Pu-Plant Room 122 and 123

Room 122 was used to X-ray the fuel rods after welding, and room 123 was used to load and weld fuel rods. After equipment and glovebox removal, the floor coating was removed and a few contaminated spots on the walls were blasted. We also blasted the entire welding pit area and floor of room 123. After blasting we performed a scan survey and marked eleven spots on the floor from 103 to 618 dpm. These spots were blasted and resurveyed before we started our final release survey.

We used a Ludlum 2220 with a Ludlum 43-17 low energy probe to survey all cracks and seams. A Ludlum 2220 with a Ludlum 43-68, 43-4 ro 43-27 was used with P-10 gas for all alpha release surveys. All smears were taken on Whatman smear paper and counted in a Hewlett-Packard 5560A (low background) auto- matic sample counter.

W. A. Rogers

Pu PLANT RELEASE SURVEY PLAN

- 1. For initial decontamination all surfaces will be scanned with an Eberline PRM-6 with a Radeco alpha scintillation probe. Background will be maintained at less than 100 CPM(200 dpm). All areas greater than twice background will be marked and reading will be taken with a release survey instrument to document contamination levels and random large area smears will be taken.
- 2. After these initial areas are decontaminated, all floor surfaces and the base of each wall will be completely surveyed with a digital readout release instrument and a Ludlum large area gas proportional alpha detector and random smear samples will be taken. Release instrumentation shall have a minimum detectable level of at least 50 dpm/100 cm².
- 3. All hot spots greater than or equal to 100 dpm/100 cm² identified will be decontaminated.
- 4. A random survey with a release instrument will be taken on the walls and ceiling to try to identify any other problem areas.
- 5. If no problems are identified, each room will be gridded off into approximately 2 meter on a side square on the walls and floor and five readings will be taken in each grid. Readings shall be taken in the center and at the midpoint from the center to each corner.
- 6. Each ceiling has closely spaced rafters that will not be easily divided into 2 meter squares. Because of this, we will take readings on the bottom of each rafter at 2 meter intervals and one reading centered on the ceiling between rafters. Readings on each rafter will be staggered one meter.
- 7. These release readings will be documented on a map that is drawn to approximately scale measurements in meters.
- 8. Data provided on each map:
 - 1. Survey block numbers, identifiable on a scale drawings.
 - a. room or area name or number.
 - b. surface surveyed.
 - c. type of measurement and units.
 - 2. Name of surveyor taking measurements, date of survey, and location.

- Type, model number, calibration data, sensitivity limit, background, and source response of instruments used in survey.
- 4. When a block surveyed is below the sensitivity of the instrument, the fact that such a measurement was made should be included as significant data.
- 9. All release survey smears will be taken on Whatman smear paper and counted in the automatic sample counters. Each smear will cover approximately 100 cm².
- 10. There will be at least 30 survey blocks in each area to be released.
- 11. Piping and ductwork will be surveyed on all accessable sides at 2 meter intervals. If more than one line is running parallel in a pipe rack, readings shall be staggered at one meter intervals.
- 12. All readings taken that only cover part of a probe area will be corrected to dpm/100 cm².
- 13. No survey block will measure less than one meter on a side.
- 14. No survey block will measure more than 3 meters on a side.
- 15. All portable release survey instruments will be calibrated quarterly and all instruments in use will be source checked daily.

Table I-1. Acceptable surface contamination levels

Nuclides ⁽¹	Average ^b , c, f	Maximum ¹ , I, j	Removable b, c, f
U-nat, U-235, U-238, and associated decay products	5,000 djin a/100 cm²	15,000 dpm/m/100 cm ²	1,000 dpm α/100 cm ²
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm²	300 dpm/100 cm ²	20 dpm/100 cm²
Th-nat, Th-232, Sr-90 Ra-223, Ra-224, U-232, I-126, I-131, I-133	1,000 dpm/100 cm ²	3,000 dpm/100 cm ²	200 dpm/100 cm ²
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and other noted above.	5,000 dpm βγ/100 cm ²	15.000 dpm B _f /100 cm ²	1,000 dpm βγ/100 cm²

Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides should apply independently.

^bAs used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

Measurements of average contaminant should not be averaged over more than 1 square meter. For objects of less surface area, the average should be derived for each such object.

The maximum contamination level applies to an area of not more than 100 cm².

The amount of removable radioactive material per 100 cm² of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.

The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr at 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.

	N W	A	rea <u>Ro</u> F	OM I	,			SURVE	· ′			·			OMPLET			•	-81 100jeur		SURVEY.	UNITS /100cm	2		•
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	S — SOUT E — EAST W — WES	WALL	1=15.68 /100 cm²		0-32 5-0			D- 12 S- 3.			0- 5-	24 0	0- 5-	40	D-16 5-0				D- 5-	4	D- 5-	14	0-24 5-3		
	Source	17272 VALUE	r		0-8 0-4 5-3 3-6			0-4 0-4 5-3 5-0	i din		0-8 5-0	0-48 5-0	D-16 S-0	0-10 5-0	0-20 D- 5-6 S-	12		7	0-24 5-0	0-18 5-0	D-4 5-0	0-8	0-32 5-3	D-20 5-0	
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お変ないから	9-14-88	209 48395	0		D-/6 S-O D-20 D-20	**		0-0 5-3 0-0 0-0 3-0 5-0			D- 5- D-20 S-0	D-8 5-3	5-	0 0-4	0-16 5-0 0-36 p- 5-0 5-	44			0- 5- 0-4 1-0	3	5- 0-16 5-0		D-20 5-3 D-28		
		$ASC^{\pm}2$			5-3 5-3 0-200.0 5-0 3-6			0-16 8.4 S-0 5-0			D-8 5-3	D-24 5-0	D-16 5-3	0-4 5-0	D-0 D- 5-6 S-	4			D- 4 5-0	9-8 3-6	D-0 5-0	9-8 5-0	D-12 5-0	0-8 5-0	
- - - 	9-21-88		.2		9-4 5-3 9-8 0-16			0-24 5-0 0-0 0-12				0 · 0 5 · 0	5- 0-8	0-4	0-12 5-6 0-0 p 5-0 s	0			0- 5- 0-0 5-0		5- D-0	0-0 5-0	0-16 5-0 0-4 5-0	D-12 5-0	
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			-						5-3				3) Pm MAX			
	·								D-32 D-16 5-3 5-0				9 D-12 5-0 BEAM										7		

PLANT PU AREA Pmi 122.	
SURVEYED BY AL ST	
INST. 1.1101.111 2220 - \$ 50064 DET. 43.4	
SOURCE CK 259-27/ BKG/	

ASC 0 1 836 00/15

CTD. BY 1 Blub

SOURCE CK. AVC. 27

READ	INCS	IN	DPH	/100	£m²
<u>u</u>	*****	441	D	, , , , ,	~ !!!

SAIPLE FOR DESCRIPTION	DIR CPH	ECT	SHEAR
Conduct in Rm 122			
O-mate N	7	-98	6
S	7 30	14	0
1 - matei T	0.	0	0
B	5	70	0
		1000	
Pint Disture Pm		×7	
1220	٠.		
Altida N. Top	2	14	3
5- Tip	1.4	28	0
· V		1	
Sucil, note	9	163	3
South	10	70	0
			1
Completed 7-28-89			
	<u> </u>	<u> </u>	
Direct Snear	<u> </u>		
Total DPM 357 12	<u> </u>	<u> </u>	
# Readings 8	<u> </u>		
Aug. DPM/100 cm2 44.63 1.5	<u> </u>		<u> </u>
Max DPM/100 cm2. 98 6	<u> </u>		
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MDA-38.81 dpm/100 cm2			<u> </u>
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DooR#1 RM 122

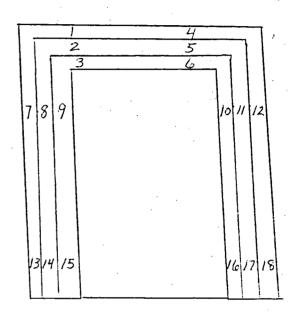
SOUTH DOOR

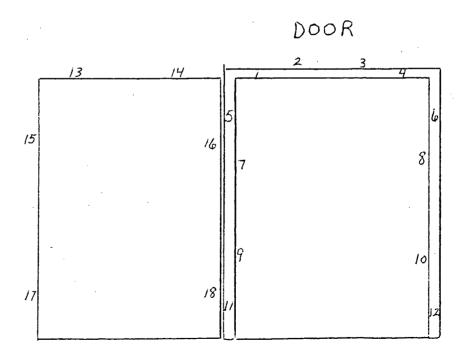
LOCATION OF COUNTS

7-20-89

FRAME

ILP





PLANT <u>PU</u>	AREARM 122
SURVEYED BY ILF	2
INST. LIDLUH 2220	* 152834 DET. 43-4
SOURCE CK 308-288	BKG. / (PM)
DATE: 7-20-80	SOURCE #: 1/2 VALUE: 1//3 DAN

SOURCE CK AVG. 35 BKC. .3 PATE: 7-21-89

READINGS IN DPN/100 cm²

SMIPLE	D	OR	DESCRIPTION

DIRECT CPH DPH SMEAR

SMITTE V OR DESCRIPTION	.0	CPH	DPM	SHEAR
RM 122 DOOR #1 FRAME				
		4	24	6
<i>F</i>	-2	/	6	3
F	-3	2	12	0
F.	-4	9.	54	0
F	-5	4	24	0
	6	2	_/2	6
	.7	5	_30	3
	8	1	b	0 .
	9	1 .	10	0
	10	5	30	0
	11	2	12	3
	12	3	18	. 3
	13	3	_18	3
	14	L/	24	3
	15	3	48	3
•	16	3	18	
	17	2 3	12	3
	0	-	18	9
Derect Smeal	,			
Tatal DPM 732 87				
*Kendings 36 36				
AUG DAM/100cm2 . 20.33 2.42				
MAX DAM /100cm2 54 9-				
MOA	_ _			
MDA 16.63 DPM/160cm²	_ _	<u> </u>		
	_			
	_ _			
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	_ _			
	_ _			

PLANT PU AREA RM 122	ASC 0 1-83600115
SURVEYED BY ILP	CTD. BY 4 m Black
INST. 1.1101.11H 2220 * 52834 DET. 43-4	SOURCE CK. AVG. 35
SOURCE CK 308-288 BKG. 1(PM)	BKC3
PATE: 7-20-89 SOURCE#: 1/2 VALUE: 11/30AM	DATE: 7-21-89

READINGS IN DPH/100 cm²

			S IN DPH/10)O cm ⁻
SAMPLE # OR DESCRIPTION	•	DIR CPH	DPH DPH	SHEAR
RM/22 DOOR#1	DOOR			
(SOUTH DOOR)	D-1	5	30	Ò
	D-2	2	12	0
	۵-3	<u></u>	12	0
· ·	D-41	3.	18	3
	0-5	. 2	12	0
	6	6	36	9
	7	2	12	3
	8	5	30	0
	9	3	18	3
	10	0	0	0
		5	30	0
	12	3.	18	3
	j3	en en	30 1	Ó
	14	9	48	9
	15	Januar Press J	30	3
	16		6	3
	17	1	6	6
	181	2	12	0
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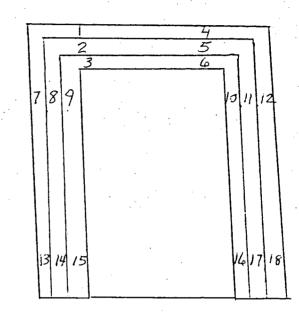
RM 122 DOOR#2 (NORTH DOOR)

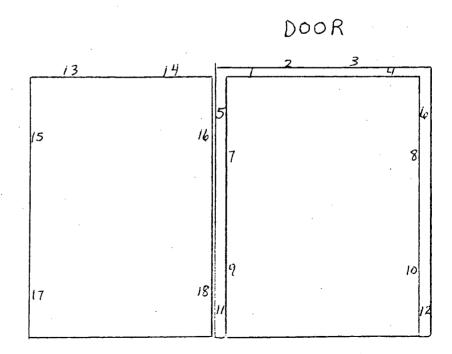
LOCATION OF COUNTS

7-21-89

ILP.

FRAME





		DIRECT	SMEAR
MOA	TOTAL OPM	438	60
23.52 DPM/1000m2	#READINGS	36	36
Section Of Frequency	AVG DPM/200cm	12:17	1.67
•	MAX DPM/100cm2	42	9

PLANT PU AREA RM: 122	ASC 1 83600108
SURVEYED BY ILP	CTD. BY 5. Black
INST. 1.110LIN 2220 * 52834 DET. 43-4	SOURCE CK. AVG. 33
SOURCE CK 268-285 BKG. 2(AM)	BKG. <u>• 2</u>
DATE: 7-21-89 SOURCE#: 1/2 VALUE: 1//30PM	PATE: 7-24-89

· · READINGS IN DPM/100 cm2

SAMPLE # OR DESCRIPTION	•	DIR CPH	ECT DPH	SHEAR
RM 122 DOOR #2	DOOR			No. of the second secon
(NORTH DOOR)	D-1	-4	6	3
	<i>D</i> -2	O	0	3
	D-3	· ·	6	0
	D-4	1.	6	
	D-5	6	36	3
	6	2	12	. 0
	7		6	3
	8		6	0
	9	2	12	3
·	10	J	10	0
and the second s	11	L!	24	3
	12	- / ·	6	. 3
	13	1	6	
	14	<u>6</u>	36	0
		£.!	1 24	0
	16	<u> </u>	16	0
	17 18	7	142	3
	J 0	0	0	3
	·		 	
	•			
		•		
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			1	
				••

PLANT PU AREA RM:122	ASC 0
SURVEYED BY ILP	CTD. BY
INST. 1.1101.11H 2220 * 52834 DET. 43-4	SOURCE CK. AVG.
SOURCE CK 268-285 BKG. 2(AM)	BKG
DATE: 7-21-89 SOURCE#: 1/2 VALUE: 1/13 DAM	DATE:

READINGS IN DPH/100 cm²

• DIRECT CPH SAMPLE O OR DESCRIPTION DPH SHEAR RM 122 DOOR#2 FRAME (NORTH DOOR) F-/ /8 F-2 F-3 F-4 F-5 Q .3 \circ . /3 OQ \odot

		E		AR	EA ROC					YPE OF	SURVE	Y 04	DIREC	7 + S	MEAR		_ c	OMPLET	ION DAT	re	11-2	28						
	N	Ĵ.,	_ (,	INAL (GRIO		1	YPE OF	INSTRU	JMENT .	LUDLUM	2220/	DET.	43-68	_ н	P. SIGN	ATURE	w.c	1, Por	مسعدي		DPM	100CM	2		
									S	ERIAL !	NUMBER	4839	5,5006	9/46	172,46	173		AUTO.	SAMPL	E COUA	ITER I	T 836/2/	0115	#2	o <i>8</i>			
	1.5cm	w = 1 M	eter		IRECT MEAR								1 12 74 7									,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
	F - FL C - CE N - NO	ILINO RTH	WAL	L DPM	15.66 FIXED		9-16	9-20 5-0	5-24 5-0	0-16	5-12 5-6	9-4 5-0	7-8. 5-0	0-20 3-0	9-24 5-0	8	1	24	7-12 5-0	8		0-20 5-0 20	C-	8	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	D-16 5-3 28		
	S-SO E-EA W-W	ST W	ALL VALL		850 DAM		2-24 3-3 2-36 5-0	3 0-12 5-0 5-144 5-0	-	0-16 5-6 0-36 5-3	5-4 5-6 5-12 5-0	0-12 5-3 p-14 5-0	5- 0-20 5-0 0-8 5-0	9-12 5-0 9-16 5-0	9-20 5-0 9-8 5-6	0-8 5-3 1-32 5-0	5-8 5-3		5- 2-12 5-3	0	S-	6 1T	5-	3		D-24 5-9		\$
	SOURCE			UMENT			P-	32	1 -	28	0-	1 .	0-	8	D-	16	5-24	7-20	0-12	0-4	9-48	228	1-8	5-8 5-3	7-20	7-40	· .	
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	9-15-8			48395			1-0	5-9	3-28	5-0	5-0	5-3	5-44 5-0	5-6	5-3	5-3	3	12 V - 3	P- 5-	24	D- S-	20 3		16	0- 5-	28		
	9-15-8	T-		50069	2		11,					F		* 4 4 4			3,	D-12	2-20	0-8	7 12	0-24		1.28	5 1 U	5-12		
	9-15-8			48395 50069	0							FLO	OR						5-6	Š-0	5-0	5-0	5-6	5-0		5-3		
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	11-3-8			58308	0		5-0	3-	ő	9- 5-	6	5	9	3-	0	5-	90	5-3	y- 5-	6	D 5-	3	D- 5-	0	0- 5-	0		
	11-3-8		<u> 57</u>	37807 37807			p.o 5-0	× 5-3 P-9	1 D-0	15-0	D-12		0-4		5-3	5-0 P-4	5-0	2-4	5-9	D-12.			5-3				BEAM	
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N AREA ROOM																0-27-		•	SURVEY	UNITS			
Z → E	INAL	GRID					MENT <u>64</u> 5830	-	-							, Roya			DPM	/100cm			
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D-DIRECT		5 6 6								\ \.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\	10 10							0 11			3-12 0	16	
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S-SOUTH WALL PRAJOCENE E-EAST WALL FIXED	1						0-4					P-8						D-4			D-8		
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10-31-88 26 .1	e de la company de com		:				5-10			·		5-1											
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		FLOOR								w EST	WALL									Direc	1	line	
	9 44 67							·	,				,			Tot	20	PM		· 17	08	g	
	er i dimenti de la companya de la co															DA DA	110 n/10	20002 12002	14VG-	2	40 0.2 38	2.0	22
	and the state of t													·		// (6		//			·		
	director of the											;			·								

339 195 1.74 ROOM 12 HOIST 3 $\vec{\mathcal{C}}$

SURVEYED BY HARD

INST. LINDLIN 2220 * 48395 DET. 43.68

AM SOURCE CK 222-220 BKG. D. X4

DOTE: 7-28-89 Source # 68 WALUE: 18 DAN

ASC 0 836 00 108

CTD. BY J. Black

SOURCE CK. AVG. 28

BKG. -2
PRTE: 8-2-89

· · READINGS IN DPH/100 cm²

•	SAMPLE 0 OR DESCRIPTION		RECT DPH	SMEAR
	Hout and Trane in			
	Kin 123			
4	Startnw Lea-#1			#
	O D-meter N	CX	\ \ \ \	0
		3.	12	3 2
	S	2	8	6
	,W	2	8	0 4
	2- mater N-	2	1 8	6
	E	3	1/2	6
	5	1	4/	0
	W -		14	3
	U- meter N-	12	1 X	0
	£	13.	112	3 /
	-\$	12	18	0
	<i>w/</i>	14	1/6	0
1	L. meter N	12	18	1 3
Ī	E	1 1.	14.	0
	•	点	18	3
	w .	1 5	120	1 9
-	Hoist Leat I D-note N	0.	10	3
	E	1.5	<u> </u>	0
<u> </u>	. <	P	144	3
	ω	1 3	15	0
<u> </u>	1- METO N		14	3
	. 7	1 10	124	0 /
<u> </u>			10	0
	1()	4.	100	2
_	4-1).d., 1	12	1 8	3 .
-		9	132	
		\$	1 8	
		1 7	128	3
_	1. history	1 . j	1 4	0
	<u> </u>	1 /	-/-	6
- J	<u> </u>	1 <u>0</u>	10	3 0

ASC 1 83600 108 CTD. BY J. Block SURVEYED BY QU 430 INST. 1.1101.11H 2220 - + 1/9395 DET. 43-68 SOURCE CK. AVG. 28 PM SOURCE CK 234-260 BKG. / BKG. 62

PMTE: 7-28-89 SOURCE #: 68/6 VALUE: 1078 OPN PATE: 8-2-85
8-1-89- SOURCE M 3:7-225 STEO-24 READINGS IN DPH/100 cm² DATE: 8-2-89

	SAMPLE & OR DESCRIPTION	DIR CPH	ECT DPH	SHEAR
	Haist Len# 3 - Pm/23 1		1.1	
Γ	1 D. meter N	1	Ц	0
Γ	energin Amerika Santras	0	<i>'</i> 0'	0
		1	0	0
	B/ I	1 -	if	0
·[D-Mister NI	.)	ic/-	0
L	E	2	8	0
Γ		9	36	3
	w	1	4	6
	U- mater N	3	112	0
	E	2	-8	0
5 <u> </u>		5	20	3
Ĺ	1,1	1 .	4	0
:[6-meter N	2	8	0.0
Ĺ	E	2.	8	6
Ē	5	2	1 8	0
		3	12	0
- _	plaint for #4			
-	D-meter M	6	24	. 0
-	27	<u>6</u>	24/	0
1	5	2	8.	0
_	\mathcal{W}	2	0.	3
L	2-mile 1/		8	0
	5	0	0	0
	$\widetilde{\mathcal{W}}$	la.	24	3
, -	4-mater n/	J:	8	3
	4-milli	4	16	3
	\$		4	/
١٢	W	5	20	6 .
<u> </u>	6-hate N	7	16	3
	E	3	12	. 0
; <u> </u>		6	124	0
	W W	11	144	3

PLANT Pu AREA Rin 123	ASC 0 83600/08
SURVEYED BY DYOH	CTD. BY J. Black
INST. 1.101.11H 2220 * 1/8395 DET. 4/3.68	SOURCE CK. AVC. 28
SOURCE CK 234-260 BKG	BKG. 12
DATE: 7- 29 -89 SOURCE # 1/28/ VALUE: 16786PA	PATE: 8-2-89

READINGS IN DPM/100 cm2

	•		ECT		
	SAIPLE F OR DESCRIPTION	СРН	Hqq	SHEAR	
ſ	Theet Too Grenne		X4.		
.	Rm 123 - West arin				
45	Stat NW Corner - Dineta T	2	8	Ò	#65
6/4	P2	3	12	0	_ 66
67		C.F.	18	3	67
68	W	.3	12	Ó	68
61	2-meter T	7	128	0	- 69
70	8	2	18	0	70
71.		2	19	3	7/
72.	ω	2.	18	3	72
73	U- miter T	5	20	ż	- 73
71	<u> </u>	52	8	6	-74
75		3.	112	0	75
76	A / I	2.	8	0	76
22	Gasta T	4	16	0	77
78		4	16	0	78
1	<i>t.</i>	6	104	0	79
P	. 4)	5	100	0	_80
~ {{ [· 9- Mets T	0	8	0	81
93.		1.	1 4.	3	87
23	grand.			0	-83
89	1.7.3	**************************************	ダ	6	-84
85	South arm Them. The	14	12-	3	_ 85 _ 85
86-	· /	0	0	<u>٥</u>	<u> </u>
[37]	<i>,• ¹</i>	(م)	24	0	_&7 _&8 _&9
27-	· · · · · · · · · · · · · · · · · · ·		1 4	0	— ধ্র — ধ্র
87		5	20	0	-87
90	12	1	ا با	- 3	-90
9/	The state of the s)	14	9	- 9 j
12	<u></u>	$\frac{1}{2}$	0.		- 92 - 92
95	A Company of the Comp	8	132	0	- 93 - 24
99	15		1 4	<u> </u>	_ 7 .
35		<u>Q</u>	1 0	0	- 95 - 96
96	\$		1 187	. 0	- Y6

INST. 1.1101.11H 2220 * 4/8395 DET. 4/3-68 SOURCE CK 267-235 BKG. 2

PATE: 8- 1-89 SOURCE #: 68/14VALUE: 16 286AA

ASC 1 836 00/08 CTD. BY 5. Black SOURCE CK. AVG. 28 BKC. -2 DATE: 8-2-85

READINGS IN DPH/100 cm²

D	IREC	T
CPH		D

SAMPLE OR DESCRIPTION	СРН	DPH	SHEAR	•
Heist Dodine Top-East arm	1	X4.		
2 (Start S. End.) D-Math. T	3	12	3	97
8. <u> </u>	1	4	0	98
2. <u>E</u>	2	名	0	99
6 V	1.	4	3	100
1 2かなて	1 2	8	3	101
β	1.4	14		10)
3 E	/	4	0	/03
W	0	0	0	104
5 U-mete. T	15	20	0	105
i B	3	112	3	106
7 <u>F</u>	14	16	_ 3	107
Marine and the second of the s	3.	112	3	/03
6 rut. T	16	24	0	109
10 ATTACHE B	5	8	0	110
I E	2	1.7	0	11/
12 <u> </u>	772	112.	3	
3 . Similar T	11	144	0	1/3
4 B	13	120.	6	
5 <u> </u>	14.	16	3	!!
UI.	4	11/2		
7- Muth ann Toulledone Din-T	13	12-		<i>U</i>
8. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.		20		
9	6	24	0	
2 m-T	6	36	0	
B	2.	8	3	121
3 N	5	20	0	12
4 5	13	12	3	1)
U- yada T	18	32	3	
b B	0	10	0	12
7 11	14	16	6	127
5	11	14	9	
	1	1		, , , , , , , , , , , , , , , , , , ,

PLANT Pa AREA Porio 3	ASC 1 83600 10
SURVEYED BY O. H. + 2D	CTD. BY J. Bloc
INST. 1.1101.11H 2220 * 48395 DET. 43.68	SOURCE CK. AVG. 28
SOURCE CK 267-235 BKG. 2 x4	BKG. <u>-02</u>
PATE: 9-1-89 SOURCE #: 1.91(NALUE:107/10PM	PATE: 8-2-89

READINGS IN DPH/100 cm²

~	•	DIR			
	SAMPLE # OR DESCRIPTION	СРН	DPH	SHEAR	
. [Hist Cardinia	-	X4		 12.
129	O O- meter Top	18 =	12	<u> </u>	129
130-	Bottom	٦.	8	0	130
13!	noith	8	16	6	131
132	Spatte	13-	48	3	132
133	3- meter Top	10	40	3	133
134	β 1	9	8	0	114
135	47.	3	12-	0	135
136	.2.	2	8	0	136
137	4- meter T	9	36	3	- 137
132		3	12	3	138
139	11,	3	12	0	139
140	ک ِ	5.	00	3	140
, ,	Thist Killer Corrain East		1 X G	×4,	··
	0	7	42	3	
	2	0	10	3	
)	109	1102	0	
	. 4	11	1 66	6	 ·
	5	1	1 6	0	·
	1.	15	90	6	
	7	3	18.	0	_
	· %	/	10	3	
	9	3	18	0 /	
	. 10	14	84	3	 .
	•//	7	142	3	
		3	19	0	_
		•			_
			<u> </u>	<u> </u>	
			<u> </u>		<u>, </u>
			!		-
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		·	!		_
`	<u>. </u>		İ		

PLANT Pu AREA Rm123	ASC 1 836 00/0
SURVEYED BY OIL 49D	CTD. BY J. Blac
THIST. 1.11 2220 * 500/4 DET. 143-4	SOURCE CK. AVC. 28
SOURCE CK 3-95-270 BKG. /	BKC
DATE . 8-1-81 Source # 8/1/2 VALUED A 98 DAT	nate: 8-2-89

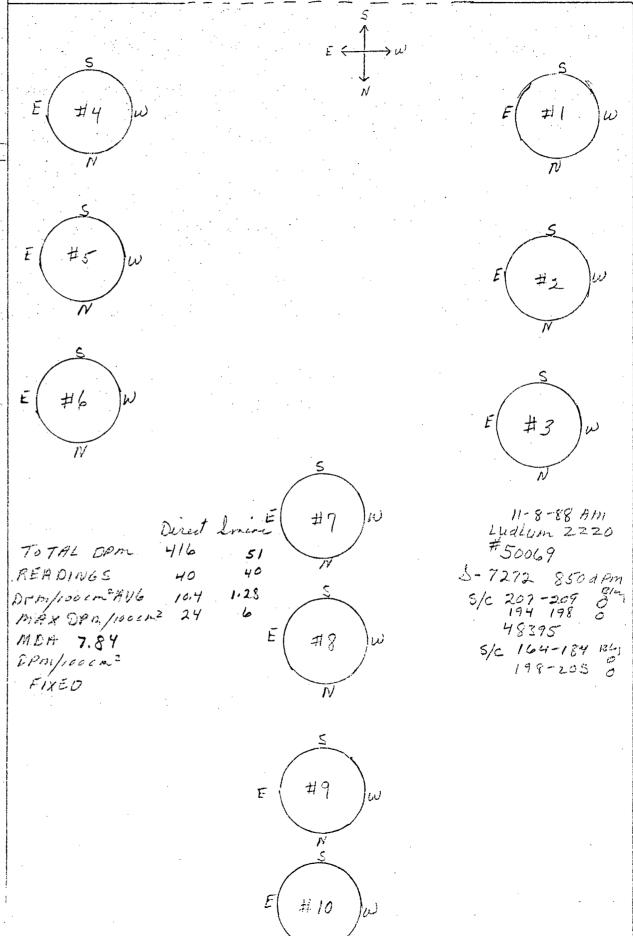
· · READINGS IN DPH/100 cm²

· DIRECT

SAIPLE O OR DESCRIPTION СРН SHEAR DPH Hoist Rellenter Draine West Sile 18 3 クチ 30. 0 24 0 30 0 24 151 60.

PLANT Du AREA Pris 123	ASC 1 83600108
SURVEYED BY A+ 420	CTD. BY J. Block
INST. 1.1101.11H 2220 * 500 56 DET. 43-4	SOURCE CK. AVG. 28
SOURCE CK 295-270 BKG/	BKG2
PATE: 8-1-89 SOURCE #: 6816VALUE: 10780PA	PATE: 8-2-89
· · RI	CADINGS IN DPH/100 cm ²

SAIPLE 0 OR DESCRIPTION	DIR CPH	ECT DPH	SHEAR
Hoist Front - north sil		X6	
1-1	0	. 0	0
2-	3	18	0
. 3-1	2	121	0
4.1	().	0	0 :
51	0	0	6
6.1	/	6	3
2-1	3	18	3
8-1	1	1,	0
9-1	3	18	9
10-1	0		0
11-	11	106	3
12	2.	12.	0
/3-1	0	0	6
14-		6	3
15-1	/	6	0
Hist Back South Sul 1-1	2.	12	0
. 21	2	12	0
3-1	7	42	0
.4	17.	42	Ó
5 1	4	24	0
Chain- 2-170ta-61	0	Ó	0
Plu Control able sim-71	<u> </u>	18	0
Chain: 3- Mater 8	4-	24	0
Chain 4-m-10	9-	12	3
Chain 4-m-10	-/-	6	3
Control Bor. 12- 14	, 2 .	18	3
Continue Potar 2 such 12	0	. 0	0
Control Box 34 13	3	12	0
	· ·		
·			
			-
· •			
· · · · · · · · · · · · · · · · · · ·		1	i



PLANT PU ASC 1 2 83600108 CTD. BY 1 Ford INST. 1.1101.1114 2220 + 50869-4038 DET. 43-4 SOURCE CK. AVC. 34 SOURCE CK 207-209 BKG. 0-0 43-68 BKG. ___/ PATE: 11-8-08 SOURCE #:7272 VALUE: 950 DAN DATE: 11-9-88

READINGS IN DPM/100 cm²

	READINGS IN DIN/100 CM			
SAMPLE # OR DESCRIPTION	CPH DI	RECT DPH	SHEAR	
123 lights #1 5	6	24	0	
ω	3	12	0	
$^{\prime\prime}$. The section is the section of $^{\prime\prime}$	3	12	3	
E	- 4	16	0	
#2 5	2	8	.3	
ω	2	8	0	
N	3	12	0	
Ĺ	2	8	0	
#3 5	1	4	3	
$\dot{\omega}$.5"	20	0	
·N	3	20	0	
E	. 5	20	0	
有 4	4.	16	0	
ω	3	12	0	
N	2	8	3	
E	0	0	0	
#5 5	1	4	3	
· W	3	12	6	
N.	2	8	3	
É	2	8		
16 5	2	Q	6	
W	0	0	0	
w w	3	12	0	
. ±7 -5		4	0	
#7 -5		4	0	
ω	4	16	0	
N	3	12	3	
E		4	3	
#8 5		4	3	6
\mathcal{W}	3	12_	0	
N	1	4	0	
E	2	8	3	
		1		

PLANT PU AREA 123" Posta To	ASC 1 _ 2 - 23600108
SURVEYED BY AH I ME	CTD. BY D Jan A
INST. LIMILIH 2220 * 50069-48395DET. 43-4	SOURCE CK. AVG. 34
SOURCE CK 207 209 BKG. 0-0 43-68	BKG
PATE: 11-8-88 SOURCE#: VALUE: DPA	DATE: 11-9-28

			· READINGS IN DPM/100 cm ²				
SAMPLE O OR DESCRIPTION	•	-	· DIR CPH	ECT DPH	SHEAR	,	
	#9	5	3	12	- 3		
		u)	1	4	0		
		N	2	8	0	· · · · · · · · · · · · · · · · · · ·	
		·F	4	16	0		
	#11)	,۶	1	4	0		
· · · · · · · · · · · · · · · · · · ·		11)	5.	20	3		
		N	Ç	20	3		
		F	3	12	0		
<u> </u>							
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PAGE /

LAB ATTIC PIPE SURVEY

			 John Schrift and Schrift and College 			
	LINE NUMBER	325		r	DATE 11-4-88	
	INSTRUMENT	Ludbur	2220	SERIAL NUMBER	50058	
	DETECTOR	43-4		OPERATOR	ent	
	SOURCE NUMBE	R AND VALUE	# 112	1113 00 m		
		NSE AND BACK		5/274	BKg 1	
	SOURCE RESPO	NSE AND BACK	GROUND PM 29	0/274	BKa/1	
.,						·

LINE NUMBER 3	26	:	DATE	11-4-88	
INSTRUMENT La	rdlum 20%	20	SERIAL NUMBER	50058	
DETECTOR 4	3-4		OPERATOR	RMH	
SOURCE NUMBER AND	VALUE # //	12	1113 DPM	·	-
SOURCE RESPONSE AN	ND BACKGROUND	AM	285/274	BRal	
SOURCE RESPONSE AN	ND BACKGROUND	PM	290/274	BKal	
	-				-
START OF SURVEY	TYPE OF	ntà	READING LOCATION	Direct cpm dpm/100cm ²	Smearable

START OF SURVEY	TYPE OF LINE	DIA.	READING LOCATION	Di _cpm_	rect dpm/100cm ²	Smearable dpm/100cm ²
Starto in W. wall	Conduit	5"	O Miles N	4	44	6
123 gols Strait			WWW.11 12/5	2	22	
up through		14 1 + 14	2 meters N	5	55	0
T" ends in			11.11/11.5	8	88	: <u>.</u>
W. Wall 123			3 meters N	5	55	6
			"	6	-66	
			\$ * *			
		ml	A 27.72	. :	4.	
			n/100cm2 FIXEL	2	Λ	
			Directo		Inuces	-
	Total	Dem	6.589		195	
	Reden		189		25	
		1000	n2116 34.86		2.05	
	MAX				12	
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NEATEN TOURS OF PARTY 1982 CREEN 3	262 WHITE, 8402 W	DRY				PRINTED IN U.S.A.

START OF SURVEY	LINE	DIÀ.	READING LOCATION	cpm	dpm/100cm ²	dpm/100cm ²
Starte at "T" on	Conduit	511	Ometho T	5	55	0
line #325 goes		-	11 11 B	5	55	
line # 325 goes 5 and arrond Corner			2 meters T	4	44	6
W. Wall 12-3 N. Sutio			11 11 13	6	66	
fends in Jet box			3 moles T	6 2 3	22	
W. Wall 123 N. Section fends in Jet box above Don to 122			11 11 B	3	33	
		,				
	·					
· . ·.	·					
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and the second s			
LINE NUMBE	R 327	DATE 1/-4-88	
INSTRUMENT	Ludlem 2220	SERIAL NUMBER 50058	
DETECTOR	43-4	OPERATOR RMH	
SOURCE NUM	BER AND VALUE #112	1113DPM	
SOURCE RES	PONSE AND BACKGROUND AM	2-85/274 BKg/	
SOURCE RES	PONSE AND BACKGROUND PM	290/214 BKg/	

START OF SURVEY	TYPE OF LINE	DIA.	READING LOCATION	Direct cpm dpm/100cm ²	Smearable dpm/100cm ²
9 tanto at 440	conduit	141	Onetina N	0 0	0
plug in W. Well			.11 . 5	2 22	
123 gres 110			2 meters T	1 11	3
then 5. Then			11 /1 B	3 73	
amound some	,		4 meters T	3 33	0
W. ends in jet			11 11 B	3 33	
lox above 122					
Door					
	-			·	
	-			·	
				·	
	·			·	
"					
			·		
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LINE NUMBER 328	DATE 11-4-88
INSTRUMENT Ludlum 2220	SERIAL NUMBER 50058
DETECTOR 43.4	OPERATOR RMH
SOURCE NUMBER AND VALUE # 112	1/13 ppm
SOURCE RESPONSE AND BACKGROUND AM	285/274 BKal
SOURCE RESPONSE AND BACKGROUND PM	290/274 BKal
•	•

START OF SURVEY	TYPE OF LINE	DIA.	READING LOCATION	Di cpm	rect dpm/100cm ²	Smearable .dpm/100cm ²
starte at 110	Conduit	11	Ometers N	3	33	3
plus in love	Corac		" II E	5	55	
W. Wall 123			2 meters T	0	0	0
anes up .5.			11 11 B	4	44	
Men E.			3 meters T	3_	3 3	9
Finds Jct	·		" 11 B	0	0	14
Box above						
W. sid 122						
door						
					-	
			~			·
*		7		,		*
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TE APLIC PIPE SURVEY

PAGE 5 OF 34

DATE 11-4-88 329 LINE NUMBER 50058 Ludlum 2220 SERIAL NUMBER INSTRUMENT RMH 43-4 OPERATOR DETECTOR 1113 DPM 285/274 SOURCE NUMBER AND VALUE # 1/2 BKg 1 SOURCE RESPONSE AND BACKGROUND AM 290/274 BKQI SOURCE RESPONSE AND BACKGROUND PM

START OF SURVEY	TYPE OF LINE	DIA	READING LOCATION	Di cpm	rect dpm/100cm ²	Smearable dpm/100cm ²
State at 110	Conduit	1/211	Ometers 5	3	33	0 1
plug in box N. N. dl	· .		11 11 E	6	66	
123 N. section and			5 meter 5	0	0	0
up sends at			11 11 E	3	33	
phy in box beid emergency lights			1 meter 5	/_	1/	3
emergency lights			11 11 E	6	66	
Lox 123,						
	,					
						·
·						
	21 - 21					
		·				
	·					
			·			
	-					
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NEO COM SCIENCE TO THE SECRETARION SECRETA	202 WHITE, 8402 IV	ORY				PRINTED IN U.S.A.

123	-		
LAB ATTIC	PIPE	SURVEY	· ·

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LINE NUMBER	330	Di	ATE 1/-4-88	
INSTRUMENT	Ludlury 22	20 SERIAL NUMBER	50058	
DETECTOR	43-4	OPERATOR	RMld	
SOURCE NUMBE	R AND VALUE #	112 1113 DP	M	· ·
SOURCE RESPO	NSE AND BACKGROUND AM	285/274	BKal	
SOURCE RESPO	NSE AND BACKGROUND PM	090/274	BKO	

START OF SURVEY	TYPE OFLINE	DIA.	READING_LOCATION	Direct cpm dpm/100cm ²		Smearable _dpm/100cm ²
starte in wall	Conduct	1411	Oneters T	5	55	0
5W. comb. 123			" // =	3	33	
norse N. ente			2 meters T	5	55	
Tir set for			11 11 E	1	1 /	
in 3 of fort above Rm/29	-		4 meters T		11	
door			11 11 E	3	33	
			6 Metro T	3	3.7	3
			E	3	33	·
			8 mts. T	5	55	0
			F	2	22	
		- :			•	
		·	·			
•						
						·
			·			
						9
:						

PAGE 7 OF 34

DATE 11-4-88 33/ LINE NUMBER 50050 udlam 2220 SERIAL NUMBER INSTRUMENT RME OPERATOR DETECTOR #112 1113 DPM SOURCE NUMBER AND VALUE BKa 285/274 SOURCE RESPONSE AND BACKGROUND AM BKGI 290/274 SOURCE RESPONSE AND BACKGROUND PM

START OF SURVEY	TYPE OF LINE	DIA.	READING LOCATION		rect dpm/100cm ²	Smearable .dpm/100cm ²	
Starts in Wall	Conduct	1411	Ometers E	3	33	0	
5. W. Come 123			11. 11 B	5	55	-	
endo in rot			2 meters E	1.	- 11	0	
box above 122	·		11 9 11 13	4	:44		
100			4 meters E	2	22		
			11 11 B		1/		
# A Company of the Co	:		6 moteu E	4	44	3	
			B	0	. 0		
			8 rutin F	_3_	33	3	
			8 rulen F.	4	44		
				,			
			·				
		. ,					
					·		
•	į						
					·		
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		-			j		
NEGTION BOX HOD THEN BOX GREEN B	202 WHITE: 8402 IV	DRY	_			PRINTED IN U.S.A.	

19 133c		
LAB ATTYC	PIPE	SURVEY

PAGE 7 OF 34

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	LINE NUMBER 332	DATE 11-7-88	
	INSTRUMENT Kudlum 2220	SERIAL NUMBER 5005-8	
	DETECTOR 43-4	OPERATOR GALB	
	SOURCE NUMBER AND VALUE //2	- 1113 april	
-	SOURCE RESPONSE AND BACKGROUND AM	1 281 × 258 Blig 1	
	SOURCE RESPONSE AND BACKGROUND PM		

START OF SURVEY	TYPE OF	1	DIA. READING LOCATION cpm dpm/100cm ²		rect	Smearable dpm/100cm ²
Starts on Switch	LINE Canduit	DIA.	O meters T	6	66	прш/.100сш
	oneu,	3	N	1	11	
box GN EAST WALL			dmeters T	5	55	3
AND ENDS IN JUNCTION box ON EAST WALL			METERS	3	33	
box on sess wall			A A	-O-		
						
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Rn 123 LAB ATTIC PIL	PE SURVEY			PAGE_	<i>9</i> of	34
						e . Ve
LINE NUMBER	3 33		DA	re 11-7-8	8	
INSTRUMENT (Ludlum 2220	SERIA	L NUMBER	50058	· .	
DETECTOR 4	· · · · · · · · · · · · · · · · · · ·	OPERA	TOR Da	B		· .
SOURCE NUMBER	R AND VALUE 112	- 111	3dpm	<i>></i>		
SOURCE RESPON	NSE AND BACKGROUND AM	281 4	258	Blicy 1		
SOURCE RESPO	NSE AND BACKGROUND PM					
						<u>.</u>
	TYPE OF			Direct,	2	Smearable

START OF SURVEY	TYPE OF LINE	DIA.	READING LOCATION	Di	rect dpm/100cm ²	Smearable dpm/100cm ²
Starts in plug-in	<u> </u>	为"	Onetens T	10	110	9
OX ON EAST WOLL			\$	3	33	
Nd ENds in			2 neters T	0	0	
lunction box on			5	0	0	
AST WA 11				·		
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Rn# 123 PIPE SURVEY France	a ask Ween PAGE 10 OF 34
LINE NUMBER 333	DATE 11-9-88
INSTRUMENT Lueller 2220	SERIAL NUMBER 5005-8
DETECTOR 43-4	OPERATOR JAB- QHI+ 1. ME
SOURCE NUMBER AND VALUE //2 -	11/3 dpm
SOURCE RESPONSE AND BACKGROUND AM	285 + 284 Bkg0
SOURCE RESPONSE AND BACKGROUND PM	

	Tipe OF	T .	F	Di	rect 2	Smearable dpm/100cm2
START OF SURVEY	LINE	DIA.	READING_LOCATION		rect dpm/100cm ²	,
	Condyit	1/2"	Ometers. T	7 3	33	9
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PAGE // OF 34

DATE 11-7-88 334 LINE NUMBER SERIAL NUMBER 5005-8 INSTRUMENT Xidley 2220 DETECTOR 43-4 OPERATOR 1113 dpm SOURCE NUMBER AND VALUE //2 SOURCE RESPONSE AND BACKGROUND AM 281 + 25 8 - Blog 1 SOURCE RESPONSE AND BACKGROUND PM

	· · · · · · · · · · · · · · · · · · ·					
START OF SURVEY	TYPE OF LINE	DIA.	READING LOCATION	Di cpm_	rect dpm/100cm ²	Smearable dpm/100cm ²
Starts in plug-in	Aluminum	211	O meters T	4	44	33
Starts in plug-in	20Nduit		В	4	44	
EAST AND ENDS			2 meters T	0	0	
in plug-in box on			<u> </u>	/		
FAST WALL			4 meters T	3	33	9
		<u> </u>	B	3	33	
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LAB ATTIC PIPE SUR	VEY					PAGE /2 OF	34
LINE NUMBER 3 .	35		,	DAT	re //-	7-88	
INSTRUMENT List	un 2320	2	SERIAL NU	IBER	5005	5 8	
DETECTOR 43-0	<u></u>		OPERATOR	Spr	<u>B</u>	· .	
SOURCE NUMBER AND	VALUE // =		- 1113C		>		
- SOURCE RESPONSE AN	D BACKGROUND		281 4 25			Eliz 1	
SOURCE RESPONSE AN	D BACKGROUND	PM 2	78 + 29	4	·	Elig 1	····
							1.1
START OF SURVEY	TYPE OFLINE	DIA.	READING LOCA	TION	Di cpm_	rect dpm/100cm ²	Smearable dpm/100cm2
Starts in junction	Aluminum	1''	O METERS		5	55	
box ON EAST WALL	Corduit			_B_	4	44	
AND ENDE in JUNCTICE			2 meters	T			3
box on South WALL.				8	4	44	
			4 meters	T	4	44	
				<u>B</u>	0	0	
			6 nieters		1 25		. 0
				B	1	- 11	
			8 meters	N	2	12	3 .
				<u>S</u>	2	22	
	-		10 meteus	N	2.	22	3
				S	3	33	

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Pm#123 Rn# 123 PAGE 14 OF 34 PAGE 13 OF 34 LAB ATTIG PIPE SURVEY LAB ATTIC PIPE SURVEY 11-8-88 LINE NUMBER 337 LINE NUMBER 336 DATE 11- 7-88 DATE INSTRUMENT Sudly 2220 SERIAL NUMBER 50058 INSTRUMENT Sudlum 2220 SERIAL NUMBER 50058 OPERATOR Doub + U. Mc DETECTOR 43-4 DETECTOR 43-4 OPERATOR DONS - 1113 dpm 1113 dpm SOURCE NUMBER AND VALUE //2 SOURCE NUMBER AND VALUE 112 SOURCE RESPONSE AND BACKGROUND AM 260 & 284 SOURCE RESPONSE AND BACKGROUND AM SOURCE RESPONSE AND BACKGROUND PM SOURCE RESPONSE AND BACKGROUND PM Smearable dpm/100cm² Smearable dpm/100cm² Direct cpm | dpm/100cm² Direct cpm | dpm/100cm² START OF SURVEY READING LOCATION START OF SURVEY READING LOCATION DIA. STARTS IN PAST WALL Starts in plug-in box Conduit 3/411 Conduit 1 meter 110 Omeders N T 10 0 99 AND ENDS ON WEST ON EAST WALL AND 2 meter 2 ENds in plug-in box 2 meters WA 11. 21 33 66 12 4 retens <u>3</u> 0 33 0 0 0 12 metene 33 6 meters 2 22 2 22 8 meters 22 4 44 9 meters 6 66 0

Ro	123 PIPE SURVEY Lesures after Decon PAGE 15 OF 74
•	
	LINE NUMBER 337 DATE 11-9-88
	INSTRUMENT Licellum 2220 SERIAL NUMBER 50058
	DETECTOR 43-4 OPERATOR Sould - Q. W J. Mª
	SOURCE NUMBER AND VALUE 1/2 - 1/13 depart
	SOURCE RESPONSE AND BACKGROUND AM 285 & 284 Bly
	SOURCE RESPONSE AND BACKGROUND PM

START OF SURVEY	TYPE OF LINE	DIA.	READING_LOCAT	ION_	Di cpm_	rect dpm/100cm ²	Smearable dom/100cm2
	Conduit	3/4/1	Oneder	T	3	3.3	0
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123 PIPE SURVEY Resurvey Agter Decor PAGE 15 OF 74	Knt/23 LAB ATTIC PIPE SURVEY PAGE 16 OF 34
ENUMBER 337 DATE 11-9-88 CRUMENT Sicilian 2220 SERIAL NUMBER 50058 CCTOR 43-4 OPERATOR SIND-Q-WV.M°=	LINE NUMBER 33/ DATE 11-8-88 INSTRUMENT Judlam 2220 SERIAL NUMBER 50058 OPENITOR OF 17 MG
RCE NUMBER AND VALUE //2 - ///3 dpan RCE RESPONSE AND BACKGROUND AM 285 & 284 Bly O	DETECTOR 43-4 OPERATOR AND STATE OPERATOR AND SOURCE NUMBER AND VALUE 1/2 - 1/1/3 Open SOURCE RESPONSE AND BACKGROUND AM 260 + 284 Styl
TYPE OF Direct 2 Smearable	SOURCE RESPONSE AND BACKGROUND PM

START OF SURVEY	TYPE OF LINE	DIA.	READING LOCATION	Di cpm_	rect dpm/100cm ²	Smearable dpm/100cm ²
Starts in EnsTWALL	Conduit	3/4"		- 19.	209	0
AND ENDS IN WEST				3 10	110	
DAI1.			2 meters	7 8	88	0
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			7	1	33	3
				3 2	22	
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Km	123 PIPE SURVEY Bourney after docon PAGE 170F 34
	LINE NUMBER 338 DATE 11-9-88
	INSTRUMENT Ludlan 2320 SERIAL NUMBER
	DETECTOR 43-4 OPERATOR IN SOME
	SOURCE NUMBER AND VALUE 112 - 1183 Opin
	SOURCE RESPONSE AND BACKGROUND AM 285 + 284 Bkg 6
	SOURCE RESPONSE AND BACKGROUND PM
···om 4	Tipe Or Supury Direct Smearable

START OF SURVEY	TIPE OF	DIA.	READING_LOCATION	Di cpm_	rect dpm/100cm ² _	Smearable .dom/100cm²
	Conduit	1/4"	Oneder T		- 11	0
		7	В	.3	.3 <i>3</i>	
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Ron th 123 PIPE SURVEY Assurery after doesn't PAGE 170F 34	CAB ATTIC PIPE SURVEY PAGE 18 OF 34
LINE NUMBER 338 DATE 11-9-88	LINE NUMBER 339 DATE 11-8-88
INSTRUMENT Fuelland 2320 SERIAL NUMBER DETECTOR 43-4 OPERATOR SING - J. W. ME	INSTRUMENT Addler 2220 SERIAL NUMBER 50058 DETECTOR 43-4 OPERATOR DUB JV.MS
SOURCE NUMBER AND VALUE 1/2 - 1/83 Open SOURCE RESPONSE AND BACKGROUND AM 285 + 284 Bkg 6	SOURCE NUMBER AND VALUE 1/2 - 1/1/3 dpm
SOURCE RESPONSE AND BACKGROUND PM	- SOURCE RESPONSE AND BACKGROUND AM 260 ≠ 284 (Slag) SOURCE RESPONSE AND BACKGROUND PM

START OF SURVEY	TYPE OF LINE	DIA.	READING LOCA	TION	Dí cpm	rect dpm/100cm ²	Smearable dpm/100cm ²
STATS IN EAST WALL	Conduit	111	O maters	T	16	176	9
AND ENDS IN JUNCTION				B	5	_55	
boy on WEST WAll.			2 neters	1	5	55	3
				B	2	22	
			4 neters	T	3	33	0
			•	. 13	6	66	
	,		6 metter	T	2	22	0
				5	3	33	
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SOURCE RESPONSE	AND BACKGROUND	PM			BHD	
ART OF SURVEY	Tipe OF	DIA.	READING_LOCATION	Di _cpm_	rect dpm/100cm ²	Smearable
	Conduit	1"	O meters T	-5	55	9
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LINE NUMBER 339

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	LAB ATTIC PIPE SU	RVEY	.* *.				PAGE 20 OF	311
	Fr. 14						·	
	LINE NUMBER 3	40			DAT	TE //	-8-88	
-	INSTRUMENT Luck	lune 22	20	SERIA	L NUMBER	500	59	
	DETECTOR 43-	4		OPERA	TOR Dow	3 4	V. me	
٠.	SOURCE NUMBER AND	VALUE //	2 -	///	3 cpm)		
	- SOURCE RESPONSE A	ND BACKGROUN	DAM 2	60 0	284		Bly 1	
-	SOURCE RESPONSE A	ND BACKGROUN	D PM					
:	START OF SURVEY	TYPE OF LINE	DIA	READING	LOCATION	Di cpm_	rect dpm/100cm ²	Smearable dpm/100cm ²
	1 1 1) 6 7 1:11	0 1 1	111	0.4			77	

START OF SURVEY	LINE	DIA.	READING LOCA	ATION	בע cpm	dpm/100cm ²	.dpm/10.0cm ² .
STANTS IN EAST WALL	Conduit	1"	Ometer	T.	7	77	0
Starts in EAST WALL AND ENDS IN JUNCTION				B		11	
DOX ON WEST WAIL.	·		2 moter	<i>T.</i>	18	198	0
			,	8.	ဝ	0	
			4 meters	7	/	11	3
			7	B	18	198	
		1	6 meters	5	4	44	0
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LINE NUMBER	40	· · · · · · · · · · · · · · · · · · ·	DAI	re //	- 9-88	
INSTRUMENT Luck	Prem 22	20	SERIAL NUMBER	500	SP	
DETECTOR 43-9			OPERATOR Somb		1 J.mc	
SOURCE NUMBER AND	VALUE 1/2	- //	113 apri			
SOURCE RESPONSE A		AM 2	85 + 284	15	Kg O	· .
SOURCE RESPONSE A					<i>-</i>	
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START OF SURVEY	TiPE OF LINE	DIA.	READING_LOCATION _	cpm_	rect dpm/100cm ²	Smearable .dom/100cm2
	Conduit	1"	2 meters T	3	33	0
·			4 meters B).		0
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LAB-ATTIC PIPE SUR	RVEY			• •		PAGE 27 OF	34_
Part Land			-				
LINE NUMBER 34	77			DAI	E //-	8-18	
INSTRUMENT Ludl	Pezz		SERIAL NU	MBER	500	58	
DETECTOR 43-0	4		OPERATOR	200	3 4	JS Ync=	
SOURCE NUMBER AND	VALUE //a	2 -	- ///3 d	200			
SOURCE RESPONSE AN	D BACKGROUND	AM Z	-60 + 2	84		Blez 1	
SOURCE RESPONSE AN	D BACKGROUND	PM					
START OF SURVEY	TYPE OF,LINE	DIA.	READING LOCA	rion	Di:	rect dpm/100cm ²	Smearable dpm/100cm ² .
tarts in East woll	Conduit	1"	O meters		उ	73	0

START OF SURVEY	LINE	DIA.	READING LOCA	TION_	cpm	dpm/100cm ²	.dpm/100cm ²
StArts IN EAST WALL	Conduit	1"	0 meters	一一	3	73	0
AND ENDS IN				B	6	66	
And Ends in Junction box un west wall.							
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Ru#123 Rout 123 PIPE SURVEY Lesurvey after deen PAGE 24 OF 34 PAGE 23 OF 34 LAB ATTIC PIPE SURVEY DATE 11-9-81 LINE NUMBER 342 DATE 11-8-88 LINE NUMBER 342 INSTRUMENT Sudlum 2220 SERIAL NUMBER 50058 INSTRUMENT Sucleum 2220 SERIAL NUMBER 50058 OPERATOR Souls - V. Me DETECTOR 43-4 OPERATOR Souls & 7/ mg DETECTOR 43-4 SOURCE NUMBER AND VALUE 1/2 - 1/13 depart SOURCE NUMBER AND VALUE 1/2 - 1/13 Non SOURCE RESPONSE AND BACKGROUND AM 275 + 284 SOURCE RESPONSE AND BACKGROUND AM 260 284 SOURCE RESPONSE AND BACKGROUND PM 274 +260 SOURCE RESPONSE AND BACKGROUND PM Direct cpm | dpm/100cm² Smearable Smearable dpm/100cm² Direct cpm | dpm/100cm² READING LOCATION START OF SURVEY dom/100cm LINE_ START OF SURVEY READING LOCATION 2 meters N onduit Start in East wall Conduit

AND ENDS IN

JUNCTION BOX ON

WEST WALL. Ometer 5 55 6 N 3 33 4 meters 3 2 meters 11 121 \mathcal{O} 66 4 meters 154 3 14 2 22 6 mitin 2 0 & mellew 22 Ò 3 33 10 meter 6 66 0 44.

PAGE 15 OF 34 Row # 123 PIPE SURVEY Resurvey after decon PAGE 26 OF 34 2 t /23 PIPE SURVEY LINE NUMBER 343 DATE //- 8-58 LINE NUMBER 343 DATE 11-9-88 INSTRUMENT Ludlum 2220 INSTRUMENT Luglleyn 2220 SERIAL NUMBER 50058 SERIAL NUMBER 50064 DETECTOR 43-4 DETECTOR 43-4 OPERATOR and + Q-H-OPERATOR SOURCE NUMBER AND VALUE //2 - //13 dp - SOURCE RESPONSE AND BACKGROUND AM 239 + 235 SOURCE NUMBER AND VALUE //2 -1113 dpm SOURCE RESPONSE AND BACKGROUND AM 375 +304 SOURCE RESPONSE AND BACKGROUND PM SOURCE RESPONSE AND BACKGROUND PM TYPE OF Direct cpm | dpm/100cm² Smearable TIPE OF Direct cpm | dpm/100cm² START OF SURVEY READING LOCATION START OF SURVEY DIA. READING LOCATION $dpm/100cm^2$ LINE .dpm/100cm4 Starts in Electrical Conduit 0 meters 5 DNETERS 20X0 N South NA11 11 121 And Ends in 2 meters LUNCTION BOX ON 5 Buth WALL 4 moters 5 77 5 neter 44 33

LINE NUMBER 344

LINE NUMBER 344

DATE //-8-88

INSTRUMENT Succeum 2220

DETECTOR 43-4

OPERATOR FOR 1 1.772

SOURCE NUMBER AND VALUE //2 - ///3 Open

SOURCE RESPONSE AND BACKGROUND AM

SOURCE RESPONSE AND BACKGROUND PM 275 \$ 304

Blg O

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START OF SURVEY	TYPE OF LINE	DIA.	READING_LOCA	TION	Di cpm_	rect dpm/100cm ²	Smearable dpm/100cm ²
Starts in tour-inch	CONDUIT	3/4"	O ME JER!	E	0	0	.6
DOX ON South WALL		<u> </u>		ω	4	44	·
and Ends in			8 maters	T	13	143	. 3
ight fixture on		·	· .	\mathcal{B}	2	22	
Bonth WALL.	:		4 meters	T	6	66	3
				\mathcal{B}	6	66	
			6 METERS	<u></u>	2	22	0
				B	2	22	
			8 nieters	7	8	88	0
				B	1	. 11	
			10 meters	7	2).	22.	3
			1000000	R	6	66	
		:	12 meters		2	. 22	0
			12 magas	R	7	11	
			14 meters		1	F.5.	0
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LINE NUMBER 344	7	DAT	E 11-9-	88	
INSTRUMENT Ludlum	2220	SERIAL NUMBER	50058		
DETECTOR 43-4		OPERATOR Soul	- J. H	7. mg	
SOURCE NUMBER AND VALUE	112- 111	3dpm			
SOURCE RESPONSE AND BAC	KGROUND AM	85 + 284	BI	40	
SOURCE RESPONSE AND BAC	KGROUND PM				

START OF SURVEY	TIPE OF LINE	DIA.	READING_LOCA	TION	Di _cpm_	rect dpm/100cm ²	Smearable dpm/100cm ²
	Conduit	3/4"	2 meters		2	22	3
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LINE NUMBER 3	47			DAT	re //-	9-88	· · · · · · · · · · · · · · · · · · ·
INSTRUMENT Luck		20	SERIAL NUM	BER	500	64	
DETECTOR 43			OPERATOR /	Dow.	376	2N.	·
SOURCE NUMBER AND		<u> </u>	1113 dp	w	<i>U</i>		
SOURCE RESPONSE AN			239 1 23			B16 1	
SOURCE RESPONSE AN					. :	0	
START OF SURVEY	TYPE OF	DIA.	READING LOCAT	ION	Dir cpm	ect dpm/100cm ²	Smearable dpm/100cm ²
Starts in light fixture	Conduit	3/4"	O meders	7	4	44	0
N. EASTWALL AND		ļ		B	27	297	
Coitount in spri		\$ 1	2 meters	Λ	4	44	3
ox approximately				5	3	33	
two feet from		Ý	4 meters	T	11	12/	0_
EAST WALL.				8	3	33	
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2/1/	7		DATE //-	9-88	
LINE NUMBER 341	2220	SERIAL NUMB	ER 5005		
DETECTOR 43-4			ns-g.H.		
SOURCE NUMBER AND VAL		1113 Cpm	<u>.</u>	21 0	·
SOURCE RESPONSE AND B	ACKGROUND AM	285 7 28	/	46kg0	
SOURCE RESPONSE AND B.	ACKGROUND PM	•			

START OF SURVEY	TIPE OF LINE	DIA.	READING_LOCATION	Di cpm_	rect dpm/100cm ²	Smearab .dpm/100c
	Conduit	3/4/1	ONGTERS			0
	Capaui	17.1	B	3	33	
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2 #/23 PIPE	SURVEY				PAGE 3/ C	OF 24	Pon #/23 PIPE SUR	VEY			-	PAGE 32 OF	34
	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·	100			-/-					
LINE NUMBER	348				1-9-88			49	· · · · · · · · · · · · · · · · · · ·			-9-88	
INSTRUMENT &	deline		SERIAL NUMBER	R 50	05-8		INSTRUMENT Sude	un 223	-0	SERIAL NUMBER	500		
DETECTOR 43	-4		OPERATOR	· · · · · · · · · · · · · · · · · · ·	· .		DETECTOR 43-4		·	OPERATOR Dec	B & G	h. H.	
SOURCE NUMBER A	ND VALUE //	2 -	1113 cpm			,	SOURCE NUMBER AND			1113 dpa			· · · · · · · · · · · · · · · · · · ·
SOURCE RESPONSI	AND BACKGROU	IND AM	284 + 285	<u> </u>	BK20)	SOURCE RESPONSE AN	D BACKGROUND	AM C	285 + 284		Blag O	
SOURCE RESPONSE	.*			-			SOURCE RESPONSE AN				-	<i></i>	٠.
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START OF SURVEY	TYPE OF LINE	DIA.	READING LOCATION	у срг	Direct dpm/100cm ²	Smearable dpm/100cm ²	START OF SURVEY	TYPE OF LINE	DIA	READING LOCATION	D cpm	irect dpm/100cm ²	Smearable .dpm/100cm ²
		3/411	O meters	N 3		0	Starts in light		3/4"	Ometers N	3	. 33	0
Fixture Approxima	h-/.			5 3	33					5	3	33	
two feet from			2 meters	N 4	44	0	fixture approximately			2 meters N	5	55	6
WALLAND ENDS	5			5 5	55		EpsTwall And			. 5	3	33	
			4 neteus	1 2		0	Ends in junction			4 meters N	9	99	0
Jandion box from	1.)		1-1	50			Dox Approximately			S	2	22	
wo feel from wa				3			two feed from		<u> </u>				
WO TELL FIBRUA	<u>((• </u>	-					East Wall-					,	
				_			(A) ((D))/-				-		
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Com	#/23 PIPE SURVEY	PAGE 73-0F 34
A		
	LINE NUMBER 350	DATE _//- 9-88
	INSTRUMENT Ludlew 2220	SERIAL NUMBER 50059
:	DETECTOR 43-4	OPERATOR QUB & Q.A.
	SOURCE NUMBER AND VALUE //2 -	1113 dens
	SOURCE RESPONSE AND BACKGROUND AM 285	+284 Blg O
	SOURCE RESPONSE AND BACKGROUND PM	

START OF SURVEY	TYPE OF LINE	DIA.	READING LOCA	TION_	Di _cpm	rect dpm/100cm ²	Smearable dpm/100cm ²
STANTS IN JUNGTION	Conduit	34"	O METERS	T	11	121	0
DOXAL SUNTH WALL				B	5	55	
PNDENUS AT I- SEAM JOING North.			2 meters	T	6	66	0
EAM Soire North.				B	/	11	
			4 meters	T	.8	88	3
				\mathcal{B}	2	22	
			6 nietens	7	2	22	.3
				B	3	33	
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Accommendation to the second of							

#/23 PIPE SURVEY PAGE 73-0F 34	Kon # 123 PIPE SURVEY Redering agte Deen PAGE 34. OF 34
LINE NUMBER 350 DATE 11-9-88	LINE NUMBER 350 DATE 11-9-99
INSTRUMENT Ludlew 2220 SERIAL NUMBER 50059	INSTRUMENT Luceleum 2520 SERIAL NUMBER 50058
DETECTOR 43-4 OPERATOR QUB V Q.A-	DETECTOR 43-4 OPERATOR
SOURCE NUMBER AND VALUE 1/2 - 1113 dem	SOURCE NUMBER AND VALUE 112 - 1/13 dpm
SOURCE RESPONSE AND BACKGROUND AM 285 + 284 Blog O	SOURCE RESPONSE AND BACKGROUND AM 285 & 284 Blog 6
SOURCE RESPONSE AND BACKGROUND PM	SOURCE RESPONSE AND BACKGROUND PM

START OF SURVEY	TIPE OF LINE	DIA.	READING_LOCATION	Di _cpm_	rect dpm/100cm ²	Smearable .dpm/100cm ²
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alluma fills of the fills of t	^^^				 	P# 1750 NU 5 +

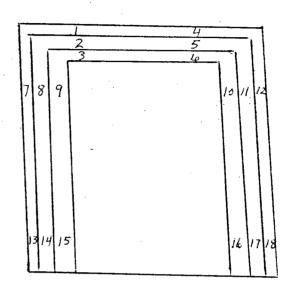
RM 123 DOOR#1

(SOUTH DOOR)

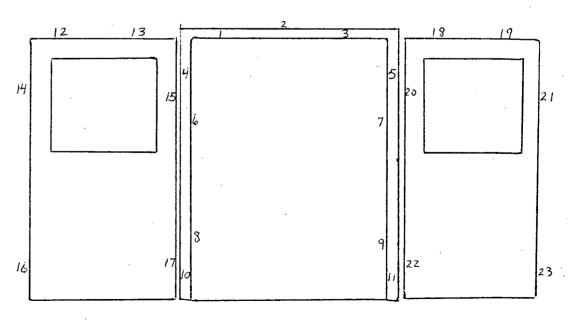
LOCATION OF COUNTS

7-20-89 ILP

FRAME







PLANT PU AREA 12.3	۸sc
SURVEYED BY ILP	CTD
INST. 1.111.11H 2220 * 52834 DET. 43-4	SOU
SOURCE CK 305 279 BKG. 1(AM)	BKC
720 00 0 5 110	

	. *	cs in drh/	100 (11
SAMPLE O OR DESCRIPTION	CPH CPH	RECT DPH	SHEAR
M 123 DOOR#1 DOOR			
(SOUTH DOOR) D-	1	6	6
Ď	2	6	0
δ-	3 - 3 -	18	3
<i>H</i>	4 2.	12	3
D-:	5 1	6	0
	ر ا	24	3
	7	6	3
<u> </u>	3 4	36	0
C		30	9
10		18	0
		118	0
		1 42	3
):	3 4	24	3
) 4		30	0
		136	0
		118	0
•	7 4	124	6
		45	0
		1 18	0
2.		18.	. 0
. 2		24	6
2		124	6
	3 3	18	.0
•			
	eec-	<u> </u>	
Total DPM 840	81 .	<u> </u>	
Readings 41	14/		
UG DPM foocn 2 20.49	1,178		
MAX BPM /100cm2 : 42	19		
MDH			·
16.63 DPM/100cm2			••
	_	1	

PLANT PU AREA RM·123	ASC 1 83600115
SURVEYED BY ILP	CTD. BY A Black
INST. 1.11DL/IH 2220 * \$52834 DET. 43-4	SOURCE CK! AVC. 35
SOURCE CK 305-279 BKG. 1(AM)	BKG
PATE: 7-20-89 SOURCE#: 1/2 VALUE: 1//3 DAN	DATE: 7-21-99

· READINGS IN DPN/100 cm²

DIRECT CPH DPH

54V01 5 4 65 555057554V		RECT	
SAMPLE OR DESCRIPTION	СРН	DPH	SHEAR
RM 123 DOOR#1 DOOR FRAM	E		
(SOUTH DOOR) F-		42	3
F:	2 4	24	6
F	3 2 .	12	0
. F-	41 2.	12	3
F-:	5 2	12	0
	0 1	6	0
	7 3	18	3
	8 3	18	3
		142	0
10)	42	0
1	_;	18	0
1.		24	0
	3	6	6
1	1 =	30	6
		118	0
10		16	0
	7 5	18	0
J.	8 -	30	0
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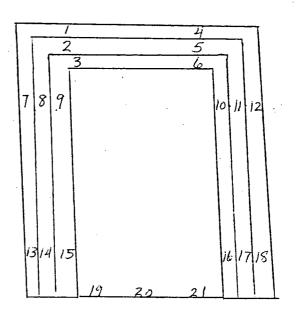
RM 123 DOOR#2

NORTH DOOR

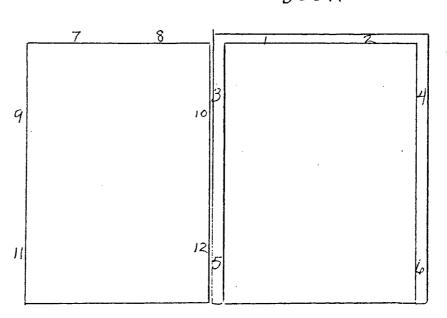
LOCATION OF COUNTS

7-20-89 ILP

FRAME



DOOR



PLANT PU AREA RM 123	ASC 1 8 3600 /15
SURVEYED BY ILP	CTD. BY A Plant
INST. 1.101.11H 2220 * 52834 DET. 43-4	SOURCE CK. AVC. 35
SOURCE CK 308-288 BKG. 1(PM)	BKC
Dames 7-20-89 C #. 1/2	7-11-00

			READINGS IN DPH/100 cm ²			
SAMPLE O OR DESCRIPTION	•	CPH CPH	DPH	SHEAR		
M123 DOOR#2	book					
NORTH bOOR)	N - 1	2	12	0		
	0-2	1	6	0		
	N-3	. /	6	3		
	D-41	4.	24	0		
	b-5	5	30	3		
	Lo	9	54	. 0		
	7	7	142	. 0		
	8	6.	36	3		
	9	7	142	3		
	10	5	30	3		
	11	6	36	6		
	12	\$0	48	Ò		
Dineil	t Lin	w				
ola DPM 79.	8 57	/ 				
Rendings 3	3 33					
11/2 DAM /100 cm2 24.						
Day Dem houng 5	4 6		·			
16.63 DPM floorm2	·					
						
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PLANT PU AREA RM: 123	ASC 1 8 3600115
SURVEYED BY IZP	CTD. BY 1m Plank
INST. 1.1101.11H 2220 * 52834 DET. 43-4	SOURCE CK. AVC. 35
source ck 308-288 BKG. / (PM)	BKG. 13
PATE: 7-20-89 SOUACE#: 1/2VALUE:11/30PA	DATE: 7-21-89

· · READINGS IN DPH/100 cm2

		DIRECT CPH DPH		
SAMPLE OR DESCRIPTION		СРН	; DPH	SHEAR
RM 123 DOOR#2	DOOR FRAME!			
(NORTH DOOR)	F-1	5	30	
. :.	F-2	5	30	0
	F-3	2 ·	12	0
	F-41	4.	24	0
	F-5	6	36	3
	61	1	10	6
	71	3	18	0
	8	3	18	3
	9	· [6	0
	10	1	6	0
		4	24	0
	12	/o·	36	6
	13	3	18	0
	14		6	0
	/5	i.j	24	3
	16	logi	24	0
	17	agreement.	30	3
	181	9 3 fee-\$	24	0
	191	. h.j	24	6
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