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IN REPLY
REFER TO: LS6-81-69
MAIL STOP: 495

February 9, 1981

1815 Report

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

Dear John:

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

Sincerely,

Jim

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

JGS:tj

Enc: a/s

7987

An Affirmative Action/Equal Opportunity Em...

MONTHLY PROGRESS REPORT
LOW-LEVEL WASTE MANAGEMENT PROGRAM

D3-Model SLB Site

D13-Remedial Action Testing

D28-Shallow-Land Burial Barriers-Migration

D29-Biological Intrusion Barriers for SLB Sites

D41-Los Alamos Disposal Site Studies

D47-Arid Site Closure

D50-Alternatives Studies

LOS ALAMOS NATIONAL LABORATORY
ENVIRONMENTAL SCIENCE GROUP LS-6

Work performed for

DIVISION OF WASTE MANAGEMENT
US DEPARTMENT OF ENERGY

University of California

LOS ALAMOS SCIENTIFIC LABORATORY

MONTHLY PROGRESS REPORT
LOW-LEVEL WASTE MANAGEMENT PROGRAM A426
December 1980

D3-Model SLB Site

We are currently waiting for the fencing contractor to begin the fencing at the Los Alamos Experimental Engineered Waste Burial Facility. It is anticipated that the fencing should start early in January of 1981. The general site development plan has been discussed with and approved by the Long Range Facilities Planning Group at Los Alamos. The engineering design work on the experiment clusters is continuing and is nearly complete. Estimate of funding expenditure rate will be revised to account for construction delays due to the Zia Co. strike.

D13-Remedial Action Testing

Literature work for information relevant to the moisture cycling experiments has been completed. Based on this, experimental designs are being considered.

Information for the moisture diverting cap systems is being collected. Based on this information, possible experiments are being considered.

D28-Shallow-Land Burial Barriers-Migration

The down-hole field instrumentation for soil water content, temperature, and bulk density measurements has arrived. An existing trailer is being modified to hold this equipment.

Experimental configurations for the experiment clusters (caissons) are being worked out. These experiments will be used to get basic information about the migration potential and ways to prevent migration of water and radionuclides under conditions similar to those at shallow-land burial facilities in arid environments.

D29-Biological Intrusion Barriers for SLB Sites

Perimeter fencing of the small scale plant and animal intrusion study plot has been completed (Figure 1.). The plot area has been designed to provide optimum accessibility to the lysimeters (Figure 2.) with power equipment.

Some minor modifications have been made in the design of the animal intrusion studies to facilitate the conduct of the experiment and to reduce cost. Four pads have been prepared to support 1.8 m diameter culvert that will be used in the initial animal intrusion studies. A 2.1 m section of culvert will be placed on each of four pads to provide a means of constructing various waste cover configurations and to evaluate the effectiveness of various bio-barriers in inhibiting burrowing with depth. Pocket Gophers (Thomomys sp.), a highly active burrowing species, will be introduced into each experimental cover system and be allowed to develop burrow systems within the cover profile. At the conclusion of this plot study in late 1981, the burrow systems will be mapped as a function of depth within the cover profile.

The design of the cover configurations that will be evaluated for bio-intrusion potential is being formalized at this time. The selection of cover materials that will be tested as bio-barriers is being coordinated with the corresponding studies on moisture barriers to insure compatibility of experimental results.

D41 Los Alamos Disposal Site Studies

Modeling work at PNL and at Los Alamos continues on schedule.

Merle Wheeler left on an extended leave and arrangements are being made to shift his unsaturated moisture transport report to another staff member to complete.

Arrangements are being made with a printer to produce the geologic maps of the Los Alamos area.

D47-Arid Site Closure

The information being collected for remedial action testing and for the migration barrier experiments is also applicable to arid site closure. When system components that have application in arid site closure are found they are placed on file to be used in the experiment design for the arid site closure experiments. Funding expenditure rate is behind schedule due to Zia Co. strike delaying construction. Estimate is that construction should be completed April - May. Funding schedule chart will be revised.

D-50 Alternative Studies

Reports have been received from the University of Arizona on Mined Cavities and Engineered Storage. Internally, a report on well and shaft disposal methods has been drafted and is being edited.

Merle Wheeler's departure on extended leave has necessitated transferring this activity to another staff member. This could delay the deliverables, but a final determination has not yet been made.

FIGURE 1.

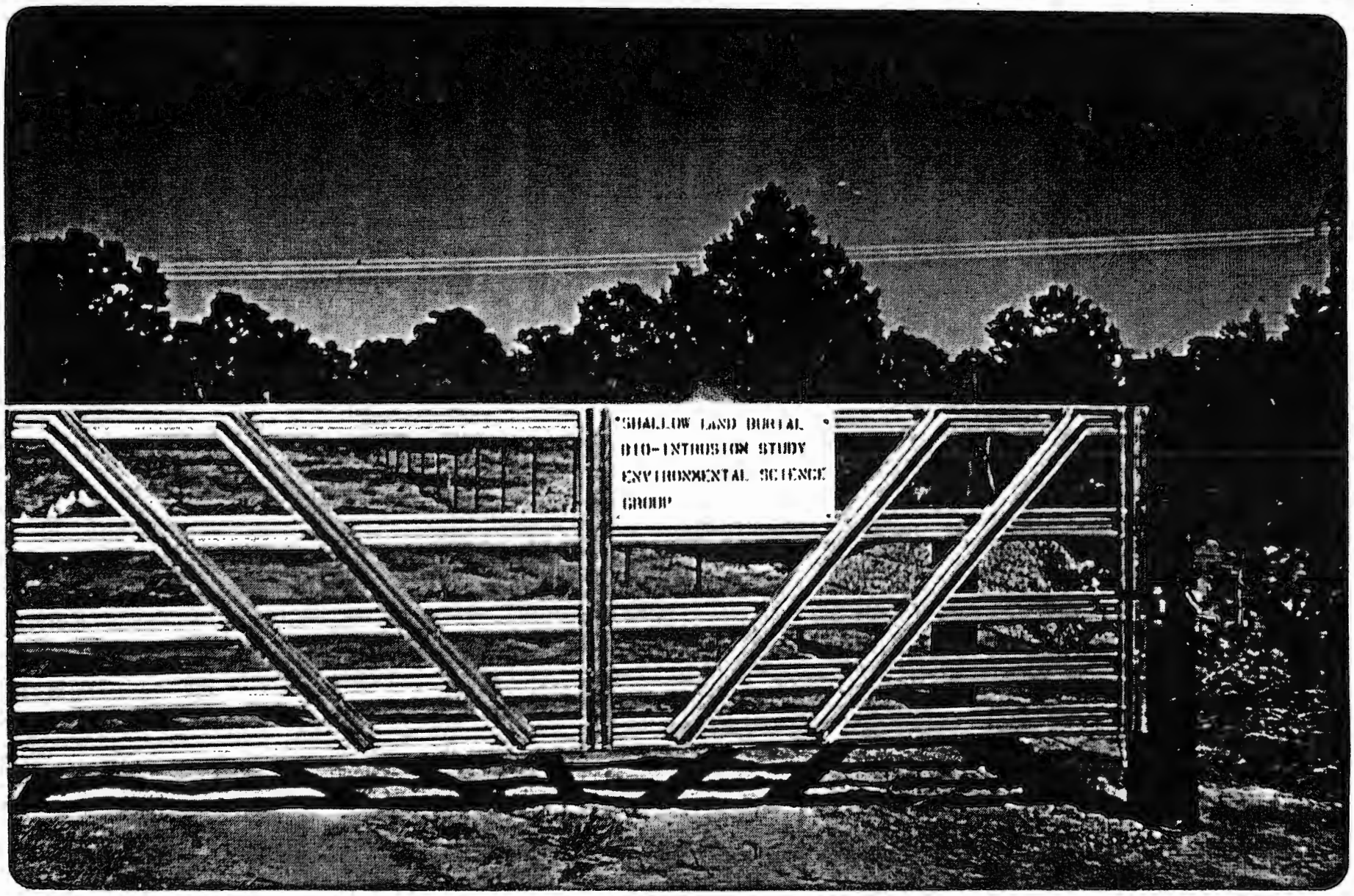
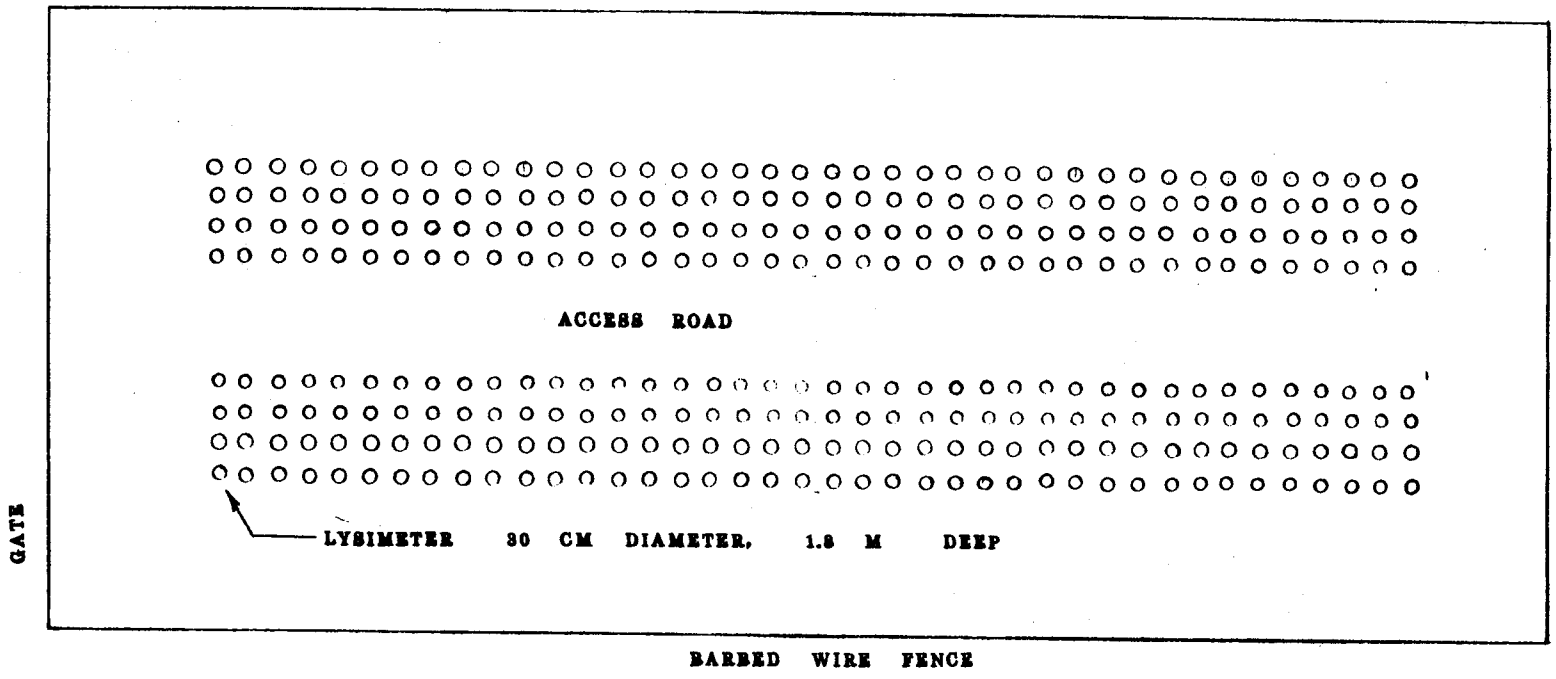

"SHALLOW LAND BURIAL
BIO-INTRUSION STUDY
ENVIRONMENTAL SCIENCE
GROUP"

FIGURE 2.

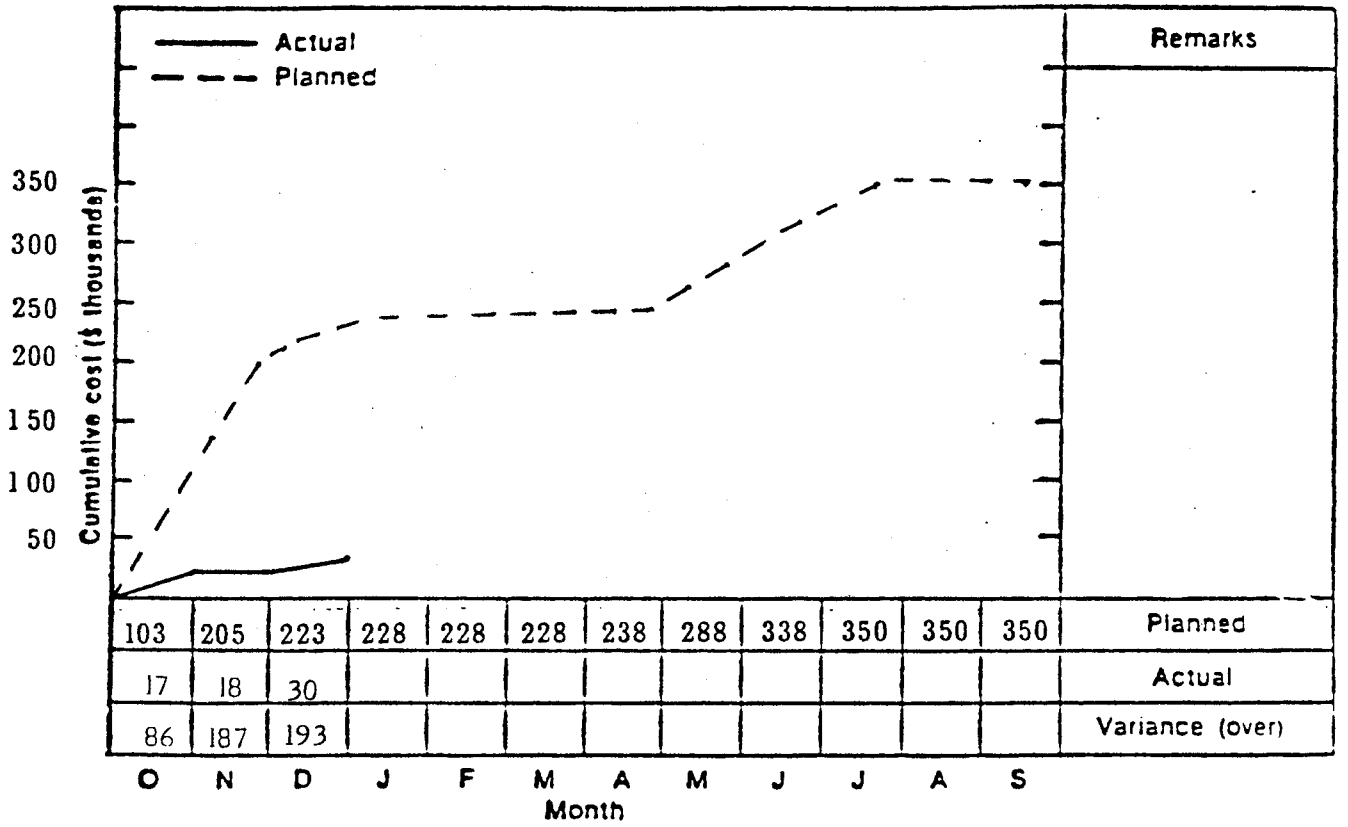


PLOT DIMENSIONS 20 X 50 M

Title D3 Model SLB Site B&F.C No. AL 3.5.4 AR

FO/Contractor AL/LASL FY 81 WEP No.

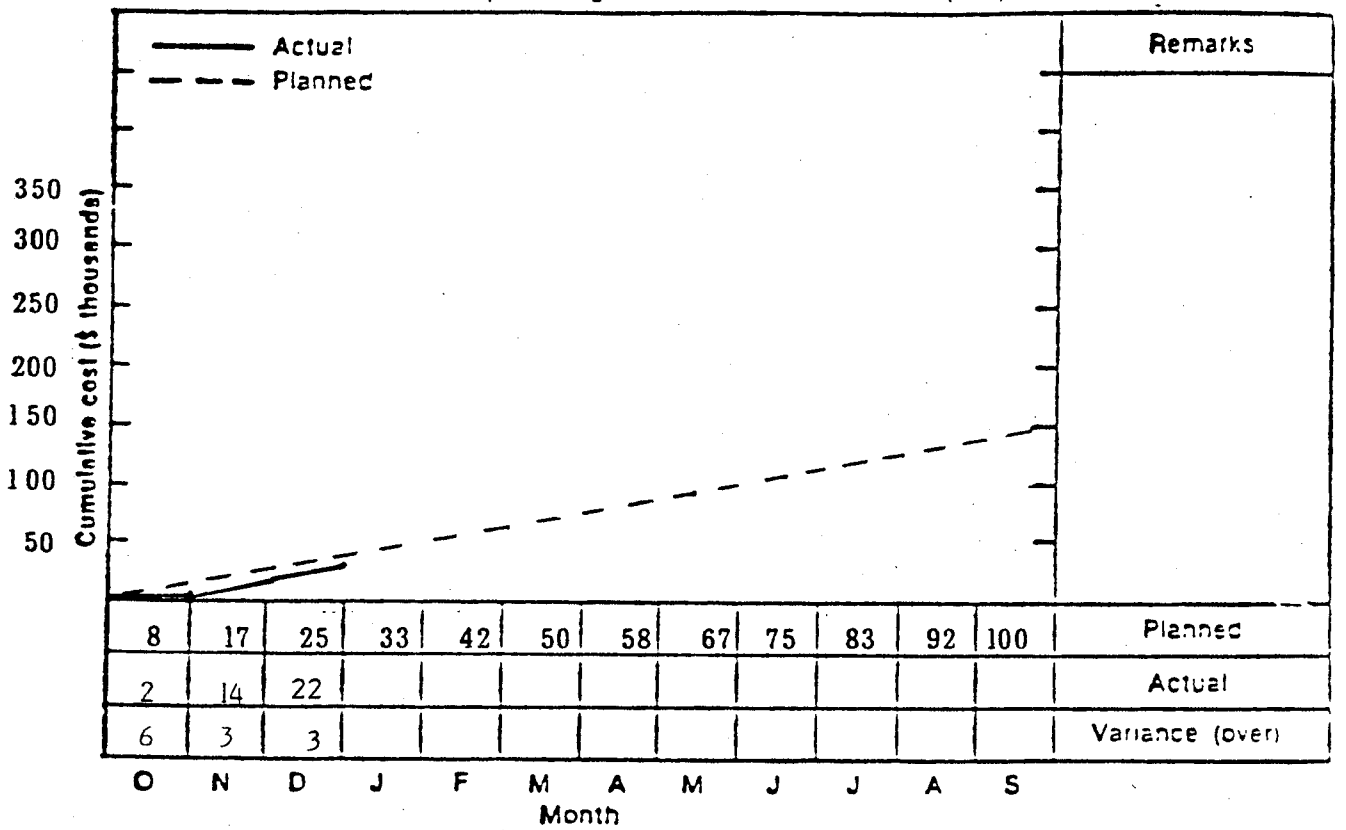
Operating Dollars in Thousands (BO)



	O	N	D	J	F	M	A	M	J	J	A	S
Planned	103	205	223	228	228	228	238	288	338	350	350	350
Actual	17	18	30									
Variance (over)	86	187	193									

Title	D13 Remedial Action Testing	B&PC No.	AL 3.5.4 AR
FO/Contractor	AL/LASL	FY 81	WEF No.

Operating Dollars in Thousands (BO)

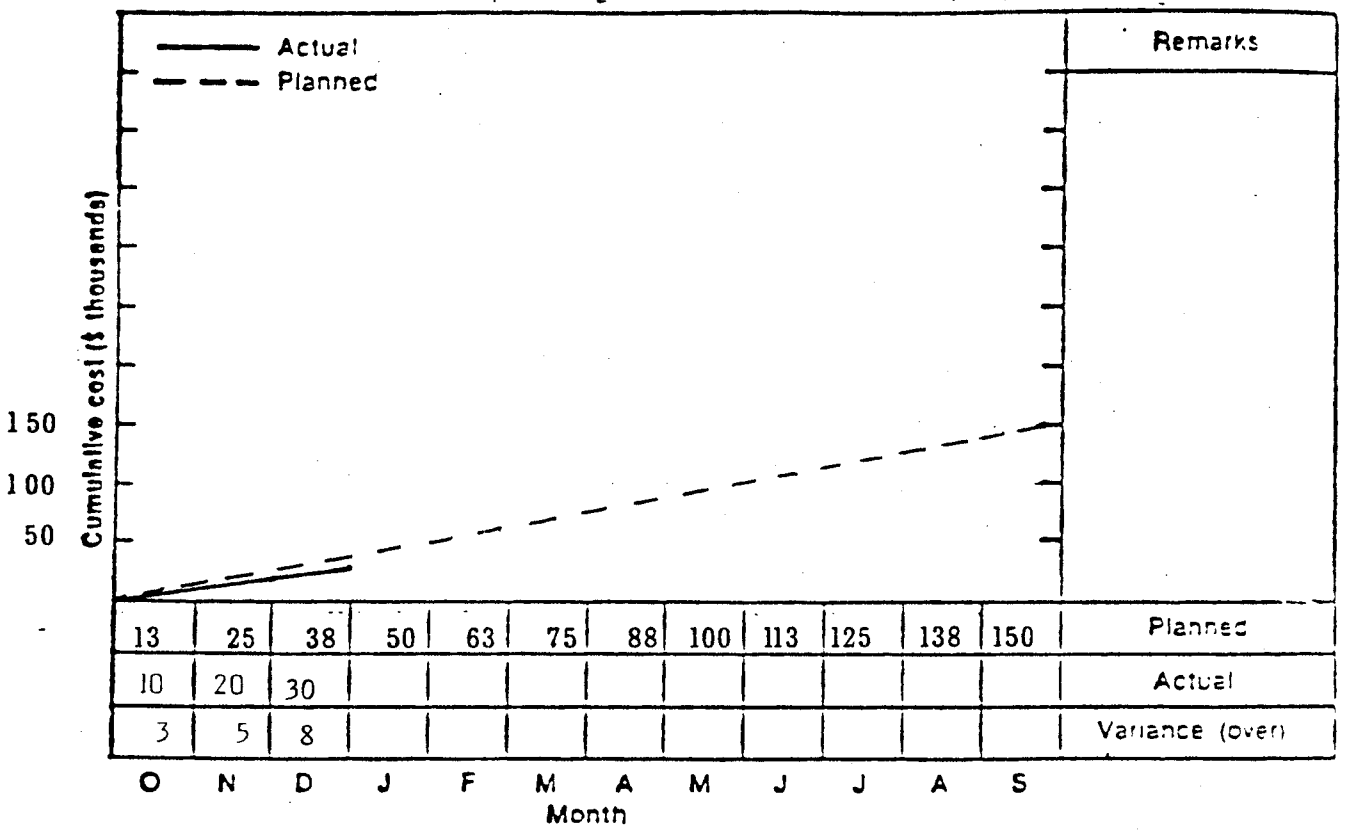


	O	N	D	J	F	M	A	M	J	J	A	S	
Planned	8	17	25	33	42	50	58	67	75	83	92	100	
Actual	2	14	22										
Variance (over)	6	3	3										

Title: D28 Shallow Land Barriers-Migration B&R No.: AL 3.5.4 AR

FO/Contractor: AL/LASL FY: 81 WEF No.:

Operating Dollars in Thousands (BO)



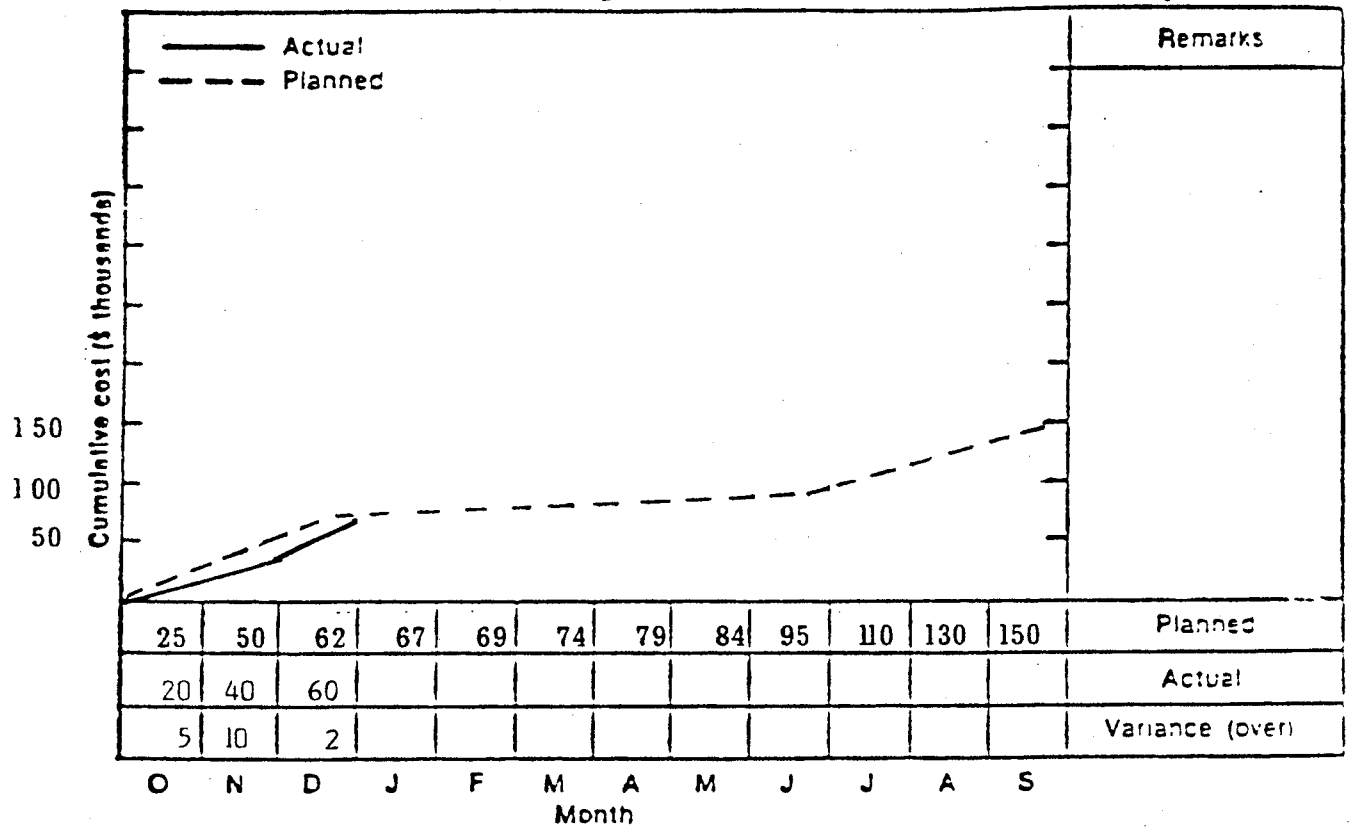
Remarks

	O	N	D	J	F	M	A	M	J	J	A	S
Planned	13	25	38	50	63	75	88	100	113	125	138	150
Actual	10	20	30									
Variance (over)	3	5	8									

Title D29 Shallow-Land Barriers-Intrusion B&R No. AL 3.5.4 AR

FO/Contractor AL/LASL FY 81 WBS No.

Operating Dollars in Thousands (BO)

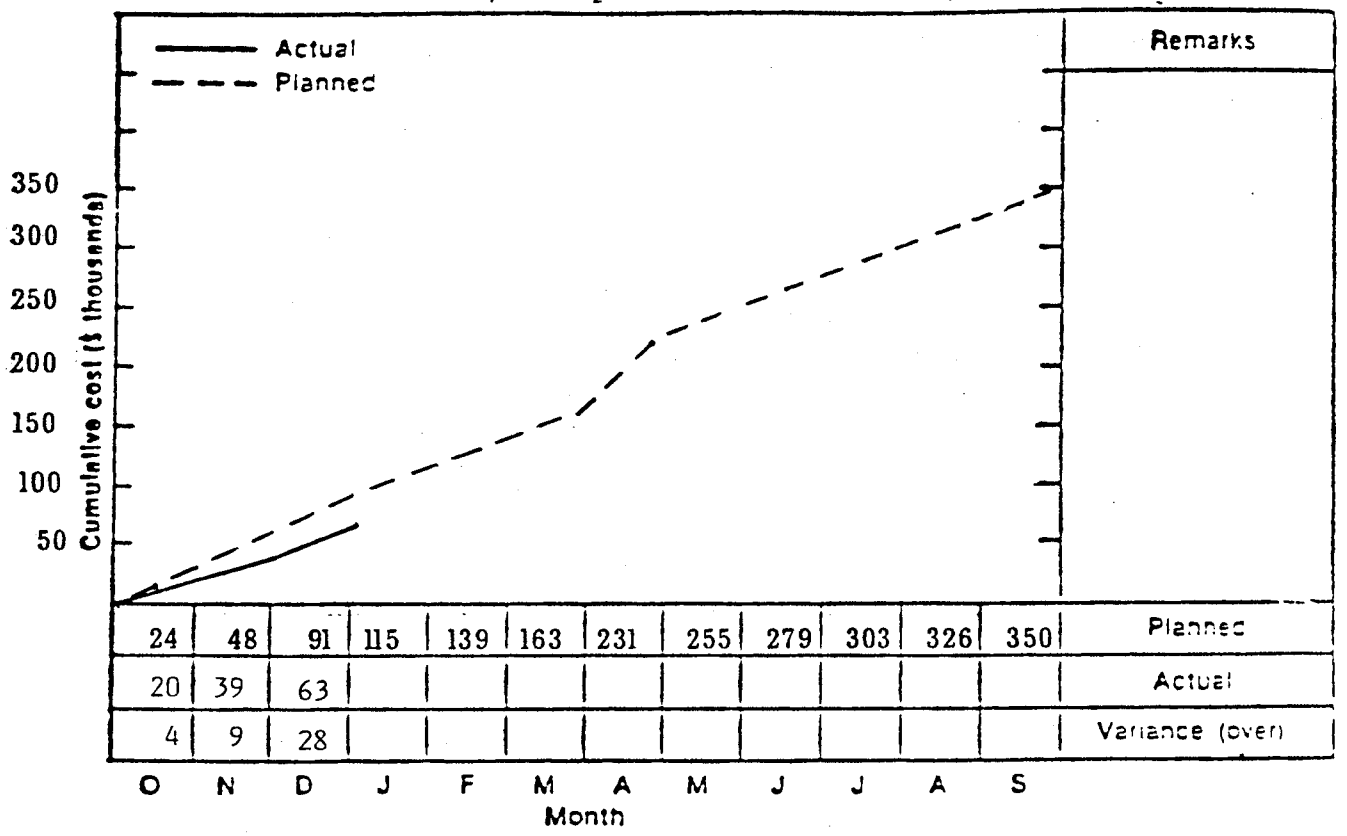


	O	N	D	J	F	M	A	M	J	J	A	S
Planned	25	50	62	67	69	74	79	84	95	110	130	150
Actual	20	40	60									
Variance (over)	5	10	2									

Title D41 LASL Disposal Site Studies BEEC No. AL 3.5.4 AR

FO/Contractor AL/LASL FY 81 WEP No.

Operating Dollars in Thousands (EO)

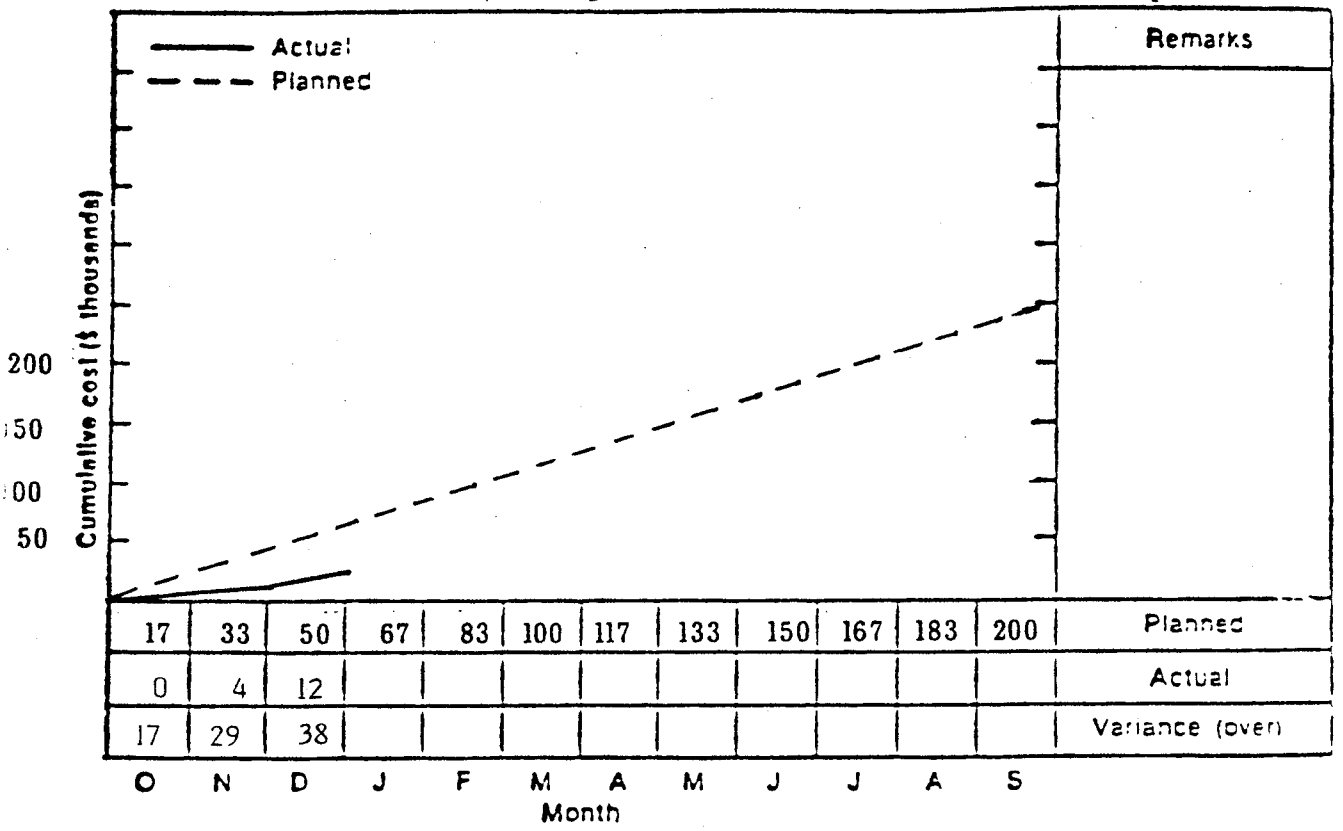


	O	N	D	J	F	M	A	M	J	J	A	S	
Planned	24	48	91	115	139	163	231	255	279	303	326	350	
Actual	20	39	63										
Variance (over)	4	9	28										

Title D47 Arid Site Closure BAC No. AL 3.5.4 AR

FO/Contractor AL/LASL FY 81 WEP No.

Operating Dollars in Thousands (EO)

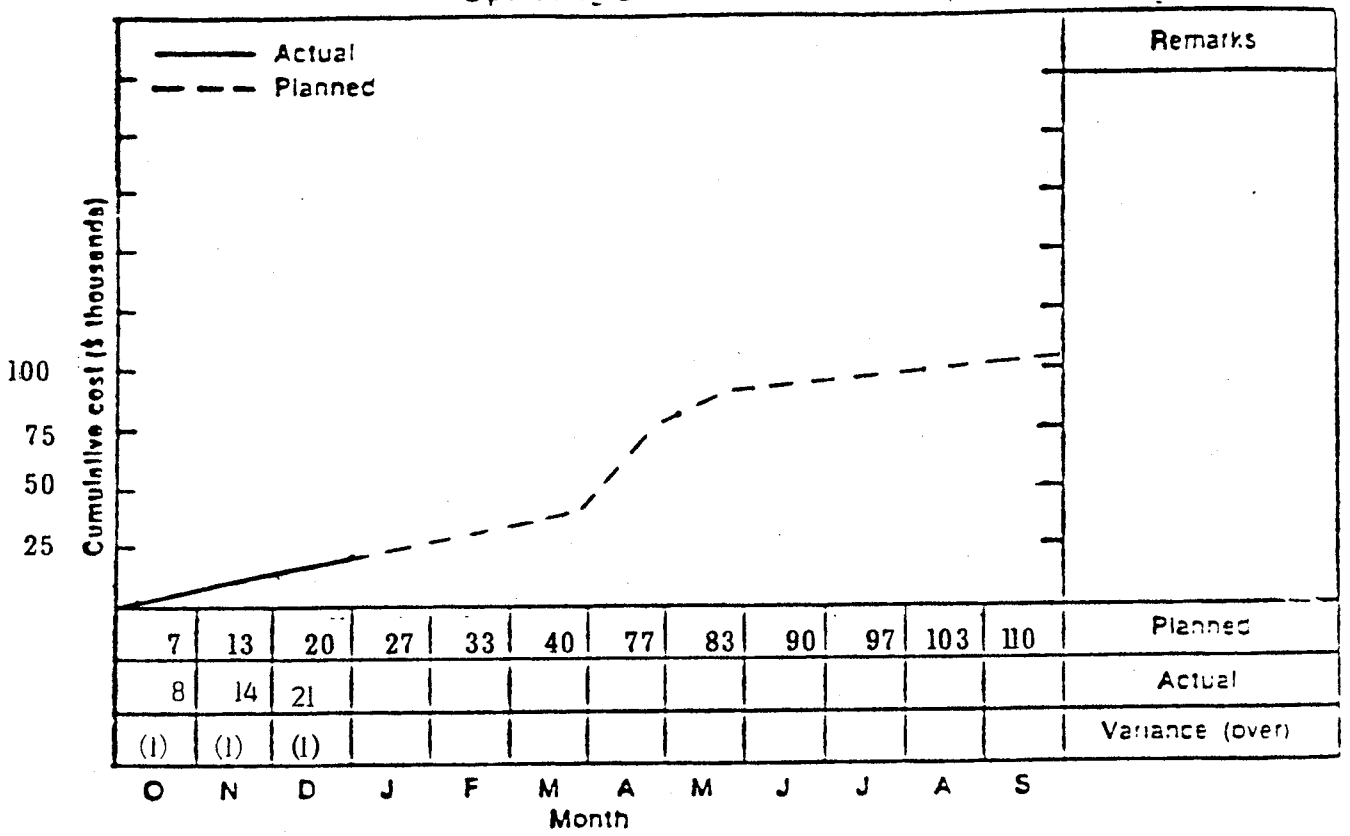


17	33	50	67	83	100	117	133	150	167	183	200	Planned
0	4	12										Actual
17	29	38										Variance (over)

Title D50 Alternatives to SLB B&R No. AL 3.5.5 AR

FO/Contractor AL/LASL FY 81 WEF No.

Operating Dollars in Thousands (BO)



	O	N	D	J	F	M	A	M	J	J	A	S
Planned	7	13	20	27	33	40	77	83	90	97	103	110
Actual	8	14	21									
Variance (over)	(1)	(1)	(1)									

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