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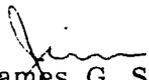
September 3, 1980

Mr. John Peel
Idaho Operations Office
550 2nd St.
Idaho Falls, ID 83404

Dear John:

Enclosed are the July 1980 Monthly Reports on those projects under your low-level waste program.

Sincerely,


James G. Steger
LS-6 Alternate Group Leader
Environmental Science Group

JGS:tj

Enc: Monthly Report
Distribution List



7984

1812 Report

MONTHLY PROGRAMS REPORT

July 1980

AL 3.5.1
Solid Radioactive Waste Disposal Studies

AL 3.5.4
Shallow Land Burial Technology

AL 3.10.1
Alternative Systems Study

LOS ALAMOS SCIENTIFIC LABORATORY
ENVIRONMENTAL SCIENCE GROUP LS-6

Work performed for

DIVISION OF WASTE MANAGEMENT
US DEPARTMENT OF ENERGY

University of California



LOS ALAMOS SCIENTIFIC LABORATORY

PROGRAM STATUS REPORT

Title: Solid Radioactive Waste Disposal Studies BR&C NO.: AR-05-15-15
FO/Contractor: AL/LASL WEP NO.: AL 3.5.1
Manager: James G. Steger Annual Budget: \$300k
Principal Investigator: M. A. Rogers Date: August 1980
Month Covered: July 1980

Task Description:

The purpose of this task is to develop methods for environmental monitoring and surveillance of low-level waste disposal facilities. The approach taken will be to assess the migration of radionuclides from wastes buried during the last 35 years at LASL in order to determine waste/soil interactions and radionuclide movement in a semi-arid environment. Potentially significant pathways will be identified and modeled. A method of monitoring radionuclide movement along these pathways will be developed along with identifying the constraints that must be imposed upon disposal site operating practices and waste forms.

Highlights and Significant Accomplishments:

The report on the hydrology of LASL will be several months late because Merlin Wheeler spent more time than expected on AL 3.10.1 (which we believe to have a higher priority). The report is now expected to be out about October 1980.

Due to extended illness of the P.I. in July, some delay was experienced in completing all of the contract negotiations for the geologic maps of LASL. We expect to complete the contract arrangements in August 1980.

As a result of the meeting at Idaho Falls July 23, 1980 and the withdrawal of support of the TRU program, the emphasis of this project is being modified. We have had some discussions with Vern Rogers (Rogers & Associates Engineering Corp.) to investigate the application of land use planning for estimating the future use of land at LASL currently used

as disposal sites. There were some interesting potentials identified. We also reviewed what modifications will be necessary to pick up and continue the joint modeling program with PNL. The success to date indicates that the combination of BIOTRAN/ARM/SERATRA will provide us a tool to estimate the impact of waste buried at LASL, which can also be applied to any site. One big advantage of these models is that they have been field tested and so far have been successful.

Budget Variance:

None

Milestone Variance:

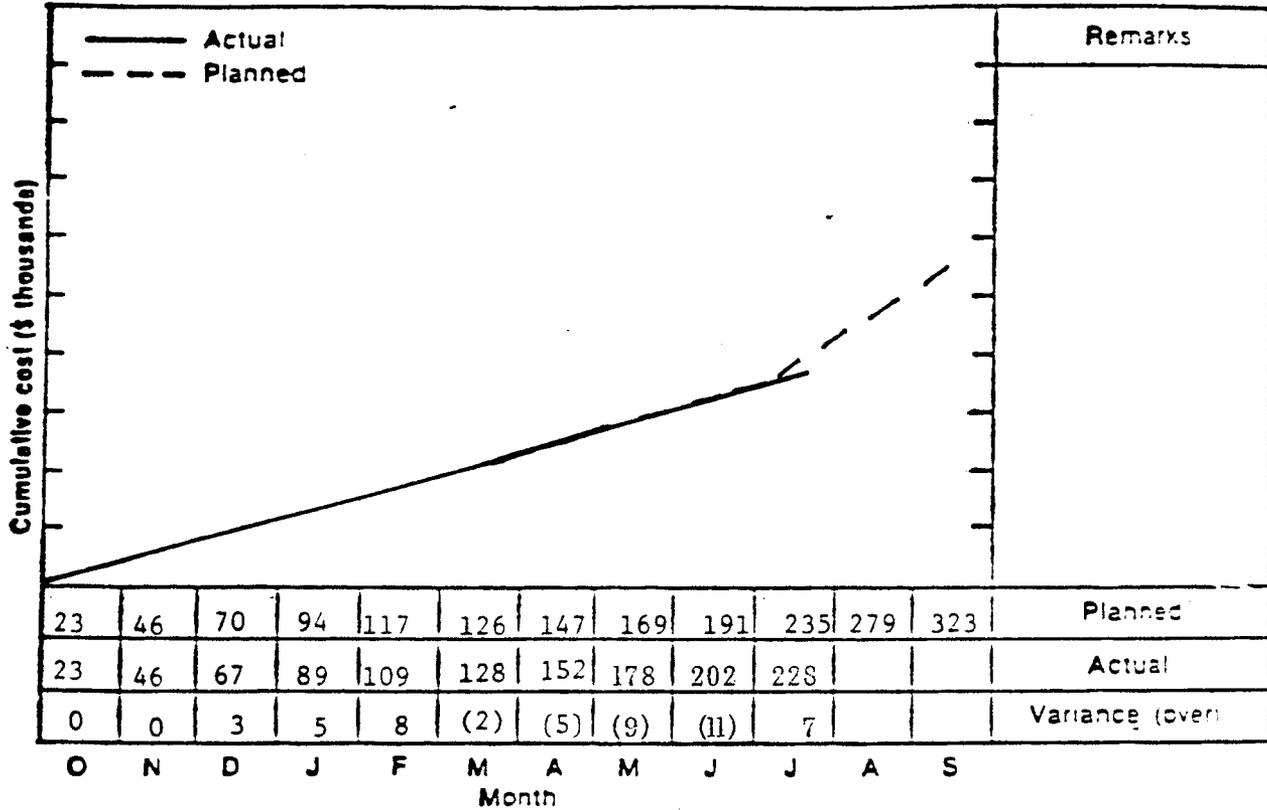
Hydrology report will be delayed until October 1980.

Problems and Issues:

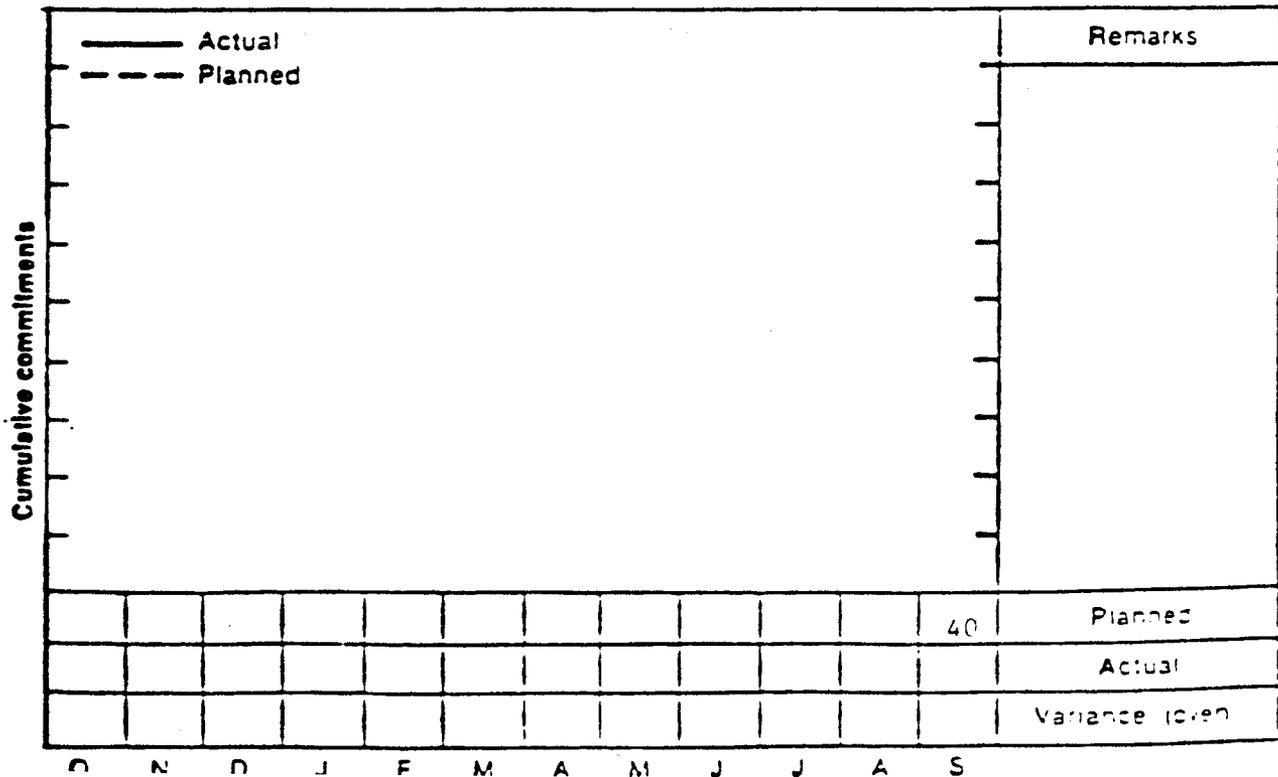
None

Title Radioactive Waste Disposal Studies B&RC No. AR 05-15-15
 FO/Contractor AL/LASL FY 80 WEP No. AL 3.5.1

Operating Dollars in Thousands (BO)



Capital Equipment Dollars in Thousands (BA)



Milestone Schedule

Level	Milestone No.	Milestone	FY. 80												FY. 81			
			O	N	D	J	F	M	A	M	J	J	A	S	1Q	2Q	3Q	4Q
3	1.1	Summary Report on Source Term											↓					
3	1.2	Field Sampling Completed																
3	2.1A	Summary Report on Hydrology											▲					
3	2.1B	Summary Report on Geology																
3	2.2A	Feasibility of Coupling PNL/LASL Surface Models Determined	▲															
3	2.2B	PNL/LASL Surface Models for TRU Adopted to LLW																

ER 11 Solid Radioactive Waste Disposal
 Studies
 BCF No. AR-15-15
 WEP No. AL 3 5 1

- Level 0 - Department Controlled Milestone
- Level 1 - ETW - Controlled Milestone
- Level 2 - ETW P - Controlled Milestone
- ▲ Level 3 - Lead Field Office - Controlled Milestone
- ▽ Level 4 - Other Milestones and/or Intermediate Event

- ◇ Scheduled Deviation for ☆ or △
- Activity Line
- ↓ Time Now

PROGRAM STATUS REPORT

Title: Shallow-Land Burial Technology BR&C NO.: AR-05-15-15
FO/Contractor: AL/LASL WEP NO.: AL 3.5.4
Manager: James G. Steger Annual Budget: \$400K
Principal Investigator: John W. Nyhan Date: August 1980
Month Covered: July 1980

Task Description:

To improve the technology related to the shallow-land burial of radioactive waste by examining radionuclide mobilization and migration mechanisms, by developing monitoring techniques around burial sites, by developing engineering methods to improve waste containment, and by the construction of an experimental engineered waste burial facility.

Highlights/Significant Accomplishments:

Progress during July has been made in getting the Engineering work for the LASL Experimental Engineered Waste Burial Facility started. The Engineering Department Engineering Study Request has been activated and the following has been done. The site boundaries have been located and are being surveyed. The archeological ruins have been located and fence lines marked to protect the sites. In addition, a preliminary design for a Flow-Through Treatment System experiment for the facility has been received from JRB Associates, Inc., and is presently under evaluation.

A liquid nitrogen leak in the IG detector of the ATASS system was repaired at PGT, and the detector was returned and recalibrated for americium and plutonium. Tests and debugging of the final ATASS software versions are reaching completion and the ATASS operations manual, based upon the final form of the software and the modified version of the sample changer, is being composed.

Budget Variance Analysis:

None

Milestone Variance Analysis:

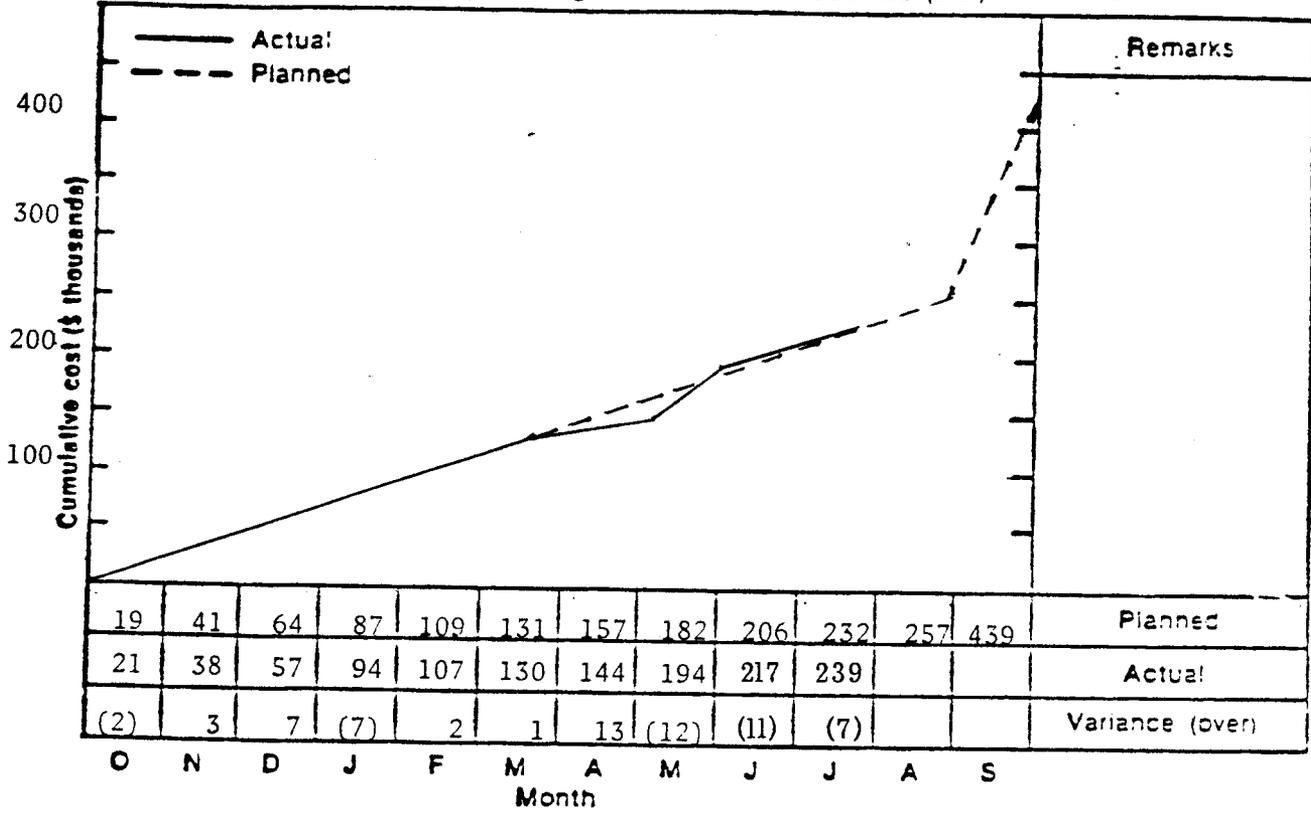
None

Problems and Issues:

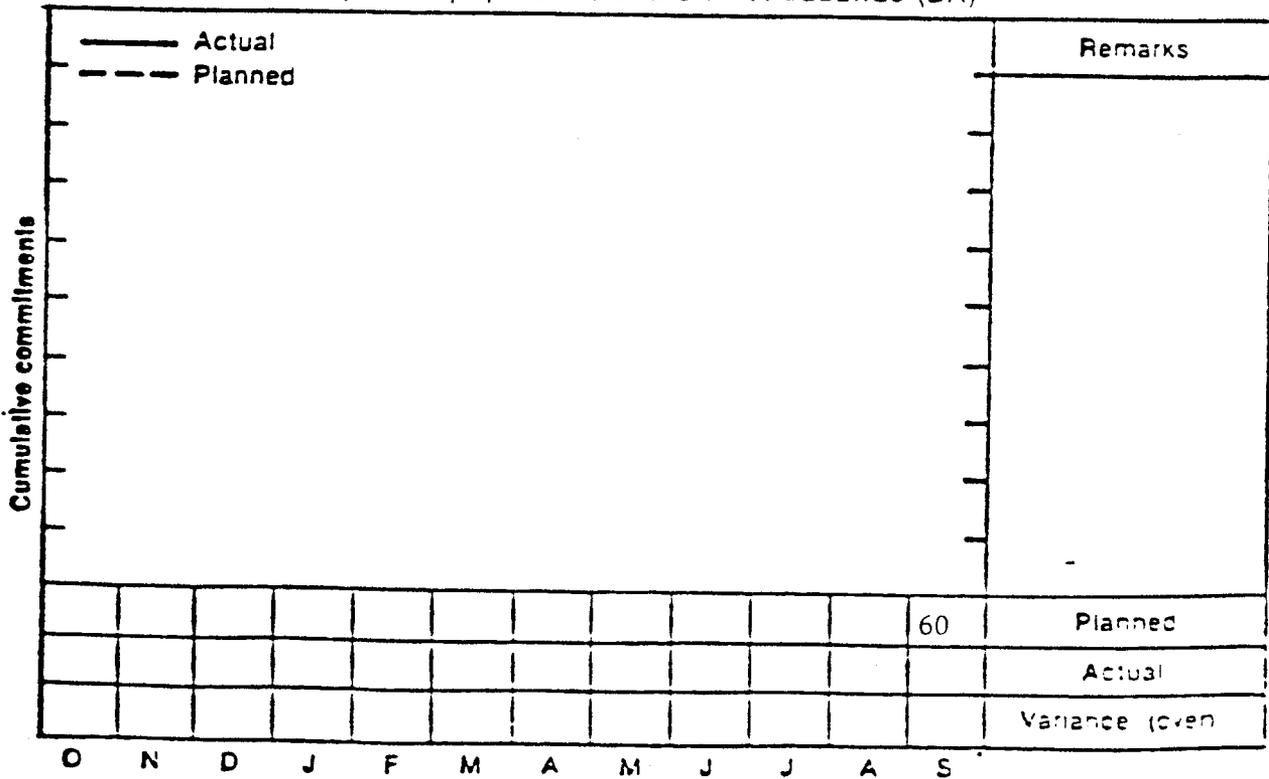
None

Title Shallow Land Burial Technology B&RC No. AR 05-15-15-0
 FO/Contractor: AL/LASL FY 80 WEP No. AL 3.5.4

Operating Dollars in Thousands (BO)



Capital Equipment Dollars in Thousands (BA)



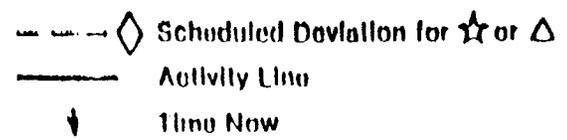
Milestone Schedule

Shallow Land Burial Technology

B&FC No.: AR-05-15-15
WEP No.: AL 3.5.4

#	Milestone No.	Milestone	FY. 80												FY. 81			
			O	N	D	J	F	M	A	M	J	J	A	S	10	20	30	40
	1	Evaluation of manmade barriers.																
	3	Literature survey on influence of waste materials & environmental factors on engineered barriers.																
	6	Analysis of tuff samples collected under a previously-used liquid radioactive waste disposal bed.																
	7	Technology & modeling of water flow through un-saturated materials.																
	8	Completion of LASL lab studies on saturated and unsaturated flow of radioactive waste solutions in tuff.																
	9	Report on NMSU lab studies on stable element solute retention by soils & tuff.																
	12	Development of neutron activation tracers & field equipment for monitoring tracer migration.																

- Level 0 - Department Controlled Milestone
- Level 1 - ETW - Controlled Milestone
- Level 2 - ETW P - Controlled Milestone
- Level 3 - Lead Field Office - Controlled Milestone
- Level 4 - Other Milestones and/or Intermediate Event



PROGRAM STATUS REPORT

Title: Alternative Systems Study BR&C NO.: AR-05-15-15
FO/Contractor: AL/LASL WEP NO.: AL 3.10.1
Manager: James G. Steger Annual Budget: \$300k
Principal Investigator: Merlin Wheeler Date: August 1980
Month Covered: July 1980

Task Description:

The overall goals of the proposed work are to gather information pertinent to analyzing Alternative Disposal Methods and to generate a management plan for a program to evaluate selected alternatives to shallow-land burial for the disposal of low-level radioactive waste. The work will be structured so as to take maximum advantage of all applicable ongoing and proposed work within DOE and other organizations. In particular, close cooperation will be sought between this work and the High-Level Waste disposal work coordinated by ONWL.

Highlights/Significant Accomplishments:

A draft was completed on an Overview Report, titled "Alternatives to Shallow-Land Burial for the Disposal of Low-Level Radioactive Waste." Copies of the report were delivered to personnel from EG&G, Idaho, and Oak Ridge National Laboratory, on 7/30/80.

Key elements of the report include:

1. A description of waste characteristics with respect to disposal requirements.
2. A description of significant environmental pathways from the disposed waste to man.
3. Evaluation of the benefits resulting from eliminating selected pathways.
4. Descriptions and evaluation of Deeper Burial, Mined Cavity Disposal, Engineered Storage, and Ocean Disposal.

5. Preliminary conclusions that a combination of several methods should be used to provide interim storage of some waste, near surface disposal (as decay storage) of some wastes, and greater isolation through mined cavities or deeper burial of the more hazardous waste forms.

Budget Variance:

None

Milestone Variance:

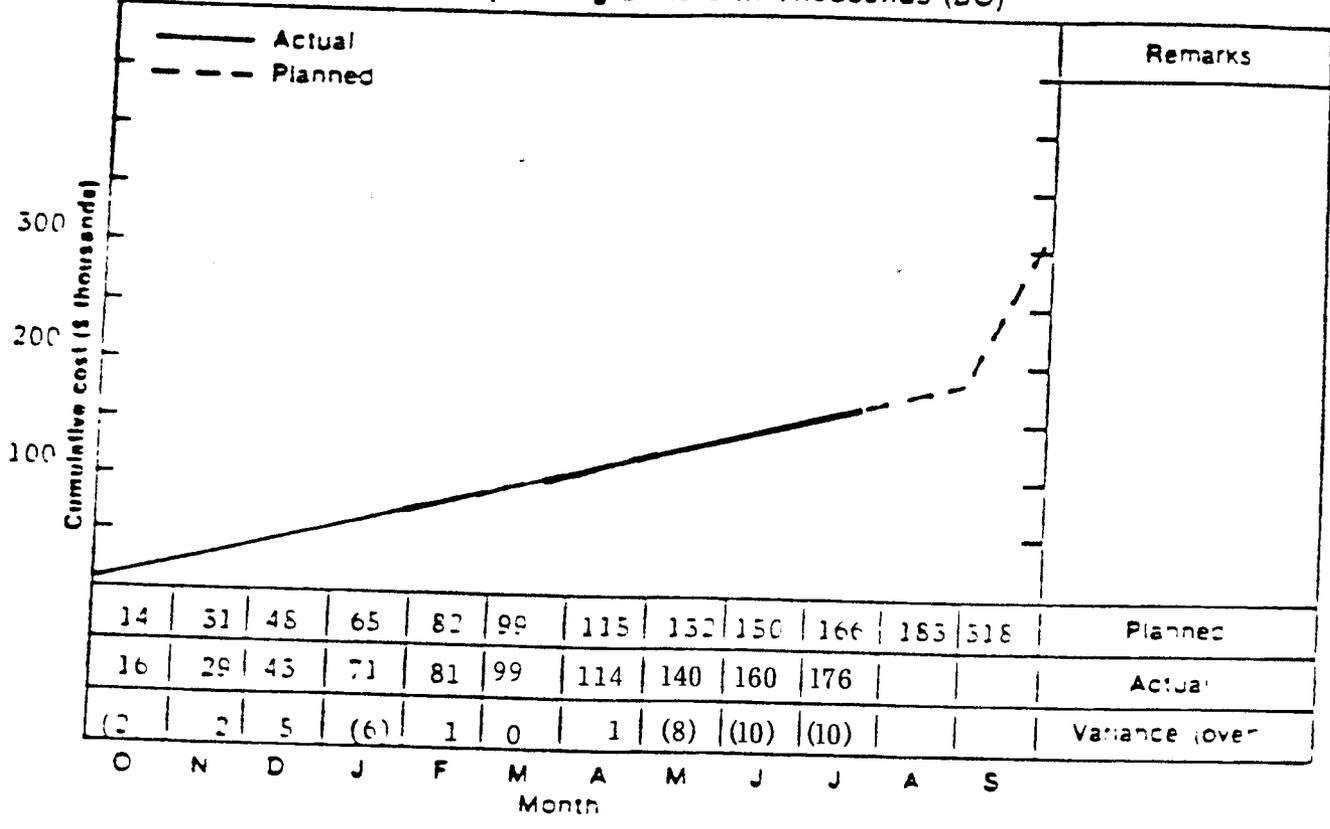
None

Problems and Issues:

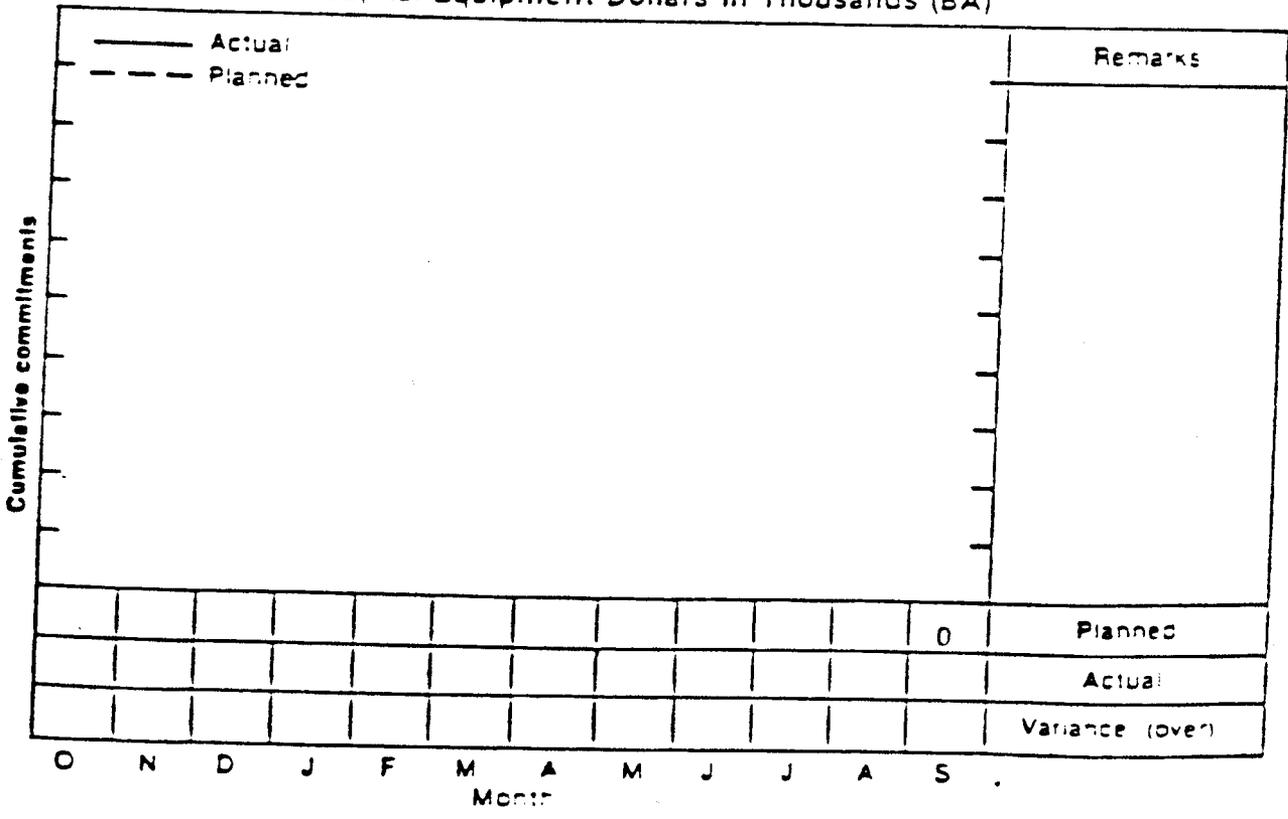
None

Title Alternative Systems Study B&RC No. AR 05-15-15
 FO/Contractor AL/LASL FY 80 WEP No. AL 3.10.1

Operating Dollars In Thousands (BO)



Capital Equipment Dollars in Thousands (BA)



Milestone Schedule

Level	Milestone No.	Milestone	FY. 80												FY. 81				
			O	N	D	J	F	M	A	M	J	J	A	S	1Q	2Q	3Q	4Q	
3	1.	Input waste characterized							▲										
3	2.	Alternative Options Catalogued										▲							
3	3.	Report on assessment of technical issues												▲					
3	4.	Issue Development Plan																▲	

File: Alternative Systems St...

ERIC NO: AR-15-15
 WEP No.: AL 3.10.1

- ⊙ Level 0 - Department Controlled Milestone
- ⊙ Level 1 - E1W - Controlled Milestone
- ⊙ Level 2 - E1W P - Controlled Milestone
- ▲ Level 3 - Lead Field Office - Controlled Milestone
- ∨ Level 4 - Other Milestones and/or Intermediate Event

- — — ◆ Scheduled Deviation for ☆ or △
- — — Activity Line
- ↓ Time Now

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