

U.S. DEPARTMENT OF ENERGY
FIELD TASK PROPOSAL/AGREEMENT

1840 General

1. WORK PACKAGE NUMBER	2. TASK NO.	3. REV. NO. 0	4. PROJECT NO.	5. DATE PREPARED (mm dd yy) 01-30-80	6. CONTRACTOR NUMBER F651
7. TASK TITLE Physical Transport of Environmental Contaminants			8. WORK PACKAGE TITLE		
9. BUDGET AND REPORTING CODE GK-01-02-03-1	10. TASK TERM Begin: (mm dd yy) 07-01-73 End: (mm dd yy) Open		11. CONTRACTOR NAME Los Alamos Scientific Laboratory		12. CODE (see instructions)
13. CONTRACTOR TASK MANAGER (Name: Last, First, MI) (PTS No.) Petersen, Donald F. 843-2690			14. PRINCIPAL INVESTIGATORS (Name: Last, First, MI) Hakonson, T.E.		
15. WORK LOCATION (See instructions): Name of facility, City, State, Zip Code Los Alamos Scientific Laboratory P. O. Box 1663 Los Alamos, New Mexico 87545				16. Is this task included in the Institutional Plan? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	17. Does this task include any management services efforts? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

18. TASK DESCRIPTION (Approach, relation to work package, in 200 words or less)

Results of DOE/OHER funded field studies have demonstrated that soils and sediments are the major repository of environmental plutonium and americium. These studies also implicate soil erosion processes as the dominant mode of plutonium redistribution in the environment.

Two field studies were initiated to investigate the mechanisms and kinetics of hydrologic soil erosion processes in transporting soil contaminants. Both studies emphasized potential impact of sorting and differential transport of soil size fractions on the distribution and inventory of soil contaminants.

The experimental approach centered on the use of several hundred kilograms of soil or sediment consisting of four radionuclide-labeled soil particle size fractions. The labeled soil or sediment was introduced into the respective study areas where natural rainstorms and subsequent run-off were used as the driving force causing soil redistribution. The degree of soil particle redistribution following rainstorm events was assessed by analyzing for the various radioactive tracers.

The results of this investigation serve the Laboratory's continuing need for information on contaminant transport processes to enable effective surveillance and control of hazardous wastes released to the Los Alamos environs. By extension, we believe that an understanding of the mechanisms of soil transport by hydrologic processes in intermittent streams and associated landscapes will be directly applicable to management of wastes generated by uranium, coal, geothermal and solar energy development activities in similar regions in the Southwestern U.S. Assessment activities requiring modeling approaches require the data on transfer pathways and rate coefficients which will be forthcoming from these studies.

19. CONTRACTOR TASK MANAGER



12162

(Signature) _____ (Date)

20. DETAIL ATTACHMENTS (See instructions)

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|-----------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------|
| <input type="checkbox"/> a. Facility Requirements | <input type="checkbox"/> c. Background | <input type="checkbox"/> e. Future accomplishments | <input type="checkbox"/> g. Explanation of missions |
| <input checked="" type="checkbox"/> b. Publications | <input type="checkbox"/> d. Approach | <input type="checkbox"/> f. Relationships to other projects | <input type="checkbox"/> h. ZBB Data |
| <input checked="" type="checkbox"/> c. Personnel | <input type="checkbox"/> i. Technical resources | <input type="checkbox"/> j. Financial resources | <input type="checkbox"/> k. Other attachments |