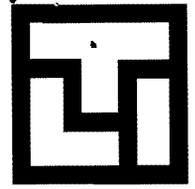


RED LINE G/P/C/K-C

General

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300 UNION BOULEVARD, SUITE 600, LAKEWOOD, CO 80228

TECHLAW INC.

PHONE: (303) 763-7188
FAX: (303) 763-4896

August 7, 2001



Mr. Carl Will
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505-6303

Reference: Work Assignment No. Y513, 06082.600; State of New Mexico Environment Department, Santa Fe, New Mexico; General Permit Support Contracts; NMED-HSW Corrective Action Chapter of the RCRA Permit Renewal for the Los Alamos National Laboratory; Review of Selected LANL Standard Operating Procedures (SOPs), Related to Well Construction and Drilling; Task 7A Deliverable

Dear Mr. Will:

Enclosed please find the deliverable for the above-referenced work assignment. This deliverable consists of review comments on the remaining Los Alamos National Laboratory (LANL) Standard Operating Procedures (SOPs). Mr. John Young of NMED identified the LANL SOPs for TechLaw to review. This list was conveyed to TechLaw via a fax sent on May 25, 2001. Four of these SOPs overlapped with Task 7 of this work assignment, which covered the drilling methods and well construction at LANL. Comments related to the non-well construction and drilling SOPs (14 total) were submitted to you as the Task 10 deliverable, dated July 6, 2001. The four SOPs related to Task 7 (ER-SOP-4.01, ER-SOP-4.04, ER-SOP-5.01 and ER-SOP-5.02) have been reviewed and comments are provided in the attached document. The deliverable consists of an individual review, including a general summary as well as any comments, for each of the four SOPs. The draft of the deliverable was e-mailed to you on Tuesday, August 7, 2001, at carl_will@nmenv.state.nm.us. The deliverable is formatted in Microsoft Word 2000.

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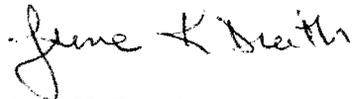
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Mr. Carl Will
August 7, 2001
Page 2

If you have any questions, please feel free to contact Ms. Paige Walton at (801) 582-9329.

Sincerely,

A handwritten signature in cursive script that reads "June K. Dreith".

June K. Dreith
Project Manager

Enclosure

cc: Mr. John Young, NMED
Mr. John Kieling, NMED
Mr. James Bearzi, NMED
Ms. Paige Walton, TechLaw
Mr. B. Jordan, TechLaw Central Files
D. Romero, Denver TechLaw Files

TASK 7A DELIVERABLE

**TECHNICAL REVIEW OF SELECTED
LOS ALAMOS NATIONAL LABORATORY (LANL)
STANDARD OPERATING PROCEDURES (SOPs)
RELATED TO WELL CONSTRUCTION AND DRILLING**

**NMED-HSW Corrective Action Chapter of the
RCRA Permit Renewal for the Los Alamos National Laboratory**

Submitted by:

**TechLaw, Inc.
300 Union Boulevard, Suite 600
Lakewood, CO 80228**

ER

ER-SU

ER-SOP.

Submitted to:

**Mr. Carl Will
Mr. James Bearzi
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505**

In response to:

Work Assignment No. Y5

August 7

TASK 7A DELIVERABLE

**TECHNICAL REVIEW OF SELECTED
LOS ALAMOS NATIONAL LABORATORY (LANL)
STANDARD OPERATING PROCEDURES (SOPs)
RELATED TO WELL CONSTRUCTION AND DRILLING**

**NMED-HSW Corrective Action Chapter of the
RCRA Permit Renewal for the Los Alamos National Laboratory**

Submitted by:

**TechLaw, Inc.
300 Union Boulevard, Suite 600
Lakewood, CO 80228**

Submitted to:

**Mr. Carl Will
Mr. James Bearzi
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505**

In response to:

Work Assignment No. Y513, 06082.600

August 2001

**TECHNICAL REVIEW OF SELECTED
LOS ALAMOS NATIONAL LABORATORY (LANL)
STANDARD OPERATING PROCEDURES (SOPs)**

TABLE OF CONTENTS

<u>SOP/Procedure Identification</u>	<u>SOP Title</u>	<u>Effective Date</u>	<u>Page</u>
ER-SOP-4.01, Rev. 2	Drilling Methods and Drill Site Management	06/01/99	1
ER-SOP-4.04, Rev. 2	Contract Geophysical Logging	04/27/01	2
ER-SOP-5.01, Rev. 3	Well Construction	04/27/01	3
ER-SOP-5.02, Rev. 2	Well Development	04/27/01	5

Standard Operating Procedure ER-SOP-4.04, Rev. 2
Contract Geophysical Logging

Description:

SOP ER-SOP-4.04, Rev. 2, describes the different down-hole geophysical logging techniques used to determine the physical, geological, and hydrologic conditions in an open borehole or cased monitoring well, and discusses the personnel responsibilities and operational procedures required to ensure a successful logging program. The SOP consists of a narrative and three attachments. Attachment A contains a listing of the typical wire-line geophysical logging tools, Attachment B presents a borehole status form, and Attachment C shows an example of a log header form.

Comments:

The procedures described in this SOP appear adequate and consistent with EPA and general scientific procedures. There are no additional comments at this time.

Standard Operating Procedure ER-SOP-5.02, Rev. 2 Well Development

Description:

SOP ER-SOP-5.02, Rev. 2, describes the different methods and procedures available for the development of LANL groundwater monitoring wells. The SOP consists of a narrative and two attachments. Attachment A contains a well development equipment and supplies checklist, while Attachment B shows an example of the summary of well development procedures/plan form.

Comments:

Section 5.1 states that regulatory guidance for well completion may be found in the EPA *RCRA Groundwater Monitoring Technical Enforcement Guidance Document* (TEGD - EPA, 1986) and the EPA Handbook (EPA, 1991). It should be noted that the TEGD was originally prepared as guidance for facilities subject to the interim status provisions. However, this guidance was updated with the issuance of the U.S. EPA *RCRA Groundwater Monitoring: Draft Technical Guidance* (EPA/530-R-93-001, dated November, 1992), which was prepared to assist permitted facilities in the design and implementation of ground-water monitoring programs. Section 1.2 of the *Draft Technical Guidance* indicates that some of the procedures in the TEGD were re-evaluated and revised in the *Draft Technical Guidance* based on more recent scientific findings. Since the *Draft Technical Guidance* reflects the Agency's most current position with regard to RCRA groundwater monitoring systems, it should be referenced instead of (or at a minimum, along with) the TEGD.

Section 8.2.6.1 states that the May, 1990 HSWA Permit requires that well development continue until the turbidity readings "stabilize at levels of less than (?) NTU or cannot be improved" (question mark added). LANL should revise the SOP to specify the actual number of nephelometric turbidity units that will be used to indicate adequate stabilization.

Section 8.2.6.3 indicates that the criterion for well development will be met when "field chemical parameters have stabilized over a series of monitoring measurements." LANL should revise the SOP to define the actual stabilization criteria for all of the chemical parameters (e.g., pH measurements varying by no more than 0.1 standard unit for at least three consecutive readings).