1	1.5	Thorium-232	0.695	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^3-R	18-Aug-04	1	1.5	Uranium, Total	5.42	mg/kg	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^8-R	18-Aug-04	3.5	4	Cesium-137	0.0468	pCi/g	UNV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^8-R	18-Aug-04	3.5	4	Radium-228	0.557	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^8-R	18-Aug-04	3.5	4	Technetium-99	1.26	pCi/g	UNV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^8-R	18-Aug-04	3.5	4	Thorium-228	0.67	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^8-R	18-Aug-04	3.5	4	Thorium-230	1.77	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^8-R	18-Aug-04	3.5	4	Thorium-232	0.557	pCi/g	NV	482264.327	1347129.909
A6WP-B-12	A6WP-B-12^8-R	18-Aug-04	3.5	4	Uranium, Total	3.99	mg/kg	NV	482264.327	1347129.909
A6WP-B-13	A6WP-B-13^1-R	18-Aug-04	0	0.5	Cesium-137	0.134	pCi/g	UNV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^1-R	18-Aug-04	0	0.5	Radium-228	0.884	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^1-R	18-Aug-04	0	0.5	Technetium-99	1.21	pCi/g	UNV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^1-R	18-Aug-04	0	0.5	Thorium-228	0.709	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^1-R	18-Aug-04	0	0.5	Thorium-230	3.77	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^1-R	18-Aug-04	0	0.5	Thorium-232	0.884	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^1-R	18-Aug-04	0	0.5	Uranium, Total	6.93	mg/kg	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^2-R	18-Aug-04	0.5	1	Cesium-137	0.0455	pCi/g	UNV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^2-R	18-Aug-04	0.5	1	Radium-228	0.898	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^2-R	18-Aug-04	0.5	1	Technetium-99	1.1	pCi/g	UNV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^2-R	18-Aug-04	0.5	1	Thorium-228	0.781	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^2-R	18-Aug-04	0.5	1	Thorium-230	2.19	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^2-R	18-Aug-04	0.5	1	Thorium-232	0.898	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^2-R	18-Aug-04	0.5	1	Uranium, Total	4.86	mg/kg	NV	482312.433	1346942.182

60 of 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-13	A6WP-B-13^3-R	18-Aug-04	1	1.5	Cesium-137	0.0478	pCi/g	UNV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^3-R	18-Aug-04	1	1.5	Radium-228	0.714	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^3-R	18-Aug-04	1	1.5	Technetium-99	1.43	pCi/g	UNV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^3-R	18-Aug-04	1	1.5	Thorium-228	0.69	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^3-R	18-Aug-04	1	1.5	Thorium-230	1.24	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^3-R	18-Aug-04	1	1.5	Thorium-232	0.714	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^3-R	18-Aug-04	1	1.5	Uranium, Total	3.67	mg/kg	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^8-R	18-Aug-04	3.5	4	Cesium-137	0.0426	pCi/g	UNV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^8-R	18-Aug-04	3.5	4	Radium-228	0.621	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^8-R	18-Aug-04	3.5	4	Technetium-99	1.15	pCi/g	UNV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^8-R	18-Aug-04	3.5	4	Thorium-228	0.642	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^8-R	18-Aug-04	3.5	4	Thorium-230	1.65	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^8-R	18-Aug-04	3.5	4	Thorium-232	0.621	pCi/g	NV	482312.433	1346942.182
A6WP-B-13	A6WP-B-13^8-R	18-Aug-04	3.5	4	Uranium, Total	3.88	mg/kg	NV	482312.433	1346942.182
A6WP-B-14	A6WP-B-14^1-R	19-Aug-04	0	0.5	Cesium-137	0.0587	pCi/g	UNV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^1-R	19-Aug-04	0	0.5	Radium-228	1.14	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^1-R	19-Aug-04	0	0.5	Technetium-99	1.15	pCi/g	UNV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^1-R	19-Aug-04	0	0.5	Thorium-228	0.937	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^1-R	19-Aug-04	0	0.5	Thorium-230	2.19	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^1-R	19-Aug-04	0	0.5	Thorium-232	1.14	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^1-R	19-Aug-04	0	0.5	Uranium, Total	7.28	mg/kg	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^2-R	19-Aug-04	0.5	1	Cesium-137	0.0701	pCi/g	UNV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^2-R	19-Aug-04	0.5	1	Radium-228	0.926	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^2-R	19-Aug-04	0.5	1	Technetium-99	1.41	pCi/g	UNV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^2-R	19-Aug-04	0.5	1	Thorium-228	0.826	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^2-R	19-Aug-04	0.5	1	Thorium-230	2.74	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^2-R	19-Aug-04	0.5	1	Thorium-232	0.926	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^2-R	19-Aug-04	0.5	1	Uranium, Total	7.24	mg/kg	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^3-R	19-Aug-04	1	1.5	Cesium-137	0.0898	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^3-R	19-Aug-04	1	1.5	Radium-228	0.551	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^3-R	19-Aug-04	1	1.5	Technetium-99	1.24	pCi/g	UNV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^3-R	19-Aug-04	1	1.5	Thorium-228	0.734	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^3-R	19-Aug-04	1	1.5	Thorium-230	2	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^3-R	19-Aug-04	1	1.5	Thorium-232	0.551	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^3-R	19-Aug-04	1	1.5	Uranium, Total	6.18	mg/kg	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^8-R	19-Aug-04	3.5	4	Cesium-137	0.126	pCi/g	UNV	482343.981	1346737.983

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-14	A6WP-B-14^8-R	19-Aug-04	3.5	4	Radium-228	0.913	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^8-R	19-Aug-04	3.5	4	Technetium-99	1.26	pCi/g	UNV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^8-R	19-Aug-04	3.5	4	Thorium-228	0.949	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^8-R	19-Aug-04	3.5	4	Thorium-230	1.5	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^8-R	19-Aug-04	3.5	4	Thorium-232	0.913	pCi/g	NV	482343.981	1346737.983
A6WP-B-14	A6WP-B-14^8-R	19-Aug-04	3.5	4	Uranium, Total	4.39	mg/kg	UNV	482343.981	1346737.983
A6WP-B-21	A6WP-B-21^1-R	16-Nov-04	0	0.5	Cesium-137	0.0702	pCi/g	UNV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^1-R	16-Nov-04	0	0.5	Radium-228	2.19	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^1-R	16-Nov-04	0	0.5	Technetium-99	4.11	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^1-R	16-Nov-04	0	0.5	Thorium-228	2.53	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^1-R	16-Nov-04	0	0.5	Thorium-230	36.7	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^1-R	16-Nov-04	0	0.5	Thorium-232	2.19	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^1-R	16-Nov-04	0	0.5	Uranium, Total	425	mg/kg	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^2-R	16-Nov-04	0.5	1	Cesium-137	0.0551	pCi/g	UNV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^2-R	16-Nov-04	0.5	1	Radium-228	1.31	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^2-R	16-Nov-04	0.5	1	Technetium-99	0.555	pCi/g	UNV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^2-R	16-Nov-04	0.5	1	Thorium-228	1.3	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^2-R	16-Nov-04	0.5	1	Thorium-230	5.69	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^2-R	16-Nov-04	0.5	1	Thorium-232	1.31	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^2-R	16-Nov-04	0.5	1	Uranium, Total	19.4	mg/kg	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^3-R	16-Nov-04	1	1.5	Cesium-137	0.0534	pCi/g	UNV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^3-R	16-Nov-04	1	1.5	Radium-228	1.02	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^3-R	16-Nov-04	1	1.5	Technetium-99	0.543	pCi/g	UNV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^3-R	16-Nov-04	1	1.5	Thorium-228	1.15	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^3-R	16-Nov-04	1	1.5	Thorium-230	3.1	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^3-R	16-Nov-04	1	1.5	Thorium-232	1.02	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^3-R	16-Nov-04	1	1.5	Uranium, Total	4.04	mg/kg	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^9-R	16-Nov-04	4	4.5	Cesium-137	0.0459	pCi/g	UNV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^9-R	16-Nov-04	4	4.5	Radium-228	0.575	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^9-R	16-Nov-04	4	4.5	Technetium-99	0.484	pCi/g	UNV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^9-R	16-Nov-04	4	4.5	Thorium-228	0.584	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^9-R	16-Nov-04	4	4.5	Thorium-230	3.66	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^9-R	16-Nov-04	4	4.5	Thorium-232	0.575	pCi/g	NV	481854.128	1347559.297
A6WP-B-21	A6WP-B-21^9-R	16-Nov-04	4	4.5	Uranium, Total	5.68	mg/kg	NV	481854.128	1347559.297
A6WP-B-22	A6WP-B-22^1-R	15-Nov-04	0	0.5	Cesium-137	0.0546	pCi/g	UNV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^1-R	15-Nov-04	0	0.5	Radium-228	1.31	pCi/g	NV	481949.745	1347478.205

7 60 42

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-22	A6WP-B-22^1-R	15-Nov-04	0	0.5	Technetium-99	0.63	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^1-R	15-Nov-04	0	0.5	Thorium-228	1.26	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^1-R	15-Nov-04	0	0.5	Thorium-230	4.95	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^1-R	15-Nov-04	0	0.5	Thorium-232	1.31	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^1-R	15-Nov-04	0	0.5	Uranium, Total	31	mg/kg	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^2-R	15-Nov-04	0.5	1	Cesium-137	0.0864	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^2-R	15-Nov-04	0.5	1	Radium-228	1.16	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^2-R	15-Nov-04	0.5	1	Technetium-99	0.56	pCi/g	UNV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^2-R	15-Nov-04	0.5	1	Thorium-228	1.29	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^2-R	15-Nov-04	0.5	1	Thorium-230	4.71	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^2-R	15-Nov-04	0.5	1	Thorium-232	1.16	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^2-R	15-Nov-04	0.5	1	Uranium, Total	7.06	mg/kg	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^3-R	15-Nov-04	1	1.5	Cesium-137	0.0527	pCi/g	UNV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^3-R	15-Nov-04	1	1.5	Radium-228	1.47	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^3-R	15-Nov-04	1	1.5	Technetium-99	0.538	pCi/g	UNV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^3-R	15-Nov-04	1	1.5	Thorium-228	1.32	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^3-R	15-Nov-04	1	1.5	Thorium-230	4.4	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^3-R	15-Nov-04	1	1.5	Thorium-232	1.47	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^3-R	15-Nov-04	1	1.5	Uranium, Total	4.79	mg/kg	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^9-R	15-Nov-04	4	4.5	Cesium-137	0.0614	pCi/g	UNV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^9-R	15-Nov-04	4	4.5	Radium-228	1.2	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^9-R	15-Nov-04	4	4.5	Technetium-99	0.545	pCi/g	UNV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^9-R	15-Nov-04	4	4.5	Thorium-228	1.18	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^9-R	15-Nov-04	4	4.5	Thorium-230	3.63	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^9-R	15-Nov-04	4	4.5	Thorium-232	1.2	pCi/g	NV	481949.745	1347478.205
A6WP-B-22	A6WP-B-22^9-R	15-Nov-04	4	4.5	Uranium, Total	5.52	mg/kg	NV	481949.745	1347478.205
A6WP-B-23	A6WP-B-23^11-R	17-Aug-04	5	5.5	Cesium-137	0.0392	pCi/g	UNV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^11-R	17-Aug-04	5	5.5	Radium-228	0.671	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^11-R	17-Aug-04	5	5.5	Technetium-99	1.58	pCi/g	UNV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^11-R	17-Aug-04	5	5.5	Thorium-228	0.626	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^11-R	17-Aug-04	5	5.5	Thorium-230	1.84	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^11-R	17-Aug-04	5	5.5	Thorium-232	0.671	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^11-R	17-Aug-04	5	5.5	Uranium, Total	2.2	mg/kg	UNV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^4-R	17-Aug-04	1.5	2	Cesium-137	0.0684	pCi/g	UNV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^4-R	17-Aug-04	1.5	2	Radium-228	1.03	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^4-R	17-Aug-04	1.5	2	Technetium-99	1.52	pCi/g	UNV	482105.874	1347629.464

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-23	A6WP-B-23^4-R	17-Aug-04	1.5	2	Thorium-228	0.902	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^4-R	17-Aug-04	1.5	2	Thorium-230	2.41	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^4-R	17-Aug-04	1.5	2	Thorium-232	1.03	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^4-R	17-Aug-04	1.5	2	Uranium, Total	5.15	mg/kg	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^5-R	17-Aug-04	2	2.5	Cesium-137	0.0413	pCi/g	UNV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^5-R	17-Aug-04	2	2.5	Radium-228	1.07	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^5-R	17-Aug-04	2	2.5	Technetium-99	1.4	pCi/g	UNV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^5-R	17-Aug-04	2	2.5	Thorium-228	0.971	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^5-R	17-Aug-04	2	2.5	Thorium-230	2.38	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^5-R	17-Aug-04	2	2.5	Thorium-232	1.07	pCi/g	NV	482105.874	1347629.464
A6WP-B-23	A6WP-B-23^5-R	17-Aug-04	2	2.5	Uranium, Total	8.5	mg/kg	NV	482105.874	1347629.464
A6WP-B-24	A6WP-B-24^11-R	17-Aug-04	5	5.5	Cesium-137	0.0443	pCi/g	UNV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^11-R	17-Aug-04	5	5.5	Radium-228	0.717	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^11-R	17-Aug-04	5	5.5	Technetium-99	1.58	pCi/g	UNV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^11-R	17-Aug-04	5	5.5	Thorium-228	0.602	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^11-R	17-Aug-04	5	5.5	Thorium-230	2.27	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^11-R	17-Aug-04	5	5.5	Thorium-232	0.717	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^11-R	17-Aug-04	5	5.5	Uranium, Total	31.1	mg/kg	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^4-R	17-Aug-04	1.5	2	Cesium-137	0.0492	pCi/g	UNV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^4-R	17-Aug-04	1.5	2	Radium-228	0.757	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^4-R	17-Aug-04	1.5	2	Technetium-99	1.48	pCi/g	UNV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^4-R	17-Aug-04	1.5	2	Thorium-228	0.622	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^4-R	17-Aug-04	1.5	2	Thorium-230	3.17	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^4-R	17-Aug-04	1.5	2	Thorium-232	0.757	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^4-R	17-Aug-04	1.5	2	Uranium, Total	50.8	mg/kg	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^5-R	17-Aug-04	2	2.5	Cesium-137	0.0497	pCi/g	UNV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^5-R	17-Aug-04	2	2.5	Radium-228	0.885	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^5-R	17-Aug-04	2	2.5	Technetium-99	1.6	pCi/g	UNV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^5-R	17-Aug-04	2	2.5	Thorium-228	0.834	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^5-R	17-Aug-04	2	2.5	Thorium-230	3.8	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^5-R	17-Aug-04	2	2.5	Thorium-232	0.885	pCi/g	NV	482031.083	1347640.661
A6WP-B-24	A6WP-B-24^5-R	17-Aug-04	2	2.5	Uranium, Total	62	mg/kg	NV	482031.083	1347640.661
A6WP-B-25	A6WP-B-25^11-R	17-Aug-04	5	5.5	Cesium-137	0.0574	pCi/g	UNV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^11-R	17-Aug-04	5	5.5	Radium-228	0.924	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^11-R	17-Aug-04	5	5.5	Technetium-99	1.57	pCi/g	UNV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^11-R	17-Aug-04	5	5.5	Thorium-228	0.958	pCi/g	NV	482082.529	1347708.934

6042

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-25	A6WP-B-25^11-R	17-Aug-04	5	5.5	Thorium-230	2.18	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^11-R	17-Aug-04	5	5.5	Thorium-232	0.924	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^11-R	17-Aug-04	5	5.5	Uranium, Total	3.89	mg/kg	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^4-R	17-Aug-04	1.5	2	Cesium-137	0.0516	pCi/g	UNV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^4-R	17-Aug-04	1.5	2	Radium-228	1.37	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^4-R	17-Aug-04	1.5	2	Technetium-99	1.51	pCi/g	UNV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^4-R	17-Aug-04	1.5	2	Thorium-228	0.965	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^4-R	17-Aug-04	1.5	2	Thorium-230	2.28	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^4-R	17-Aug-04	1.5	2	Thorium-232	1.37	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^4-R	17-Aug-04	1.5	2	Uranium, Total	22.9	mg/kg	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^5-R	17-Aug-04	2	2.5	Cesium-137	0.0465	pCi/g	UNV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^5-R	17-Aug-04	2	2.5	Radium-228	0.915	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^5-R	17-Aug-04	2	2.5	Technetium-99	1.65	pCi/g	UNV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^5-R	17-Aug-04	2	2.5	Thorium-228	0.841	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^5-R	17-Aug-04	2	2.5	Thorium-230	1.93	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^5-R	17-Aug-04	2	2.5	Thorium-232	0.915	pCi/g	NV	482082.529	1347708.934
A6WP-B-25	A6WP-B-25^5-R	17-Aug-04	2	2.5	Uranium, Total	17.1	mg/kg	NV	482082.529	1347708.934
A6WP-B-26	A6WP-B-26^11-R	17-Aug-04	5	5.5	Cesium-137	0.0572	pCi/g	UNV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^11-R	17-Aug-04	5	5.5	Radium-228	0.797	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^11-R	17-Aug-04	5	5.5	Technetium-99	1.57	pCi/g	UNV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^11-R	17-Aug-04	5	5.5	Thorium-228	0.739	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^11-R	17-Aug-04	5	5.5	Thorium-230	1.72	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^11-R	17-Aug-04	5	5.5	Thorium-232	0.797	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^11-R	17-Aug-04	5	5.5	Uranium, Total	5.35	mg/kg	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^4-R	17-Aug-04	1.5	2	Cesium-137	0.0625	pCi/g	UNV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^4-R	17-Aug-04	1.5	2	Radium-228	1.25	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^4-R	17-Aug-04	1.5	2	Technetium-99	2.28	pCi/g	UNV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^4-R	17-Aug-04	1.5	2	Thorium-228	1.24	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^4-R	17-Aug-04	1.5	2	Thorium-230	1.4	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^4-R	17-Aug-04	1.5	2	Thorium-232	1.25	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^4-R	17-Aug-04	1.5	2	Uranium, Total	9.99	mg/kg	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^5-R	17-Aug-04	2	2.5	Cesium-137	0.056	pCi/g	UNV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^5-R	17-Aug-04	2	2.5	Radium-228	0.958	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^5-R	17-Aug-04	2	2.5	Technetium-99	1.82	pCi/g	UNV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^5-R	17-Aug-04	2	2.5	Thorium-228	0.865	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^5-R	17-Aug-04	2	2.5	Thorium-230	2.43	pCi/g	NV	482073.272	1347835.244

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-26	A6WP-B-26^5-R	17-Aug-04	2	2.5	Thorium-232	0.958	pCi/g	NV	482073.272	1347835.244
A6WP-B-26	A6WP-B-26^5-R	17-Aug-04	2	2.5	Uranium, Total	7.39	mg/kg	NV	482073.272	1347835.244
A6WP-B-27	A6WP-B-27^11-R	17-Aug-04	5	5.5	Cesium-137	0.0499	pCi/g	UNV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^11-R	17-Aug-04	5	5.5	Radium-228	0.714	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^11-R	17-Aug-04	5	5.5	Technetium-99	1.58	pCi/g	UNV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^11-R	17-Aug-04	5	5.5	Thorium-228	0.929	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^11-R	17-Aug-04	5	5.5	Thorium-230	2.02	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^11-R	17-Aug-04	5	5.5	Thorium-232	0.714	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^11-R	17-Aug-04	5	5.5	Uranium, Total	2.89	mg/kg	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^4-R	17-Aug-04	1.5	2	Cesium-137	0.0424	pCi/g	UNV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^4-R	17-Aug-04	1.5	2	Radium-228	0.432	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^4-R	17-Aug-04	1.5	2	Technetium-99	1.54	pCi/g	UNV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^4-R	17-Aug-04	1.5	2	Thorium-228	0.452	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^4-R	17-Aug-04	1.5	2	Thorium-230	1.3	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^4-R	17-Aug-04	1.5	2	Thorium-232	0.432	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^4-R	17-Aug-04	1.5	2	Uranium, Total	3.5	mg/kg	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^5-R	17-Aug-04	2	2.5	Cesium-137	0.0414	pCi/g	UNV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^5-R	17-Aug-04	2	2.5	Radium-228	0.405	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^5-R	17-Aug-04	2	2.5	Technetium-99	1.41	pCi/g	UNV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^5-R	17-Aug-04	2	2.5	Thorium-228	0.422	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^5-R	17-Aug-04	2	2.5	Thorium-230	2.51	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^5-R	17-Aug-04	2	2.5	Thorium-232	0.405	pCi/g	NV	482006.618	1347826.5
A6WP-B-27	A6WP-B-27^5-R	17-Aug-04	2	2.5	Uranium, Total	2.16	mg/kg	NV	482006.618	1347826.5
A6WP-B-28	A6WP-B-28^11-R	17-Aug-04	5	5.5	Cesium-137	0.0486	pCi/g	UNV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^11-R	17-Aug-04	5	5.5	Radium-228	0.869	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^11-R	17-Aug-04	5	5.5	Technetium-99	1.49	pCi/g	UNV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^11-R	17-Aug-04	5	5.5	Thorium-228	0.804	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^11-R	17-Aug-04	5	5.5	Thorium-230	1.4	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^11-R	17-Aug-04	5	5.5	Thorium-232	0.869	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^11-R	17-Aug-04	5	5.5	Uranium, Total	12.4	mg/kg	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^4-R	17-Aug-04	1.5	2	Cesium-137	0.0344	pCi/g	UNV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^4-R	17-Aug-04	1.5	2	Radium-228	0.671	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^4-R	17-Aug-04	1.5	2	Technetium-99	1.48	pCi/g	UNV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^4-R	17-Aug-04	1.5	2	Thorium-228	0.592	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^4-R	17-Aug-04	1.5	2	Thorium-230	2.22	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^4-R	17-Aug-04	1.5	2	Thorium-232	0.671	pCi/g	NV	481985.08	1347781.289

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-28	A6WP-B-28^4-R	17-Aug-04	1.5	2	Uranium, Total	19	mg/kg	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^5-R	17-Aug-04	2	2.5	Cesium-137	0.0395	pCi/g	UNV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^5-R	17-Aug-04	2	2.5	Radium-228	0.545	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^5-R	17-Aug-04	2	2.5	Technetium-99	1.52	pCi/g	UNV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^5-R	17-Aug-04	2	2.5	Thorium-228	0.603	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^5-R	17-Aug-04	2	2.5	Thorium-230	1.47	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^5-R	17-Aug-04	2	2.5	Thorium-232	0.545	pCi/g	NV	481985.08	1347781.289
A6WP-B-28	A6WP-B-28^5-R	17-Aug-04	2	2.5	Uranium, Total	19.9	mg/kg	NV	481985.08	1347781.289
A6WP-B-29	A6WP-B-29^11-R	20-Jul-04	5	5.5	Cesium-137	0.0292	pCi/g	U	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^11-R	20-Jul-04	5	5.5	Radium-228	0.64	pCi/g	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^11-R	20-Jul-04	5	5.5	Technetium-99	0.748	pCi/g	U	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^11-R	20-Jul-04	5	5.5	Thorium-228	0.639	pCi/g	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^11-R	20-Jul-04	5	5.5	Thorium-230	3.49	pCi/g	J	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^11-R	20-Jul-04	5	5.5	Thorium-232	0.64	pCi/g	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^11-R	20-Jul-04	5	5.5	Uranium, Total	3.97	mg/kg	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^4-R	20-Jul-04	1.5	2	Cesium-137	0.0437	pCi/g	U	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^4-R	20-Jul-04	1.5	2	Radium-228	0.713	pCi/g	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^4-R	20-Jul-04	1.5	2	Technetium-99	0.742	pCi/g	U	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^4-R	20-Jul-04	1.5	2	Thorium-228	0.915	pCi/g	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^4-R	20-Jul-04	1.5	2	Thorium-230	4.83	pCi/g	J	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^4-R	20-Jul-04	1.5	2	Thorium-232	0.713	pCi/g	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^4-R	20-Jul-04	1.5	2	Uranium, Total	36.6	mg/kg	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^5-R	20-Jul-04	2	2.5	Cesium-137	0.0239	pCi/g	U	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^5-R	20-Jul-04	2	2.5	Radium-228	0.463	pCi/g	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^5-R	20-Jul-04	2	2.5	Technetium-99	0.73	pCi/g	U	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^5-R	20-Jul-04	2	2.5	Thorium-228	0.537	pCi/g	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^5-R	20-Jul-04	2	2.5	Thorium-230	4.17	pCi/g	J	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^5-R	20-Jul-04	2	2.5	Thorium-232	0.463	pCi/g	-	481961.64	1347845.284
A6WP-B-29	A6WP-B-29^5-R	20-Jul-04	2	2.5	Uranium, Total	15.5	mg/kg	-	481961.64	1347845.284
A6WP-B-30	A6WP-B-30^11-R	21-Jul-04	5	5.5	Cesium-137	0.0993	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^11-R	21-Jul-04	5	5.5	Radium-228	0.974	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^11-R	21-Jul-04	5	5.5	Technetium-99	0.714	pCi/g	U	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^11-R	21-Jul-04	5	5.5	Thorium-228	0.98	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^11-R	21-Jul-04	5	5.5	Thorium-230	4.02	pCi/g	J	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^11-R	21-Jul-04	5	5.5	Thorium-232	0.974	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^11-R	21-Jul-04	5	5.5	Uranium, Total	11.7	mg/kg	-	481995.39	1347947.6

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-30	A6WP-B-30^4-R	21-Jul-04	1.5	2	Cesium-137	0.0281	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^4-R	21-Jul-04	1.5	2	Radium-228	0.788	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^4-R	21-Jul-04	1.5	2	Technetium-99	0.748	pCi/g	U	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^4-R	21-Jul-04	1.5	2	Thorium-228	0.885	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^4-R	21-Jul-04	1.5	2	Thorium-230	4.74	pCi/g	J	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^4-R	21-Jul-04	1.5	2	Thorium-232	0.788	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^4-R	21-Jul-04	1.5	2	Uranium, Total	21.4	mg/kg	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^5-R	21-Jul-04	2	2.5	Cesium-137	0.0502	pCi/g	U	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^5-R	21-Jul-04	2	2.5	Radium-228	0.75	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^5-R	21-Jul-04	2	2.5	Technetium-99	0.803	pCi/g	U	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^5-R	21-Jul-04	2	2.5	Thorium-228	0.872	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^5-R	21-Jul-04	2	2.5	Thorium-230	4.29	pCi/g	J	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^5-R	21-Jul-04	2	2.5	Thorium-232	0.75	pCi/g	-	481995.39	1347947.6
A6WP-B-30	A6WP-B-30^5-R	21-Jul-04	2	2.5	Uranium, Total	17.8	mg/kg	-	481995.39	1347947.6
A6WP-B-31	A6WP-B-31^11-R	21-Jul-04	5	5.5	Cesium-137	0.0586	pCi/g	U	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^11-R	21-Jul-04	5	5.5	Radium-228	0.854	pCi/g	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^11-R	21-Jul-04	5	5.5	Technetium-99	0.835	pCi/g	U	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^11-R	21-Jul-04	5	5.5	Thorium-228	1.4	pCi/g	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^11-R	21-Jul-04	5	5.5	Thorium-230	3.87	pCi/g	J	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^11-R	21-Jul-04	5	5.5	Thorium-232	0.854	pCi/g	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^11-R	21-Jul-04	5	5.5	Uranium, Total	9.72	mg/kg	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^4-R	21-Jul-04	1.5	2	Cesium-137	0.0503	pCi/g	U	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^4-R	21-Jul-04	1.5	2	Radium-228	0.778	pCi/g	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^4-R	21-Jul-04	1.5	2	Technetium-99	0.821	pCi/g	U	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^4-R	21-Jul-04	1.5	2	Thorium-228	1.1	pCi/g	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^4-R	21-Jul-04	1.5	2	Thorium-230	4.86	pCi/g	J	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^4-R	21-Jul-04	1.5	2	Thorium-232	0.778	pCi/g	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^4-R	21-Jul-04	1.5	2	Uranium, Total	11.3	mg/kg	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^5-R	21-Jul-04	2	2.5	Cesium-137	0.032	pCi/g	U	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^5-R	21-Jul-04	2	2.5	Radium-228	0.912	pCi/g	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^5-R	21-Jul-04	2	2.5	Technetium-99	0.811	pCi/g	U	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^5-R	21-Jul-04	2	2.5	Thorium-228	0.834	pCi/g	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^5-R	21-Jul-04	2	2.5	Thorium-230	3.17	pCi/g	J	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^5-R	21-Jul-04	2	2.5	Thorium-232	0.912	pCi/g	-	481961.632	1347954.886
A6WP-B-31	A6WP-B-31^5-R	21-Jul-04	2	2.5	Uranium, Total	6.55	mg/kg	-	481961.632	1347954.886
A6WP-B-32	A6WP-B-32^11-R	20-Jul-04	5	5.5	Cesium-137	0.0535	pCi/g	U	481874.704	1347856.867

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-32	A6WP-B-32^11-R	20-Jul-04	5	5.5	Radium-228	1.02	pCi/g	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^11-R	20-Jul-04	5	5.5	Technetium-99	0.826	pCi/g	U	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^11-R	20-Jul-04	5	5.5	Thorium-228	1.44	pCi/g	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^11-R	20-Jul-04	5	5.5	Thorium-230	4.7	pCi/g	J	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^11-R	20-Jul-04	5	5.5	Thorium-232	1.02	pCi/g	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^11-R	20-Jul-04	5	5.5	Uranium, Total	6.9	mg/kg	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^4-R	20-Jul-04	1.5	2	Cesium-137	0.0402	pCi/g	U	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^4-R	20-Jul-04	1.5	2	Radium-228	0.401	pCi/g	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^4-R	20-Jul-04	1.5	2	Technetium-99	0.731	pCi/g	U	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^4-R	20-Jul-04	1.5	2	Thorium-228	0.503	pCi/g	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^4-R	20-Jul-04	1.5	2	Thorium-230	4.17	pCi/g	J	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^4-R	20-Jul-04	1.5	2	Thorium-232	0.401	pCi/g	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^4-R	20-Jul-04	1.5	2	Uranium, Total	8.7	mg/kg	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^5-R	20-Jul-04	2	2.5	Cesium-137	0.0166	pCi/g	U	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^5-R	20-Jul-04	2	2.5	Radium-228	0.3	pCi/g	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^5-R	20-Jul-04	2	2.5	Technetium-99	0.737	pCi/g	U	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^5-R	20-Jul-04	2	2.5	Thorium-228	0.301	pCi/g	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^5-R	20-Jul-04	2	2.5	Thorium-230	3.25	pCi/g	J	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^5-R	20-Jul-04	2	2.5	Thorium-232	0.3	pCi/g	-	481874.704	1347856.867
A6WP-B-32	A6WP-B-32^5-R	20-Jul-04	2	2.5	Uranium, Total	16.6	mg/kg	-	481874.704	1347856.867
A6WP-B-33	A6WP-B-33^11-R	19-Jul-04	5	5.5	Cesium-137	0.0625	pCi/g	U	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^11-R	19-Jul-04	5	5.5	Radium-228	0.671	pCi/g	-	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^11-R	19-Jul-04	5	5.5	Technetium-99	0.776	pCi/g	U	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^11-R	19-Jul-04	5	5.5	Thorium-228	1.11	pCi/g	-	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^11-R	19-Jul-04	5	5.5	Thorium-230	4.13	pCi/g	J	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^11-R	19-Jul-04	5	5.5	Thorium-232	0.671	pCi/g	-	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^11-R	19-Jul-04	5	5.5	Uranium, Total	3.17	mg/kg	-	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^4-R	19-Jul-04	1.5	2	Cesium-137	0.0355	pCi/g	U	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^4-R	19-Jul-04	1.5	2	Radium-228	0.397	pCi/g	-	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^4-R	19-Jul-04	1.5	2	Technetium-99	0.773	pCi/g	U	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^4-R	19-Jul-04	1.5	2	Thorium-228	0.581	pCi/g	-	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^4-R	19-Jul-04	1.5	2	Thorium-230	4.13	pCi/g	J	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^4-R	19-Jul-04	1.5	2	Thorium-232	0.397	pCi/g	-	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^4-R	19-Jul-04	1.5	2	Uranium, Total	14	mg/kg	-	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^5-R	19-Jul-04	2	2.5	Cesium-137	0.0231	pCi/g	U	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^5-R	19-Jul-04	2	2.5	Radium-228	0.464	pCi/g	-	481873.605	1347825.004

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-33	A6WP-B-33^5-R	19-Jul-04	2	2.5	Technetium-99	0.737	pCi/g	U	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^5-R	19-Jul-04	2	2.5	Thorium-228	0.549	pCi/g	-	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^5-R	19-Jul-04	2	2.5	Thorium-230	3.95	pCi/g	J	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^5-R	19-Jul-04	2	2.5	Thorium-232	0.464	pCi/g	-	481873.605	1347825.004
A6WP-B-33	A6WP-B-33^5-R	19-Jul-04	2	2.5	Uranium, Total	31.8	mg/kg	-	481873.605	1347825.004
A6WP-B-34	A6WP-B-34^11-R	20-Jul-04	5	5.5	Cesium-137	0.0286	pCi/g	U	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^11-R	20-Jul-04	5	5.5	Radium-228	0.588	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^11-R	20-Jul-04	5	5.5	Technetium-99	0.765	pCi/g	U	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^11-R	20-Jul-04	5	5.5	Thorium-228	0.542	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^11-R	20-Jul-04	5	5.5	Thorium-230	4.06	pCi/g	J	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^11-R	20-Jul-04	5	5.5	Thorium-232	0.588	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^11-R	20-Jul-04	5	5.5	Uranium, Total	29	mg/kg	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^4-R	20-Jul-04	1.5	2	Cesium-137	0.462	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^4-R	20-Jul-04	1.5	2	Radium-228	1.2	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^4-R	20-Jul-04	1.5	2	Technetium-99	1.76	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^4-R	20-Jul-04	1.5	2	Thorium-228	1.29	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^4-R	20-Jul-04	1.5	2	Thorium-230	32	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^4-R	20-Jul-04	1.5	2	Thorium-232	1.2	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^4-R	20-Jul-04	1.5	2	Uranium, Total	126	mg/kg	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^5-R	20-Jul-04	2	2.5	Cesium-137	0.191	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^5-R	20-Jul-04	2	2.5	Radium-228	1.04	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^5-R	20-Jul-04	2	2.5	Technetium-99	1.36	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^5-R	20-Jul-04	2	2.5	Thorium-228	1.31	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^5-R	20-Jul-04	2	2.5	Thorium-230	44.3	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^5-R	20-Jul-04	2	2.5	Thorium-232	1.04	pCi/g	-	481792.325	1347787.451
A6WP-B-34	A6WP-B-34^5-R	20-Jul-04	2	2.5	Uranium, Total	131	mg/kg	-	481792.325	1347787.451
A6WP-B-35	A6WP-B-35^11-R	19-Jul-04	5	5.5	Cesium-137	0.0516	pCi/g	U	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^11-R	19-Jul-04	5	5.5	Radium-228	1.25	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^11-R	19-Jul-04	5	5.5	Technetium-99	0.829	pCi/g	U	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^11-R	19-Jul-04	5	5.5	Thorium-228	1.36	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^11-R	19-Jul-04	5	5.5	Thorium-230	1.8	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^11-R	19-Jul-04	5	5.5	Thorium-232	1.25	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^11-R	19-Jul-04	5	5.5	Uranium, Total	6.61	mg/kg	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^4-R	19-Jul-04	1.5	2	Cesium-137	0.0941	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^4-R	19-Jul-04	1.5	2	Radium-228	2.14	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^4-R	19-Jul-04	1.5	2	Technetium-99	2.44	pCi/g	-	481749.552	1347720.103

0042

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-35	A6WP-B-35^4-R	19-Jul-04	1.5	2	Thorium-228	2.75	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^4-R	19-Jul-04	1.5	2	Thorium-230	14.3	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^4-R	19-Jul-04	1.5	2	Thorium-232	2.14	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^4-R	19-Jul-04	1.5	2	Uranium, Total	323	mg/kg	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^5-R	19-Jul-04	2	2.5	Cesium-137	0.0605	pCi/g	U	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^5-R	19-Jul-04	2	2.5	Radium-228	0.957	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^5-R	19-Jul-04	2	2.5	Technetium-99	0.757	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^5-R	19-Jul-04	2	2.5	Thorium-228	0.937	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^5-R	19-Jul-04	2	2.5	Thorium-230	4.59	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^5-R	19-Jul-04	2	2.5	Thorium-232	0.957	pCi/g	-	481749.552	1347720.103
A6WP-B-35	A6WP-B-35^5-R	19-Jul-04	2	2.5	Uranium, Total	50.1	mg/kg	-	481749.552	1347720.103
A6WP-B-36	A6WP-B-36^11-R	16-Aug-04	5	5.5	Cesium-137	0.0399	pCi/g	UNV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^11-R	16-Aug-04	5	5.5	Radium-228	0.502	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^11-R	16-Aug-04	5	5.5	Technetium-99	1.36	pCi/g	UNV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^11-R	16-Aug-04	5	5.5	Thorium-228	0.697	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^11-R	16-Aug-04	5	5.5	Thorium-230	1.75	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^11-R	16-Aug-04	5	5.5	Thorium-232	0.502	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^11-R	16-Aug-04	5	5.5	Uranium, Total	25.7	mg/kg	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^4-R	16-Aug-04	1.5	2	Cesium-137	0.0519	pCi/g	UNV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^4-R	16-Aug-04	1.5	2	Radium-228	1.19	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^4-R	16-Aug-04	1.5	2	Technetium-99	1.54	pCi/g	UNV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^4-R	16-Aug-04	1.5	2	Thorium-228	1.13	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^4-R	16-Aug-04	1.5	2	Thorium-230	1.83	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^4-R	16-Aug-04	1.5	2	Thorium-232	1.19	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^4-R	16-Aug-04	1.5	2	Uranium, Total	7.34	mg/kg	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^5-R	16-Aug-04	2	2.5	Cesium-137	0.0411	pCi/g	UNV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^5-R	16-Aug-04	2	2.5	Radium-228	1.48	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^5-R	16-Aug-04	2	2.5	Technetium-99	1.53	pCi/g	UNV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^5-R	16-Aug-04	2	2.5	Thorium-228	1.4	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^5-R	16-Aug-04	2	2.5	Thorium-230	1.77	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^5-R	16-Aug-04	2	2.5	Thorium-232	1.48	pCi/g	NV	481789.033	1347676.91
A6WP-B-36	A6WP-B-36^5-R	16-Aug-04	2	2.5	Uranium, Total	6.37	mg/kg	NV	481789.033	1347676.91
A6WP-B-37	A6WP-B-37^11-R	20-Jul-04	5	5.5	Cesium-137	0.0589	pCi/g	U	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^11-R	20-Jul-04	5	5.5	Radium-228	1.15	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^11-R	20-Jul-04	5	5.5	Technetium-99	0.807	pCi/g	U	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^11-R	20-Jul-04	5	5.5	Thorium-228	1.2	pCi/g	-	481791.26	1347757.651

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-37	A6WP-B-37^11-R	20-Jul-04	5	5.5	Thorium-230	1.86	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^11-R	20-Jul-04	5	5.5	Thorium-232	1.15	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^11-R	20-Jul-04	5	5.5	Uranium, Total	136	mg/kg	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^12-U	17-Aug-04	5.5	6	Uranium, Total	73.6	mg/kg	NV	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^17-U	17-Aug-04	8	8.5	Uranium, Total	3.91	mg/kg	NV	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^4-R	20-Jul-04	1.5	2	Cesium-137	0.0504	pCi/g	U	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^4-R	20-Jul-04	1.5	2	Radium-228	0.848	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^4-R	20-Jul-04	1.5	2	Technetium-99	1.15	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^4-R	20-Jul-04	1.5	2	Thorium-228	1.07	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^4-R	20-Jul-04	1.5	2	Thorium-230	3.16	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^4-R	20-Jul-04	1.5	2	Thorium-232	0.848	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^4-R	20-Jul-04	1.5	2	Uranium, Total	78.6	mg/kg	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^5-R	20-Jul-04	2	2.5	Cesium-137	0.0561	pCi/g	U	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^5-R	20-Jul-04	2	2.5	Radium-228	0.831	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^5-R	20-Jul-04	2	2.5	Technetium-99	0.867	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^5-R	20-Jul-04	2	2.5	Thorium-228	0.942	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^5-R	20-Jul-04	2	2.5	Thorium-230	2.05	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^5-R	20-Jul-04	2	2.5	Thorium-232	0.831	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^5-R	20-Jul-04	2	2.5	Uranium, Total	84.4	mg/kg	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^7-R	20-Jul-04	3	3.5	Cesium-137	0.0568	pCi/g	U	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^7-R	20-Jul-04	3	3.5	Radium-228	1.21	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^7-R	20-Jul-04	3	3.5	Technetium-99	1.04	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^7-R	20-Jul-04	3	3.5	Thorium-228	1.21	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^7-R	20-Jul-04	3	3.5	Thorium-230	1.69	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^7-R	20-Jul-04	3	3.5	Thorium-232	1.21	pCi/g	-	481791.26	1347757.651
A6WP-B-37	A6WP-B-37^7-R	20-Jul-04	3	3.5	Uranium, Total	63.8	mg/kg	-	481791.26	1347757.651
A6WP-B-38	A6WP-B-38^2-R	25-Feb-05	0.5	1	Cesium-137	0.0459	pCi/g	UNV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^2-R	25-Feb-05	0.5	1	Radium-228	0.552	pCi/g	NV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^2-R	25-Feb-05	0.5	1	Technetium-99	0.962	pCi/g	NV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^2-R	25-Feb-05	0.5	1	Thorium-228	0.74	pCi/g	NV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^2-R	25-Feb-05	0.5	1	Thorium-230	1.33	pCi/g	NV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^2-R	25-Feb-05	0.5	1	Thorium-232	0.552	pCi/g	NV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^2-R	25-Feb-05	0.5	1	Uranium, Total	10.3	mg/kg	NV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^8-R	25-Feb-05	3.5	4	Cesium-137	0.0543	pCi/g	UNV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^8-R	25-Feb-05	3.5	4	Radium-228	1.12	pCi/g	NV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^8-R	25-Feb-05	3.5	4	Technetium-99	0.79	pCi/g	UNV	481834.021	1346537.47

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-38	A6WP-B-38^8-R	25-Feb-05	3.5	4	Thorium-228	1.14	pCi/g	NV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^8-R	25-Feb-05	3.5	4	Thorium-230	1.14	pCi/g	NV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^8-R	25-Feb-05	3.5	4	Thorium-232	1.12	pCi/g	NV	481834.021	1346537.47
A6WP-B-38	A6WP-B-38^8-R	25-Feb-05	3.5	4	Uranium, Total	6.11	mg/kg	NV	481834.021	1346537.47
A6WP-B-39	A6WP-B-39^2-R	25-Feb-05	0.5	1	Cesium-137	0.0644	pCi/g	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^2-R	25-Feb-05	0.5	1	Radium-228	0.774	pCi/g	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^2-R	25-Feb-05	0.5	1	Technetium-99	0.8	pCi/g	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^2-R	25-Feb-05	0.5	1	Thorium-228	0.716	pCi/g	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^2-R	25-Feb-05	0.5	1	Thorium-230	1.22	pCi/g	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^2-R	25-Feb-05	0.5	1	Thorium-232	0.774	pCi/g	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^2-R	25-Feb-05	0.5	1	Uranium, Total	13.5	mg/kg	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^8-R	25-Feb-05	3.5	4	Cesium-137	0.0306	pCi/g	UNV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^8-R	25-Feb-05	3.5	4	Radium-228	0.198	pCi/g	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^8-R	25-Feb-05	3.5	4	Technetium-99	0.787	pCi/g	UNV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^8-R	25-Feb-05	3.5	4	Thorium-228	0.3	pCi/g	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^8-R	25-Feb-05	3.5	4	Thorium-230	0.499	pCi/g	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^8-R	25-Feb-05	3.5	4	Thorium-232	0.198	pCi/g	NV	481626.038	1346350.849
A6WP-B-39	A6WP-B-39^8-R	25-Feb-05	3.5	4	Uranium, Total	1.78	mg/kg	UNV	481626.038	1346350.849
A6WP-B-40	A6WP-B-40^2-R	25-Feb-05	0.5	1	Cesium-137	0.0455	pCi/g	UNV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^2-R	25-Feb-05	0.5	1	Radium-228	0.65	pCi/g	NV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^2-R	25-Feb-05	0.5	1	Technetium-99	0.794	pCi/g	UNV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^2-R	25-Feb-05	0.5	1	Thorium-228	0.701	pCi/g	NV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^2-R	25-Feb-05	0.5	1	Thorium-230	1.09	pCi/g	NV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^2-R	25-Feb-05	0.5	1	Thorium-232	0.65	pCi/g	NV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^2-R	25-Feb-05	0.5	1	Uranium, Total	6.1	mg/kg	NV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^8-R	25-Feb-05	3.5	4	Cesium-137	0.0364	pCi/g	UNV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^8-R	25-Feb-05	3.5	4	Radium-228	0.353	pCi/g	NV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^8-R	25-Feb-05	3.5	4	Technetium-99	0.771	pCi/g	UNV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^8-R	25-Feb-05	3.5	4	Thorium-228	0.475	pCi/g	NV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^8-R	25-Feb-05	3.5	4	Thorium-230	0.665	pCi/g	NV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^8-R	25-Feb-05	3.5	4	Thorium-232	0.353	pCi/g	NV	481320.98	1346394.344
A6WP-B-40	A6WP-B-40^8-R	25-Feb-05	3.5	4	Uranium, Total	7.32	mg/kg	NV	481320.98	1346394.344
A6WP-B-41	A6WP-B-41^2-R	25-Feb-05	0.5	1	Cesium-137	0.0339	pCi/g	UNV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^2-R	25-Feb-05	0.5	1	Radium-228	0.452	pCi/g	NV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^2-R	25-Feb-05	0.5	1	Technetium-99	0.761	pCi/g	UNV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^2-R	25-Feb-05	0.5	1	Thorium-228	0.536	pCi/g	NV	481103.611	1346474.444

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-41	A6WP-B-41^2-R	25-Feb-05	0.5	1	Thorium-230	0.869	pCi/g	NV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^2-R	25-Feb-05	0.5	1	Thorium-232	0.452	pCi/g	NV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^2-R	25-Feb-05	0.5	1	Uranium, Total	5.05	mg/kg	NV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^8-R	25-Feb-05	3.5	4	Cesium-137	0.0325	pCi/g	UNV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^8-R	25-Feb-05	3.5	4	Radium-228	0.397	pCi/g	NV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^8-R	25-Feb-05	3.5	4	Technetium-99	0.765	pCi/g	UNV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^8-R	25-Feb-05	3.5	4	Thorium-228	0.368	pCi/g	NV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^8-R	25-Feb-05	3.5	4	Thorium-230	0.5	pCi/g	NV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^8-R	25-Feb-05	3.5	4	Thorium-232	0.397	pCi/g	NV	481103.611	1346474.444
A6WP-B-41	A6WP-B-41^8-R	25-Feb-05	3.5	4	Uranium, Total	7.23	mg/kg	NV	481103.611	1346474.444
A6WP-B-47	A6WP-B-47^2-R	6-Jan-05	0.5	1	Cesium-137	0.0465	pCi/g	U	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^2-R	6-Jan-05	0.5	1	Radium-228	0.411	pCi/g	-	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^2-R	6-Jan-05	0.5	1	Technetium-99	0.779	pCi/g	U	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^2-R	6-Jan-05	0.5	1	Thorium-228	0.685	pCi/g	-	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^2-R	6-Jan-05	0.5	1	Thorium-230	2.78	pCi/g	J	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^2-R	6-Jan-05	0.5	1	Thorium-232	0.411	pCi/g	-	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^2-R	6-Jan-05	0.5	1	Uranium, Total	7.77	mg/kg	-	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^8-R	6-Jan-05	3.5	4	Cesium-137	0.0625	pCi/g	U	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^8-R	6-Jan-05	3.5	4	Radium-228	0.74	pCi/g	-	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^8-R	6-Jan-05	3.5	4	Technetium-99	0.792	pCi/g	U	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^8-R	6-Jan-05	3.5	4	Thorium-228	0.703	pCi/g	-	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^8-R	6-Jan-05	3.5	4	Thorium-230	3.69	pCi/g	J	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^8-R	6-Jan-05	3.5	4	Thorium-232	0.74	pCi/g	-	481085.492	1346634.531
A6WP-B-47	A6WP-B-47^8-R	6-Jan-05	3.5	4	Uranium, Total	13.9	mg/kg	-	481085.492	1346634.531
A6WP-B-48	A6WP-B-48^2-R	6-Jan-05	0.5	1	Cesium-137	0.0578	pCi/g	U	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^2-R	6-Jan-05	0.5	1	Radium-228	0.71	pCi/g	-	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^2-R	6-Jan-05	0.5	1	Technetium-99	0.776	pCi/g	U	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^2-R	6-Jan-05	0.5	1	Thorium-228	0.733	pCi/g	-	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^2-R	6-Jan-05	0.5	1	Thorium-230	2.97	pCi/g	J	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^2-R	6-Jan-05	0.5	1	Thorium-232	0.71	pCi/g	-	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^2-R	6-Jan-05	0.5	1	Uranium, Total	7.6	mg/kg	-	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^8-R	6-Jan-05	3.5	4	Cesium-137	0.0525	pCi/g	U	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^8-R	6-Jan-05	3.5	4	Radium-228	0.93	pCi/g	-	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^8-R	6-Jan-05	3.5	4	Technetium-99	0.808	pCi/g	U	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^8-R	6-Jan-05	3.5	4	Thorium-228	1.16	pCi/g	-	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^8-R	6-Jan-05	3.5	4	Thorium-230	2.45	pCi/g	J	481072.651	1346792.323

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-48	A6WP-B-48^8-R	6-Jan-05	3.5	4	Thorium-232	0.93	pCi/g	-	481072.651	1346792.323
A6WP-B-48	A6WP-B-48^8-R	6-Jan-05	3.5	4	Uranium, Total	8.11	mg/kg	-	481072.651	1346792.323
A6WP-B-49	A6WP-B-49^2-R	5-Jan-05	0.5	1	Cesium-137	0.072	pCi/g	J	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^2-R	5-Jan-05	0.5	1	Radium-228	1.2	pCi/g	-	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^2-R	5-Jan-05	0.5	1	Technetium-99	0.804	pCi/g	U	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^2-R	5-Jan-05	0.5	1	Thorium-228	1.42	pCi/g	-	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^2-R	5-Jan-05	0.5	1	Thorium-230	64.9	pCi/g	J	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^2-R	5-Jan-05	0.5	1	Thorium-232	1.2	pCi/g	-	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^2-R	5-Jan-05	0.5	1	Uranium, Total	103	mg/kg	-	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^8-R	5-Jan-05	3.5	4	Cesium-137	0.0511	pCi/g	U	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^8-R	5-Jan-05	3.5	4	Radium-228	1.18	pCi/g	-	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^8-R	5-Jan-05	3.5	4	Technetium-99	0.904	pCi/g	U	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^8-R	5-Jan-05	3.5	4	Thorium-228	1.24	pCi/g	-	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^8-R	5-Jan-05	3.5	4	Thorium-230	2.59	pCi/g	J	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^8-R	5-Jan-05	3.5	4	Thorium-232	1.18	pCi/g	-	481069.54	1346933.055
A6WP-B-49	A6WP-B-49^8-R	5-Jan-05	3.5	4	Uranium, Total	4.4	mg/kg	J	481069.54	1346933.055
A6WP-B-50	A6WP-B-50^2-R	5-Jan-05	0.5	1	Cesium-137	0.0511	pCi/g	U	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^2-R	5-Jan-05	0.5	1	Radium-228	0.913	pCi/g	-	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^2-R	5-Jan-05	0.5	1	Technetium-99	0.813	pCi/g	U	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^2-R	5-Jan-05	0.5	1	Thorium-228	0.973	pCi/g	-	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^2-R	5-Jan-05	0.5	1	Thorium-230	2.36	pCi/g	J	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^2-R	5-Jan-05	0.5	1	Thorium-232	0.913	pCi/g	-	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^2-R	5-Jan-05	0.5	1	Uranium, Total	4.45	mg/kg	J	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^8-R	5-Jan-05	3.5	4	Cesium-137	0.0511	pCi/g	U	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^8-R	5-Jan-05	3.5	4	Radium-228	1.2	pCi/g	-	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^8-R	5-Jan-05	3.5	4	Technetium-99	0.888	pCi/g	U	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^8-R	5-Jan-05	3.5	4	Thorium-228	1.33	pCi/g	-	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^8-R	5-Jan-05	3.5	4	Thorium-230	2.95	pCi/g	J	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^8-R	5-Jan-05	3.5	4	Thorium-232	1.2	pCi/g	-	481054.475	1347090.924
A6WP-B-50	A6WP-B-50^8-R	5-Jan-05	3.5	4	Uranium, Total	5.66	mg/kg	-	481054.475	1347090.924
A6WP-B-54	A6WP-B-54^2-R	5-Jan-05	0.5	1	Cesium-137	0.0524	pCi/g	U	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^2-R	5-Jan-05	0.5	1	Radium-228	0.86	pCi/g	-	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^2-R	5-Jan-05	0.5	1	Technetium-99	0.798	pCi/g	U	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^2-R	5-Jan-05	0.5	1	Thorium-228	0.999	pCi/g	-	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^2-R	5-Jan-05	0.5	1	Thorium-230	2.69	pCi/g	J	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^2-R	5-Jan-05	0.5	1	Thorium-232	0.86	pCi/g	-	481142.048	1347089.785

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-54	A6WP-B-54^2-R	5-Jan-05	0.5	1	Uranium, Total	5.06	mg/kg	J	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^8-R	5-Jan-05	3.5	4	Cesium-137	0.0672	pCi/g	J	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^8-R	5-Jan-05	3.5	4	Radium-228	1.31	pCi/g	-	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^8-R	5-Jan-05	3.5	4	Technetium-99	0.882	pCi/g	U	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^8-R	5-Jan-05	3.5	4	Thorium-228	1.33	pCi/g	-	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^8-R	5-Jan-05	3.5	4	Thorium-230	2.56	pCi/g	J	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^8-R	5-Jan-05	3.5	4	Thorium-232	1.31	pCi/g	-	481142.048	1347089.785
A6WP-B-54	A6WP-B-54^8-R	5-Jan-05	3.5	4	Uranium, Total	5.65	mg/kg	-	481142.048	1347089.785
A6WP-CWF-01	A6WP-CWF-01^1-R	11-Mar-05	1.5	2	Cesium-137	0.0896	pCi/g	NV	481323.138	1346544.153
A6WP-CWF-01	A6WP-CWF-01^1-R	11-Mar-05	1.5	2	Radium-228	0.378	pCi/g	NV	481323.138	1346544.153
A6WP-CWF-01	A6WP-CWF-01^1-R	11-Mar-05	1.5	2	Technetium-99	5.36	pCi/g	NV	481323.138	1346544.153
A6WP-CWF-01	A6WP-CWF-01^1-R	11-Mar-05	1.5	2	Thorium-228	0.751	pCi/g	NV	481323.138	1346544.153
A6WP-CWF-01	A6WP-CWF-01^1-R	11-Mar-05	1.5	2	Thorium-230	1.67	pCi/g	NV	481323.138	1346544.153
A6WP-CWF-01	A6WP-CWF-01^1-R	11-Mar-05	1.5	2	Thorium-232	0.378	pCi/g	NV	481323.138	1346544.153
A6WP-CWF-01	A6WP-CWF-01^1-R	11-Mar-05	1.5	2	Uranium, Total	22.9	mg/kg	NV	481323.138	1346544.153
A6WP-CWF-02	A6WP-CWF-02^1-R	11-Mar-05	0	0.5	Cesium-137	0.244	pCi/g	NV	481299.619	1346589.133
A6WP-CWF-02	A6WP-CWF-02^1-R	11-Mar-05	0	0.5	Radium-228	0.578	pCi/g	NV	481299.619	1346589.133
A6WP-CWF-02	A6WP-CWF-02^1-R	11-Mar-05	0	0.5	Technetium-99	8.57	pCi/g	NV	481299.619	1346589.133
A6WP-CWF-02	A6WP-CWF-02^1-R	11-Mar-05	0	0.5	Thorium-228	0.626	pCi/g	NV	481299.619	1346589.133
A6WP-CWF-02	A6WP-CWF-02^1-R	11-Mar-05	0	0.5	Thorium-230	1.71	pCi/g	NV	481299.619	1346589.133
A6WP-CWF-02	A6WP-CWF-02^1-R	11-Mar-05	0	0.5	Thorium-232	0.578	pCi/g	NV	481299.619	1346589.133
A6WP-CWF-02	A6WP-CWF-02^1-R	11-Mar-05	0	0.5	Uranium, Total	18.7	mg/kg	NV	481299.619	1346589.133
A6WP-CWS-01	A6WP-CWS-01^1-R	11-Mar-05	0	0.5	Cesium-137	0.129	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^1-R	11-Mar-05	0	0.5	Radium-228	0.918	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^1-R	11-Mar-05	0	0.5	Technetium-99	22.1	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^1-R	11-Mar-05	0	0.5	Thorium-228	1.1	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^1-R	11-Mar-05	0	0.5	Thorium-230	17.1	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^1-R	11-Mar-05	0	0.5	Thorium-232	0.918	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^1-R	11-Mar-05	0	0.5	Uranium, Total	30.6	mg/kg	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^8-R	11-Mar-05	0	0.5	Cesium-137	0.0843	pCi/g	UNV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^8-R	11-Mar-05	0	0.5	Radium-228	0.635	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^8-R	11-Mar-05	0	0.5	Technetium-99	1.59	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^8-R	11-Mar-05	0	0.5	Thorium-228	0.674	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^8-R	11-Mar-05	0	0.5	Thorium-230	1.23	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^8-R	11-Mar-05	0	0.5	Thorium-232	0.635	pCi/g	NV	481363.999	1346598.166
A6WP-CWS-01	A6WP-CWS-01^8-R	11-Mar-05	0	0.5	Uranium, Total	3.82	mg/kg	UNV	481363.999	1346598.166

6042

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-CWS-02	A6WP-CWS-02^1-R	11-Mar-05	3.5	4	Cesium-137	12.3	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^1-R	11-Mar-05	3.5	4	Radium-228	1.1	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^1-R	11-Mar-05	3.5	4	Technetium-99	26.4	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^1-R	11-Mar-05	3.5	4	Thorium-228	1.14	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^1-R	11-Mar-05	3.5	4	Thorium-230	1.66	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^1-R	11-Mar-05	3.5	4	Thorium-232	1.1	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^1-R	11-Mar-05	3.5	4	Uranium, Total	122	mg/kg	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^8-R	11-Mar-05	0	0.5	Cesium-137	13.5	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^8-R	11-Mar-05	0	0.5	Radium-228	0.83	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^8-R	11-Mar-05	0	0.5	Technetium-99	24.1	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^8-R	11-Mar-05	0	0.5	Thorium-228	1.02	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^8-R	11-Mar-05	0	0.5	Thorium-230	1.18	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^8-R	11-Mar-05	0	0.5	Thorium-232	0.83	pCi/g	NV	481296.837	1346634.631
A6WP-CWS-02	A6WP-CWS-02^8-R	11-Mar-05	0	0.5	Uranium, Total	138	mg/kg	NV	481296.837	1346634.631
A6WP-CWS-05	A6WP-CWS-05^1-R	11-Mar-05	3.5	4	Cesium-137	0.123	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^1-R	11-Mar-05	3.5	4	Radium-228	0.826	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^1-R	11-Mar-05	3.5	4	Technetium-99	7.73	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^1-R	11-Mar-05	3.5	4	Thorium-228	0.859	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^1-R	11-Mar-05	3.5	4	Thorium-230	4.04	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^1-R	11-Mar-05	3.5	4	Thorium-232	0.826	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^1-R	11-Mar-05	3.5	4	Uranium, Total	19.3	mg/kg	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^8-R	11-Mar-05	0	0.5	Cesium-137	0.0468	pCi/g	UNV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^8-R	11-Mar-05	0	0.5	Radium-228	0.624	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^8-R	11-Mar-05	0	0.5	Technetium-99	103	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^8-R	11-Mar-05	0	0.5	Thorium-228	0.994	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^8-R	11-Mar-05	0	0.5	Thorium-230	0.929	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^8-R	11-Mar-05	0	0.5	Thorium-232	0.624	pCi/g	NV	481342.755	1346497.27
A6WP-CWS-05	A6WP-CWS-05^8-R	11-Mar-05	0	0.5	Uranium, Total	2.44	mg/kg	NV	481342.755	1346497.27
A6WP-SP-01	A6WP-SP-01^L	17-Dec-04			1,1-Dichloroethene	0.00102	ug/kg	UNV	481851.732	1347551.973
A6WP-SP-01	A6WP-SP-01^L	17-Dec-04			Tetrachloroethene	0.00102	ug/kg	UNV	481851.732	1347551.973
A6WP-SP-01	A6WP-SP-01^L	17-Dec-04			Trichloroethene	0.00102	ug/kg	UNV	481851.732	1347551.973
A6WP-SP-01	A6WP-SP-01^L	17-Dec-04			Vinyl chloride	0.00102	ug/kg	UNV	481851.732	1347551.973
A6WP-SP-02	A6WP-SP-02^L	17-Dec-04			1,1-Dichloroethene	0.000809	ug/kg	UNV	481786.451	1347739.094
A6WP-SP-02	A6WP-SP-02^L	17-Dec-04			Tetrachloroethene	0.000809	ug/kg	UNV	481786.451	1347739.094
A6WP-SP-02	A6WP-SP-02^L	17-Dec-04			Trichloroethene	0.000809	ug/kg	UNV	481786.451	1347739.094
A6WP-SP-02	A6WP-SP-02^L	17-Dec-04			Vinyl chloride	0.000809	ug/kg	UNV	481786.451	1347739.094

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6-AC4-1	A6-AC4-1^2-R	7-Mar-05	0.5	1	Technetium-99	0.813	pCi/g	UNV	481721.557	1347743.705
A6-AC4-1	A6-AC4-1^3-R	7-Mar-05	1	1.5	Technetium-99	0.836	pCi/g	UNV	481721.557	1347743.705
A6-AC4-1	A6-AC4-1^4-R	7-Mar-05	1.5	2	Technetium-99	0.834	pCi/g	UNV	481721.557	1347743.705
A6-AC4-2	A6-AC4-2^1-R	4-Mar-05	0	0.5	Technetium-99	0.844	pCi/g	UNV	481726.545	1347743.551
A6-AC4-3	A6-AC4-3^1-R	7-Mar-05	0	0.5	Technetium-99	0.913	pCi/g	NV	481716.611	1347743.671
A6-AC4-4	A6-AC4-4^1-R	7-Mar-05	0	0.5	Technetium-99	0.834	pCi/g	UNV	481721.491	1347748.67
A6-AC4-5	A6-AC4-5^1-R	4-Mar-05	0	0.5	Technetium-99	1.35	pCi/g	NV	481721.617	1347738.574
A6-SA3-1	A6-SA3-1^1-RMP	3-Feb-05	0	0.5	Arsenic	6.66	mg/kg	NV	483609.25	1343930.086
A6-SA3-1	A6-SA3-1^1-RMP	3-Feb-05	0	0.5	Beryllium	0.884	mg/kg	NV	483609.25	1343930.086
A6-SA3-1	A6-SA3-1^1-RMP	3-Feb-05	0	0.5	Aroclor-1254	0.00404	ug/kg	UNV	483609.25	1343930.086
A6-SA3-1	A6-SA3-1^1-RMP	3-Feb-05	0	0.5	Dieldrin	0.00162	ug/kg	UNV	483609.25	1343930.086
A6-SA3-1	A6-SA3-1^1-RMP	3-Feb-05	0	0.5	Radium-226	1.3	pCi/g	NV	483609.25	1343930.086
A6-SA3-1	A6-SA3-1^1-RMP	3-Feb-05	0	0.5	Technetium-99	0.79	pCi/g	UNV	483609.25	1343930.086
A6-SA3-1	A6-SA3-1^1-RMP	3-Feb-05	0	0.5	Thorium-228	1.15	pCi/g	NV	483609.25	1343930.086
A6-SA3-1	A6-SA3-1^1-RMP	3-Feb-05	0	0.5	Thorium-232	1.03	pCi/g	NV	483609.25	1343930.086
A6-SA3-1	A6-SA3-1^1-RMP	3-Feb-05	0	0.5	Uranium, Total	7.02	mg/kg	-	483609.25	1343930.086
A6-SA3-10	A6-SA3-10^1-RMP	11-Feb-05	0	0.5	Arsenic	6.28	mg/kg	NV	482109.927	1346205.213
A6-SA3-10	A6-SA3-10^1-RMP	11-Feb-05	0	0.5	Beryllium	0.895	mg/kg	NV	482109.927	1346205.213
A6-SA3-10	A6-SA3-10^1-RMP	11-Feb-05	0	0.5	Aroclor-1254	0.00405	ug/kg	UNV	482109.927	1346205.213
A6-SA3-10	A6-SA3-10^1-RMP	11-Feb-05	0	0.5	Dieldrin	0.00162	ug/kg	UNV	482109.927	1346205.213
A6-SA3-10	A6-SA3-10^1-RMP	11-Feb-05	0	0.5	Radium-226	1.14	pCi/g	NV	482109.927	1346205.213
A6-SA3-10	A6-SA3-10^1-RMP	11-Feb-05	0	0.5	Technetium-99	0.816	pCi/g	UNV	482109.927	1346205.213
A6-SA3-10	A6-SA3-10^1-RMP	11-Feb-05	0	0.5	Thorium-228	0.634	pCi/g	NV	482109.927	1346205.213
A6-SA3-10	A6-SA3-10^1-RMP	11-Feb-05	0	0.5	Thorium-232	0.75	pCi/g	NV	482109.927	1346205.213
A6-SA3-10	A6-SA3-10^1-RMP	11-Feb-05	0	0.5	Uranium, Total	4.32	mg/kg	UNV	482109.927	1346205.213
A6-SA3-11	A6-SA3-11^1-RMP	31-Jan-05	0	0.5	Arsenic	7.23	mg/kg	NV	482109.416	1346467.885
A6-SA3-11	A6-SA3-11^1-RMP	31-Jan-05	0	0.5	Beryllium	0.669	mg/kg	NV	482109.416	1346467.885
A6-SA3-11	A6-SA3-11^1-RMP	31-Jan-05	0	0.5	Aroclor-1254	0.0045	ug/kg	NV	482109.416	1346467.885
A6-SA3-11	A6-SA3-11^1-RMP	31-Jan-05	0	0.5	Dieldrin	0.00165	ug/kg	UNV	482109.416	1346467.885
A6-SA3-11	A6-SA3-11^1-RMP	31-Jan-05	0	0.5	Radium-226	1.19	pCi/g	-	482109.416	1346467.885
A6-SA3-11	A6-SA3-11^1-RMP	31-Jan-05	0	0.5	Technetium-99	0.393	pCi/g	U	482109.416	1346467.885
A6-SA3-11	A6-SA3-11^1-RMP	31-Jan-05	0	0.5	Thorium-228	0.66	pCi/g	-	482109.416	1346467.885
A6-SA3-11	A6-SA3-11^1-RMP	31-Jan-05	0	0.5	Thorium-232	0.844	pCi/g	-	482109.416	1346467.885
A6-SA3-11	A6-SA3-11^1-RMP	31-Jan-05	0	0.5	Uranium, Total	12.8	mg/kg	-	482109.416	1346467.885
A6-SA3-12	A6-SA3-12^1-RMP	31-Jan-05	0	0.5	Arsenic	6.13	mg/kg	NV	482003.262	1346660.146
A6-SA3-12	A6-SA3-12^1-RMP	31-Jan-05	0	0.5	Beryllium	0.488	mg/kg	NV	482003.262	1346660.146

60 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6-SA3-12	A6-SA3-12^1-RMP	31-Jan-05	0	0.5	Aroclor-1254	0.0048	ug/kg	UNV	482003.262	1346660.146
A6-SA3-12	A6-SA3-12^1-RMP	31-Jan-05	0	0.5	Dieldrin	0.00194	ug/kg	UNV	482003.262	1346660.146
A6-SA3-12	A6-SA3-12^1-RMP	31-Jan-05	0	0.5	Radium-226	0.942	pCi/g	-	482003.262	1346660.146
A6-SA3-12	A6-SA3-12^1-RMP	31-Jan-05	0	0.5	Technetium-99	3.39	pCi/g	-	482003.262	1346660.146
A6-SA3-12	A6-SA3-12^1-RMP	31-Jan-05	0	0.5	Thorium-228	0.72	pCi/g	-	482003.262	1346660.146
A6-SA3-12	A6-SA3-12^1-RMP	31-Jan-05	0	0.5	Thorium-232	0.919	pCi/g	-	482003.262	1346660.146
A6-SA3-12	A6-SA3-12^1-RMP	31-Jan-05	0	0.5	Uranium, Total	39.8	mg/kg	-	482003.262	1346660.146
A6-SA3-13	A6-SA3-13^1-RMP	31-Jan-05	0	0.5	Arsenic	5.35	mg/kg	NV	481809.705	1346538.476
A6-SA3-13	A6-SA3-13^1-RMP	31-Jan-05	0	0.5	Beryllium	0.379	mg/kg	NV	481809.705	1346538.476
A6-SA3-13	A6-SA3-13^1-RMP	31-Jan-05	0	0.5	Aroclor-1254	0.0084	ug/kg	NV	481809.705	1346538.476
A6-SA3-13	A6-SA3-13^1-RMP	31-Jan-05	0	0.5	Dieldrin	0.00151	ug/kg	UNV	481809.705	1346538.476
A6-SA3-13	A6-SA3-13^1-RMP	31-Jan-05	0	0.5	Radium-226	0.837	pCi/g	-	481809.705	1346538.476
A6-SA3-13	A6-SA3-13^1-RMP	31-Jan-05	0	0.5	Technetium-99	0.39	pCi/g	U	481809.705	1346538.476
A6-SA3-13	A6-SA3-13^1-RMP	31-Jan-05	0	0.5	Thorium-228	0.453	pCi/g	-	481809.705	1346538.476
A6-SA3-13	A6-SA3-13^1-RMP	31-Jan-05	0	0.5	Thorium-232	0.945	pCi/g	-	481809.705	1346538.476
A6-SA3-13	A6-SA3-13^1-RMP	31-Jan-05	0	0.5	Uranium, Total	12.5	mg/kg	-	481809.705	1346538.476
A6-SA3-14	A6-SA3-14^1-RMP	31-Jan-05	0	0.5	Arsenic	4.79	mg/kg	NV	481741.41	1346431.901
A6-SA3-14	A6-SA3-14^1-RMP	31-Jan-05	0	0.5	Beryllium	0.414	mg/kg	NV	481741.41	1346431.901
A6-SA3-14	A6-SA3-14^1-RMP	31-Jan-05	0	0.5	Aroclor-1254	0.0045	ug/kg	NV	481741.41	1346431.901
A6-SA3-14	A6-SA3-14^1-RMP	31-Jan-05	0	0.5	Dieldrin	0.00165	ug/kg	UNV	481741.41	1346431.901
A6-SA3-14	A6-SA3-14^1-RMP	31-Jan-05	0	0.5	Radium-226	0.827	pCi/g	-	481741.41	1346431.901
A6-SA3-14	A6-SA3-14^1-RMP	31-Jan-05	0	0.5	Technetium-99	0.394	pCi/g	U	481741.41	1346431.901
A6-SA3-14	A6-SA3-14^1-RMP	31-Jan-05	0	0.5	Thorium-228	0.615	pCi/g	-	481741.41	1346431.901
A6-SA3-14	A6-SA3-14^1-RMP	31-Jan-05	0	0.5	Thorium-232	1.08	pCi/g	-	481741.41	1346431.901
A6-SA3-14	A6-SA3-14^1-RMP	31-Jan-05	0	0.5	Uranium, Total	13.1	mg/kg	-	481741.41	1346431.901
A6-SA3-15	A6-SA3-15^1-RMP	15-Feb-05	0	0.5	Arsenic	10.2	mg/kg	NV	481607.262	1346368.596
A6-SA3-15	A6-SA3-15^1-RMP	15-Feb-05	0	0.5	Beryllium	0.571	mg/kg	NV	481607.262	1346368.596
A6-SA3-15	A6-SA3-15^1-RMP	15-Feb-05	0	0.5	Aroclor-1254	0.03	ug/kg	NV	481607.262	1346368.596
A6-SA3-15	A6-SA3-15^1-RMP	15-Feb-05	0	0.5	Dieldrin	0.00152	ug/kg	UNV	481607.262	1346368.596
A6-SA3-15	A6-SA3-15^1-RMP	15-Feb-05	0	0.5	Radium-226	1.14	pCi/g	NV	481607.262	1346368.596
A6-SA3-15	A6-SA3-15^1-RMP	15-Feb-05	0	0.5	Technetium-99	0.756	pCi/g	UNV	481607.262	1346368.596
A6-SA3-15	A6-SA3-15^1-RMP	15-Feb-05	0	0.5	Thorium-228	0.878	pCi/g	NV	481607.262	1346368.596
A6-SA3-15	A6-SA3-15^1-RMP	15-Feb-05	0	0.5	Thorium-232	0.82	pCi/g	NV	481607.262	1346368.596
A6-SA3-15	A6-SA3-15^1-RMP	15-Feb-05	0	0.5	Uranium, Total	32.7	mg/kg	NV	481607.262	1346368.596
A6-SA3-16	A6-SA3-16^1-P	14-Feb-05	0	0.5	Aroclor-1254	0.0105	ug/kg	NV	482143.203	1347892.407
A6-SA3-16	A6-SA3-16^1-P	14-Feb-05	0	0.5	Dieldrin	0.00164	ug/kg	UNV	482143.203	1347892.407

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6-SA3-17	A6-SA3-17^1-P	14-Feb-05	0	0.5	Aroclor-1254	0.00393	ug/kg	UNV	482133.175	1347892.276
A6-SA3-17	A6-SA3-17^1-P	14-Feb-05	0	0.5	Dieldrin	0.00157	ug/kg	UNV	482133.175	1347892.276
A6-SA3-18	A6-SA3-18^1-P	14-Feb-05	0	0.5	Aroclor-1254	0.0187	ug/kg	NV	482138.165	1347897.391
A6-SA3-18	A6-SA3-18^1-P	14-Feb-05	0	0.5	Dieldrin	0.0016	ug/kg	UNV	482138.165	1347897.391
A6-SA3-19	A6-SA3-19^1-P	14-Feb-05	0	0.5	Aroclor-1254	0.004	ug/kg	NV	482138.106	1347887.335
A6-SA3-19	A6-SA3-19^1-P	14-Feb-05	0	0.5	Dieldrin	0.00157	ug/kg	UNV	482138.106	1347887.335
A6-SA3-2	A6-SA3-2^1-RMP	3-Feb-05	0	0.5	Arsenic	6.97	mg/kg	NV	483137.809	1344430.15
A6-SA3-2	A6-SA3-2^1-RMP	3-Feb-05	0	0.5	Beryllium	0.987	mg/kg	NV	483137.809	1344430.15
A6-SA3-2	A6-SA3-2^1-RMP	3-Feb-05	0	0.5	Aroclor-1254	0.00595	ug/kg	UNV	483137.809	1344430.15
A6-SA3-2	A6-SA3-2^1-RMP	3-Feb-05	0	0.5	Dieldrin	0.00238	ug/kg	UNV	483137.809	1344430.15
A6-SA3-2	A6-SA3-2^1-RMP	3-Feb-05	0	0.5	Radium-226	1.19	pCi/g	NV	483137.809	1344430.15
A6-SA3-2	A6-SA3-2^1-RMP	3-Feb-05	0	0.5	Technetium-99	0.816	pCi/g	UNV	483137.809	1344430.15
A6-SA3-2	A6-SA3-2^1-RMP	3-Feb-05	0	0.5	Thorium-228	1.02	pCi/g	NV	483137.809	1344430.15
A6-SA3-2	A6-SA3-2^1-RMP	3-Feb-05	0	0.5	Thorium-232	0.859	pCi/g	NV	483137.809	1344430.15
A6-SA3-2	A6-SA3-2^1-RMP	3-Feb-05	0	0.5	Uranium, Total	5.09	mg/kg	J	483137.809	1344430.15
A6-SA3-20	A6-SA3-20^2-P	7-Mar-05	0.5	1	Aroclor-1254	0.0106	ug/kg	NV	482138.163	1347892.223
A6-SA3-20	A6-SA3-20^2-P	7-Mar-05	0.5	1	Dieldrin	0.00147	ug/kg	UNV	482138.163	1347892.223
A6-SA3-20	A6-SA3-20^7-P	7-Mar-05	3	3.5	Aroclor-1254	0.00405	ug/kg	UNV	482138.163	1347892.223
A6-SA3-20	A6-SA3-20^7-P	7-Mar-05	3	3.5	Dieldrin	0.00162	ug/kg	UNV	482138.163	1347892.223
A6-SA3-3	A6-SA3-3^1-RMP	3-Feb-05	0	0.5	Arsenic	8.43	mg/kg	NV	482783.231	1345537.947
A6-SA3-3	A6-SA3-3^1-RMP	3-Feb-05	0	0.5	Beryllium	0.833	mg/kg	NV	482783.231	1345537.947
A6-SA3-3	A6-SA3-3^1-RMP	3-Feb-05	0	0.5	Aroclor-1254	0.0043	ug/kg	UNV	482783.231	1345537.947
A6-SA3-3	A6-SA3-3^1-RMP	3-Feb-05	0	0.5	Dieldrin	0.00172	ug/kg	UNV	482783.231	1345537.947
A6-SA3-3	A6-SA3-3^1-RMP	3-Feb-05	0	0.5	Radium-226	1.05	pCi/g	NV	482783.231	1345537.947
A6-SA3-3	A6-SA3-3^1-RMP	3-Feb-05	0	0.5	Technetium-99	0.797	pCi/g	UNV	482783.231	1345537.947
A6-SA3-3	A6-SA3-3^1-RMP	3-Feb-05	0	0.5	Thorium-228	0.972	pCi/g	NV	482783.231	1345537.947
A6-SA3-3	A6-SA3-3^1-RMP	3-Feb-05	0	0.5	Thorium-232	1.06	pCi/g	NV	482783.231	1345537.947
A6-SA3-3	A6-SA3-3^1-RMP	3-Feb-05	0	0.5	Uranium, Total	6.16	mg/kg	-	482783.231	1345537.947
A6-SA3-35	A6-SA3-35^1-M	11-Feb-05	0	0.5	Arsenic	3.81	mg/kg	NV	482597.653	1345900.159
A6-SA3-35	A6-SA3-35^1-M	11-Feb-05	0	0.5	Beryllium	0.321	mg/kg	NV	482597.653	1345900.159
A6-SA3-36	A6-SA3-36^1-M	11-Feb-05	0	0.5	Arsenic	4.09	mg/kg	NV	482586.767	1345900.308
A6-SA3-36	A6-SA3-36^1-M	11-Feb-05	0	0.5	Beryllium	0.338	mg/kg	NV	482586.767	1345900.308
A6-SA3-37	A6-SA3-37^1-M	11-Feb-05	0	0.5	Arsenic	4.5	mg/kg	NV	482592.629	1345905.208
A6-SA3-37	A6-SA3-37^1-M	11-Feb-05	0	0.5	Beryllium	0.438	mg/kg	NV	482592.629	1345905.208
A6-SA3-38	A6-SA3-38^1-M	11-Feb-05	0	0.5	Arsenic	3.6	mg/kg	NV	482592.736	1345895.191
A6-SA3-38	A6-SA3-38^1-M	11-Feb-05	0	0.5	Beryllium	0.166	mg/kg	NV	482592.736	1345895.191

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6-SA3-39	A6-SA3-39^2-M	1-Mar-05	0.5	1	Arsenic	4.45	mg/kg	NV	482592.747	1345900.227
A6-SA3-39	A6-SA3-39^2-M	1-Mar-05	0.5	1	Beryllium	0.557	mg/kg	NV	482592.747	1345900.227
A6-SA3-39	A6-SA3-39^7-M	1-Mar-05	3	3.5	Arsenic	3.69	mg/kg	NV	482592.747	1345900.227
A6-SA3-39	A6-SA3-39^7-M	1-Mar-05	3	3.5	Beryllium	0.632	mg/kg	NV	482592.747	1345900.227
A6-SA3-4	A6-SA3-4^1-RMP	9-Feb-05	0	0.5	Arsenic	4.05	mg/kg	NV	482621.851	1346062.846
A6-SA3-4	A6-SA3-4^1-RMP	9-Feb-05	0	0.5	Beryllium	0.197	mg/kg	NV	482621.851	1346062.846
A6-SA3-4	A6-SA3-4^1-RMP	9-Feb-05	0	0.5	Aroclor-1254	0.00352	ug/kg	UNV	482621.851	1346062.846
A6-SA3-4	A6-SA3-4^1-RMP	9-Feb-05	0	0.5	Dieldrin	0.00141	ug/kg	UNV	482621.851	1346062.846
A6-SA3-4	A6-SA3-4^1-RMP	9-Feb-05	0	0.5	Radium-226	0.503	pCi/g	NV	482621.851	1346062.846
A6-SA3-4	A6-SA3-4^1-RMP	9-Feb-05	0	0.5	Technetium-99	0.77	pCi/g	UNV	482621.851	1346062.846
A6-SA3-4	A6-SA3-4^1-RMP	9-Feb-05	0	0.5	Thorium-228	0.247	pCi/g	NV	482621.851	1346062.846
A6-SA3-4	A6-SA3-4^1-RMP	9-Feb-05	0	0.5	Thorium-232	0.389	pCi/g	NV	482621.851	1346062.846
A6-SA3-4	A6-SA3-4^1-RMP	9-Feb-05	0	0.5	Uranium, Total	4.08	mg/kg	UNV	482621.851	1346062.846
A6-SA3-40	A6-SA3-40^1-P	14-Feb-05	0	0.5	Aroclor-1254	0.00376	ug/kg	UNV	482481.365	1346501.164
A6-SA3-40	A6-SA3-40^1-P	14-Feb-05	0	0.5	Dieldrin	0.00151	ug/kg	UNV	482481.365	1346501.164
A6-SA3-41	A6-SA3-41^1-P	14-Feb-05	0	0.5	Aroclor-1254	0.00374	ug/kg	UNV	482471.435	1346501.193
A6-SA3-41	A6-SA3-41^1-P	14-Feb-05	0	0.5	Dieldrin	0.0015	ug/kg	UNV	482471.435	1346501.193
A6-SA3-42	A6-SA3-42^1-P	14-Feb-05	0	0.5	Aroclor-1254	0.00367	ug/kg	UNV	482476.297	1346506.194
A6-SA3-42	A6-SA3-42^1-P	14-Feb-05	0	0.5	Dieldrin	0.00147	ug/kg	UNV	482476.297	1346506.194
A6-SA3-43	A6-SA3-43^1-P	14-Feb-05	0	0.5	Aroclor-1254	0.00409	ug/kg	UNV	482476.383	1346496.182
A6-SA3-43	A6-SA3-43^1-P	14-Feb-05	0	0.5	Dieldrin	0.00163	ug/kg	UNV	482476.383	1346496.182
A6-SA3-44	A6-SA3-44^2-P	1-Mar-05	0.5	1	Aroclor-1254	0.00385	ug/kg	UNV	482476.403	1346501.22
A6-SA3-44	A6-SA3-44^2-P	1-Mar-05	0.5	1	Dieldrin	0.00154	ug/kg	UNV	482476.403	1346501.22
A6-SA3-44	A6-SA3-44^7-P	1-Mar-05	3	3.5	Aroclor-1254	0.00385	ug/kg	UNV	482476.403	1346501.22
A6-SA3-44	A6-SA3-44^7-P	1-Mar-05	3	3.5	Dieldrin	0.00154	ug/kg	UNV	482476.403	1346501.22
A6-SA3-45	A6-SA3-45^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.0025	ug/kg	NV	482378.713	1346598.491
A6-SA3-45	A6-SA3-45^1-P	31-Jan-05	0	0.5	Dieldrin	0.0018	ug/kg	UNV	482378.713	1346598.491
A6-SA3-46	A6-SA3-46^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.012	ug/kg	NV	482368.682	1346598.382
A6-SA3-46	A6-SA3-46^1-P	31-Jan-05	0	0.5	Dieldrin	0.00172	ug/kg	UNV	482368.682	1346598.382
A6-SA3-47	A6-SA3-47^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.0063	ug/kg	NV	482373.647	1346603.513
A6-SA3-47	A6-SA3-47^1-P	31-Jan-05	0	0.5	Dieldrin	0.00152	ug/kg	UNV	482373.647	1346603.513
A6-SA3-48	A6-SA3-48^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.0042	ug/kg	UNV	482373.759	1346593.422
A6-SA3-48	A6-SA3-48^1-P	31-Jan-05	0	0.5	Dieldrin	0.0017	ug/kg	UNV	482373.759	1346593.422
A6-SA3-49	A6-SA3-49^2-P	15-Feb-05	0.5	1	Aroclor-1254	0.00383	ug/kg	UNV	482373.695	1346598.35
A6-SA3-49	A6-SA3-49^2-P	15-Feb-05	0.5	1	Dieldrin	0.00153	ug/kg	UNV	482373.695	1346598.35
A6-SA3-49	A6-SA3-49^7-P	15-Feb-05	3	3.5	Aroclor-1254	0.00386	ug/kg	UNV	482373.695	1346598.35

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6-SA3-49	A6-SA3-49^7-P	15-Feb-05	3	3.5	Dieldrin	0.00154	ug/kg	UNV	482373.695	1346598.35
A6-SA3-5	A6-SA3-5^1-RMP	9-Feb-05	0	0.5	Arsenic	6.52	mg/kg	NV	482560.151	1346299.358
A6-SA3-5	A6-SA3-5^1-RMP	9-Feb-05	0	0.5	Beryllium	0.604	mg/kg	NV	482560.151	1346299.358
A6-SA3-5	A6-SA3-5^1-RMP	9-Feb-05	0	0.5	Aroclor-1254	0.00397	ug/kg	UNV	482560.151	1346299.358
A6-SA3-5	A6-SA3-5^1-RMP	9-Feb-05	0	0.5	Dieldrin	0.00159	ug/kg	UNV	482560.151	1346299.358
A6-SA3-5	A6-SA3-5^1-RMP	9-Feb-05	0	0.5	Radium-226	1.15	pCi/g	NV	482560.151	1346299.358
A6-SA3-5	A6-SA3-5^1-RMP	9-Feb-05	0	0.5	Technetium-99	0.844	pCi/g	UNV	482560.151	1346299.358
A6-SA3-5	A6-SA3-5^1-RMP	9-Feb-05	0	0.5	Thorium-228	1.1	pCi/g	NV	482560.151	1346299.358
A6-SA3-5	A6-SA3-5^1-RMP	9-Feb-05	0	0.5	Thorium-232	1.14	pCi/g	NV	482560.151	1346299.358
A6-SA3-5	A6-SA3-5^1-RMP	9-Feb-05	0	0.5	Uranium, Total	19.6	mg/kg	NV	482560.151	1346299.358
A6-SA3-50	A6-SA3-50^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.013	ug/kg	NV	482278.708	1346595.264
A6-SA3-50	A6-SA3-50^1-P	31-Jan-05	0	0.5	Dieldrin	0.00153	ug/kg	UNV	482278.708	1346595.264
A6-SA3-51	A6-SA3-51^1-P	15-Feb-05	0	0.5	Aroclor-1254	0.00391	ug/kg	UNV	482268.553	1346595.246
A6-SA3-51	A6-SA3-51^1-P	15-Feb-05	0	0.5	Dieldrin	0.00157	ug/kg	UNV	482268.553	1346595.246
A6-SA3-52	A6-SA3-52^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.04	ug/kg	NV	482273.609	1346600.217
A6-SA3-52	A6-SA3-52^1-P	31-Jan-05	0	0.5	Dieldrin	0.00148	ug/kg	UNV	482273.609	1346600.217
A6-SA3-53	A6-SA3-53^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.039	ug/kg	NV	482273.704	1346590.258
A6-SA3-53	A6-SA3-53^1-P	31-Jan-05	0	0.5	Dieldrin	0.00152	ug/kg	UNV	482273.704	1346590.258
A6-SA3-54	A6-SA3-54^2-P	15-Feb-05	0.5	1	Aroclor-1254	0.00592	ug/kg	UNV	482273.722	1346595.232
A6-SA3-54	A6-SA3-54^2-P	15-Feb-05	0.5	1	Dieldrin	0.00148	ug/kg	UNV	482273.722	1346595.232
A6-SA3-54	A6-SA3-54^7-P	15-Feb-05	3	3.5	Aroclor-1254	0.00364	ug/kg	UNV	482273.722	1346595.232
A6-SA3-54	A6-SA3-54^7-P	15-Feb-05	3	3.5	Dieldrin	0.00146	ug/kg	UNV	482273.722	1346595.232
A6-SA3-55	A6-SA3-55^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.0082	ug/kg	NV	481878.815	1346584.703
A6-SA3-55	A6-SA3-55^1-P	31-Jan-05	0	0.5	Dieldrin	0.00157	ug/kg	UNV	481878.815	1346584.703
A6-SA3-56	A6-SA3-56^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.013	ug/kg	NV	481868.796	1346584.684
A6-SA3-56	A6-SA3-56^1-P	31-Jan-05	0	0.5	Dieldrin	0.00158	ug/kg	UNV	481868.796	1346584.684
A6-SA3-57	A6-SA3-57^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.0068	ug/kg	NV	481873.809	1346589.646
A6-SA3-57	A6-SA3-57^1-P	31-Jan-05	0	0.5	Dieldrin	0.00158	ug/kg	UNV	481873.809	1346589.646
A6-SA3-58	A6-SA3-58^1-P	31-Jan-05	0	0.5	Aroclor-1254	0.0097	ug/kg	NV	481873.859	1346579.781
A6-SA3-58	A6-SA3-58^1-P	31-Jan-05	0	0.5	Dieldrin	0.00148	ug/kg	UNV	481873.859	1346579.781
A6-SA3-59	A6-SA3-59^2-P	15-Feb-05	0.5	1	Aroclor-1254	0.00403	ug/kg	UNV	481873.939	1346584.637
A6-SA3-59	A6-SA3-59^2-P	15-Feb-05	0.5	1	Dieldrin	0.00161	ug/kg	UNV	481873.939	1346584.637
A6-SA3-59	A6-SA3-59^7-P	15-Feb-05	3	3.5	Aroclor-1254	0.00473	ug/kg	NV	481873.939	1346584.637
A6-SA3-59	A6-SA3-59^7-P	15-Feb-05	3	3.5	Dieldrin	0.00149	ug/kg	UNV	481873.939	1346584.637
A6-SA3-6	A6-SA3-6^1-RMP	1-Feb-05	0	0.5	Arsenic	10.9	mg/kg	NV	482322.587	1347803.756
A6-SA3-6	A6-SA3-6^1-RMP	1-Feb-05	0	0.5	Beryllium	0.321	mg/kg	NV	482322.587	1347803.756

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6-SA3-6	A6-SA3-6^1-RMP	1-Feb-05	0	0.5	Aroclor-1254	0.0042	ug/kg	NV	482322.587	1347803.756
A6-SA3-6	A6-SA3-6^1-RMP	1-Feb-05	0	0.5	Dieldrin	0.00146	ug/kg	UNV	482322.587	1347803.756
A6-SA3-6	A6-SA3-6^1-RMP	1-Feb-05	0	0.5	Radium-226	0.9	pCi/g	-	482322.587	1347803.756
A6-SA3-6	A6-SA3-6^1-RMP	1-Feb-05	0	0.5	Technetium-99	0.394	pCi/g	U	482322.587	1347803.756
A6-SA3-6	A6-SA3-6^1-RMP	1-Feb-05	0	0.5	Thorium-228	0.302	pCi/g	-	482322.587	1347803.756
A6-SA3-6	A6-SA3-6^1-RMP	1-Feb-05	0	0.5	Thorium-232	0.499	pCi/g	-	482322.587	1347803.756
A6-SA3-6	A6-SA3-6^1-RMP	1-Feb-05	0	0.5	Uranium, Total	4.57	mg/kg	-	482322.587	1347803.756
A6-SA3-60	A6-SA3-60^1-R	31-Jan-05	0	0.5	Radium-226	1.13	pCi/g	-	482095.055	1346616.808
A6-SA3-60	A6-SA3-60^1-R	31-Jan-05	0	0.5	Thorium-228	1.06	pCi/g	-	482095.055	1346616.808
A6-SA3-60	A6-SA3-60^1-R	31-Jan-05	0	0.5	Thorium-232	1.19	pCi/g	-	482095.055	1346616.808
A6-SA3-61	A6-SA3-61^1-R	31-Jan-05	0	0.5	Radium-226	1.12	pCi/g	-	482085	1346616.812
A6-SA3-61	A6-SA3-61^1-R	31-Jan-05	0	0.5	Thorium-228	0.704	pCi/g	-	482085	1346616.812
A6-SA3-61	A6-SA3-61^1-R	31-Jan-05	0	0.5	Thorium-232	1.14	pCi/g	-	482085	1346616.812
A6-SA3-62	A6-SA3-62^1-R	31-Jan-05	0	0.5	Radium-226	0.958	pCi/g	-	482090.045	1346621.8
A6-SA3-62	A6-SA3-62^1-R	31-Jan-05	0	0.5	Thorium-228	0.886	pCi/g	-	482090.045	1346621.8
A6-SA3-62	A6-SA3-62^1-R	31-Jan-05	0	0.5	Thorium-232	1.23	pCi/g	-	482090.045	1346621.8
A6-SA3-63	A6-SA3-63^1-R	31-Jan-05	0	0.5	Radium-226	1.32	pCi/g	-	482089.956	1346611.674
A6-SA3-63	A6-SA3-63^1-R	31-Jan-05	0	0.5	Thorium-228	0.994	pCi/g	-	482089.956	1346611.674
A6-SA3-63	A6-SA3-63^1-R	31-Jan-05	0	0.5	Thorium-232	1.12	pCi/g	-	482089.956	1346611.674
A6-SA3-64	A6-SA3-64^2-R	15-Feb-05	0.5	1	Radium-226	0.809	pCi/g	NV	482089.961	1346616.892
A6-SA3-64	A6-SA3-64^2-R	15-Feb-05	0.5	1	Thorium-228	0.711	pCi/g	NV	482089.961	1346616.892
A6-SA3-64	A6-SA3-64^2-R	15-Feb-05	0.5	1	Thorium-232	0.578	pCi/g	NV	482089.961	1346616.892
A6-SA3-64	A6-SA3-64^7-R	15-Feb-05	3	3.5	Radium-226	0.719	pCi/g	NV	482089.961	1346616.892
A6-SA3-64	A6-SA3-64^7-R	15-Feb-05	3	3.5	Thorium-228	0.646	pCi/g	NV	482089.961	1346616.892
A6-SA3-64	A6-SA3-64^7-R	15-Feb-05	3	3.5	Thorium-232	0.738	pCi/g	NV	482089.961	1346616.892
A6-SA3-65	A6-SA3-65^1-R	31-Jan-05	0	0.5	Radium-226	1.21	pCi/g	-	482157.198	1346614.657
A6-SA3-65	A6-SA3-65^1-R	31-Jan-05	0	0.5	Thorium-228	0.802	pCi/g	-	482157.198	1346614.657
A6-SA3-65	A6-SA3-65^1-R	31-Jan-05	0	0.5	Thorium-232	1.04	pCi/g	-	482157.198	1346614.657
A6-SA3-66	A6-SA3-66^1-R	31-Jan-05	0	0.5	Radium-226	1.14	pCi/g	-	482147.192	1346614.512
A6-SA3-66	A6-SA3-66^1-R	31-Jan-05	0	0.5	Thorium-228	0.962	pCi/g	-	482147.192	1346614.512
A6-SA3-66	A6-SA3-66^1-R	31-Jan-05	0	0.5	Thorium-232	0.904	pCi/g	-	482147.192	1346614.512
A6-SA3-67	A6-SA3-67^1-R	31-Jan-05	0	0.5	Radium-226	1	pCi/g	-	482152.163	1346619.587
A6-SA3-67	A6-SA3-67^1-R	31-Jan-05	0	0.5	Thorium-228	0.891	pCi/g	-	482152.163	1346619.587
A6-SA3-67	A6-SA3-67^1-R	31-Jan-05	0	0.5	Thorium-232	0.878	pCi/g	-	482152.163	1346619.587
A6-SA3-68	A6-SA3-68^1-R	31-Jan-05	0	0.5	Radium-226	0.915	pCi/g	-	482152.15	1346609.462
A6-SA3-68	A6-SA3-68^1-R	31-Jan-05	0	0.5	Thorium-228	0.903	pCi/g	-	482152.15	1346609.462

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6-SA3-68	A6-SA3-68^1-R	31-Jan-05	0	0.5	Thorium-232	0.792	pCi/g	-	482152.15	1346609.462
A6-SA3-69	A6-SA3-69^2-R	16-Feb-05	0.5	1	Radium-226	1.22	pCi/g	NV	482152.053	1346614.54
A6-SA3-69	A6-SA3-69^2-R	16-Feb-05	0.5	1	Thorium-228	1.03	pCi/g	NV	482152.053	1346614.54
A6-SA3-69	A6-SA3-69^2-R	16-Feb-05	0.5	1	Thorium-232	0.763	pCi/g	NV	482152.053	1346614.54
A6-SA3-69	A6-SA3-69^7-R	16-Feb-05	3	3.5	Radium-226	1.2	pCi/g	NV	482152.053	1346614.54
A6-SA3-69	A6-SA3-69^7-R	16-Feb-05	3	3.5	Thorium-228	0.822	pCi/g	NV	482152.053	1346614.54
A6-SA3-69	A6-SA3-69^7-R	16-Feb-05	3	3.5	Thorium-232	0.886	pCi/g	NV	482152.053	1346614.54
A6-SA3-7	A6-SA3-7^1-RMP	1-Feb-05	0	0.5	Arsenic	5.76	mg/kg	NV	482435.702	1348466.807
A6-SA3-7	A6-SA3-7^1-RMP	1-Feb-05	0	0.5	Beryllium	0.637	mg/kg	NV	482435.702	1348466.807
A6-SA3-7	A6-SA3-7^1-RMP	1-Feb-05	0	0.5	Aroclor-1254	0.0042	ug/kg	UNV	482435.702	1348466.807
A6-SA3-7	A6-SA3-7^1-RMP	1-Feb-05	0	0.5	Dieldrin	0.00168	ug/kg	UNV	482435.702	1348466.807
A6-SA3-7	A6-SA3-7^1-RMP	1-Feb-05	0	0.5	Radium-226	1.37	pCi/g	-	482435.702	1348466.807
A6-SA3-7	A6-SA3-7^1-RMP	1-Feb-05	0	0.5	Technetium-99	0.43	pCi/g	U	482435.702	1348466.807
A6-SA3-7	A6-SA3-7^1-RMP	1-Feb-05	0	0.5	Thorium-228	1.09	pCi/g	-	482435.702	1348466.807
A6-SA3-7	A6-SA3-7^1-RMP	1-Feb-05	0	0.5	Thorium-232	0.9	pCi/g	-	482435.702	1348466.807
A6-SA3-7	A6-SA3-7^1-RMP	1-Feb-05	0	0.5	Uranium, Total	5.79	mg/kg	-	482435.702	1348466.807
A6-SA3-71	A6-SA3-71^1-RM	3-Feb-05	0	0.5	Arsenic	2.89	mg/kg	NV	482332.929	1348216.662
A6-SA3-71	A6-SA3-71^1-RM	3-Feb-05	0	0.5	Beryllium	1.18	mg/kg	NV	482332.929	1348216.662
A6-SA3-71	A6-SA3-71^1-RM	3-Feb-05	0	0.5	Uranium, Total	3.62	mg/kg	-	482332.929	1348216.662
A6-SA3-72	A6-SA3-72^1-RM	3-Feb-05	0	0.5	Arsenic	31.4	mg/kg	NV	482333.77	1348158.866
A6-SA3-72	A6-SA3-72^1-RM	3-Feb-05	0	0.5	Beryllium	1.5	mg/kg	NV	482333.77	1348158.866
A6-SA3-72	A6-SA3-72^1-RM	3-Feb-05	0	0.5	Uranium, Total	7.81	mg/kg	-	482333.77	1348158.866
A6-SA3-74	A6-SA3-74^2-RM	7-Mar-05	0.5	1	Arsenic	1.67	mg/kg	NV	482361.635	1348190.541
A6-SA3-74	A6-SA3-74^2-RM	7-Mar-05	0.5	1	Beryllium	0.752	mg/kg	NV	482361.635	1348190.541
A6-SA3-74	A6-SA3-74^2-RM	7-Mar-05	0.5	1	Uranium, Total	5.02	mg/kg	NV	482361.635	1348190.541
A6-SA3-74	A6-SA3-74^7-RM	7-Mar-05	3	3.5	Arsenic	5.16	mg/kg	NV	482361.635	1348190.541
A6-SA3-74	A6-SA3-74^7-RM	7-Mar-05	3	3.5	Beryllium	0.531	mg/kg	NV	482361.635	1348190.541
A6-SA3-74	A6-SA3-74^7-RM	7-Mar-05	3	3.5	Uranium, Total	5.12	mg/kg	UNV	482361.635	1348190.541
A6-SA3-75	A6-SA3-75^1-R	3-Feb-05	0	0.5	Uranium, Total	16.9	mg/kg	-	482289.328	1348498.635
A6-SA3-76	A6-SA3-76^1-R	7-Mar-05	0	0.5	Uranium, Total	21.9	mg/kg	NV	482269.279	1348559.094
A6-SA3-77	A6-SA3-77^1-R	3-Feb-05	0	0.5	Uranium, Total	10.2	mg/kg	-	482227.447	1348470.614
A6-SA3-78	A6-SA3-78^1-R	3-Feb-05	0	0.5	Uranium, Total	2.29	mg/kg	J	482261.897	1348402.65
A6-SA3-8	A6-SA3-8^1-RMP	11-Feb-05	0	0.5	Arsenic	6.04	mg/kg	NV	482519.938	1346212.928
A6-SA3-8	A6-SA3-8^1-RMP	11-Feb-05	0	0.5	Beryllium	0.522	mg/kg	NV	482519.938	1346212.928
A6-SA3-8	A6-SA3-8^1-RMP	11-Feb-05	0	0.5	Aroclor-1254	0.00321	ug/kg	NV	482519.938	1346212.928
A6-SA3-8	A6-SA3-8^1-RMP	11-Feb-05	0	0.5	Dieldrin	0.000456	ug/kg	NV	482519.938	1346212.928

60.42

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6-SA3-8	A6-SA3-8^1-RMP	11-Feb-05	0	0.5	Radium-226	1.37	pCi/g	NV	482519.938	1346212.928
A6-SA3-8	A6-SA3-8^1-RMP	11-Feb-05	0	0.5	Technetium-99	0.829	pCi/g	UNV	482519.938	1346212.928
A6-SA3-8	A6-SA3-8^1-RMP	11-Feb-05	0	0.5	Thorium-228	0.812	pCi/g	NV	482519.938	1346212.928
A6-SA3-8	A6-SA3-8^1-RMP	11-Feb-05	0	0.5	Thorium-232	0.776	pCi/g	NV	482519.938	1346212.928
A6-SA3-8	A6-SA3-8^1-RMP	11-Feb-05	0	0.5	Uranium, Total	23.5	mg/kg	NV	482519.938	1346212.928
A6-SA3-80	A6-SA3-80^3-R	7-Mar-05	1	1.5	Uranium, Total	4.74	mg/kg	UNV	482271.977	1348511.88
A6-SA3-80	A6-SA3-80^8-R	7-Mar-05	3.5	4	Uranium, Total	5.49	mg/kg	UNV	482271.977	1348511.88
A6-SA3-82	A6-SA3-82^1-R	3-Feb-05	0	0.5	Uranium, Total	6.67	mg/kg	-	482098.122	1348131.269
A6-SA3-83	A6-SA3-83^1-R	3-Feb-05	0	0.5	Uranium, Total	10.6	mg/kg	-	482085.036	1348322.032
A6-SA3-84	A6-SA3-84^1-R	14-Feb-05	0	0.5	Uranium, Total	237	mg/kg	NV	481975.216	1347803.497
A6-SA3-9	A6-SA3-9^1-RMP	11-Feb-05	0	0.5	Arsenic	5.05	mg/kg	NV	482297.87	1346022.014
A6-SA3-9	A6-SA3-9^1-RMP	11-Feb-05	0	0.5	Beryllium	0.447	mg/kg	NV	482297.87	1346022.014
A6-SA3-9	A6-SA3-9^1-RMP	11-Feb-05	0	0.5	Aroclor-1254	0.0119	ug/kg	NV	482297.87	1346022.014
A6-SA3-9	A6-SA3-9^1-RMP	11-Feb-05	0	0.5	Dieldrin	0.000316	ug/kg	NV	482297.87	1346022.014
A6-SA3-9	A6-SA3-9^1-RMP	11-Feb-05	0	0.5	Radium-226	0.924	pCi/g	NV	482297.87	1346022.014
A6-SA3-9	A6-SA3-9^1-RMP	11-Feb-05	0	0.5	Technetium-99	0.82	pCi/g	UNV	482297.87	1346022.014
A6-SA3-9	A6-SA3-9^1-RMP	11-Feb-05	0	0.5	Thorium-228	0.59	pCi/g	NV	482297.87	1346022.014
A6-SA3-9	A6-SA3-9^1-RMP	11-Feb-05	0	0.5	Thorium-232	0.737	pCi/g	NV	482297.87	1346022.014
A6-SA3-9	A6-SA3-9^1-RMP	11-Feb-05	0	0.5	Uranium, Total	4.62	mg/kg	UNV	482297.87	1346022.014
A6-SA4-15	A6-SA4-15^1-RMP	3-Mar-05	0	0.5	Arsenic	6.28	mg/kg	NV	480803.633	1347924.44
A6-SA4-15	A6-SA4-15^1-RMP	3-Mar-05	0	0.5	Beryllium	0.487	mg/kg	NV	480803.633	1347924.44
A6-SA4-15	A6-SA4-15^1-RMP	3-Mar-05	0	0.5	Aroclor-1254	0.0032	ug/kg	NV	480803.633	1347924.44
A6-SA4-15	A6-SA4-15^1-RMP	3-Mar-05	0	0.5	Dieldrin	0.00231	ug/kg	UNV	480803.633	1347924.44
A6-SA4-15	A6-SA4-15^1-RMP	3-Mar-05	0	0.5	Technetium-99	0.854	pCi/g	UNV	480803.633	1347924.44
A6-SA4-21	A6-SA4-21^11-R	3-Mar-05	5	5.5	Thorium-232	0.512	pCi/g	NV	481277.08	1347506.144
A6-SA4-21	A6-SA4-21^1-R	3-Mar-05	0	0.5	Thorium-232	0.612	pCi/g	NV	481277.08	1347506.144
A6-SA4-21	A6-SA4-21^21-R	3-Mar-05	10	10.5	Thorium-232	0.679	pCi/g	NV	481277.08	1347506.144
A6-SA4-21	A6-SA4-21^31-R	3-Mar-05	15	15.5	Thorium-232	0.592	pCi/g	NV	481277.08	1347506.144
A6-SA4-21	A6-SA4-21^5-R	3-Mar-05	2	2.5	Thorium-232	0.585	pCi/g	NV	481277.08	1347506.144
A6-SA4-23	A6-SA4-23^4-R	7-Mar-05	1.5	2	Uranium, Total	39.1	mg/kg	NV	481820.007	1347823.486
A6-SA4-23	A6-SA4-23^9-R	7-Mar-05	4	4.5	Uranium, Total	17.5	mg/kg	NV	481820.007	1347823.486
A6-SA4-24	A6-SA4-24^3B-R	4-Mar-05	1	1.5	Uranium, Total	3250	mg/kg	NV	481679.408	1347697.244
A6-SA4-24	A6-SA4-24^4-R	4-Mar-05	1.5	2	Uranium, Total	2200	mg/kg	NV	481679.408	1347697.244
A6-SA4-24	A6-SA4-24^5B-R	4-Mar-05	2	2.5	Uranium, Total	1710	mg/kg	NV	481679.408	1347697.244
A6-SA4-24	A6-SA4-24^9-R	4-Mar-05	4	4.5	Uranium, Total	17.8	mg/kg	NV	481679.408	1347697.244
A6-SA4-26	A6-SA4-26^1-R	7-Mar-05	0	0.5	Uranium, Total	2540	mg/kg	NV	481560.134	1347588.421

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6-SA4-30	A6-SA4-30^1-R	9-Feb-05	0	0.5	Radium-226	1.31	pCi/g	NV	481325.057	1347353.09
A6-SA4-30	A6-SA4-30^1-R	9-Feb-05	0	0.5	Thorium-228	0.655	pCi/g	NV	481325.057	1347353.09
A6-SA4-30	A6-SA4-30^1-R	9-Feb-05	0	0.5	Thorium-232	0.845	pCi/g	NV	481325.057	1347353.09
A6-SA4-30	A6-SA4-30^1-R	9-Feb-05	0	0.5	Uranium, Total	4.33	mg/kg	UNV	481325.057	1347353.09
A6-SA4-31	A6-SA4-31^1-R	9-Feb-05	0	0.5	Radium-226	1.5	pCi/g	NV	481145.55	1347114.91
A6-SA4-31	A6-SA4-31^1-R	9-Feb-05	0	0.5	Thorium-228	1	pCi/g	NV	481145.55	1347114.91
A6-SA4-31	A6-SA4-31^1-R	9-Feb-05	0	0.5	Thorium-232	1.09	pCi/g	NV	481145.55	1347114.91
A6-SA4-31	A6-SA4-31^1-R	9-Feb-05	0	0.5	Uranium, Total	27.7	mg/kg	NV	481145.55	1347114.91
A6-11	A6-11-1-R	14-Jun-01	0	0.5	Technetium-99	1.6	pCi/g	U	481904.65	1349018.25
A6-11	A6-11-1-R	14-Jun-01	0	0.5	Uranium, Total	1.55	mg/kg	-	481904.65	1349018.25
A6-11	A6-11-7-R	14-Jun-01	3	3.5	Technetium-99	1.6	pCi/g	U	481904.65	1349018.25
A6-11	A6-11-7-R	14-Jun-01	3	3.5	Uranium, Total	1.22	mg/kg	-	481904.65	1349018.25
A6-14	A6-14-1-R	14-Jun-01	0	0.5	Technetium-99	1.8	pCi/g	U	481921.4	1349192.97
A6-14	A6-14-1-R	14-Jun-01	0	0.5	Uranium, Total	116	mg/kg	-	481921.4	1349192.97
A6-14	A6-14-7-R	14-Jun-01	3	3.5	Technetium-99	1.6	pCi/g	U	481921.4	1349192.97
A6-14	A6-14-7-R	14-Jun-01	3	3.5	Uranium, Total	2.38	mg/kg	-	481921.4	1349192.97
A6-16	A6-16-1-R	19-Jun-01	0	0.5	Technetium-99	1.5	pCi/g	UNV	481882.11	1348919.7
A6-16	A6-16-1-R	19-Jun-01	0	0.5	Uranium, Total	7.15	mg/kg	NV	481882.11	1348919.7
A6-16	A6-16-7-R	19-Jun-01	3	3.5	Technetium-99	1.4	pCi/g	UNV	481882.11	1348919.7
A6-16	A6-16-7-R	19-Jun-01	3	3.5	Uranium, Total	2.15	mg/kg	NV	481882.11	1348919.7
A6-4	A6-4-1-R	26-Jun-01	0	0.5	Technetium-99	1.4	pCi/g	UNV	482156.66	1348889.35
A6-4	A6-4-1-R	26-Jun-01	0	0.5	Uranium, Total	2.11	mg/kg	NV	482156.66	1348889.35
A6-4	A6-4-7-R	26-Jun-01	3	3.5	Technetium-99	1.4	pCi/g	UNV	482156.66	1348889.35
A6-4	A6-4-7-R	26-Jun-01	3	3.5	Uranium, Total	3.68	mg/kg	NV	482156.66	1348889.35
A6-SA1-33	A6-SA1-33^4-R	18-Nov-04	1.5	2	Uranium, Total	2.89	mg/kg	NV	482407.907	1349706.426
A6-SA1-33	A6-SA1-33^5-R	18-Nov-04	2	2.5	Uranium, Total	10.4	mg/kg	NV	482407.907	1349706.426
A6-SA1-33	A6-SA1-33^6-R	18-Nov-04	2.5	3	Uranium, Total	3.54	mg/kg	UNV	482407.907	1349706.426
A6-SA1-33	A6-SA1-33^7-R	18-Nov-04	3	3.5	Uranium, Total	3.94	mg/kg	NV	482407.907	1349706.426
A6-SA1-7	A6-SA1-7^10-R	18-Nov-04	4.5	5	Uranium, Total	3.29	mg/kg	UNV	482375.409	1349310.92
A6-SA1-7	A6-SA1-7^11-R	18-Nov-04	5	5.5	Uranium, Total	3.62	mg/kg	NV	482375.409	1349310.92
A6-SA1-7	A6-SA1-7^12-R	18-Nov-04	5.5	6	Uranium, Total	6.74	mg/kg	NV	482375.409	1349310.92
A6-SA1-7	A6-SA1-7^4-R	18-Nov-04	1.5	2	Uranium, Total	2.66	mg/kg	UNV	482375.409	1349310.92
A6-SA1-7	A6-SA1-7^9-R	18-Nov-04	4	4.5	Uranium, Total	3.02	mg/kg	NV	482375.409	1349310.92
A6-AC2-2	A6-AC2-2^14-R	14-Apr-05	6.5	7	Uranium, Total	7.14	mg/kg	NV	482047.661	1347946.732
A6-AC2-3	A6-AC2-3^14-R	14-Apr-05	6.5	7	Uranium, Total	6.75	mg/kg	NV	482037.385	1347956.747
A6WP-CWS-06	A6WP-CWS-06^30-R	5-Apr-05	14.5	15	Technetium-99	0.721	pCi/g	UNV	481383.781	1346467.463

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-CWS-09	A6WP-CWS-09^3-R	5-Apr-05	1	1.5	Technetium-99	793	pCi/g	NV	481269.389	1346556.99
A6WP-CWS-04	A6WP-CWS-04^2-R	5-Apr-05	0.5	1	Technetium-99	36.3	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^3-R	5-Apr-05	1	1.5	Technetium-99	42.4	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-07	A6WP-CWS-07^1-R	5-Apr-05	0	0.5	Technetium-99	91.3	pCi/g	NV	481356.64	1346532.583
A6WP-3F-13	A6WP-3F-13^1-R	5-Apr-05	0	0.5	Technetium-99	1.77	pCi/g	NV	481465.915	1346489.276
A6WP-3F-10	A6WP-3F-10^1-R	5-Apr-05	0	0.5	Technetium-99	0.763	pCi/g	UNV	481471.033	1346494.099
A6WP-3F-12	A6WP-3F-12^1-R	4-Apr-05	0	0.5	Technetium-99	10.2	pCi/g	NV	481460.852	1346494.272
A6WP-3F-11	A6WP-3F-11^1-R	4-Apr-05	0	0.5	Technetium-99	5.51	pCi/g	NV	481465.976	1346499.156
A6-AC3-4	A6-AC3-4^3-R	4-Apr-05	1	1.5	Uranium, Total	3.3	mg/kg	NV	481927.117	1348050.421
A6-AC3-3	A6-AC3-3^3-R	4-Apr-05	1	1.5	Uranium, Total	19.1	mg/kg	NV	481922.102	1348055.373
A6-AC3-2	A6-AC3-2^3-R	4-Apr-05	1	1.5	Uranium, Total	8.96	mg/kg	NV	481932.112	1348055.385
A6-AC3-1	A6-AC3-1^3-R	4-Apr-05	1	1.5	Uranium, Total	49.1	mg/kg	NV	481927.341	1348055.404
A6WP-B-15	A6WP-B-15^9-R	23-Mar-05	4	4.5	Cesium-137	0.127	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^9-R	23-Mar-05	4	4.5	Radium-228	0.764	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^9-R	23-Mar-05	4	4.5	Technetium-99	0.83	pCi/g	UNV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^9-R	23-Mar-05	4	4.5	Thorium-228	0.755	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^9-R	23-Mar-05	4	4.5	Thorium-230	0.93	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^9-R	23-Mar-05	4	4.5	Thorium-232	0.764	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^9-R	23-Mar-05	4	4.5	Uranium, Total	11.6	mg/kg	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^1-R	23-Mar-05	0	0.5	Cesium-137	0.0796	pCi/g	UNV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^1-R	23-Mar-05	0	0.5	Radium-228	0.725	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^1-R	23-Mar-05	0	0.5	Technetium-99	1.24	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^1-R	23-Mar-05	0	0.5	Thorium-228	0.394	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^1-R	23-Mar-05	0	0.5	Thorium-230	1.74	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^1-R	23-Mar-05	0	0.5	Thorium-232	0.725	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^1-R	23-Mar-05	0	0.5	Uranium, Total	18.4	mg/kg	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^2-R	23-Mar-05	0.5	1	Cesium-137	0.0774	pCi/g	UNV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^2-R	23-Mar-05	0.5	1	Radium-228	0.669	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^2-R	23-Mar-05	0.5	1	Technetium-99	3.28	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^2-R	23-Mar-05	0.5	1	Thorium-228	0.65	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^2-R	23-Mar-05	0.5	1	Thorium-230	1.29	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^2-R	23-Mar-05	0.5	1	Thorium-232	0.669	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^2-R	23-Mar-05	0.5	1	Uranium, Total	16.1	mg/kg	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^3-R	23-Mar-05	1	1.5	Cesium-137	0.0831	pCi/g	UNV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^3-R	23-Mar-05	1	1.5	Radium-228	0.697	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^3-R	23-Mar-05	1	1.5	Technetium-99	2.59	pCi/g	NV	481771.832	1347238.005

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-15	A6WP-B-15^3-R	23-Mar-05	1	1.5	Thorium-228	0.66	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^3-R	23-Mar-05	1	1.5	Thorium-230	0.867	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^3-R	23-Mar-05	1	1.5	Thorium-232	0.697	pCi/g	NV	481771.832	1347238.005
A6WP-B-15	A6WP-B-15^3-R	23-Mar-05	1	1.5	Uranium, Total	17.9	mg/kg	NV	481771.832	1347238.005
A6WP-B-19	A6WP-B-19^9-R	23-Mar-05	4	4.5	Cesium-137	0.0805	pCi/g	UNV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^9-R	23-Mar-05	4	4.5	Radium-228	0.534	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^9-R	23-Mar-05	4	4.5	Technetium-99	2.21	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^9-R	23-Mar-05	4	4.5	Thorium-228	0.674	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^9-R	23-Mar-05	4	4.5	Thorium-230	0.817	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^9-R	23-Mar-05	4	4.5	Thorium-232	0.534	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^9-R	23-Mar-05	4	4.5	Uranium, Total	18.2	mg/kg	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^1-R	23-Mar-05	0	0.5	Cesium-137	0.11	pCi/g	UNV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^1-R	23-Mar-05	0	0.5	Radium-228	1.27	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^1-R	23-Mar-05	0	0.5	Technetium-99	3.13	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^1-R	23-Mar-05	0	0.5	Thorium-228	1.36	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^1-R	23-Mar-05	0	0.5	Thorium-230	11.5	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^1-R	23-Mar-05	0	0.5	Thorium-232	1.27	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^1-R	23-Mar-05	0	0.5	Uranium, Total	130	mg/kg	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^2-R	23-Mar-05	0.5	1	Cesium-137	0.0918	pCi/g	UNV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^2-R	23-Mar-05	0.5	1	Radium-228	0.682	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^2-R	23-Mar-05	0.5	1	Technetium-99	1.88	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^2-R	23-Mar-05	0.5	1	Thorium-228	0.676	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^2-R	23-Mar-05	0.5	1	Thorium-230	1.06	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^2-R	23-Mar-05	0.5	1	Thorium-232	0.682	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^2-R	23-Mar-05	0.5	1	Uranium, Total	21.3	mg/kg	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^3-R	23-Mar-05	1	1.5	Cesium-137	0.0807	pCi/g	UNV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^3-R	23-Mar-05	1	1.5	Radium-228	0.79	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^3-R	23-Mar-05	1	1.5	Technetium-99	1.81	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^3-R	23-Mar-05	1	1.5	Thorium-228	0.841	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^3-R	23-Mar-05	1	1.5	Thorium-230	1.11	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^3-R	23-Mar-05	1	1.5	Thorium-232	0.79	pCi/g	NV	481573.432	1347428.669
A6WP-B-19	A6WP-B-19^3-R	23-Mar-05	1	1.5	Uranium, Total	8.96	mg/kg	NV	481573.432	1347428.669
A6WP-B-20	A6WP-B-20^9-R	23-Mar-05	4	4.5	Cesium-137	0.0967	pCi/g	UNV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^9-R	23-Mar-05	4	4.5	Radium-228	1.06	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^9-R	23-Mar-05	4	4.5	Technetium-99	0.856	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^9-R	23-Mar-05	4	4.5	Thorium-228	1.15	pCi/g	NV	481612.66	1347591.2

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-20	A6WP-B-20^9-R	23-Mar-05	4	4.5	Thorium-230	1.7	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^9-R	23-Mar-05	4	4.5	Thorium-232	1.06	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^9-R	23-Mar-05	4	4.5	Uranium, Total	4.99	mg/kg	UNV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^1-R	23-Mar-05	0	0.5	Cesium-137	0.223	pCi/g	UNV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^1-R	23-Mar-05	0	0.5	Radium-228	21.4	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^1-R	23-Mar-05	0	0.5	Technetium-99	19.1	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^1-R	23-Mar-05	0	0.5	Thorium-228	23.5	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^1-R	23-Mar-05	0	0.5	Thorium-230	58.6	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^1-R	23-Mar-05	0	0.5	Thorium-232	21.4	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^1-R	23-Mar-05	0	0.5	Uranium, Total	3010	mg/kg	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^2-R	23-Mar-05	0.5	1	Cesium-137	0.305	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^2-R	23-Mar-05	0.5	1	Radium-228	2.13	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^2-R	23-Mar-05	0.5	1	Technetium-99	5.1	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^2-R	23-Mar-05	0.5	1	Thorium-228	1.93	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^2-R	23-Mar-05	0.5	1	Thorium-230	26.3	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^2-R	23-Mar-05	0.5	1	Thorium-232	2.13	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^2-R	23-Mar-05	0.5	1	Uranium, Total	302	mg/kg	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^3-R	23-Mar-05	1	1.5	Cesium-137	0.096	pCi/g	UNV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^3-R	23-Mar-05	1	1.5	Radium-228	0.989	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^3-R	23-Mar-05	1	1.5	Technetium-99	2.63	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^3-R	23-Mar-05	1	1.5	Thorium-228	1.06	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^3-R	23-Mar-05	1	1.5	Thorium-230	20.9	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^3-R	23-Mar-05	1	1.5	Thorium-232	0.989	pCi/g	NV	481612.66	1347591.2
A6WP-B-20	A6WP-B-20^3-R	23-Mar-05	1	1.5	Uranium, Total	212	mg/kg	NV	481612.66	1347591.2
A6-AC6-1	A6-AC6-1^2-R	22-Mar-05	0.5	1	Uranium, Total	9.4	mg/kg	NV	481392.808	1347258.447
A6-AC6-1	A6-AC6-1^3-R	22-Mar-05	1	1.5	Uranium, Total	18.7	mg/kg	NV	481392.808	1347258.447
A6-AC6-1	A6-AC6-1^4-R	22-Mar-05	1.5	2	Uranium, Total	18.7	mg/kg	NV	481392.808	1347258.447
A6WP-B-60	A6WP-B-60^2-R	18-Mar-05	0.5	1	Cesium-137	0.0542	pCi/g	UNV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^2-R	18-Mar-05	0.5	1	Radium-228	0.745	pCi/g	NV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^2-R	18-Mar-05	0.5	1	Technetium-99	0.911	pCi/g	UNV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^2-R	18-Mar-05	0.5	1	Thorium-228	0.892	pCi/g	NV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^2-R	18-Mar-05	0.5	1	Thorium-230	5.26	pCi/g	NV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^2-R	18-Mar-05	0.5	1	Thorium-232	0.745	pCi/g	NV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^2-R	18-Mar-05	0.5	1	Uranium, Total	17.5	mg/kg	NV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^8-R	18-Mar-05	3.5	4	Cesium-137	0.0405	pCi/g	UNV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^8-R	18-Mar-05	3.5	4	Radium-228	0.614	pCi/g	NV	481348.78	1346680.027

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-60	A6WP-B-60^8-R	18-Mar-05	3.5	4	Technetium-99	0.922	pCi/g	UNV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^8-R	18-Mar-05	3.5	4	Thorium-228	0.755	pCi/g	NV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^8-R	18-Mar-05	3.5	4	Thorium-230	1.17	pCi/g	NV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^8-R	18-Mar-05	3.5	4	Thorium-232	0.614	pCi/g	NV	481348.78	1346680.027
A6WP-B-60	A6WP-B-60^8-R	18-Mar-05	3.5	4	Uranium, Total	3.57	mg/kg	NV	481348.78	1346680.027
A6WP-B-45	A6WP-B-45^2-R	18-Mar-05	0.5	1	Cesium-137	0.0773	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^2-R	18-Mar-05	0.5	1	Radium-228	0.781	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^2-R	18-Mar-05	0.5	1	Technetium-99	4.84	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^2-R	18-Mar-05	0.5	1	Thorium-228	0.801	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^2-R	18-Mar-05	0.5	1	Thorium-230	1.2	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^2-R	18-Mar-05	0.5	1	Thorium-232	0.781	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^2-R	18-Mar-05	0.5	1	Uranium, Total	5.04	mg/kg	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^8-R	18-Mar-05	3.5	4	Cesium-137	0.0476	pCi/g	UNV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^8-R	18-Mar-05	3.5	4	Radium-228	0.83	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^8-R	18-Mar-05	3.5	4	Technetium-99	4.87	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^8-R	18-Mar-05	3.5	4	Thorium-228	0.835	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^8-R	18-Mar-05	3.5	4	Thorium-230	0.944	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^8-R	18-Mar-05	3.5	4	Thorium-232	0.83	pCi/g	NV	481245.155	1346489.676
A6WP-B-45	A6WP-B-45^8-R	18-Mar-05	3.5	4	Uranium, Total	6.16	mg/kg	NV	481245.155	1346489.676
A6WP-B-46	A6WP-B-46^2-R	18-Mar-05	0.5	1	Cesium-137	0.118	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^2-R	18-Mar-05	0.5	1	Radium-228	0.772	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^2-R	18-Mar-05	0.5	1	Technetium-99	5.43	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^2-R	18-Mar-05	0.5	1	Thorium-228	0.87	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^2-R	18-Mar-05	0.5	1	Thorium-230	1.39	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^2-R	18-Mar-05	0.5	1	Thorium-232	0.772	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^2-R	18-Mar-05	0.5	1	Uranium, Total	6.26	mg/kg	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^8-R	18-Mar-05	3.5	4	Cesium-137	0.0474	pCi/g	UNV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^8-R	18-Mar-05	3.5	4	Radium-228	0.788	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^8-R	18-Mar-05	3.5	4	Technetium-99	6.06	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^8-R	18-Mar-05	3.5	4	Thorium-228	1.02	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^8-R	18-Mar-05	3.5	4	Thorium-230	1.74	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^8-R	18-Mar-05	3.5	4	Thorium-232	0.788	pCi/g	NV	481201.808	1346555.498
A6WP-B-46	A6WP-B-46^8-R	18-Mar-05	3.5	4	Uranium, Total	11.6	mg/kg	NV	481201.808	1346555.498
A6WP-B-44	A6WP-B-44^2-R	18-Mar-05	0.5	1	Cesium-137	0.0573	pCi/g	UNV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^2-R	18-Mar-05	0.5	1	Radium-228	1.11	pCi/g	NV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^2-R	18-Mar-05	0.5	1	Technetium-99	0.849	pCi/g	UNV	481504.405	1346396.448

6042

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-44	A6WP-B-44^2-R	18-Mar-05	0.5	1	Thorium-228	1.19	pCi/g	NV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^2-R	18-Mar-05	0.5	1	Thorium-230	1.51	pCi/g	NV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^2-R	18-Mar-05	0.5	1	Thorium-232	1.11	pCi/g	NV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^2-R	18-Mar-05	0.5	1	Uranium, Total	6.69	mg/kg	NV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^8-R	18-Mar-05	3.5	4	Cesium-137	0.049	pCi/g	UNV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^8-R	18-Mar-05	3.5	4	Radium-228	0.991	pCi/g	NV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^8-R	18-Mar-05	3.5	4	Technetium-99	0.85	pCi/g	UNV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^8-R	18-Mar-05	3.5	4	Thorium-228	1.02	pCi/g	NV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^8-R	18-Mar-05	3.5	4	Thorium-230	0.907	pCi/g	NV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^8-R	18-Mar-05	3.5	4	Thorium-232	0.991	pCi/g	NV	481504.405	1346396.448
A6WP-B-44	A6WP-B-44^8-R	18-Mar-05	3.5	4	Uranium, Total	6.32	mg/kg	NV	481504.405	1346396.448
A6WP-B-43	A6WP-B-43^2-R	18-Mar-05	0.5	1	Cesium-137	0.105	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^2-R	18-Mar-05	0.5	1	Radium-228	0.909	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^2-R	18-Mar-05	0.5	1	Technetium-99	4.98	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^2-R	18-Mar-05	0.5	1	Thorium-228	0.985	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^2-R	18-Mar-05	0.5	1	Thorium-230	3.55	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^2-R	18-Mar-05	0.5	1	Thorium-232	0.909	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^2-R	18-Mar-05	0.5	1	Uranium, Total	37.3	mg/kg	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^8-R	18-Mar-05	3.5	4	Cesium-137	0.0556	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^8-R	18-Mar-05	3.5	4	Radium-228	0.763	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^8-R	18-Mar-05	3.5	4	Technetium-99	0.843	pCi/g	UNV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^8-R	18-Mar-05	3.5	4	Thorium-228	0.922	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^8-R	18-Mar-05	3.5	4	Thorium-230	1.22	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^8-R	18-Mar-05	3.5	4	Thorium-232	0.763	pCi/g	NV	481692.321	1346449.957
A6WP-B-43	A6WP-B-43^8-R	18-Mar-05	3.5	4	Uranium, Total	2.55	mg/kg	UNV	481692.321	1346449.957
A6WP-B-42	A6WP-B-42^2-R	18-Mar-05	0.5	1	Cesium-137	0.0534	pCi/g	UNV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^2-R	18-Mar-05	0.5	1	Radium-228	1.07	pCi/g	NV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^2-R	18-Mar-05	0.5	1	Technetium-99	0.884	pCi/g	UNV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^2-R	18-Mar-05	0.5	1	Thorium-228	1.09	pCi/g	NV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^2-R	18-Mar-05	0.5	1	Thorium-230	1.84	pCi/g	NV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^2-R	18-Mar-05	0.5	1	Thorium-232	1.07	pCi/g	NV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^2-R	18-Mar-05	0.5	1	Uranium, Total	12.8	mg/kg	NV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^8-R	18-Mar-05	3.5	4	Cesium-137	0.0739	pCi/g	NV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^8-R	18-Mar-05	3.5	4	Radium-228	1.37	pCi/g	NV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^8-R	18-Mar-05	3.5	4	Technetium-99	0.876	pCi/g	UNV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^8-R	18-Mar-05	3.5	4	Thorium-228	1.06	pCi/g	NV	481879.94	1346662.036

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-42	A6WP-B-42^8-R	18-Mar-05	3.5	4	Thorium-230	2.12	pCi/g	NV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^8-R	18-Mar-05	3.5	4	Thorium-232	1.37	pCi/g	NV	481879.94	1346662.036
A6WP-B-42	A6WP-B-42^8-R	18-Mar-05	3.5	4	Uranium, Total	7.79	mg/kg	NV	481879.94	1346662.036
A6WP-1S-06A	A6WP-1S-06A^12-B	17-Mar-05	5.5	6	Cesium-137	0.0525	pCi/g	UNV	481237.256	1346683.668
A6WP-1S-06A	A6WP-1S-06A^12-B	17-Mar-05	5.5	6	Radium-228	1.1	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06A	A6WP-1S-06A^12-B	17-Mar-05	5.5	6	Technetium-99	1.87	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06A	A6WP-1S-06A^12-B	17-Mar-05	5.5	6	Thorium-228	0.966	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06A	A6WP-1S-06A^12-B	17-Mar-05	5.5	6	Thorium-230	24.8	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06A	A6WP-1S-06A^12-B	17-Mar-05	5.5	6	Thorium-232	1.1	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06A	A6WP-1S-06A^12-B	17-Mar-05	5.5	6	Uranium, Total	4.09	mg/kg	NV	481237.256	1346683.668
A6WP-1S-07	A6WP-1S-07^1-R	17-Mar-05	0	0.5	Cesium-137	0.0417	pCi/g	UNV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^1-R	17-Mar-05	0	0.5	Radium-228	0.805	pCi/g	NV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^1-R	17-Mar-05	0	0.5	Technetium-99	1.61	pCi/g	UNV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^1-R	17-Mar-05	0	0.5	Thorium-228	0.736	pCi/g	NV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^1-R	17-Mar-05	0	0.5	Thorium-230	23.6	pCi/g	NV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^1-R	17-Mar-05	0	0.5	Thorium-232	0.803	pCi/g	NV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^1-R	17-Mar-05	0	0.5	Uranium, Total	9.95	mg/kg	NV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^8-R	17-Mar-05	3.5	4	Cesium-137	0.0392	pCi/g	UNV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^8-R	17-Mar-05	3.5	4	Radium-228	0.783	pCi/g	NV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^8-R	17-Mar-05	3.5	4	Technetium-99	1.59	pCi/g	UNV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^8-R	17-Mar-05	3.5	4	Thorium-228	0.666	pCi/g	NV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^8-R	17-Mar-05	3.5	4	Thorium-230	1.42	pCi/g	NV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^8-R	17-Mar-05	3.5	4	Thorium-232	0.781	pCi/g	NV	481372.077	1346686.95
A6WP-1S-07	A6WP-1S-07^8-R	17-Mar-05	3.5	4	Uranium, Total	4.02	mg/kg	NV	481372.077	1346686.95
A6WP-1S-06	A6WP-1S-06^1-R	17-Mar-05	0	0.5	Cesium-137	0.0387	pCi/g	UNV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^1-R	17-Mar-05	0	0.5	Radium-228	0.898	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^1-R	17-Mar-05	0	0.5	Technetium-99	1.64	pCi/g	UNV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^1-R	17-Mar-05	0	0.5	Thorium-228	0.951	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^1-R	17-Mar-05	0	0.5	Thorium-230	1.23	pCi/g	UNV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^1-R	17-Mar-05	0	0.5	Thorium-232	0.896	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^1-R	17-Mar-05	0	0.5	Uranium, Total	84.2	mg/kg	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^8-R	17-Mar-05	3.5	4	Cesium-137	0.0471	pCi/g	UNV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^8-R	17-Mar-05	3.5	4	Radium-228	0.865	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^8-R	17-Mar-05	3.5	4	Technetium-99	1.57	pCi/g	UNV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^8-R	17-Mar-05	3.5	4	Thorium-228	0.875	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^8-R	17-Mar-05	3.5	4	Thorium-230	10.9	pCi/g	NV	481237.256	1346683.668

6042

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-1S-06	A6WP-1S-06^8-R	17-Mar-05	3.5	4	Thorium-232	0.863	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^8-R	17-Mar-05	3.5	4	Uranium, Total	300	mg/kg	NV	481237.256	1346683.668
A6WP-1S-05	A6WP-1S-05^1-R	17-Mar-05	0	0.5	Cesium-137	0.0504	pCi/g	UNV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^1-R	17-Mar-05	0	0.5	Radium-228	1.03	pCi/g	NV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^1-R	17-Mar-05	0	0.5	Technetium-99	1.57	pCi/g	UNV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^1-R	17-Mar-05	0	0.5	Thorium-228	0.985	pCi/g	NV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^1-R	17-Mar-05	0	0.5	Thorium-230	5.8	pCi/g	NV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^1-R	17-Mar-05	0	0.5	Thorium-232	1.03	pCi/g	NV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^1-R	17-Mar-05	0	0.5	Uranium, Total	5.69	mg/kg	NV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^8-R	17-Mar-05	3.5	4	Cesium-137	0.0412	pCi/g	UNV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^8-R	17-Mar-05	3.5	4	Radium-228	0.76	pCi/g	NV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^8-R	17-Mar-05	3.5	4	Technetium-99	1.29	pCi/g	UNV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^8-R	17-Mar-05	3.5	4	Thorium-228	0.804	pCi/g	NV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^8-R	17-Mar-05	3.5	4	Thorium-230	2.21	pCi/g	NV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^8-R	17-Mar-05	3.5	4	Thorium-232	0.758	pCi/g	NV	481174.253	1346790.24
A6WP-1S-05	A6WP-1S-05^8-R	17-Mar-05	3.5	4	Uranium, Total	3.48	mg/kg	NV	481174.253	1346790.24
A6WP-1S-04	A6WP-1S-04^1-R	17-Mar-05	0	0.5	Cesium-137	0.0297	pCi/g	UNV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^1-R	17-Mar-05	0	0.5	Radium-228	1.07	pCi/g	NV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^1-R	17-Mar-05	0	0.5	Technetium-99	1.36	pCi/g	UNV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^1-R	17-Mar-05	0	0.5	Thorium-228	1.07	pCi/g	NV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^1-R	17-Mar-05	0	0.5	Thorium-230	14.9	pCi/g	NV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^1-R	17-Mar-05	0	0.5	Thorium-232	1.07	pCi/g	NV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^1-R	17-Mar-05	0	0.5	Uranium, Total	119	mg/kg	NV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^8-R	17-Mar-05	3.5	4	Cesium-137	0.0254	pCi/g	UNV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^8-R	17-Mar-05	3.5	4	Radium-228	0.747	pCi/g	NV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^8-R	17-Mar-05	3.5	4	Technetium-99	1.57	pCi/g	UNV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^8-R	17-Mar-05	3.5	4	Thorium-228	0.756	pCi/g	NV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^8-R	17-Mar-05	3.5	4	Thorium-230	2.47	pCi/g	NV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^8-R	17-Mar-05	3.5	4	Thorium-232	0.745	pCi/g	NV	481163.477	1346879.248
A6WP-1S-04	A6WP-1S-04^8-R	17-Mar-05	3.5	4	Uranium, Total	3.11	mg/kg	NV	481163.477	1346879.248
A6WP-1S-03	A6WP-1S-03^1-R	17-Mar-05	0	0.5	Cesium-137	0.0114	pCi/g	UNV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^1-R	17-Mar-05	0	0.5	Radium-228	0.42	pCi/g	NV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^1-R	17-Mar-05	0	0.5	Technetium-99	1.5	pCi/g	UNV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^1-R	17-Mar-05	0	0.5	Thorium-228	0.421	pCi/g	NV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^1-R	17-Mar-05	0	0.5	Thorium-230	1.03	pCi/g	NV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^1-R	17-Mar-05	0	0.5	Thorium-232	0.42	pCi/g	NV	481391.451	1346915.235

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-1S-03	A6WP-1S-03^1-R	17-Mar-05	0	0.5	Uranium, Total	2.8	mg/kg	NV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^8-R	17-Mar-05	3.5	4	Cesium-137	0.0192	pCi/g	UNV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^8-R	17-Mar-05	3.5	4	Radium-228	0.586	pCi/g	NV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^8-R	17-Mar-05	3.5	4	Technetium-99	1.24	pCi/g	UNV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^8-R	17-Mar-05	3.5	4	Thorium-228	0.553	pCi/g	NV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^8-R	17-Mar-05	3.5	4	Thorium-230	8.85	pCi/g	NV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^8-R	17-Mar-05	3.5	4	Thorium-232	0.585	pCi/g	NV	481391.451	1346915.235
A6WP-1S-03	A6WP-1S-03^8-R	17-Mar-05	3.5	4	Uranium, Total	2.76	mg/kg	NV	481391.451	1346915.235
A6WP-1S-06	A6WP-1S-06^6-B	17-Mar-05	2.5	3	Cesium-137	0.072	pCi/g	UNV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^6-B	17-Mar-05	2.5	3	Radium-228	0.495	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^6-B	17-Mar-05	2.5	3	Technetium-99	1.67	pCi/g	UNV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^6-B	17-Mar-05	2.5	3	Thorium-228	0.652	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^6-B	17-Mar-05	2.5	3	Thorium-230	58.9	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^6-B	17-Mar-05	2.5	3	Thorium-232	0.494	pCi/g	NV	481237.256	1346683.668
A6WP-1S-06	A6WP-1S-06^6-B	17-Mar-05	2.5	3	Uranium, Total	654	mg/kg	NV	481237.256	1346683.668
A6WP-1S-08	A6WP-1S-08^1-R	17-Mar-05	0	0.5	Cesium-137	0.0491	pCi/g	UNV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^1-R	17-Mar-05	0	0.5	Radium-228	0.884	pCi/g	NV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^1-R	17-Mar-05	0	0.5	Technetium-99	1.58	pCi/g	UNV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^1-R	17-Mar-05	0	0.5	Thorium-228	0.905	pCi/g	NV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^1-R	17-Mar-05	0	0.5	Thorium-230	10.4	pCi/g	NV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^1-R	17-Mar-05	0	0.5	Thorium-232	0.882	pCi/g	NV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^1-R	17-Mar-05	0	0.5	Uranium, Total	35.6	mg/kg	NV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^8-R	17-Mar-05	3.5	4	Cesium-137	0.044	pCi/g	UNV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^8-R	17-Mar-05	3.5	4	Radium-228	0.745	pCi/g	NV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^8-R	17-Mar-05	3.5	4	Technetium-99	1.55	pCi/g	UNV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^8-R	17-Mar-05	3.5	4	Thorium-228	0.554	pCi/g	NV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^8-R	17-Mar-05	3.5	4	Thorium-230	1.69	pCi/g	NV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^8-R	17-Mar-05	3.5	4	Thorium-232	0.743	pCi/g	NV	481454.125	1346749.691
A6WP-1S-08	A6WP-1S-08^8-R	17-Mar-05	3.5	4	Uranium, Total	2.3	mg/kg	NV	481454.125	1346749.691
A6WP-1S-01	A6WP-1S-01^1-R	17-Mar-05	0	0.5	Cesium-137	0.0485	pCi/g	UNV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^1-R	17-Mar-05	0	0.5	Radium-228	0.626	pCi/g	NV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^1-R	17-Mar-05	0	0.5	Technetium-99	1.39	pCi/g	UNV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^1-R	17-Mar-05	0	0.5	Thorium-228	0.663	pCi/g	NV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^1-R	17-Mar-05	0	0.5	Thorium-230	1.29	pCi/g	NV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^1-R	17-Mar-05	0	0.5	Thorium-232	0.625	pCi/g	NV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^1-R	17-Mar-05	0	0.5	Uranium, Total	2.92	mg/kg	NV	481516.041	1346823.875

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-1S-01	A6WP-1S-01^8-R	17-Mar-05	3.5	4	Cesium-137	0.0386	pCi/g	UNV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^8-R	17-Mar-05	3.5	4	Radium-228	0.532	pCi/g	NV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^8-R	17-Mar-05	3.5	4	Technetium-99	1.28	pCi/g	UNV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^8-R	17-Mar-05	3.5	4	Thorium-228	0.541	pCi/g	NV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^8-R	17-Mar-05	3.5	4	Thorium-230	14.8	pCi/g	NV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^8-R	17-Mar-05	3.5	4	Thorium-232	0.531	pCi/g	NV	481516.041	1346823.875
A6WP-1S-01	A6WP-1S-01^8-R	17-Mar-05	3.5	4	Uranium, Total	1.97	mg/kg	NV	481516.041	1346823.875
A6WP-1S-02	A6WP-1S-02^1-R	17-Mar-05	0	0.5	Cesium-137	0.022	pCi/g	UNV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^1-R	17-Mar-05	0	0.5	Radium-228	0.769	pCi/g	NV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^1-R	17-Mar-05	0	0.5	Technetium-99	1.36	pCi/g	UNV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^1-R	17-Mar-05	0	0.5	Thorium-228	0.671	pCi/g	NV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^1-R	17-Mar-05	0	0.5	Thorium-230	1.94	pCi/g	NV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^1-R	17-Mar-05	0	0.5	Thorium-232	0.768	pCi/g	NV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^1-R	17-Mar-05	0	0.5	Uranium, Total	3.22	mg/kg	NV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^8-R	17-Mar-05	3.5	4	Cesium-137	0.0155	pCi/g	UNV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^8-R	17-Mar-05	3.5	4	Radium-228	0.62	pCi/g	NV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^8-R	17-Mar-05	3.5	4	Technetium-99	1.46	pCi/g	UNV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^8-R	17-Mar-05	3.5	4	Thorium-228	0.64	pCi/g	NV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^8-R	17-Mar-05	3.5	4	Thorium-230	1.62	pCi/g	NV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^8-R	17-Mar-05	3.5	4	Thorium-232	0.619	pCi/g	NV	481540.69	1346891.937
A6WP-1S-02	A6WP-1S-02^8-R	17-Mar-05	3.5	4	Uranium, Total	2.72	mg/kg	NV	481540.69	1346891.937
A6WP-1F-01	A6WP-1F-01^1-R	17-Mar-05	0	0.5	Cesium-137	0.0469	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^1-R	17-Mar-05	0	0.5	Radium-228	0.483	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^1-R	17-Mar-05	0	0.5	Technetium-99	1.29	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^1-R	17-Mar-05	0	0.5	Thorium-228	0.476	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^1-R	17-Mar-05	0	0.5	Thorium-230	7.03	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^1-R	17-Mar-05	0	0.5	Thorium-232	0.482	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^1-R	17-Mar-05	0	0.5	Uranium, Total	3.96	mg/kg	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^2-R	17-Mar-05	0.5	1	Cesium-137	0.0504	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^2-R	17-Mar-05	0.5	1	Radium-228	0.673	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^2-R	17-Mar-05	0.5	1	Technetium-99	1.35	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^2-R	17-Mar-05	0.5	1	Thorium-228	0.602	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^2-R	17-Mar-05	0.5	1	Thorium-230	1.55	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^2-R	17-Mar-05	0.5	1	Thorium-232	0.671	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^2-R	17-Mar-05	0.5	1	Uranium, Total	6.21	mg/kg	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^3-R	17-Mar-05	1	1.5	Cesium-137	0.0613	pCi/g	UNV	481490.044	1346814.242

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-1F-01	A6WP-1F-01^3-R	17-Mar-05	1	1.5	Radium-228	0.754	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^3-R	17-Mar-05	1	1.5	Technetium-99	1.26	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^3-R	17-Mar-05	1	1.5	Thorium-228	0.663	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^3-R	17-Mar-05	1	1.5	Thorium-230	1.99	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^3-R	17-Mar-05	1	1.5	Thorium-232	0.752	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^3-R	17-Mar-05	1	1.5	Uranium, Total	2.67	mg/kg	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^4-R	17-Mar-05	1.5	2	Cesium-137	0.0604	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^4-R	17-Mar-05	1.5	2	Radium-228	0.82	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^4-R	17-Mar-05	1.5	2	Technetium-99	1.3	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^4-R	17-Mar-05	1.5	2	Thorium-228	0.843	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^4-R	17-Mar-05	1.5	2	Thorium-230	2.26	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^4-R	17-Mar-05	1.5	2	Thorium-232	0.817	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^4-R	17-Mar-05	1.5	2	Uranium, Total	4.06	mg/kg	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^5-R	17-Mar-05	2	2.5	Cesium-137	0.0586	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^5-R	17-Mar-05	2	2.5	Radium-228	0.788	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^5-R	17-Mar-05	2	2.5	Technetium-99	1.3	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^5-R	17-Mar-05	2	2.5	Thorium-228	0.786	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^5-R	17-Mar-05	2	2.5	Thorium-230	3.59	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^5-R	17-Mar-05	2	2.5	Thorium-232	0.786	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^5-R	17-Mar-05	2	2.5	Uranium, Total	3.56	mg/kg	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^6-R	17-Mar-05	2.5	3	Cesium-137	0.049	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^6-R	17-Mar-05	2.5	3	Radium-228	0.793	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^6-R	17-Mar-05	2.5	3	Technetium-99	1.1	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^6-R	17-Mar-05	2.5	3	Thorium-228	0.711	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^6-R	17-Mar-05	2.5	3	Thorium-230	1.48	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^6-R	17-Mar-05	2.5	3	Thorium-232	0.791	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^6-R	17-Mar-05	2.5	3	Uranium, Total	2.59	mg/kg	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^7-R	17-Mar-05	3	3.5	Cesium-137	0.0587	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^7-R	17-Mar-05	3	3.5	Radium-228	0.941	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^7-R	17-Mar-05	3	3.5	Technetium-99	1.28	pCi/g	UNV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^7-R	17-Mar-05	3	3.5	Thorium-228	0.603	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^7-R	17-Mar-05	3	3.5	Thorium-230	1.31	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^7-R	17-Mar-05	3	3.5	Thorium-232	0.938	pCi/g	NV	481490.044	1346814.242
A6WP-1F-01	A6WP-1F-01^7-R	17-Mar-05	3	3.5	Uranium, Total	2.03	mg/kg	NV	481490.044	1346814.242
A6WP-1F-02	A6WP-1F-02^1-R	17-Mar-05	0	0.5	Cesium-137	0.0655	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^1-R	17-Mar-05	0	0.5	Radium-228	17.5	pCi/g	NV	481420.219	1346859.501

6042

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-1F-02	A6WP-1F-02^1-R	17-Mar-05	0	0.5	Technetium-99	3.45	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^1-R	17-Mar-05	0	0.5	Thorium-228	17.7	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^1-R	17-Mar-05	0	0.5	Thorium-230	136	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^1-R	17-Mar-05	0	0.5	Thorium-232	17.5	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^1-R	17-Mar-05	0	0.5	Uranium, Total	585	mg/kg	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^2-R	17-Mar-05	0.5	1	Cesium-137	0.0941	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^2-R	17-Mar-05	0.5	1	Radium-228	10.3	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^2-R	17-Mar-05	0.5	1	Technetium-99	1.45	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^2-R	17-Mar-05	0.5	1	Thorium-228	11.5	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^2-R	17-Mar-05	0.5	1	Thorium-230	17.7	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^2-R	17-Mar-05	0.5	1	Thorium-232	10.2	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^2-R	17-Mar-05	0.5	1	Uranium, Total	228	mg/kg	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^3-R	17-Mar-05	1	1.5	Cesium-137	0.118	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^3-R	17-Mar-05	1	1.5	Radium-228	12.5	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^3-R	17-Mar-05	1	1.5	Technetium-99	1.55	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^3-R	17-Mar-05	1	1.5	Thorium-228	13.3	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^3-R	17-Mar-05	1	1.5	Thorium-230	28.6	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^3-R	17-Mar-05	1	1.5	Thorium-232	12.5	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^3-R	17-Mar-05	1	1.5	Uranium, Total	290	mg/kg	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^4-R	17-Mar-05	1.5	2	Cesium-137	0.0645	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^4-R	17-Mar-05	1.5	2	Radium-228	1.3	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^4-R	17-Mar-05	1.5	2	Technetium-99	1.74	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^4-R	17-Mar-05	1.5	2	Thorium-228	0.939	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^4-R	17-Mar-05	1.5	2	Thorium-230	4.45	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^4-R	17-Mar-05	1.5	2	Thorium-232	1.3	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^4-R	17-Mar-05	1.5	2	Uranium, Total	13.9	mg/kg	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^5-R	17-Mar-05	2	2.5	Cesium-137	0.0353	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^5-R	17-Mar-05	2	2.5	Radium-228	0.592	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^5-R	17-Mar-05	2	2.5	Technetium-99	1.62	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^5-R	17-Mar-05	2	2.5	Thorium-228	0.651	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^5-R	17-Mar-05	2	2.5	Thorium-230	5.21	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^5-R	17-Mar-05	2	2.5	Thorium-232	0.59	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^5-R	17-Mar-05	2	2.5	Uranium, Total	4.39	mg/kg	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^6-R	17-Mar-05	2.5	3	Cesium-137	0.0343	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^6-R	17-Mar-05	2.5	3	Radium-228	0.648	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^6-R	17-Mar-05	2.5	3	Technetium-99	1.52	pCi/g	UNV	481420.219	1346859.501

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-1F-02	A6WP-1F-02^6-R	17-Mar-05	2.5	3	Thorium-228	0.624	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^6-R	17-Mar-05	2.5	3	Thorium-230	5.69	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^6-R	17-Mar-05	2.5	3	Thorium-232	0.646	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^6-R	17-Mar-05	2.5	3	Uranium, Total	3.1	mg/kg	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^7-R	17-Mar-05	3	3.5	Cesium-137	0.0458	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^7-R	17-Mar-05	3	3.5	Radium-228	0.661	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^7-R	17-Mar-05	3	3.5	Technetium-99	1.86	pCi/g	UNV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^7-R	17-Mar-05	3	3.5	Thorium-228	0.72	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^7-R	17-Mar-05	3	3.5	Thorium-230	2.85	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^7-R	17-Mar-05	3	3.5	Thorium-232	0.659	pCi/g	NV	481420.219	1346859.501
A6WP-1F-02	A6WP-1F-02^7-R	17-Mar-05	3	3.5	Uranium, Total	3.45	mg/kg	NV	481420.219	1346859.501
A6WP-1F-03	A6WP-1F-03^1-R	17-Mar-05	0	0.5	Cesium-137	0.0532	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^1-R	17-Mar-05	0	0.5	Radium-228	0.818	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^1-R	17-Mar-05	0	0.5	Technetium-99	1.42	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^1-R	17-Mar-05	0	0.5	Thorium-228	0.644	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^1-R	17-Mar-05	0	0.5	Thorium-230	3.15	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^1-R	17-Mar-05	0	0.5	Thorium-232	0.816	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^1-R	17-Mar-05	0	0.5	Uranium, Total	7.45	mg/kg	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^2-R	17-Mar-05	0.5	1	Cesium-137	0.0459	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^2-R	17-Mar-05	0.5	1	Radium-228	0.659	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^2-R	17-Mar-05	0.5	1	Technetium-99	2	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^2-R	17-Mar-05	0.5	1	Thorium-228	0.667	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^2-R	17-Mar-05	0.5	1	Thorium-230	2.64	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^2-R	17-Mar-05	0.5	1	Thorium-232	0.657	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^2-R	17-Mar-05	0.5	1	Uranium, Total	2.96	mg/kg	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^3-R	17-Mar-05	1	1.5	Cesium-137	0.0423	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^3-R	17-Mar-05	1	1.5	Radium-228	0.653	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^3-R	17-Mar-05	1	1.5	Technetium-99	1.82	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^3-R	17-Mar-05	1	1.5	Thorium-228	0.597	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^3-R	17-Mar-05	1	1.5	Thorium-230	2.07	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^3-R	17-Mar-05	1	1.5	Thorium-232	0.651	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^3-R	17-Mar-05	1	1.5	Uranium, Total	4.78	mg/kg	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^4-R	17-Mar-05	1.5	2	Cesium-137	0.0494	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^4-R	17-Mar-05	1.5	2	Radium-228	0.694	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^4-R	17-Mar-05	1.5	2	Technetium-99	1.65	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^4-R	17-Mar-05	1.5	2	Thorium-228	0.551	pCi/g	NV	481359.9	1346801.455

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-1F-03	A6WP-1F-03^4-R	17-Mar-05	1.5	2	Thorium-230	1.56	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^4-R	17-Mar-05	1.5	2	Thorium-232	0.692	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^4-R	17-Mar-05	1.5	2	Uranium, Total	4.77	mg/kg	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^5-R	17-Mar-05	2	2.5	Cesium-137	0.047	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^5-R	17-Mar-05	2	2.5	Radium-228	0.664	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^5-R	17-Mar-05	2	2.5	Technetium-99	1.61	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^5-R	17-Mar-05	2	2.5	Thorium-228	0.625	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^5-R	17-Mar-05	2	2.5	Thorium-230	1.26	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^5-R	17-Mar-05	2	2.5	Thorium-232	0.663	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^5-R	17-Mar-05	2	2.5	Uranium, Total	3.05	mg/kg	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^6-R	17-Mar-05	2.5	3	Cesium-137	0.0317	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^6-R	17-Mar-05	2.5	3	Radium-228	0.552	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^6-R	17-Mar-05	2.5	3	Technetium-99	1.7	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^6-R	17-Mar-05	2.5	3	Thorium-228	0.557	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^6-R	17-Mar-05	2.5	3	Thorium-230	0.774	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^6-R	17-Mar-05	2.5	3	Thorium-232	0.551	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^6-R	17-Mar-05	2.5	3	Uranium, Total	3.25	mg/kg	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^7-R	17-Mar-05	3	3.5	Cesium-137	0.0274	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^7-R	17-Mar-05	3	3.5	Radium-228	0.551	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^7-R	17-Mar-05	3	3.5	Technetium-99	1.6	pCi/g	UNV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^7-R	17-Mar-05	3	3.5	Thorium-228	0.539	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^7-R	17-Mar-05	3	3.5	Thorium-230	67.3	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^7-R	17-Mar-05	3	3.5	Thorium-232	0.55	pCi/g	NV	481359.9	1346801.455
A6WP-1F-03	A6WP-1F-03^7-R	17-Mar-05	3	3.5	Uranium, Total	1.63	mg/kg	NV	481359.9	1346801.455
A6WP-1F-04	A6WP-1F-04^1-R	17-Mar-05	0	0.5	Cesium-137	0.0285	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^1-R	17-Mar-05	0	0.5	Radium-228	0.68	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^1-R	17-Mar-05	0	0.5	Technetium-99	5.33	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^1-R	17-Mar-05	0	0.5	Thorium-228	0.694	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^1-R	17-Mar-05	0	0.5	Thorium-230	5.53	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^1-R	17-Mar-05	0	0.5	Thorium-232	0.678	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^1-R	17-Mar-05	0	0.5	Uranium, Total	7.16	mg/kg	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^2-R	17-Mar-05	0.5	1	Cesium-137	0.0473	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^2-R	17-Mar-05	0.5	1	Radium-228	0.7	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^2-R	17-Mar-05	0.5	1	Technetium-99	1.11	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^2-R	17-Mar-05	0.5	1	Thorium-228	0.766	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^2-R	17-Mar-05	0.5	1	Thorium-230	22.6	pCi/g	NV	481321.908	1346721.756

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-1F-04	A6WP-1F-04^2-R	17-Mar-05	0.5	1	Thorium-232	0.698	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^2-R	17-Mar-05	0.5	1	Uranium, Total	4.27	mg/kg	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^3-R	17-Mar-05	1	1.5	Cesium-137	0.0544	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^3-R	17-Mar-05	1	1.5	Radium-228	0.788	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^3-R	17-Mar-05	1	1.5	Technetium-99	1.16	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^3-R	17-Mar-05	1	1.5	Thorium-228	0.713	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^3-R	17-Mar-05	1	1.5	Thorium-230	4	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^3-R	17-Mar-05	1	1.5	Thorium-232	0.785	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^3-R	17-Mar-05	1	1.5	Uranium, Total	5.9	mg/kg	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^4-R	17-Mar-05	1.5	2	Cesium-137	0.0467	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^4-R	17-Mar-05	1.5	2	Radium-228	0.872	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^4-R	17-Mar-05	1.5	2	Technetium-99	1.08	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^4-R	17-Mar-05	1.5	2	Thorium-228	0.623	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^4-R	17-Mar-05	1.5	2	Thorium-230	4.72	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^4-R	17-Mar-05	1.5	2	Thorium-232	0.87	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^4-R	17-Mar-05	1.5	2	Uranium, Total	5.01	mg/kg	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^5-R	17-Mar-05	2	2.5	Cesium-137	0.0492	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^5-R	17-Mar-05	2	2.5	Radium-228	0.699	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^5-R	17-Mar-05	2	2.5	Technetium-99	1.17	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^5-R	17-Mar-05	2	2.5	Thorium-228	0.729	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^5-R	17-Mar-05	2	2.5	Thorium-230	3.75	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^5-R	17-Mar-05	2	2.5	Thorium-232	0.697	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^5-R	17-Mar-05	2	2.5	Uranium, Total	5.1	mg/kg	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^6-R	17-Mar-05	2.5	3	Cesium-137	0.0562	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^6-R	17-Mar-05	2.5	3	Radium-228	0.693	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^6-R	17-Mar-05	2.5	3	Technetium-99	1.11	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^6-R	17-Mar-05	2.5	3	Thorium-228	0.809	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^6-R	17-Mar-05	2.5	3	Thorium-230	3.73	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^6-R	17-Mar-05	2.5	3	Thorium-232	0.691	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^6-R	17-Mar-05	2.5	3	Uranium, Total	5.17	mg/kg	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^7-R	17-Mar-05	3	3.5	Cesium-137	0.0675	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^7-R	17-Mar-05	3	3.5	Radium-228	0.836	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^7-R	17-Mar-05	3	3.5	Technetium-99	1.26	pCi/g	UNV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^7-R	17-Mar-05	3	3.5	Thorium-228	0.749	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^7-R	17-Mar-05	3	3.5	Thorium-230	3.98	pCi/g	NV	481321.908	1346721.756
A6WP-1F-04	A6WP-1F-04^7-R	17-Mar-05	3	3.5	Thorium-232	0.833	pCi/g	NV	481321.908	1346721.756

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-1F-04	A6WP-1F-04^7-R	17-Mar-05	3	3.5	Uranium, Total	2.7	mg/kg	UNV	481321.908	1346721.756
A6WP-1F-05	A6WP-1F-05^1-R	17-Mar-05	0	0.5	Cesium-137	0.0683	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^1-R	17-Mar-05	0	0.5	Radium-228	1.49	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^1-R	17-Mar-05	0	0.5	Technetium-99	6.27	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^1-R	17-Mar-05	0	0.5	Thorium-228	1.41	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^1-R	17-Mar-05	0	0.5	Thorium-230	188	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^1-R	17-Mar-05	0	0.5	Thorium-232	1.49	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^1-R	17-Mar-05	0	0.5	Uranium, Total	177	mg/kg	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^2-R	17-Mar-05	0.5	1	Cesium-137	0.0444	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^2-R	17-Mar-05	0.5	1	Radium-228	0.693	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^2-R	17-Mar-05	0.5	1	Technetium-99	1.58	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^2-R	17-Mar-05	0.5	1	Thorium-228	0.629	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^2-R	17-Mar-05	0.5	1	Thorium-230	2.33	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^2-R	17-Mar-05	0.5	1	Thorium-232	0.692	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^2-R	17-Mar-05	0.5	1	Uranium, Total	7.32	mg/kg	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^3-R	17-Mar-05	1	1.5	Cesium-137	0.0538	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^3-R	17-Mar-05	1	1.5	Radium-228	0.646	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^3-R	17-Mar-05	1	1.5	Technetium-99	1.25	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^3-R	17-Mar-05	1	1.5	Thorium-228	0.63	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^3-R	17-Mar-05	1	1.5	Thorium-230	10	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^3-R	17-Mar-05	1	1.5	Thorium-232	0.645	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^3-R	17-Mar-05	1	1.5	Uranium, Total	4.47	mg/kg	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^4-R	17-Mar-05	1.5	2	Cesium-137	0.0397	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^4-R	17-Mar-05	1.5	2	Radium-228	0.643	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^4-R	17-Mar-05	1.5	2	Technetium-99	1.45	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^4-R	17-Mar-05	1.5	2	Thorium-228	0.665	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^4-R	17-Mar-05	1.5	2	Thorium-230	3.31	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^4-R	17-Mar-05	1.5	2	Thorium-232	0.642	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^4-R	17-Mar-05	1.5	2	Uranium, Total	1.93	mg/kg	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^5-R	17-Mar-05	2	2.5	Cesium-137	0.0483	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^5-R	17-Mar-05	2	2.5	Radium-228	0.64	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^5-R	17-Mar-05	2	2.5	Technetium-99	1.77	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^5-R	17-Mar-05	2	2.5	Thorium-228	0.783	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^5-R	17-Mar-05	2	2.5	Thorium-230	2.93	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^5-R	17-Mar-05	2	2.5	Thorium-232	0.639	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^5-R	17-Mar-05	2	2.5	Uranium, Total	4.07	mg/kg	NV	481250.803	1346795.251

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-1F-05	A6WP-1F-05^6-R	17-Mar-05	2.5	3	Cesium-137	0.0519	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^6-R	17-Mar-05	2.5	3	Radium-228	0.713	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^6-R	17-Mar-05	2.5	3	Technetium-99	1.53	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^6-R	17-Mar-05	2.5	3	Thorium-228	0.656	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^6-R	17-Mar-05	2.5	3	Thorium-230	1.96	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^6-R	17-Mar-05	2.5	3	Thorium-232	0.711	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^6-R	17-Mar-05	2.5	3	Uranium, Total	3.24	mg/kg	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^7-R	17-Mar-05	3	3.5	Cesium-137	0.0777	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^7-R	17-Mar-05	3	3.5	Radium-228	0.622	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^7-R	17-Mar-05	3	3.5	Technetium-99	1.57	pCi/g	UNV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^7-R	17-Mar-05	3	3.5	Thorium-228	0.84	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^7-R	17-Mar-05	3	3.5	Thorium-230	12.9	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^7-R	17-Mar-05	3	3.5	Thorium-232	0.62	pCi/g	NV	481250.803	1346795.251
A6WP-1F-05	A6WP-1F-05^7-R	17-Mar-05	3	3.5	Uranium, Total	3.73	mg/kg	NV	481250.803	1346795.251
A6WP-B-52	A6WP-B-52^2-R	16-Mar-05	0.5	1	Cesium-137	0.0591	pCi/g	UNV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^2-R	16-Mar-05	0.5	1	Radium-228	0.921	pCi/g	NV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^2-R	16-Mar-05	0.5	1	Technetium-99	2.22	pCi/g	UNV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^2-R	16-Mar-05	0.5	1	Thorium-228	0.938	pCi/g	NV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^2-R	16-Mar-05	0.5	1	Thorium-230	2.61	pCi/g	NV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^2-R	16-Mar-05	0.5	1	Thorium-232	0.918	pCi/g	NV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^2-R	16-Mar-05	0.5	1	Uranium, Total	139	mg/kg	NV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^8-R	16-Mar-05	3.5	4	Cesium-137	0.0529	pCi/g	UNV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^8-R	16-Mar-05	3.5	4	Radium-228	0.706	pCi/g	NV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^8-R	16-Mar-05	3.5	4	Technetium-99	2.03	pCi/g	UNV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^8-R	16-Mar-05	3.5	4	Thorium-228	0.684	pCi/g	NV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^8-R	16-Mar-05	3.5	4	Thorium-230	1.62	pCi/g	NV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^8-R	16-Mar-05	3.5	4	Thorium-232	0.704	pCi/g	NV	481151.64	1346868.042
A6WP-B-52	A6WP-B-52^8-R	16-Mar-05	3.5	4	Uranium, Total	59.5	mg/kg	NV	481151.64	1346868.042
A6WP-B-53	A6WP-B-53^2-R	16-Mar-05	0.5	1	Cesium-137	0.0475	pCi/g	UNV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^2-R	16-Mar-05	0.5	1	Radium-228	0.869	pCi/g	NV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^2-R	16-Mar-05	0.5	1	Technetium-99	2.2	pCi/g	UNV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^2-R	16-Mar-05	0.5	1	Thorium-228	0.886	pCi/g	NV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^2-R	16-Mar-05	0.5	1	Thorium-230	2.14	pCi/g	NV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^2-R	16-Mar-05	0.5	1	Thorium-232	0.867	pCi/g	NV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^2-R	16-Mar-05	0.5	1	Uranium, Total	21.8	mg/kg	NV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^8-R	16-Mar-05	3.5	4	Cesium-137	0.0521	pCi/g	UNV	481155.867	1347004.562

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-53	A6WP-B-53^8-R	16-Mar-05	3.5	4	Radium-228	1.28	pCi/g	NV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^8-R	16-Mar-05	3.5	4	Technetium-99	1.74	pCi/g	UNV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^8-R	16-Mar-05	3.5	4	Thorium-228	0.994	pCi/g	NV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^8-R	16-Mar-05	3.5	4	Thorium-230	2.44	pCi/g	NV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^8-R	16-Mar-05	3.5	4	Thorium-232	1.28	pCi/g	NV	481155.867	1347004.562
A6WP-B-53	A6WP-B-53^8-R	16-Mar-05	3.5	4	Uranium, Total	6.8	mg/kg	NV	481155.867	1347004.562
A6WP-B-64	A6WP-B-64^10-R	16-Mar-05	4.5	5	Cesium-137	0.0499	pCi/g	UNV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^10-R	16-Mar-05	4.5	5	Radium-228	0.779	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^10-R	16-Mar-05	4.5	5	Technetium-99	1.4	pCi/g	UNV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^10-R	16-Mar-05	4.5	5	Thorium-228	0.652	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^10-R	16-Mar-05	4.5	5	Thorium-230	16.2	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^10-R	16-Mar-05	4.5	5	Thorium-232	0.776	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^10-R	16-Mar-05	4.5	5	Uranium, Total	124	mg/kg	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^9-R	16-Mar-05	4	4.5	Cesium-137	0.0574	pCi/g	UNV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^9-R	16-Mar-05	4	4.5	Radium-228	0.775	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^9-R	16-Mar-05	4	4.5	Technetium-99	1.36	pCi/g	UNV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^9-R	16-Mar-05	4	4.5	Thorium-228	0.705	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^9-R	16-Mar-05	4	4.5	Thorium-230	140	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^9-R	16-Mar-05	4	4.5	Thorium-232	0.772	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^9-R	16-Mar-05	4	4.5	Uranium, Total	24.7	mg/kg	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^2-R	16-Mar-05	0.5	1	Cesium-137	0.0516	pCi/g	UNV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^2-R	16-Mar-05	0.5	1	Radium-228	0.793	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^2-R	16-Mar-05	0.5	1	Technetium-99	1.71	pCi/g	UNV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^2-R	16-Mar-05	0.5	1	Thorium-228	0.689	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^2-R	16-Mar-05	0.5	1	Thorium-230	1.49	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^2-R	16-Mar-05	0.5	1	Thorium-232	0.79	pCi/g	NV	481187.375	1346977.661
A6WP-B-64	A6WP-B-64^2-R	16-Mar-05	0.5	1	Uranium, Total	5.25	mg/kg	NV	481187.375	1346977.661
A6WP-B-65	A6WP-B-65^12-R	16-Mar-05	5.5	6	Cesium-137	0.0462	pCi/g	UNV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^12-R	16-Mar-05	5.5	6	Radium-228	1.1	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^12-R	16-Mar-05	5.5	6	Technetium-99	1.28	pCi/g	UNV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^12-R	16-Mar-05	5.5	6	Thorium-228	1.07	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^12-R	16-Mar-05	5.5	6	Thorium-230	83.8	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^12-R	16-Mar-05	5.5	6	Thorium-232	1.09	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^12-R	16-Mar-05	5.5	6	Uranium, Total	247	mg/kg	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^13-R	16-Mar-05	6	6.5	Cesium-137	0.0375	pCi/g	UNV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^13-R	16-Mar-05	6	6.5	Radium-228	0.809	pCi/g	NV	481209.831	1347066.27

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-65	A6WP-B-65^13-R	16-Mar-05	6	6.5	Technetium-99	1.64	pCi/g	UNV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^13-R	16-Mar-05	6	6.5	Thorium-228	0.786	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^13-R	16-Mar-05	6	6.5	Thorium-230	2.64	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^13-R	16-Mar-05	6	6.5	Thorium-232	0.806	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^13-R	16-Mar-05	6	6.5	Uranium, Total	125	mg/kg	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^2-R	16-Mar-05	0.5	1	Cesium-137	0.0545	pCi/g	UNV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^2-R	16-Mar-05	0.5	1	Radium-228	0.515	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^2-R	16-Mar-05	0.5	1	Technetium-99	1.36	pCi/g	UNV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^2-R	16-Mar-05	0.5	1	Thorium-228	0.563	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^2-R	16-Mar-05	0.5	1	Thorium-230	2.36	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^2-R	16-Mar-05	0.5	1	Thorium-232	0.513	pCi/g	NV	481209.831	1347066.27
A6WP-B-65	A6WP-B-65^2-R	16-Mar-05	0.5	1	Uranium, Total	4.93	mg/kg	NV	481209.831	1347066.27
A6WP-B-66	A6WP-B-66^10-R	16-Mar-05	4.5	5	Cesium-137	0.0342	pCi/g	UNV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^10-R	16-Mar-05	4.5	5	Radium-228	0.597	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^10-R	16-Mar-05	4.5	5	Technetium-99	1.69	pCi/g	UNV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^10-R	16-Mar-05	4.5	5	Thorium-228	0.629	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^10-R	16-Mar-05	4.5	5	Thorium-230	2.61	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^10-R	16-Mar-05	4.5	5	Thorium-232	0.596	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^10-R	16-Mar-05	4.5	5	Uranium, Total	153	mg/kg	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^11-R	16-Mar-05	5	5.5	Cesium-137	0.0202	pCi/g	UNV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^11-R	16-Mar-05	5	5.5	Radium-228	0.873	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^11-R	16-Mar-05	5	5.5	Technetium-99	2.14	pCi/g	UNV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^11-R	16-Mar-05	5	5.5	Thorium-228	0.927	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^11-R	16-Mar-05	5	5.5	Thorium-230	4.83	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^11-R	16-Mar-05	5	5.5	Thorium-232	0.871	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^11-R	16-Mar-05	5	5.5	Uranium, Total	124	mg/kg	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^2-R	16-Mar-05	0.5	1	Cesium-137	0.0251	pCi/g	UNV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^2-R	16-Mar-05	0.5	1	Radium-228	0.633	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^2-R	16-Mar-05	0.5	1	Technetium-99	1.89	pCi/g	UNV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^2-R	16-Mar-05	0.5	1	Thorium-228	0.631	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^2-R	16-Mar-05	0.5	1	Thorium-230	2.71	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^2-R	16-Mar-05	0.5	1	Thorium-232	0.631	pCi/g	NV	481211.246	1347016.435
A6WP-B-66	A6WP-B-66^2-R	16-Mar-05	0.5	1	Uranium, Total	17.5	mg/kg	NV	481211.246	1347016.435
A6WP-B-55	A6WP-B-55^9-B	16-Mar-05	4	4.5	Cesium-137	0.0207	pCi/g	UNV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^9-B	16-Mar-05	4	4.5	Radium-228	0.451	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^9-B	16-Mar-05	4	4.5	Technetium-99	1.83	pCi/g	UNV	481270.029	1346932.011

60 42

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-55	A6WP-B-55^9-B	16-Mar-05	4	4.5	Thorium-228	0.453	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^9-B	16-Mar-05	4	4.5	Thorium-230	1.91	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^9-B	16-Mar-05	4	4.5	Thorium-232	0.45	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^9-B	16-Mar-05	4	4.5	Uranium, Total	2.29	mg/kg	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^1-B	16-Mar-05	0	0.5	Cesium-137	0.0891	pCi/g	UNV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^1-B	16-Mar-05	0	0.5	Radium-228	2.25	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^1-B	16-Mar-05	0	0.5	Technetium-99	3.63	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^1-B	16-Mar-05	0	0.5	Thorium-228	2.03	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^1-B	16-Mar-05	0	0.5	Thorium-230	72.9	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^1-B	16-Mar-05	0	0.5	Thorium-232	2.25	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^1-B	16-Mar-05	0	0.5	Uranium, Total	68	mg/kg	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^3-B	16-Mar-05	1	1.5	Cesium-137	0.0155	pCi/g	UNV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^3-B	16-Mar-05	1	1.5	Radium-228	0.511	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^3-B	16-Mar-05	1	1.5	Technetium-99	2.07	pCi/g	UNV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^3-B	16-Mar-05	1	1.5	Thorium-228	0.474	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^3-B	16-Mar-05	1	1.5	Thorium-230	4.83	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^3-B	16-Mar-05	1	1.5	Thorium-232	0.509	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^3-B	16-Mar-05	1	1.5	Uranium, Total	11.3	mg/kg	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^8-R	16-Mar-05	3.5	4	Cesium-137	0.0492	pCi/g	UNV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^8-R	16-Mar-05	3.5	4	Radium-228	0.523	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^8-R	16-Mar-05	3.5	4	Technetium-99	1.61	pCi/g	UNV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^8-R	16-Mar-05	3.5	4	Thorium-228	0.554	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^8-R	16-Mar-05	3.5	4	Thorium-230	2.1	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^8-R	16-Mar-05	3.5	4	Thorium-232	0.521	pCi/g	NV	481270.029	1346932.011
A6WP-B-55	A6WP-B-55^8-R	16-Mar-05	3.5	4	Uranium, Total	3.02	mg/kg	NV	481270.029	1346932.011
A6WP-B-56	A6WP-B-56^2-R	16-Mar-05	0.5	1	Cesium-137	0.065	pCi/g	UNV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^2-R	16-Mar-05	0.5	1	Radium-228	1.18	pCi/g	NV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^2-R	16-Mar-05	0.5	1	Technetium-99	1.81	pCi/g	UNV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^2-R	16-Mar-05	0.5	1	Thorium-228	1.09	pCi/g	NV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^2-R	16-Mar-05	0.5	1	Thorium-230	28.3	pCi/g	NV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^2-R	16-Mar-05	0.5	1	Thorium-232	1.17	pCi/g	NV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^2-R	16-Mar-05	0.5	1	Uranium, Total	134	mg/kg	NV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^8-R	16-Mar-05	3.5	4	Cesium-137	0.0477	pCi/g	UNV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^8-R	16-Mar-05	3.5	4	Radium-228	0.476	pCi/g	NV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^8-R	16-Mar-05	3.5	4	Technetium-99	1.74	pCi/g	UNV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^8-R	16-Mar-05	3.5	4	Thorium-228	0.405	pCi/g	NV	481242.228	1347068.535

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-56	A6WP-B-56^8-R	16-Mar-05	3.5	4	Thorium-230	1.29	pCi/g	NV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^8-R	16-Mar-05	3.5	4	Thorium-232	0.475	pCi/g	NV	481242.228	1347068.535
A6WP-B-56	A6WP-B-56^8-R	16-Mar-05	3.5	4	Uranium, Total	46.5	mg/kg	NV	481242.228	1347068.535
A6WP-B-58	A6WP-B-58^2-R	16-Mar-05	0.5	1	Cesium-137	0.0484	pCi/g	UNV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^2-R	16-Mar-05	0.5	1	Radium-228	0.676	pCi/g	NV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^2-R	16-Mar-05	0.5	1	Technetium-99	1.72	pCi/g	UNV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^2-R	16-Mar-05	0.5	1	Thorium-228	0.852	pCi/g	NV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^2-R	16-Mar-05	0.5	1	Thorium-230	12.5	pCi/g	NV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^2-R	16-Mar-05	0.5	1	Thorium-232	0.673	pCi/g	NV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^2-R	16-Mar-05	0.5	1	Uranium, Total	14.5	mg/kg	NV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^8-R	16-Mar-05	3.5	4	Cesium-137	0.0527	pCi/g	UNV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^8-R	16-Mar-05	3.5	4	Radium-228	0.797	pCi/g	NV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^8-R	16-Mar-05	3.5	4	Technetium-99	1.42	pCi/g	UNV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^8-R	16-Mar-05	3.5	4	Thorium-228	0.573	pCi/g	NV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^8-R	16-Mar-05	3.5	4	Thorium-230	1.39	pCi/g	NV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^8-R	16-Mar-05	3.5	4	Thorium-232	0.795	pCi/g	NV	481319.207	1347068.591
A6WP-B-58	A6WP-B-58^8-R	16-Mar-05	3.5	4	Uranium, Total	2.42	mg/kg	UNV	481319.207	1347068.591
A6WP-B-57	A6WP-B-57^2-R	16-Mar-05	0.5	1	Cesium-137	0.0319	pCi/g	UNV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^2-R	16-Mar-05	0.5	1	Radium-228	0.63	pCi/g	NV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^2-R	16-Mar-05	0.5	1	Technetium-99	1.95	pCi/g	UNV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^2-R	16-Mar-05	0.5	1	Thorium-228	0.6	pCi/g	NV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^2-R	16-Mar-05	0.5	1	Thorium-230	6.52	pCi/g	NV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^2-R	16-Mar-05	0.5	1	Thorium-232	0.629	pCi/g	NV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^2-R	16-Mar-05	0.5	1	Uranium, Total	20.3	mg/kg	NV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^8-R	16-Mar-05	3.5	4	Cesium-137	0.0212	pCi/g	UNV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^8-R	16-Mar-05	3.5	4	Radium-228	0.553	pCi/g	NV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^8-R	16-Mar-05	3.5	4	Technetium-99	2.34	pCi/g	UNV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^8-R	16-Mar-05	3.5	4	Thorium-228	0.6	pCi/g	NV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^8-R	16-Mar-05	3.5	4	Thorium-230	0.786	pCi/g	NV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^8-R	16-Mar-05	3.5	4	Thorium-232	0.551	pCi/g	NV	481304.082	1347009.905
A6WP-B-57	A6WP-B-57^8-R	16-Mar-05	3.5	4	Uranium, Total	3.38	mg/kg	NV	481304.082	1347009.905
A6WP-B-59	A6WP-B-59^2-R	16-Mar-05	0.5	1	Cesium-137	0.054	pCi/g	UNV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^2-R	16-Mar-05	0.5	1	Radium-228	1.03	pCi/g	NV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^2-R	16-Mar-05	0.5	1	Technetium-99	1.67	pCi/g	UNV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^2-R	16-Mar-05	0.5	1	Thorium-228	1.02	pCi/g	NV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^2-R	16-Mar-05	0.5	1	Thorium-230	1.06	pCi/g	NV	481399.145	1346954.476

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-B-59	A6WP-B-59^2-R	16-Mar-05	0.5	1	Thorium-232	1.02	pCi/g	NV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^2-R	16-Mar-05	0.5	1	Uranium, Total	2.46	mg/kg	UNV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^8-R	16-Mar-05	3.5	4	Cesium-137	0.036	pCi/g	UNV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^8-R	16-Mar-05	3.5	4	Radium-228	0.508	pCi/g	NV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^8-R	16-Mar-05	3.5	4	Technetium-99	1.55	pCi/g	UNV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^8-R	16-Mar-05	3.5	4	Thorium-228	0.506	pCi/g	NV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^8-R	16-Mar-05	3.5	4	Thorium-230	1.61	pCi/g	NV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^8-R	16-Mar-05	3.5	4	Thorium-232	0.506	pCi/g	NV	481399.145	1346954.476
A6WP-B-59	A6WP-B-59^8-R	16-Mar-05	3.5	4	Uranium, Total	1.81	mg/kg	NV	481399.145	1346954.476
A6WP-CWS-03	A6WP-CWS-03^1-R	14-Mar-05	0	0.5	Cesium-137	0.0201	pCi/g	UNV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^1-R	14-Mar-05	0	0.5	Radium-228	0.528	pCi/g	NV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^1-R	14-Mar-05	0	0.5	Technetium-99	1.57	pCi/g	UNV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^1-R	14-Mar-05	0	0.5	Thorium-228	0.545	pCi/g	NV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^1-R	14-Mar-05	0	0.5	Thorium-230	1.69	pCi/g	NV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^1-R	14-Mar-05	0	0.5	Thorium-232	0.526	pCi/g	NV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^1-R	14-Mar-05	0	0.5	Uranium, Total	5.78	mg/kg	NV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^8-R	14-Mar-05	3.5	4	Cesium-137	0.021	pCi/g	UNV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^8-R	14-Mar-05	3.5	4	Radium-228	0.582	pCi/g	NV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^8-R	14-Mar-05	3.5	4	Technetium-99	1.69	pCi/g	UNV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^8-R	14-Mar-05	3.5	4	Thorium-228	0.602	pCi/g	NV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^8-R	14-Mar-05	3.5	4	Thorium-230	1.34	pCi/g	NV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^8-R	14-Mar-05	3.5	4	Thorium-232	0.58	pCi/g	NV	481234.732	1346629.143
A6WP-CWS-03	A6WP-CWS-03^8-R	14-Mar-05	3.5	4	Uranium, Total	2.72	mg/kg	NV	481234.732	1346629.143
A6WP-CWS-04	A6WP-CWS-04^1-R	14-Mar-05	0	0.5	Cesium-137	6.55	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^1-R	14-Mar-05	0	0.5	Radium-228	0.514	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^1-R	14-Mar-05	0	0.5	Technetium-99	103	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^1-R	14-Mar-05	0	0.5	Thorium-228	0.613	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^1-R	14-Mar-05	0	0.5	Thorium-230	1.53	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^1-R	14-Mar-05	0	0.5	Thorium-232	0.512	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^1-R	14-Mar-05	0	0.5	Uranium, Total	65.8	mg/kg	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^8-R	14-Mar-05	3.5	4	Cesium-137	0.018	pCi/g	UNV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^8-R	14-Mar-05	3.5	4	Radium-228	0.405	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^8-R	14-Mar-05	3.5	4	Technetium-99	1.86	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^8-R	14-Mar-05	3.5	4	Thorium-228	0.358	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^8-R	14-Mar-05	3.5	4	Thorium-230	1.29	pCi/g	NV	481284.802	1346538.582
A6WP-CWS-04	A6WP-CWS-04^8-R	14-Mar-05	3.5	4	Thorium-232	0.403	pCi/g	NV	481284.802	1346538.582

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
A6WP-CWS-04	A6WP-CWS-04^8-R	14-Mar-05	3.5	4	Uranium, Total	1.23	mg/kg	NV	481284.802	1346538.582
A6WP-3S-11	A6WP-3S-11^1-R	14-Mar-05	0	0.5	Cesium-137	0.0376	pCi/g	NV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^1-R	14-Mar-05	0	0.5	Radium-228	0.651	pCi/g	NV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^1-R	14-Mar-05	0	0.5	Technetium-99	1.3	pCi/g	UNV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^1-R	14-Mar-05	0	0.5	Thorium-228	0.659	pCi/g	NV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^1-R	14-Mar-05	0	0.5	Thorium-230	1.86	pCi/g	NV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^1-R	14-Mar-05	0	0.5	Thorium-232	0.648	pCi/g	NV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^1-R	14-Mar-05	0	0.5	Uranium, Total	5.64	mg/kg	NV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^8-R	14-Mar-05	3.5	4	Cesium-137	0.0169	pCi/g	UNV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^8-R	14-Mar-05	3.5	4	Radium-228	0.792	pCi/g	NV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^8-R	14-Mar-05	3.5	4	Technetium-99	13.1	pCi/g	NV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^8-R	14-Mar-05	3.5	4	Thorium-228	0.803	pCi/g	NV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^8-R	14-Mar-05	3.5	4	Thorium-230	1.28	pCi/g	UNV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^8-R	14-Mar-05	3.5	4	Thorium-232	0.789	pCi/g	NV	481658.013	1346532.779
A6WP-3S-11	A6WP-3S-11^8-R	14-Mar-05	3.5	4	Uranium, Total	3.3	mg/kg	NV	481658.013	1346532.779
A6-SA4-22	A6-SA4-22^31-R	16-Feb-05	15	15.5	Thorium-232	0.794	pCi/g	NV	481339.931	1348298.704
A6-SA4-22	A6-SA4-22^21-R	16-Feb-05	10	10.5	Thorium-232	1.08	pCi/g	NV	481339.931	1348298.704
A6-SA4-22	A6-SA4-22^11-R	16-Feb-05	5	5.5	Thorium-232	0.921	pCi/g	NV	481339.931	1348298.704
A6-SA4-22	A6-SA4-22^1-R	16-Feb-05	0	0.5	Thorium-232	0.631	pCi/g	NV	481339.931	1348298.704
A6-SA4-22	A6-SA4-22^5-R	16-Feb-05	2	2.5	Thorium-232	0.93	pCi/g	NV	481339.931	1348298.704
A6-SA4-33	A6-SA4-33^1-R	9-Feb-05	0	0.5	Uranium, Total	11.2	mg/kg	NV	480929.012	1348182.413
A6-SA4-32	A6-SA4-32^1-R	9-Feb-05	0	0.5	Uranium, Total	16.2	mg/kg	NV	481042.199	1348253.815
PRF-1	PRF-1^1-R	28-Feb-05	0	0.5	Radium-228	0.432	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^1-R	28-Feb-05	0	0.5	Thorium-228	0.425	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^1-R	28-Feb-05	0	0.5	Thorium-232	0.432	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^1-R	28-Feb-05	0	0.5	Uranium-238	1.81	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^3-R	28-Feb-05	1	1.5	Radium-228	0.428	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^3-R	28-Feb-05	1	1.5	Thorium-228	0.433	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^3-R	28-Feb-05	1	1.5	Thorium-232	0.428	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^3-R	28-Feb-05	1	1.5	Uranium-238	0.973	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^5-R	28-Feb-05	2	2.5	Radium-228	0.49	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^5-R	28-Feb-05	2	2.5	Thorium-228	0.485	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^5-R	28-Feb-05	2	2.5	Thorium-232	0.49	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^5-R	28-Feb-05	2	2.5	Uranium-238	1.16	pCi/g	UNV	481989.609	1346358.926
PRF-1	PRF-1^7-R	28-Feb-05	3	3.5	Radium-228	0.722	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^7-R	28-Feb-05	3	3.5	Thorium-228	0.733	pCi/g	NV	481989.609	1346358.926

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
PRF-1	PRF-1^7-R	28-Feb-05	3	3.5	Thorium-232	0.722	pCi/g	NV	481989.609	1346358.926
PRF-1	PRF-1^7-R	28-Feb-05	3	3.5	Uranium-238	1.02	pCi/g	NV	481989.609	1346358.926
PRF-2	PRF-2^1-R	28-Feb-05	0	0.5	Radium-228	1.54	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^1-R	28-Feb-05	0	0.5	Thorium-228	1.53	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^1-R	28-Feb-05	0	0.5	Thorium-232	1.54	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^1-R	28-Feb-05	0	0.5	Uranium-238	15.2	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^3-R	28-Feb-05	1	1.5	Radium-228	0.704	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^3-R	28-Feb-05	1	1.5	Thorium-228	0.694	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^3-R	28-Feb-05	1	1.5	Thorium-232	0.704	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^3-R	28-Feb-05	1	1.5	Uranium-238	6.81	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^5-R	28-Feb-05	2	2.5	Radium-228	0.713	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^5-R	28-Feb-05	2	2.5	Thorium-228	0.721	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^5-R	28-Feb-05	2	2.5	Thorium-232	0.713	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^5-R	28-Feb-05	2	2.5	Uranium-238	3.66	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^7-R	28-Feb-05	3	3.5	Radium-228	0.54	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^7-R	28-Feb-05	3	3.5	Thorium-228	0.551	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^7-R	28-Feb-05	3	3.5	Thorium-232	0.54	pCi/g	NV	481902.003	1346539
PRF-2	PRF-2^7-R	28-Feb-05	3	3.5	Uranium-238	4.7	pCi/g	NV	481902.003	1346539
PRF-2E	PRF-2E^1-R	16-Mar-05			Thorium-232	1.29	pCi/g	NV	481902.002	1346544.055
PRF-2N	PRF-2N^1-R	16-Mar-05			Thorium-232	2.52	pCi/g	NV	481907.048	1346538.999
PRF-2S	PRF-2S^1-R	16-Mar-05			Thorium-232	1.68	pCi/g	NV	481896.938	1346539.029
PRF-2W	PRF-2W^1-R	16-Mar-05			Thorium-232	1.88	pCi/g	NV	481902.037	1346534.015
PRF-3	PRF-3^1-R	28-Feb-05	0	0.5	Radium-228	1.13	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^1-R	28-Feb-05	0	0.5	Thorium-228	1.13	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^1-R	28-Feb-05	0	0.5	Thorium-232	1.13	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^1-R	28-Feb-05	0	0.5	Uranium-238	12.4	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^3-R	28-Feb-05	1	1.5	Radium-228	0.659	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^3-R	28-Feb-05	1	1.5	Thorium-228	0.648	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^3-R	28-Feb-05	1	1.5	Thorium-232	0.659	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^3-R	28-Feb-05	1	1.5	Uranium-238	1.74	pCi/g	UNV	481680.962	1346319.905
PRF-3	PRF-3^5-R	28-Feb-05	2	2.5	Radium-228	0.656	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^5-R	28-Feb-05	2	2.5	Thorium-228	0.676	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^5-R	28-Feb-05	2	2.5	Thorium-232	0.656	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^5-R	28-Feb-05	2	2.5	Uranium-238	1.7	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^7-R	28-Feb-05	3	3.5	Radium-228	0.406	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^7-R	28-Feb-05	3	3.5	Thorium-228	0.394	pCi/g	NV	481680.962	1346319.905

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
PRF-3	PRF-3^7-R	28-Feb-05	3	3.5	Thorium-232	0.406	pCi/g	NV	481680.962	1346319.905
PRF-3	PRF-3^7-R	28-Feb-05	3	3.5	Uranium-238	0.874	pCi/g	NV	481680.962	1346319.905
PRF-4	PRF-4^1-R	28-Feb-05	0	0.5	Radium-228	1.03	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^1-R	28-Feb-05	0	0.5	Thorium-228	1.01	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^1-R	28-Feb-05	0	0.5	Thorium-232	1.03	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^1-R	28-Feb-05	0	0.5	Uranium-238	9.18	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^3-R	28-Feb-05	1	1.5	Radium-228	0.625	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^3-R	28-Feb-05	1	1.5	Thorium-228	0.635	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^3-R	28-Feb-05	1	1.5	Thorium-232	0.625	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^3-R	28-Feb-05	1	1.5	Uranium-238	1.41	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^5-R	28-Feb-05	2	2.5	Radium-228	0.573	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^5-R	28-Feb-05	2	2.5	Thorium-228	0.566	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^5-R	28-Feb-05	2	2.5	Thorium-232	0.573	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^5-R	28-Feb-05	2	2.5	Uranium-238	1.5	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^7-R	28-Feb-05	3	3.5	Radium-228	0.618	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^7-R	28-Feb-05	3	3.5	Thorium-228	0.628	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^7-R	28-Feb-05	3	3.5	Thorium-232	0.618	pCi/g	NV	481481.078	1346306.982
PRF-4	PRF-4^7-R	28-Feb-05	3	3.5	Uranium-238	1.21	pCi/g	NV	481481.078	1346306.982
PRF-5	PRF-5^1-R	28-Feb-05	0	0.5	Radium-228	1.04	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^1-R	28-Feb-05	0	0.5	Thorium-228	1.04	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^1-R	28-Feb-05	0	0.5	Thorium-232	1.04	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^1-R	28-Feb-05	0	0.5	Uranium-238	11.8	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^3-R	28-Feb-05	1	1.5	Radium-228	0.548	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^3-R	28-Feb-05	1	1.5	Thorium-228	0.553	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^3-R	28-Feb-05	1	1.5	Thorium-232	0.548	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^3-R	28-Feb-05	1	1.5	Uranium-238	5.1	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^5-R	28-Feb-05	2	2.5	Radium-228	0.701	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^5-R	28-Feb-05	2	2.5	Thorium-228	0.711	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^5-R	28-Feb-05	2	2.5	Thorium-232	0.701	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^5-R	28-Feb-05	2	2.5	Uranium-238	6	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^7-R	28-Feb-05	3	3.5	Radium-228	0.434	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^7-R	28-Feb-05	3	3.5	Thorium-228	0.453	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^7-R	28-Feb-05	3	3.5	Thorium-232	0.434	pCi/g	NV	481394.952	1346322.28
PRF-5	PRF-5^7-R	28-Feb-05	3	3.5	Uranium-238	0.826	pCi/g	NV	481394.952	1346322.28
PRB-1	PRB-1^13-R	22-Feb-05	6	6.5	Technetium-99	0.793	pCi/g	UNV	481563.826	1346234.732
PRB-1	PRB-1^13-R	22-Feb-05	6	6.5	Uranium, Total	9.58	mg/kg	NV	481563.826	1346234.732

6042

APPENDIX A
PREDESIGN CHARACTERIZATION DATA FOR AREA 6 GENERAL AREA

Boring	Sample ID	Sample Date	Sample Depth (feet)		Parameter	Result	Units	Qualifier	Northing	Easting
			Top	Bottom						
PRB-1	PRB-1^21-R	22-Feb-05	10	10.5	Technetium-99	0.87	pCi/g	UNV	481563.826	1346234.732
PRB-1	PRB-1^21-R	22-Feb-05	10	10.5	Uranium, Total	7.92	mg/kg	NV	481563.826	1346234.732
PRB-1	PRB-1^2-R	22-Feb-05	0.5	1	Technetium-99	0.804	pCi/g	UNV	481563.826	1346234.732
PRB-1	PRB-1^2-R	22-Feb-05	0.5	1	Uranium, Total	7.6	mg/kg	NV	481563.826	1346234.732
PRB-1	PRB-1^7-R	22-Feb-05	3	3.5	Technetium-99	0.792	pCi/g	UNV	481563.826	1346234.732
PRB-1	PRB-1^7-R	22-Feb-05	3	3.5	Uranium, Total	13.3	mg/kg	NV	481563.826	1346234.732
PRB-2	PRB-2^13-R	22-Feb-05	6	6.5	Technetium-99	0.807	pCi/g	UNV	481332.641	1346317.774
PRB-2	PRB-2^13-R	22-Feb-05	6	6.5	Uranium, Total	3.37	mg/kg	UNV	481332.641	1346317.774
PRB-2	PRB-2^21-R	22-Feb-05	10	10.5	Technetium-99	0.795	pCi/g	UNV	481332.641	1346317.774
PRB-2	PRB-2^21-R	22-Feb-05	10	10.5	Uranium, Total	6.91	mg/kg	NV	481332.641	1346317.774
PRB-2	PRB-2^2-R	22-Feb-05	0.5	1	Technetium-99	0.793	pCi/g	UNV	481332.641	1346317.774
PRB-2	PRB-2^2-R	22-Feb-05	0.5	1	Uranium, Total	8.1	mg/kg	NV	481332.641	1346317.774
PRB-2	PRB-2^7-R	22-Feb-05	3	3.5	Technetium-99	0.814	pCi/g	UNV	481332.641	1346317.774
PRB-2	PRB-2^7-R	22-Feb-05	3	3.5	Uranium, Total	5.93	mg/kg	NV	481332.641	1346317.774
PRB-3	PRB-3^13-R	22-Feb-05	6	6.5	Technetium-99	0.793	pCi/g	UNV	481151.797	1346401.279
PRB-3	PRB-3^13-R	22-Feb-05	6	6.5	Uranium, Total	6.06	mg/kg	UNV	481151.797	1346401.279
PRB-3	PRB-3^21-R	22-Feb-05	10	10.5	Technetium-99	0.856	pCi/g	UNV	481151.797	1346401.279
PRB-3	PRB-3^21-R	22-Feb-05	10	10.5	Uranium, Total	5.98	mg/kg	UNV	481151.797	1346401.279
PRB-3	PRB-3^2-R	22-Feb-05	0.5	1	Technetium-99	0.78	pCi/g	UNV	481151.797	1346401.279
PRB-3	PRB-3^2-R	22-Feb-05	0.5	1	Uranium, Total	6.64	mg/kg	NV	481151.797	1346401.279
PRB-3	PRB-3^7-R	22-Feb-05	3	3.5	Technetium-99	0.798	pCi/g	UNV	481151.797	1346401.279
PRB-3	PRB-3^7-R	22-Feb-05	3	3.5	Uranium, Total	15.1	mg/kg	NV	481151.797	1346401.279
PRB-4	PRB-4^13-R	22-Feb-05	6	6.5	Technetium-99	0.796	pCi/g	UNV	481089.63	1346471.321
PRB-4	PRB-4^13-R	22-Feb-05	6	6.5	Uranium, Total	5.03	mg/kg	NV	481089.63	1346471.321
PRB-4	PRB-4^21-R	22-Feb-05	10	10.5	Technetium-99	0.815	pCi/g	UNV	481089.63	1346471.321
PRB-4	PRB-4^21-R	22-Feb-05	10	10.5	Uranium, Total	4.73	mg/kg	UNV	481089.63	1346471.321
PRB-4	PRB-4^2-R	22-Feb-05	0.5	1	Technetium-99	0.805	pCi/g	UNV	481089.63	1346471.321
PRB-4	PRB-4^2-R	22-Feb-05	0.5	1	Uranium, Total	5.09	mg/kg	UNV	481089.63	1346471.321
PRB-4	PRB-4^7-R	22-Feb-05	3	3.5	Technetium-99	0.802	pCi/g	UNV	481089.63	1346471.321
PRB-4	PRB-4^7-R	22-Feb-05	3	3.5	Uranium, Total	8.47	mg/kg	NV	481089.63	1346471.321

6042

APPENDIX B

REAL-TIME MAP OF AREA 6 WASTE PITS AND GENERAL AREA

6012

A6, Waste Pits Footprint, Initial Surface Scan Composite

Nal Batch #s:
RSS1-1184,1269,1277,1511,1520,1526,1579,1582,1592,1604,1605,1609,1625,
1652,1655,1659,1665,1684,1702,1718,1727,1735,1738,1739,1745,1748,1751,1754
RSS2-758,841,844,852,897,908
RSS3- 619,627,640,681,717,727,739,755,762,778,781,806
EMS-303,306,309,310,318,322,345,346,349,352,355,358,364,368,378
Gator-412
Measurement Period: 07/13/04 - 05/17/2005

N

Sodium Iodide
Total U (ppm)

- -9999 to 875
- 875 to 9999

RTIMP DWG Title: A6_WPRAP_ALL Pits_SF_TU.srf
Project Name: Gen Char for Site Soil Rem
Project #: 20300-PSP-0011
Verified By: D.Seiller
Date Verified: 05/20/2005
Support Data: A6_WPRAP_All Pits_SF_NaI.xls

6042

APPENDIX C

LIST OF DRAWINGS AND TECHNICAL SPECIFICATIONS

6042

APPENDIX C
LIST OF DRAWINGS AND TECHNICAL SPECIFICATIONS

The following drawings and specifications have been submitted along with this Excavation Plan to constitute the IRDP for Area 6 Waste Pits and General Area:

IRDP DRAWINGS

Drawing Number	Sheet	Title
99X-5500-X-00846	X-1	Waste Pits Areas Master Plan and Drawing Index
99X-5500-X-00847	X-2	Legend and General Notes
99X-5500-G-00848	G-1	Pit 1 and Pit 2 Grading Plan
99X-5500-G-00849	G-2	Pit 3 Grading Plan (South)
99X-5500-G-00850	G-3	Pit 3 Grading Plan (North)
99X-5500-G-00851	G-4	Pit 4 and Burn Pit Grading Plan
99X-5500-G-00852	G-5	Pit 5 Grading Plan
99X-5500-G-00853	G-6	Pit 6, SWM Pond Grading Plan
99X-5500-G-00854	G-7	Clearwell Area Grading Plan
99X-5500-G-00855	G-8	WPRAP Support Area Grading Plan
99X-5500-G-00856	G-9	WPRAP Process Area (North) Grading Plan
99X-5500-G-00857	G-10	WPRAP Process Area (South) Grading Plan
99X-5500-G-00858	G-11	Bio-Surge Lagoon Grading Plan
99X-5500-G-00859	G-12	Stockpile 7 Area Grading Plan
99X-5500-G-00860	G-13	OU1 Railyard Grading Plan (East)
99X-5500-G-00861	G-14	OU1 Railyard Grading Plan (West)
99X-5500-G-00862	G-15	Former Solid Waste Landfill Grading Plan (East)
99X-5500-G-00863	G-16	Former Solid Waste Landfill Grading Plan (West)
99X-5500-G-00864	G-17	Area West of Waste Pits Grading Plan (North)
99X-5500-G-00865	G-18	Area West of Waste Pits Grading Plan (South)
99X-5500-G-00871	G-19	Western Railroad Spur Grading Plan
99X-5500-G-00866	G-20	Dewatering Plan (West)
99X-5500-G-00867	G-21	Dewatering Plan (East)
99X-5500-G-00868	G-22	Remediation Plan (West)
99X-5500-G-00869	G-23	Remediation Plan (East)
99X-5500-G-00870	G-24	Civil Details

For a list of utility grid and technical reference drawings included in this package, see Drawing 99X-5500-X-00846.

IRDP TECHNICAL SPECIFICATIONS

The following technical specifications make up the Area 6 Waste Pits and General Area technical specification package:

Technical Specifications for SDFP Excavation for Remediation, Document 20300-TS-0001

Section	Title
02150	Traffic Control
02205	Impacted Material Excavation
02206	Earthwork for Remediation
02207	Area Isolation Trenching
02275	Surface Water Management and Erosion Control for Remediation

SPECIFICATIONS REFERENCED FROM OSDF DESIGN

The following specifications are referenced in this design from the OSDF technical specifications and will be applicable to this remediation effort:

Specifications Referenced from OSDF Design:
OSDF Phase V Technical Specifications, Part of Document 20105-TS-0001

Section	Title
02100	Surveying
02200	Earthwork
02215	Trenching and Backfilling
02230	Road Construction
02270	Surface Water Management and Erosion Control
02714	Geotextiles
02930	Vegetation

U.S. DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

REFERENCED OSDF SPECIFICATIONS
(Part of 20105-TS-0001)

02100	Surveying
02200	Earthwork
02215	Trenching and Backfilling
02230	Road Construction
02270	Surface Water Management and Erosion Control
02714	Geotextiles
02930	Vegetation

6042

SECTION 02100

SURVEYING

PART 1 GENERAL

1.01 SCOPE

A. This Section includes the requirements for surveying. Requirements include, but shall not be limited to:
   1. establishing permanent and temporary survey benchmarks and control points;
   2. establishing a horizontal and vertical project control system based on existing benchmarks;
   3. setting limits and boundaries of construction activities;
   4. performing support surveys and surveys for conformance checks, "red-line" drawings, and sketches, and to determine measurement of quantities for periodic progress payments and final payment;
   5. preparing and furnishing "red-line" drawings and sketches; and
   6. surveys for Excavation Project.

1.02 RELATED SECTIONS AND PLANS

A. Section 02110 - Clearing, Grubbing, and Stripping

B. Section 02200 - Earthwork

C. Section 02205 - Impacted Material Excavation

D. Section 02206 - Earthwork for Remediation

E. Section 02207 - Area Isolation Trenching

F. Section 02215 - Trenching and Backfilling

G. Section 02225 - Compacted Clay Liner and Cap

H. Section 02230 - Road Construction

I. Section 02240 - Non-Impacted Protective and Contouring Layers

J. Section 02250 - Vegetative Soil Layer

K. Section 02270 - Surface-Water Management and Erosion Control

6042

L. Section 02271 - Riprap

M. Section 02275 - Surface Water Management and Erosion Control for Remediation

N. Section 02280 - Biointrusion Barrier

O. Section 02605 - High-Density Polyethylene (HDPE) Pipes and Fittings

P. Section 02710 - Granular Drainage Material

Q. Section 02712 - Granular Filter Material

R. Section 02721 - Culverts

S. Section 02770 - Geomembrane Liner and Cap

T. Section 02831 - Chain-Link Fences and Gates

U. Section 02920 - Topsoil

V. Section 13000 - Borrow Area Management

W. Section 13005 - Liner Penetration Boxes

X. Section 13010 - Impacted Materials Placement

Y. Impacted Materials Placement (IMP) Plan

Z. Fluor Fernald Traveler Package

AA. Construction Quality Assurance (CQA) Plan

BB. Soil Disposal Facility Project Integrated Health and Safety Plan, Document Number 20100-HS-002

1.03 REFERENCES

A. National Geodetic Survey (NGS) Standards.

1.04 QUALIFICATIONS

A. Oversight for the survey work shall be provided and certified by a Land Surveyor licensed in the State of Ohio.

B. Surveying work shall be performed under the direct supervision of a person who has at least 5 years of experience in construction surveying.

C. Work performed in referencing or re-establishment of land or United States survey monuments shall be signed and sealed by a Land Surveyor licensed in the State of Ohio.

1.05 SUBMITTALS

A. Submit a copy of Land Surveyor's license and a résumé of the person supervising the surveys to the Construction Manager within 10 calendar days from Notice to Proceed.

B. For each liner and cap submit two copies of proposed control points on a minimum 50-foot grid for verification of the following surfaces at least 3 days prior to commencement of work:
   1. subgrade for roads, clay liner, and for other locations shown on the construction drawings;
   2. top of compacted clay liner;
   3. top of protective clay layer in Area 1;
   4. top of contouring layer;
   5. top of compacted clay cap;
   6. top of protective clay layer in Area 4; and
   7. top of topsoil layer.

C. Submit electronic files and two hard copies of the survey notes, sketches, and drawings for the following surveys to the Construction Manager within one week of performance:
   1. preliminary surveys;
   2. intermediate surveys;
   3. written statement and surveys for conformance checks and "red-line" drawings;
   4. surveys prior to end of construction season and/or winter shutdown;
   5. survey at completion of impacted material excavation specified in Section 02205 of the following:
      a. above Waste Acceptance Criteria (WAC) material;
      b. above Final Remedial Level (FRL) material;
      c. Resource Conservation and Recovery Act (RCRA) hazardous waste;
      d. underground storage tanks and/or associated soil; and
      e. Hazardous Waste Management Units (HWMUs);

6042

6. survey at completion of the Contract;
7. measurement and payment surveys; and
8. final surveys.

D. On request by the Construction Manager, submit documentation verifying accuracy of survey work.

E. Upon completion of the survey work, provide the Construction Manager the original field notes, layout, computations, signed and sealed sketches and drawings in Microstation V.8 ".dgn" format or electronic files in other format approved by the Construction Manager.

F. One complete set of final "red-line" drawings, sketches, and survey notes signed and sealed by a Land Surveyor licensed in the State of Ohio shall be submitted to the Construction Manager within 15 days of completion of the Contract. Drawing and sketch format shall be Microstation V.8 ".dgn" or electronic files in other format approved by the Construction Manager. Survey notes shall include a point listing with coordinates, elevation, and description.

1.06 PROJECT RECORD DOCUMENTS

A. Maintain on site, a complete, accurate log documenting survey work as it progresses.

B. Maintain on-site, a plan showing survey control points, and benchmarks with coordinates and elevations.

C. Maintain on-site, an accurate and current set of marked-up "red-line" drawings showing "as-built" conditions. "As-built" conditions shall be marked-up on "red-line" drawings within two (2) weeks of completion of the respective construction activity.

1.07 HEALTH AND SAFETY REQUIREMENTS

A. Environmental health & safety/training requirements shall be in accordance with Contract Documents, Soil Disposal Facility Project Integrated Health and Safety Plan, and Fluor Fernald Traveler Package.

1.08 CONTRACTOR'S QUALITY ASSURANCE

A. Contractor's quality assurance requirements shall be in accordance with Contract Documents, the CQA Plan, and this Section.

PART 2 PRODUCTS

2.01 MATERIALS AND SURVEY INSTRUMENTS

A. Provide materials as required to properly perform the surveys, including, but not limited to, personal protective equipment, instruments, tapes, rods, measures, mounts and tripods, stakes and hubs, nails, ribbons, other reference markers, and all else as required.

B. The survey instruments used for this work shall be precise and accurate to meet the needs of the project. Survey instruments shall be capable of reading to a precision of 0.001 feet and with a setting accuracy of ±8 seconds.

PART 3 EXECUTION

3.01 GENERAL

A. Maintain accurate and complete notes of surveys:
   1. Handwritten survey field notes and information shall be documented. A copy of the numbered, dated, and signed documentation shall be given to the Construction Manager weekly or upon request by the Construction Manager. Survey notes shall be legibly recorded. Notation shall be consistently applied to survey work. The stake marking format and the document notations shall be compatible. Identify survey benchmarks on the field notes, sketches, and drawings.
   2. Electronically collected field survey information shall be stored, for retrieval and submittal if requested by the Construction Manager, during the period of performance of the Contract.
      a. Electronic format for printed output of data collector field survey notes shall be compatible with the approved field notation format.
      b Electronic format for printed output of data collector survey work shall be compatible with the Contractor's computer equipment and software specified in this Section for verifying and checking the work. A copy of the data disk shall be submitted to the Construction Manager monthly.
   3. Submit electronic file and two hard copies of above information when requested by the Construction Manager

B. During construction, survey notes shall be retained by the Contractor and Land Surveyor.

C. Perform surveys for conformance checks specified in this Section. Contractor shall submit a written statement with conformance surveys certifying compliance of the preceding layer thickness, limits, and grades to the Construction Manager.

D. The precision of horizontal and vertical controls shall meet or exceed Third-Order Class I and Third-Order accuracies, respectively, as defined by NGS Standards.

E. Conformance check surveys for elevation and for horizontal coordinates shall be recorded to the nearest 0.01 feet and for angles shall be to the nearest 20 seconds.

F. Measurement and payment surveys for elevation and for horizontal distances shall be recorded to the nearest 0.1 feet and 0.05 feet, respectively.

G. Final "red-line" drawings and sketches shall be signed and sealed for method and accuracy of work by the Land Surveyor.

H. Perform construction layout surveys in advance of scheduled construction activities. At completion of a survey, provide a copy of the field notes, drawings, or sketches to the Construction Manager for review. The Contractor shall allow the CQC Consultant and/or Construction Manager three working days for review of conformance surveys. The Contractor shall be responsible for rework and/or construction delays caused by survey or staking errors.

I. Set grade and slope stakes required for construction activities as the work progresses. Staking shall be in accordance with accepted surveying practices, provisions herein, and subject to Construction Manager review. Set fine grade stakes on all surfaces for which the plans show a definite grade line. Grade stakes shall not be permitted on soil layers overlying any geosynthetic material within 12 inches of the geosynthetic material or on the contouring layer and first lift of compacted clay cap.

J. Verify pipe alignment and elevation. The Contractor shall:
   1. check layout and elevation of pipe embedment fill prior to pipe placement;
   2. check pipe alignment during placement and backfill; and
   3. verify alignment and elevation at top of pipe after pipe has been backfilled to top of pipe at a maximum interval of 25 feet.

K. Upon completion of the work, the Contractor shall provide the Construction Manager with original survey field notes, layouts, computations, and electronic files, binders containing electronic file information and one copy each of electronic files specified in this Section.

L Protect benchmarks and survey control points. Replace disturbed survey control points and benchmarks at no additional cost.

M. Establish temporary survey control points to support construction work activities.

N. Survey control points, accuracy, and documentation:
   1. Record the following information in survey notebooks for each control point established:
      a. designation of control point;
      b. coordinates based on State Planar North American Datum (NAD) 1983 Ohio South;
      c. elevations based on National Geodetic Vertical Datum (NGVD);
      d. date of establishment;
      e. description and sketch of the control point location; and
      f. control points referenced to a minimum of three features that can be seen from the control point.
   2. Document survey work in the fieldbooks using the format and procedures described below:
      a. title and consecutive fieldbook number on the front cover;
      b. consecutively numbered pages;
      c. table of contents, indicated by survey task, on the first numbered page;
      d. legend indicating symbols used in survey notes;
      e. names of survey team for each task;
      f. notes on weather, equipment, etc.;
      g. date and time on each page to indicate when work was recorded;
      h. notes in a uniform character such that they can be interpreted and used by anyone with survey knowledge; and
      i. description and/or sketches of the existing survey control used.

O. Provide hardware and software to download data to Fluor Fernald computers as approved by Engineering Manager.

3.02 SUPPORT SURVEYS

A. Preliminary Surveys:
   1. Verification of the Existing Conditions:
      a. Prior to the start of clearing and earthwork activities, verify the accuracy of the existing conditions shown on the Construction Drawings and Reference Drawings. Immediately notify the Construction Manager in writing of deviations from the existing conditions indicated on the Construction Drawings and Reference Drawings that affect construction cost and/or schedule.
   2. Verify the existing benchmarks, structures, utilities, wells, topography, surface-water management and erosion control measures, construction safety and radiological-control fences, sedimentation basins and appurtenances, drainage features, and existing stockpiles of materials and quantities shown on the Construction Drawings, Reference Drawings, or specified in the Contract. Notify

the Construction Manager of any differences or conflicts with work included in this Contract.

3. Verify Mid-Valley Pipeline Easement as shown on the Construction Drawings adjacent to battery limits. Stake western limits of easement at 50-foot intervals.
4. Establish construction limits required for installation of the construction safety fence and radiological-control fence specified in Section 02200.
5. Establish location for the installation of the surface-water management and erosion control measures specified in Sections 02270, 02271, and 02275.
6. Clearing Limit Staking: Stake clearing limits specified in Section 02110.
7. Alignment and Existing Ground Staking: Following clearing operations and before stripping operations begin, preliminary locations of alignments and/or baseline of project features shall be established. Perform topographic surveys to describe original ground features before stripping or excavation begins. The distance between grid points shall not exceed 50 feet, and all breaks shall be noted.
8. Earthwork Staking: Staking for excavation and fill limits shall establish the exterior limits of excavations and fills. The maximum staking interval shall be 50 feet. Stakes shall be prominently noted with description of point, vertical distance to design elevation, and offset distance as applicable.
9. Perform additional surveys required for the layout of other construction activities.
10. Prior to construction activities in remedial excavation areas specified in Sections 02205 and 02207, perform topographic surveys of above-WAC and impacted runoff catchment area (IRCA) stockpiles, staging areas, excavation areas, and concrete crushing support areas at minimum 50-foot intervals with additional points as follows:
    a. grade breaks;
    b. points of horizontal curvature and tangency;
    c. edge and corners of concrete or asphalt pads, slabs, catch basins, and manholes;
    d. above-grade obstructions (e.g., fire hydrants, utility poles, handrails, etc.); and
    e. ditches, channels, and depressions.

    In addition, spot check slab elevations as indicated on applicable building foundation reference drawings. This includes basement, pit, sump, and other below-grade slab elevations.
11. Prior to area isolation trench excavation specified in Section 02207, survey the trench location and stake the centerline of the trenches.
12. Initial limits of excavation specified in Section 02207 shall be surveyed and staked after the completion of excavation of area isolation trenches.
13. The centerline of the completed area isolation trench specified in Section 02207 shall be surveyed with reference to the permanent trench monuments and staked after the completion of trenching. Provide redline mark-ups showing where the

trench deviates from the design location by more than the maximum lateral tolerance specified in Section 02207. The Contractor will identify the area isolation trench using a rope boundary. The rope will be a color other than orange, yellow, or magenta.

B. Intermediate Surveys:

1. Perform surveys during progress of the construction activities to verify the accuracy of work and as directed by the Construction Manager. These surveys include, but are not limited to, surveys of the subgrade excavation; compacted clay liner and cap; LDS, LCS, and cover drainage layers; protective layer; contouring layer; biointrusion barrier layer; granular filter; vegetative soil layer; topsoil; LDS and LCS piping; horizontal monitoring wells; select impacted material layer; impacted material layer; and other surveys directed by the Construction Manager.
2. Perform surveys for the impacted material placement and stockpiles as follows:
   a. Survey the locations and surface of impacted material placement when the category of impacted material changes in any given grid. Survey the locations and surface of the previous layers prior to changing impacted material category within the grid.
   b. Survey the locations and surface of completed impacted material lifts in any grid where placement occurs at or near the end of the workday.
   c. Survey the impacted material placed in the OSDF every week and within one working day of the last day of the month. This survey shall include locations, elevations, category of impacted materials, and pertinent information in ASCII format necessary to develop a 3-D topographic computer generated surface.
   d. Perform interim surveys of impacted material stockpiles or other areas designated by the Construction Manager. This survey shall include volume (CY) remaining in the stockpiles or in designated areas.
   e. Survey the impacted material surface in the OSDF, including the cell access ramps, at the completion of the construction season activities.
3. Perform surveys for measurement and periodic progress payment as specified in this Section.
4. Perform surveys during progress of impacted material excavations specified in Section 02205 to confirm limits of the excavation.
5. Perform survey if either the unsaturated sands and gravel of the Great Miami Aquifer (GMA) are encountered or excavation has reached the GMA elevation as indicated on the Construction Drawings.
6. Perform surveys after the installation of the first 2 feet of GMA plug placement to confirm 2 feet thickness.
7. Perform surveys upon restoration of the minimum 5-feet protective cover over the unsaturated sands and gravel of the GMA.

8. Perform surveys when establishing new Special Material Transfer Areas.
9. Prior to obtaining GMA plug material as specified in Section 02206, perform topographic survey and establish work limits of designated borrow areas.
10. Perform survey at the completion of each supplemental excavation.

C. Final Surveys:
1. Final topography shall be surveyed at nominal 50-foot intervals. Additionally, the following points shall be surveyed as applicable:
   a. grade breaks;
   b. points of horizontal curvature and tangency; and
   c. points of stationing equation.
2. Structures: Survey structure centerlines or building lines so that the orientation, position, limits, and foundation elevation(s) are positively identified.
3. Ditches and Channels: Survey ditches, channels, and culverts as specified in Sections 02270, 02275, and 02721.
4. Limits of Final Excavations: Survey limits of final impacted material excavations.
5. Pipes: Utility pipes shall be surveyed at nominal 25-foot intervals at the top of pipe. Surface-water management pipes shall be surveyed at inlet and outlet inverts and along perimeter of riprap protection.

3.03 SURVEYS FOR MEASUREMENT AND PAYMENT

A. Perform surveys for periodic progress payments and final payment to determine quantities of work and percent of completed work. Quantities to be measured and measurements for quantities shall be as specified in Part 6 of the Contract Documents.

B. Calculate and certify quantities of work and submit survey notes and calculations to the Construction Manager for review, evaluation, and payment.

3.04 SURVEYS FOR CONFORMANCE CHECKS AND "RED-LINE" DOCUMENTS

A. Survey the following to verify the locations, lines, and grades achieved during construction for conformance checks and "red-line" documents:
1. for berms, roads, ditches, and other earthwork specified in Sections 02200, 02206, 02230, and 02270:
   a. original grade surface;
   b. compacted surface of cut slopes; and
   c. finished grade surface;
2. for culverts and other surface-water management and erosion control structures specified in Sections 02270 and 02721:
   a. original grade surface;
   b. pipe inverts; and

c. finished grade surface including riprap protection at inverts;

3. for the subgrade specified in Section 02200:
   a. prepared subgrade surface;
4. for the trenching and backfilling specified in Section 02215;
   a. bottom of the liner system anchor trench and pipe trench and top of finished compacted backfill; and
   b. pipes and culverts;
5. for the compacted clay liner specified in Section 02225:
   a. finished compacted clay liner surface;
6. for the liner penetration boxes specified in Section 13005 and shown on the Construction Drawings:
   a. original grade surface; and
   b. top of liner penetration boxes;
7. for the LDS, LCS, and cover drainage layers, and piping specified in Sections 02605 and 02710:
   a. finished grade surface;
   b. horizontal monitoring wells; and
   c. piping system, including location of each joint;
8. for the granular filter specified in Section 02712:
   a. finished granular filter surface;
9. for the compacted clay cap specified in Section 02225:
   a. prepared top of non-impacted contouring layer surface; and
   b. finished compacted clay cap surface;
10. for the geomembrane liner specified in Section 02770:
    a. anchor trench;
    b. top and bottom of side slopes;
    c. seam intersections;
    d. repairs; and
    e. location of destructive testing;
11. for the non-impacted protective layer specified in Section 02240:
    a. finished protective layer surface;
12. for impacted material placement surface specified in Section 13010:
    a. top of protective layer surface;
    b. top of select impacted material layers (liner and final cover system) surfaces;
    c. top of final impacted material surface (prior to placement of select impacted material layer in final cover system); and
    d. Category 5 material placement per specialized placement plans as specified in the IMP Plan.
13. for biointrusion barrier specified in Section 02280:
    a. finished biointrusion barrier surface;

14. for topsoil specified in Section 02920;
    a. top of topsoil surface;
15. for chain-link fences and gates specified in Section 02831:
    a. location and alignment;
16. for the borrow area specified in Section 13000;
    a. test pits used for pre-conformance testing; and
    b. finished grades of interim restoration of borrow subareas;
17. centerlines at nominal 50-foot intervals and at points of intersection of area isolation trenches specified in Section 02207.

B. Drawings and sketches for the items described in this Section shall include the following:
1. North arrow, graphical scale, title block, and legend;
2. Northing and Easting grid lines;
3. spot grade location and elevation on plan including list of coordinates with point number, northing, easting, and elevation in table format;
4. 1-foot contour lines;
5. location of structures;
6. labeled components;
7. for geomembrane liner and cap plans:
    a. all seams;
    b. panel identification numbers;
    c. location of top of slope, toe of slope, anchor trench, and limits of geomembrane;
    d. repair location and identifying number; and
    e. destructive testing location and identifying number.
8. for pipe profiles:
    a. original grades with stationing;
    b. final grades with stationing; and
    c. pipe with inverts, slopes, pipe material, pipe size, and length of pipe.

C. Perform conformance checks and "red-line" surveying immediately upon completion of a given installation or excavation activity to facilitate progress and avoid delaying commencement of the next installation. Provide the following minimum spacings and locations for survey points (additional survey points may be required if field conditions warrant):
1. surfaces with gradients less than 10 percent, survey on a square grid spaced not wider than 50 feet;
2. on slopes greater than 10 percent, a square grid spaced not wider than 50 feet shall be used, but in any case, a line at the crest and toe of the slope shall be taken; if the slope distance is greater than 50 feet, a midpoint slope survey point is required;

3. a line of survey points spaced not more than 50 feet apart shall be taken along any slope break (this will include the inside edge and outside edge of any bench on a slope);
4. a line of survey points spaced not more than 25 feet apart shall be taken at the top of any pipes or other appurtenances; and
5. at the corners and midpoints of the top and bottom of slope breaks for liner penetration areas in cells.

[END OF SECTION]

SECTION 02200

EARTHWORK

PART 1 GENERAL

1.01 SCOPE

A. This Section includes site preparation including construction safety fence and radiological-control fence, surface-water management and erosion control, excavation, dewatering, stockpiling, subgrade and top of contouring layer preparation, compacted fill, and clayey rockfill.

1.02 RELATED SECTIONS AND PLANS

A. Section 02100 - Surveying

B. Section 02110 - Clearing, Grubbing, and Stripping

C. Section 02150 - Traffic Control

D. Section 02205 - Impacted Material Excavation

E. Section 02206 – Earthwork for Remediation

F. Section 02215 - Trenching and Backfilling

G. Section 02225 - Compacted Clay Liner and Cap

H. Section 02230 - Road Construction

I. Section 02240 - Non-Impacted Protective and Contouring Layers

J. Section 02250 - Vegetative Soil Layer

K. Section 02270 - Surface-Water Management and Erosion Control

L. Section 02271 - Riprap

M. Section 02280 - Biointrusion Barrier

N. Section 02605 - High-Density Polyethylene (HDPE) Pipes and Fittings

O. Section 02710 - Granular Drainage Material

P. Section 02712 - Granular Filter Material

Q. Section 02714 - Geotextiles

R. Section 02721 - Culverts

S. Section 02831 - Chain-Link Fences and Gates

T. Section 02920 - Topsoil

U. Section 02930 - Vegetation

V. Section 13000 - Borrow Area Management

W. Section 13005 - Liner Penetration Boxes

X. Section 13010 - Impacted Materials Placement

Y. Construction Quality Assurance (CQA) Plan

Z. Fluor Fernald Traveler Package

AA. Soil Disposal Facility Project Integrated Health and Safety Plan, Document Number 20100-HS-002

1.03 REFERENCES

A. Latest version of American Society for Testing and Materials (ASTM) Standards:
   1. ASTM D 698. Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3)).
   2. ASTM D 2487. Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).

B. Reference Reports addressing On-Site Disposal Facility (OSDF) and borrow area site subsurface conditions:
   1. *"Geotechnical Investigation Report, On-Site Disposal Facility"* [Parsons, 1995]. This report contains geotechnical data for the subsurface soils in the OSDF area.
   2. *"Disposal Facility Pre-Design Geotechnical Investigation, Soil Investigation Data Report, CERCLA-RCRA Unit 2"* [Science Applications International Corporation, 1995]. This report presents geotechnical data for the subsurface soils in the OSDF area.

3. *"Geotechnical Data and Evaluation Report for East and South Field Borrow Areas"* [Parsons, 1996]. This report contains geotechnical data for the subsurface soils in the borrow area.

1.04 SUBMITTALS

A. Submit to the Construction Manager for review a Contractor's Earthwork Work Plan within 30 calendar days from Notice to Proceed. The Contractor's Earthwork Work Plan shall include, at a minimum:

1. list of equipment and description of construction methods proposed for the scope specified in this Section and in Sections 02110, 02206, 02215, 02225, 02230, 02240, 02250, 02271, 02280, 02605, 02710, 02712, 02714, 02721, 02831, 02920, 02930, 02940, and 13005;
2. location of equipment service area and fueling station;
3. excavation and trenching dewatering methods and techniques;
4. methods for removal of visible rock particles larger than specified from the material for compacted fill and clayey rockfill specified in this Section and compacted clay liner and cap specified in Section 02225;
5. coordination of survey requirements for the site work;
6. verification of the existing conditions and material stockpiles;
7. stockpile management plan including surface-water management and erosion control, stockpiling by type of material, stockpile maintenance, stockpile removal and relocation, and site grading and stabilization;
8. coordination of earthwork activities with Contractor's Surface-Water Management and Erosion Control Work Plan specified in Section 02270;
9. schedule for site work activities;
10. water supply system including location, type, and size of water tank, water distribution system and equipment for dust control, construction and wheel wash system;
11. plan and measures for cold weather at temperatures below 32 degrees Fahrenheit site work activities;
12. installation and maintenance of construction safety fence and radiological-control fence;
13. coordination with Traffic Control Plan specified in Section 02150;
14. location of construction laydown area(s);
15. locations of stockpiles for material generated from clearing, grubbing, and stripping operations;
16. layout and typical cross sections of roads within the Contractor's work area;
17. construction site access and haul road layout;
18. construction utilities layout including construction power and water;
19. description of methods for installation and removal of trench supports; and

20. coordination with the Contractor's Quality Assurance Work Plan in accordance with Fluor Fernald Traveler Package.

1.05 HEALTH AND SAFETY REQUIREMENTS

A. Environmental health & safety/training requirements shall be in accordance with Contract Documents, Soil Disposal Facility Project Integrated Health and Safety Plan, and Fluor Fernald Traveler Package.

1.06 CONTRACTOR'S QUALITY ASSURANCE

A. Contractor's quality assurance requirements shall be in accordance with Contract Documents, the CQA Plan, and this Section.

PART 2 PRODUCTS

2.01 MATERIALS

A. Obtain fill material for compacted fill from OSDF cell excavation, trenching, and stockpiles approved by the Construction Manager. Obtain additional fill material for compacted fill, if required, from the on-site borrow area indicated on the Construction Drawings. Borrow area management shall be in accordance with Section 13000.

B. Fill material for compacted fill and trench backfill shall be free of debris, foreign objects, large rock fragments, organics, and other deleterious materials. Visible rock particles shall be maximum dimension of 5 inches for 8-inch ±1-inch thick loose lifts and 2 inches for 4-inch ±1-inch thick loose lifts. Material for compacted fill shall conform to GC, SC, SM, ML, CL, or CH according to the Unified Soil Classification System (per ASTM D 2487).

C. Clayey rockfill: The reject material from clay screening operations may be substituted for material for compacted fill below base aggregate elevations in the impacted material haul roads, cell access ramps, access corridor located outside the perimeter berm baseline, and borrow area haul road; for interim restoration in borrow area; and other fill areas outside the OSDF perimeter berm baseline. Use of clayey rockfill as specified in this Section shall be approved by the Construction Manager.

D. Construction water for moisture conditioning compacted fill shall be obtained from the on-site water source shown on the Construction Drawings.

E. Construction safety fence and radiological-control fence for activities with duration less than 30 calendar days shall be orange, high-density polyethylene, 4 feet in height,

opening size approximately 4 inches by 1 inch, minimum tensile strength of 2000 pounds per foot of width or galvanized steel welded wire fabric as specified in this Seciton. Where used to delineate radiologically controlled areas (RCAs), no fencing is required. Contractor shall install posts and Fluor Fernald will provide and install yellow/magenta rope. Posts shall be T-shaped (T-post), 1-1/2 inch by 1-1/2 inch, 3/16 inch thick by 5 feet long (minimum), and made of steel or as approved by the Construction Manager.

F. Furnish construction safety fence and radiological-control fence for activities with a duration greater than 30 calendar days made of galvanized steel welded wire fabric, 2 inch by 4 inch mesh, 4 feet in height, 12-1/2 gauge, or equivalent approved by the Construction Manager. Posts for the fence material shall be 6 feet long and made of steel. Install posts at spacing recommended by the Manufacturer's installation procedures and as required to prevent sagging.

G. Contractor shall furnish and install signs for construction safety fence in accordance with Part 8 of the Contract Documents.

H. Signs for radiological-control fence shall be furnished and installed by Fluor Fernald, Inc.

2.02 EQUIPMENT

A. Furnish equipment to perform work specified in this Section.

B. Furnish equipment to achieve required compaction specified in this Section.

C. Furnish hand compaction equipment, such as walk-behind padfoot compactors, hand tampers, or vibratory plate compactors, for compaction in areas inaccessible to large compaction equipment.

D. Furnish water tank trucks (water wagons), pressure distributors, or other equipment designed to apply water uniformly and in controlled quantities at variable surface widths to provide the required in-place moisture content and to prevent drying of soil surfaces.

E. Furnish equipment such as scarifiers, disks, spring tooth or spike tooth harrows, earth hauling equipment, and other equipment as required for earthwork construction.

PART 3 EXECUTION

3.01 GENERAL

A. Verify existing conditions in accordance with Section 02100.

B. Perform construction activities in such a manner that equipment operating in the RCAs do not operate in non-RCAs. Equipment operating in RCAs shall be washed by the Contractor; and radiologically surveyed and released by Fluor Fernald, Inc. prior to exiting for use in non-RCAs.

C. Install surface-water management and erosion controls in accordance with Section 02270.

D. Dust control shall be in accordance with Fluor Fernald Traveler Package.

3.02 SITE PREPARATION

A. Install construction safety fence and radiological-control fence at construction limits and limits of the RCAs in accordance with the Contractor's Earthwork Work Plan and Part 8 of the Contract Documents. Relocate construction safety fence and radiological-control fence as shown on the Construction Drawings or as approved by the Construction Manager. Provide construction safety fence as shown on Construction Drawings. Signs and barricades around trenches, stockpiles, and excavated areas shall be in accordance with Fluor Fernald Traveler Package.

B. Maintain and repair construction safety fence and radiological-control fence for the duration of the Contract. Fencing shall be maintained so as to minimize vertical sagging.

C. Install, maintain, and inspect surface-water management and erosion controls in accordance with Section 02270.

D. Prior to earthwork activities, perform clearing, grubbing, and stripping in accordance with Section 02110.

E. Construct impacted material haul roads, cell access ramps, and access corridors in accordance with the Construction Drawings and Section 02230.

F. Locate existing manholes, drop inlet structures, monitoring wells, piezometers, lysimeters, utilities, and other subsurface structures in the work area. Protect structures and utilities during earthwork activities as indicated on the Construction Drawings and approved by the Construction Manager.

3.03 SURFACE-WATER MANAGEMENT AND EROSION CONTROL

A. Install surface-water management and erosion controls in and around work areas in accordance with Section 02270.

3.04 EXCAVATION

A. Excavate designated areas to the subgrade elevations or excavation limits shown on the Construction Drawings. Stockpile excavated material in the designated stockpile area shown on the Construction Drawings or at locations approved by the Construction Manager.

B. Excavate material within the excavation limits, including rock encountered, regardless of type, character, composition, and condition. Remove clay pipe tile subdrain system when encountered in accordance with Section 02205. Place clay pipe subdrain section in the OSDF constructed cells in accordance with Section 13010.

C. Blasting, including use of explosives or explosive devices, shall not be permitted.

D. Remove and relocate impacted material encountered during excavation in accordance with Section 02205. Impacted material meeting OSDF Waste Acceptance Criteria (WAC) shall be placed in accordance with Section 13010. Impacted materials exceeding OSDF WAC shall be disposed of in accordance with Section 02205.

E. Minimize sloughing and caving of excavations. Over-excavate and fill areas of excavations that cave or slough with compacted fill in accordance with this Section.

F. Over-excavate abandoned monitoring wells, borings, utilities, and lysimeters within the OSDF perimeter baseline shown on the Reference Drawings to a depth of 3 feet below subgrade elevation. Well casings, concrete, and grout shall be excavated in accordance with Section 02205 and placed in the OSDF constructed cells in accordance with Section 13010. Before removal of the existing well casings, Construction Managers will verify closure of the existing wells. Fill to subgrade elevation with compacted fill in accordance with this Section.

G. Do not remove soil from the site or dispose of soil included in this Contract except as approved in writing by the Construction Manager.

H. Perform activities in such a manner that hauling equipment transporting non-impacted materials do not operate on roads used to haul impacted material. Equipment driven on roads used to haul impacted material or in an impacted area shall be washed by Contractor, and radiologically surveyed and released by Fluor Fernald, Inc. prior to being used for earthwork activities in non-impacted areas.

I. Perform activities in such a manner that earthwork and hauling equipment working in contamination areas do not cross into certified areas.

J. Remove the existing Rerouted North Entrance and North Entrance Road pavement within the limits shown on the Construction Drawings and haul and place in OSDF constructed cells in accordance with Section 13010. Existing North Entrance Road pavement section consists of 6 inches of asphaltic concrete over 6 inches of crushed rock. Existing rerouted North Entrance Road pavement section consists of 12 inches of asphalt concrete over 8 inches of crushed rock. Existing rerouted North Entrance Road pavement section consists of 12 inches of asphaltic concrete over 8 inches of crushed rock. Excavate 2 feet below bottom of pavement elevation and road shoulder in accordance with Section 02205 and place in accordance with Section 13010, unless otherwise directed by the Construction Manager.

K. Stabilize disturbed areas in accordance with Section 02930.

3.05 EXCAVATION DEWATERING

A. Anticipate seepage of groundwater into and accumulation of surface-water runoff in excavations. Manage groundwater and surface-water runoff in excavations in accordance with this Section and Section 02270.

B. Collect water that accumulates in the excavation in a toe drain, or other suitable sump, and pump to the former production area stormwater drain control system, the leachate transmission system, or other locations as directed by the Construction Manager.

C. Prevent surface-water runon from adjacent areas from entering the excavation in accordance with Section 02270.

3.06 STOCKPILING

A. Stockpile excavated soils in the stockpile areas shown on the Construction Drawings or as directed by the Construction Manager.

B. Construct stockpiles no steeper than 3H:1V (horizontal:vertical) unless otherwise approved by the Construction Manager. Grade stockpiles to drain, seal by tracking perpendicular to the slope contours with a dozer, and dress stockpiles daily during periods when material is taken from or added to the stockpile.

C. Install surface-water management and erosion control measures at the stockpile areas in accordance with Section 02270. Stabilize stockpiles in accordance with Section 02930.

3.07 SUBGRADE AND TOP OF CONTOURING LAYER PREPARATION

A. Subgrade and top of contouring layer material shall be free of debris, foreign objects, organics, and other deleterious materials.

B. In the event saturated subgrade is encountered, localized sumps shall be constructed to facilitate removal of water. Manage removed water in accordance with this Section.

C. Perform subgrade and top of contouring layer proofrolling by driving a loaded dump truck with minimum loaded weight of 20 tons and minimum weight of 10 tons per axle or other pneumatic-tired vehicle back and forth across the area to be prepared to confirm the firmness of subgrade and top of contouring layer surface. Overlap the passes such that one set of tires on each pass runs between the two sets of tire tracks from the previous pass. Soils shall not exhibit pumping or develop ruts more than 2 inches in depth. Rutting, larger than 2 inches, shall be scarified in accordance with this Section and regraded with compacted fill material or non-impacted contouring layer material to meet the proposed subgrade or top of contouring layer elevations.

D. Subgrade for the compacted clay liner and top of contouring layer shall be scarified in accordance with Section 02225. At other locations where compacted fill is to be placed, prepare the subgrade by scarifying to a depth of 2 inches using the equipment identified in this Section.

E. In areas where unsuitable soils are encountered, remove and replace the soil to a minimum depth of 1 foot below the proposed subgrade elevation. Remove unsuitable subgrade to an additional depth if necessary to obtain a suitable soil surface for subsequent fill placement. Removal of unsuitable soils to additional depth shall be as approved by the Construction Manager. Suitable soil surface exhibiting pumping or developing ruts more than 2 inches in depth shall be removed to a minimum depth of 1 foot or dried in place by a method approved by the Construction Manager. Fill areas from which subgrade has been removed with compacted fill in accordance with this Section. Compact the fill material to at least 95 percent standard Proctor maximum dry unit weight as determined by ASTM D 698. Compact the uppermost lift of compacted fill beneath road and access corridor alignments to a minimum 98 percent of the standard Proctor maximum dry unit weight as determined by ASTM D 698.

F. In excavations or other areas where water accumulates, implement measures to remove the water in accordance with this Section. Maintain the subgrade surface free of standing water and in a firm condition to meet the proofrolling requirements of this Section. Maintain dewatered areas in this condition until overlying construction is complete.

G. Manage surface-water runon or runoff in accordance with Section 02270.

3.08 COMPACTED FILL

A. Use fill material that meets the material requirements of this Section. Place the fill material to the limits and grades shown on the Construction Drawings.

B. Place fill material on surfaces which are free of debris, branches, vegetation, mud, ice, or other deleterious materials.

C. Place fill material in loose lifts with a thickness of 8 inches ±1 inch. In areas where compaction is to be performed using hand-operated equipment, place the fill material in loose lifts with a thickness of 4 inches ±1 inch.

D. Remove visible rock particles with a maximum dimension larger than 5 inches for 8-inch ±1-inch thick loose lifts. For 4-inch ±1-inch thick loose lifts, the maximum rock particle size shall be 2 inches.

E. Prior to placing a succeeding lift of fill material over a previously compacted lift, thoroughly scarify the previous lift to a depth of 2 inches by discing, raking, or tracking with a dozer. Moisture condition the preceding lift in accordance with this Section if the moisture content of the surface of the preceding lift is not within the range of acceptable moisture contents specified in this Section.

F. The trafficking of scarified surfaces by trucks or other equipment, except compaction equipment, is not permitted.

G. The maximum acceptable soil clod size after processing is 3 inches. Reduce clod size by discing, raking, tracking with a dozer, using a soil stabilizer, or other means approved by the Construction Manager. Soil clumps, consisting of an agglomeration of 3-inch clods, or smaller, will not be considered a clod for purposes of this Section.

H. Compact fill material in each lift to at least 95 percent of its standard Proctor maximum dry unit weight as determined by ASTM D 698. Compact fill at a moisture content within ±3 percentage points of the standard Proctor optimum moisture content as determined by ASTM D 698.

I. Moisture condition the fill material to achieve the compaction requirements of this Section. Use a water spraying system for wetting. During wetting or drying, regularly disc, rake, or otherwise mix the material to thoroughly blend the moisture throughout the lift. Use discing, raking, or other appropriate methods to dry the material as required.

J. Do not place frozen fill nor place fill material on frozen subgrade or previously placed compacted fill.

K. Do not compact fill material at temperatures below 32 degrees Fahrenheit, unless authorized in writing by the Construction Manager.

L. Do not place fill during periods of precipitation. Placement may occur during periods of misting or drizzle, but only if authorized by the Construction Manager.

M. Rework compacted fill that does not meet the required compaction.

3.09 CLAYEY ROCKFILL

A. Visible rock particles with maximum dimension greater than 12 inches shall be removed from the clayey rockfill and stockpiled for future use in areas designated by the Construction Manager. Clayey rockfill shall be placed in maximum 12-inch thick loose lifts and compacted with a minimum of four passes of a Caterpillar 815 compactor or approved equal. Final lift surface of compacted clayey rockfill material shall be proofrolled as specified in this Section. Any compacted clayey rockfill material exhibiting excessive pumping or rutting (ruts greater than 2 inches in depth) due to wet material or insufficient compaction shall be dried and recompacted or removed from the fill. Clayey rockfill shall be used only as specified in this Section unless otherwise approved by the Construction Manager.

3.10 PERFORATIONS

A. Perforations in the compacted fill, subgrade, and top of contouring layer resulting from survey stakes or other activities shall be backfilled with soil or bentonite mix specified in Section 02225. Perforations resulting from nuclear density tests and sand-cone or drive cylinder density tests will be filled by the CQC Consultant in accordance with Section 02225.

3.11 CONSTRUCTION QUALITY REQUIREMENTS

A. CQC Consultant will perform soil conformance testing on compacted fill materials to confirm compliance with this Section. Conformance testing to be performed and minimum testing frequencies shall be in accordance with the Construction Quality Assurance (CQA) Plan. Provide equipment and labor to assist the CQC Consultant in obtaining conformance samples from excavations, stockpiles, and borrow areas. Identify source(s) and quantity of fill material required from each source for Construction Manager's approval at least 15 calendar days prior to use.

B. CQC Consultant will monitor earthwork activities in accordance with this Section and the CQA Plan. CQC Consultant will provide documentation to the Construction Manager for the proofrolling of subgrade, top of contouring layer, and compacted clayey rockfill final lift surface.

C. CQC Consultant will perform performance testing on compacted fill lifts to confirm compliance with this Section. The performance testing to be performed and minimum testing frequencies shall be in accordance with the CQA Plan.

D. If CQC Consultant's tests indicate that any portion of the compacted fill does not meet the requirements of this Section, CQC Consultant will delineate the extent of the nonconforming area. Rework the nonconforming area until it meets the requirements of this Section.

3.12 SURVEY CONTROL

A. Survey the locations, limits and grades of excavations, stockpiles, prepared subgrade, compacted fill, and compacted clayey rockfill in accordance with Section 02100.

3.13 TOLERANCES

A. Perform the earthwork construction to within ±0.3 feet of the grades indicated on the Construction Drawings except for subgrade for the compacted clay liner, top of contouring layer, access corridor, and roads for which earthwork construction shall be within -0.3 to +0.1 feet of the grades indicated.

[END OF SECTION]

SECTION 02215

TRENCHING AND BACKFILLING

PART 1 GENERAL

1.01 SCOPE

A. This Section includes trenching and backfilling, including pipe embedment fill materials and placement.

1.02 RELATED SECTIONS AND PLANS

A. Section 02100 - Surveying

B. Section 02110 - Clearing, Grubbing, and Stripping

C. Section 02200 - Earthwork

D. Section 02225 - Compacted Clay Liner and Cap

E. Section 02605 - High-Density Polyethylene (HDPE) Pipes and Fittings

F. Section 02721 - Culverts

G. Section 13000 - Borrow Area Management

H. Construction Quality Assurance (CQA) Plan

I. Fluor Fernald Traveler Package

J. Soil Disposal Facility Project Integrated Health and Safety Plan, Document Number 20100-HS-002

1.03 REFERENCES

A. Latest version of American Society for Testing and Materials (ASTM) Standards:

1. ASTM C 136. Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
2. ASTM D 698. Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3)).

B. Latest version of Ohio Department of Transportation Construction and Material Specifications (Ohio DOT Specifications).

C. Latest version of Occupational Safety and Health Administration (OSHA) Construction Standards.

D. Reference Reports addressing On-Site Disposal Facility (OSDF) and borrow area site subsurface conditions and off-site borrow sources:
   1. *"Geotechnical Investigation Report, On-Site Disposal Facility"* [Parsons, 1995]. This report contains geotechnical data for the subsurface soils in the OSDF area.
   2. *"Disposal Facility Pre-Design Geotechnical Investigation, Soil Investigation Data Report, CERCLA-RCRA Unit 2"* [Science Applications International Corporation, 1995]. This report presents geotechnical data for the subsurface soils in the OSDF area.
   3. *"Geotechnical Data and Evaluation Report for East and South Field Borrow Areas"* [Parsons, 1996]. This report contains geotechnical data for the subsurface soils in the borrow area.
   4. *"Off-Site Borrow Materials Geotechnical Evaluation Report"* [Parsons, 1996]. This report presents geotechnical data for potential off-site borrow sources for OSDF construction materials, including fine concrete aggregates (sand), coarse concrete aggregates (gravel), pea gravel, and riprap.

1.04 SUBMITTALS

A. For each source of pipe embedment fill material, submit the following to the Construction Manager for review within 30 calendar days from Notice to Proceed:
   1. the source of the pipe embedment fill material;
   2. written certification and test results conducted in accordance with ASTM C 136; and
   3. a 50-pound representative sample of the pipe embedment fill for visual examination, and testing, if necessary.

B. Provide a list of equipment, description of construction methods for trenching and backfilling, and other required information for trenching and backfilling in the Contractor's Earthwork Work Plan specified in Section 02200.

1.05 HEALTH AND SAFETY REQUIREMENTS

A. Environmental health and safety/training requirements shall be in accordance Contract Documents, Soil Disposal Facility Project Integrated Health and Safety Plan, and Fluor Fernald Traveler Package.

1.06 CONTRACTOR'S QUALITY ASSURANCE

A. Contractor's quality assurance requirements shall be in accordance with Contract Documents, the CQA Plan, and this Section.

PART 2 PRODUCTS

2.01 MATERIALS

A. Furnish natural sand pipe embedment fill material for reinforced concrete pipe (RCP), corrugated metal pipe (CMP), and high-density polyethylene (HDPE) pipe meeting the gradation requirements of Section 703.06 of the Ohio DOT Specifications unless otherwise indicated on the Construction Drawings or specified in this Section. Gradation testing shall be in accordance with ASTM C 136.

B. Furnish trench backfill material for RCP, CMP, HDPE pipe, and electrical conduit that meet the fill material requirements for compacted fill specified in Section 02200. Obtain trench backfill material from OSDF cell excavation, trenching, and stockpiles shown on the Construction Drawings. Obtain additional material for trench backfill, if required, from on-site borrow areas indicated on the Construction Drawings. Borrow area management shall be in accordance with Section 13000.

C. Trench backfill material for liner system anchor trenches shall meet the material requirements for compacted clay liner and cap specified in Section 02225.

D. Construction water for moisture conditioning trench backfill shall be obtained from on-site water source shown on the Construction Drawings.

E. Furnish a minimum 4-inch wide plastic underground marker tape with suitable warning legend to mark HDPE pipes and electrical conduits.

F. Furnish 14-gauge insulated stranded copper wire marker tape as shown on the Construction Drawings.

G. Bentonite for soil-bentonite plugs shall be in accordance with Section 02225.

2.02 EQUIPMENT

A. Furnish equipment to perform the work specified in this Section.

B. Furnish hand compaction equipment such as walk-behind pad-foot compactor, hand tamper, or vibratory plate compactors for compaction in areas inaccessible to large compaction equipment.

PART 3 EXECUTION

3.01 GENERAL

A. Verify existing conditions in accordance with Section 02100.

B. Review existing site utility drawings, and identify and stake existing above and below ground utilities in vicinity of trenching. Staking shall be as approved by the Construction Manager.

C. In areas of trenching and backfilling, maintain and protect existing above and below ground utilities.

D. Do not damage or disturb survey benchmarks, finished construction, and existing utilities and structures.

E. Perform clearing, grubbing, and stripping in accordance with Section 02110.

F. Dust control for trenching and backfilling shall be in accordance with Contract Documents and Fluor Fernald Traveler Package.

3.02 TRENCHING

A. Trench for placement of pipes and for liner system anchor trenches shall be to the depths and dimensions shown on the Construction Drawings. Stockpile excess excavated material from trenching in the stockpile areas shown on the Construction Drawings or as approved by Construction Manager in accordance with Section 02200.

B. Use trench support methods approved by the Construction Manager. Trench support shall satisfy applicable local, state, and federal requirements, including requirements of the OSHA Construction Standards. Provide trench support materials on site prior to the start of trenching. Maintain the safety and stability of slopes and trenches and protect adjacent utilities and structures.

C. Protect and maintain the trench bottom. Remove rock fragments or raveled materials that collect on the trench bottom. Backfill any overexcavation with compacted fill in accordance with Section 02200. Excavate any soft subgrade encountered at the trench bottom and backfill to trench bottom elevation with compacted fill in accordance with Section 02200.

D. Where trenches will be excavated in compacted fill areas, perform trenching only after compacted fill has reached at least 12 inches above proposed elevation of top of the pipe.

E. For pipe installation limit the maximum length of open trench to 200 feet in advance and 200 feet behind pipe unless otherwise approved by the Construction Manager. For anchor trench limit, open trenches to length of proposed daily geosynthetics installation unless otherwise approved by the Construction Manager. Contractor shall provide appropriate non-skid surface walkways, such as wooden boards, for access across open trenches.

F. Continuously dewater trenches. Perform dewatering in accordance with Section 02200.

G. The inside edge of liner system anchor trenches where geosynthetics will be placed shall be trenched to minimize soil raveling and shall be rounded to a minimum 6-inch radius.

3.03 BACKFILLING

A. General:
1. Do not backfill with frozen or saturated material.
2. Do not backfill over frozen, wet, or soft trench bottom or side slopes. Remove materials that are frozen, wet, or soft as specified in this Section.
3. Do not disturb or damage piping or geosynthetics in trench during backfilling.
4. Do not use compaction equipment which exerts greater than 10 pounds per square inch ground pressure over piping that is covered by less than 12 inches of backfill material.

B. Placement of pipe embedment fill for pipes and culverts:
1. Place pipe embedment fill in 7-inch ±1-inch thick loose lifts to the elevation of the bottom of the pipe or culvert.
2. Compact pipe embedment fill with a minimum of 4 passes of a vibratory plate compactor prior to placing pipe.
3. Place pipe or culvert on top of the compacted pipe embedment fill.
4. Install 14-gauge insulated stranded copper wire to top of HDPE pipes as shown on the Construction Drawings. Use cable tie-wraps at 5-feet intervals to tie copper wire to pipe prior to backfilling.
5. For pipes 12 inches in diameter or less, place additional pipe embedment fill on the sides and gently hand tamp the fill around the sides as needed, such that intimate contact between the pipe and the pipe embedment fill is maintained below the spring line of the pipe. Continue placing pipe embedment fill until it is even with the top of the pipe. Compact the pipe embedment fill with a minimum of 4 passes of a walk-behind pad-foot compactor, hand tamper, or vibratory plate compactor, as appropriate. Place pipe embedment fill above the top of pipe to a minimum depth of 12 inches in two 7-inch ±1-inch thick loose lifts. Compact each lift of pipe

embedment fill with a minimum of 4 passes of a walk-behind pad-foot compactor, hand tamper, or vibratory plate compactor, as appropriate.

6. For pipes or culverts greater than 12 inches in diameter, place pipe embedment fill in 7-inch ±1-inch thick loose lifts to the limits shown on the Construction Drawings. Compact each lift with a minimum of 4 passes of a vibratory plate compactor.
7. For horizontal monitoring well pipe trenches and HDPE pipe trenches between each valve house tie-in and the cell outlet, construct a soil-bentonite plug every 50-feet along the length of the trench. Prepare soil-bentonite mixture consisting of embedment fill at its natural moisture content mixed with minimum 10 percent (by dry weight basis) bentonite granules. Thoroughly mix with a portable cement mixer or other method as approved by the Construction Manager. Place and compact the soil-bentonite mixture in the same manner as specified in this Section for the embedment fill.

C. Placement of trench backfill material for pipes and culverts:
1. After placement and compaction of pipe embedment fill to the limits shown on the Construction Drawings, place the first lift of trench backfill material in a 12-inch thick loose lift. Place subsequent lifts of trench backfill material in 8-inch ±1-inch thick loose lifts.
2. Compact trench backfill material in each lift to at least 95 percent of its standard Proctor maximum dry unit weight and at a moisture content within ±3 percent of the optimum moisture content as determined by ASTM D 698.

D. Placement of trench backfill material for liner system anchor trench:
1. Place the anchor trench backfill material in 8-inch ±1-inch thick loose lifts if compaction equipment operating weight is greater than 2000 pounds, and in 4-inch ±1-inch thick loose lifts if compaction equipment operating weight is less than 2000 pounds.
2. Compact the anchor trench backfill material to the minimum dry unit weight and range of moisture contents required for compacted clay liner and cap material specified in Section 02225.

E. Place underground marker tape in trench backfill 12 inches below finished grade above underground pipes and electrical conduits as shown as the Construction Drawings.

3.04 PERFORATIONS

A. Perforations in the trench backfill resulting from survey stakes or other activities shall be backfilled with trench backfill material. Perforations resulting from nuclear density

tests and sand-cone or drive cylinder density tests will be filled with trench backfill material by the CQC Consultant.

3.05 CONSTRUCTION QUALITY REQUIREMENTS

A. CQC Consultant will perform conformance testing on pipe embedment fill and trench backfill materials to establish compliance with this Section, and Sections 02200 and 02225, as applicable. The conformance testing to be performed and the minimum testing frequencies shall be in accordance with the Construction Quality Assurance (CQA) Plan.

B. CQC Consultant will monitor trenching and backfilling as specified in this Section and the CQA Plan.

C. CQC Consultant will perform performance testing on the backfill materials to establish compliance with this Section. The performance testing to be performed and minimum testing frequencies shall be in accordance with the CQA Plan.

D. CQC Consultant shall review and approve pipe installation as-built elevations prior to backfilling.

3.06 SURVEY CONTROL

A. Survey the locations, limits, and grades of the bottom of the liner system anchor trench and compacted trench backfill in accordance with Section 02100.

B. Survey the locations, limits, and grades of pipes and culverts, including invert elevations, in accordance with Section 02100.

3.07 TOLERANCES

A. Trench bottom shall be within 0.0 to +0.2 feet of the depth indicated on the Construction Drawings.

B. Embedment fill for pipes and culverts shall be placed within 0.0 to +0.2 feet of the depth indicated on the Construction Drawings.

[END OF SECTION]

SECTION 02230

ROAD CONSTRUCTION

PART 1 GENERAL

1.01 SCOPE

A. This Section includes impacted material haul roads, cell access ramps, access corridor, the Emergency Access Road, the Special Materials Transfer Area (SMTA), and other roads and areas as shown on the Construction Drawings to be surfaced with base aggregate.

1.02 RELATED SECTIONS AND PLANS

A. Section 02100 - Surveying

B. Section 02110 - Clearing, Grubbing, and Stripping

C. Section 02150 – Traffic Control

D. Section 02200 - Earthwork

E. Section 02270 - Surface-Water Management and Erosion Control

F. Section 02714 - Geotextiles

G. Construction Quality Assurance (CQA) Plan

H. Fluor Fernald Traveler Package

I. Soil Disposal Facility Project Integrated Health and Safety Plan, Document Number 20100-HS-002

1.03 REFERENCE

A. Latest version of Ohio Department of Transportation Construction and Material Specifications (Ohio DOT Specifications).

1.04 SUBMITTALS

A. For each source of base aggregate material, submit the following to the Construction Manager for review within 30 calendar days from Notice to Proceed:
   1. the source of the materials along with written certification from the supplier that the material meets the material requirements of this Section; and
   2. certification shall include test results as required by Ohio DOT Specifications for base aggregate materials demonstrating that it meets the requirements of items from the Ohio DOT Specifications specified in this Section.

B. Provide a list of equipment, description of construction methods, and other required information to perform the construction activities described in this Section with the Contractor's Earthwork Work Plan specified in Section 02200.

1.05 HEALTH AND SAFETY REQUIREMENTS

A. Environmental health & safety/training requirements shall be in accordance with Contract Documents, Soil Disposal Facility Project Integrated Health and Safety Plan, and Fluor Fernald Traveler Package.

1.06 CONTRACTOR'S QUALITY ASSURANCE

A. Contractor's quality assurance requirements shall be in accordance with Contract Documents, the CQA Plan, and this Section.

PART 2 PRODUCTS

2.01 MATERIALS

A. Furnish base aggregate material consisting of crushed carbonate stone or crushed gravel, free of organic matter and other deleterious materials, which meets the requirements of Items 304.02 and 703.04 (2) of the Ohio DOT Specifications for aggregate base.

B. Furnish a geotextile separator meeting the requirements of Section 02714.

C. Furnish materials for compacted fill or clayey rockfill meeting the requirements of Section 02200.

D. Furnish road signs and other traffic controls in accordance with Section 02150.

2.02 EQUIPMENT

A. Furnish equipment for construction of impacted material haul roads, cell access ramps, access corridors, the Emergency Access Road, the SMTA, and other roads shown on the Construction Drawings in accordance with the requirements of this Section.

PART 3 EXECUTION

3.01 GENERAL

A. Dust control during the performance of road construction activities described in this Section shall be in accordance with Contract Documents and Fluor Fernald Traveler Package.

B. Install surface-water management and erosion controls in accordance with Section 02270.

C. Perform clearing, grubbing, and stripping to the limits indicated on the Construction Drawings or identified by the Construction Manager, and in accordance with Section 02110 prior to any earthwork activity.

3.02 SUBGRADE PREPARATION

A. Prepare subgrade for the road construction described in this Section in accordance with Section 02200.

3.03 GEOTEXTILE PLACEMENT

A. Install the geotextile separator over the prepared subgrade in accordance with Section 02714.

3.04 BASE AGGREGATE

A. Construct the base aggregate layer to the thickness, grades, and limits indicated on the Construction Drawings.

B. Place the base aggregate material on top of the geotextile separator by end dumping and carefully spread using a track bulldozer. Do not operate equipment directly on the geotextile.

C. Place the base aggregate in accordance with the requirements of Item 304.04 of the Ohio DOT Specifications.

D. Compact the base aggregate in accordance with the requirements of Item 304.05 of the Ohio DOT Specifications.

3.05 CONSTRUCTION QUALITY REQUIREMENTS

A. CQC Consultant will perform conformance testing on materials for compacted fill used for the construction described in this Section to establish compliance with this Section and Section 02200 as applicable. Conformance testing to be performed and minimum testing frequencies shall be in accordance with the Construction Quality Assurance (CQA) Plan.

B. CQC Consultant will monitor road construction in accordance with this Section and the CQA Plan.

C. CQC Consultant will perform performance testing on compacted fill and/or compacted clayey rockfill used for the construction described in this Section to establish compliance with this Section and Section 02200. Performance test requirements and minimum testing frequencies shall be in accordance with the CQA Plan.

3.06 SURVEY CONTROL

A. Survey alignment and grades for roads, ramps, the SMTA, and corridor in accordance with Section 02100.

TOLERANCES

A. Construct the base aggregate to within 0.0 to +0.1 feet of the thickness indicated on the Construction Drawings.

B. Construct the impacted material haul roads, cell access ramps, access corridor, the Emergency Access Road, the SMTA, and other roads shown on the Construction Drawings to within ±0.2 feet of the grades indicated on the Construction Drawings.

[END OF SECTION]

SECTION 02270

SURFACE-WATER MANAGEMENT AND EROSION CONTROL

PART 1 GENERAL

1.01 SCOPE

A. This Section includes materials and placement of silt fence, erosion mat, check dams, construction entrances, diversions, ditches, channels, berms, and stabilization; and maintenance of sedimentation basins and surface-water management and erosion control measures.

B. Surface-water management and erosion control for the impacted material placement shall be in accordance with Section 13010.

1.02 RELATED SECTIONS AND PLANS

A. Section 02100 - Surveying

B. Section 02200 - Earthwork

C. Section 02240 - Non-Impacted Protective and Contouring Layers

D. Section 02271 - Riprap

E. Section 02275 – Surface Water Management and Erosion Control For Remediation

F. Section 02721 - Culverts

G. Section 02930 - Vegetation

H. Section 13010 - Impacted Materials Placement

J. Surface-Water Management and Erosion Control (SWMEC) Plan

K. Construction Quality Assurance (CQA) Plan

L. Fluor Fernald Traveler Package

M. Soil Disposal Facility Project Integrated Health and Safety Plan, Document Number 2001-HS-002

1.03 REFERENCES

A. Latest version of Ohio Department of Natural Resources (ODNR) Rainwater and Land Development Standards (ODNR Rainwater and Land Development Standards).

1.04 SUBMITTALS

A. Submit to the Construction Manager for review within 15 calendar days from Notice to Proceed, Contractor's Surface-Water Management and Erosion Control Work Plan that shall be prepared in accordance with this Section, Section 02240, Section 02275, Section 13010, ODNR Rainwater and Land Development Standards, and the Surface-Water Management and Erosion Control (SWMEC) Plan, and shall include but not be limited to the following:
   1. descriptions of the surface-water management and erosion control measures to be implemented throughout the duration of the Contract;
   2. a list of equipment, description of methods, and other required information for installing and maintaining surface-water management and erosion control measures specified in this Section;
   3. drawings showing, in plan view, the location and sequencing of the surface-water management and erosion control measures and other required information for installation of surface-water management and erosion control measures;
   4. drawings showing details of the surface-water management and erosion control measures; and
   5. calculations supporting the selection and use of surface-water management and erosion control measures.

B. Submit the following to the Construction Manager for review within 15 calendar days from Notice to Proceed:
   1. manufacturer's product data and recommended methods of installation for products used for surface-water management and erosion control measures; and
   2. certification from the supplier or Manufacturer that products meet the requirements of this Section.

1.05 HEALTH AND SAFETY REQUIREMENTS

A. Environmental health & safety/training requirements shall be in accordance with Contract Documents, Soil Disposal Facility Project Integrated Health and Safety Plan, and Fluor Fernald Traveler Package.

1.06 CONTRACTOR'S QUALITY ASSURANCE

A. Contractor's quality assurance requirements shall be in accordance with Contract Documents, the CQA Plan and this Section.

PART 2 PRODUCTS

2.01 SILT FENCE

A. Furnish silt fence with either woven or nonwoven geotextile conforming to ODNR Rainwater and Land Development standards. Silt fence shall:
   1. be woven geotextile consisting of slit films of polypropylene treated with ultraviolet light stabilizers, or nonwoven geotextile consisting of long chain polymeric filaments or polyester yarns;
   2. be inert to chemicals commonly found in soils and to hydrocarbons;
   3. be resistant to mildew, rot, insects, and rodent attack; and
   4. have geotextile and fence post properties and minimum dimensions in accordance with this Section and ODNR Rainwater and Land Development Standards.

2.02 EROSION MAT

A. Furnish erosion mat which shall be a woven blanket-like fabric made of biodegradable yarn with the following material properties:
   1. Yarn Content: 100 percent jute except as indicated on Construction Drawings;
   2. Weight: Minimum 11.5 ounces per square yard;
   3. Open Area: 55 ±10 percent; and
   4. Minimum Mesh Opening: 0.5 inches.

B. Furnish erosion mat having a permissible velocity of 7 feet per second (fps).

C. Furnish erosion mat that will resist degradation for a minimum 6-month period after installation.

D. Coir material at locations indicated on the Construction Drawing shall meet or exceed above requirements.

2.03 STABILIZATION

A. Materials for stabilization, including vegetation and crusting agent, shall be in accordance with Section 02930.

2.04 OTHER MATERIALS

A. Riprap shall be in accordance with Section 02271.

B. Culverts shall be in accordance with Section 02721.

C. Materials for berms shall be as specified for compacted fill in Section 02200.

D. Construction entrances shall be in accordance with ODNR Rainwater and Land Development Standards.

E. Diversions and channels shall be in accordance with ODNR Rainwater and Land Development Standards.

F. Materials for other surface-water management and erosion controls, including storm drain inlet protection, shall be in accordance with ODNR Rainwater and Land Development Standards.

2.05 EQUIPMENT

A. Furnish equipment to perform work specified in this Section.

PART 3 EXECUTION

3.01 INSTALLATION

A. Silt Fence
   1. Install silt fence in accordance with ODNR Rainwater and Land Development, and at the locations required by the Contractor's Surface-Water Management and Erosion Control Work Plan.

B. Erosion Mat
   1. Provide erosion mat at the locations indicated on the Construction Drawings and the locations indicated on the Contractor's Surface-Water Management and Erosion Control Work Plan, and those locations resulting from Section 02930 permanent slope stabilization requirements. Begin installation of erosion mat in a specific area within 48 hours after seeding has been completed in that area. Seeding shall be as specified in Section 02930. If seeding coverage in an area is lost due to inclement weather prior to installation of the erosion mat, Contractor shall reseed the previously seeded area.
   2. Place erosion mat on a prepared surface that is free of deleterious vegetation, trash, ruts, and rocks.
   3. Overlap adjacent erosion mats in accordance with the Manufacturer's recommendations.
   4. Install and staple erosion mat in accordance with Manufacturer's recommendations, except staples shall be a minimum 6-inches in length.

C. Install check dams in ditches and channels in accordance with ODNR Rainwater and Land Development Standards.

D. Apply crusting agents in accordance with Section 02930. Areas of crusting agent application shall be approved in advance by the Construction Manager.

E. Stabilize and vegetate disturbed areas in accordance with Section 02930.

F. Install riprap in accordance with Section 02271 and as shown on the Construction Drawings.

G. Construct channels, ditches, and berms as shown on the Construction Drawings and in accordance with the Contractor's Surface-Water Management and Erosion Control Work Plan. Earthwork for channels, ditches, and berms shall be in accordance with Section 02200.

H. Install construction entrances in accordance with the Contractor's Surface-Water Management and Erosion Control Work Plan.

I. Install additional surface-water management and erosion controls in accordance with the Contractor's Surface-Water Management and Erosion Control Work Plan.

J. Install storm drain inlet protection in accordance with ODNR Rainwater and Land Development Standards.

3.02 ADDITIONAL REQUIREMENTS

A. Prevent the runoff of polluting substances such as silt, clay, fuels, oils, and contaminated soils into water supplies and surface waters in accordance with the Contractor's Surface-Water Management and Erosion Control Work Plan.

B. Remove accumulated silt and debris from behind the face of the silt fence when the silt deposits reach approximately one half the height of the fence. Replace silt fence geotextile damaged during maintenance operations. Removed silt and debris shall be placed in the OSDF constructed cells in accordance with Section 13010 or stockpiled in locations approved by the Construction Manager.

3.03 SURVEY CONTROL

A. Survey permanent locations of surface-water management and erosion control measures in accordance with Section 02100.

3.04 MAINTENANCE

A. Clean, maintain, repair, and replace surface-water management and erosion controls for the duration of the Contract in accordance with the Contractor's Surface-Water Management and Erosion Control Work Plan.

B. Maintain erosion control measures and existing sedimentation basins in accordance with Contract Documents and Fluor Fernald Traveler Package.

C. Sedimentation basins shall be cleaned of silt once per construction season.

3.05 INSPECTIONS

A. Inspect surface-water management and erosion control measures and sedimentation basins to evaluate their effectiveness and need for maintenance. Any required repairs to the surface-water management and erosion control measures and sedimentation basins shall be initiated upon discovery, but no later than 24 hours after discovery. Inspections shall occur, at a minimum, at the following frequencies:
1. weekly;
2. daily after each rain event exceeding 0.5 inches; and
3. at least daily during prolonged rainfall events.

B. Records of inspections shall be kept on file on-site by Contractor and shall be submitted monthly to the Construction Manager. The records of inspection shall include the following:
1. summary of the scope of the inspection;
2. name of inspector;
3. inspection date;
4. inspection location;
5. purpose of the inspection (i.e., regular weekly, following a storm, etc.);
6. observations relative to performance of the surface-water management and erosion control measures;
7. any necessary corrective actions; and
8. corrective actions completed and their performance since the previous inspection.

3.06 CONSTRUCTION QUALITY REQUIREMENTS

A. CQC Consultant will monitor the installation and maintenance of surface-water management and erosion control measures in accordance with this Section and the Construction Quality Assurance (CQA) Plan.

[END OF SECTION]

SECTION 02714

GEOTEXTILES

PART 1 GENERAL

1.01 SCOPE

A. This Section includes materials and installation for geotextiles.

B. Quantity of geotextile materials to be furnished by Fluor Fernald, Inc. will be as specified in Part 6 of the Contract Documents. Additional required geotextile materials, shall be furnished by the Contractor.

1.02 RELATED SECTIONS AND PLANS

A. Section 02200 - Earthwork

B. Section 02215 - Trenching and Backfilling

C. Section 02230 - Road Construction

D. Section 02271 - Riprap

E. Construction Quality Assurance (CQA)

F. Fluor Fernald Traveler Package

G. Soil Disposal Facility Project Integrated Health and Safety Plan, Document Number 20100-HS-002

1.03 REFERENCES

A. Latest version of American Society for Testing and Materials (ASTM) Standards:

1. ASTM D 4355. Standard Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-ARC type apparatus).
2. ASTM D 4491 Standard Test Method for Water Permeability of Geotextiles by Permittivity.
3. ASTM D 4533. Standard Test Method for Trapezoid Tearing Strength of Geotextiles.
4. ASTM D 4632. Standard Test Method for Breaking Load and Elongation of Geotextiles (Grab Method).
5. ASTM D 4751. Standard Test Method for Determining Apparent Opening Size of a Geotextile.

6. ASTM D 4833. Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.
7. ASTM D 4873. Standard Guide for Identification, Storage, and Handling of Geotextiles.
8. ASTM D 5261. Standard Test Method for Measuring Mass Per Unit Area of Geotextiles.
9. ASTM D 6241. Standard Test Method for the Static Puncture Strength of Geotextiles and Geotextile Related Products Using a 50-mm Probe.

B. Federal Standard No. 75la - Stitches, Seams, and Stitching.

1.04 SUBMITTALS

A. Submit to the Construction Manager a letter of acceptance for the quantity of geotextile materials furnished by Fluor Fernald, Inc. Quantity of geotextile materials stored on site shall be inspected, inventoried, and accepted within 30 calendar days of Notice to Proceed.

B. For geotextiles furnished by Contractor, submit the following to Construction Manager for review within 30 calendar days from Notice to Proceed:
   1. product name;
   2. geotextile manufacturing capabilities, including;
      a. daily production capacity available for this Contract; and
      b. manufacturing quality control procedures;
   3. certification of minimum average roll values 95 percent lower confidence limits and the corresponding test procedures for all geotextile properties listed in Tables 02714-1 to 02714-5;
   4. Manufacturer's written recommended exposure period after unwrapping the geotextile from their opaque covers;
   5. projected geotextile delivery dates; and
   6. recommended long-term storage requirements and limitations.

C. For geotextiles furnished by Contractor, submit to Construction Manager for review at least 14 calendar days prior to transporting geotextile to the site, manufacturing quality control certificates signed by the quality control manager applicable to each roll of geotextile as specified in this Section. The submittal shall include a list of roll numbers to be shipped indicating which rolls were sampled and tested. The certificates shall state that the geotextiles are continuously inspected and are needle-free. The quality control certificates shall also include:
   1. lot, roll numbers, and other identification;
   2. sampling procedures; and
   3. results of quality control tests, including descriptions of test methods used (the Manufacturer quality control tests to be performed are specified in this Section).

D. Provide list of equipment, description of installation methods storage methods in accordance with manufacturer's recommendation, and other required information related to the installation of geotextile in the Earthwork Work Plan specified in Section 02200.

1.05 HEALTH AND SAFETY REQUIREMENTS

A. Environmental health & safety/training requirements shall be in accordance with Contract Documents, Soil Disposal Facility Project Integrated Health and Safety Plan, and Fluor Fernald Traveler Package.

1.06 CONTRACTOR'S QUALITY ASSURANCE

A. Contractor's quality assurance requirements shall be in accordance with Contract Documents, the CQA Plan, and this Section.

PART 2 PRODUCTS

2.01 GEOTEXTILE

A. Geotextile materials furnished by Fluor Fernald, Inc. will meet the following requirements:
   1. minimum average roll values with 95 percent lower confidence limits meeting or exceeding the required property values specified in Tables 02714-1 for geotextile filters and sacrificial geotextile filters, 02714-2 for geotextile cushion in final cover system, 02714-3 for geotextile cushion in liner system, 02714-4 for supplemental geotextile cushion in liner and scaraficial geotextile cushion in the final cover systems, and 02714-5 for geotextile separator; and
   2. manufactured from first quality polymers, with not more than 20 percent reclaimed polymer used in production.

B. Geotextiles furnished by Contractor shall meet or exceed the required property values specified in Tables 02714-1 through 02714-5. Geotextiles shall be manufactured from first quality polymers with not more than 20 percent reclaimed polymer used in production.

C. Furnish polymeric threads for stitching that are ultra-violet (UV) light stabilized to at least the same requirements as the geotextile to be sewn. Threads shall be polyester or polypropylene threads that have a minimum size of 2,000 denier.

2.02 MANUFACTURING QUALITY CONTROL

A. For geotextile furnished by Contractor, sample and test the geotextile to demonstrate that the material conforms to the requirements of this Section. Do not supply any geotextile roll that does not comply with the manufacturing quality control requirements.

1. Perform manufacturing quality control tests to demonstrate that properties conform to the values specified in Tables 02714-1 to 02714-5. Perform the following manufacturing quality control tests at a maximum interval of one test for each 50,000 square feet manufactured. All tested rolls of material used to certify compliance shall be delivered to the site. Test data for rolls not delivered to the site will not be accepted.

Test	Procedure
Mass per unit area	ASTM D 5261
Grab strength	ASTM D 4632
Tear strength	ASTM D 4533
Puncture strength	ASTM D 4833
Static puncture strength	ASTM D 6241

2. Perform additional manufacturing quality control tests on geotextile filter properties only, at a maximum interval of one test for each 100,000 square feet manufactured or minimum one per resin lot used to demonstrate that its apparent opening size (ASTM D 4751) and permittivity (ASTM D 4491) conform to the values specified in Table 02714-1. All tested rolls of material used to certify compliance shall be delivered to the site. Test data for rolls not delivered to the site will not be accepted.

B. For geotextile furnished by Contractor, if a geotextile sample fails to meet the quality control requirements of this Section, sample and test rolls manufactured at the same time and in the same lot as the failing roll. Continue to sample and test the rolls until the extent of the failing rolls are bracketed by passing rolls. Do not supply failing rolls.

2.03 PACKAGING

A. Geotextiles rolls will be wrapped in relatively impermeable and opaque protective covers.

B Covers which become torn or damaged shall be repaired by the Contractor with similar materials.

C. Geotextile rolls will be marked or tagged in accordance with ASTM D 4873 with the following information:
   1. Manufacturer's name;
   2. product identification;
   3. lot or batch number;
   4. roll number; and
   5. roll dimensions.

D. Geotextile rolls not labeled in accordance with this Section or on which labels are illegible shall be rejected and replaced. The Contractor shall notify the Construction Manager of any rolls not labeled in accordance with the Section.

E. The minimum size of each lot for geotextile furnished by the Contractor and delivered to the Site will be 100,000 ft^2.

2.04 SHIPPING

A. Geotextiles furnished by Contractor, shall not be shipped prior to final review and confirmation of compliance of Manufacturer's quality control submittals specified in this Section and conformance testing specified in the CQA Plan and by the Consultant

2.05 ACCEPTANCE, HANDLING, AND STORAGE

A. Upon delivery to the project site, Contractor shall inspect and inventory the geotextile materials and the manner in which they are stored. Contractor shall also inspect geotextile material stockpiled at the OSDF. Contractor shall provide to the Construction Manager with a written letter of acceptance within 30 calendar days if material is acceptable for installation. Contractor shall also notify the Construction Manager in writing within 30 calendar days of any geotextile material that is not acceptable for installation.

B. Protection and preservation of geotextile material shall include, but not be limited to:
   1. protection from sunlight, moisture, excessive heat or cold, puncture, mud, dirt, and dust or other damaging conditions; follow geotextile Manufacturer recommendations for handling and storage; Manufacturer recommendations will be provided by the Construction Manager for geotextile furnished by Fluor Fernald, Inc.; and
   2. storage of rolls on pallets, or other elevated structures; do not store rolls directly on the ground.

C. Contractor shall unload, handle and store geotextile material furnished by Fluor Fernald, Inc. and by Contractor. Handling shall be performed such that damage to geotextile materials does not occur.

2.06 EQUIPMENT

A. Furnish equipment for acceptance, handling, storage, and installation of geotextile.

PART 3 EXECUTION

3.01 PLACEMENT

A. Do not commence geotextile installation until the CQC Consultant completes performance testing and confirmation of compliance of underlying layers, including acceptance of Contractor's survey results for underlying layers.

B. Handle geotextiles so as to ensure they are not damaged.

C. Take precautions to prevent damage to underlying layers.

D. After unwrapping the geotextiles from their opaque covers, do not leave them exposed for a period in excess of the Manufacturer's written recommended exposure period.

E. If white colored geotextiles are used, take appropriate safety precautions against "snowblindness" of personnel.

F. Take care not to entrap stones, excessive dust, or moisture below or in the geotextiles.

G. Examine the geotextile surface after installation to ensure that no potentially harmful foreign objects are present. Remove any such objects and replace any damaged geotextiles.

3.02 SEAMS AND OVERLAPS

A. Continuously overlap a minimum of 6 inches and sew geotextile filters, cushions, and supplemental geotextile cushions using a "single prayer" seam. Sew seams using Stitch Type 401 as per Federal Standard No. 751a. Spot sewing will not be allowed.

B. Do not install horizontal seams on slopes that are steeper than 10 horizontal to 1 vertical (10H:1V). Seams shall be along, not across, the slopes.

C. Overlap geotextile separator a minimum of 12 inches and spot sew at intervals to ensure that the overlap is maintained.

D. Overlap geotextile filter used for riprap construction in Section 02271 a minimum of 12 inches. No seaming is required.

3.03 REPAIR

A. Repair holes or tears in the geotextiles using a patch made from the same geotextile material. Extend geotextile patches a minimum of 1 foot beyond the damaged area. Sew geotextile patches into place no closer than 1 inch from panel edge. Should tear exceed 50 percent of the width of the panel, cut across the entire width of the panel and seam as an end seam. For slope areas steeper than 10H:1V, tears exceeding 50 percent of the width of the panel shall be removed and replaced.

B. Remove any soil or other material that may have penetrated the torn geotextiles.

3.04 CREST ANCHORAGE SYSTEM

A. Install the geotextile along with the other geosynthetic layers in the anchor trench and wedge at the crest of the slope as shown on the Construction Drawings. Temporarily anchor the geosynthetic layers using sandbags or other means until the commencement of trench backfilling. Do not place geotextiles in anchor trench if standing water is present.

B. Do not entrap soil, sand bags, excessive moisture, or other materials below or between the geosynthetic layers in the anchor trench.

C. Backfill the anchor trench with compacted clay liner once all the geosynthetic layers are installed in the anchor trench. Backfill to the limits shown on the Construction Drawings. Compact backfill in accordance with Section 02215.

D. Do not damage exposed geosynthetic layer when backfilling the anchor trench.

3.05 PLACEMENT OF SOIL AND AGGREGATE MATERIALS

A. Place soil materials on top of geotextiles in such a manner as to ensure that:
   1. the geotextiles and the underlying materials are not damaged; and
   2. slippage does not occur between the geotextile and the underlying layers during placement.

B. Spread soil on top of the geotextile to cause the soil to cascade onto the geotextile rather than be shoved across the geotextile.

C. For geotextile cushions overlying the geomembrane, do not place granular drainage material at ambient temperatures below 40 degrees Fahrenheit (°F) or above 104°F. For placement of granular drainage material below 40°F and above 104°F, Contractor shall submit placement methods to the Construction Manager for review and approval.

D. Do not drive equipment directly on the geotextile. Only use equipment above a geotextile cushion overlying a geomembrane that meets the following ground pressure requirements:

Maximum Allowable Equipment Ground Pressure (pounds per square inch)	Minimum Thickness of Overlying Fill or Aggregate Layer (inches)
less than 5	12 (see note 1)
less than 10	18
less than 20	24
greater than 20	36

Note 1: Minimum thickness of first loose lift of the clay liner material for the protective clay layer shall be a 10-inch ±1-inch.

E. Place aggregate over geotextile separator as shown on the Construction Drawings prior to trafficking in accordance with Section 02230.

F. Place soil over geotextile filters as shown on the Construction Drawings prior to trafficking.

3.06 CONSTRUCTION QUALITY REQUIREMENTS

A. CQC Consultant will perform conformance testing on the geotextile materials furnished by Contractor to establish compliance with this Section. Conformance testing and minimum frequencies shall be in accordance with the Construction Quality Assurance (CQA) Plan.

B. CQC Consultant will monitor the geotextile installation in accordance with this Section and CQA Plan.

TABLE 02714-1

REQUIRED PROPERTY VALUES FOR GEOTEXTILE FILTER AND SACRIFICIAL GEOTEXTILE FILTER

PROPERTIES	QUALIFIER	UNITS[4]	SPECIFIED[3] PROPERTY VALUES	TEST METHOD
Identification Requirements				
Type	(-)	(-)	Nonwoven needlepunched	(-)
Polymer composition	minimum	%	95 polypropylene or polyester by weight	(-)
Mass per unit area	minimum	oz/yd^2	7	ASTM D 5261
Filter Requirements				
Apparent opening size (0_{95})	maximum	mm	0.212	ASTM D 4751
Permittivity	minimum	sec^{-1}	0.5	ASTM D 4491
Mechanical Requirements				
Grab strength	minimum	lb	180	ASTM D 4632[1]
Trapezoidal tear strength	minimum	lb	75	ASTM D 4533[2]
Puncture strength	minimum	lb	75	ASTM D 4833
Static puncture strength	minimum	lb	450	ASTM D 6241
Durability Requirements				
Ultraviolet Resistance	minimum	%	70	ASTM D 4355

Notes:

(1) Minimum of values measured in machine and cross machine directions with 1 by 2 inch clamp on Constant Rate of Extension (CRE) machine.

(2) Minimum value measured in machine and cross machine direction.

(3) All values represent minimum average roll values.

(4) mm = millimeter
% = percent
oz/yd^2 = ounce per square yard
sec = second
lb = pound
psi = pound per square inch

TABLE 02714-2

REQUIRED PROPERTY VALUES FOR GEOTEXTILE CUSHION IN FINAL COVER SYSTEM

PROPERTIES	QUALIFIER	UNITS[4]	SPECIFIED[3] PROPERTY VALUES	TEST METHOD
Identification Requirements				
Type	(-)	(-)	Nonwoven needlepunched	(-)
Polymer composition	minimum	%	95 polypropylene or polyester by weight	(-)
Mass per unit area	minimum	oz/yd^2	8	ASTM D 5261
Mechanical Requirements				
Grab strength	minimum	lb	200	ASTM D 4632[1]
Tear strength	minimum	lb	75	ASTM D 4533[2]
Puncture strength	minimum	lb	90	ASTM D 4833
Static puncture strength	minimum	lb	500	ASTM D 6241
Durability Requirements				
Ultraviolet Resistance	minimum	%	70	ASTM D 4355

Notes:

(1) Minimum of values measured in machine and cross machine directions with 1 by 2 inch clamp on Constant Rate of Extension (CRE) machine.
(2) Minimum value measured in machine and cross machine direction.
(3) All values represent minimum average roll values.
(4) mm = millimeter
% = percent
oz/yd^2 = ounce per square yard
sec = second
lb = pound
psi = pound per square inch

TABLE 02714-3

REQUIRED PROPERTY VALUES FOR GEOTEXTILE CUSHION IN LINER SYSTEM

PROPERTIES	QUALIFIER	UNITS[4]	SPECIFIED[3] PROPERTY VALUES	TEST METHOD
Identification Requirements				
Type	(-)	(-)	Nonwoven needlepunched	(-)
Polymer composition	minimum	%	95 polypropylene or polyester by weight	(-)
Mass per unit area	minimum	oz/yd^2	10	ASTM D 5261
Mechanical Requirements				
Grab strength	minimum	lb	225	ASTM D 4632[1]
Tear strength	minimum	lb	90	ASTM D 4533[2]
Puncture strength	minimum	lb	120	ASTM D 4833
Static puncture strength	minimum	lb	675	ASTM D 6241
Durability Requirements				
Ultraviolet Resistance	minimum	%	70	ASTM D 4355

Notes:

(1) Minimum of values measured in machine and cross machine directions with 1 by 2 inch clamp on Constant Rate of Extension (CRE) machine.
(2) Minimum value measured in machine and cross machine direction.
(3) All values represent minimum average roll values.
(4) mm = millimeter
% = percent
oz/yd^2 = ounce per square yard
sec = second
lb = pound
psi = pound per square inch

TABLE 02714-4

REQUIRED PROPERTY VALUES FOR SUPPLEMENTAL AND SACRAFICIAL GEOTEXTILE CUSHION IN LINER SYSTEM AND FINAL COVER SYSTEM

PROPERTIES	QUALIFIER	UNITS[4]	SPECIFIED[3] PROPERTY VALUES	TEST METHOD
Identification Requirements				
Type	(-)	(-)	Nonwoven needlepunched	(-)
Polymer composition	minimum	%	95 polypropylene or polyester by weight	(-)
Mass per unit area	minimum	oz/yd²	16	ASTM D 5261
Mechanical Requirements				
Grab strength	minimum	lb	350	ASTM D 4632[1]
Tear strength	minimum	lb	120	ASTM D 4533[2]
Puncture strength	minimum	lb	180	ASTM D 4833
Static puncture strength	minimum	lb	1,275	ASTM D 6241
Durability Requirements				
Ultraviolet Resistance	minimum	%	70	ASTM D 4355

Notes:

(1) Minimum of values measured in machine and cross machine directions with 1 by 2 inch clamp on Constant Rate of Extension (CRE) machine.
(2) Minimum value measured in machine and cross machine direction.
(3) All values represent minimum average roll values.
(4) mm = millimeter
% = percent
oz/yd² = ounce per square yard
sec = second
lb = pound
psi = pound per square inch

TABLE 02714-5

REQUIRED PROPERTY VALUES FOR GEOTEXTILE SEPARATOR

PROPERTIES	QUALIFIER	UNITS[4]	SPECIFIED[3] PROPERTY VALUES	TEST METHOD
Identification Requirements				
Type	(-)	(-)	Nonwoven needlepunched	(-)
Polymer composition	minimum	%	95 polypropylene or polyester by weight	(-)
Mass per unit area	minimum	oz/yd²	6	ASIM D 5261
Mechanical Requirements				
Grab strength	minimum	lb	180	ASTM D 4632[1]
Tear strength	minimum	lb	75	ASTM D 4533[2]
Puncture strength	minimum	lb	75	ASTM D 4833
Static puncture strength	minimum	lb	450	ASTM D 6241
Durability Requirements				
Ultraviolet Resistance	minimum	%	70	ASTM D 4355

Notes:

(1) Minimum of values measured in machine and cross machine directions with 1 by 2 inch clamp on Constant Rate of Extension (CRE) machine.
(2) Minimum value measured in machine and cross machine direction.
(3) All values represent minimum average roll values.
(4) mm = millimeter
% = percent
oz/yd² = ounce per square yard
sec = second
lb = pound
psi = pound per square inch

[END OF SECTION]

SECTION 02930

VEGETATION

PART 1 GENERAL

1.01 SCOPE

A. This Section includes soil stabilization, which includes application of crusting agent and establishing vegetation by seeding. The work in this Section includes, but is not limited to; soil preparation, interim vegetation, permanent vegetation, application of fertilizer, application of mulches, and application of crusting agent.

1.02 RELATED SECTIONS AND PLANS

A. Section 02200 - Earthwork

B. Section 02270 - Surface-Water Management and Erosion Control

C. Fluor Fernald Traveler Package

D. Construction Quality Assurance (CQA) Plan

E. Soil Disposal Facility Project Integrated Health and Safety Plan, Document Number 20100-HS-002

1.03 REFERENCES

A. Latest version of Ohio Department of Natural Resources (ODNR) Rainwater and Land Development Standards (ODNR Rainwater and Land Development Standards).

B. *"Identification and Listing of Hazardous Waste"*, Title 40, Code of Federal Regulations (CFR), Part 261, Subpart E.C.

C. *"Federal Hazardous Material Transportation Law"*, U.S. Department of Transportation [U.S. DOT, 1994].

1.04 SUBMITTALS

A. Submit the following to the Construction Manager for review within 15 calendar days from Notice to Proceed:
   1. proposed mixes and application rates for seed, mulch, fertilizers, and crusting agents;

2. Manufacturer's product data and recommended methods of application for seed, mulches, fertilizer, and crusting agents;
3. product data for fertilizer shall also include chemical analysis including uranium analysis to assure there is no resultant or derived uranium from fertilizer use, unless waived by Construction Manager;
4. material safety data sheet (MSDS) for fertilizer, mulch binder and crusting agent; and
5. inoculant information for the permanent seed mixes.

B. Submit the following to the Construction Manager for review within 30 calendar days before seeding:
1. certificate stating seed mixture, guaranteed percentages of purity, weed content, germination of seed, name of seller, test date for the seed, and the net weight and date of shipment;
2. Manufacturer's certificate stating the available nutrients contained in the proposed fertilizer;
3. Manufacturer's certificate stating that the fiber matrix (wood fibers) meets the requirements of this Section;
4. Manufacturer's certificate stating the mulch binder meets the requirements of this Section;
5. Manufacturer's certificate stating the crusting agent meets the requirements of this Section; and
6. documentation of the straw to be used for mulch; this documentation shall verify that the straw is weed free in accordance with the requirements of this Section.

C. Submit to the Construction Manager for review within 10 calendar days before seeding a plan showing seeding area and a written statement of application rate of seed mix and/or associated materials (i.e., fertilizer, mulch, and mulch binder). Choice of seeding type shall follow the site seeding requirements and as approved by the Construction Manager.

D. Provide a list of equipment, description of construction methods, and other required information for vegetation and application of crusting agent in the Contractor's Earthwork Work Plan specified in Section 02200.

1.05 HEALTH AND SAFETY REQUIREMENTS

A. Environmental health & safety/training requirements shall be in accordance with Contract Documents, Soil Disposal Facility Project Integrated Health and Safety Plan and Fluor Fernald Traveler Package.

1.06 CONTRACTOR'S QUALITY ASSURANCE

A. Contractor's quality assurance requirements shall be in accordance with Contract Documents, the CQA Plan, and this Section.

PART 2 PRODUCTS

2.01 MATERIALS

A. Furnish seed labeled in accordance with U.S. Department of Agriculture (USDA) Rules and Regulations under the Federal Seed Act and applicable State seed laws. Furnish seed in sealed bags or containers bearing the date of expiration. Do not use seed after its date of expiration. Each seed mix shall have less than 10 percent weed seed, inert material or other impurities contained in the mix resulting in at least 90 percent by weight live seed. Each seed mix shall have a germination percentage of at least 80 percent by weight for the cover crop species only. Furnish seed mixtures having seed proportioned by weight in accordance with Tables 02930-1A, 02930-1B, 02930-1C and 02930-2. Areas requiring permanent seeding during the summer months (15 June– 20 September), excluding the OSDF Cell Final Cover, shall be seeded with 30 lbs/acre of ReGreen as specified in this Section. An alternative to ReGreen, and the only acceptable alternative for summer seeding of the OSDF Cell Final Cover, is stabilizing with a crusting agent as specified in this Section. Stabilization performed during the summer shall be followed by fall application of the appropriate permanent seed mix.

B. Permanent seed mixes shall be treated with fungal (Mycorrhizae) inoculant. The specified legumes within the seed mix must be inoculated with the bacterial Rhizobial strains appropriate for the species.

C. Furnish mulch meeting the following requirements:
   1. Mulch shall be straw or wood cellulose fiber, free of clay, stone, foreign substances, and free of weeds.
   2. Straw should not contain sticks larger than ¼-inch diameter or other materials that may prevent matting down during application. Use straw that is free from mold and other objectionable material for placing with mulch blower equipment or other equipment as approved by the Construction Manager. Straw shall be generally 6 inches or more in length.
   3. Straw shall be:
      a. weed free straw from the Minnesota Crop Improvement Association certified weed free straw vendors;
      b. straw that has been inspected and determined to be weed free by Central Ohio Seed Testing;

c. native prairie grass mulch; or
d. equivalent substitute as approved by the Construction Manager.

4. Mulch applied by hydrospraying shall be a bonded fiber matrix containing wood fibers held together with a hydrocolloid-based binder, which upon drying becomes insoluble and non-dispersible. Mulch shall be comprised of 39 parts wood fiber to one part binder by weight. The fibers shall be composed of 100 percent wood or wood by-products and shall be 100 percent biodegradable. Use a bonded fiber matrix containing a green dye that will provide for easy visual inspection for uniformity of slurry spread. The bonded fiber matrix, including dye, shall contain no growth or germination inhibiting properties. The wood cellulose fiber shall be manufactured in such a manner that, after addition and agitation in slurry tanks with water, the fibers in the material become uniformly suspended to form a homogeneous material. When sprayed on the ground, the material shall allow absorption and percolation of moisture. The wood cellulose fiber shall meet the following requirements:

Item	Specification Limit
Particle Length	0.8 inch (maximum)
Particle Thickness	0.047 inch (maximum)
Ph	4.0 to 8.5
Ash Content	1.6% (maximum)
Water Holding Capacity (based on fiber dry weight)	500% (minimum)
Moisture Content	12% ± 4% (by weight)

D. Mulch binder agent shall be as approved by the Construction Manager and shall meet the following requirements:

1. The mulch binder shall be hydrocolloid base (guar gum) and shall not dissolve or disperse upon rewetting.
2. The mulch binder shall not have hazardous characteristics of ignitability, corrosivity, reactivity, or toxicity as defined in 40 CFR Part 261, Subpart C, for a hazardous waste in either its pre-applied or cured states.
3. The mulch binder shall have a flash point greater than 200°F. The mulch binder shall be neither a flammable nor combustible liquid per United States (US) Department of Transportation definition [U. S. DOT, 1994]. The mulch binder must not be susceptible to significant deterioration from exposure to the elements, including sunlight.
4. The mulch binder shall be provided in concentrated solution and prepared so that it will not change in transportation or storage.

E. The crusting agent shall be as approved by the Construction Manager and shall meet the following criteria:
   1. pine sap emulsion comprised of a 100 percent organic emulsion produced from naturally occurring resins (pine sap); or an approved equal;
   2. not comprised of chloride, lignosulfonate, petroleum, or asphaltic-type emulsions;
   3. provide dust suppression and surface stability for exposed soils, both disturbed and undisturbed soils, and exposed coal fired ash (fly ash);
   4. compatible with application via a hydro seeder, and must not require intense cleaning of equipment after application;
   5. non-tracking (i.e., will not stick to boots or tires) once cured;
   6. not have hazardous characteristics of ignitability, corrosivity, reactivity, or toxicity as defined in 40 CFR Part 261, Subpart C, for a hazardous waste in either its pre-applied or cured states;
   7. have a flash point greater than 200 °F;
   8. be neither a flammable nor combustible liquid per DOT definition; and
   9. not be susceptible to significant deterioration from exposure to the elements, including sunlight.

F. Erosion mat shall be in accordance with Section 02270.

G. Fertilizer:
   1. Furnish commercial grade fertilizer, uniform in composition that meets the requirements of all State and Federal regulations and standards of the Association of Agricultural Chemists.
   2. Fertilizer shall be slow release complete fertilizer.
   3. Two types of fertilizer mixes shall be used. Fertilizer for application within the former production area shall be 34-0-10; other fertilizers may be approved by the Construction Manager for the former production area, but they must not contain phosphorous. Fertilizer for other areas shall be 22-5-10. Other fertilizers may be approved by the Construction Manager for areas outside the former production area provided the fertilizer mix does not contain more than 6% phosphorous. Fertilizers shall contain not less than 1 percent added sulfur and not more than 8 percent added iron, or an approved equal.
   4. Fertilizer must have MSDS submitted in accordance with this Section.
   5. Fertilizer shall be used for interim seeding only, unless otherwise approved by the Construction Manager.

H. Construction water shall be obtained from the on-site water source shown on the Construction Drawings.

2.02 EQUIPMENT

A. Provide equipment of size and type to perform work specified in this Section.

PART 3 EXECUTION

3.01 DELIVERY, STORAGE, AND HANDLING

A. Deliver containerized materials in uniform packages bearing the name of the manufacturer, the net weight and a statement of content. Deliver containerized materials to the site in original, properly labeled, unopened, clean containers each showing the manufacturer's guaranteed analysis conforming to applicable regulations and standards.

B. Store materials in a dry area in a manner to prevent physical damage.

3.02 GENERAL

A. Stabilization of disturbed areas by vegetation or by use of a crusting agent shall be performed at completion of excavation and stockpiles or within 7 calendar days of knowing a disturbed area will be idle for more than 45 calendar days, whichever is sooner.

B. Crusting agents may be used as temporary measures prior to placement of interim vegetation after approval for the area by the Construction Manager.

C. Interim vegetation, as specified in this Section, is required for all areas except OSDF final cover system and soil stockpiles, which are scheduled to be disturbed in future. Interim vegetation shall also be used to establish cover within forest patches planted in Site Restoration Projects. Fertilizer shall be used for interim vegetation as specified in this Section.

D. Permanent vegetation, as specified in this Section, is required for OSDF final cover system and interim cover system. No fertilizer shall be used with permanent vegetation as specified in this Section.

E. Disturbed areas which are scheduled to be significantly disturbed after initial stabilization and/or need effective erosion control immediately, are to be stabilized with the interim seed mix rate specified in this Section. Disturbed areas which are not scheduled to be significantly disturbed again are to be stabilized with the permanent seed mix rate specified in this Section. Soil piles, which require effective erosion

control immediately, are to be stabilized with the interim seed mix rate or a crusting agent as specified in this Section.

F. Use an erosion mat as specified in Section 02270 at locations shown on the Construction Drawings after application of seed mixture.

G. Area(s) to be seeded shall be generally free of debris, rock, root material, and other objects that may impede soil preparation and seeding activities. Perform soil preparation by tilling/cultivating, to a depth of approximately 2 inches, to eliminate uneven areas and low spots. Maintain lines, levels and contours.

H. Repeat cultivation in areas where equipment used for hauling and spreading has compacted the area(s) to be seeded.

3.03 APPLICATION

A. The seeding season, for interim vegetation specified in this Section, is year round. However, if seeding is contemplated during the winter months of December through March, then field conditions should be assessed for ability to provide soil to seed contact. If field conditions do not support the ability to provide soil to seed contact then the area shall be stabilized with a crusting agent followed by seeding during conditions conducive to adequate soil to seed contact.

B. The permanent seeding in wet and dry areas and the cell final cover shall be performed in the Spring Season between 1 April and 30 June and/or the Fall Season between 15 September and 31 December, unless otherwise approved by the Construction Manager. Seed shall not be applied on frozen ground.

C. Apply fertilizer, seed, and mulch to disturbed areas and areas excavated and graded under this Contract requiring seeding unless otherwise directed by the Construction Manager. Apply mulch within 24 hours of seeding; do not seed areas in excess of that which can be mulched within 24 hours. Winter application of seed and related materials are subject to adjustment as directed by the Construction Manager.

D. Apply seed using either the drilling, broadcasting, or hydroseeding method, as described below:
   1. Seed drilling method:
      a. This method shall be used for applying the permanent seed mix in accessible areas unless otherwise approved by the Construction Manager. The method may also be used for interim vegetation.
      b. Prepare area to be seeded by loosening the soil to a minimum depth of 3 inches.

c. Apply commercial grade, slow release complete fertilizer, for interim vegetation only, at a rate of 150 lbs/acre at the time of preparing the seedbed for seeding.

d. Install seed with a seed drill to obtain a final planting depth of ¼ to ½ inch using the seed rates indicated in Tables 02930-1A, 02930-1B, 02930-1C and 02930-2. All seed drilling should be done perpendicular to the direction of surface-water flow.

2. Broadcast Seeding Method:

a. This method may be used for interim vegetation, and can be performed with the use of mechanical "cyclone" seeders, by hand seeding or by any other method which scatters seed over the soil surface.

b. This method may also be used for permanent seeding in areas that are not accessible by the seed drill method or areas where seed drilling cannot be performed perpendicular to the direction of the surface-water flow.

c. If Broadcast Method is used to apply permanent seed mix in sloped areas (3H:1V slope or steeper), seeding application rates in Tables 02930-1A, 02930-1B, and 02930-1C should be doubled.

d. Prepare the area to be seeded by loosening the soil to a minimum depth of 3 inches. This is critical to allow seeds to filter into the soil to avoid washout from runoff.

e. Apply commercial grade, slow release complete fertilizer, for interim vegetation only, at a rate of 150 lbs/acre at the time of preparing the seedbed for seeding.

f. Install seed by broadcasting evenly over the entire site using the seed rates indicated in this Section.

g. Rake the area after seeding.

h. Lightly compact the seeded area with a roller or equivalent to ensure proper soil to seed contact.

i. After application of seed, perform the following prior to placement of erosion mat.

i. For areas receiving seed mix for cell final cover permanent vegetation (Table 02930-1C), roll seeded area with a 200 to 600 pound drum roller after seeding. If surface is not accessible for the drum roller after seeding, apply sprayed mulch at 1500 pounds per acre minimum and 100 percent continuous coverage. Mix the mulch with water at a ratio of 50 pounds of mulch per 100 gallons of water.

ii. For areas receiving other seed mixes (Tables 02930-1A, 02930-1B or 02930-2), rake seeded area after seeding

j. Mulch and disc-anchor using weed free mulch at a rate of 2.0 tons per acre. Spread straw mulch, either by hand or by blowing method, at the rate of 2

air-dried tons per acre. During June through September, increase straw mulch application rate to 3 air-dried tons per acre. Application of straw mulch by the blowing method is exempt from the dust control requirements specified in Contract Documents and Fluor Fernald Traveler Package.

3. Hydroseeding Method:
   a. This method may be used for interim vegetation only. Hydroseeding shall be a two-step process. The seed shall be applied first, followed by a separate application of the mulch. This is to ensure soil to seed contact.
   b. The mixture tank shall be cleaned prior to use to ensure remnant seed is not introduced to the proposed seed mixture.
   c. Prepare area to be seeded by loosening the soil to a minimum depth of 3 inches. This is critical to allow seeds to filter into the soil to avoid washout from runoff.
   d. Apply commercial grade, slow release complete fertilizer, for interim vegetation only, at a rate of 150 lbs/acre. The fertilizer is to be mixed and applied with the mulch.
   e. Install seed by hydroseeding evenly over the entire area using the seed rates indicated in Table 02930-2. Use a fan-type nozzle with approximately 500 gallons of water per acre to ensure even distribution.
   f. Rake the area where accessible following seeding.
   g. Apply sprayed mulch at a net dry weight of 2,000 pounds per acre minimum and 100 percent continuous coverage. Mix the mulch with water at a ratio of 50 pounds of mulch per 100 gallons of water.

E. Application of Crusting Agent:
   1. Apply crusting agent in accordance with manufacturer's directions.
   2. Unless otherwise specified by the manufacturer, dilute concentrated pine sap emulsion to ratio of 4 parts water to 1 part concentrate. Apply diluted pine sap emulsion at a rate of 2,500 gallons per acre.

3.04 MAINTENANCE

A. Maintain the vegetated areas in satisfactory condition until acceptance of the vegetation by the Construction Manager. Maintenance of the vegetated areas includes repairing eroded areas, revegetating when necessary, watering, and mowing (if applicable). A satisfactory condition of vegetated area is defined as follows:
   1. an area shall have a predominant stand of the seeded vegetation;
   2. within 3 weeks, germination must occur over 90 percent of the area with no single bare area greater than 3 square feet; and
   3. within 3 months, 90 percent of the area must be covered with mature vegetation.

B. The above timeframes for germination and coverage requirements are to be delayed during the dormant season between November 1 and March 15 application of the seed. The performance criteria shall be measured at the beginning of the growing season (April 1) for seed applied during the previous dormant season.

C. Areas that fail to meet these requirements shall be repaired or reseeded as necessary to produce an acceptable stand of vegetation, as specified in this Section.

D. The acceptance inspection will be performed by the Construction Manager who will determine whether repair of vegetated areas or revegetation is required.

E. Maintain areas with a crusting agent to ensure proper erosion control. The crusting agent shall be reapplied to eroded and bare areas as necessary.

3.05 WARRANTY

A. Vegetated areas shall be subject to a warranty period of not less than 12 months from initial establishment of vegetation over 100 percent of the areas seeded.

B. At the end of the warranty period, the Construction Manager will perform an inspection of the area. Seeded areas not demonstrating satisfactory condition of vegetation as specified in this Section, shall be repaired, reseeded, and maintained to meet requirements as specified in this Section at the Contractor's expense.

C. Areas that fail to meet these requirements shall be repaired or reseeded as necessary to produce an acceptable stand of vegetation, as specified in this Section. For the OSDF Cell Final Cover vegetation only, areas that fail to meet these requirements shall be repaired as necessary and reseeded to produce an acceptable stand of vegetation by using an alternate seed mix such as hydroseeding tall fescue as determined to be appropriate by the Construction Manager.

3.06 ACCEPTANCE

A. The vegetated areas shall be accepted at the end of the warranty period if a satisfactory condition exists as defined in this Section.

B. After disturbed areas are stabilized and all necessary corrective work has been completed, the Construction Manager will certify in writing the final acceptance of the vegetated areas.

3.07 CONSTRUCTION QUALITY REQUIREMENTS

A. CQC Consultant will monitor vegetation and crusting agent application in accordance with this Section and Construction Quality Assurance (CQA) Plan.

TABLE 02930-1A

SEED MIX IN DRY AREAS FOR PERMANENT VEGETATION

SPECIES	POUNDS PER ACRE (lb/ac)
Big Bluestem (*Andropogen gerardi*)	3.0
Little Bluestem (*Andropogen scoparius*)	2.0
Side-Oats Grama (*Bouteloua curtipendula*)	0.5
Indian Grass (*Sorghastrum nutans*)	2.0
Canada Wild-Rye (*Elymus canadensis*)	25
Switch grass (*Panicum virgatum*)	0.5
ReGreen (NA)	5.0
Wildflowers[1]:	1.5
Butterflyweed (*Asclepias tuberosa*)	
Smooth Aster (*Aster laevis*)	
Ox-eye Sunflower (*Heliopsis helianthoides*)	
Bergamot (*Monadara fistulosa*)	
Purple Coneflower (*Echinacea purpurea*)	
Yellow Coneflower (*Ratibida pinnata*)	
Black-Eyed Susan (*Rudbeckia hirta*)	
Spiderwort (*Tradescantia ohioensis*)	
Hoary Vervain (*Verbena stricta*)	
Beardtongue (*Penstemon grandiflorus*)	
Sweet Joe Pye-Weed (*Eupatorium purpureum*)	
Blue False Indigo (*Baptisia australis*)	
Partridge Pea (*Cassia fasciculata*)	
Rattlesnake Master (*Eryngium yuccifolium*)	
Round-headed Bush Clover (*Lespedea Capitata*)	
Stiff Goldenrod (*Solidago risida*)	

Note: (1) Wildflower mix to be apportioned according to species aggressiveness and seed counts as approved by the Construction Manager. If certain species are not available, appropriate substitutions will be approved by the Construction Manager.

TABLE 02930-1B

SEED MIX IN WET AREAS[1] FOR PERMANENT VEGETATION

Species	POUNDS PER ACRE (lb/ac)
Big Bluestem *(Andropogen gerardi)*	3.0
Canada Wild-Rye *(Elymus canadensis)*	25
S Grass *(Panicum virgatum)*	0.5
Blue Joint Grass *(Calamagrostis canadensis)*	0.5
Porcupine Sedge (*Carex hystericina*)	1 ounce per acre (oz/ac)
Fox Sedge (*Carex stipata*)	1 ounce per acre (oz/ac)
Dark Green Bulrush (*Scirpu.s atrovirens*)	1 ounce per acre (oz/ac)
ReGreen	5.0
Prairie Cordgrass (*Spartina pectinata*)	1.0
Wildflowers[2]:	1.5
Red Milkweed (*Asclepias incarnata*)	
New England Aster (*Aster novae-angliae*)	
Wild Senna (*Cassia hebecarpa*)	
Great Blue Lobelia (*Lobelia siphilitica)*	
Yellow Coneflower (*Ratibida pinnata*)	
Blue Vervain (*Verbena hastata*)	
Sweet Joe-Rye Weed (*Eupatorium purpureum)*	
Cardinal Flower (*Lobilia cardinalis)*	
Sawtooth Sunflower (*Helianthus grosseserratus*)	

Notes: (1) Seeding in drainage ditches or swales shall contain erosion mats as specified in Section 02270 after application of seed mixture. Erosion mat shall cover a minimum width of 12 feet.

(2) Wildflower mix to be apportioned according to species aggressiveness and seed counts as approved by the Construction Manager. If certain species are not available, appropriate substitutions will be approved by the Construction Manager.

TABLE 02930-1C

SEED MIX IN SANDY DRY AREAS[1] FOR PERMANENT VEGETATION

Species Grass	**POUNDS PER ACRE** (lb/ac)
Big Bluestem *(Andropogen geradi)*	0.5
Little Bluestem *(Andropogen scoparius)*	3.0
Side-Oats Grama *(Bouteloua curtipendula)*	5.0
Canada Wild-Rye *(Elymus Canadensis)*	25
Indian Grass *(Sorghastrum nutans)*	0.5
Annual Rye *(Lolium multiflorum)*	5.0
Prarie Dropseed *(Sporobulus heterolepis)*	1.5
Wildflower, Uniform mix of the following species:	**Ounces Per Acre** (oz/ac)
Butterflyweed *(Asclepias tuberosa)*	5.0
Smooth Aster *(Aster laevis)*	0.25
Ox-eye Sunflower *(Heliopsis helianthoides)*	1.75
Bergamot *(Monadara fistulosa)*	0.25
Purple Coneflower (*Echinacea purpurea)*	3.0
Yellow Coneflower *(Ratibida pinnata)*	0.25
Black-Eyed Susan *(Rudbeckia hirta)*	0.25
Hoary Vervain *(Verbena stricta)*	0.5
Beardtongue *(Penstemon grandiflorus)*	1.0
White False Indigo *(Baptisia leucantha)*	4.0
Blue False Indigo *(Baptisia australis)*	4.0
Partridge Pea *(Cassia fasciculate)*	3.0
Stiff Goldenrod *(Solidago risida)*	0.25
Lupine (*Lupinis peremis*	7.0

Notes: (1) Wildflower mix to be apportioned according to species aggressiveness and seed counts as approved by the Construction Manager. If certain species are not available, appropriate substitutions will be approved by the Construction Manager.

TABLE 02930-1C

SEED MIX FOR CELL FINAL COVER[1] PERMANENT VEGETATION

Species Grass	POUNDS PER ACRE (lb/ac)
Little Bluestem *(Andropogen scoparius)*	3.0
Side-Oats Grama *(Bouteloua curtipendula)*	5.0
*Buffalo Grass (*Buchloe dactyloides*)*	1.0
Canada Wild-Rye *(Elymus Canadensis)*	25
Annual Rye *(Lolium multiflorum)*	10
Prairie Dropseed *(Sporobulus heterolepis)*	1.5
Wildflower, Uniform mix of the following species	**OUNCES PER ACRE** (oz/ac)
Butterflyweed (*Asclepias tuberosa*)	3.0
Smooth Aster (*Aster laevis*)	0.25
Blue False Indigo (*Baptisia australis*)	3.5
Ox-eye Sunflower (*Heliopsis helianthoides*)	1.75
Bergamot (*Monadara fistulosa*)	0.25
Purple Coneflower (*Echinacea purpurea*)	2.0
Yellow Coneflower (*Ratibida pinnata*)	0.375
Black-Eyed Susan (*Rudbeckia hirta*)	0.125
Spiderwort (*Tradescantia ohioensis*)	1.0
Hoary Vervain (*Verbena stricta*)	0.5
Beardtongue (*Penstemon grandiflorus*)	1.0
Partridge Pea (*Cassia fasciculata*)	32
Stiff Goldenrod (*Solidago risida*)	0.75

Notes: (1) Wildflower mix to be apportioned according to species aggressiveness and seed counts as approved by the Construction Manager. If certain species are not available, appropriate substitutions will be approved by the Construction Manager.

TABLE 02930-2

SEED MIX FOR INTERIM VEGETATION

Species	Pounds Per Acre (lb/ac)
ReGreen	50
Partidge Pea (*Cassia fasciculate)*	10
Canada Wild Rye (*Elymus Canadensis*)	40

[END OF SECTION]

FLUOR

60 42

Technical Specifications
For
Soil and Disposal Facility Project

Excavation For Remediation

Document 20300-TS-0001
Revision 1

February 2003

PREPARED BY: _____ 2/6/03

CHECKED BY: _____ 2/6/03

APPROVED BY: _____ 2/6/03

U.S. DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

Fluor Fernald
P.O. Box 538704
Cincinnati, OH 45253-8704

U.S. DEPARTMENT OF ENERGY

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

Excavation For Remediation Technical Specifications

Technical specifications contained in this document detail requirements for soil excavation projects performed under the Soils and Disposal Facility Project. Technical specifications referenced, but not contained herein, are provided in On-Site Disposal Facility (OSDF) technical specification package 20105-TS-0001. The Legend and General Notes drawing within each excavation design package identify the applicable OSDF technical specification package document.

TABLE OF CONTENTS

SECTION	TITLE	REV.	DATE
02150	Traffic Control	1	02/06/03
02205	Impacted Material Excavation	1	02/06/03
02206	Earthwork for Remediation	1	02/06/03
02207	Area Isolation Trenching	1	02/06/03
02275	Surface Water Management and Erosion Control for Remediation	1	02/06/03

REFERENCED OSDF SPECIFICATIONS
(20105-TS-0001)

02100	Surveying
02200	Earthwork
02215	Trenching and Backfilling
02230	Road Construction
02270	Surface Water Management and Erosion Control
02714	Geotextiles
02930	Vegetation

SPECIFICATION REVISION RECORD

Spec. No./Rev.	Description	Approval	Date
02150, Rev.A	Issue for 30% design review	DRR	5/23/02
02150, Rev B	Issue for 90% A2PII design review	DRR	6/24/02
02150, Rev C	Issue for 90% SWL/FTF design review	DRR	7/16/02
02150, Rev D	Re-issue for 90% SWL/FTF and 90% 3B/4B/5 design reviews	DRR	8/13/02
02150, Rev E	Issue for 100% 3B/4B/5 design review	DRR	9/27/02
02150, Rev 0	Issue for CFC SWL/FTF design package	DRR	10/16/02
02150, Rev 1	Revised per DCN 20600-005 per internal, DOE and agency comments	DRR	02/06/03
02205, Rev.A	Issue for 30% design review	DRR	5/23/02
02205, Rev B	Issue for 90% A2PII design review	DRR	6/24/02
02205, Rev C	Issue for 90% SWL/FTF design review	DRR	7/16/02
02205, Rev D	Re-issue for 90% SWL/FTF and 90% 3B/4B/5 design reviews	DRR	8/13/02
02205, Rev E	Issue for 100% 3B/4B/5 design review	DRR	9/27/02
02205, Rev 0	Issue for CFC SWL/FTF design package	DRR	10/16/02
02205, Rev 1	Revised per DCN 20600-005 per internal, DOE and agency comments	DRR	02/06/03
02206, Rev.A	Issue for 30% design review	DRR	5/23/02
02206, Rev B	Issue for 90% A2PII design review	DRR	6/24/02
02206, Rev C	Issue for 90% SWL/FTF design review	DRR	7/16/02
02206, Rev D	Re-issue for 90% SWL/FTF and 90% 3B/4B/5 design reviews	DRR	8/13/02
02206, Rev E	Issue for 100% 3B/4B/5 design review	DRR	9/27/02
02206, Rev 0	Issue for CFC SWL/FTF design package	DRR	10/16/02
02206, Rev 1	Revised per DCN 20600-005 per internal, DOE and agency comments	DRR	02/06/03
02207, Rev.A	Issue for 30% design review	DRR	5/23/02
02207, Rev B	Issue for 90% A2PII design review	DRR	6/24/02
02207, Rev C	Issue for 90% SWL/FTF design review	DRR	7/16/02
02207, Rev D	Re-issue for 90% SWL/FTF and 90% 3B/4B/5 design reviews	DRR	8/13/02
02207, Rev E	Issue for 100% 3B/4B/5 design review	DRR	9/27/02
02207, Rev 0	Issue for CFC SWL/FTF design package	DRR	10/16/02
02207, Rev 1	Revised per DCN 20600-005 per internal, DOE and agency comments	DRR	02/06/03
02210	Deleted in favor of project-specific ACM work plans	DRR	8/13/02
02275, Rev.A	Issue for 30% design review	DRR	5/23/02
02275, Rev B	Issue for 90% A2PII design review	DRR	6/24/02
02275, Rev C	Issue for 90% SWL/FTF design review	DRR	7/16/02
02275, Rev D	Re-issue for 90% SWL/FTF and 90% 3B/4B/5 design reviews	DRR	8/13/02
02275, Rev E	Issue for 100% 3B/4B/5 design review	DRR	9/27/02
02275, Rev 0	Issue for CFC SWL/FTF design package	DRR	10/16/02
02275, Rev 1	Revised per DCN 20600-005 per internal, DOE and agency comments	DRR	02/06/03

SECTION 02150
TRAFFIC CONTROL

0042

PART 1 GENERAL

1.1 SCOPE

A. This Section includes the traffic control requirements for the excavation areas, Special Materials Transfer Area (SMTA), Stockpile 7 (SP-7) and movement between the following: On-Site Disposal Facility (OSDF), OSDF Material Transfer Areas (OMTA), Bulk Material Transfer Area (BMTA), OSDF borrow area, Waste Pits Remedial Action Project (WPRAP), and designated project operational limits. (Requirements for traffic control within the OSDF and OSDF borrow area are contained in the IMPP and the OSDF Borrow Area Management and Restoration Work Plan.)

1.2 RELATED SECTIONS AND DOCUMENTS

A. Section 02200 – Earthwork.

B. Section 02205 – Impacted Material Excavation.

C. Section 02206 – Earthwork for Remediation.

1.3 REFERENCES

A. Manual of Uniform Traffic Control Devices (MUTCD) for Streets and Highways, current edition.

B. State of Ohio, Department of Transportation (ODOT): Construction and Material Specifications, current edition.

PART 2 PRODUCTS

2.1 MATERIALS

A. Provide materials for traffic control, including stop and yield signs conforming to MUTCD and ODOT specifications.

B. Provide fencing as specified in Section 02200.

PART 3 EXECUTION

3.1 TRAFFIC CONTROL

A. Supply, install, and maintain traffic control devices.

B. Maintain speed limit of construction vehicles and equipment per postings and specific requirements stated in the Construction Traveler Package.

C. Ensure that haul equipment or other equipment traveling between certified and non-certified areas, remains on roads constructed of certified material. Perform wheel-wash activities and decontamination as necessary. The Construction Manager will arrange for radiological monitoring in accordance with Section 02205.

D. Provide entry points to the excavation area free of interference from non-project operations. Ensure that traffic entering haul roads yields to traffic already on the road.

E. Ensure that traffic routes are acceptable for use (stable) daily and after an event (rain) that may have altered the condition of the route.

F. Routes that cause equipment and/or vehicles to operate on inclines shall be evaluated and operational limits stated.

3.2 IMPACTED MATERIAL HAUL ROAD

A. Control the Impacted Material Haul Road (IMHR) as a contamination area during excavation and hauling of above-WAC materials. The Construction Manager must approve IMHR crossings from controlled areas.

B. The Construction Manager may post or reclassify road crossing intersections with the IMHR during periods of inactivity.

3.3 UTILITY CROSSINGS

A. Protect energized or active utility lines outside of existing paved areas that intersect proposed traffic routes. Use a 1 inch thick steel plate or an equivalent alternative. Provide length and width of steel plates as required to protect the existing utilities.

3.4 EQUIPMENT PARKING

A. OSDF Contractor Administration Area

1. Provide non-contaminated equipment parking areas within the OSDF Contractor Administration Area.
2. Restrict personal vehicles from the equipment parking areas.
3. Provide personnel parking at the OSDF Contractor Administration Area.

B. Contaminated Equipment Parking Area

1. Locate the contaminated equipment parking area as close as possible to the Radiological Control Point Facility.
2. Maintain contaminated equipment parking areas free of mud, debris and standing water.
3. Park contaminated equipment utilized in the SP-7 area, or above-WAC areas at the boundary of the area, in accordance with Section 02205, until decontaminated and released from the area.

0042

C. Parking areas shall be constructed to insure that personnel accessing and servicing the vehicles shall have firm and stable footing. The use of rip rap and other like materials is not acceptable.

END OF SECTION

6042

RCI/DCN FORM

REQUEST FOR CLARIFICATION OF INFORMATION / DESIGN CHANGE NOTICE

(1) PROJECT/CWO/RES NO.:	(2) S/C NO.: -	(3) Pg. 1 Of 1	(4) DATE:
20600			10/06/05

(5) PROJECT/CWO/RES/S/C TITLE:	(6) RCI NO.:
Area 6 General – Waste Pits	
(7) RCI/DCN TITLE:	**(6) DCN NO.:**
Debris Washing	20600-009

(8) DOCUMENTS AFFECTED	(8) DOCUMENT NOS.	(8) REV.	(9) OTHER
Construction Drawings			
Technical Specifications	20300-TS-0001	1	

(10) REQUESTOR:	(11) CE / PE
Russell Thomas 10/6/05	Russell Thomas 10/6/05
NAME (Print & Sign) DATE	NAME (Print & Sign) DATE

(12) [ ] RCI-DESCRIPTION

(13) [x] DCN-JUSTIFICATION. EXISTING CONDITION & REQUESTED/PROPOSED CHANGE

Justification: Revision to the impacted material excavation technical specification package (20300-TS-0001) is necessary to delete an obsolete requirement for pressure washing debris to remove soil prior to disposal in the OSDF. The obsolete requirement was identified by OEPA during agency review of Area 6 Waste Pits IRDP.

Existing Condition: Technical specification section 02205, item 3.4.B, requires pressure washing of debris to remove soil prior to disposal in the OSDF. This requirement is not consistent with current construction methodology.

Proposed Change: Delete technical specification section 02205, item 3.4.B in response to agency comment.

DESIGN ORGANIZATION RCI – DCN SUMMARY DESCRIPTION

(14) RCI/DCN SUMMARY DESCRIPTION

(15) REVIEWS COMPLETED

[✓] Configuration Management SSC Review Complete	A. C. Snider (A. C. Snider)	10/06/05
	DO NAME (Print & Sign)	DATE
[✓] Impact Assessment Review Complete	A. C. Snider	10/06/05
	DO NAME (Print & Sign)	DATE
	Russell Thomas	10/06/05
	PE NAME (Print & Sign)	DATE
[✓] Technical Review Complete	A. C. Snider	10/06/05
	DO NAME (Print & Sign)	DATE
[ ] ED-12-4010 Review Complete	Russell Thomas	10/6/05
	PE NAME (Print & Sign)	DATE

(16) DOES CE AGREE WITH SOLUTION: [ ] NO [✓] YES	(17) FIELD WORK COMPLETED:
IS A PURCHASE REQUISITION REQUIRED: [✓] NO [ ] YES	
Russell Thomas 10/6/05	
CE NAME (Print & Sign) DATE	CE OR PE (Print & Sign) DATE:

FS-F-4259
Rev. 6: 10/18/02, ED-12-5002

6042

SECTION 02205
IMPACTED MATERIAL EXCAVATION

PART 1 GENERAL

1.1 SCOPE

A. This Section includes the requirements for excavating, size-reducing, segregating, stockpiling, loading, hauling, and unloading impacted material. Activities include, but are not limited to, the following:

1. Excavation of impacted materials to the design grade.
2. Segregation of impacted materials for disposition or reuse.
3. Size reduction of remaining structures, utilities, and miscellaneous debris.
4. Loading, hauling and unloading of impacted materials to appropriate disposition.
5. Development and maintenance of project stockpiles.
6. Support of site monitoring and sampling activities.
7. Performance of area management activities.
8. Supplemental excavation beyond the design grade.
9. Excavation of utilities below the design grade.

1.2 RELATED SECTIONS AND DOCUMENTS

A. Section 02100 – Surveying.

B. Section 02150 – Traffic Control.

C. Section 02200 – Earthwork.

D. Section 02206 – Earthwork for Remediation.

E. Section 02230 – Road Construction.

F. Section 02275 – Surface Water Management and Erosion Control for Remediation.

G. Section 02930 – Vegetation.

H. Impacted Materials Placement Plan (IMPP), On Site Disposal Facility (OSDF), 20100-PL-007, current revision.

1.3 REFERENCES

A. Title 29, Code of Federal Regulations (CFR): 29 CFR 1926 Subpart P – Excavation, current edition.

B. Waste Acceptance Criteria (WAC) Attainment Plan for On Site Disposal Facility (OSDF), 20100-PL-0014, current revision.

C. RM-0047, Fugitive Dust Control Requirements, current revision.

1.4 DEFINITIONS

A. Active Stockpile: A stockpile specifically designed to operate for longer than 45 calendar days. This includes interim stockpiles that are older that 45 days and existing stockpiles shown on the Construction Drawings.

B. Debris: Impacted material that is generated during the excavation and removal of building structures, utilities, miscellaneous man-made materials, and natural materials. These materials include floor slabs; foundation walls; sheet piling; foundations; piers; footings; hydraulic ram casings; structural steel, re-bar and miscellaneous metal; electrical duct-bank, manholes, electrical wiring, and power poles; remaining equipment and miscellaneous mechanical items; chain link and other fencing; agricultural drain tiles; and rock, asphaltic pavement, and other aggregate materials not defined as Special Materials.

C. Design Grade: Grade created by excavation of impacted material to the lines and grades shown on Construction Drawings.

D. Final Remediation Levels (FRLs): The permissible concentration of contaminants that may remain in site soil and sediment following completion of remedial actions.

E. Hazardous Waste Management Unit (HWMU): Area shown on the Construction Drawings that has contained hazardous or mixed waste.

F. Impacted Material: Soil with contamination levels above the established FRLs or man-made materials. Impacted materials associated with soil excavation projects are presented in Table 02205-1.

G. Interim Stockpile: An impacted material project stockpile that is intended to be dispositioned in less than 45 calendar days.

H. Process Piping: Piping that is more likely to contain contaminated residue based on process knowledge of previous excavation activities (i.e. sanitary, effluent, or sump liquor lines).

I. Real-time Monitoring: Consists of several alternative methods of utilizing in-situ gamma spectroscopy, to analyze contaminant levels on the excavation surface.

J. Special Materials: Impacted material requiring special handling as specified in this Section and presented in Table 02205-1.

K. Supplemental Excavation: Removal of impacted material encountered beyond design grade.

L. Underground Storage Tank (UST): Tank that was used to contain an accumulation of a regulated substance, of which the volume was 10 percent or more beneath the ground surface.

M. WAC: Waste acceptance criteria (WAC) for disposition of material at the OSDF as defined by the WAC Attainment Plan. This WAC includes radiological/chemical criteria for soil,

6042

physical criteria for debris, and criteria for ancillary remediation waste (i.e., analytical sample returns, PPE).

1.5 SUBMITTALS

A. Maintain a daily record of underground utilities that have been excavated from below the design grade, in the form of a redline drawing mark-up, for review by the Project Engineer every 30 days following the start of excavation beyond the design grade.

B. Submit calculations certified by a registered Professional Engineer ensuring slope stability when using equipment having a gross weight greater than specified for a Caterpillar CAT 350L within the excavation area, as necessary.

1.6 VERIFICATION OF THE EXISTING CONDITIONS

A. Verify existing conditions as specified in Section 02100.

PART 2 PRODUCTS

2.1 MATERIALS

A. Provide 20-mil sheets of Herculite or equal for use in buffer areas.

B. Provide 3/8-inch yellow nylon rope fence. Posts shall be in accordance with Section 02200.

2.2 EQUIPMENT

A. Furnish and maintain equipment to perform required operations in accordance with this Section.

B. Equipment used to haul impacted material over the existing paved IMHR, shall be equal to or less than the gross vehicle weight and axle loading for a Caterpillar CAT D300E haul truck (gross vehicle weight of 120,000 pounds and maximum axle width of 9-feet 10-inches). Pavement width of the existing two-way IMHR is 24-feet. Select equipment and equipment width to ensure safe operation on this road.

C. Equipment used within the excavation area shall be equal or less than the gross weight for a Caterpillar CAT 350L track hoe (112,500 pounds). Heavier equipment may be approved for use in this area pending submittal and approval of calculations certified by a registered Professional Engineer, that ensure slope stability.

D. Equipment used to haul and unload impacted materials shall have enclosed cabs. Enclosed cab is defined as an equipment cab isolated from outside environment (intact windows, doors, panels and floors surrounding driver with windows and doors shut) which provides a barrier from intrusion of outside airborne particles. Heating, ventilating, or air conditioning units associated with the equipment cab must not provide a direct path for outside air to enter (air conditioner on air recirculate mode) unless the air is first passed through a high efficiency particulate air (HEPA) filter pulled directly from outside the cab.

E. Furnish placards, placard carriers and 3-inch nominal diameter mounted sealable polyvinyl-chloride (PVC) tubes to serve as manifest carriers on haul trucks. Install at locations as directed by the Construction Manager.

F. Assign equipment used to haul material to the OSDF with unique alpha-numeric identifiers. This identifier shall be placed on both sides of the truck cab and shall be visible from 20 feet.

G. Equip trucks used for hauling impacted material with automatic load cover tops or employ Best Available Technology (BAT) methods to ensure that no airborne materials are emitted from the haul truck bed or load, whether empty or full.

H. Provide water tank trucks, water wagons, hydroseeders, portable tanks, pressure distributors, piping, sprinklers or other equipment designed to apply water and/or dust suppressant and crusting agent uniformly and in controlled quantities to variable surface widths to provide fugitive dust control.

I. Provide pressure wash or comparable equipment necessary to clean visible process residue and soil from piping and debris for placement in the OSDF.

J. Provide portable wash equipment to wash vehicle tires and vehicle exteriors as necessary.

K. Provide equipment used for size reducing concrete and asphalt materials for use as temporary aggregate surfaces.

PART 3 EXECUTION

3.1 GENERAL EXCAVATION

A. Prior to performing excavation activities, satisfy the following requirements:

1. Complete preliminary survey and layout work in accordance with Section 02100.
2. Establish dust control methods in accordance with RM-0047, "Fugitive Dust Control Requirements".
3. Install and manage surface water management and erosion and sediment control measures in accordance with Section 02275.
4. Install, modify, and manage construction safety and radiological-control fence and signage. Install posts at spacing recommended by the manufacturer's installation procedures and as required to prevent sagging. Posts with less than 4 feet remaining above the ground after installation shall have safety caps installed.
5. Obtain survey and red line markup of area isolation trench, where applicable, to verify completeness.

B. Perform excavation activities in compliance with 29 CFR Part 1926.650 through 1926.652.

C. Unless otherwise noted on the Construction Drawings, the following slope stability requirements shall apply during excavation activities:

1. Excavation slopes with depths less than 20-feet shall be performed in accordance

with applicable Occupational Safety and Health Administration (OSHA) guidelines.

2. Sloped excavations greater than 20 feet in depth shall be designed by a Professional Engineer (PE) registered in the state of Ohio.
3. Temporary excavation slopes with depths less than 20-feet shall be no steeper than 1.5H:1V with a maximum height of 13 feet between 15 foot benches.
4. Design slopes and slopes created by supplemental excavation shall be no steeper than 2H:1V with a maximum height of 13 feet between 15 foot benches.

D. Install and manage traffic control devices in accordance with Section 02150.

E. Blasting, including use of explosives or explosive devices, is not permitted.

F. As necessary, establish and manage Special Materials Transfer Area(s) (SMTA) as follows:

1. Establish the SMTA on an existing building slab, paved parking area, or new aggregate surface adjacent to the project boundary, accessible from inside and outside the excavation area.
2. Construct ingress/egress to the SMTA, including access roads, ramps, and drainage improvements as required.
3. Install new aggregate surface SMTA in accordance with the Construction Drawings and Section 02230, and provide positive drainage.
4. The SMTA shall not be used as a laydown area.
5. The SMTA shall be controlled as a radiological buffer area in accordance with this Section.

G. Establish controls for removal of ACM in accordance with the approved Construction Traveler Package.

H. Excavate surface material within the limits of excavation to a minimum depth of 2 feet, unless otherwise noted on the Construction Drawings.

I. Excavate fractured materials concurrent with the adjacent above-WAC or below-WAC material, minimizing generation of above-WAC material. Fracturing of at-grade concrete slabs may continue concurrently with above-WAC and/or RCRA hazardous soil removal, but concrete outside of above-WAC and RCRA hazardous areas shall not be removed until above-WAC and RCRA hazardous soil removal has been completed, unless otherwise approved by the Construction Manager.

J. Excavate and load material in such a manner that enables visual observation of excavation and loading operations as required to accurately manifest material for disposition.

K. Excavations shall generally proceed in an up-gradient to down-gradient pattern to the lines and grades shown on the Construction Drawings.

L. Keep excavation equipment in contaminated areas to prevent recontamination of areas excavated to final grade. Excavate an area by methods that prevent drainage of surface water into the area.

M. Unless otherwise noted on the Construction Drawings or directed by the Construction Manager, excavate material from known above-WAC and RCRA hazardous areas in accordance with this Section, prior to excavating below-WAC material

N. Survey and stake excavation areas as shown on the Construction Drawings, in accordance with Section 02100. Perform intermediate and final surveys as specified in Section 02100 for measurement and to confirm attainment of the design grade.

O. Remove material adjacent to structures that extend above the excavation surface, as well as the structures themselves, in a safe manner to ensure that an unstable condition does not exist.

P. Prior to excavating previously trenched and backfilled isolation trenches, physical sampling is required in locations where sanitary and process lines were cut during trenching. Allow 10 working days for physical sampling and analysis.

Q. Design contours and grades shown on the Construction Drawings represent the minimum limits of excavation required to capture contamination and foundations, while maintaining safe slope requirements. Field changes shall be reported to the Construction Manager and approved by the Project Engineer.

R. In the event a historic, prehistoric, or archeological site, feature, or object is discovered, stop excavation in the area and immediately notify the Construction Manager for evaluation by Cultural Resources.

S. Continuously observe excavations for Special Materials or change in materials. In the event a Special Material or change in materials is encountered, stop excavation in the area and immediately notify the Construction Manager for evaluation by WAO. Dispose of Special Materials in accordance with Table 02205-1.

T. In the event solvent saturated soils are encountered, stop excavation in the area and immediately notify the Construction Manager for evaluation by WAO. Excavate, load, and haul the material as directed by the Construction Manager.

U. Prevent damage to adjacent structures, materials, and equipment, including utilities that are to remain, or those installed for performance of this work. Repair damage that occurs due to execution of this scope.

3.2 EXCAVATIONS APPROACHING THE GMA

A. Stop excavation activities in the immediate area and immediately notify the Construction Manager if sands and gravel are encountered, even if the design grade has not been achieved.

B. Use caution when excavations encroach on the 5-feet protective cover over the unsaturated sands and gravel of the GMA. Approximate GMA elevations are shown on the Construction Drawings.

C. Prior to initiating work activities that will breach the 5-feet protective cover of the GMA, but not extend within 2-feet of the GMA, proceed as follows:

1. Excavate to achieve design grades shown on the Construction Drawings or to remove Above-FRL material.
2. Allow 24 hours for coordination of the following: examination of the excavation bottom to determine if GMA sediments are present, real-time monitoring and/or physical sampling of the area to be backfilled, and identification of necessary pumping requirements for ponded water.
3. Immediately following monitoring and sampling, initiate backfilling to protect the GMA in accordance with Section 02206.

D. Prior to initiating work activities which will encroach within 2 feet of or breach the GMA, obtain approval and direction from the Construction Manager to proceed as follows:

1. Excavate to achieve design grades shown on the Construction Drawings or to remove Above-FRL material.
2. Allow for real-time monitoring and physical sampling in the area prior to backfilling.
3. Immediately following monitoring and sampling collection, initiate backfilling to protect the GMA in accordance with Section 02206.

3.3 BUFFER AREA MANAGEMENT

A. Establish excavation boundary and buffer area controls for above-WAC, RCRA hazardous areas, HWMUs, and USTs as follows:

1. Establish excavation area boundaries at surveyed and staked locations, in accordance with this Section.
2. Install T-posts and rope fence at the excavation boundary.
3. Establish the buffer area adjacent to the excavation area to serve as a controlled loading area between the excavation area and the surrounding radiological controlled area.
4. Grade the buffer area to drain into the excavation.
5. Install T-posts and rope fence around the buffer area.
6. Cover the buffer area with a 20-mil sheet of Herculite, or equivalent.
7. Collect water encountered during excavation and pump it as specified in Section 02275 and the construction drawings.
8. Keep the buffer area clean and free of dirt and mud.
9. Remove spillage before releasing haul equipment from the buffer area.

B. Dedicate and restrict equipment required to excavate, load, haul and place above-WAC, RCRA hazardous and HWMU material to that specific use until decontamination rinsing has been completed and approved by the Construction Manager. Upon approval by the Construction Manager that no visible material is present on exterior equipment surfaces, or in haul truck beds, equipment may be used elsewhere.

C. Unless constructability requires that equipment access above-WAC, RCRA hazardous or HWMU excavation areas, excavate these areas by reaching over the excavation area

boundary and dumping directly into haul equipment located in the buffer area. Above-WAC, RCRA hazardous and HWMU excavation boundaries may be adjusted as sampling and/or monitoring demonstrates that constituents of concern have been excavated to levels sufficient to down-post portions of the area.

D. Load haul equipment in a manner that prevents spillage and accumulation of material on the wheels and exterior of the haul equipment. Remove visible material that accumulates on the truck exterior. Multiple loading areas may be established within the buffer area.

E. Wash haul equipment within the buffer area as necessary (using low volume, high-pressure washer or approved equivalent) to remove above-WAC, RCRA hazardous or HWMU material from the exterior of equipment.

3.4 ABOVE-WAC EXCAVATIONS

A. Establish excavation boundary and buffer area controls in accordance with this Section.

B. Remove debris (concrete, asphalt, and miscellaneous structures) from above-WAC areas and pressure wash the debris as directed by the Construction Manager to remove soil/residue. The Construction Manager will visually monitor washing operations to ensure that debris is free of soil/residue and approved for loading and hauling to the OSDF.

C. Debris from above-WAC areas not approved for disposal at the OSDF shall be dispositioned at Waste Pits Remedial Action Project (WPRAP) in accordance with this Section.

D. Excavate above-WAC soil/gravel in 3+/-1 foot lifts to the design grade, as shown on the Construction Drawings. Load and haul above-WAC soil/gravel to WPRAP in accordance with this Section.

E. The Construction Manager will arrange for real-time monitoring on excavated side slopes after each lift is removed and on the excavation floor upon achieving the above-WAC contamination limits shown on the Construction Drawings. In above-WAC areas contaminated with Tc-99, as shown on the Construction Drawings, the Construction Manager will arrange for physical sampling at the design depth. Allow 10 working days for sampling and analysis. Do not proceed with further excavation in this area until directed by the Construction Manager.

F. If initial depth of above-WAC material is below the existing surface, excavate below-WAC material in 2+/-1 foot lifts until above-WAC material has been reached, then proceed in 3+/-1 foot lifts.

G. Pending results of monitoring or analysis, perform supplemental above-WAC excavation beyond design limits shown on the Construction Drawings or in areas not shown on the Construction Drawings, as directed by the Construction Manager.

3.5 RCRA HAZARDOUS EXCAVATIONS

Excavate RCRA Hazardous areas to the limits shown on the Drawings as follows:

A. Establish excavation boundary and buffer area controls in accordance with this Section.

B. Remove debris (concrete, asphalt, and miscellaneous structures) from RCRA hazardous areas and pressure wash the debris as directed by the Construction Manager to remove any soil/residue. The Construction Manager will visually monitor washing operations to ensure that debris is free of all soil/residue and approved for loading and hauling to the OSDF. The Construction Manager may require additional washing as necessary to satisfy visual inspection.

C. Debris from RCRA hazardous areas not approved for disposal at the OSDF shall be stockpiled for treatment by others in accordance with this Section.

D. Excavate RCRA hazardous soil/gravel in 3+/-1 foot lifts to the limits shown on the Construction Drawing. Load and haul material to an appropriate stockpile for treatment by others in accordance with this Section. Do not proceed with further excavation in this area until directed by the Construction Manager.

E. The Construction Manager will perform physical sampling upon confirmation that all RCRA hazardous material has been excavated. Allow 10 working days for sampling and analysis.

F. Perform additional RCRA hazardous excavations, as directed by the Construction Manager, if analysis identifies additional RCRA hazardous material beyond the limits shown on the Construction Drawings.

3.6 HWMU EXCAVATIONS

Excavate material from the HWMU to the limits shown on the Construction Drawings as follows:

A. Establish excavation boundary and buffer area controls in accordance with this Section.

B. Remove debris (concrete, asphalt, and miscellaneous structures) from the HWMU and haul to the OSDF as a discrete waste stream. If the HWMU is considered an above-WAC area, load and haul the debris to WPRAP, or containerize it as directed by the Construction Manager.

C. Excavate HWMU soil/gravel in 3+/-1 foot lifts to the HWMU design grade, as shown on the Construction Drawings. Load and haul HWMU soil/gravel to the OSDF as a discrete waste stream. If the HWMU is considered an above-WAC area, containerize soil/gravel as directed by the Construction Manager.

D. The Construction Manager will arrange for physical sampling on excavated side slopes after each lift is removed and on the excavation floor upon achieving the HWMU design grade shown on Construction Drawings. Allow 10 working days for sampling and analysis required for closure of the HWMU. Do not proceed with further excavation in the area until directed by the Construction Manager.

E. Pending analysis of sample results, perform supplemental HWMU excavation beyond the design grade as directed by the Construction Manager.

F. Upon confirmation from the Construction Manager that the HWMU excavation is complete, remove HWMU boundary fence, load and haul buffer area Herculite as HWMU debris.

3.7 UST EXCAVATIONS

Excavate USTs and areas that previously contained USTs shown on the Construction Drawings, as well as USTs discovered during excavation, as follows:

A. Excavate to expose the top of the tank (UST) to allow the Construction Manager to assess the tank's condition.

B. The Construction Manager and Industrial Hygiene will inspect the tank for the presence of liquid or non-soil residue.

C. If the tank contains liquid or non-soil residue, as determined by the Construction Manager, proceed as follows:

1. Pump remaining tank contents into drums provided by the Construction Manager.
2. Move filled drums from the excavation area to the SMTA.
3. Drums will be removed from the SMTA by others for appropriate disposition.

D. Upon confirmation from the Construction Manager that the tank is empty, proceed with removing the tank. Ensure that water does not accumulate in the tank from the surrounding excavation.

E. During excavation, stage the tank, soil excavated from around the UST, and soil excavated from areas that previously contained USTs separate from other excavated materials.

F. Upon confirmation from the Construction Manager that the tank is free of visible process residue, size-reduce the tank to meet physical WAC and dispose of it in the OSDF as a discrete waste stream.

G. If the tank cannot be cleaned of visible process residue, size-reduce the tank for disposition in accordance with this Section.

H. Over-excavate soil surrounding UST excavations and from areas that previously contained USTs to remove visible stains. Transport this soil as directed by the Construction Manager.

3.8 BELOW-WAC EXCAVATIONS

Excavate below-WAC material to the limits shown on the Construction Drawings as follows:

A. Remove slabs, concrete pads, asphalt, gravel, base and sub-base to sub-grade soil within below-WAC areas. Load and haul this material to the OMTA-Bulk Debris or OSDF. The Construction Manager will arrange for real-time monitoring prior to subsequent excavation in the below-WAC area.

B. Excavate below-WAC areas to the design grade shown on Construction Drawings. Load and haul this material to the OSDF in accordance with this Section.

C. In below-WAC excavations driven by contamination rather than removal of underground structures, as shown on Construction Drawings, excavate in 3+/-1 foot lifts to the design grade shown on Construction Drawings. The Construction Manager will arrange for real-time monitoring upon removal of each lift. Do not proceed with further excavation in these areas until directed by the Construction Manager.

D. Over-excavate a minimum of 6 inches in areas where impacted material was stockpiled or pushed for load-out during excavation to allow for visual inspection and disposition of debris that may have been tracked into the soil.

E. Coordinate real-time monitoring as necessary to minimize delays.

F. Upon reaching the design grade, notify the Construction Manager for real-time monitoring.

3.9 UTILITY REMOVAL BELOW THE DESIGN GRADE

A. Excavate known utilities as indicated on the Construction Drawings. Prior to removal, cap, drain, purge and/or plug utility lines to be excavated to prevent release of material into surrounding soil. If fluids or hold-up material is encountered in utility lines, stop work and notify the Construction Manager. Plug sanitary and process lines when liquid flow is detected. Material released from sanitary or process lines will be excavated and dispositioned as directed by the Construction Manager.

B. If unidentified utilities or underground structures are encountered, notify the Construction Manager, and proceed in accordance with the applicable Penetration Permit.

C. Process piping that is deformed, closed or otherwise hinders visual inspection shall be managed as above-WAC debris based on it's area of origin.

D. If a utility is suspected of containing ACM, notify the Construction Manager and Industrial Hygiene and manage in accordance with the Construction Traveler Package.

E. Excavate, size-reduce, and handle piping and debris in such a manner so as to minimize the generation of above-WAC debris or friable asbestos.

F. Prior to excavating utilities below the design grade, satisfy the following conditions:

1. Complete the intermediate survey, as specified in Section 02100.
2. Obtain Construction Manager approval that real-time monitoring of the design grade is complete.

G. Excavate and remove utilities in accordance with this Section and details shown on Construction Drawings.

H. Backfill utilities located below the design grade in accordance with the details shown on Construction Drawings and Section 02206.

I. If visual monitoring identifies Special Materials during excavation of utilities below the design grade, perform supplemental excavation in accordance with this Section.

J. Excavate miscellaneous debris encountered below the design grade and disposition in accordance with this Section.

K. Maintain a daily record of underground utilities excavated from below the design grade.

3.10 MATERIAL SEGREGATION

A. During excavation, segregate materials by the impacted material categories as defined in the IMPP. Maximize the volume of Category 1 material.

B. Segregate below-WAC material to support construction of the four zones of each OSDF cell (protective layer, select impacted material layer, impacted material layer, and contouring layer).

C. Segregate existing surface aggregate material and size-reduced concrete and asphalt materials for use as temporary aggregate material.

3.11 SIZE REDUCTION

A. Size-reduce remaining structures (i.e., building foundations, slabs, sumps, hydraulic ram casings) located above the design grade to meet OSDF physical WAC.

B. Size-reduce concrete and asphalt structures (i.e., building slabs, concrete/asphalt pads, roads, parking areas) to maximize the generation of material for temporary aggregate surfaces.

C. Size-reduce piping and debris to meet OSDF physical WAC in accordance with the IMPP, or size requirements for WPRAP in accordance with this Section.

D. Size-reduce metal materials (i.e., structural steel, piping, equipment, re-bar, miscellaneous metal) in accordance with the IMPP. Load metal components in bulk and haul to the OSDF or OMTA.

E. Size-reduction shall be by mechanical means, not by flame or torch cutting unless otherwise approved by the Construction Manager.

3.12 GENERAL LOADING AND HAULING

A. Use paved haul roads designated on the Construction Drawings for hauling where practical or as directed by the Construction Manager. Upon entering the paved haul roads with haul equipment, do not exit except to the excavation area, WPRAP, OMTA Bulk Debris Area, and/or the OSDF, without approval by the Construction Manager.

B. Maintain equipment within the excavation area during periods of non-work (evenings, weekends, and holidays) unless equipment decontamination has been completed. Complete

decontamination activities and request a radiological survey of the equipment prior to moving equipment out of radiological contamination areas.

C. When hauling materials to the SMTA, enter the SMTA from the excavation area only.

D. Load haul equipment in a fashion to minimize load shifting and to prevent spillage during transit.

E. Extend automatic covers on suitably equipped haul equipment, whether full or empty, during equipment movement.

F. Keep equipment cab closed and stay within the equipment cab when inside posted contamination area without appropriate PPE except in emergency situations.

G. Prior to loading and hauling, material designated for the OSDF shall be void of free liquid.

H. Prohibit tracked equipment from hauling, operating, or tracking over the Impacted Material Haul Road (IMHR) or other paved roadways, unless otherwise approved by the Construction Manager.

3.13 GENERAL DISPOSAL

A. Dispose of impacted material in accordance with this Section. Table 02205-1 provides guidance for the disposition of materials that may be encountered which will be disposed at the three destinations identified in this Section. Notify the Construction Manager in the event that materials are discovered that do not appear to be represented in Table 02205-1.

B. Pending coordination between the projects, material designated for WPRAP disposition may be hauled directly to WPRAP. Material hauled directly to WPRAP must comply with WPRAP disposition requirements presented in this Section.

C. OSDF disposition requires the following:

1. Compliance with requirements stated in the WAC Attainment Plan and the IMPP.
2. Piping and debris shall be cleaned of process-related residue in accordance with this Section. Notify the Construction Manager of residue that is not readily removed and manage the debris as directed.
3. Compliance with criteria identified in Table 02205-1 for management of Special Materials for disposition at the OSDF.
4. ACM shall be removed, packaged, loaded and hauled in accordance with the Construction Traveler Package.

D. WPRAP disposition requires the following:

1. Soil, piping and debris exceeds the requirements for OSDF disposition as outlined in Table 02205-1.
2. Piping and debris shall be less than 10 inches in at least one dimension, and no longer than 6 feet in any dimension.

E. SMTA disposition requires the following:

1. Soil, piping and debris exceeds the requirements for OSDF and WPRAP disposition as outlined in Table 02205-1.
2. Materials shall be containerized as directed by the Construction Manager.
3. Loaded containers shall be placed in the SMTA in a manner that protects the containers from damage. Do not stack containers.

3.14 STOCKPILING

A. Install construction safety fence around active stockpiles in accordance with Section 02200.

B. Install appropriate signage around the boundary of active stockpiles as directed by the Construction Manager.

C. Install erosion control measures around active stockpile in accordance with Section 02275.

D. Maintain fencing, signage, and erosion control measures for the duration of the active stockpile's existence.

E. Repair damage to active stockpile support structures (i.e., silt fence, perimeter fence) inflicted during performance of this project to their original condition within 24 hours of damage discovery.

F. Apply crusting agent as specified in Section 02930 within 7 calendar days upon completion of the active soil stockpile or if the active soil stockpile is to be inactive for more than 45 calendar days as directed by the Construction Manager.

G. Compact/seal the surface of the stockpile in use at the close of each work-day to prevent fugitive dust and erosion.

H. Locate interim stockpiles within the limit of excavation upon approval from the Construction Manager. Remove interim stockpiles within 45 calendar days.

I. Establish a separate stockpile for solvent saturated soils, as encountered. Manage the stockpile material to avoid cross-contamination with adjacent soil, and to control surface water and dust.

J. Stockpile excavated surface aggregate materials and size-reduced concrete and asphalt as necessary for use as temporary aggregate material.

K. Stockpiles shall not be located within 30 feet of an excavation top-of-slope.

L. Above-WAC and RCRA material, and material not identified in Table 02205-1 that cannot go to the OSDF as is, which is stockpiled within a larger active stockpile area shall be fenced or roped individually in accordance with Section 02200.

M. In addition to general stockpiling requirements, the following requirements shall apply to the management of above-WAC stockpiles:

1. Use dedicated equipment for the preparation and management of the stockpile.
2. Maintain ingress/egress to the stockpile, including access roads, ramps, and drainage features.
3. Maintain unloading areas to prevent haul equipment tires from coming in contact with stockpile material.
4. Locate the stockpile as directed by the Construction Manager.
5. Decontaminate tools and equipment used to place and manage material within the stockpile prior to requesting release. Following decontamination, the Construction Manager will arrange for a radiological survey to release these tools and equipment.

O. In addition to general and above-WAC stockpiling requirements, the following requirements apply to the management of stockpiled RCRA material awaiting treatment:

1. Install surface water run-on/run-off controls to minimize water within the area in accordance with Section 02275.
2. Establish methods for collection of water from within the area.
3. Install chain link fence immediately around the stockpile to control access.

P. Cover or lock down soil or debris containing non-friable ACM at the end of the day in accordance with the Construction Traveler Package.

3.15 MONITORING AND SAMPLING

A. The Construction Manager will arrange for real-time monitoring of below-WAC areas following removal of surface aggregate, concrete and asphalt slabs, pads, roads and parking areas, and between each lift in contaminated areas until the design grade has been achieved, including the design grade.

B. The Construction Manager will arrange for real-time monitoring after each excavation lift for above-WAC materials.

C. The Construction Manager will arrange for radiological monitoring before equipment is released from a buffer area. Working in rain and/or wet weather will increase scanning time.

D. The Construction Manager will perform visual monitoring during excavation for Special Materials that are not permitted in the OSDF or that will require additional processing to meet WAC. If Special Materials are found, real-time monitoring may be performed to verify removal and determine appropriate disposition of the material.

E. The Construction Manager will visually monitor piping and debris to ensure no visible process residue remains, in order to be placed in the OSDF.

F. The Construction Manager will arrange for real-time monitoring to verify that the excavation area has met the requirements for precertification.

G. When real-time monitoring or sampling is required, excavate in an alternate location within the excavation area while awaiting the results. Excavate alternate locations a minimum of 50 feet from the area being monitored. Allow up to 2 working days for monitoring after

area is ready for monitoring. Extend duration for monitoring at least 1 working day for each day precipitation occurs.

H. The Construction Manager and regulatory agencies may collect samples from the excavation, haul equipment and the OSDF at any time during the project.

I. The Construction Manager will arrange for monitoring of water collected in suspect VOC areas for the presence of volatile organic compounds (VOCs). If VOCs are detected, the water will be sampled and analyzed to determine disposition.

J. The Construction Manager will arrange for magnetometer surveys to verify removal of ferrous debris from areas where former underground utilities and structures were removed.

3.16 PRECERTIFICATION AND SUPPLEMENTAL EXCAVATION

A. The Construction Manager will arrange for real-time monitoring to pre-certify an area as having attained FRL requirements.

B. Perform supplemental excavations beyond the design grade if either of the following conditions exist:

1. Real-time monitoring and/or physical sampling identifies material beyond the design grade that does not meet FRL requirements.
2. Utilities or other impacted materials identified beyond the design grade.

C. Install rope fencing and appropriate signage around the pre-certified area perimeter after precertification has been achieved, as directed by the Construction Manager.

3.17 AREA MANAGEMENT

A. Maintain construction safety fence, radiological-control fence, and stockpile fence as specified in this Section, Section 02200, and as shown on the Construction Drawings.

B. Management of excavation water shall be as specified in Section 02275.

C. Perform stabilization of the excavated areas using crusting agent and temporary seeding in accordance with Sections 02275 and 02930.

D. Notify the Construction Manager prior to removing sediment and debris from ditches, drains and erosion control devices. The Construction Manager will arrange for sampling and analysis of sediment for WAC compliance. Remove and de-water sediment in accordance with the following:

1. Notify the Construction Manager two (2) days prior to removing sediment from ditches, drains and erosion and sediment control devices to determine whether or not sampling and analysis of the sediment is required for disposition.
2. Remove accumulated sediment from ditches, drains and erosion and sediment control devices as directed by the Construction Manager. In no case shall sediment reduce the available depth of the associated feature to less than two-thirds the depth

shown on Construction Drawings.

3. De-water sediment removed from above-WAC or RCRA hazardous areas within the associated above-WAC or RCRA hazardous area.
4. De-water sediment removed from ditches, drains and erosion and sediment control devices adjacent to and up-gradient of the associated feature as necessary to allow water to drain immediately back into the feature.
5. Disposition de-watered sediment to the OSDF unless otherwise directed by the Construction Manager.
6. Place sediments accumulated in above-WAC stockpile surface water control devices in the associated stockpile.

E. Implement seasonal closure methods at the end of each construction season and maintain seasonal closure through winter shutdown. Seasonal shutdown requirements include, but are not limited to:

1. Maintain surface water management and erosion and sediment controls.
2. Maintain dust control, as required.
3. Perform equipment decontamination, as required.
4. Remove water from excavation during seasonal closure, when water depth exceeds 3-foot. Pump water out of the excavations in a manner that maintains the integrity of the design slopes, (i.e., no rapid draw down) and prevents an overflow condition. The pumping priority for open excavations is as follows:
   a. Open excavation areas containing impacted material that are located up-gradient of remediated areas,
   b. Completed excavations, and
   c. Other uncompleted excavations.
5. Remove sediment and debris from sediment control basins and ditches in accordance with this Section.
6. Seed/stabilize stockpiles.

END OF SECTION

Table 02205-1

The table should be interpreted to read that material in column 1 may be dispositioned at the appropriate destination in columns 2-4 if the corresponding criteria are met.

MATERIAL	DESTINATION *		
	OSDF	WPRAP (1)	SMTA (2)
Soil from general/UST excavation	• Meets WAC	• Above-WAC	• Not applicable
Soil from RCRA hazardous excavation	• Prohibited	• Prohibited	• Containerize
Soil from HWMU excavation	• Meets WAC	• From an Above-WAC area	• RCRA Hazardous
Soil requiring treatment	• Prohibited pending treatment and direction by the Construction Manager	• Prohibited pending treatment and direction by the Construction Manager	• Fails treatment
Debris from general/UST excavation	• Meets WAC	• Above-WAC • Visible residue cannot be removed	• Not applicable
Debris from above-WAC excavation	• Meets WAC and free of visible soil/residue	• Visible soil/residue cannot be removed	• Not applicable
Debris from RCRA hazardous excavation	• Meets WAC and free of visible soil/residue	• Above-WAC and free of visible soil/residue	• Visible soil/residue cannot be removed
Debris from HWMU excavation	• Meets WAC	• Above-WAC and free of visible soil/residue	• Above-WAC and visible soil/residue cannot be removed
Asbestos (3)	• Meets WAC and passes visual inspection by CM	• Above-WAC and non-friable • Visible soil/residue cannot be removed and non-friable	• Friable and fails visual inspection by CM
Non-pressurized Containers (3)	• Meets WAC, free of visible soil/residue, and contains no free liquid, product, etc	• Above-WAC and contains no free liquid, product, etc. • Visible soil/residue cannot be removed and contains no free liquid, product, etc. • Has been crushed	• Contains free liquid, residue, etc • Has been crushed
Piping/Pumps (3)	• Meets WAC, free of visible soil/residue, and contains no free liquid	• Interior not visible and contains no free liquid • Visible soil/residue cannot be removed and contains no free liquid	• Above-WAC/HWMU and visible soil/residue cannot be removed • Above-WAC/RCRA and visible soil/residue cannot be removed
Transformers/Electrical Equipment (3)	• Meets WAC and free of visible soil/residue	• Visible soil/residue cannot be removed and drained of all fluid	• Contains fluid • Above-WAC/HWMU and visible soil/residue cannot be removed • Above-WAC/RCRA and visible soil/residue cannot be removed
Brick including Acid Brick (3)	• No acid brick	• Acid brick	• Not applicable
Lead Acid Batteries (3)	• Prohibited	• Prohibited	• Containerize
Medical Infectious Waste (3)			
Non-soil Residue (3)			
Pressurized Containers (3)			
Tires (3)			
Uranium Metal (3)			
Sealed radiological calibration sources			

(1) Must meet WPRAP size requirements per this Section (2) SMTA materials must be containerized. (3) Special Material per this Section.
* These are final destinations beyond which the project bears no responsibility for material movement. The OMTAs are staging areas prior to OSDF disposition.

SECTION 02206
EARTHWORK FOR REMEDIATION

PART 1 GENERAL

1.1 SCOPE

A. This Section includes requirements for earthwork associated with remediation of the former production area to include, but is not limited to:

1. Excavation of fill material.
2. Excavation and placement of materials for ditches and berms.
3. Placement of fill material in trenches excavated for utility removal in areas below design grade.
4. Placement of plug material over the unsaturated sands and gravels of the Great Miami Aquifer (GMA).
5. Interim grading for drainage and road preparation.
6. Final grading.

1.2 RELATED SECTIONS AND DOCUMENTS

A. Section 02100 – Surveying.

B. Section 02150 – Traffic Control.

C. Section 02205 – Impacted Material Excavation.

D. Section 02230 – Road Construction.

E. Section 02275 – Surface Water Management and Erosion Control for Remediation.

F. Section 02930 – Vegetation.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM):

1.	ASTM C150	Specification for Portland Cement, current edition.
2.	ASTM D698	Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft), current edition.
3.	ASTM D2216	Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock, current edition.
4.	ASTM D2487	Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System), current edition.

5.	ASTM D2922	Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth), current edition.
6.	ASTM D3017	Standard Test Methods for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth), current edition.
7.	ASTM D4643	Test Method for Determination of Water (Moisture) Content of Soil by Microwave Oven Method, current edition.

1.4 DEFINITIONS

A. Fill Material: Non-impacted soil obtained from within the excavation area, below the design grades, following pre-certification, or from a designated borrow area.

B. Design Grade: Grade created by excavation of impacted material to the lines and grades shown on Construction Drawings.

C. GMA Plug: Non-impacted clay material from the certified Borrow Area used to maintain a minimum protective cover thickness over, and seal breaches into, the GMA unsaturated sands and gravels.

D. Clay Plug: Same material as specified for GMA Plug used to create a protective cover thickness over pilings and/or foundations to be cut off and left in place.

1.5 SUBMITTALS

A. Submit for approval, name, address, and qualifications of an independent soil testing laboratory and resume(s) of field technician(s).

B. Within seven (7) calendar days of obtaining samples and performing field tests, provide copies of lab and field tests performed by the soil testing laboratory and Contractor performing field tests. Soil test results shall include Standard Proctor moisture density tests, sieve analysis, density tests, and Proctor curves for each type of material to be used prior to its use. Field test results shall include a map depicting locations and depth/lift.

C. Submit specification sheet and Material Safety Data Sheet (MSDS) for sodium bentonite grout.

D. Submit specification sheet and MSDS for Portland cement.

E. Submit as-built survey to verify completion of design excavation in accordance with Section 02100.

F. Documentation of nuclear density gauge calibration in accordance with manufacturer's requirements.

1.6 EXISTING CONDITIONS

A. Verify existing conditions as specified in Section 02100.

PART 2 PRODUCTS

2.1 MATERIALS

A. Fill material shall be free of debris, foreign objects, large rock fragments (maximum dimension of 6 inches), organic, and other deleterious materials.

B. GMA plug material shall be non-impacted clay material conforming to CL classification according to Unified Soil Classification System in accordance with ASTM D2487.

C. Use the designated certified borrow area as the source for GMA plug material.

D. Material used to backfill utility trenches located below the design grade and areas where grout plugs are installed into air-gapped storm sewers shall be surrounding soils following pre-certification.

E. Use below-FRL material from the excavation area, following pre-certification, as a source of fill material for supplemental excavations.

F. Portland cement per ASTM C150, normal – Type 1.

G. Sodium bentonite grout.

H. Safety signs around ponds shall be exterior quality signs with minimum 4 inch high letter and shall state, "Life jackets required when working within 5 feet of edge of ponds, use of buddy system required". Hand written signs are unacceptable.

2.2 EQUIPMENT

A. Furnish and maintain equipment to perform required operations in conformance with the requirements of these specifications.

B. Furnish equipment to perform required operations in conformance with this Section. Equipment that results in waste or damage of material, inaccurate work, or is otherwise objectionable shall be promptly replaced.

C. Equipment used to haul non-impacted material over the existing paved Impacted Material Haul Road (IMHR), shall be equal to or less than the gross weight and axle loading for a Caterpillar CAT D300E haul truck (gross vehicle weight of 120,000 pounds and maximum axle width of 9-feet 10-inches). Pavement width of the existing two-way IMHR is 24-feet. Select equipment and equipment width to ensure safe operation on this road.

D. Equipment used within the excavation area shall be in accordance with Section 02205.

E. Furnish compaction equipment, as needed.

PART 3 EXECUTION

3.1 GENERAL

A. Perform intermediate surveys in accordance with Section 02100, to confirm attainment of design grade prior to initiating earthwork activities below the design grade.

B. Stop excavation activities and immediately notify the Construction Manager upon discovery of unexpected cultural resources suspected to be historic, prehistoric, or archeological site, feature or object.

C. Excavate soil below the design grade with equipment that has been cleaned of visible soil from prior above-FRL excavation activities.

D. Use material from the immediate excavation area or a designated borrow area to meet fill material requirements for trenches and supplemental excavations.

E. Perform construction activities such that surface water runoff from non-certified construction areas does not flow into pre-certified areas, in accordance with Section 02275.

F. Maintain slope stability in the area surrounding trenches created to excavate below the design grade in accordance with Section 02205.

G. After certification, perform final grading in accordance with this Section.

3.2 BACKFILL

A. Obtain fill material from areas approved by the Construction Manager. In high-leachability areas shown on the Construction Drawings, obtain fill material from precertified or certified areas meeting the 20 mg/kg total Uranium FRL.

B. Maintain a minimum 5-feet protective cover over the unsaturated sands and gravel of the GMA in accordance with the following. GMA elevations are shown on the Construction Drawings.

1. Following excavation activities that encroach on the 5-feet protective cover but do not extend within 2-feet of the GMA, install GMA plug as follows:

   a. Immediately following monitoring and sampling activities specified in Section 02205, survey the excavation and initiate filling.
   b. Backfill using GMA plug material meeting the requirements of this Section. Complete backfilling within 5 days following sampling.

c. Backfill GMA plug material in 8-inch +/- 1-inch loose lifts until protective cover is returned to a minimum thickness of 5-feet.
d. Compact fill material in each 8-inch loose lift to at least 95% Standard Proctor dry density (ASTM D698) within 0 to +3% of optimum moisture content.

2. Following excavation activities that encroach within 2 feet of or breach the GMA, install GMA plug as follows:

a. Immediately following monitoring and sampling activities specified in Section 02205, survey the excavation and initiate backfilling.
b. Backfill using GMA Plug material meeting the requirements of this Section.
c. If precipitation is likely within the next 24 hours, immediately place a minimum fresh compacted thickness of 2 feet. Otherwise, place the 2 feet of compacted cover within 24 hours of excavating to within 2 feet or breaching the GMA.
d. Place the first lift of GMA plug material in an approximate 18-inch loose lift. Compact the first lift using 4 passes of compaction equipment approved by the Construction Manager.
e. Backfill the remaining lifts in 8-inch +/- 1-inch loose lifts until the protective cover is returned to a minimum of 5 feet. Compact GMA plug material in each 8-inch loose lift to at least 95% Standard Proctor dry density (ASTM D698) within 0 to +3% of optimum moisture content. These lifts must be continuous over the entire breached area.

D. Install clay plug in locations shown on the Construction Drawings in accordance with the following:

1. Backfill using clay plug material meeting the requirements of this Section.
2. Place clay plug material in 8-inch +/- 1-inch loose lifts as necessary to achieve a total compacted thickness of 2-feet.
3. Compact each lift with four (4) passes of compaction equipment approved by the Construction Manager.
4. If clay plug is placed over an open pile, seal void spaces within the pile with sodium bentonite grout and cap the top 2 feet of the pile with Type 1 Portland cement ASTM C150 prior to placing the clay plug. Sodium bentonite grout shall be mixed at a water ratio of 2.1 pounds of sodium bentonite per gallon of water, and have a minimum density of 9.4 lbs./gallon. Grout viscosity shall be field checked periodically to assure proper viscosity of 70 +/- 6 seconds using the Marsh funnel viscometer. Tremie the grout into the open pile to eliminate void space.

E. Excavate, remove utilities, and backfill trenches below the design grade in accordance with the following:

1. Remove utilities located below the design grade in accordance with Section 02205 and details presented on Construction Drawings.

2. Remove water collected in trenches to sump areas and pump it to the appropriate sediment control basin as specified in Section 02275.
3. Backfill utility trenches located below design grade in accordance with the Construction Drawings.

3.3 FIELD QUALITY CONTROL

A. In-place density testing will be performed in accordance with ASTM D2922. Nuclear density gauge (ASTM D2922) will be calibrated in accordance with the manufacturer's requirements. Documentation of this calibration will be provided to the Construction Manager. Register nuclear or radiological sources brought on site.

B. Perform in-place moisture tests in accordance with ASTM D3017, or ASTM D4643 as applicable.

C. Determine moisture-density curves in accordance with ASTM D698 (Standard Proctor). Test results must be reviewed and approved by the Construction Manager.

D. If in-place density and/or moisture tests indicate that work does not meet specified requirements, replace or re-compact to specified requirements.

E. Perform soil classification in accordance with ASTM D2487.

F. Frequency of Tests: Frequency of in-place density and moisture testing shall be whichever of the following requires the greatest number of test:

1. Once each day when compacting GMA plug material.
2. Once each compacted lift of GMA plug material.
3. Once every 3,000 sq. ft. of compacted GMA plug material.

G. Notify the Construction Manager of activities requiring testing/inspection a minimum of 24 hours prior to the start of such activities.

3.4 EARTHEN BERMS

A. Install earthen berms at locations shown on the Construction Drawings using soils from surrounding area following pre-certification.

B. Place material in 8-inch loose lifts.

C. Compact each lift of berm with four (4) passes of compaction equipment approved by the Construction Manager.

3.5 INTERIM GRADING

A. When the design grade has been achieved, perform interim grading as follows:

1. Correct washouts or other similar irregularities to maintain the design grade slopes of 2H:1V or less.

2. Grade to maintain smooth continuous slopes.
3. Finish ditches so they drain readily.
4. Perform temporary seeding in accordance with Section 02930.
5. Repair damage within 3 working days.

3.6 FINAL GRADING

A. Obtain verification that the area to be graded has been certified.

B. Provide, maintain and operate temporary drains, ditches, pumps, drainage lines or other equipment to intercept, divert, or remove water from excavations.

C. Provide and maintain stormwater management measures that assure isolation of stormwater between certified and non-certified areas.

D. Regrade the certified area design grades to achieve grades no steeper than 5H:1V. As the 5H:1V excavation proceeds, the cut material shall be placed in the bottom of existing excavations and graded level.

E. Final grading shall be achieved with minimum five (5) foot radii at contour direction changes, and smooth transitions between grade breaks and depressions.

F. Perform permanent seeding in accordance with Section 02930.

G. Stabilize 2H:1V slopes along excavation boundary with erosion control blankets in accordance with Section 02275.

3.7 SURFACE WATER MANAGEMENT

A. Manage surface water in accordance with Section 02275.

B. Perform excavation in a manner that promotes positive drainage.

C. Install earthen berms as shown on Construction Drawings. Apply temporary seed and fertilizer on earthen berms in accordance with Section 02930.

3.8 SEASONAL SHUTDOWN

A. Perform seasonal shutdown activities in accordance with Section 02205.

END OF SECTION

SECTION 02207
AREA ISOLATION TRENCHING

PART 1 GENERAL

1.1 SCOPE

A. This Section includes the requirements for trenching and backfilling an isolation trench around the project excavation limits, as shown on the Construction Drawings.

1.2 RELATED SECTIONS AND DOCUMENTS

A. Section 02205 – Impacted Material Excavation.

B. Section 02275 –Surface Water Management and Erosion Control for Remediation.

1.3 REFERENCES

A. Title 29, Code of Federal Regulations (CFR): 29 CFR 1926 Subpart P – Excavation, current edition.

B. RM-0021, "Safety Performance Requirements Manual".

C. RM-0047, "Fugitive Dust Control Requirements".

D. SPR 3-5, "Barricades".

E. Applicable Construction Traveler package(s)

1.4 DEFINITIONS

A. Special Materials: Impacted material requiring special handling as specified in Section 02205 and presented in Table 02205-1.

B. Trencher: Specific equipment used in trenching around the area excavation limits.

PART 2 PRODUCTS

2.1 MATERIALS

A. Provide rope fence consisting of 3/8-inch yellow nylon rope as shown on the Construction Drawings.

B. Provide T-posts in accordance with Section 02200.

C. Provide construction area signage in accordance with SPR 3-5.

D. Provide crusting agent as specified in Section 02275.

2.2 EQUIPMENT

A. Furnish and maintain trencher equipment, manufactured by Vermeer or an approved equivalent, to perform trenching in accordance with this Section. The trencher must meet the following requirements:

1. Trencher must be capable of cutting to a minimum depth of 12 feet, with a tolerance of 0 to 6 inches.
2. Trencher must be capable of cutting a trench no greater than 30 inches wide.
3. Trencher must be capable of maintaining a trench centerline lateral tolerance of +/- 1 foot over the entire trench depth.
4. Trencher digging mechanism must be capable of being removed for turnover to Fluor Fernald at the completion of the project.

B. Furnish and maintain equipment to perform trench backfilling in accordance with this Section.

C. Equipment used within the trenching exclusion zone shall have enclosed cabs. Enclosed cab is defined as an equipment cab isolated from the outside environment (intact windows, doors, panels and floors surrounding driver with windows and doors shut) which provides a barrier from intrusion of outside airborne particles. Heating, ventilating, or air conditioning units associated with the equipment cab must not provide a direct path for outside air to enter (air conditioner on air recirculate mode) unless the air is first passed through a high efficiency particulate air filter pulled directly from outside the cab.

D. Furnish and maintain equipment to perform compaction in accordance with this Section.

E. Provide water tank trucks, water wagons, hydroseeders, portable tanks, pressure distributors, piping, sprinklers or other equipment designed to apply water and/or dust suppressant and crusting agent uniformly and in controlled quantities to variable surface widths to provide fugitive dust control.

F. Furnish and maintain portable wash equipment to wash vehicle tires and vehicle exteriors as necessary.

G. Equipment used within the excavation area shall meet weight requirements in accordance with Section 02205, to ensure slope stability.

PART 3 EXECUTION

3.1 GENERAL

A. Survey and layout the isolation trench centerline as shown on Construction Drawings. Remove or relocate surface obstructions that may impede trencher operations prior to trenching, as approved by the Construction Manager.

B. Prior to trenching activities, install and manage rope fence and appropriate signage to establish safe distances around the trench and excavations during equipment operation and while the trench remains open.

C. Excavate known above-WAC and RCRA areas in the path of the isolation trench in accordance with Section 02205 prior to performing trenching activities in those areas.

D. Install radiological-control signs as required.

E. Install and maintain surface water management and erosion and sediment control measures in accordance with Section 02275.

F. Trench and backfill in accordance with the Construction Drawings and this Section.

G. Blasting, including use of explosives or explosive devices, is not permitted.

H. Maintain equipment in a safe condition within the trenching/excavation area during periods of non-work (evening, weekends, and holidays).

I. Prohibit tracked equipment from hauling, operating, or tracking over or on the Impacted Material Haul Road (IMHR) or other paved roadways unless otherwise approved by the Construction Manager.

J. In the event a historic, prehistoric, or archeological site, feature, or object is discovered, stop work immediately in the area and immediately notify the Construction Manager.

K. Excavation performed in support of trenching activities shall be in accordance with Section 02205.

L. L. Material removed from the utility isolation trench shall be backfilled daily to avoid stockpile requirements.

3.2 TRENCHING

A. Trench at locations, as shown on the Construction Drawings, using approved trencher equipment. Trenches shall be cut to a minimum depth of 12 feet, with a tolerance of 0 to 6 inches. Trench centerline shall have a lateral tolerance of +/- 1-foot. Deviation beyond the

+/- 1-foot lateral tolerance requires prior review and approval by the Construction Manager, Project Engineer, and Utility Engineer to evaluate potential impacts to surrounding structures and utilities.

B. Trench in such a manner that enables the Construction Manager to visually observe trenching activities.

C. In areas inaccessible to the trencher, excavate around utilities and structures as directed by the Construction Manager, to verify no active utilities are present. Air gap active utilities found in areas inaccessible to the trencher using methods and equipment as approved by the Construction Manager, in accordance with the Construction Drawings. Dispose of pipe sections removed during air-gapping in accordance with Section 02205.

D. Stop trenching and immediately notify the Construction Manager if unidentified utilities are encountered.

E. Continuously observe trenching for the presence of Special Materials or change in materials. Stop trenching in the area and immediately notify the Construction Manager if Special Materials are encountered. Dispose of Special Materials in accordance with Section 02205.

F. Stop trenching operations and notify the Construction Manager if fluid is detected flowing into the trench from a utility line cut during the trenching operations. The Construction Manager will note the location of the leakage for future remediation of the trenching corridor by others.

G. Perform trenching activities in such a manner as to minimize water accumulation in the trench.

H. Backfill trenches and excavations daily unless otherwise approved by the Construction Manager. Trenches or excavations remaining open after working hours shall be barricaded in accordance with requirements stated in the approved Construction Traveler(s).

I. Verify and record "as-built" trench locations and depths every 50 feet, and at intersections, along the trench centerline.

3.3 BACKFILL

A. Backfill trenches and excavations using material removed during trenching and excavation activities. The final 24 inches of backfill placed shall be free of debris, foreign objects, large rock fragments (maximum dimension of 6 inches), organic matter, and other deleterious materials so as to obtain adequate compaction. Spread these materials within the adjacent excavation area.

B. Backfill trenches to within 24 inches of grade. Backfill and compact the remaining 24 inches in 8-inch lifts compacted by four passes of compaction equipment suitable for use in the trench.

C. Use remaining material removed during trenching to construct a diversion berm along the trench centerline as shown on the Construction Drawings. Construct diversion berm in 8-inch lifts compacted by four passes of equipment approved by the Construction Manager. Obtain supplemental material to construct the diversion berm as necessary from the surrounding areas as directed by the Construction Manager. Spread excess material in place.

D. After completion of backfilling and diversion berm construction activities, install and modify rope fence to locations as shown on the Construction Drawings unless otherwise directed by the Construction Manager.

E. Upon completion of trenching, backfilling and diversion berm construction, stabilize the disturbed area using crusting agent in accordance with Section 02275.

END OF SECTION

6042

SECTION 02275
SURFACE WATER MANAGEMENT AND EROSION CONTROL FOR REMEDIATION

PART 1 GENERAL

1.1 SCOPE

A. This Section includes, but is not limited to, the following:

1. Installation of erosion and sediment control measures.
2. Maintenance of existing and new erosion and sediment control measures installed under this activity, including removal of temporary erosion control facilities.
3. Management of excavation water in excavation areas, including pumping water to the appropriate sediment basin during general excavation and management of volatile organic compound (VOC)-contaminated water.
4. Modification of existing storm sewer system.
5. Installation and maintenance of runon/runoff controls along the perimeter of the project boundary.
6. Protection of the unsaturated sands and gravels of the Great Miami Aquifer (GMA) from runon within the excavation areas, including installation and maintenance of runon controls.
7. Management of area for precertification.
8. Stabilization of disturbed excavation areas or stockpiles.
9. Inspection requirements.

1.2 RELATED SECTIONS AND DOCUMENTS

A. Section 02100 – Surveying.

B. Section 02205 – Impacted Material Excavation.

C. Section 02206 – Earthwork for Remediation.

D. Section 02270 – Surface Water Management and Erosion Control

E. Section 02930 – Vegetation.

1.3 REFERENCES

A. State of Ohio, Department of Natural Resources (ODNR), Rainwater and Land Development, Ohio's Standard for Stormwater Management Land Development and Urban Stream Protection, current edition.

B. State of Ohio, Department of Transportation (ODOT), Construction and Material Specifications, current edition.

C. Surface Water Management Plan (SWMP) for the applicable soil excavation project.

1.4 DEFINITIONS

A. Excavation Water: The combination of surface water and perched water that collects in the excavation.

1.5 SUBMITTALS

A. For each product proposed for use, submit the following:

1. Manufacturer's product data and recommended methods of installation and maintenance.
2. Certification from manufacturer that the product meets the material requirements of this Section, including test results.
3. Material Safety Data Sheet (MSDS), if applicable.

B. Records of inspection of erosion and sediment control measures as specified herein shall be submitted monthly upon completion of the inspection report.

PART 2 PRODUCTS

2.1 MATERIALS

A. Furnish silt fence in accordance with ODNR, composed of, at a minimum, strong rot-proof polymeric fibers formed into a woven fabric having fabric and fence post properties as shown on the Construction Drawings.

B. Furnish woven yarn blanket-like erosion mat that will resist degredation for a minimum of 6-months after installation, having a permissible velocity of 7 feet per second, with the following material properties:

1. Yarn content: 100 percent jute or coconut fiber.
2. Weight: minimum 11.5 ounces per square yard.
3. Open Area: maximum 65 percent.
4. Mesh Opening: minimum 0.5 inches.

C. Furnish metal staples specifically made to anchor erosion control blankets. Anchors will be 11 gauge wire formed into a staple shape with minimum dimensions of 6 inches by 1 inch by 6 inches.

D. Furnish dust suppression/crusting agent in accordance with Section 02930.

E. Furnish backfill in accordance Section 02206.

2.2 EQUIPMENT

A. Furnish portable tank (minimum 3,000 gal.), as needed to hold water contaminated with volatile organic compounds (VOCs).

B. Furnish pumps, filters, hoses and other appurtences required to execute work specified in this Section.

PART 3 EXECUTION

3.1 GENERAL

A. Construct and maintain erosion and sediment control measures as specified in this Section and shown on Construction Drawings. Maintain existing erosion and sediment control facilities and measures in accordance with this Section.

B. Minimize runon into disturbed excavation areas by grading the surrounding area away from the disturbed area and/or by constructing temporary diversions as shown on Construction Drawings.

C. As the excavation progresses, excavate sumps at resulting low points used for water collection of excavation water. Do not penetrate to within 5 feet of the GMA with sump excavations.

D. Dewater excavations in accordance with the Construction Drawings, if applicable. Excavation water collected within active excavations and below design grade utility removal shall be pumped to the appropriate sediment control basin as shown on Construction Drawings. Collected water shall be pumped down to a depth of less than one foot remaining in the bottom of the excavation within 3 days of the last rainfall.

E. The Construction Manager will arrange for sampling and analysis of excavation water present in suspect VOC areas prior to a discharge event. Following sampling and analysis, pump collected VOC-contaminated water to the appropriate treatment and/or disposition.

F. Plug storm sewers at the excavation boundary prior to removal of storm sewer piping located within the excavation area. Plug storm sewer system in such a manner to minimize water collected in abandoned portions of the system.

G. Remove erosion and sediment control measures after the disturbed excavation areas are stabilized as specified in Section 02930.

3.2 SILT FENCES

A. Install silt fence at locations down-gradient of areas to be disturbed until drainage and erosion control structures have been established as shown on the Construction Drawings. Remove and dispose accumulated sediment as specified in Section 02205.

B. Install breaks and overlaps in silt fence as necessary to allow equipment access to construction areas.

3.3 EROSION CONTROL BLANKETS

A. Install and maintain erosion control blankets in accordance with manufacturer's recommendations. Install additional staples as necessary to maintain erosion control blankets taut to the ground surface.

3.4 SEDIMENT BASINS AND DITCHES

A. Remove accumulated sediment and debris from sediment basins and ditches. In no case shall sediment build up to a depth greater than 18 inches in the sediment basin or to a depth greater than one-half the constructed depth of the ditch.

B. Dispose of sediment and debris as specified in Section 02205.

3.5 GMA PROTECTION

A. When possible, limit excavations within 5 feet of the GMA to periods of dry weather.

B. Construct bench terrace or interceptor ditch directly above the excavation extending within 5 feet of the GMA, observing slope stability requirements for the excavation. Slope bench terrace directly above the GMA toward the excavated slope as shown on the Construction Drawings. Grade the bench terrace or interceptor ditch to a sump for pumping to prevent runon into the GMA.

C. Size and locate pumps for sumps above the GMA such that no water within the excavation area shall overflow into the GMA from a 10-yr, 24-hr or lesser storm event. Sump bottoms shall not extend to within 5 feet of the GMA.

D. For excavations extending to within 5-feet of the GMA elevation shown on the Construction Drawings, maintain less than three foot of standing water in the excavations by pumping excavation water to a sediment basin or an adjacent excavation, as necessary.

E. Backfill over the GMA in accordance with Section 02206.

F. In areas where 2 feet of compacted cover has been recently restored following excavation which has extended to within 2 feet of or breached the GMA, pump ponded water from the affected excavation as soon as practical (but within 24 hours or by the direction of the Construction Manager) following a precipitation event.

3.6 PRECERTIFICATION

A. Pipes that daylight at the excavation face shall be plugged at the excavation face prior to precertification in accordance with Section 02205 and the Construction Drawings.

B. Install run-on controls along perimeter of precertification boundary, as shown on the Construction Drawings, to prevent surface water from non-certified areas from flowing into precertified areas.

C. During precertification, direct drainage from precertified areas to the sediment basin. Routing of surface water pump lines must be approved by the Construction Manager.

D. Maintain surface water management within the area to be precertified in accordance with this Section until precertification is complete.

3.7 INSPECTION

A. Inspect erosion and sediment control measures in accordance with Section 02270.

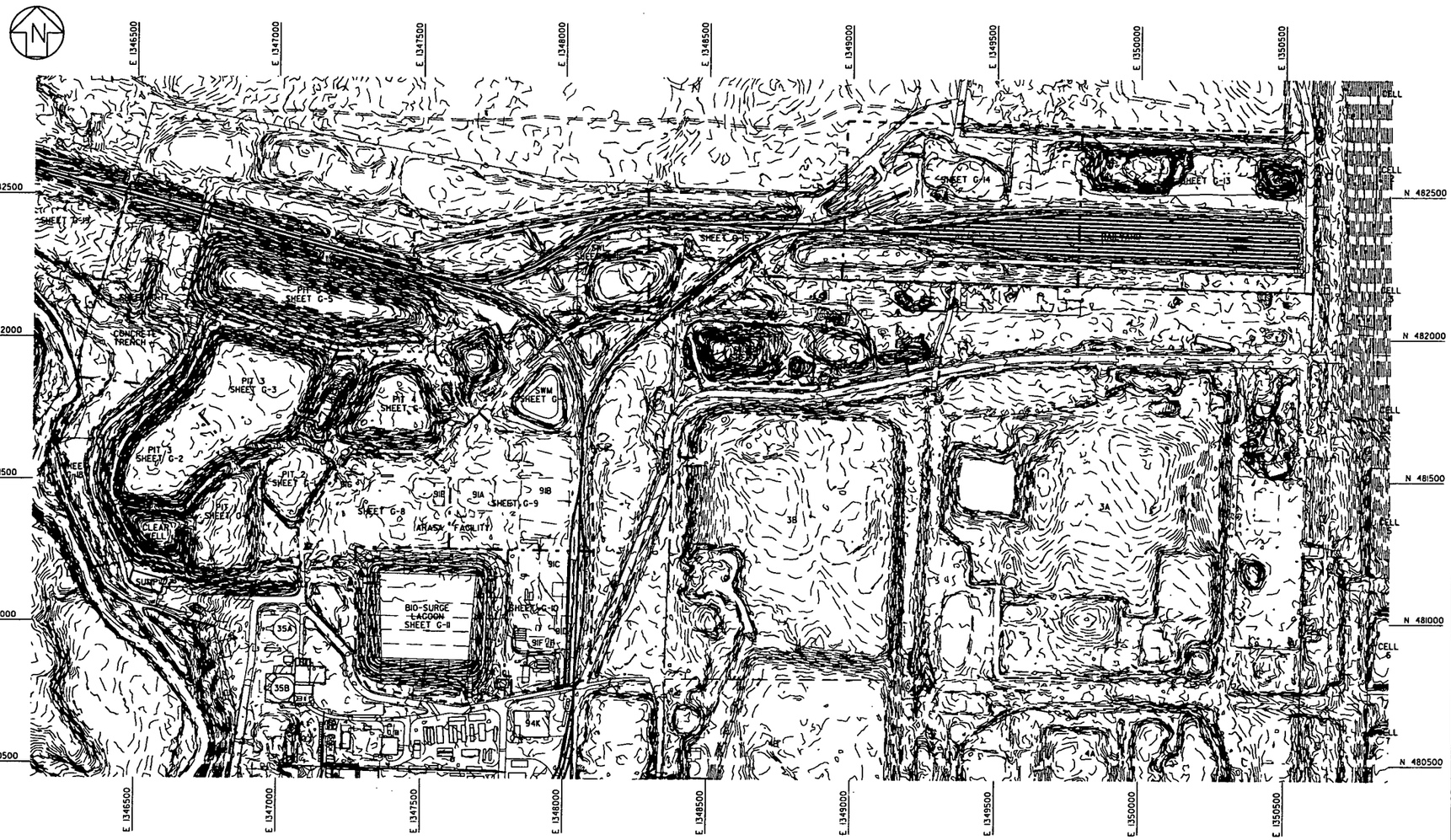
B. File records of inspections in accordance with Section 02270.

END OF SECTION

6042

AREA 6 WASTE PITS AND GENERAL AREA EXCAVATION PLAN DRAWING PACKAGE FOR 20600

99xx0846 OSDF3 lind8392 10/05/2005 04:01:24 PM



GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

60 42

CONSTRUCTION DRAWING INDEX

DWG NO.	REV.	DRAWING TITLE	SHEET NO.
99X-5500-X-00846	0	WASTE PIT AREAS MASTER PLAN AND DRAWING INDEX	X-1
99X-5500-X-00847	0	LEGEND AND GENERAL NOTES	X-2
99X-5500-G-00848	0	PIT 1 AND PIT 2 GRADING PLAN	G-1
99X-5500-G-00849	0	PIT 3 GRADING PLAN (SOUTH)	G-2
99X-5500-G-00850	0	PIT 3 GRADING PLAN (NORTH)	G-3
99X-5500-G-00851	0	PIT 4 AND BURN PIT GRADING PLAN	G-4
99X-5500-G-00852	0	PIT 5 GRADING PLAN	G-5
99X-5500-G-00853	0	PIT 6, SWM POND GRADING PLAN	G-6
99X-5500-G-00854	0	CLEARWELL AREA GRADING PLAN	G-7
99X-5500-G-00855	0	WPRAP SUPPORT AREA GRADING PLAN	G-8
99X-5500-G-00856	0	WPRAP PROCESS AREA GRADING PLAN (NORTH) SHEET 1 OF 2	G-9
99X-5500-G-00857	0	WPRAP PROCESS AREA GRADING PLAN (SOUTH) SHEET 2 OF 2	G-10
99X-5500-G-00858	0	BIO-SURGE LAGOON GRADING PLAN	G-11
99X-5500-G-00859	0	STOCKPILE 7 AREA GRADING PLAN	G-12
99X-5500-G-00860	0	OU1 RAILYARD GRADING PLAN (EAST)	G-13
99X-5500-G-00861	0	OU1 RAILYARD GRADING PLAN (WEST)	G-14
99X-5500-G-00862	0	FORMER SOLID WASTE LANDFILL GRADING PLAN (EAST)	G-15
99X-5500-G-00863	0	FORMER SOLID WASTE LANDFILL GRADING PLAN (WEST)	G-16
99X-5500-G-00864	0	AREA WEST OF WASTE PITS GRADING PLAN (NORTH)	G-17
99X-5500-G-00865	0	AREA WEST OF WASTE PITS GRADING PLAN (SOUTH)	G-18
99X-5500-G-00871	0	WESTERN RAILROAD SPUR	G-19
99X-5500-G-00866	0	DEWATERING PLAN (WEST)	G-20
99X-5500-G-00867	0	DEWATERING PLAN (EAST)	G-21
99X-5500-G-00868	0	REMEDIATION PLAN (WEST)	G-22
99X-5500-G-00869	0	REMEDIATION PLAN (EAST)	G-23
99X-5500-G-00870	0	CIVIL DETAILS	G-24

REFERENCE DRAWING INDEX

DWG NO.	DRAWING TITLE	SHEET NO.
91X-5900-S-00314	SLAB AND FOUNDATION PLAN - LOCOMOTIVE MAINTENANCE FACILITY	S-0001
91X-5900-S-00315	PLAN, SECTIONS, AND DETAILS - LOCOMOTIVE MAINTENANCE FACILITY	S-0002
91X-5900-S-00316	SECTIONS AND DETAILS - LOCOMOTIVE MAINTENANCE FACILITY	S-0003
99X-5500-S-00873	GCS/WTS BUILDING 91A - FOUNDATION PLAN	S-4
99X-5500-S-00874	GCS/WTS BUILDING 91A - SLAB PLAN	S-5
99X-5500-S-00875	BUILDING 91B - FOUNDATION PLAN	S-6
99X-5500-S-00876	BUILDING 91B - SLAB PLAN	S-7
99X-5500-S-00877	BUILDING 91C - FOUNDATION PLAN	S-8
99X-5500-S-00878	BUILDING 91C - SLAB PLAN	S-9
99X-5500-S-00879	BUILDING 91D AND RETAINING WALL - FOUNDATION PLAN	S-10
99X-5500-S-00880	BUILDING 91D, 91F, AND RETAINING WALL - SLAB PLAN	S-11
M-00-81-010	MAINTENANCE BUILDING - FOUNDATION - PLAN, SECTIONS & DETAILS	
M-00-81-004	TRUCK WASH PAD - FOUNDATION - PLAN, SECTIONS AND DETAILS	
99X-5500-S-00881	METH TANK AND BIO-SURGE LAGOON STRUCTURES - FOUNDATION PLAN	S-12
99X-5500-F-00821	RE-ROUTED DISCHARGE LINES - FLOW DIAGRAM	F-1

UTILITY GRID REFERENCE DRAWING INDEX

DWG NO.	DRAWING TITLE
22X-5500-P-00659	MASTER GRID OF UNDERGROUND UTILITY PLANS
22C-5500-P-00668	GRID 9 UNDERGROUND UTILITIES
22B-5500-P-00675	GRID 16 UNDERGROUND UTILITIES
22B-5500-P-00676	GRID 17 UNDERGROUND UTILITIES
22B-5500-P-00681	GRID 22 UNDERGROUND UTILITIES
22B-5500-P-00682	GRID 23 UNDERGROUND UTILITIES
22B-5500-P-00683	GRID 24 UNDERGROUND UTILITIES
22A-5500-P-00804	GRID 31A UNDERGROUND UTILITIES
22A-5500-P-00805	GRID 31B UNDERGROUND UTILITIES
22A-5500-P-00984	GRID 31C UNDERGROUND UTILITIES
93X-5900-G-00272	MASTER FLYOVER GRID (NORTH) EXIST SITE & UTILITIES PLAN
93X-5900-G-00290	GRID 17 EXISTING SITE AND UTILITY PLAN
93X-5900-G-00291	GRID 18 EXISTING SITE AND UTILITY PLAN
93X-5900-G-00299	GRID 26 EXISTING SITE AND UTILITY PLAN
93X-5900-G-00300	GRID 27 EXISTING SITE AND UTILITY PLAN
93X-5900-G-00301	GRID 28 EXISTING SITE AND UTILITY PLAN
93X-5900-G-00302	GRID 29 EXISTING SITE AND UTILITY PLAN

ISOMETRIC DRAWING INDEX

SKETCH NO.	DRAWING TITLE	SHEET NO.
SK-24C	BUILDING 24C - ISOMETRIC VIEW	ISO-1
SK-91A	GCS/WTS BUILDING 91A - ISOMETRIC VIEW	ISO-2
SK-91B.C.& D	BUILDING 91B, 91C, 91D, AND RETAINING WALL - ISOMETRIC VIEW	ISO-3
SK-18A & J	METH TANK AND BIO-SURGE LAGOON STRUCTURES - ISOMETRIC VIEW	ISO-4

SCALE: 1"=160'

0 80 160 400 800

SCALE IN FEET

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
WASTE PIT AREAS MASTER PLAN AND DRAWING INDEX

APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SHEICH	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO		
INSTRUMENT			SECURITY		
MECHANICAL			OA	RICHARD SCHEPER	7/1/2005
			CONSTRUCTION	FRED WILSON	7/1/2005
CHECKED	MIKE LOCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LOCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-X-00846	X-1	0
RES PROJECT NO.	FILENAME 99xx0846.dgn			

FCPSAE.DGN 5/30/03

99xx0847 OSDF3 lind8392 10/05/2005 04:03:03 PM

SYMBOLS LEGEND

EXISTING		PROPOSED
●	MANHOLE	N/A
⊙	CATCH BASIN	N/A
— · — · —	ABOVE-GRADE WATERLINE	N/A
	ELECTRIC POLE	N/A
	LIGHT POLE	N/A
	ELECTRIC MANHOLE	N/A
	ELECTRIC MANHOLE WITH TELEPHONE MANHOLE	N/A
	GRAVEL ROADWAY	N/A
	PAVED ROADWAY	N/A
	BUILDING SLAB/CONCRETE PAD/TRAILER	N/A
	CHAIN LINK FENCE	N/A
	TRAFFIC GATE	N/A
— o ——— o —	CONSTRUCTION SAFETY FENCE	N/A
—o— — —o—	ROPE CONSTRUCTION FENCE	N/A
N/A	SILT FENCE	—•——•—
N/A	STRAW BALE	N/A
N/A	LIMIT OF EXCAVATION OR WORK	N/A
N/A	PROTECTED AREA	N/A
OR	BENCHMARK	N/A
	LIMIT OF ABOVE-WAC MATERIAL	N/A
	LIMIT OF ABOVE FRL MATERIAL	N/A
	PIPE PLUG	N/A
	AIR GAP FOR STORM SEWER	N/A
- - - - - - - - - - - - -	UNDERGROUND UTILITIES	N/A
N/A	HAUL ROAD	N/A
N/A	WALKWAY	N/A
— —584— —	CONTOUR - MINOR	——584——
— —585— —	CONTOUR - MAJOR	——585——
	CERTIFIED AREA BOUNDARY	N/A
N/A	DEWATERING CHANNEL OR LINE	N/A
	AREA ISOLATION TRENCH	N/A
: × × × × × × × × : × × × × × × × ×	MODELED URANIUM CONTAMINATION EXTENDING OUTSIDE EXCAVATION AREAS	N/A

SYMBOLS LEGEND

EXISTING		PROPOSED
	POST INDICATOR VALVE	N/A
	OVERHEAD PIPE RACK PEDESTALS	N/A
	RAILROAD TIES	N/A
	RAILROAD	N/A
	HIGH LEACHABILITY AREA LIMIT	N/A
	MONITORING WELL	N/A
	HWMU BOUNDARY	N/A
[72]	SOIL BORING	N/A

CONSTRUCTION DRAWING ABBREVIATIONS

ACM	ASBESTOS CONTAINING MATERIAL
AIP	ABANDONED IN PLACE
AW	ACID WASTE WATER LINE
BR	BRINE LINES
BSL	BIODENITRIFICATION SURGE LAGOON
CB	CATCH BASIN
CE	CONTAMINATED EFFLUENT LINE
CFM	CUBIC FEET PER MINUTE
COC	CONSTITUENTS OF CONCERN
CN	STEAM CONDENSATE LINE
CO	CLEAN OUT
DF	DEIONIZED FEED LINE
DW	LOW PRESSURE FIRE / POTABLE WATER LINE
EC	EDGE OF CONCRETE
EMH	ELECTRICAL MANHOLE
EP	EDGE OF PAVEMENT
EPLTS	ENHANCED PERMANENT LEACHATE TRANSMISSION SYSTEM
EL	ELECTRICAL LINE
ELEV	ELEVATION
FCP	FERNALD CLOSURE PROJECT
FG	FUEL GAS LINE
FRL	FINAL REMEDIATION LEVEL
FT	FILTRATE OR EFFLUENT LINE
FTF	FIRE TRAINING FACILITY
FQI	HIGH PRESSURE FIRE LINE
GMA	UNSATURATED SANDS AND GRAVELS OF THE GREAT MIAMI AQUIFER
GW	GROUND WATER LINE
HWMU	HAZARDOUS WASTE MANAGEMENT UNIT
IE	INVERT ELEVATION
KV	KILOVOLT
LF	LINEAR FEET
LS	LIVE STEAM
LSP	LIME SLUDGE POND
MDC	MAIN DRAINAGE CORRIDORS
MH	MANHOLE
NAR	NITRIC ACID RECOVERY
OC	ON CENTER
OD	OUTSIDE DIAMETER
OMTA	OSDF MATERIAL TRANSFER AREA
OSDF	ON-SITE DISPOSAL FACILITY
PA	PLANT AIR LINE
PCE	TETRACHLOROETHENE
PIV	POST INDICATOR VALVE
RAD	RADIUS
RCRA	RESOURCE CONSERVATION AND RECOVERY ACT
RW	RAW WATER LINE
SA	INSTRUMENT AIR SUPPLY LINE
SD	SUB-SURFACE DRAINAGE LINE
SL	SUMP LIQUOR LINE
SMH	SANITARY MANHOLE
SMTA	SPECIAL MATERIAL TRANSFER AREA
SN	SANITARY SEWER LINE
SP	STOCKPILE / SOIL PILE
ST	STORM SEWER LINE
SWL	SOLID WASTE LANDFILL
SWRB	STORMWATER RETENTION BASIN
TC-99	TECHNETIUM-99
TOG	TOP OF GRATING
TOP	TOP OF PIPE
TYP	TYPICAL
TW	TREATED WATER LINE
UST	UNDERGROUND STORAGE TANK
VOC	VOLATILE ORGANIC COMPOUND(S)
WAC	WASTE ACCEPTANCE CRITERIA
WR	WATER RETURN-COOLING LINE
WS	WATER SUPPLY-COOLING LINE
WWF	WELDED WIRE FABRIC

FOUNDATION DRAWING ABBREVIATIONS

APPROX	APPROXIMATELY
B/	BOTTOM OF
C.I.	CAST IRON
℄	CENTERLINE
CONC.	CONCRETE
Δ	INTERSECTION ANGLE (DELTA)
DIA	DIAMETER
E	EASTING
E/W	EAST WEST
EL	ELEVATION
EXIST	EXISTING
FIN	FINISHED
FTG	FOOTING
H.P.	HIGH POINT
INV	INVERT
JT	JOINT
L	LENGTH
L.P.	LOW POINT
N	NORTHING
N/S	NORTH SOUTH
PED	PEDESTAL
PS	PIPE SUPPORT
R	RADIUS
R	RISER FOR STAIRS
S	SLOPE
S	CURVE DATA
SYM	SYMMETRICAL
T	TANGENT
T	TREAD FOR STAIRS
T/	TOP OF
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
WWF	WELDED WIRE FABRIC

UNDERGROUND UTILITY MATERIAL ABBREVIATIONS

A	PIPE SPECIFICATION DESIGNATION FOR STEEL FUEL, OIL AND SOLVENT LINES
CI	CAST IRON
CMP	CORRUGATED METAL PIPE
DI	DUCTILE IRON
HDPE	HIGH DENSITY POLYETHYLENE
LI	PIPE SPECIFICATION DESIGNATION FOR MISC. CAST IRON WATER LINES
NI	PIPE SPECIFICATION DESIGNATION FOR CLAY, CONCRETE OR METAL STORM SEWER PIPE
MI	PIPE SPECIFICATION DESIGNATION FOR VITRIFIED SANITARY SEWER PIPE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
S	PIPE SPECIFICATION DESIGNATION FOR STEEL STEAM/BOILER FEED LINES
VCP	VITRIFIED CLAY PIPE
V	PIPE SPECIFICATION DESIGNATION FOR STEEL FUEL GAS PIPE
W	PIPE SPECIFICATION DESIGNATION FOR STEEL AIR, WATER, AND STEAM LINES

GENERAL NOTES

L EXISTING TOPOGRAPHY SHOWN ON DRAWINGS PROVIDED BY FLUOR FERNALD. THESE SOURCES INCLUDE EXISTING SITE DATA SOURCE (IN-PLANT FILES) FCP CADD GRID/UTILITY DRAWINGS.

2. HORIZONTAL CONTROL SHOWN ON THE DRAWINGS IS BASED UPON NORTH AMERICAN DATUM 1983 (NAD 83).

3. VERTICAL CONTROL SHOWN ON THE DRAWINGS IS BASED UPON NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD 29).

4. DIMENSIONS SHOWN TAKE PRECEDENCE OVER SCALED DIMENSIONS.

5. TECHNICAL SPECIFICATIONS GOVERNING THIS WORK ARE THE LATEST REVISIONS OF EXCAVATION FOR REMEDIATION TECHNICAL SPECIFICATIONS (DOCUMENT NO. 20300-TS-0001) AND OSDF TECHNICAL SPECIFICATIONS (DOCUMENT NO. 20105-TS-0001).

6. THE LOCATIONS OF EXISTING STRUCTURES AND UTILITIES ARE APPROXIMATE. IF UNIDENTIFIED UTILITIES ARE DISCOVERED, PROCEED AS DIRECTED BY THE CONSTRUCTION MANAGER.

7. SEE AREA 6 WASTE PITS AND GENERAL AREA EXCAVATION AND GRADING PLANS FOR LIMIT OF EXCAVATION SHOWN HERE FOR REFERENCE ONLY.

8. ABOVE-WAC AREAS ARE LABELED WITH THEIR PROJECT-SPECIFIC IDENTIFIERS. SEE AREA 6 WASTE PITS AND GENERAL AREA EXCAVATION AND GRADING PLANS FOR ABOVE-WAC AREA COORDINATES, ELEVATIONS AND EXCAVATION DETAILS.

9. DO NOT STAGE LOADED HAUL TRUCKS WITHIN 15 FEET FROM THE TOP OF DEEP EXCAVATION SLOPES. DO NOT STAGE GENERAL CONSTRUCTION EQUIPMENT WITHIN 10 FEET FROM THE TOP OF DEEP EXCAVATION SLOPES.

10. REQUIREMENTS CONTAINED IN REFERENCED TECHNICAL SPECIFICATIONS ARE APPLICABLE WHERE PERTINENT TO REMEDIAL ACTIVITY SCOPE ILLUSTRATED ON CONSTRUCTION DRAWINGS.

:5 6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RWL	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
LEGEND AND GENERAL NOTES

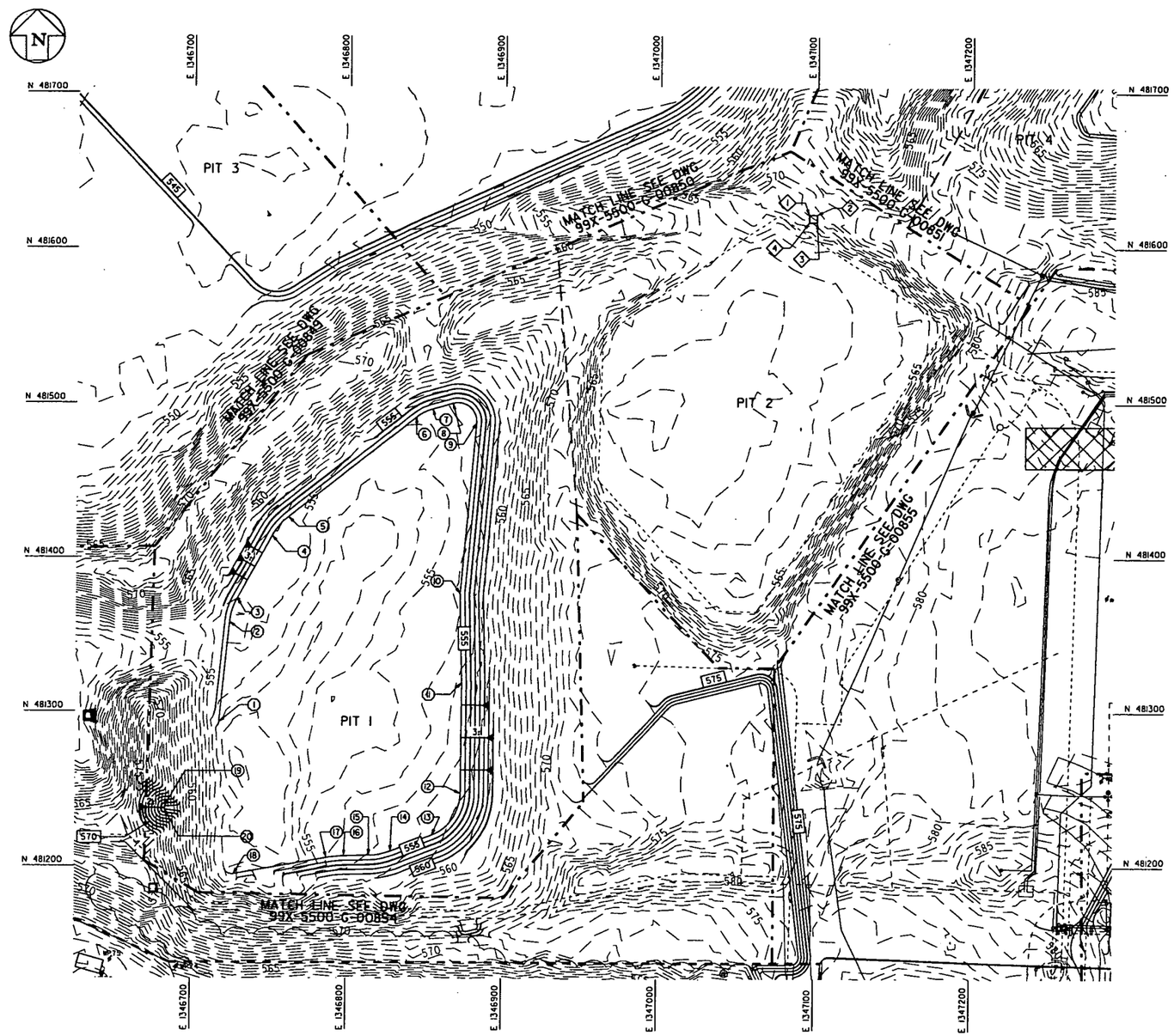
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREGG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SHEETS	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DANE RUSSELL	6/30/2005	WAO		
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPER	7/1/2005
			CONSTRUCTION	FRED WILSON	7/1/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FLAME MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-X-00847	X-2	0
RES PROJECT NO.	FILENAME 99xx0847.dgn			

FCP5AE.DGN 5/30/03

99xg0848 OSDF3 lind8392 10/05/2005 04:05:57 PM



GRADING CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481292.91	1346717.79	553.0
2	481358.22	1346724.34	553.0
3	481373.48	1346729.08	553.0
4	481414.16	1346751.41	553.0
5	481426.25	1346761.63	553.0
6	481490.91	1346843.20	553.0
7	481496.27	1346853.66	553.0
8	481499.96	1346866.68	553.0
9	481487.35	1346881.91	553.0
10	481376.77	1346872.04	553.0
11	481318.82	1346873.44	553.0
12	481246.98	1346873.01	553.0
13	481220.17	1346854.64	553.0
14	481209.73	1346828.12	553.0
15	481206.96	1346814.44	553.0
16	481206.58	1346798.44	553.0
17	481205.44	1346787.11	553.0
18	481194.86	1346727.66	553.0
19	481238.31	1346683.22	564.0
20	481236.31	1346683.18	564.0

ABOVE FRL CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481621.92	1347094.45	570.0
2	481621.92	1347099.45	570.0
3	481616.92	1347099.45	570.0
4	481616.92	1347094.45	570.0

SCALE: 1"=30'

0 15 30 75 150

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
PIT 1 AND PIT 2 GRADING PLAN

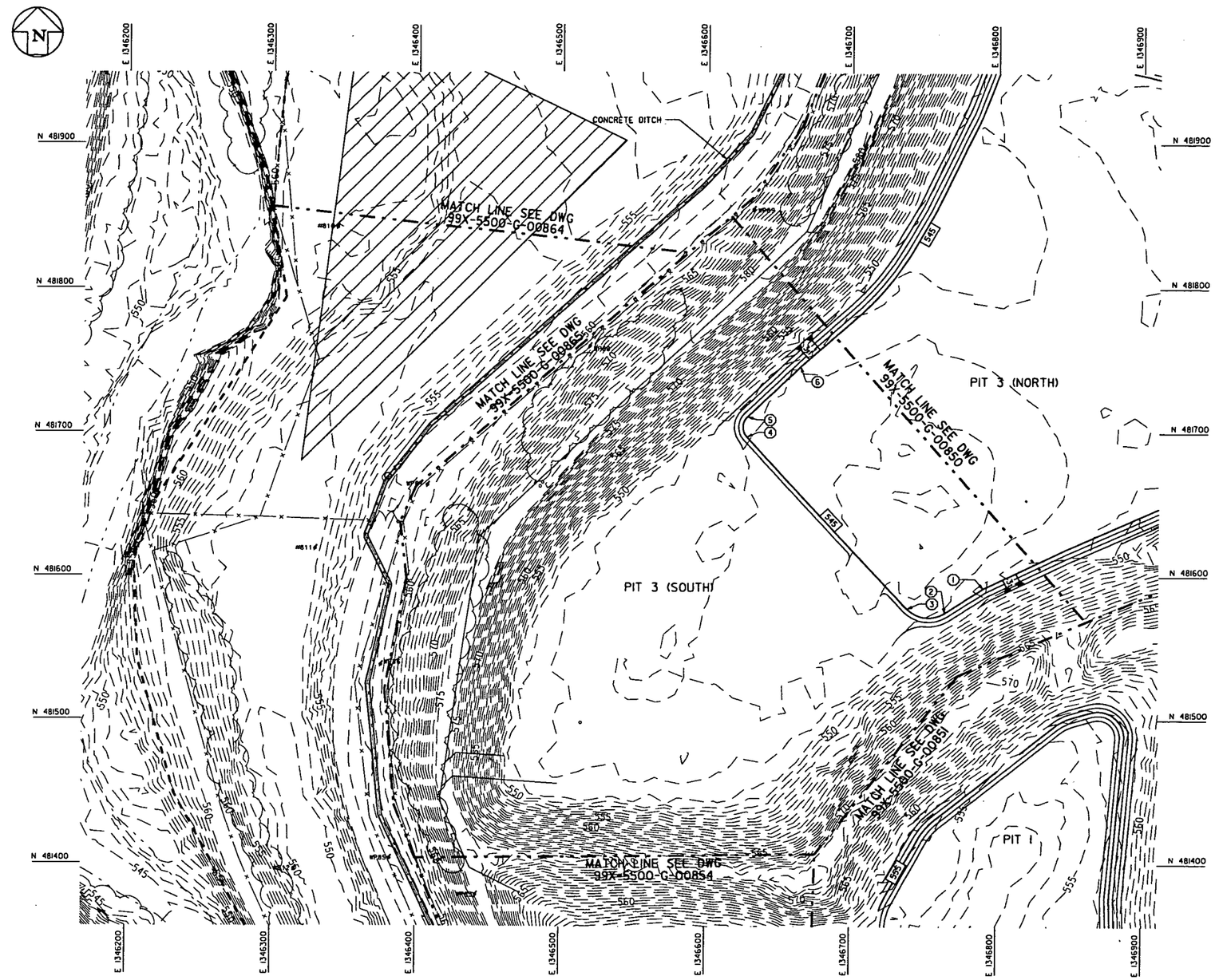
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SNIDER	6/20/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DANE RUSSELL	6/20/2005	WAO	PATRICK SHARKS	7/1/2005
INSTRUMENT			SECURITY		
MECHANICAL			OA	RICHARD SCHEYER	7/1/2005
			CONSTRUCTION	FRED WILSON	7/1/2005
CHECKED	MIKE LOCKE	6/20/2005	CHARACTERIZATION	FRANK MILLER	6/20/2005
APPROVED	MIKE LOCKE	6/20/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
RJML LINDGREN	20600	99X-5500-G-00848	G-1	0
RES PROJECT NO.	FILENAME 99x-0084B.dgn			

FCP5AE.DGN 5/30/03

99xg0849 OSDF3 lind8392 10/05/2005 04:06:24 PM



GRADING CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481591.90	1346790.13	545.0
2	481574.63	1346763.70	545.0
3	481577.76	1346738.10	545.0
4	481697.22	1346627.22	545.0
5	481718.27	1346627.65	545.0
6	481746.24	1346664.44	545.0
7			
8			
9			
10			

SCALE: 1"=30'

0 15 30 75 150

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

DETAILS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
PIT 3 GRADING PLAN (SOUTH)

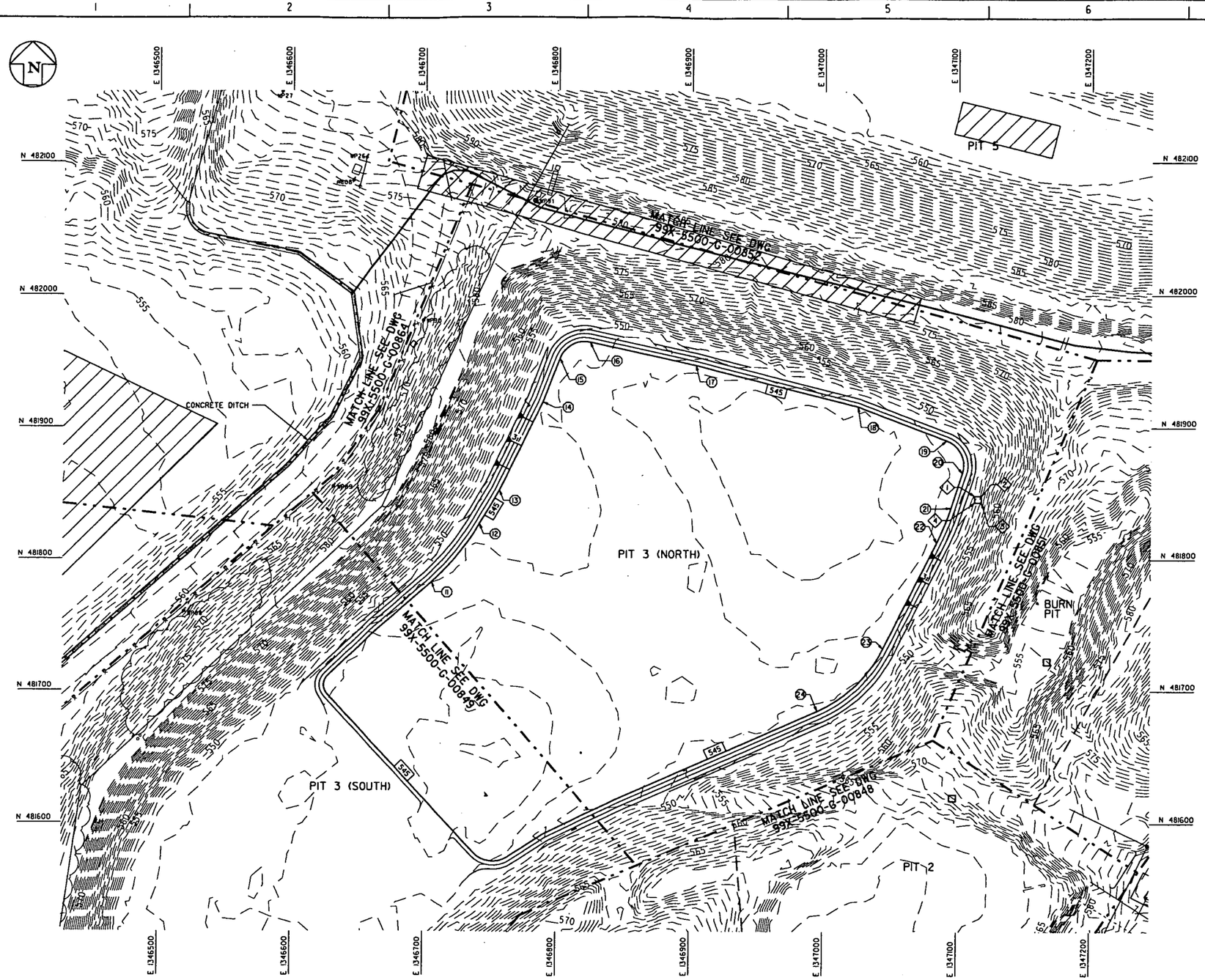
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SNIDER	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	PATRICK SHARRES	7/1/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPER	7/1/2005
			CONSTRUCTION	FRED WILSON	7/1/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	206.00	99X-5500-G-00849	G-2	0
RES PROJECT NO.	FILENAME 99xg0849.dgn			

FEPSAE.DGN 5/30/03

99xg0850 OSDF3 lind8392 10/05/2005 04:10:44 PM



GRADING CONTROL POINTS							
PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.
11	481782.72	1346705.80	545.0	19	481890.50	1347091.42	545.0
12	481827.08	1346741.62	545.0	20	481865.73	1347103.29	545.0
13	481852.49	1346756.38	545.0	21	481839.40	1347094.84	545.0
14	481919.39	1346788.60	545.0	22	481812.64	1347084.08	545.0
15	481952.28	1346801.24	545.0	23	481732.21	1347044.64	545.0
16	481964.62	1346824.26	545.0	24	481684.87	1346995.40	545.0
17	481947.02	1346903.30	545.0				
18	481916.02	1347025.06	545.0				

ABOVE FRL CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481848.45	1347112.22	549.0
2	481848.45	1347187.22	549.0
3	481843.45	1347187.22	549.0
4	481843.45	1347112.22	549.0

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

F 6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
PIT 3 GRADING PLAN (NORTH)

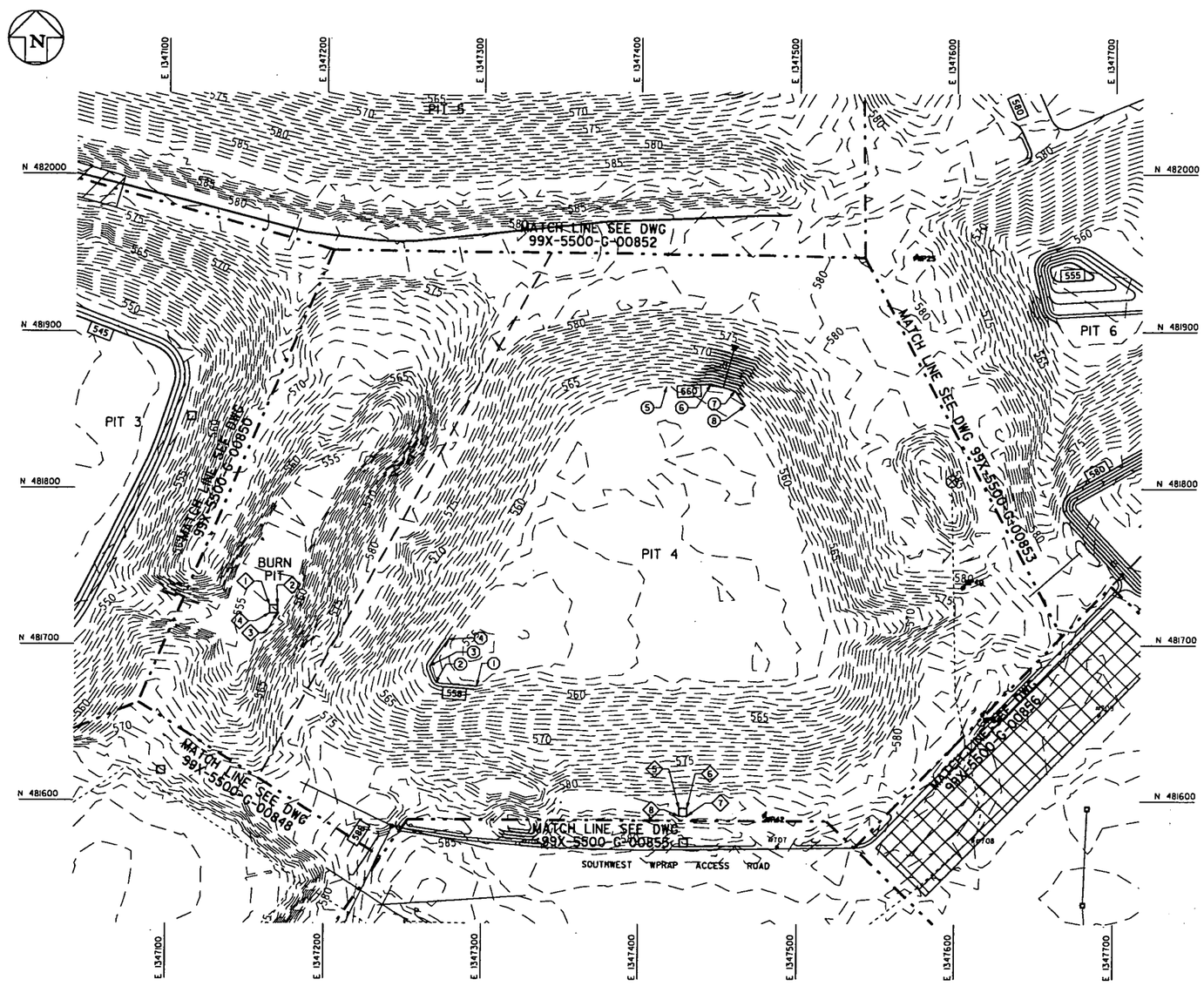
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SHECK	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	W&O	PATRICK SHARKS	7/1/2005
INSTRUMENT			SECURITY		
MECHANICAL			OA	RICHARD SCHEFFER	7/1/2005
			CONSTRUCTION	FRED WILSON	7/1/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00850	G-3	0
RES PROJECT NO.	FILENAME 99xg0850.dgn			

FCP5AE.DGN 5/30/03

99xg0851 OSDF3 lind8392 10/05/2005 04:11:18 PM



GRADING CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481673.10	1347296.49	557.0
2	481675.08	1347270.51	557.0
3	481685.81	1347266.24	557.0
4	481703.14	1347278.28	557.0
5	481865.25	1347416.62	560.0
6	481866.71	1347444.12	560.0
7	481862.37	1347459.44	560.0
8	481852.82	1347465.88	560.0
9			
10			
11			
12			

ABOVE FRL CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481724.99	1347164.62	551.0
2	481724.99	1347169.62	551.0
3	481719.99	1347169.62	551.0
4	481719.99	1347164.62	551.0
5	481595.42	1347425.83	581.0
6	481595.42	1347430.83	581.0
7	481590.42	1347430.83	581.0
8	481590.42	1347425.83	581.0

SCALE: 1"=30'

0 15 30 75 150

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
PIT 4 AND BURN PIT GRADING PLAN

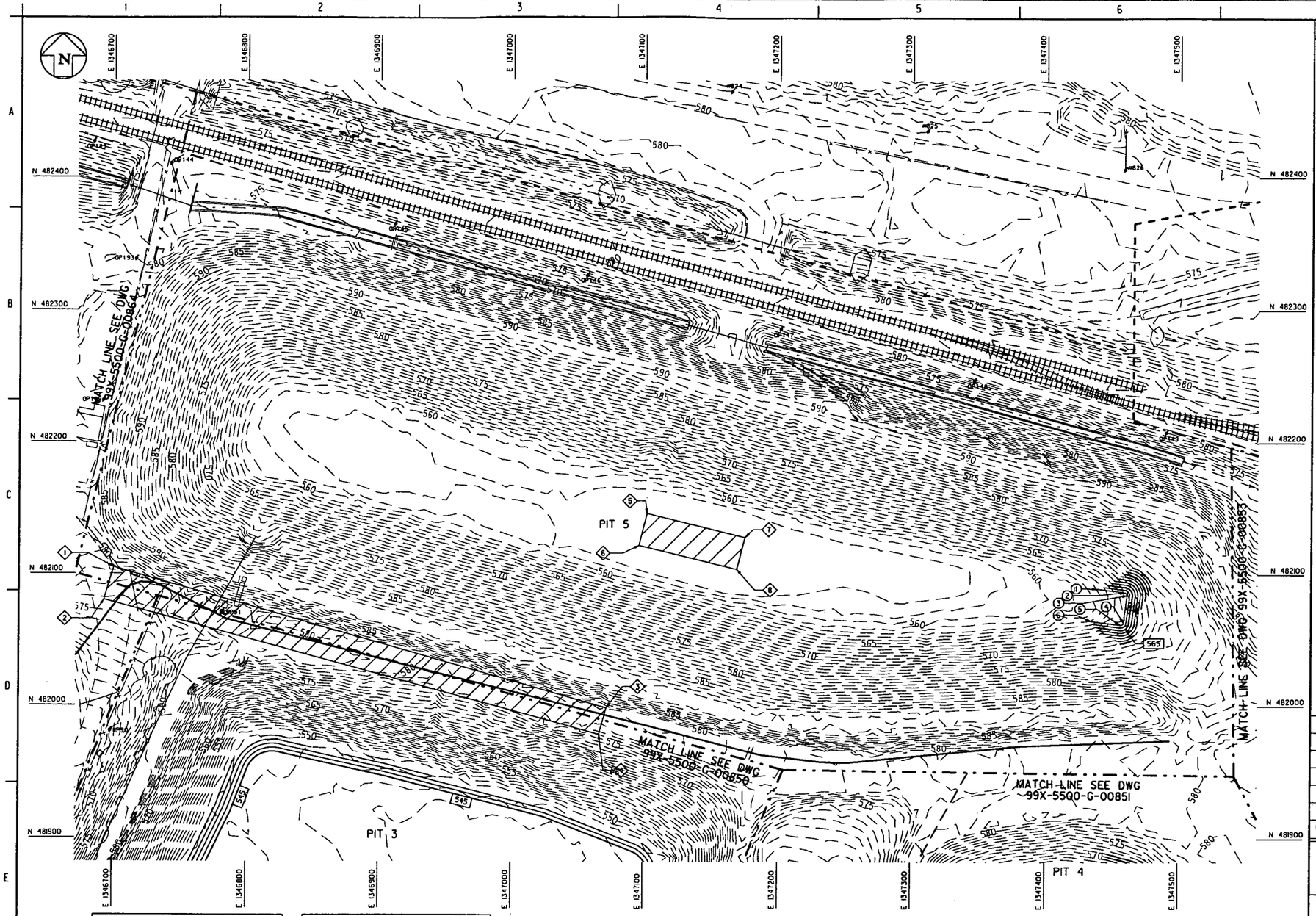
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	CHRIS JOHNSON	7/1/2005
CIVIL & STR.	A.C. SNOOK	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	PATRICK SANDERS	7/1/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEFFER	7/1/2005
			CONSTRUCTION	ERICH WILSON	7/1/2005
CHECKED	MIKE LOCKE	6/30/2005	CHARACTERZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LOCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDCREW	20600	99X-5500-G-00851	G-4	0
RES PROJECT NO.	FILENAME 99xg0851.dgn			

FCP5AE.DGN 5/30/03

99xg0852 OSDF3 iind8392 10/05/2005 04:11:46 PM



GRADING CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	482089.32	1347438.92	563.0
2	482086.61	1347459.57	563.0
3	482084.36	1347461.30	563.0
4	482063.54	1347458.56	563.0
5	482061.82	1347456.32	563.0
6	482064.73	1347434.19	563.0
7			
8			
9			
10			
11			
12			

ABOVE FRL CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	482104.98	1346700.61	575.0
2	482080.11	1346693.45	575.0
3	481998.28	1347072.04	578.0
4	481978.45	1347066.33	578.0
5	482146.12	1347102.22	555.0
6	482121.85	1347096.21	555.0
7	482128.10	1347175.02	555.0
8	482103.83	1347169.01	555.0
9			
10			
11			
12			

SCALE: 1"=30'

0 15 30 75 150

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. REMOVE CONCRETE LINING AND CULVERTS FROM DITCH NORTH OF PIT 5.
3. REMOVE FENCING AND BELOW-GRADE FENCE POSTS ENCASED IN CONCRETE FROM ALONG THE TOP OF THE BERM.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
PIT 5 GRADING PLAN

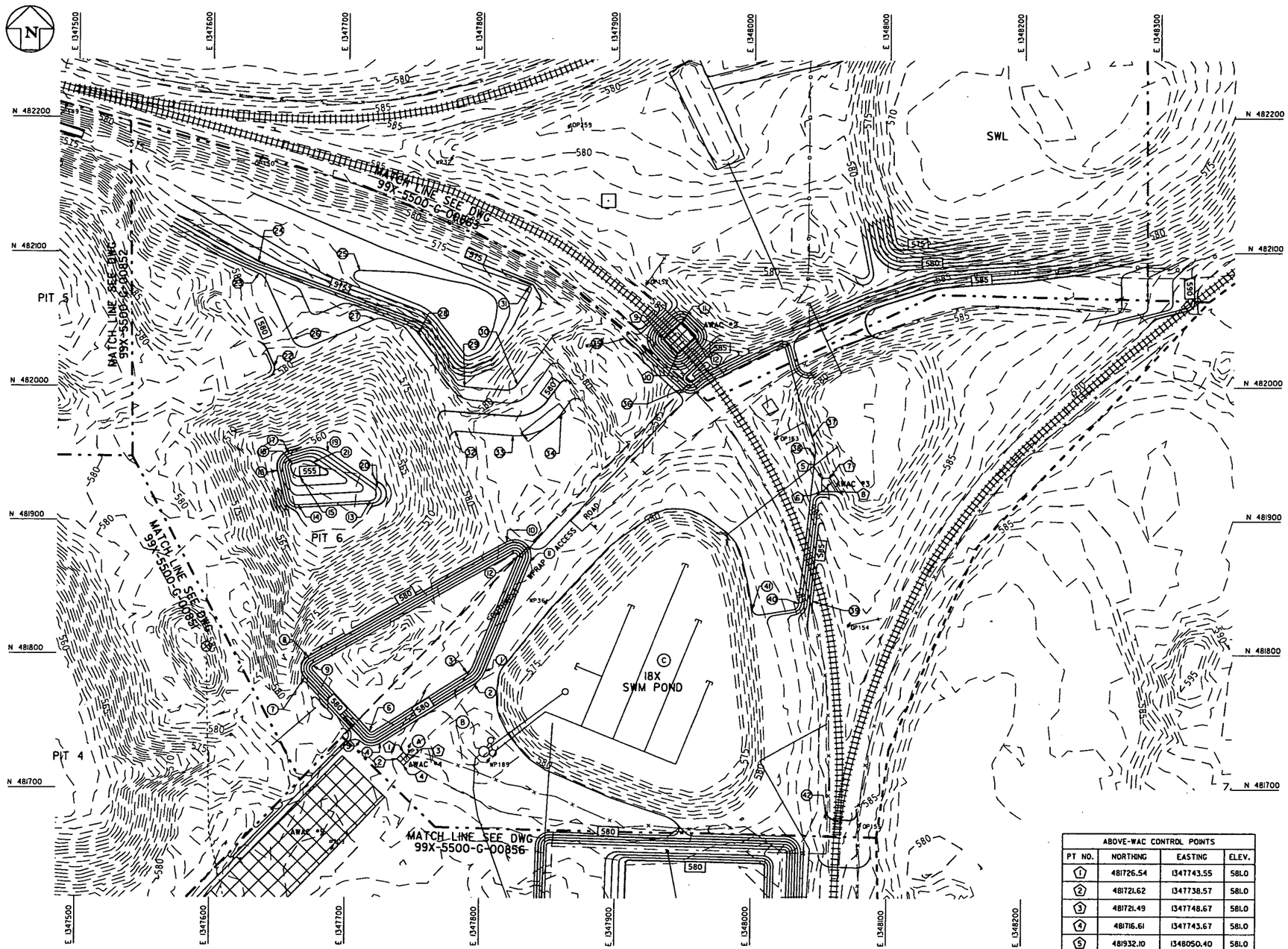
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/5/2005
CIVIL & STR.	A.C. SHOCK	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	PATRICK SIMMONS	7/5/2005
INSTRUMENT			SECURITY		
MECHANICAL			OA	RICHARD SCHEPER	7/5/2005
			CONSTRUCTION	FRED WILSON	7/5/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
PAUL LINDGREN	20600	99X-5500-G-00852	G-5	0
RES PROJECT NO.	FILENAME 99xg0852.dgn			

FCPSAE.DGN 5/30/03

99xg0853 OSDF3 lind8392 10/05/2005 04:12:25 PM



GRADING CONTROL POINTS																			
PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.
1	481786.88	1347803.48	581.0	10	481884.02	1347819.04	581.0	19	481951.04	1347685.84	559.0	28	482039.41	1347752.22	578.0	37	481962.70	1348043.36	581.0
2	481777.37	1347795.62	581.0	11	481869.17	1347836.15	581.0	20	481925.14	1347722.72	559.0	29	481999.60	1347786.96	578.0	38	481948.03	1348045.55	581.0
3	481785.81	1347790.26	576.0	12	481872.86	1347826.86	576.0	21	481943.04	1347674.80	555.0	30	482001.42	1347826.03	578.0	39	481839.90	1348044.52	586.0
4	481733.15	1347725.99	581.0	13	481914.32	1347717.39	558.0	22	482014.52	1347645.89	580.0	31	482074.61	1347834.44	574.0	40	481838.00	1348034.27	581.0
5	481735.10	1347710.77	581.0	14	481911.12	1347663.94	558.0	23	482083.58	1347634.11	579.0	32	481966.56	1347780.56	581.0	41	481833.70	1348000.09	581.0
6	481741.92	1347718.09	576.0	15	481932.23	1347665.08	555.0	24	482092.47	1347633.76	575.0	33	481963.32	1347822.90	581.0	42	481677.38	1348055.43	585.0
7	481782.19	1347669.68	580.0	16	481937.06	1347648.55	560.0	25	482086.15	1347708.10	572.0	34	481979.84	1347858.42	581.0	43			
8	481797.68	1347672.04	580.0	17	481949.37	1347657.19	559.0	26	482034.65	1347658.81	579.0	35	482036.12	1347905.29	581.0	44			
9	481790.74	1347676.01	576.0	18	481941.74	1347659.62	555.0	27	482049.65	1347719.70	579.0	36	481997.90	1347946.81	581.0	45			

ABOVE-WAC CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481726.54	1347743.55	581.0
2	481721.62	1347738.57	581.0
3	481721.49	1347748.67	581.0
4	481716.61	1347743.67	581.0
5	481932.10	1348050.40	581.0
6	481922.10	1348050.40	581.0
7	481932.10	1348056.66	581.0
8	481922.10	1348062.46	581.0
9	482035.56	1347934.19	577.0
10	482025.26	1347944.19	577.0
11	482047.70	1347946.70	577.0
12	482037.40	1347956.70	577.0

SCALE: 1"=30'

0 15 30 75 150

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

KEYED NOTES

(A) REMOVE ROADWAY PAVEMENT AND SUBGRADE.

(B) PERFORM ELECTRICAL ENERGY ISOLATION AT DISCONNECT ON UTILITY POLE #547.

(C) DO NOT REMOVE SWM POND LINER, UNDERDRAIN SYSTEM, PUMPING SYSTEM AND ASSOCIATED PIPING UNTIL RESIDUE IN POND HAS BEEN CONFIRMED TO BE BELOW-WAC

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
PIT 6, SWM POND GRADING PLAN

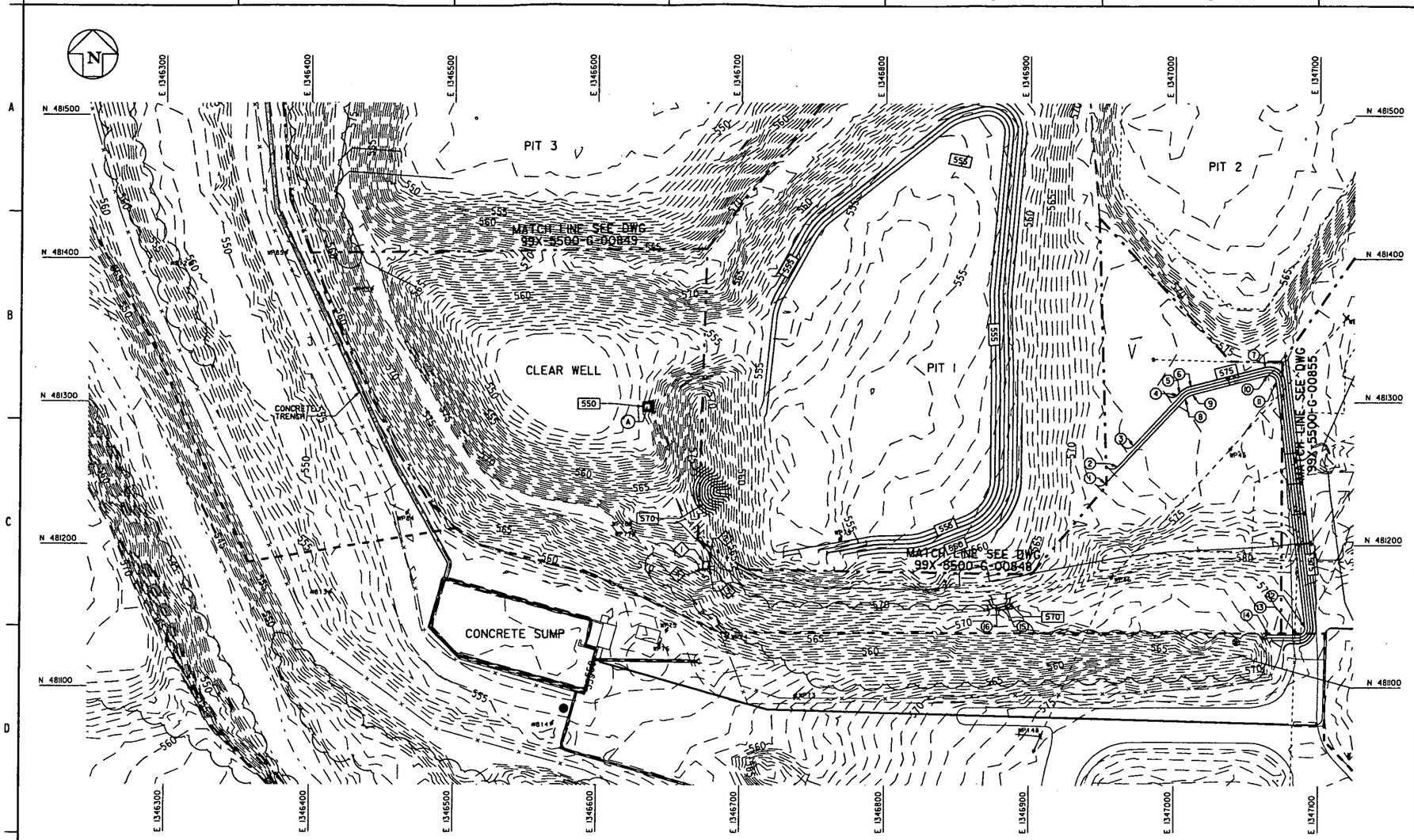
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREGG JOHNSON	7/5/2005
CIVIL & STR.	A.C. SHEKER	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	PATRICK SHARKS	7/5/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPER	7/5/2005
			CONSTRUCTION	FRED WILSON	7/5/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LONDGREN	20600	99X-5500-G-00853	G-6	0
RES PROJECT NO.	FILENAME 99xg0853.dgn			

FCPSAE.DGN 5/30/03

99xg0854 OSDF3 lind8392 10/05/2005 04:13:06 PM



GRADING CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481243.21	1346951.93	572.0
2	481255.09	1346960.26	573.0
3	481269.72	1346971.15	574.0
4	481305.42	1347001.65	575.0
5	481306.85	1347002.99	575.0
6	481311.43	1347010.69	575.0
7	481324.83	1347062.41	575.0
8	481302.76	1347007.38	572.0
9	481305.63	1347012.19	572.0
10	481319.02	1347063.92	572.0
11	481314.77	1347070.14	572.0
12	481142.73	1347090.72	572.0
13	481137.14	1347085.75	572.0
14	481137.14	1347065.63	572.0
15	481159.38	1346883.32	569.0
16	481157.92	1346877.50	569.0

ABOVE FRL CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481188.17	1346674.05	575.0
2	481188.17	1346679.05	575.0
3	481183.17	1346679.05	575.0
4	481183.17	1346674.05	575.0

SCALE: 1"=30'

0 15 30 75 150

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

KEYED NOTES

(A) EXCAVATE 4' X 4' AREA TO ELEVATION 548.0 WITH 1:1 SIDE SLOPE TO MEET EXISTING GRADE. DUE TO THE LOCATION AND DEPTH OF EXCAVATION AT THE TOE OF THE CLEARWELL BERM, PERSONNEL CANNOT ENTER EXCAVATION. AFTER EXCAVATION IS COMPLETED, SAMPLE AND MONITOR THE EXCAVATION REMOTELY. FILL THE EXCAVATION WITH SOIL.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
CLEARWELL AREA GRADING PLAN

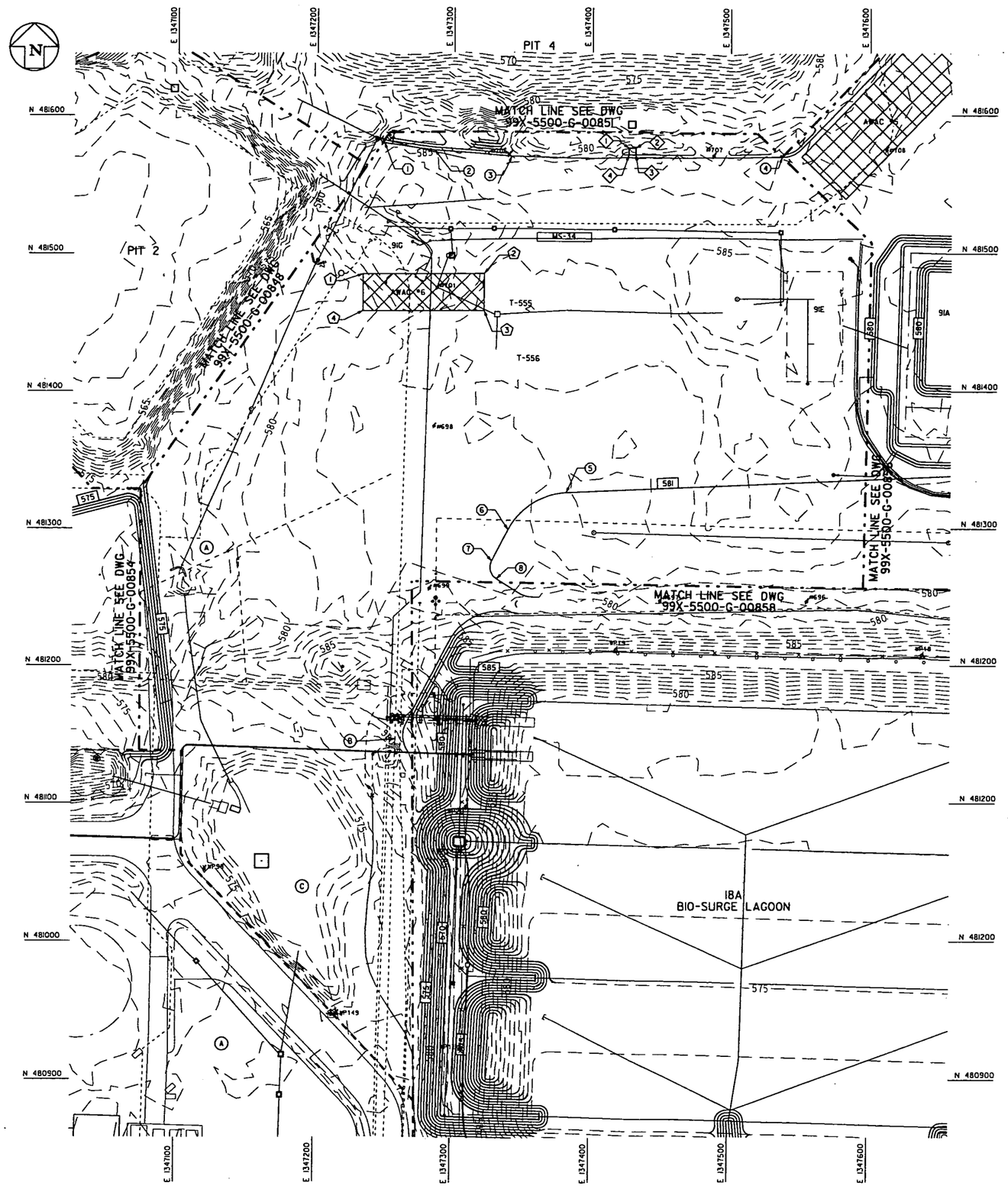
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREGG JOHNSON	7/5/2005
CIVIL & STR.	A.C. SHOCK	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	PATRICK SHARKS	7/5/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPER	7/5/2005
			CONSTRUCTION	FRED WILSON	7/5/2005
CHECKED	MIKE LOCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LOCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00854	G-7	0
RES PROJECT NO.	FILENAME 99xg0854.dgn			

FCPSAE.DGN 5/30/03

99xg0855 OSDF3 lind8392 10/05/2005 04:13:40 PM



GRADING CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481580.36	1347249.19	581.0
2	481574.94	1347285.87	581.0
3	481570.14	1347341.14	581.0
4	481570.19	1347536.50	581.0
5	481326.29	1347381.96	581.0
6	481299.22	1347339.73	581.0
7	481276.39	1347327.98	581.0
8	481263.41	1347331.45	581.0
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

ABOVE-WAC CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481485.51	1347233.80	582.0
2	481485.51	1347321.77	582.0
3	481458.66	1347321.77	582.0
4	481458.66	1347233.80	582.0

ABOVE FRL CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481575.93	1347426.17	580.0
2	481575.93	1347431.17	580.0
3	481570.93	1347431.17	580.0
4	481570.93	1347426.17	580.0

SCALE: 1"=30'

0 15 30 75 150

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. PRIOR TO REMOVING UTILITY POLES 698 AND 701, STORE EXCESS 13.2 KV LINE RUNNING FROM UTILITY POLE 699 TO 701 AT POLE 699. PROTECT LINE FOR ELECTRICAL REUSE.

KEYED NOTES

(A) REMOVE ROADWAY PAVEMENT AND SUBGRADE.

(B) REMOVE BELOW-GRADE CONCRETE MONOLITH. LOCATION APPROXIMATED.

(C) REMOVE OU4 SURROGATE MATERIAL AND 6-INCH SCRAPE OF UNDERLYING SOIL FROM BASIN.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
WPRAP SUPPORT AREA GRADING PLAN

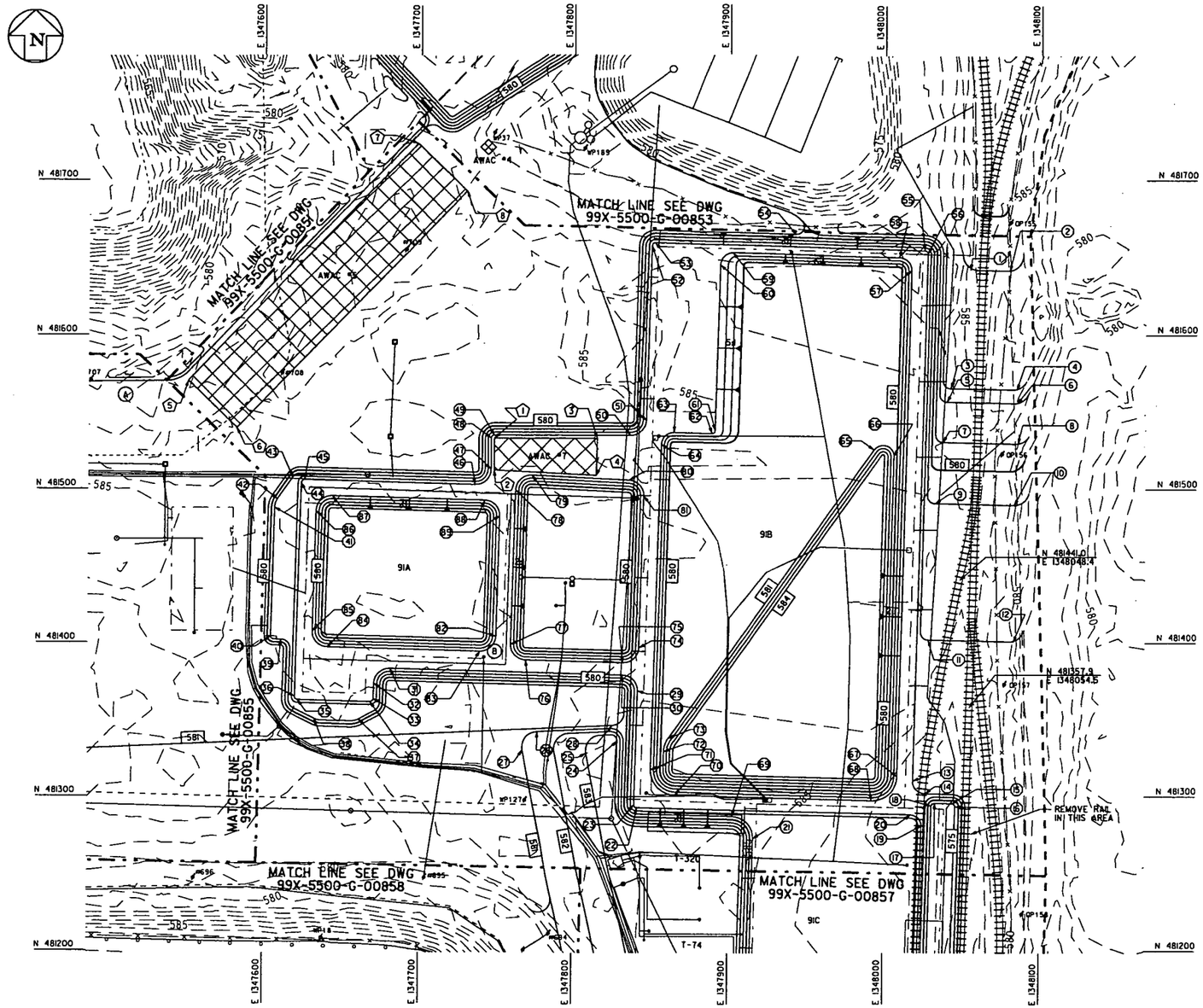
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SHOCK	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	SUE RUSSELL	6/30/2005	WAD	PATRICK SIMMONS	7/1/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPER	7/1/2005
			CONSTRUCTION	FRED WILSON	7/1/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00855	G-8	0
RES PROJECT NO.	FILENAME 99xg0855.dgn			

FCPSAE.DGN 5/30/03

99xg0856 OSDF3 lind8392 10/05/2005 04:14:09 PM



ABOVE-WAC CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481533.04	1347748.50	577.0
2	481512.43	1347748.50	577.0
3	481533.04	1347815.32	577.0
4	481508.99	1347814.66	577.0
5	481570.38	1347550.55	580.0
6	481539.75	1347582.39	580.0
7	481723.72	1347698.03	580.0
8	481693.09	1347729.88	580.0

GRADING CONTROL POINTS																			
PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.
1	481642.30	1348054.30	584.0	14	481301.97	1348026.74	577.0	27	481330.03	1347767.80	581.0	40	481404.21	1347604.73	579.0	53	481659.78	1347851.88	577.0
2	481641.71	1348079.39	584.0	15	481295.50	1348043.82	574.0	28	481346.08	1347825.92	581.0	41	481487.92	1347606.99	579.0	54	481665.28	1347942.32	581.0
3	481565.65	1348041.96	583.0	16	481293.44	1348045.76	574.0	29	481368.59	1347841.96	577.0	42	481493.36	1347608.78	579.0	55	481655.00	1348025.06	577.0
4	481564.66	1348084.24	583.0	17	481295.80	1348032.82	574.0	30	481378.86	1347832.24	577.0	43	481507.44	1347618.58	579.0	56	481652.95	1348027.01	577.0
5	481556.86	1348039.76	582.0	18	481293.85	1348030.77	574.0	31	481382.92	1347681.51	577.0	44	481503.99	1347624.26	577.0	57	481642.25	1348016.75	577.0
6	481555.81	1348084.41	582.0	19	481281.02	1348024.42	577.0	32	481373.19	1347671.25	577.0	45	481505.94	1347626.32	577.0	58	481650.44	1348008.98	577.0
7	481530.70	1348037.14	581.0	20	481288.21	1348017.59	577.0	33	481363.26	1347670.98	577.0	46	481502.98	1347736.23	577.0	59	481653.40	1347901.73	577.0
8	481529.58	1348085.08	581.0	21	481272.70	1347916.23	579.0	34	481361.31	1347668.93	577.0	47	481512.98	1347746.50	577.0	60	481645.62	1347893.51	577.0
9	481490.93	1348032.21	579.0	22	481292.59	1347841.90	577.0	35	481362.56	1347622.45	577.0	48	481533.04	1347746.50	577.0	61	481538.18	1347890.59	577.0
10	481489.74	1348082.80	579.0	23	481294.64	1347839.95	577.0	36	481364.62	1347620.50	577.0	49	481535.04	1347748.50	577.0	62	481536.23	1347888.54	577.0
11	481402.16	1348028.12	578.0	24	481335.92	1347829.07	583.0	37	481349.86	1347661.45	579.0	50	481535.04	1347836.76	577.0	63	481536.88	1347864.54	577.0
12	481400.88	1348082.50	578.0	25	481327.86	1347808.94	583.0	38	481350.24	1347633.09	579.0	51	481544.77	1347846.75	577.0	64	481529.11	1347856.33	577.0
13	481310.15	1348018.96	577.0	26	481341.90	1347777.17	581.0	39	481402.02	1347681.51	579.0	52	481657.83	1347849.83	577.0	65	481525.86	1347993.18	581.0

GRADING CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
66	481521.69	1348005.92	581.0
67	481312.89	1348009.02	577.0
68	481297.27	1347992.57	577.0
69	481287.08	1347902.59	579.0
70	481300.83	1347866.12	577.0
71	481317.26	1347850.57	577.0
72	481328.92	1347858.89	581.0
73	481337.64	1347861.77	581.0
74	481396.58	1347842.72	577.0
75	481386.86	1347832.46	577.0
76	481388.55	1347769.68	577.0
77	481398.81	1347759.95	577.0
78	481499.43	1347762.66	577.0
79	481509.14	1347773.17	577.0
80	481505.89	1347835.94	577.0
81	481495.63	1347845.42	577.0
82	481404.08	1347750.09	577.0
83	481394.35	1347739.82	577.0
84	481397.01	1347641.38	577.0
85	481407.27	1347631.66	577.0
86	481485.73	1347633.77	577.0
87	481495.46	1347644.04	577.0
88	481492.81	1347742.47	577.0
89	481482.54	1347752.20	577.0

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

KEYED NOTES

(A) REMOVE ROADWAY PAVEMENT AND SUBGRADE.

(B) WITHIN THE FOOTPRINT OF THE OU1 TEMPORARY WASTE PIT MATERIAL STOCKPILE. PERFORM REAL-TIME SCANNING PRIOR TO CONCRETE BREAKING OR SOIL EXCAVATION.

F 6042

SCALE: 1"=30'

0 15 30 75 150
SCALE IN FEET

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
WPRAP PROCESS AREA GRADING PLAN (NORTH)
SHEET 1 OF 2

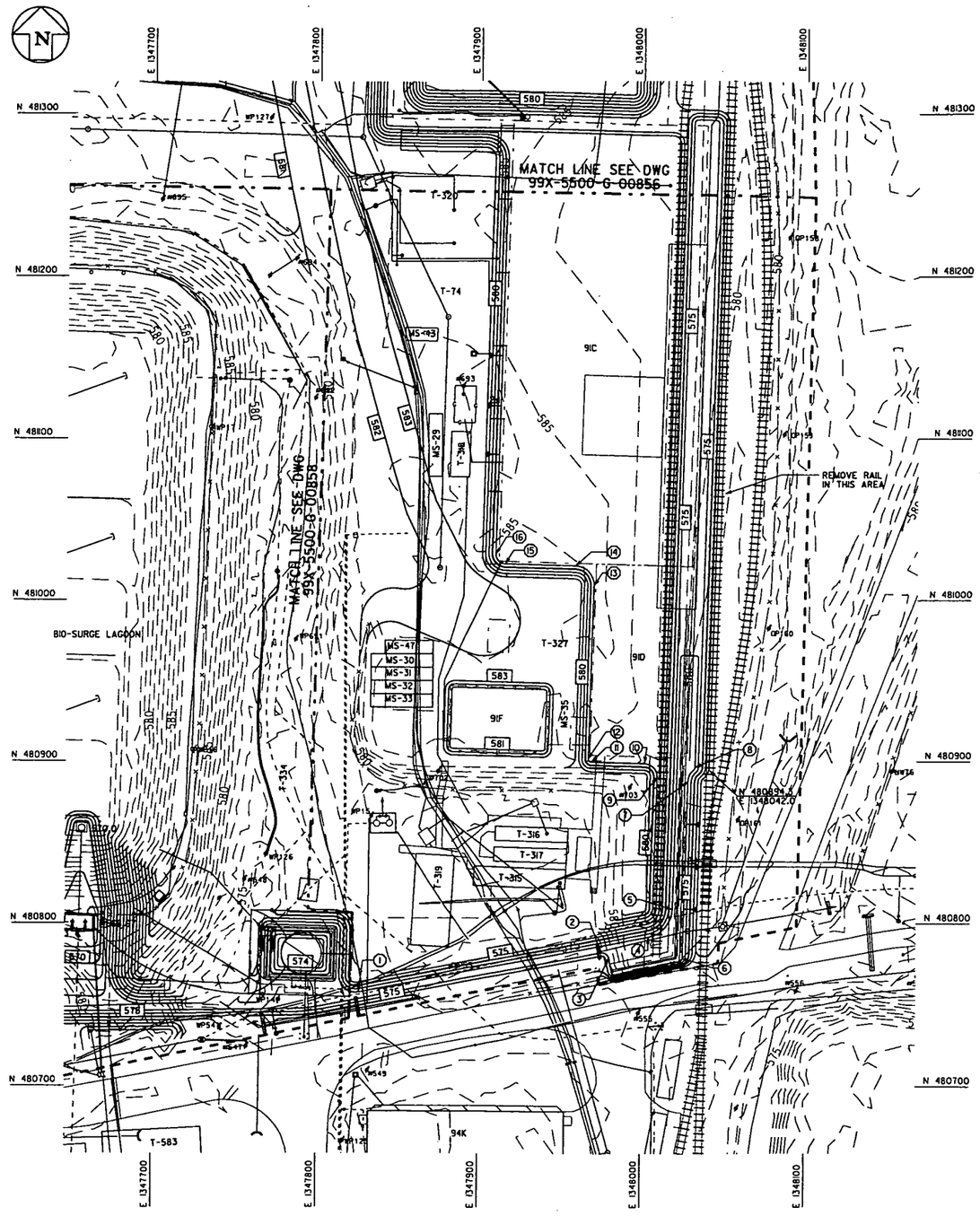
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/5/2005
CIVIL & STR.	A.C. SHEER	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	PATRICK SHARKS	7/5/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEFFER	7/5/2005
			CONSTRUCTION	KEVIN WARREN	6/30/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00856	G-9	0
RES PROJECT NO.	FILENAME 99xg0856.dgn			

FCP5AE.DGN 5/30/03

99xg0857 OSDF3 lind8392 10/05/2005 04:14:50 PM



GRADING CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	480757.62	1347826.03	573.0
2	480782.02	1347975.58	573.0
3	480778.90	1347980.25	573.0
4	480791.67	1348004.87	573.0
5	480808.86	1348019.50	573.0
6	480778.79	1348025.68	573.0
7	480887.54	1348028.66	573.0
8	480896.40	1348032.90	573.0
9	480890.44	1348009.73	579.0
10	480898.66	1348001.95	579.0
11	480899.56	1347969.05	579.0
12	480901.61	1347967.10	579.0
13	481008.99	1347970.04	579.0
14	481021.32	1347958.37	579.0
15	481022.49	1347915.39	579.0
16	481028.65	1347909.55	579.0
17			
18			
19			
20			

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
WPRAP PROCESS AREA GRADING PLAN (SOUTH)
SHEET 2 OF 2

APPROVALS

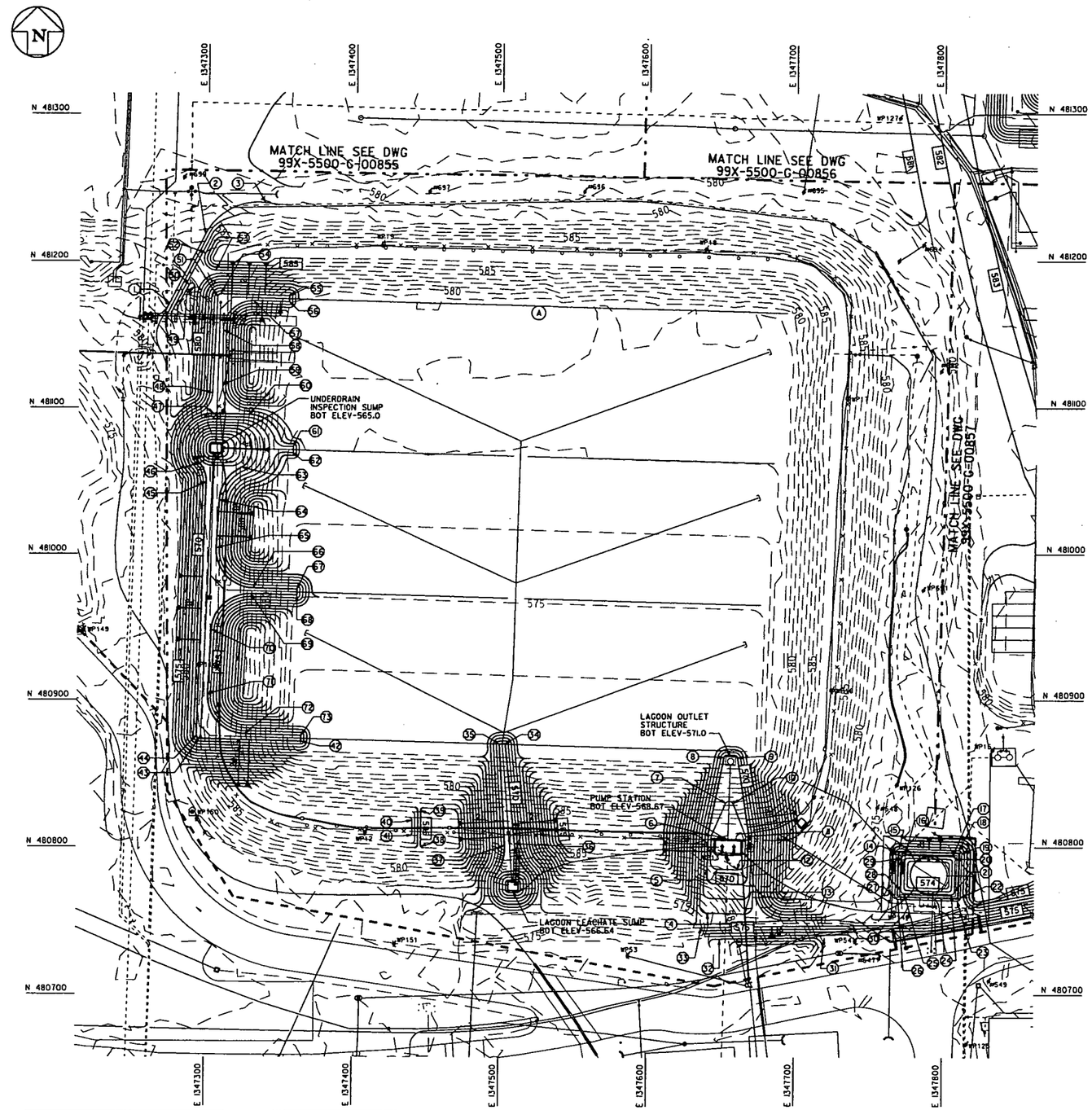
COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/5/2005
CIVIL & STR.	A.C. SNOOK	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	PATRICK SHARKS	7/5/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPER	7/5/2005
			CONSTRUCTION	KEVIN BARDEN	6/30/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

SCALE: 1"=30'
0 15 30 75 150
SCALE IN FEET

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M.L. LINDCREK	20600	99X-5500-G-00857	G-10	0
RES PROJECT NO.	FILENAME 99xg0857.dgn			

FCP5AE.DGN 5/30/03

99xg0858 OSDF3 lind8392 10/05/2005 04:15:21 PM



GRADING CONTROL POINTS											
PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.
59	481115.37	1347310.19	576.0	64	481036.99	1347308.43	570.0	69	480972.67	1347330.38	570.0
60	481095.24	1347328.96	575.0	65	481004.00	1347306.68	570.0	70	480948.06	1347303.70	570.0
61	481073.23	1347358.24	574.0	66	480976.63	1347331.93	570.0	71	480904.10	1347301.37	570.0
62	481069.23	1347358.15	574.0	67	480975.82	1347361.42	570.0	72	480876.73	1347326.62	570.0
63	481059.15	1347323.35	570.0	68	480971.82	1347361.32	570.0	73	480875.69	1347364.69	570.0

GRADING CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481170.90	1347273.70	581.0
2	481217.90	1347297.88	581.0
3	481239.25	1347338.68	581.0
4	480755.43	1347641.14	572.0
5	480785.24	1347648.05	569.0
6	480807.95	1347643.73	569.0
7	480830.03	1347653.34	569.0
8	480861.12	1347651.95	570.0
9	480860.89	1347661.15	570.0
10	480829.91	1347658.35	569.0
11	480807.25	1347667.01	569.0
12	480784.84	1347661.33	569.0
13	480754.68	1347666.42	572.0
14	480797.15	1347768.94	572.0
15	480799.10	1347771.00	572.0
16	480794.99	1347774.90	572.0
17	480794.8	1347806.88	572.0
18	480798.00	1347810.99	572.0
19	480795.95	1347812.93	572.0
20	480792.06	1347808.82	572.0
21	480770.06	1347808.22	572.0
22	480765.96	1347812.11	572.0
23	480764.01	1347810.06	572.0
24	480768.12	1347806.17	572.0
25	480768.99	1347774.26	572.0
26	480765.10	1347770.17	572.0
27	480767.15	1347768.22	572.0
28	480771.04	1347772.32	572.0
29	480793.04	1347772.84	572.0
30	480746.83	1347740.07	573.0
31	480738.60	1347720.79	577.0
32	480737.73	1347649.50	577.0
33	480745.58	1347637.08	573.0
34	480870.28	1347503.61	570.0
35	480869.97	1347499.62	570.0
36	480802.28	1347510.18	570.0
37	480800.95	1347503.51	570.0
38	480800.16	1347446.36	585.0
39	480824.79	1347446.36	585.0
40	480817.99	1347440.36	587.0
41	480807.89	1347440.36	587.0
42	480871.69	1347364.58	570.0
43	480873.58	1347295.76	570.0
44	480875.64	1347293.81	570.0
45	481049.35	1347299.49	570.0
46	481062.23	1347294.65	570.0
47	481095.93	1347304.13	575.0
48	481109.89	1347303.52	576.0
49	481182.60	1347290.76	584.0
50	481183.61	1347286.98	584.0
51	481175.43	1347306.46	576.0
52	481205.10	1347298.05	584.0
53	481193.45	1347304.94	584.0
54	481177.34	1347308.51	576.0
55	481176.07	1347355.00	576.0
56	481172.07	1347354.98	576.0
57	481172.73	1347330.95	576.0
58	481152.85	1347310.40	576.0

SCALE: 1"=30'

0 15 30 75 150
SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. PROTECT UTILITY POLES #547, 548, 691, 692, 694, 695, 696, 697, 699 AND ASSOCIATED 13.2 KV LINE INSTALLED ON SAID POLES. DE-ENERGIZE 13.2 KV LINE AT DISCONNECT ON UTILITY POLE 547 PRIOR TO PERFORMING EXCAVATION IN WPRAP PROCESS AND SUPPORT AND BSL AREAS.
3. DO NOT PERFORM ENERGY ISOLATION OF 13.2 KV POWER LINE AT UTILITY POLE #547 UNTIL WPRAP OPERATIONS AT THE MATERIAL HANDLING BUILDING (91B), RAILCAR LOADOUT BUILDING (91C), AND RAILCAR PREPARATION AND LINER STORAGE BUILDING (91D) ARE COMPLETED.
4. LAGOON SEDIMENTS TO BE REMOVED AS AWAC MATERIAL BY OTHERS.
5. AFTER LAGOON SEDIMENT HAS BEEN REMOVED, TOP LAYER OF FLEXIBLE MEMBRANE LINER, UNDERLYING SAND LAYER, AND LEACHATE COLLECTION RECOVERY PIPING HAS BEEN REMOVED AS AWAC MATERIAL.
6. REMOVE BOTTOM LAYER OF GEOMEMBRANE LINER, AND UNDERLYING UNDERDRAIN SYSTEM AS IMPACTED MATERIAL.

EXCAVATION SEQUENCE

1. PRIOR TO REMEDIATION, SEDIMENTS IN BOTTOM OF BSL ACCUMULATED ON TOP OF LINER SHALL BE REMOVED BY OTHERS.
2. REMOVE BASIN SEDIMENT AND TOP LINER AS AWAC MATERIAL.
3. PLUG REMAINING DRAINAGE PIPE WHERE IT PENETRATES THROUGH THE BOTTOM LINER.
4. REMOVE BOTTOM LINER WITHIN BASIN AND ASSOCIATED UNDERDRAIN SYSTEM TO THE TOE OF THE BERM AS IMPACTED MATERIAL.
5. PERFORM REAL-TIME MONITORING OF THE SOIL UNDERLYING THE BOTTOM LINER TO DETERMINE IF ADDITIONAL EXCAVATION IS REQUIRED.
6. REMOVE SUPERFICIAL STRUCTURES AND UTILITIES AT OR NEAR THE SURFACE ALONG THE TOP OF THE BERM.
7. AS A "CLEAN" EXCAVATION, EXCAVATE PORTIONS OF THE SOUTHERN BERM AND STOCKPILE SOIL WITHIN THE BASIN AS BELOW-FRL SOIL.
8. ONCE ACCESSIBLE, REMOVE THE REMAINDER OF THE LEACHATE COLLECTION SYSTEM PIPING AS AWAC MATERIAL.
9. ONCE ACCESSIBLE, REMOVE LAGOON LEACHATE SUMP, LAGOON OUTLET STRUCTURE, PUMP STATION AND ASSOCIATED PIPING AS IMPACTED MATERIAL.
10. AS A "CLEAN" EXCAVATION, EXCAVATE THE WESTERN BERM AND STOCKPILE SOIL WITHIN THE BASIN AS BELOW-FRL SOIL.
11. ONCE ACCESSIBLE, REMOVE UNDERDRAIN INSPECTION SUMP AND PIPING ASSOCIATED WITH THE UNDERDRAIN SYSTEM AS IMPACTED MATERIAL.
12. PERFORM EXCAVATIONS OUTSIDE THE BSL, WHEN NECESSARY.

KEYED NOTES

(A) AFTER EXCAVATING UNDERDRAIN PIPING AND ASSOCIATED STONE AGGREGATE AT TOE OF NORTHERN BERM, PLACE PRECERTIFIED SOIL FROM THE FLOOR OF THE BASIN IN EXCAVATION AT THE TOE OF THE SLOPE AND COMPACT IN 12 TO 18 INCH LOOSE LIFTS WITH FOUR PASSES OF EXCAVATION EQUIPMENT FOR EACH LIFT TO ASSURE SLOPE STABILITY OF BERM.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
BIO-SURGE LAGOON GRADING PLAN

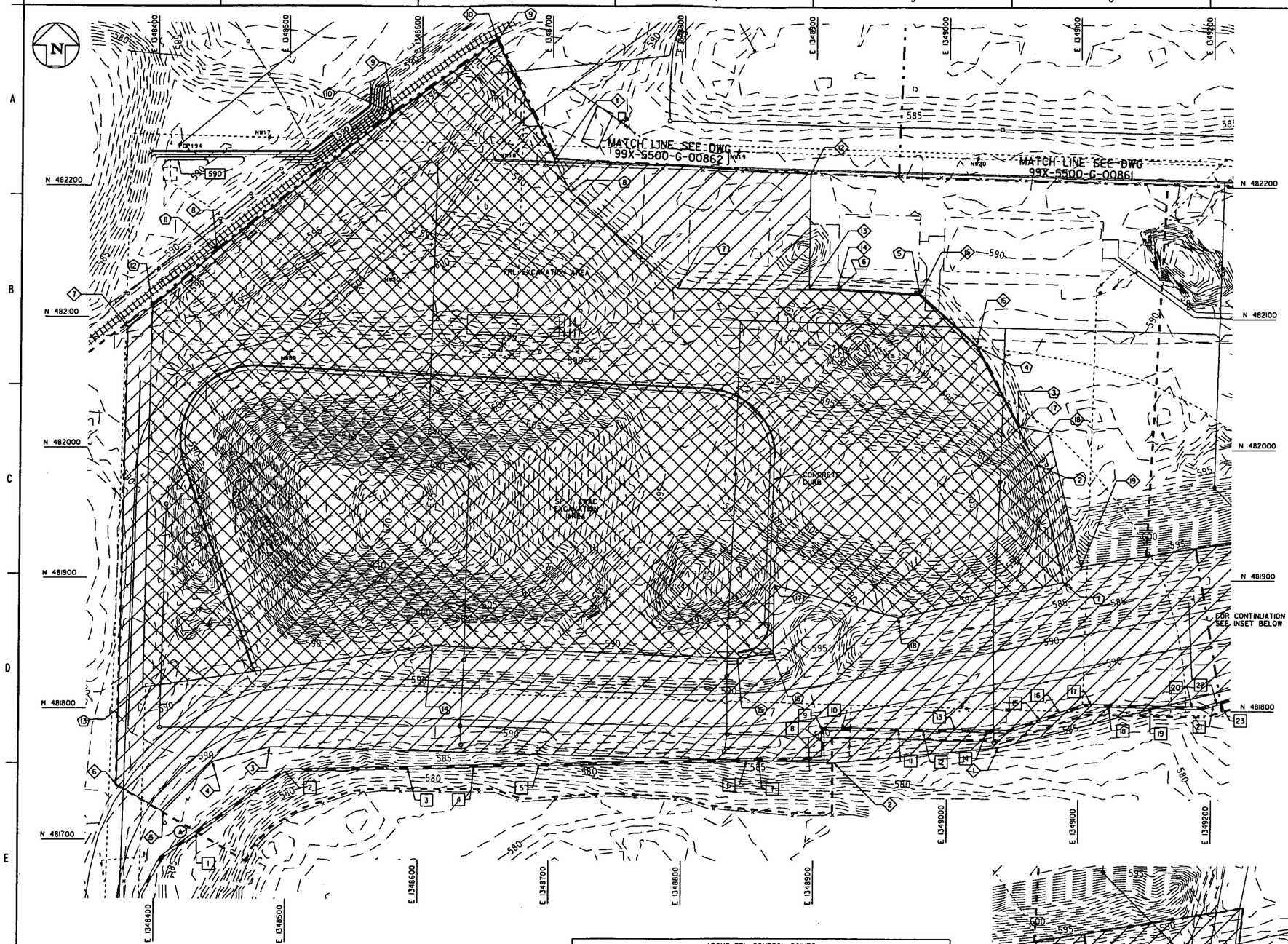
APPROVALS

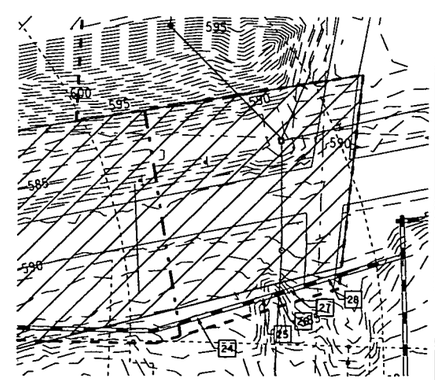
COGNIZANT ENG.			SAFETY ENG.	GREGG JOHNSON	11/2005
CIVIL & STR.	A.C. SNEED	6/20/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DANE RUSSELL	6/20/2005	WAQ	LINDA BARLOW	6/20/2005
INSTRUMENT			SECURITY		
MECHANICAL			OA	RICHARD SCHEPCH	11/2005
			CONSTRUCTION	KEVIN HARDIN	6/20/2005
CHECKED	MIKE LOCKE	6/20/2005	CHARACTERIZATION	FRANK MILLER	6/20/2005
APPROVED	MIKE LOCKE	6/20/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN		99X-5500-G-00858	G-II	0
RES PROJECT NO.	FILENAME 99x00858.dgn			

FCPSAE.DGN 5/30/03

99xg0859 OSDF3 lind8392 10/05/2005 04:16:16 PM





ABOVE WAC CONTROL POINTS							
PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.
1	481898.48	1349088.09		10	482255.07	1348578.35	
2	481988.87	1349067.16		11	482150.35	1348445.13	
3	482016.76	1349053.58		12	482107.61	1348396.03	
4	482079.47	1349020.39		13	481816.12	1348391.03	
5	482117.94	1348977.65		14	481848.58	1348610.50	
6	482121.86	1348915.67		15	481839.63	1348842.09	
7	482122.57	1348794.92		16	481844.03	1348868.94	
8	482195.59	1348713.35		17	481895.90	1348869.24	
9	482310.64	1348657.07		18	481871.02	1348962.97	

ABOVE FRL CONTROL POINTS							
PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.
1	481771.90	1349039.30		11	482220.53	1348701.71	
2	481760.17	1348915.21		12	482210.01	1348895.31	
3	481770.92	1348487.71		13	482122.98	1348894.58	
4	481759.69	1348444.23		14	482122.85	1348915.71	
5	481721.24	1348407.04		15	482118.91	1348978.06	
6	481741.99	1348371.47		16	482080.09	1349021.20	
7	482092.28	1348377.67		17	482017.65	1349054.24	
8	482150.35	1348445.13		18	482013.30	1349076.13	
9	482255.07	1348578.35		19	481910.86	1349101.17	
10	482311.39	1348657.26		20			

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. EXCAVATE EXISTING ISOLATION TRENCH TO COORDINATES AND ELEVATIONS SHOWN ON DRAWING 99X-5500-G-00870. MINIMUM 36 INCHES WIDE. PERFORM MONITORING OR SAMPLING OF THE TRENCH BOTTOM PRIOR TO FILLING. USING MATERIAL FROM A CERTIFIED AREA.
3. IN HIGH LEACHABILITY AREAS, OBTAIN FILL MATERIAL, AS NEEDED MEETING THE REQUIREMENTS OF TECHNICAL SPECIFICATION SECTION 02206.
4. AFTER REMOVAL OF SP-7 STOCKPILED MATERIALS (BY OTHERS), SURVEY THE SURFACE WITHIN FRL-EXCAVATION AREA.
5. REMOVE CONCRETE CURB AND TOP 6-INCHES OF SOIL WITHIN SP-7 EXCAVATION AREA AS AWAC MATERIAL.
6. TAKE PHYSICAL SAMPLES AND REAL-TIME SCAN OF SURFACE UNDERNEATH AWAC EXCAVATION TO VERIFY REMOVAL OF AWAC MATERIAL.
7. AFTER AWAC REMOVAL HAS BEEN COMPLETED, EXCAVATE TOP 1.5 FOOT WITHIN SP-7 EXCAVATION AREA AND 2 FOOT WITHIN THE FRL EXCAVATION AREA AS IMPACTED MATERIAL FOR DISPOSAL IN OSDF.
8. AFTER EXCAVATION IS COMPLETE, SURVEY THE AREA TO VERIFY A MINIMUM OF 2-FOOT EXCAVATION WAS PERFORMED.
9. DO NOT PERFORM EXCAVATION WITHIN CROSS-HATCHED AREA UNTIL PENDING PREDESIGN SAMPLING AND CHARACTERIZATION HAS BEEN COMPLETED.

KEYED NOTES

(A) TO GUARD AGAINST THE INFILTRATION OF CONTAMINATED SOIL AND WATER INTO THE EXCAVATED AREA. PLUG THE CONTAMINATED ISOLATION TRENCH TO BE LEFT IN PLACE USING SOIL FROM THE SURROUNDING AREA AND COMPACT IN 12 TO 18 INCH LOOSE LIFTS WITH FOUR PASSES OF EXCAVATION EQUIPMENT FOR EACH LIFT.

6042

SCALE: 1"=30'
0 15 30 75 150
SCALE IN FEET

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
STOCKPILE 7 AREA GRADING PLAN

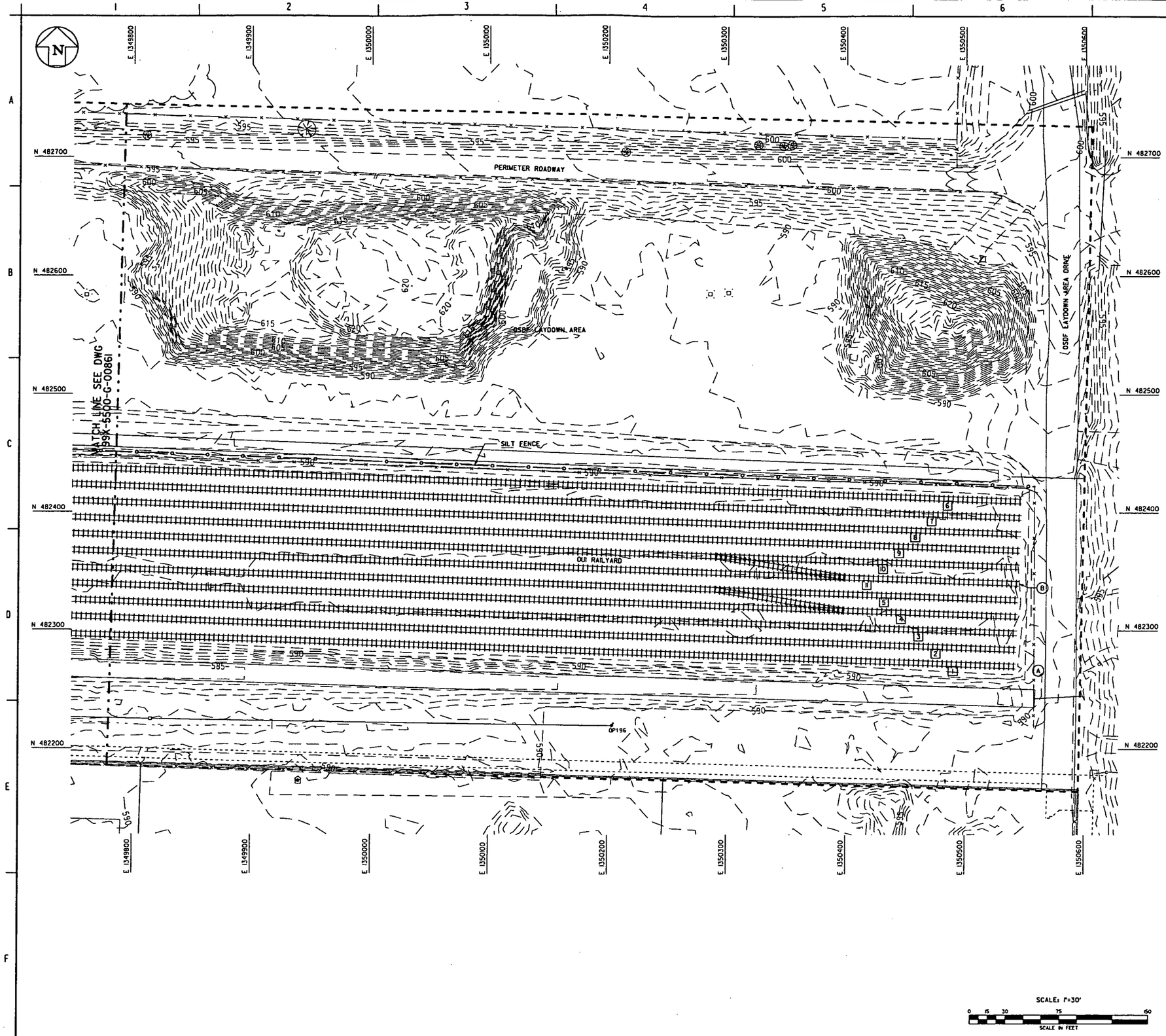
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	BRIAN JOHNSON	7/1/2005
CIVIL & STR.	A.C. SHOCK	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	LINDA BARLOW	6/30/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPCI	7/1/2005
			CONSTRUCTION	KEVIN BARBER	6/30/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00859	G-12	0
RES PROJECT NO.	FILENAME 99x00859.dgn			

FCPSAE.DGN 5/30/03

99xg0860 OSDF3 lind8392 10/05/2005 04:17:05 PM



GENERAL NOTES

1. SEE DRAWING 99X-5500-X-00847 FOR ADDITIONAL LEGEND AND GENERAL NOTES.
2. DO NOT BEGIN DISMANTLING OU1 RAILYARD UNTIL AFTER DISPOSAL OF SP-7 STOCKPILED MATERIAL.
3. REMOVE OU1 RAILYARD TRACKS. TRACK HARDWARE. AND TIES FROM RAILYARD FROM EAST TO WEST PER EACH TRACK SECTION. AS SEQUENCED ON THIS PLAN. DO NOT DAMAGE TRACKS. HARDWARE. AND TIES. LOAD TRACKS. HARDWARE. AND TIES ONTO RAILCARS FOR TRANSPORTATION TO OFF-SITE FACILITY FOR REUSE.
4. AFTER REMOVING EACH TRACK SECTION FROM THE OU1 RAILYARD. LOCK ASSOCIATED RAIL SWITCH (SEE DRAWING 99X-5500-G-00XXX) TO DIRECT TRAFFIC AWAY FROM THE REMOVED TRACK SECTION.
5. PLACE BALLAST AND OTHER COARSE AGGREGATE MATERIAL FROM RAILYARD IN THE BALLAST HOLDING AREA (SEE DRAWING 99X-5500-G-00861) TO ELEVATION 587 FEET AND SOLID WASTE LANDFILL EXCAVATION AREA. AS REQUIRED (SEE DRAWING 99X-5500-G-00863).
6. FOR BALLAST PLACEMENT. USE THE NEWLY CONSTRUCTED RAMP. OSDF LAYDOWN AREA DRIVE. AND PERIMETER ROADWAY FOR ACCESS TO BALLAST HOLDING AREA AND THE SOLID WASTE LANDFILL EXCAVATION.
7. DO NOT DISTURB DITCHES NORTH OR SOUTH OF RAILYARD.

KEYED NOTES

(A) AS SOON AS PRACTICAL. CONSTRUCT A 20-FOOT WIDE RAMP ON THE EAST END OF THE RAILYARD CONNECTING RAILYARD AREA TO THE OSDF LAYDOWN AREA DRIVE.

(B) SAVE ONE WHEEL STOP AND NECESSARY HARDWARE TO BE RELOCATED (SEE DRAWING 99X-5500-G-00870).

LEGEND

[1] TRACK SECTION REMOVAL SEQUENCE

60 42

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
OU1 RAILYARD GRADING PLAN (EAST)

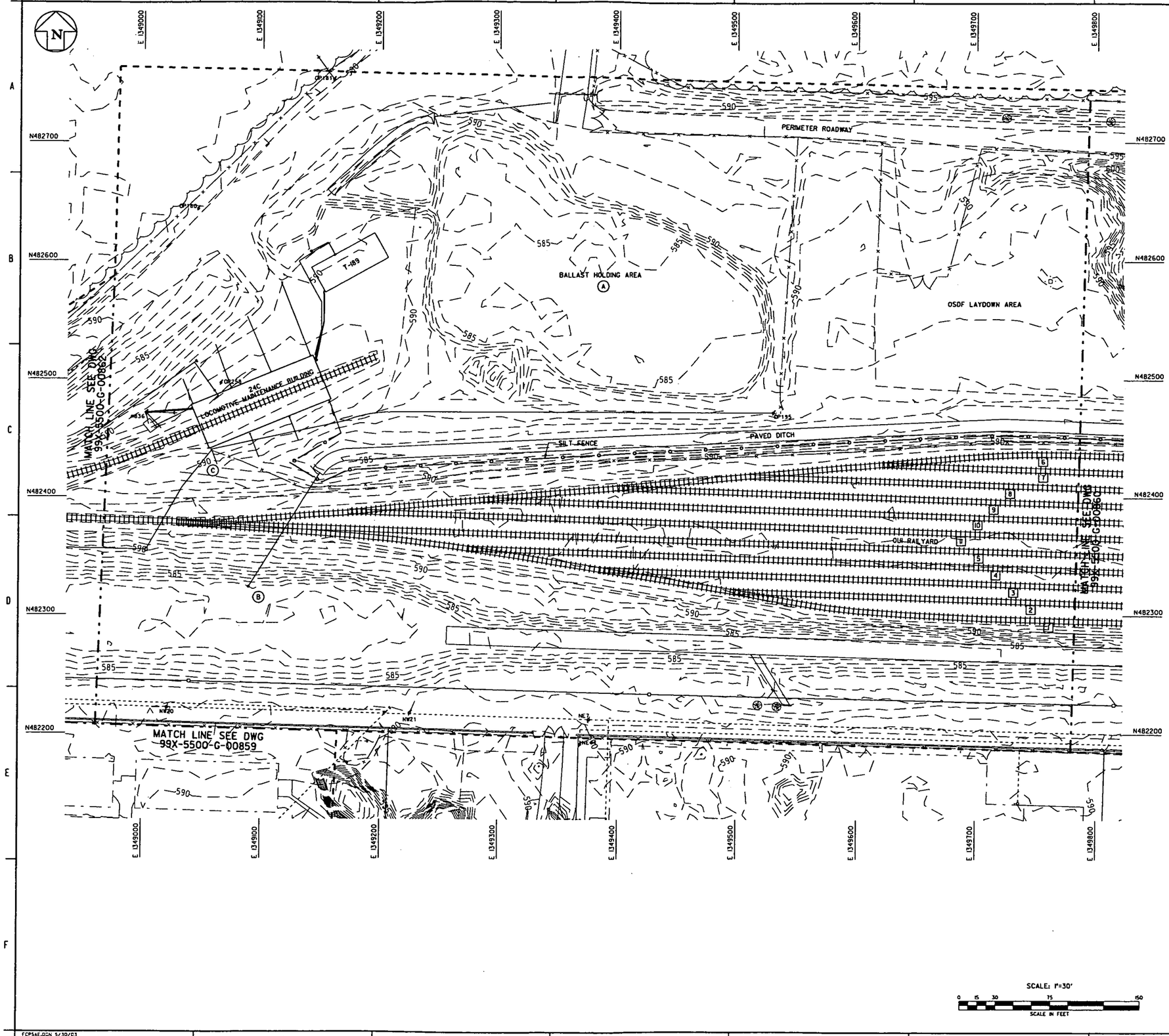
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GEORGE JOHNSON	7/6/2005
CIVIL & STR.	A.C. SIMON	6/20/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DANE RUSSELL	6/20/2005	WAO		
INSTRUMENT			SECURITY		
MECHANICAL			OA	RICHARD SCHEPER	7/6/2005
			CONSTRUCTION	STEVE HARDIN	6/20/2005
CHECKED	MIKE LUCKE	6/20/2005	CHARACTERIZATION	FRANK MILLER	6/20/2005
APPROVED	MIKE LUCKE	6/20/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00860	G-13	0
RES PROJECT NO.	FILENAME 99xg0860.dgn			

FCPS4E.DGN 5/30/03

99xg0861 OSDF3 lind8392 10/05/2005 04:18:45 PM



GENERAL NOTES

1. SEE DRAWING 99X-5500-X-00847 FOR ADDITIONAL LEGEND AND GENERAL NOTES.
2. REMOVE LOCOMOTIVE MAINTANANCE BUILDING AT- AND BELOW GRADE STRUCTURES. SEE REFERENCE DRAWINGS 91X-5900-S-00314 AND 91X-5900-S-00315 FOR FOUNDATION DETAILS.
3. DO NOT BEGIN DISMANTLING OU1 RAILYARD UNTIL AFTER DISPOSAL OF SP-7 STOCKPILED MATERIAL.
4. REMOVE OU1 RAILYARD TRACKS. TRACK HARDWARE. AND TIES FROM RAILYARD FROM EAST TO WEST PER EACH TRACK SECTION. AS SEQUENCED ON THIS PLAN. DO NOT DAMAGE TRACKS. HARDWARE. AND TIES. LOAD TRACKS. HARDWARE. AND TIES ONTO RAILCARS FOR TRANSPORTATION TO OFF-SITE FACILITY FOR REUSE.
5. AFTER REMOVAL EACH TRACK SECTION FROM THE OU1 RAILYARD. LOCK ASSOCIATED RAIL SWITCH TO DIRECT TRAFFICAWAY FROM THE REMOVED TRACK SECTION.
6. DO NOT DISTURB DITCHES NORTH OR SOUTH OF RAILYARD.

KEYED NOTES

(A) PLACE BALLAST AND OTHER COARSE AGGREGATE MATERIAL FROM OU1 RAILYARD IN BALLAST HOLDING AREA (THIS DRAWING) TO ELEVATION 587 FEET. AND SOLID WASTE LANDFILL EXCAVATION (SEE DRAWING 99X-5500-G-00863). AS REQUIRED.

(B) AFTER REMOVAL OF OU1 RAILYARD. REMOVE CULVERT.

(C) DO NOT REMOVE UNDERGROUND ELECTRIC UNTIL AFTER BLDG 24C (LOCOMOTION MAINTENANCE FACILITY) HAS BEEN REMOVED FROM SERVICE.

LEGEND

[1] TRACK SECTION REMOVAL SEQUENCE

60 42

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
OU1 RAILYARD GRADING PLAN (WEST)

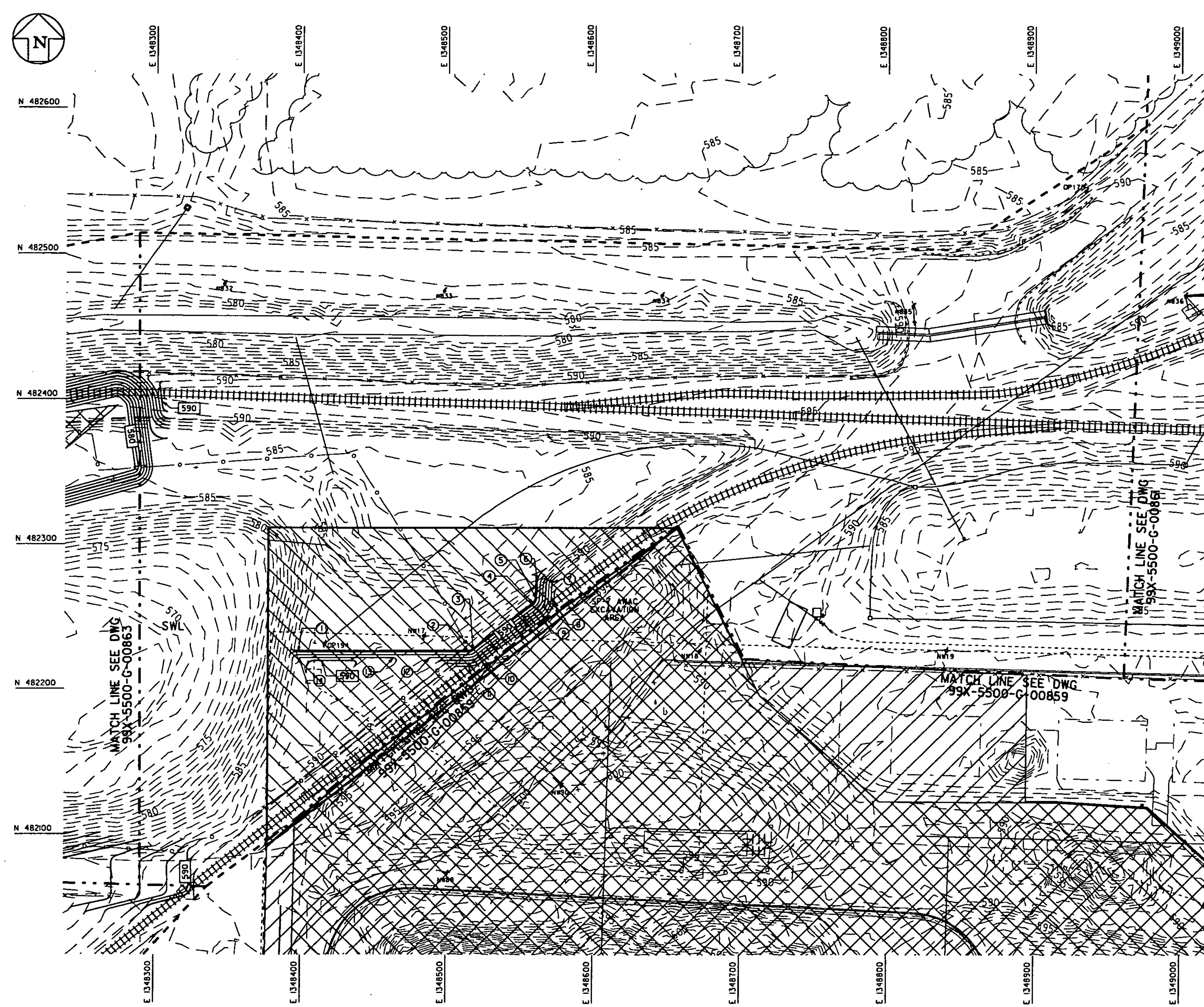
APPROVALS

COGNZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/5/2005
CIVIL & STR.	A.C. SHEEP	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DANE RUSSELL	6/30/2005	WAO	LINDA BARLOW	6/30/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPER	7/5/2005
			CONSTRUCTION	FRED WILSON	7/5/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	206-00	99X-5500-G-00861	G-14	0
RES PROJECT NO.	FILENAME 99xg0861.dgn			

FCPS4E.DGN 5/30/03

99xg0862 OSDF3 lind8392 10/05/2005 04:29:42 PM



GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. DO NOT PERFORM EXCAVATION WITHIN HATCHED AREA UNTIL PENDING PREDESIGN SAMPLING AND CHARACTERIZATION HAS BEEN COMPLETED.

LEGEND

HATCHED AREA, SEE NOTE 2

6042

GRADING CONTROL POINTS

PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.
1	482225.45	1348398.10	587.0	11	482215.62	1348514.95	592.0
2	482225.62	1348514.93	587.0	12	482221.58	1348488.09	589.0
3	482226.69	1348518.00	587.0	13	482221.55	1348463.08	589.0
4	482258.86	1348559.14	587.0	14	482221.45	1348398.56	589.0
5	482262.54	1348561.05	587.0	15			
6	482274.70	1348561.68	587.0	16			
7	482273.61	1348571.64	592.0	17			
8	482262.02	1348571.04	592.0	18			
9	482250.98	1348565.30	592.0	19			
10	482218.81	1348524.16	592.0	20			

SCALE: 1"=30'

0 15 30 75 150
SCALE IN FEET

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
FORMER SOLID WASTE LANDFILL GRADING PLAN (EAST)

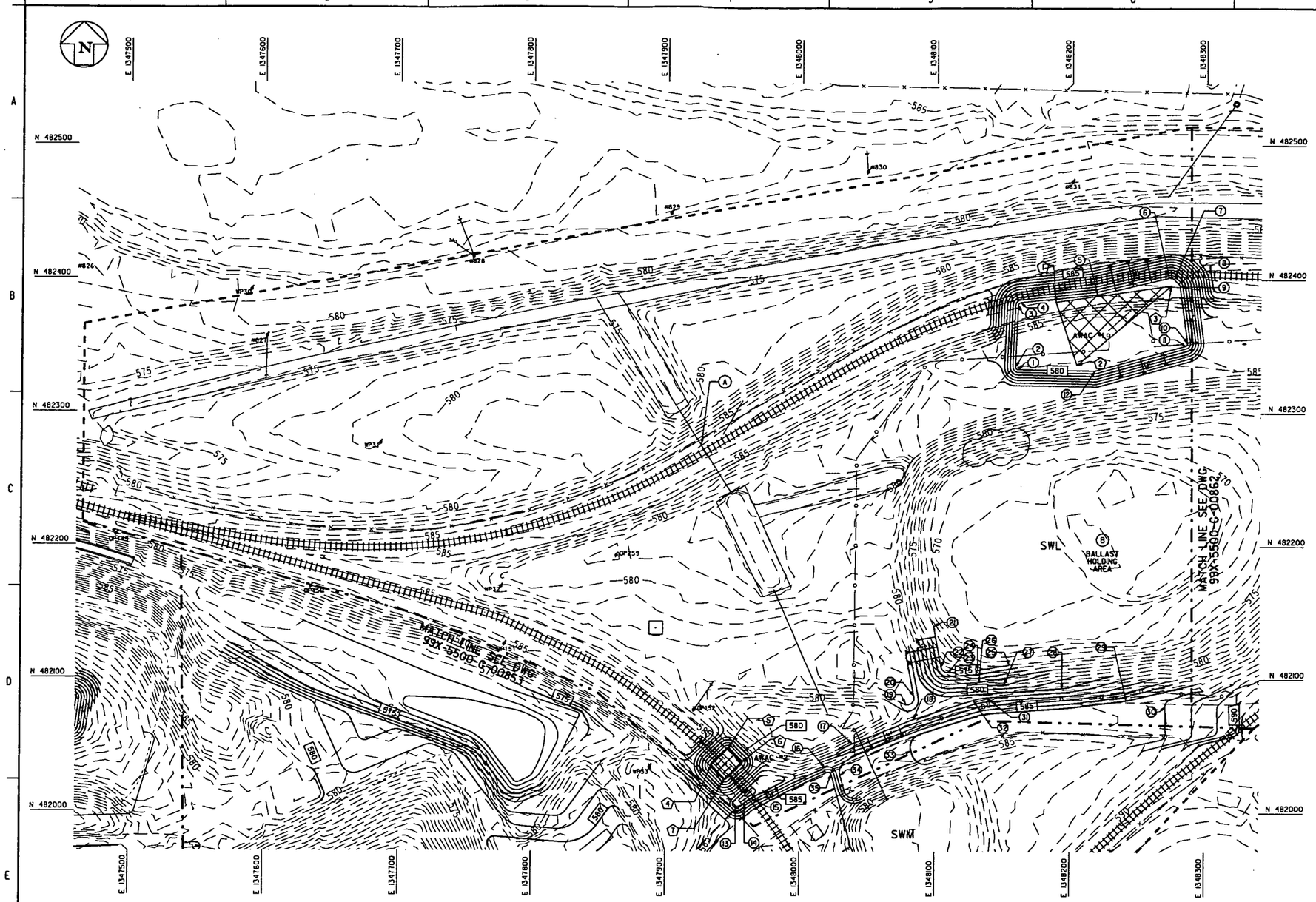
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/5/2005
CIVIL & STR.	A.C. SNIDER	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO		
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPER	7/5/2005
			CONSTRUCTION	FRED WILSON	7/5/2005
CHECKED	MIKE LOCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LOCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00862	G-15	0
RES PROJECT NO.	FILENAME 99xg0862.dgn			

FCP5AE.DGN 5/30/03

99xg0863 OSDF3 lind8392 10/05/2005 04:30:45 PM



GRADING CONTROL POINTS											
PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.	PT NO.	NORTHING	EASTING	ELEV.
1	482332.98	1348160.01	578.0	13	482003.79	1347952.23	585.0	25	482110.89	1348154.70	574.0
2	482335.07	1348158.04	578.0	14	482007.08	1347958.82	585.0	26	482097.89	1348132.55	577.0
3	482381.18	1348159.96	578.0	15	482010.51	1347963.90	585.0	27	482096.24	1348151.14	578.0
4	482383.08	1348161.76	578.0	16	482033.86	1348018.78	583.0	28	482093.46	1348193.96	582.0
5	482388.99	1348218.83	578.0	17	482051.74	1348039.05	581.0	29	482084.23	1348241.81	585.0
6	482401.59	1348272.14	578.0	18	482070.05	1348083.95	581.0	30	482080.02	1348270.76	586.0
7	482400.52	1348275.89	578.0	19	482081.80	1348078.34	582.0	31	482086.27	1348138.16	581.0
8	482397.42	1348278.99	578.0	20	482087.65	1348084.24	582.0	32	482084.36	1348128.33	581.0
9	482395.13	1348280.13	578.0	21	482139.46	1348098.81	574.0	33	482046.66	1348082.30	585.0
10	482353.00	1348285.87	578.0	22	482109.30	1348104.51	574.0	34	482027.71	1348029.92	584.0
11	482350.80	1348284.43	578.0	23	482105.26	1348109.79	574.0	35	482029.00	1348023.34	581.0
12	482332.00	1348217.13	578.0	24	482106.84	1348131.44	574.0	36			

ABOVE-WAC CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	482383.36	1348187.89	582.0
2	482336.25	1348203.62	582.0
3	482395.82	1348273.79	582.0
4	482035.56	1347934.19	577.0
5	482047.70	1347946.70	577.0
6	482037.40	1347956.70	577.0
7	482025.26	1347944.19	577.0

SCALE: 1"=30'

0 15 30 75 150

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

KEYED NOTES

(A) DO NOT REMOVE CULVERT UNTIL RAILLINE HAS BEEN REMOVED.

(B) PLACE BALLAST FROM REMOVAL OF SITE RAILLINES IN BALLAST HOLDING AREA.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
FORMER SOLID WASTE LANDFILL GRADING PLAN (WEST)

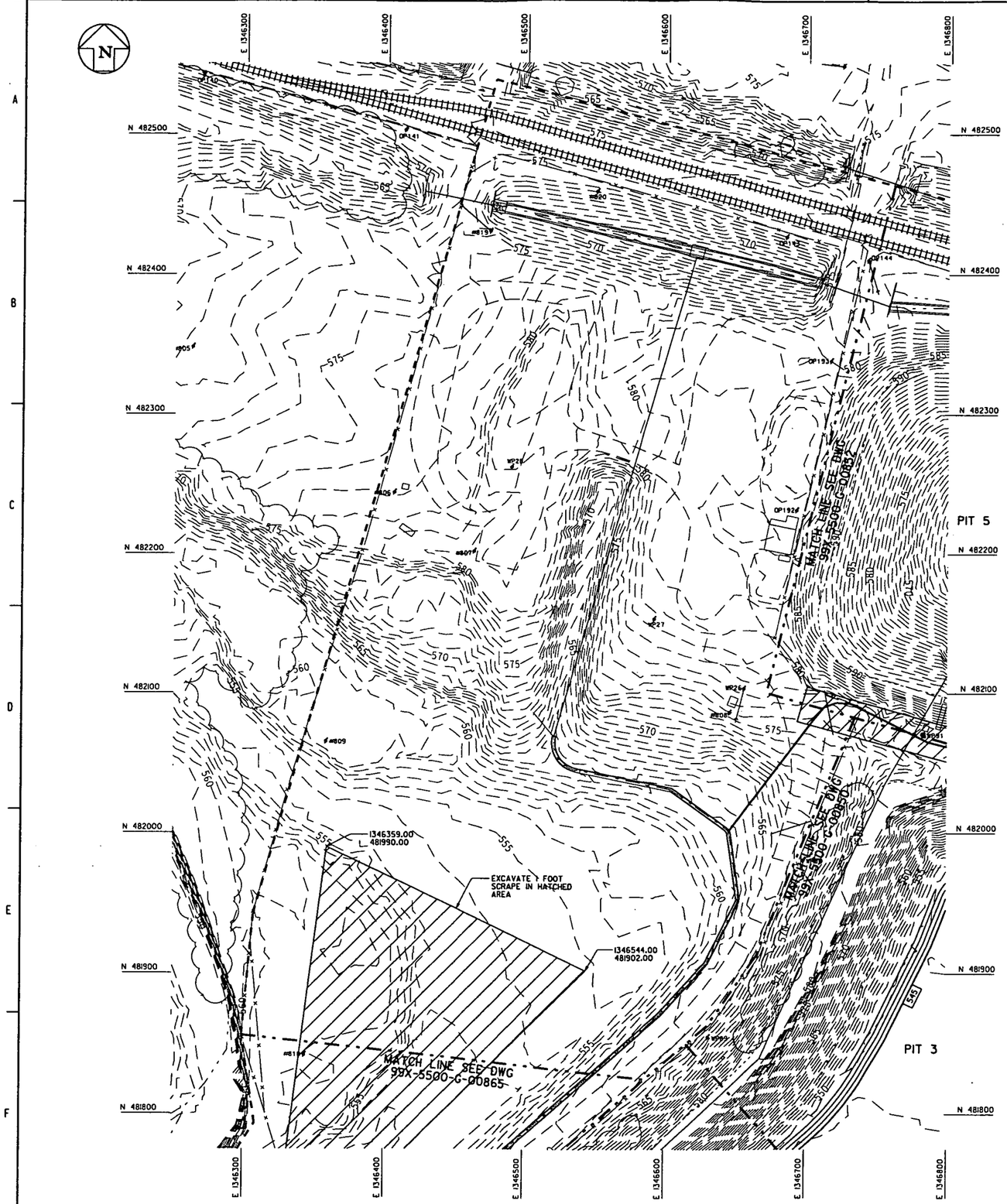
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	CHRIS JOHNSON	7/1/2005
CIVIL & STR.	J.C. SNIDER	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	LINDA BARLOW	6/30/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHOTCH	7/1/2005
			CONSTRUCTION	KEVIN HARDIN	6/30/2005
CHECKED	MIKE LOCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LOCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00863	G-16	0
KCI PROJECT NO.	FILENAME 99xg0863.dgn			

FCP5AE.DGN 5/30/03

99xg0864 OSDF3 lind8392 10/05/2005 04:31:30 PM



GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. REMOVE CONCRETE LINING AND CULVERTS FROM DITCH SOUTH OF RAILLINE.
3. INSTALL TRENCH PLUG SHOWN ON DRAWING 99X-5500-G-00865 PRIOR TO REMOVING CONCRETE TRENCH.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
AREA WEST OF WASTE PITS GRADING PLAN (NORTH)

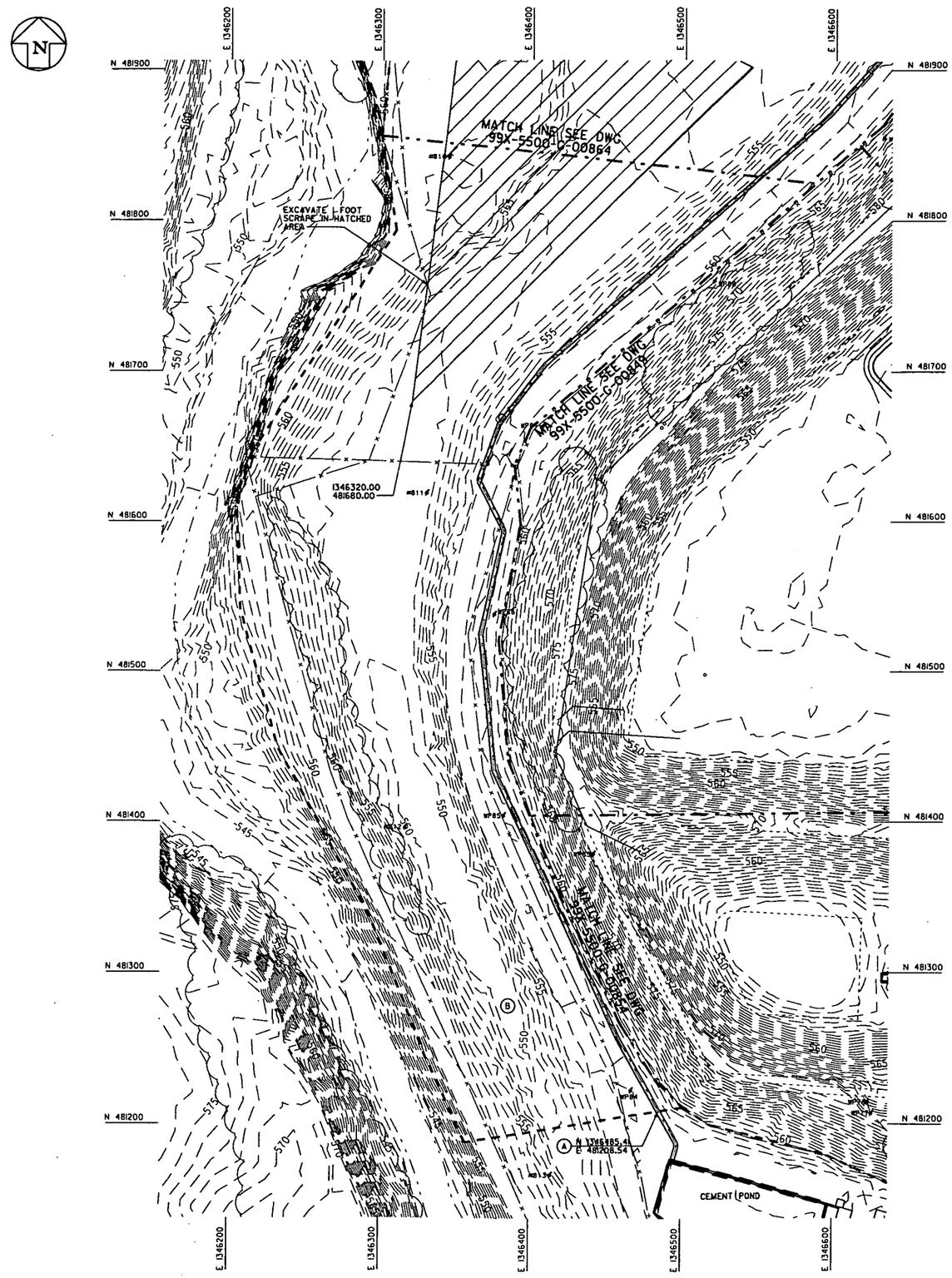
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREGG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SHEER	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	LINDA BARLOW	6/30/2005
INSTRUMENT			SECURITY		
MECHANICAL			OA	RICHARD SCHEFER	7/1/2005
			CONSTRUCTION	KEVIN HARDIN	6/30/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00864	G-17	0
AES PROJECT NO.	FILENAME 99xg0864.dgn			

FCPSAE.DGN 5/30/03

99xg0865 OSDF3 lind8392 10/05/2005 04:31:58 PM



0 15 30 75 150
SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. DRAIN EXCAVATIONS TO EXCAVATION CONSTRUCTION SUMP.

KEYED NOTES

(A) PRIOR TO REMOVING CONCRETE TRENCH, PLUG CONCRETE TRENCH APPROXIMATELY AT COORDINATES SHOWN.

(B) EXCAVATE CONSTRUCTION SUMP IN BOTTOM OF SWALE (FIELD LOCATE). PUMP WATER COLLECTED IN THE EXCAVATION CONSTRUCTION SUMP TO CEMENT POND.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
AREA WEST OF WASTE PITS GRADING PLAN (SOUTH)

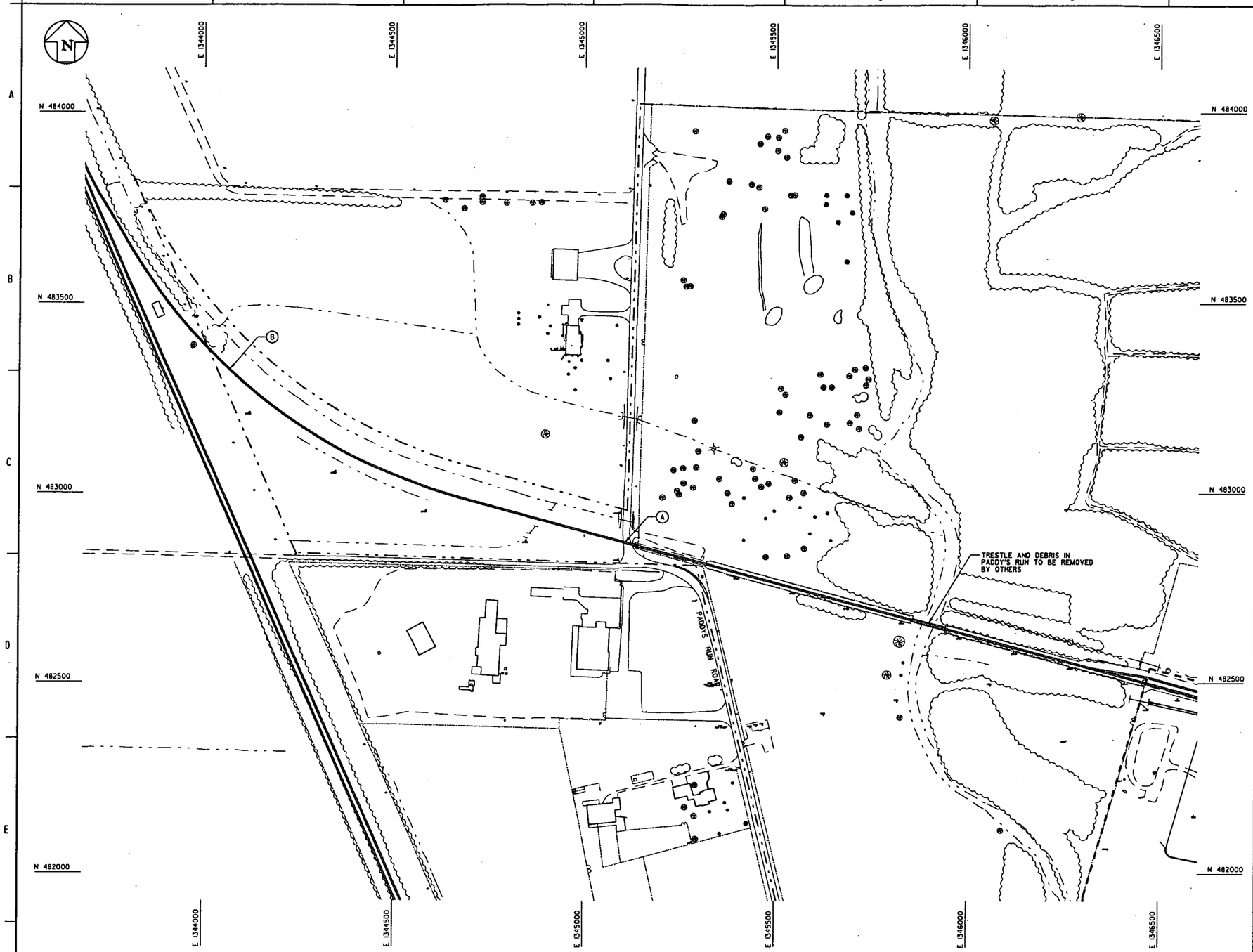
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREGG JOHNSON	7/6/2005
CIVIL & STR.	A.C. SNOCK	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DANE RUSSELL	6/30/2005	WAO	LINDA BARLOW	6/30/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEIVER	7/6/2005
			CONSTRUCTION	KEVIN BARRIER	6/30/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
RJAL LINDGREN	20600	99X-5500-G-00865	G-18	0
RES PROJECT NO.	FILENAME 99x00865.dgn			

FCPSAE.DGN 5/30/03

99xg0871 OSDF3 lind8392 10/05/2005 04:32:26 PM



GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

KEYED NOTES

(A) DO NOT REMOVE RAIL ACROSS ROADWAY.

(B) RELOCATE RAIL WHEEL STOP (SEE DWG 99X-5500-G-00860), AFTER COMPLETING RAIL REMOVAL FROM SITE.

F 6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
WESTERN RAILROAD SPUR

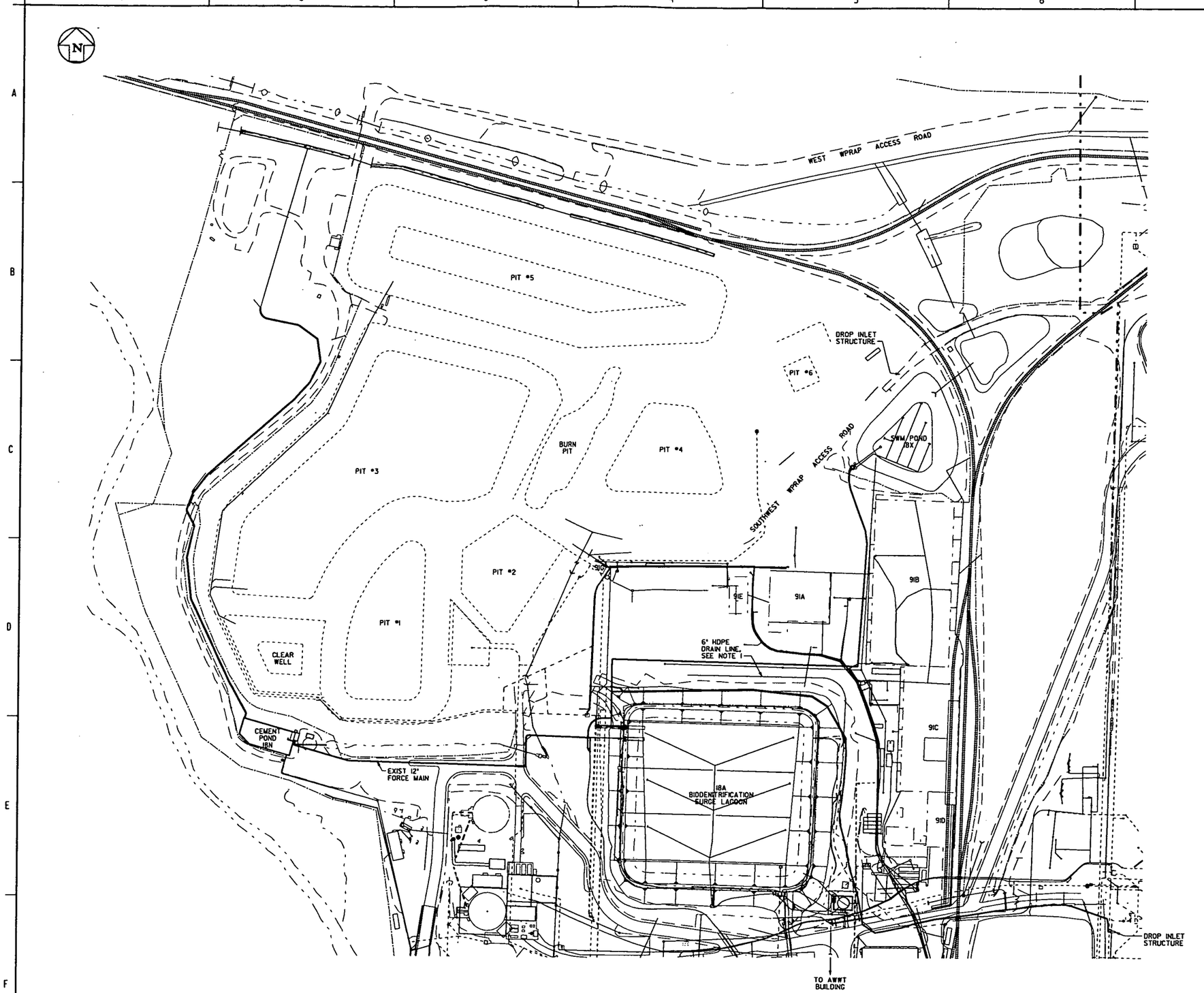
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SNEED	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DOE RUSSELL	6/30/2005	WAO		
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHUTCH	7/1/2005
			CONSTRUCTION	KEVIN HARDIN	6/30/2005
CHECKED	MIKE LOCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LOCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00871	G-19	0
RES PROJECT NO.	FILENAME 99xg0871.dgn			

FCPSAE.DGN 5/30/03

99xg0866 OSDF3 lind8392 10/05/2005 04:33:08 PM



SCALE: 1"=80'

0 40 80 200 400

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. PUMP SURFACE WATER COLLECTED IN THE BURN PIT, CLEARWELL, AND WASTE PITS TO THE CEMENT POND.
3. PUMP WATER COLLECTED IN CEMENT POND TO THE DROP INLET STRUCTURE (SEE DRAWING 99X-5500-F-00821).
4. PROTECT LINES USED TO DISCHARGE CEMENT POND TO DROP INLET STRUCTURE UNTIL CEMENT POND IS TAKEN OUT OF SERVICE.
5. UNTIL WASTE PIT MATERIAL HAS BEEN REMOVED FROM SITE AND DEMOLITION OF BUILDINGS 91B AND 91C IS COMPLETED, PUMP WATER COLLECTED IN SWM POND TO AWWT BUILDING FOR AWWT PHASE II OR CWWT TREATMENT.
6. DRAIN SWM POND OVERFLOW TO THE CEMENT POND VIA THE DITCH NORTH OF WASTE PIT 5 AND A CONCRETE TRENCH WEST OF THE WASTE PITS AREA.
7. PROTECT LINES USED TO DISCHARGE SWM POND UNTIL SWM POND IS TAKEN OUT OF SERVICE.
8. INSTALL SILT FENCE ADJACENT TO NORTHERN RAIL SPUR TO CONTROL RUNOFF INTO ADJACENT DITCHES.
9. PRIOR TO REMOVAL OF AWAC MATERIAL FROM BSL, PUMP WATER COLLECTED IN BSL TO AWWT BUILDING FOR AWWT PHASE II OR CWWT TREATMENT.
10. AFTER REMOVAL OF AWAC MATERIAL FROM BSL, PUMP WATER COLLECTED IN BSL TO DROP INLET STRUCTURE FOR AWWT PHASE I OR CWWT TREATMENT.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
SOIL REMEDIATION

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
DEWATERING PLAN (WEST)

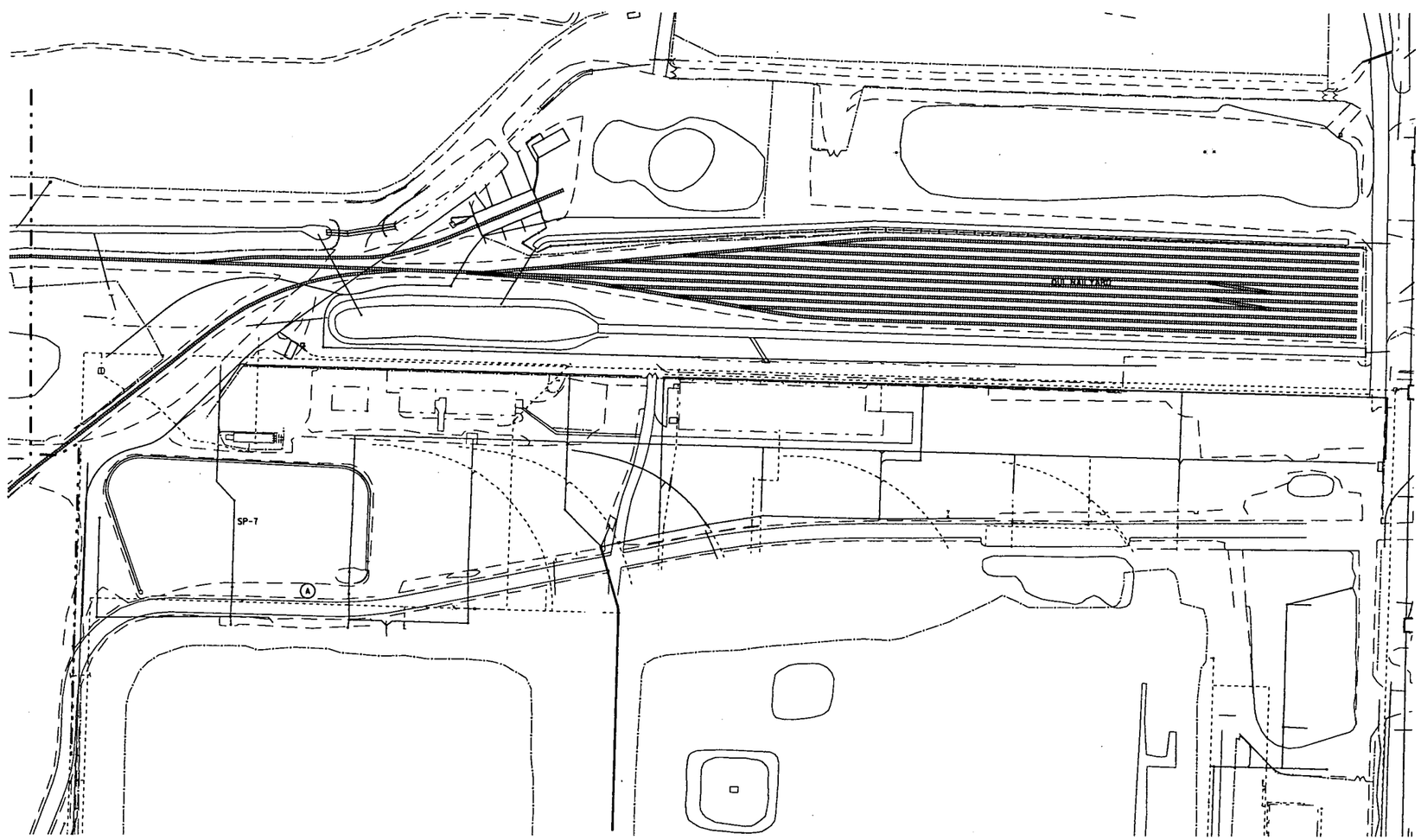
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/5/2005
CIVIL & STR.	A.C. SNIDER	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO		
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPCI	7/5/2005
			CONSTRUCTION	KEVIN BARBER	6/30/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDCREK	20600	99X-5500-G-00866	G-20	0
RES PROJECT NO.	FILENAME 99xg0866.dgn			

FCP5AE.DGN 5/30/03

99xg0867 OSDF3 lind8392 10/05/2005 04:33:49 PM



GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. INSTALL SILT FENCE AROUND OU1 RAILYARD TO CONTROL RUNOFF INTO ADJACENT DITCHES.

KEYED NOTES

(A) GRADE SP-7 STOCKPILE AREA TO DRAIN INTO DITCH SOUTH OF SP-7. PUMP WATER TO SWM POND (NOT SHOWN ON THIS DRAWING). KEEP DITCH FREE OF STANDING WATER. FROM STORM EVENT'S. AND GROUNDWATER INFILTRATION.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
DEWATERING PLAN (EAST)

APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SNIDER	6/23/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/23/2005	WAO		
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPER	7/1/2005
			CONSTRUCTION	FRED WILSON	7/1/2005
CHECKED	MIKE LUCKE	6/23/2005	CHARACTERIZATION	FRANK MILLER	6/23/2005
APPROVED	MIKE LUCKE	6/23/2005			

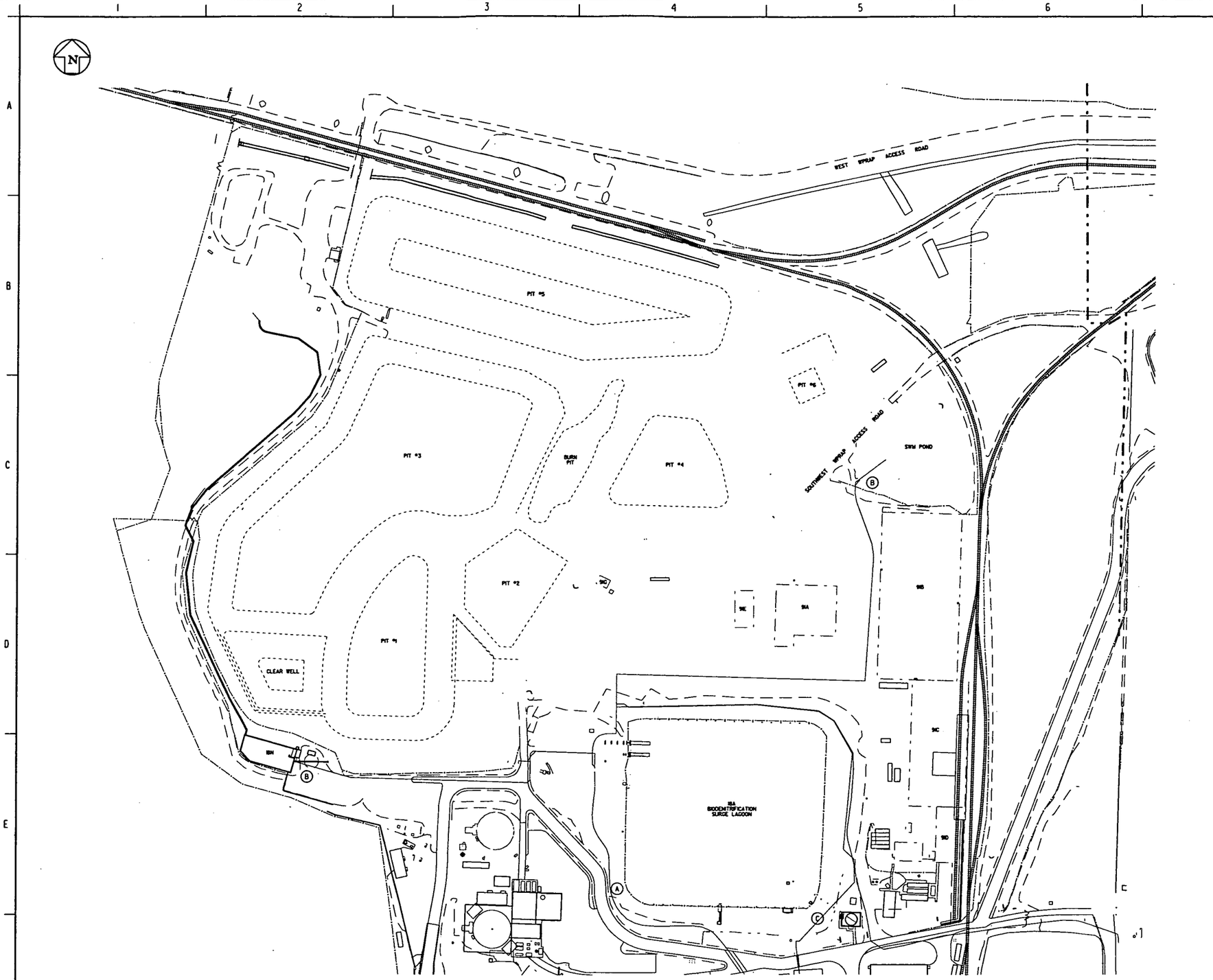
SCALE: 1"=80'

0 40 80 200 400
SCALE IN FEET

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20600	99X-5500-G-00867	G-21	0
RES PROJECT NO.	FILENAME 99xg0867.dgn			

FCPSAE.DGN 5/30/03

99xg0868 OSDF3 lind8392 10/05/2005 04:34:34 PM



SCALE: 1"=80'

0 40 80 200 400

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. VERIFY ISOLATION OF UTILITIES PRIOR TO EXCAVATION.
3. PERFORM EXCAVATION OF WASTE PIT 2 AND BURN PIT IN ACCORDANCE WITH PROJECT SPECIFIC PLAN FOR EXCAVATION CONTROL OF AREA 6 - WASTE PITS AND GENERAL AREA.
4. DO NOT REMOVE SWM POND LINER. UNDERDRAIN SYSTEM. PUMPING STATION. AND ASSOCIATEDUTILITIES UNTIL WASTE PIT MATERIAL HAS BEEN REMOVED FROM SITE. THIS INCLUDES MATERIAL IN BOTH BUILDINGS 91B AND 91C AND THE TEMPORARY OU1 STOCKPILE LOCATED TO THE WEST OF BUILDING 91B.
5. EXCAVATE UTILITIES BELOW DESIGN GRADE IN ACCORDANCE WITH DETAIL ON DRAWING 99X-5500-G-00870.
6. USE APPROPRIATE UTILITY GRID DRAWINGS AS LISTED ON DRAWING 99X-5500-X-00846 TO EXCAVATE UNDERGROUND UTILITIES.
7. AFTER RAIL OPERATIONS HAVE BEEN COMPLETED AT SITE. REMOVE RAILROAD TRACKS. HARDWARE. AND TIES THROUGHOUT AREA 6. DO NOT DAMAGE TRACKS AND HARDWARE AND TIES FROM THE OU1 RAILYARD. LOAD TIES FROM OU1 RAILYARD AND TRACKS AND HARDWARE THROUGHOUT AREA 6 ONTO RAILCARS FOR TRANSPORTATION TO OFF-SITE FACILITY FOR REUSE.
8. DISPOSE OF RAIL TIES OUTSIDE THE OU1 RAIL YARD IN THE OSDF.
9. PLACE BALLAST AND OTHER COARSE AGGREGATE MATERIAL FROM RAILYARD AND RAILLINES IN THE BALLAST HOLDING AREAS (SEE DRAWINGS 99X-5500-G-00861 AND 99X-5500-G-00863).

KEYED NOTES

(A) COORDINATE ENERGY ISOLATION OF FT-12" HDPE WITH WASTE WATER TREATMENT OPERATIONS (ROB KHEIP 648-3736).

(B) PROTECT PIPING USED TO DISCHARGE THE CEMENT POND AND SWM PONDS AS SHOWN ON THIS DRAWING AND DETAILED ON UNDERGROUND UTILITY GRIDS.

(C) PROTECT OVERHEAD 13.2 KV LINES AND ASSOCIATED UTILITY POLES AS LISTED ON DRAWING 99X-5500-G-00858.

3 6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RWL	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA) REMEDIATION PLAN (WEST)

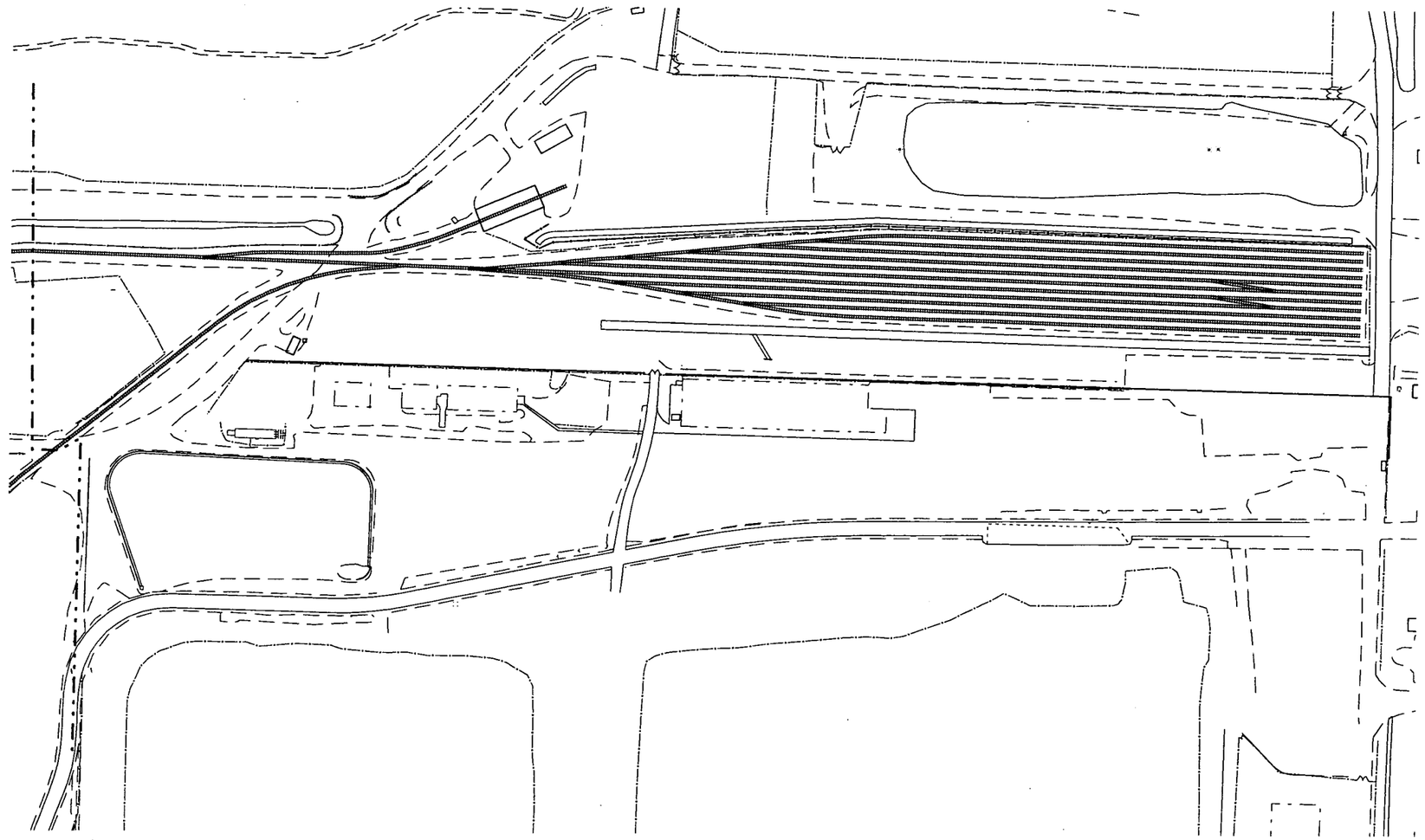
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	CHUCK JOHNSON	7/1/2005
CIVIL & STR.	A.C. SHECO	6/20/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DANE RUSSELL	6/20/2005	WAO		
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHUTZER	7/1/2005
			CONSTRUCTION	FRED WILSON	7/1/2005
CHECKED	MIKE LUCKE	6/20/2005	CHARACTERIZATION	FRANK HELLER	6/20/2005
APPROVED	MIKE LUCKE	6/20/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
RAIL LINDGREN	20600	99X-5500-G-00868	G-22	0
RES PROJECT NO.	FILENAME 99x00868.dgn			

FCPSAE.DGN 5/30/03

99xg0869 OSDF3 lind8392 10/05/2005 04:35:12 PM



SCALE: 1"=80'

0 40 80 200 400

SCALE IN FEET

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.
2. VERIFY ISOLATION OF UTILITIES PRIOR TO EXCAVATION.
3. EXCAVATE UTILITIES BELOW DESIGN GRADE IN ACCORDANCE WITH DETAIL ON DRAWING 99X-5500-G-00870.
4. USE APPROPRIATE UTILITY GRID DRAWINGS AS LISTED ON DRAWING 99X-5500-X-00846 TO EXCAVATE UNDERGROUND UTILITIES.
5. AFTER RAIL OPERATIONS HAVE BEEN COMPLETED AT SITE, REMOVE RAILROAD TRACKS, HARDWARE, AND TIES THROUGHOUT AREA 6. DO NOT DAMAGE TRACKS AND HARDWARE AND TIES FROM THE OU1 RAILYARD. LOAD TIES FROM OU1 RAILYARD AND TRACKS AND HARDWARE THROUGHOUT AREA 6 ONTO RAILCARS FOR TRANSPORTATION TO OFF-SITE FACILITY FOR REUSE.
6. DISPOSE OF RAIL TIES OUTSIDE THE OU1 RAIL YARD IN THE OSDF.
7. PLACE BALLAST AND OTHER COARSE AGGREGATE MATERIAL FROM RAILYARD AND RAILLINES IN THE BALLAST HOLDING AREAS (SEE DRAWINGS 99X-5500-G-00861 AND 99X-5500-G-00863).

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA) REMEDIATION PLAN (EAST)

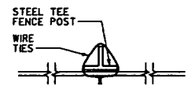
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREGG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SNIDER	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	LINDA BARLOW	6/30/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEIFER	7/1/2005
			CONSTRUCTION	KEVIN HARDIN	6/30/2005
CHECKED	MIKE LUCKE	6/30/2005	CHARACTERIZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LUCKE	6/30/2005			

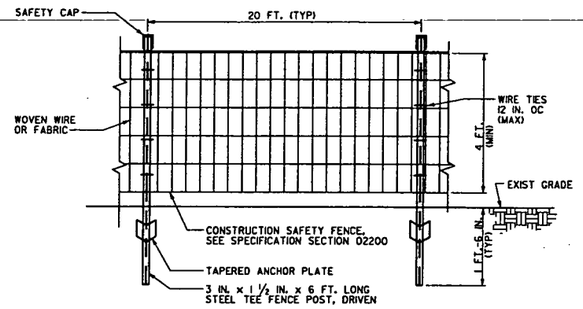
DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.J.M. LINDGREN	20600	99X-5500-G-00869	G-23	0
RES PROJECT NO.	FILENAME 99xg0869.dgn			

FCPSAE.DGN 5/30/03

99xg0870 OSDF3 lind8392 10/05/2005 04:35:58 PM



PLAN



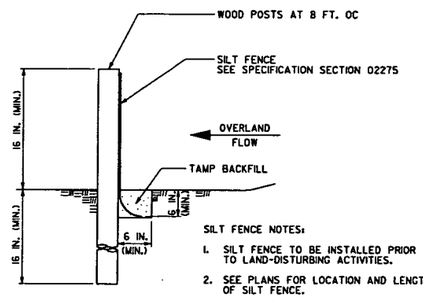
ELEVATION

NOTE:

INSTALL SAFETY CAPS ON T-POSTS THAT ARE LESS THAN 4 FEET IN HEIGHT ABOVE-GRADE.

CONSTRUCTION SAFETY FENCE DETAIL

NTS



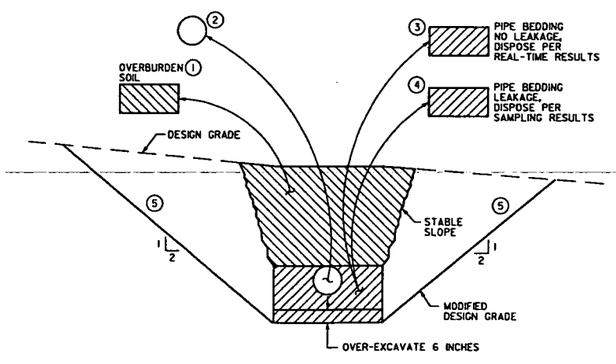
SILT FENCE NOTES:

1. SILT FENCE TO BE INSTALLED PRIOR TO LAND-DISTURBING ACTIVITIES.
2. SEE PLANS FOR LOCATION AND LENGTH OF SILT FENCE.
3. WOOD POSTS SHALL BE 2 IN. X 2 IN. (MIN.) OF OAK OR SIMILAR HARDWOOD.
4. BACKFILL MATERIAL IN ACCORDANCE WITH SPECIFICATION SECTION 02200.

SILT FENCE DETAIL

NTS

UTILITY TRENCH CONTROL POINTS			
PT NO.	NORTHING	EASTING	ELEV.
1	481705.7	1348432.5	576.1
2	481752.9	1348499.3	576.5
3	481755.4	1348592.2	577.0
4	481756.7	1348643.2	576.0
5	481758.1	1348692.5	577.0
6	481762.0	1348849.5	577.0
7	481762.1	1348858.5	578.0
8	481776.0	1348906.9	578.0
9	481784.8	1348906.7	579.0
10	481785.8	1348921.0	579.0
11	481785.2	1348963.6	578.0
12	481784.8	1348981.8	577.0
13	481784.8	1349006.6	577.0
14	481784.5	1349030.4	576.0
15	481792.8	1349071.2	577.0
16	481798.2	1349086.0	577.0
17	481804.3	1349109.5	576.0
18	481803.9	1349122.4	575.0
19	481803.3	1349154.0	574.0
20	481802.7	1349185.7	573.3
21	481804.8	1349201.7	574.0
22	481805.9	1349204.2	575.0
23	481806.8	1349206.7	576.0
24	481515.9	1349134.8	577.0
25	481526.9	1349170.9	577.0
26	481529.1	1349178.6	576.0
27	481531.6	1349185.7	575.0
28	481537.9	1349206.9	577.0



1. EXCAVATE OVERBURDEN SOIL FROM ABOVE THE PIPE (SEE NOTE 1) AND DISPOSE OF IN ACCORDANCE WITH TECHNICAL SPECIFICATION SECTION 02205. SEE LATEST REVISION OF UNDERGROUND UTILITY GRID DRAWINGS FOR LOCATIONS AND ELEVATIONS OF UTILITIES.
2. EXCAVATE THE PIPE AND PERFORM A VISUAL INSPECTION OF THE PIPE. PIPE FREE OF VISIBLE PROCESS RESIDUE SHALL BE DISPOSED OF IN ACCORDANCE WITH SPECIFICATION SECTION 02205. DISPOSE OF PROCESS PIPE THAT IS DEFORMED, CLOSED OR OTHERWISE HINDERS VISUAL INSPECTION, OR CANNOT BE CLEANED OF VISIBLE PROCESS RESIDUE, AS ABOVE-WAC DEBRIS IN ACCORDANCE WITH SPECIFICATION SECTION 02205.
3. IF PIPE BEDDING SHOWS NO VISIBLE SIGNS OF PIPE LEAKAGE:
   1. PERFORM REAL-TIME MONITORING OF THE PIPE BEDDING IN THE TRENCH USING EMS OR ADJACENT TO THE TRENCH USING THE HPGE TRI-POD ON CIRCULAR SOIL PADS.
   2. EXCAVATE PIPE BEDDING, AND OVER-EXCAVATE 6 INCHES BELOW THE PIPE BEDDING.
   3. MANAGE MATERIAL BASED ON THE RESULTS OF REAL-TIME MONITORING, IN ACCORDANCE WITH SPECIFICATION SECTION 02205.
4. IF PIPE BEDDING SHOWS VISIBLE SIGNS OF PIPE LEAKAGE:
   1. PERFORM PHYSICAL SAMPLING OF THE PIPE BEDDING.
   2. EXCAVATE PIPE BEDDING, AND OVER-EXCAVATE 6 INCHES BELOW THE PIPE BEDDING, OR AS NECESSARY TO REMOVE VISIBLE SIGNS OF PIPE LEAKAGE.
   3. MANAGE MATERIAL BASED ON SAMPLING RESULTS, IN ACCORDANCE WITH TECHNICAL SPECIFICATION SECTION 02205.
5. EXCAVATE SIDE SLOPES NO STEEPER THAN 2H:1V TO STABILIZE EXCAVATED UTILITY TRENCHES AND TO PROVIDE A MODIFIED DESIGN GRADE. DISPOSE OF EXCAVATED MATERIAL IN ACCORDANCE WITH SPECIFICATION SECTION 02205.

NOTES:

1. THE TERM 'PIPE' IS USED AS A GENERIC REFERENCE TO UNDERGROUND UTILITIES.

EXCAVATION OF UTILITIES BELOW DESIGN GRADE

NTS

GENERAL NOTES

1. FOR LEGEND AND GENERAL NOTES SEE DRAWING 99X-5500-X-00847.

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	7/5/05	RML	GEP

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

SOIL REMEDIATION

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
CIVIL DETAILS

APPROVALS

COGNIZANT ENG.			SAFETY ENG.	GREG JOHNSON	7/1/2005
CIVIL & STR.	A.C. SNIDER	6/30/2005	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER	DAVE RUSSELL	6/30/2005	WAO	LINDA BARLOW	6/30/2005
INSTRUMENT			SECURITY		
MECHANICAL			QA	RICHARD SCHEPCK	7/1/2005
			CONSTRUCTION	STEVE HARDIN	6/30/2005
CHECKED	MIKE LOCKE	6/30/2005	CHARACTERZATION	FRANK MILLER	6/30/2005
APPROVED	MIKE LOCKE	6/30/2005			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDCREK	70600	99X-5500-G-00870	G-24	0
RES PROJECT NO.	FILENAME 99xg0870.dgn			

FCPSAE.DGN 5/30/03

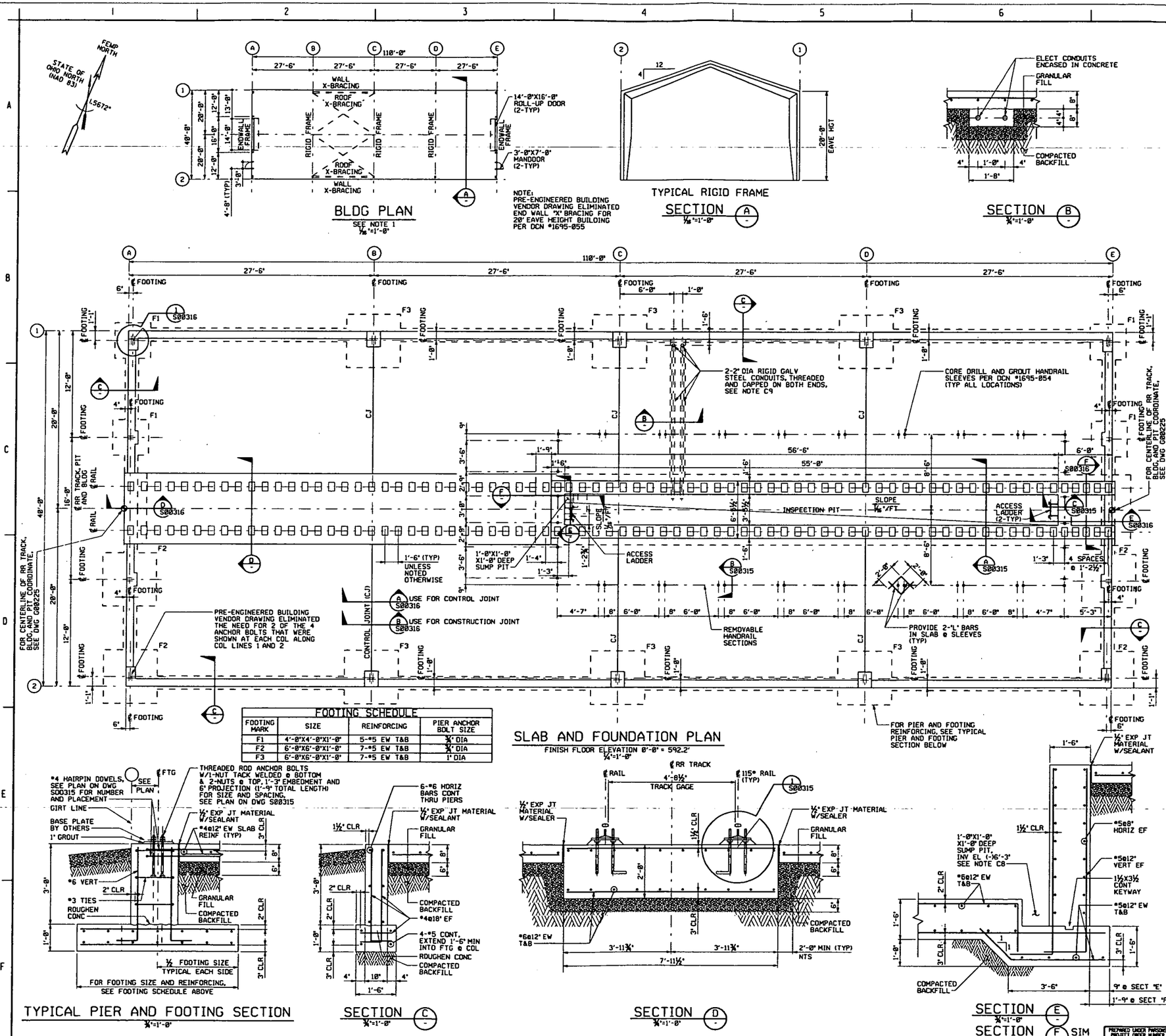
6042

AREA 6 WASTE PITS AND GENERAL AREA

UTILITY GRID AND TECHNICAL REFERENCE DRAWING PACKAGE

FOR 20600

91s00314 CADD11 rabb7064 04/08/2005 09:46:59 AM



FOOTING SCHEDULE			
FOOTING MARK	SIZE	REINFORCING	PIER ANCHOR BOLT SIZE
F1	4'-0"X4'-0"X1'-0"	5-#5 EW T&B	¾" DIA
F2	6'-0"X6'-0"X1'-0"	7-#5 EW T&B	¾" DIA
F3	6'-0"X6'-0"X1'-0"	7-#5 EW T&B	1" DIA

NOTES

1. SLAB AND FOUNDATION PLAN SHOWN ON THIS DRAWING WAS DESIGNED USING BUTLER PRE-ENGINEERED BUILDING INFORMATION AS SHOWN ON BLDG PLAN AND SECTION "A" ON THIS DRAWING.
2. THE SITE RAIL SYSTEM IMPROVEMENT - LOCOMOTIVE MAINTENANCE FACILITY PACKAGE CONSISTS OF THE FOLLOWING DRAWINGS:

DRAWING NUMBER	DRAWING DESCRIPTION
91X-5900-S-00314	STRUCTURAL (DESIGN DRAWING) SLAB AND FOUNDATION PLAN LOCOMOTIVE MAINTENANCE FACILITY
91X-5900-S-00315	STRUCTURAL (DESIGN DRAWING) PLAN, SECTIONS, AND DETAILS LOCOMOTIVE MAINTENANCE FACILITY
91X-5900-S-00316	STRUCTURAL (DESIGN DRAWING) SECTIONS AND DETAILS LOCOMOTIVE MAINTENANCE FACILITY
7087-1-01	DELTA STEEL (SHOP DRAWING) FOUNDATION PLAN AND DETAILS
7087-1-02	DELTA STEEL (SHOP DRAWING) FOUNDATION AND SLAB PLAN
7087-1-03	DELTA STEEL (SHOP DRAWING) LOCOMOTIVE PIT PLAN, SECTIONS, AND DETAILS

GENERAL CONCRETE NOTES

C1. DESIGN, MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 03001.

C2. CONCRETE FOR SLAB ON GRADE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. CONCRETE FOR FOUNDATIONS AND INSPECTION PIT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.

C3. REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A-615, GRADE 60.

C4. FOUNDATION DESIGN IS BASED ON ASSUMED NET SOIL BEARING PRESSURE ALLOWABLE OF 2500 PSF. SITE SPECIFIC GEOLOGICAL INVESTIGATION WAS NOT PERFORMED. IF ANY SOFT, WET, ORGANIC OR LOOSE SOIL OR ANY OLD FILL IS ENCOUNTERED, FDF SHALL BE INFORMED AND THE CONDITIONS RESOLVED BEFORE CONTINUATION OF CONCRETE WORK.
FILL MATERIAL UNDER AREA OF CONSTRUCTION SHALL BE PER SPECIFICATION SECTION 02200 AND COMPACTED TO 98% MDD AS DETERMINED BY ASTM D698 WITH ±3 OF OMC.
GRANULAR FILL MATERIAL SHALL CONFORM TO ODOT 304 COMPACTED TO 95% OF MDD AS DETERMINED BY ASTM D698 WITH ±3 OF OMC.

C5. ANCHOR BOLTS FOR PRE-ENGINEERED BUILDING COLUMNS AS SHOWN WERE DETERMINED USING BUTLER BUILDING CATALOG INFORMATION. FOUNDATION SIZE AND ANCHOR BOLT LOCATIONS SHALL BE MATCHED BY SELECTED PRE-ENGINEERED BUILDING VENDOR.

C6. HOLD PLAN DIMENSION OF CONCRETE FOUNDATION +¼", -0" FOR ANCHOR BOLT EDGE DISTANCE REQUIREMENTS.

C7. ELEVATION 0'-0" EQUALS MEAN SEA ELEVATION 592.2'.

C8. SUMP TO BE MANUALLY DRAINED WITH A PORTABLE SUMP PUMP AS REQUIRED.

C9. INSTALL EMBEDDED CONDUITS SUCH THAT CONDUIT ENDS EXTEND NO LESS THAN 6 INCHES AND NO GREATER THAN 12 INCHES ABOVE FINISHED CONCRETE SURFACES.

REF DWG NO.	DRAWING TITLE
91X-5900-S-00315	PLAN, SECTIONS, AND DETAILS
91X-5900-S-00316	SECTIONS AND DETAILS
91X-5900-G-00225	RAIL SITE PLAN AND PROFILE - SHEET 3 OF 7

60 42

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E INITIALS	FERNCO INITIALS	DATE
1	ISSUED "AS-BUILT", INCORPORATES FDF DCN #1695-054 AND 055	PF	N/A	01/29/98
0	CERTIFIED FOR CONSTRUCTION	MHB	N/A	05/02/97

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
SITE RAIL SYSTEM IMPROVEMENTS

DRAWING TITLE
STRUCTURAL
SLAB AND FOUNDATION PLAN
LOCOMOTIVE MAINTENANCE FACILITY

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
K.L. RABBITT	02/26/97	R.B. JADHAV	05/02/97	C.V. CHAR	03/18/97

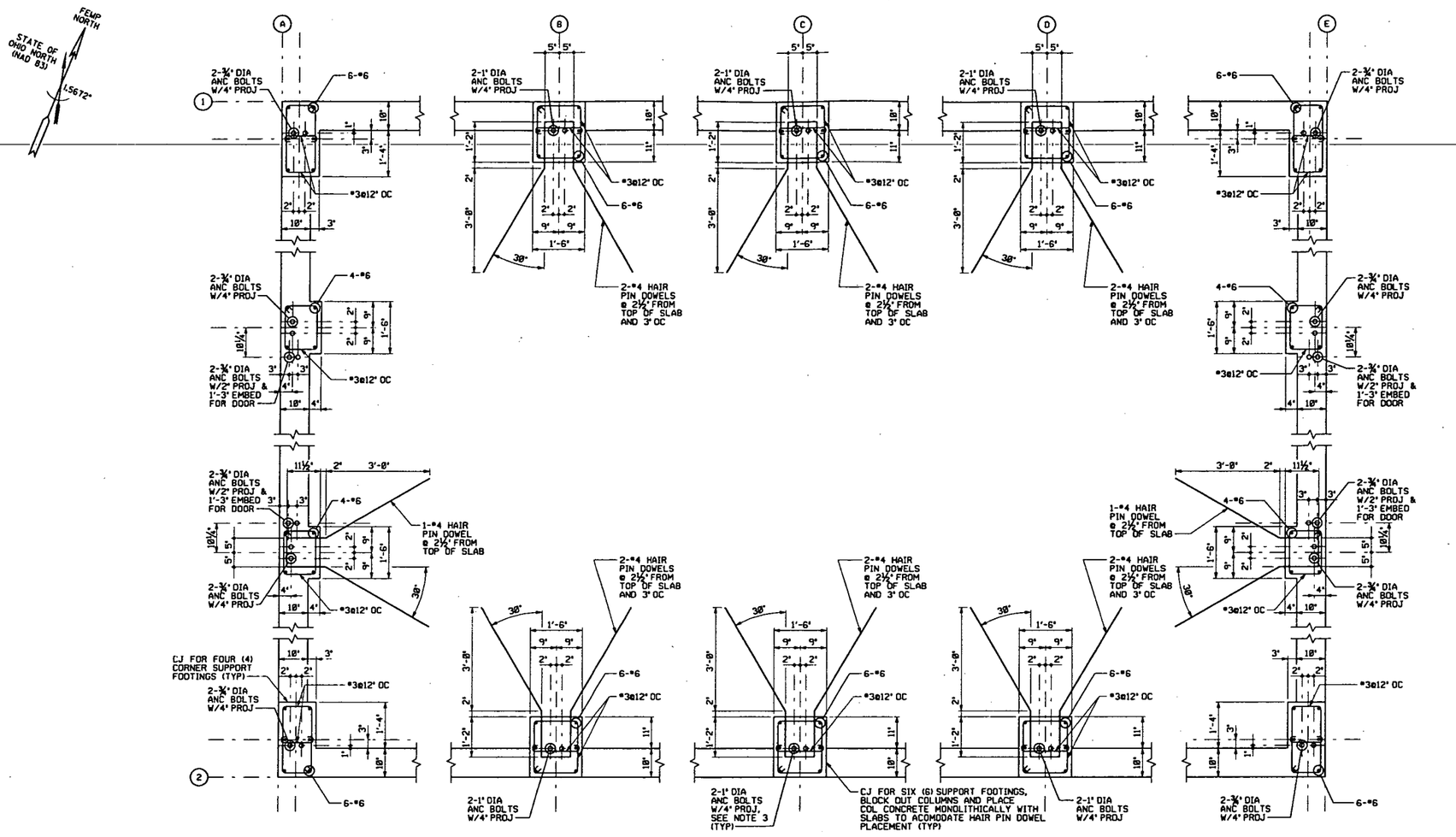
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		AS NOTED	

SUBMITTED FOR APPROVAL	FERNCO CRU APPROVAL	FERNCO PROJECT NO.
M.H. BOWERS 05/02/97	N/A	10200

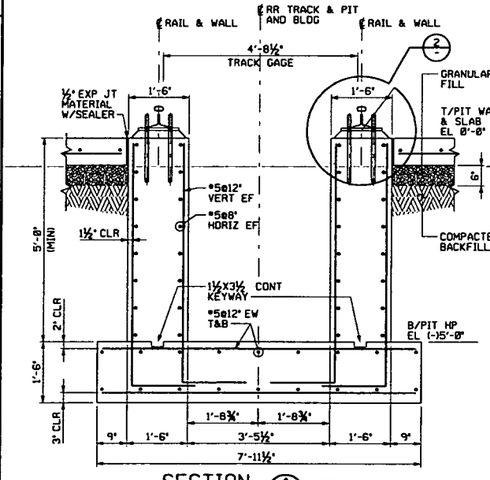
A-E DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.1.3.1 00-9070I	91X-5900-S-00314	S0001	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
WPRAP/P0167

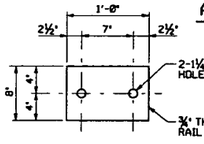
91s00315 CADD11 rabb7064 04/08/2005 09:47:47 AM



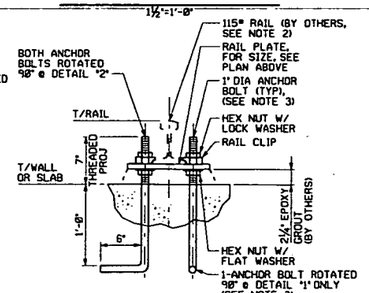
ANCHOR BOLT AND PIER REINFORCING PLAN
¾"=1'-0"



SECTION A REF S00315 S00314
¾"=1'-0"

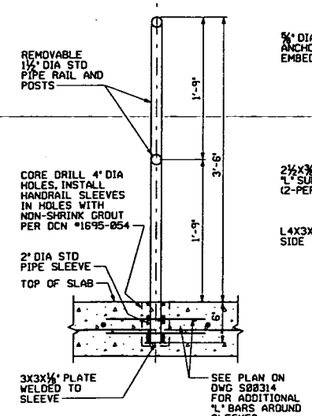


PLAN - RAIL PLATE
1½"=1'-0"

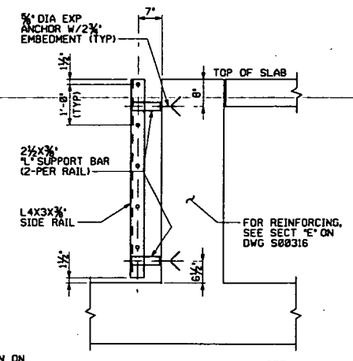


DETAIL 1 REF S00315 S00314
1½"=1'-0"

DETAIL 2 SIM
1½"=1'-0"

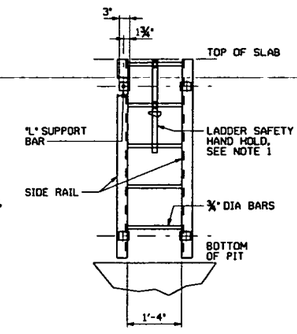


SECTION B REF S00315 S00314
1½"=1'-0"



NOTE:
LADDER FABRICATED PER CITYWIDE WELDING AND FAB CO DWG #CW-103-1

SECTION C REF S00315 S00314
ACCESS LADDER
¾"=1'-0"



ELEVATION
ACCESS LADDER
¾"=1'-0"

NOTES

1. LADDER SAFETY HAND HOLD, MODEL NO. 8135T31, AS MANUFACTURED BY McMASTER-CARR SUPPLY COMPANY, P.O. BOX 740100, ATLANTA, GA., 30374-0100. PROVIDES CLIMBING HAND HOLD ON FIXED AND PERMANENTLY MOUNTED LADDERS. A SPRING BALANCING MECHANISM CONTROLS TELESCOPING. AFTER MECHANISM IS ENGAGED, POST IS RAISED TO FULL OPEN POSITION WHERE IT LOCKS AUTOMATICALLY. A RELEASE LEVER ALLOWS IT TO BE LOWERED. INCLUDES FOUR BOLTS FOR SECURING TO TOP TWO LADDER RUNGS. INSTALL HAND HOLD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. SUBCONTRACTOR SHALL EMBED ANCHOR BOLTS AND FURNISH RAIL PLATES, RAIL CLIPS, WASHERS, AND HEX NUTS AT LOCATIONS SHOWN, MATERIAL TO CONFORM TO SPECIFICATION 02452 (SITE RAIL SYSTEM IMPROVEMENTS). EPOXY GROUT, RAIL, AND MOUNTING WILL BE DONE BY OTHERS.
3. USE TEMPLATE TO SET ANCHOR BOLTS FOR BUILDING COLUMNS AND RAIL PLATE ANCHORS

REF DWG NO.	DRAWING TITLE
91X-5900-S-00314	SLAB AND FOUNDATION PLAN
91X-5900-S-00316	SECTIONS AND DETAILS

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERNCO	DATE
1	ISSUED "AS-BUILT", INCORPORATES FDF DCN #1695-054 AND 055	PF	N/A	01/29/98
0	CERTIFIED FOR CONSTRUCTION	MHB	N/A	05/02/97

INITIALS AND DATE

UNITED STATES
DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
SITE RAIL SYSTEM IMPROVEMENT

DRAWING TITLE
STRUCTURAL
PLAN, SECTIONS, AND DETAILS
LOCOMOTIVE MAINTENANCE FACILITY

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
K.L. RABBITT	03/03/97	R.B. JADHAV	05/02/97	C.V. CHAR	03/13/97

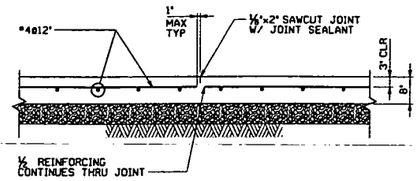
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		AS NOTED	

SUBMITTED FOR APPROVAL	FERNCO CRU APPROVAL	FERNCO PROJECT NO.
M.H. BOWERS 05/02/97	N/A	10200

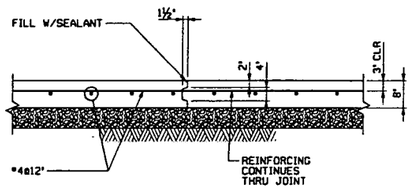
A-E DOE PROJECT NO.	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
WPRAP/P0167	WBS 1.1.1.1.1.3.1 00-9070I	91X-5900-S-00315	S0002	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER

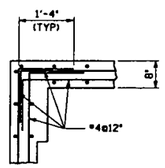
91s00316 CADD11 rabb7064 04/08/2005 09:48:20 AM



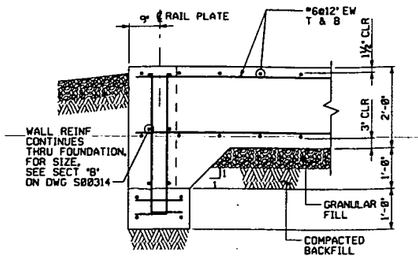
SECTION (A) REF S00316 S00314
CONTROL JT
3/4"=1'-0"



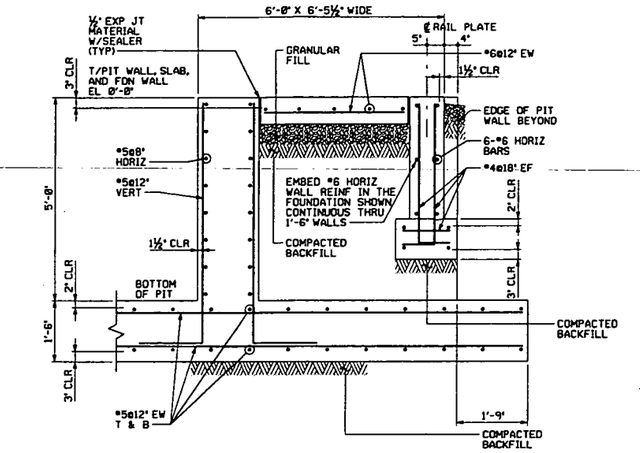
SECTION (B) REF S00316 S00314
CONSTR JT
3/4"=1'-0"



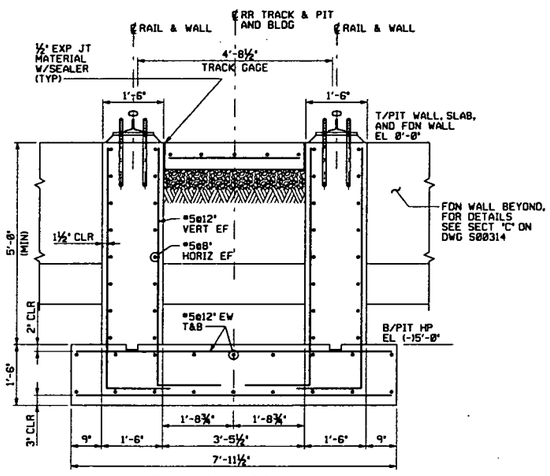
TYP CORNER REINFORCING
DETAIL (1) REF S00316 S00314
3/4"=1'-0"



SECTION (D) REF S00316 S00314
3/4"=1'-0"



SECTION (E) REF S00316 S00314
3/4"=1'-0"



SECTION (F) REF S00316 S00314
3/4"=1'-0"

NOTES

1. FOR GENERAL CONCRETE NOTES, SEE DRAWING 91X-5900-S-00314.

REF DWG NO.	DRAWING TITLE
91X-5900-S-00314	SLAB AND FOUNDATION PLAN

6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	FERNCO	DATE
1	ISSUED "AS-BUILT" PER FDF MARK-UP	PF	N/A	01/29/98
0	CERTIFIED FOR CONSTRUCTION	MHB	N/A	05/02/97

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - PARSONS MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
SITE RAIL SYSTEM IMPROVEMENTS

DRAWING TITLE
STRUCTURAL
SECTIONS AND DETAILS
LOCOMOTIVE MAINTENANCE FACILITY

DRAWN BY	DATE	LEAD ENGINEER	DATE	CHECKED BY	DATE
K.L. RABBITT	03/11/97	R.B. JAGNAV	05/02/97	C.Y. CHAR	03/18/97

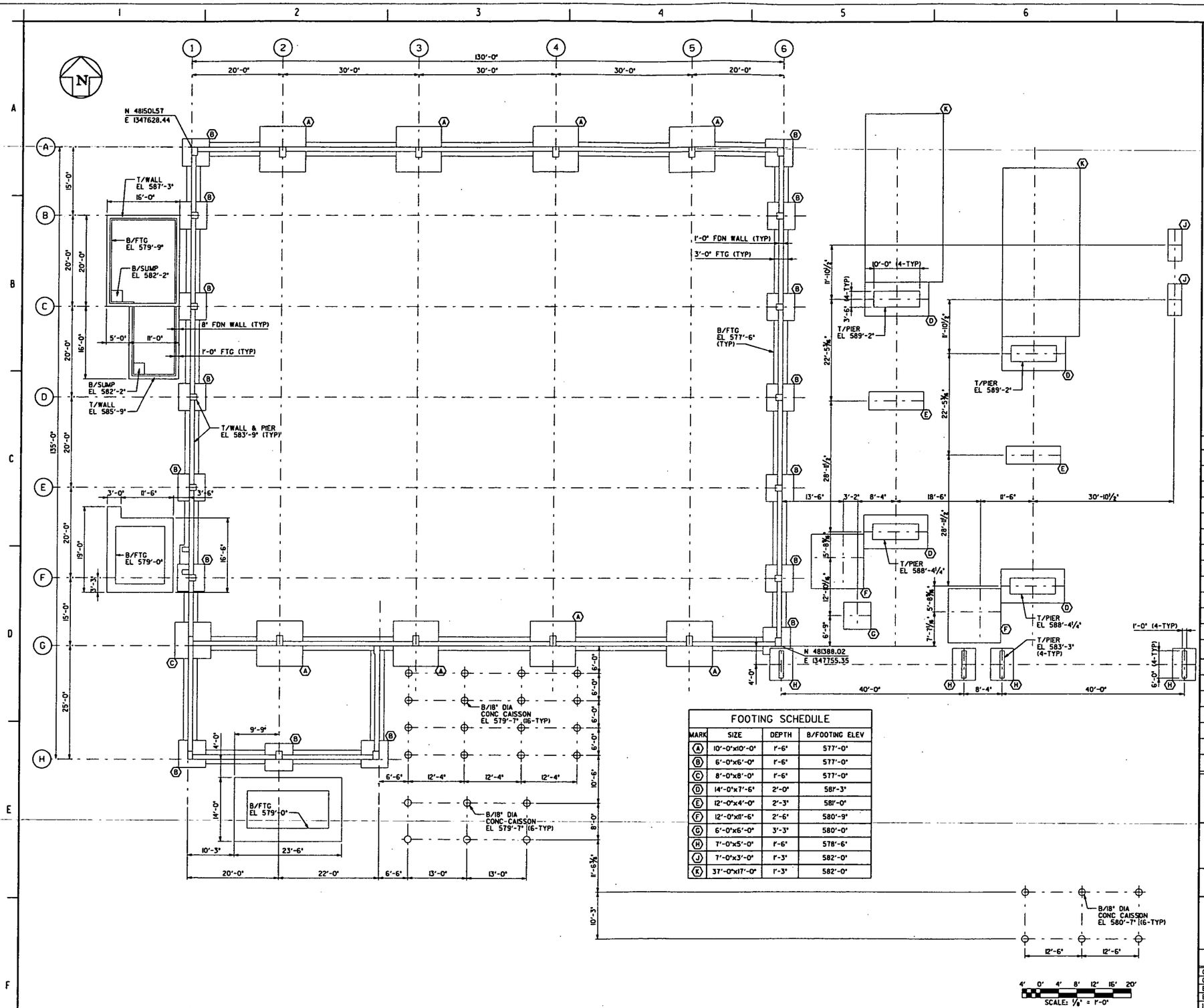
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		AS NOTED	

SUBMITTED FOR APPROVAL	FERNCO CRU APPROVAL	FERNCO PROJECT NO.
M.H. BOWERS 05/02/97	N/A	10200

A-E DOE PROJECT NO.	DATE	FEMP PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
		WBS 1.1.1.1.1.3.1 00-9070I	91X-5900-S-00316	S0003	1

PREPARED UNDER PARSONS PROJECT ORDER NUMBER
WPRAP/P0167

99xs0873 CADD11 rabb7064 04/11/2005 11:14:16 AM



PRELIMINARY
NOT FOR CONSTRUCTION

FOOTING SCHEDULE

MARK	SIZE	DEPTH	B/FOOTING ELEV
A	10'-0"x10'-0"	1'-6"	577'-0"
B	6'-0"x6'-0"	1'-6"	577'-0"
C	8'-0"x8'-0"	1'-6"	577'-0"
D	14'-0"x7'-6"	2'-0"	581'-3"
E	12'-0"x4'-0"	2'-3"	581'-0"
F	12'-0"x11'-6"	2'-6"	580'-9"
G	6'-0"x6'-0"	3'-3"	580'-0"
H	7'-0"x5'-0"	1'-6"	578'-6"
J	7'-0"x3'-0"	1'-3"	582'-0"
K	37'-0"x17'-0"	1'-3"	582'-0"

REF DWG NO.	DRAWING TITLE
M-00-81-016	FLOOR SLAB DRAINAGE AND CONTROL JOINT PLAN AND DETAILS
M-00-81-111	FLOOR SLAB /COLUMN FDN PLAN
M-00-81-013	BUILDING COLUMN FOUNDATION DETAILS
M-00-81-015	FLOOR SLAB SECTIONS AND DETAILS
M-10-81-001	DRYER FOUNDATIONS SECTIONS AND DETAILS
M-00-81-002	FOUNDATION LOCATION PLAN
M-10-81-002	DRYER FOUNDATIONS AND FEED CONVEYOR BENTS FOUNDATION - PLANS AND SECTIONS
M-10-81-003	DRYER AREA DRAINAGE PLAN
M-00-81-005	MISCELLANEOUS EQUIPMENT FOUNDATIONS PLANS AND SECTIONS - SHT 1 OF 3
M-00-81-006	MISCELLANEOUS EQUIPMENT FOUNDATIONS PLANS AND SECTIONS - SHT 2 OF 3
M-00-81-007	MISCELLANEOUS EQUIPMENT FOUNDATIONS PLANS AND SECTIONS - SHT 3 OF 3

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
GCS/WTS BUILDING 91A
FOUNDATION PLAN

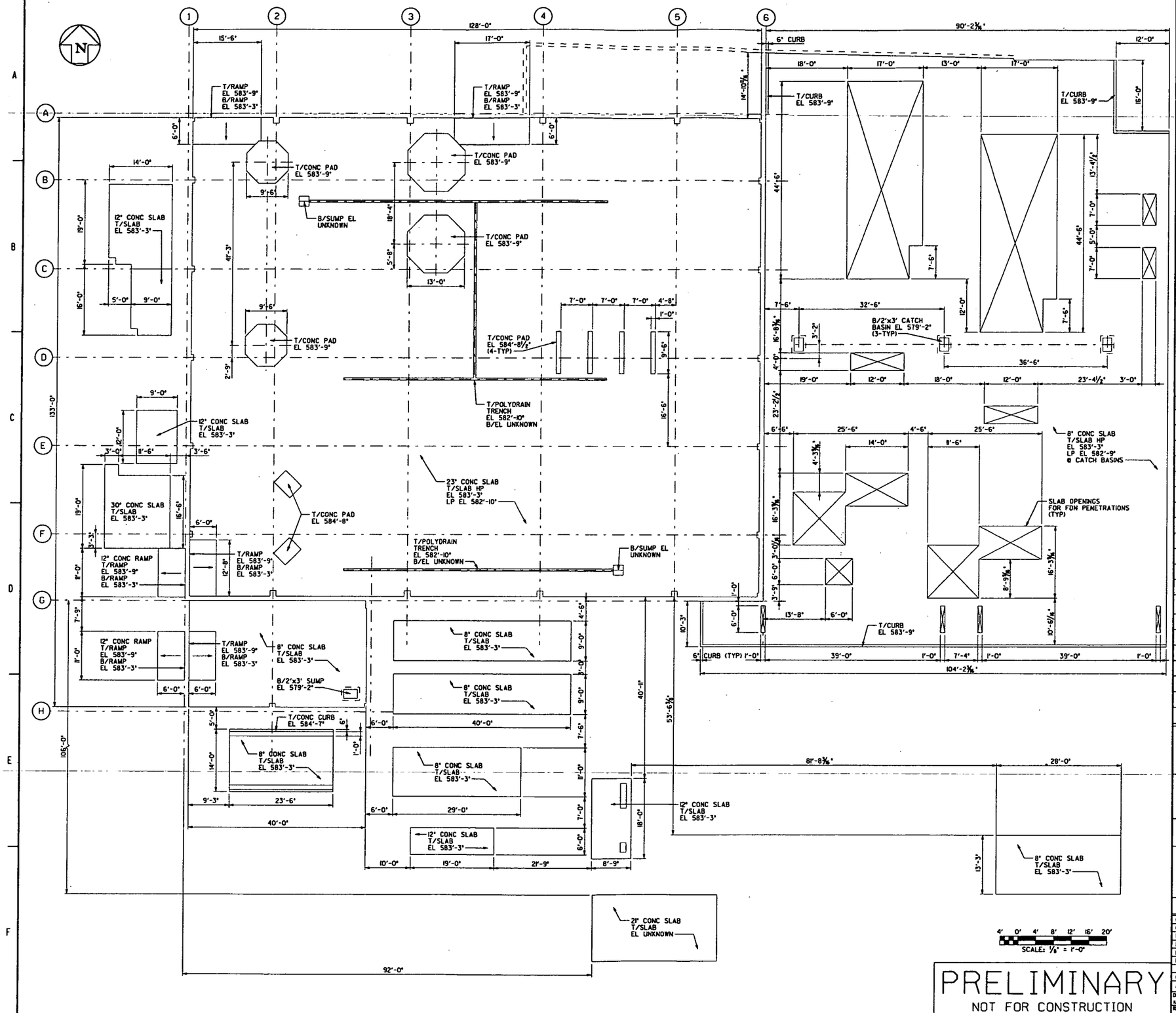
APPROVALS

COGNIZANT ENG.			SAFETY ENG.		
CIVIL & STR.			MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER			WASTE MANAGE		
INSTRUMENT			SECURITY		
MECHANICAL			QA		
			CONSTRUCTION		
CHECKED					
APPROVED					

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
K.L. RABBITT	20600	99X-5500-S-00873	S-4	A
RES PROJECT NO.	FILENAME 99xs0873.dgn			

FCPSAE.DGN 5/30/03

99xs0874 CADD11 rabb7064 04/11/2005 11:14:57 AM



PRELIMINARY
NOT FOR CONSTRUCTION

60 42

REF DWG NO.	DRAWING TITLE
M-00-81-016	FLOOR SLAB DRAINAGE AND CONTROL JOINT PLAN AND DETAILS
M-00-81-111	FLOOR SLAB /COLUMN FDN PLAN
M-00-81-013	BUILDING COLUMN FOUNDATION DETAILS
M-00-81-015	FLOOR SLAB SECTIONS AND DETAILS
M-10-81-001	DRYER FOUNDATIONS SECTIONS AND DETAILS
M-00-81-002	FOUNDATION LOCATION PLAN
M-10-81-002	DRYER FOUNDATIONS AND FEED CONVEYOR BENTS FOUNDATION - PLANS AND SECTIONS
M-10-81-003	DRYER AREA DRAINAGE PLAN
M-00-81-005	MISCELLANEOUS EQUIPMENT FOUNDATIONS PLANS AND SECTIONS - SHT 1 OF 3
M-00-81-006	MISCELLANEOUS EQUIPMENT FOUNDATIONS PLANS AND SECTIONS - SHT 2 OF 3
M-00-81-007	MISCELLANEOUS EQUIPMENT FOUNDATIONS PLANS AND SECTIONS - SHT 3 OF 3

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
GCS/WTS BUILDING 91A
SLAB PLAN

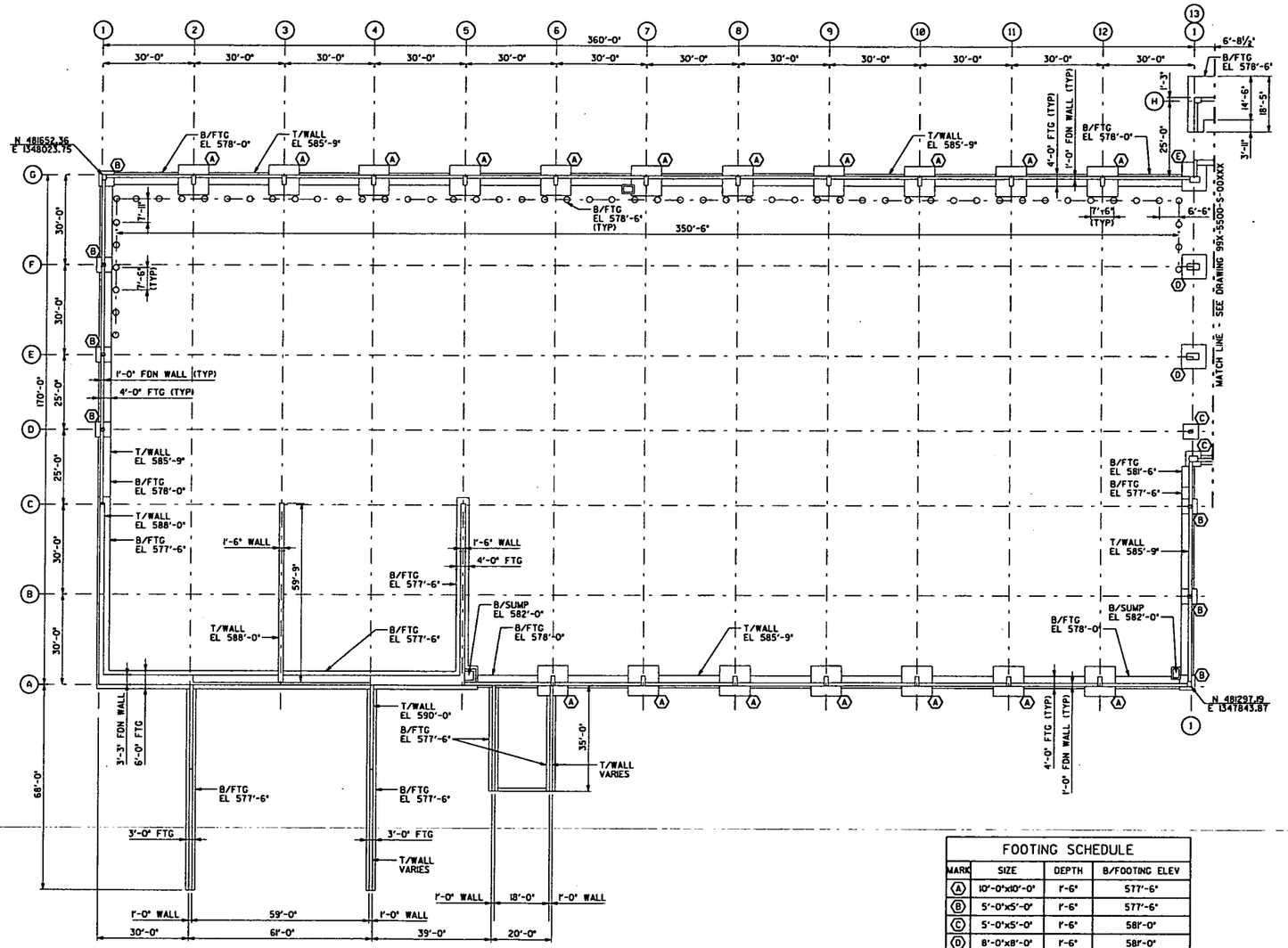
APPROVALS

COGNIZANT ENG.			SAFETY ENG.		
CIVIL & STR.			MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER			WASTE MANAGE		
INSTRUMENT			SECURITY		
MECHANICAL			QA		
			CONSTRUCTION		
CHECKED					
APPROVED					

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.L. RABBITT	20600	99X-5500-S-00874	S-5	A
RES PROJECT NO.	FILENAME 99xs0874.dgn			

FCPSAE.DGN 5/30/03

99xs0875 CADD11 rabb7064 04/11/2005 11:15:34 AM



FOOTING SCHEDULE			
MARK	SIZE	DEPTH	B/FOOTING ELEV
A	10'-0"x10'-0"	1'-6"	577'-6"
B	5'-0"x5'-0"	1'-6"	577'-6"
C	5'-0"x5'-0"	1'-6"	581'-0"
D	8'-0"x8'-0"	1'-6"	581'-0"
E	8'-0"x9'-6"	1'-6"	577'-6"
F			
G			

8' 0' 8' 16' 24' 32' 40'
SCALE: 1/16" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

6042

REF DWG NO.	DRAWING TITLE
M-35-81-001	RAILCAR LOADOUT & PREP/LINER BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-15-81-001	MATERIAL HANDLING BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-15-81-002	MATERIAL HANDLING BUILDING BUILDING COLUMN FOUNDATION DETAILS
M-15-81-003	MATERIAL HANDLING BUILDING GRADE WALL FOUNDATION DETAILS
M-15-81-004	MATERIAL HANDLING BUILDING MIXING PITS PLAN, SECTIONS & DETAILS
M-15-81-005	MATERIAL HANDLING BUILDING MIXING PITS AND RAMPS SECTIONS & DETAILS
M-15-81-006	MATERIAL HANDLING BUILDING ACCESS RAMP PLANS, SECTIONS AND DETAILS
M-15-81-007	MATERIAL HANDLING BUILDING STORAGE BINS PLAN AND SECTIONS
M-15-81-010	MATERIAL HANDLING BUILDING ENLARGED FLOOR SLAB PLAN - PLAN AND SECTIONS

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
BUILDING 91B
FOUNDATION PLAN

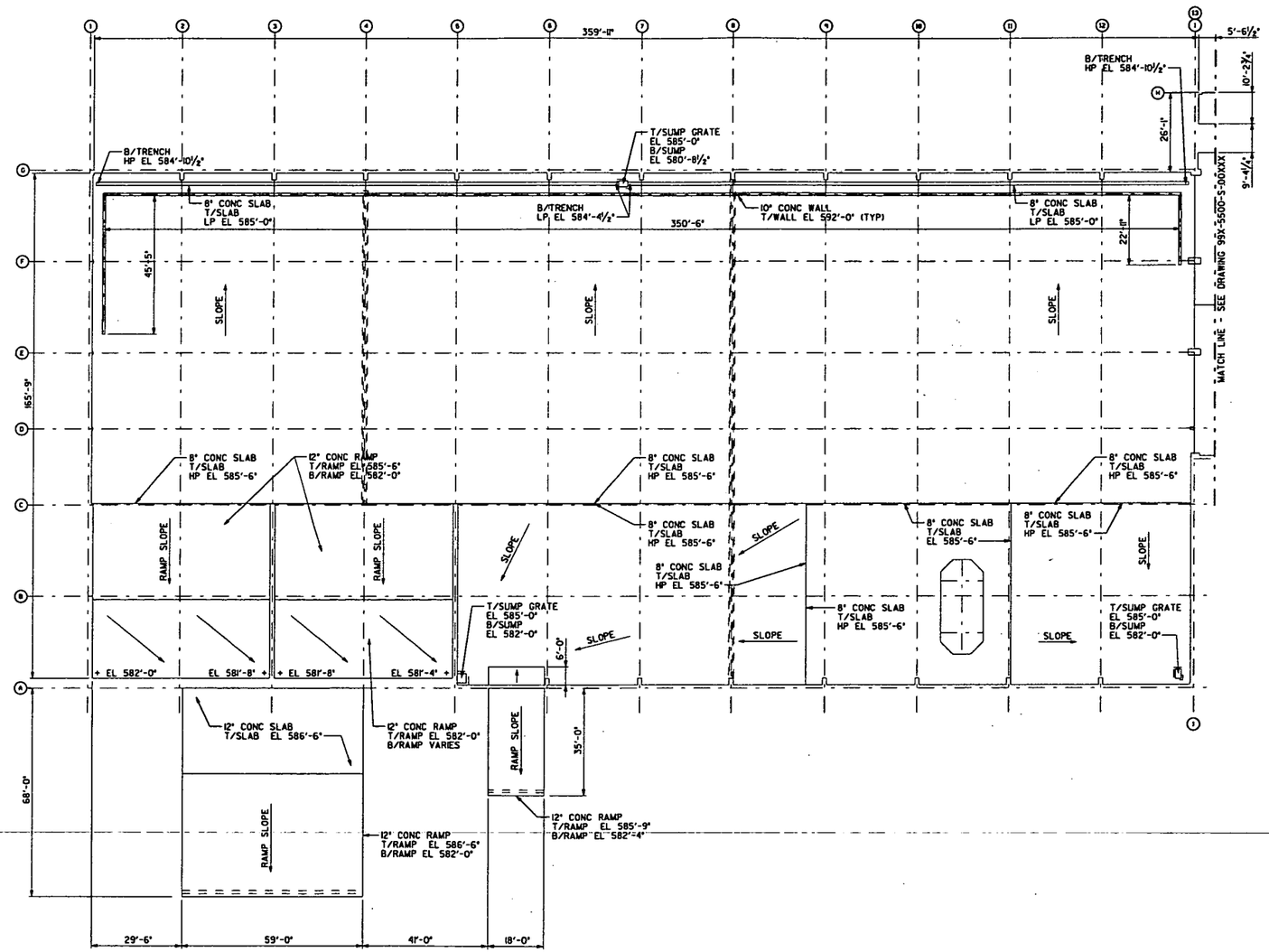
APPROVALS

COGNIZANT ENG.		SAFETY ENG.	
CIVIL & STR.		MAINTENANCE	
ELECTRICAL		FIRE PROTECT.	
ENGINEER		WASTE MANAGE	
INSTRUMENT		SECURITY	
MECHANICAL		QA	
		CONSTRUCTION	
CHECKED			
APPROVED			

DRAWN BY: K.L. RABBITT
PROJECT NO.: 20600
FILENAME: 99xs0875.dgn
DRAWING INDEX CODE NO.: 99X-5500-S-00875
SHEET NO.: S-6
REV. NO.: A

FCPSAE.DGN 5/30/03

99xs0876 CADD11 rabb7064 04/11/2005 11:16:10 AM



8' 0' 8' 16' 24' 32' 40'
SCALE: 1/16" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

REF DWG NO.	DRAWING TITLE
M-35-81-001	RAILCAR LOADOUT & PREP/LINER BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-15-81-001	MATERIAL HANDLING BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-15-81-002	MATERIAL HANDLING BUILDING BUILDING COLUMN FOUNDATION DETAILS
M-15-81-003	MATERIAL HANDLING BUILDING GRADE WALL FOUNDATION DETAILS
M-15-81-004	MATERIAL HANDLING BUILDING MIXING PITS PLAN, SECTIONS & DETAILS
M-15-81-005	MATERIAL HANDLING BUILDING MIXING PITS AND RAMPS SECTIONS & DETAILS
M-15-81-006	MATERIAL HANDLING BUILDING ACCESS RAMP PLANS, SECTIONS AND DETAILS
M-15-81-007	MATERIAL HANDLING BUILDING STORAGE BINS PLAN AND SECTIONS
M-15-81-010	MATERIAL HANDLING BUILDING ENLARGED FLOOR SLAB PLAN - PLAN AND SECTIONS

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
BUILDING 91B
SLAB PLAN

APPROVALS

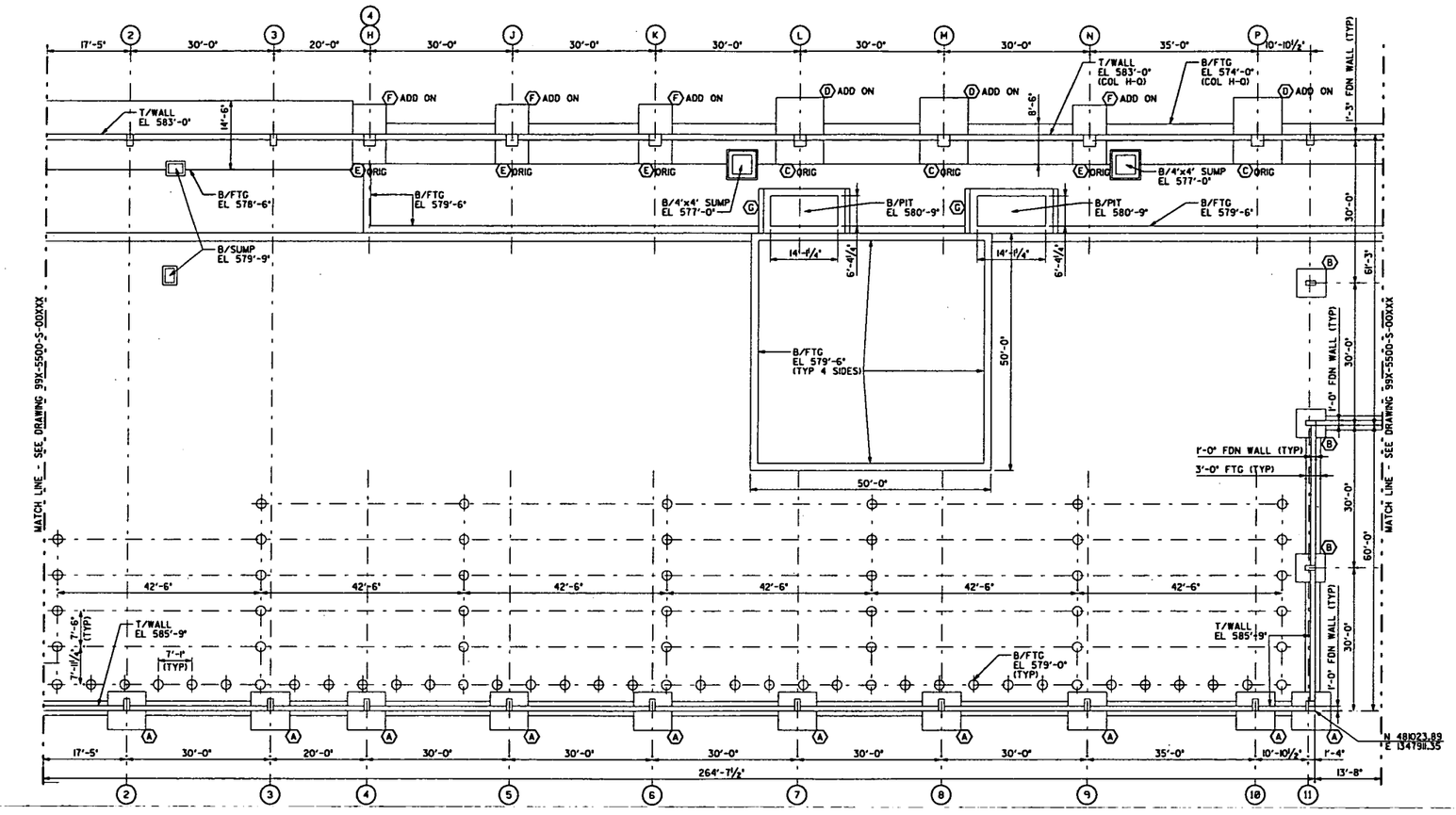
COGNIZANT ENG.			SAFETY ENG.		
CIVIL & STR.			MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER			WASTE MANAGE		
INSTRUMENT			SECURITY		
MECHANICAL			QA		
			CONSTRUCTION		
CHECKED					
APPROVED					

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
K.L. RABBITT	20600	99X-5500-S-00876	S-7	A
RES PROJECT NO.	FILENAME 99xs0876.dgn			

FCPS4E.DGN 5/30/03

60 42

99xs0877 CADD11 rabb7064 04/11/2005 11:16:53 AM



FOOTING SCHEDULE			
MARK	SIZE	DEPTH	B/FOOTING ELEV
(A)	8'-0"x8'-0"	1'-6"	581'-0"
(B)	6'-0"x6'-0"	1'-6"	581'-0"
(C)	10'-0"x14'-0"	1'-6"	574'-0"
(D)	10'-0"x7'-9"	3'-6"	575'-6"
(E)	7'-0"x12'-6"	1'-6"	574'-0"
(F)	7'-0"x6'-3"	3'-6"	575'-6"
(G)	19'-11/4"x9'-4¼"	2'-0"	578'-9"

8' 0' 8' 16' 24'
SCALE: 1/32" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

60 42

REF DWG NO.	DRAWING TITLE
91X-5900-S-00308	PLAN AND SECTIONS - SCALE PIT AND LOADING AREA
91X-5900-S-00309	SECTIONS AND DETAILS - SCALE PIT AND LOADING AREA
91X-5900-S-00310	PLAN AND SECTIONS - TRACK INSPECTION PIT
M-35-81-001	RAILCAR LOADOUT & PREP/LINER BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-35-81-002	RAILCAR LOADOUT & PREP/LINER BUILDING BUILDING COLUMN FOUNDATION DETAILS - 1 OF 2
M-35-81-003	RAILCAR LOADOUT & PREP/LINER BUILDING GRADE WALL FOUNDATION DETAILS
M-35-81-004	EXISTING TRACK SUPPORT PAD & RETAINING WALL FDN - MODIFICATIONS PLANS AND SECTIONS
M-35-81-005	FLOOR SLAB & RETAINING WALL EXTENSION SECTIONS AND DETAILS
M-35-81-006	RAILCAR LOADOUT BUILDING STORAGE BINS - PLAN AND ELEVATIONS
M-35-81-008	RAILCAR LOADOUT & PREP/LINER BUILDING BUILDING COLUMN FOUNDATION DETAILS - 2 OF 2

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

DETAILS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
BUILDING 91C
FOUNDATION PLAN

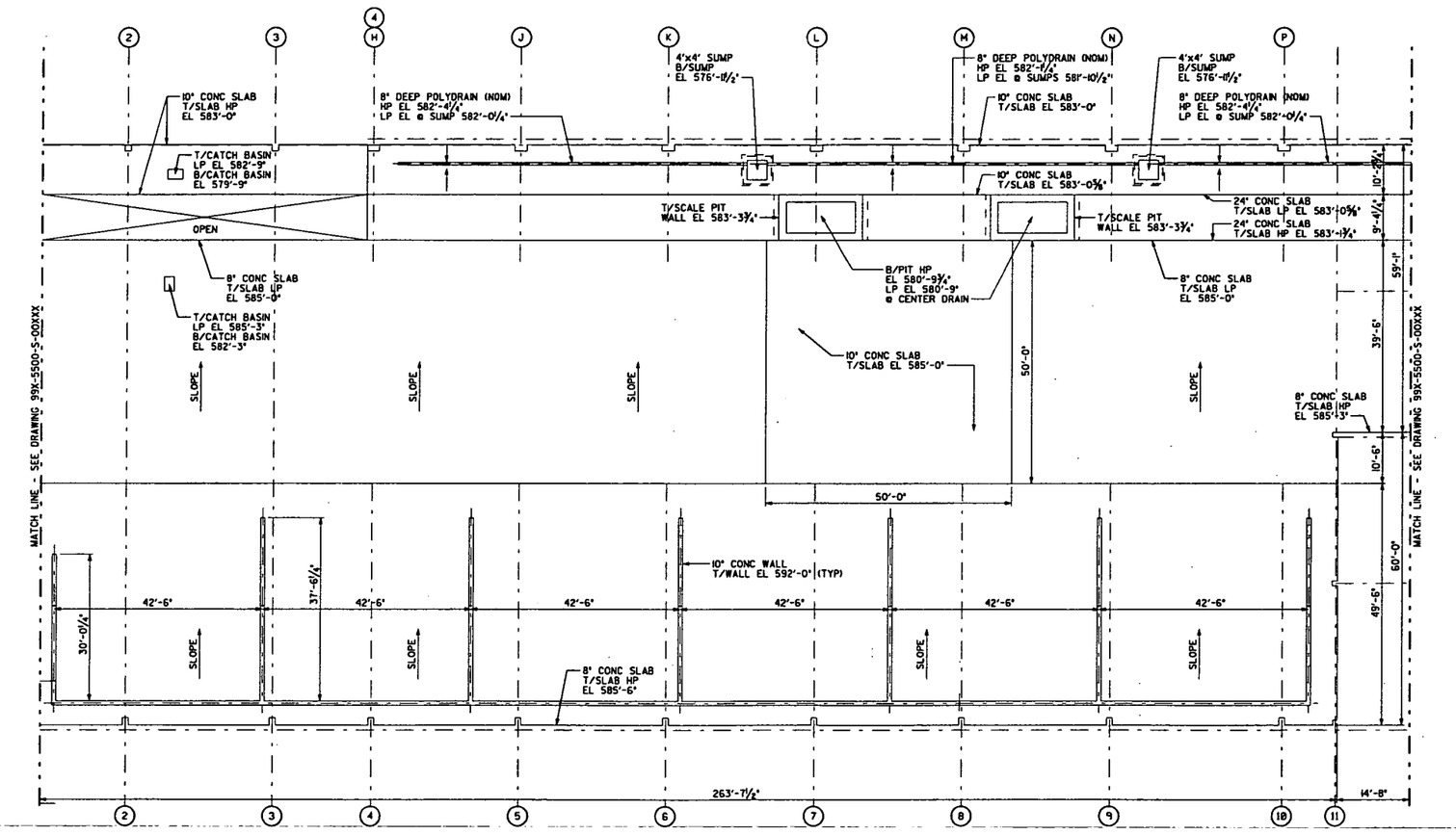
APPROVALS

COGNIZANT ENG.			SAFETY ENG.		
CIVIL & STR.			MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER			WASTE MANAGE		
INSTRUMENT			SECURITY		
MECHANICAL			QA		
			CONSTRUCTION		
CHECKED					
APPROVED					

DRAWN BY	PROJECT NO.	DRAWING BOOK CODE NO.	SHEET NO.	REV. NO.
R.L. RABBITT	20600	99X-5500-S-00877	S-8	A
RES PROJECT NO.	FILENAME 99xs0877.dgn			

FCPSAE.DGN 5/30/03

99xs0878 CADD11 rabb7064 04/11/2005 11:17:33 AM



8' 0' 8' 16' 24'
SCALE: 1/32" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

REF DWG NO.	DRAWING TITLE
91X-5900-S-00308	PLAN AND SECTIONS - SCALE PIT AND LOADING AREA
91X-5900-S-00309	SECTIONS AND DETAILS - SCALE PIT AND LOADING AREA
91X-5900-S-00310	PLAN AND SECTIONS - TRACK INSPECTION PIT
M-35-81-001	RAILCAR LOADOUT & PREP/LINER BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-35-81-002	RAILCAR LOADOUT & PREP/LINER BUILDING BUILDING COLUMN FOUNDATION DETAILS - 1 OF 2
M-35-81-003	RAILCAR LOADOUT & PREP/LINER BUILDING GRADE WALL FOUNDATION DETAILS
M-35-81-004	EXISTING TRACK SUPPORT PAD & RETAINING WALL FDN - MODIFICATIONS PLANS AND SECTIONS
M-35-81-005	FLOOR SLAB & RETAINING WALL EXTENSION SECTIONS AND DETAILS
M-35-81-006	RAILCAR LOADOUT BUILDING STORAGE BINS - PLAN AND ELEVATIONS
M-35-81-008	RAILCAR LOADOUT & PREP/LINER BUILDING BUILDING COLUMN FOUNDATION DETAILS - 2 OF 2

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
BUILDING 91C
SLAB PLAN

APPROVALS

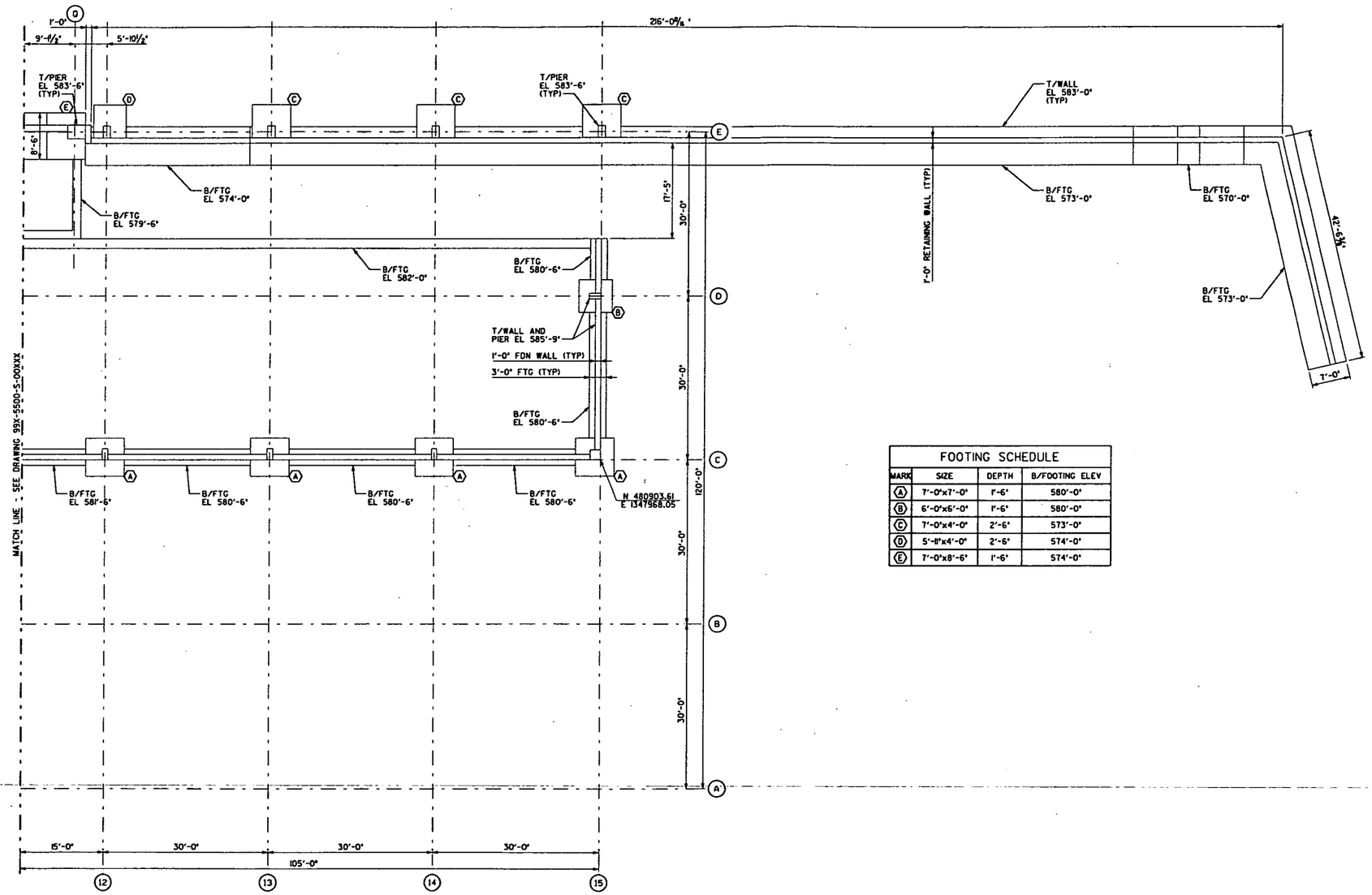
COGNIZANT ENG.			SAFETY ENG.		
CIVIL & STR.			MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER			WASTE MANAGE		
INSTRUMENT			SECURITY		
MECHANICAL			QA		
			CONSTRUCTION		
CHECKED					
APPROVED					

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.L. RABBITT	20600	99X-5500-S-00878	S-9	A
RES PROJECT NO.	FILENAME 99xs0878.dgn			

FCPSAE.DGN 5/30/03

6042

99xs0879 CADD11 rabb7064 04/11/2005 11:18:09 AM



FOOTING SCHEDULE			
MARK	SIZE	DEPTH	B/FOOTING ELEV
A	7'-0"x7'-0"	1'-6"	580'-0"
B	6'-0"x6'-0"	1'-6"	580'-0"
C	7'-0"x4'-0"	2'-6"	573'-0"
D	5'-8"x4'-0"	2'-6"	574'-0"
E	7'-0"x8'-6"	1'-6"	574'-0"

4' 0' 4' 8' 12' 16' 20'
SCALE: 1/8" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

60 42

REF DWG NO.	DRAWING TITLE
91X-5900-S-00308	PLAN AND SECTIONS - SCALE PIT AND LOADING AREA
91X-5900-S-00309	SECTIONS AND DETAILS - SCALE PIT AND LOADING AREA
91X-5900-S-00310	PLAN AND SECTIONS - TRACK INSPECTION PIT
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00175	GRADING SECTIONS
M-35-81-001	RAILCAR LOADOUT & PREP/LINER BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-35-81-002	RAILCAR LOADOUT & PREP/LINER BUILDING BUILDING COLUMN FOUNDATION DETAILS - 1 OF 2
M-35-81-003	RAILCAR LOADOUT & PREP/LINER BUILDING GRADE WALL FOUNDATION DETAILS
M-35-81-004	EXISTING TRACK SUPPORT PAD & RETAINING WALL FDN - MODIFICATIONS PLANS AND SECTIONS

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
BUILDING 91D AND RETAINING WALL
FOUNDATION PLAN

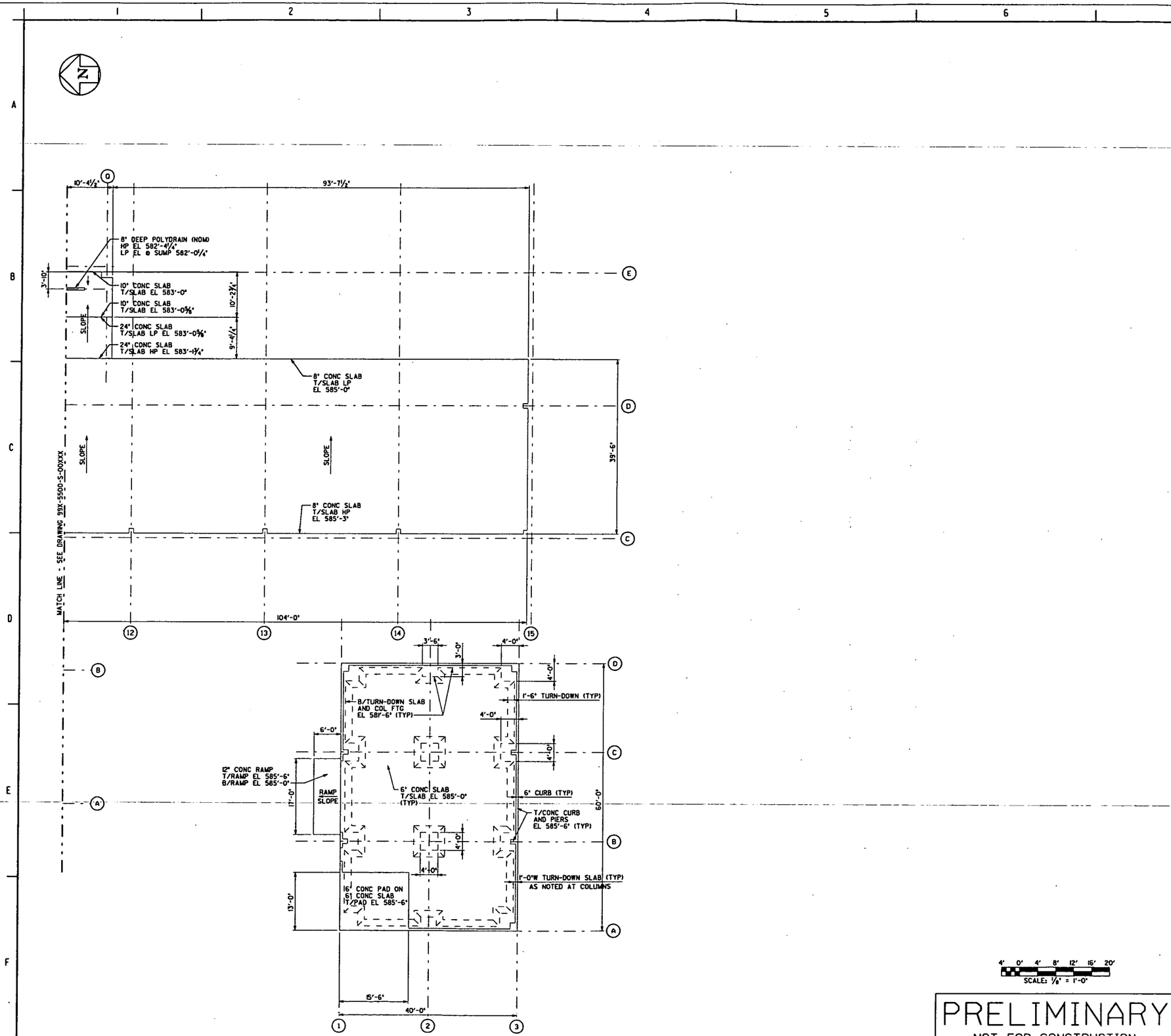
APPROVALS

COGNIZANT ENG.		SAFETY ENG.	
CIVIL & STR.		MAINTENANCE	
ELECTRICAL		FIRE PROTECT.	
ENGINEER		WASTE MANAGE	
INSTRUMENT		SECURITY	
MECHANICAL		QA	
		CONSTRUCTION	
CHECKED			
APPROVED			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
K.L. RABBITT	20600	99X-5500-S-00879	S-10	A
RES PROJECT NO.	FILENAME 99xs0879.dgn			

FCPSAE.DGN 5/30/03

99xs0880 CADD11 rabb7064 04/11/2005 11:18:44 AM



PRELIMINARY
NOT FOR CONSTRUCTION

60 42

REF DWG NO.	DRAWING TITLE
91X-5900-S-00308	PLAN AND SECTIONS - SCALE PIT AND LOADING AREA
91X-5900-S-00309	SECTIONS AND DETAILS - SCALE PIT AND LOADING AREA
91X-5900-S-00310	PLAN AND SECTIONS - TRACK INSPECTION PIT
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00175	GRADING SECTIONS
M-35-81-001	RAILCAR LOADOUT & PREP/LINER BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-35-81-002	RAILCAR LOADOUT & PREP/LINER BUILDING BUILDING COLUMN FOUNDATION DETAILS - 1 OF 2
M-35-81-003	RAILCAR LOADOUT & PREP/LINER BUILDING GRADE WALL FOUNDATION DETAILS
M-35-81-004	EXISTING TRACK SUPPORT PAD & RETAINING WALL FDN - MODIFICATIONS PLANS AND SECTIONS

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
BUILDING 91D, 91F, AND RETAINING WALL
SLAB PLAN

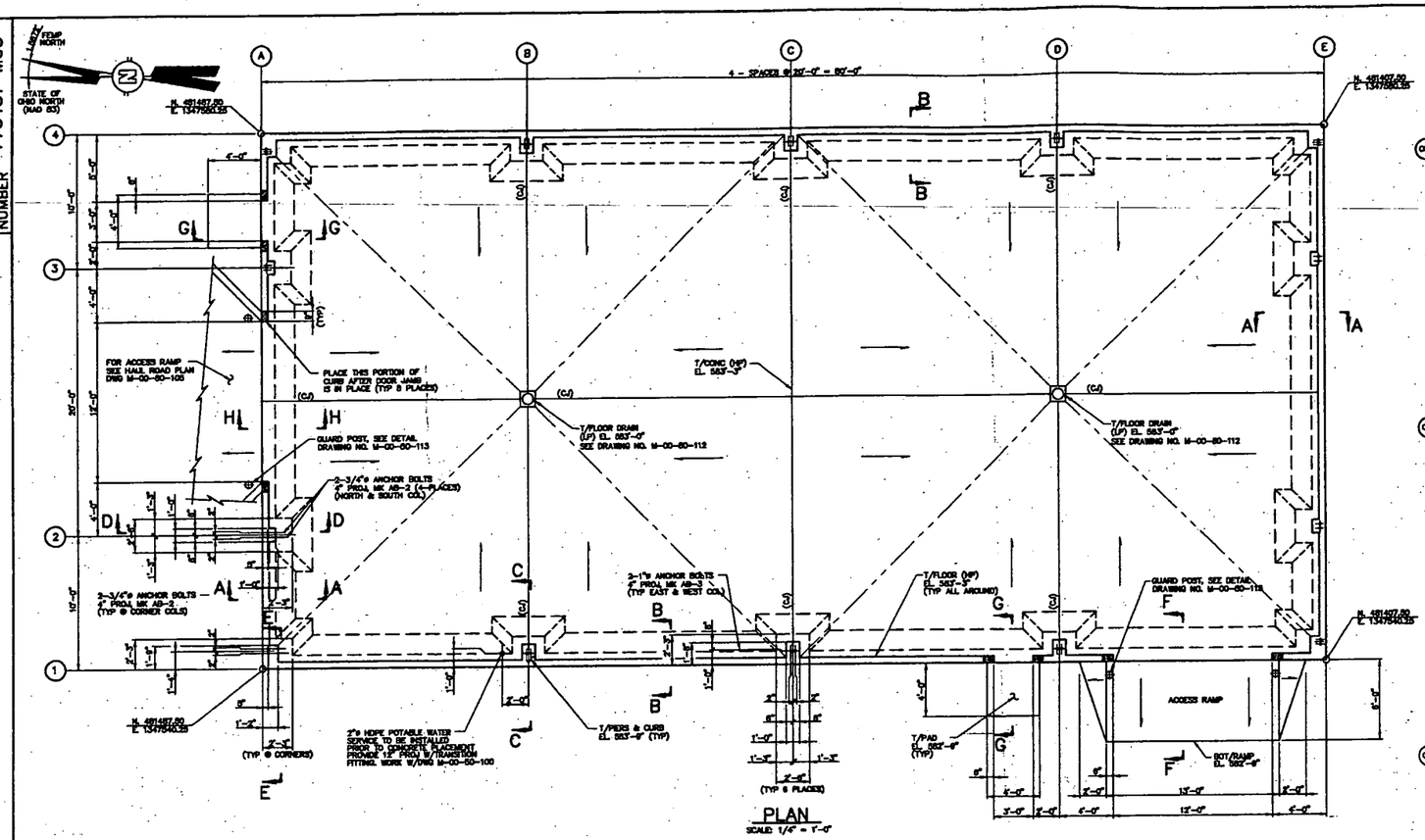
APPROVALS

COGNIZANT ENG.			SAFETY ENG.		
CIVIL & STR.			MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER			WASTE MANAGE.		
INSTRUMENT			SECURITY		
MECHANICAL			QA		
			CONSTRUCTION		
CHECKED					
APPROVED					

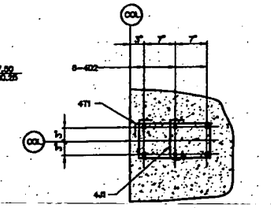
DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
K.L. RABBITT	20600	99X-5500-S-00880	S-11	A
RES PROJECT NO.	FILENAME 99xs0880.dgn			

FCP5AE.DGN 5/30/03

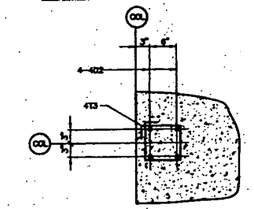
DRAWING NUMBER 773481-M95



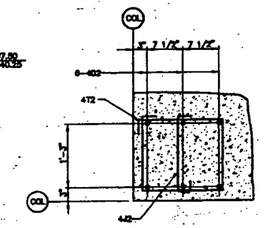
PLAN
SCALE: 1/4" = 1'-0"



SECTION 1 - 1
(8 - PLACES)
SCALE: 1" = 1'-0"

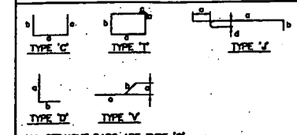


SECTION 2 - 2
(4 - PLACES)
SCALE: 1" = 1'-0"



SECTION 3 - 3
(4 - PLACES)
SCALE: 1" = 1'-0"

REINFORCING BAR SCHEDULE



ALL STRAIGHT BARS ARE TYPE 'O'
ALL DIMENSIONS ARE OUT TO OUT

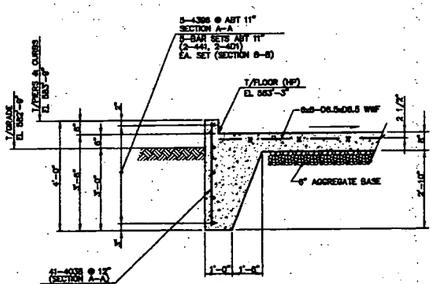
BAR MARK	NO. REQ'D. EA.	NO. REQ'D. TOTAL	SIZE	TYPE	LENGTH	TOTAL LIN. FT.	DIMENSION a	DIMENSION b	DIMENSION c	DIMENSION d	DIMENSION e
401	20		4	O	4'-0"	80'-0"	2'-0"	2'-0"			
402	76		4	O	4'-8"	342'-0"	2'-8"	1'-0"			
4J1	24		4	J	1'-8"	39'-0"	8"	4"	8"	4"	
4J2	16		4	J	2'-3"	36'-0"	1'-8"	4"	8"	4"	
4T1	24		4	T	4'-6"	108'-0"	1'-4"	8"	3"		
4T2	16		4	T	6'-3"	100'-0"	1'-8"	1'-0"	3 1/2"		
4T3	16		4	T	3'-3"	52'-0"	8"	8"	3 1/2"		
402	60		4	O	2'-0"	120'-0"					
4003	30		/	/	2'-3"	76'-6"					
4035	244		/	/	3'-6"	854'-6"					
4398	10				39'-6"	395'-0"					
441	20		4	O	41'-0"	820'-0"					

9 - 1 1/4"ø x18" LONG SMOOTH BAR

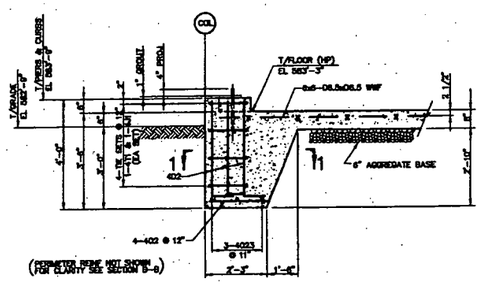
PRE-FIX ALL BAR MARKS W/THIS PROJECT DWG. NO. M-90-81-010

NOTE:
THE FOUNDATION DESIGN AND ANCHOR BOLT LOCATIONS ARE BASED ON LOAD AND BASE PLATE INFORMATION PROVIDED BY NUCOR BUILDING SYSTEMS DATED 6/25/98.

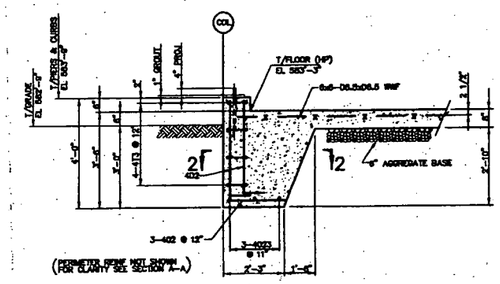
NOTE:
AGGREGATE BASE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS.



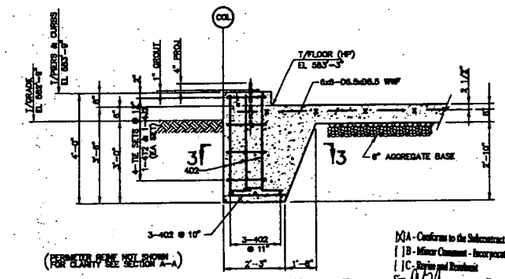
SECTION A - A (AS SHOWN & NOTED)
(2 - PLACES)
SECTION B - B (AS SHOWN & NOTED)
(2 - PLACES)
SCALE: 1/2" = 1'-0"



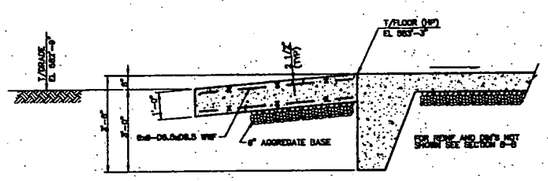
SECTION C - C
(8 - PLACES)
SCALE: 1/2" = 1'-0"



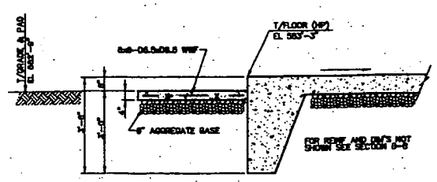
SECTION D - D
(4 - PLACES)
SCALE: 1/2" = 1'-0"



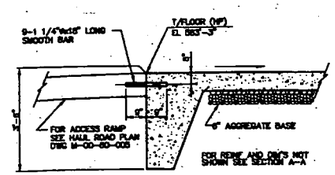
SECTION E - E
(4 - PLACES)
SCALE: 1/2" = 1'-0"



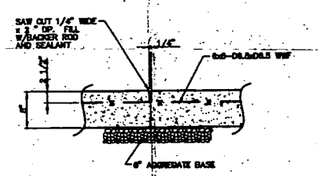
SECTION F - F
SCALE: 1/2" = 1'-0"



SECTION G - G
(2 - PLACES)
SCALE: 1/2" = 1'-0"



SECTION H - H
SCALE: 1/2" = 1'-0"



TYP CONTROL JOINT DETAIL (CJ)
SCALE: 1" = 1'-0"

REV	DATE	BY	CHK'D	APR'VD	DESCRIPTION
2	8/3/98	JES	TPI	DCH	REVISED BAR SCHEDULE (DCH-013)
1	7/14/98	GBJ	PJ	DCH	REVISED PER FDF COMMENTS (DCH-012)
0	6/19/98	JES	PJ	DCH	CERTIFIED FOR CONSTRUCTION

STATE OF OHIO DANIEL C. HIRB 54084 REGISTERED PROFESSIONAL ENGINEER

MA - Conforms to the Subcontract Requirements
| B - Minor Comment - Incorporate and Resubmit
| C - Revise and Resubmit
Sig. [illegible] Date: 8/3/98

Reviewed: [illegible]

REFERENCE DWG'S.

M-00-81-001	FOUNDATION KEY PLAN & GENERAL NOTES
M-15-02-001	PRE-ENGINEERED BUILDINGS GENERAL ARRANGEMENT - PLAN
M-00-02-111	MAINTENANCE BUILDING PLAN, ELEVATIONS, AND SECTION
M-00-81-012	ANCHOR BOLT SCHEDULE AND DETAILS

FLUOR DANIEL FERNALD
WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)
FERNALD, OHIO
FDF SUBCONTRACT NO. 9990000001

PROJECT NAME: WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)

TITLE: MAINTENANCE BUILDING FOUNDATION PLAN, SECTIONS & DETAILS

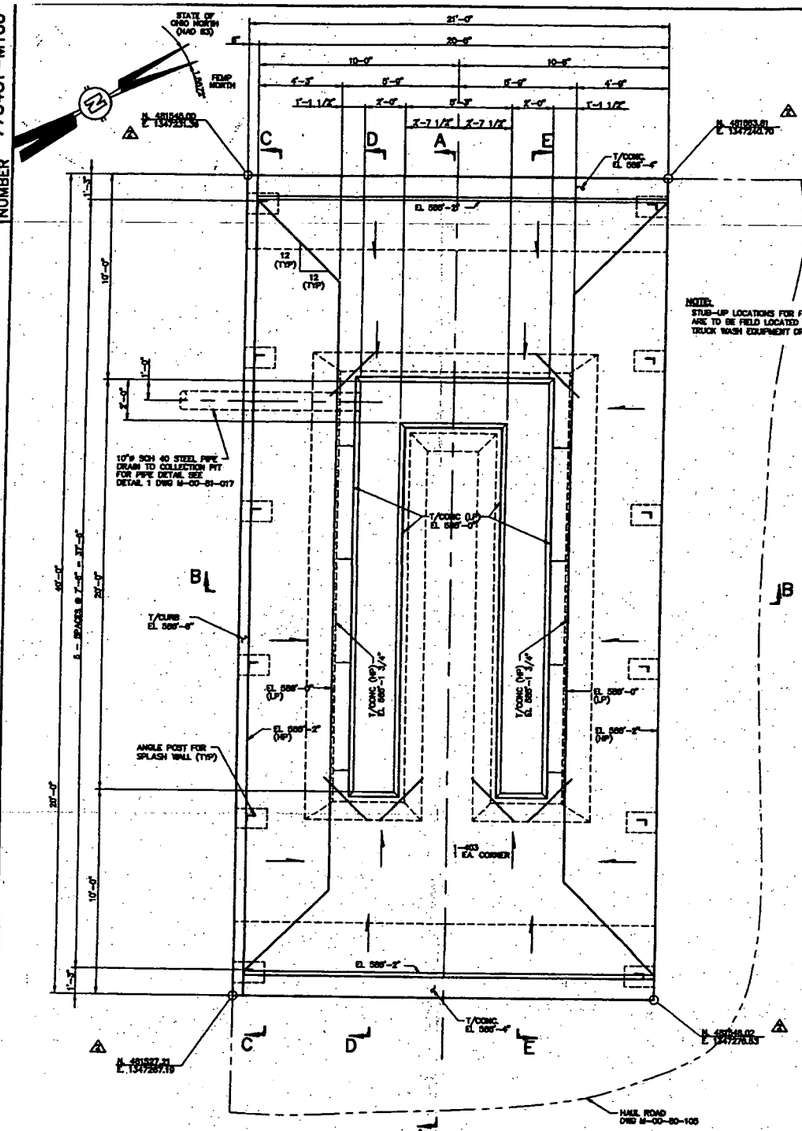
INTERNATIONAL TECHNOLOGY CORPORATION
... Creating a Safer Tomorrow

DESIGNED BY	YZ	CHECKED BY	PJ	6/19/98
DRAWN BY	JES	APPROVED BY	DCH	6/19/98
DATE	4-20-98	DWG. SCALE	AS SHOWN	
IT PROJECT NO.	773481	DRAWING NO.	M-00-81-010	

REVISION 2

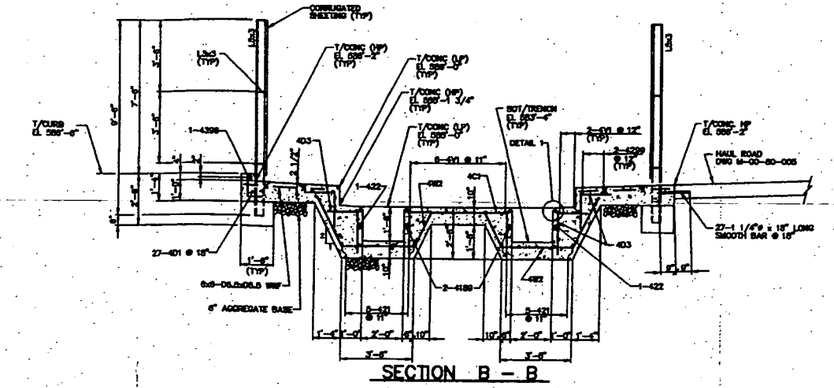
6042

DRAWING NUMBER 773481-M106

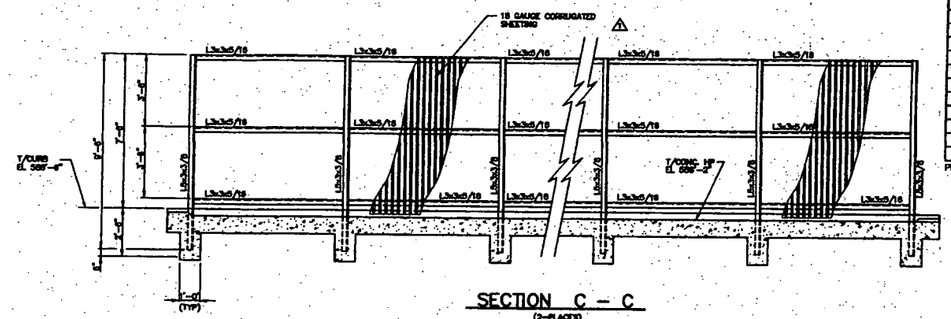


PLAN

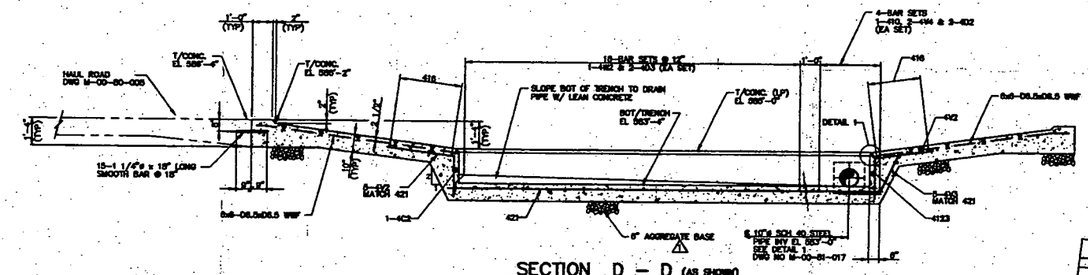
NOTE:
STUB-UP LOCATIONS FOR FEED LINES ARE TO BE FIELD LOCATED PER THE TRUCK WASH EQUIPMENT DRAWINGS.



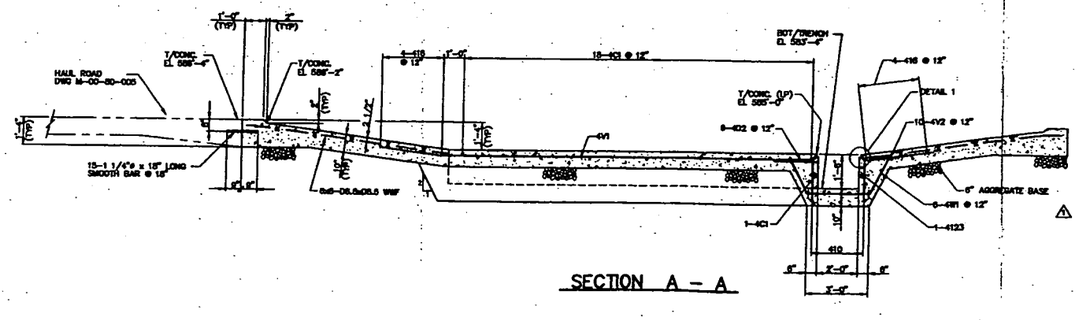
SECTION B – B



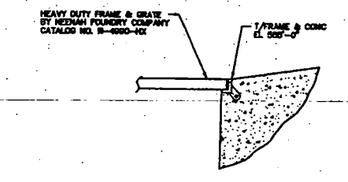
SECTION C – C
(2-PLACES)



SECTION D – D (AS SHOWN)
SECTION E – E (OPP HAND)

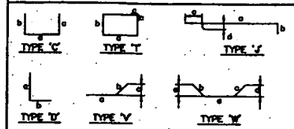


SECTION A – A



DETAIL 1
SCALE: 1 1/2"=1'-0"

REINFORCING BAR SCHEDULE



ALL STRAIGHT BARS ARE TYPE 'O'
ALL DIMENSIONS ARE OUT TO OUT

BAR MARK	NO. REQ'D. EA.	NO. REQ'D. TOTAL	SIZE	TYPE	LENGTH	TOTAL LIN. FT.	DIMENSION a	b	c	d	e
403		8	4	O	3'-0"	18'-0"					
410		4	4	O	10'-0"	40'-0"					
4123		ONE	4	O	12'-3"	12'-3"					
418		8	4	O	16'-0"	128'-0"					
4189		2	4	O	18'-6"	37'-6"					
421		10	4	O	21'-0"	210'-0"					
422		2	4	O	22'-0"	44'-0"					
4299		4	4	O	29'-6"	118'-0"					
4398		ONE	4	O	39'-6"	39'-6"					
4C1		19	4	C	8'-6"	161'-6"	4'-6"	2'-0"	2'-0"		
4C2		2	4	C	6'-6"	13'-0"	2'-6"	2'-0"	2'-0"		
401		27	4	D	1'-8"	47'-3"	1'-0"	8"			
402		14	4	D	4'-0"	56'-0"	2'-0"	2'-0"			
403		72	4	D	3'-8"	252'-0"	2'-0"	1'-8"			
4V1		10	4	V	21'-0"	210'-0"	18'-0"	3'-0"	4 1/2"		
4V2		20	4	V	5'-0"	100'-0"	2'-0"	3'-3"	3'-2 3/4"		
4V3		10	4	V	4'-0"	40'-0"	2'-0"	2'-0"	1'-11 3/4"		
4W1		8	4	W	5'-8"	45'-8"	3'-0"	1'-8"	2'-0"	1'-8"	1'-10"
4W2		38	4	W	8'-4"	317'-0"	3'-0"	1'-10"	3'-0"	1'-8"	2'-6 3/8"
42 – 1 1/4"ø x 1'-8" SMOOTH BAR											

PRE-FIX ALL BAR MARKS W/THIS PROJECT DWG. NO. M-00-81-004

THIS DOCUMENT IS AFFECTED BY ADDENDUM (SEE ADDENDUM)

NOTES:

1. AGGREGATE BASE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS.
2. STEEL FRAMING SHALL BE CONSTRUCTED USING 3/16" FILLET WELDS.
3. SHEETING SHALL BE BOLTED TO FRAMING.

REFERENCE DWGS.

M-00-81-001	FOUNDATION KEY – PLAN AND GENERAL NOTES
M-00-80-105	HAUL ROAD – PLAN AND SECTIONS
M-00-02-100	SITE FACILITY – LAYOUT
M-00-81-017	TRUCK WASH COLLECTION PIT
M-00-80-107	GENERAL ARRANGEMENT OF TRUCK WASH FACILITY

A-Conforms to the Subcontract Requirements
B-Minor Comment - Incorporate and Resubmit
C-Revise and Resubmit
Rev. _____ Date _____

STATE OF OHIO DANIEL J. HELD REGISTERED PROFESSIONAL ENGINEER

REV	DATE	BY	CHK'D	APR'VD	DESCRIPTION
3	4/20/99	JCD	PJ	DCH	REDRAWN – PER TRUCK WASH MANUFACTURER
2	10/27/98	JCD	PJ	DCH	REVISED CORNER COORDINATES
1	7/24/98	MMJ	PJ	DCH	REVISED PER FDF COMMENTS
0	6/19/98	JCD	PJ	DCH	CERTIFIED FOR CONSTRUCTION

FLUOR DANIEL FERNALD
WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)
FERNALD, OHIO
FDF SUBCONTRACT NO. 9890000001

PROJECT NAME: WASTE PITS REMEDIAL ACTION PROJECT (WPRAP)

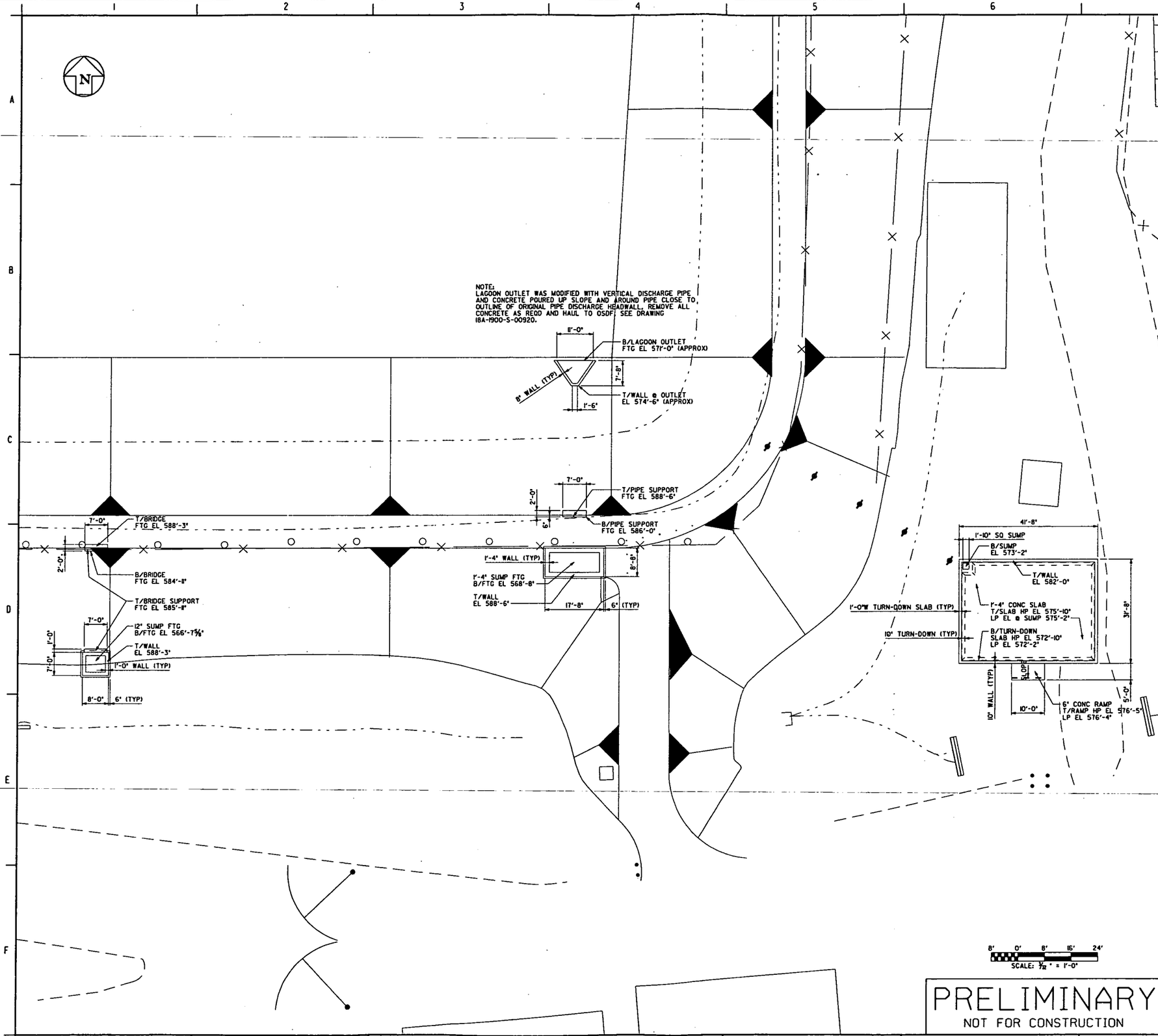
TITLE: TRUCK WASH PAD FOUNDATION PLAN, SECTIONS AND DETAILS

INTERNATIONAL TECHNOLOGY CORPORATION
... Creating a Safer Tomorrow

DESIGNED BY	YZ	CHECKED BY	PJ	9/19/98	REVISION
DRAWN BY	STRITMATTER	APPROVED BY	DCH	9/19/98	3
DATE	5-13-98	DWG. SCALE	3/8"=1'-0" (UNI)		
IT PROJECT NO.	773481	DRAWING NO.	M-00-81-004		

60 42

99xs0881 CADD11 rabb7064 04/20/2005 11:38:14 AM



F 6042

REF DWG NO.	DRAWING TITLE
18D-1920-S-00288	METHANOL STORAGE - FOUNDATION PLAN & SECTIONS
18A-1920-S-00289	SURGE LAGOON PUMP STATION AND INSPECTION SUMP - PLANS AND SECTIONS
18A-1920-G-00295	SURGE LAGOON PLAN
18A-1920-G-00296	SURGE LAGOON PLAN
18A-1920-G-00297	LAGOON CROSS-SECTIONS
18A-1900-G-00914	SURGE LAGOON LINER REPLACEMENT SITE PLAN - 1 OF 4
18A-1900-G-00915	SURGE LAGOON LINER REPLACEMENT SITE PLAN - 2 OF 4
18A-1900-G-00916	SURGE LAGOON LINER REPLACEMENT SITE PLAN - 3 OF 4
18A-1900-G-00917	SURGE LAGOON LINER REPLACEMENT SITE PLAN - 4 OF 4
18A-1900-S-00918	SURGE LAGOON LINER REPLACEMENT DETAILS
18A-1900-S-00919	SURGE LAGOON LINER REPLACEMENT FLEXIBLE MEMBRANE LINER - DETAILS
18A-1900-S-00920	SURGE LAGOON LINER REPLACEMENT DETAILS
92X-5900-G-00255	LEACHATE CONVEYANCE SYSTEM CIVIL DETAILS - SHEET 1 OF 3

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
METH TANK AND BIO-SURGE LAGOON STRUCTURES
FOUNDATION PLAN

APPROVALS

COGNIZANT ENG.			SAFETY ENG.		
CIVIL & STR.			MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER			WASTE MANAGE		
INSTRUMENT			SECURITY		
MECHANICAL			QA		
			CONSTRUCTION		
CHECKED			SALOS PROJ. ENG.		
APPROVED					

DESIGN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
K.L. RABBITT	20460	99X-5500-S-00881	S-12	A
RES PROJECT NO.	FILENAME 99xs0881.dgn			

99x0821 CADD11 rabb7064 04/20/2005 10:54:00 AM

PIPING VALVES

CONFIGURATIONS FOR VALVE TYPE

ANGLE STRAIGHT 3-WAY 4-WAY

VALVE TYPES (STRAIGHT CONFIG.)

- AIR RELEASE VALVE
- BALL
- CHECK, SWING TYPE
- GATE

PIPING SEGMENT BREAKS

- CONSTRUCTION REQUIREMENTS
- UNDERGROUND ROUTING (SHADED AREA INDICATES DIRECTION OF UNDERGROUND)

PIPING FITTINGS

- CAP
- CONCENTRIC REDUCER
- BLIND FLANGE

PIPING SYMBOLOGY

- PRIMARY PIPING
- EXISTING PIPING
- FUTURE PIPING
- TIE-IN POINT

EQUIPMENT SYMBOLS

- SUMP PUMP WITH MOTOR

PIPING LINE NUMBER FORMAT

MEDIUM CODE
NOMINAL PIPE SIZE
NOMINAL CONTAINMENT PIPE SIZE (WHERE SHOWN)
MATERIAL CODE
LINE NUMBER
INSULATION CODE

GW-6 (ID) IN.-B4-2930-ET

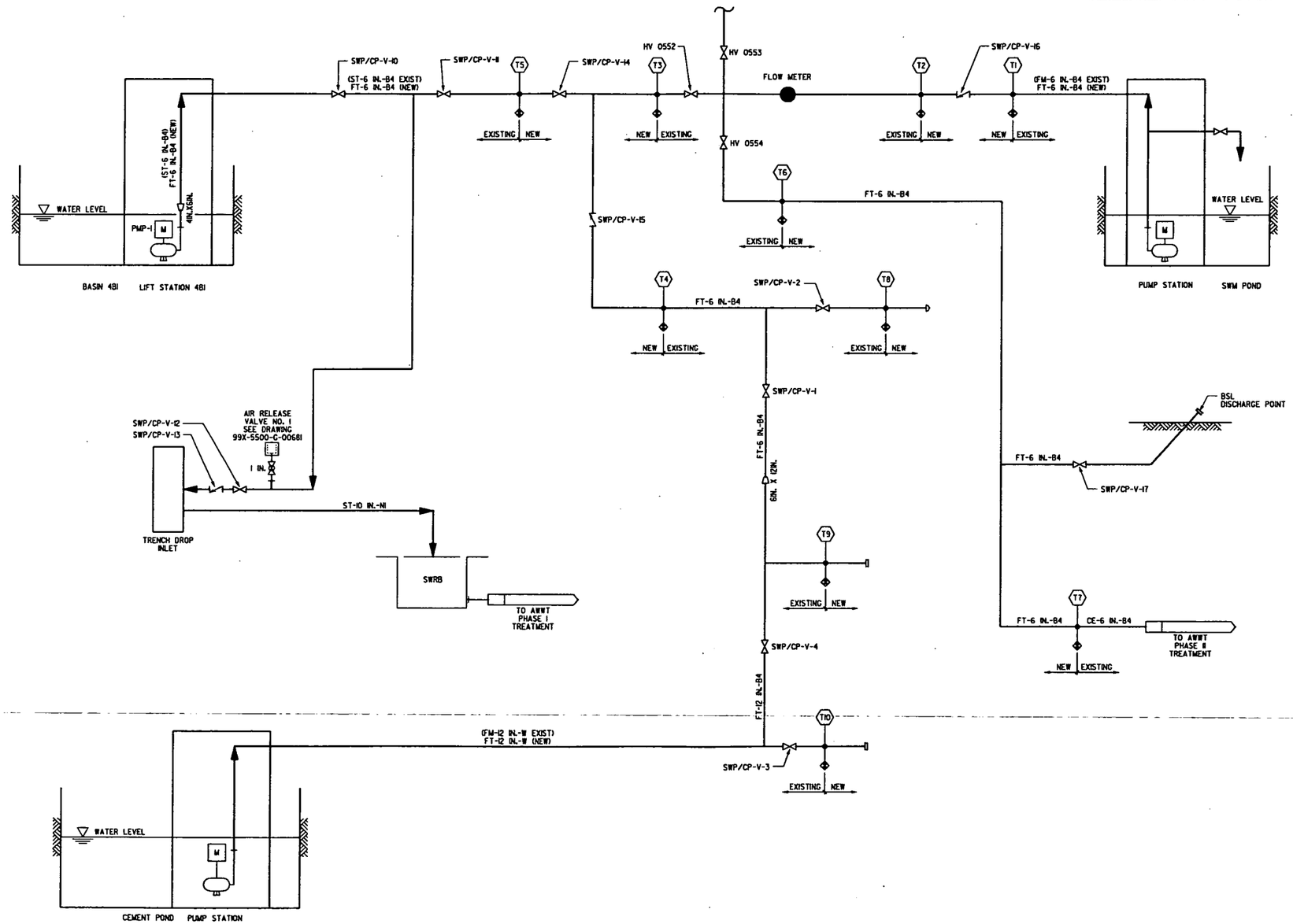
MEDIUM FLOW DIRECTION

PIPING SPECIFICATIONS

MATL. CODE	DESCRIPTION
A	A53 SEAMLESS CARBON STEEL
A7	CORRUGATED METAL PIPE
B	PVC
B1	PVDF
B2	PVDF, 100PSI
B3	CPVC
B4	HDPE
B5	CORRUGATED HDPE
C1	CLASS 150, COPPER TUBING
L	FIBERGLASS REINFORCED PLASTIC
M	DUCTILE IRON
T	304L, STAINLESS STEEL
T1	316L, STAINLESS STEEL
W	A53, GR. A, GALVANIZED STEEL

GENERAL NOTES

L CAPS TO BE 6 INCH HDPE (SDR 11 WELDED TO END OF PIPE.



6042

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
0	ISSUED CERTIFIED FOR CONSTRUCTION	10/26/04	RML	GEP

DETAILS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME
RE-ROUTED DISCHARGE LINES

DRAWING TITLE
SWM POND (18X) AND CEMENT POND (18N)
RE-ROUTED DISCHARGE LINES
FLOW DIAGRAM

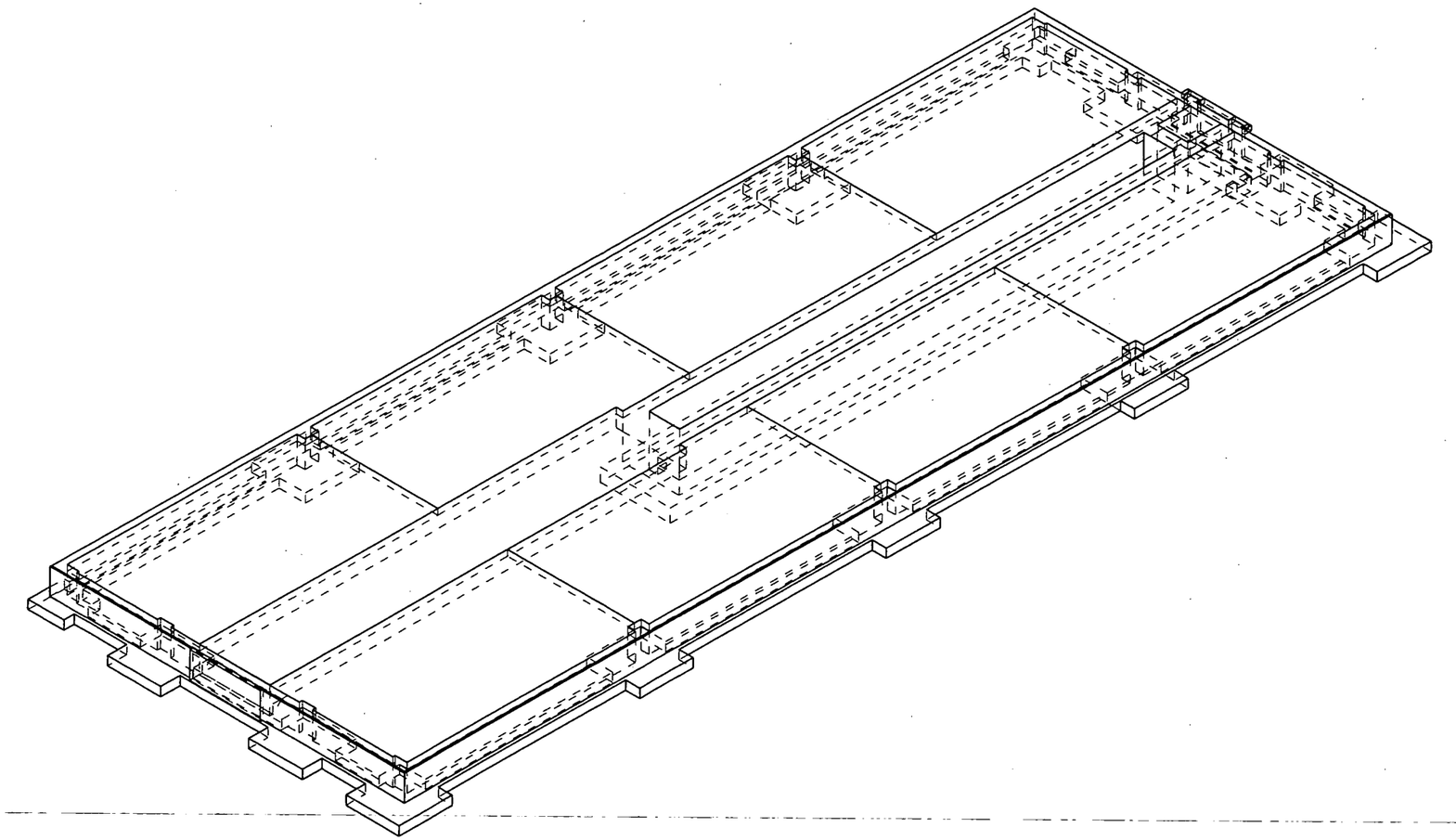
APPROVALS

COGNIZANT ENG.			SAFETY ENG.	E. JOHNSON	11/17/04
CIVIL & STR.	A.C. SNIDER	11/17/04	MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER			WASTE MANAGE.		
INSTRUMENT			SECURITY		
MECHANICAL			QA	R. FRIESE	11/17/04
WTO	R. DEEP	11/17/04	CONSTRUCTION	L. HARRIS	11/17/04
CHECKED	C. HOSMER	11/17/04			
APPROVED	G.E. PAUL	11/17/04			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.M. LINDGREN	20601	99X-5500-F-00821	F-1	0
RES PROJECT NO.	FILENAME 99xp0821.dgn			

FCPSAE.DGN 5/30/03

sk24c CADD11 rabb7064 04/11/2005 11:20:08 AM



6042

REF DWG NO.	DRAWING TITLE
91X-5900-S-00314	SLAB AND FOUNDATION PLAN LOCOMOTIVE MAINTENANCE FACILITY
91X-5900-S-00315	PLAN, SECTIONS, AND DETAILS LOCOMOTIVE MAINTENANCE FACILITY
91X-5900-S-00316	SECTIONS AND DETAILS LOCOMOTIVE MAINTENANCE FACILITY
91X-5900-G-00225	RAIL SITE PLAN AND PROFILE SHEET 3 OF 7

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
BUILDING 24C
ISOMETRIC VIEW

APPROVALS

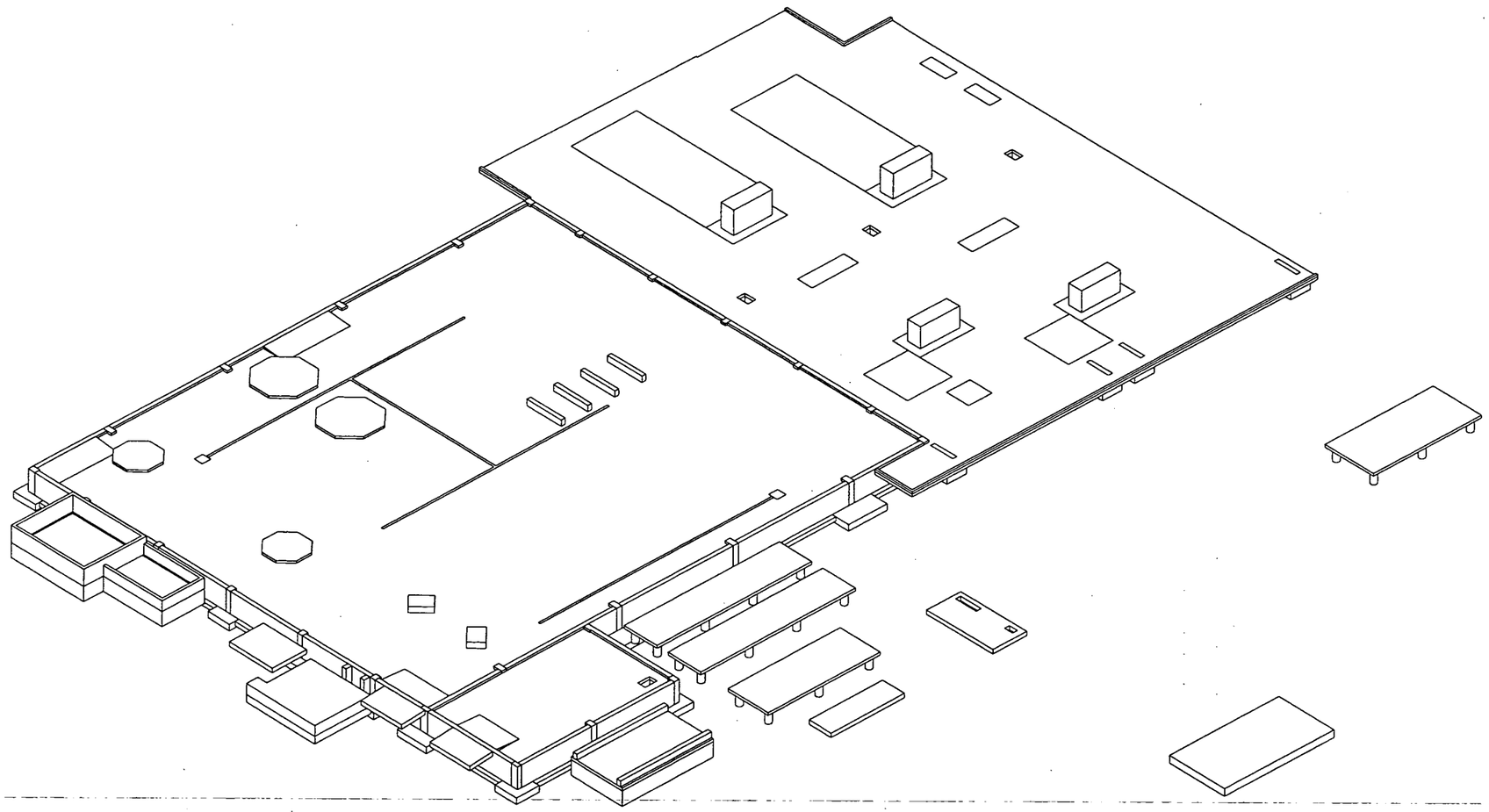
COGNIZANT ENG.			SAFETY ENG.		
CIVIL & STR.			MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER			WASTE MANAGE		
INSTRUMENT			SECURITY		
MECHANICAL			QA		
			CONSTRUCTION		
CHECKED					
APPROVED					

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
K.L. RABBITT	20600	SK-24C	ISO-1	A
RES PROJECT NO.	FILENAME sk24c.dgn			

PRELIMINARY
NOT FOR CONSTRUCTION

FCPSAE.DGN 5/30/03

sk91a CADD11 rabb7064 04/11/2005 11:20:46 AM



6042

REF DWG NO.	DRAWING TITLE
M-00-81-016	FLOOR SLAB DRAINAGE AND CONTROL JOINT PLAN AND DETAILS
M-00-81-111	FLOOR SLAB /COLUMN FDN PLAN
M-00-81-013	BUILDING COLUMN FOUNDATION DETAILS
M-00-81-015	FLOOR SLAB SECTIONS AND DETAILS
M-10-81-001	DRYER FOUNDATIONS SECTIONS AND DETAILS
M-00-81-002	FOUNDATION LOCATION PLAN
M-10-81-002	DRYER FOUNDATIONS AND FEED CONVEYOR BENTS FOUNDATION - PLANS AND SECTIONS
M-10-81-003	DRYER AREA DRAINAGE PLAN
M-00-81-005	MISCELLANEOUS EQUIPMENT FOUNDATIONS PLANS AND SECTIONS - SHT 1 OF 3
M-00-81-006	MISCELLANEOUS EQUIPMENT FOUNDATIONS PLANS AND SECTIONS - SHT 2 OF 3
M-00-81-007	MISCELLANEOUS EQUIPMENT FOUNDATIONS PLANS AND SECTIONS - SHT 3 OF 3

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY

FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE

AREA 6 (WASTE PITS AND GENERAL AREA)
GCS/WTS BUILDING 91A
ISOMETRIC VIEW

APPROVALS

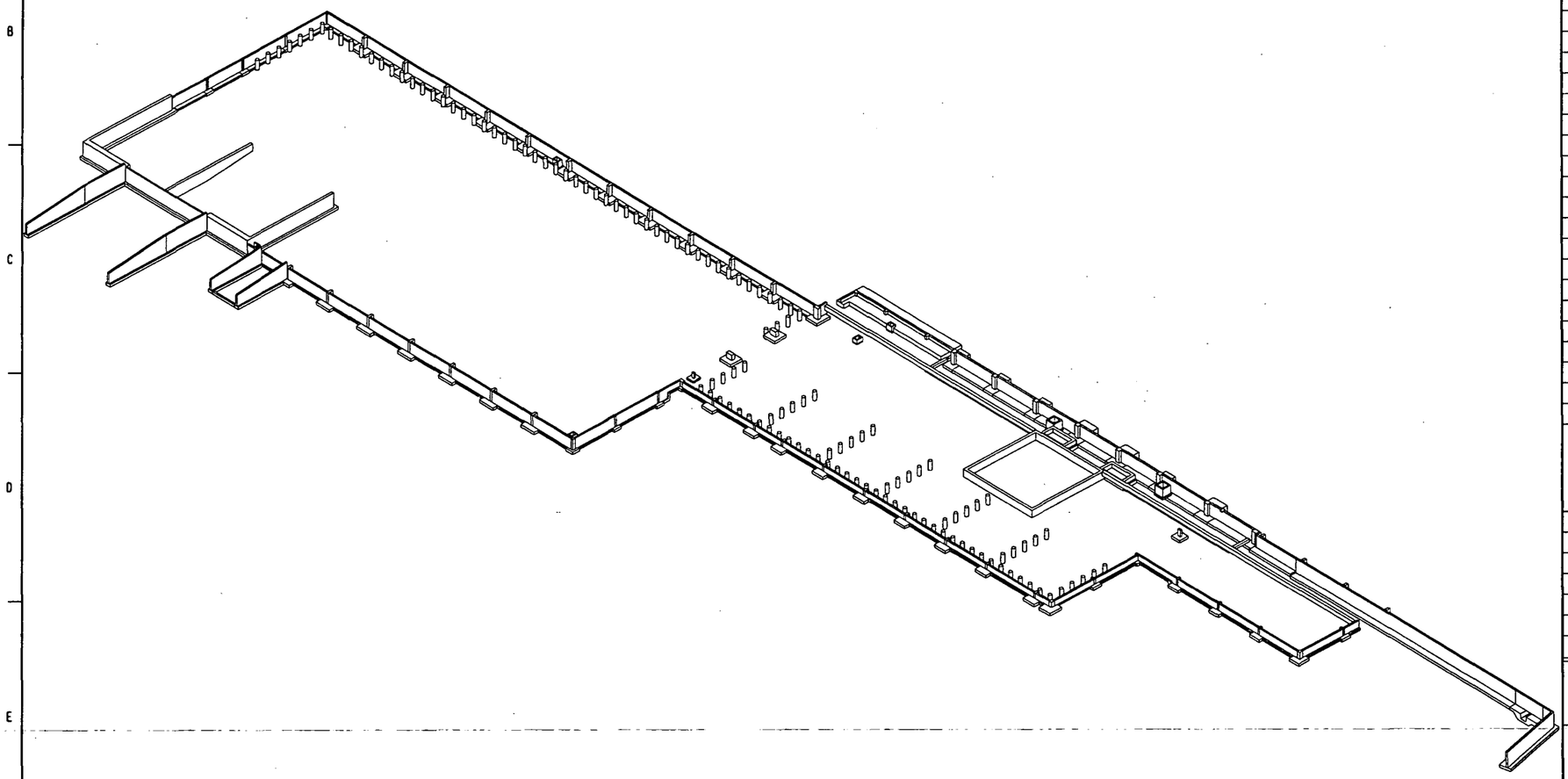
COGNIZANT ENG.		SAFETY ENG.	
CIVIL & STR.		MAINTENANCE	
ELECTRICAL		FIRE PROTECT.	
ENGINEER		WASTE MANAGE	
INSTRUMENT		SECURITY	
MECHANICAL		QA	
		CONSTRUCTION	
CHECKED			
APPROVED			

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.L. RABBITT	20600	SK-91A	ISO-2	A
RCS PROJECT NO.	FILENAME sk91a.dgn			

PRELIMINARY
NOT FOR CONSTRUCTION

FCPSAE.DGN 5/30/03

sk91bcd CADD11 rabb7064 04/11/2005 11:21:30 AM



6042

REF DWG NO.	DRAWING TITLE
91X-5900-S-00308	PLAN AND SECTIONS - SCALE PIT AND LOADING AREA
91X-5900-S-00309	SECTIONS AND DETAILS - SCALE PIT AND LOADING AREA
91X-5900-S-00310	PLAN AND SECTIONS - TRACK INSPECTION PIT
91X-5900-G-00137	GRADING PLAN - SHEET 2 OF 2
91X-5900-G-00175	GRADING SECTIONS
M-35-81-001	RAILCAR LOADOUT & PREP/LINER BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-35-81-002	RAILCAR LOADOUT & PREP/LINER BUILDING BUILDING COLUMN FOUNDATION DETAILS - 1 OF 2
M-35-81-003	RAILCAR LOADOUT & PREP/LINER BUILDING GRADE WALL FOUNDATION DETAILS
M-35-81-004	EXISTING TRACK SUPPORT PAD & RETAINING WALL FDN - MODIFICATIONS PLANS AND SECTIONS
M-35-81-005	FLOOR SLAB & RETAINING WALL EXTENSION SECTIONS AND DETAILS
M-35-81-006	RAILCAR LOADOUT BUILDING STORAGE BINS - PLAN AND ELEVATIONS
M-35-81-008	RAILCAR LOADOUT & PREP/LINER BUILDING BUILDING COLUMN FOUNDATION DETAILS - 2 OF 2
M-35-81-001	RAILCAR LOADOUT & PREP/LINER BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-15-81-001	MATERIAL HANDLING BUILDING FLOOR SLAB/COLUMN FDN PLAN
M-15-81-002	MATERIAL HANDLING BUILDING BUILDING COLUMN FOUNDATION DETAILS
M-15-81-003	MATERIAL HANDLING BUILDING GRADE WALL FOUNDATION DETAILS
M-15-81-004	MATERIAL HANDLING BUILDING MIXING PITS PLAN, SECTIONS & DETAILS
M-15-81-005	MATERIAL HANDLING BUILDING MIXING PITS AND RAMPS SECTIONS & DETAILS
M-15-81-006	MATERIAL HANDLING BUILDING ACCESS RAMP PLANS, SECTIONS AND DETAILS
M-15-81-007	MATERIAL HANDLING BUILDING STORAGE BINS PLAN AND SECTIONS
M-15-81-010	MATERIAL HANDLING BUILDING ENLARGED FLOOR SLAB PLAN - PLAN AND SECTIONS

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY			

INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
BUILDING 91B, 91C, 91D, AND RETAINING WALL
ISOMETRIC VIEW

APPROVALS

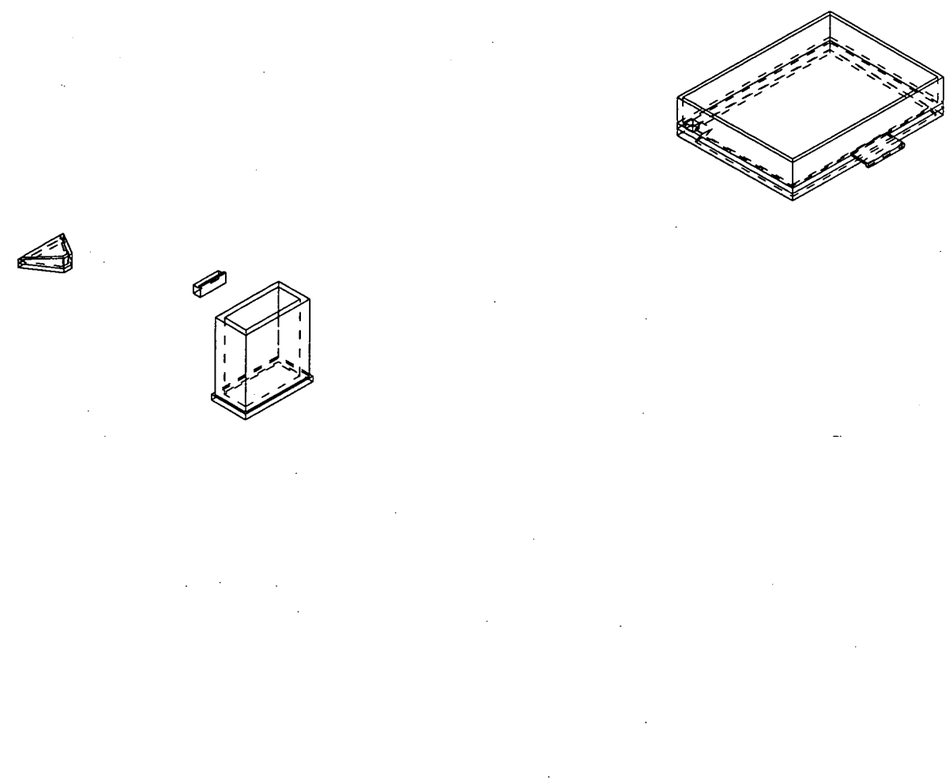
COGNIZANT ENG.		SAFETY ENG.	
CIVIL & STR.		MAINTENANCE	
ELECTRICAL		FIRE PROTECT.	
ENGINEER		WASTE MANAGE	
INSTRUMENT		SECURITY	
MECHANICAL		QA	
		CONSTRUCTION	
CHECKED			
APPROVED			

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
R.L. MARRITT	20600	SK-91B,C,& D	ISO-3	A
RES PROJECT NO.	FILENAME sk91bcd.dgn			

FCPSAE.DGN 5/30/03

sk18aj CADD11 rabb7064 04/20/2005 12:13:44 PM



6042

REF DWG NO.	DRAWING TITLE
18D-1920-S-00288	METHANOL STORAGE - FOUNDATION PLAN & SECTIONS
18A-1920-S-00289	SURGE LAGOON PUMP STATION AND INSPECTION SUMP - PLANS AND SECTIONS
18A-1920-G-00295	SURGE LAGOON PLAN
18A-1920-G-00296	SURGE LAGOON PLAN
18A-1920-G-00297	LAGOON CROSS-SECTIONS
18A-1900-G-00914	SURGE LAGOON LINER REPLACEMENT SITE PLAN - 1 OF 4
18A-1900-G-00915	SURGE LAGOON LINER REPLACEMENT SITE PLAN - 2 OF 4
18A-1900-G-00916	SURGE LAGOON LINER REPLACEMENT SITE PLAN - 3 OF 4
18A-1900-G-00917	SURGE LAGOON LINER REPLACEMENT SITE PLAN - 4 OF 4
18A-1900-S-00918	SURGE LAGOON LINER REPLACEMENT DETAILS
18A-1900-S-00919	SURGE LAGOON LINER REPLACEMENT FLEXIBLE MEMBRANE LINER - DETAILS
18A-1900-S-00920	SURGE LAGOON LINER REPLACEMENT DETAILS
92X-5900-G-00255	LEACHATE CONVEYANCE SYSTEM CIVIL DETAILS - SHEET 1 OF 3

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	DATE	REV. BY	APPR.
A	ISSUED FOR TECHNICAL REFERENCE ONLY	DETAILS AND DATE		

UNITED STATES DEPARTMENT OF ENERGY
FERNALD CLOSURE PROJECT

THIS DRAWING PREPARED BY
FLUOR FERNALD, INC.

PROJECT NAME

DRAWING TITLE
AREA 6 (WASTE PITS AND GENERAL AREA)
METH TANK AND BIO-SURGE LAGOON STRUCTURES
ISOMETRIC VIEW

APPROVALS

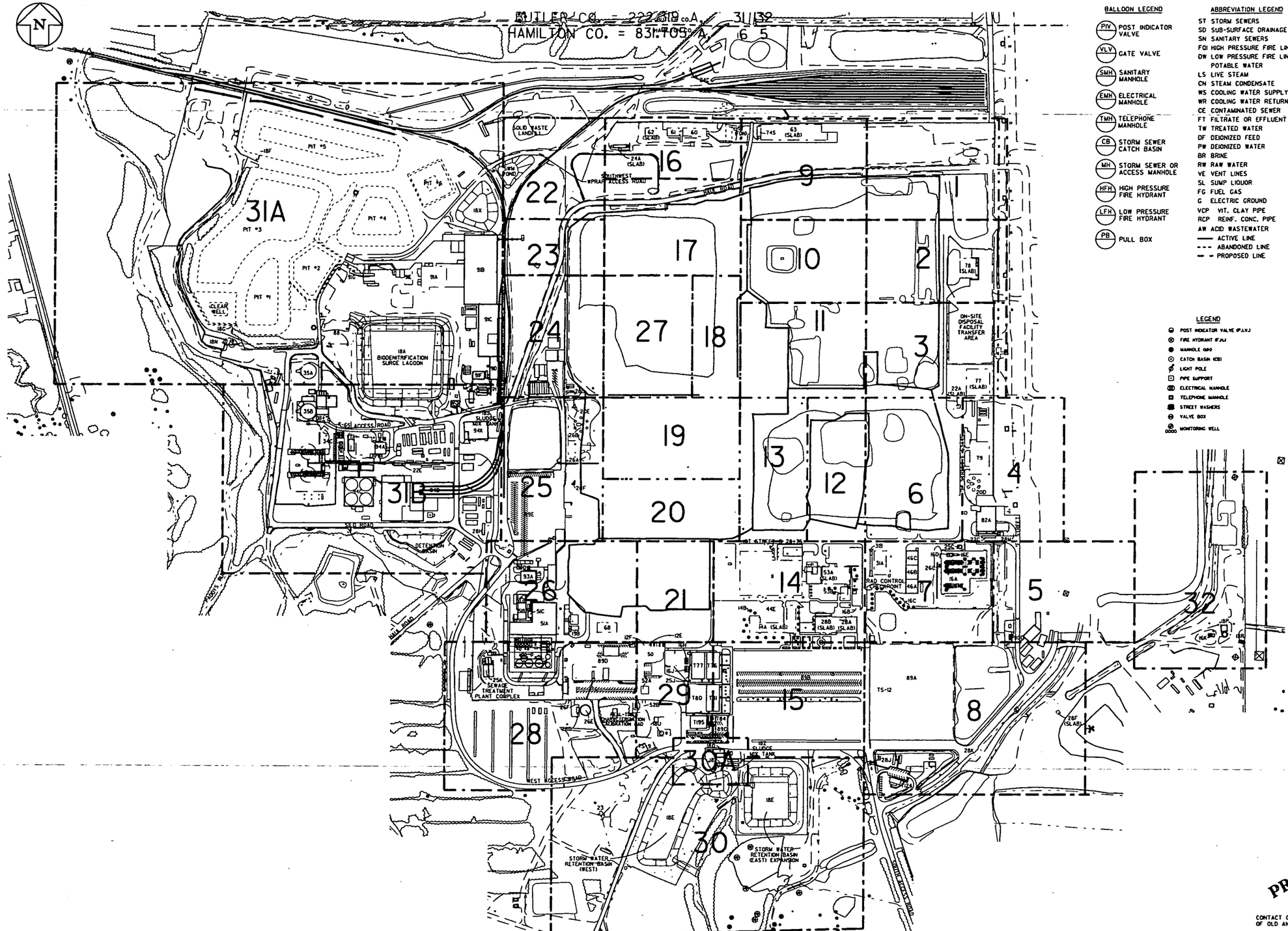
COGNIZANT ENG.			SAFETY ENG.		
CIVIL & STR.			MAINTENANCE		
ELECTRICAL			FIRE PROTECT.		
ENGINEER			WASTE MANAGE		
INSTRUMENT			SECURITY		
MECHANICAL			QA		
			CONSTRUCTION		
CHECKED			SILOS PROJ. ENG.		
APPROVED					

DRAWN BY	PROJECT NO.	DRAWING INDEX CODE NO.	SHEET NO.	REV. NO.
K.L. RABBITT	20600	SK-18A & J	ISO-4	A
RES PROJECT NO.	FILENAME ska18aj.dgn			

PRELIMINARY
NOT FOR CONSTRUCTION

FCPSAE.DGN 5/30/03

22xp0659 CADD11 rabb7064 04/21/2005 09:06:15 AM



BALLOON LEGEND

- PIV — POST INDICATOR VALVE
- VLV — GATE VALVE
- SMH — SANITARY MANHOLE
- EMH — ELECTRICAL MANHOLE
- TMH — TELEPHONE MANHOLE
- CB — STORM SEWER CATCH BASIN
- MH — STORM SEWER OR ACCESS MANHOLE
- HFH — HIGH PRESSURE FIRE HYDRANT
- LFH — LOW PRESSURE FIRE HYDRANT
- PB — PULL BOX

ABBREVIATION LEGEND

ST	STORM SEWERS
SD	SUB-SURFACE DRAINAGE
SN	SANITARY SEWERS
FQI	HIGH PRESSURE FIRE LINES
DW	LOW PRESSURE FIRE LINE/ POTABLE WATER
LS	LIVE STEAM
CN	STEAM CONDENSATE
WS	COOLING WATER SUPPLY
WR	COOLING WATER RETURN
CE	CONTAMINATED SEWER
FT	FILTRATE OR EFFLUENT
TW	TREATED WATER
DF	DEIONIZED FEED
PW	DEIONIZED WATER
BR	BRINE
RW	RAW WATER
VE	VENT LINES
SL	SUMP LIQUOR
FG	FUEL GAS
G	ELECTRIC GROUND
VCP	VIT. CLAY PIPE
RCP	REINF. CONC. PIPE
AW	ACID WASTEWATER
——	ACTIVE LINE
- - -	ABANDONED LINE
— —	PROPOSED LINE

GRID	DRAWING NUMBER
1	22C-5500-P-00660
2	22C-5500-P-00661
3	22C-5500-P-00662
4	22F-5500-P-00663
5	22A-5500-P-00664
6	22F-5500-P-00665
7	22H-5500-P-00666
8	22H-5500-P-00667
9	22C-5500-P-00668
10	22C-5500-P-00669
11	22C-5500-P-00670
12	22E-5500-P-00671
13	22E-5500-P-00672
14	22H-5500-P-00673
15	22H-5500-P-00674
16	22B-5500-P-00675
17	22B-5500-P-00676
18	22B-5500-P-00677
19	22D-5500-P-00678
20	22D-5500-P-00679
21	22G-5500-P-00680
22	22B-5500-P-00681
23	22B-5500-P-00682
24	22B-5500-P-00683
25	22D-5500-P-00684
26	22G-5500-P-00685
27	22B-5500-P-00686
28	22A-5500-P-00687
28	22A-5500-P-00744
29	22A-5500-P-00688
30	22A-5500-P-00689
30A	22A-5500-P-00785
31A	22A-5500-P-00804
31B	22A-5500-P-00805
32	22A-5500-P-00707

LEGEND

- POST INDICATOR VALVE (P.I.V.)
- FIRE HYDRANT (F.H.)
- MANHOLE (MH)
- CATCH BASIN (CB)
- LIGHT POLE
- PIPE SUPPORT
- ELECTRICAL MANHOLE
- TELEPHONE MANHOLE
- STREET WASHERS
- VALVE BOX
- MONITORING WELL

GRID DETAIL DRAWINGS

GRID NO.	DETAIL DWG NO.
10	22C-5500-P-00706
13,14,20,21	22H-5500-P-00963
28	22A-5500-P-00744
31A	22A-5500-P-00961
31B	22A-5500-P-00930
31B	22A-5500-P-00961

FUEL GAS (FG) NOTE:

THE ONLY ACTIVE FUEL GAS LINES ARE FROM NEW GAS METER AT WILLEY ROAD TO HIGHLINE (EAST OF BLDG. 54A), THEN TO NEW BOILER HOUSE (BLDG. 93A) AND TO WPRAP AREA.

FERNALD UNDERGROUND UTILITES

THIS COMPOSITE DRAWING CONTAINS INFORMATION TAKEN FROM ENGINEERING DRAWINGS FROM 1951 TO THE PRESENT WHICH ARE PRESENTLY ON FILE IN THE FERNALD SITE ENGINEERING DEPARTMENT. NOTE: UNDERGROUND UTILITIES WHICH ARE NOT OF RECORD IN THE FERNALD SITE ENGINEERING DEPARTMENT ARE NOT DISPLAYED IN THESE COMPOSITE DRAWINGS.

POST INDICATOR COLORS AT THE F.E.M.P.
(PER FRED BRAUN, UTILITY ENG. 5/18/95)

COLOR	SERVICE
WHITE	(DW) POTABLE WATER LOW PRESSURE FIRE HYDRANT
ORANGE/GREEN	HIGH PRESSURE FIRE HYDRANT
YELLOW	(TW) TREATED WATER PROCESS WATER
BLACK	(FT) EFFLUENT
GREEN	(WS) COOLING WATER SUPPLY
BLUE	(WR) COOLING WATER RETURN
PINK	(RW) RAW WATER
PINK/WHITE	UN-USED (RW) & (DW) CROSS CONNECTION
RED	PROPANE AREA SUMP PIT
PINK/GREEN	(RW) & FIRE PUMP HOUSE (26A)
GRAY	(FT) LIME SLURRY POND LINE
YELLOW/GREEN	(TW) TREATED WATER
WHITE/GREEN	(DW) FEED TO GROUNDWATER STORAGE TANK

FIRE HYDRANT COLORS AT THE F.E.M.P.

ORANGE	LOW PRESSURE HYDRANTS
ORANGE/GREEN	HIGH PRESSURE HYDRANTS

INTERIOR PIPING COLORS (PRELIMINARY)

BLUE	AIR
GREEN	WATER
RED	FIRE PROTECTION

PRELIMINARY

CONTACT CADD SERVICES FOR PIPE SPECIFICATIONS OF OLD AND MOST OF THE NEW PIPING INSTALLATIONS.

NOTE:
1. THIS DRAWING ISSUED PERIODICALLY, FOR THE MOST RECENT VERSION OF THIS DRAWING, ACCESS THE FILENAME BELOW THE TITLE BLOCK.
2. COORDINATES SHOWN ON THIS DRAWING ARE TAKEN FROM EXISTING FEMP DRAWINGS AND ARE NOT VERIFIED TO BE "AS-BUILT". IT IS HIGHLY RECOMMENDED THAT A FIELD SURVEY BE PERFORMED PRIOR TO SITE DESIGN WORK.

NO.	REVISIONS	DATE	DWN. BY	APPD.
16	GENERAL UPDATE	11-01	GEP	
15	GENERAL UPDATE	6/1/01	GEP	GEP
14	ADDED GRID DETAIL DRAWING INDEX	6/2/00	RML	GEP
13	REVISED PER MARK-UP	1/11/00	SJS	GEP

NO.	REVISIONS	DATE	DWN. BY	APPD.	REF. DWG. NO.
12	REMOVE GRID 10A REF, GENERAL UPDATE	2-25-00	RML	GEP	
8	MODIFIED GRID 26 & GRID 31B OUTLINES, ADD GRID 10A	4-13-98	RML	GEP	
10	MODIFIED GRID 28 OUTLINE, ADDED DWG NO.,	3-2-98	RML	GEP	
	DELETED GRID 33				
9	UPDATED	3-4-97	GEP	GEP	
8	UPDATED	1-30-96	JSW	GEP	93X-5900-G-00273
7	UPDATED	12-4-95	GES	GEP	93X-5900-G-00272

FORMAT REVISED 8/7/95

NOTE:
FERMCO C.A.D. DRAWING NOT TO BE REVISED MANUALLY

PERFORMANCE GRADE
1 2 3 4 5
BY: DATE:

APPROVALS					
CIVIL & STR.				SAFETY ENG.	
ELECTRICAL				MAINTENANCE	
ENGINEER				O.A.	
INSTRUMENT				FIRE PROTECT.	
MECHANICAL				WASTE MANAGE.	
				SECURITY	
				CRU	
CHECKED	GEP				
APPROVED	E.E. PAUL				

FERNALD ENVIRONMENTAL RESTORATION MANAGEMENT CORPORATION
FERMCO
Fernald
Environmental Management Project
U.S. DEPARTMENT OF ENERGY

SITE MAP

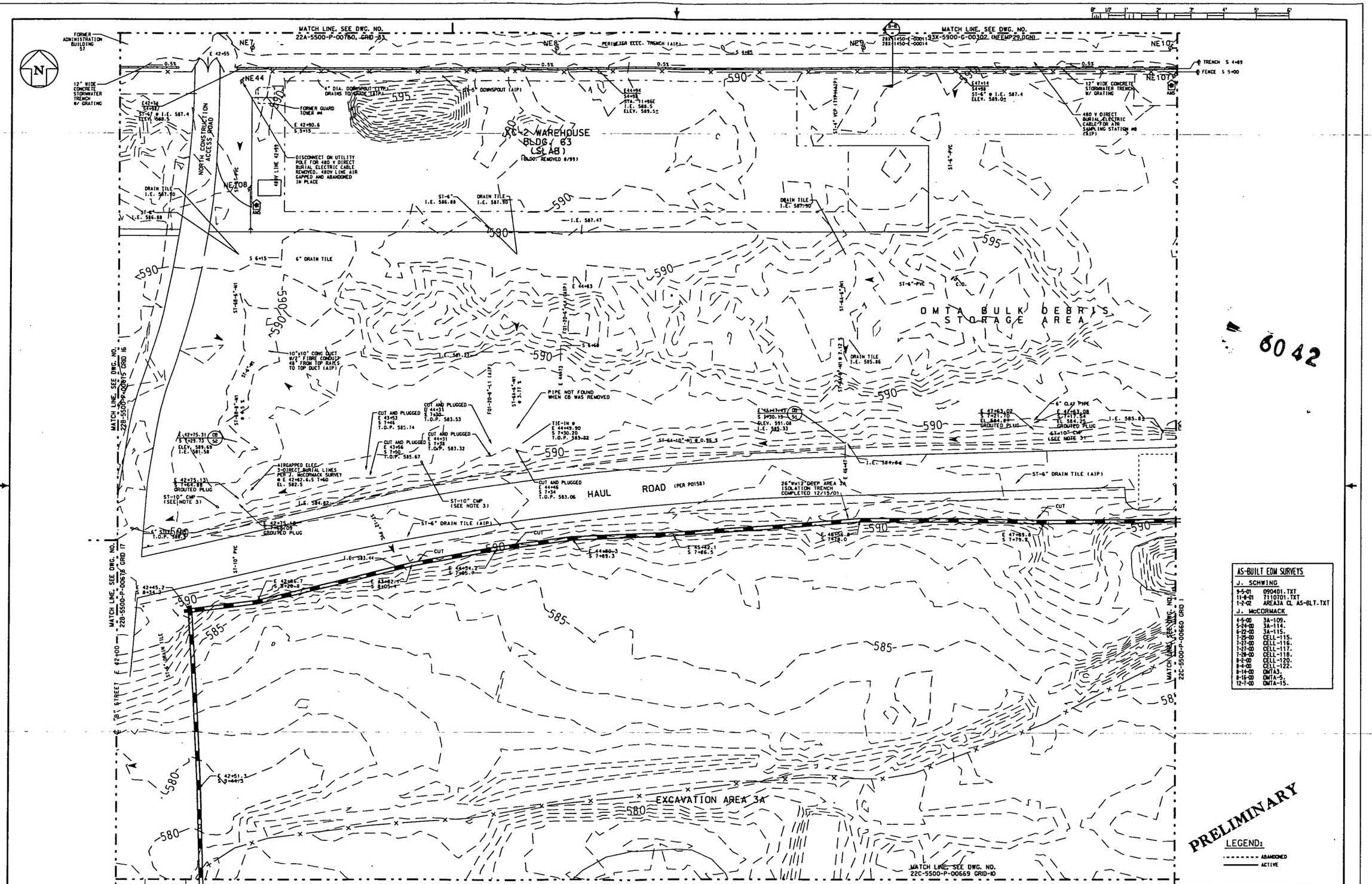
MASTER GRID OF UNDERGROUND UTILITY PLANS

DATE 5/4/8
DRAWN C.E.L.

22X-5500-P-00659 | 16

FILE NAME: /UNDER/22XP0659.DGN

22cp0668 CADD11 rabb7064 04/21/2005 09:08:00 AM



AS-BUILT EDM SURVEYS

J. SCHWING

9-5-01	090401.TXT
11-8-01	T110701.TXT
1-2-02	AREA3A CL AS-BLT.TXT

J. McCORMACK

4-5-00	3A-109.
5-24-00	3A-114.
6-22-00	3A-115.
7-25-00	CELL-115.
7-27-00	CELL-116.
7-27-00	CELL-117.
7-28-00	CELL-118.
8-2-00	CELL-120.
8-4-00	CELL-122.
8-14-00	OMTA3.
8-16-00	OMTA-5.
12-1-00	OMTA-15.

NOTE:
1. THIS DRAWING ISSUED PERIODICALLY, FOR THE MOST RECENT VERSION OF THIS DRAWING, ACCESS THE FILENAME BELOW THE TITLE BLOCK.
2. COORDINATES SHOWN ON THIS DRAWING ARE TAKEN FROM EXISTING FEMP DRAWINGS AND ARE NOT VERIFIED TO BE "AS-BUILT". IT IS HIGHLY RECOMMENDED THAT A FIELD SURVEY BE PERFORMED PRIOR TO SITE DESIGN WORK.
3. STORM SEWERS PER PROJECT 2002. SEE DRAWING /RES444/SA2002-005.DGN

NO.	REVISIONS	DATE	DWN. BY	APPD.
23	GENERAL UPDATE	1/15/04	GEP	
22	GENERAL UPDATE, HFH-130 & PIV-1	1/15/02	GES/RML	GEP
	REMOVED PER COMPLETED WORK			
	ORDER RT00934, REMOVED CB 314,			
	ADDED GROUT AND MECH. PLUG			
	LOCATIONS PER COMPLETED AREA			
	3A TRENCHING ACTIVITIES.			

NO.	REVISIONS	DATE	DWN. BY	APPD.	REF. DWG. NO.
21	AREA 3A TRENCHING COMPLETED BY WISE TASK ORDER 051	1/15/02	RML	GEP	
	12/15/01, GENERAL UPDATE				
20	ADD PROP AREA 3A ISOLATION TRENCH AND BUFFER PER RES 427L	1/11/01	RML	GEP	
	GENERAL UPDATE				
19	480V LINE ABANDONED IN PLACE, DISCONNECT FOR	1/11/01	RML	GEP	
	480V REMOVED FROM POLE NE44 AND 480V SERVICE				99X-5500-G-00627
	AIR GAPPED PER R. DUCKWORTH REQUEST 7-27-01				22X-5500-P-00659

NOTE: WEMCO C.A.D. DRAWING NOT TO BE REVISED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE
FRACTIONS ± 1/16
ANGLES ± 0° - 30'
DECIMALS
.X ± 0.1
.XX ± 0.03
.XXX ± 0.005
.XXXX ± 0.0005
FINAL RELEASE DATE

APPROVALS				
			SAFETY ENG.	
CIVIL & STR.			MAINTENANCE	
ELECTRICAL				
ENGINEER			O.A.	
INSTRUMENT				
MECHANICAL			FIRE PROTECT.	
			WASTE MANAGE	
CHECKED	GEP		D.O.E.	
APPROVED	G.E. PAUL		SECURITY	

WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO
FERNALD, OHIO
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
U.S. DEPARTMENT OF ENERGY

BUILDING 63 YARD AREA
GRID 9
UNDERGROUND UTILITIES
SCALE 1"=20'

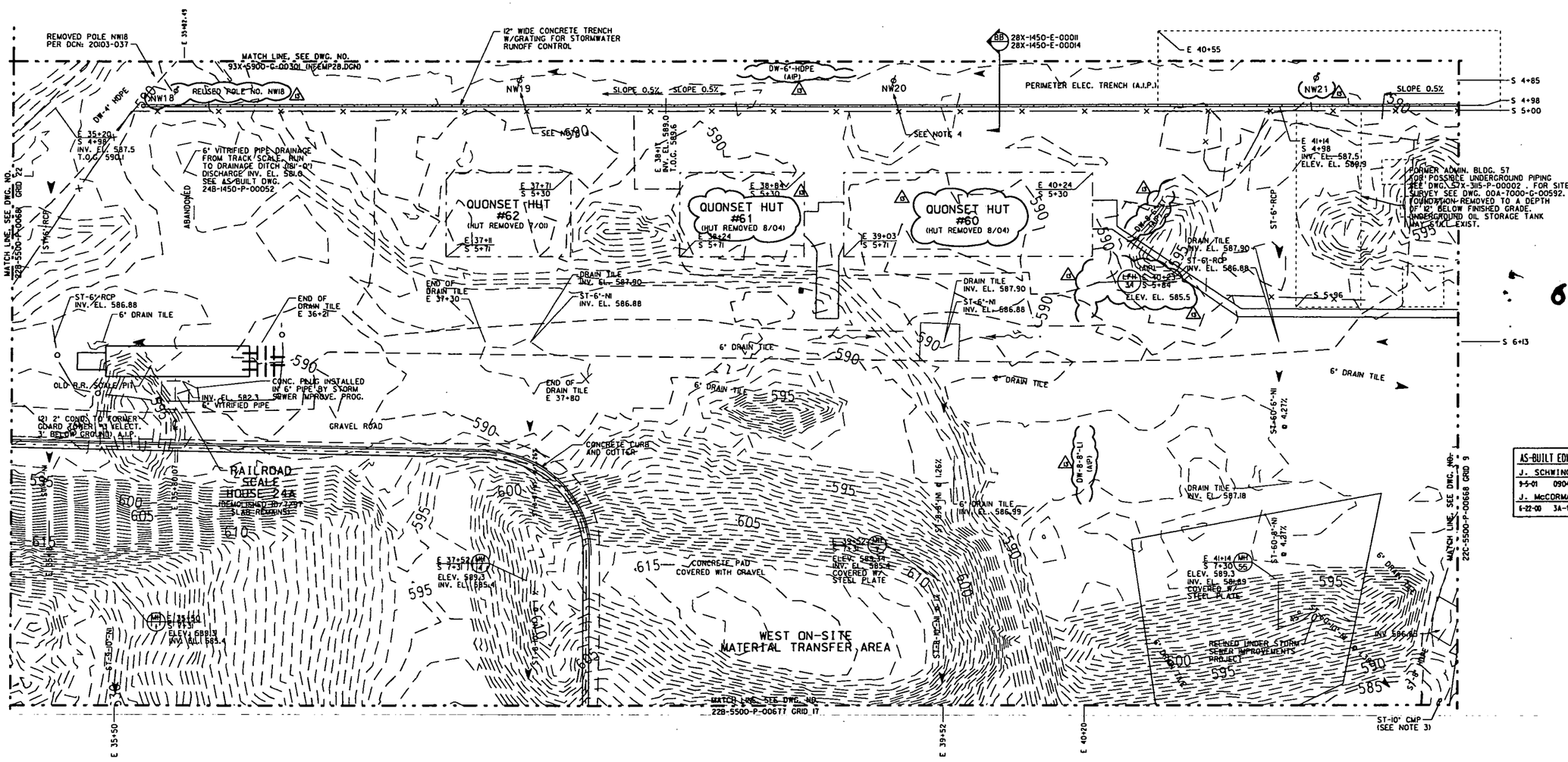
DATE 7-10-89
DRAWN J. KING

22C-5500-P-00668 | 23

FILE NAME: /UNDER/22CP0668.DGN

60 42

22bp0675 CADD11 rabb7064 04/21/2005 09:08:34 AM



60 42

60 42

AS-BUILT EOM SURVEYS
J. SCHWING
9-5-01 090401.TXT
J. McCORMACK
6-22-00 3A-115.

NOTE:
1. THIS DRAWING ISSUED PERIODICALLY, FOR THE MOST RECENT VERSION OF THIS DRAWING, ACCESS THE FILENAME BELOW THE TITLE BLOCK.
2. COORDINATES SHOWN ON THIS DRAWING ARE TAKEN FROM EXISTING FEMP DRAWINGS AND ARE NOT VERIFIED TO BE 'AS-BUILT'. IT IS HIGHLY RECOMMENDED THAT A FIELD SURVEY BE PERFORMED PRIOR TO SITE DESIGN WORK.
3. STORM SEWERS PER PROJECT 20102. SEE DRAWING /RES444/SK20102-005.DGN
4. POLES NW19 AND NW20 REMOVED AND REPLACED WITH 35' CLASS 1 SOUTHERN PINE (DOZ TREATED PER DCN: 20103-037.

NO.	REVISIONS	DATE	DWN. BY	APPD.
13	DW-8-8" LI, DW-8-6" LI & DW-6" HDPE A.I.P.	1-11-04	CES	GEP
	PER WORK COMPLETED W.O. RT003137.			
12	INCORP WORK COMLETED DCN: 20103-037, ADDED NOTE 4.	5/31/02	RML	GEP
11	AS-BUILT ST-10" CMP PER ⊥ McCORMACK SURVEY 3A-115, AS-	0/0/0	RML	GEP
	BUILT ST-8" HDPE PER ⊥ SCHWING SURVEY 090401.TXT, REMOVE			
	POLES NW29 & NW30, COVERED WH 7 & WH 55 PER RES 4267.			
	GENERAL UPDATE			

REF. DWG. NO.
90X-5500-G-00576
22X-5500-P-00659

NOTE:
WEMCO C.A.D. DRAWING NOT TO BE REVISED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE
FRACTIONS ± 1/8
ANGLES ± 0° - 30'
DECIMALS
.X ± 0.1
.XX ± 0.03
.XXX ± 0.005
.XXXX ± 0.0005
AREA RELEASE DATE

APPROVALS

CIVIL & STR.		SAFETY ENG.	
ELECTRICAL		MAINTENANCE	
ENGINEER		Q.A.	
INSTRUMENT			
MECHANICAL		FIRE PROTECT.	
		WASTE MANAGE	
CHECKED	GEP	D.O.E.	
APPROVED	G.E. PAUL	SECURITY	

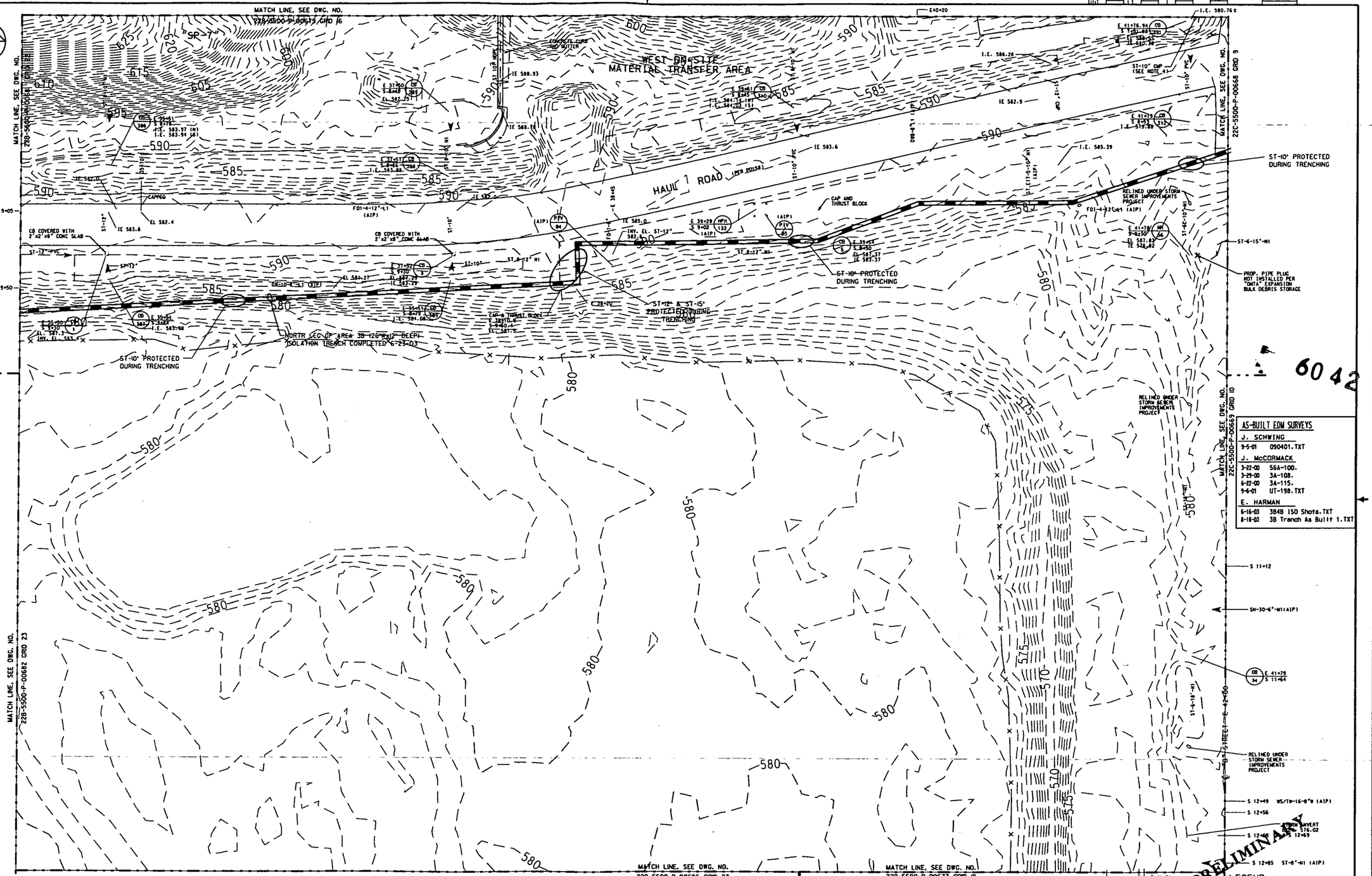
WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO
FERNALD, OHIO
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
U.S. DEPARTMENT OF ENERGY

BLDG. 60,61 & 62 YARD AREA
GRID 16
UNDERGROUND UTILITIES
SCALE 1"=20'

DATE 4-25-90
DRAWN DEL. TURPIN
22B-5500-P-00675 | 13

FILE NAME: /UNDER/22BP0675.DGN

22bp0676 CADD11 rabb7064 04/21/2005 09:09:08 AM



6042

AS-BUILT EDM SURVEYS

J. SCHWING
9-5-01 090401.TXT

J. McCORMACK
3-22-00 56A-100.
3-29-00 3A-108.
6-22-00 3A-115.
9-6-01 UT-198.TXT

E. HARMAN
6-16-03 3B4B ISO Shots.TXT
8-18-03 3B Trench As Built 1.TXT

DIGITAL PHOTO NUMBERS
(1) 7337-D01.JPG THRU 7337-D06..JPG

NOTE:
1. THIS DRAWING ISSUED PERIODICALLY, FOR THE MOST RECENT VERSION OF THIS DRAWING, ACCESS THE FILENAME BELOW THE TITLE BLOCK.
2. COORDINATES SHOWN ON THIS DRAWING ARE TAKEN FROM EXISTING FEMP DRAWINGS AND ARE NOT VERIFIED TO BE "AS-BUILT". IT IS HIGHLY RECOMMENDED THAT A FIELD SURVEY BE PERFORMED PRIOR TO SITE DESIGN WORK.
3. MAIL ROAD & REV 8 RELOCATED AND NEW CATCH BASINS AND FIRE HYDRANTS PER B.L. PAYNE AS-BUILT SURVEY (PO 68) SEE /PAYNE/MAIL/MAILROAD.DGN.
4. STORM SEWERS PER PROJECT 20102. SEE DRAWING /RES444/SC20102-005.DGN

NO.	REVISIONS	DATE	DWN. BY	APPD.	NO.	REVISIONS	DATE	DWN. BY	APPD.	REF. DWG. NO.
					22	GENERAL REVISIONS	1-14-14	GEP		
					21	FO1-4-12" LI AIP PER COMPLETED WORK ORDER R100343, STORM SEWERS AND CATCH BASINS AIP PER AREA 3B UTILITY ISOLATIONS PROJECT	1-12-03	GES	GEP	17X-7000-S-00008 22X-5500-P-00659

NOTE: WEMCO C.A.D. DRAWING NOT TO BE REVISED MANUALLY

UNLESS OTHERWISE SPECIFIED MACHINED ARE IN INCHES
TOLERANCES ARE
FRACTIONS ± 1/8
ANGLES ± 0° - 30'
DECIMALS
.X ± 0.1
.XX ± 0.03
.XXX ± 0.005
.XXXX ± 0.0050
ORIG. RELEASE DATE

APPROVALS			
CIVIL & STR.		SAFETY ENG.	
ELECTRICAL		MAINTENANCE	
ENGINEER		O.A.	
INSTRUMENT			
MECHANICAL		FIRE PROTECT.	
		WASTE MANAGE	
CHECKED	GEP	D.O.E.	
APPROVED	G.E PAUL	SECURITY	

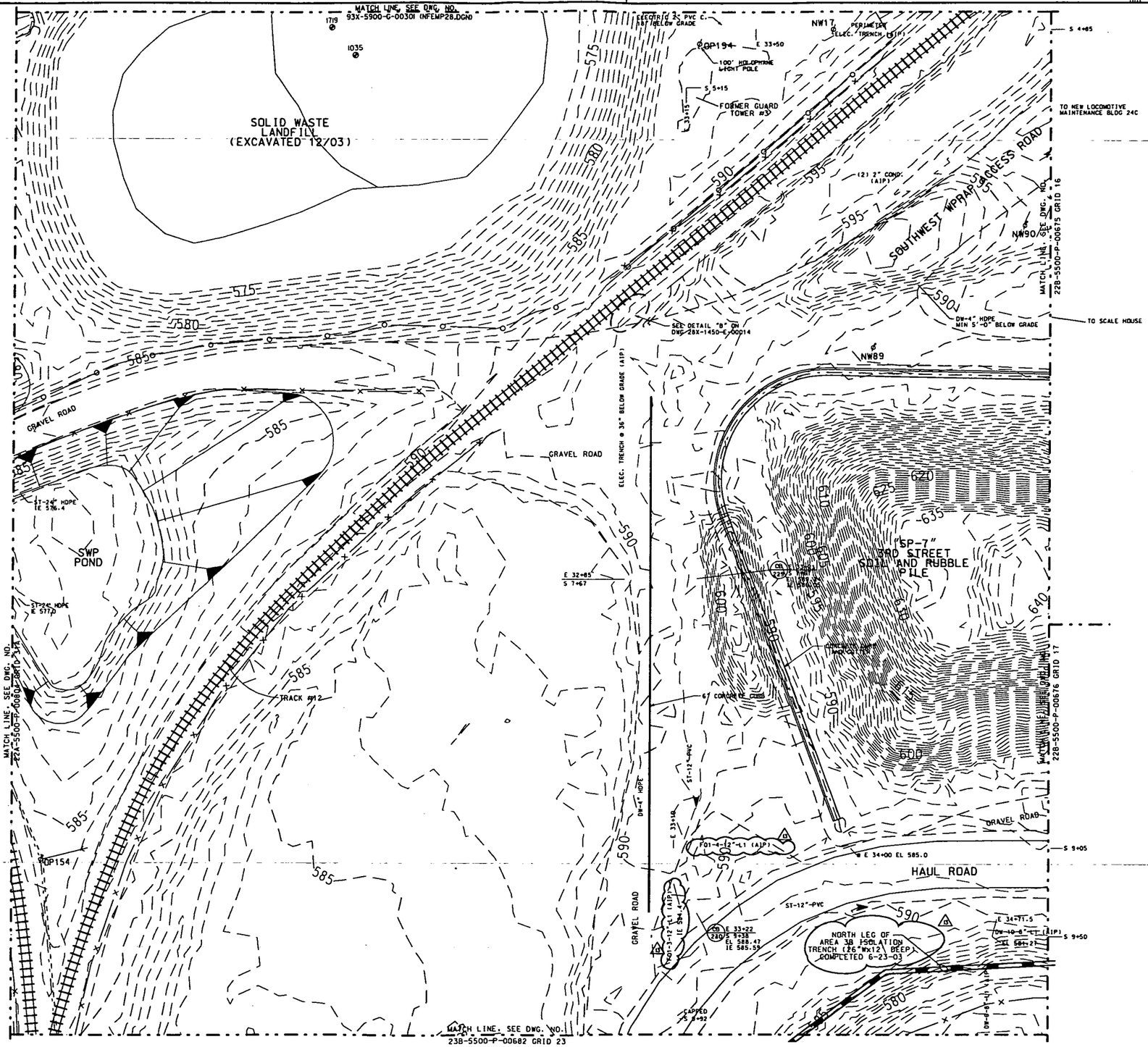
WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO
FERNALD, OHIO
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
U.S. DEPARTMENT OF ENERGY

BLDG. 56 & PLANT #1 PAD — YARD AREA
GRID 17
UNDERGROUND UTILITIES
SCALE 1"=20'

DATE 4-25-90
DRAWN DEL. TURPIN
22B-5500-P-00676 | 22

FILE NAME: /UNDER/22BP0676.DGN

22bp0681 CADD11 rabb7064 04/21/2005 09:09:58 AM



60 42

AS-BUILT EDM SURVEYS

J. SCHWING
5-10-99 WL-106.TXT
6-3-99 060399NA.TXT

J. McCORMACK
11-20-99 RY-114.
11-23-99 RY-115.

E. HARMAN
8-18-03 3B Trench As Built 1.txt

NOTE:
1. THIS DRAWING ISSUED PERIODICALLY, FOR THE MOST RECENT VERSION OF THIS DRAWING, ACCESS THE FILENAME BELOW THE TITLE BLOCK.
2. COORDINATES SHOWN ON THIS DRAWING ARE TAKEN FROM EXISTING FEMP DRAWINGS AND ARE NOT VERIFIED TO BE "AS-BUILT". IT IS HIGHLY RECOMMENDED THAT A FIELD SURVEY BE PERFORMED PRIOR TO SITE DESIGN WORK.
3. FOR INFORMATION ON HAUL ROAD SEE P0681.

NO.	REVISIONS	DATE	DWN. BY	APPD.	NO.	REVISIONS	DATE	DWN. BY	APPD.	REF. DWG. NO.
					13	FOI-4-12"-L1 A.I.P. PER COMPLETED WORK ORDER RT003143, ADDED COMP. AREA 3B TRENCH	8-18-03	GES	GEP	22X-5500-P-00659

NOTE:
WEMCO C.A.D. DRAWING NOT TO BE REVISED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE
FRACTIONS ± 1/8
ANGLES ± 0°-30'
DECIMALS
.X ± 0.1
.XX ± 0.03
.XXX ± 0.005
.XXXX ± 0.0005
ORIG. RELEASE DATE

APPROVALS					
CIVIL & STR.			SAFETY ENG.		
ELECTRICAL			MAINTENANCE		
ENGINEER			O.A.		
INSTRUMENT					
MECHANICAL			FIRE PROTECT.		
			WASTE MANAGE		
CHECKED	EP		O.O.E.		
APPROVED	CJ/WL	8/21/03	SECURITY		

WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO
FERNALD, OHIO
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
U.S. DEPARTMENT OF ENERGY

N.W. CORNER/SITE — YARD AREA

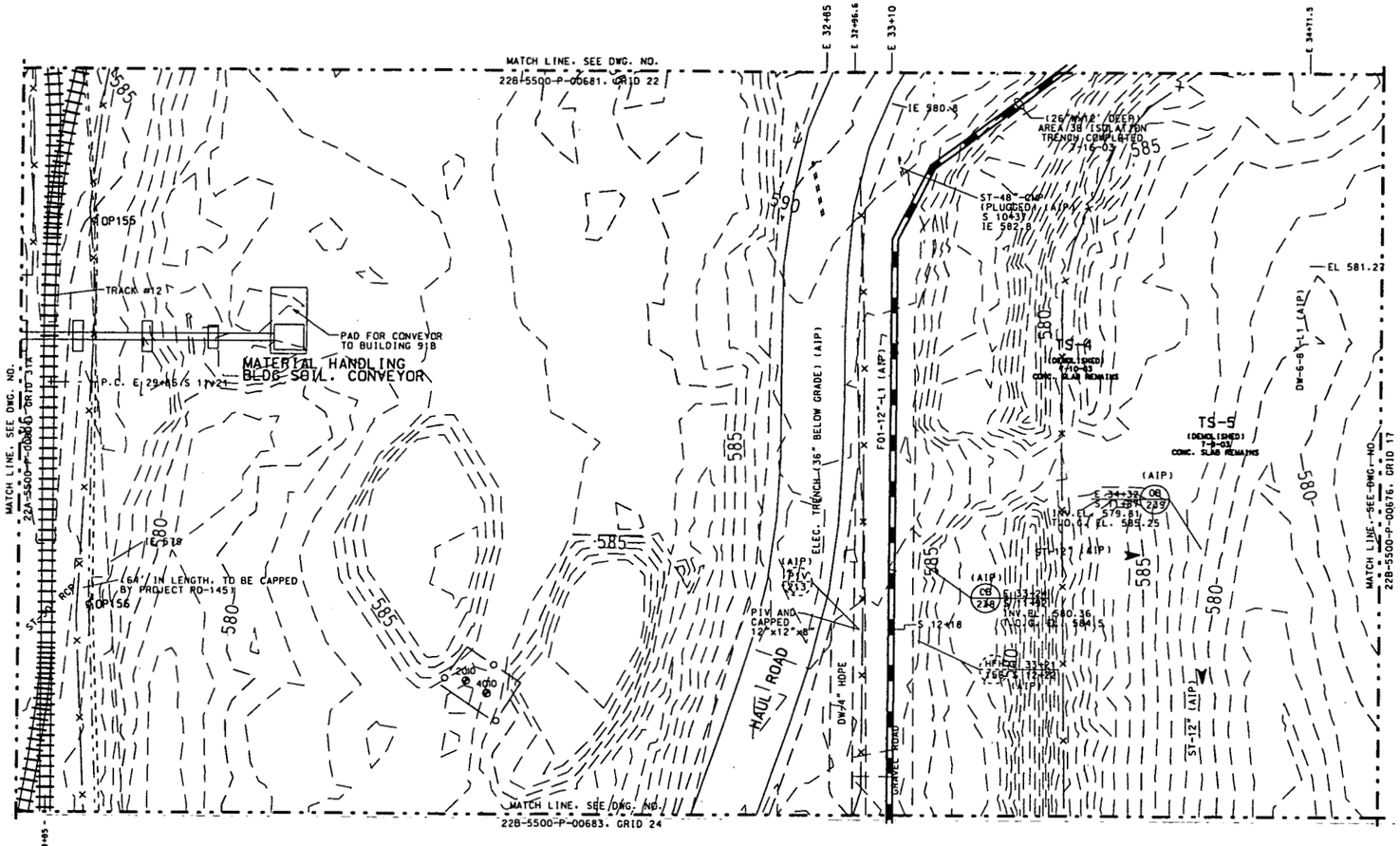
GRID 22
UNDERGROUND UTILITIES
SCALE 1"=20'

DATE 9/25/90
DRAWN S.J.S.

22B-5500-P-00681 | 13

FILE NAME: /UNDER/22BP0681.DGN

22bp0682 CADD11 rabb7064 04/21/2005 09:10:39 AM



60 42

AS-BUILT EDM SURVEYS
E. HARMAN
8-18-03 3B Trench As Built 1.txt

PRELIMINARY

NOTE:
1. THIS DRAWING ISSUED PERIODICALLY, FOR THE MOST RECENT VERSION OF THIS DRAWING, ACCESS THE FILENAME BELOW THE TITLE BLOCK.
2. COORDINATES SHOWN ON THIS DRAWING ARE TAKEN FROM EXISTING FEMP DRAWINGS AND ARE NOT VERIFIED TO BE 'AS-BUILT'. IT IS HIGHLY RECOMMENDED THAT A FIELD SURVEY BE PERFORMED PRIOR TO SITE DESIGN WORK.
3. FOR INFORMATION ON HAUL ROAD SEE P0.5A.

NO.	REVISIONS	DATE	DWN. BY	APPD.	NO.	REVISIONS	DATE	DWN. BY	APPD.	REF. DWG. NO.
12	GENERAL REVISIONS	9-9-04	GEP		7	UPDATED ADDED PROPOSED HAUL ROAD AND RELOCATED FIRE HYDRANT 156	3-10-03	GES	GEP	
8	F01-12"-L1 A.I.P. PER WORK ORDER	10-01	GES	GEP	6	UPDATED	12-4-95	JSW	GEP	
	RT003143, STORM SEWERS A.I.P.				5	UPDATED	1-25-95	JSW	GEP	
10	REMOVED T-53L AIP DW-6-8"L1, GENERAL UPDATE	1-9-02	RWL	GEP	4	ADDED NOTE	1-10-95	GES	GEP	
9	ADD PIV NUMBER TO F01 LINE, ADDED T-53L SOIL	7-25-01	JSW	GEP	3	UPDATED	01/01/94	GES	GEP	
	CONVEYOR PAD, DELETED OSDF HVAC TEXT				2	UPDATED	01-31-93	GES	GEP	
8	UPDATED, ADDED DW-4" & RELOCATED FIRE HYDRANT 156	1/5/98	SJS	GEP	1	UPDATED	1-1-91	[illegible]	GEP	22X-5500-P-00659

NOTE:
WEMCO C.A.D. DRAWING NOT TO BE REVISED MANUALLY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE
FRACTIONS ± 1/16
ANGLES ± 0° - 30'
DECIMALS
.X ± 0.1
.XX ± 0.05
.XXX ± 0.005
.XXXX ± 0.0005
FINAL RELEASE DATE

APPROVALS					
CIVIL & STR.			SAFETY ENG.		
ELECTRICAL			MAINTENANCE		
ENGINEER			Q.A.		
INSTRUMENT					
MECHANICAL			FIRE PROTECT.		
			WASTE MANAGE		
CHECKED	GEP		O.O.E.		
APPROVED	G.E. PAUL	01/21/05	SECURITY		

WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO
FERNALD, OHIO
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
U.S. DEPARTMENT OF ENERGY

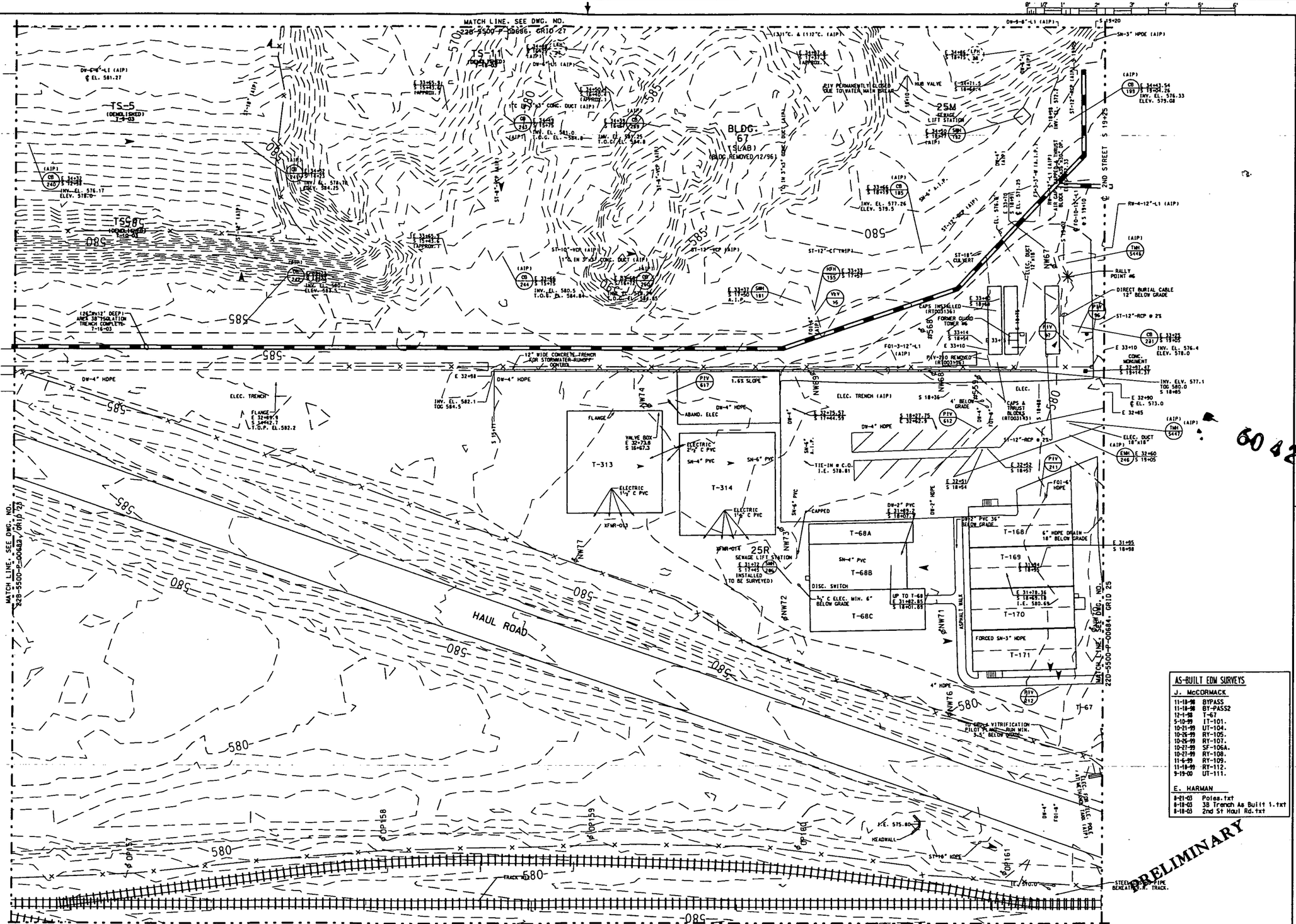
E. OF BLDG. 56 — YARD AREA
GRID 23
UNDERGROUND UTILITIES
SCALE 1"=20'

DATE 9/25/90
DRAWN S.J.S.

22B-5500-P-00682 | 12

FILE NAME: /UNDER/22BP0682.DGN

22bp0683 CADD11 rabb7064 04/21/2005 09:11:57 AM



AS-BUILT EDM SURVEYS

J. McCORMACK

11-18-98	BYPASS
11-18-98	BY-PASS2
12-1-98	T-67
5-10-99	IT-101.
10-21-99	UT-104.
10-26-99	RY-105.
10-26-99	RY-107.
10-27-99	SF-106A.
10-27-99	RY-108.
11-6-99	RY-109.
11-18-99	RY-112.
9-19-00	UT-111.

E. HARMAN

8-21-03	Poles.txt
8-18-03	3B Trench As Built 1.txt
8-18-03	2nd St Haul Rd.txt

NOTE:
1. THIS DRAWING ISSUED PERIODICALLY, FOR THE MOST RECENT VERSION OF THIS DRAWING, ACCESS THE FILENAME BELOW THE TITLE BLOCK.
2. COORDINATES SHOWN ON THIS DRAWING ARE TAKEN FROM EXISTING FDUP DRAWINGS AND ARE NOT VERIFIED TO BE "AS-BUILT". IT IS HIGHLY RECOMMENDED THAT A FIELD SURVEY BE PERFORMED PRIOR TO SITE DESIGN WORK.
3. FOR INFORMATION ON HAUL ROAD SEE P058.

NO.	REVISIONS	DATE	DWN. BY	APPD.	NO.	REVISIONS	DATE	DWN. BY	APPD.	REF. DWG. NO.
20	GENERAL REVISIONS	9-9-04	GEP		18	A.I.P. SN-6" NW OF SMH-192 PER AS-BUILT SKETCH	4/03	GES	GEP	
19	INSTALLED CAPS & THRUST BLOCK EAST OF	12-2-03	GES	GEP		FROM D. HENNEKES. WORK COMPLETED DCN 4384-001				
	PIV-210 AND SOUTH LEG OF TEE PER WORK				17	RW-4-12"-L1 A.I.P. PER COMPLETED WORK ORDER RT002974	3/03	GEP	GEP	
	ORDER RT00343. REMOVED PIV-210 CUT &				16	FT-3-3" A.I.P. PER LIME SLUDGE PONDS REMEDIATION	1/31/02	RNL	GEP	67X-5500-E-00003
	CAPPED DW-4" HDPE PER COMP. W.O.					PROJECT 20103, ADD SMH#206, 25R LIFT STATION PER DCN:				22B-5500-P-00588
	RT00336, STORM SEWERS & CBs AIP					4384-001				22X-5500-P-00659

NOTE:
WEMCO C.A.D.
DRAWING NOT
TO BE REVISED
MANUALLY

UNLESS OTHERWISE SPECIFIED ENGINEERING USE IN INCHES
TOLERANCES ARE:
FRACTIONS ± 1/8
ANGLES ± 0° - 30'
DECIMALS
.X ± 0.1
.XX ± 0.03
.XXX ± 0.005
.XXXX ± 0.0005
FINAL RELEASE DATE

APPROVALS				
CIVIL & STR.			SAFETY ENG.	
ELECTRICAL			MAINTENANCE	
ENGINEER			O.A.	
INSTRUMENT				
MECHANICAL			FIRE PROTECT.	
			WASTE MANAGE.	
CHECKED	G.L.P.		D.O.E.	
APPROVED	G.L. PAUL	6/21/00	SECURITY	

WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO
FERNALD, OHIO
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
U.S. DEPARTMENT OF ENERGY

BLDG. 67 — YARD AREA

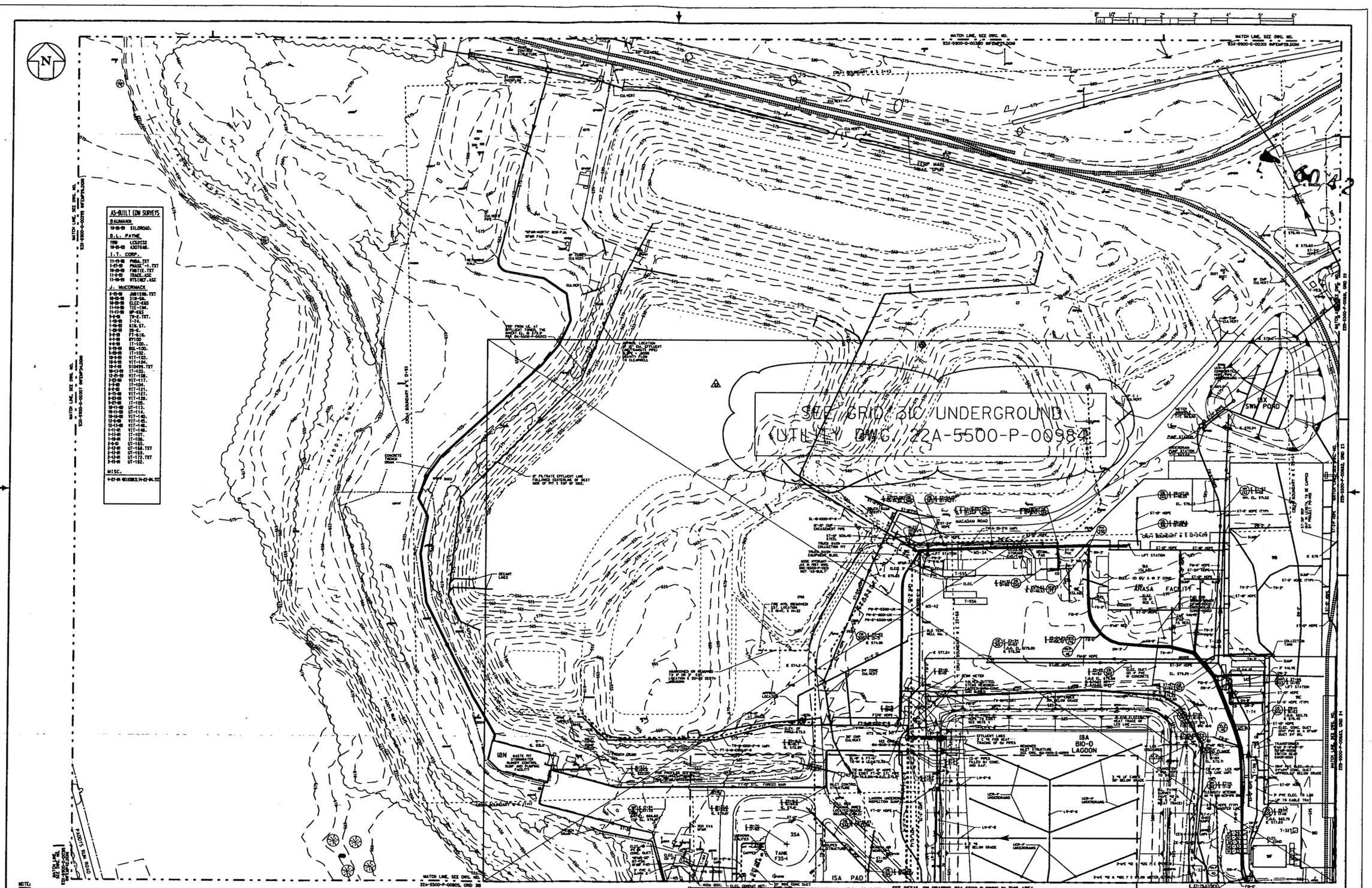
GRID 24
UNDERGROUND UTILITIES
SCALE 1"=20'

DATE 9/26/90
DRAWN S.J.S.

22B-5500-P-00683 | 20

FILE NAME: /UNDER/22BP0683.DGN

22ap0804 CADD11 rabb7064 04/21/2005 09:32:48 AM



NOTE:
1. THIS DRAWING ISSUED PERIODICALLY, FOR THE MOST RECENT VERSION OF THIS DRAWING, ACCESS THE FILENAME BELOW THE TITLE BLOCK.
2. COORDINATES SHOWN ON THIS DRAWING ARE TAKEN FROM EXISTING FEMP DRAWINGS AND ARE NOT VERIFIED TO BE "AS-BUILT". IT IS HIGHLY RECOMMENDED THAT A FIELD SURVEY BE PERFORMED PRIOR TO SITE DESIGN WORK.
3. THE LEACHATE CONVEYANCE SYSTEM LINE LOCATION IS FROM B.L. PATHE & ASSOC. AS-BUILT SURVEY. SEE FILE W:\PATHE\LCS\LCS2032.DGN. THE WASTE AREA STORM SEWERS, FORCED MAIN, AND PONDS WERE FROM AS-BUILT PARSONS DRAWINGS 690-450.
4. SEE PARSONS TOP-046 DWG 95X-5500-G-0001 FOR CONSTRUCTION DETAILS.

FORMAT REVISED 8/17/95

NO.	REVISIONS	DATE	DWN.	BY	APPD.
23	ADDED UNDERGROUND UTILITY GRID 3C CALLOUT NOTE	4/4/05	GEP		GEP
22	CE-47/8' LCS LINE AIP PER SURVEY 54-19.TXT 2-5-05	1/28/05	GEP		GEP
21	AS-BUILT ST-6" HDPE PER E. HARMAN SURVEY 4/22/04, SURVEY 4BIASBUILT4-22-04.TXT, ADD REF. DRAWING FOR 4B1 TRANSFER LINE	5/10/04	GEP		GEP

NO.	REVISIONS	DATE	DWN.	BY	APPD.
	95X-5500-G-0006B1				
	M-00-50-42		M-00-80-42		
	D-00-42-003				
	D-00-66-006 D-00-66-007				
	D-90-69-001 D-35-66-001				
	REF. DWG. NO.				

NOTE:
FERMCO C.A.D. DRAWING NOT TO BE REVISED MANUALLY

PERFORMANCE GRADE
1 2 3 4 5
STY: DATE:

APPROVALS			
CIVIL & STR.		SAFETY ENG.	
ELECTRICAL		MAINTENANCE	
ENGINEER		Q.A.	
INSTRUMENT		FIRE PROTECT.	
MECHANICAL		WASTE MANAGE.	
		SECURITY	
		CRU	
CHECKED	G.L.P.		
APPROVED	G.L. PAIL	4-25-05	

FERNALD ENVIRONMENTAL RESTORATION MANAGEMENT CORPORATION
FERMCO
Fernald
Environmental Management Project
U.S. DEPARTMENT OF ENERGY

WASTE PIT AREA — FIELD AREA

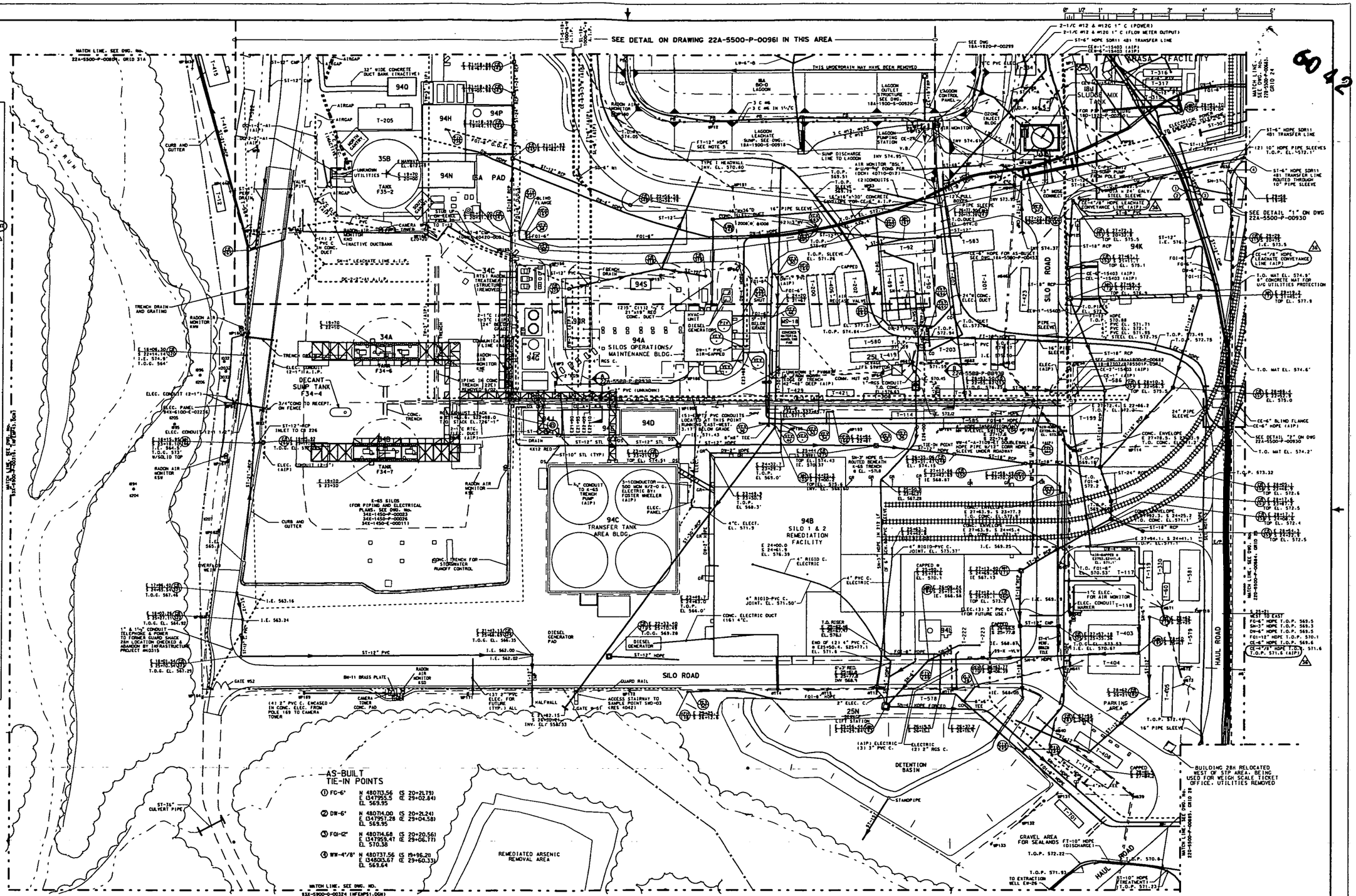
GRID 31A
UNDERGROUND UTILITIES
SCALE 1"=60'-0"

DATE 10-6-93
DRAWN JAW

22A-5500-P-00804 | 23

FILE NAME: /UNDER/22AP0804.DGN

22ap0805 CADD11 rabb7064 04/21/2005 09:12:59 AM



NOTE:
1. THIS DRAWING ISSUED PERIODICALLY, FOR THE MOST RECENT VERSION OF THIS DRAWING, ACCESS THE FILENAME BELOW THE TITLE BLOCK.
2. COORDINATES SHOWN ON THIS DRAWING ARE TAKEN FROM EXISTING FEMP DRAWINGS AND ARE NOT VERIFIED TO BE "AS-BUILT". IT IS HIGHLY RECOMMENDED THAT A FIELD SURVEY BE PERFORMED PRIOR TO SITE DESIGN WORK.
3. THE WEST UTILITIES CORRIDOR TRENCH IS THE RESULT OF AN AS-BUILT SURVEY BY B.L.PAYNE & ASSOC. THIS INCLUDES THE LCS LINE (PORAL) FOR B.L.PAYNE SURVEY SEE FILE: /PAYNE/LCS20.02.DGN
4. FOR INFORMATION ON HAUL ROAD SEE P058.
5. SEE PARSONS TOP-046 DWG 93X-5900-G-00009 FOR CONSTRUCTION DETAILS.
6. SEE REVISION 32 FOR PAST JACK McCORMACK SURVEYS

FORMAT REVISED 8/1/95

NO.	REVISIONS	DATE	DWN. BY	APPD.	NO.	REVISIONS	DATE	DWN. BY	APPD.	REF. DWG. NO.
					36	CE-4"/8" LCS LINE AIP PER SURVEY 51-89.TXT 2-5-05	2/16/05	GEP	GEP	
					35	ADDED AS-BUILT ST-6" HDPE 481 TRANSFER LINE PER	1/1/04	GEP	GEP	
						SURVEY 481ASBUILT4-22-04.TXT, MOVED BLDG. 28H,				
						RE-ADDED AIP DW-4" HDPE PER SURVEY SILO-188				6IFCD002 (F.WHEELER)
					34	AS-BUILT DCN:4316-001 FOR CE-6" HDPE LINE, INCORP.	2/1/01	GEP	GEP	3OFED001 (F.WHEELER)
						FIELD SKETCH FROM J. McCORMACK (2/18/04) FOR				5IFCD003 (F.WHEELER)
						TOILET TRAILERS T-222 & 223 LOCATION & UTILITIES				94X-5900-G-00898

NOTE:
FERMCO C.A.D. DRAWING NOT TO BE REVISED MANUALLY

PERFORMANCE GRADE 1 2 3 4 5
BY: DATE:

APPROVALS			
CIVIL & STR.		SAFETY ENG.	
ELECTRICAL		MAINTENANCE	
ENGINEER		Q.A.	
INSTRUMENT		FIRE PROTECT.	
MECHANICAL		WASTE MANAGE.	
		SECURITY	
		CRU	
CHECKED	GEP		
APPROVED	G.E. PAUL	2/5/95	

FERNALD ENVIRONMENTAL RESTORATION MANAGEMENT CORPORATION
FERMCO
Fernald
Environmental Management Project
U.S. DEPARTMENT OF ENERGY

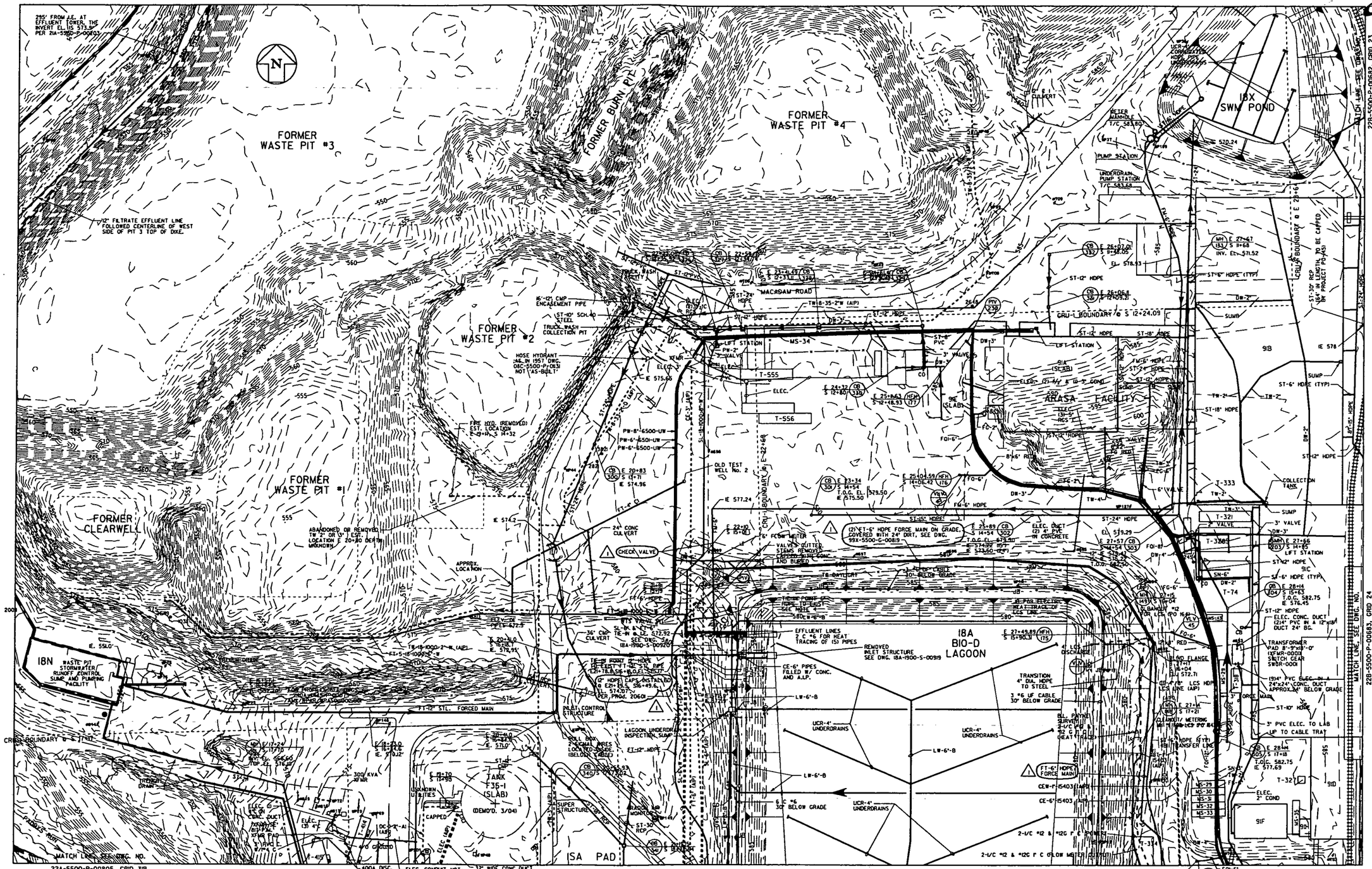
SOUTHERN K-65 AREA — FIELD AREA
GRID 31B
UNDERGROUND UTILITIES
SCALE 1"=40'-0"

DATE Oct. 27,1994 — 22A-5500-P-00805 — 36
DRAWN JAR

FILE NAME: /UNDER/22AP0805.DGN

22ap0984 CADD11 rabb7064 04/21/2005 09:17:26 AM

6042



NO.	REVISIONS	DATE	DWN. BY	APPD.	NO.	REVISIONS	DATE	DWN. BY	APPD.	REF. DWG. NO.
					1	ADDED (2) FT-6" HDPE FORCE MAIN LINES PER PROJ. 20601, ADDED	4/2/05	GEP	GEP	
						RELOCATED TRAILER AND SEALANDS, MISC. REVISIONS				
					0	ISSUED FOR INFORMATION ONLY	4/4/05	GEP	GEP	

NOTE:
FLUOR FERNALD CADD DRAWING. DO NOT REVISE MANUALLY.

CONFIGURATION MANAGEMENT DRAWING
EFFECTS ATTACHED SAFETY COMPONENTS OR OPERATIONS MANAGEMENT CONTROL. SEE NOTES.
COGNIZANT ENGINEER DATE

APPROVALS				
CIVIL & STR.			SAFETY ENG.	
ELECTRICAL			MAINTENANCE	
ENGINEER			FIRE PROTECT.	
INSTRUMENT			WASTE MANAGE.	
MECHANICAL			SECURITY	
			PROJECTS	
CHECKED	GP			
APPROVED	G.E. PAUL	4-4-05		

Fernald Closure Project

FLUOR FERNALD, INC.

U.S. DEPARTMENT OF ENERGY

WASTE PIT AREA — FIELD AREA

GRID 31C
UNDERGROUND UTILITIES
SCALE 1"=40'-0"

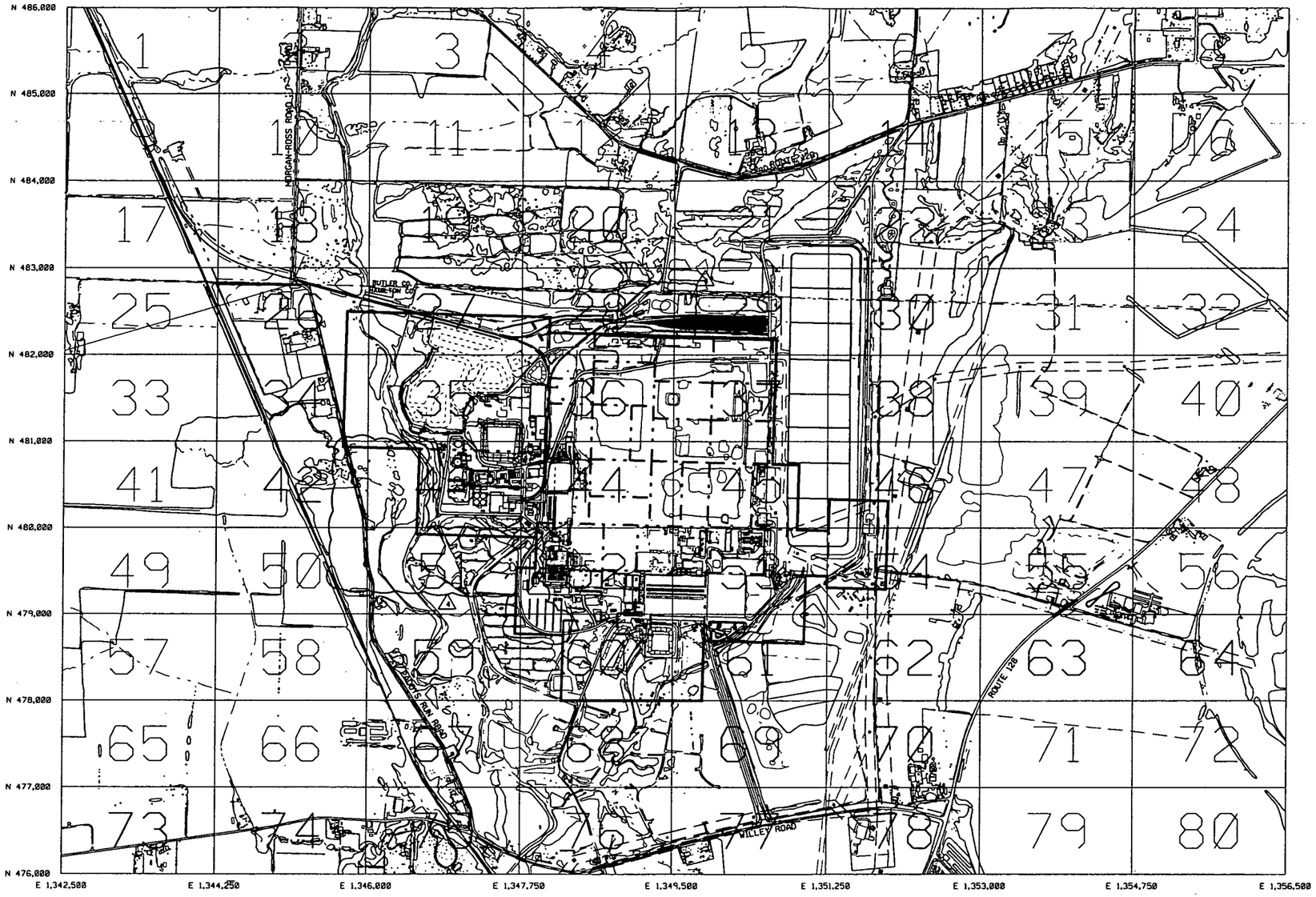
DATE APRIL 4, 2005
DRAWN G.E. PAUL

22A-5500-P-00984 | 1

FILE NAME: /UNDER/22AP0984.DGN

FCF5.DGN 5/30/03

niindex CADD11 rabb7064 04/21/2005 09:20:12 AM



FEMP GRID	DRAWING NUMBER	
1	93X-5900-G-00274	
2	93X-5900-G-00275	
3	93X-5900-G-00276	
4	93X-5900-G-00277	
5	93X-5900-G-00278	
6	93X-5900-G-00279	
7	93X-5900-G-00280	
8	93X-5900-G-00281	
9	93X-5900-G-00282	
10	93X-5900-G-00283	
11	93X-5900-G-00284	
12	93X-5900-G-00285	
13	93X-5900-G-00286	(GRID APPLIES TO FEMP PROPERTY)
14	93X-5900-G-00287	(GRID APPLIES TO FEMP PROPERTY)
15	93X-5900-G-00288	
16	93X-5900-G-00289	
17	93X-5900-G-00290	
18	93X-5900-G-00291	(GRID APPLIES TO FEMP PROPERTY)
19	93X-5900-G-00292	(GRID APPLIES TO FEMP PROPERTY)
20	93X-5900-G-00293	(GRID APPLIES TO FEMP PROPERTY)
21	93X-5900-G-00294	(GRID APPLIES TO FEMP PROPERTY)
22	93X-5900-G-00295	(GRID APPLIES TO FEMP PROPERTY)
23	93X-5900-G-00296	
24	93X-5900-G-00297	
25	93X-5900-G-00298	
26	93X-5900-G-00299	(GRID APPLIES TO FEMP PROPERTY)
27	93X-5900-G-00300	(GRID APPLIES TO FEMP PROPERTY)
28	93X-5900-G-00301	(GRID APPLIES TO FEMP PROPERTY)
29	93X-5900-G-00302	(GRID APPLIES TO FEMP PROPERTY)
30	93X-5900-G-00303	(GRID APPLIES TO FEMP PROPERTY)
31	93X-5900-G-00304	
32	93X-5900-G-00305	
33	93X-5900-G-00306	
34	93X-5900-G-00307	(GRID APPLIES TO FEMP PROPERTY)
35	93X-5900-G-00308	(GRID APPLIES TO FEMP PROPERTY)
36	93X-5900-G-00309	(GRID APPLIES TO FEMP PROPERTY)
37	93X-5900-G-00310	(GRID APPLIES TO FEMP PROPERTY)
38	93X-5900-G-00311	(GRID APPLIES TO FEMP PROPERTY)
39	93X-5900-G-00312	
40	93X-5900-G-00313	
41	93X-5900-G-00314	
42	93X-5900-G-00315	(GRID APPLIES TO FEMP PROPERTY)
43	93X-5900-G-00316	(GRID APPLIES TO FEMP PROPERTY)
44	93X-5900-G-00317	(GRID APPLIES TO FEMP PROPERTY)
45	93X-5900-G-00318	(GRID APPLIES TO FEMP PROPERTY)
46	93X-5900-G-00319	(GRID APPLIES TO FEMP PROPERTY)
47	93X-5900-G-00320	
48	93X-5900-G-00321	
49	93X-5900-G-00322	
50	93X-5900-G-00323	
51	93X-5900-G-00324	(GRID APPLIES TO FEMP PROPERTY)
52	93X-5900-G-00325	(GRID APPLIES TO FEMP PROPERTY)
53	93X-5900-G-00326	(GRID APPLIES TO FEMP PROPERTY)
54	93X-5900-G-00327	(GRID APPLIES TO FEMP PROPERTY)
55	93X-5900-G-00328	(GRID APPLIES TO FEMP PROPERTY)
56	93X-5900-G-00329	
57	93X-5900-G-00330	
58	93X-5900-G-00331	
59	93X-5900-G-00332	(GRID APPLIES TO FEMP PROPERTY)
60	93X-5900-G-00333	(GRID APPLIES TO FEMP PROPERTY)
61	93X-5900-G-00334	(GRID APPLIES TO FEMP PROPERTY)
62	93X-5900-G-00335	(GRID APPLIES TO FEMP PROPERTY)
63	93X-5900-G-00336	(GRID APPLIES TO FEMP PROPERTY)
64	93X-5900-G-00337	(GRID APPLIES TO FEMP PROPERTY)
65	93X-5900-G-00338	
66	93X-5900-G-00339	
67	93X-5900-G-00340	(GRID APPLIES TO FEMP PROPERTY)
68	93X-5900-G-00341	(GRID APPLIES TO FEMP PROPERTY)
69	93X-5900-G-00342	(GRID APPLIES TO FEMP PROPERTY)
70	93X-5900-G-00343	(GRID APPLIES TO FEMP PROPERTY)
71	93X-5900-G-00344	
72	93X-5900-G-00345	
73	93X-5900-G-00346	(GRID APPLIES TO FEMP WORK)
74	93X-5900-G-00347	(GRID APPLIES TO FEMP WORK)
75	93X-5900-G-00348	(GRID APPLIES TO FEMP PROPERTY)
76	93X-5900-G-00349	(GRID APPLIES TO FEMP PROPERTY)
77	93X-5900-G-00350	(GRID APPLIES TO FEMP PROPERTY)
78	93X-5900-G-00351	(GRID APPLIES TO FEMP PROPERTY)
79	93X-5900-G-00352	
80	93X-5900-G-00353	

5

NOTE:
1. REFER TO 22X-5500-P-00659 FOR BALLOON, ABBREVIATION, AND SYMBOL LEGENDS
2. FOR HEAVY OUTLINED AREA, SEE MASTER GRID 'SITE PLANS' 75X-5500-G-00027 MASTER GRID 'UNDERGROUND UTILITIES' 22X-5500-P-00659

STATE OF OHIO NORTH (NAD 83)

FEMP NORTH ∠=1.5672°

SHEET INDEX

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
		81	82	83	84	85	86
		87	88	89	90		
		91	92	93	94		
		95	96	97	98		
		99	100	101	102	103	
			104	105	106	107	
			108	109	110	111	
			112	113	114	115	
			116	117	118	119	

LEGEND

HYDRANT	UNKNOWN UTILITY	FENCE
MANHOLE	VALVE BOX	RAILROAD
CATCH BASIN	BUILDING	TREE LINE
AIR MONITOR STATION (AMS)	HEADWALL	SHRUB LINE
2134 MONITORING WELL	SURVEY CONTROL POINT	GUARD RAIL
TRANSMISSION TOWER	GATE	RETAINING WALL
ELECTRICAL TRANSFORMER	GRID TICK	RIVER, STREAM
POST INDICATOR VALVE	PROPANE TANK	580 MAJOR CONTOUR
POWER POLE	SWAMP	MINOR CONTOUR
LIGHT POLE	RIPRAP RIPRAP AREA	580 MAJOR DEP CONTOUR
SIGN	PILE PILE OUTLINE	MINOR DEP CONTOUR
POST	X 578.1 SPOT ELEVATION	PAVED ROADWAY
DECIDUOUS TREE	W.E. X 567.7 WATER ELEVATION	UNPAVED ROADWAY
CONIFEROUS TREE	⊠ 575.8, ⊠ 575.8 ROOF STACK OR VENT	ABOVEGROUND PIPE
SHRUB		FEMP BOUNDARY
DRAINAGE FLOW		OE OVERHEAD ELECTRIC

50 0 50 100 150

SCALE IN FEET
1 FOOT CONTOUR INTERVAL

DIGITAL MAPPING BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 04/09/92.

PRELIMINARY INFORMATION ONLY

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	OPERATOR	DOE
5	GENERAL UPDATE		GEP 09-23-04	
4	REVISED SITE PROPERTY OUTLINE AND GRID APPLIES TO PROPERTY NOTES	GEP 04-07-98	RML 04-07-98	
3	ADDED NOTES, CALLOUTS, OUTLINES	GEP 09-24-96	DEG 09-24-96	
2	FINAL ISSUE-PHASE IV	SKT 05-28-93		
1	FINAL ISSUE-PHASE III	SKT 05-05-93		
0	FINAL ISSUE-PHASE II	SKT 12-18-92		

INITIALS AND DATE

INDEX CODE				CAD FILE NAME
PLANT	ORG	G	SUB NO	
75X	5900	G	00211	NINDEX.DGN

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - CHAS. T. MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
PHOTOGRAMMETRIC MAPPING
OU3/P034

DRAWING TITLE
MASTER FLYOVER GRID (NORTH)
EXISTING SITE AND UTILITY PLAN

DRAWN BY	DATE	DESIGNED, CHECKED BY	DATE	CHECKED BY	DATE
B. FUGATE, R. BELL	3-8-93	S. SLIJEPCEVIC	4-26-93	M. DONOHOO	3-22-93

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=500'	

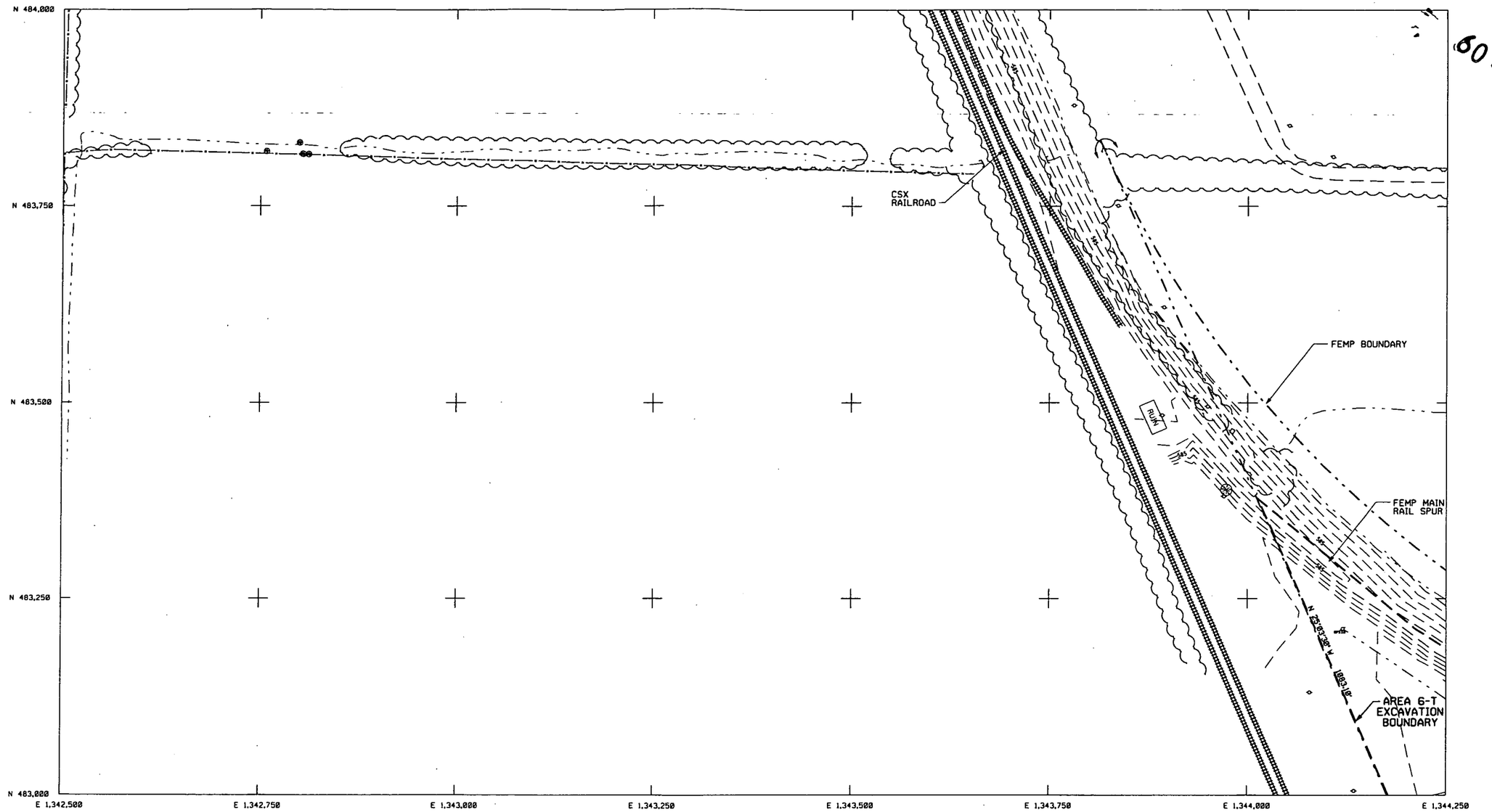
SUBMITTED FOR APPROVAL: SUKOMAL K. TALUKDER 12-18-92 (A-E)
APPROVAL RECOMMENDED: OPERATING CONTRACTOR DATE
DRAWING APPROVED: DOE DATE

A-E DOE PROJECT NO.	OPER. CONTR. PROJ. NO.	DRAWING NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.3.1.1 00-90701	93X-5900-G-00272	X-1	5

h:/maps/nfemp/nindex.dgn

nfemp17 CADD11 rabb7064 04/21/2005 09:27:53 AM

6042



STATE OF OHIO NORTH (NAD 83)

FEMP NORTH ∠=1.5672°

SHEET INDEX

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
		81	82	83	84	85	86
		87	88	89	90		
		91	92	93	94		
		95	96	97	98		
		99	100	101	102	103	
			104	105	106	107	
			108	109	110	111	
			112	113	114	115	
			116	117	118	119	

LEGEND

	HYDRANT		UNKNOWN UTILITY	—X—	FENCE
	MANHOLE		VALVE BOX		RAILROAD
	CATCH BASIN		BUILDING		TREE LINE
	AIR MONITOR STATION (AMS)		HEADWALL		SHRUB LINE
2134	MONITORING WELL		SURVEY CONTROL POINT		GUARD RAIL
	TRANSMISSION TOWER		GATE		RETAINING WALL
	ELECTRICAL TRANSFORMER		GRID TICK		RIVER, STREAM
	POST INDICATOR VALVE		PROPANE TANK	580	MAJOR CONTOUR
	POWER POLE		SWAMP		MINOR CONTOUR
	LIGHT POLE	RIPRAP	RIPRAP AREA	580	MAJOR DEP CONTOUR
	SIGN	PILE	PILE OUTLINE		MINOR DEP CONTOUR
	POST	x 578.1	SPOT ELEVATION		PAVED ROADWAY
	DECIDUOUS TREE	W.E. x 567.7	WATER ELEVATION		UNPAVED ROADWAY
	CONIFEROUS TREE	# 575.8, # 575.8	ROOF STACK OR VENT		ABOVEGROUND PIPE
	SHRUB				FEMP BOUNDARY
	DRAINAGE FLOW			OE	OVERHEAD ELECTRIC

50 0 50 100 150

SCALE IN FEET
1 FOOT CONTOUR INTERVAL

DIGITAL MAPPING BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 04/09/92.

PRELIMINARY INFORMATION ONLY
CADD SERVICES

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	4-6 OPERATOR	DOE
1	GENERAL REVISION		DET 08-24-94
0	FINAL ISSUE - PHASE III	SKT 05-05-93	

INITIALS AND DATE

INDEX CODE: PLANT	DISC	CL	SEQ NO	CAD FILE NAME
75X	5900	G	00229	NFEMP17.DGN

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - CHAS. T. MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
PHOTOGRAMMETRIC MAPPING
OU3/P034

DRAWING TITLE
CIVIL
EXISTING SITE PLAN
GRID 17

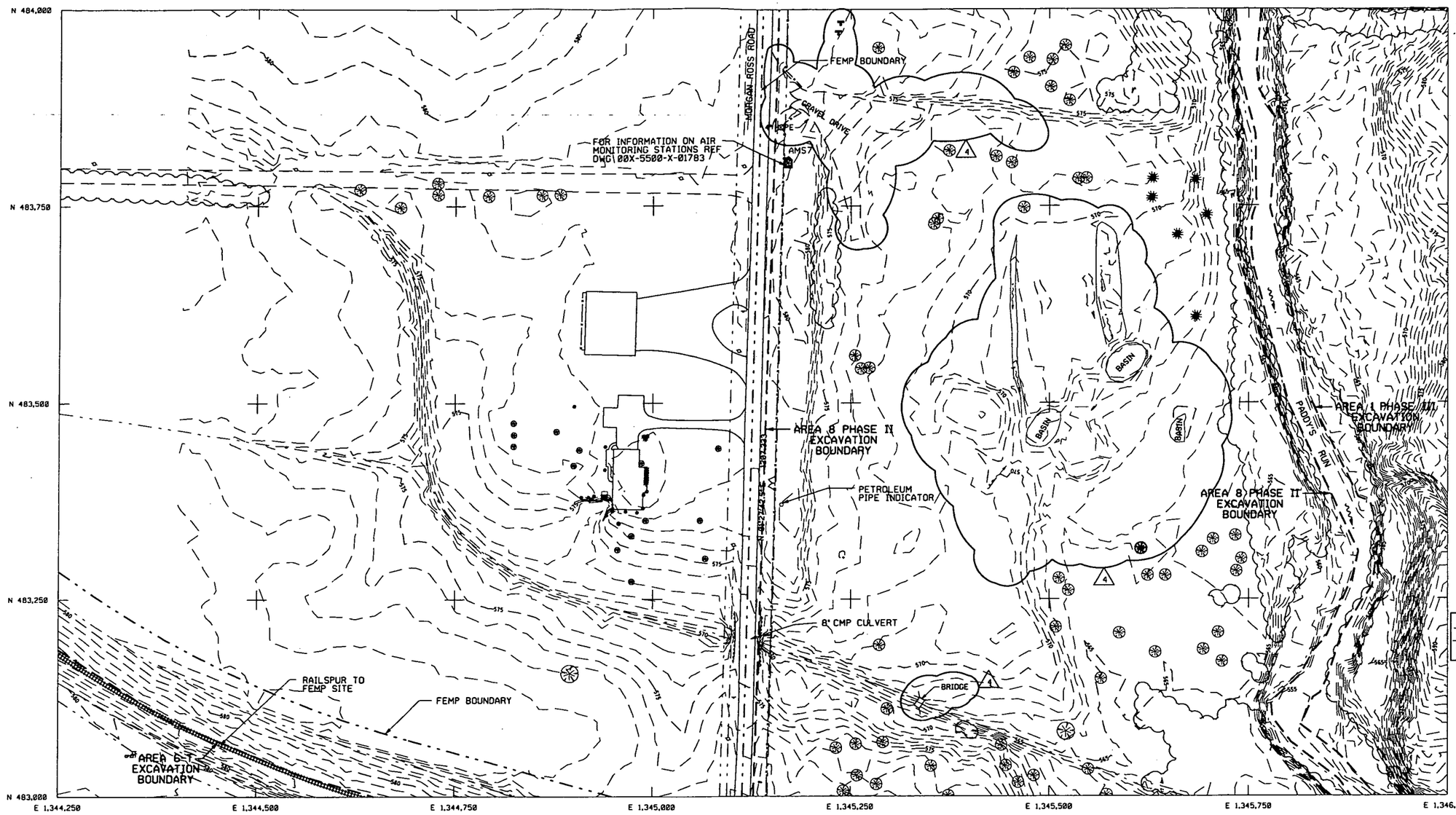
DRAWN BY	DATE	DESIGNER CHECKED BY	DATE	CHECKED BY	DATE
B. FUGATE/R. BELL	3-8-93	S. SLIJEPCEVIC	4-26-93	M. DONOHOO	3-22-93

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=50'	

SUBMITTED FOR APPROVAL: SUKOMAL K. TALUKDER 05-05-93 (A-E, DATE)
APPROVAL RECOMMENDED: OPERATING CONTRACTOR, DATE
DRAWING APPROVED: DOE, DATE

DOE PROJECT NO.	OPER. CONTR. PROJ. NO.	DRAWING NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.3.1.1 00-90701	93X-5900-G-00290	G0017	1

nfemp18 CADD11 rabb7064 04/21/2005 09:28:19 AM



AS-BUILT EDM SURVEYS
J. McCORMACK
12-22-99 PR-102.
6-1-00 PR-103.

STATE OF OHIO NORTH (NAD 83)

FEMP NORTH ∠=1.5672°

SHEET INDEX

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
		81	82	83	84	85	86
		87	88	89	90		
		91	92	93	94		
		95	96	97	98		
		99	100	101	102	103	
			104	105	106	107	
			108	109	110	111	
			112	113	114	115	
			116	117	118	119	

LEGEND

	HYDRANT		UNKNOWN UTILITY		FENCE
	MANHOLE		VALVE BOX		RAILROAD
	CATCH BASIN		BUILDING		TREE LINE
	AIR MONITOR STATION (AMS)		HEADWALL		SHRUB LINE
2134	MONITORING WELL		SURVEY CONTROL POINT		GUARD RAIL
	TRANSMISSION TOWER		GATE		RETAINING WALL
	ELECTRICAL TRANSFORMER		GRID TICK		RIVER, STREAM
	POST INDICATOR VALVE		PROPANE TANK	580	MAJOR CONTOUR
	POWER POLE		SWAMP		MINOR CONTOUR
	LIGHT POLE	RIPRAP	RIPRAP AREA	580	MAJOR DEP CONTOUR
	SIGN	PILE	PILE OUTLINE		MINOR DEP CONTOUR
	POST	X 578.1	SPOT ELEVATION		PAVED ROADWAY
	DECIDUOUS TREE	W.E. X 567.7	WATER ELEVATION		UNPAVED ROADWAY
	CONIFEROUS TREE	■ 575.8, ■ 575.8	ROOF STACK OR VENT		ABOVEGROUND PIPE
	SHRUB				FEMP BOUNDARY
	DRAINAGE FLOW			OE	OVERHEAD ELECTRIC

50 0 50 100 150
SCALE IN FEET
1 FOOT CONTOUR INTERVAL

DIGITAL MAPPING BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 04/09/92.

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	OPERATOR	DOE
4	AS-BUILT RES 4035 IMPROVEMENTS PER J. McCORMACK SURVEY PR-103., GRAVEL DRIVE & BRIDGE PER SURVEY 4052400.	GEP 07-28-00	RML 07-28-00	
3	ADD RES 4035 CFC IMPROVEMENTS, ADD EDM SURVEY TABLE	GEP 10-09-00	RML 10-09-00	
2	GENERAL REVISION		OET 08-24-94	
1	FINAL ISSUE-PHASE III	SKT 05-05-93		
0	FINAL ISSUE-PHASE II	SKT 12-18-92		

DETAILS AND DATE

PLANT	INDEX CODE: SYS.	SUB.	SUB. NO.	CAD FILE NAME
75X	5900	G	00230	NFEMP18.DGN

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - CHAS. T. MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
PHOTOGRAMMETRIC MAPPING
OU3/P034

DRAWING TITLE
CIVIL
EXISTING SITE AND UTILITY PLAN
GRID 18

DRAWN BY	DATE	DESIGNED, CHECKED BY	DATE	CHECKED BY	DATE
B. FUGATE, R. BELL	10-12-92	S. SLIJEPCEVIC	12-15-92	M. DONOHOO	10-26-92

PLANT/BLDG. NO. | FLOOR | SCALE 1"=50' | CLASS

SUBMITTED FOR APPROVAL: SUKOMAL K. TALUKDER 12-18-92 (A-E, DATE)
APPROVAL RECOMMENDED (OPERATING CONTRACTOR, DATE)
DRAWING APPROVED (DOE, DATE)

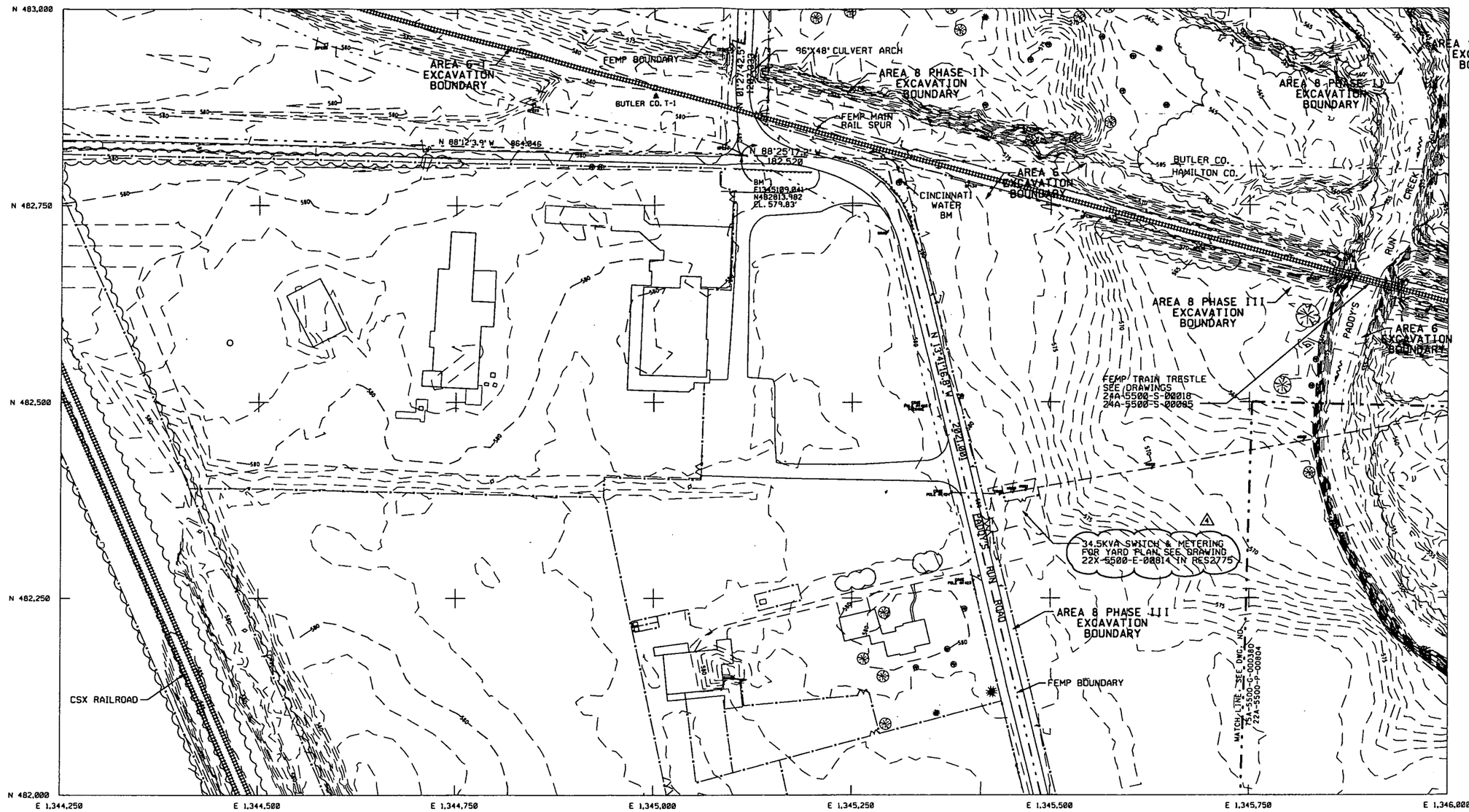
DOE PROJECT NO. | OPER. CONTR. PROJ. NO. WBS 1.1.1.1.3.1.1 00-90701 | DRAWING NO. 93X-5900-G-00291 | SHEET NO. G0018 | REV. NO. 4

0" 1" 2"

0042

nfemp26 CADD11 rabb7064 04/21/2005 09:28:56 AM

60 42



STATE OF OHIO NORTH (NAD 83)

FEMP NORTH ∠=1.5672°

SHEET INDEX

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
		81	82	83	84	85	86
		87	88	89	90		
		91	92	93	94		
		95	96	97	98		
		99	100	101	102	103	
			104	105	106	107	
			108	109	110	111	
			112	113	114	115	
			116	117	118	119	

LEGEND

- HYDRANT
- MANHOLE
- CATCH BASIN
- AIR MONITOR STATION (AMS)
- 2134 MONITORING WELL
- TRANSMISSION TOWER
- ELECTRICAL TRANSFORMER
- POST INDICATOR VALVE
- POWER POLE
- LIGHT POLE
- SIGN
- POST
- DECIDUOUS TREE
- CONIFEROUS TREE
- SHRUB
- DRAINAGE FLOW
- UNKNOWN UTILITY
- VALVE BOX
- BUILDING
- HEADWALL
- SURVEY CONTROL POINT
- GATE
- GRID TICK
- PROPANE TANK
- SWAMP
- RIPRAP — RIPRAP AREA
- PILE — PILE OUTLINE
- x 578.1 SPOT ELEVATION
- W.E. x 567.7 WATER ELEVATION
- ■ 575.8, ■ 575.8 ROOF STACK OR VENT
- FENCE
- RAILROAD
- TREE LINE
- SHRUB LINE
- GUARD RAIL
- RETAINING WALL
- RIVER, STREAM
- 580 MAJOR CONTOUR
- MINOR CONTOUR
- 580 MAJOR DEP CONTOUR
- MINOR DEP CONTOUR
- PAVED ROADWAY
- UNPAVED ROADWAY
- ABOVEGROUND PIPE
- FEMP BOUNDARY
- OE OVERHEAD ELECTRIC

50 0 50 100 150

SCALE IN FEET
1 FOOT CONTOUR INTERVAL

DIGITAL MAPPING BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 04/09/92.

PRELIMINARY

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	OPERATOR	DOE
4	ADDED CROSS REFERENCE NOTE TO SWITCH YARD		GEP 4-22-94	
3	UPDATED UTILITY/SITE LAYOUTS	GEP 10-10-96	JsW 10-4-96	
2	GENERAL REVISION		DET 10-24-94	
1	FINAL ISSUE-PHASE III	SKT 05-05-93		
0	FINAL ISSUE-PHASE II	SKT 12-18-92		

INITIALS AND DATE

INDEX CODE				CAD FILE NAME
PLANT	DWG	G	SCH. NO	
75X	5900	G	00238	NFEMP26.DGN

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - CHAS. T. MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
PHOTOGRAMMETRIC MAPPING
OU3/P034

DRAWING TITLE
CIVIL
EXISTING SITE AND UTILITY PLAN
GRID 26

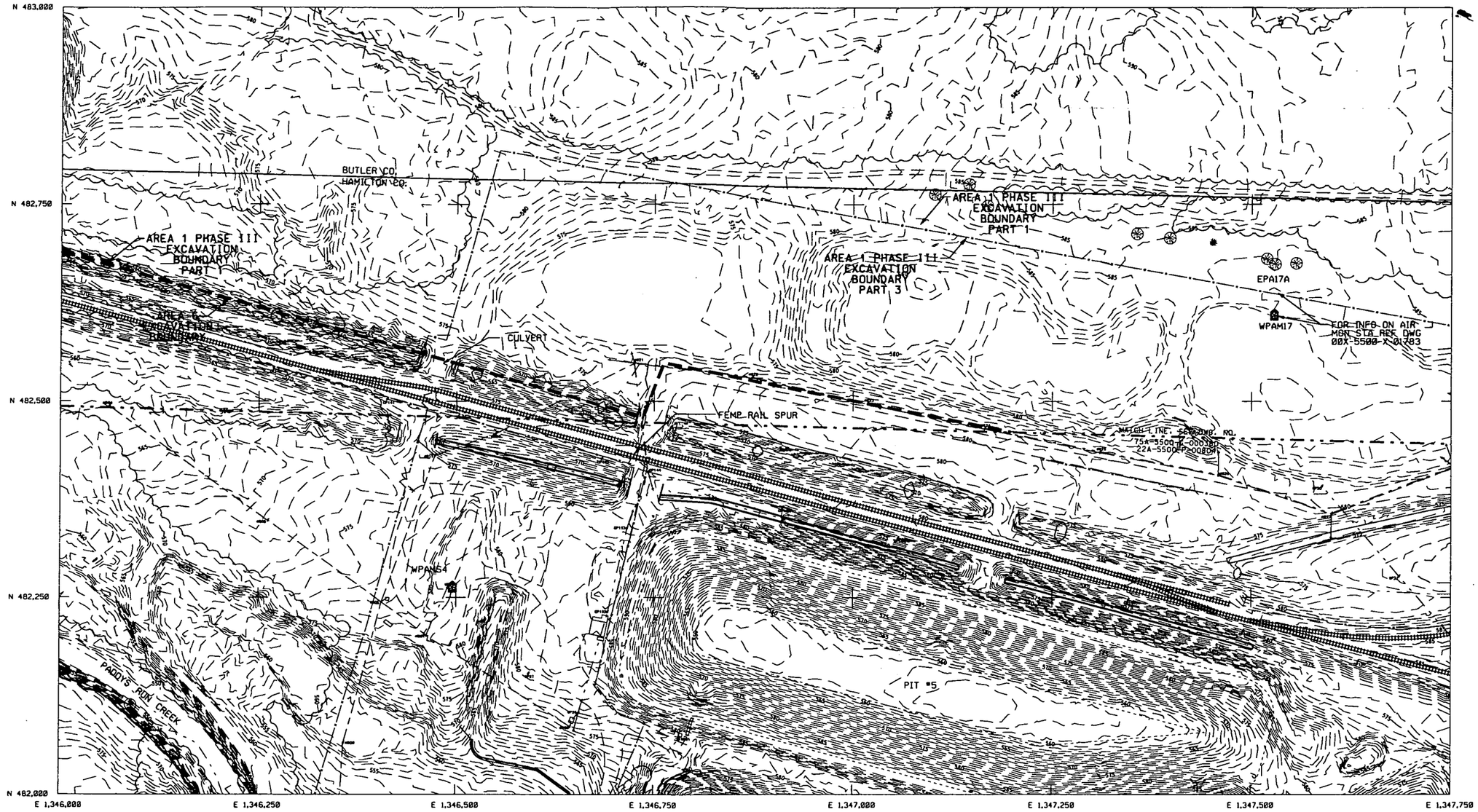
DRAWN BY	DATE	DESIGNED, CHECKED BY	DATE	CHECKED BY	DATE
B. FUGATE,R. BELL	10-12-92	S. SLIJEPCEVIC	12-15-92	M. DOMONDO	10-26-92

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=50'	

SUBMITTED FOR APPROVAL	APPROVAL RECOMMENDED	DRAWING APPROVED
SUKOMAL K. TALUKDER 12-18-92		
A-E DATE	OPERATING CONTRACTOR DATE	DOE DATE

DOE PROJECT NO.	OPER. CONTR. PROJ. NO.	DRAWING NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.3.1.1 00-9070I	93X-5900-G-00299	G0026	4

nfemp27 CADD11 rabb7064 04/21/2005 09:29:34 AM



SHEET INDEX

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
		81	82	83	84	85	86
		87	88	89	90		
		91	92	93	94		
		95	96	97	98		
		99	100	101	102	103	
			104	105	106	107	
			108	109	110	111	
			112	113	114	115	
			116	117	118	119	

STATE OF OHIO NORTH (NAD 83)

FEMP NORTH ∠=1.5672°

LEGEND

HYDRANT	UNKNOWN UTILITY	FENCE
MANHOLE	VALVE BOX	RAILROAD
CATCH BASIN	BUILDING	TREE LINE
AIR MONITOR STATION (AMS)	HEADWALL	SHRUB LINE
2134 MONITORING WELL	SURVEY CONTROL POINT	GUARD RAIL
TRANSMISSION TOWER	GATE	RETAINING WALL
ELECTRICAL TRANSFORMER	GRID TICK	RIVER, STREAM
POST INDICATOR VALVE	PROPANE TANK	580 MAJOR CONTOUR
POWER POLE	SWAMP	MINOR CONTOUR
LIGHT POLE	RIPRAP RIPRAP AREA	580 MAJOR DEP CONTOUR
SIGN	PILE PILE OUTLINE	MINOR DEP CONTOUR
POST	X 578.1 SPOT ELEVATION	PAVED ROADWAY
DECIDUOUS TREE	W.E. X 567.7 WATER ELEVATION	UNPAVED ROADWAY
CONIFEROUS TREE	575.8, 575.8 ROOF STACK OR VENT	ABOVEGROUND PIPE
SHRUB		FEMP BOUNDARY
DRAINAGE FLOW		OE OVERHEAD ELECTRIC

50 0 50 100 150

SCALE IN FEET
1 FOOT CONTOUR INTERVAL

DIGITAL MAPPING BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 04/09/92.

PRELIMINARY

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	OPERATOR	DOE
1	GENERAL REVISION		DET 08-24-94	
0	FINAL ISSUE-PHASE II	SKT 12-18-92		

INDEX CODE

PLANT	DOC.	G	SER. NO.	CAD FILE NAME
75X	5900	G	00239	NFEMP27.DGN

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - CHAS. T. MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
PHOTOGRAMMETRIC MAPPING
OU3/P034

DRAWING TITLE
CIVIL
EXISTING SITE AND UTILITY PLAN
GRID 27

DRAWN BY	DATE	DESIGNED, CHECKED BY	DATE	CHECKED BY	DATE
B. FUGATE, R. BELL	10-12-92	S. SLIJEPCEVIC	12-15-92	M. DONOHOO	10-26-92

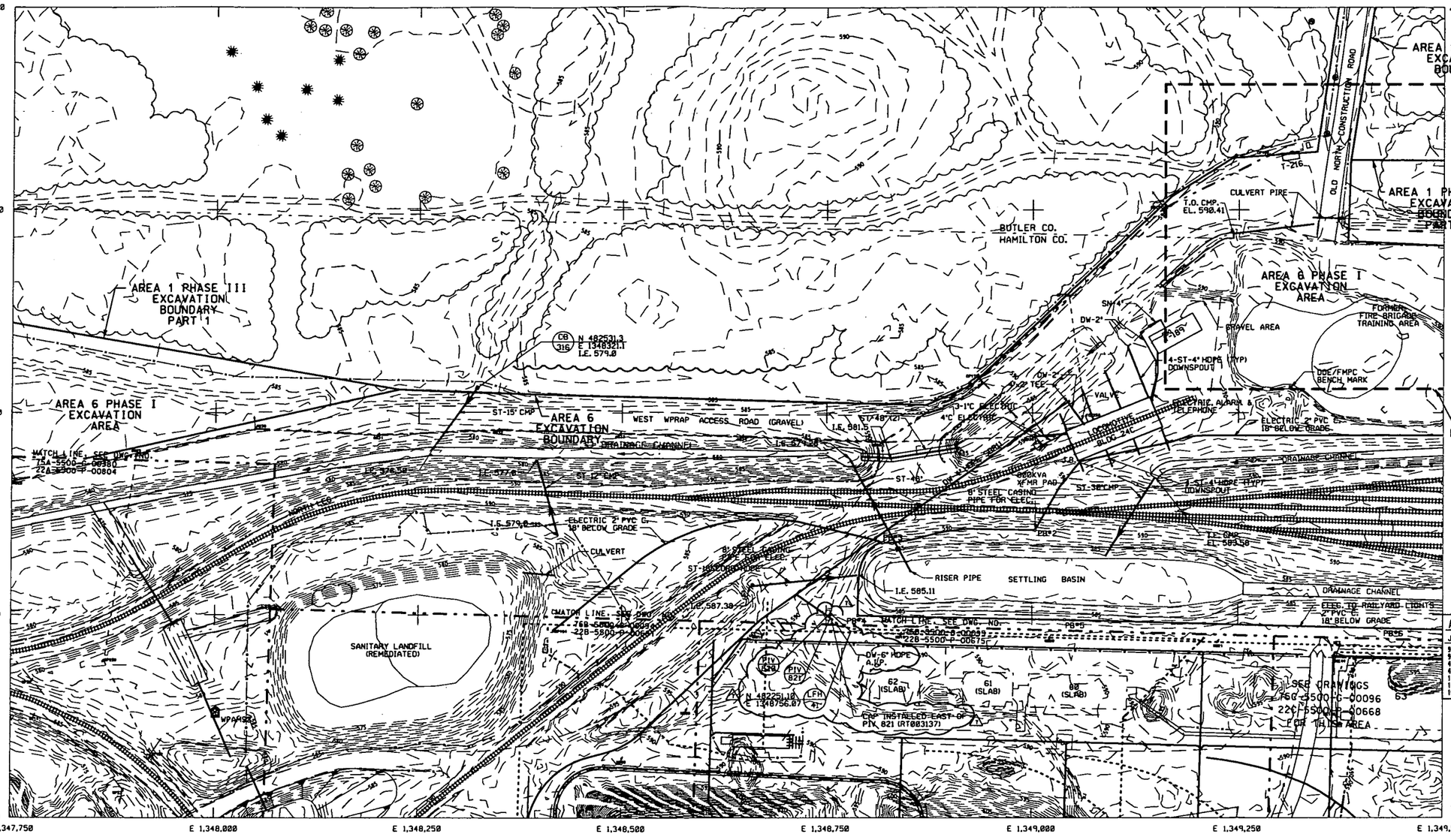
PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
		1"=50'	

SUBMITTED FOR APPROVAL	APPROVAL RECOMMENDED	DRAWING APPROVED
SUKOMAL K. TALUKDER 12-18-92		
A-E DATE	OPERATING CONTRACTOR DATE	DOE DATE

DOE PROJECT NO.	OPER. CONTR. PROJ. NO.	DRAWING NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.3.1.1 00-90701	93X-5900-G-00300	G0027	1

nfemp28 CADD11 rabb7064 04/21/2005 09:30:28 AM

60 42



STATE OF OHIO NORTH (NAD 83)

FEMP NORTH ∠=1.5672°

SHEET INDEX

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
		81	82	83	84	85	86
		87	88	89	90		
		91	92	93	94		
		95	96	97	98		
		99	100	101	102	103	
			104	105	106	107	
			108	109	110	111	
			112	113	114	115	
			116	117	118	119	

LEGEND

HYDRANT	UNKNOWN UTILITY	FENCE
MANHOLE	VALVE BOX	RAILROAD
CATCH BASIN	BUILDING	TREE LINE
AIR MONITOR STATION (AMS)	HEADWALL	SHRUB LINE
2134 MONITORING WELL	SURVEY CONTROL POINT	GUARD RAIL
TRANSMISSION TOWER	GATE	RETAINING WALL
ELECTRICAL TRANSFORMER	GRID TICK	RIVER, STREAM
POST INDICATOR VALVE	PROPANE TANK	588 MAJOR CONTOUR
POWER POLE	SWAMP	MINOR CONTOUR
LIGHT POLE	RIPRAP RIPRAP AREA	588 MAJOR DEP CONTOUR
SIGN	PILE PILE OUTLINE	MINOR DEP CONTOUR
POST	X 578.1 SPOT ELEVATION	PAVED ROADWAY
DECIDUOUS TREE	W.E. X 567.7 WATER ELEVATION	UNPAVED ROADWAY
CONIFEROUS TREE	575.8, 575.8 ROOF STACK OR VENT	ABOVEGROUND PIPE
SHRUB		FEMP BOUNDARY
DRAINAGE FLOW		OE OVERHEAD ELECTRIC

50 0 50 100 150

SCALE IN FEET
1 FOOT CONTOUR INTERVAL

DIGITAL MAPPING BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 04/09/92.

REF DWG: /RES3188/22XE0916.DGN

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E INITIALS AND DATE	OPERATOR INITIALS AND DATE	DOE INITIALS AND DATE
7	DW-6" HDPE EAST OF PIV-821 AIP PER COMP. WORK ORDER RT003137	GEP 11-3-93	GES 11-15-93	
6	GENERAL UPDATE	GEP 11-28-88	RML 11-28-88	
5	REVISED CONTOURS PER LANDAIR FLYOVER DATED 1/12/88	GEP 3-22-88	RML 3-22-88	
4	INCORPORATED DCN: 1695-063, ADD SURVEY TABLE, GENERAL UPDATE	GEP 12-13-99	RML 12-13-99	

INDEX CODE				CAD FILE NAME
PLANT	SYST	CL	SEQ NO	
75X	5900	G	00240	NFEMP28.DGN

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - CHAS. T. MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
PHOTOGRAMMETRIC MAPPING
OU3/P034

DRAWING TITLE
CIVIL
EXISTING SITE AND UTILITY PLAN
GRID 28

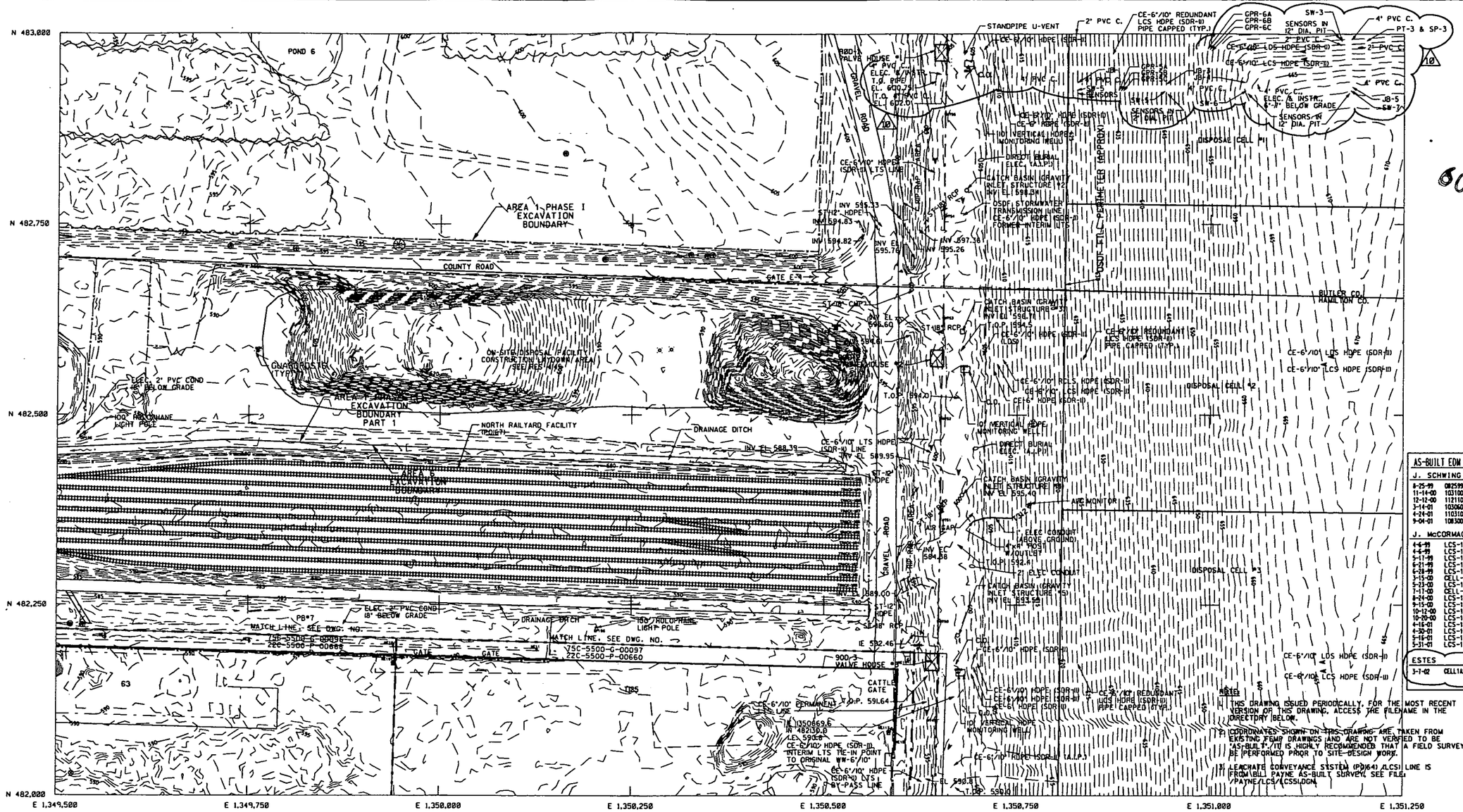
DRAWN BY	DATE	DESIGNED, CHECKED BY	DATE	CHECKED BY	DATE
B. FUGATE/R. BELL	10-12-92	S. SLIJEPCEVIC	12-15-92	M. DONOHOO	10-26-92

PLANT/BLDG. NO. | FLOOR | SCALE 1"=50' | CLASS

SUBMITTED FOR APPROVAL: SUKOMAL K. TALUKDER 12-18-92 (A-E DATE)
APPROVAL RECOMMENDED (OPERATING CONTRACTOR) DATE
DRAWING APPROVED (DOE) DATE

DOE PROJECT NO.	OPER. CONTR. PROJ. NO.	DRAWING NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.3.1.1 00-9070	93X-5900-G-00301	G0028	7

nfemp29 CADD11 rabb7064 04/21/2005 09:31:30 AM



NOTES

1. THIS DRAWING ISSUED PERIODICALLY. FOR THE MOST RECENT VERSION OF THIS DRAWING, ACCESS THE FILENAME IN THE DIRECTORY BELOW.
2. COORDINATES SHOWN ON THIS DRAWING ARE TAKEN FROM EXISTING FEMP DRAWINGS AND ARE NOT VERIFIED TO BE "AS-BUILT". IT IS HIGHLY RECOMMENDED THAT A FIELD SURVEY BE PERFORMED PRIOR TO SITE-DESIGN WORK.
3. LEACHATE CONVEYANCE SYSTEM (PD)64 (LCS) LINE IS FROM BILL PAYNE AS-BUILT SURVEY, SEE FILE: /PAYNE/LCS/LCSSI.DGN

AS-BUILT EDM SURVEYS

J. SCHWING	
8-25-99	082599.TXT
11-14-00	103100ACCESSRD.TXT
12-12-00	1121100.TXT
3-14-01	1030601.TXT
4-24-01	1103100A.TXT
9-04-01	1083001.TXT

J. McCORMACK	
4-6-99	LCS-100.
4-6-99	LCS-101.
5-17-99	LCS-109.
6-21-99	LCS-113.
6-28-99	LCS-116.
3-15-00	CELL-106.
5-23-00	LCS-127.
7-17-00	CELL-114.
8-24-00	LCS-136.
9-15-00	LCS-138.
10-12-00	LCS-141.
10-20-00	LCS-142.
4-16-01	LCS-155.TXT
4-30-01	LCS-157.
5-16-01	LCS-160.TXT
5-31-01	LCS-161.TXT

ESTES	
3-7-02	CELL1ASBUILT.TXT

10

SHEET INDEX

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
		81	82	83	84	85	86
		87	88	89	90		
		91	92	93	94		
		95	96	97	98		
		99	100	101	102	103	
			104	105	106	107	
			108	109	110	111	
			112	113	114	115	
			116	117	118	119	

STATE OF OHIO NORTH (NAD 83)

FEMP NORTH ∠=1.5672°

LEGEND

	HYDRANT		UNKNOWN UTILITY		FENCE
	MANHOLE		VALVE BOX		RAILROAD
	CATCH BASIN		BUILDING		TREE LINE
	AIR MONITOR STATION (AMS)		HEADWALL		SHRUB LINE
2134	MONITORING WELL		SURVEY CONTROL POINT		GUARD RAIL
	TRANSMISSION TOWER		GATE		RETAINING WALL
	ELECTRICAL TRANSFORMER		GRID TICK		RIVER, STREAM
	POST INDICATOR VALVE		PROPANE TANK	580	MAJOR CONTOUR
	POWER POLE		SWAMP		MINOR CONTOUR
	LIGHT POLE	RIPRAP	RIPRAP AREA	580	MAJOR DEP CONTOUR
	SIGN	PILE	PILE OUTLINE		MINOR DEP CONTOUR
	POST	X 578.1	SPOT ELEVATION		PAVED ROADWAY
	DECIDUOUS TREE	WE X 567.7	WATER ELEVATION		UNPAVED ROADWAY
	CONIFEROUS TREE	575.8, 575.8	ROOF STACK OR VENT		ABOVEGROUND PIPE
	SHRUB				FEMP BOUNDARY
	DRAINAGE FLOW			OE	OVERHEAD ELECTRIC

50 0 50 100 150

SCALE IN FEET
1 FOOT CONTOUR INTERVAL

DIGITAL MAPPING BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 04/09/92.

REFERENCE DRAWING NO.s
75X-5500-G-00453
90X-6000-G-00019
90X-6000-G-00021
90X-6000-G-00034
96X-5900-E-01001
90X-6000-M-00263
/RES4145/90XC0547.DGN
90X-5500-G-00577
90X-5500-E-00581

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	OPERATING	DOE
10	ADDED CELL 1 MONITORING INSTRUMENTATION PER ESTES AS-BUILT SURVEY CELL1ASBUILT.TXT	GEP	GEP 4-09-03	
9	AS-BUILT PER J. McCORMACK SURVEY LCS-155.TXT, MOVED MATCH LINE AT GRID 1 42 FEET WEST, GENERAL UPDATE	GEP 11/20/01	GES 11/20/01	
8	ADD VALVE HOUSES, LCS PERMANENT LINE, GENERAL UPDATE	GEP 11/20/00	RML 11/21/00	

INITIALS AND DATE

INDEX CODE				CAD FILE NAME
PLANT	DOC	G	SER. NO.	
75X	5900	G	00241	NFEMP29.DGN

UNITED STATES DEPARTMENT OF ENERGY
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - CHAS. T. MAIN, INC. - ENGINEERING-SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME
PHOTOGRAMMETRIC MAPPING
OU3/P034

DRAWING TITLE
CIVIL
EXISTING SITE AND UTILITY PLAN
GRID 29

DRAWN BY	DATE	DESIGNED/CHECKED BY	DATE	CHECKED BY	DATE
B. FUGATE/R. BELL	10-12-92	S. SLIJEPCEVIC	12-15-92	M. DONOHOO	10-26-92

PLANT/BLDG. NO. | FLOOR | SCALE 1"=50' | CLASS

SUBMITTED FOR APPROVAL: SUKOMAL K. TALUKDER 12-18-92 (A-E DATE)
APPROVAL RECOMMENDED (OPERATING CONTRACTOR DATE)
CLOSURE APPROVED (DOE DATE)

DOE PROJECT NO.	OPER. CONTR. PROJ. NO.	CLOSURE NO.	SHEET NO.	REV. NO.
	WBS 1.1.1.1.3.1.1 00-90701	93X-5900-G-00302	G0029	10