



OFFICE MEMORANDUM

DATE November 13, 1979

TO James G. Steger, LS-6 Alternate Group Leader

FROM Margaret Anne Rogers, LS-6

MAR

Margaret

A few corrections

SUBJECT MONITORING ACTIVITIES IN AREA C AND AREA G

SYMBOL LS6-79-95

MAR

MAIL STOP 495

AREA C

During the summer of 1976 Merle Wheeler, Bill Purtymun, and I agreed to a descriptive system of identification of holes. In the summer of 1978 with the addition of holes in Area C, the area letter was to be placed before the hole ID. Examples:

GS50-3 - Hole 3 near Shaft 50, Area G.

The identification assigned to the Area C holes deviates from this system.

This was used at time of drillings all data tabulations & other references

There are 4 holes from which moisture readings are taken:

use the correct nomenclature

original numbers

PC-S	~30m deep, .085m dia, 1st 4.5m has .076 dia aluminum casing
PC-2	~ " " ; " " " " " "
PC-5	~ " " ; " " " " " "
PC-6	~ " " ; " " " " " "

nominal .085m dia 1.5m .051

CS100-1

PC-S = ~~CP~~ ^{CP}S-100 west of shaft field 12' from Shaft 100
 PC-2 = CP2-1 east between Pits 2 & 3
 PC-5 = CP5-1 northeast of Pit 5
 PC-6 = CP6-1 northwest of Pit 5 and east of Pit 6 (equidistant from both)

CPS-100
CP2-1
CP5-2
CP6-1

Monitored for moisture readings monthly since August 1978.

AREA G

Pit 1

2 moisture monitoring holes
PVC cased (in pit cover)

original numbers

{ G-1
G-2

5.0
3.5m deep, 2" ^{I.D.} dia
3.8m deep, " "

GP1-1 = G-1
GP1-2 = G-2

Monthly
Monthly



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Pit 2 3 moisture monitoring holes
 PVC cased (in pit cover)

Original numbers	}	G-3	2m deep, 2" dia
		G-3A	3m deep, " "
		G-4	1.2m deep, " "

G-4 = GP2-2 } discontinued because of construction
 G-3A = GP2-1 } of Retrievable Waste Storage Pad
 G-3 = ~~never did anything with it~~ *abandoned at time of drilling*

Pit 3 5 horizontal holes beneath one vertical hole
 in adjacent canyon

MH-1	287' deep, 3" dia except 1st 8.5' which has 7" dia collar
MH-3	280' " , " " " " " " "
MH-4	304' " , " " " " " " "
MH-5	240' " , " " " " " " "
MH-2	272' deep, 1st 8.5' has 7" dia collar 8.5' to 248' has 6 1/8" dia 248' to 272' " 3" "
VH-6	169' deep, 3" dia except 1st 10' which has 4" dia collar

Core from MH-1, MH-2, MH-3, MH-4, and MH-5 has been analyzed for radionuclides.

No Routine Monitoring of these holes has been done.

Pit 7 4 moisture monitoring holes; open hole beneath bottom
 of pit; PVC cased thru waste

P7-1*	117' deep (below pit bottom),
P7-2	50' deep " " " ,
P7-3	50' deep " " " ,
P7-4	50' deep " " " ,

reported
 as** original#
 GP7-1 = P7-2 monthly below waste
 GP7-3 = P7-3 monthly " "
 GP7-2 = P7-4 discontinued because of lack of statistical variation

*P7-1 was ~~bulldozed~~ *destroyed* during filling of the pit.

**Merle is switching the hole numbers back to the original numbers (8-79).

Pit 8 5 moisture monitoring holes
 3 access tubes for placement of moisture cells
 4 access tubes for coring tuff
 3 access tubes for coring fill
 1 temperature and moisture monitoring hole*

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Hole 1 = 8-1 50' deep (below pit bottom) moisture
 8-2
 8-3
Hole 3 = 8-4 50' deep (below pit bottom) moisture
*no number ¹⁵⁰~~50~~ deep, ^{4"}~~3"~~ dia hole ~ 10' east of mid point of pit

The first 16 holes in Pit 8 were lost during covering of the pit. No data for any of the holes.

The temperature and moisture monitoring hole was used in 1975, 1976, and 1977 as a "reference hole" for monitoring in Pit 9. Readings were taken at 2m, 6m, 8m depths. The hole was lost during recent landscaping operations at Area G.

Pit 9

Retrievable Waste Storage

2 temperature, relative humidity and gas sampling pipes in Cell 1
GP9-1a, GP9-1b

4 temperature, relative humidity and gas sampling pipes in Cell 2
GP9-2a, GP9-2b, GP9-2S

In each cell one 4" plastic pipe goes to the bottom of the cell and one goes just to the top. Two sampling pipes in Cell 2 only penetrate the metal cover of the shaft. None are routinely monitored.

No data - 1 or 2 moisture measuring 2"(?)dia, PVC cased (thru cell), 50'-100' deep holes beneath pit bottom.

GP9-1c, GP9-1d(?)

1 inspection and instrumentation shaft in Cell 2.

Pit 24

3 moisture monitoring holes; open hole beneath bottom of pit; PVC cased thru waste. *These holes have not been monitored due to redundancy with adjacent P7 holes*

numbers unchanged	{	P24-1	52' deep (below pit bottom)
		P24-2	" " " " "
		P24-3	" " " " "

Trench A

No data { 12 gas sampling tubes (samples gas in air space above cells)
 G-9, G-10, G-11, G-12, G-13, G-14,
 G-15, G-16, G-17, G-18, G-19, G-20
 1 neutron access pipe (moisture measuring)
 N-1
 6 Cu-Con thermocouples (measure temperature inside drums)
 T-1, T-2, T-8, T-10, T-12, T-14
 4 Cu-Con thermocouples (measure temperature inside casks)
 T-9, T-11, T-13, T-15
 4 gas sampling tubes (sample gas inside drums)
 G-1, G-3, G-5, G-7

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4 gas sampling tubes (sample gas inside casks)
G-2, G-4, G-6, G-8
2 moisture cells (measure soil moisture and
M-1, M-2 temperature beneath casks)

T-8, T-9, T-10, T-11 }
T-12, T-13, T-14, T-15, } monthly
G-1, G-2, G-3, G-4 }
G-5, G-6, G-7, G-8 } To be monitored at 1, 3, 6, and 12 month
intervals (after installation); thereafter
semi-annually

Trench B

No data 4 neutron access pipes
N-2, N-3, N-4, N-5
4 Cu-Con thermocouples (measure temperature beneath casks)
T-4, T-5, T-6, T-7
5 Cu-Con thermocouples (measure temperature inside drums)
T-3, T-16, T-18, T-22, T-24
6 Cu-Con thermocouples (measure temperature inside casks)
T-17, T-19, T-20, T-21, T-23, T-25
6 gas sampling tubes (sample gas inside drums)
G-21, G-23, G-25, G-26, G-27, G-29
4 gas sampling tubes (sample gas inside casks)
G-22, G-24, G-28, G-30
4 moisture cells (measure soil moisture and temperature
M-3, M-4, M-5, M-6 beneath casks)

T-16, T-17, T-18, T-19 → monthly
G-21, G-22, G-23, G-24 → To be monitored at 1, 3, 6, and 12 month
intervals (after installation); thereafter
semi-annually

Trench C

3 Cu-Con thermocouples (measure temperature inside drums)
T-26, T-29, T-32
3 Cu-Con thermocouples (measure temperature inside casks)
T-27, T-30, T-33
3 Cu-Con thermocouples (measure temperature beneath casks)
T-28, T-31, T-34
3 gas sampling tubes (sample gas inside drums)
G-31, G-33, G-35
3 gas sampling tubes (sample gas inside casks)
G-32, G-34, G-36

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Shaft 50 = ³H

6 moisture measuring holes ^{4' surface casing} ~~cased~~ with PVC ^{2"} inside 4" steel

original numbers	}	S50-1	~45' deep	1-76 thru 1-79 (data)
		S50-2	~ " "	1-76 thru 3-78 (data)
		S50-3	~ " "	1-76 thru 6-79 (data)
		S50-4	~ " "	1-76 thru 3-78 "
		S50-5	~ " "	1-76 thru 6-79 "
		S50-6	~ " "	1-76 thru 3-78 "

GS50-3 = S5C-3 monthly
 GS50-5 = S50-5 monthly

GS50-2 Discontinued due to lack statistical variation
 GS50-4 " " " " " "
 GS50-6 " " " " " "

Shaft 150 = ³H

9 moisture measuring holes 4ft ^{long} high collars in each hole and capped

drilled along fracture exposed in Shaft 150	}	S150-1	80' deep, 3" dia, 10m from Shaft 150
		S150-2	83' " , " , 3m " " "
		S150-3	60' " , " , 1m " " "
		S150-4	60' " , " , 1m " " "
		S150-5	50' " , " , 3m " " "
		S150-6	77' " , " , 10m " " "

}	S150-7	80' " , " , 1m " " "
	S150-8	75' " , " , 3m " " "
	S150-9	78' " , " , 10m " " "

Supposed to be monitored monthly - NO DATA

MAR:tj

This was discussed but not decided

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