Building 009
Radiological Survey
Data Package

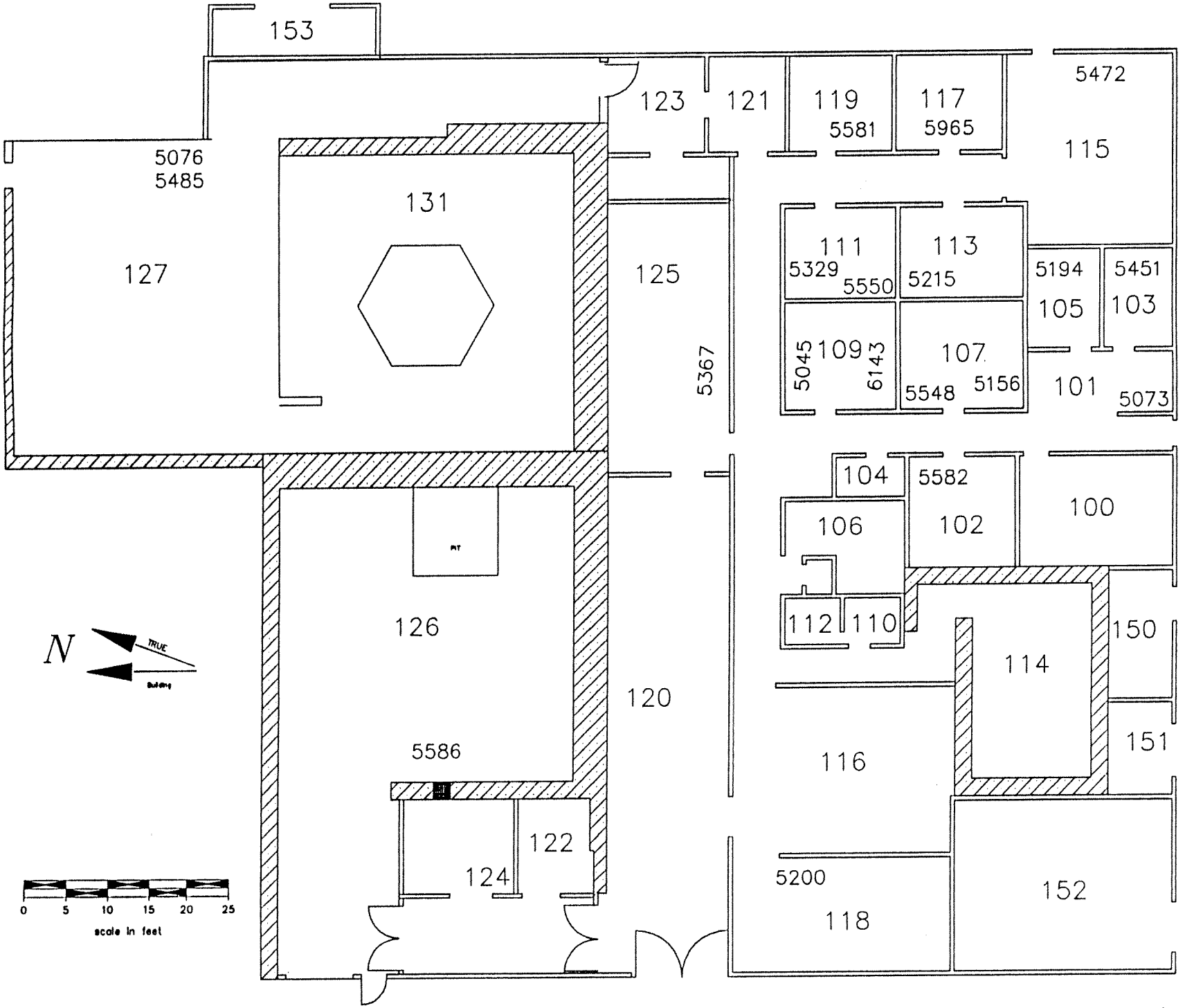
March 1, 1995

Bldg 009 East High-Bay Rooms 127, 131, 121, 123 and Hallway

Survey Data Package

March 1, 1995

Building 009 Floor Plan



FACILITY T009

Total Alpha/Beta

Room 131

Pit

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM Room 127 "PAP" Pool Pit

PURPOSE: Release for occupation

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT				
	See	attached	Direct Readings - See attached		See	attached		

COMMENTS:	INSTRUMENT				
	IDENTIFICATION	Mod# 17416	354927	381724	
	CALIBRATION DUE	4-21-95	2-4-95	4-14-95	
	BACKGROUND	80 cpm	80 cpm	2 cpm	
	EFFICIENCY	7.4 dpm/cpm	7.4 dpm/cpm	7.3 dpm/cpm	
SAMPLED BY: D. Pritchett E.R. McGinnis	COUNT TIME	NA	NA	NA	

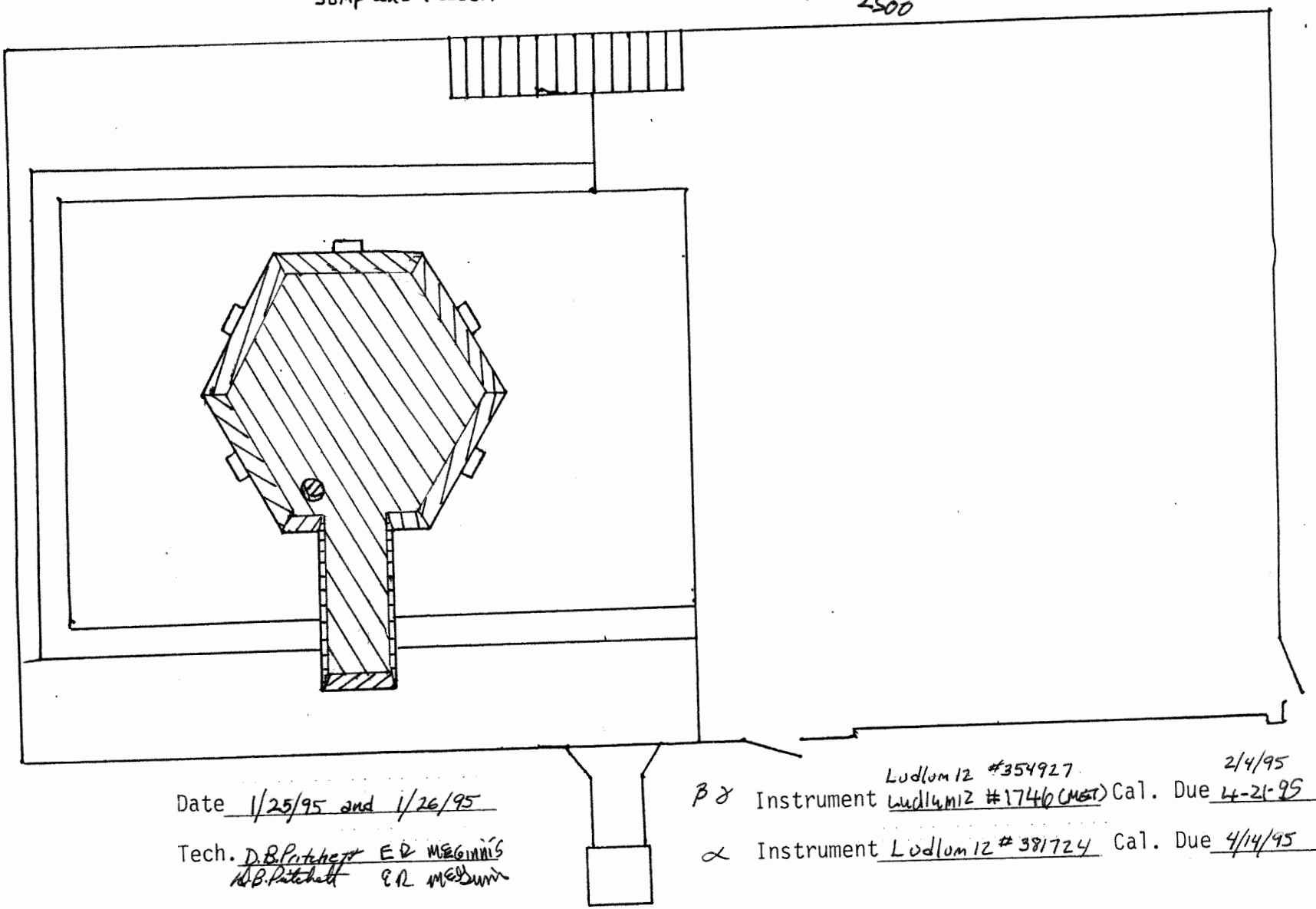
ANALYZED BY: D. Pritchett ER McGinnis

FORM 732-A REV 1-91

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded: Lower Pit includes walls, floor, Sump and ladder.

Direct reading only.
< 5000 dpm/100 cm² βγ
GRM ~~< 1000~~ < 500 dpm/100 cm² α



Date 1/25/95 and 1/26/95

Tech. D.B. Pritchett ER McGinnis
D.B. Pritchett ER McGinnis

βγ Instrument Ludlum 12 #354927 Ludlum 12 #1746 (MET) Cal. Due 2/4/95 4-21-95

α Instrument Ludlum 12 # 381724 Cal. Due 4/14/95

Total Alpha/Beta

Room 131

Floors & Walls to 8 ft.

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM Room 127 (FOR 731) Lower High Bay

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	PURPOSE: Release for occupation DESCRIPTION AND LOCATION	UNITS LIMIT				
	See	attached	Direct Readings - see attached		See	attached		

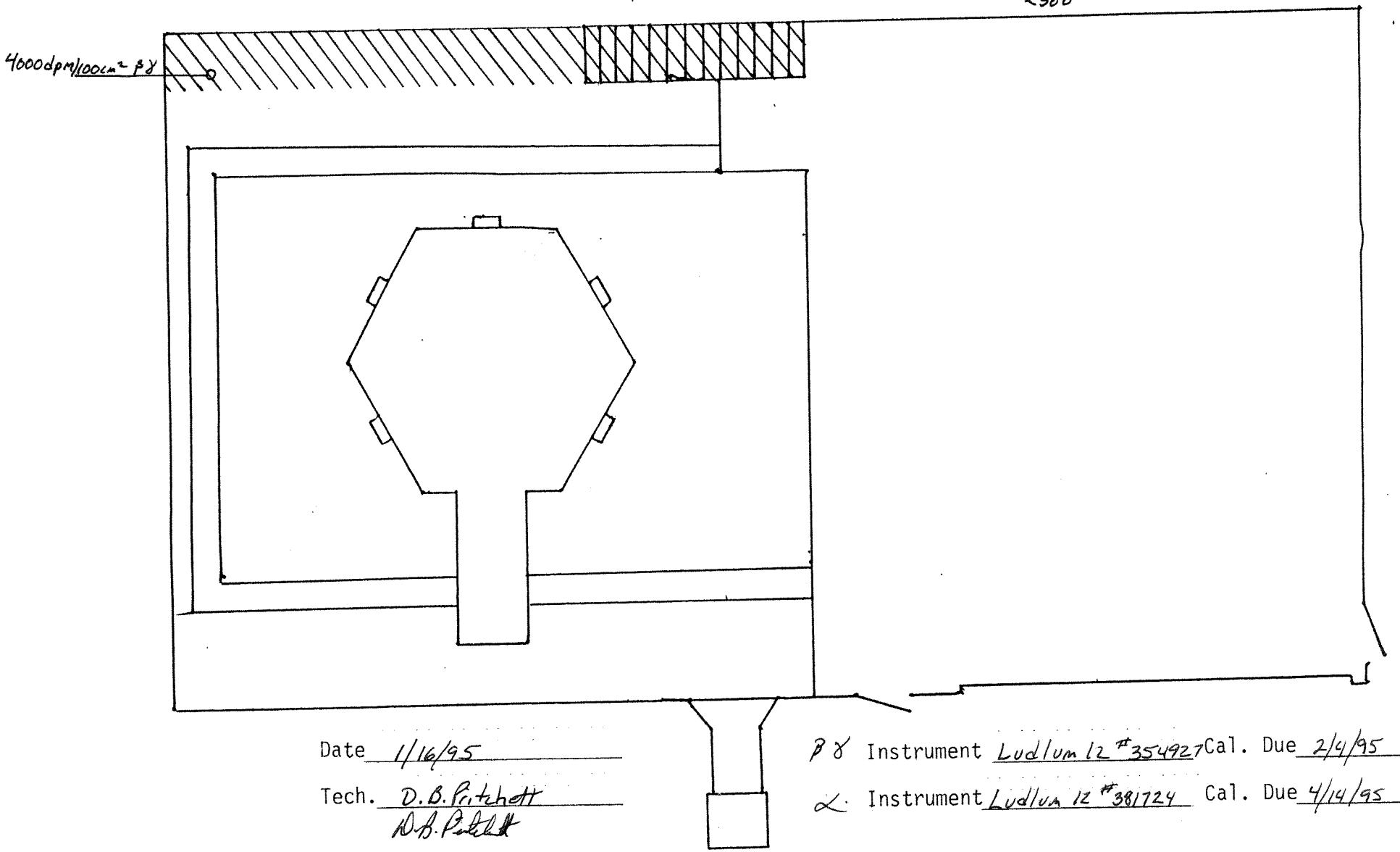
COMMENTS:	INSTRUMENT	Ludlum 12 B8	Ludlum 12 B8	Ludlum 12-4	
	IDENTIFICATION	Mat #1746	354927	381724	
	CALIBRATION DUE	4-21-95	2-4-95	4-14-95	
	BACKGROUND	80 cpm	80 cpm	2 cpm	
	EFFICIENCY	7.4 dpm/cpm	7.4 dpm/cpm	7.3 dpm/cpm	
SAMPLED BY: D. Pritchett E.R. McGinnis	COUNT TIME	NA	NA	NA	
ANALYZED BY: D. Pritchett QR McGinnis					

FORM 732-A REV 1-91

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded: Floor, Stairs, railings and walls enclosed by Stairwell.

Direct reading only.
<5000 dpm/100 cm² βγ
~~<1000~~ <500 dpm/100 cm² α



Date 1/16/95

Tech. D.B. Pritchett
D.B. Pritchett

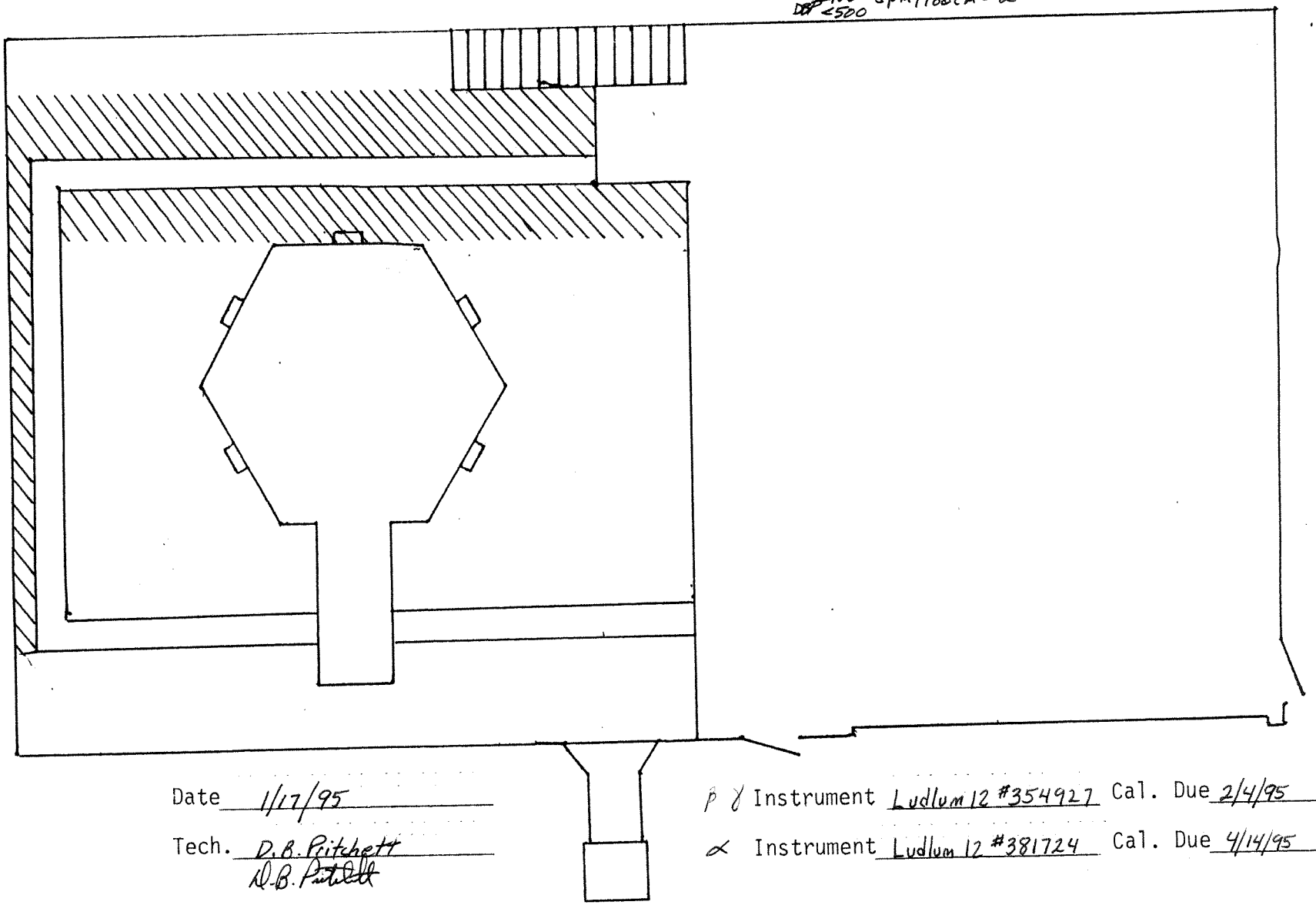
βγ Instrument Ludlum 12 #354927 Cal. Due 2/4/95

α Instrument Ludlum 12 #381724 Cal. Due 4/14/95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded: Floor Surfaces.

Direct reading only
<5000 dpm/100cm² β γ
~~<1000~~ <500 dpm/100cm² α



Date 1/17/95

Tech. D.B. Pritchett
D.B. Pritchett

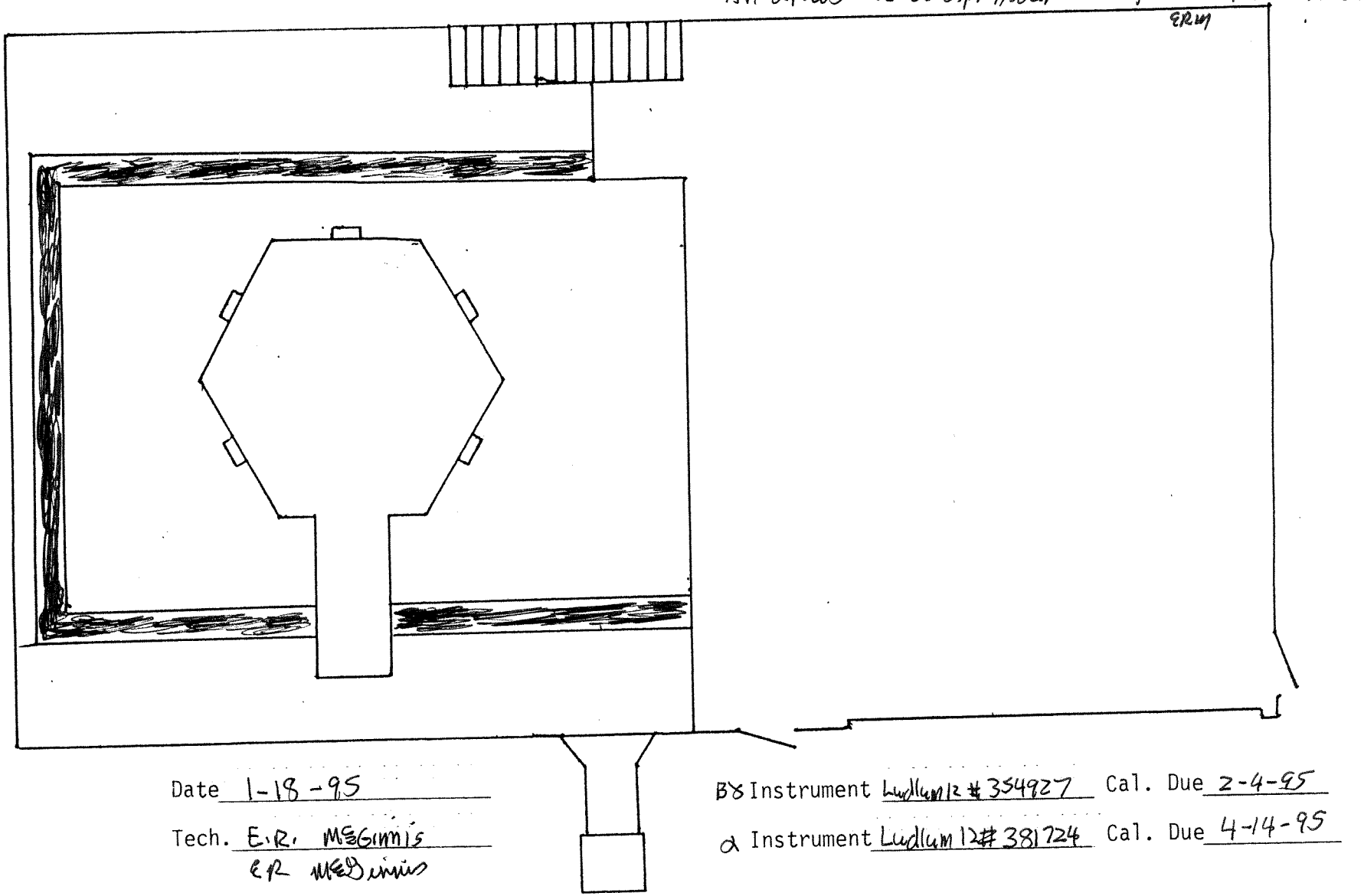
β γ Instrument Ludlum 12 #354927 Cal. Due 2/4/95

α Instrument Ludlum 12 #381724 Cal. Due 4/14/95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded

Trench bottom & sides & conduits
Direct Readings only
All areas <5000 dpm/100cm² Bγ ; ~~<1000~~ <500 dpm/100cm² α
ERM



Date 1-18-95

Tech. E.R. McGinnis
ER McGinnis

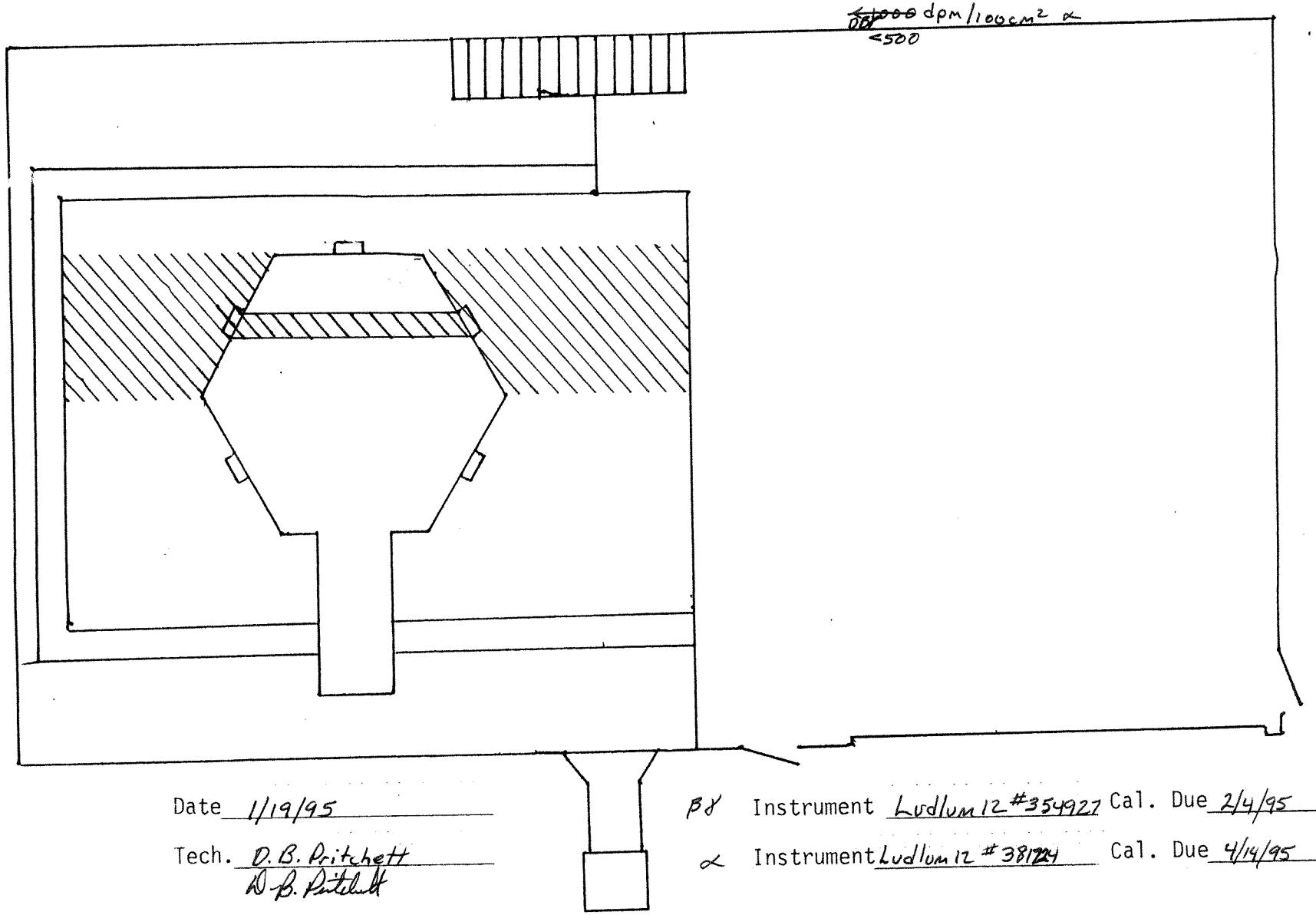
Bγ Instrument Ludlum 12 # 354927 Cal. Due 2-4-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded: *Floor Surfaces and "I" beam.*

Direct reading only
<5000 dpm/100cm² βγ
~~<1000~~ dpm/100cm² α
<500



Date 1/19/95

Tech. D. B. Pritchett
D. B. Pritchett

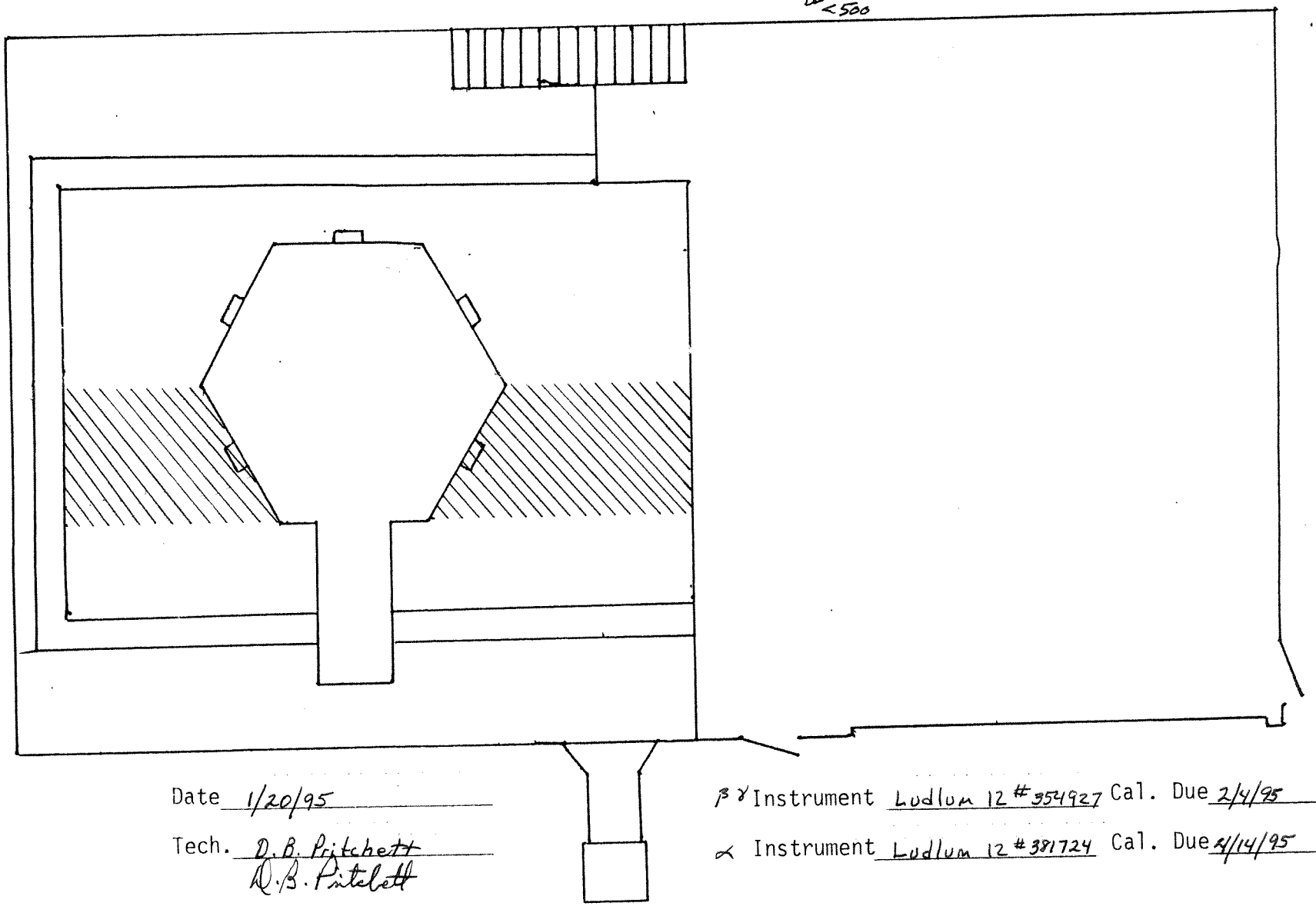
βγ Instrument Ludlum 12 #354927 Cal. Due 2/4/95

α Instrument Ludlum 12 #381224 Cal. Due 4/14/95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded: Floor Surface.

Direct reading only
< 5000 dpm/100cm² β γ
~~< 1000~~ dpm/100cm² α
< 500



Date 1/20/95

Tech. D.B. Pritchett
D.B. Pritchett

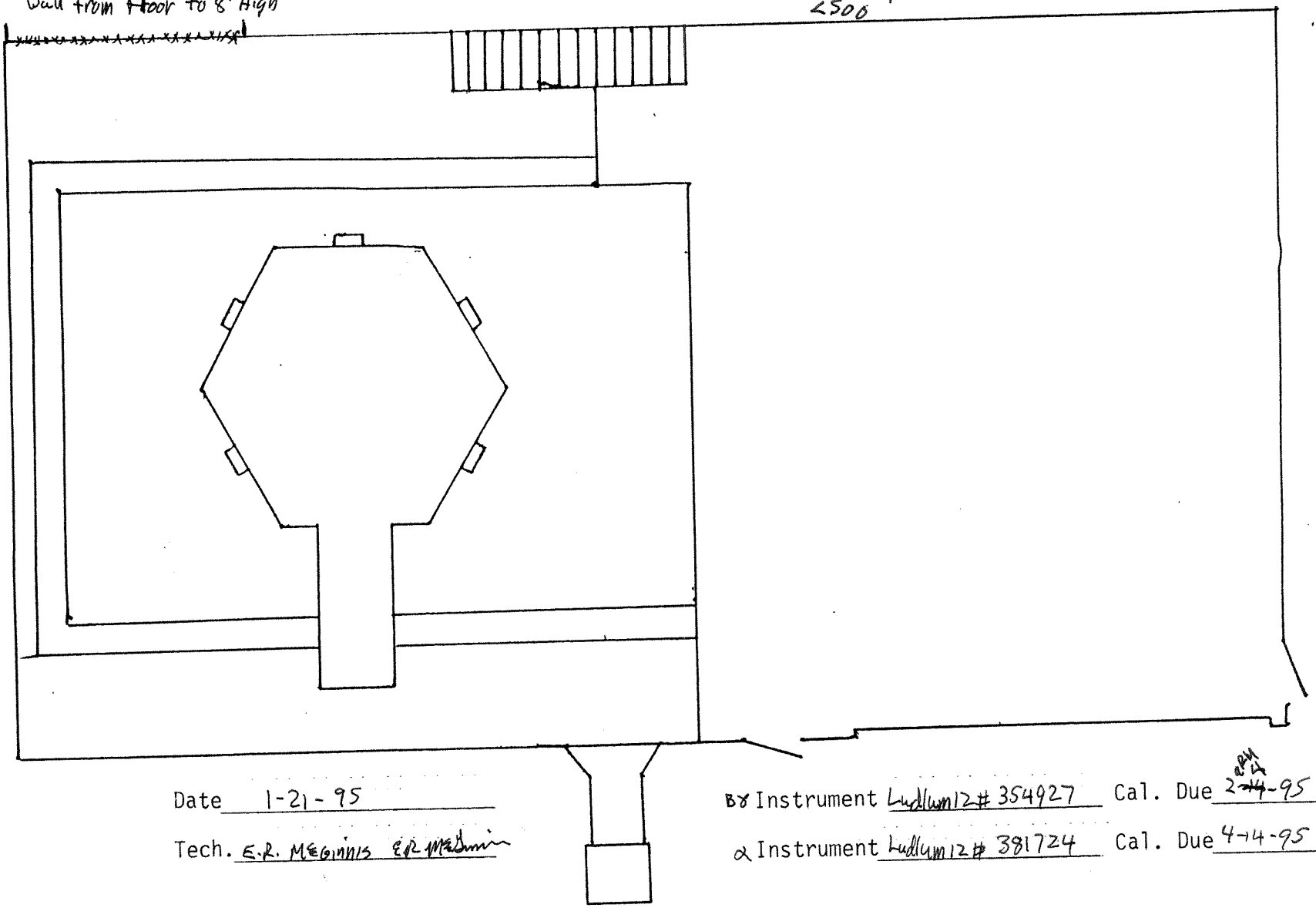
β γ Instrument Ludlum 12 #354927 Cal. Due 2/4/95

α Instrument Ludlum 12 #381724 Cal. Due 4/14/95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Readings:
< 5000 dpm/100cm² β-γ
~~< 1000~~ dpm/100cm² α
< 500

Area surveyed is shaded
wall from ~~floor~~ to 8' High



Date 1-21-95

Tech. E.R. MEGINNIS

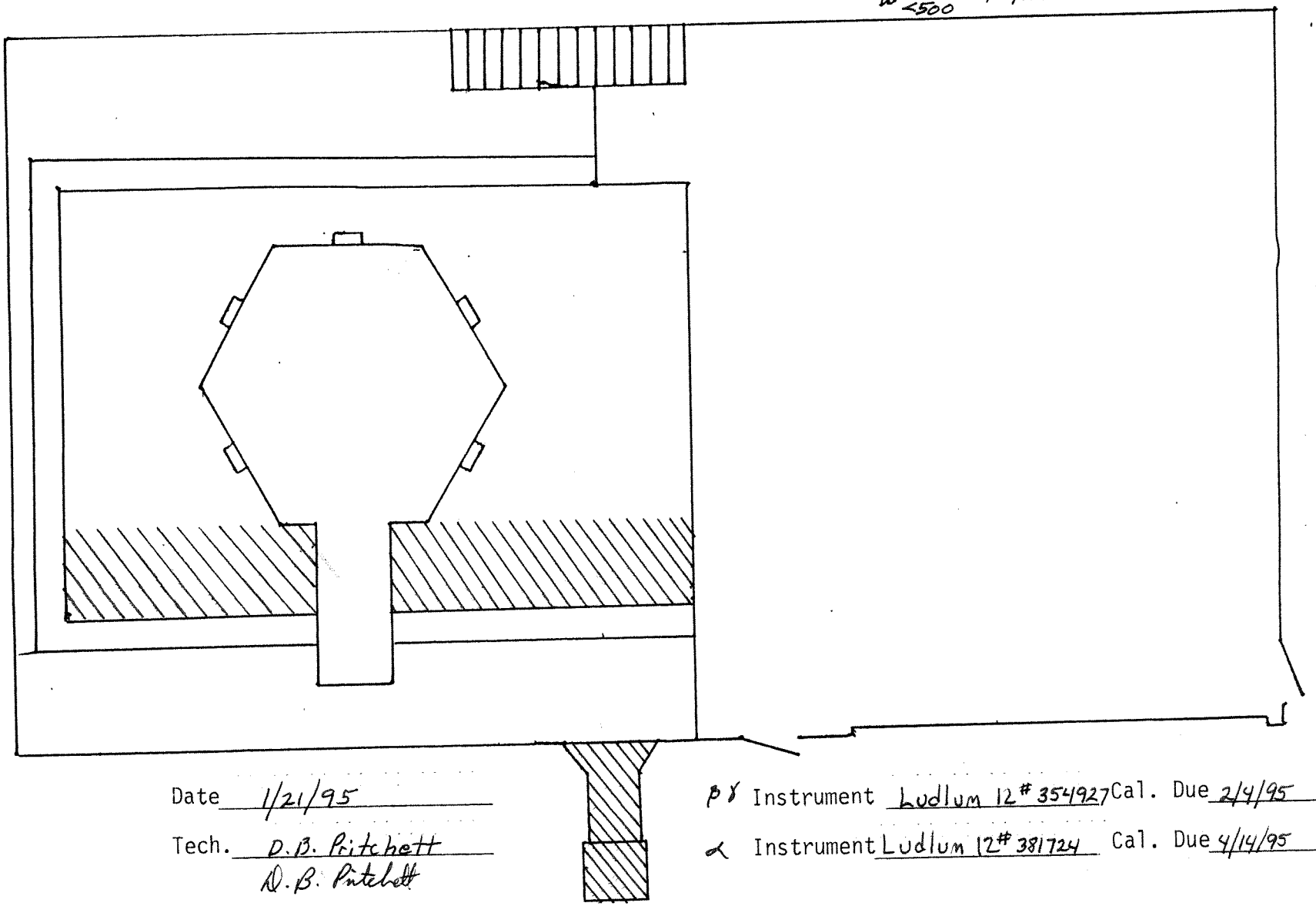
β-γ Instrument Ludlum 12 # 354927 Cal. Due ~~2-4-95~~ 4-4-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-4-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded: Floor Surface and Ventilation duct.

Direct reading only.
< 5000 dpm/1000cm² β γ
~~< 1000~~ <500 dpm/100 cm² α



Date 1/21/95

Tech. D.B. Pritchett
D.B. Pritchett

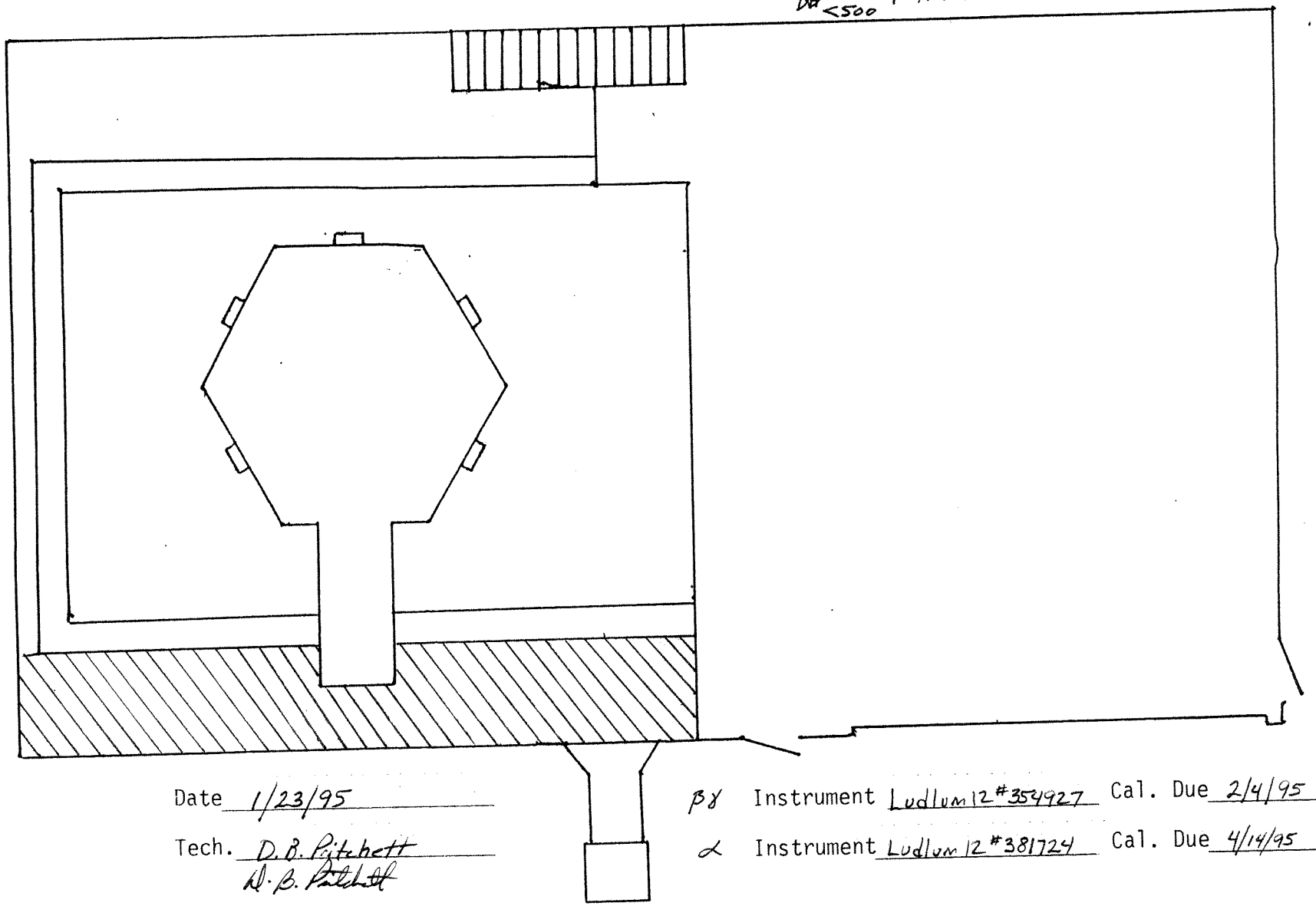
β γ Instrument Ludlum 12 # 354927 Cal. Due 2/4/95

α Instrument Ludlum 12 # 381724 Cal. Due 4/14/95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded: *Floor Surfaces.*

Direct reading only.
<5000 dpm/100 cm² βγ
~~<1000~~ dpm/100 cm² α
<500



Date 1/23/95

Tech. D.B. Pitchett
D.B. Pitchett

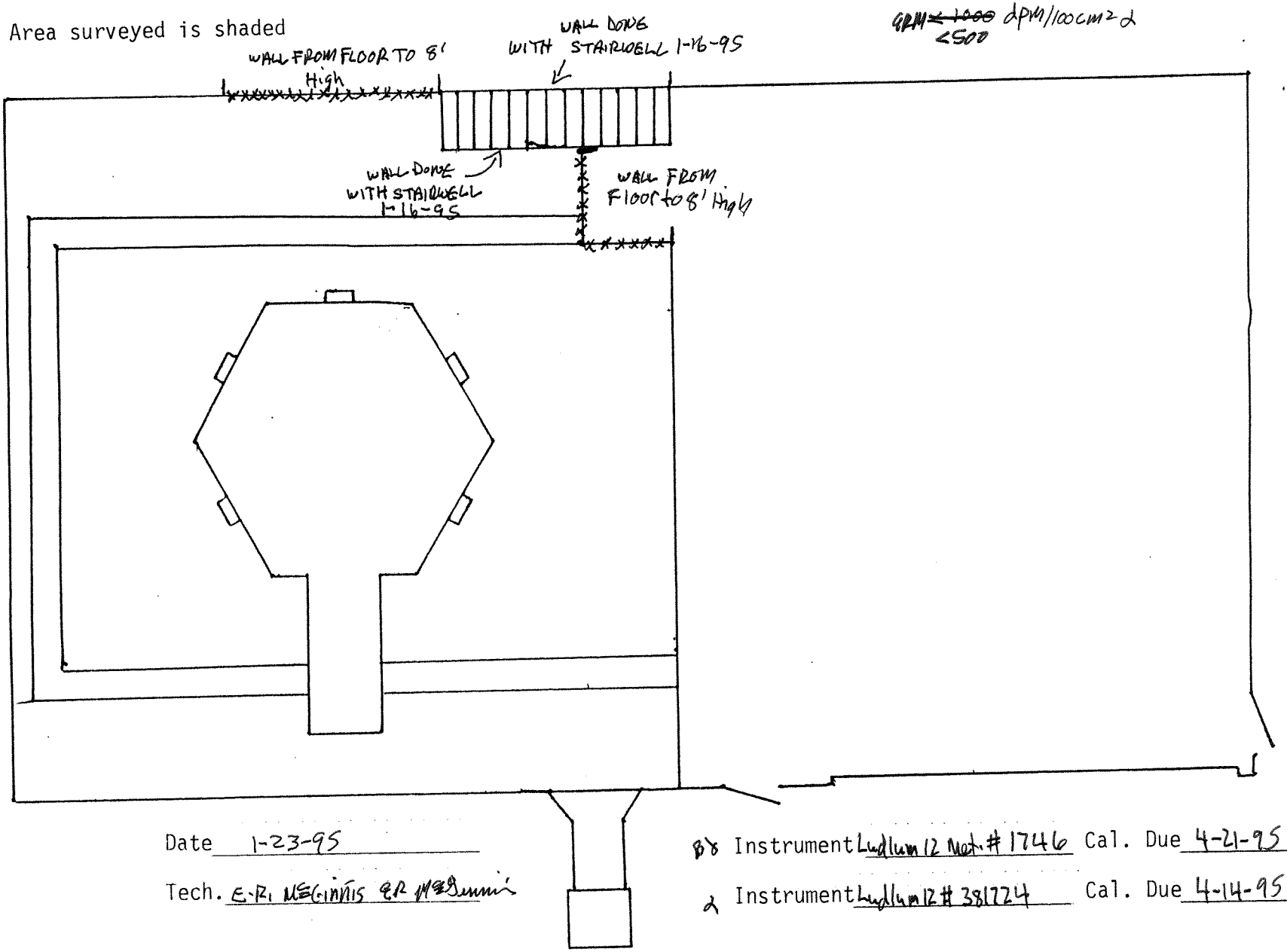
βγ Instrument Ludlum 12 #354927 Cal. Due 2/4/95

α Instrument Ludlum 12 #381724 Cal. Due 4/14/95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Readings:
< 5000 dpm/100cm² βγ
GRM ~~< 1000~~ dpm/100cm² α
<500

Area surveyed is shaded



Date 1-23-95

Tech. E.R. McGinnis & R McGinnis

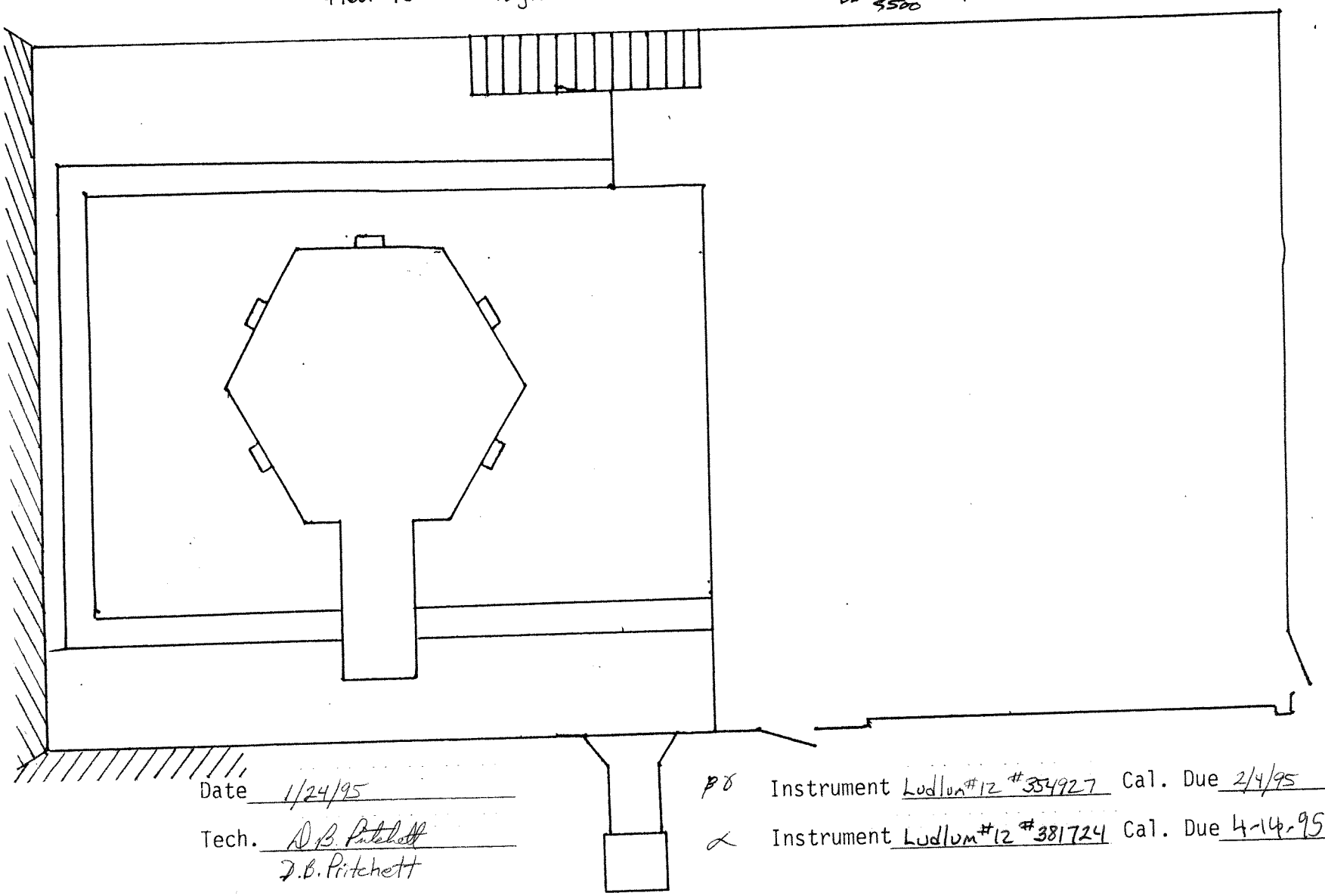
βγ Instrument Ludlum 12 Met. # 1746 Cal. Due 4-21-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded: Wall, conduits and piping from floor to 8 feet high.

Direct reading only.
<5000 dpm/100 cm² βγ
~~<1000~~ <500 dpm/100 cm² α



Date 1/24/95

Tech. D.B. Pritchett
D.B. Pritchett

βγ Instrument Ludlum #12 #354927 Cal. Due 2/4/95

α Instrument Ludlum #12 #381724 Cal. Due 4-14-95

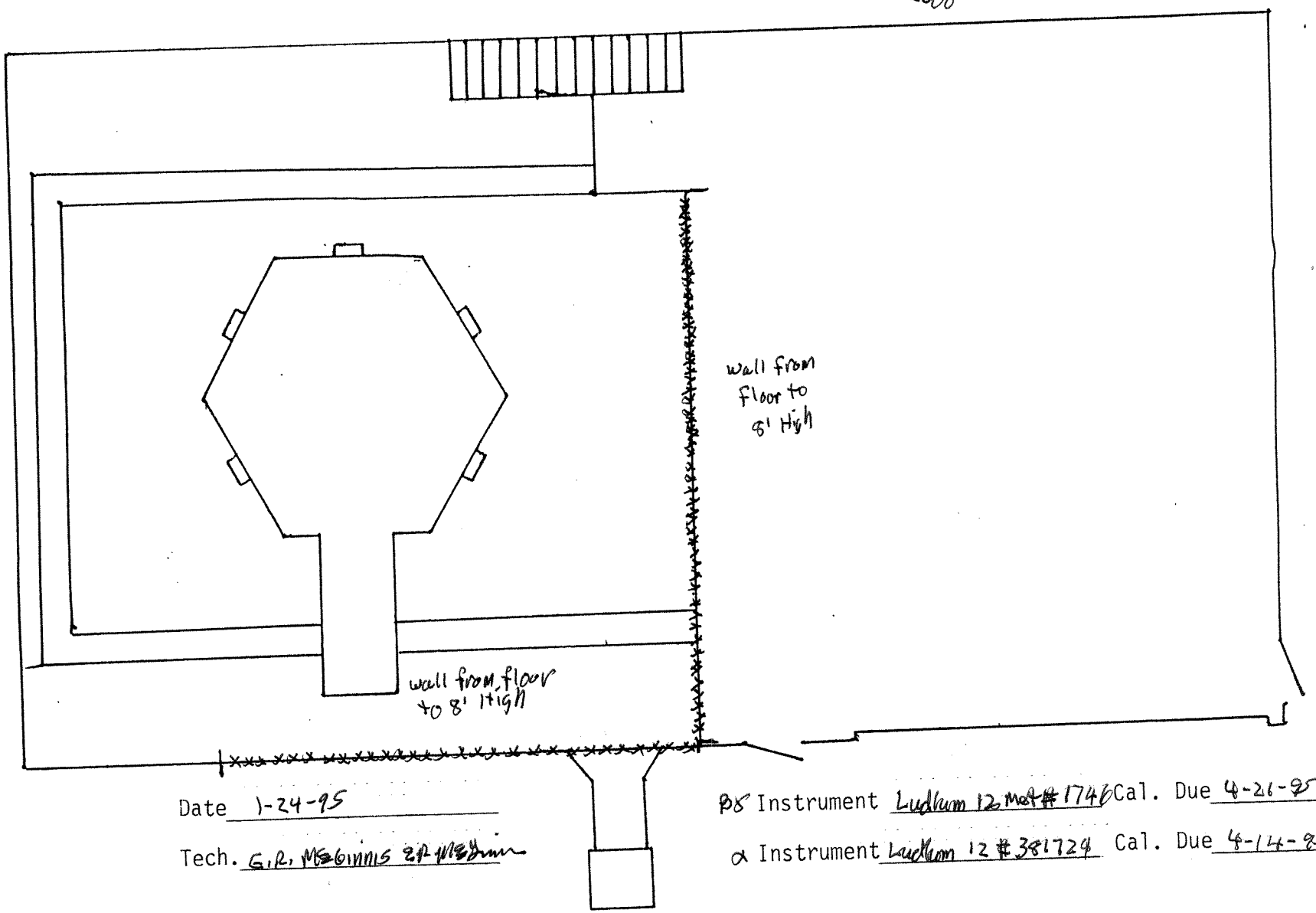
T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Reading:

<5000 dpm/100cm² βγ

ERM ~~<1000~~ <500 dpm/100cm² α

Area surveyed is shaded



Date 1-24-95

Tech. G.R. McGinnis & R McGinnis

βγ Instrument Ludlum 12 Met #1746 Cal. Due 4-21-95

α Instrument Ludlum 12 #381724 Cal. Due 4-14-95

Removable Alpha/Beta

Hallway

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM East Hall way

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	PURPOSE: occupational release survey DESCRIPTION AND LOCATION	UNITS LIMIT				
	2-22-95	2-28-95	Smear survey of walls/floor see attached		See	attached		

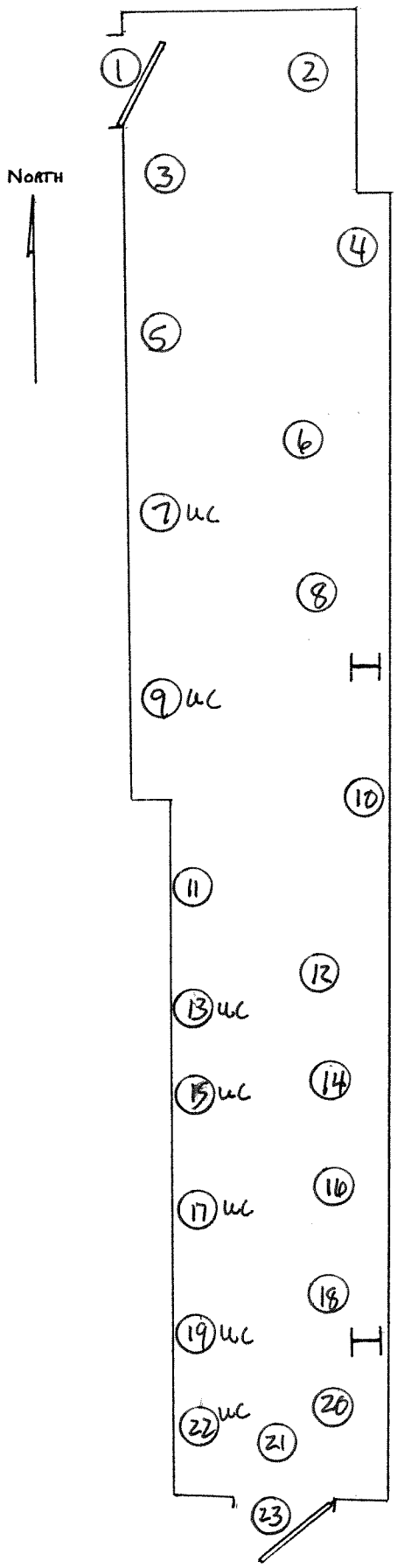
COMMENTS:

INSTRUMENT	Tennelec		
IDENTIFICATION	842 489		
CALIBRATION DUE	a Dai l y BS		
BACKGROUND	0.6 cpm	3.2cpm	
EFFICIENCY	2.7dpm/cpm	2.7dpm/cpm	
COUNT TIME	1 min		

SAMPLED BY: E.R. MEGINNIS ANALYZED BY: E.R. MEGINNIS

FORM 732-A REV 1-91

T009 EAST HALLWAY



(#) = smear locations / floor

uc = under cabinet

All locations < 20 dpm/100cm² α < 100 dpm/100cm² βγ

see attached

TECH. E.R. McGinnis / ER McGinnis DATE 2-27-95

βγ INSTRUMENT NA CAL. DUE NA

GPC INSTRUMENT Tennelec 842489 CAL. DUE Daily

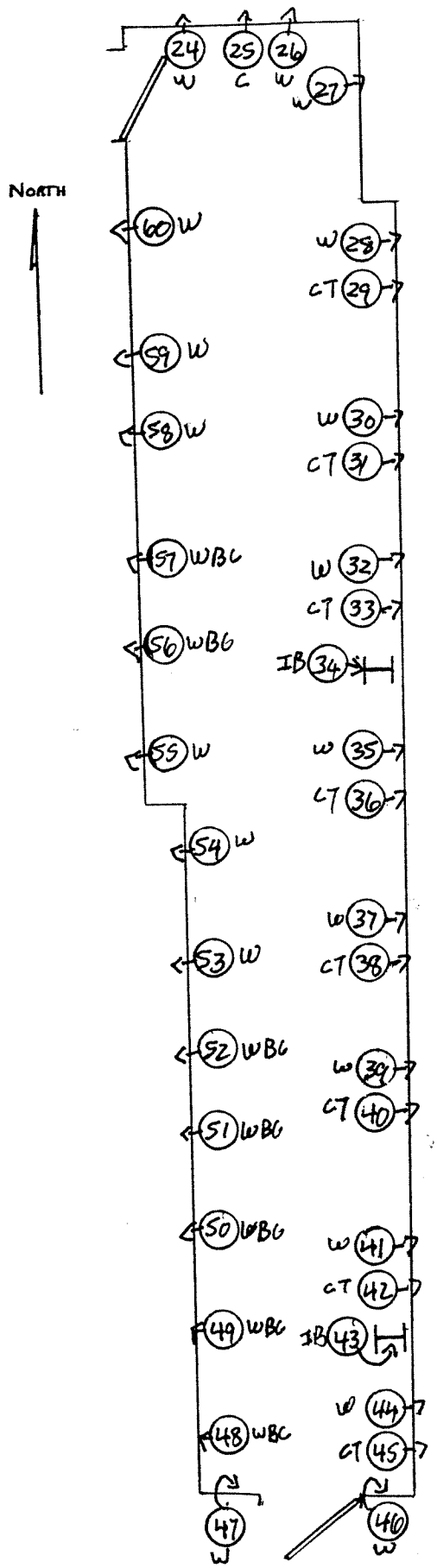
T009 EAST HALLWAY

(#) = Smear locations / walls and horizontal surfaces

W = Wall
CT = conduit tray
IB = I-Beam
WBC = Wall Behind Cabinet

All locations are
< 20 dpm/100 cm² α
< 100 dpm/100cm² βγ
(see attached)

Doors & Door jambs were Smeared with the High Bay and Room 123 surveys.



TECH. E.R. McGinnis DATE 2-27-95
E.R. McGinnis

P & INSTRUMENT NA CAL. DUE NA

INSTRUMENT Tennelec 842489 CAL. DUE Daily

TUE FEB 28, 1995

GROUP A T009 EAST HALLWAY SMEARS 1 THRU 30

SAMPLE SN	CODE	TIME (MIN.)	ALPHA COUNTS	BETA COUNTS	ALPHA CPM	BETA CPM	ALPHA CORRECTED	BETA CORRECTED	TOD CLOCK HR:MN:SEC
1		1.00	1	2	0.40	-1.00	1.087252	-2.7041644	08:55:16
2		1.00	1	3	0.40	0	1.087252	0	08:56:28
3		1.00	2	8	1.40	5.00	3.8053819	13.520822	08:57:40
4		1.00	0	5	-0.60	2.00	-1.630878	5.4083288	08:58:51
5		1.00	1	11	0.40	8.00	1.087252	21.633315	09:00:03
6		1.00	2	3	1.40	0	3.8053819	0	09:01:15
7		1.00	2	7	1.40	4.00	3.8053819	10.816658	09:02:27
8		1.00	0	4	-0.60	1.00	-1.630878	2.7041644	09:03:39
9		1.00	1	5	0.40	2.00	1.087252	5.4083288	09:04:51
10		1.00	0	9	-0.60	6.00	-1.630878	16.224986	09:06:02
11		1.00	0	6	-0.60	3.00	-1.630878	8.1124932	09:07:14
12		1.00	2	4	1.40	1.00	3.8053819	2.7041644	09:08:26
13		1.00	0	5	-0.60	2.00	-1.630878	5.4083288	09:09:38
14		1.00	1	7	0.40	4.00	1.087252	10.816658	09:10:50
15		1.00	2	9	1.40	6.00	3.8053819	16.224986	09:12:02
16		1.00	0	5	-0.60	2.00	-1.630878	5.4083288	09:13:13
17		1.00	0	7	-0.60	4.00	-1.630878	10.816658	09:14:25
18		1.00	0	6	-0.60	3.00	-1.630878	8.1124932	09:15:37
19		1.00	1	4	0.40	1.00	1.087252	2.7041644	09:16:49
20		1.00	2	8	1.40	5.00	3.8053819	13.520822	09:18:01
21		1.00	0	6	-0.60	3.00	-1.630878	8.1124932	09:19:13
22		1.00	0	4	-0.60	1.00	-1.630878	2.7041644	09:20:24
23		1.00	1	0	0.40	-3.00	1.087252	-8.1124932	09:21:36
24		1.00	2	6	1.40	3.00	3.8053819	8.1124932	09:22:48
25		1.00	3	3	2.40	0	6.5235118	0	09:24:00
26		1.00	1	12	0.40	9.00	1.087252	24.33748	09:25:12
27		1.00	1	7	0.40	4.00	1.087252	10.816658	09:26:24
28		1.00	0	15	-0.60	12.00	-1.630878	32.449973	09:27:36
29		1.00	1	5	0.40	2.00	1.087252	5.4083288	09:28:48
30		1.00	1	7	0.40	4.00	1.087252	10.816658	09:29:59

OPERATION COMPLETE

TUE FEB 28, 1995
GROUP A T009 EAST HALLWAY SMEARS 31 THRU 60

SAMPLE SN	CODE	TIME (MIN.)	ALPHA COUNTS	BETA COUNTS	ALPHA CPM	BETA CPM	ALPHA CORRECTED	BETA CORRECTED	TOD CLOCK HR:MN:SEC
1		1.00	0	4	-0.60	1.00	-1.630878	2.7041644	09:58:57
2		1.00	1	5	0.40	2.00	1.087252	5.4083288	10:00:09
3		1.00	0	5	-0.60	2.00	-1.630878	5.4083288	10:01:21
4		1.00	0	7	-0.60	4.00	-1.630878	10.816658	10:02:33
5		1.00	1	7	0.40	4.00	1.087252	10.816658	10:03:44
6		1.00	0	8	-0.60	5.00	-1.630878	13.520822	10:04:56
7		1.00	2	8	1.40	5.00	3.8053819	13.520822	10:06:08
8		1.00	1	7	0.40	4.00	1.087252	10.816658	10:07:20
9		1.00	0	4	-0.60	1.00	-1.630878	2.7041644	10:08:32
10		1.00	2	9	1.40	6.00	3.8053819	16.224986	10:09:44
11		1.00	0	8	-0.60	5.00	-1.630878	13.520822	10:10:56
12		1.00	1	7	0.40	4.00	1.087252	10.816658	10:12:07
13		1.00	1	6	0.40	3.00	1.087252	8.1124932	10:13:19
14		1.00	1	7	0.40	4.00	1.087252	10.816658	10:14:31
15		1.00	1	4	0.40	1.00	1.087252	2.7041644	10:15:43
16		1.00	0	4	-0.60	1.00	-1.630878	2.7041644	10:16:55
17		1.00	0	6	-0.60	3.00	-1.630878	8.1124932	10:18:07
18		1.00	1	3	0.40	0	1.087252	0	10:19:19
19		1.00	0	12	-0.60	9.00	-1.630878	24.33748	10:20:31
20		1.00	1	5	0.40	2.00	1.087252	5.4083288	10:21:43
21		1.00	0	9	-0.60	6.00	-1.630878	16.224986	10:22:55
22		1.00	1	7	0.40	4.00	1.087252	10.816658	10:24:06
23		1.00	1	9	0.40	6.00	1.087252	16.224986	10:25:18
24		1.00	1	3	0.40	0	1.087252	0	10:26:30
25		1.00	1	5	0.40	2.00	1.087252	5.4083288	10:27:42
26		1.00	0	3	-0.60	0	-1.630878	0	10:28:54
27		1.00	1	5	0.40	2.00	1.087252	5.4083288	10:30:06
28		1.00	1	11	0.40	8.00	1.087252	21.633315	10:31:18
29		1.00	0	3	-0.60	0	-1.630878	0	10:32:30
30		1.00	0	5	-0.60	2.00	-1.630878	5.4083288	10:33:42

OPERATION COMPLETE

Ambient Gamma

Hallway

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM East hallway

PURPOSE: Occupational Release

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT				
				UNITS	mR/HR			
		2/28/95		LIMIT	See map			

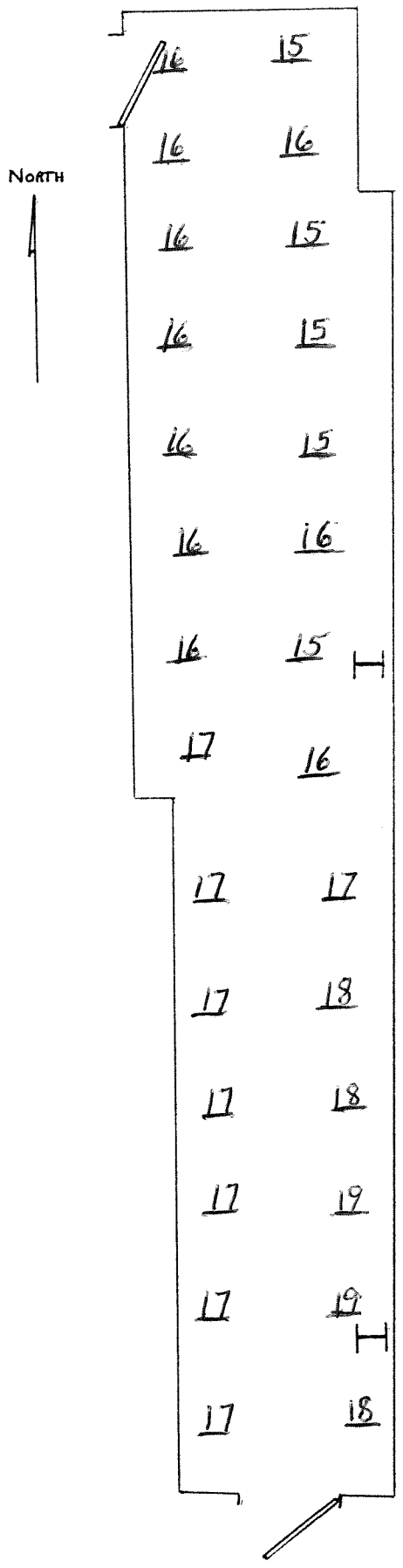
COMMENTS: Probably some shine from ISI C-Van in the yard just outside the room.

INSTRUMENT	Ludlum 12S
IDENTIFICATION	381502
CALIBRATION DUE	5/26/95
BACKGROUND	16 mR/HR
EFFICIENCY	—
COUNT TIME	—

SAMPLED BY: D. Pritchett ANALYZED BY: D. Pritchett

FORM 732-A REV 1-91

T009 EAST HALLWAY



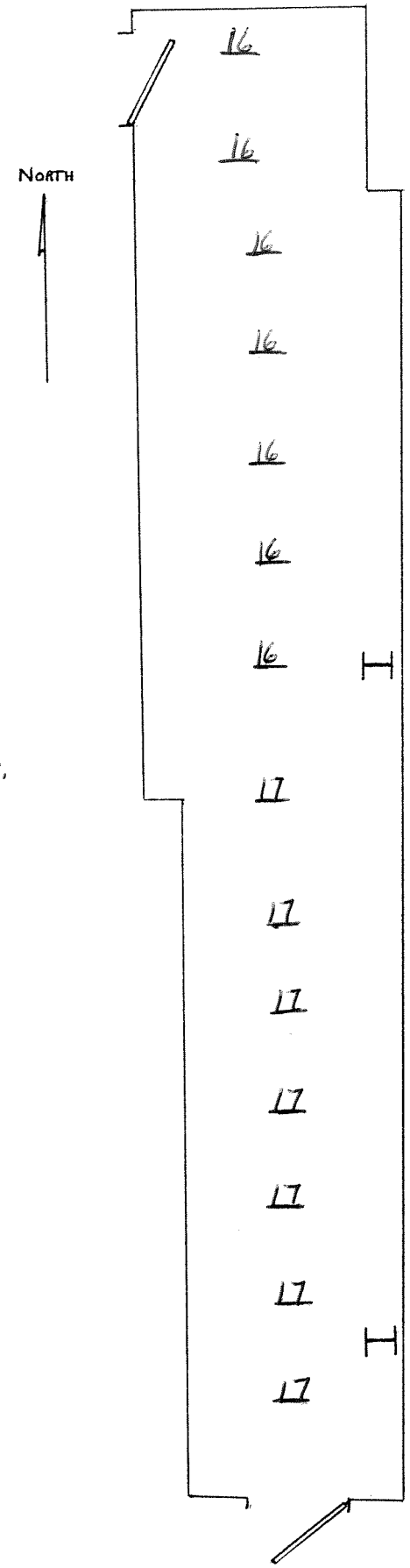
= 4R/HR at 1meter from walls, 1meter from floor.

TECH. D.B Pickett DATE 2/27/95

☐ INSTRUMENT _____ CAL. DUE _____

☒ INSTRUMENT Ludlum 12S #381502 CAL. DUE 5/26/95

T009 EAST HALLWAY



= MR/HR at 1 meter from floor.

TECH. D.B. Pitchett DATE 2/28/95

B & INSTRUMENT _____ CAL. DUE _____

γ INSTRUMENT Ludlum 12S CAL. DUE 5/26/95
#381502

Total Alpha/Beta

Room 123

Floor & Walls

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM 123

PURPOSE: Occupational Release Survey

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT				
	2-22-95	2-22-95	Direct Readings of floor		See	attached		
	2-23-95	2-23-95	Direct Readings of walls / horizontal surfaces					

COMMENTS:

INSTRUMENT	Ludlum 12-4	Ludlum 12 P		
IDENTIFICATION	381724	Met # 1746		
CALIBRATION DUE	4-14-95	4-21-95		
BACKGROUND	2 cpm	80 cpm		
EFFICIENCY	7.3 dpm/cpm	7.4 dpm/cpm		
COUNT TIME	NA	NA		

SAMPLED BY: E.R. McGinnis ANALYZED BY: E.R. McGinnis

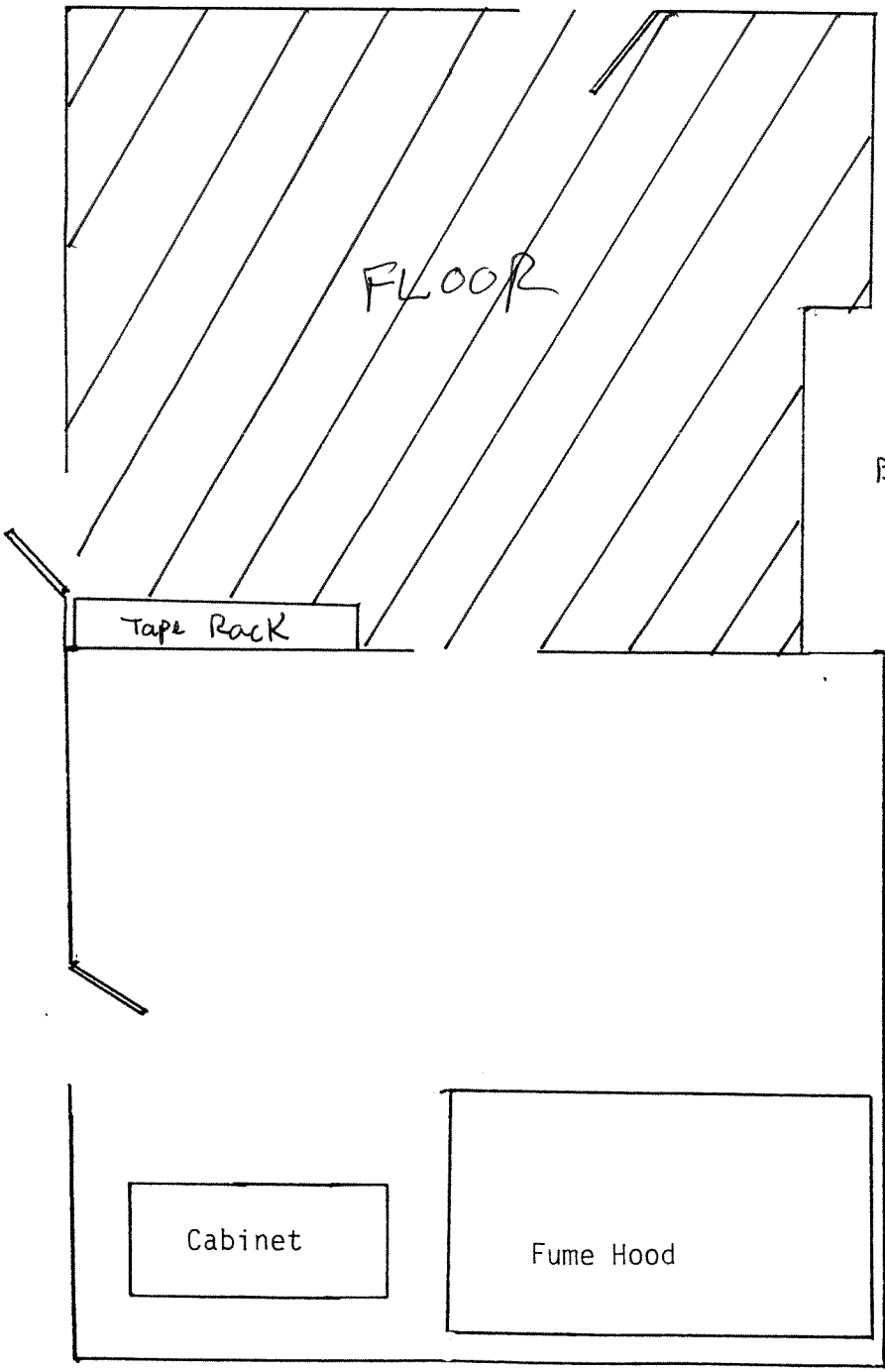
FORM 732-A REV 1-91

T009 ROOMS 121 and 123 SURVEY FORM

Surveyed area is shaded ////

Direct Reading: <5000 dpm/100cm² βγ <500 dpm/100cm² α

Room 123



Room 121

Date 2-22-95

Tech. E.R. McGinnis E.R. McGinnis

Instruments:

α # Ludlum 12 381724

Cal. Due 4-14-95

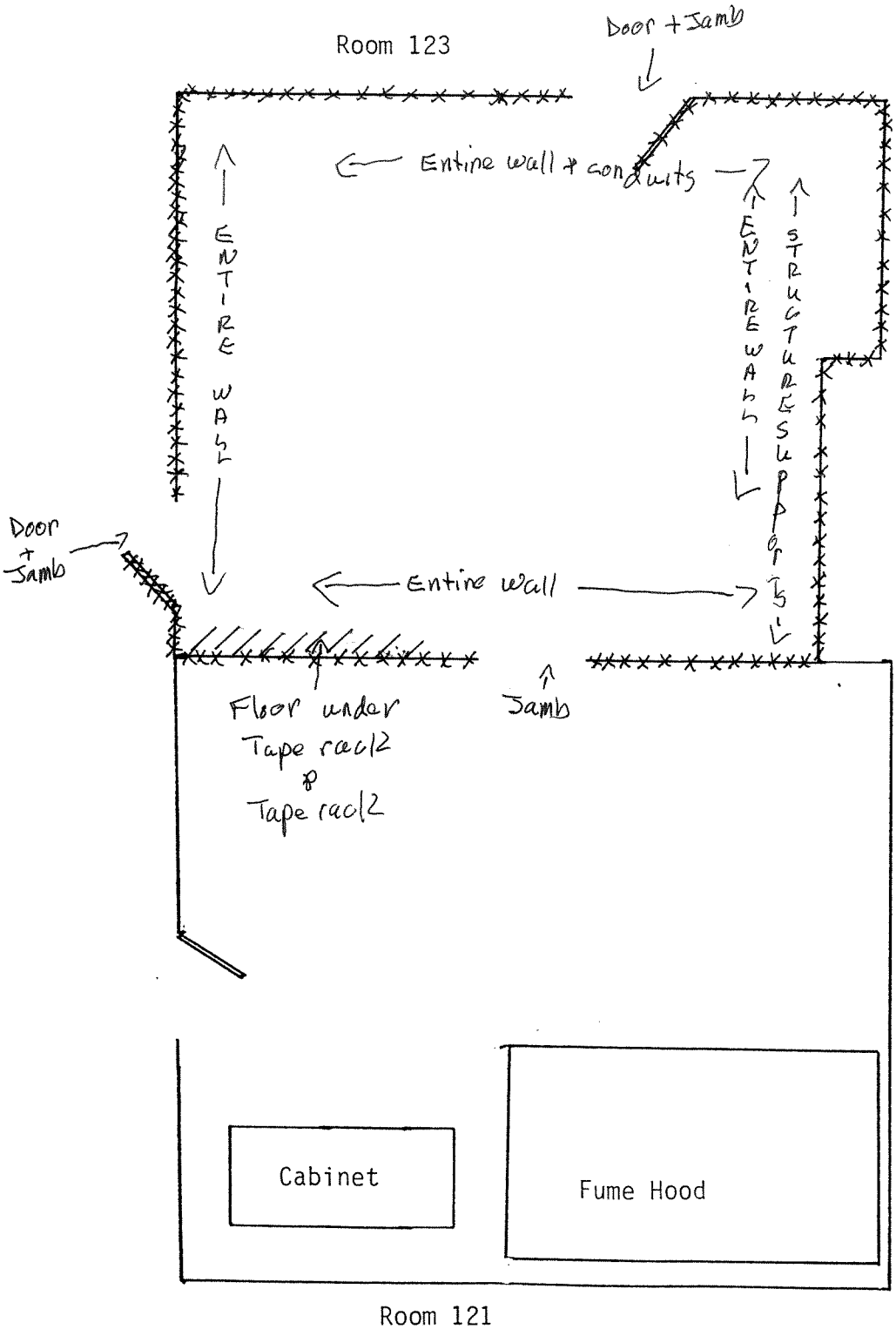
βγ # Ludlum 12 MDL #1746

Cal. Due 4-21-95

T009 ROOMS 121 and 123 SURVEY FORM

Surveyed areas are shaded //// or x'ed

Direct Readings: < 5000 dpm/100cm² βγ < 500 dpm/100cm² α



Date 2-23-95

Tech. E.R. McGinnis E.R. McGinnis

Instruments:

α # Ludlum 12 # 381724

Cal. Due 4-14-95

βγ # Ludlum 12 Mef. #1746

Cal. Due 4-21-95

Removable Alpha/Beta

Room 123

Floor & Walls

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM 123

PURPOSE: Occupational Release Survey

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT				
	2-24-95	2-24-95	See attached - Smear Survey of walls/Floor		See	attached		

COMMENTS:

INSTRUMENT	Tenne lec		
IDENTIFICATION	842	489	
CALIBRATION DUE	α Dai	ly βγ	
BACKGROUND	0.5 cpm	2.8 cpm	
EFFICIENCY	2.70 dpm/cpm	2.69 dpm/cpm	
COUNT TIME	1	min	

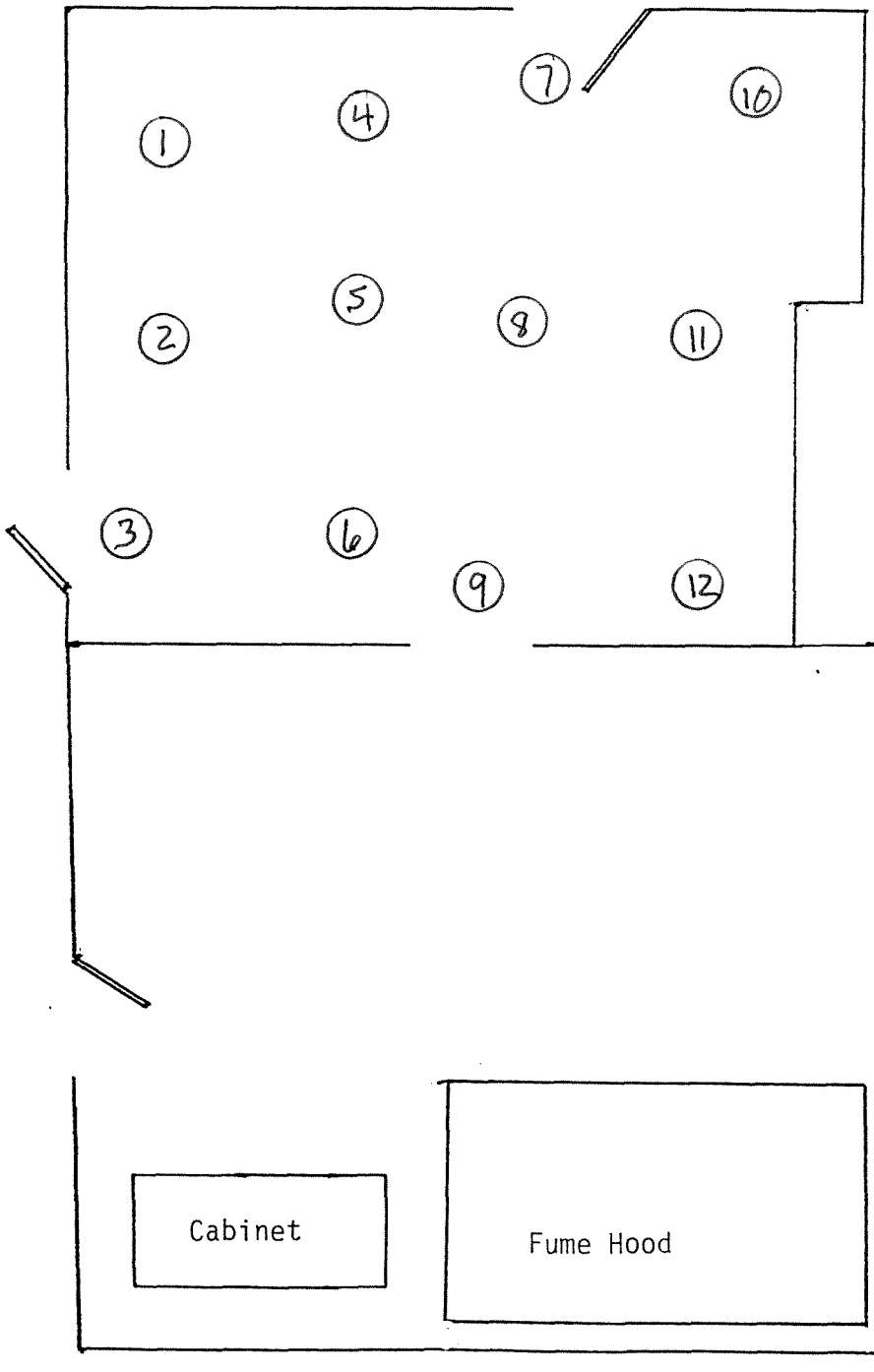
SAMPLED BY: E.R. McGinnis
ANALYZED BY: ER McGinnis

FORM 732-A REV 1-91

TOO9 ROOMS 121 and 123 SURVEY FORM

(#) = smear locations / floor
all were < 20 dpm/100cm² < 100 dpm/100cm² βγ (see attached)

Room 123



Room 121

Date 2-24-95

Tech. E.R. McGinnis
ep McGinnis

Instruments:

GPC # Tennelec # 842489

Cal. Due Daily

NA

Cal. Due NA

FRI FEB 24, 1995
GROUP A T009 ROOM 123 SMEAR SURVEY

SAMPLE SN	CODE	TIME (MIN.)	ALPHA COUNTS	BETA COUNTS	ALPHA CPM	BETA CPM	ALPHA CORRECTED	BETA CORRECTED	TOD CLOCK HR:MN:SEC
1		1.00	1	3	0.50	0.20	1.349892	.53777897	10:19:00
2		1.00	0	3	-0.50	0.20	-1.349892	.53777897	10:20:12
3		1.00	0	4	-0.50	1.20	-1.349892	3.2266738	10:21:24
4		1.00	0	4	-0.50	1.20	-1.349892	3.2266738	10:22:36
5		1.00	1	6	0.50	3.20	1.349892	8.6044636	10:23:48
6		1.00	1	3	0.50	0.20	1.349892	.53777897	10:25:00
7		1.00	0	5	-0.50	2.20	-1.349892	5.9155687	10:26:12
8		1.00	1	4	0.50	1.20	1.349892	3.2266738	10:27:24
9		1.00	1	4	0.50	1.20	1.349892	3.2266738	10:28:35
10		1.00	1	5	0.50	2.20	1.349892	5.9155687	10:29:47
11		1.00	1	9	0.50	6.20	1.349892	16.671148	10:30:59
12		1.00	1	6	0.50	3.20	1.349892	8.6044636	10:32:11
13		1.00	1	4	0.50	1.20	1.349892	3.2266738	10:33:23
14		1.00	0	6	-0.50	3.20	-1.349892	8.6044636	10:34:35
15		1.00	1	3	0.50	0.20	1.349892	.53777897	10:35:47
16		1.00	0	4	-0.50	1.20	-1.349892	3.2266738	10:36:59
17		1.00	1	3	0.50	0.20	1.349892	.53777897	10:38:10
18		1.00	1	3	0.50	0.20	1.349892	.53777897	10:39:22
19		1.00	0	9	-0.50	6.20	-1.349892	16.671148	10:40:34
20		1.00	0	2	-0.50	-0.80	-1.349892	-2.1511159	10:41:46
21		1.00	1	5	0.50	2.20	1.349892	5.9155687	10:42:58
22		1.00	0	8	-0.50	5.20	-1.349892	13.982253	10:44:10
23		1.00	3	12	2.50	9.20	6.74946	24.737833	10:45:22
24		1.00	0	4	-0.50	1.20	-1.349892	3.2266738	10:46:33
25		1.00	0	9	-0.50	6.20	-1.349892	16.671148	10:47:45
26		1.00	0	4	-0.50	1.20	-1.349892	3.2266738	10:48:57
27		1.00	2	8	1.50	5.20	4.049676	13.982253	10:50:09
28		1.00	0	8	-0.50	5.20	-1.349892	13.982253	10:51:21
29		1.00	1	7	0.50	4.20	1.349892	11.293358	10:52:33
30		1.00	3	5	2.50	2.20	6.74946	5.9155687	10:53:45
31		1.00	1	5	0.50	2.20	1.349892	5.9155687	10:54:57
32		1.00	2	8	1.50	5.20	4.049676	13.982253	10:56:09
33		1.00	0	9	-0.50	6.20	-1.349892	16.671148	10:57:21

OPERATION COMPLETE

	BKG	EFF
α':	0.5	2.70
βS':	2.8	2.69

Ambient Gamma

Room 123

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM 123

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	PURPOSE: Occupational/ Release survey DESCRIPTION AND LOCATION	UNITS LIMIT				
	2-24-95	2-24-95	1 meter gamma surveys - floors and walls		See	attached		

COMMENTS: probably some shine from ISI C-van in the yard just outside the room

INSTRUMENT	Ludlum 12S
IDENTIFICATION	381502
CALIBRATION DUE	5-26-95
BACKGROUND	NA
EFFICIENCY	↓
COUNT TIME	↓

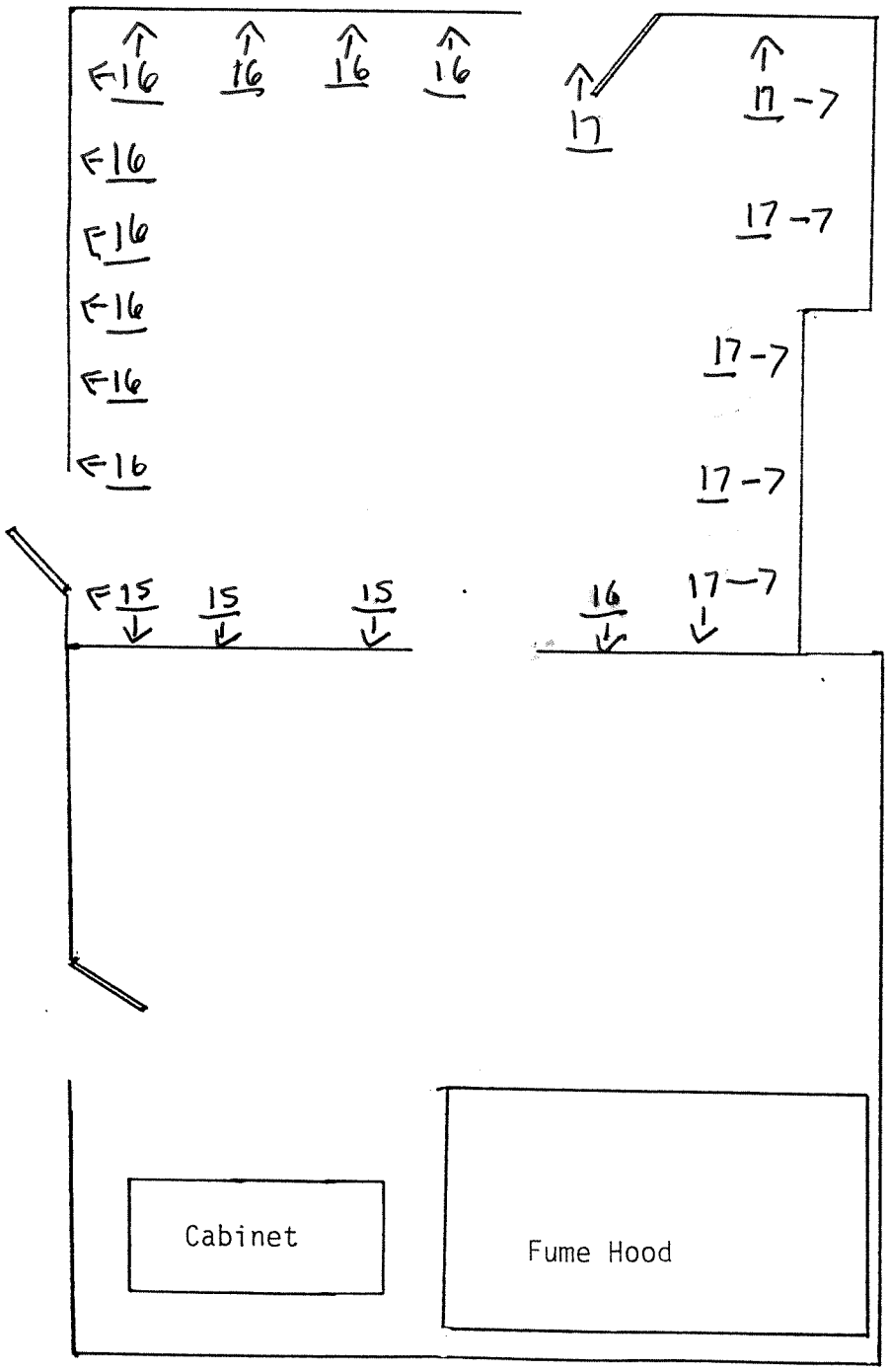
SAMPLED BY: E.R. McGinnis ANALYZED BY: E.R. McGinnis

FORM 732-A REV 1-91

T009 ROOMS 121 and 123 SURVEY FORM

2 mR/hr at 1 meter from walls / 1 meter off of floor

Room 123



Room 121

Date 2-24-95

Tech. E.R. MEGINNIS
ER MEGinnis

Instruments:

X # Ludlum 12S #381502

Cal. Due 5-26-95

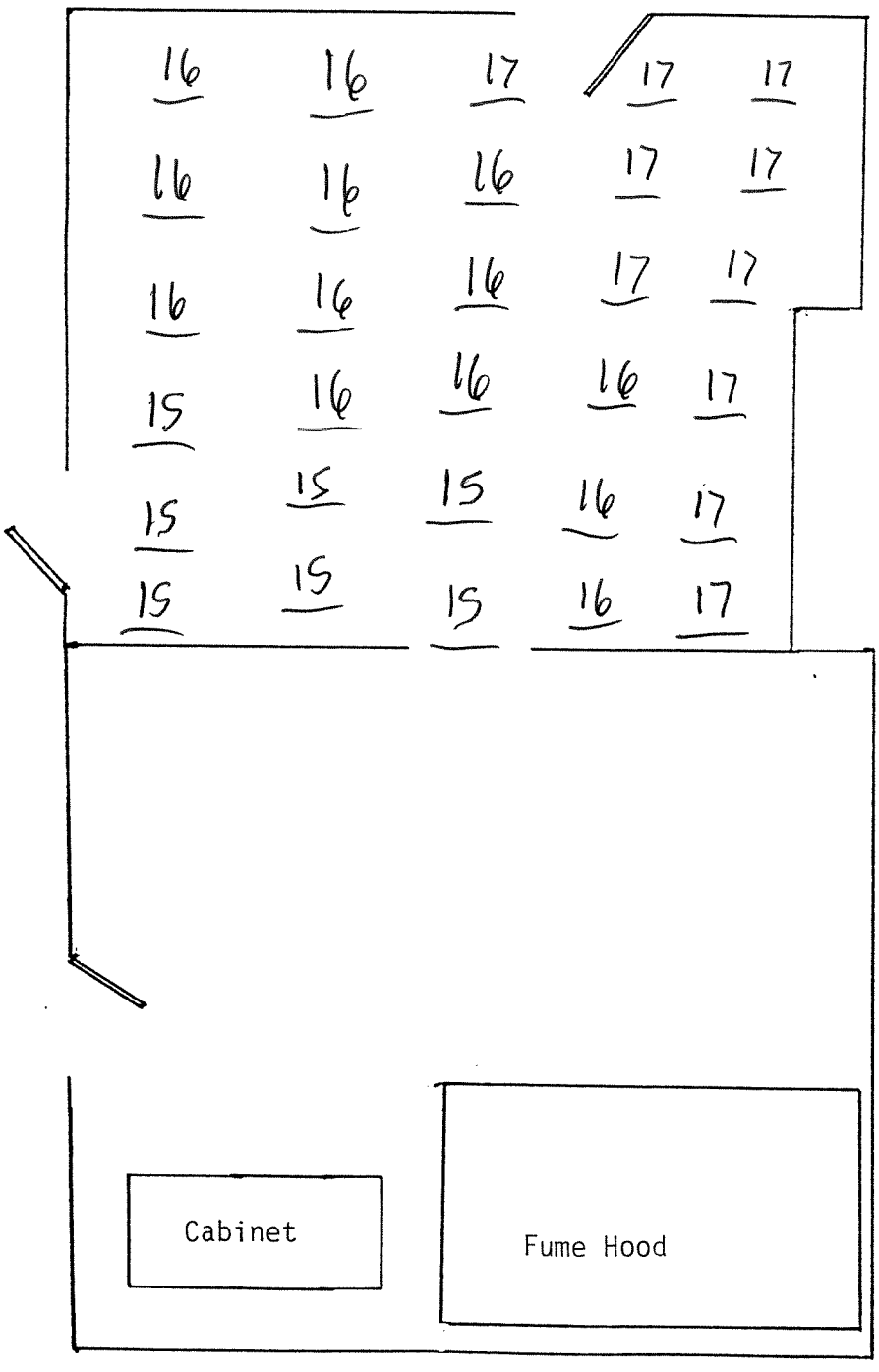
NA

Cal. Due NA

TOO9 ROOMS 121 and 123 SURVEY FORM

2 uR/Hr at 1 meter from floor

Room 123



Room 121

Date 2-24-95

Tech. E.R. McGinnis
& R McGinnis

Instruments:

X # Ludlum 125 #381502

Cal. Due 5-26-95

NA

Cal. Due NA

Spectrum file: ENV95040 Date: 10-Feb-1995 Time: 16:41:35

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	CO-60	.9976	4.712E-03 +- 23.61%	4.712E-03	0.000E+00
2	Tl-208T	.9960	1.580E-03 +- 49.31%	1.580E-03	0.000E+00
3	Pb-212T	.9942	1.583E-03 +- 49.68%	1.583E-03	0.000E+00
4	Th-234U	1.0000	5.509E-02 +- 8.05%	5.509E-02	0.000E+00
			6.297E-02	6.297E-02	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 17-Feb-1995 9:57:59

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95041

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 - HB ROLLUP DOOR SMEAR#5, ENV950041, 2/10/95
Spectrum file name: ENV95041
Sample identifier : MCGINNIS
Sample size : 3.340E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 10-Feb-1995 at 17:33:39
Collect started on : 10-Feb-1995 at 17:33:39
Collect ended on : 10-Feb-1995 at 19:30:25

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.006E+03 s dead time: .09 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM010495.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N0010P000028 By: _____ Date: 2/21/95
RP&HPS

Co60 - 0.28 dpm/100 cm2
Cs134 - 0.05 dpm/100 cm2
Cs137 - 0.27 dpm/100 cm2 GRM
Total 0.60 dpm/100 cm2

Spectrum file: ENV95041 Date: 10-Feb-1995 Time: 19:30:25

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	K-40	.9851	1.025E-01 +- 43.66%	1.025E-01	0.000E+00
2	CO-60	.9715	1.282E-01 +- 5.28%	1.282E-01	0.000E+00
3	CS-134	.9749	2.230E-02 +- 15.49%	2.230E-02	0.000E+00
4	CS-137	.9907	1.197E-01 +- 4.83%	1.197E-01	0.000E+00
5	Pb-210U	.9955	6.644E-02 +- 16.44%	6.644E-02	0.000E+00
6	Pb-212T	.9992	1.923E-02 +- 15.98%	1.923E-02	0.000E+00
7	Pb-214U	.9960	1.767E-02 +- 12.88%	1.767E-02	0.000E+00
8	Th-234U	.9996	1.559E-01 +- 8.22%	1.559E-01	0.000E+00
			6.319E-01	6.319E-01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 17-Feb-1995 10: 1:31

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95042

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 - U EAST HB N WALL SMEAR#6, ENV950042, 2/10/95
Spectrum file name: ENV95042
Sample identifier : MCGINNIS
Sample size : 8.360E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 13-Feb-1995 at 12: 6:59
Collect started on : 13-Feb-1995 at 12: 6:59
Collect ended on : 13-Feb-1995 at 14: 3:45

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.006E+03 s dead time: .09 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM010495.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 2/21/95
RP&HPS

No Unnatural Isotopes
QRM

Spectrum file: ENV95042 Date: 13-Feb-1995 Time: 14: 3:45

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	Pb-212T	.9957	3.626E-03 +- 32.50%	3.626E-03	0.000E+00
2	Pb-214U	.8161	1.810E-02 +- 6.31%	1.810E-02	0.000E+00
3	Th-234U	.9995	7.372E-02 +- 9.73%	7.372E-02	0.000E+00
			9.545E-02	9.545E-02	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

Total Alpha/Beta
Removable Alpha/Beta/Gamma

Rooms 127 & 131

Overhead Structures

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM 127 - East High Bay

PURPOSE: Occupational Release Survey

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT	DPM/100cm² ~~Bγ~~ α	DPM/100cm² Bγ		
				LIMIT	20	100		
	2-15-95	2-15-95 2-20-95	Overhead structures: Bridge crane, crane rails, cable tray, I-Beams		See	attached		
1	2-15-95	2-16-95	Large Area smear of Bridge crane West Rail Top *		<20	<100		
2	2-15-95	2-16-95	Bridge Crane East Rail Top *		<20	<100		
3	2-15-95	2-16-95	Overhead cable tray SW corner *		<20	<100		

COMMENTS: * - See attached

INSTRUMENT	Tennelec	Canberra MCA	Ludlum 12 α	Ludlum 12 Bγ
IDENTIFICATION	842489	NR008286	381724	381723
CALIBRATION DUE	α Daily Bγ	Daily	4-14-95	3-17-95
BACKGROUND	.8cpm / 3.5cpm	see	2cpm	80cpm
EFFICIENCY	2.7dpm/cpm / 2.7dpm/cpm	attached	7.3dpm/cpm	7.4dpm/cpm
COUNT TIME	1 min	7000 sec	NA	NA

SAMPLED BY: D.B. Pritchett E.R. McGinnis
ANALYZED BY: D.B. Pritchett E.R. McGinnis

FORM 732-A REV 1-91

MON FEB 20, 1995
GROUP A T009 EAST HIGH BAY BRIDGE CRANE SMEARS

SAMPLE SN	CODE	TIME (MIN.)	ALPHA COUNTS	BETA COUNTS	ALPHA CPM	BETA CPM	ALPHA CORRECTED	BETA CORRECTED	TOD CLOCK HR:MN:SEC
1		1.00	1	4	0.20	0.50	.54869684	1.3397642	12:15:50
2		1.00	0	8	-0.80	4.50	-2.1947874	12.057878	12:17:01
3		1.00	1	10	0.20	6.50	.54869684	17.416935	12:18:13
4		1.00	0	2	-0.80	-1.50	-2.1947874	-4.0192926	12:19:25
5		1.00	2	4	1.20	0.50	3.2921811	1.3397642	12:20:36
6		1.00	1	10	0.20	6.50	.54869684	17.416935	12:21:48
7		1.00	1	5	0.20	1.50	.54869684	4.0192926	12:23:00
8		1.00	0	7	-0.80	3.50	-2.1947874	9.3783494	12:24:11
9		1.00	1	14	0.20	10.50	.54869684	28.135048	12:25:23
10		1.00	2	15	1.20	11.50	3.2921811	30.814577	12:26:35
11		1.00	0	10	-0.80	6.50	-2.1947874	17.416935	12:27:46
12		1.00	0	12	-0.80	8.50	-2.1947874	22.775991	12:28:58
13		1.00	2	9	1.20	5.50	3.2921811	14.737406	12:30:10
14		1.00	1	11	0.20	7.50	.54869684	20.096463	12:31:21
15		1.00	1	8	0.20	4.50	.54869684	12.057878	12:32:33
16		1.00	3	16	2.20	12.50	6.0356653	33.494105	12:33:45
17		1.00	0	10	-0.80	6.50	-2.1947874	17.416935	12:34:56
18		1.00	1	10	0.20	6.50	.54869684	17.416935	12:36:08
19		1.00	2	7	1.20	3.50	3.2921811	9.3783494	12:37:20
20		1.00	1	6	0.20	2.50	.54869684	6.698821	12:38:32
21		1.00	2	9	1.20	5.50	3.2921811	14.737406	12:39:43
22		1.00	1	8	0.20	4.50	.54869684	12.057878	12:40:55
23		1.00	2	15	1.20	11.50	3.2921811	30.814577	12:42:07
24		1.00	2	15	1.20	11.50	3.2921811	30.814577	12:43:18
25		1.00	2	13	1.20	9.50	3.2921811	25.45552	12:44:30
26		1.00	0	6	-0.80	2.50	-2.1947874	6.698821	12:45:42
27		1.00	1	14	0.20	10.50	.54869684	28.135048	12:46:53
28		1.00	1	17	0.20	13.50	.54869684	36.173633	12:48:05
29		1.00	0	2	-0.80	-1.50	-2.1947874	-4.0192926	12:49:17
30		1.00	0	2	-0.80	-1.50	-2.1947874	-4.0192926	12:50:28

OPERATION COMPLETE

SAMPO 90, 1990 PA,MN,JR. 17-Feb-1995 10: 5:41

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95047

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 -HB WEST CRANE RAIL SMEAR#7, ENV950047, 2/15/95
Spectrum file name: ENV95047
Sample identifier : MCGINNIS
Sample size : 1.860E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 16-Feb-1995 at 14:32:40
Collect started on : 16-Feb-1995 at 14:32:40
Collect ended on : 16-Feb-1995 at 16:29:29

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.009E+03 s dead time: .13 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM010495.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N0010P000028 By: _____ Date: 2/21/95
RP&HPS

Co60 - 0.08 dpm/100cm2
Cs137 - 0.17 dpm/100cm2 ADM
Total 0.25 dpm/100cm2

Spectrum file: ENV95047 Date: 16-Feb-1995 Time: 16:29:29

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

	number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
	1	K-40	.9892	6.699E-01 +- 16.41%	6.699E-01	0.000E+00
	2	CO-60	.9805	3.543E-02 +- 12.97%	3.543E-02	0.000E+00
	3	CS-137	.9933	7.803E-02 +- 7.51%	7.803E-02	0.000E+00
	4	Tl-208T	.9130	1.495E-02 +- 21.30%	1.495E-02	0.000E+00
	5	Pb-210U	.9999	9.785E-02 +- 17.71%	9.785E-02	0.000E+00
	6	Pb-212T	.9976	6.103E-02 +- 12.15%	6.103E-02	0.000E+00
	7	Pb-214U	.9932	3.028E-02 +- 10.27%	3.028E-02	0.000E+00
C	8	Ra-226U	.9777	1.722E+00 +- 6.14%	1.722E+00	0.000E+00
	9	Th-234U	1.0000	5.216E-01 +- 8.11%	5.216E-01	0.000E+00
C	10	U-235	.9997	1.046E-01 +- 6.14%	1.046E-01	0.000E+00
				3.336E+00	3.336E+00	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 21-Feb-1995 13: 6: 6

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95048

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 - LARGE AREA SMEAR #8, ENV950048, 2/15/95
Spectrum file name: ENV95048
Sample identifier : MCGINNIS
Sample size : 1.860E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 16-Feb-1995 at 16:55:25
Collect started on : 16-Feb-1995 at 16:55:25
Collect ended on : 16-Feb-1995 at 18:52:10

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.005E+03 s dead time: .07 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\T020LIB.ILF
with 38 isotopes and 406 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\T020LIB.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM010495.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 2/21/95
RP&HPS

Co60 - 0.72 dpm/100cm2
Cs137 - 0.13 dpm/100cm2 apm
0.85 dpm/100 cm2

Spectrum file: ENV95048 Date: 16-Feb-1995 Time: 18:52:10

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	K-40	.9984	5.825E-01 +- 17.74%	5.825E-01	0.000E+00
2	CO-60	.9893	3.256E-01 +- 4.74%	3.256E-01	0.000E+00
3	CS-137	.9864	5.773E-02 +- 6.99%	5.773E-02	0.000E+00
4	Tl-208T	.9438	1.106E-02 +- 18.80%	1.106E-02	0.000E+00
5	Pb-212T	.9759	3.992E-02 +- 12.82%	3.992E-02	0.000E+00
6	Pb-214U	.9756	2.931E-02 +- 13.25%	2.931E-02	0.000E+00
7	Bi-214U	.9070	3.264E-02 +- 22.09%	3.264E-02	0.000E+00
8	Th-234U	.9383	3.761E-01 +- 6.34%	3.761E-01	0.000E+00
9	U-235	.9930	6.656E-02 +- 6.99%	6.656E-02	0.000E+00
			1.521E+00	1.521E+00	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 17-Feb-1995 10: 8:57

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95049

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009-SW CEILING CABLE TRAY SMEAR#9, ENV950049, 2/15/95
Spectrum file name: ENV95049
Sample identifier : MCGINNIS
Sample size : 8.400E+01 100cm2
Measured by : FCD

Date of Activity Calculation : 16-Feb-1995 at 12:14:35
Collect started on : 16-Feb-1995 at 12:14:35
Collect ended on : 16-Feb-1995 at 14:11:21

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.006E+03 s dead time: .09 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM010495.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 2/21/95
RP&HPS

Cs137 - 0.18 dpm/100cm2

aRM

Spectrum file: ENV95049 Date: 16-Feb-1995 Time: 14:11:21

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

	number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
	1	CS-137	1.0000	7.970E-02 +- 13.47%	7.970E-02	0.000E+00
	2	Pb-212T	.9951	1.865E-02 +- 44.16%	1.865E-02	0.000E+00
C	3	Ra-226U	.9701	1.083E+00 +- 11.46%	1.083E+00	0.000E+00
	4	Th-234U	.9995	6.857E-01 +- 7.75%	6.857E-01	0.000E+00
C	5	U-235	.9984	6.581E-02 +- 11.46%	6.581E-02	0.000E+00
				1.933E+00	1.933E+00	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

Ambient Gamma

Rooms 127 & 131

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM EAST (PAR) HIGH BAY

PURPOSE: Micro R/HR X Survey

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS LIMIT	4R/HR			
1	2/2/95		4R/HR Survey of walls at 1meter distance 2meters high 1meter high		16 to 18	See Map		
2	2/2/95		4R/HR Survey of floor - 1meter distance (Lower)		17 to 20	See Map		
3	2/16/95		4R/HR Survey of floor - 1meter distance (upper)		16 to 18	See map		

COMMENTS:

INSTRUMENT	Ludlom 12S
IDENTIFICATION	38150Z
CALIBRATION DUE	2/24/95
BACKGROUND	16 4R/HR
EFFICIENCY	NA
COUNT TIME	NA

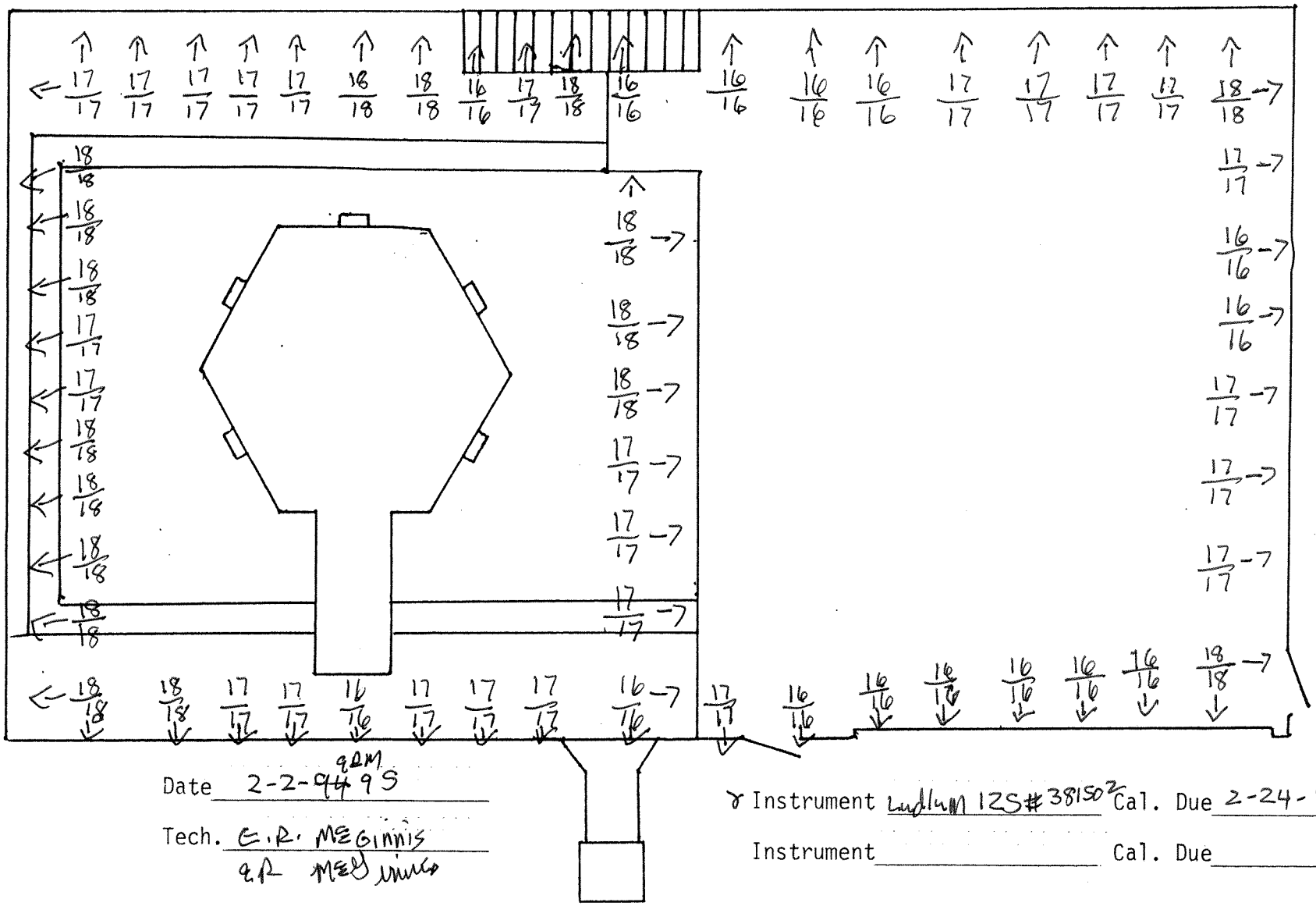
SAMPLED BY: D. Pritchett E.R. Meginnis
ANALYZED BY: D. Pritchett E.R. Meginnis

FORM 732-A REV 1-91

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is ~~shaded~~ qRM 1meter from walls

At 2 meters from Floor uR/Hr
At 1 meter from floor uR/Hr



Date 2-2-94 qRM 95

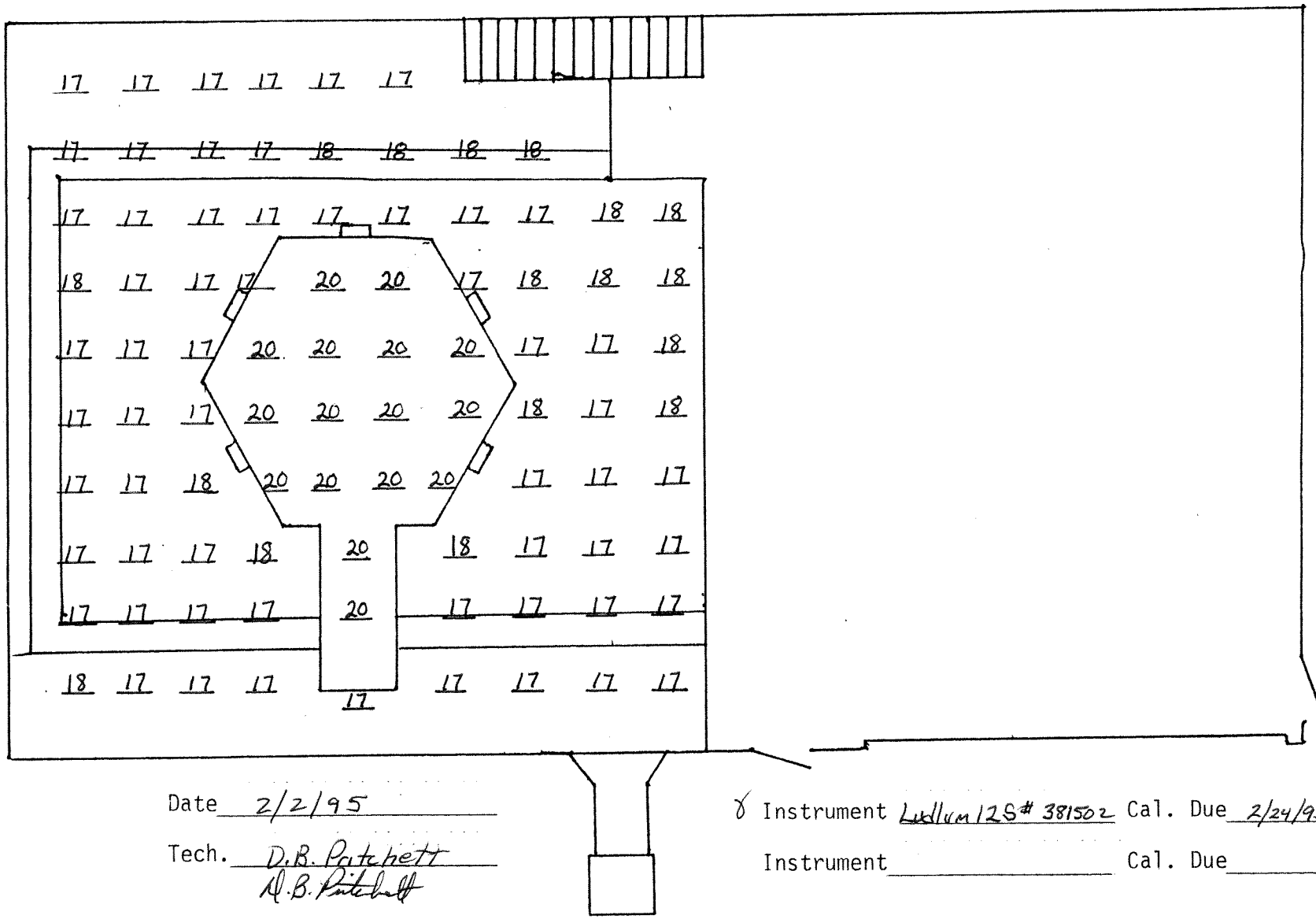
Tech. E.R. McGinnis
qR McG

Instrument Ludlum 12S #38150 Cal. Due 2-24-95

Instrument _____ Cal. Due _____

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is ~~shaded~~ 1 meter from floor. At 1m from floor 4R/HR



Date 2/2/95

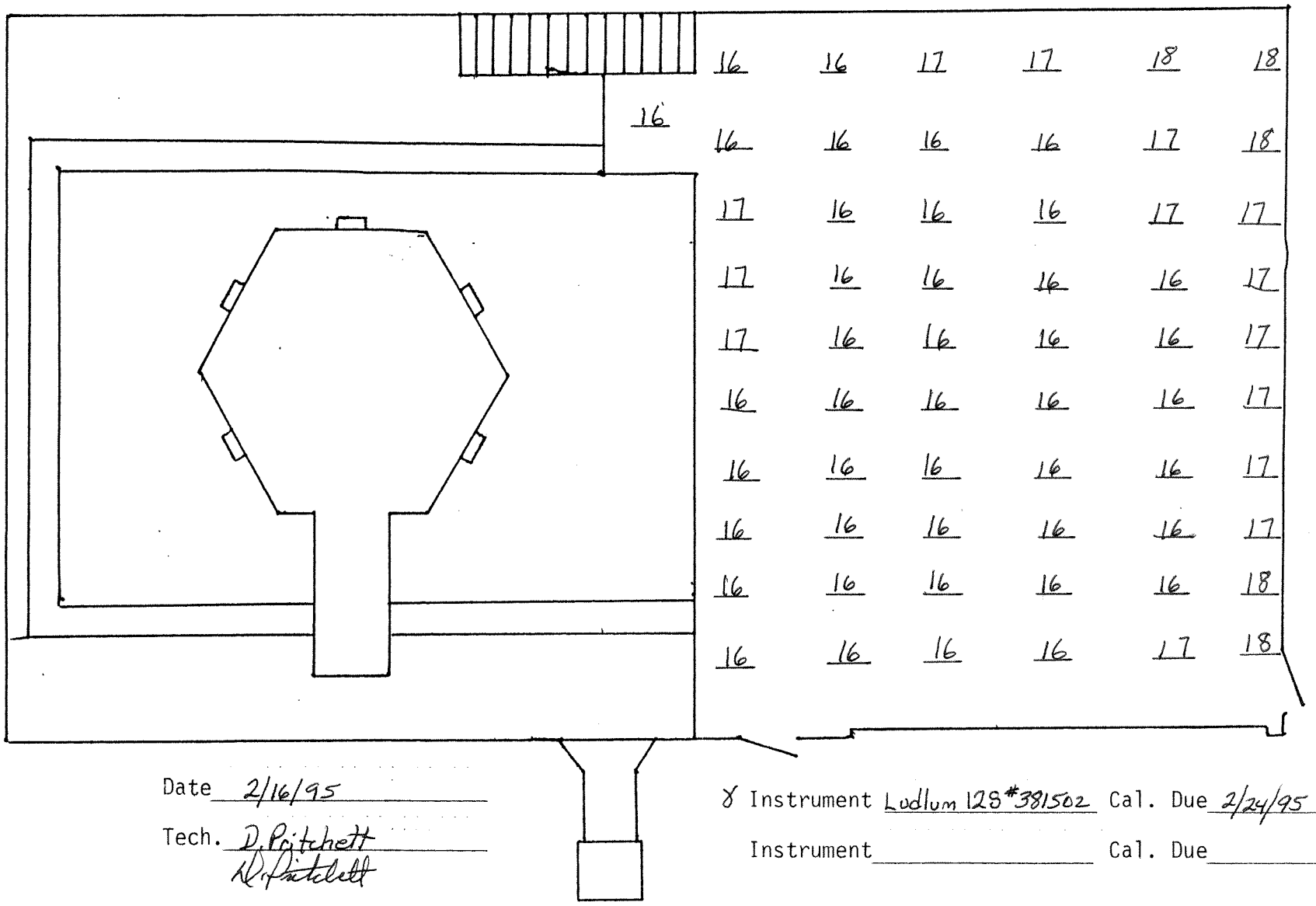
Tech. D.B. Patchett
M.B. Patchett

γ Instrument Ludlum 12S # 38150 2 Cal. Due 2/24/95

Instrument _____ Cal. Due _____

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is ~~shaded~~ 1 Meter from floor. ~~MR/HR~~ At 1 meter from floor



Date 2/16/95

Tech. D. Pritchett
D. Pritchett

X Instrument Ludlum 12S #381502 Cal. Due 2/24/95

Instrument _____ Cal. Due _____

Total Alpha/Beta

Hallway

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM

PURPOSE: Occupational Release

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS	β/γ dpm/100cm² direct Survey	α dpm/100cm² direct Survey		
				LIMIT	5000	500		
			See Maps					

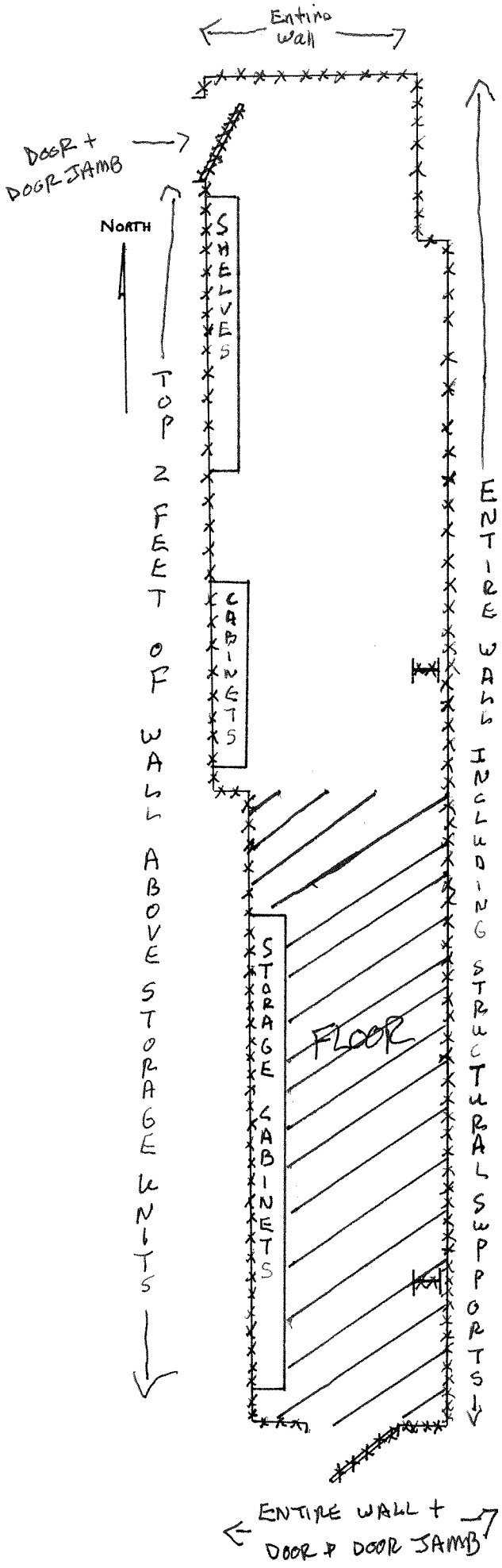
COMMENTS: See Maps

INSTRUMENT	Ludlum 12	Ludlum 12		
IDENTIFICATION	381723	381724		
CALIBRATION DUE	3/17/95	4/14/95		
BACKGROUND	80 cpm	—		
EFFICIENCY	7.4 dpm/cpm	7.3 dpm/cpm		
COUNT TIME	NA	NA		

SAMPLED BY: E. R. McGinnis 2/17/95
ANALYZED BY: D. Pritchett 2/23/95 ep McGinnis 2/21/95

FORM 732-A REV 1-91

T009 EAST HALLWAY



Surveyed areas indicated by shading and x's.

Direct survey:

< 5000 dpm/100 cm² βγ

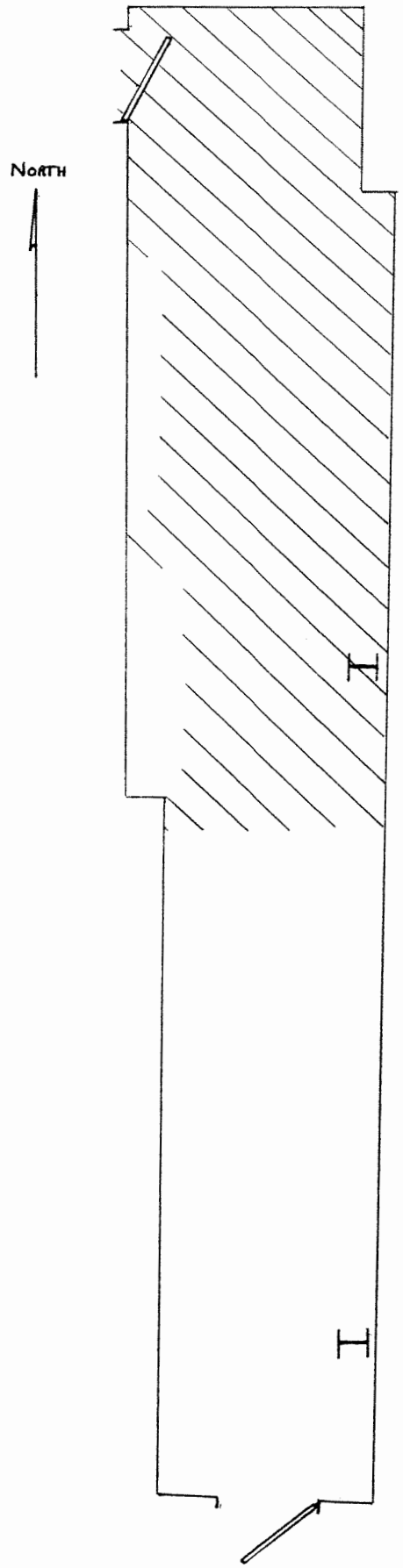
< 500 dpm/100 cm² α

TECH. E.R. McGinnis DATE 2-21-95

βγ INSTRUMENT Ludlum 12 Mot # 1746 CAL. DUE 4-21-95

α INSTRUMENT Ludlum 12 # 381724 CAL. DUE 4-14-95

T009 EAST HALLWAY



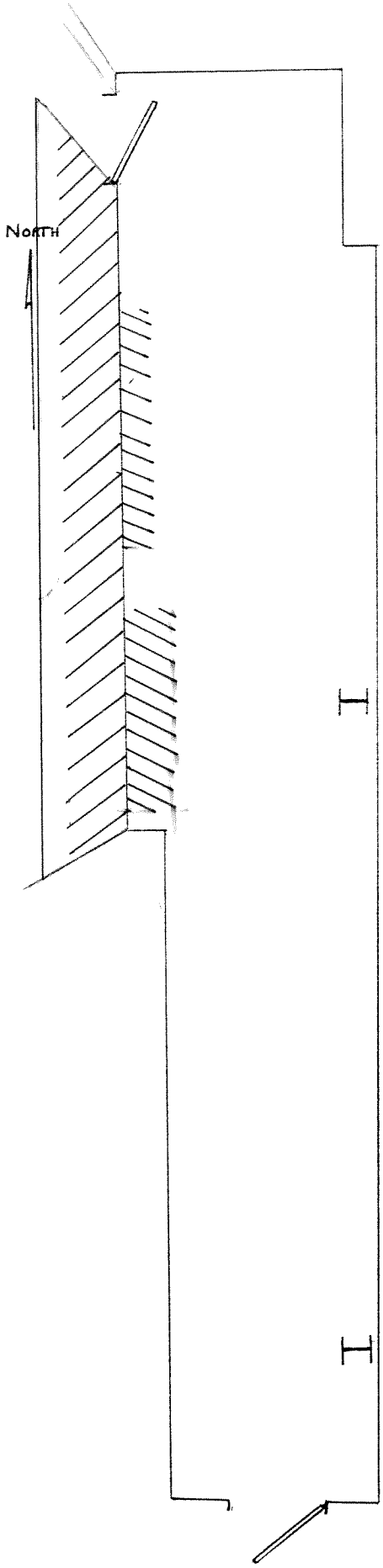
Shaded area is surveyed: floor
Direct survey only.
<5000 dpm/100cm² βγ
<500 dpm/100cm² α

TECH. D. Patchett / D Patchett DATE 2/17/95

βγ INSTRUMENT Ludlum 12 #381723 CAL. DUE 3/17/95

α INSTRUMENT Ludlum 12 #381724 CAL. DUE 4/14/95

T009 EAST HALLWAY



Shaded areas are surveyed:
Walls up to $6\frac{1}{2}$ FT, floor areas under cabinets.

Direct Survey only.
<5000 dpm/100cm^2 $\beta\gamma$
<500 dpm/100cm^2 α

TECH. D. Pritchett DATE 2/23/95
D Pritchett

$\beta\gamma$ INSTRUMENT Ludlum 12 #381723 CAL. DUE 3/17/95

α INSTRUMENT Ludlum 12 #381724 CAL. DUE 4/14/95

Removable Alpha/Beta

Room 131

Floor & Lower Walls

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T-009
ROOM PDR 131, 127; PAR HIGH BAY

PURPOSE: INVESTIGATION / OCCUPATIONAL RELEASE

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT	α DPM/100 cm² 20	Removable β DPM/100 cm² 100
1-73	1-25-95	1-26-95	SMEAR # 1-38 FLOOR HIGH BAY (LOWER)		< 20	< 50
			39-46 N. FLOOR			
			47-54 E. WALL			
			55-63 S. WALL			
			64-70 W. WALL			
			71-73 STAIRS			
74-98	1-26-95	1-26-95	SMEAR # 74-98 HIGH BAY (LOWER PIT)			
			74-90 WALLS			
			91-94 FLOORS			
			95 - SUMP WALL			
			96 - SUMP GOO			
			97 - BOTTOM SUMP			
			98 - SUMP WALL			

COMMENTS:

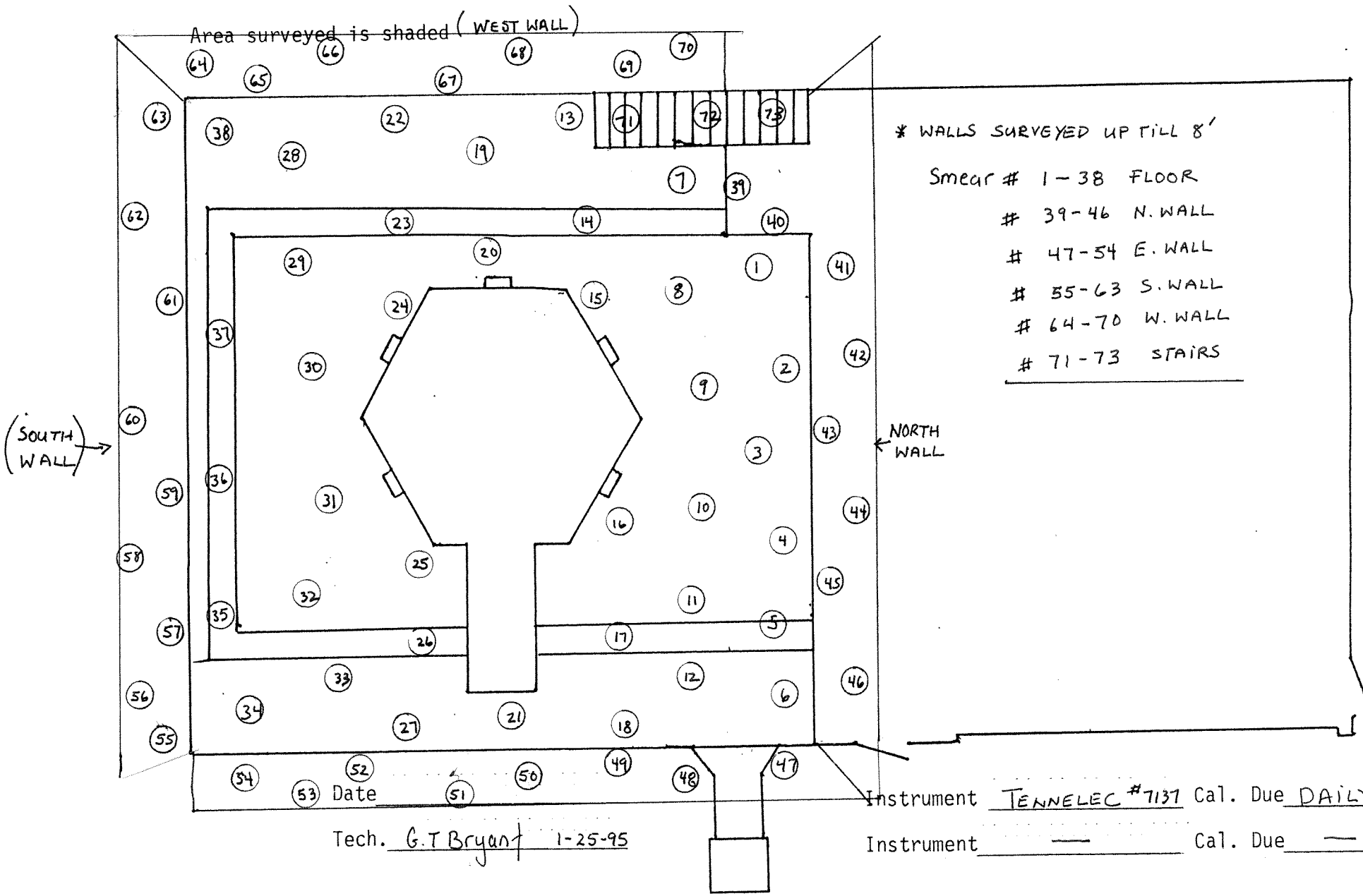
* SEE MAPS FOR LOCATIONS
* SEE DATA PRINT OUT SHEETS FOR RESULTS OF SMEARS.

INSTRUMENT	TENNELEC	
IDENTIFICATION	- # 7137	
CALIBRATION DUE	DAILY	
BACKGROUND	0.1	25.8
EFFICIENCY	3.05	2.56
COUNT TIME	1 MIN	1 MIN

SAMPLED BY: G.T. BRYANT
ANALYZED BY: G.T. Bryant

FORM 732-A REV 1-91

T009 "PAR" HIGH BAY SURVEY DIAGRAM



* WALLS SURVEYED UP TILL 8'

Smear # 1 – 38 FLOOR
39 – 46 N. WALL
47 – 54 E. WALL
55 – 63 S. WALL
64 – 70 W. WALL
71 – 73 STAIRS

Date

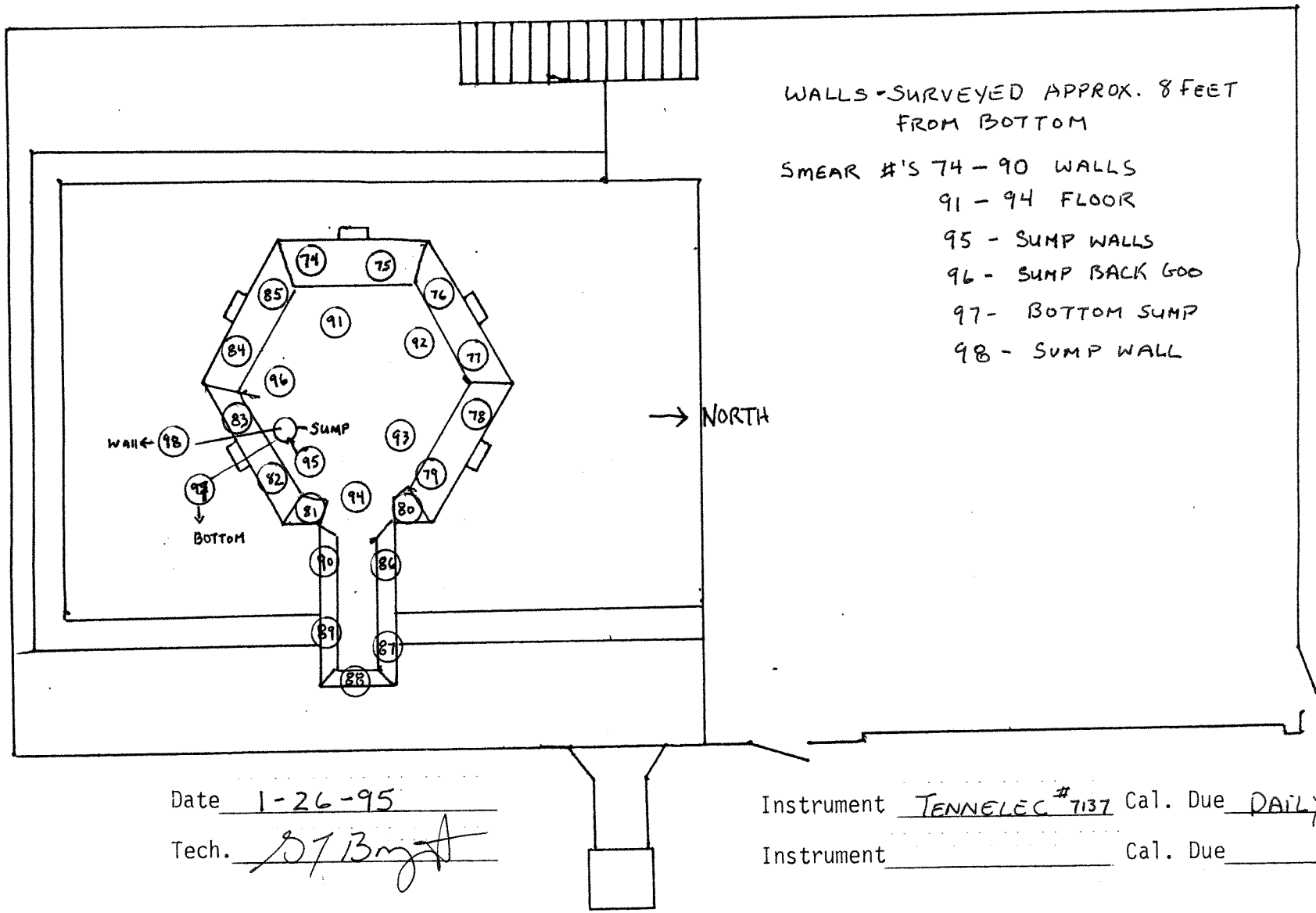
Tech. G.T Bryant 1-25-95

Instrument TENNELEC #7137 Cal. Due DAILY

Instrument — Cal. Due —

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded



Date 1-26-95

Tech. [signature]

Instrument TENNELEC #7137 Cal. Due DAILY

Instrument _____ Cal. Due _____

TENNELEC # 7137

α BKG 0.1

β BKG 25.8

α EFF 3.05

β Eff 2.56

THU JAN 26, 1995

GROUP B T-009 LOW BAY ISI FLOOR, WALLS, PIT SURVEY (1-50)

SAMPLE SN	CODE	TIME (MIN.)	ALPHA COUNTS	BETA COUNTS	ALPHA CPM	BETA CPM	ALPHA CORRECTED	BETA CORRECTED	TOD CLOCK HR:MN:SEC
1		1.00	0	31	-0.10	5.20	-.30100536	13.36383	09:52:58
2		1.00	0	34	-0.10	8.20	-.30100536	21.073732	09:54:15
3		1.00	0	29	-0.10	3.20	-.30100536	8.2238956	09:55:31
4		1.00	1	23	0.90	-2.80	2.7090482	-7.1959086	09:56:48
5		1.00	0	24	-0.10	-1.80	-.30100536	-4.6259413	09:58:05
6		1.00	0	21	-0.10	-4.80	-.30100536	-12.335843	09:59:21
7		1.00	0	30	-0.10	4.20	-.30100536	10.793863	10:00:38
8		1.00	0	21	-0.10	-4.80	-.30100536	-12.335843	10:01:55
9		1.00	0	31	-0.10	5.20	-.30100536	13.36383	10:03:12
10		1.00	0	30	-0.10	4.20	-.30100536	10.793863	10:04:29
11		1.00	0	29	-0.10	3.20	-.30100536	8.2238956	10:05:46
12		1.00	1	41	0.90	15.20	2.7090482	39.063504	10:07:02
13		1.00	2	20	1.90	-5.80	5.7191018	-14.905811	10:08:19
14		1.00	0	28	-0.10	2.20	-.30100536	5.6539282	10:09:36
15		1.00	0	26	-0.10	0.20	-.30100536	.51399347	10:10:53
16		1.00	0	19	-0.10	-6.80	-.30100536	-17.475778	10:12:10
17		1.00	0	24	-0.10	-1.80	-.30100536	-4.6259413	10:13:27
18		1.00	0	22	-0.10	-3.80	-.30100536	-9.765876	10:14:43
19		1.00	0	20	-0.10	-5.80	-.30100536	-14.905811	10:16:01
20		1.00	0	36	-0.10	10.20	-.30100536	26.213667	10:17:17
21		1.00	0	22	-0.10	-3.80	-.30100536	-9.765876	10:18:34
22		1.00	0	32	-0.10	6.20	-.30100536	15.933798	10:19:51
23		1.00	0	15	-0.10	-10.80	-.30100536	-27.755648	10:21:07
24		1.00	0	23	-0.10	-2.80	-.30100536	-7.1959086	10:22:24
25		1.00	0	26	-0.10	0.20	-.30100536	.51399347	10:23:41
26		1.00	1	28	0.90	2.20	2.7090482	5.6539282	10:24:58
27		1.00	0	27	-0.10	1.20	-.30100536	3.0839608	10:26:14
28		1.00	0	23	-0.10	-2.80	-.30100536	-7.1959086	10:27:31
29		1.00	0	25	-0.10	-0.80	-.30100536	-2.0559739	10:28:48
30		1.00	0	23	-0.10	-2.80	-.30100536	-7.1959086	10:30:04
31		1.00	0	26	-0.10	0.20	-.30100536	.51399347	10:31:21
32		1.00	0	23	-0.10	-2.80	-.30100536	-7.1959086	10:32:38
33		1.00	0	28	-0.10	2.20	-.30100536	5.6539282	10:33:54
34		1.00	0	37	-0.10	11.20	-.30100536	28.783634	10:35:11
35		1.00	0	27	-0.10	1.20	-.30100536	3.0839608	10:36:28
36		1.00	1	31	0.90	5.20	2.7090482	13.36383	10:37:44
37		1.00	1	28	0.90	2.20	2.7090482	5.6539282	10:39:01
38		1.00	0	30	-0.10	4.20	-.30100536	10.793863	10:40:18
39		1.00	0	21	-0.10	-4.80	-.30100536	-12.335843	10:41:34
40		1.00	0	35	-0.10	9.20	-.30100536	23.6437	10:42:51
41		1.00	0	31	-0.10	5.20	-.30100536	13.36383	10:44:08
42		1.00	0	24	-0.10	-1.80	-.30100536	-4.6259413	10:45:24
43		1.00	0	24	-0.10	-1.80	-.30100536	-4.6259413	10:46:41
44		1.00	1	38	0.90	12.20	2.7090482	31.353602	10:47:57
45		1.00	0	27	-0.10	1.20	-.30100536	3.0839608	10:49:14
46		1.00	0	23	-0.10	-2.80	-.30100536	-7.1959086	10:50:31
47		1.00	0	25	-0.10	-0.80	-.30100536	-2.0559739	10:51:47
48		1.00	0	30	-0.10	4.20	-.30100536	10.793863	10:53:04
49		1.00	0	34	-0.10	8.20	-.30100536	21.073732	10:54:21

TENNELEC #7137

α BKG 0.1

β BKG 25.8

α EFF 3.05

β EFF 2.56

THU JAN 26, 1995

GROUP B T-009 LOWER HI-BAY WALL/PIT (51 THRU 98)

SAMPLE SN	CODE	TIME (MIN.)	ALPHA COUNTS	BETA COUNTS	ALPHA CPM	BETA CPM	ALPHA CORRECTED	BETA CORRECTED	TOD CLOCK HR:MN:SEC
1		1.00	0	27	-0.10	1.20	-.30100536	3.0839600	13:30:10
2		1.00	0	32	-0.10	6.20	-.30100536	15.933798	13:31:27
3		1.00	0	25	-0.10	-0.80	-.30100536	-2.0559739	13:32:43
4		1.00	0	40	-0.10	14.20	-.30100536	36.493537	13:34:01
5		1.00	0	32	-0.10	6.20	-.30100536	15.933798	13:35:17
6		1.00	0	21	-0.10	-4.80	-.30100536	-12.335843	13:36:34
7		1.00	1	28	0.90	2.20	2.7090482	5.6539282	13:37:50
8		1.00	0	24	-0.10	-1.80	-.30100536	-4.6259413	13:39:07
9		1.00	0	29	-0.10	3.20	-.30100536	8.2238956	13:40:24
10		1.00	0	24	-0.10	-1.80	-.30100536	-4.6259413	13:41:41
11		1.00	0	28	-0.10	2.20	-.30100536	5.6539282	13:42:58
12		1.00	0	36	-0.10	10.20	-.30100536	26.213667	13:44:14
13		1.00	0	26	-0.10	0.20	-.30100536	.51399347	13:45:31
14		1.00	0	37	-0.10	11.20	-.30100536	28.783634	13:46:48
15		1.00	0	23	-0.10	-2.80	-.30100536	-7.1959086	13:48:05
16		1.00	0	39	-0.10	13.20	-.30100536	33.923569	13:49:22
17		1.00	1	33	0.90	7.20	2.7090482	18.503765	13:50:39
18		1.00	0	34	-0.10	8.20	-.30100536	21.073732	13:51:55
19		1.00	0	21	-0.10	-4.80	-.30100536	-12.335843	13:53:12
20		1.00	1	28	0.90	2.20	2.7090482	5.6539282	13:54:29
21		1.00	0	26	-0.10	0.20	-.30100536	.51399347	13:55:46
22		1.00	0	40	-0.10	14.20	-.30100536	36.493537	13:57:03
23		1.00	0	24	-0.10	-1.80	-.30100536	-4.6259413	13:58:20
24		1.00	1	27	0.90	1.20	2.7090482	3.0839600	13:59:37
25		1.00	1	35	0.90	9.20	2.7090482	23.6437	14:00:54
26		1.00	0	32	-0.10	6.20	-.30100536	15.933798	14:02:10
27		1.00	0	33	-0.10	7.20	-.30100536	18.503765	14:03:27
28		1.00	1	28	0.90	2.20	2.7090482	5.6539282	14:04:44
29		1.00	0	34	-0.10	8.20	-.30100536	21.073732	14:06:01
30		1.00	3	29	2.90	3.20	8.7291554	8.2238956	14:07:18
31		1.00	0	26	-0.10	0.20	-.30100536	.51399347	14:08:35
32		1.00	0	29	-0.10	3.20	-.30100536	8.2238956	14:09:52
33		1.00	0	30	-0.10	4.20	-.30100536	10.793863	14:11:09
34		1.00	1	29	0.90	3.20	2.7090482	8.2238956	14:12:26
35		1.00	0	32	-0.10	6.20	-.30100536	15.933798	14:13:43
36		1.00	0	22	-0.10	-3.80	-.30100536	-9.765876	14:15:00
37		1.00	0	18	-0.10	-7.80	-.30100536	-20.045745	14:16:17
38		1.00	0	21	-0.10	-4.80	-.30100536	-12.335843	14:17:34
39		1.00	0	26	-0.10	0.20	-.30100536	.51399347	14:18:51
40		1.00	0	25	-0.10	-0.80	-.30100536	-2.0559739	14:20:08
41		1.00	0	21	-0.10	-4.80	-.30100536	-12.335843	14:21:25
42		1.00	0	30	-0.10	4.20	-.30100536	10.793863	14:22:42
43		1.00	0	26	-0.10	0.20	-.30100536	.51399347	14:23:58
44		1.00	0	23	-0.10	-2.80	-.30100536	-7.1959086	14:25:15
45		1.00	0	24	-0.10	-1.80	-.30100536	-4.6259413	14:26:32
46		1.00	1	38	0.90	12.20	2.7090482	31.353602	14:27:49
47		1.00	0	29	-0.10	3.20	-.30100536	8.2238956	14:29:06
48		1.00	0	27	-0.10	1.20	-.30100536	3.0839600	14:30:22

Removable Alpha/Beta

Room 127

Floor & Lower Walls

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM 127 - East upper High Bay

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	PURPOSE: Occupational Release Survey DESCRIPTION AND LOCATION	UNITS LIMIT				
	See attached		smear survey of floor and lower walls		See	attached		

COMMENTS:

INSTRUMENT	Tenne lec		
IDENTIFICATION	842	489	
CALIBRATION DUE	2 Daily	BS	
BACKGROUND	0.6 cpm	2.7 cpm	
EFFICIENCY	0.3644 cpm/dpm	0.3768 cpm/dpm	
COUNT TIME	1	min	

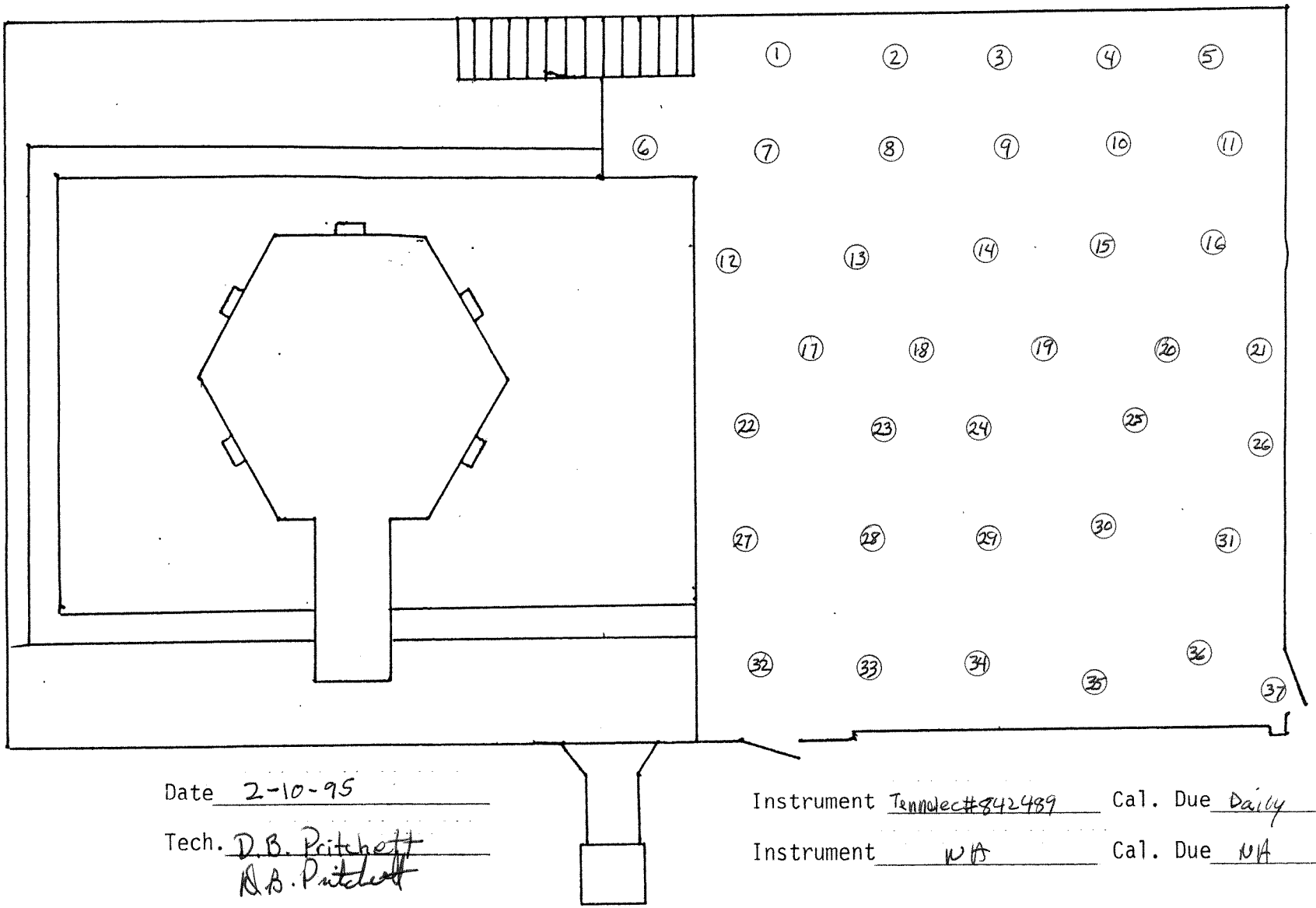
SAMPLED BY: D.B. Pritchett, E.R. McGinnis
ANALYZED BY: D.B. Pritchett, E.R. McGinnis

FORM 732-A REV 1-91

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is CIRCLED

All smears are <100 dpm/100 cm² βγ
<20 dpm/100 cm² α



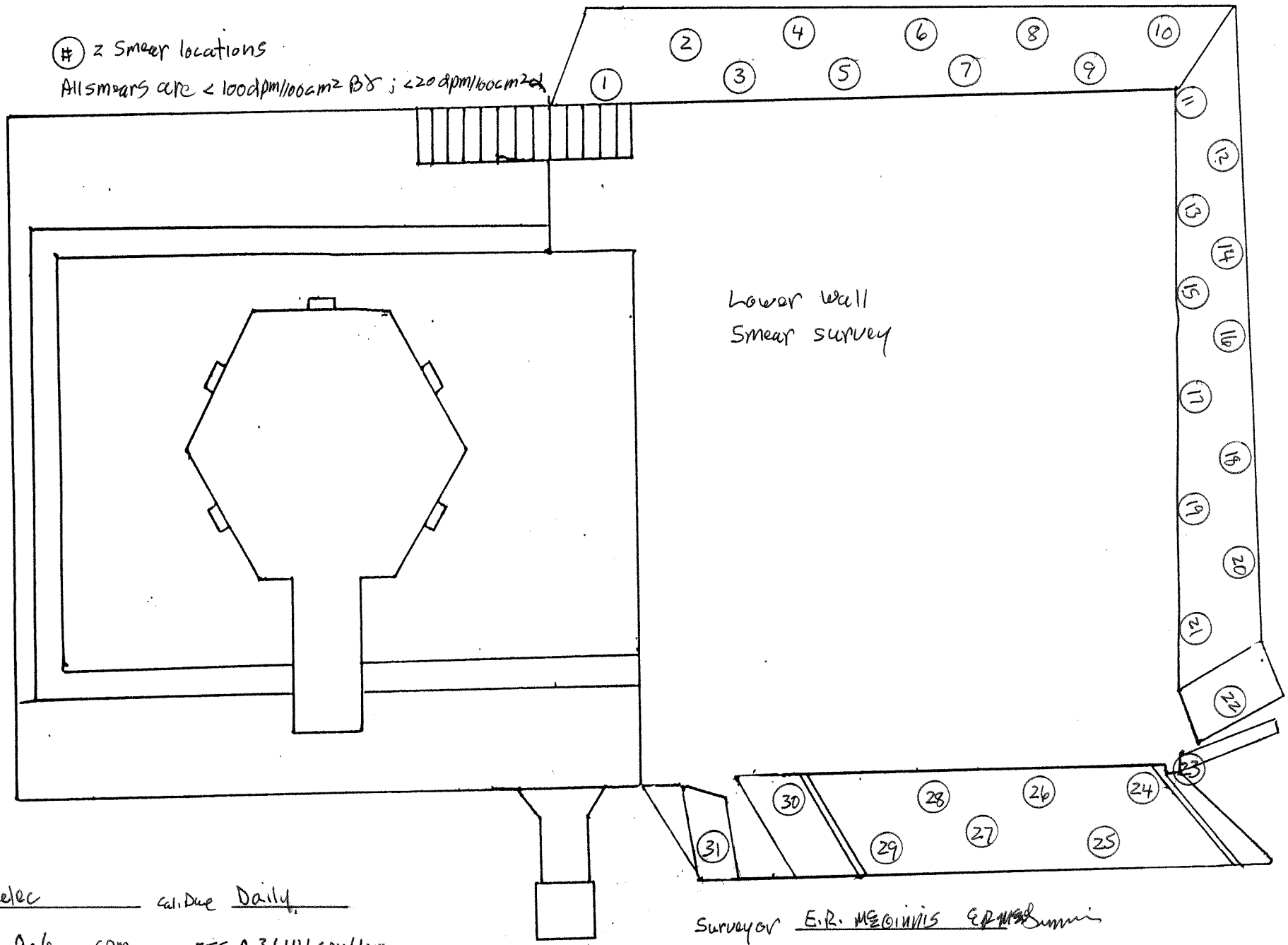
Date 2-10-95

Tech. D.B. Pritchett
D.B. Pritchett

Instrument Tennelec #842489 Cal. Due Daily

Instrument N/A Cal. Due N/A

T009 "PAR" HIGH BAY SURVEY DIAGRAM



Inst. Tennelec Cal. Due Daily

α: BKG 0.6 cpm EFF 0.3644 cpm/dpm

β: BKG 2.7 cpm EFF. 0.3768 cpm/dpm

Analysis Date 2-13-95

Surveyor E.R. McGinnis ER McGinnis

Date 2-13-95

α: BKG - 0.6cpm EFF - .3644 cpm/dpm
βγ: BKG - 2.7cpm EFF: .3768 cpm/dpm

MON FEB 13. 1995
GROUP A T009 UPPER EAST HIGH BAY FLOOR SMEARS

SAMPLE SN	CODE	TIME (MIN.)	ALPHA COUNTS	BETA COUNTS	ALPHA CPM	BETA CPM	ALPHA CORRECTED	BETA CORRECTED	TOD CLOCK HR:MN:SEC
1		1.00	0	2	-0.60	-0.70	-1.6465423	-1.8577495	13:40:46
2		1.00	1	2	0.40	-0.70	1.0976948	-1.8577495	13:41:58
3		1.00	1	7	0.40	4.30	1.0976948	11.41189	13:43:10
4		1.00	3	5	2.40	2.30	6.586169	6.104034	13:44:22
5		1.00	0	8	-0.60	5.30	-1.6465423	14.065817	13:45:34
6		1.00	0	4	-0.60	1.30	-1.6465423	3.4501062	13:46:45
7		1.00	0	5	-0.60	2.30	-1.6465423	6.104034	13:47:57
8		1.00	1	9	0.40	6.30	1.0976948	16.719745	13:49:09
9		1.00	3	6	2.40	3.30	6.586169	8.7579618	13:50:21
10		1.00	0	5	-0.60	2.30	-1.6465423	6.104034	13:51:33
11		1.00	0	7	-0.60	4.30	-1.6465423	11.41189	13:52:45
12		1.00	1	3	0.40	0.30	1.0976948	.79617834	13:53:57
13		1.00	1	4	0.40	1.30	1.0976948	3.4501062	13:55:08
14		1.00	2	1	1.40	-1.70	3.8419319	-4.5116773	13:56:20
15		1.00	0	4	-0.60	1.30	-1.6465423	3.4501062	13:57:32
16		1.00	0	7	-0.60	4.30	-1.6465423	11.41189	13:58:44
17		1.00	0	6	-0.60	3.30	-1.6465423	8.7579618	13:59:56
18		1.00	0	3	-0.60	0.30	-1.6465423	.79617834	14:01:07
19		1.00	3	5	2.40	2.30	6.586169	6.104034	14:02:19
20		1.00	0	4	-0.60	1.30	-1.6465423	3.4501062	14:03:31
21		1.00	1	6	0.40	3.30	1.0976948	8.7579618	14:04:43
22		1.00	1	5	0.40	2.30	1.0976948	6.104034	14:05:55
23		1.00	1	5	0.40	2.30	1.0976948	6.104034	14:07:07
24		1.00	0	6	-0.60	3.30	-1.6465423	8.7579618	14:08:19
25		1.00	1	6	0.40	3.30	1.0976948	8.7579618	14:09:30
26		1.00	1	8	0.40	5.30	1.0976948	14.065817	14:10:42
27		1.00	0	16	-0.60	13.30	-1.6465423	35.29724	14:11:54
28		1.00	1	11	0.40	8.30	1.0976948	22.027601	14:13:06
29		1.00	2	6	1.40	3.30	3.8419319	8.7579618	14:14:18
30		1.00	1	4	0.40	1.30	1.0976948	3.4501062	14:15:30
31		1.00	0	4	-0.60	1.30	-1.6465423	3.4501062	14:16:42
32		1.00	1	6	0.40	3.30	1.0976948	8.7579618	14:17:53
33		1.00	1	6	0.40	3.30	1.0976948	8.7579618	14:19:05
34		1.00	2	3	1.40	0.30	3.8419319	.79617834	14:20:17
35		1.00	0	5	-0.60	2.30	-1.6465423	6.104034	14:21:29
36		1.00	0	4	-0.60	1.30	-1.6465423	3.4501062	14:22:41
37		1.00	0	2	-0.60	-0.70	-1.6465423	-1.8577495	14:23:52

OPERATION COMPLETE

MON FEB 13. 1995

GROUP A T009 UPPER EAST HIGH BAY. LOWER WALLS SMEAR SURVEY

SAMPLE SN	CODE	TIME (MIN.)	ALPHA COUNTS	BETA COUNTS	ALPHA CPM	BETA CPM	ALPHA CORRECTED	BETA CORRECTED	TOD CLOCK HR:MN:SEC
1		1.00	2	8	1.40	5.30	3.8419319	14.065817	14:29:02
2		1.00	1	3	0.40	0.30	1.0976948	.79617834	14:30:13
3		1.00	1	0	0.40	-2.70	1.0976948	-7.1656051	14:31:25
4		1.00	1	7	0.40	4.30	1.0976948	11.41189	14:32:37
5		1.00	0	4	-0.60	1.30	-1.6465423	3.4501062	14:33:49
6		1.00	1	3	0.40	0.30	1.0976948	.79617834	14:35:01
7		1.00	0	4	-0.60	1.30	-1.6465423	3.4501062	14:36:12
8		1.00	1	3	0.40	0.30	1.0976948	.79617834	14:37:24
9		1.00	0	4	-0.60	1.30	-1.6465423	3.4501062	14:38:36
10		1.00	0	13	-0.60	10.30	-1.6465423	27.335456	14:39:48
11		1.00	0	12	-0.60	9.30	-1.6465423	24.681529	14:41:00
12		1.00	0	5	-0.60	2.30	-1.6465423	6.104034	14:42:11
13		1.00	0	8	-0.60	5.30	-1.6465423	14.065817	14:43:23
14		1.00	0	5	-0.60	2.30	-1.6465423	6.104034	14:44:35
15		1.00	0	6	-0.60	3.30	-1.6465423	8.7579618	14:45:47
16		1.00	0	4	-0.60	1.30	-1.6465423	3.4501062	14:46:59
17		1.00	0	7	-0.60	4.30	-1.6465423	11.41189	14:48:10
18		1.00	1	2	0.40	-0.70	1.0976948	-1.8577495	14:49:22
19		1.00	1	3	0.40	0.30	1.0976948	.79617834	14:50:34
20		1.00	1	5	0.40	2.30	1.0976948	6.104034	14:51:46
21		1.00	0	4	-0.60	1.30	-1.6465423	3.4501062	14:52:58
22		1.00	0	6	-0.60	3.30	-1.6465423	8.7579618	14:54:09
23		1.00	1	6	0.40	3.30	1.0976948	8.7579618	14:55:21
24		1.00	0	6	-0.60	3.30	-1.6465423	8.7579618	14:56:33
25		1.00	0	5	-0.60	2.30	-1.6465423	6.104034	14:57:45
26		1.00	0	9	-0.60	6.30	-1.6465423	16.719745	14:58:57
27		1.00	2	11	1.40	8.30	3.8419319	22.027601	15:00:08
28		1.00	2	15	1.40	12.30	3.8419319	32.643312	15:01:20
29		1.00	2	4	1.40	1.30	3.8419319	3.4501062	15:02:32
30		1.00	1	8	0.40	5.30	1.0976948	14.065817	15:03:44
31		1.00	0	7	-0.60	4.30	-1.6465423	11.41189	15:04:55

OPERATION COMPLETE

Removable Gamma

Rooms 127 & 131

Upper Walls above 16 ft.

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM 127 - East High Bay

PURPOSE: Occupational Release Survey

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT	DPM/100cm² α 20	DPM/100cm² βγ 100		
1	See	attached	Large Area Smears of upper walls - See attached	Massalin #1	<20	<100		
2				Massalin #2	<20	<100		
3				Massalin #3	<20	<100		
4				Massalin #4				
5				Massalin #5				
6				Massalin #6				

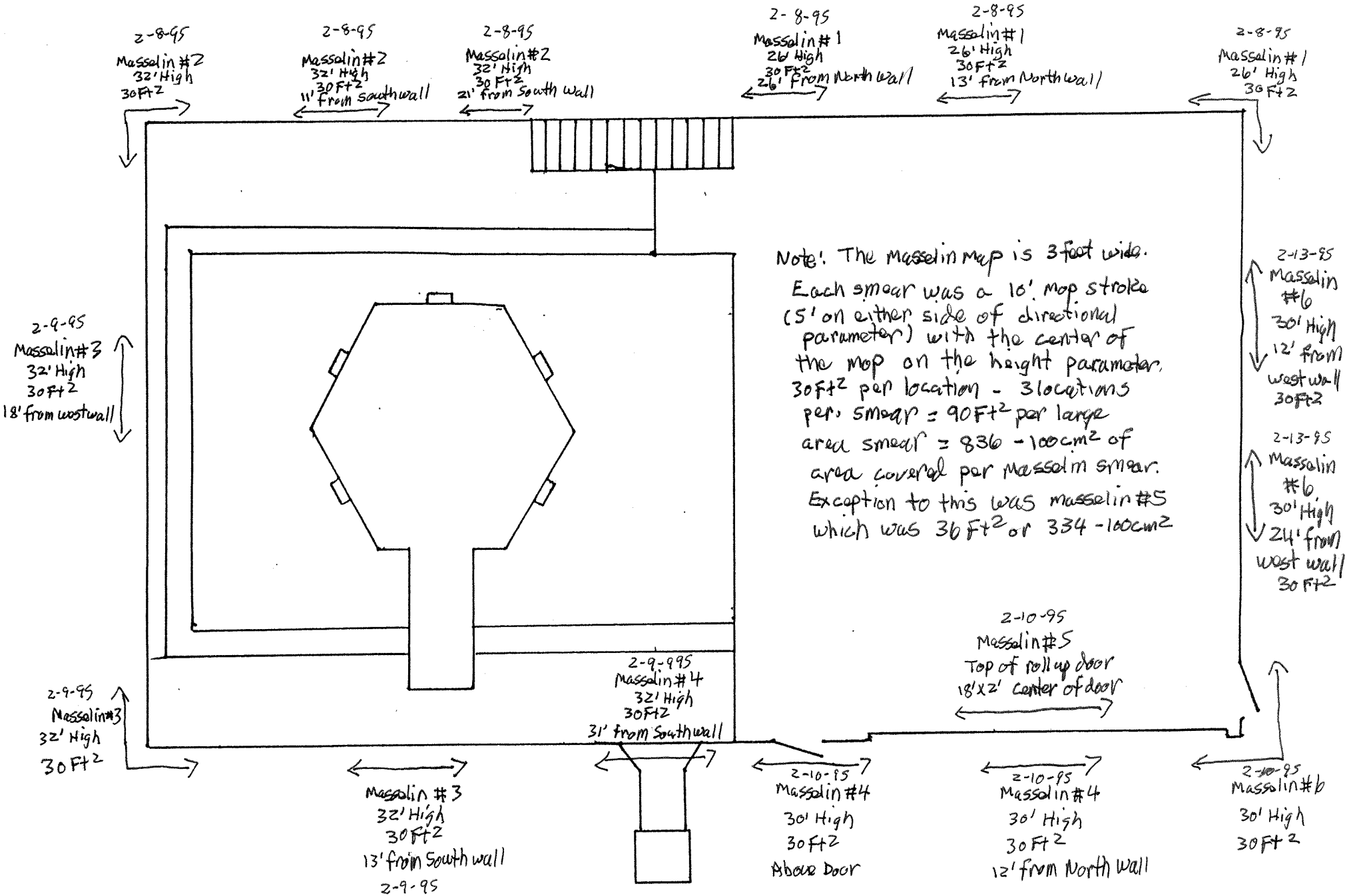
COMMENTS:

INSTRUMENT	Canberra MCA
IDENTIFICATION	NR008286
CALIBRATION DUE	Daily
BACKGROUND	See
EFFICIENCY	attached
COUNT TIME	7000 sec.

SAMPLED BY: D. B. Pritchett / E. R. McGinnis
ANALYZED BY: D. B. Pritchett / E R McGinnis

FORM 732-A REV 1-91

T009 "PAR" HIGH BAY SURVEY DIAGRAM



SAMPO 90, 1990 PA,MN,JR. 10-Feb-1995 10:27:51

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95037

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 - LAS EAST HB, SMEAR#1,UB WEST, ENV950037, 2/10/95
Spectrum file name: ENV95037
Sample identifier : MCGINNIS
Sample size : 8.360E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 8-Feb-1995 at 15:54:29
Collect started on : 8-Feb-1995 at 15:54:29
Collect ended on : 8-Feb-1995 at 17:51:16

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.007E+03 s dead time: .10 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\LIBRARY.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM010495.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

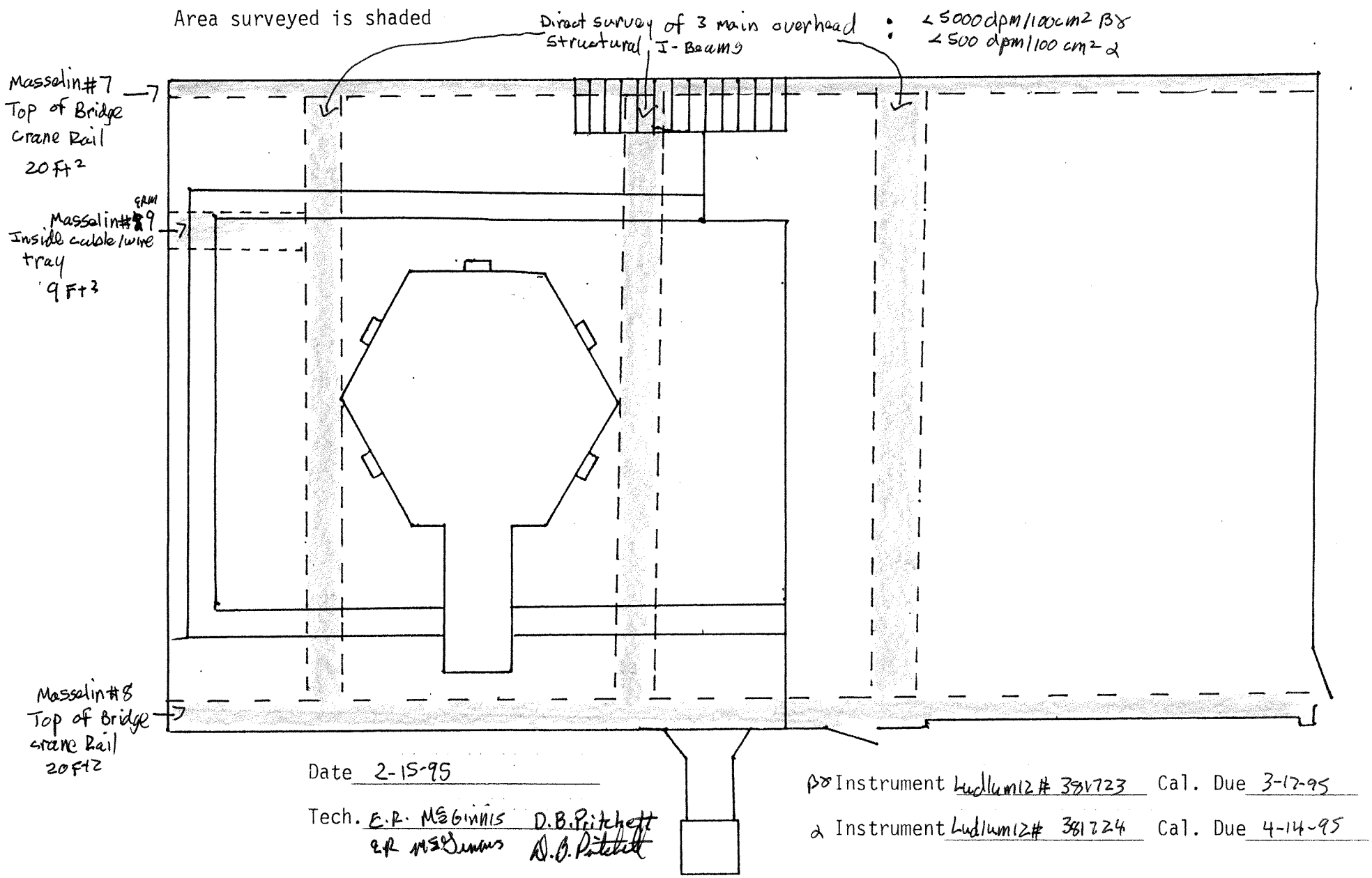
Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 2/10/95
RP&HPS

Total activity - 0.03 dpm/100 cm² BX
qpm

Co-60 7.65×10^{-3} pCi/100cm²
Cs-137 4.22×10^{-3} pCi/100cm²

Multiply By 2.2 DPM/pCi for DPM/100cm²

T009 "PAR" HIGH BAY SURVEY DIAGRAM



Date 2-15-95

Tech. E.R. McGinnis D.B. Pritchett
& R. McGinnis D.B. Pritchett

βγ Instrument Ludlum 12 # 381723 Cal. Due 3-17-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95

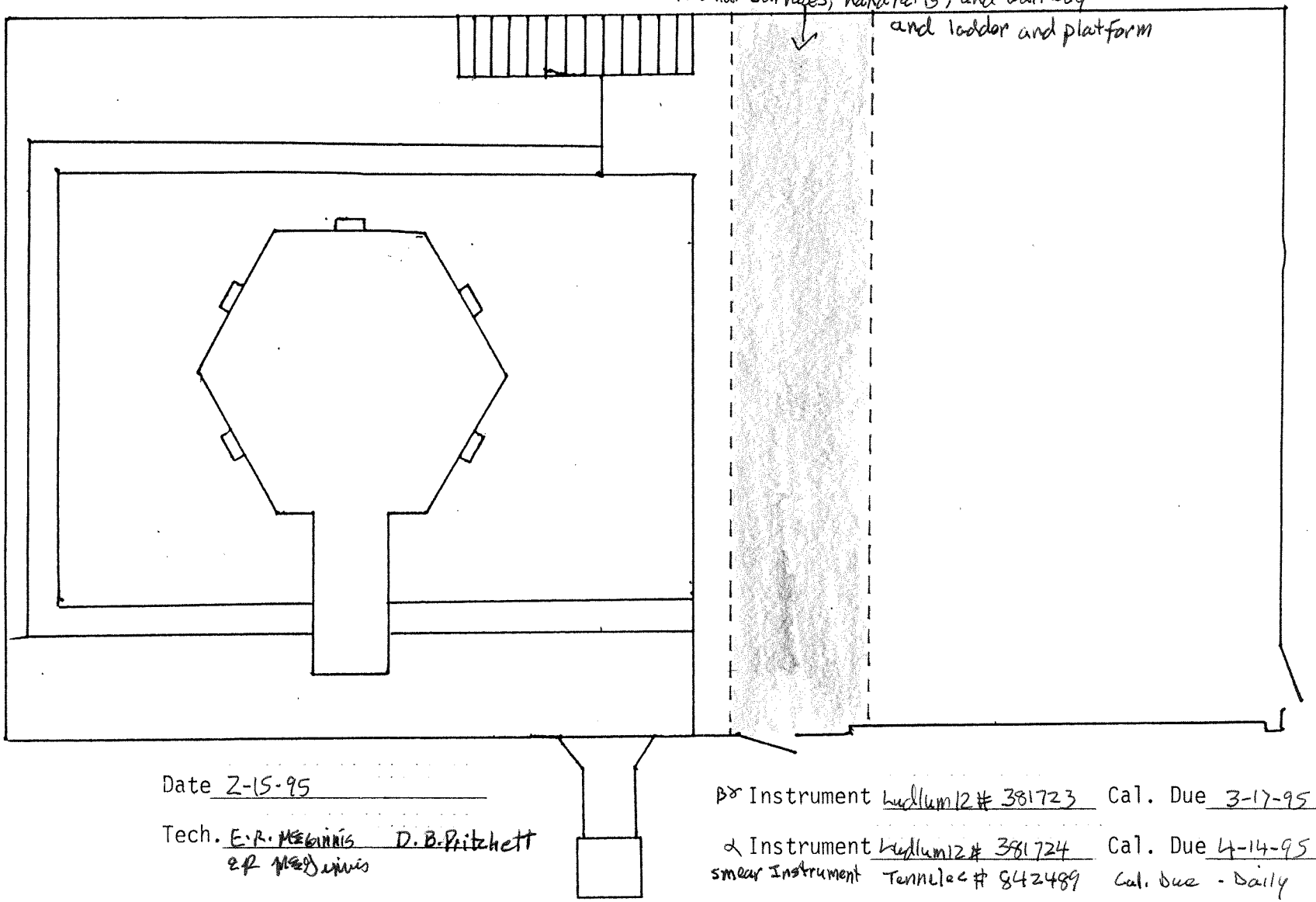
T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded

Allsmears: < 100dpm/100cm² βγ
< 20dpm/100cm² α

OVERHEAD BRIDGE CRANE
30 standard disc smears and direct readings of major components, horizontal surfaces, handrails, and walkway and ladder and platform

Direct Readings: < 5000 dpm/100cm² βγ
< 500dpm/100cm² α



Date 2-15-95

Tech. E.R. Mcginnis D.B. Pritchett
E.R. McGinnis

βγ Instrument Ludlum 12 # 381723 Cal. Due 3-17-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95

smear Instrument Tennelec # 842489 Cal. Due - Daily

Spectrum file: ENV95037 Date: 8-Feb-1995 Time: 17:51:16

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	CO-60	.9257	7.649E-03 +- 12.80%	7.649E-03	0.000E+00
2	CS-137	.9965	4.422E-03 +- 19.50%	4.422E-03	0.000E+00
3	Pb-212T	.9947	3.038E-03 +- 22.98%	3.038E-03	0.000E+00
4	Pb-214U	.9933	6.629E-03 +- 12.69%	6.629E-03	0.000E+00
5	Bi-214U	.9779	1.055E-02 +- 16.00%	1.055E-02	0.000E+00
6	Th-234U	.9999	4.856E-02 +- 11.63%	4.856E-02	0.000E+00
			8.085E-02	8.085E-02	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 10-Feb-1995 10:37:30

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95038

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 - LAS EAST HB, SMEAR#2,LB WEST, ENV950038, 2/10/95
Spectrum file name: ENV95038
Sample identifier : MCGINNIS
Sample size : 8.360E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 8-Feb-1995 at 18: 9: 9
Collect started on : 8-Feb-1995 at 18: 9: 9
Collect ended on : 8-Feb-1995 at 20: 5:58

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.009E+03 s dead time: .13 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\LIBRARY.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM010495.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 2/10/95
RP&HPS

Total activity - 0.02 dpm/100cm²βγ
dpm

Co -60 3.9×10^{-3} pCi/100 cm²
Cs -137 5.61×10^{-3} pCi/100 cm²

Multiply by 2.2 DPM/pCi for DPM/100cm²

Spectrum file: ENV95038 Date: 8-Feb-1995 Time: 20: 5:58

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	CO-60	.9304	3.904E-03 +- 19.76%	3.904E-03	0.000E+00
2	CS-137	.9863	5.608E-03 +- 16.62%	5.608E-03	0.000E+00
3	Pb-212T	.9968	4.436E-03 +- 19.49%	4.436E-03	0.000E+00
			1.395E-02	1.395E-02	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 10-Feb-1995 10:41:35

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95039

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 - LAS EAST HB, SMEAR#3,LB S&G, ENV950039, 2/10/95
Spectrum file name: ENV95039
Sample identifier : MCGINNIS
Sample size : 8.360E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 9-Feb-1995 at 16:17: 7
Collect started on : 9-Feb-1995 at 16:17: 7
Collect ended on : 9-Feb-1995 at 18:13:53

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.006E+03 s dead time: .09 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\LIBRARY.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM010495.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: [signature] RP&HPS Date: 2/10/95

Total activity - 0.02 dpm/100cm2 BY
aRM

Co-60 3.26×10^{-3} pCi/100cm^2
Cs-137 6.84×10^{-3} pCi/100cm^2
Multiply by 2.2 DPM/pCi for DPM/100cm^2

Spectrum file: ENV95039 Date: 9-Feb-1995 Time: 18:13:53

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	CO-60	.9600	3.258E-03 +- 30.66%	3.258E-03	0.000E+00
2	CS-137	.9823	6.840E-03 +- 14.46%	6.840E-03	0.000E+00
3	Pb-210U	.9978	1.266E-02 +- 24.56%	1.266E-02	0.000E+00
4	Pb-212T	.9982	5.505E-03 +- 18.70%	5.505E-03	0.000E+00
5	Pb-214U	.9696	1.303E-02 +- 4.88%	1.303E-02	0.000E+00
6	Bi-214U	.9933	2.009E-02 +- 11.25%	2.009E-02	0.000E+00
7	Ra-224T	.9268	2.284E-02 +- 34.04%	2.284E-02	0.000E+00
8	Th-234U	.8985	5.977E-02 +- 8.84%	5.977E-02	0.000E+00
			1.440E-01	1.440E-01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 17-Feb-1995 9:53:37

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95040

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 - UPPER EAST HB SMEAR#4, ENV950040, 2/10/95
Spectrum file name: ENV95040
Sample identifier : MCGINNIS
Sample size : 8.360E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 10-Feb-1995 at 14:44:47
Collect started on : 10-Feb-1995 at 14:44:47
Collect ended on : 10-Feb-1995 at 16:41:35

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.008E+03 s dead time: .11 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM010495.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 2/21/95
RP&HPS

Co60 - 0.01 DPM/100 cm2
GRM

Total Alpha/Beta

Room 127

Floors and Walls to 8 ft.

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM Room 127 upper High Bay

PURPOSE: Release for occupation

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT				
	See	attached	Direct Readings - See attached		See	attached		

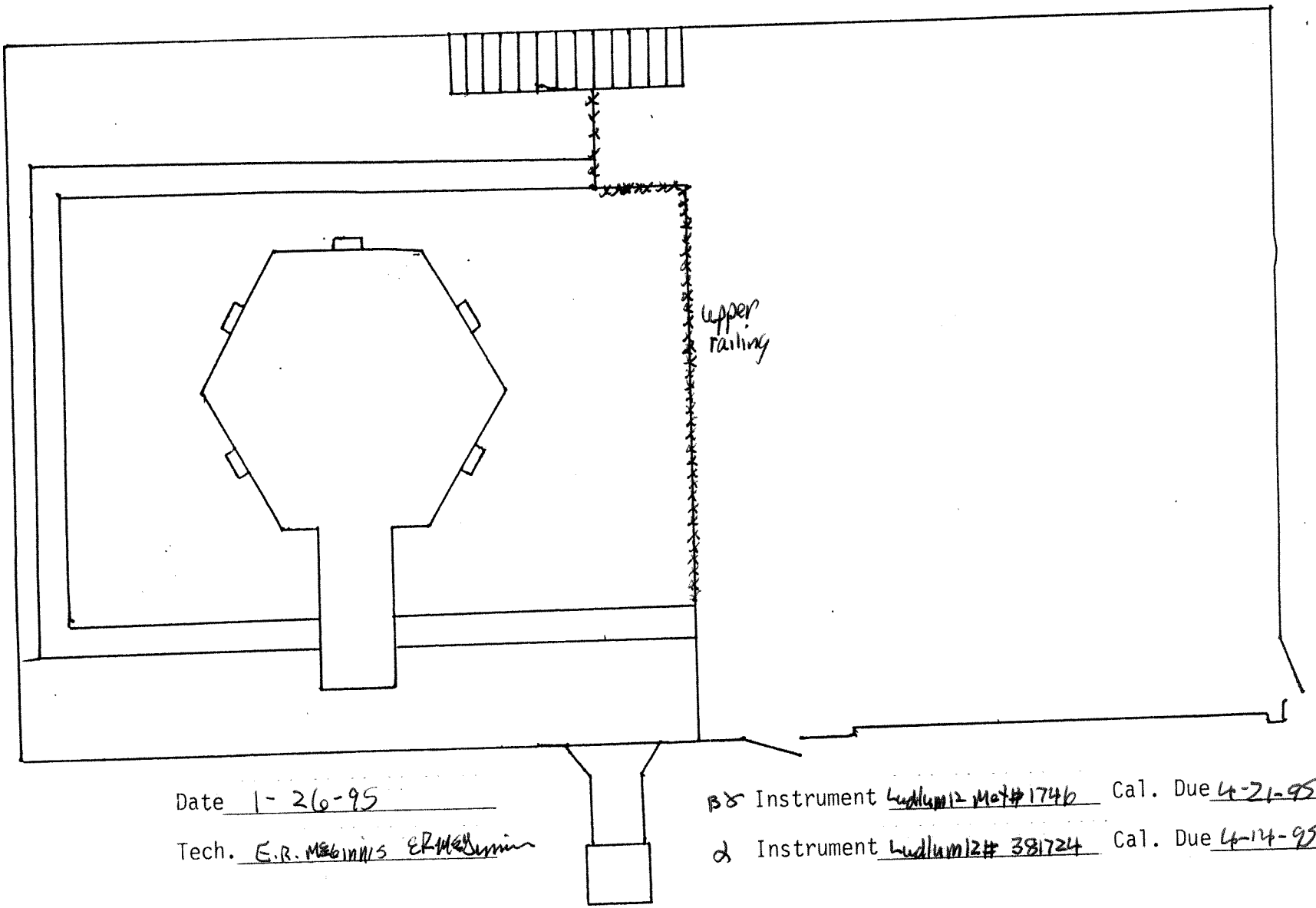
COMMENTS:	INSTRUMENT				
	IDENTIFICATION	Ludlum 12 BX Mat # 1746	Ludlum 12 BX 354927	Ludlum 12 BX 381723	Ludlum 12 α 381724
	CALIBRATION DUE	4-21-95	2-4-95	3-17-95	4-14-95
	BACKGROUND	80 cpm	80 cpm	80 cpm	2 cpm
	EFFICIENCY	7.4 dpm/cpm	7.4 dpm/cpm	7.4 dpm/cpm	7.3 dpm/cpm
SAMPLED BY: D. Pritchett E.R. McGinnis	COUNT TIME	NA	NA	NA	NA
ANALYZED BY: D. Pritchett E.R. McGinnis					

FORM 732-A REV 1-91

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Reading:
<5000 dpm/100cm2 βγ
~~<1000~~ dpm/100 cm2 α
<500

Area surveyed is shaded



Date 1-26-95

Tech. E.R. McGinnis ERMcGinnis

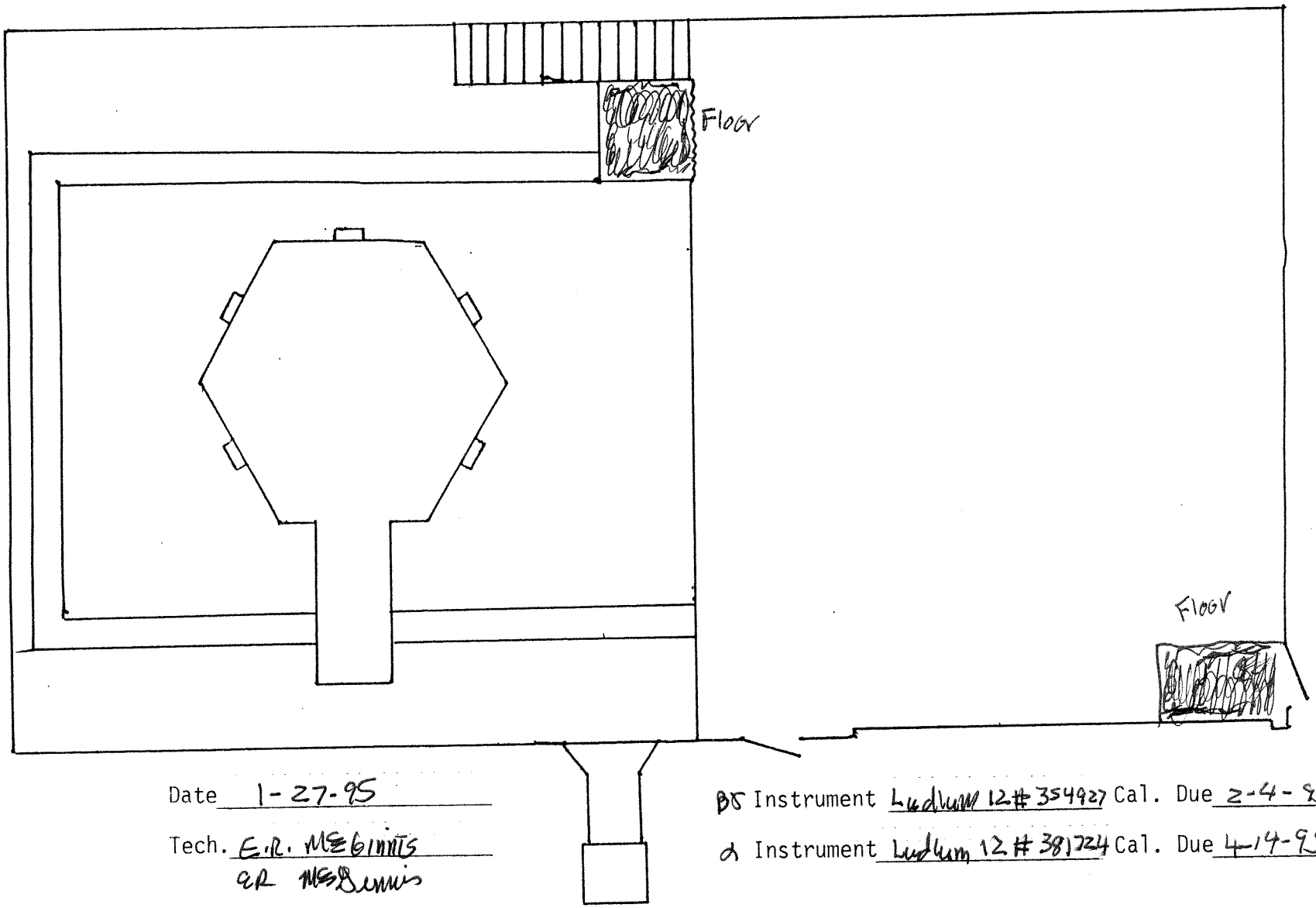
βγ Instrument Ludlum12 Met#1746 Cal. Due 4-21-95

α Instrument Ludlum12# 381724 Cal. Due 4-14-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Readings:
< 5000 dpm/100cm² βγ
~~1000~~ < 500 dpm/100cm² α

Area surveyed is shaded



Date 1-27-95

Tech. E.R. McGinnis
QR McGinnis

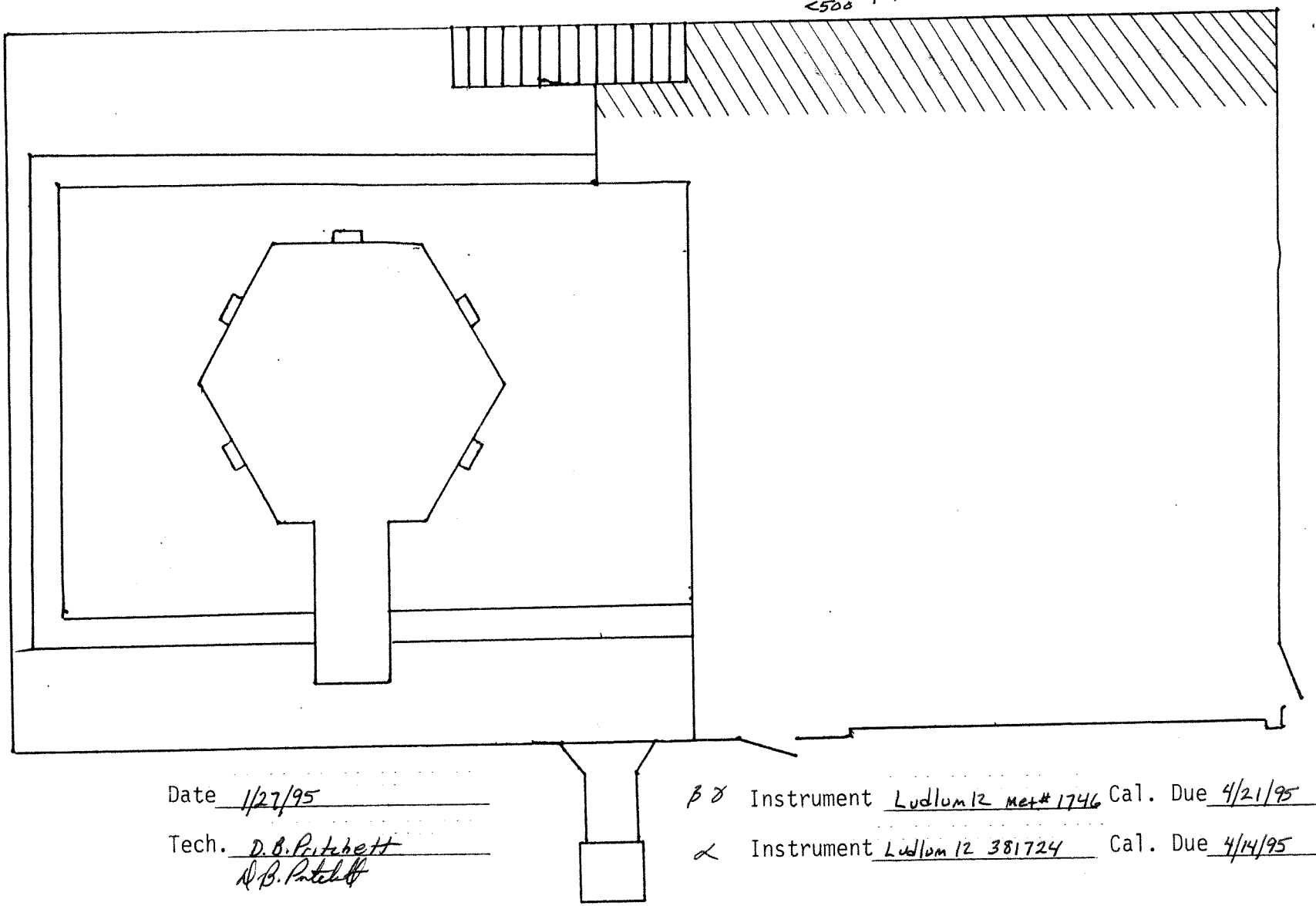
βγ Instrument Ludlum 12 # 354927 Cal. Due 2-4-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Area surveyed is shaded: floor.

Direct reading only.
<5000 dpm/100cm² β γ
~~<1000~~ <500 dpm/100cm² α



Date 1/27/95

Tech. D.B. Pritchett
D.B. Pritchett

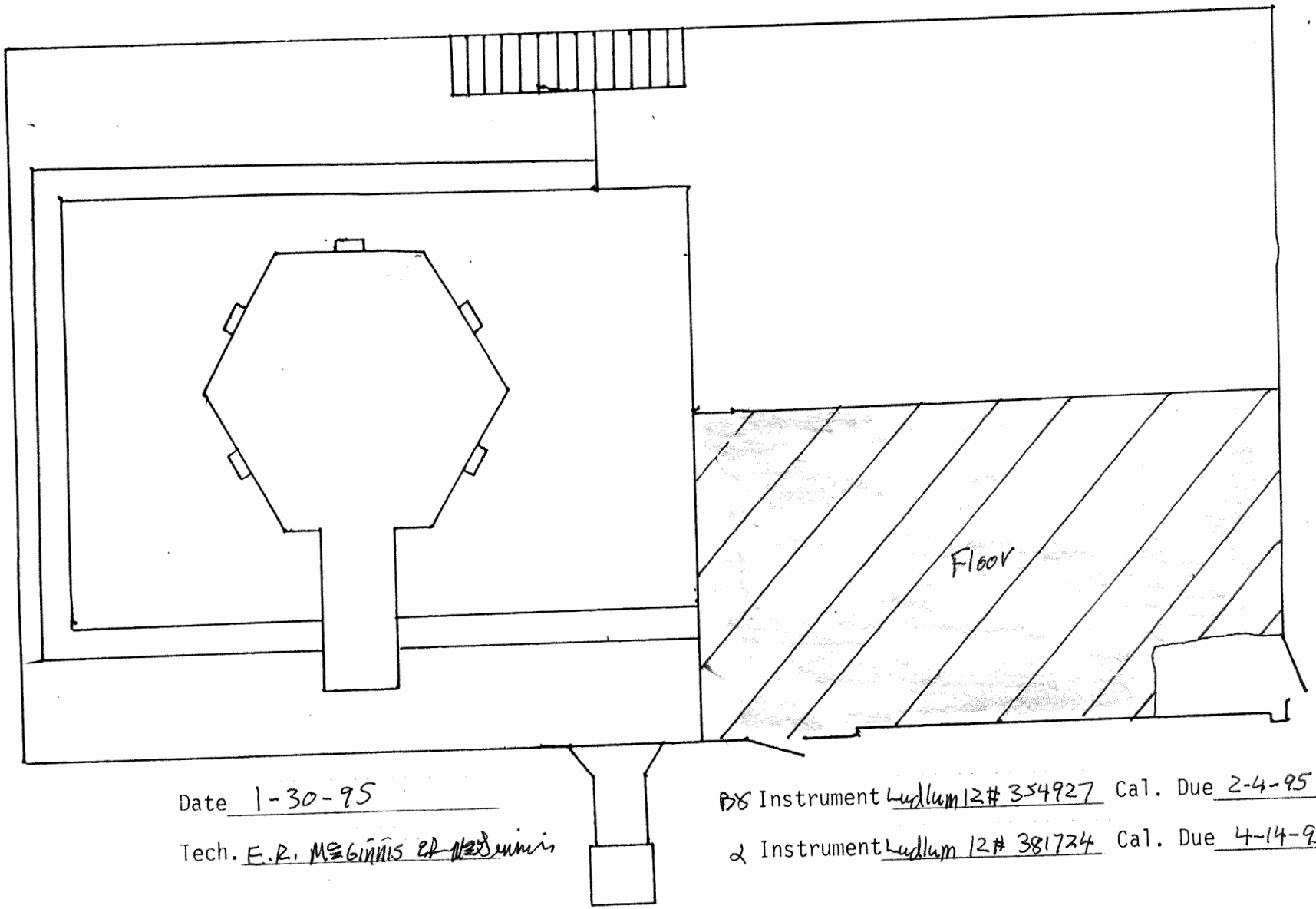
β γ Instrument Ludlum 12 Met# 1746 Cal. Due 4/21/95

α Instrument Ludlum 12 381724 Cal. Due 4/14/95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Readings:
< 5000 dpm/100cm² βγ
GRN ← ~~1000~~ dpm/100cm² α
<500

Area surveyed is shaded



Date 1-30-95

Tech. E.R. McGinnis ER McGinnis

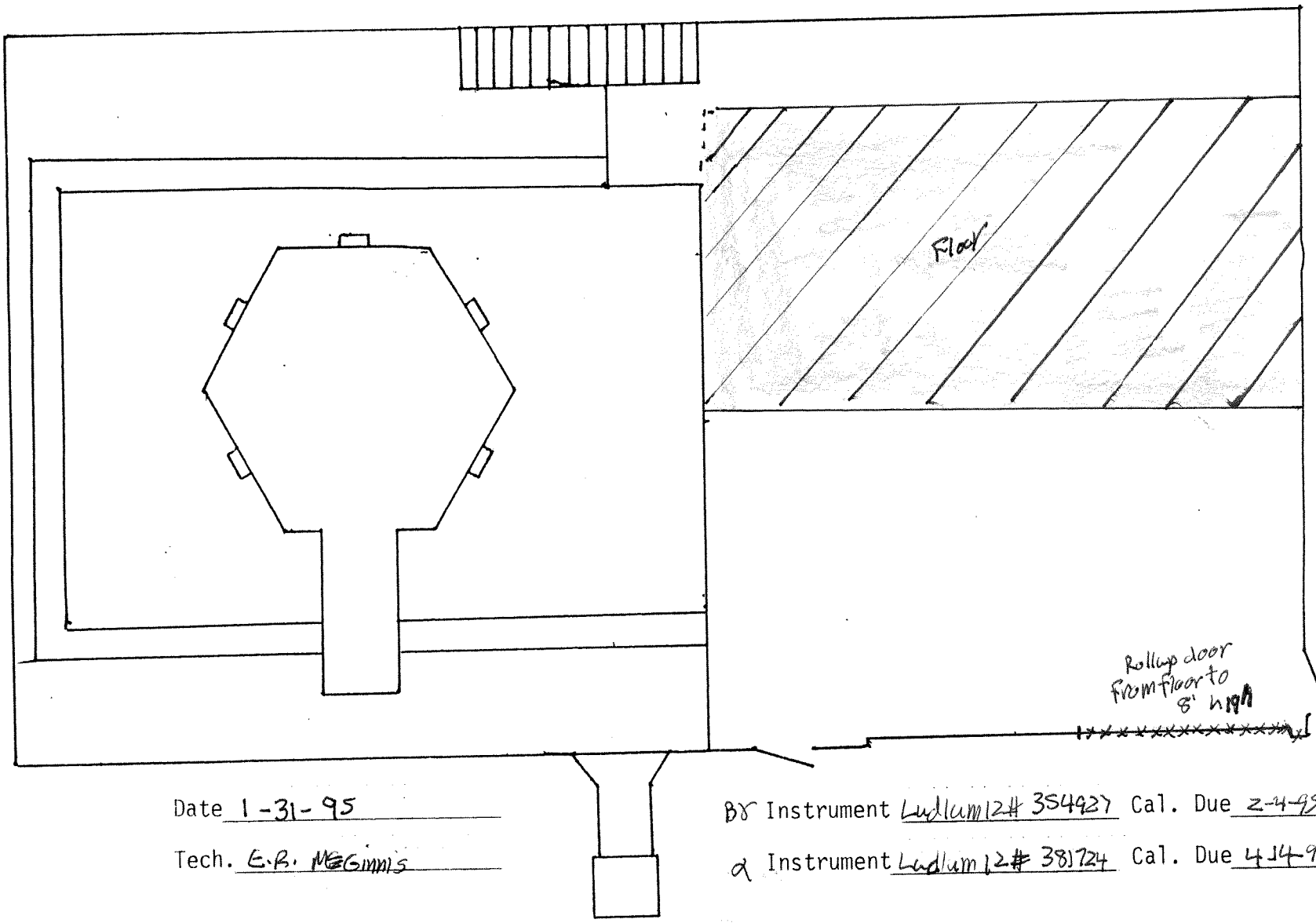
βγ Instrument Ludlum 12# 354927 Cal. Due 2-4-95

α Instrument Ludlum 12# 381724 Cal. Due 4-14-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Readings:
< 5000 dpm/100cm² βγ
~~cpm < 1000~~ dpm/100cm² α
< 500

Area surveyed is shaded



Date 1-31-95

Tech. E.R. McGinnis

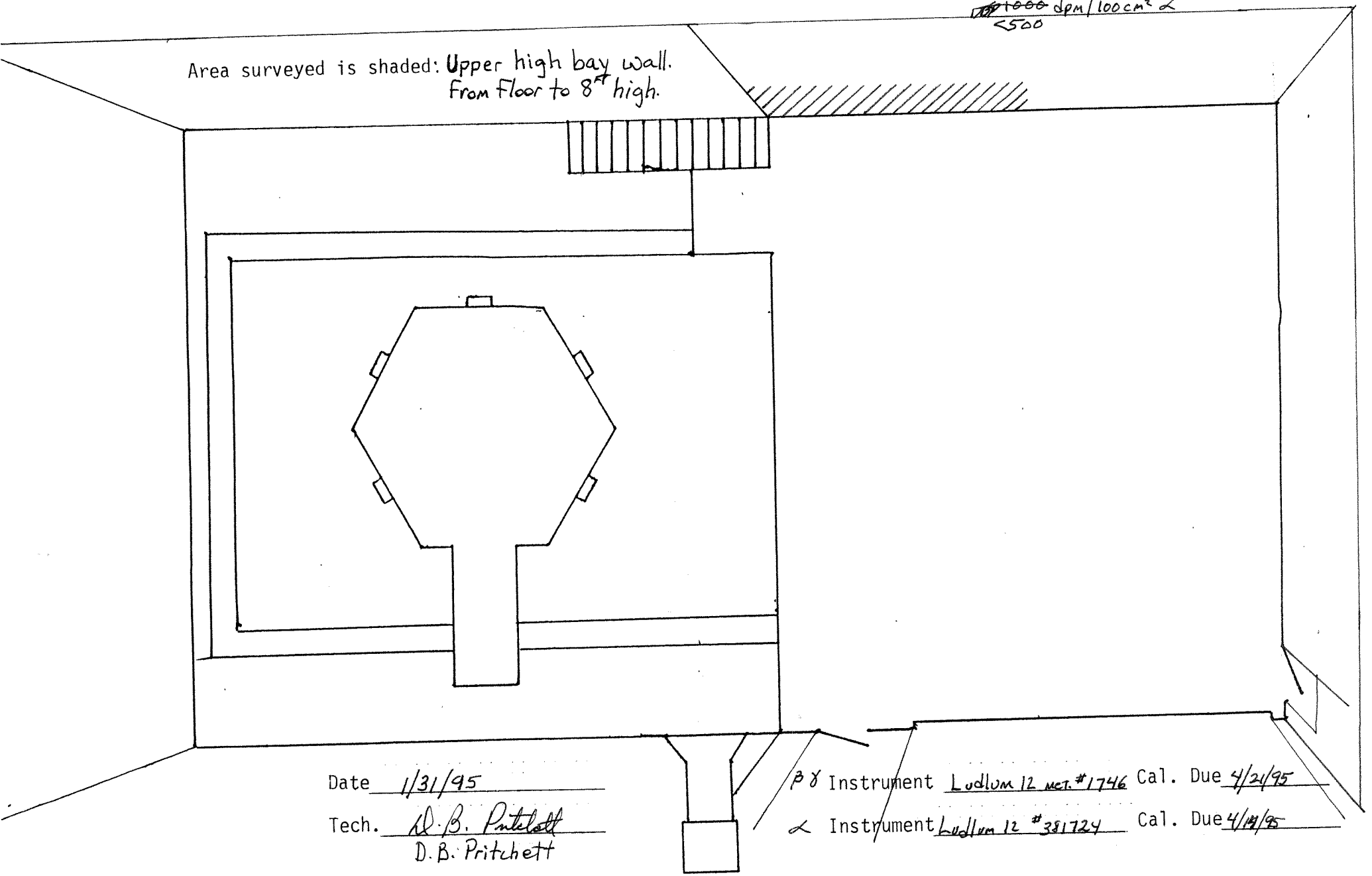
βγ Instrument Ludlum 12# 354927 Cal. Due 2-4-95

α Instrument Ludlum 12# 381724 Cal. Due 4-14-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct reading only.
<5000 dpm/100cm² βγ
~~<1000~~ dpm/100cm² α
<500

Area surveyed is shaded: Upper high bay wall.
From Floor to 8' high.



Date 1/31/95

Tech. D.B. Pritchett
D.B. Pritchett

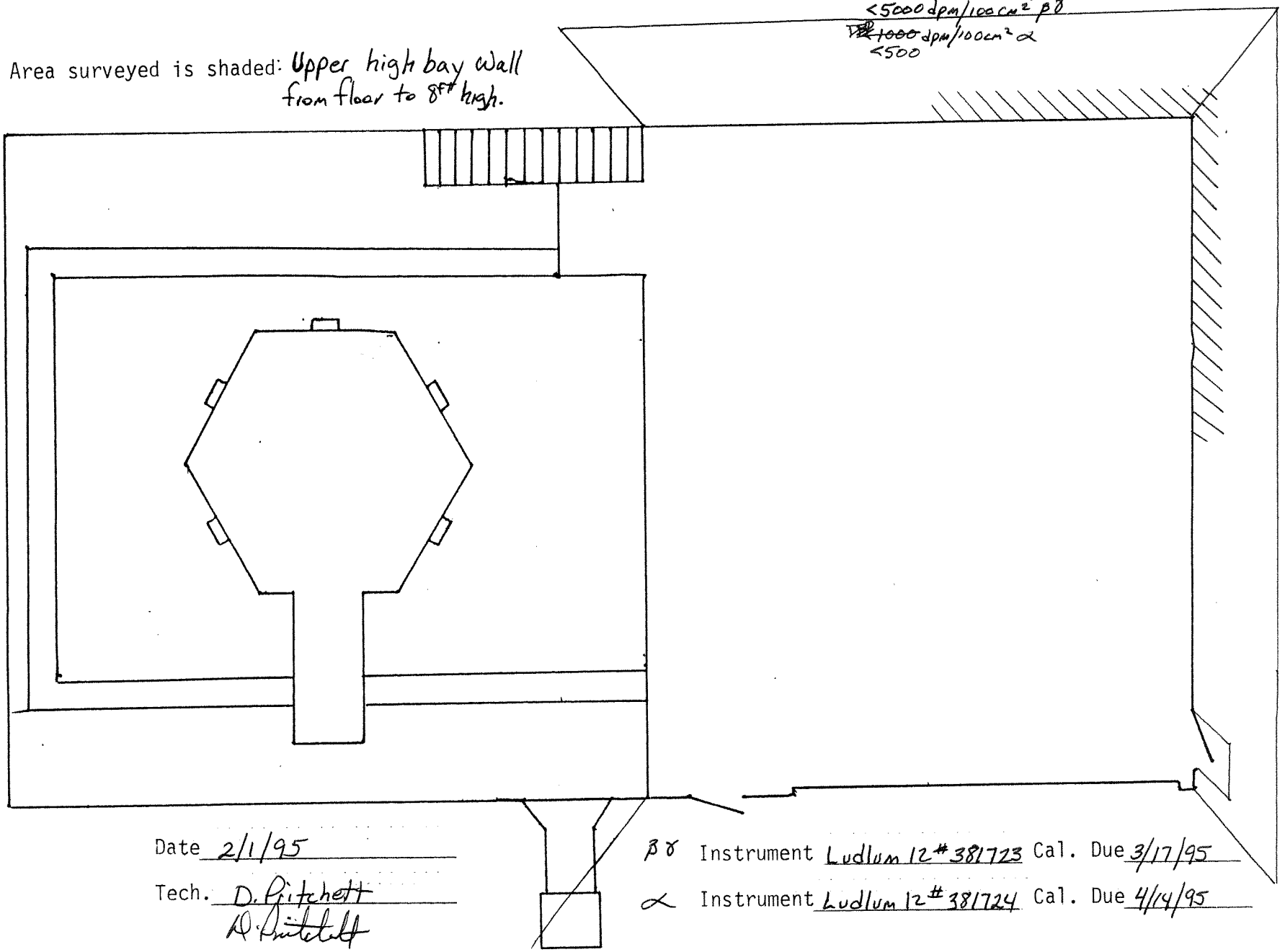
βγ Instrument Ludlum 12 MCT. #1746 Cal. Due 4/21/95

α Instrument Ludlum 12 #381724 Cal. Due 4/19/95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct reading
<5000 dpm/100cm² βγ
~~1000~~ dpm/100cm² α
<500

Area surveyed is shaded: Upper high bay wall from floor to 8ft high.



Date 2/1/95

Tech. D. Pritchett
D. Pritchett

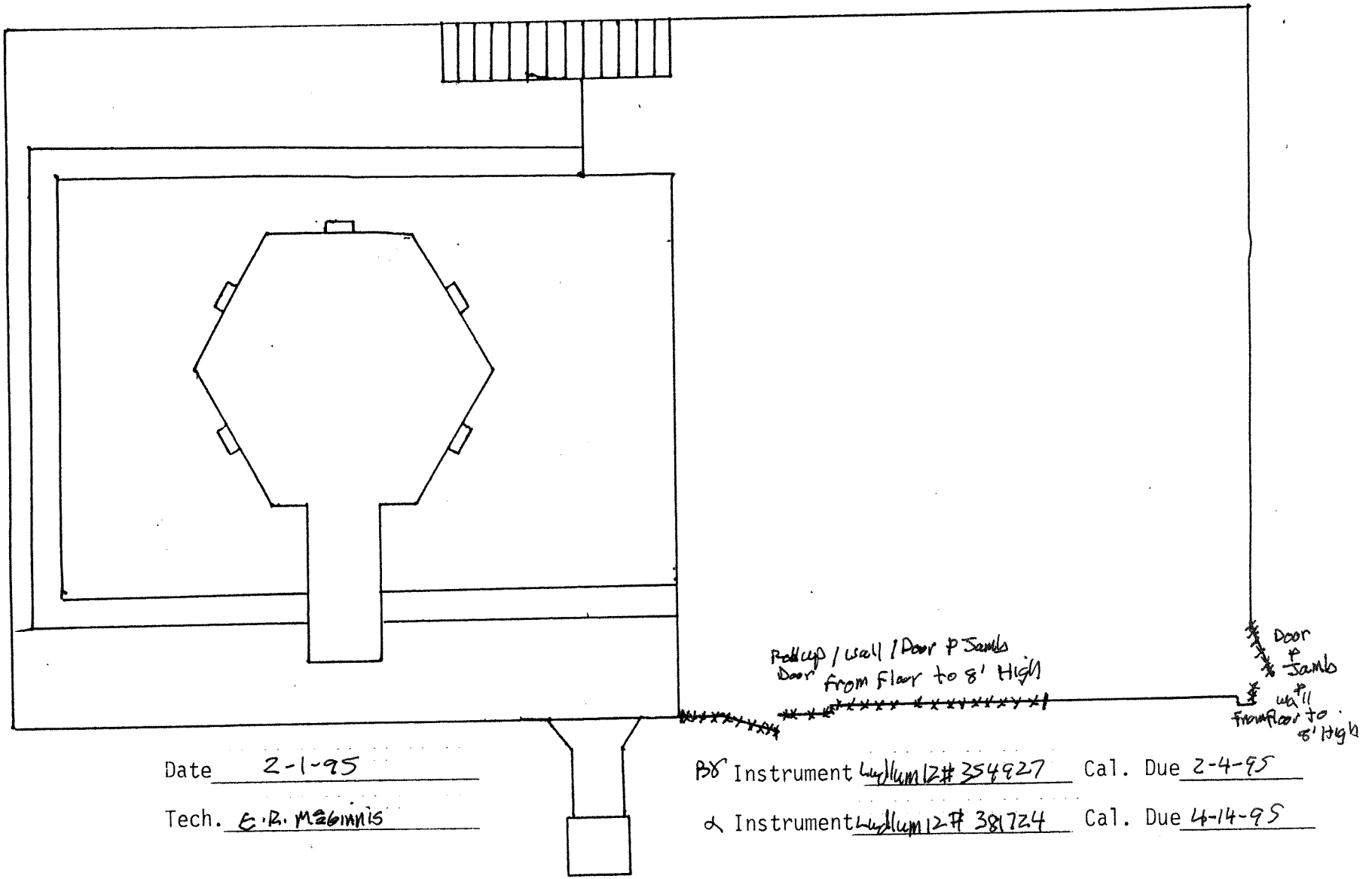
βγ Instrument Ludlum 12 # 381723 Cal. Due 3/17/95

α Instrument Ludlum 12 # 381724 Cal. Due 4/14/95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Readings:
< 5000 dpm/100 cm² βγ
GRM ~~<1000~~ dpm/100 cm² α
<500

Area surveyed is shaded



Date 2-1-95

Tech. E.R. McGinnis

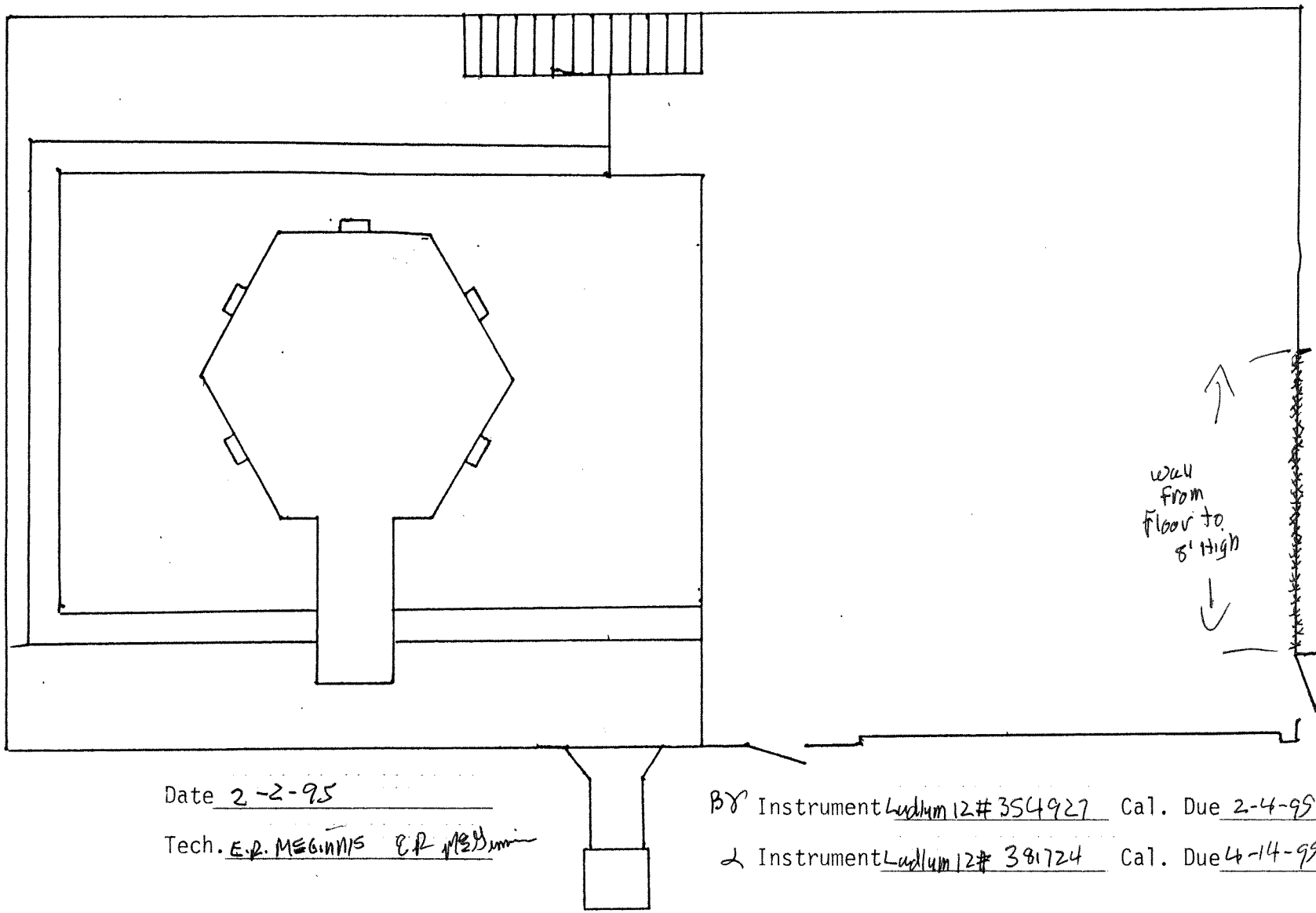
βγ Instrument Ludlum 12 # 354927 Cal. Due 2-4-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Readings:
< 5000 dpm/100cm2 βγ
~~ERM < 1000~~ < 500 dpm/100 cm2 α

Area surveyed is shaded



Date 2-2-95

Tech. E.R. MEGINNIS E.R. Megginnis

βγ Instrument Ludlum 12# 354927 Cal. Due 2-4-95

α Instrument Ludlum 12# 381724 Cal. Due 4-14-95

Total Alpha/Beta

Rooms 127 & 131

Walls 8 - 16 ft.

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM 127 - East High Bay

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	PURPOSE: Occupational Release Survey DESCRIPTION AND LOCATION	UNITS LIMIT				
	See	attached	Direct Reading surveys of walls 8' to 16' from floor - See attached		See	attached		

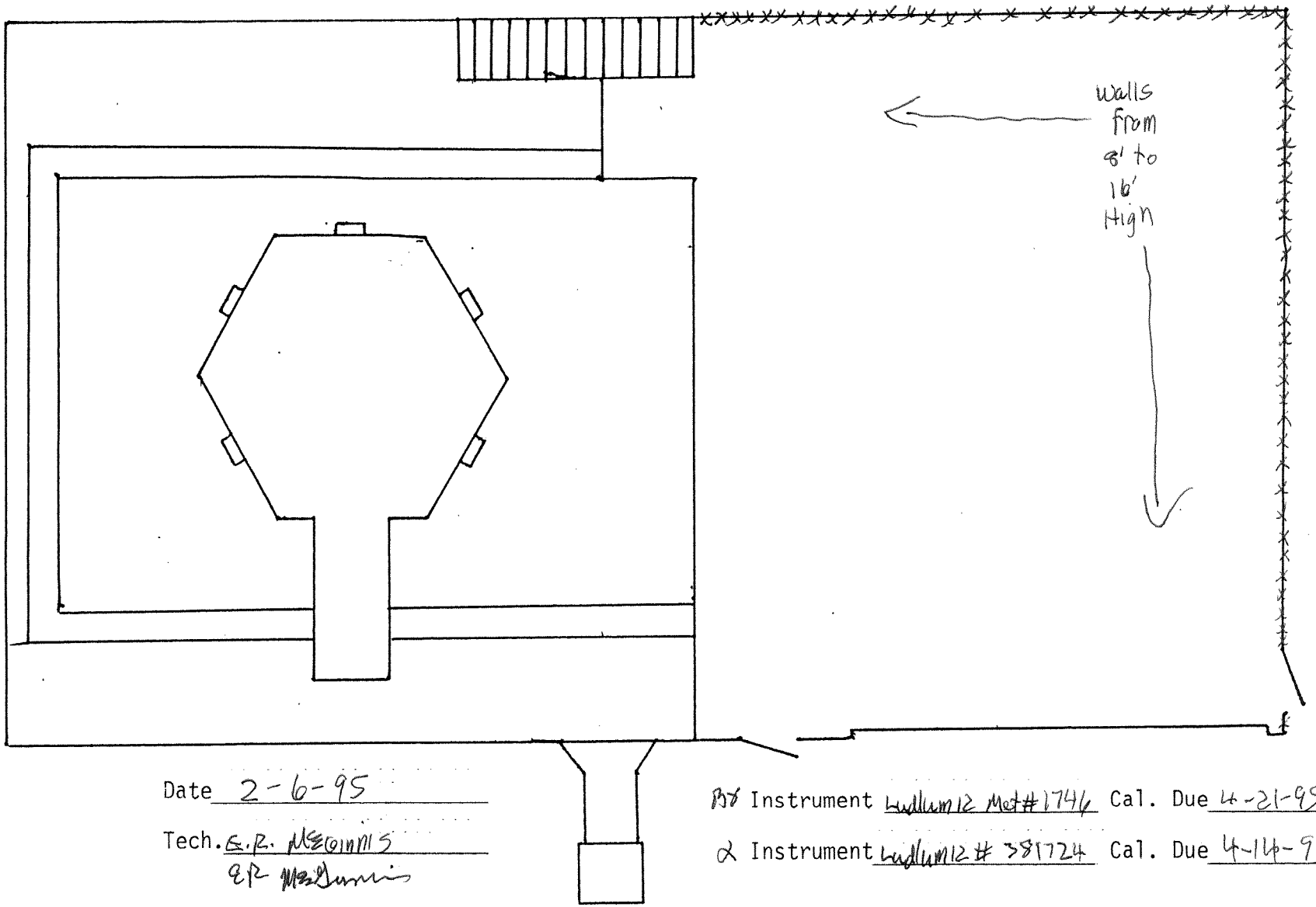
COMMENTS:	INSTRUMENT	Ludlum 12	Ludlum 12 B&S		
	IDENTIFICATION	381724	Met. # 1746		
	CALIBRATION DUE	4-14-95	4-21-95		
	BACKGROUND	2 cpm	80 cpm		
	EFFICIENCY	7.3 dpm/cpm	7.4 dpm/cpm		
SAMPLED BY: E.R. McGinnis ANALYZED BY: E.R. McGinnis	COUNT TIME	N/A	N/A		

FORM 732-A REV 1-91

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Readings:
< 5000 dpm/100cm² βγ
< 500 dpm/100cm² α

Area surveyed is shaded



Date 2-6-95

Tech. E.R. McGinnis
EP McGinnis

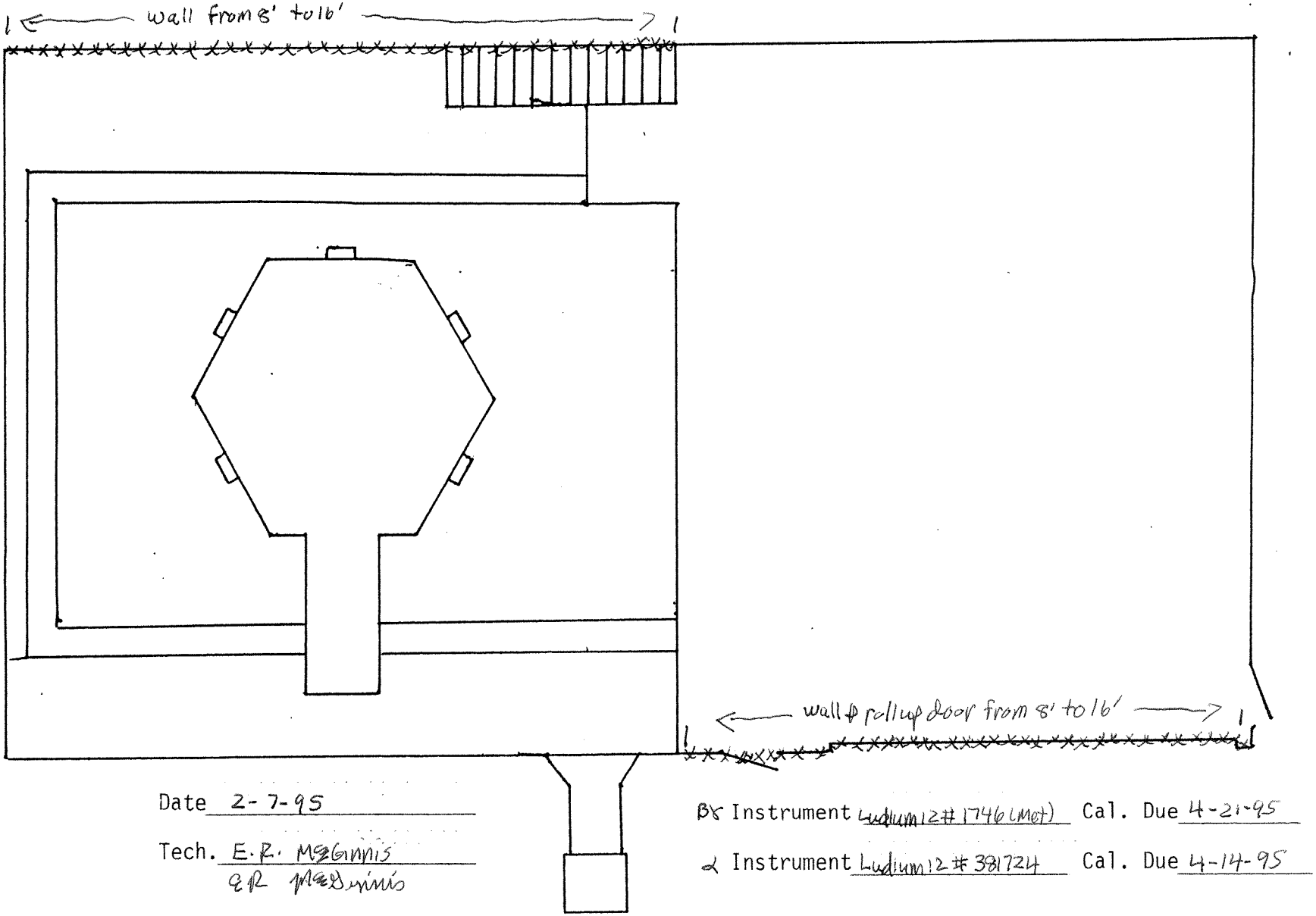
βγ Instrument Ludlum 12 Met#1746 Cal. Due 4-21-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Readings:
<5000 dpm/100cm² βγ
<500 dpm/100cm² α

Area surveyed is shaded



Date 2-7-95

Tech. E.R. McGinnis
ER McGinnis

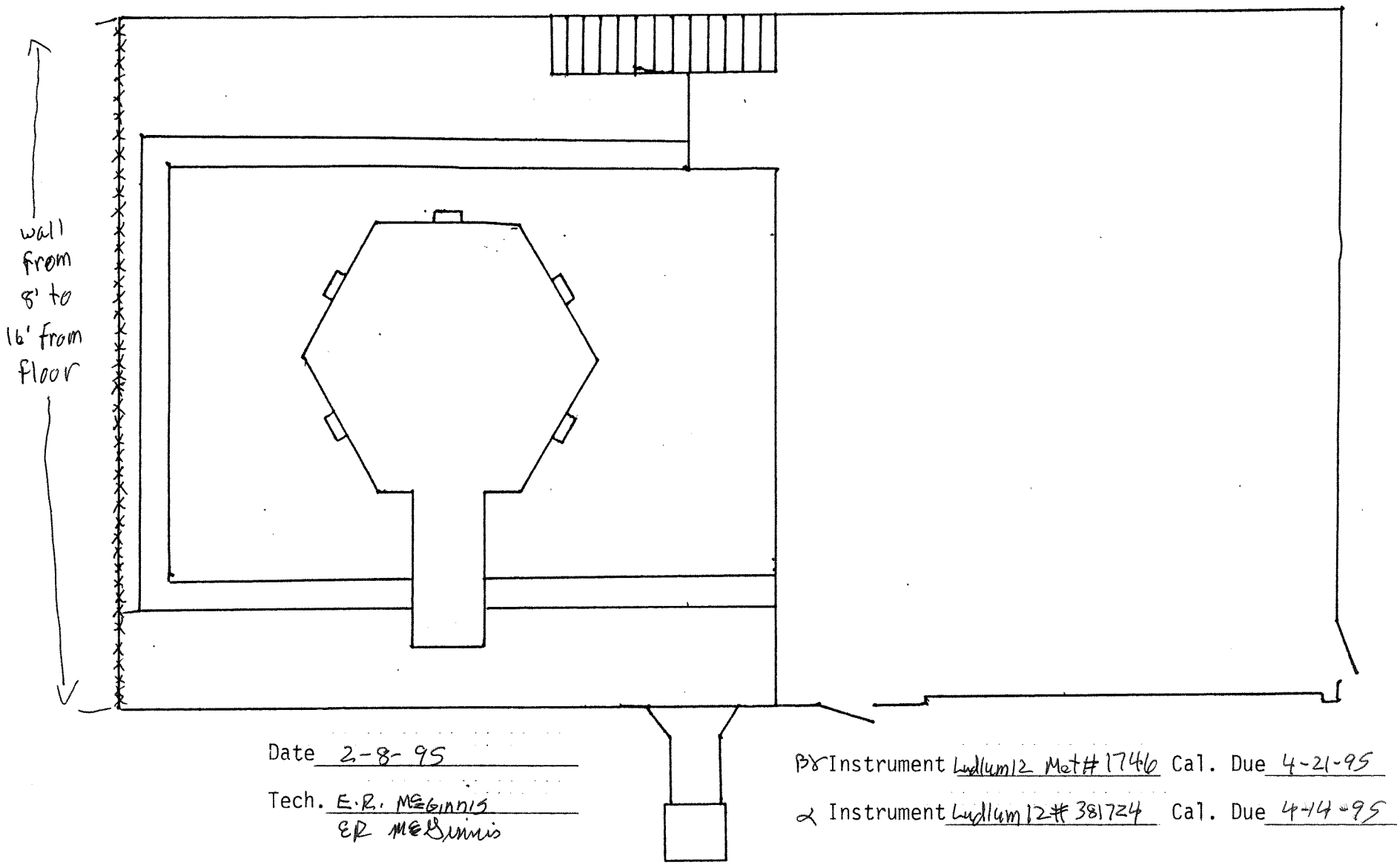
βγ Instrument Ludlum 12 # 1746 (Met) Cal. Due 4-21-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Reading:
< 5000 dpm/100cm² βγ
< 500 dpm/100cm² α

Area surveyed is shaded



Date 2-8-95

Tech. E.R. McGinnis
ER McGinnis

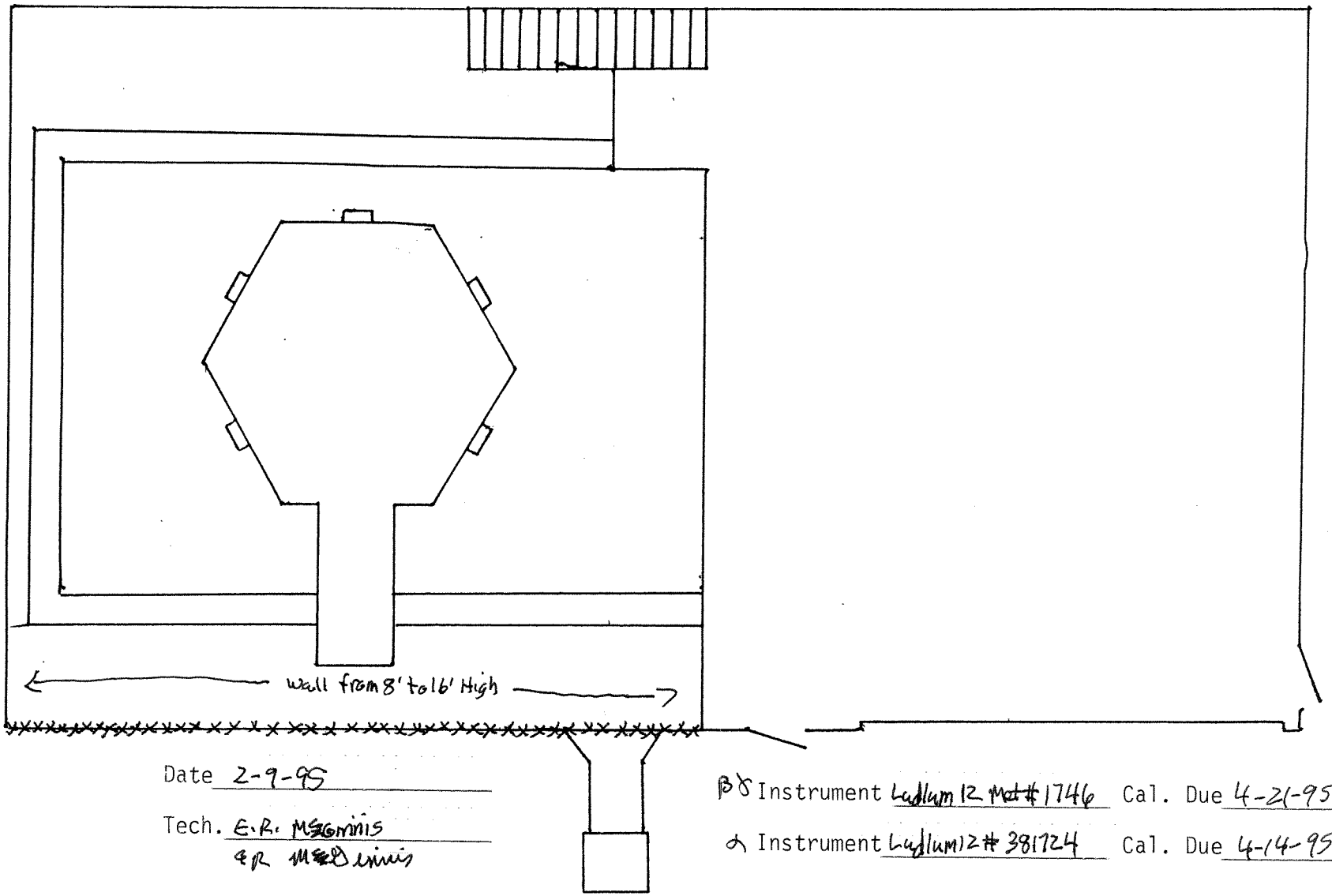
βγ Instrument Ludlum 12 Met# 1746 Cal. Due 4-21-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct Reading :
< 5000 dpm/100cm² βγ
< 500 dpm/100cm² α

Area surveyed is shaded



Date 2-9-95

Tech. E.R. McGinnis
ER McGinnis

βγ Instrument Ludlum 12 Mat # 1746 Cal. Due 4-21-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95

Total Alpha/Beta

Rooms 127 & 131

Walls above 16 ft.

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM 127 - East High Bay

PURPOSE: Occupational Release Survey

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT				
	See	attached	Direct Reading Surveys of upper walls-see attached		See	attached		

COMMENTS:	INSTRUMENT	Ludlum 12-4	Ludlum 12 B2
	IDENTIFICATION	381724	381723
	CALIBRATION DUE	4-14-95	3-17-95
	BACKGROUND	2cpm	90cpm
	EFFICIENCY	7.3dpm/cpm	7.4dpm/cpm
SAMPLED BY: D.B. Pritchett E.R. McGinnis	COUNT TIME	NA	NA
ANALYZED BY: D.B. Pritchett E.R. McGinnis			

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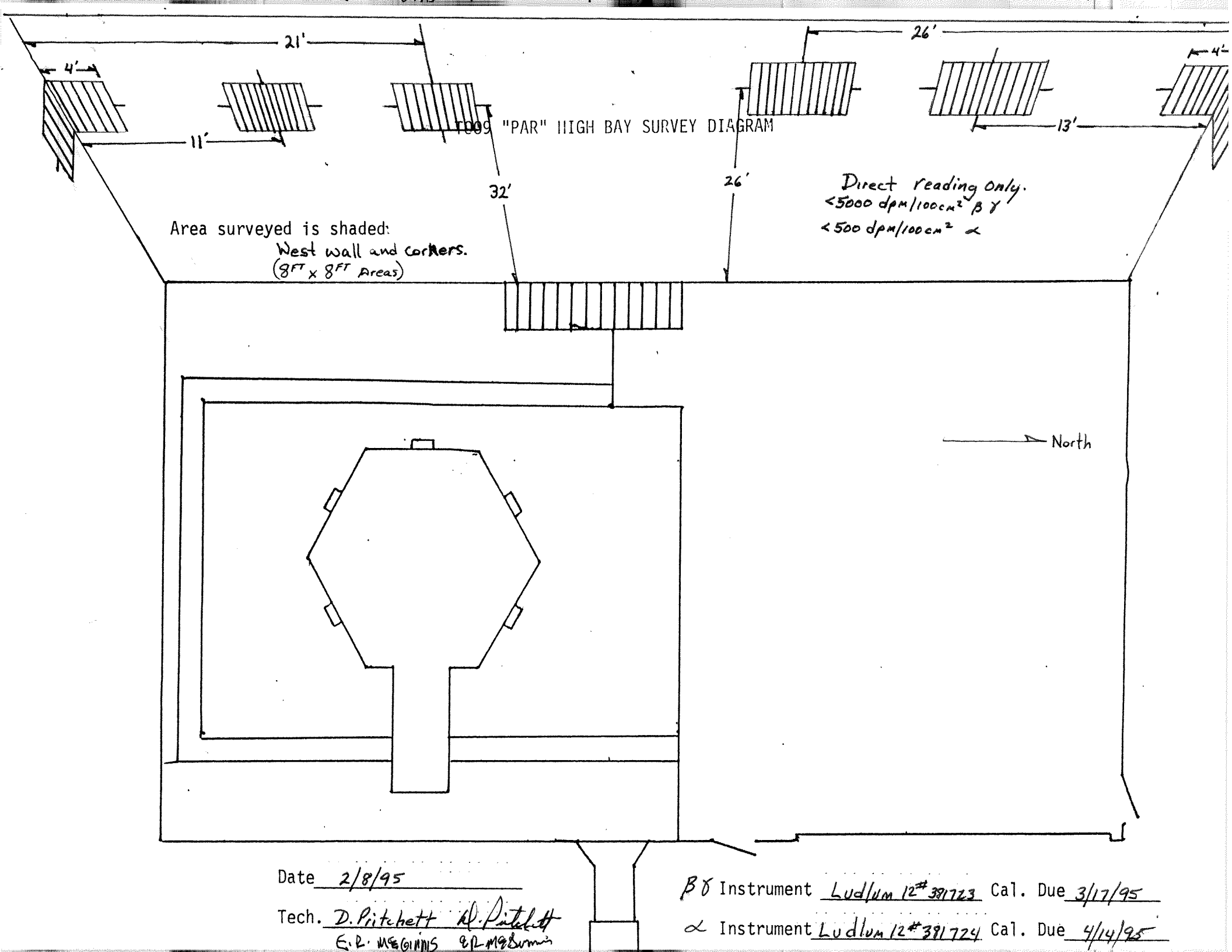


T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct reading only.
<5000 dpm/100cm² β γ
<500 dpm/100cm² α

Area surveyed is shaded:
West wall and corners.
(8FT x 8FT Areas)

Date 2/8/95

Tech. D. Pritchett D. Pritchett
E.R. McGinnis E.R. McGinnis

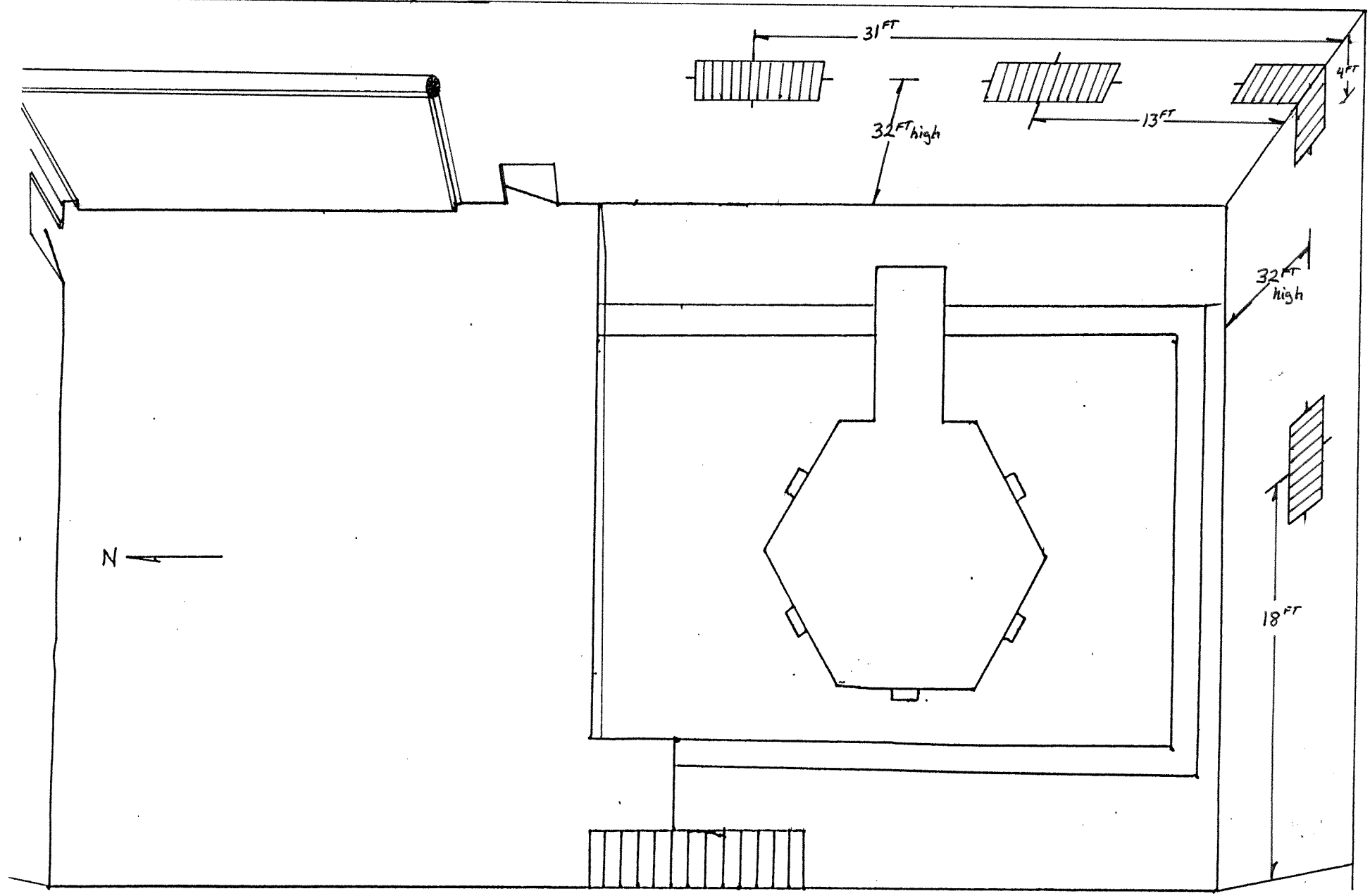
βγ Instrument Ludlum 12# 381723 Cal. Due 3/17/95

α Instrument Ludlum 12# 381724 Cal. Due 4/14/95

T009 "PAR" High Bay

Area Surveyed is shaded: South and Southeast walls. (8FT x 8FT AREAS)

Direct reading only.
<5000 dpm/100cm² β γ
<500 dpm/100cm² α



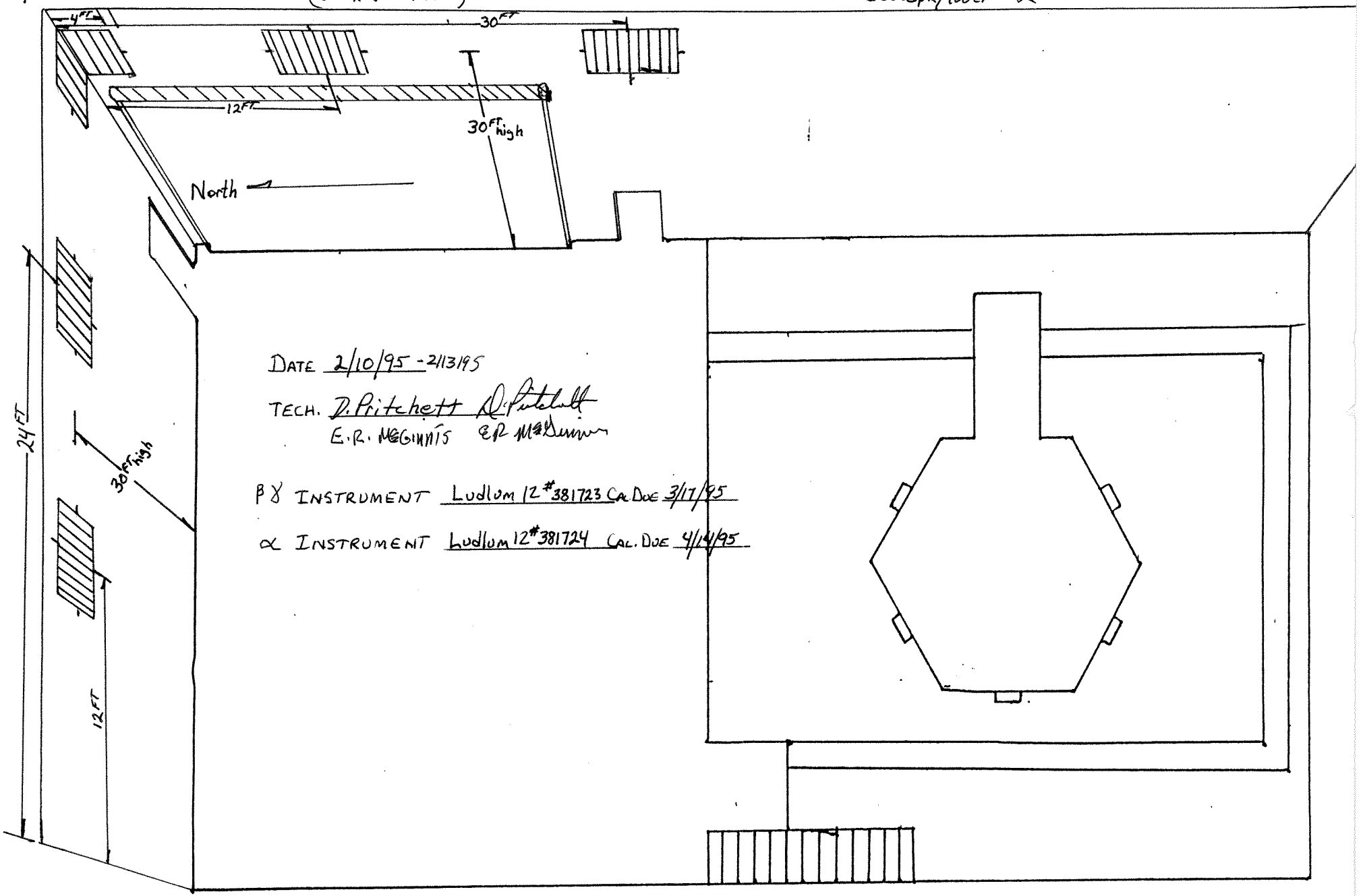
Date 2/9/95
Tech. D Putnett E.R. MEGINNIS
D. Pritchett ER MEGINNIS

β γ Instrument Ludlum 12 #381723 Cal. Due 3/17/95
α Instrument Ludlum 12 #381724 Cal. Due 4/14/95

T009 "PAR" HIGH BAY

Area Surveyed is Shaded: North and North east walls. Top of roll-up door.
(8FT x 8FT Areas)

Direct reading only
<5000dpm/100cm² β γ
<500dpm/100cm² α



DATE 2/10/95 - 2/13/95

TECH. D. Pritchett D. Pritchett
E.R. HIGGINS EP McGuinn

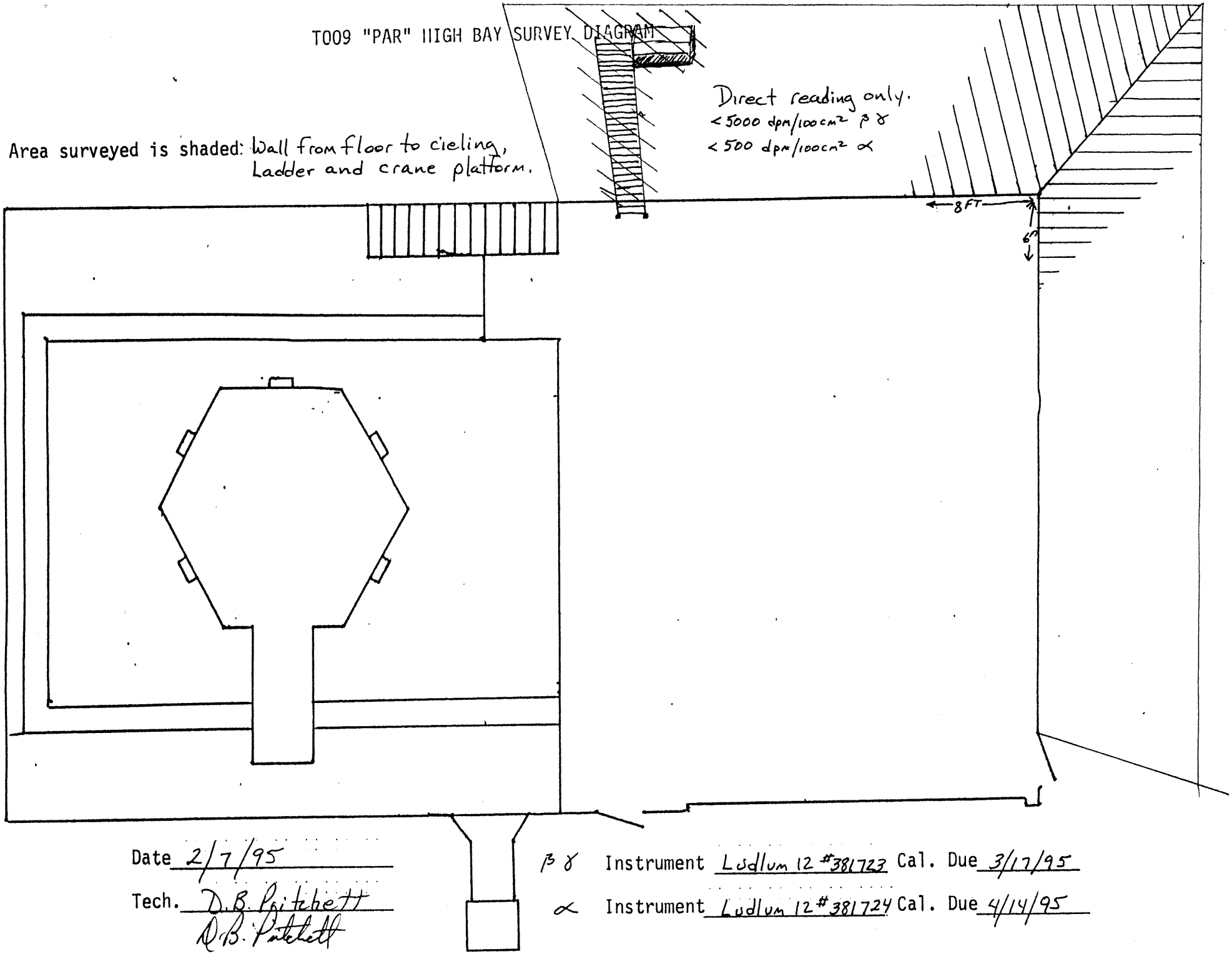
βγ INSTRUMENT Ludlum 12 #381723 CAL DUE 3/17/95

α INSTRUMENT Ludlum 12 #381724 CAL. DUE 4/14/95

T009 "PAR" HIGH BAY SURVEY DIAGRAM

Direct reading only.
< 5000 dpm/100cm² β γ
< 500 dpm/100cm² α

Area surveyed is shaded: Wall from floor to cieling, Ladder and crane platform.



Date 2/7/95

Tech. D.B. Pritchett
D.B. Pritchett

β γ Instrument Ludlum 12 #381723 Cal. Due 3/17/95

α Instrument Ludlum 12 #381724 Cal. Due 4/14/95

Bldg 009 Roof

Survey Data Package

May 4, 1995

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM East High Bay Roof

PURPOSE: Free Release

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT	pCi/g NDA	DPM/100cm² α 20	DPM/100cm² β 100
1	3-1-95	3-2-95	Gravel — See attached		NDA	—	—
2	3-1-95	3-2-95				—	—
3	3-1-95	3-2-95				—	—
4	3-1-95	3-3-95				—	—
5	3-1-99	3-3-95				—	—
6	3-1-95	3-3-95				—	—
7	3-1-95	3-3-95				—	—
8	3-1-95	3-6-95				—	—
9	3-1-95	3-6-95				—	—
10	3-1-95	3-7-95	Large Area Smears		—	< 20	< 100
11	3-1-95	3-8-95			—	—	—
12	3-1-95	3-8-95			—	—	—
13	3-7-95	3-10-95			—	—	—
14	3-7-95	3-10-95			—	—	—
15	3-7-95	3-10-95			—	—	—
16	3-7-95	3-13-95			—	—	—
17	3-7-95	3-13-95			—	—	—

COMMENTS: Suitable for disposal as non radioactive waste. See attachments for details

INSTRUMENT	Canberra MCA
IDENTIFICATION	NR0082286
CALIBRATION DUE	Daily
BACKGROUND	See attached
EFFICIENCY	
COUNT TIME	7000 sec.

E.R. McGinnis For
E.R. McGinnis

SAMPLED BY: D.B. Pritchett

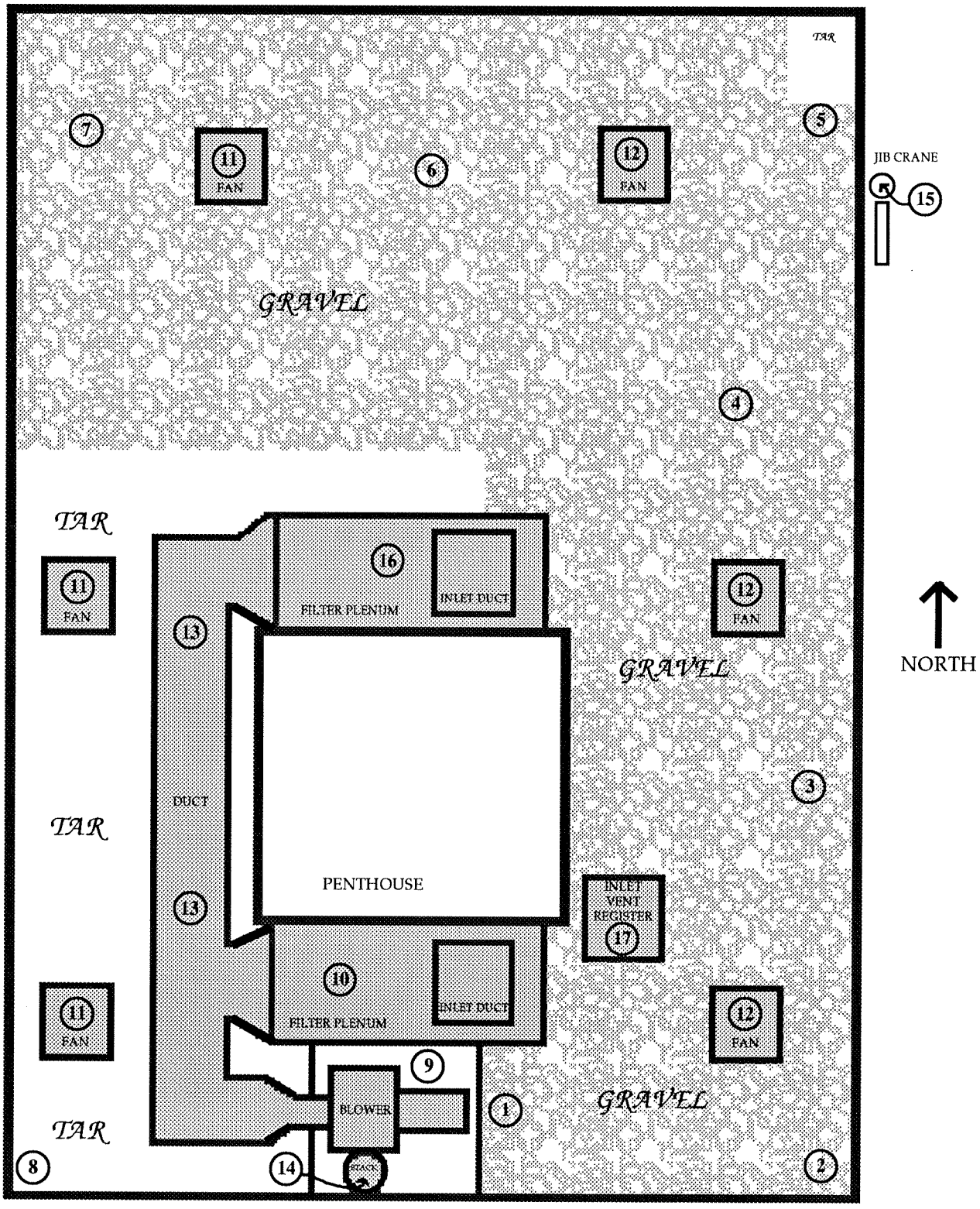
E.R. McGinnis For.

ANALYZED BY: F. Dahl

FORM 732-A REV 1-91

T009 EAST HIGH BAY ROOF DIAGRAM

SAMPLE LOCATIONS FOR MCA ANALYSIS



(#) = SAMPLE LOCATIONS
SEE ATTACHED FOR
SAMPLE DESCRIPTIONS.
SEE ATTACHED MCA
PRINTOUTS FOR RESULTS.

SAMPLED BY D. Pritchett D. Pritchett
E.R. McGinnis E.R. McGinnis

DATES 1 TO 12 ON 3-1-95 13 TO17 ON 3-7-95

T009 EAST HIGH BAY ROOF SAMPLE DESCRIPTIONS

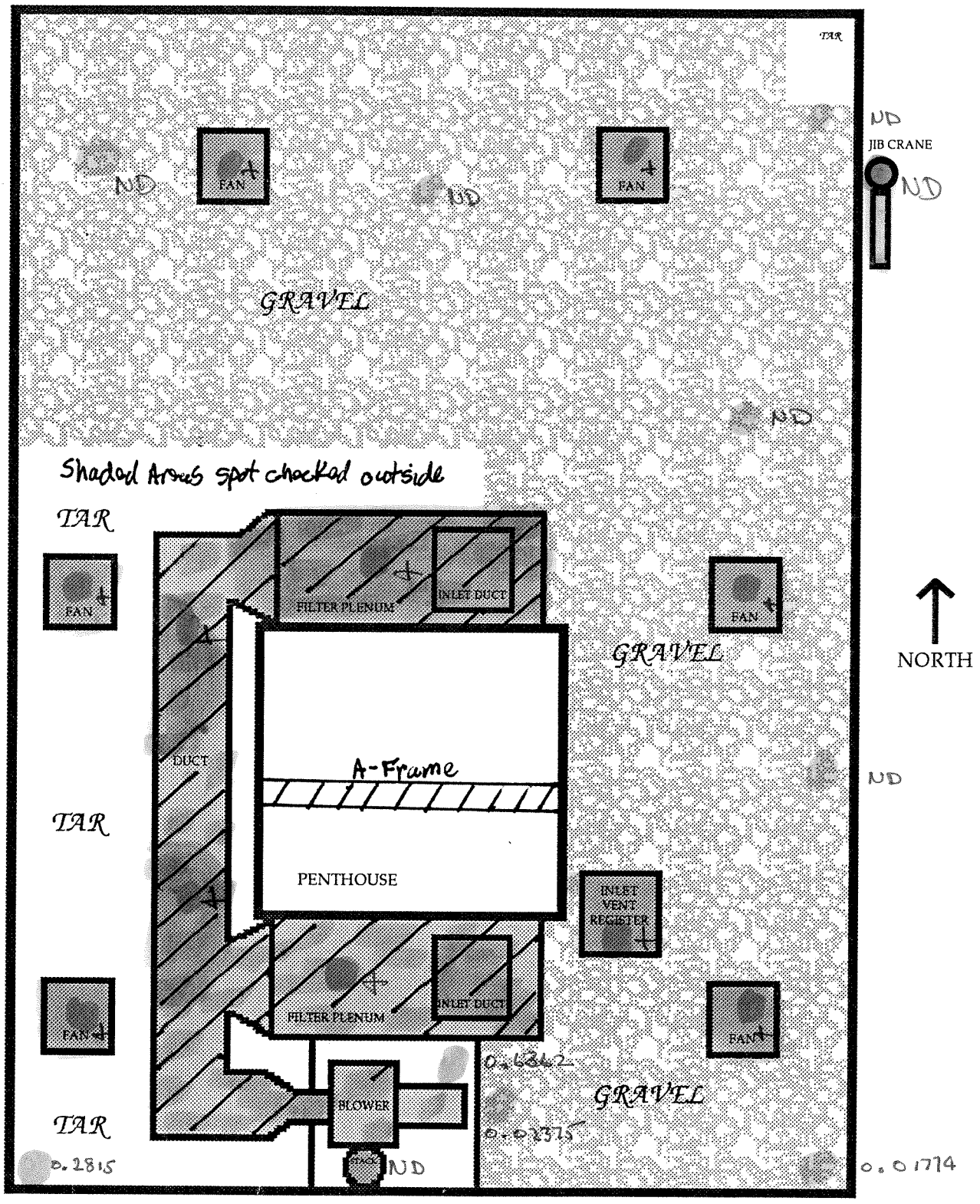
SAMPLE #	SAMPLE DESCRIPTION AND LOCATION	SAMPLE SIZE
1	GRAVEL AT RUSTY SPOT BELOW BLOWER	747g
2	GRAVEL AT LOW SPOT NEAR DOWNSPOUT	818g
3	GRAVEL AT LOW SPOT	813g
4	GRAVEL AT LOWSPOT	785g
5	GRAVEL AT LOW SPOT LEADING TO DOWNSPOUT	810g
6	GRAVEL AT ROOF ACME	781g
7	GRAVEL AT LOW SPOT LEADING TO DOWNSPOUT	784g
8	DEBRIS NEAR DOWNSPOUT	631g
9	DEBRIS ON BLOWER PLATFORM	615g
10	LARGE AREA SMEAR INSIDE SOUTH PLENUM	186- 100cm2
11	LARGE AREA SMEAR INSIDE WEST EXHAUST FANS	223- 100cm2
12	LARGE AREA SMEAR INSIDE EAST EXHAUST FANS	223- 100cm2
13	LARGE AREA SMEAR INSIDE CONNECTING DUCT PORTS	93- 100cm2
14	LARGE AREA SMEAR INSIDE BLOWER STACK	28- 100cm2
15	LARGE AREA SMEAR ON JIB CRANE SURFACES	56- 100cm2
16	LARGE AREA SMEAR INSIDE NORTH PLENUM	186- 100cm2
17	LARGE AREA SMEAR INSIDE INLET VENT REGISTER	93- 100cm2

950501

T009 EAST HIGH BAY ROOF DIAGRAM

DIRECT READING SURVEYS

+ ND x.xxx } Cs-13



AREAS SURVEYED ARE INDICATED

INSTRUMENTS:

ALPHA- LUDLUM 12 # 381724

CAL. DUE 4-14-95

BETA- LUDLUM 12 # 381723

CAL. DUE 3-17-95

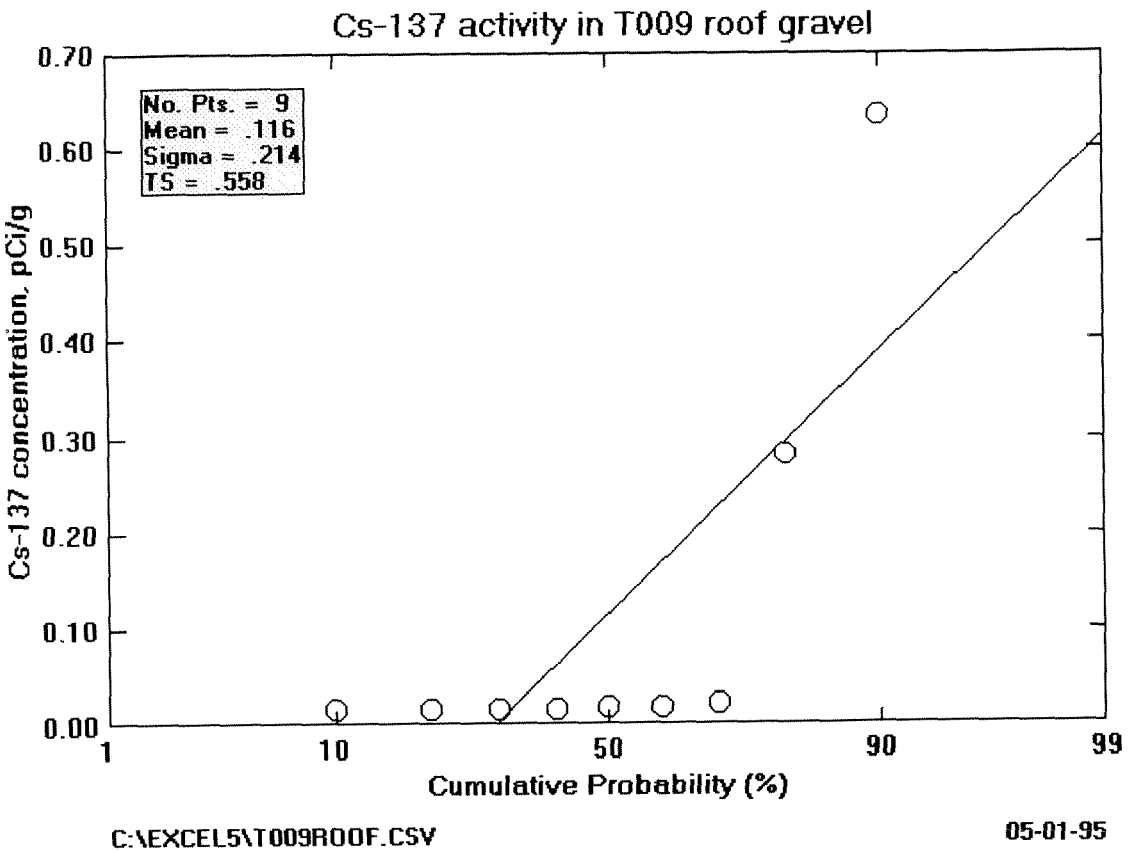
SURVEYED BY E.R. McGinnis E.R. McGinnis

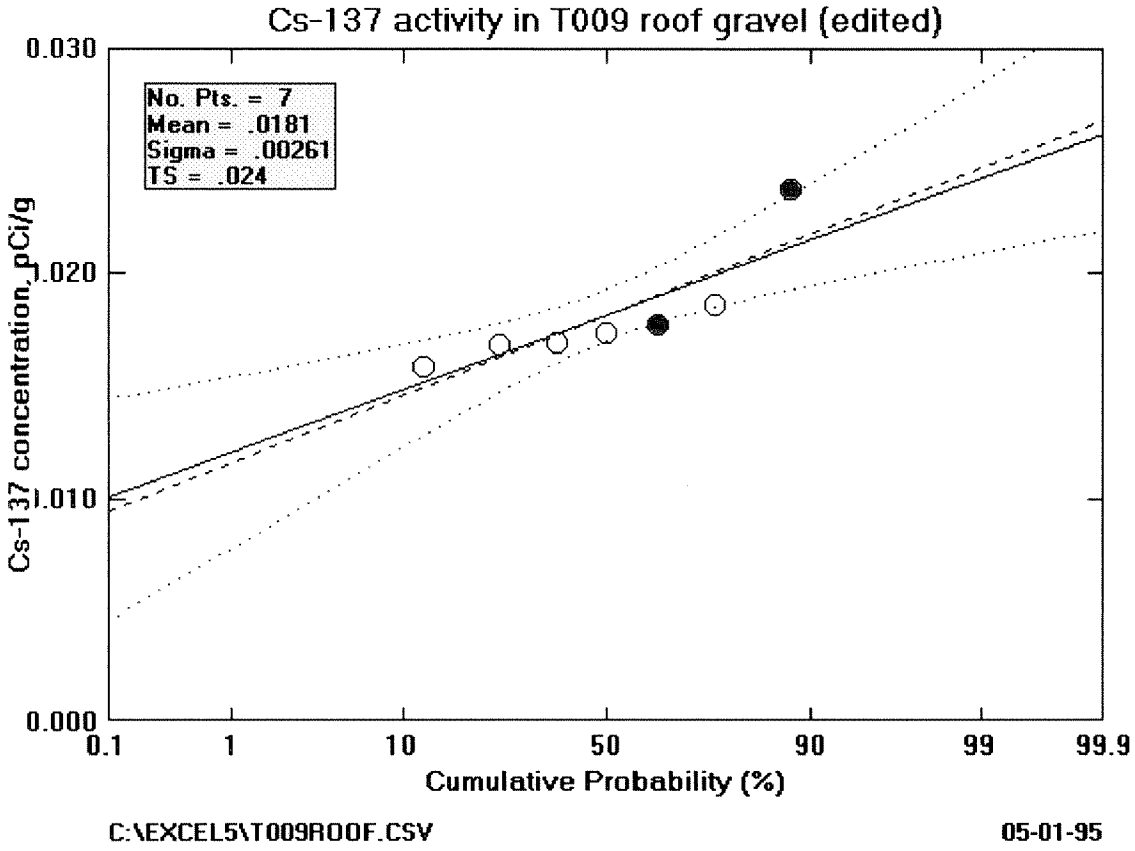
DATE 3-16-95

RESULTS: NDA dpm/100cm2 alpha

NDA dpm/100cm2 beta

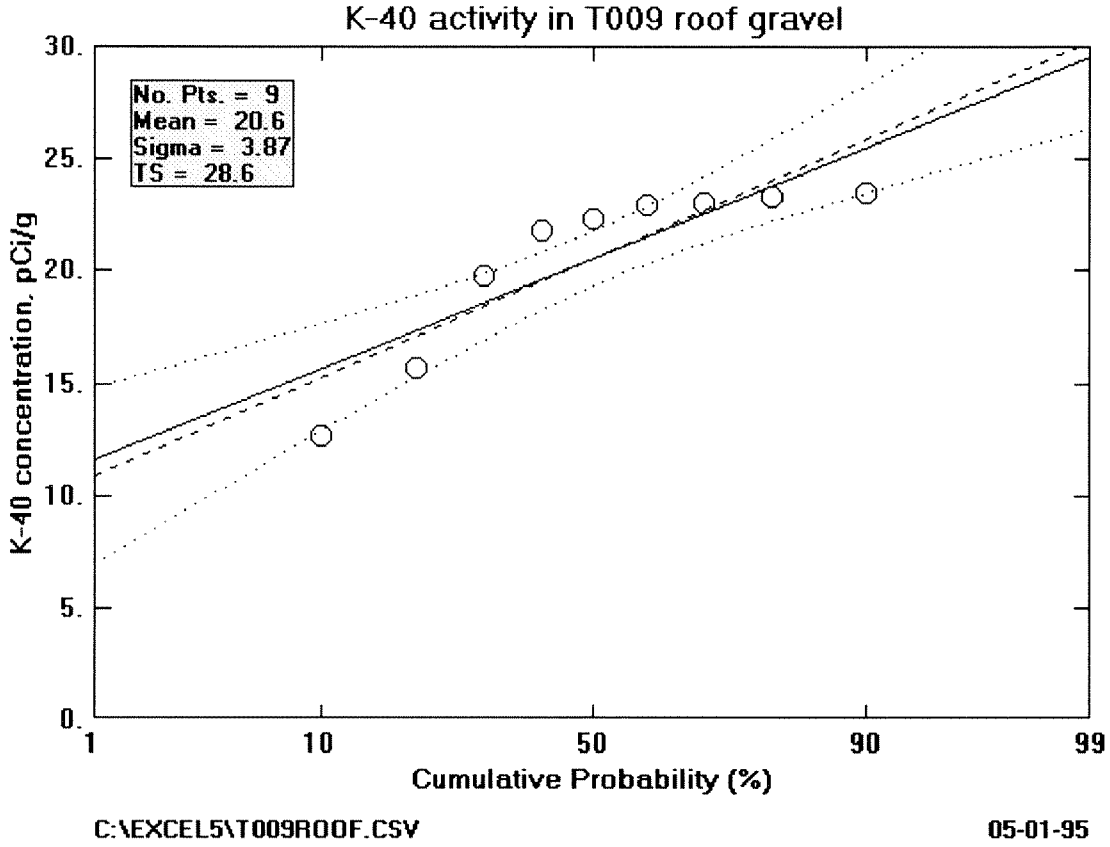
NOTE: NDA means No Detectable Activity above background radiation levels.

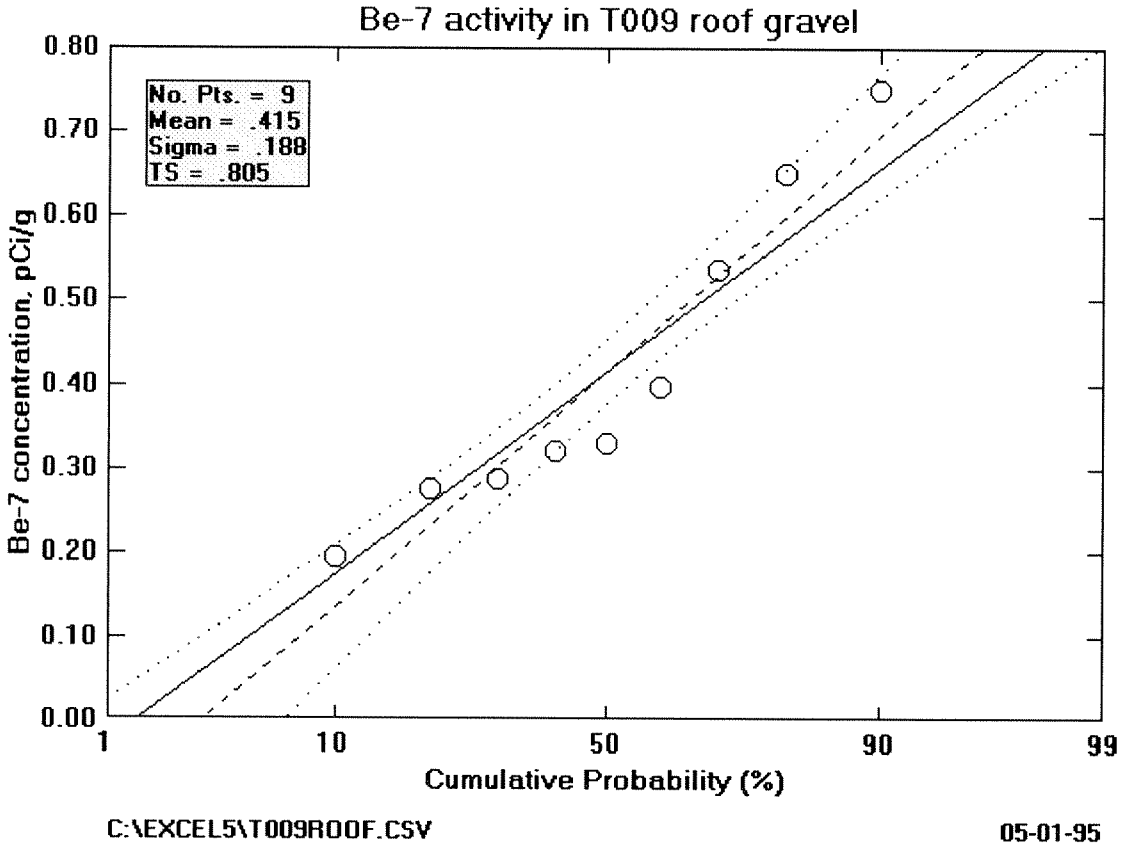

Cs-137 activity in T009 roof gravel
No. Pts. = 9
Mean = .116
Sigma = .214
TS = .558
Cs-137 concentration, pCi/g
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1
10
50
90
99
Cumulative Probability (%)
C:\EXCEL5\T009ROOF.CSV
05-01-95



● = measured value

○ = LLD (MDA)


K-40 activity in T009 roof gravel
No. Pts. = 9
Mean = 20.6
Sigma = 3.87
TS = 28.6
K-40 concentration, pCi/g
30.
25.
20.
15.
10.
5.
0.
1
10
50
90
99
Cumulative Probability (%)
C:\EXCEL5\T009ROOF.CSV
05-01-95


Be-7 activity in T009 roof gravel
No. Pts. = 9
Mean = .415
Sigma = .188
TS = .805
Be-7 concentration, pCi/g
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
1
10
50
90
99
Cumulative Probability (%)
C:\EXCEL5\T009ROOF.CSV
05-01-95

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95053

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D - HB Roof GRAVEL #1, ENV950053, 3/2/95
Spectrum file name: ENV95053
Sample identifier : MCGINNIS
Sample size : 7.470E+02 g
Measured by : FCD

Date of Activity Calculation : 2-Mar-1995 at 15:16: 8
Collect started on : 2-Mar-1995 at 15:16: 8
Collect ended on : 2-Mar-1995 at 17:12:59

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.011E+03 s dead time: .16 %

Calibration Files

Shape calibration requested : CM010495
Shape calibration used : CM010495
Created : 5-Jan-1995 9:39:36
Modified : 5-Jan-1995 10:13:15

Energy calibration requested : CM010495
Energy calibration used : CM010495
Created : 5-Jan-1995 9:39: 3
Modified : 5-Jan-1995 9:48:50

Efficiency calibration requested : CM010495
Efficiency calibration used : CM010495
Created : 5-Jan-1995 9:38:20
Modified : 5-Jan-1995 9:49:53

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/9/95
RP&HPS

No Unrestricted Activity

Spectrum file: ENV95053 Date: 2-Mar-1995 Time: 17:12:59

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number		nuclide	conf.value	Activity (pCi/g) measured	decay corrected	saturation
	1	BE-7	.9996	3.967E-01 +- 9.32%	3.967E-01	0.000E+00
	2	K-40	.9935	2.354E+01 +- 4.56%	2.354E+01	0.000E+00
	3	CS-137	.9987	2.375E-02 +- 12.43%	2.375E-02	0.000E+00
	4	Tl-208T	.9959	4.500E-01 +- 3.80%	4.500E-01	0.000E+00
	5	Pb-210U	.9999	1.002E+00 +- 12.55%	1.002E+00	0.000E+00
	6	Pb-212T	.9991	1.435E+00 +- 5.32%	1.435E+00	0.000E+00
	7	Pb-214U	.8972	7.838E-01 +- 3.29%	7.838E-01	0.000E+00
	8	Bi-212T	.9475	7.475E-01 +- 20.71%	7.475E-01	0.000E+00
	9	Bi-214U	.9333	7.054E-01 +- 3.28%	7.054E-01	0.000E+00
	10	Ra-224T	.9988	1.719E+00 +- 8.51%	1.719E+00	0.000E+00
C	11	Ra-226U	.9984	1.403E+00 +- 7.11%	1.403E+00	0.000E+00
	12	Ac-228T	.8692	1.079E+00 +- 2.49%	1.079E+00	0.000E+00
	13	Th-234U	.9994	6.828E-01 +- 15.07%	6.828E-01	0.000E+00
C	14	U-235	.9912	8.523E-02 +- 7.11%	8.523E-02	0.000E+00
				3.405E+01	3.405E+01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 12:46:49

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95054

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D - HB ROOF GRAVEL #2, ENV950054, 3/2/95
Spectrum file name: ENV95054
Sample identifier : MCGINNIS
Sample size : 8.180E+02 g
Measured by : FCD

Date of Activity Calculation : 2-Mar-1995 at 17:22:18
Collect started on : 2-Mar-1995 at 17:22:18
Collect ended on : 2-Mar-1995 at 19:19: 8

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.010E+03 s dead time: .14 %

Calibration Files

Shape calibration requested : CM010495
Shape calibration used : CM010495
Created : 5-Jan-1995 9:39:36
Modified : 5-Jan-1995 10:13:15

Energy calibration requested : CM010495
Energy calibration used : CM010495
Created : 5-Jan-1995 9:39: 3
Modified : 5-Jan-1995 9:48:50

Efficiency calibration requested : CM010495
Efficiency calibration used : CM010495
Created : 5-Jan-1995 9:38:20
Modified : 5-Jan-1995 9:49:53

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/9/95
RP&HPS

No Unnatural Activity

Spectrum file: ENV95054 Date: 2-Mar-1995 Time: 19:19: 8

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number		nuclide	conf.value	Activity (pCi/g) measured	decay corrected	saturation
	1	BE-7	.9984	2.745E-01 +- 9.81%	2.745E-01	0.000E+00
	2	K-40	.9945	2.234E+01 +- 4.45%	2.234E+01	0.000E+00
	3	CS-136	.9643	2.206E-02 +- 26.32%	2.206E-02	0.000E+00
	4	CS-137	.9991	1.774E-02 +- 13.68%	1.774E-02	0.000E+00
	5	Tl-208T	.9808	3.577E-01 +- 3.89%	3.577E-01	0.000E+00
	6	Pb-210U	.9960	8.314E-01 +- 12.35%	8.314E-01	0.000E+00
	7	Pb-212T	.9990	1.289E+00 +- 5.27%	1.289E+00	0.000E+00
	8	Pb-214U	.8940	6.754E-01 +- 3.40%	6.754E-01	0.000E+00
	9	Bi-212T	.9664	1.084E+00 +- 16.08%	1.084E+00	0.000E+00
	10	Bi-214U	.9548	7.065E-01 +- 3.46%	7.065E-01	0.000E+00
	11	Ra-224T	.9958	1.355E+00 +- 7.52%	1.355E+00	0.000E+00
C	12	Ra-226U	.9995	1.171E+00 +- 9.41%	1.171E+00	0.000E+00
	13	Ac-228T	.8235	1.048E+00 +- 2.63%	1.048E+00	0.000E+00
	14	Th-234U	1.0000	5.298E-01 +- 13.94%	5.298E-01	0.000E+00
C	15	U-235	.9877	7.113E-02 +- 9.41%	7.113E-02	0.000E+00
				3.177E+01	3.177E+01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 12:50:45

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95055

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D - HB ROOF GRAVEL #3, ENV950055, 3/2/95
Spectrum file name: ENV95055
Sample identifier : MCGINNIS
Sample size : 8.130E+02 g
Measured by : FCD

Date of Activity Calculation : 2-Mar-1995 at 19:37:21
Collect started on : 2-Mar-1995 at 19:37:21
Collect ended on : 2-Mar-1995 at 21:34:12

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.011E+03 s dead time: .16 %

Calibration Files

Shape calibration requested : CM010495
Shape calibration used : CM010495
Created : 5-Jan-1995 9:39:36
Modified : 5-Jan-1995 10:13:15

Energy calibration requested : CM010495
Energy calibration used : CM010495
Created : 5-Jan-1995 9:39: 3
Modified : 5-Jan-1995 9:48:50

Efficiency calibration requested : CM010495
Efficiency calibration used : CM010495
Created : 5-Jan-1995 9:38:20
Modified : 5-Jan-1995 9:49:53

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N0010P000028 By: _____ Date: 3/9/95
RP&HPS

No Unusual Activity

Spectrum file: ENV95055 Date: 2-Mar-1995 Time: 21:34:12

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

	number	nuclide	conf.value	Activity (pCi/g) measured	decay corrected	saturation
	1	BE-7	.9975	3.208E-01 +- 9.86%	3.208E-01	0.000E+00
	2	K-40	.9915	2.295E+01 +- 4.40%	2.295E+01	0.000E+00
	3	Tl-208T	.9877	4.520E-01 +- 3.77%	4.520E-01	0.000E+00
	4	Pb-210U	.9986	1.042E+00 +- 13.30%	1.042E+00	0.000E+00
	5	Pb-212T	.9991	1.452E+00 +- 5.30%	1.452E+00	0.000E+00
	6	Pb-214U	.8948	6.804E-01 +- 3.34%	6.804E-01	0.000E+00
	7	Bi-212T	.9358	1.097E+00 +- 18.27%	1.097E+00	0.000E+00
	8	Bi-214U	.9329	6.704E-01 +- 3.18%	6.704E-01	0.000E+00
	9	Ra-224T	.9997	1.506E+00 +- 8.30%	1.506E+00	0.000E+00
C	10	Ra-226U	.9995	1.289E+00 +- 6.30%	1.289E+00	0.000E+00
	11	Ac-228T	.7853	1.135E+00 +- 2.53%	1.135E+00	0.000E+00
	12	Th-234U	.9996	4.800E-01 +- 17.52%	4.800E-01	0.000E+00
C	13	U-235	.9757	7.832E-02 +- 6.30%	7.832E-02	0.000E+00
				3.315E+01	3.315E+01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 12:56:53

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95056

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D - HB ROOF GRAVEL #4, ENV950056, 3/2/95
Spectrum file name: ENV95056
Sample identifier : MCGINNIS
Sample size : 7.850E+02 g
Measured by : FCD

Date of Activity Calculation : 3-Mar-1995 at 7:27:43
Collect started on : 3-Mar-1995 at 7:27:43
Collect ended on : 3-Mar-1995 at 9:24:32

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.009E+03 s dead time: .13 %

Calibration Files

Shape calibration requested : CM010495
Shape calibration used : CM010495
Created : 5-Jan-1995 9:39:36
Modified : 5-Jan-1995 10:13:15

Energy calibration requested : CM010495
Energy calibration used : CM010495
Created : 5-Jan-1995 9:39: 3
Modified : 5-Jan-1995 9:48:50

Efficiency calibration requested : CM010495
Efficiency calibration used : CM010495
Created : 5-Jan-1995 9:38:20
Modified : 5-Jan-1995 9:49:53

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked background file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked background subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/9/95
RP&HPS

No Unnatural Activity

Spectrum file: ENV95056 Date: 3-Mar-1995 Time: 9:24:32

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number		nuclide	conf.value	Activity (pCi/g) measured	decay corrected	saturation
	1	BE-7	.9969	2.868E-01 +- 12.49%	2.868E-01	0.000E+00
	2	K-40	.9954	2.184E+01 +- 4.41%	2.184E+01	0.000E+00
	3	Tl-208T	.9769	3.695E-01 +- 3.95%	3.695E-01	0.000E+00
	4	Pb-210U	.9993	7.718E-01 +- 13.58%	7.718E-01	0.000E+00
	5	Pb-212T	.9989	1.173E+00 +- 5.40%	1.173E+00	0.000E+00
	6	Pb-214U	.8900	6.813E-01 +- 3.44%	6.813E-01	0.000E+00
	7	Bi-212T	.9753	7.347E-01 +- 20.34%	7.347E-01	0.000E+00
	8	Bi-214U	.9738	6.766E-01 +- 3.42%	6.766E-01	0.000E+00
	9	Ra-224T	.9968	1.332E+00 +- 9.43%	1.332E+00	0.000E+00
C	10	Ra-226U	.9994	1.137E+00 +- 8.23%	1.137E+00	0.000E+00
	11	Ac-228T	.8817	9.336E-01 +- 2.74%	9.336E-01	0.000E+00
	12	Th-234U	.9994	6.939E-01 +- 15.50%	6.939E-01	0.000E+00
C	13	U-235	.9882	6.909E-02 +- 8.23%	6.909E-02	0.000E+00
				3.070E+01	3.070E+01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 13: 1:28

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95057

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D - HB ROOF GRAVEL #5, ENV950057, 3/2/95
Spectrum file name: ENV95057
Sample identifier : MCGINNIS
Sample size : 8.100E+02 g
Measured by : FCD

Date of Activity Calculation : 3-Mar-1995 at 10: 9:51
Collect started on : 3-Mar-1995 at 10: 9:51
Collect ended on : 3-Mar-1995 at 12: 6:40

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.009E+03 s dead time: .13 %

Calibration Files

Shape calibration requested : CM010495
Shape calibration used : CM010495
Created : 5-Jan-1995 9:39:36
Modified : 5-Jan-1995 10:13:15

Energy calibration requested : CM010495
Energy calibration used : CM010495
Created : 5-Jan-1995 9:39: 3
Modified : 5-Jan-1995 9:48:50

Efficiency calibration requested : CM010495
Efficiency calibration used : CM010495
Created : 5-Jan-1995 9:38:20
Modified : 5-Jan-1995 9:49:53

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/9/95
RP&HPS

No Unnatural Activity

Spectrum file: ENV95057 Date: 3-Mar-1995 Time: 12: 6:40

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number		nuclide	conf.value	Activity (pCi/g) measured	decay corrected	saturation
	1	BE-7	.9978	3.296E-01 +- 7.83%	3.296E-01	0.000E+00
	2	K-40	.9977	1.973E+01 +- 4.58%	1.973E+01	0.000E+00
	3	Tl-208T	.9958	3.042E-01 +- 4.07%	3.042E-01	0.000E+00
	4	Pb-210U	.9999	8.694E-01 +- 11.60%	8.694E-01	0.000E+00
	5	Pb-212T	.9986	9.654E-01 +- 5.29%	9.654E-01	0.000E+00
	6	Pb-214U	.9006	5.389E-01 +- 3.35%	5.389E-01	0.000E+00
	7	Bi-212T	.9896	7.235E-01 +- 20.62%	7.235E-01	0.000E+00
	8	Bi-214U	.9889	5.062E-01 +- 3.65%	5.062E-01	0.000E+00
	9	Ra-224T	.9981	1.036E+00 +- 7.86%	1.036E+00	0.000E+00
C	10	Ra-226U	.9981	8.483E-01 +- 8.54%	8.483E-01	0.000E+00
	11	Ac-228T	.9042	8.273E-01 +- 2.97%	8.273E-01	0.000E+00
	12	Th-234U	.9998	4.760E-01 +- 18.15%	4.760E-01	0.000E+00
C	13	U-235	.9919	5.153E-02 +- 8.54%	5.153E-02	0.000E+00
				2.721E+01	2.721E+01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 13:12:41

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95058

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D - HB ROOF GRAVEL #6, ENV950058, 3/2/95
Spectrum file name: ENV95058
Sample identifier : MCGINNIS
Sample size : 7.810E+02 g
Measured by : FCD

Date of Activity Calculation : 3-Mar-1995 at 13:30: 1
Collect started on : 3-Mar-1995 at 13:30: 1
Collect ended on : 3-Mar-1995 at 15:26:51

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.010E+03 s dead time: .14 %

Calibration Files

Shape calibration requested : CM010495
Shape calibration used : CM010495
Created : 5-Jan-1995 9:39:36
Modified : 5-Jan-1995 10:13:15

Energy calibration requested : CM010495
Energy calibration used : CM010495
Created : 5-Jan-1995 9:39: 3
Modified : 5-Jan-1995 9:48:50

Efficiency calibration requested : CM010495
Efficiency calibration used : CM010495
Created : 5-Jan-1995 9:38:20
Modified : 5-Jan-1995 9:49:53

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N0010P000028 By: _____ Date: 3/9/95
RP&HPS

No Unusual Activity

Spectrum file: ENV95058 Date: 3-Mar-1995 Time: 15:26:51

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

	number	nuclide	conf.value	Activity (pCi/g) measured	decay corrected	saturation
	1	BE-7	.9996	5.361E-01 +- 7.63%	5.361E-01	0.000E+00
	2	K-40	.9994	2.305E+01 +- 4.55%	2.305E+01	0.000E+00
	3	SB-125	1.0000	3.938E-02 +- 29.45%	3.938E-02	0.000E+00
	4	Tl-208T	.9856	3.805E-01 +- 4.04%	3.805E-01	0.000E+00
	5	Pb-210U	.9988	9.654E-01 +- 10.77%	9.654E-01	0.000E+00
	6	Pb-212T	.9984	1.289E+00 +- 5.29%	1.289E+00	0.000E+00
	7	Pb-214U	.8855	7.067E-01 +- 3.25%	7.067E-01	0.000E+00
	8	Bi-212T	.9781	6.457E-01 +- 23.43%	6.457E-01	0.000E+00
	9	Bi-214U	.9501	6.590E-01 +- 3.44%	6.590E-01	0.000E+00
	10	Ra-223A	.9418	7.302E-02 +- 43.41%	7.302E-02	0.000E+00
	11	Ra-224T	.9983	1.438E+00 +- 7.56%	1.438E+00	0.000E+00
C	12	Ra-226U	.9989	1.181E+00 +- 8.33%	1.181E+00	0.000E+00
	13	Ac-228T	.8330	9.361E-01 +- 2.77%	9.361E-01	0.000E+00
	14	Th-234U	.9981	6.505E-01 +- 14.56%	6.505E-01	0.000E+00
C	15	U-235	.9898	7.173E-02 +- 8.33%	7.173E-02	0.000E+00
				3.262E+01	3.262E+01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 13:17:16

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95059

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D - HB ROOF GRAVEL #7, ENV950059, 3/2/95
Spectrum file name: ENV95059
Sample identifier : MCGINNIS
Sample size : 7.840E+02 g
Measured by : FCD

Date of Activity Calculation : 3-Mar-1995 at 19:14:11
Collect started on : 3-Mar-1995 at 19:14:11
Collect ended on : 3-Mar-1995 at 21:11: 1

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.010E+03 s dead time: .14 %

Calibration Files

Shape calibration requested : CM010495
Shape calibration used : CM010495
Created : 5-Jan-1995 9:39:36
Modified : 5-Jan-1995 10:13:15

Energy calibration requested : CM010495
Energy calibration used : CM010495
Created : 5-Jan-1995 9:39: 3
Modified : 5-Jan-1995 9:48:50

Efficiency calibration requested : CM010495
Efficiency calibration used : CM010495
Created : 5-Jan-1995 9:38:20
Modified : 5-Jan-1995 9:49:53

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/9/95
RP&HPS

No Unnatural Activity

Spectrum file: ENV95059 Date: 3-Mar-1995 Time: 21:11: 1

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

	number	nuclide	conf.value	Activity (pCi/g) measured		decay corrected	saturation
	1	BE-7	.9920	1.942E-01	+- 11.75%	1.942E-01	0.000E+00
	2	K-40	.9990	2.332E+01	+- 4.55%	2.332E+01	0.000E+00
	3	Tl-208T	.9978	4.560E-01	+- 3.93%	4.560E-01	0.000E+00
	4	Pb-210U	.9988	8.981E-01	+- 14.22%	8.981E-01	0.000E+00
	5	Pb-212T	.9986	1.423E+00	+- 5.29%	1.423E+00	0.000E+00
	6	Pb-214U	.8803	7.442E-01	+- 3.12%	7.442E-01	0.000E+00
	7	Bi-212T	.9827	6.637E-01	+- 22.85%	6.637E-01	0.000E+00
	8	Bi-214U	.9720	7.429E-01	+- 3.03%	7.429E-01	0.000E+00
	9	Ra-224T	.9982	1.416E+00	+- 8.35%	1.416E+00	0.000E+00
C	10	Ra-226U	.9996	1.396E+00	+- 8.04%	1.396E+00	0.000E+00
	11	Ac-228T	.8537	1.200E+00	+- 2.46%	1.200E+00	0.000E+00
	12	Th-234U	.9991	6.163E-01	+- 15.50%	6.163E-01	0.000E+00
	13	U-234U	.9955	1.135E+01	+- 39.17%	1.135E+01	0.000E+00
C	14	U-235	.9874	8.481E-02	+- 8.04%	8.481E-02	0.000E+00
				4.451E+01		4.451E+01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 13:21:42

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95060

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D - HB ROOF GRAVEL #8, ENV950060, 3/2/95
Spectrum file name: ENV95060
Sample identifier : MCGINNIS
Sample size : 6.310E+02 g
Measured by : FCD

Date of Activity Calculation : 6-Mar-1995 at 9:47: 0
Collect started on : 6-Mar-1995 at 9:47: 0
Collect ended on : 6-Mar-1995 at 11:43:48

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.008E+03 s dead time: .11 %

Calibration Files

Shape calibration requested : CM010495
Shape calibration used : CM010495
Created : 5-Jan-1995 9:39:36
Modified : 5-Jan-1995 10:13:15

Energy calibration requested : CM010495
Energy calibration used : CM010495
Created : 5-Jan-1995 9:39: 3
Modified : 5-Jan-1995 9:48:50

Efficiency calibration requested : CM010495
Efficiency calibration used : CM010495
Created : 5-Jan-1995 9:38:20
Modified : 5-Jan-1995 9:49:53

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/9/95
RP&HPS
No Unauthorized Actions

Spectrum file: ENV95060 Date: 6-Mar-1995 Time: 11:43:48

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

	number	nuclide	conf.value	Activity (pCi/g) measured		decay corrected	saturation
	1	BE-7	1.0000	7.495E-01	8.19%	7.495E-01	0.000E+00
	2	K-40	.9979	1.570E+01	4.74%	1.570E+01	0.000E+00
	3	CS-137	.9996	2.815E-01	5.10%	2.815E-01	0.000E+00
	4	Tl-208T	.9922	2.156E-01	4.98%	2.156E-01	0.000E+00
	5	Pb-210U	1.0000	2.985E+00	6.54%	2.985E+00	0.000E+00
	6	Pb-212T	.9987	7.574E-01	5.40%	7.574E-01	0.000E+00
	7	Pb-214U	.9987	4.476E-01	4.24%	4.476E-01	0.000E+00
	8	Bi-214U	.9206	4.505E-01	3.84%	4.505E-01	0.000E+00
	9	Ra-224T	.9987	1.040E+00	8.70%	1.040E+00	0.000E+00
C	10	Ra-226U	.9984	8.404E-01	9.46%	8.404E-01	0.000E+00
	11	Ac-228T	.8879	6.497E-01	3.44%	6.497E-01	0.000E+00
	12	Th-234U	.9997	6.149E-01	10.50%	6.149E-01	0.000E+00
C	13	U-235	.9912	5.104E-02	9.46%	5.104E-02	0.000E+00
				2.478E+01		2.478E+01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 13:25:35

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95061

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D - HB ROOF GRAVEL #9, ENV950061, 3/2/95
Spectrum file name: ENV95061
Sample identifier : MCGINNIS
Sample size : 6.150E+02 g
Measured by : FCD

Date of Activity Calculation : 6-Mar-1995 at 16: 7:15
Collect started on : 6-Mar-1995 at 16: 7:15
Collect ended on : 6-Mar-1995 at 18: 4: 2

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.007E+03 s dead time: .10 %

Calibration Files

Shape calibration requested : CM010495
Shape calibration used : CM010495
Created : 5-Jan-1995 9:39:36
Modified : 5-Jan-1995 10:13:15

Energy calibration requested : CM010495
Energy calibration used : CM010495
Created : 5-Jan-1995 9:39: 3
Modified : 5-Jan-1995 9:48:50

Efficiency calibration requested : CM010495
Efficiency calibration used : CM010495
Created : 5-Jan-1995 9:38:20
Modified : 5-Jan-1995 9:49:53

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N0010P000028 By: _____ Date: 3/9/95
RP&HPS

No Unnatural Activity

Spectrum file: ENV95061 Date: 6-Mar-1995 Time: 18: 4: 2

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

	number	nuclide	conf.value	Activity (pCi/g) measured	decay corrected	saturation
	1	BE-7	1.0000	6.506E-01 +- 7.46%	6.506E-01	0.000E+00
	2	K-40	.9999	1.267E+01 +- 4.85%	1.267E+01	0.000E+00
	3	CS-137	.9998	6.362E-01 +- 4.33%	6.362E-01	0.000E+00
	4	Tl-208T	.9864	1.523E-01 +- 4.76%	1.523E-01	0.000E+00
	5	Pb-210U	1.0000	2.028E+00 +- 7.82%	2.028E+00	0.000E+00
	6	Pb-212T	.9912	4.974E-01 +- 5.49%	4.974E-01	0.000E+00
	7	Pb-214U	.8940	2.768E-01 +- 4.16%	2.768E-01	0.000E+00
	8	Bi-214U	.9830	2.572E-01 +- 5.48%	2.572E-01	0.000E+00
	9	Ra-224T	.9992	6.969E-01 +- 10.69%	6.969E-01	0.000E+00
C	10	Ra-226U	.9975	5.773E-01 +- 11.19%	5.773E-01	0.000E+00
	11	Ac-228T	.9063	4.627E-01 +- 4.24%	4.627E-01	0.000E+00
	12	Th-234U	.9991	2.796E-01 +- 32.57%	2.796E-01	0.000E+00
C	13	U-235	.9930	3.507E-02 +- 11.19%	3.507E-02	0.000E+00
				1.922E+01	1.922E+01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 13:29:21

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95062

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- HB Rf MASELIN #10, ENV950062, 3/2/95
Spectrum file name: ENV95062
Sample identifier : MCGINNIS
Sample size : 1.860E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 7-Mar-1995 at 19:22:41
Collect started on : 7-Mar-1995 at 19:22:41
Collect ended on : 7-Mar-1995 at 21:19:25

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.004E+03 s dead time: .06 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/9/95
RP&HPS

Cs 137 - 1.6 dpm/100 cm2

Spectrum file: ENV95062 Date: 7-Mar-1995 Time: 21:19:25

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number		nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
	1	K-40	.9936	2.433E-01 +- 33.69%	2.433E-01	0.000E+00
	2	CS-137	1.0000	6.968E-02 +- 9.75%	6.968E-02	0.000E+00
	3	Pb-210U	.9976	1.000E-01 +- 17.47%	1.000E-01	0.000E+00
	4	Pb-212T	.9967	1.801E-02 +- 18.50%	1.801E-02	0.000E+00
C	5	Ra-226U	.9786	5.557E-01 +- 11.70%	5.557E-01	0.000E+00
C	6	U-235	.9998	3.375E-02 +- 11.70%	3.375E-02	0.000E+00
				1.020E+00	1.020E+00	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 13:33:15

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95063

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- HB Rf MASELIN #11, ENV950063, 3/2/95
Spectrum file name: ENV95063
Sample identifier : MCGINNIS
Sample size : 2.230E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 8-Mar-1995 at 7:31:52
Collect started on : 8-Mar-1995 at 7:31:52
Collect ended on : 8-Mar-1995 at 9:28:38

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.006E+03 s dead time: .09 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/9/95
RP&HPS

Co60 - 0.07 dpm/100 cm2
Cs137 - 0.30 dpm/100 cm2

Total 0.37 dpm/100 cm2

Spectrum file: ENV95063 Date: 8-Mar-1995 Time: 9:28:38

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	K-40	.9922	2.263E+00 +- 7.69%	2.263E+00	0.000E+00
2	CO-60	.9941	2.984E-02 +- 12.94%	2.984E-02	0.000E+00
3	CS-137	.9999	1.364E-01 +- 7.01%	1.364E-01	0.000E+00
4	Tl-208T	.9998	4.032E-02 +- 8.86%	4.032E-02	0.000E+00
5	Pb-210U	.9996	9.492E-02 +- 20.13%	9.492E-02	0.000E+00
6	Pb-212T	.9982	1.430E-01 +- 6.78%	1.430E-01	0.000E+00
7	Pb-214U	.8960	7.491E-02 +- 7.22%	7.491E-02	0.000E+00
8	Bi-214U	.9890	8.596E-02 +- 9.11%	8.596E-02	0.000E+00
9	U-235	.9944	5.005E-02 +- 8.40%	5.005E-02	0.000E+00
			2.918E+00	2.918E+00	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 9-Mar-1995 13:41:20

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95064

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- HB Rf MASELIN #12, ENV950064, 3/2/95
Spectrum file name: ENV95064
Sample identifier : MCGINNIS
Sample size : 2.230E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 8-Mar-1995 at 9:48: 2
Collect started on : 8-Mar-1995 at 9:48: 2
Collect ended on : 8-Mar-1995 at 11:44:47

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.005E+03 s dead time: .07 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/9/95
RP&HPS

Co60 - 0.06 dpm/100cm2
Cs137 0.35 dpm/100 cm2

Total 0.41 dpm /100cm2

Spectrum file: ENV95064 Date: 8-Mar-1995 Time: 11:44:47

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

	number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
	1	K-40	.9953	3.166E+00 +- 6.79%	3.166E+00	0.000E+00
	2	CO-60	.9941	2.679E-02 +- 19.04%	2.679E-02	0.000E+00
	3	CS-137	.9985	1.584E-01 +- 6.70%	1.584E-01	0.000E+00
	4	Tl-208T	.9986	5.612E-02 +- 7.87%	5.612E-02	0.000E+00
	5	Pb-210U	.9995	2.416E-01 +- 9.86%	2.416E-01	0.000E+00
	6	Pb-212T	.9982	1.900E-01 +- 5.85%	1.900E-01	0.000E+00
	7	Pb-214U	.8965	1.216E-01 +- 5.21%	1.216E-01	0.000E+00
	8	Bi-214U	.9779	1.109E-01 +- 7.19%	1.109E-01	0.000E+00
	9	Ra-224T	.9718	2.857E-01 +- 12.87%	2.857E-01	0.000E+00
C	10	Ra-226U	.9851	1.067E+00 +- 7.76%	1.067E+00	0.000E+00
	11	Ac-228T	.9653	2.004E-01 +- 6.63%	2.004E-01	0.000E+00
	12	Th-234U	.9996	1.100E-01 +- 25.62%	1.100E-01	0.000E+00
C	13	U-235	.9999	6.480E-02 +- 7.76%	6.480E-02	0.000E+00
				5.799E+00	5.799E+00	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 16-Mar-1995 10:47: 9

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95068

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- MASELIN #13 (ROOF IN CONN DUCT), ENV950068, 3/7
Spectrum file name: ENV95068
Sample identifier : MCGINNIS
Sample size : 9.300E+01 100cm2
Measured by : FCD

Date of Activity Calculation : 10-Mar-1995 at 12:27: 4
Collect started on : 10-Mar-1995 at 12:27: 4
Collect ended on : 10-Mar-1995 at 14:23:49

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.005E+03 s dead time: .07 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked background file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked background subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/16/95
RP&HPS

Cs137 - 0.165 dpm/100 cm²

Spectrum file: ENV95068 Date: 10-Mar-1995 Time: 14:23:49

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

	number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
	1	K-40	.9996	5.538E-01 +- 30.68%	5.538E-01	0.000E+00
	2	CS-137	.9936	2.924E-01 +- 7.25%	2.924E-01	0.000E+00
	3	Pb-210U	.9998	3.879E-01 +- 11.44%	3.879E-01	0.000E+00
	4	Pb-212T	.9965	8.481E-02 +- 12.08%	8.481E-02	0.000E+00
	5	Pb-214U	.8996	1.210E-01 +- 7.67%	1.210E-01	0.000E+00
	6	Bi-214U	.9976	2.238E-01 +- 9.92%	2.238E-01	0.000E+00
C	7	Ra-226U	.9742	1.022E+00 +- 12.52%	1.022E+00	0.000E+00
	8	Th-234U	.9998	1.602E-01 +- 20.63%	1.602E-01	0.000E+00
C	9	U-235	.9992	6.209E-02 +- 12.52%	6.209E-02	0.000E+00
				2.908E+00	2.908E+00	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 16-Mar-1995 10:50:15

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95069

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- MASELIN #14 (ROOF IN STACK), ENV950069, 3/7/95
Spectrum file name: ENV95069
Sample identifier : MCGINNIS
Sample size : 2.800E+01 100cm2
Measured by : FCD

Date of Activity Calculation : 10-Mar-1995 at 14:48: 7
Collect started on : 10-Mar-1995 at 14:48: 7
Collect ended on : 10-Mar-1995 at 16:44:56

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.009E+03 s dead time: .13 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/16/95
RP&HPS

No Detectable Activity (man made)

Spectrum file: ENV95069 Date: 10-Mar-1995 Time: 16:44:56

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	Pb-210U	.9929	5.618E-01 +- 16.12%	5.618E-01	0.000E+00
2	Pb-212T	.9983	5.915E-02 +- 38.09%	5.915E-02	0.000E+00
			6.210E-01	6.210E-01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 16-Mar-1995 10:53:22

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95070

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- MASELIN #15 (ROOF JIB CRANE), ENV950070, 3/7/95
Spectrum file name: ENV95070
Sample identifier : MCGINNIS
Sample size : 5.600E+01 100cm2
Measured by : FCD

Date of Activity Calculation : 10-Mar-1995 at 16:45:50
Collect started on : 10-Mar-1995 at 16:45:50
Collect ended on : 10-Mar-1995 at 18:42:38

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.008E+03 s dead time: .11 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/16/95
RP&HPS

No Detectable Activity (mean model)

Spectrum file: ENV95070 Date: 10-Mar-1995 Time: 18:42:38

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	Pb-210U	.9998	4.583E-01 +- 11.28%	4.583E-01	0.000E+00
2	Bi-214U	.9987	1.141E-01 +- 21.93%	1.141E-01	0.000E+00
			5.724E-01	5.724E-01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 16-Mar-1995 10:59:12

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95071

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- MASELIN #16 (ROOF IN N.FIL.PLEN), ENV950071,3/7
Spectrum file name: ENV95071
Sample identifier : MCGINNIS
Sample size : 1.860E+02 100cm2
Measured by : FCD

Date of Activity Calculation : 13-Mar-1995 at 8:41:51
Collect started on : 13-Mar-1995 at 8:41:51
Collect ended on : 13-Mar-1995 at 10:38:38

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.007E+03 s dead time: .10 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/16/95
RP&HPS

Cs 137 - 0.19 dpm/100 cm²

Spectrum file: ENV95071 Date: 13-Mar-1995 Time: 10:38:38

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

	number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
	1	K-40	.9997	3.710E-01 +- 24.73%	3.710E-01	0.000E+00
	2	CS-137	.9978	8.425E-02 +- 9.03%	8.425E-02	0.000E+00
	3	Tl-208T	.9995	8.608E-03 +- 28.73%	8.608E-03	0.000E+00
	4	Pb-210U	1.0000	9.678E-02 +- 18.12%	9.678E-02	0.000E+00
	5	Pb-212T	.9932	2.653E-02 +- 17.87%	2.653E-02	0.000E+00
	6	Bi-214U	.9808	2.695E-02 +- 22.48%	2.695E-02	0.000E+00
C	7	Ra-226U	.9759	1.936E-01 +- 24.23%	1.936E-01	0.000E+00
C	8	U-235	.9995	1.176E-02 +- 24.23%	1.176E-02	0.000E+00
				8.195E-01	8.195E-01	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 16-Mar-1995 11: 6:24

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95072

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- MASELIN #17 (ROOF\INLET VENT REG), ENV950072,3/
Spectrum file name: ENV95072
Sample identifier : MCGINNIS
Sample size : 9.300E+01 100cm2
Measured by : FCD

Date of Activity Calculation : 13-Mar-1995 at 12:47:20
Collect started on : 13-Mar-1995 at 12:47:20
Collect ended on : 13-Mar-1995 at 14:44: 8

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.008E+03 s dead time: .11 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\LIBRARY.ILF
with 38 isotopes and 191 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\MDALIB1.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 3/16/95
RP&HPS

Cs137 - 0.07 dpm/100 cm2

Spectrum file: ENV95072 Date: 13-Mar-1995 Time: 14:44: 8

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/100cm2) measured	decay corrected	saturation
1	CS-137	.9804	3.271E-02 +- 14.60%	3.271E-02	0.000E+00
			3.271E-02	3.271E-02	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

Rockwell International
Rocketdyne Division

RADIATION SURVEY REPORT

BUILDING/AREA T009
ROOM East High Bay Roof

PURPOSE: Free Release

SAMPLE NUMBER	DATE SAMPLED	DATE ANALYZED	DESCRIPTION AND LOCATION	UNITS / LIMIT				
	See	attached	See attached		See	attached		

COMMENTS: Suitable for disposal as non radioactive waste

See attached

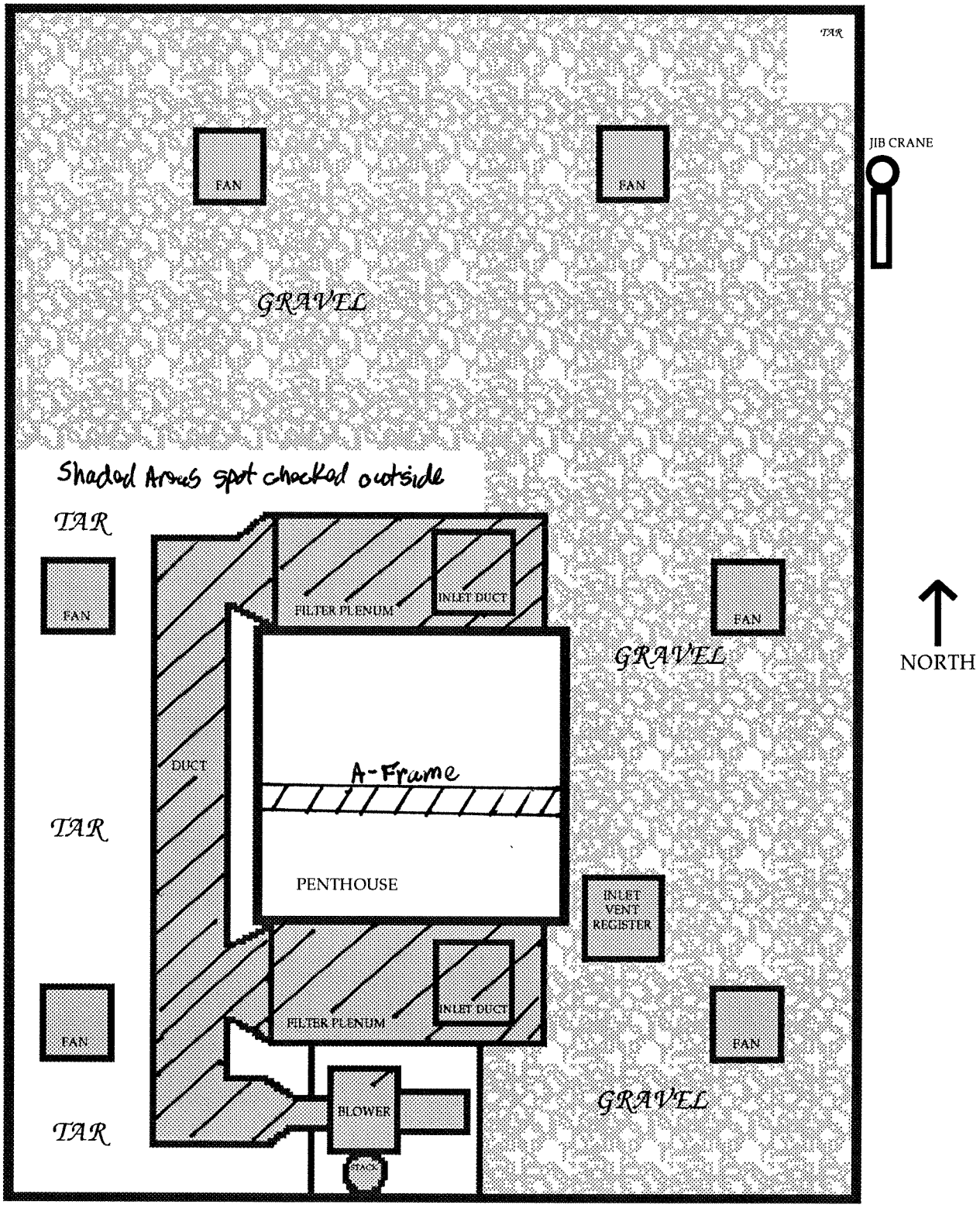
INSTRUMENT	Ludlum12α	Ludlum12β		
IDENTIFICATION	381724	381723		
CALIBRATION DUE	4-14-95	3-17-95		
BACKGROUND	2cpm	60cpm		
EFFICIENCY	7.3dpm/cpm	7.4dpm/cpm		
COUNT TIME	NA	NA		

SAMPLED BY: E.R. McGinnis ANALYZED BY: E.R. McGinnis

FORM 732-A REV 1-91

T009 EAST HIGH BAY ROOF DIAGRAM

DIRECT READING SURVEYS



AREAS SURVEYED ARE INDICATED

INSTRUMENTS:

ALPHA- LUDLUM 12 # 381724

CAL. DUE 4-14-95

BETA- LUDLUM 12 # 381723

CAL. DUE 3-17-95

SURVEYED BY E.R. McGinnis E.R. McGinnis

DATE 3-16-95

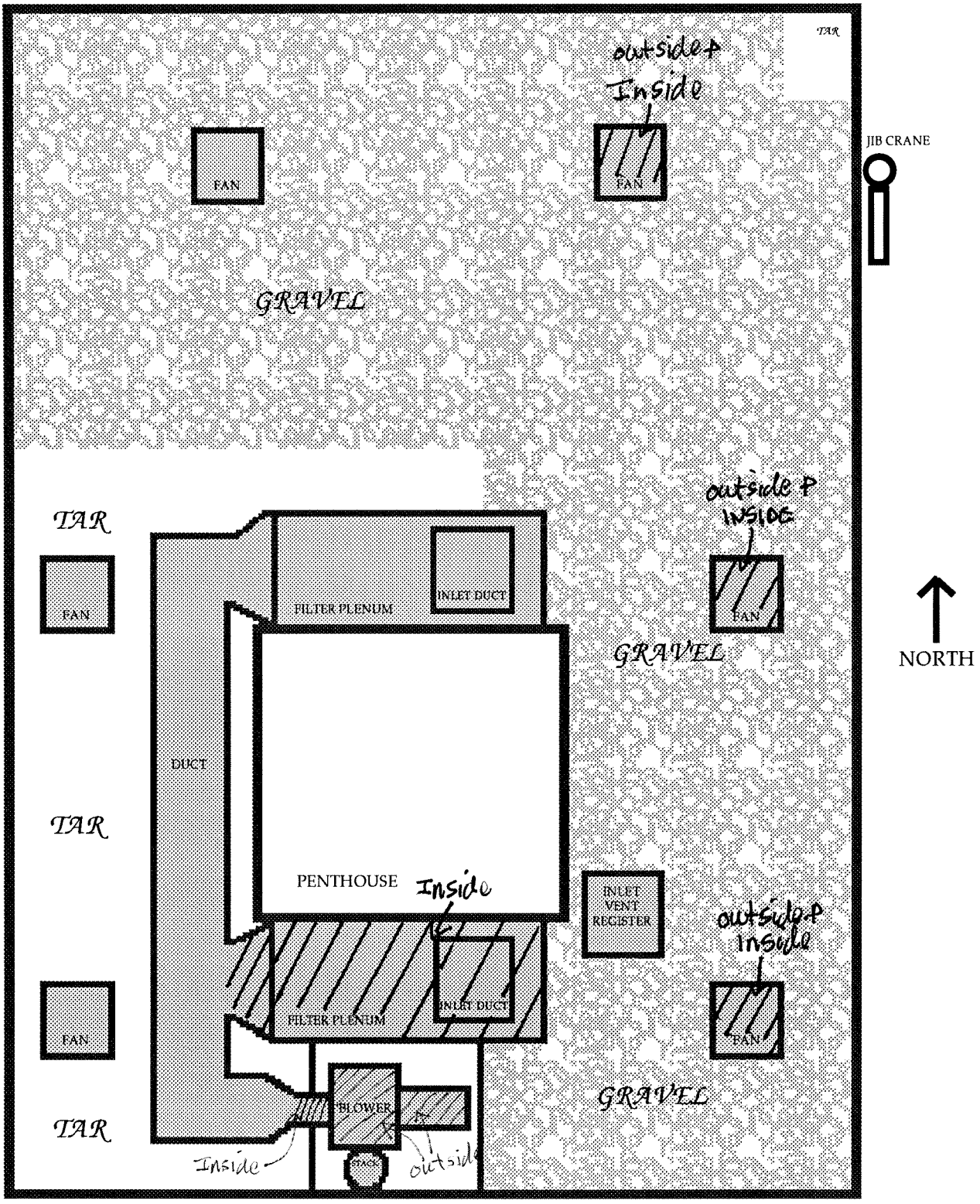
RESULTS: NDA dpm/100cm2 alpha

NDA dpm/100cm2 beta

NOTE: NDA means No Detectable Activity above background radiation levels.

T009 EAST HIGH BAY ROOF DIAGRAM

DIRECT READING SURVEYS



AREAS SURVEYED ARE INDICATED

INSTRUMENTS:

ALPHA- LUDLUM 12 # 381724

CAL. DUE 4-14-95

BETA- LUDLUM 12 # 381723

CAL. DUE 3-17-95

SURVEYED BY E.R. MCGINNIS & R. MCGINNIS

DATE 3-14-95

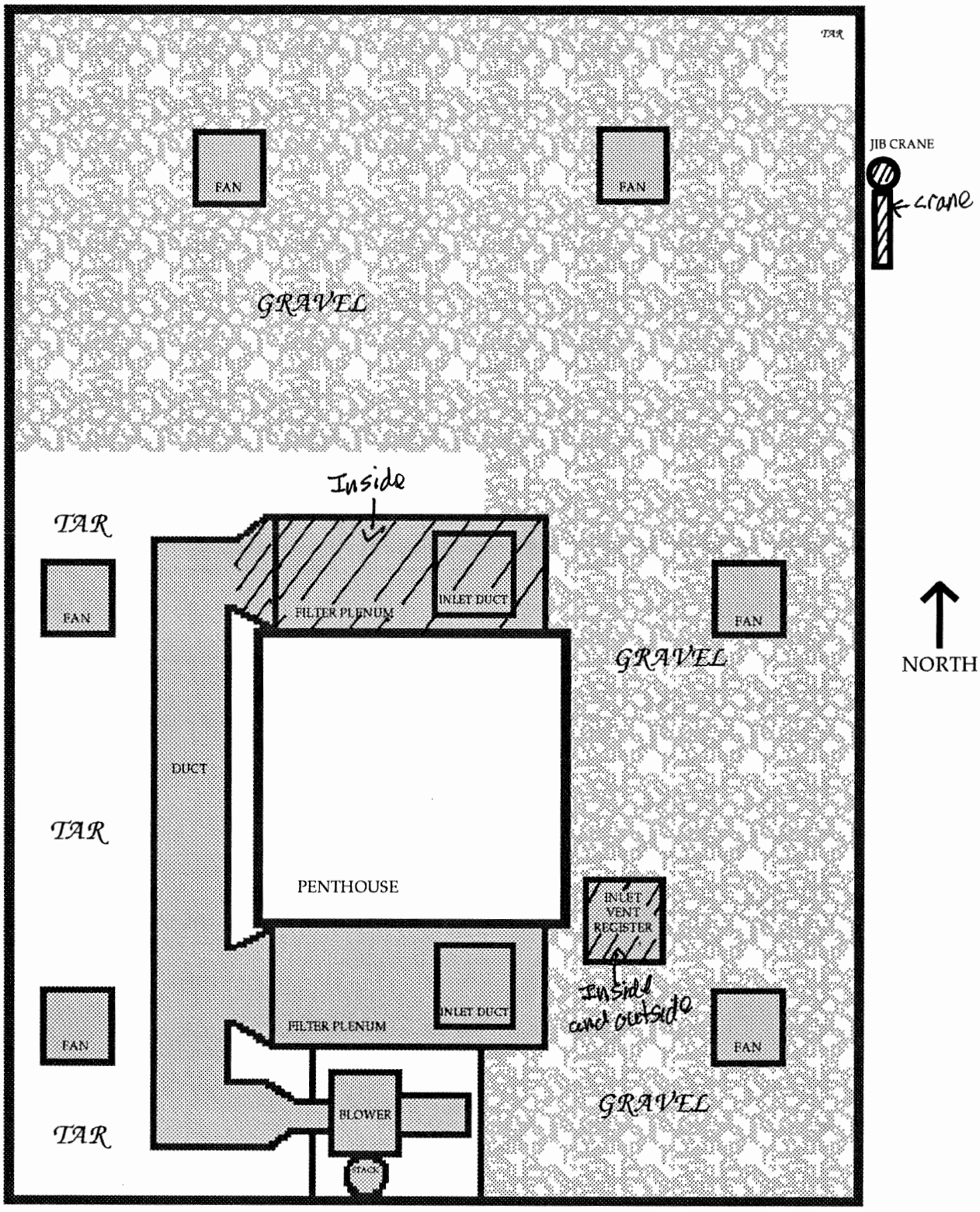
RESULTS: NDA dpm/100cm2 alpha

NDA dpm/100cm2 beta

NOTE: NDA means No Detectable Activity above background radiation levels.

T009 EAST HIGH BAY ROOF DIAGRAM

DIRECT READING SURVEYS



AREAS SURVEYED ARE INDICATED

INSTRUMENTS:

ALPHA- LUDLUM 12 # 381724

CAL. DUE 4-14-95

BETA- LUDLUM 12 # 381723

CAL. DUE 3-17-95

SURVEYED BY E.R. McGinnis ER McGinnis

DATE 3-7-95

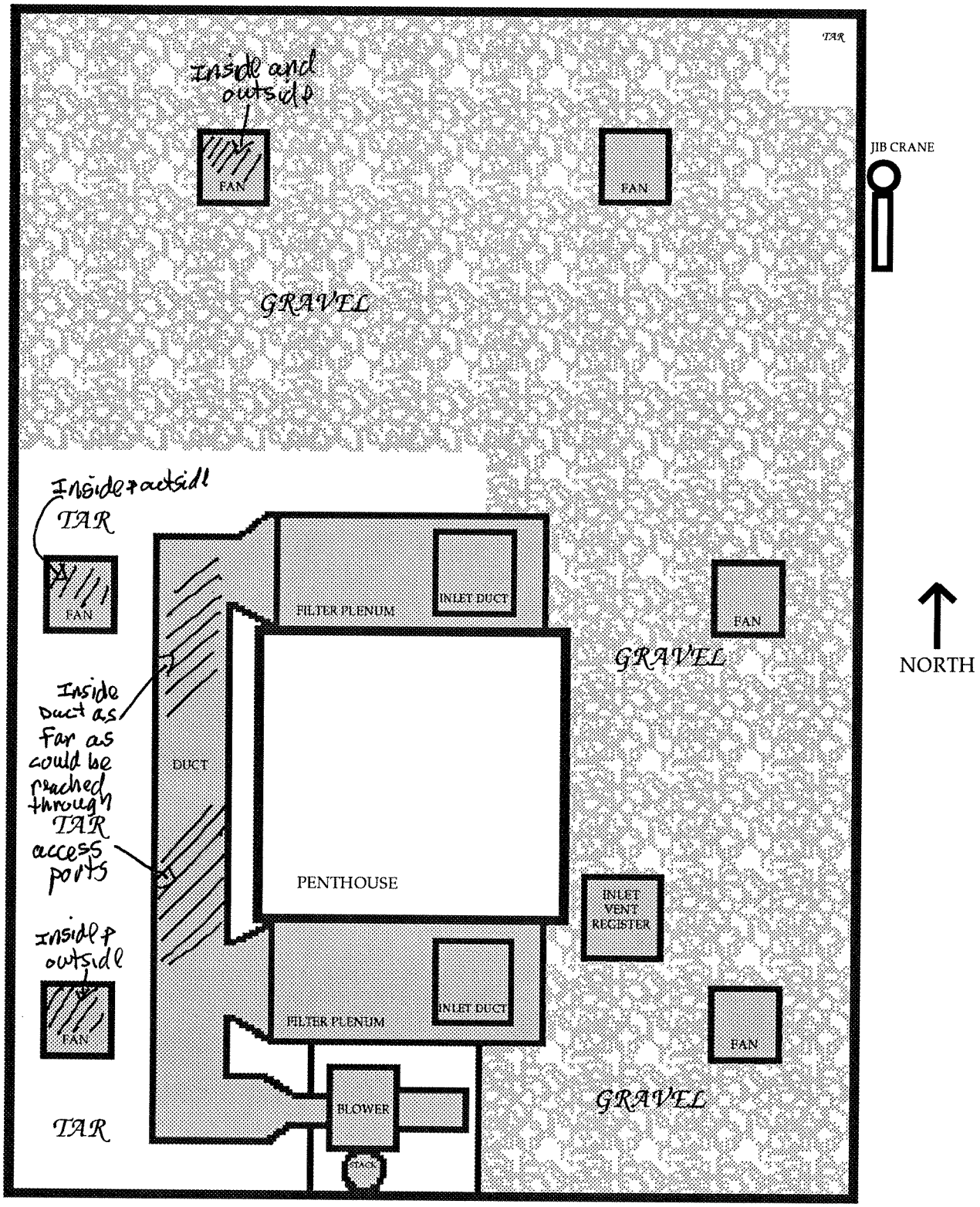
RESULTS: NDA dpm/100cm2 alpha

NDA dpm/100cm2 beta

NOTE: NDA means No Detectable Activity above background radiation levels.

T009 EAST HIGH BAY ROOF DIAGRAM

DIRECT READING SURVEYS



AREAS SURVEYED ARE INDICATED

INSTRUMENTS:

ALPHA- LUDLUM 12 # 381724

CAL. DUE 4-14-95

BETA- LUDLUM 12 # 381723

CAL. DUE 3-17-95

SURVEYED BY E.R. MCGINNISER MCGinnis

DATE 3-6-95

RESULTS: NDA dpm/100cm2 alpha

NDA dpm/100cm2 beta

NOTE: NDA means No Detectable Activity above background radiation levels.

Bldg 009 East High-Bay
Room 131

Concrete Floor Core Data Package

October 26, 1995

Building 009 Floor concrete

Sample	Eff. Mass	K-40	Co-60	Eu-152	Eu-154	Total
	grams	pCi/sample	pCi/sample	pCi/sample	pCi/sample	pCi/sample
1	362	4632	0	37.04	0	7076
2	429	5500	13.42	13.99	0	8431
3	394	5043	11.76	18.88	0	5812
4	442	5667	0	21.51	1.71	6946

Sample	K-40	Co-60	Eu-152	Eu-154	Total
	pCi/g	pCi/g	pCi/g	pCi/g	pCi/g
1	12.8	-	0.10	-	19.55
2	12.8	0.03	0.03	-	19.65
3	12.8	0.03	0.05	-	14.75
4	12.8	-	0.05	0.004	15.71
Average	12.8	0.03	0.06	0.004	17.42
Mimimum Detectable Activity (pCi/g)		0.02	0.02	0.01	
EPA/NRC release limits (pCi/g)		2.4	6	6	
Rocketdyne release limits (pCi/g)		0.7	5.9	1.5	

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95089

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- CONCRETE CORE #1, ENV950089, 5/4/95
Spectrum file name: ENV95089
Sample identifier : TUTTLE
Sample size : 1.000E+00 CORE
Measured by : FCD

Date of Activity Calculation : 1-May-1995 at 11:23:26
Collect started on : 1-May-1995 at 11:23:26
Collect ended on : 1-May-1995 at 13:20:13

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.007E+03 s dead time: .10 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

fficiency calibration requested : CP010495
fficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\T020LIB.ILF
with 38 isotopes and 406 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\T020LIB.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 5/4/95
RP&HPS

Eu-152 37.02 pCi
Eu-154 MDA = 5.0 pCi
Co-60 MDA = 6.7 pCi

Spectrum file: ENV95089 Date: 1-May-1995 Time: 13:20:13

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/CORE) measured	decay corrected	saturation
1	K-40	.9992	4.632E+03 +- 4.74%	4.632E+03	0.000E+00
2	Eu-152	.9137	3.704E+01 +- 3.62%	3.704E+01	0.000E+00
3	Tl-208T	.9869	5.421E+01 +- 4.13%	5.421E+01	0.000E+00
4	Tl-210U	.8593	2.718E+00 +- 29.19%	2.718E+00	0.000E+00
5	Pb-212T	.9783	4.236E+01 +- 7.10%	4.236E+01	0.000E+00
6	Pb-214U	.7769	5.079E+01 +- 5.37%	5.079E+01	0.000E+00
7	Bi-214U	.8682	9.171E+01 +- 4.42%	9.171E+01	0.000E+00
8	Ra-224T	.9901	1.060E+02 +- 17.33%	1.060E+02	0.000E+00
9	Ac-228T	.9473	1.373E+02 +- 3.09%	1.373E+02	0.000E+00
10	Ac-228Tw	.9797	1.861E+03 +- 8.18%	1.861E+03	0.000E+00
11	Th-227A	.9190	1.965E+01 +- 19.71%	1.965E+01	0.000E+00
12	Th-234U	.9385	3.145E+01 +- 18.02%	3.145E+01	0.000E+00
13	U-235	.9620	1.059E+01 +- 12.91%	1.059E+01	0.000E+00
			7.076E+03	7.076E+03	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 4-May-1995 12:53:37

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95090

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- CONCRETE CORE #2, ENV950090, 4/28/95
Spectrum file name: ENV95090
Sample identifier : TUTTLE
Sample size : 1.000E+00 CORE
Measured by : FCD

Date of Activity Calculation : 1-May-1995 at 9:14:33
Collect started on : 1-May-1995 at 9:14:33
Collect ended on : 1-May-1995 at 11:11:21

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.008E+03 s dead time: .11 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

ficiency calibration requested : CP010495
fficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\T020LIB.ILF
with 38 isotopes and 406 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\T020LIB.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 5/4/95
RP&HPS

Eu-152 13.99 pCi
Co-60 ~~Eu-154~~ 13.42 pCi
Eu-154 MDA=4.6 pCi

Spectrum file: ENV95090 Date: 1-May-1995 Time: 11:11:21

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/CORE) measured	decay corrected	saturation
1	K-40	.9992	5.500E+03 +- 4.68%	5.500E+03	0.000E+00
2	CO-60	.9977	1.342E+01 +- 6.34%	1.342E+01	0.000E+00
3	Eu-152	.9252	1.399E+01 +- 5.17%	1.399E+01	0.000E+00
4	Tl-208T	.9939	5.670E+01 +- 4.53%	5.670E+01	0.000E+00
5	Tl-210U	.9921	3.271E+00 +- 36.02%	3.271E+00	0.000E+00
6	Pb-210U	.9975	2.032E+01 +- 11.08%	2.032E+01	0.000E+00
7	Pb-212T	.9959	4.220E+01 +- 7.92%	4.220E+01	0.000E+00
8	Pb-214U	.8760	7.204E+01 +- 3.77%	7.204E+01	0.000E+00
9	Bi-214U	.9509	1.129E+02 +- 4.23%	1.129E+02	0.000E+00
10	Ra-224T	.9992	1.968E+02 +- 10.31%	1.968E+02	0.000E+00
11	Ac-228T	.9471	1.499E+02 +- 3.10%	1.499E+02	0.000E+00
12	Ac-228Tw	.9744	2.029E+03 +- 27.34%	2.029E+03	0.000E+00
13	Th-227A	.9232	3.946E+01 +- 10.94%	3.946E+01	0.000E+00
14	Th-234U	.9024	4.380E+01 +- 17.79%	4.380E+01	0.000E+00
15	Pa-231A	.9983	1.276E+02 +- 16.92%	1.276E+02	0.000E+00
16	U-235	.9937	9.306E+00 +- 14.28%	9.306E+00	0.000E+00
			8.431E+03	8.431E+03	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

SAMPO 90, 1990 PA,MN,JR. 4-May-1995 12:57:20

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95091

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- CONCRETE CORE #3, ENV950091, 4/28/95
Spectrum file name: ENV95091
Sample identifier : TUTTLE
Sample size : 1.000E+00 CORE
Measured by : FCD

Date of Activity Calculation : 1-May-1995 at 13:24:41
Collect started on : 1-May-1995 at 13:24:41
Collect ended on : 1-May-1995 at 15:21:28

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.007E+03 s dead time: .10 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

`ficiency calibration requested : CP010495
--ficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\T020LIB.ILF
with 38 isotopes and 406 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\T020LIB.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N001OP000028 By: _____ Date: 5/4/95
RP&HPS

Eu-152 18.88 pCi
Co-60 11.76 pCi
Eu-154 MDA = 5.1 pCi

Spectrum file: ENV95091 Date: 1-May-1995 Time: 15:21:28

********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/CORE) measured	decay corrected	saturation
1	K-40	.9997	5.043E+03 +- 4.71%	5.043E+03	0.000E+00
2	CO-60	.9958	1.176E+01 +- 8.72%	1.176E+01	0.000E+00
3	Tl-208T	.9635	4.973E+01 +- 4.65%	4.973E+01	0.000E+00
4	Tl-210U	.8620	1.924E+00 +- 49.25%	1.924E+00	0.000E+00
5	Pb-212T	.9927	3.128E+01 +- 9.27%	3.128E+01	0.000E+00
6	Pb-214U	.8606	5.225E+01 +- 5.96%	5.225E+01	0.000E+00
7	Bi-214U	.9244	9.300E+01 +- 4.32%	9.300E+01	0.000E+00
8	Ra-224T	.9986	1.216E+02 +- 13.84%	1.216E+02	0.000E+00
9	Ac-228T	.9251	1.453E+02 +- 3.50%	1.453E+02	0.000E+00
10	Th-227A	.8228	2.060E+02 +- 13.73%	2.060E+02	0.000E+00
11	Th-234U	.9468	4.885E+01 +- 16.11%	4.885E+01	0.000E+00
12	U-235	.9965	6.934E+00 +- 14.46%	6.934E+00	0.000E+00
			5.812E+03	5.812E+03	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

Eu-152 = 18.88 pCi

SAMPO 90, 1990 PA,MN,JR. 4-May-1995 13: 0:28

G A M M A S P E C T R U M A N A L Y S I S R E P O R T

FOR ENV95092

Rockwell Int'l/ Rocketdyne Environmental Lab T100
Sample description: T009 D&D- CONCRETE CORE #4, ENV950092, 4/28/95
Spectrum file name: ENV95092
Sample identifier : TUTTLE
Sample size : 1.000E+00 CORE
Measured by : FCD

Date of Activity Calculation : 1-May-1995 at 15:22:51
Collect started on : 1-May-1995 at 15:22:51
Collect ended on : 1-May-1995 at 17:19:40

Decay time : 0 years 0 days 0 hours 0 minutes
Live time: 7.000E+03 s real time: 7.009E+03 s dead time: .13 %

Calibration Files

Shape calibration requested : CP010495
Shape calibration used : CP010495
Created : 5-Jan-1995 12:44:44
Modified : 5-Jan-1995 14:58:33

Energy calibration requested : CP010495
Energy calibration used : CP010495
Created : 5-Jan-1995 12:44: 2
Modified : 5-Jan-1995 14:48:41

Efficiency calibration requested : CP010495
Efficiency calibration used : CP010495
Created : 16-Sep-1994 14:17:36
Modified : 5-Jan-1995 14:49:20

Last search discrimination level: 3.00
Last search FROM channel 12 TO channel 8180
Last fitting discrimination level: 1.64
Last fit FROM channel 1 TO channel 8192
Identification energy tolerance : .70
Minimum intensity conv. factor : 10.00
Gamma reference library : C:\SAMPO\LIBRARY\T020LIB.ILF
with 38 isotopes and 406 gamma lines.

MDA library name: C:\SAMPO\LIBRARY\T020LIB.ILF 3
MDA energy tolerance: .70 keV
MDA decision limit 1-alpha: 95.00 %
MDA detection limit 1-beta: 95.00 %

Peaked backround file: C:\SAMPO\SPECTRA\BM020895.PTF
Energy tolerance for peaked backround subtraction: .70 keV
Threshold factor for peak areas: 1.00

Report Reviewed and
Conforms to N0010P000028 By: _____ Date: 5/4/95
RP&HPS

Eu-152 21.51 pCi
Eu-154 1.71 pCi
Co-60 MDA = 1.2 pCi

Spectrum file: ENV95092 Date: 1-May-1995 Time: 17:19:40

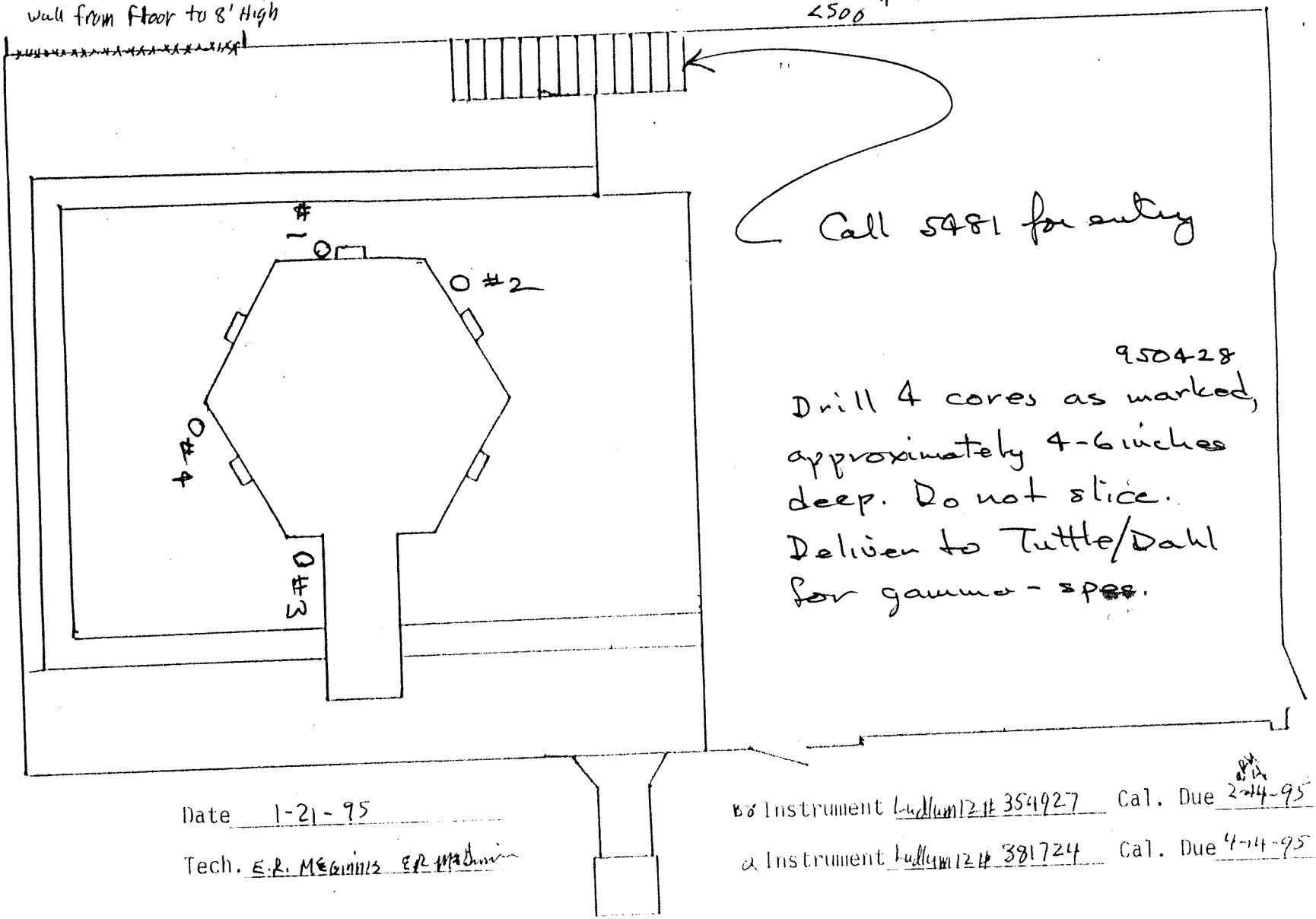
********** R A D I O N U C L I D E A N A L Y S I S R E P O R T *******

number	nuclide	conf.value	Activity (pCi/CORE) measured	decay corrected	saturation
1	K-40	1.0000	5.667E+03 +- 4.67%	5.667E+03	0.000E+00
2	Eu-152	.9302	2.151E+01 +- 5.78%	2.151E+01	0.000E+00
3	Eu-154	.9999	1.710E+00 +- 32.66%	1.710E+00	0.000E+00
4	Tl-208T	.9383	5.389E+01 +- 4.83%	5.389E+01	0.000E+00
5	Pb-212T	.9853	1.693E+01 +- 21.62%	1.693E+01	0.000E+00
6	Pb-214U	.9532	7.344E+01 +- 5.22%	7.344E+01	0.000E+00
7	Bi-214U	.9020	1.096E+02 +- 4.05%	1.096E+02	0.000E+00
8	Ra-224T	.9421	1.312E+02 +- 23.81%	1.312E+02	0.000E+00
9	Ac-228T	.9622	1.529E+02 +- 3.40%	1.529E+02	0.000E+00
10	Th-227A	.1872	4.693E+02 +- 6.96%	4.693E+02	0.000E+00
11	Th-231A	.9919	1.540E+01 +- 20.06%	1.540E+01	0.000E+00
12	Th-234U	.9270	3.887E+01 +- 17.56%	3.887E+01	0.000E+00
13	Pa-231A	.9953	1.222E+02 +- 26.30%	1.222E+02	0.000E+00
14	U-234U	.9916	6.258E+04 +- 13.97%	6.258E+04	0.000E+00
15	U-235	.9861	1.092E+01 +- 8.74%	1.092E+01	0.000E+00
			6.946E+04	6.946E+04	0.000E+00

Flags: C = check; nuclide is a part of an underdetermined solution

Direct Readings:
< 5000 dpm/100cm²-βγ
~~GPM < 1000 dpm/100cm² α~~
< 500

Area surveyed is shaded
wall from floor to 8' High



Call 5481 for entry

950428

Drill 4 cores as marked, approximately 4-6 inches deep. Do not slice. Deliver to Tuttle/Dahl for gamma-spec.

Date 1-21-95

Tech. E.R. McGinnis E.R. McGinnis

ßγ Instrument Ludlum 12 # 354927 Cal. Due 2-14-95

α Instrument Ludlum 12 # 381724 Cal. Due 4-14-95