B14 Process Piping Investigation

Attachment 3

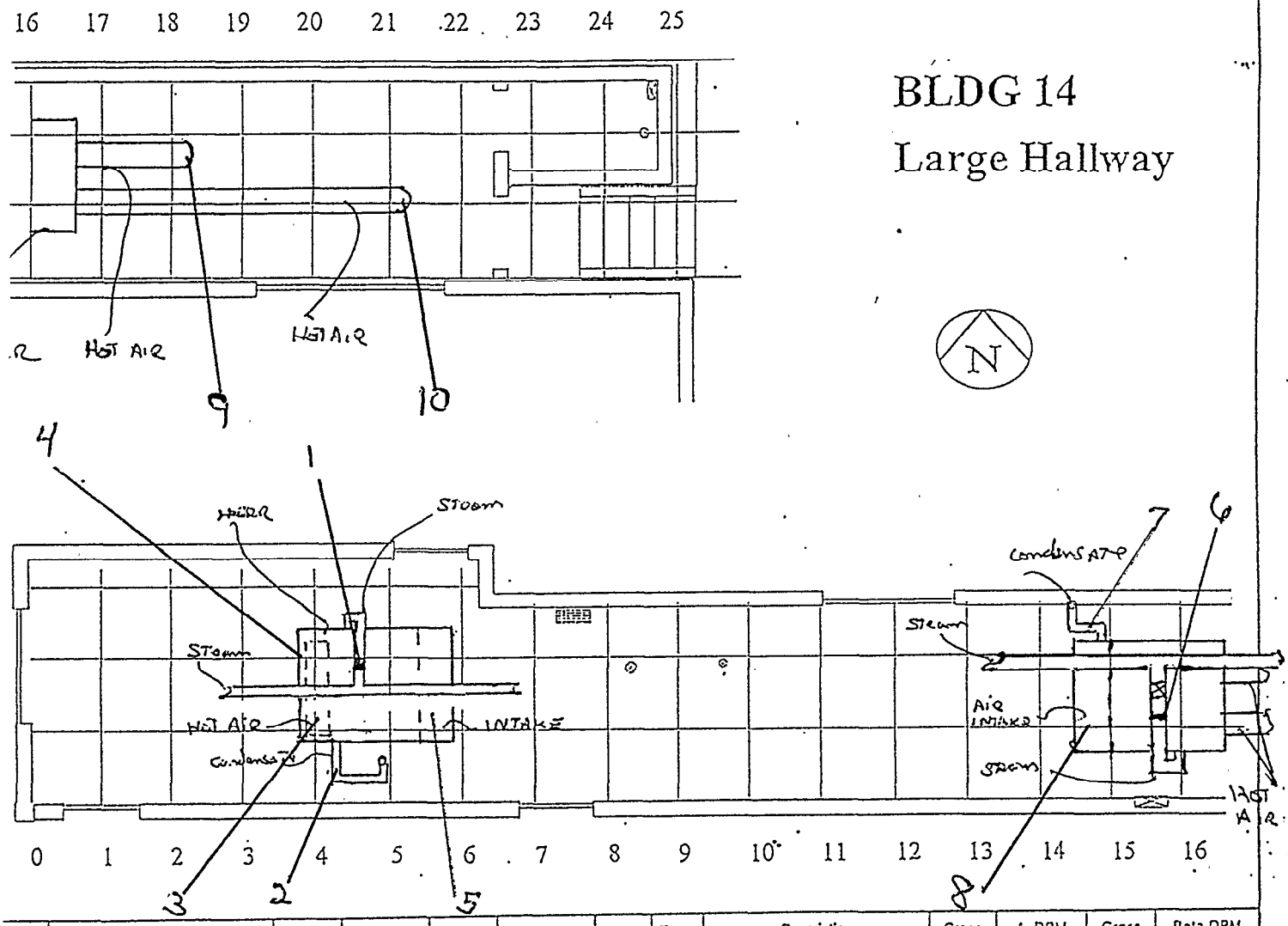
Radiation Survey Results

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Date 7-21-97/1630	Tech D. PITMAN	Instruments / sn	2221-C #89648
Purpose B14 Lg Hallway		Survey # 552	RWP # 06
Cold Piping - HVAC			



Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
S	Steam	0	0	60	0	8	S	Cold Air Intake	0	0	79	66
S	Condensate	0	0	62	7	9	S	Hot Air Duct	1	2	49	-38
S	Hot Air Duct	0	0	66	21	10	S	Hot Air Duct	0	0	52	-28
S	Hot Air Duct	2	6	80	69							
S	Cold Air Intake	0	0	50	-34							
S	Steam	0	0	68	28							
S	Condensate	0	0	53	47							

Notes: S=100 cm² Swipe

7/23/97 RW.

Scaler S/N	L2929	BKD	EFF	MDA
CT =	7/23/97 Alpha:	.23	.32	15
Tech	Beta:	60	.29	134

Review

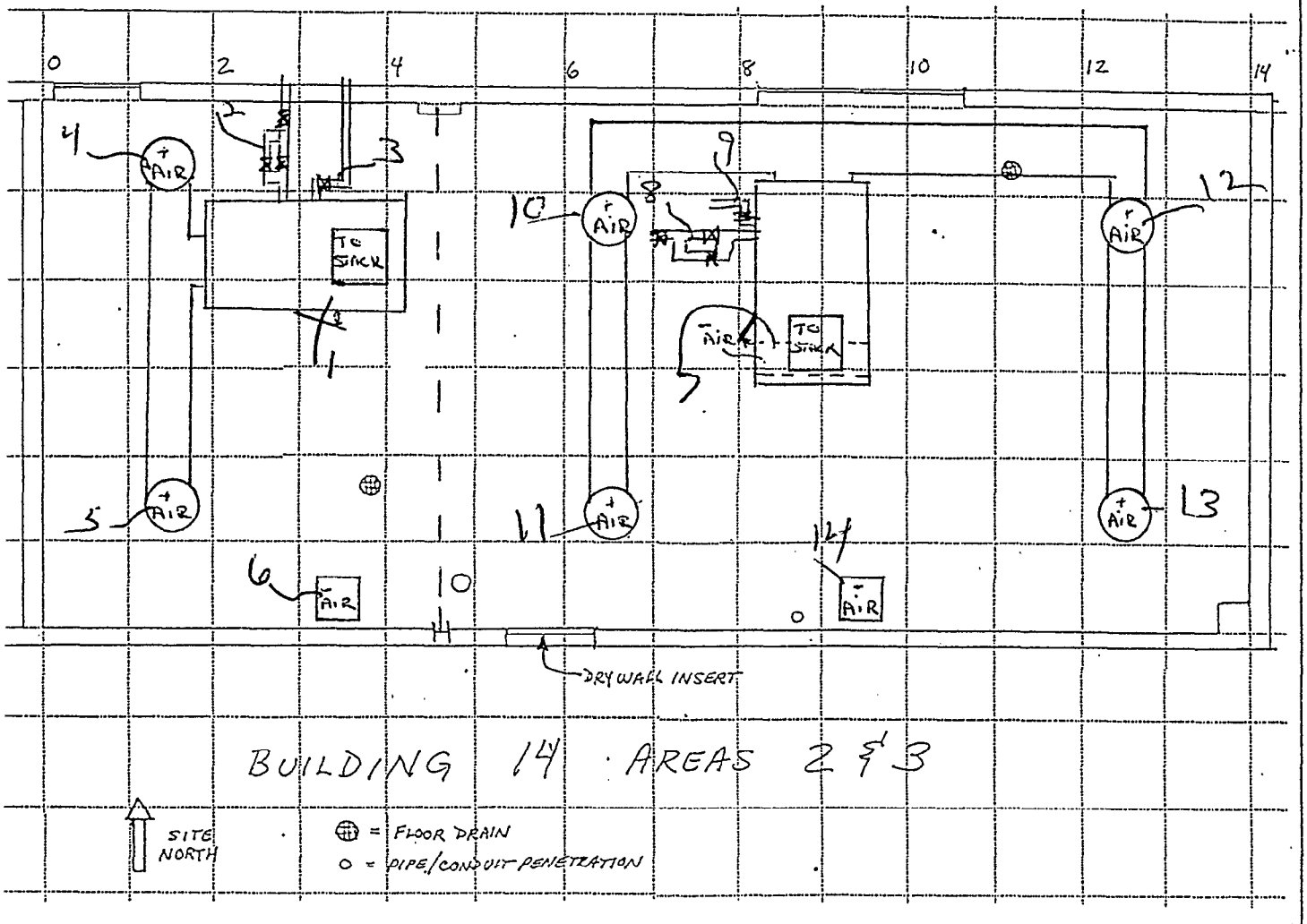
RT ASSOCIATES INC
OLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

me 7-17-97	Tech D. PITMAN	Instruments / sn 2221-C 89648	
/ Purpose Bldg 14 Area 2 + 3		Survey # 546	RWP # 06
AC - Process Piping			



Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
S	AIR INTAKE A3	0	0	50	-34	8	S	Steam A2	0	0	53	-24
S	Steam A3	0	0	45	-52	9	S	condensate A2	0	0	68	28
S	condensate A3	1	2	58	-7	10	S	+AIR DUCT A2	0	0	71	38
S	+AIR DUCT #1 A3	0	0	58	-7	11	S	+AIR DUCT A2	0	0	45	-52
S	+AIR DUCT #2 A3	1	2	62	7	12	S	+AIR DUCT A2	0	0	67	24
S	-AIR DUCT A3	0	0	55	-17	13	S	+AIR DUCT A2	0	0	48	-41
S	AIR INTAKE A2	0	0	56	-14	14	S	-AIR DUCT A2	0	0	53	-24

nts: A = Area
S = 100 cm² Swipe
7/23/97 RW.

Scaler S/N L2929 (I)	BKD	EFF	MDA
CT = 1m 7/23/97 Alpha:	.23	.32	15
Tech [signature] Beta:	.60	.29	134

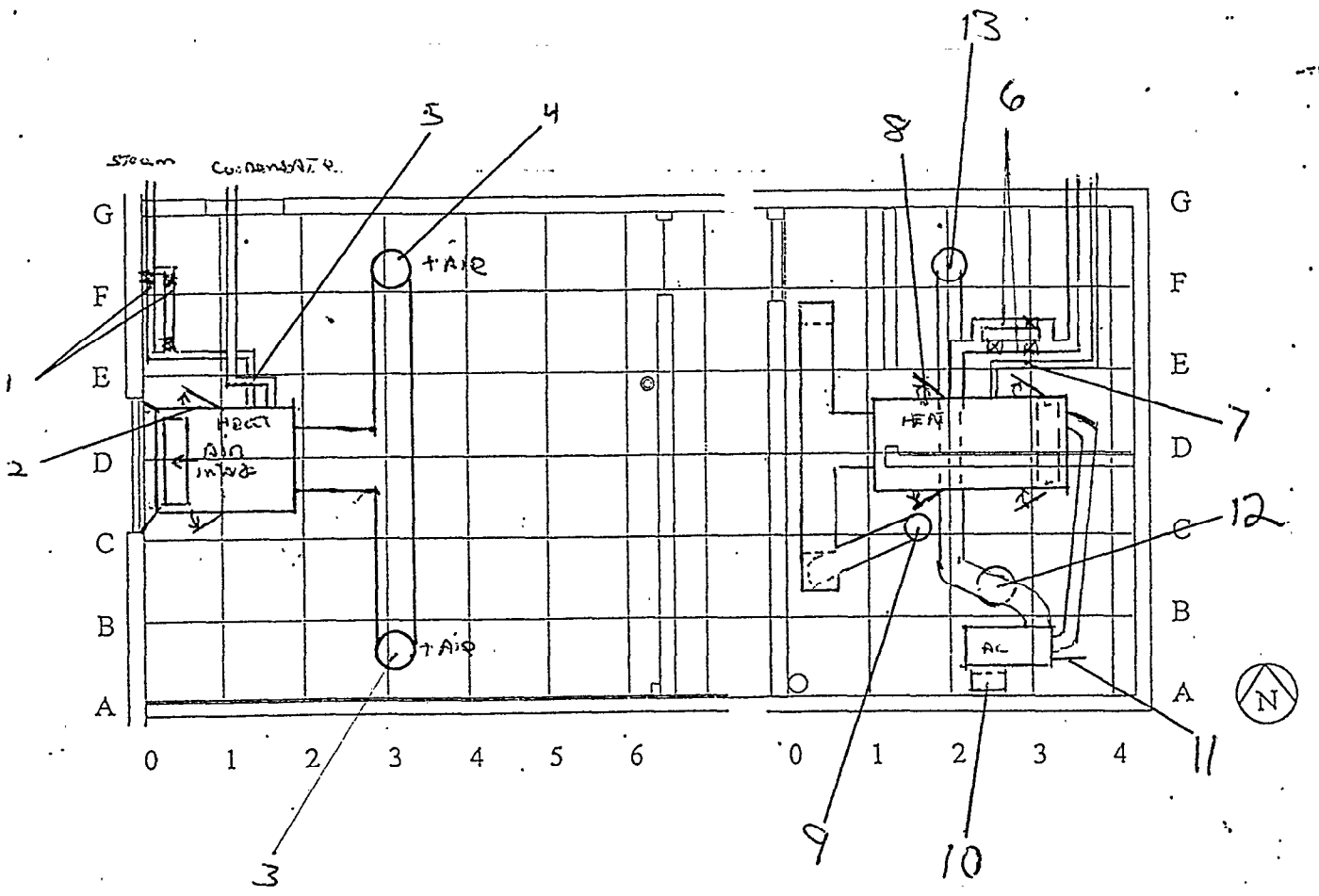
Review [signature]

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

7-21-97 / 1015	Tech D. Pitman	Instruments / sn 2221-C 89648
Purpose B14 A4 A		Survey # SS1 RWP # 06
SS Piping - HVAC		



Type	Description	Gross	Δ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Δ DPM	Gross	Beta DPM
S	Steam	0	0	54	-21	8	S	Air intake (Hot)	0	0	56	-14
S	Air intake	0	0	58	-7	9	S	Hot Air Duct	1	2	42	-45
S	Pos Air	0	0	57	-25	10	S	Cold Air intake	0	0	57	-10
S	Pos. Air	1	2	56	-14	11	S	Chiller Drain	1	2	46	-48
S	Condensate	0	0	66	21	12	S	Cold Air Duct	0	0	62	7
S	Steam	1	2	67	24	13	S	Cold Air Duct	0	0	65	17
S	Condensate	0	0	69	31							

Units: S = 100 cm² Swipe

Scaler S/N L2929 (E)

	BKG	EFF	MDA
Alpha:	.23	.32	15
Beta:	60	.29	134

CT =

Tech [illegible]

7/23/97 RW.

Review [illegible]

HILBERT ASSOCIATES, INC.

DIRECT SURFACE MEASUREMENT ANALYSIS REPORT
(scaler measurement)

4-71

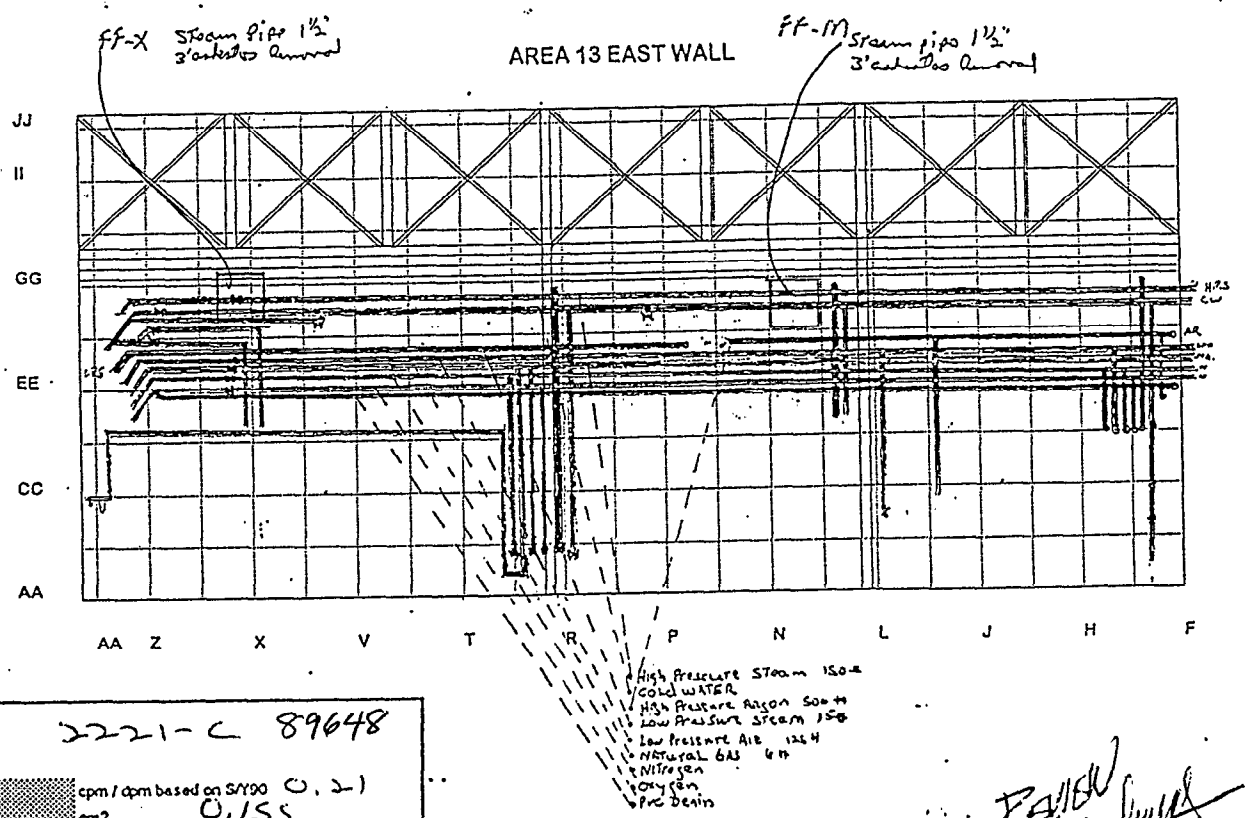
SAMPLE DATE: 6-19-97
LOCATION:
Prax Air
Bldg 14
Area 13 - EAST WALL

RADIATION MEASUREMENT: Beta-Gamma
RESULTS REPORTED UNITS: dpm per 100cm2
MEASUREMENT TYPE: direct scaler measurements

TOTAL BACKGROUND COUNTS	62
BACKGROUND COUNT TIME (MIN)	1
SAMPLE COUNT TIME (MIN)	1

Steam Pipe Asbestos Removal

SAMPLE #	LOCATION CODE	LOCATION DESCRIPTION	GROSS SAMPLE COUNTS	NET SAMPLE COUNT RATE (CPM)	RESULTS (DPM/100CM2)	95% ERROR (DPM/100CM2)	MDA (DPM/100CM2)
1	FF-X	Direct Probe on Pipe	70-90				
2	FF-X	Direct Probe on Lagging	70-100				
3	FF-M	Direct Probe on Pipe	60-80				
4	FF-M	Direct Probe on Lagging	60-80				
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							



Instrument Model & s/n:	2221-C 89648
Detector Model & s/n:	
Calibration Date:	
Efficiency	cpm / dpm based on S/Y90 0.21
Detector Area	cm2 0.155

REVIEW

PAGE 1

ENCL-C2.XLS

HILBERT ASSOCIATES, INC.

DIRECT SURFACE MEASUREMENT ANALYSIS REPORT
(scaler-measurement)

470

SAMPLE DATE: 6-19-97
LOCATION:
Praxair
Bldg 14
Area 12 - EAST WALL
Steam Pipe
Asbestos Removal

RADIATION MEASUREMENT: Beta-Gamma
RESULTS REPORTED UNITS: dpm per 100cm2
MEASUREMENT TYPE: direct scaler measurements

TOTAL BACKGROUND COUNTS	42
BACKGROUND COUNT TIME (MIN)	1
SAMPLE COUNT TIME (MIN)	1

SAMPLE #	LOCATION CODE	LOCATION DESCRIPTION	GROSS SAMPLE COUNTS	NET SAMPLE COUNT RATE (CPM)	RESULTS (DPM/100CM2)	95% ERROR (DPM/100CM2)	MDA (DPM/100CM2)
		Direct Probe					
1	FF/W	60-90cpm on pipe					
2	FF/W	20 cpm on lagging					
3	FF/J	60-80cpm on pipe					
4	FF/J	20 cpm on lagging					
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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33							
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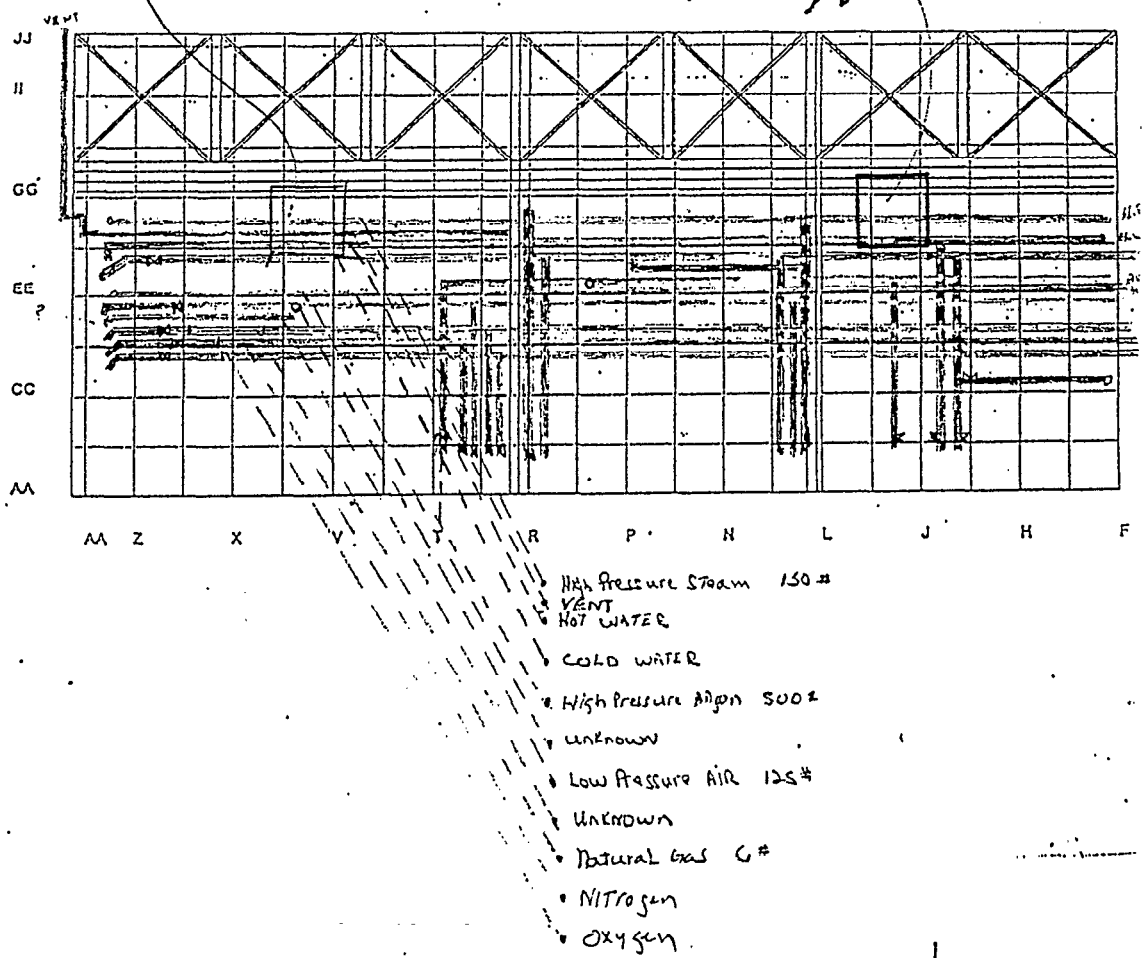
35							
36							
37							
38							
39							
40							

FF-J - 1½" Steam Pipe
3' asbestos lagging removed

FF/W - 1½" Steam Pipe
3' asbestos lagging removed.

AREA 12 EAST WALL



Instrument Model & s/n:	2221 - C 89648
Detector Model & s/n:	
Calibration Date:	
Efficiency	cpm / dpm based on S/Y90 0.21
Detector Area	cm2 0.155

REVIEW

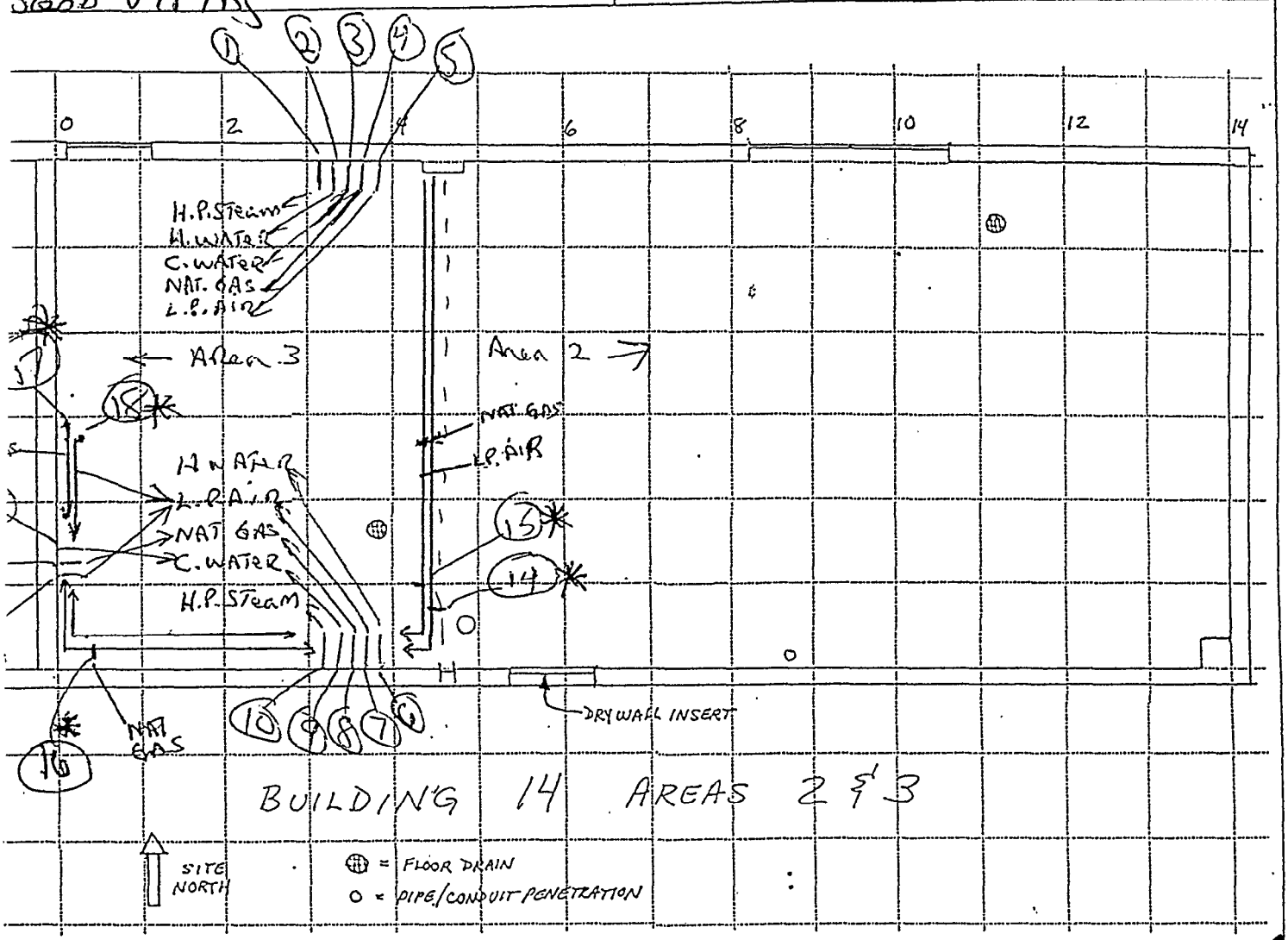
ENCL 02.XLS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Time 7-7-97/1300	Tech D. Pitman	Instruments / sn 2221-B 86308	
n / Purpose B-14 A-3		Survey # 498	RWP # 06
Gas Piping			



Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
S	H.P. STEAM	0	-.6	64	0	8	S	NAT GAS	0	-.6	71	30
S	HOT WATER	0	-.6	58	-22	9	S	COLD WATER	0	-.6	63	-4
S	COLD WATER	0	-.6	58	-22	10	S	H.P. STEAM	0	-.6	54	-37
S	NAT. GAS	0	-.6	62	-7	11	S	L.P. AIR	0	-.6	58	-22
S	L.P. AIR	0	-.6	42	-81	12	S	NAT GAS	0	-.6	55	-33
S	HOT WATER	0	-.6	59	-18	13	S	COLD WATER	0	-.6	52	-44
S	L.P. AIR	0	-.6	57	-25	14	S	NAT GAS	0	-.6	49	-55

			BKD	EFF	MDA
Scaler S/N 91234					
CT = 1 MIN	Alpha:	220/990 = .2		.33	15
Tech SMallridge	Beta:	63237/990 = 64		.27	148

Comments: * = SWAB LOCATION
O = 100 cm² Swipe Location
ALL Smears ≤ MDA

Review

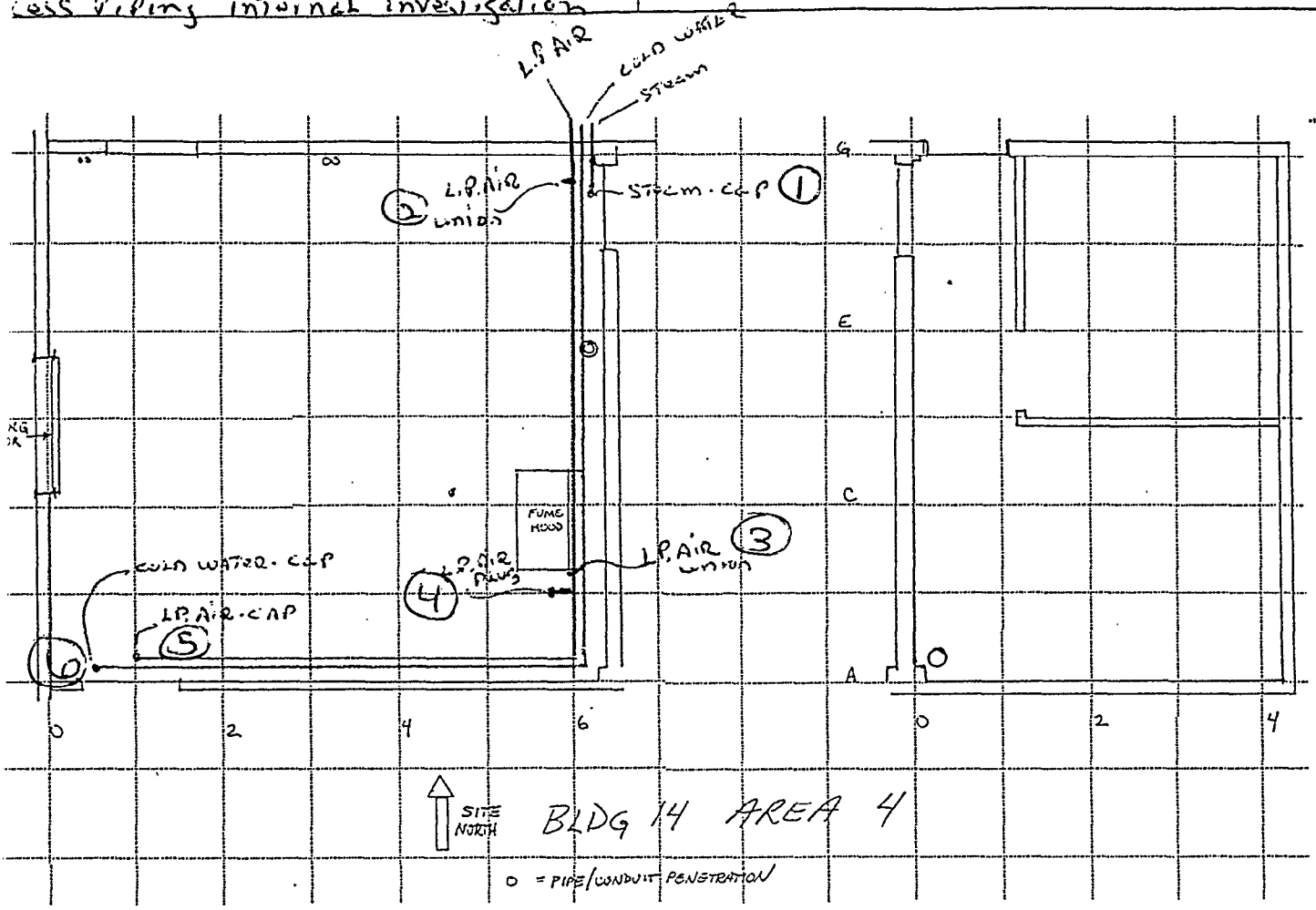
ERT ASSOCIATES INC
OLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Time 7.3.97/0730	Tech D. Pitman	Instruments / sn	2221-D 86313
n / Purpose Bldg 14 Area 4		Survey # 4921	RWP # 06
ross Piping internal investigation			



Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
S	H.P. Steam Cap	0	-.6	67	11							
S	L.P. Air Union	0	-.6	59	-18							
S	L.P. Air Union	0	-.6	58	-22							
S	L.P. Air Cap	0	-.6	50	-51							
S	L.P. Air Plug	1	2.5	55	-33							
S	Cold Water Plug	0	-.6	49	-55							

ments: S = 100 cm² Swipe

Scaler S/N 91234		BKD	EFF	MDA
CT = 1 MIN	Alpha:	220/990	.33	15
Tech R. Smallridge	Beta:	63237/990	.27	148

ALL SMEARS < MDA

.2 Review
64

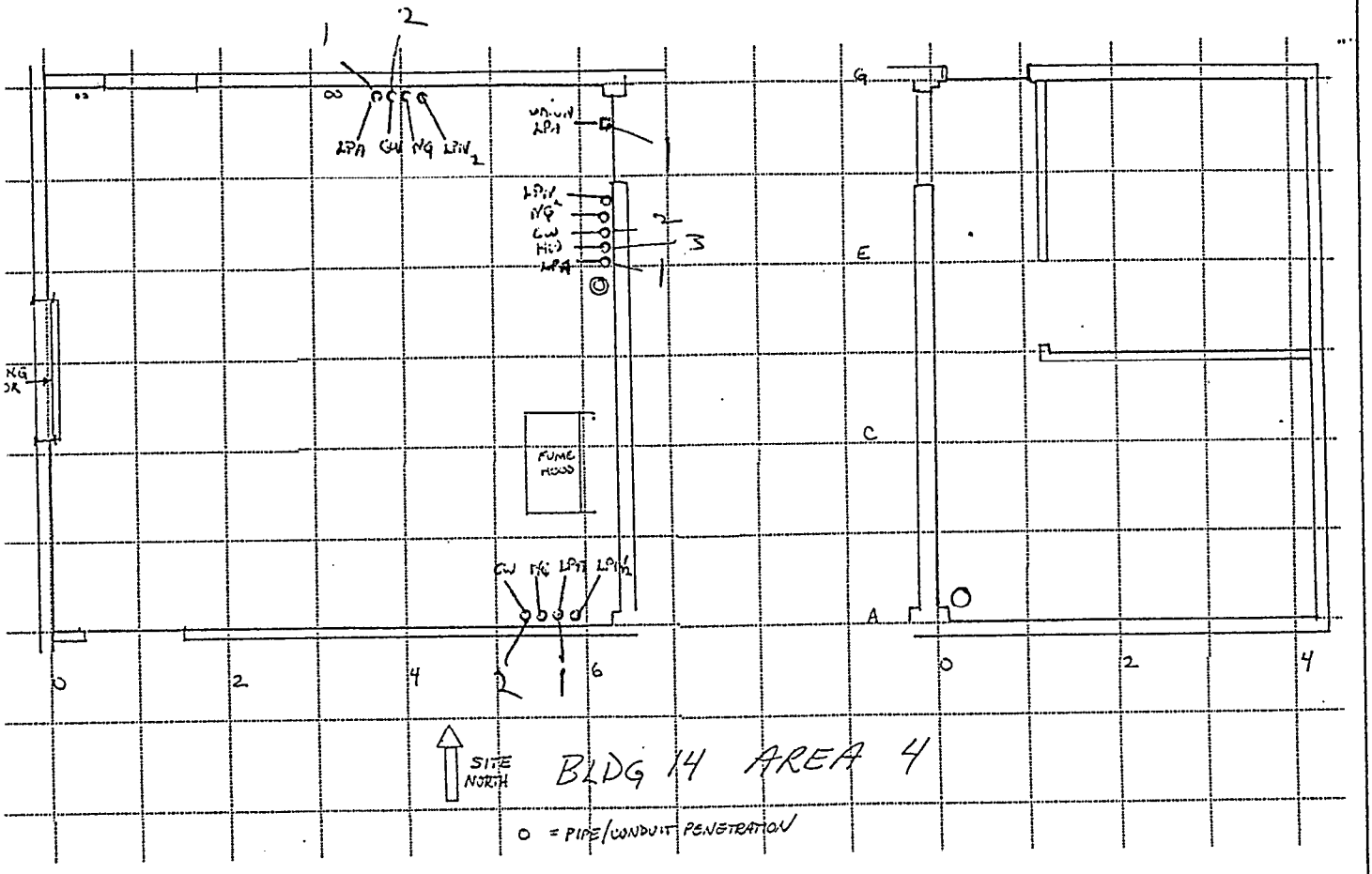
ERT ASSOCIATES INC
IOLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Time 7/3/97 1145	Tech D. PITMAN	Instruments / sn 2221 - D 86313	
n / Purpose BLDG 14 AREA 4		Survey # 493	RWP # 04
E.S. WALL & VALVE Survey			



Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
S	B14 A4 N.WALL VALVE	1	2.4	50	-52	8	S	B14 A4 UNION N WALL	1	2.4	62	-7.4
S	B14 A4 S.WALL Coldwater VALVE	0	-.6	64	0							
S	B14-A4 S.WALL VALVE	0	-.6	61	-11							
S	B14 A4 E WALL VALVE	0	-.6	58	-22							
S	B14 A4 E WALL VALVE	0	-.6	62	-7.4							
S	B14 A4 E WALL VALVE	0	-.6	57	-26							
S	B14 A4 N. WALL VALVE	1	2.4	50	-52							

N/A

ments: O = 100 cm2 SWIPE
S = SWIPE
ALL SMEARS < MDA

		BKD	EFF	MDA
Scaler S/N 91234				
CT = 1. MIN	Alpha:	220/910 .2	.33	15
Tech R. Smallridge	Beta:	63-69/110 64	.27	148

Review [signature]

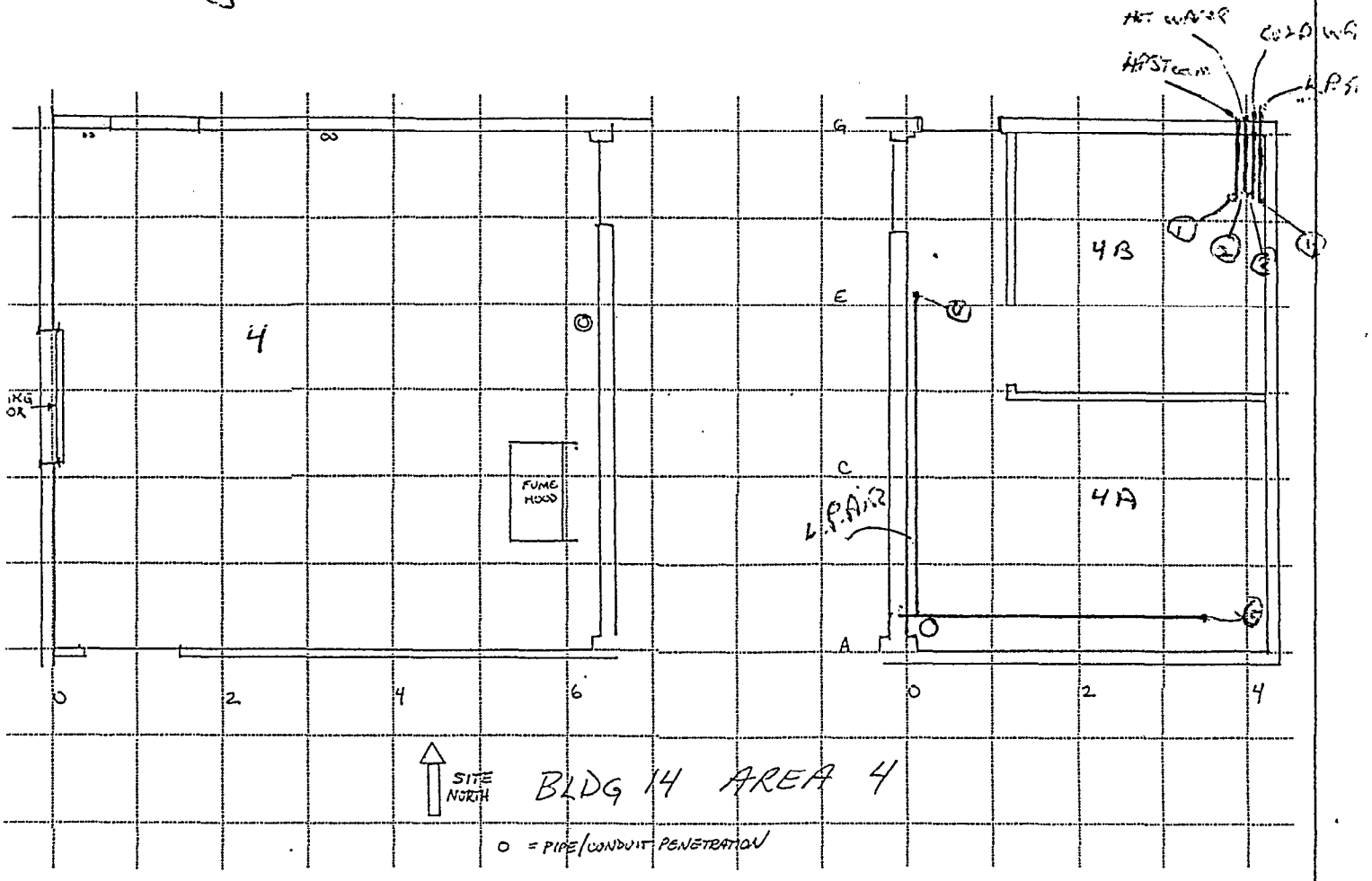
BERT ASSOCIATES INC
DIOLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Time 7-3-97/1120	Tech D. Pitman	Instruments / sn 2221-D 86313	
on / Purpose B14 A-4A+B		Survey # 492	RWP # 06
Process Piping			



Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
S		1	2.4	55	-33							
S		0	-.6	65	3.7							
S		0	-.6	57	-26							
S		0	-.6	66	7.4							
S		0	-.6	50	-51							
S		1	2.4	55	-33							

N/A

ments: O = 100 cm² Swipe Location
S: Swipe
All Smears < MDA

		BKD	EFF	MDA
Scaler S/N 91234				
CT = 1. MIN	Alpha:	220/990	.33	15
Tech R. Smallridge	Beta:	63237/990 64	.27	148

Review [signature]

[signature]

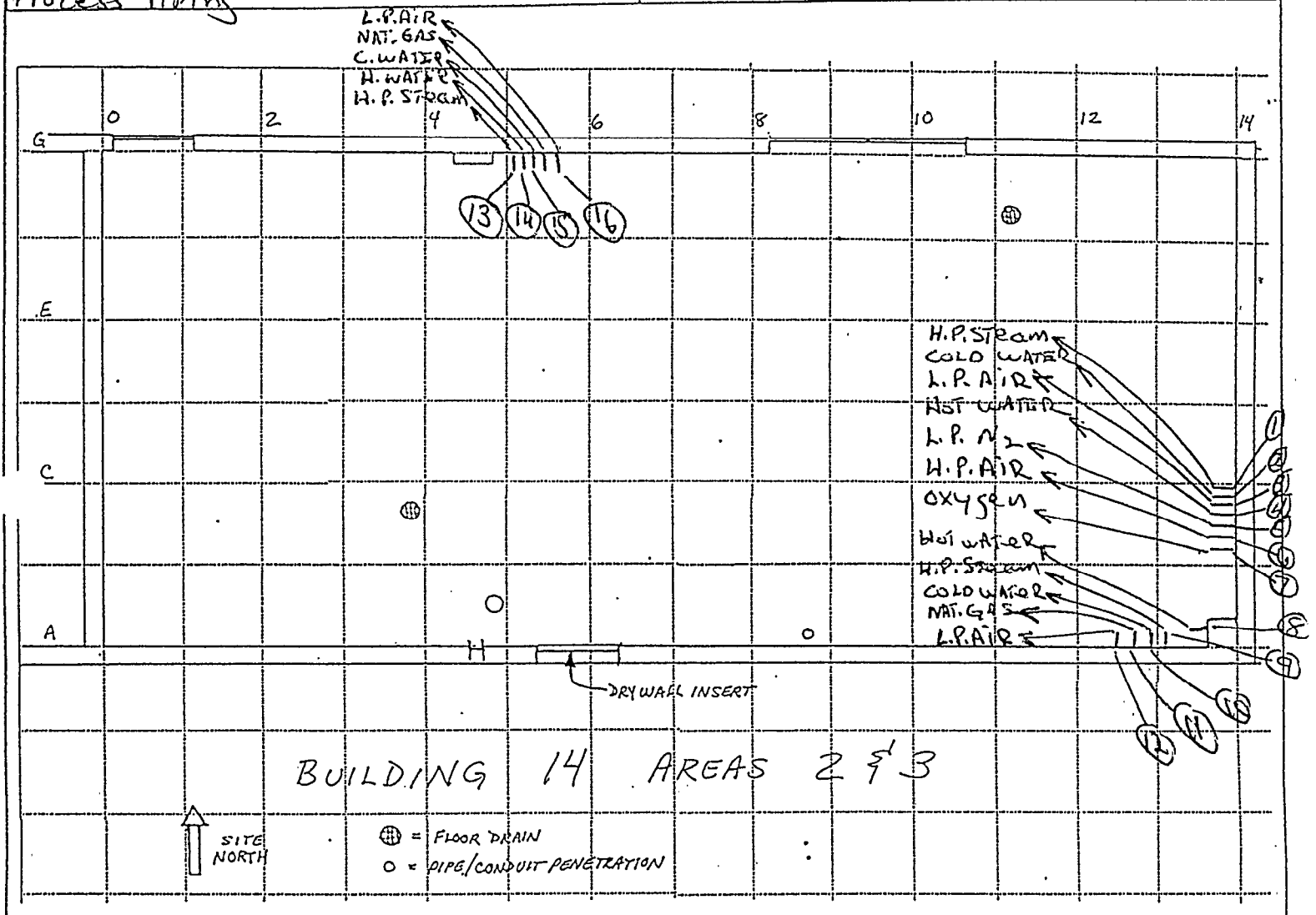
HILBERT ASSOCIATES INC
RADIOLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Date / Time 7-3-97/1630	Tech D.PITMIAN	Instruments / sn 2221-C 89648	
Location / Purpose Bldg 14 Area 2		Survey # 491	RWP # 06
Process Piping			



Loc	Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
1	S	H.P. Steam	0	-.6	57	-25	8	S	H. WATER	0	-.6	63	-4
2	S	C. WATER	0	-.6	64	0	9	S	H.P. Steam	0	-.6	63	-4
3	S	L.P. AIR	0	-.6	70	22	10	S	C. WATER	0	-.6	53	-40
4	S	H. WATER	0	-.6	71	30	11	S	Nat Gas	0	-.6	74	37
5	S	L.P. N2	0	-.6	40	-88	12	S	L.P. AIR	0	-.6	55	-33
6	S	H.P. AIR	0	-.6	62	-7	13	S	H.P. Steam	0	-.6	62	-7
7	S	O2	0	-.6	56	-30	14	S	H. WATER	0	-.6	63	-4

Comments: ALL SMEARS < MDA

		BKD	EFF	MDA
Scaler S/N 91234				
CT = 1 MIN CT	Alpha:	220/710 = .2	.33	15
Tech SMALLridge	Beta:	63237/990 = .64	.27	148

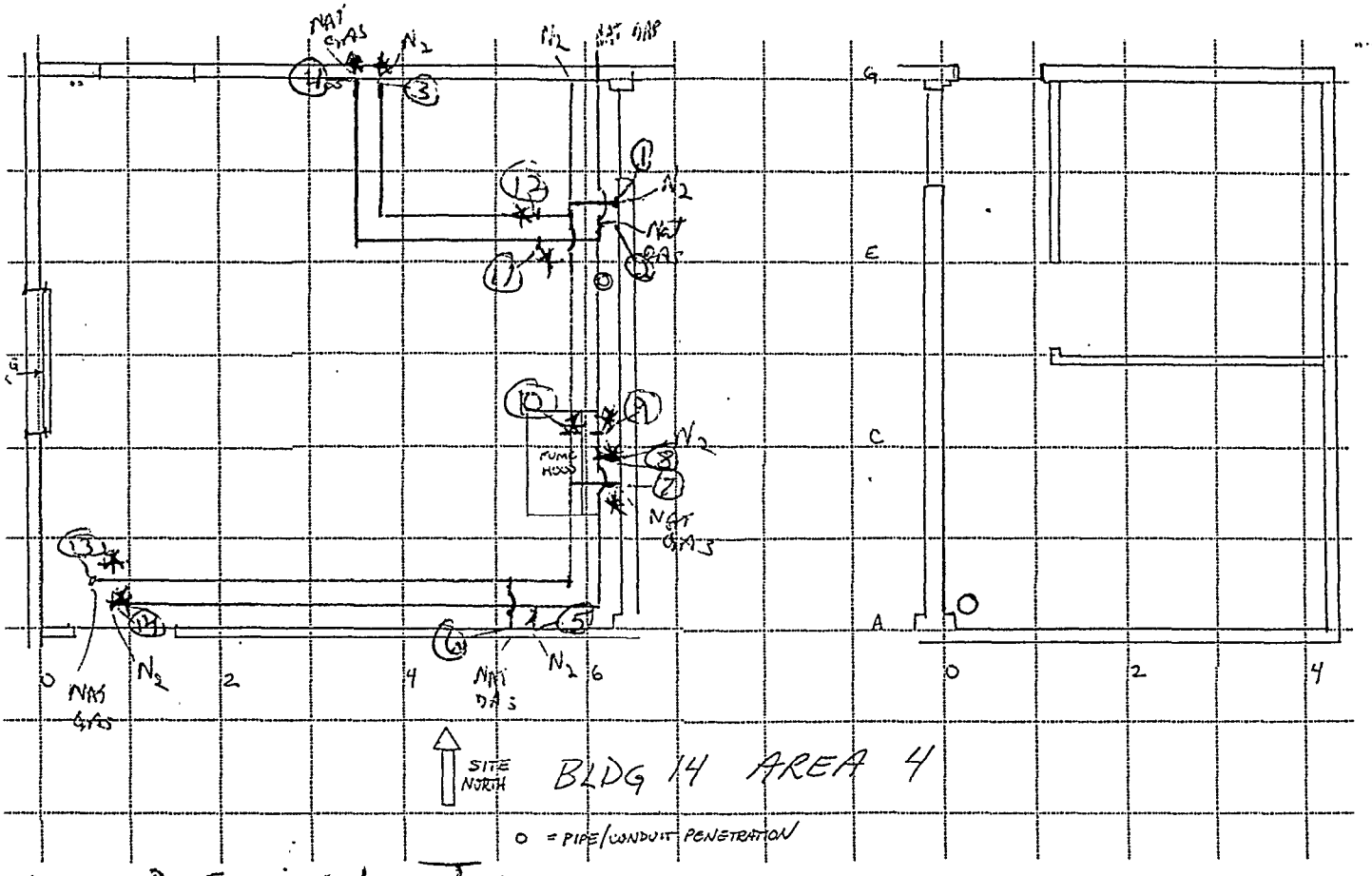
Review

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Date 7-7-97	Tech D. Pitman	Instruments / sn 2221-B 86308
Purpose B-14 A4		Survey # 504 RWP # 06
Gas Piping		



= 100 cm² Swipe Location
= Swab Location

Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
S	~~NAT GAS~~ N_2	0	-1	57	-1	8	S	N_2	1	3	61	3
S	NAT GAS	0	-1	66	21	9	S	N_2	0	-1	48	-41
S	N_2	0	-1	55	-17	10	S	Nat Gas	1	3	50	-34
S	Nat Gas	0	-1	68	28	11	S	Nat gas	0	-1	76	55
S	N_2	1	3	65	17	12	S	N_2	0	-1	66	21
S	Nat Gas	1	3	65	17	13	S	Nat Gas	0	-1	63	10
S	Nat Gas	0	-1	58	-	14	S	N_2	0	-1	78	62

ents:

Scaler S/N 91234	BKD	EFF	MDA	
CT = 1 min	Alpha: 35/180 0.19	0.32	15	
Tech D. PITMAN	Beta: 103/180 0.60	0.29	134	

Review

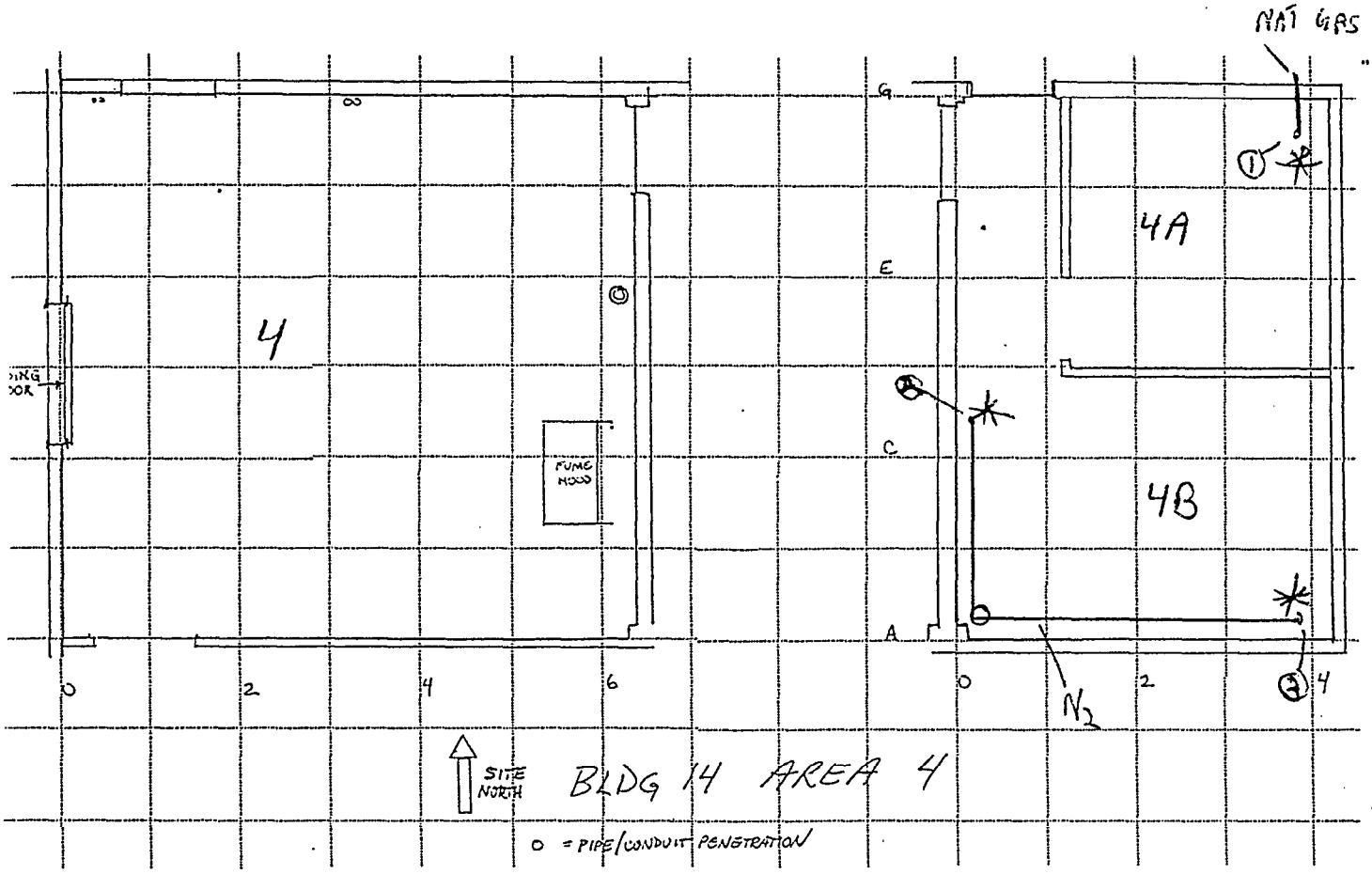
HILBERT ASSOCIATES INC
RADIOLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Time 7-8-97/0830	Tech D. PITMAN	Instruments / sn 2221-B 86308	
on / Purpose B 14 A4 A+B		Survey # 503	RWP # 06
ocess Piping			



Loc	Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
	S	Nat GAS	0	-1	47	-45							
	S	N_2	0	-1	63	10							
	S	N_2	0	-1	63	10							

nments: O = 100 cm² Swipe Location	Scaler S/N 91234	BKG	EFF	MDA
* = Swab Location	CT = 1 min Alpha:	3/50 0.14	0.32	15
	Tech D. PITMAN Beta:	533/50 60	0.29	134

Review

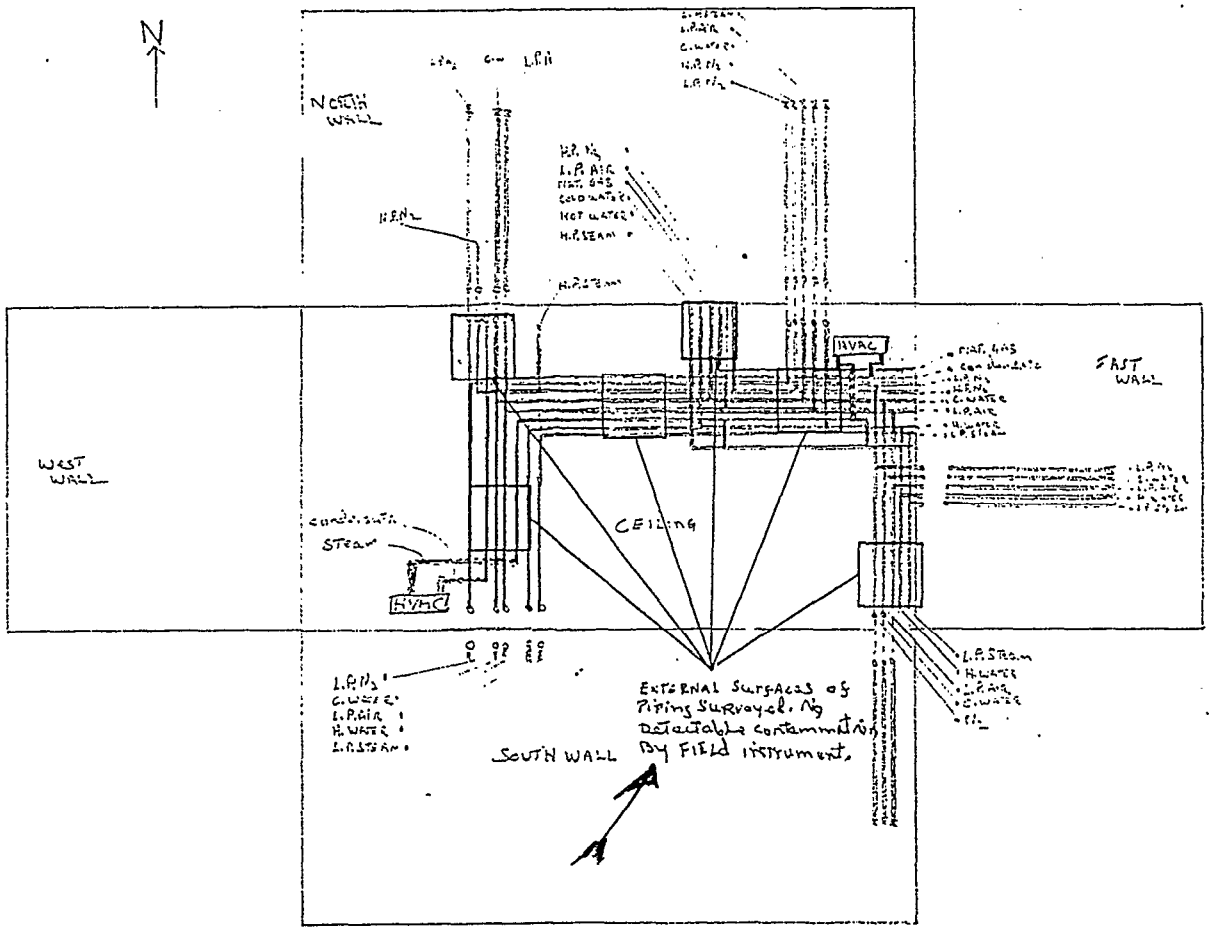
ION TECHNOLOGY, INC.
640 Maple Ave
Saratoga Springs, NY
(518) 584-0166

RADIOLOGICAL SURVEY

Project: PRAXAIR
Area: BLDG 14

Date/Time 9-17-97	Tech D. Pittman	Instrument / sn M-2 40378	
Location/ Purpose Area 20a - West Process Piping - Below		Survey # 799	RWP# 06

BLDG 14 AREA 20a-WEST



Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm

Type:s = smearable, dp = direct probe

Scalar S/N	BKD	EFF	MDA
CT= DATE α:			
Tech β:			

Comments:

Review: [signature]

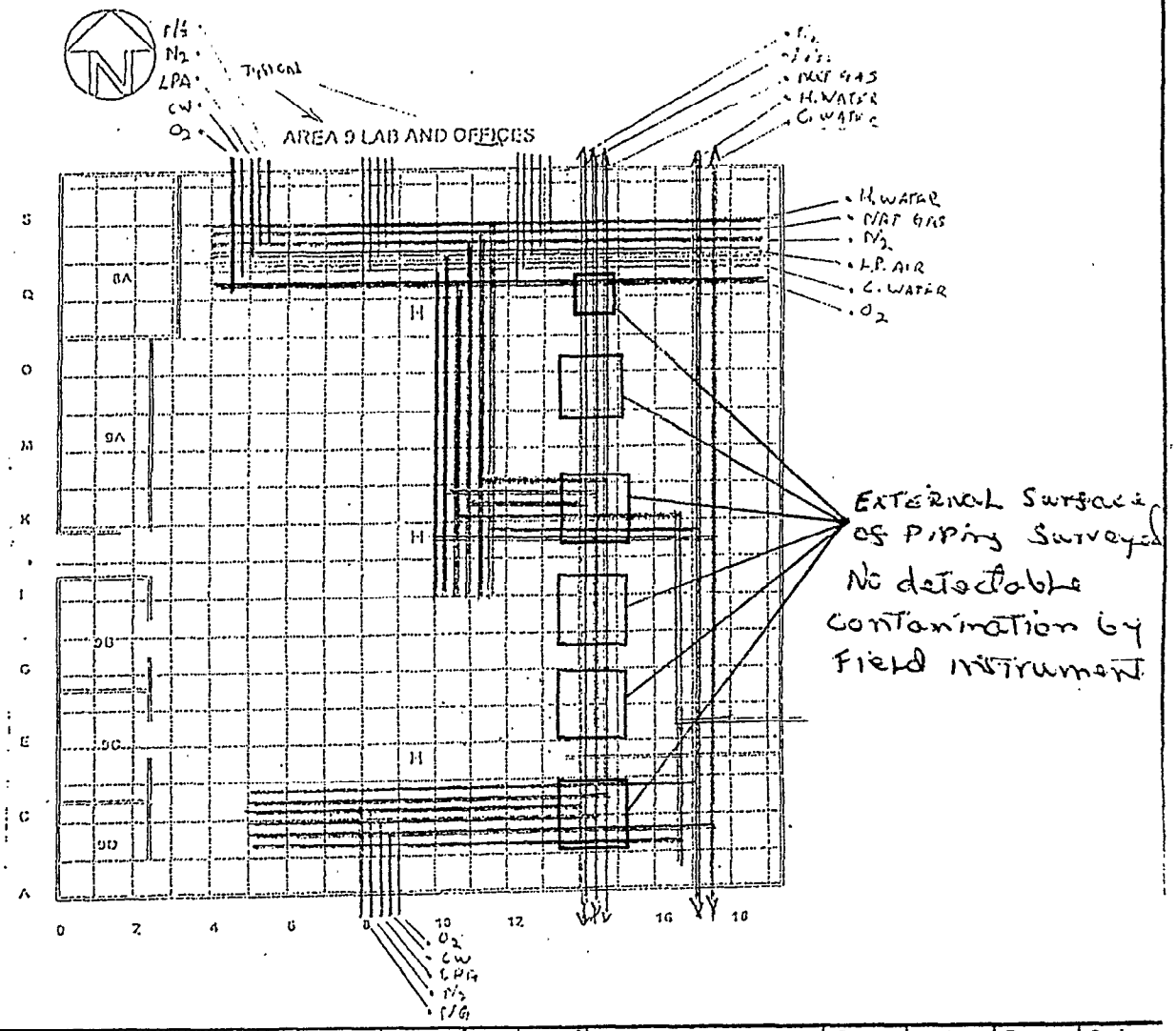
Encl 3.3 to HSP 210

)N TECHNOLOGY, INC.
40 Maple Ave
aratoga Springs, NY
518) 584-0166

RADIOLOGICAL SURVEY

Project: Praxair
Area: Bldg 14

ate/Time 9-18-97	Tech D. PITMAN	Instrument / sn M-2 40378	
cation/ Purpose Area 9		Survey # 798	RWP# 06
Process Piping - Delin			



Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm

Type:s = smearable, dp = direct probe

Comments:

Scalar S/N		BKD	EFF	MDA
CT=	DATE α:			
Tech	β:			

Review: [signature]

Encl 3.3 to HSP 210

·N TECHNOLOGY, INC.
·0 Maple Ave
ıratoga Springs, NY
18) 584-0166

RADIOLOGICAL SURVEY

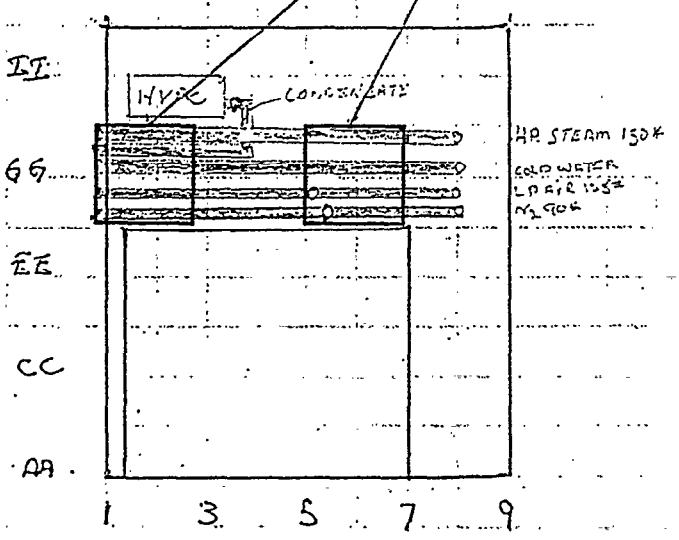
Project: PRAXAIR
Area: BLDG 14

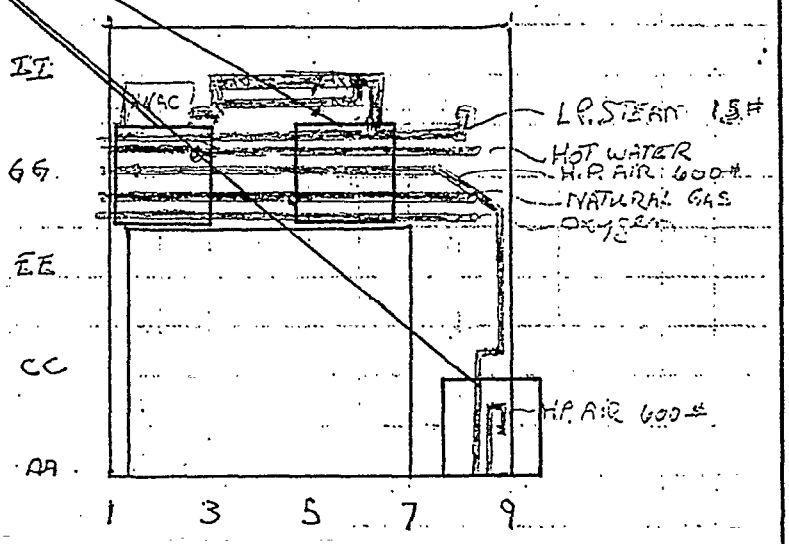
te/Time 9/17/97	Tech D. PITMAN	Instrument / sn M-2 40378	
cation/ Purpose Area 15		Survey # 797	RWP# 06
Process Piping - Detin			

BLDG 14
AREA 15
NORTH WALL
N

BLDG 14
AREA 15
NORTH WALL
SOUTH SIDE OF SUPPORT BRACKET
N

EXTERNAL SURFACE OF PIPING SURVEYED.
NO DETECTABLE CONTAMINATION
BY FIELD INSTRUMENT





Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm

Type:s = smearable, dp = direct probe

Comments:

Scalar S/N		BKD	EFF	MDA
CT=	DATE α:			
Tech	β:			

Review: [signature]

Encl 3.3 to HSP 210

RT ASSOCIATES INC
LOGICAL ENGINEERS

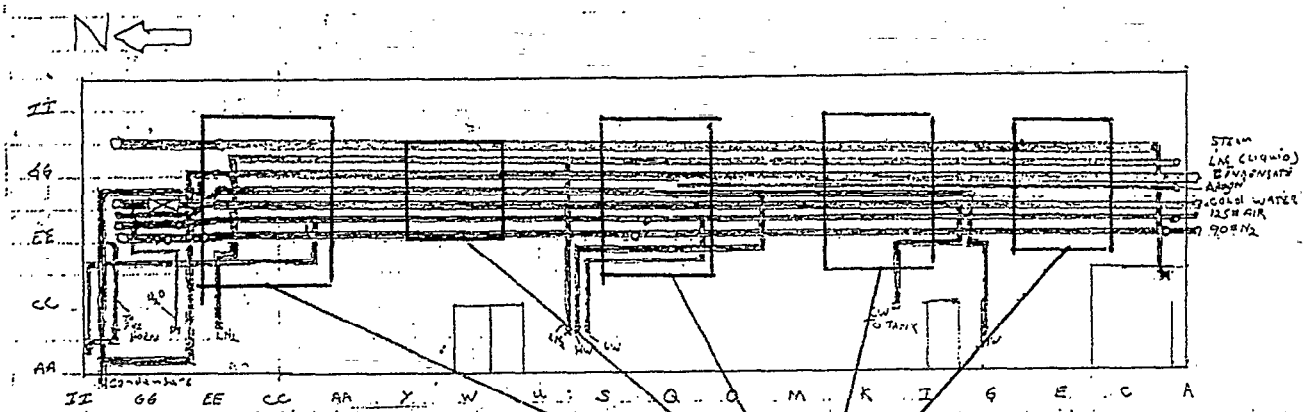
IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

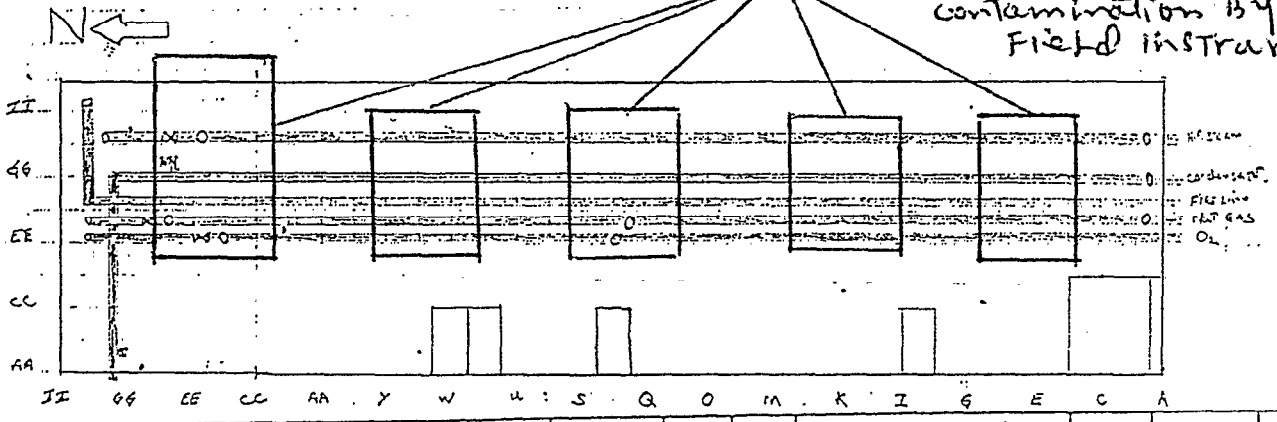
me 9/16/97	Tech D. Pitman	Instruments / sn M-2 40378	
/ Purpose B14 Area 15		Survey # 795	RWP # 06
cess Piping - Delin			

Bldg 14
AREA 15
EAST WALL
WEST SIDE OF SUPPORT BRACKET



Bldg 14
AREA 15
EAST WALL
EAST SIDE OF SUPPORT BRACKET

External Surface of Piping surveyed. No detectable contamination By Field instrument



Type	Description	Gross	Λ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Λ DPM	Gross	Beta DPM

ents:	Scaler S/N	BKD	EFF	MDA
	CT = Alpha:			
	Tech Beta:			

Review [signature]

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

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640 Maple Ave
Saratoga Springs, NY 1286
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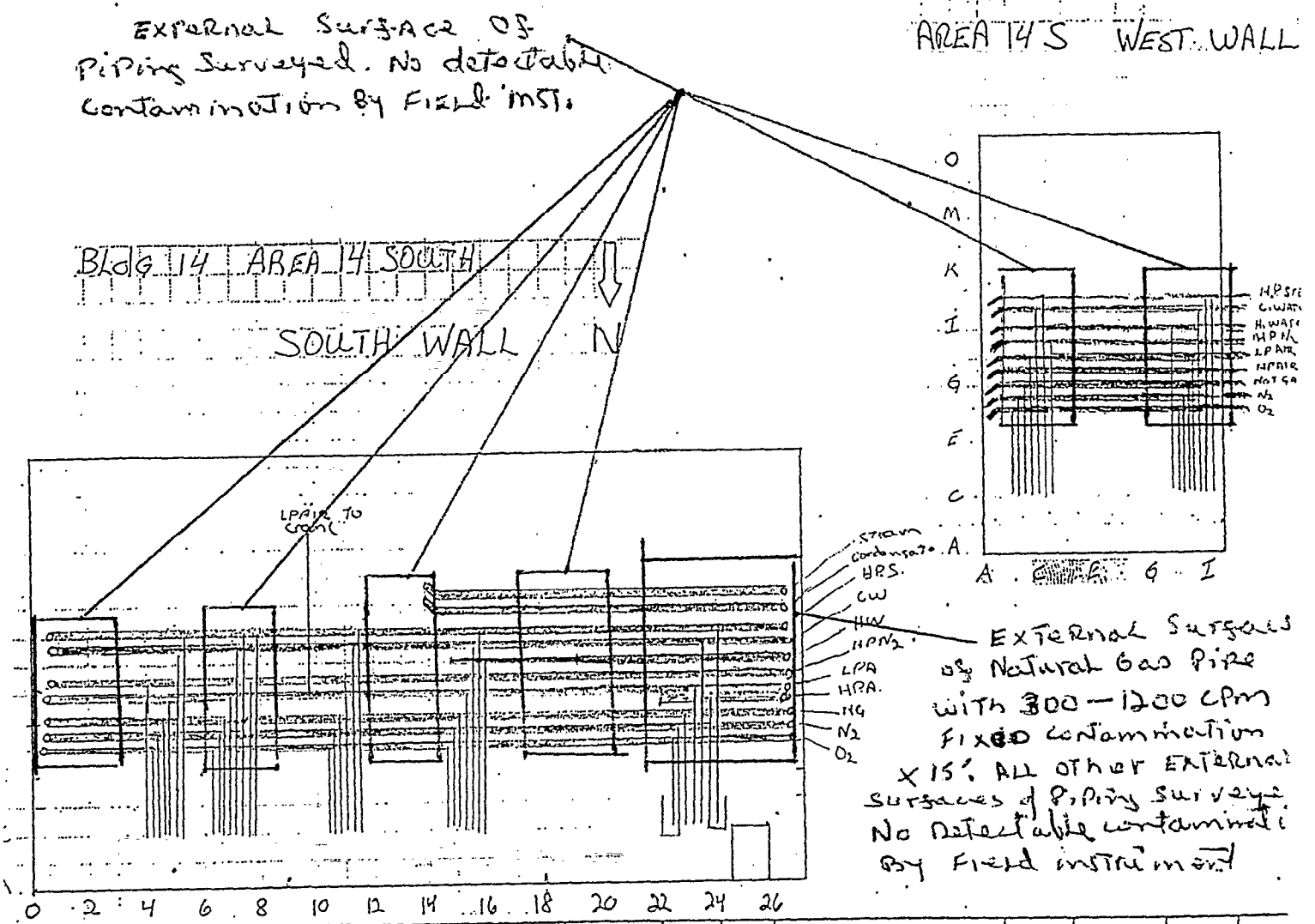
Fax: 518-584-8529
Contract # 95012

Date 9/16/97	Tech D. Pitman	Instruments / sn M-2 40378	
Location / Purpose Bldg 14 Area 14 South		Survey # 794	RWP # 06
Process Piping - Decom			



Loc	Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta

Comments:	Scaler S/N	BKD	EFF	MDA
	CT = Alpha:			
	Tech Beta:			

Review

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

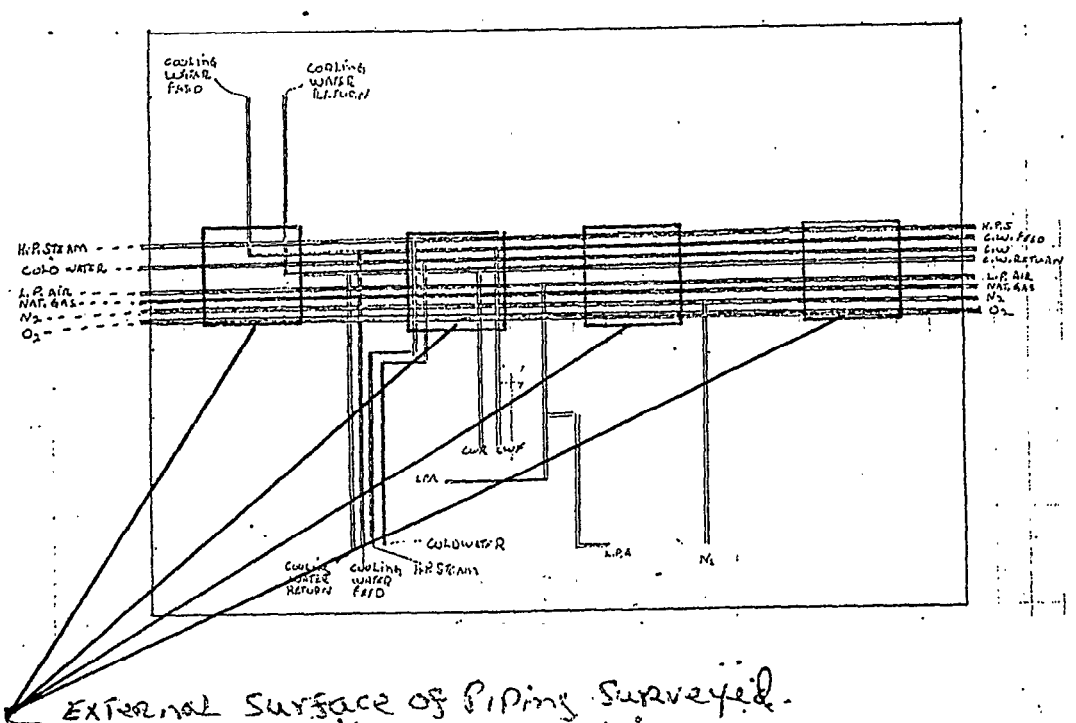
BERT ASSOCIATES INC
DIOLOGICAL ENGINEERS

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Time 9/16/97	Tech D. Pittman	Instruments / sn M-2 ~~4083~~ 40378	
on / Purpose Bldg 14 Area 14 North		Survey # 793	RWP # 06
ocess Piping - Delin			

BLDG 14 AREA 14 NORTH
EAST WALL

N ←



External surface of piping surveyed.
No detectable contamination by
FIELD instrument

oc	Type	Description	Gross	Δ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Δ DPM	Gross	Beta D

omments:	Scaler S/N	BKD	EFF	MDA
	CT = Alpha:			
	Tech Beta:			

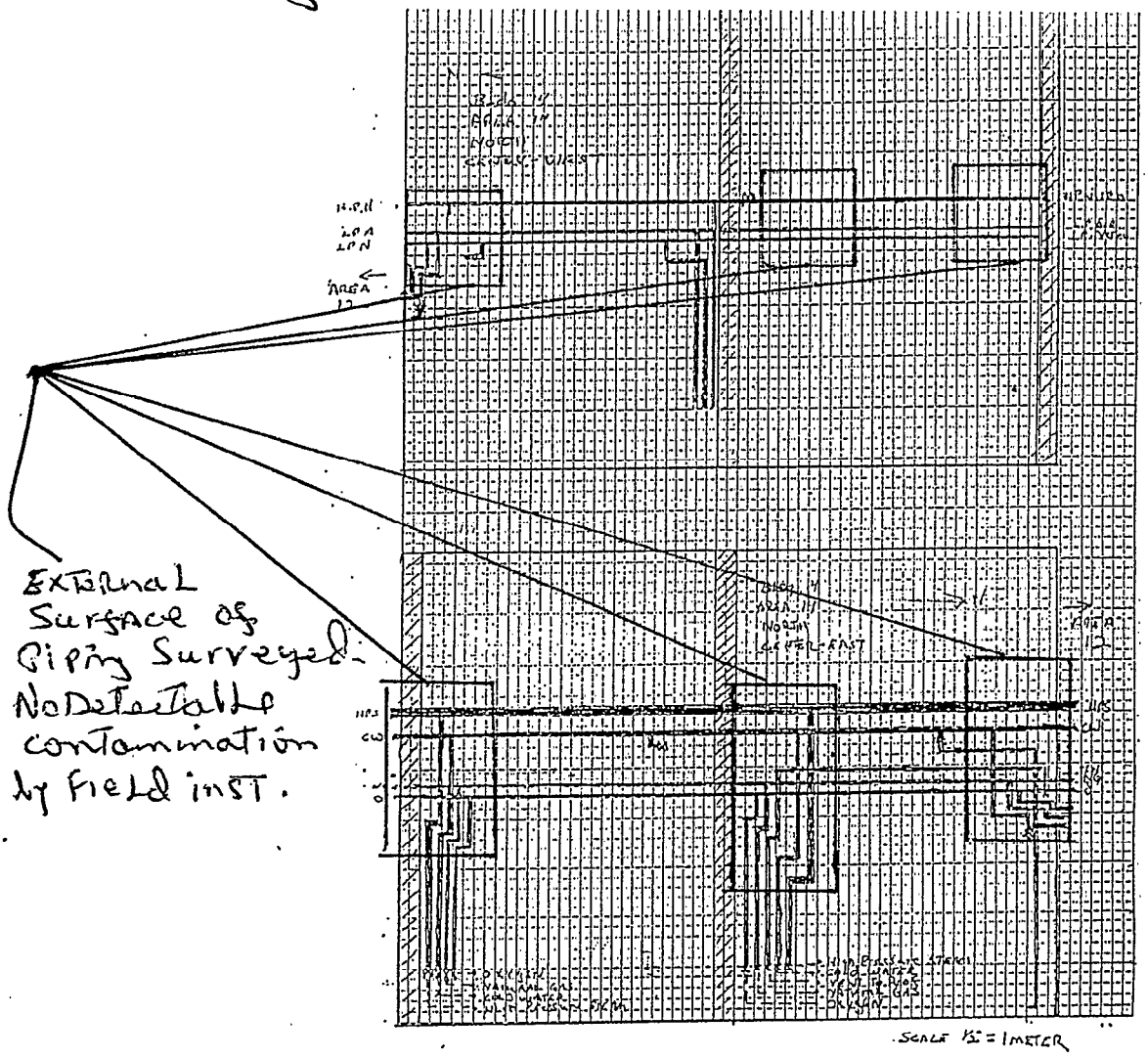
Review [signature]

ON TECHNOLOGY, INC.
540 Maple Ave
Saratoga Springs, NY
(518) 584-0166

RADIOLOGICAL SURVEY

Project: PRAXAIR
Area: BLDG 14

Date/Time 9/16/97	Tech D. Pittman	Instrument / sn M-2 40378	
Location/ Purpose Area 14 North Process Piping - Admin		Survey # 792	RWP# 06



Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm

Type:s = smearable, dp = direct probe

Comments:

Scalar S/N		BKD	EFF	MDA
CT=	DATE α:			
Tech	β:			

Review:

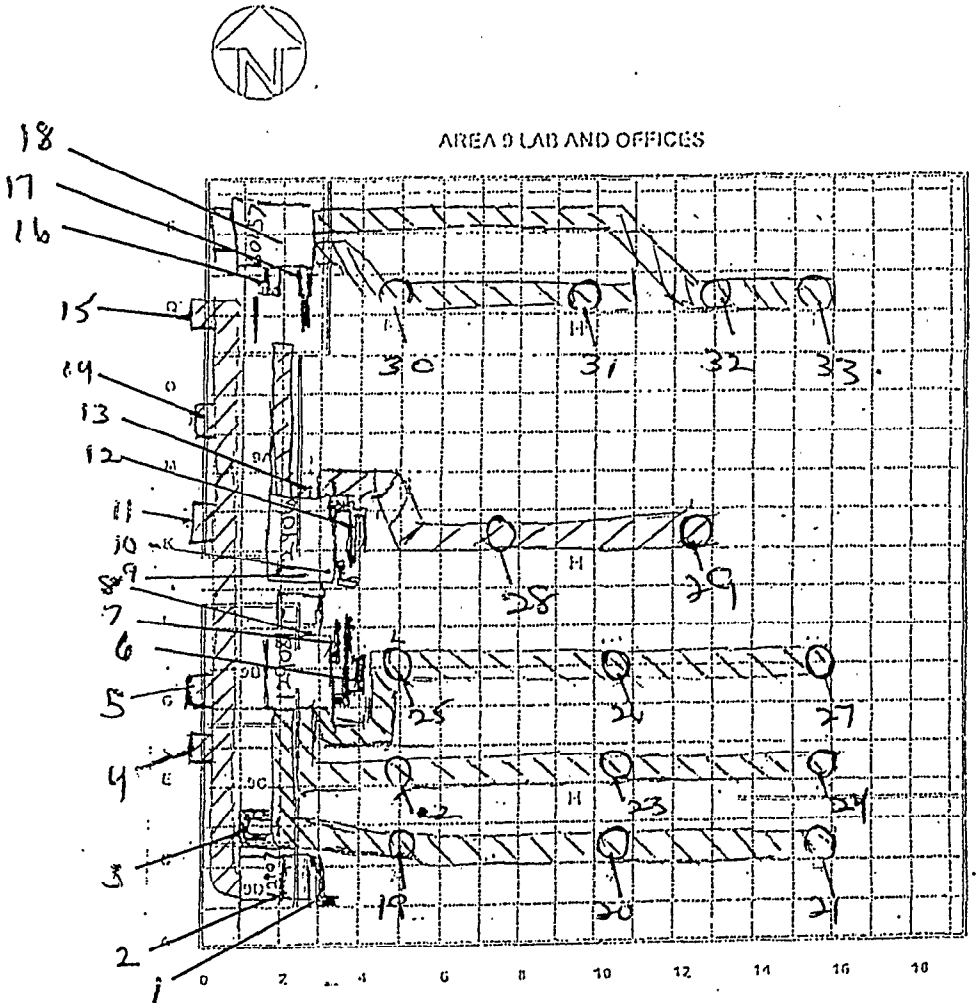
Encl 3.3 to HSP 210

ON TECHNOLOGY, INC.
540 Maple Ave
Saratoga Springs, NY
(518) 584-0166

RADIOLOGICAL SURVEY

Project: PraxAir
Area: Bldg 14

Date/Time 9/9/97	Tech D. Pitman	Instrument / sn 2221-B 86308	
Location/ Purpose Area 9		Survey # 743	RWP# 06
HVAC - Process Piping - Dolin			



Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm
1	S	HVAC 12907 Condensate	0	-,6	57	-17	10	S	HVAC 12906 Condensate	0	-,6	70	28
2	S	" Air intake duct	0	-,6	70	28	11	S	HVAC 12907 Air exhaust duct	1	2	57	-1
3	S	" Steam	0	-,6	72	34	12	S	HVAC 12906 Steam	0	-,6	56	-2
4	S	" Air exhaust	0	-,6	43	-66	13	S	" Air exhaust	1	2	58	-4
5	S	" "	0	-,6	58	-44	14	S	HVAC 12907 "	1	2	66	-7
6	S	HVAC 12-906 Steam	0	-,6	61	-3	15	S	" "	0	-,6	69	24
7	S	" Condensate	0	-,6	53	-31	16	S	HVAC 66157 Steam	0	-,6	70	28
8	S	" Air intake duct	1	2	61	-3	17	S	" Condensate	0	-,6	55	-2
9	S	HVAC 12906 "	0	-,6	57	-17	18	S	" Air intake duct	0	-,6	66	14

Scalar S/N 91234

	BKD	EFF	MDA
CT= 1 DATE 9-17-97 α:	103/300 0.19	0.33	14
Tech D. Pitman β:	43/300 62	0.29	136

Review: [signature]

earable, dp = direct probe

ON TECHNOLOGY, INC.
40 Maple Ave
aratoga Springs, NY
518) 584-0166

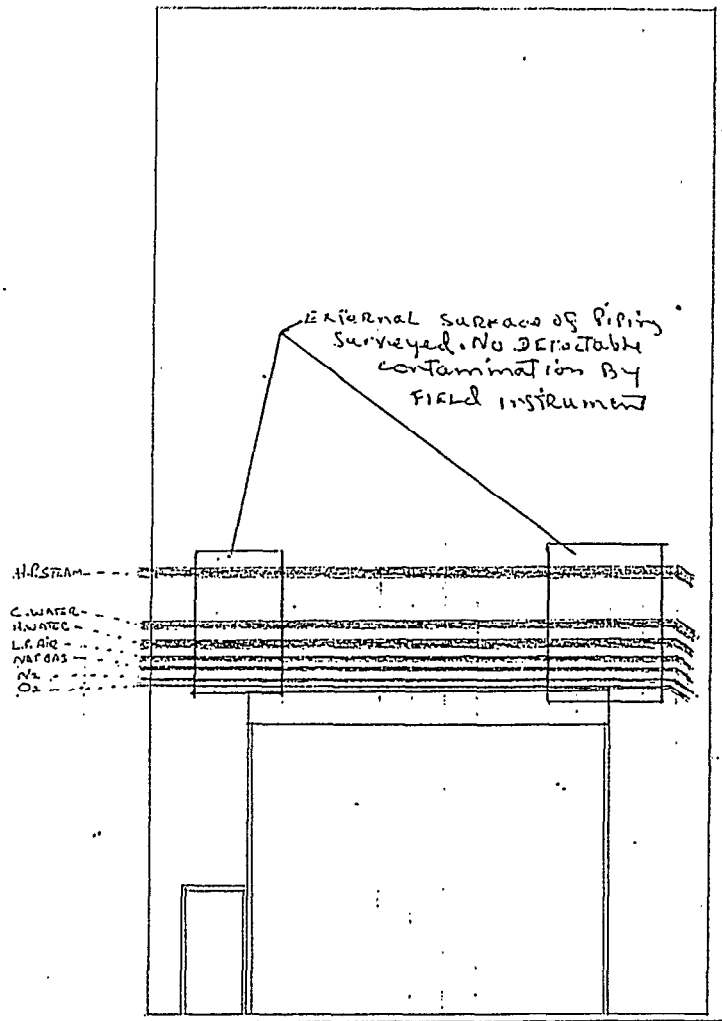
RADIOLOGICAL SURVEY

Project: Praxair
Area: Bldg 14

ate/Time 9-16-97	Tech D. Pitman	Instrument / sn	M-2 40378
ocation/ Purpose Area 14 South Process Piping - Debris		Survey # 800	RWP# 06

BLDG 14 AREA 14 SOUTH
EAST WALL

N ←



Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm

Type:s = smearable, dp = direct probe	Scalar S/N	BKD	EFF	MDA
Comments:	CT= DATE α:			
	Tech β:			

Review: [illegible]

Encl 3.3 to HSP 210

ILBERT ASSOCIATES INC
ADIOLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

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640 Maple Ave
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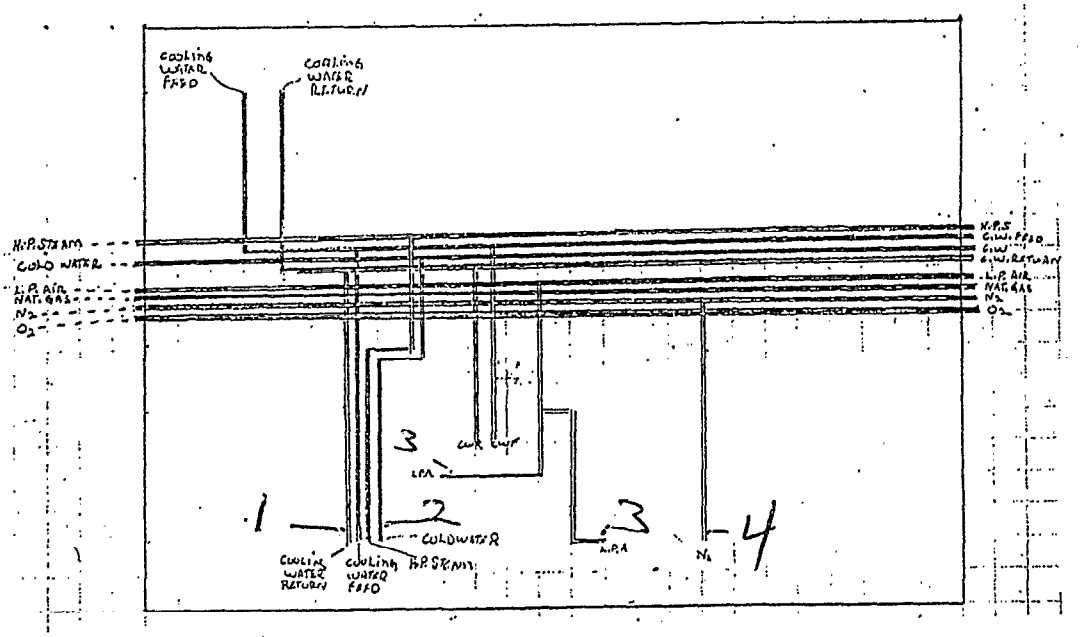
Fax: 518-584-8529
Contract # 95012

9/9-10/97	Tech: D. PITMAN	Instruments / sn	2221-B 86308
ation / Purpose BLDG 14 AREA 14 NORTH		Survey # 763	RWP # 06
rocess Piping - DELin			

BLDG 14 AREA 14 NORTH
EAST WALL

N ←



Loc	Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta C
1	G	COOLING WATER											
2	G	COLD WATER											
3	C	~~N~~ L.P. AIR											
4	G	N_2											

Comments: G=GRAB Sample C=Composit Sample - Petri Dish
NOTE: ALL Samples Show No Detectable Contamination By Field instrument

Scaler S/N		DKO	EFF	MDA
CT =	Alpha:			
Tech	Beta:			

Review

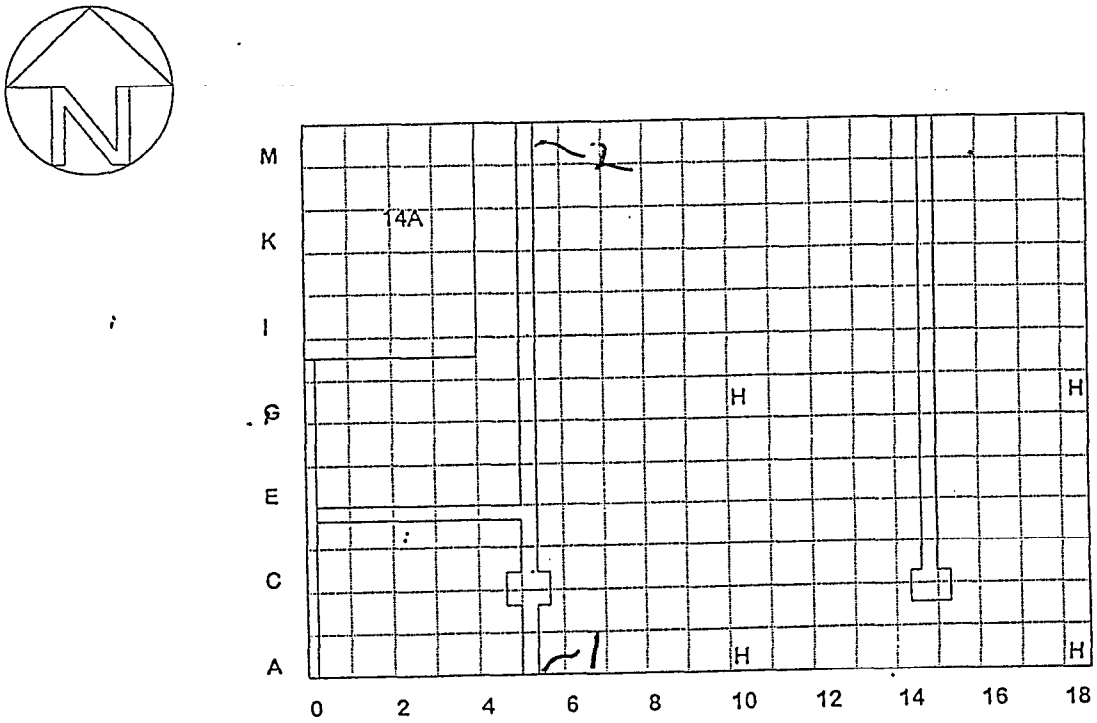
IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Date 9-10-97	Tech D. PITMAN	Instruments / sn	2221-B 86308
Purpose BLDG 14 AREA 121 NORTH - ess piping - DELIN		Survey # 761	RWP # 06

AREA 14 NORTH



1M X 1M GRID

Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
G	Roof DRAIN											
G	Roof DRAIN											

Scaler S/N		BKG	EFF	MDA
CT -	Alpha:			
Tech	Beta:			

Comments: G = GRAB SAMPLE - PETRIE DISH
NOTE! ALL SAMPLES SHOW NO DETECTABLE
Contamination BY FIELD INST.

Review

)N TECHNOLOGY, INC.
40 Maple Ave
aratoga Springs, NY
518) 584-0166

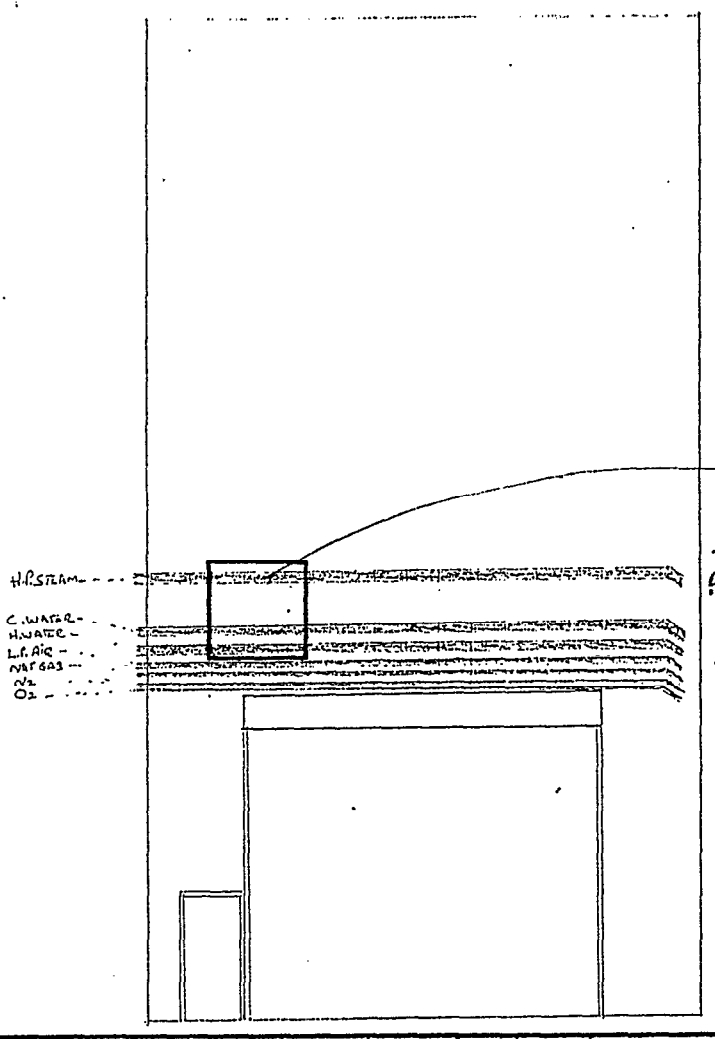
RADIOLOGICAL SURVEY

Project: PRAXAIR
Area: BLDG 14

ate/Time 9/3/97	Tech D. PITMAN	Instrument / sn 2221-B 86308	
cation/ Purpose BLDG 14 AREA 14 SOUTH		Survey # 773	RWP# 06
Process Piping - DELIN			

BLDG 14 AREA 14 SOUTH
EAST WALL

N ←



Insulation was Removed from H.P.Steam, C.WATER, H.WATER piping.
No detectable contamination was found by FIELD INST.

Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm

Type:s = smearable, dp = direct probe

Comments:

Scalar S/N		BKD	EFF	MDA
CT=	DATE α:			
Tech	β:			

Review:

Encl 3.3 to HSP 210

BERT ASSOCIATES INC
DIOLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

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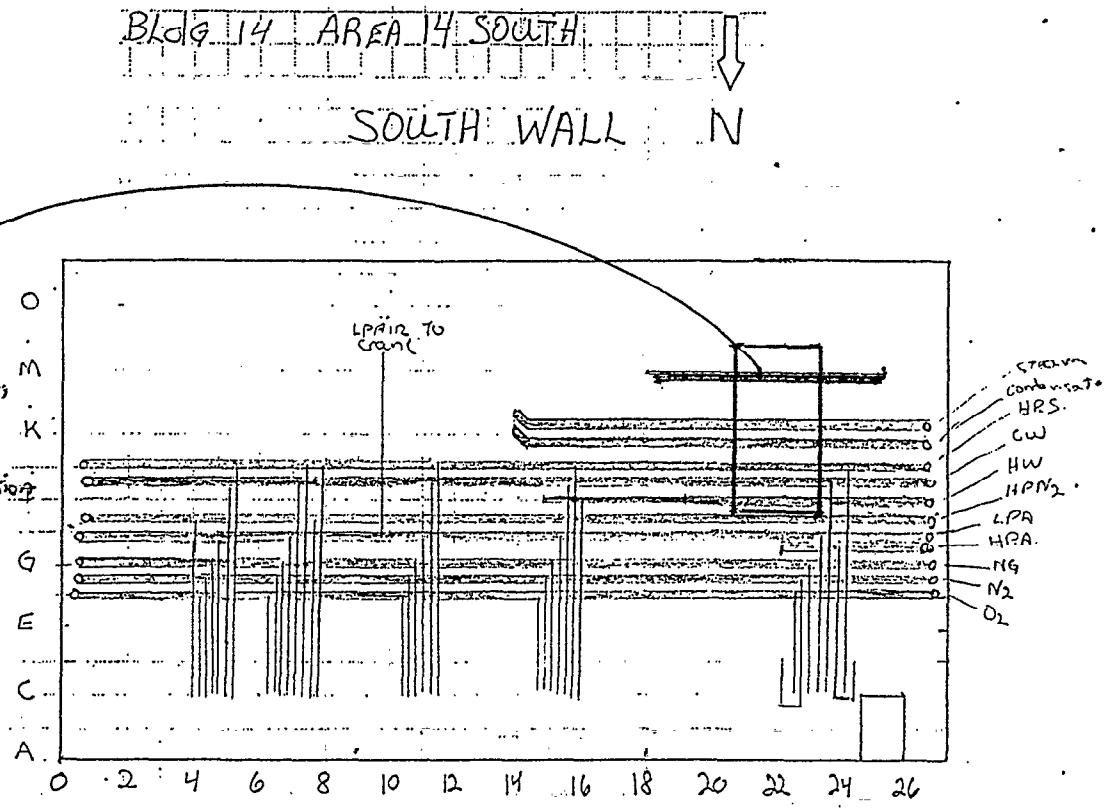
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Time 9/3/97	Tech D. PITMAN	Instruments / sn 2221-B 86308
on / Purpose BLDG 14 AREA 14 SOUTH		Survey # 771 RWP # 06
ocess Piping - DELIN.		



...ulation was
...ved from
...ndensate, (2) STEAM,
... water, HOT WATER.
...ing.
...detectable contamination
...found by field
...rument.

Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DP

...ments:	Scaler S/N	BKD	EFF	MDA
	CT = Alpha:			
	Tech Beta:			

Review [signature]

HILBERT ASSOCIATES INC
RADIOLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

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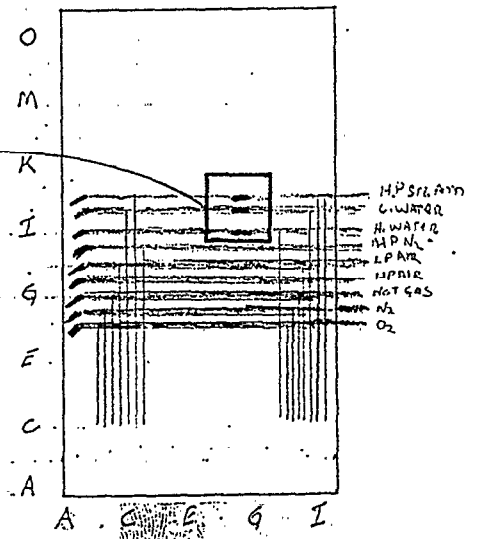
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 1286
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Date / Time 9/3/97	Tech D. PITMAN	Instruments / sn 2221-B 86308
Location / Purpose BLDG 14 AREA 14 SOUTH		Survey # 772 RWP # 06
PROCESS PIPING - DELIN		

BLDG 14 ⇨ N
AREA 14 S WEST WALL



INSULATION WAS REMOVED FROM H.P. STEAM, COLD WATER, + HOT WATER PIPING.
NO DETECTABLE CONTAMINATION WAS FOUND BY DIRECT PROBE

Loc	Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta D

Comments:	Scaler S/N	BKD	EFF	MDA
	CT = Alpha:			
	Tech Beta:			

Review

HILBERT ASSOCIATES INC
RADIOLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

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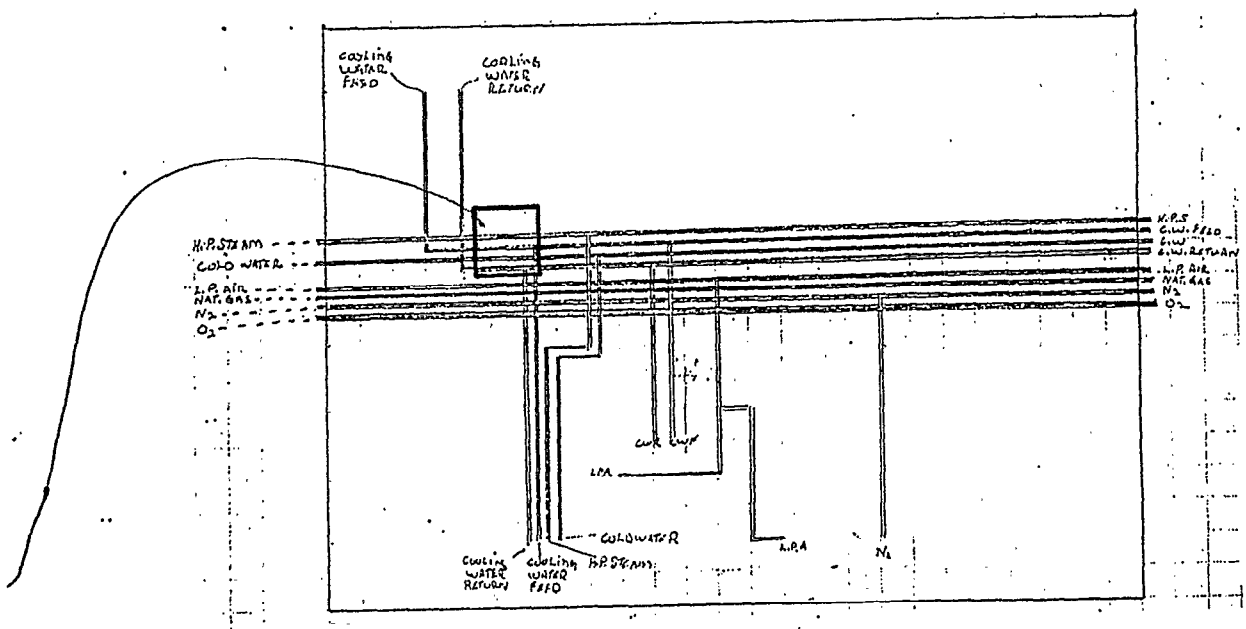
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Date / Time 9/3/97	Tech D. Pitman	Instruments / sn 2221-B 86308	
Location / Purpose BLDG 14 · AREA 14 NORTH.		Survey # 769	RWP # 06
PROCESS PIPING - DELIN.			

BLDG 14 AREA 14 NORTH
EAST WALL

N



Insulation was Removed from H.P. Steam, cold water, cooling water feed, cooling water return Piping
No detectable contamination was found by field instrument.

Loc	Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta

Comments:	Scaler S/N	BKD	EFF	MDA
	CT = Alpha:			
	Tech Beta:			

Review

N TECHNOLOGY, INC.
0 Maple Ave
ratoga Springs, NY
18) 584-0166

RADIOLOGICAL SURVEY

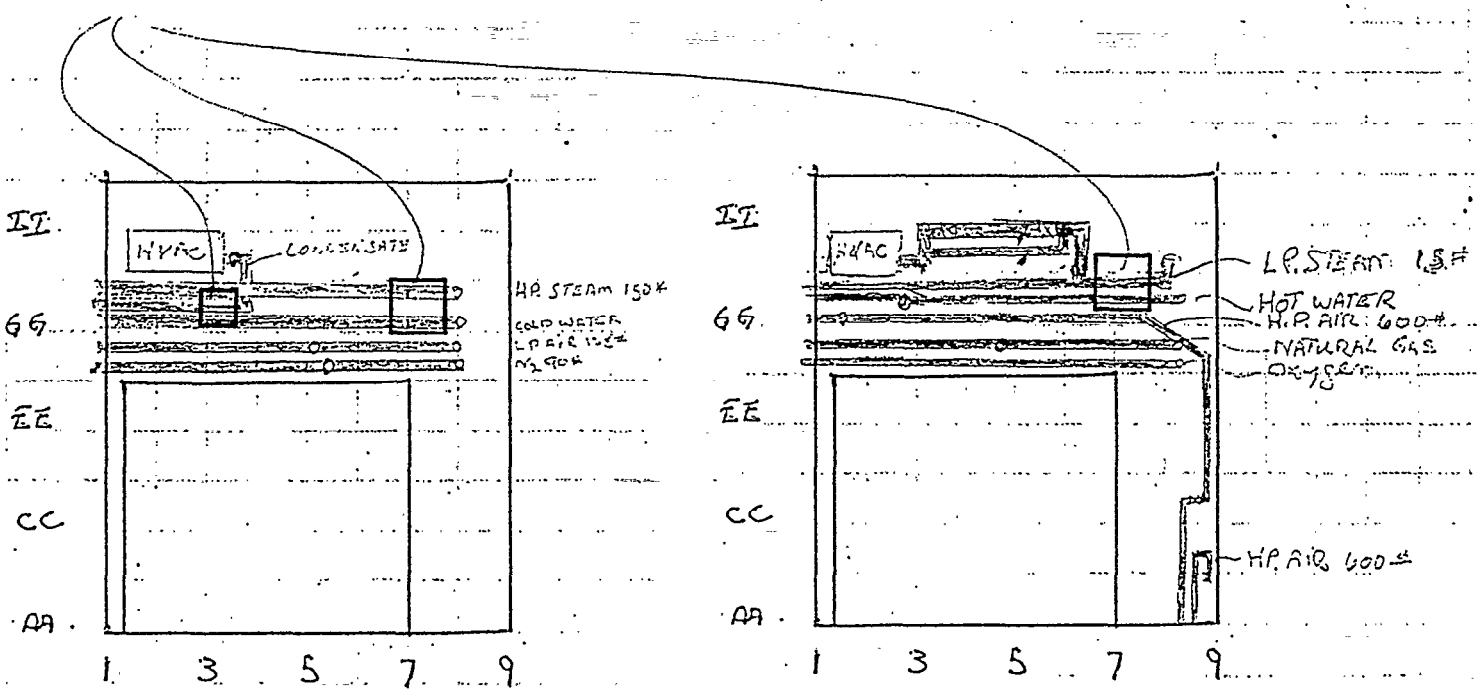
Project: Praxair
Area: BLDG.

e/Time 9/3/97	Tech D. Pitman	Instrument / sn 2221-B 86308
ation/ Purpose BLDG 14 Area 15		Survey # 768 RWP# 06
rocess Piping - Delin		

BLDG 14
AREA 15
NORTH WALL

BLDG 14
AREA 15
NORTH WALL
SOUTH SIDE OF SUPPORT BRACKET

Insulation was removed from H.P. Steam, Steam Condensate, L.P. Steam, Cold water, Hot water piping.
No detectable contamination was found by field inst.



Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm

ype:s = smearable, dp = direct probe

omments:

Scalar S/N			BKD	EFF	MDA
CT=	DATE	α:			
Tech		β:			

Review: [signature]

Encl 3.3 to HSP 210

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

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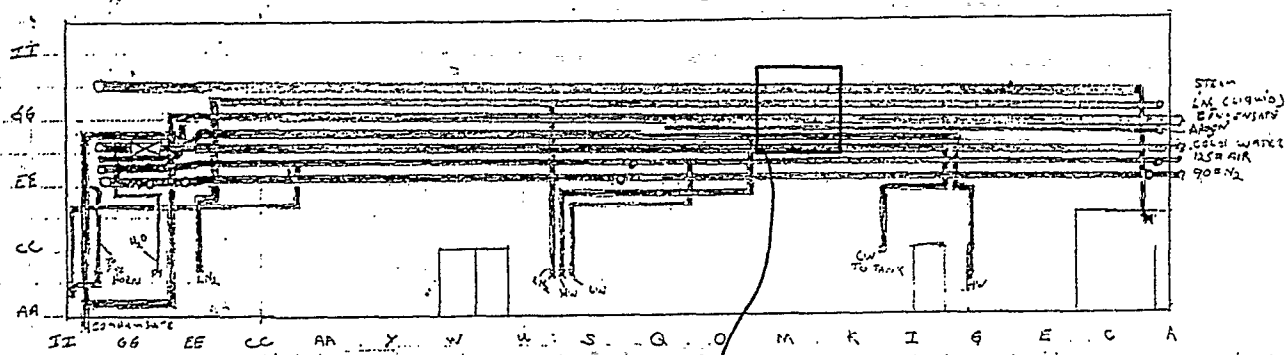
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Date 9/3/97	Tech D. Pitman	Instruments / sn 2221-R 86308	
Purpose BLDG 14 AREA 15		Survey # 767	RWP # 06
ss Piping – DELin			

Bldg 14
AREA 15
EAST WALL
WEST SIDE OF SUPPORT BRACKET

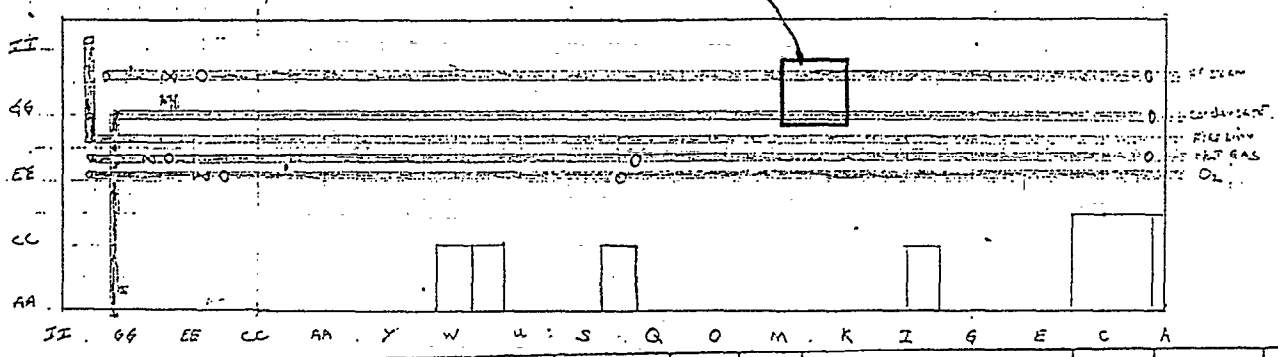
N



Bldg 14
AREA 15
EAST WALL
EAST SIDE OF SUPPORT BRACKET

Insulation was Removed from H.P. Steam(2) liquid N_2, Steam Condensate(2), Cold Water, Piping
No detectable contamination was found by Field inst.

N



Type	Description	Gross	Δ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Δ DPM	Gross	Beta DPM

Scaler S/N		BKD	EFF	MDA
CT =	Alpha:			
Tech	Beta:			

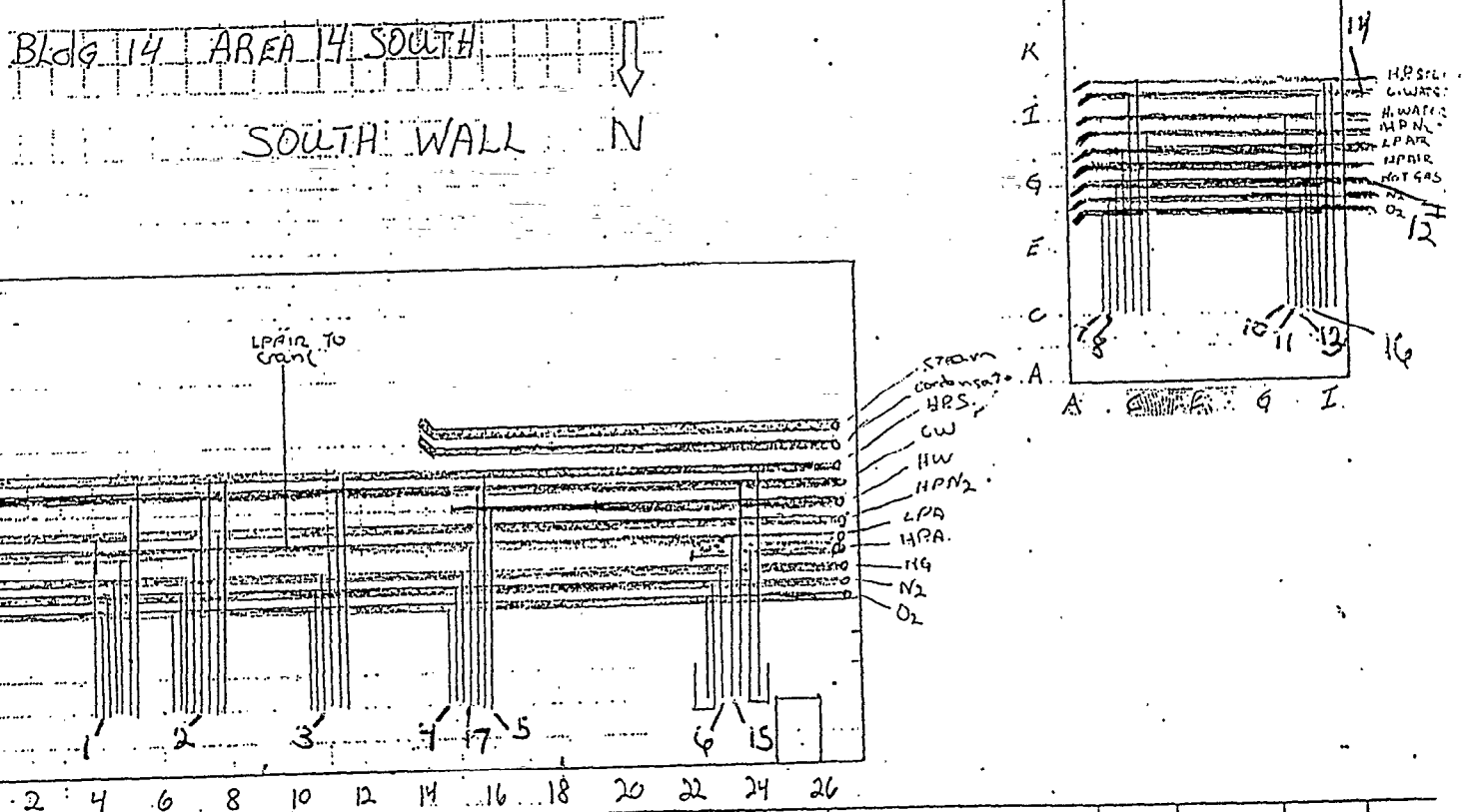
Review

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Date 9/8-10/97	Tech D. PITMAN	Instruments / sn 2221-B 86308	
Location / Purpose BLdg 14, Area 14 South		Survey # 753	HWP # 06
Process Piping - Delin			



Loc	Type	Description	Gross	Δ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Δ DPM	Gross	Beta
1	S	N2	2	5	60	-7	8	S	~~COLD WATER~~ SKP SKP N2	0	-.6	55	-2
2	S	COLD WATER	1	2	56	-21	9	S	COLD WATER	2	5	60	-7
3	S	NATURAL GAS	0	-.6	64	7	10	S	HOT WATER	0	-.6	60	-7
4	S	O2	0	-.6	79	59	11	S	O2	0	-.6	69	2
5	S	HOT WATER	0	-.6	57	-17	12	S	NATURAL GAS	1	2	54	-2
6	S	NATURAL GAS	0	-.6	70	28	13	S	N2	0	-.6	59	-1
7	S	O2	1	2	54	-10	14	S	COLD WATER	0	-.6	58	-1

Comments: S=100cm² SWIPE

			BKD	EFF	MDA
Scaler S/N	91234				
CT =	1	Alpha:	~~193~~ 100: 0.19	0.33	14
Tech	D. PITMAN	Beta:	~~432~~ 100: 62	0.29	136

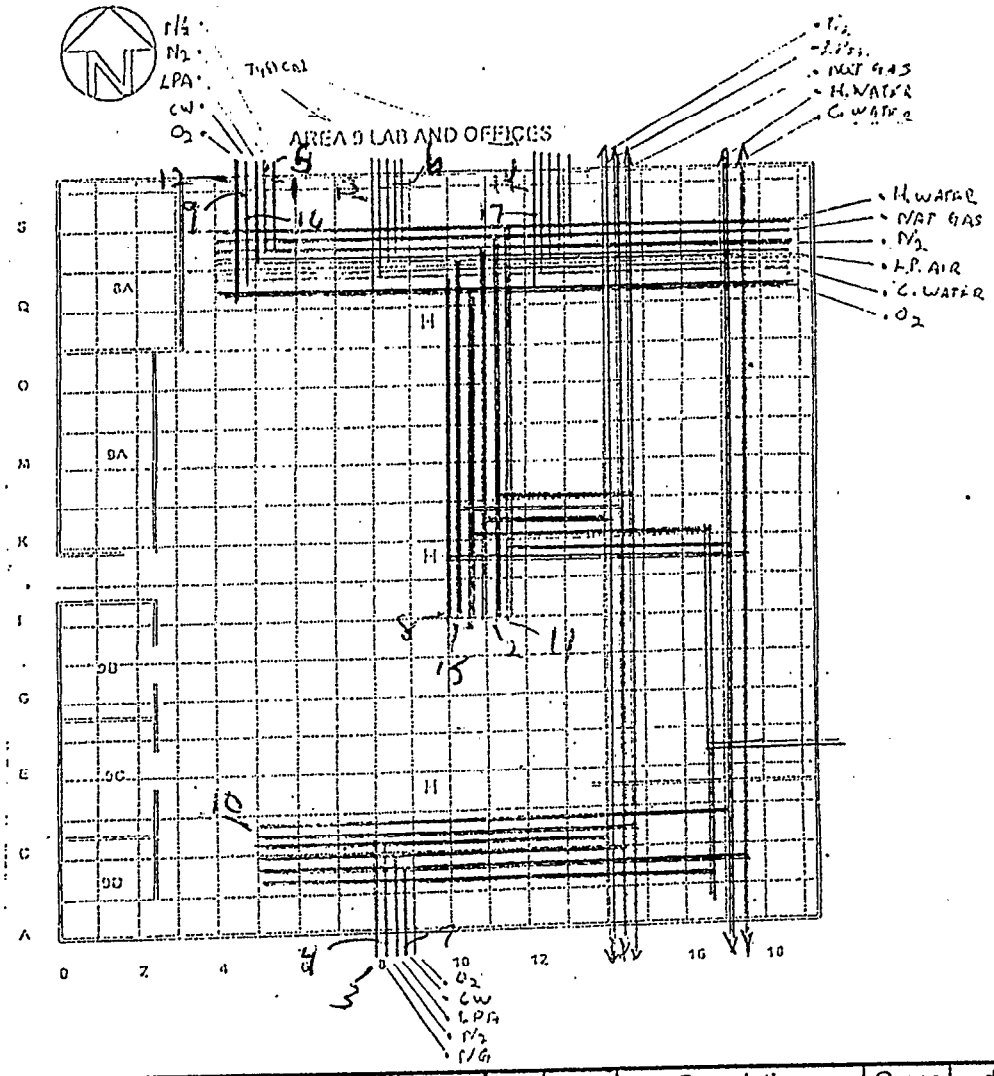
Review [illegible]

'N TECHNOLOGY, INC.
0 Maple Ave
ıratoga Springs, NY
18) 584-0166

RADIOLOGICAL SURVEY

Project: Praxair
Area: Bldg 14

te/Time 9/8-10/97	Tech D. Pitman	Instrument / sn 2221-B 86308	
cation/ Purpose Area 9		Survey # 745	RWP# 06
Process Piping - Debin			



Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm
1	S	NAT GAS	0	-.6	66	14	10	S	HOT WATER	0		71	31
2	S	"	1	2	59	-10	11	S	"	0		58	-14
3	S	"	0	-.6	53	-31	12	S	OXYGEN	0		68	21
4	S	NITROGEN	0	-.6	68	21	13	S	"	0		62	0
5	S	"	2	5	74	41	14	S	"	0		54	-28
6	S	"	1	2	63	3	15	S	L.P. AIR	1		72	34
7	S	COLD WATER	0	-.6	61	34	16	S	"	0		57	-17
8	S	"	0	-.6	55	-24	17	S	"	2		60	-7
9	S	"	0	-.6	64	7							

ype:s = smearable, dp = direct probe

omments:

Scalar S/N 91234		BKD	EFF	MDA
CT= 1	DATE 9-17-97 α:	193/300 0.19	0.33	14
Tech D. Pitman	β:	43204/300 (2)	0.29	136

Review: [illegible]

Encl 3.3 to HSP 210

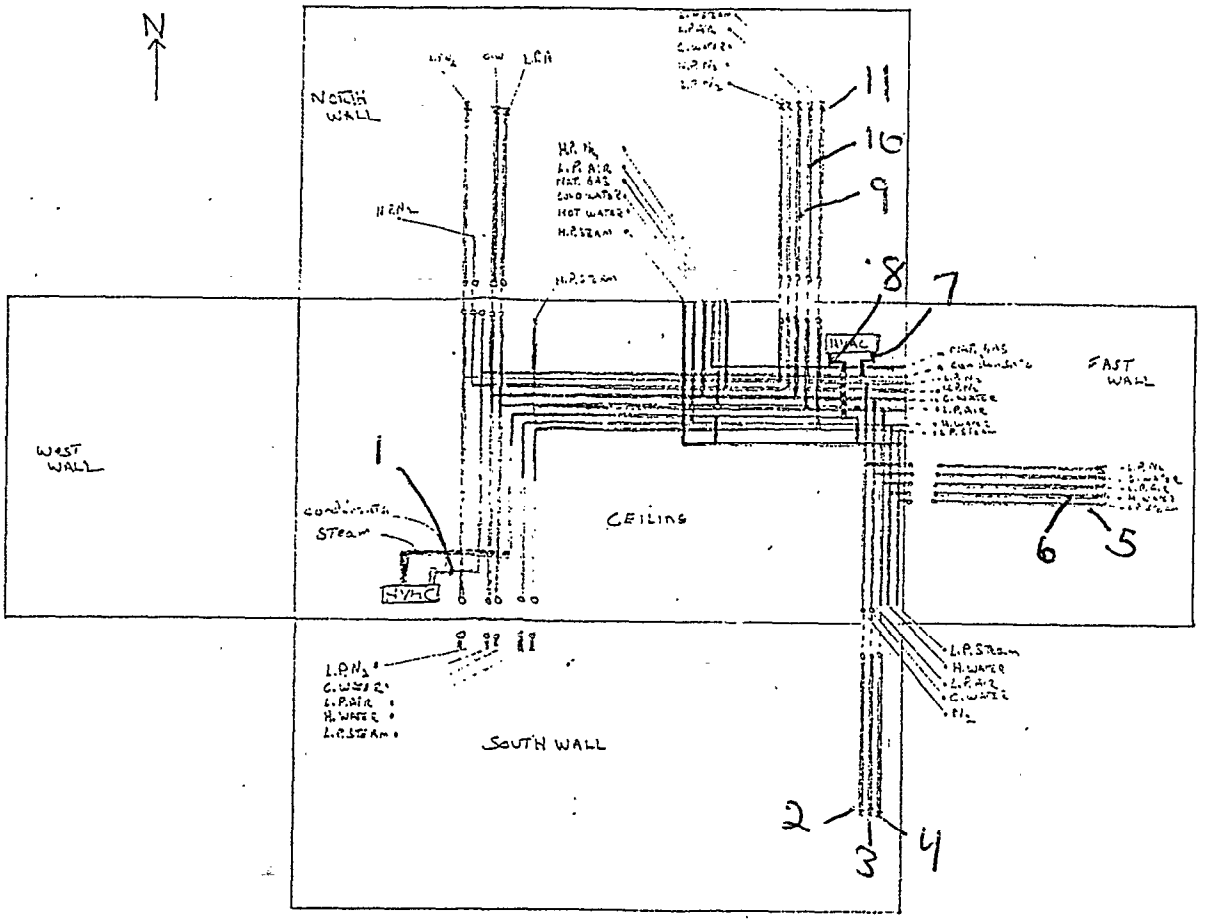
ON TECHNOLOGY, INC.
40 Maple Ave
Saratoga Springs, NY
(518) 584-0166

RADIOLOGICAL SURVEY

Project: Praxair
Area: Bldg 14

Date/Time 9/11/97	Tech D. Pitman	Instrument / sn 2221 - B 86308	
Location/ Purpose Bldg 14 Area 20a-West		Survey # 754	RWP# 06
Process Piping - DELIN			

BLDG 14 AREA 20a-West



Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm
1	S	~~HP~~ Steam Condensate	1	2	61	-3	10	S	L.P. AIR	0	-.6	62	0
2	S	L.P. N_2	0	-.6	67	17	11	S	L.P Steam	0	-.6	64	7
3	S	Cold WATER	0	-.6	65	10							
4	S	L.P. AIR	0	-.6	56	-21							
5	S	L.P. Steam	0	-.6	59	-41							
6	S	HOT WATER	0	-.6	73	45							
7	S	H.P. Steam	0	-.6	73	38							
8	S	Steam Condensate	1	2	70	28							
9	S	Cold WATER	0	-.6	63	-3							

Type:s = smearable, dp = direct probe

			BKD	EFF	MDA
Scalar S/N 91234					
CT= 1	DATE 9-17-97	α:	145/700 0.19	0.39	14
Tech D. PITMAN		β:	43304/707	0.29	136

Comments:

Review: [illegible]

Encl 3.3 to HSP 210

RT ASSOCIATES INC
OLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

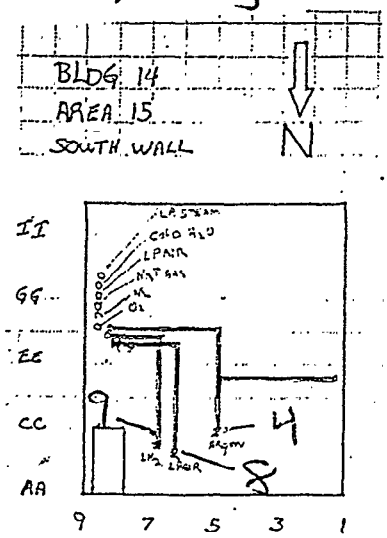
Radiological Survey Form

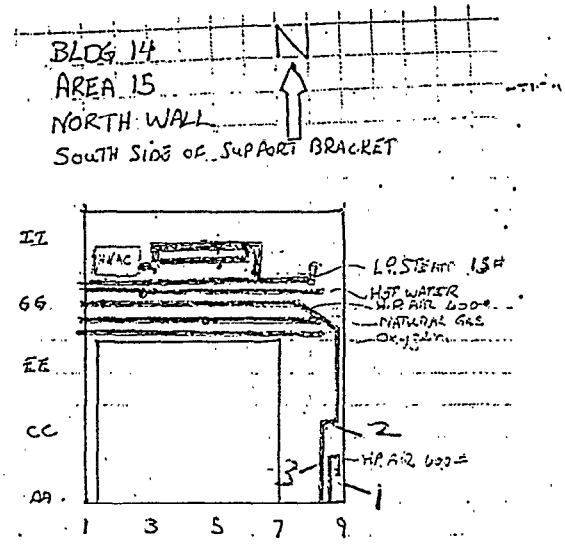
Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

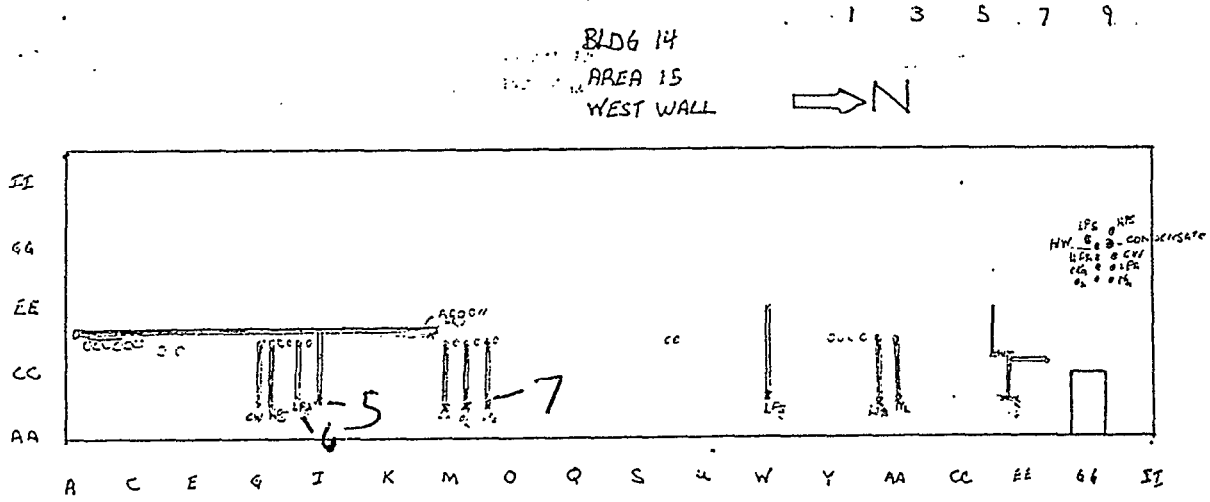
me 9/9-10/97 | Tech D. Pitman | Instruments / sn 2221-B 86308

/ Purpose Bldg 14 Area 15 | Survey # 755 | RWP # 06

ce's Piping - DeLin







Type	Description	Gross	Δ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Δ DPM	Gross	Beta DPM
S	H.P. AIR	0	-.6	79	57	8	S	L.P. AIR	0	-.6	58	-14
S	H.P. AIR	0	-.6	66	14	9	S	Liquid N2	0	-.6	58	-14
S	H.P. AIR	0	-.6	78	49							
S	Argon	0	-.6	54	-28							
S	Argon	0	-.6	70	-68							
S	L.P. AIR	0	-.6	60	-7							
S	L.P. AIR	0	-.6	60	-7							

ents: S = 100 cm² SWIPE

		BKD	EFF	MDA
Scaler S/N 91234				
CT = 1	Alpha:	143/700 0.19	0.33	14
Tech D. PITMAN	Beta:	43204/700 62	0.29	136

Review [signature]

ASSOCIATES INC
GICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

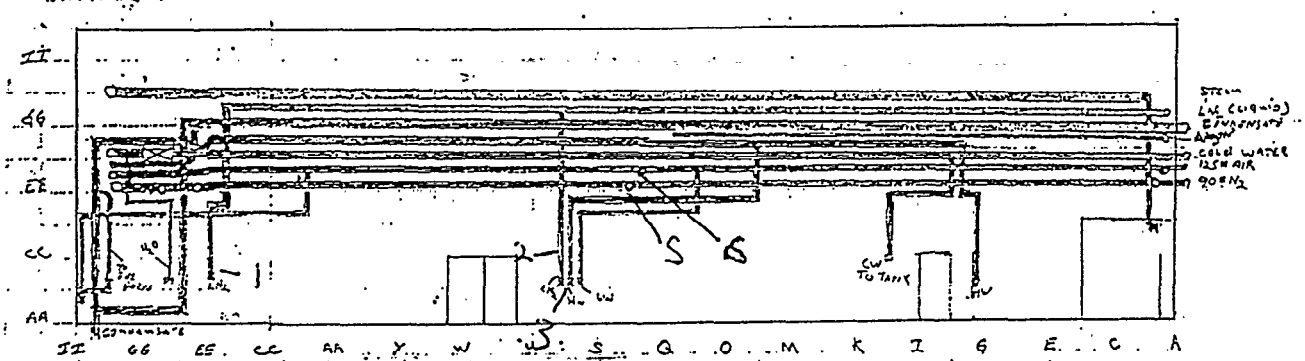
9/3-10/97 | Tech D. PITMAN | Instruments / sn 2221-B 86308

Purpose Bldg 14 Area 15 | Survey # 759 | RWP # 06

ess Piping - Delin

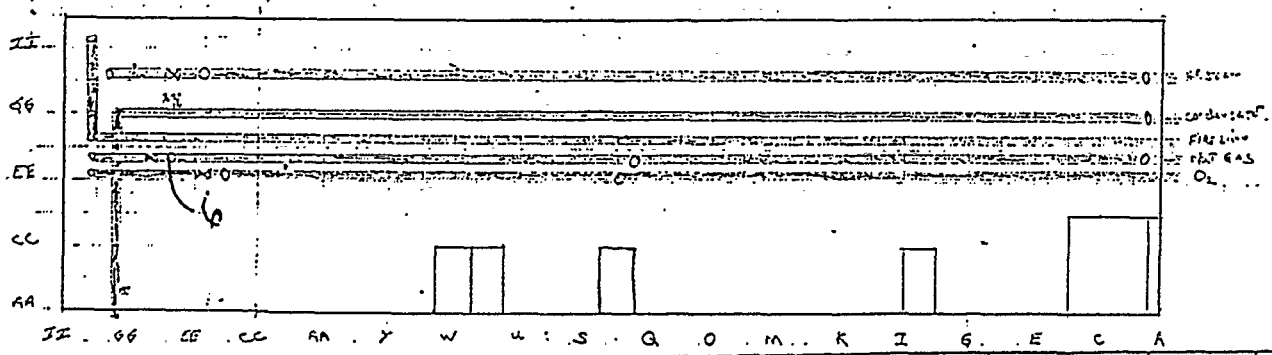
Bldg 14
AREA 15
EAST WALL
WEST SIDE OF SUPPORT BRACKET

N



Bldg 14
AREA 15
EAST WALL
EAST SIDE OF SUPPORT BRACKET

N



Type	Description	Gross	Δ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Δ DPM	Gross	Beta DPM
S	Liquid N_2	0	-.6	69	24							
S	Liquid N_2	0	-.6	67	17							
	HOT WATER	0	-.6	61	-3							
	COLD WATER	0	-.6	77	52							
	N_2	0	-.6	69	24							
	NATURAL GAS	0	-.6	55	-24							
	N_2	1	2	63	3							

S = 100 cm² Swipe

			DKD	EFF	MDA
Scaler S/N 91234					
CT - 1	Alpha:	14 3/200	0.19	0.33	14
Tech D. PITMAN	Beta:	43 24/200	62	0.29	136

Review [signature]

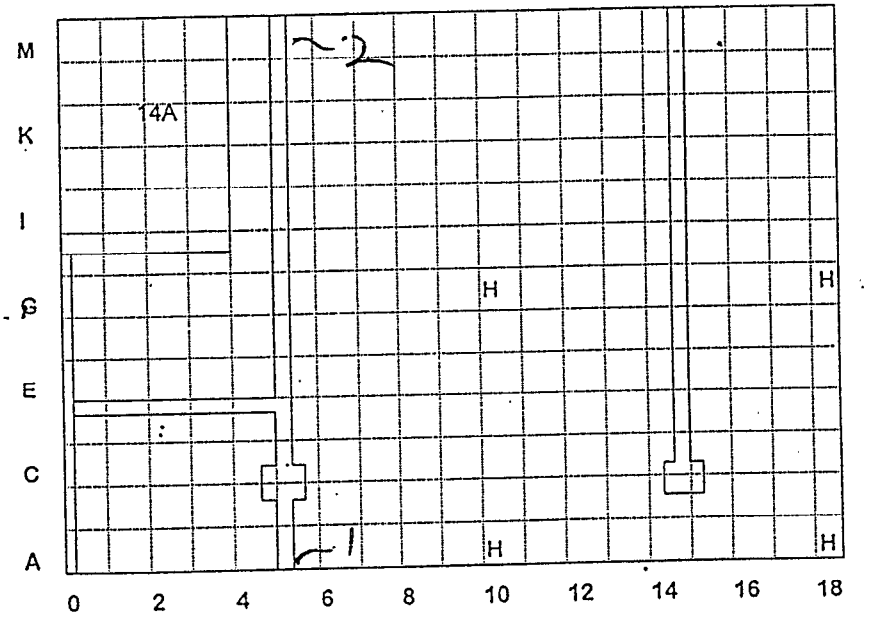
IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

me 9-10-97	Tech D. PITMAN	Instruments / sn 2221-B 86308
/ Purpose Bldg 14 AREA 14 NORTH -		Survey # 760 RWP # 06
cess Piping - DELIN		

AREA 14 NORTH



1M X 1M GRID

Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DP.
S	Roof DRAIN	3	9	68	21							
S	Roof DRAIN	2	5	60	-7							

ents: S = 100 cm² Swipe

			DKD	EFF	MDA
Scaler S/N 91234					
CT = 1	Alpha:	145/300	0.19	0.33	14
Tech D. PITMAN	Beta:	432cpm/300	62	0.29	136

Review [signature]

LBERT ASSOCIATES INC
DIOLOGICAL ENGINEERS

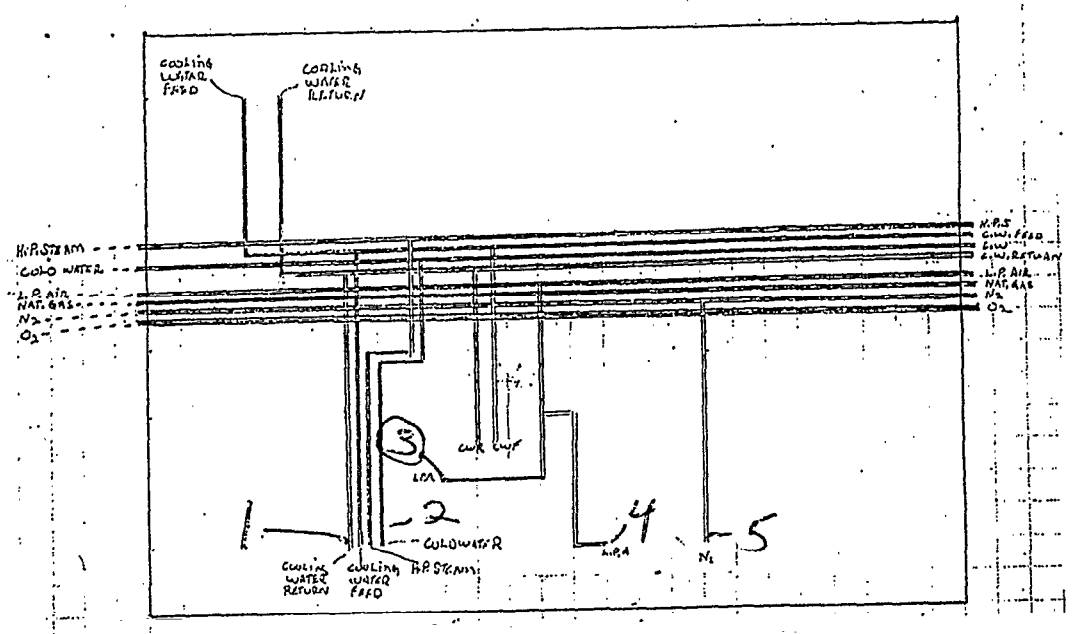
IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

/Time 9/9-10/97	Tech D. PITMAN	Instruments / sn 2221-B 86308	
tion / Purpose BLDG 14 AREA 14 NORTH		Survey # 762	RWP # 06
ocess Piping - DELIN			

BLDG 14 AREA 14 NORTH
EAST WALL



Loc	Type	Description	Gross	Δ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Δ DPM	Gross	Beta D
1	S	COOLING WATER	0	-.6	63	3							
2	S	COLD WATER	0	-.6	69	24							
3	S	L.P. AIR	0	-.6	69	24							
4	S	L.P. AIR	0	-.6	66	14							
5	S	N2	0	-.6	60	-7							

Comments: S = 100 cm² SWIPE

		BKD	EFF	MDA
Scaler S/N 91234				
CT = 1	Alpha:	143/200 0.19	0.33	14
Tech D. PITMAN	Beta:	43207/200 62	0.29	136

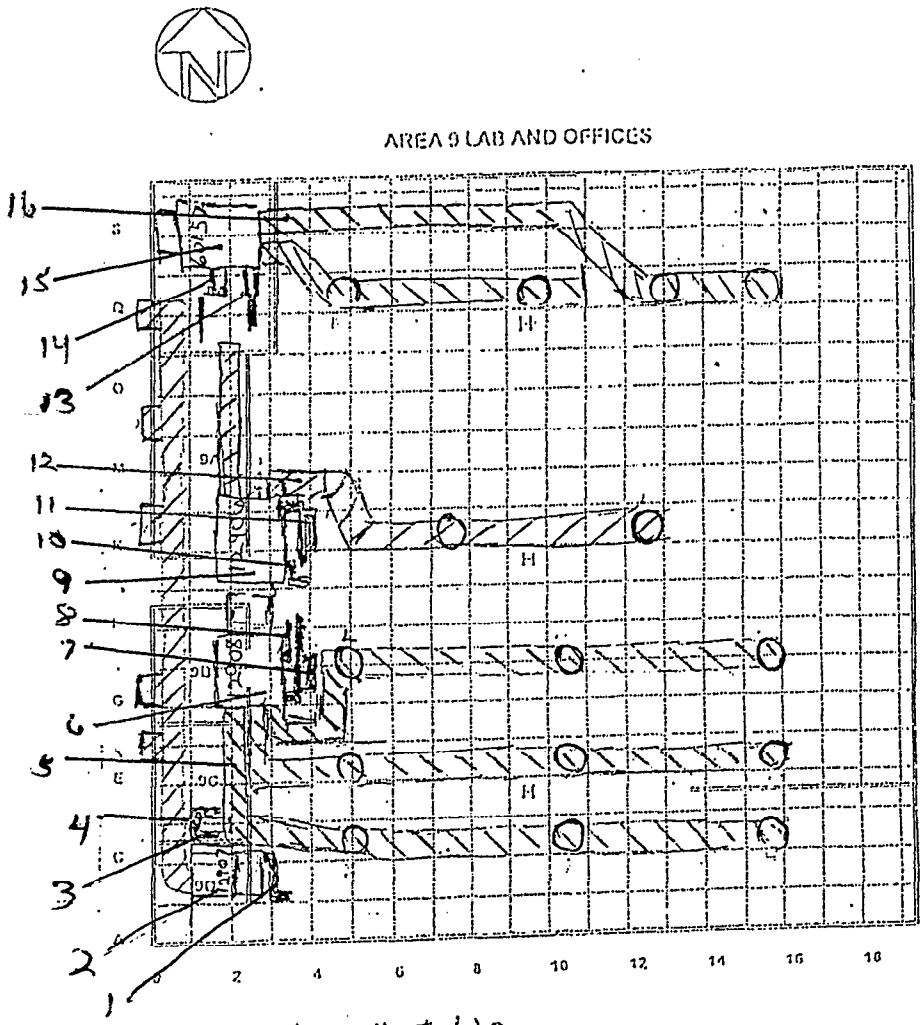
Review [signature]

ION TECHNOLOGY, INC.
640 Maple Ave
Saratoga Springs, NY
(518) 584-0166

RADIOLOGICAL SURVEY

Project: Praxair / BLD14
Area: 9

Date/Time 9/9/97	Tech D. Pitman	Instrument / sn 2221-B 86308	
Location/ Purpose Bldg 14 Area 9		Survey # 742	RWP# 06
HVAC - Process Pipe - DeLim			



NOTE: ALL SAMPLES SHOW NO Detectable CONTAMINATION BY FIELD INSTRUMENT.

Loc	Type	Description	Gross	α dpm	Gross	β dpm
1	G	HVAC 12907 Condensate				
2	G	" Air intake Duct				
3	G	" Steam				
4	C	" Air Exhaust Duct				
5	C	HVAC 12908 Air Exhaust Duct				
6	G	" Air intake Duct				
7	G	" Steam				
8	G	" Condensate				
9	C	HVAC 12906 Air Exhaust Duct				

Loc	Type	Description	Gross	α dpm	Gross	β dpm
10	G	HVAC 12906 Condensate				
11	G	" Steam				
12	G	" Air intake Duct				
13	G	HVAC 60157 Condensate				
14	C	" Steam				
15	G	" Air intake Duct				
16	C	" Air Exhaust Duct				

Type:s = smearable, dp = direct probe

Comments: G = Grab Sample in Petrie Dish
C = Composite Sample in Petrie Dish

Scalar S/N		BKD	EFF	MDA
CT=	DATE	α:		
Tech		β:		

Review: [signature]

Encl 3.3 to HSP 210

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

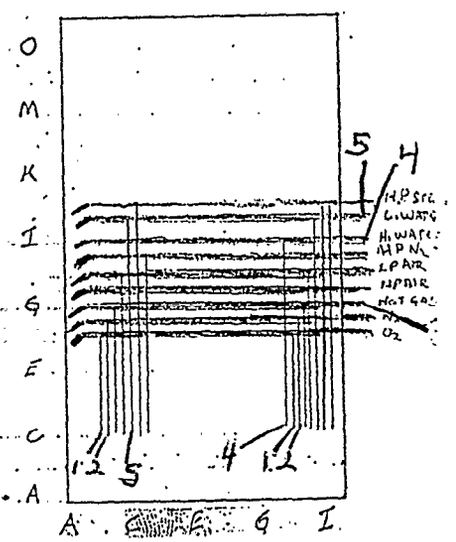
Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

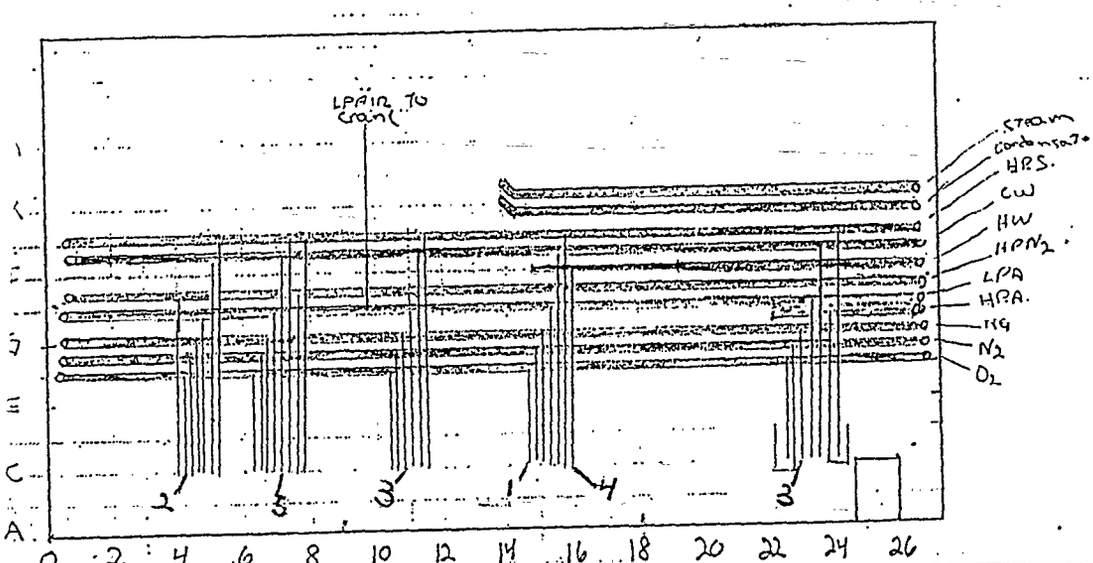
Date / Time 9/8-10/97	Tech D. PITMAN	Instruments / sn 2221-B 86308	
Location / Purpose Bldg 14, Area 14 SOUTH		Survey # 752	RWP # 06
Process Piping - DELIN			

- O_2
- N_2
- NAT GAS
- HOT WATER
- COLD WATER

BLDG 14 ⇨ N
AREA 14 S WEST WALL



BLDG 14 AREA 14 SOUTH ⇩
SOUTH WALL N



Loc	Type	Description	Gross	Δ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Δ DPM	Gross	Beta
1	C	O_2											
2	C	N_2											
3	C	NAT GAS											
4	C	HOT WATER											
5	C	COLD WATER											

Comments: C = COMPOSITE SAMPLE PETRIE DISH	Scaler S/N	BKD	EFF	MDA
NOTE: ALL Samples Show No Detectable	CT = Alpha:			
Contamination By FIELD INSTRUMENT	Tech Beta:			

Review [signature]

ON TECHNOLOGY, INC.
40 Maple Ave
Saratoga Springs, NY
(518) 584-0166

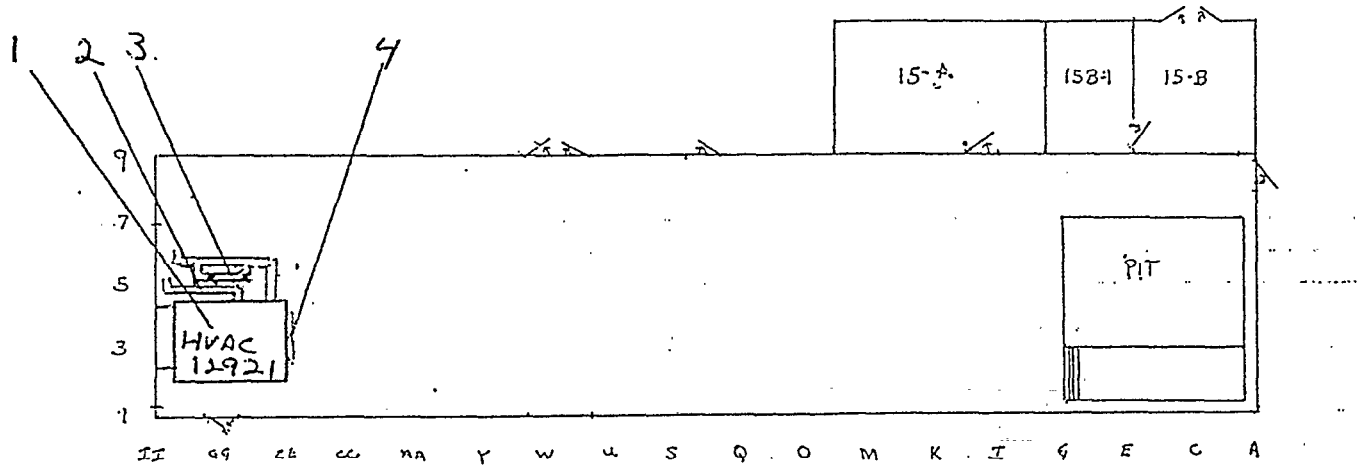
RADIOLOGICAL SURVEY

Project: Praxair / Bld 14
Area: 15

Date/Time 9/4/97	Tech D. Pitman	Instrument / sn 2221 - B 86308	
Location/ Purpose Bldg 14 Area 15		Survey # 724	RWP# 06
HVAC - Process Pipe DeLin			

BLDG 14
AREA 15
FLOOR/CEILING

N ⇦



NOTE: All Samples show No Detectable contamination By Field instrument.

SCALE: 1/4" = 1 METER

Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm
1	G	HVAC 12921 INTAKE Duct											
2	G	" Condensate											
3	G	" Steam											
4	G	" Exhaust Duct											

Type: s = smearable, dp = direct probe

Comments: G: Grab Sample in Petrie Dish

Scalar S/N		BKD	EFF	MDA
CT= ' DATE	α:			
Tech	β:			

Review: [signature]

Encl 3.3 to HSP 210

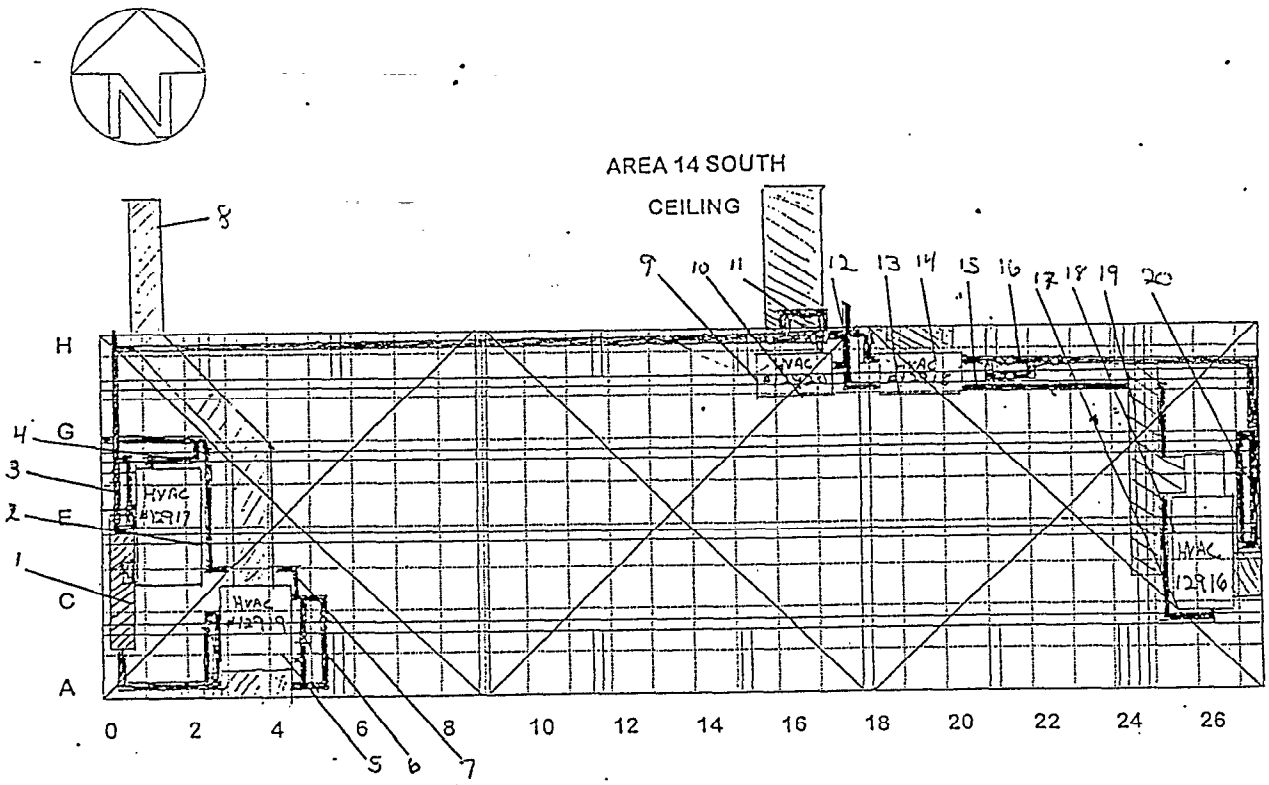
RT ASSOCIATES INC
OLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

me 9/2-3/97	Tech D. PITMAN	Instruments / sn 2221-B 86308	
/ Purpose Bldg 14 · Area 14 S		Survey # 723	RWP # 06
c Process Pipe - Debris			



1M X 1M GRID

Note: All samples show no detectable contamination by field instrument.

Type	Description	Gross	Δ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Δ DPM	Gross	Beta DPM
G	HVAC 12917 Exhaust Duct					8	G	HVAC 12919 Exhaust Duct				
G	" Intake Duct					9	G	HVAC 12920 Intake Duct				
G	" Steam					10	G	" Exhaust Duct				
G	" Condensate					11	G	" Steam				
G	HVAC 12919 Intake Duct					12	G	" Condensate				
G	" Steam					13	G	HVAC 12918 Intake Duct				
G	" Condensate					14	G	" Exhaust Duct				

ments: G = Grab Sample in Petrie Dish.	Scaler S/N	BKG	EFF
	CT - Alpha:		MDA
	Tech Beta:		

Review

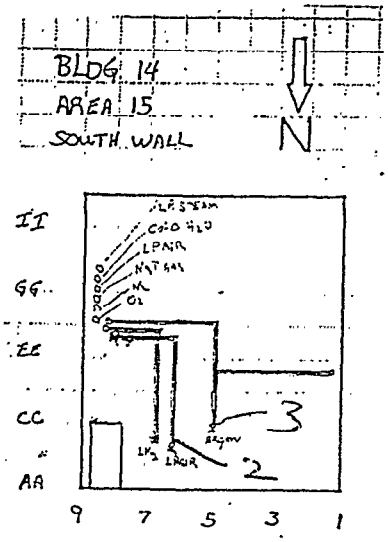
ERT ASSOCIATES INC
OLOGICAL ENGINEERS

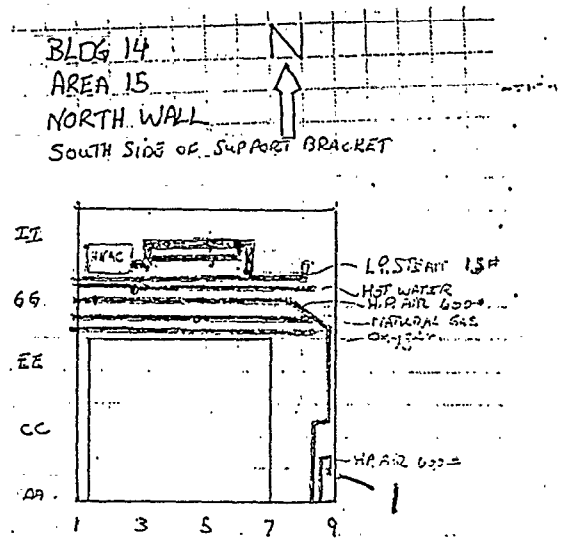
IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

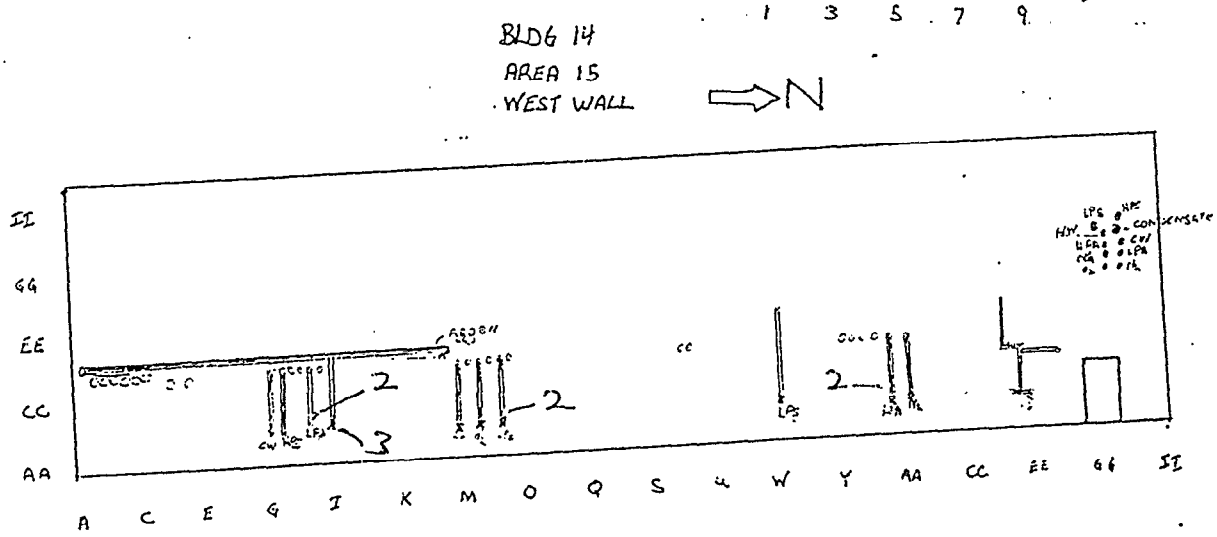
Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

me 9/9-10/97	Tech D. Pitman	Instruments / sn Lud-m2 40378	
/ Purpose Bldg 14 Area 15		Survey # 72/8	RWP # 06
ocess Piping Delin			







Type	Description	Gross	Λ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Λ DPM	Gross	Beta DPM
C	H.P. AIR											
C	L.P. AIR											
C	ARGON											

ments: C = Composite sample in Petrie Dish
ie. - All samples show no detectable
ntamination by field inst

Scaler S/N		BKD	EFF	MDA
CT =	Alpha:			
Tech	Beta:			

Review [signature]

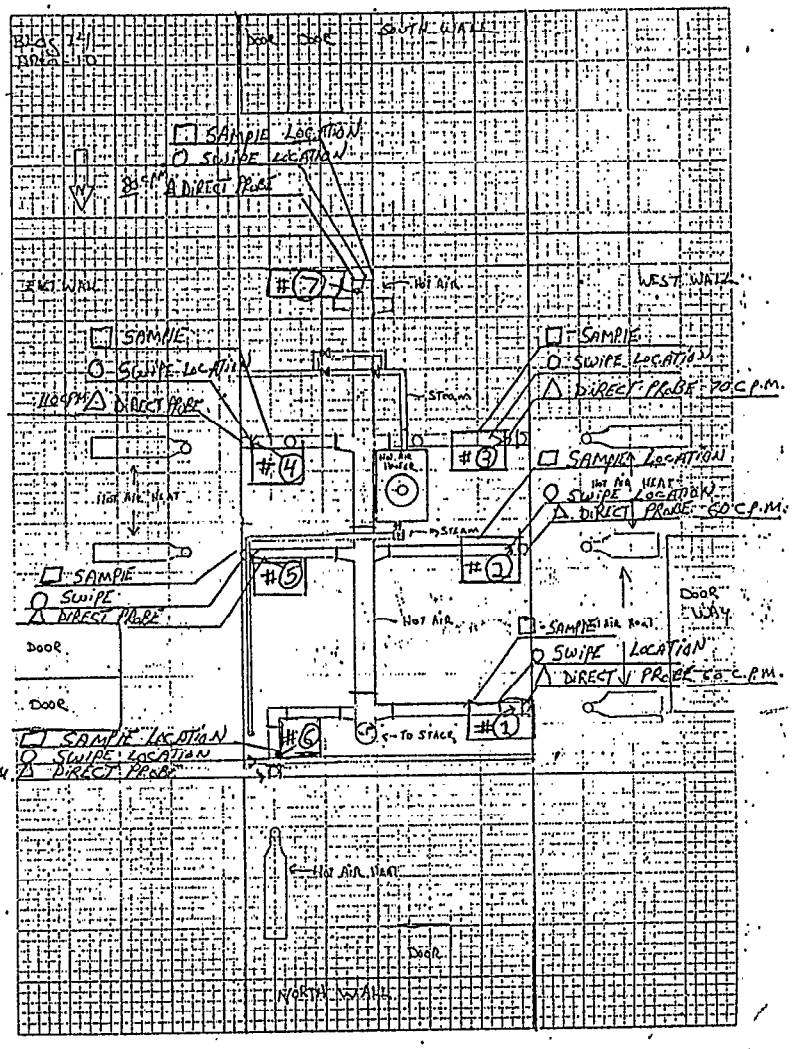
HILBERT ASSOCIATES INC
RADIOLOGICAL ENGINEERS

IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Date / Time 5-22-97 @ 0900	Tech M. Sigo	Instruments / sn Ludlum 2221 C'	15.5 cpm² Probe
Location / Purpose AREA 10 Delineation of Processed Piping		Survey # 377	RWP # 02
			EFF. .20



INSIDE

Loc	Type	Description	Gross	A DPM	Gross	Beta DPM	Loc	Type	Description	Gross	A DPM	Gross	Beta DPM
1	S	Duct #1	0	-1	64	14							
2	S	Duct #2	0	-1	53	-25							
3	S	Duct #3	0	-1	59	-4							
4	S	Duct #4	0	-1	56	-14							
5	S	Duct #5	1	3	51	-32							
6	S	Duct #6	1	3	55	-18							
7	S	Duct #7	0	-1	65	18							

Comments: O → Denotes Swipe locations

Scaler S/N Ludlum 2929 I	BKD	EFF	MDA
CT = 1 Alpha:	2/20	0.31	13
Tech M. Sigo Beta:	1202/20	0.28	138

Review

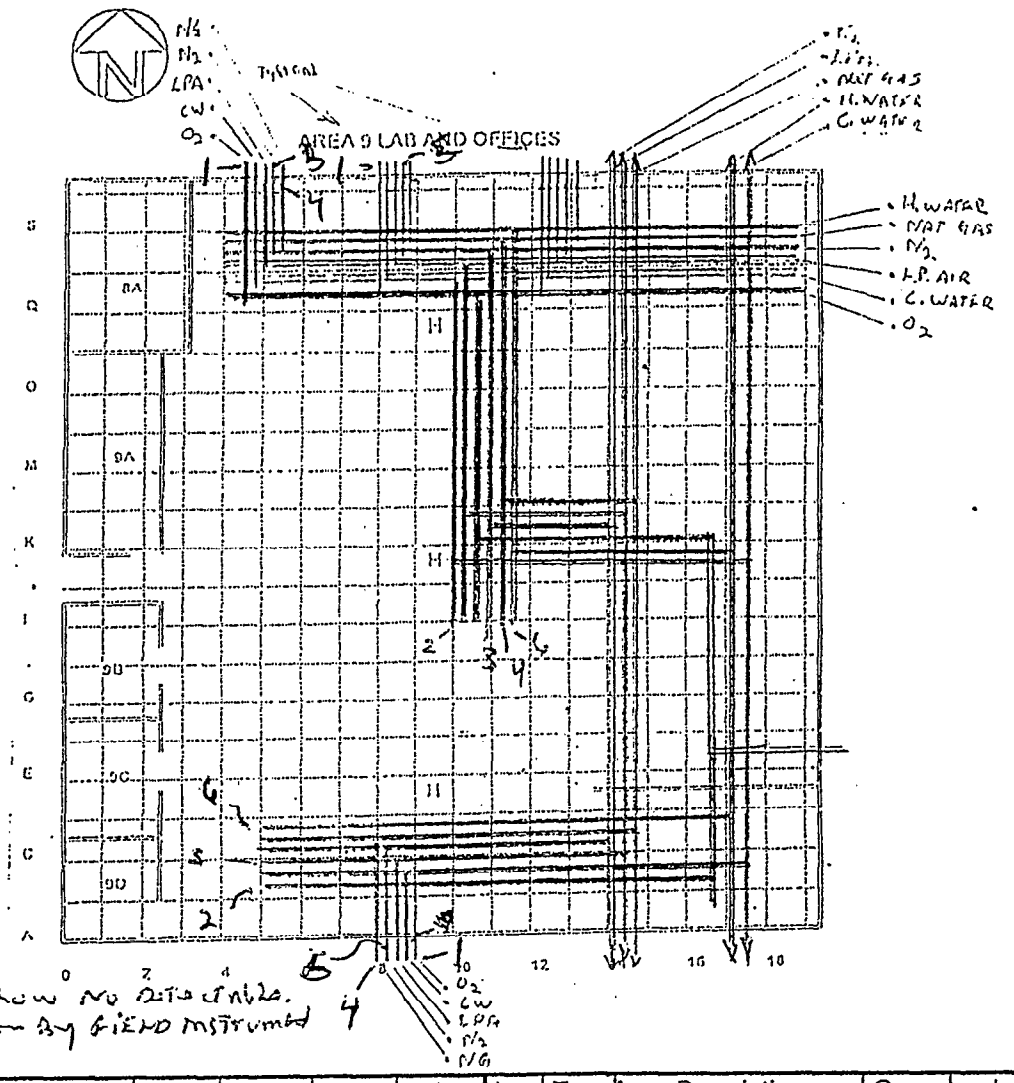
ION TECHNOLOGY, INC.
640 Maple Ave
Saratoga Springs, NY
(518) 584-0166

RADIOLOGICAL SURVEY

Project: Praxair
Area: Bldg 14

Date/Time 9-10/97	Tech D. Pitman	Instrument / sn 2221-B 86308
Location/ Purpose Area 9		Survey # 7 2/27 RWP# 0L
Process Piping - DeLin		

1 - O_2
2 - C. WATER
3 - L.P. AIR
4 - Nat GAS
5 - N_2
6 - H. WATER



Note: All samples show no detectable contamination by field instrument

Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm
1	C	O_2											
2	C	C. WATER											
3	C	L.P. AIR											
4	C	NAT GAS											
5	C	N_2											
6	G	HOT WATER											

Type:s = smearable, dp = direct probe	Scalar S/N	BKD	EFF	MDA
Comments: G - Grab Sample Petrie Dish	CT= DATE α:			
C - composite Sample Petrie Dish	Tech β:			

Review: [signature]

Encl 3.3 to HSP 210

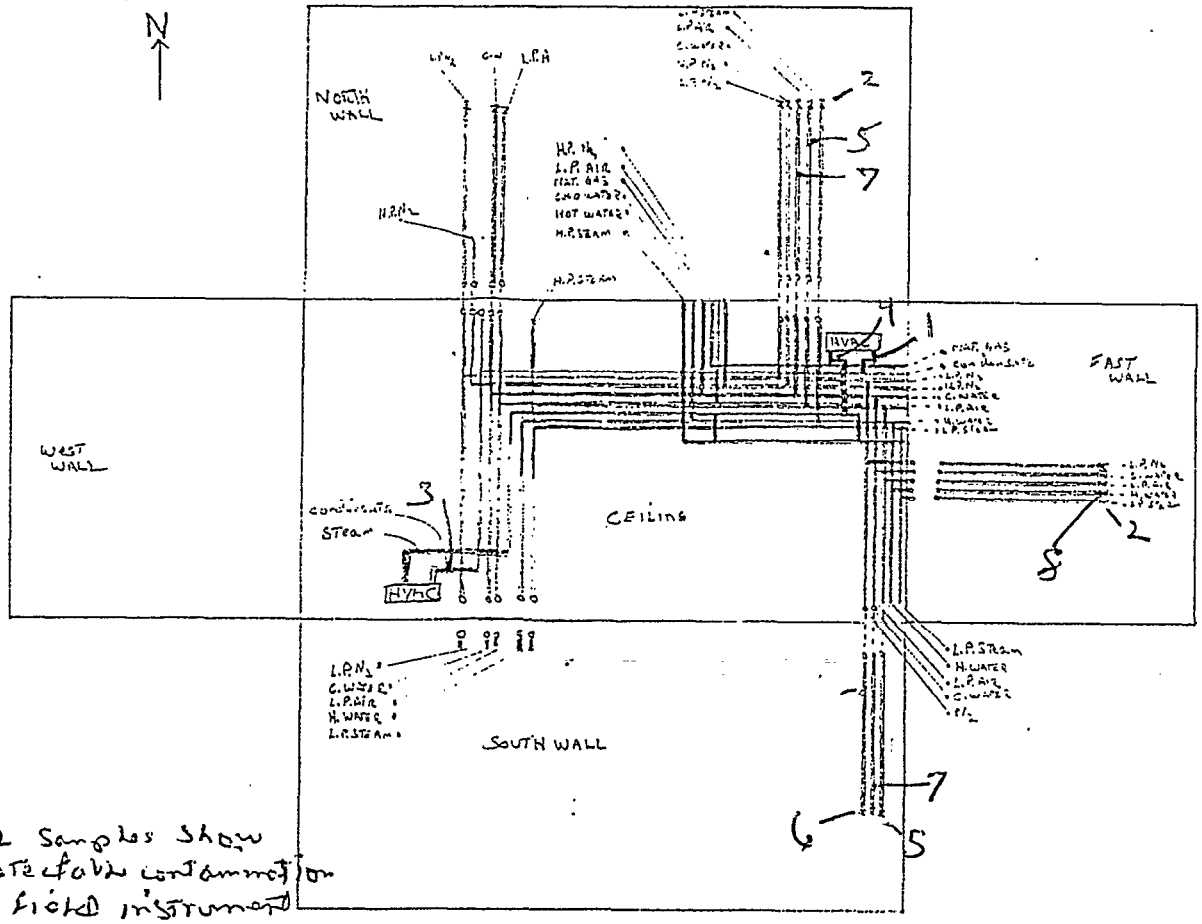
ION TECHNOLOGY, INC.
640 Maple Ave
Saratoga Springs, NY
(518) 584-0166

RADIOLOGICAL SURVEY

Project: Praxair
Area: 20A WEST

Date/Time 9-11-97	Tech D. Pitman	Instrument / sn 2221-B 86308
Location/ Purpose Area 20a-West		Survey # 746 RWP# 06
Process Piping - DELIN		

BLDG 14 AREA 20a-West



NOTE - ALL Samples Show No detectable contamination By field instrument

Loc	Type	Description	Gross	α dpm	Gross	β dpm	Loc	Type	Description	Gross	α dpm	Gross	β dpm
1	C	H.P. Steam											
2	C	L.P. Steam											
3	G	Condensate so.											
4	G	Condensate No.											
5	C	L.P. Air											
6	C	L.P. N2											
7	C	Cold Water											
8	C	Hot Water											

Type:s = smearable, dp = direct probe	Scalar S/N	BKD	EFF	MDA
Comments: G = Grab Sample Petri Dish	CT= DATE α:			
C = Composite Sample Petri Dish	Tech β:			

Review: [signature]

Encl 3.3 to HSP 210

HILBERT ASSOCIATES INC
RADIOLOGICAL ENGINEERS

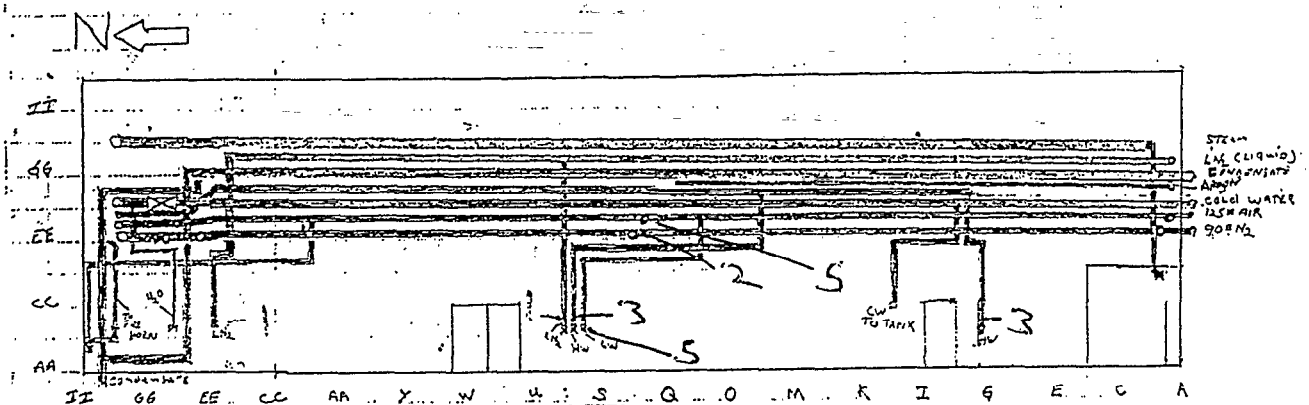
IDM Environmental
Bldg. 14, Praxair Site
Tonawanda, NY 14151

Radiological Survey Form

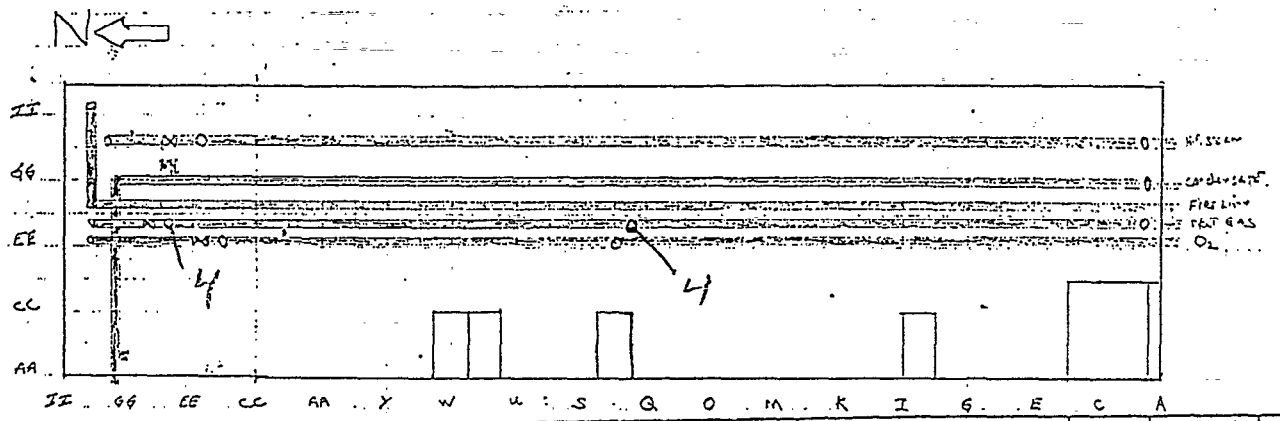
Hilbert Associates, Inc
Radiological Consultants
640 Maple Ave
Saratoga Springs, NY 12866
Phone: 518-584-0166
Fax: 518-584-8529
Contract # 95012

Date / Time 9/3-10/97	Tech D. Perrin	Instruments / sn M340398
Location / Purpose Bldg 14 Area 15.		Survey # 749 RWP # 06
Process Piping - De-Lin		

Bldg 14
AREA 15
EAST WALL
WEST SIDE OF SUPPORT BRACKET



Bldg 14
AREA 15
EAST WALL
EAST SIDE OF SUPPORT BRACKET



Loc	Type	Description	Gross	Δ DPM	Gross	Beta DPM	Loc	Type	Description	Gross	Δ DPM	Gross	Beta DPM
1	C	L. N2											
2	C	N2											
3	C	H. WATER											
4	C	Nat GAS											
5	C	COLD WATER											

Comments:	Scaler S/N	BKD	EFF	MDA
C: Composite Sample in Petrie Dish	CT = Alpha:			
Note = ALL Samples Show ~~Less than~~ NO	Tech Beta:			
Detectable Contamination by Field INST.				

Review