QUALITY ASSURANCE TASK PLAN NUMBER 5

SUBTASK 1.5 UPDATE

TECHNICAL REPORT NUMBER 7

AN OVERVIEW OF RECHARGE ESTIMATES

WATER, WASTE AND LAND, INC.

APRIL, 1987

APPROVED: Tom Duff (TASK MANAGER) DATE: 5-12-87

APPROVED: Inge A Davis (SUBCONTRACTOR MANAGEMENT) DATE: 5-12-87

APPROVED: (NWC QA DIRECTOR) DATE:

APPROVED: (NWC PROJECT MANAGER) DATE:

WATER, WASTE AND LAND, INC.
NEVADA NUCLEAR WASTE STORAGE INVESTIGATIONS
TASK DESCRIPTION SUMMARY #2

1.0 TASK TITLE: The Use of Environmental Tracers for the Estimation of Recharge: A Summary

2.0 OBJECTIVES:

The primary objective of this task is to develop a summary of methods which employ environmental tracers for the estimation of recharge. The emphasis will be on identifying methods which are potentially suitable for use at the Yucca Mountain site.

3.0 TECHNICAL APPROACH:

Since this task is essentially a literature review, the first step will be to develop a bibliography of pertinent sources of information. Two types of environmental tracer methods will be investigated. The first can be classified as radioactive methods and will include both steady-state and bomb-pulse methods. The other type of important environmental tracers are nonradioactive isotopes. For each environmental tracer identified, a summary will be prepared which identifies the types of samples required, chemical analyses of the sample, interpretation of results, reliability of results and inherent uncertainties in the procedures.

4.0 PRODUCT DESCRIPTION:

The product which will be delivered will consist of a Technical Report which will summarize the findings of the literature review. A bibliography of publications which describe the use of the tracers will be provided. In addition, summaries of each of the methods, as described in the previous section, will be presented in the report. The intent is to develop a summary report which describes the use of environmental tracers to estimate recharge.

5.0 TASK ASSIGNMENTS:

Thomas Sniff has been assigned primary responsibility for this task. He will be in charge of reviewing all publications and for writing the draft report. Managerial and Quality Assurance activities will be coordinated by Lyle Davis, NNWSI Project Manager. Prior to issuance, the draft report will be reviewed by Dr. David McWhorter, NNWSI Project Director.

6.0 MANPOWER RESOURCES:

The following summarizes our estimates of manpower resources required to complete the proposed task:

Title	Name	Hours
Project Director	David B. McWhorter	8
Sr. Engineer	Lyle Davis	40
Engineer	Thomas Sniff	120
Librarian	Barbara Graham	40
Clerical	Donna Loomis	20
Draftsman	Rodney Grebb	20

7.0 SCHEDULE:

This report is currently scheduled to be issued as part of the May 31, 1987, report update for Subtask 1.5. The schedule anticipated for the report is summarized in the following:

Apr 10, 1987 Completion of bibliography of pertinent literature

Apr 20, 1987 Complete collection of copies of pertinent literature listed in the bibliography

May 5, 1987 First draft of final report completed

May 10, 1987 Senior Engineer review of draft report

May 13, 1987 Second draft of final report completed

May 15, 1987 Project director review of report

May 31, 1987 Final Draft Report issued to NWC for review and submission to the NRC.

8.0 QUALITY ASSURANCE TASK PLAN:

This section of the Task Description Summary (TDS) is dedicated to a description of Quality Assurance (QA) activities envisioned during performance of this task. It is essentially a modification of the QA Task Plan format specified previously by NWC and includes only those items which are not specifically covered in the previous sections. This task has been designated as QA Task Plan Number 6.

8.1 QA APPLICABILITY

This task has been assigned a QA level of 1. This QA level was assigned based on the assumption that the technical reports issued under subtask 1.5 may be used as the bases for various decisions regarding site characterization. QA records for this task will include:

1. Task Description Summary (including QA Task Plan)
2. Environmental Tracer bibliography
3. Initial Draft Report
4. Check-list of QA activity
5. Draft Final Report
6. NWC/NRC Comments Regarding Draft Final Report
7. Final Report
8. Completed Record of Report/Analysis Review Form

8.2 DATA AND DOCUMENTATION HANDLING PROCEDURES

Because of the nature of this report, little data will be required. The report will reference publications which describe various methods of using environmental tracers to estimate recharge and copies of those publications will be available in WWL offices. For those methods which require constants or other parameters, the source of those constants will be documented.

8.3 DATA REDUCTION, VALIDATION, AND REPORTING PROCEDURES

Data and computational approaches which may be used in this report will be checked for accuracy against original documents.

8.4 PERFORMANCE AUDITS

A performance audit will be performed when the first draft of the technical report is completed.

8.5 ASSESSMENT PROCEDURES FOR DATA/REPORT ACCEPTABILITY

The draft technical report will undergo management review for adequacy of the topic coverage and overall responsiveness to contractual requirements.

8.6 CORRECTIVE ACTION

Should corrective action be indicated by any of the QA procedures and reviews, personnel responsible for a given task will be responsible for determining the nature of the corrective action, subject to both management and QA review. All corrective action will be documented.

8.7 QA REPORTS TO MANAGEMENT

The QA file will be available for management review at the end of the performance audit and at the completion of the task. A task plan will be provided. In addition, QA activities related to this task will be listed in monthly and annual summary QA reports.

8.8 TASK PLAN REVIEW AND APPROVAL

Level 1 and 1-A task plans shall be reviewed and approved prior to issuance by: Task Manager, Subcontractor Management, NWC QA Director, and NWC Project Manager. Approval signatures and dates appear on the following page.