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CONTRACT NO. DE-AC05-86OR21548

QUARRY PROPER CONFIRMATION PLAN ADDENDUM 2: ADDITIONAL AREAS ASSOCIATED WITH QUARRY RECLAMATION

WELDON SPRING SITE REMEDIAL ACTION PROJECT
WELDON SPRING, MISSOURI

APRIL 2002 **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

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PLAN TITLE: Quarry Proper Confirmation Plan Addendum 2: Additional Areas Associated with Quarry Reclamation	

APPROVALS

Quarry Residuals Operable Unit Coordinator	4-19-02 Date
Environmental Safety and Health Manager	4-19/02 Date
Data Administration Coordinator	4/19/02 Date
Project Quality Manager	4/19/02 Date
Project Director	4/19/02 Date

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Weldon Spring Site Remedial Action Project

Quarry Proper Confirmation Plan Addendum 2: Additional Areas Associated with Quarry Reclamation

Revision 0

April 2002

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

ABSTRACT

The Quarry Residuals 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 described 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 2 describes the additional area associated with the dismantlement of the quarry interceptor trench system and final backfill of the quarry that will be released through the confirmation process.

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1. INTRODUCTION

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 2 describes the additional area associated with the dismantlement of the quarry interceptor trench system and final backfill of the quarry where confirmation samples will be collected for release through the confirmation process. This addendum details the specific locations, associated sample identifications, and coordinates for these areas. The following specific locations are addressed by this plan:

- The footprint of the quarry effluent pond 2.
- Associated contaminated utility trenches

Excavation of these areas is documented in Work Package 529B, *Quarry Interceptor Trench System/Quarry Reclamation.* Soil beneath the effluent pond 2 and associated utility trenches will be released using surface criteria. Surface criteria have been selected for the area because these materials will be excavated and used as backfill materials in the quarry area.

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 the reclamation of the quarry 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 was identified a potential activity to be performed during quarry reclamation. The *RD/RA* discussed that under best management practices, the soil removal areas would be scanned during the excavation activities. Locations exceeding 1.5 times background as measured with a NaI (2X2) meter would be evaluated for additional excavation.

During initial restoration activities, it was determined to implement a confirmation program similar to that employed at the chemical plant 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. A previous addendum addressing additional area associated with the demolition of the quarry water treatment plan was prepared in March 2001.

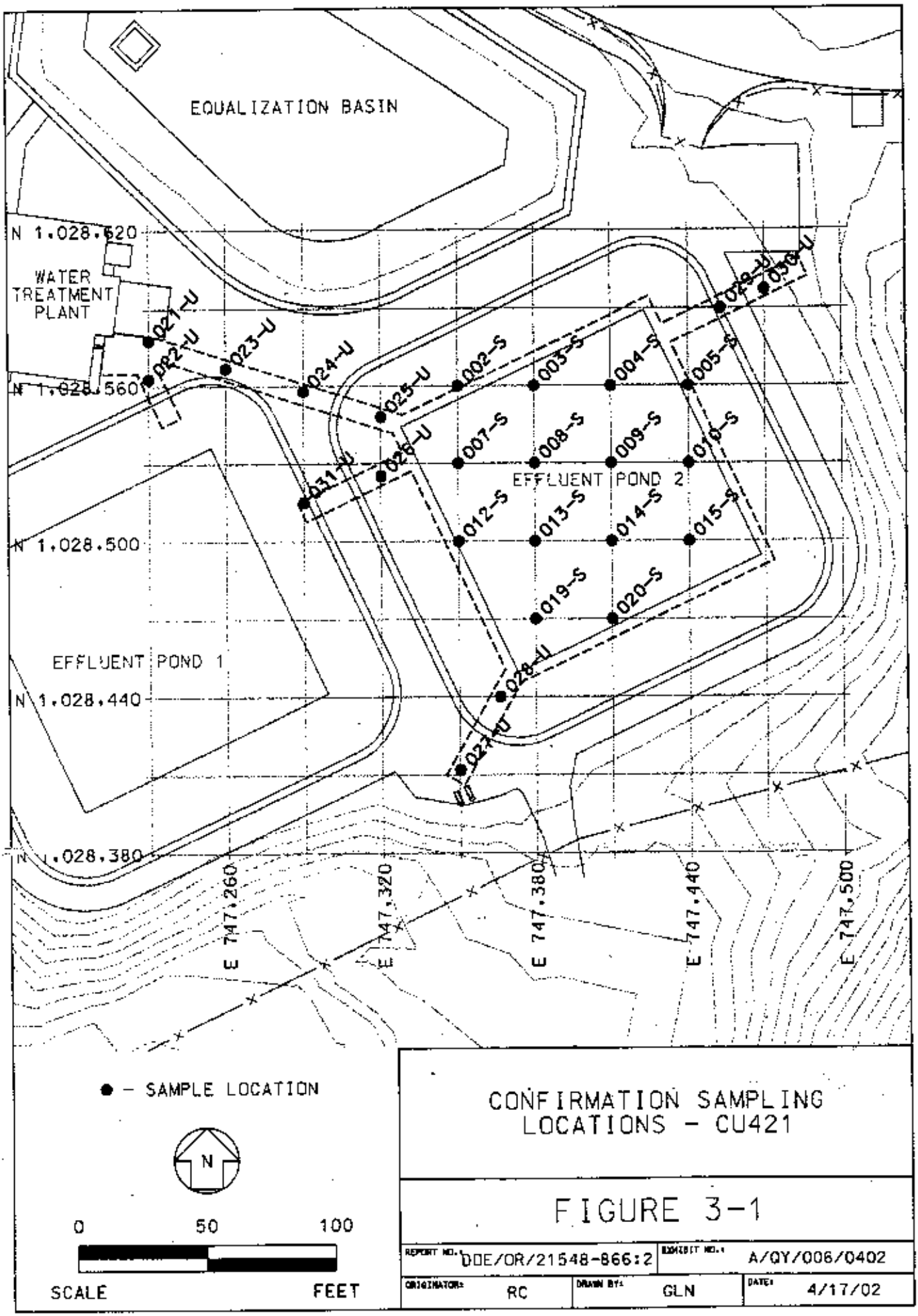
3. SAMPLING

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 30-ft by 30-ft grid will be used (Figure 3-1). 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 summary of the proposed sampling locations with respective sample IDs and coordinates is provided in Table 3-1.

Table 3-1 Summary of Confirmation Sampling Locations - CU421

SAMPLE ID	NORTHING	EASTING
Effluent Pond 2 (RU 027 CU 421)		
SC-421002-S	1028560	747350
SC-421003-S	1028560	747380
SC-421004-S	1028560	747410
SC-421005-S	1028560	747440
SC-421007-S	1028530	747350
SC-421008-S	1028530	747380
SC-421009-S	1028530	747410
SC-421010-S	1028530	747440
SC-421012-S	1028500	747350
SC-421013-S	1028500	747380
SC-421014-S	1028500	747410
SC-421015-S	1028500	747440
SC-421019-S	1028470	747380
SC-421020-S	1028470	747410
SC-421021-U	1028578	747230
SC-421022-U	1028563	747230
SC-421023-U	1028567	747260
SC-421024-U	1028558	747290
SC-421025-U	1028548	747320
SC-421026-U	1028525	747320
SC-421027-U	1028412	747350
SC-421028-U	1028440	747366
SC-421029-U	1028590	747453
SC-421030-U	1028597	747470
SC-421031-U	1028515	747290



CONFIRMATION SAMPLING LOCATIONS – CU421

FIGURE 3-1

REPORT NO.: DOE/OR/21548-866:2		EXHIBIT NO.: A/QY/006/0402	
ORIGINATOR: RC	DRAWN BY: GLN	DATE: 4/17/02	

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*.

4. ANALYTICAL METHODS

No modifications to the original plan are necessary for Addendum 2.

5. QUALITY CONTROL

No modifications to the original plan are necessary for Addendum 2.

6. DATA EVALUATION

No modifications to the original plan are necessary for Addendum 2.

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.