DOE/OR/21548-866 ADD 1
CONTRACT NO. DE-AC05-86OR21548

QUARRY PROPER CONFIRMATION PLAN ADDENDUM 1: ADDITIONAL AREAS ASSOCIATED WITH QUARRY WATER TREATMENT PLANT DEMOLITION

WELDON SPRING SITE REMEDIAL ACTION PROJECT
WELDON SPRING, MISSOURI

MARCH 2001 **REV. 0**

U.S. Department of Energy
Oak Ridge Operations Office
Weldon Spring Site Remedial Action Project

Prepared by MK-Ferguson Company and Jacobs Engineering Group

MORRISON KNUDSEN CORPORATION MK-FERGUSON GROUP Weldon Spring Site Remedial Action Project Contract No. DE-AC05-86OR21548	Rev. No. 0

PLAN TITLE: Quarry Proper Confirmation Plan Addendum 1: Additional Areas Associated with Quarry Water Treatment Plant Demolition

APPROVALS

Quarry Residuals Operable Unit Coordinator	3-15-01 Date
Environmental Safety and Health Manager	3-16-01 Date
Data Administration Coordinator	3/16/01 Date
Project Quality Manager	3/16/2001 Date
Deputy Project Director	3/19/01 Date

DOE/OR/21548-866 ADD 1

Weldon Spring Site Remedial Action Project

Quarry Proper Confirmation Plan Addendum 1: Additional Areas Associated with Quarry Water Treatment Plant Demolition

Revision 0

March 2001

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Prepared for:

U.S. DEPARTMENT OF ENERGY
Oak Ridge Operations Office
Under Contract DE-AC05-86OR21548

ABSTRACT

The Quarry Residual Operable Unit (QROU) is one of four operable units comprising the Weldon Spring Site Remedial Action Project (WSSRAP). The *Remedial Design/Remedial Action Work Plan for the QROU* outlines the removal of residually contaminated soils at three locations within the quarry proper. This confirmation plan describes the sampling strategy for collecting samples after excavation has been completed to design limits. The purpose of the sampling is to confirm that remaining soil concentrations meet the applicable excavation design goals for each radiological contaminant. The sampling approach and evaluation of associated data will be based on the *Chemical Plant Area Cleanup Attainment Confirmation Plan*.

Addendum 1 describes the additional areas associated with demolition of the quarry water treatment plant that will be released through the confirmation process.

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1. INTRODUCTION

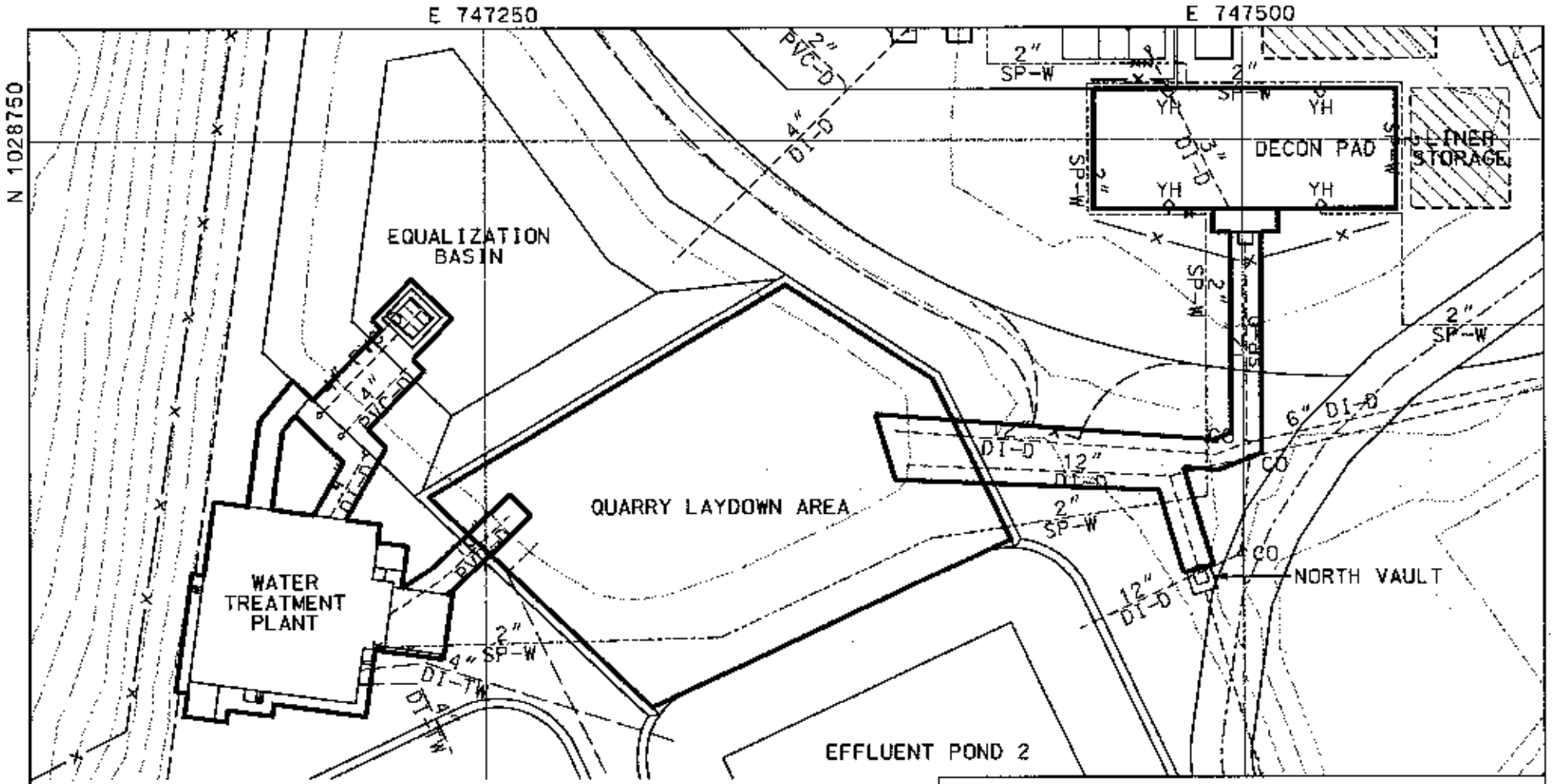
1.1. Purpose and Scope

The *Quarry Proper Confirmation Plan* (Ref. 1) was developed to provide a detailed sampling strategy for performing and documenting confirmation sampling at the quarry to ensure successful removal of soils exceeding excavation design goals. This plan designated the sampling frequency, specific locations, associated sample identifications, coordinates, analytical parameters, field radiological scanning, and sampling protocol for this program.

Addendum 1 has been prepared to detail additional areas associated with demolition of the quarry water treatment plant where confirmation samples will be collected. This addendum details the specific locations, associated sample identifications, and coordinates for these areas. The following specific locations (Figure 1-1) are addressed by this plan:

- The footprint of the quarry water treatment plant and associated contaminated utility trenches.
- The decontamination pad and associated contaminated utility trenches.
- The quarry laydown area.

Excavation of these areas is documented in Work Package 533, *Quarry Water Treatment Plant and Facilities Demolition.* Soil beneath the decontamination pad and associated utility trenches will be released using subsurface criteria. The footprint of the quarry water treatment plant and the laydown area will be released using surface criteria. Subsurface criteria have been selected for the decontamination pad because this area will be backfilled with more than 2 ft of clean fill material at the completion of restoration activities. Surface criteria have been selected for the remaining areas because these materials may be excavated and used as backfill materials in the quarry area during final restoration activities.



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SCALE FEET

ADDITIONAL CONFIRMATION AREAS AT THE QUARRY (RU-027)

FIGURE 1-1

REPORT NO.: DOE/OR/21548-666:1		EXHIBIT NO.: A/QY/005/0301	
ORIGINATOR: RC	DRAWN BY: GLN	DATE: 3/9/01	

2. BACKGROUND

The *Remedial Design/Remedial Action Work Plan for the Quarry Residuals Operable Unit (RD/RA)* (Ref. 4) discusses the reclamation approach for the quarry area. Components of quarry reclamation include restoration of the quarry proper, demolition of the quarry water treatment plant, removal of the interceptor trench (field study), and dismantlement of facilities utilized during bulk waste removal activities. Excavation of contaminated soil is identified as a potential activity to be performed during quarry reclamation. The *RD/RA* states that under best management practices, the soil removal areas will be scanned during excavation activities. Locations exceeding 1.5 times background as measured with an NaI (2X2) meter will be evaluated for additional excavation.

During initial restoration activities, it was determined that a confirmation program similar to that employed at the chemical plant would be implemented to ensure successful removal of soils exceeding excavation design goals. The *Quarry Proper Confirmation Plan* (Ref. 1) was developed to document the sampling strategy to ensure that these goals would be met.

3. SAMPLING

In accordance with the *Quarry Proper Confirmation Plan* (Ref. 1), each excavation area will be managed as a separate confirmation unit. The units at the quarry will be smaller than those used at the chemical plant because of the discrete soil removal locations. It will be necessary to collect 25 samples from each quarry confirmation unit in order to use the same sampling approach implemented at the chemical plant. This value is used since the only contaminants of interest are radiological. Each unit will also be surveyed for 1.5 times background levels of gamma-emitting radioactivity as presented in Section 3.2 of the *Quarry Proper Confirmation Plan.*

In order to attain at least 25 samples in each excavation area, a 20-ft by 20-ft grid will be used (Figures 3-1 through 3-3). If bedrock is encountered at the bottom of the excavation, another sample will be collected in a soil area in order to collect 25 samples in each unit. A list of the proposed sampling locations with respective sample IDs and coordinates is in Table 3-1.

Table 3-1 Summary of Confirmation Sampling Locations – CU417 Through CU420

SAMPLE ID	NORTHING	EASTING
Decontamination Pad (RU 027 CU 418)		
SC-41802-S	1028760	747460
SC-41803-S	1028760	747480
SC-41804-S	1028760	747500
SC-41805-S	1028760	747520
SC-41806-S	1028760	747540
SC-41808-S	1028740	747460
SC-41809-S	1028740	747480
SC-41810-S	1028740	747500
SC-41811-S	1028740	747520
SC-41812-S	1028740	747540
SC-41816-S	1028720	747500
SC-41819-U	1028700	747499
SC-41820-U	1028680	747499
SC-41821-U	1028660	747499
SC-41822-U	1028652	747400
SC-41823-U	1028650	747420
SC-41824-U	1028648	747440
SC-41825-U	1028647	747460
SC-41826-U	1028645	747480
SC-41827-U	1028646	747499
SC-41828-U	1028642	747400
SC-41829-U	1028640	747420
SC-41830-U	1028639	747440
SC-41831-U	1028638	747460
SC-41832-U	1028626	747480

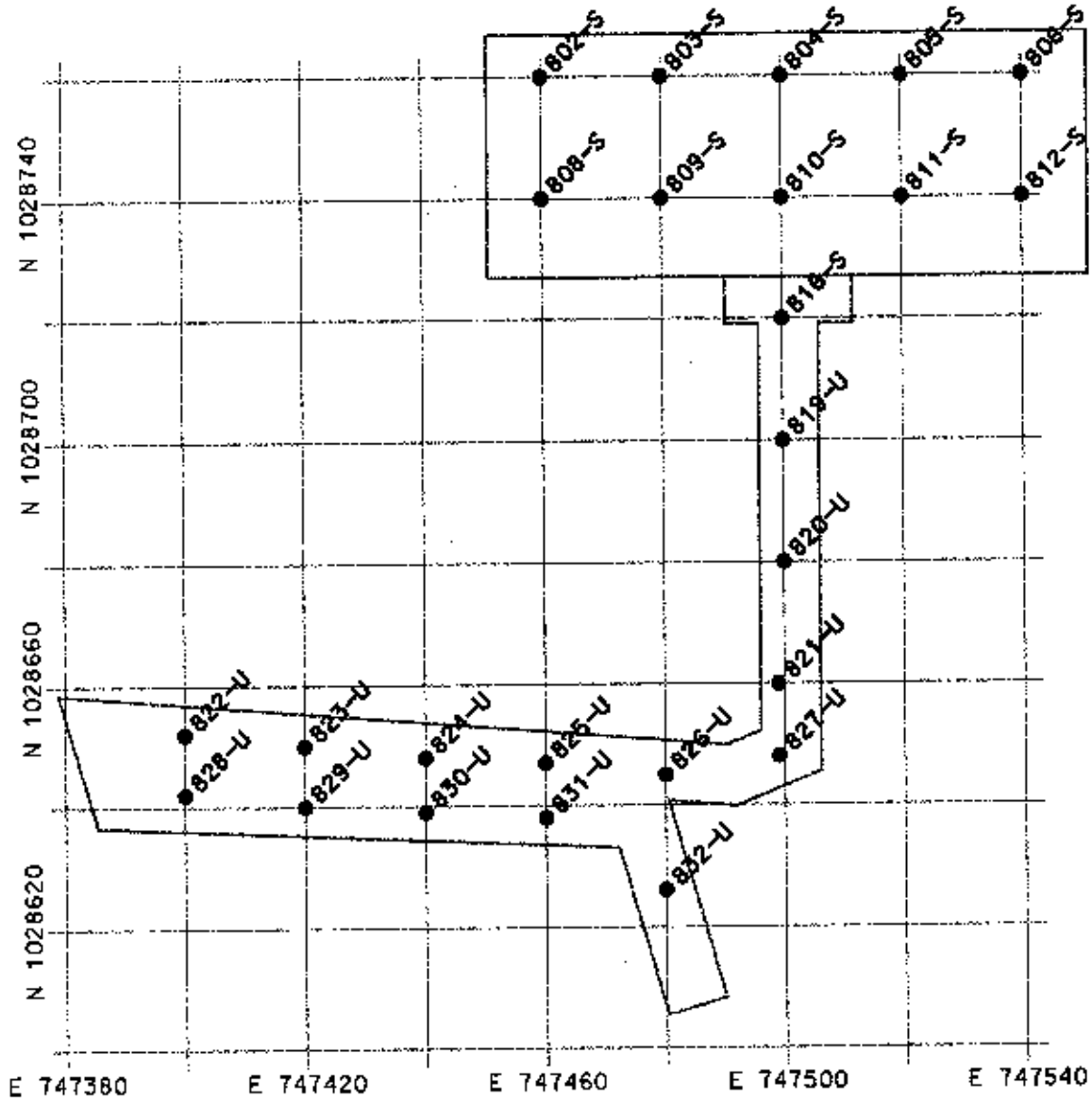
Table 3-1 Summary of Confirmation Sampling Locations – CU417 Through CU420 (Continued)

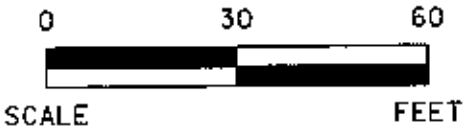
SAMPLE ID	NORTHING	EASTING
Quarry Water Treatment Plant (RU 027 CU 419)		
SC-41902-S	1028660	747180
SC-41906-S	1028620	747160
SC-41907-S	1028620	747180
SC-41908-S	1028620	747200
SC-41910-S	1028600	747160
SC-41911-S	1028600	747180
SC-41912-S	1028600	747200
SC-41913-S	1028600	747220
SC-41915-S	1028580	747160
SC-41916-C	1028590	747190
SC-41916-S	1028580	747180
SC-41917-S	1028580	747200
SC-41918-S	1028580	747220
SC-41920-S	1028560	747160
SC-41921-S	1028560	747180
SC-41922-S	1028560	747200
SC-41928-U	1028690	747225
SC-41929-U	1028677	747210
SC-41930-U	1028662	747197
SC-41931-U	1028670	747217
SC-41932-U	1028657	747203
SC-41933-U	1028647	747210
SC-41934-U	1028630	747200
SC-41935-U	1028625	747258
SC-41936-U	10286112	747243
Quarry Laydown Area (RU 027 CU 420)		
SC-42002-S	1028680	747320
SC-42003-S	1028680	747340
SC-42004-S	1028680	747360
SC-42007-S	1028660	747300
SC-42008-S	1028660	747320
SC-42009-S	1028660	747340
SC-42010-S	1028660	747360
SC-42011-S	1028660	747380
SC-42014-S	1028640	747260
SC-42015-S	1028640	747280
SC-42016-S	1028640	747300
SC-42017-S	1028640	747320
SC-42018-S	1028640	747340
SC-42019-S	1028640	747360
SC-42020-S	1028640	747380
SC-42021-S	1028640	747400
SC-42024-S	1028620	747260
SC-42025-S	1028620	747280
SC-42026-S	1028620	747300
SC-42027-S	1028620	747320
SC-42028-S	1028620	747340
SC-42029-S	1028620	747360
SC-42030-S	1028620	747380

Table 3-1 Summary of Confirmation Sampling Locations – CU417 Through CU420 (Continued)

SAMPLE ID	NORTHING	EASTING
Quarry Laydown Area (RU 027 CU 420) (Continued)		
SC-42031-S	1028620	747400
SC-42034-S	1028600	747280
SC-42035-S	1028600	747300
SC-42036-S	1028600	747320
SC-42037-S	1028600	747340
SC-42038-S	1028600	747360
SC-42043-S	1028580	747300
SC-42044-S	1028580	747320

Sample identification and collection will be performed in accordance with Sections 3.4, 3.5, and 3.6 of the *Quarry Proper Confirmation Plan*. Equipment decontamination will be performed in accordance with procedure *ES&H 4.1.3, Sampling Equipment Decontamination.*

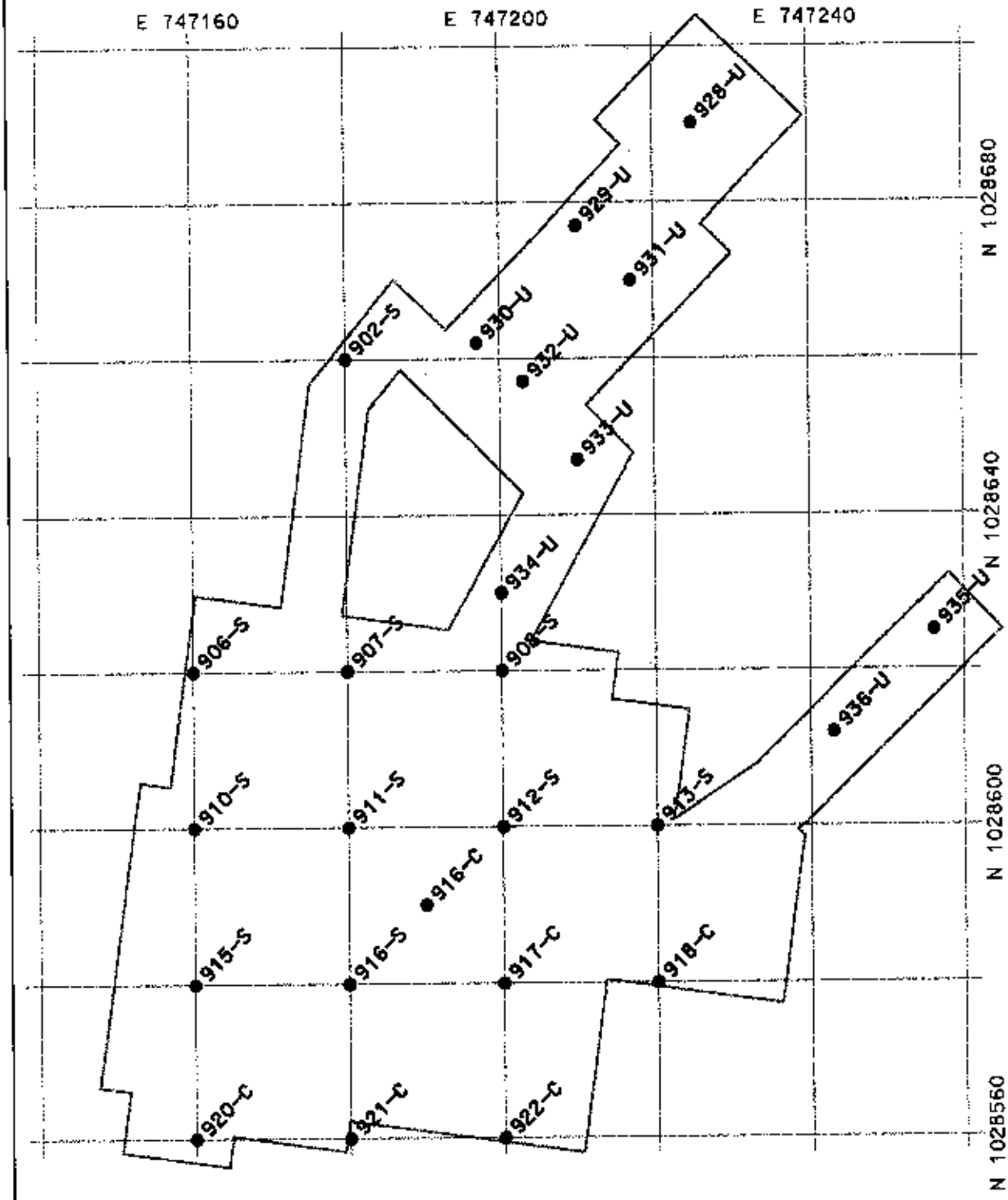




CONFIRMATION SAMPLING LOCATIONS
DECONTAMINATION PAD
(RU-027 CU418)

FIGURE 3-1

REPORT NO.: DOE/OR/21548-[illegible]:1		EXHIBIT NO.: A/QY/006/0301	
ORIGINATOR: RC	DRAWN BY: GLN	DATE: 3/9/01	



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SCALE FEET

CONFIRMATION SAMPLING LOCATIONS
QUARRY WATER TREATMENT PLANT
(RU-027 CU419)

FIGURE 3-2

REPORT NO.: DOE/OR/21548-[illegible]:1		DRAWING NO.: A/QY/007/0301	
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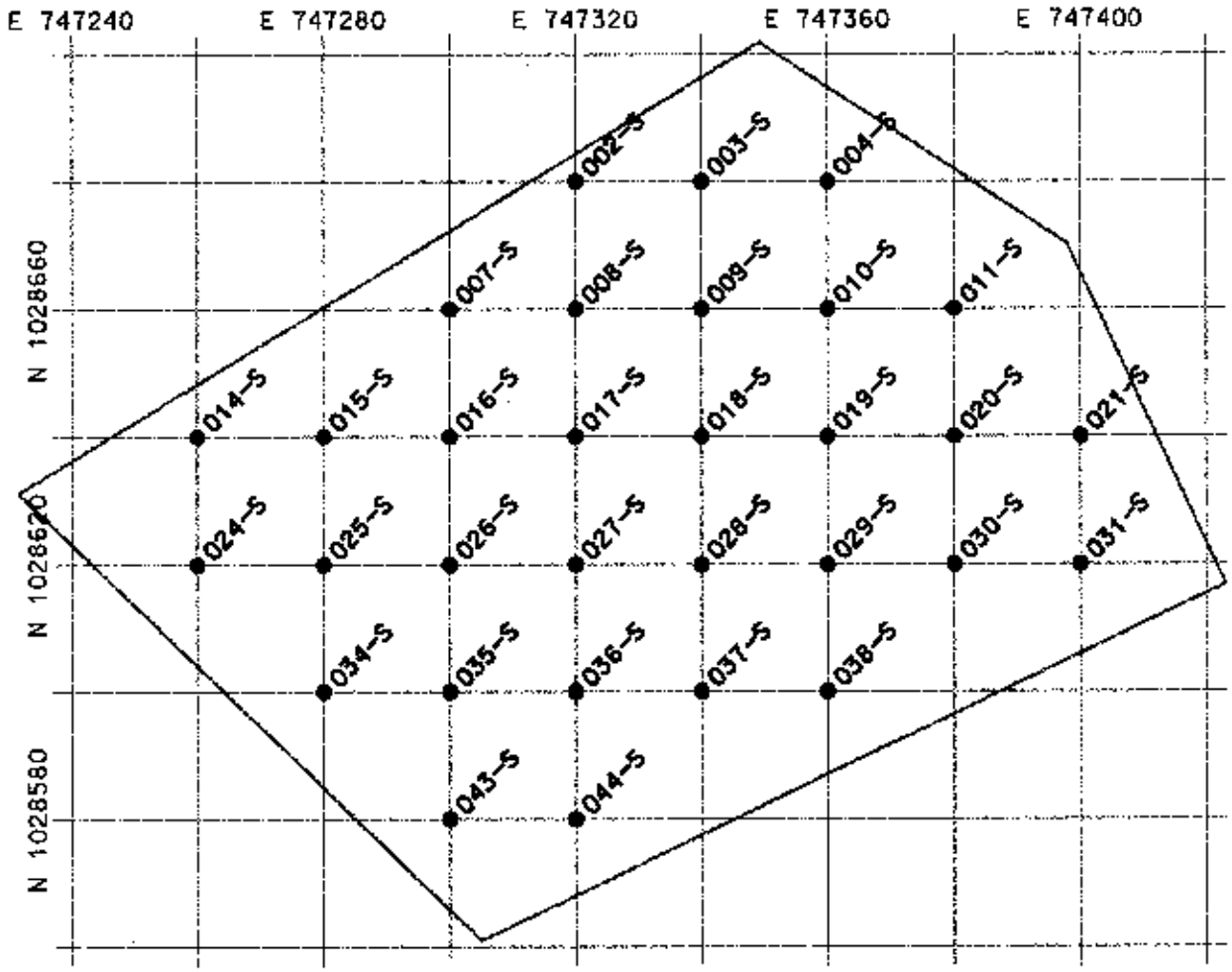

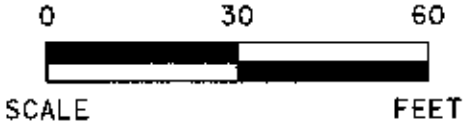

CONFIRMATION SAMPLING LOCATIONS
QUARRY LAYDOWN AREA
(RU-027 CU420)

FIGURE 3-3

REPORT NO.: DOE/OR/21548-[illegible]:1		DRAWING NO.: A/QY/008/0301	
ORIGINATOR: RC	DRAWN BY: GLN	DATE: 3/9/01	

4. ANALYTICAL METHODS

No modifications to the original plan are necessary for Addendum 1.

5. QUALITY CONTROL

No modifications to the original plan are necessary for Addendum 1.

6. DATA EVALUATION

No modifications to the original plan are necessary for Addendum 1.

7. REFERENCES

1. MK-Ferguson Company and Jacobs Engineering Group. *Quarry Proper Confirmation Plan*. DOE/OR/21548-866. Rev. 0. Prepared for the U.S. Department of Energy, Oak Ridge Operations Office. St. Charles, MO. July 2000.

2. MK-Ferguson Company and Jacobs Engineering Group. *Chemical Plant Area Cleanup Attainment Confirmation Plan*. Rev. 3. DOE/OR/21548-491. Prepared for the U.S. Department of Energy, Oak Ridge Operations Office. St. Charles, MO. December 1995.

3. U.S. Department of Energy. *Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site*. Rev. 0. DOE/OR/21548-376. Oak Ridge Field Office. St. Charles, MO. September 1993.

4. MK-Ferguson Company and Jacobs Engineering Group. *Remedial Investigation for the Quarry Residuals Operable Unit of the Weldon Spring Site, Weldon Spring Missouri*. Rev. 2. Final. DOE/OR/21548-587. Prepared for the U.S. Department of Energy, Oak Ridge Operations Office. St. Charles, MO. February 1998.