Appendix A

FIELD LOG OF CHARACTERIZATION ACTIVITIES

PAGE: 1

Sample Collection Log

Los Alamos National Laboratory
TA-3-141

HA No: ____ (ductw

SAMPLE # 1000L HA P009 ____ (paint)

Date: 12/12/95 Sampler: DJS
Time: 3:30 pm

Sample No: 1000L

Sampling Date: 12/12/95

Sampling Time: 3:30pm

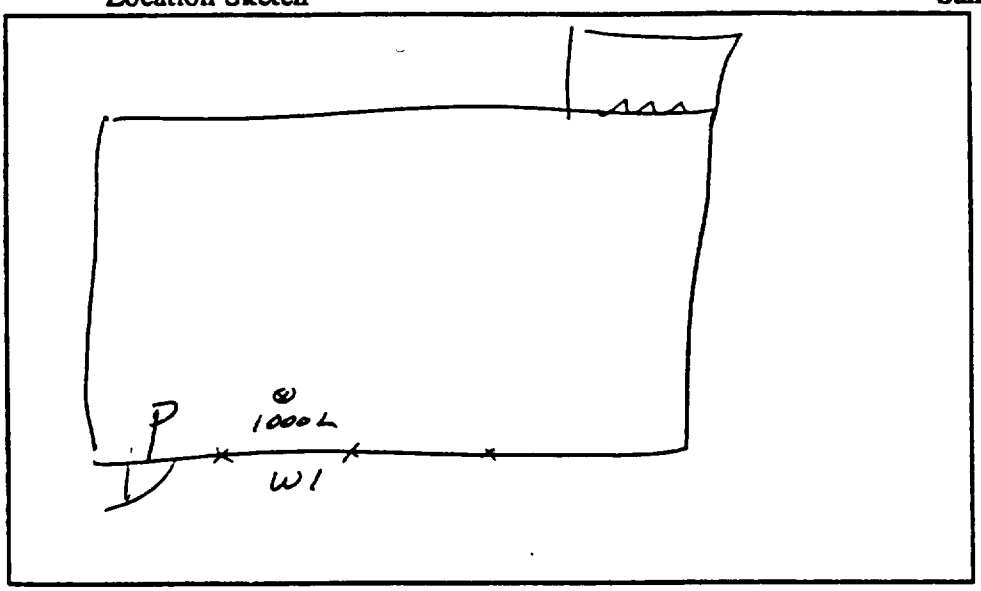
Samplers: DJH
RS

C.O.C. #: —

Room No: 144

Elevation: 0

Location Sketch



Equipment/Component Description: Oil stain under hydraulic press

Test Kit/Equipment ID: ____

Optical Density Difference of Duplicate Standards ____ (PCB Only)

Tare Weight: ____ Sample Result: ____

Sample Weight: ____ PCB Containing: ____ (PCB Only)

Analyses Requested: ____
(ICP, PCBs, Other)

Comments: ____

PAGE: 3

Sample Collection Log

Los Alamos National Laboratory
TA-3-141

HA No: ____ (ductw

SAMPLE # 1002N HA P007 ____ paint)

Date: 12/12/95 Sampler: DJH
Time: 3:40pm

Sample No: 1002N

Sampling Date: 12/12/95

Sampling Time: 3:40pm

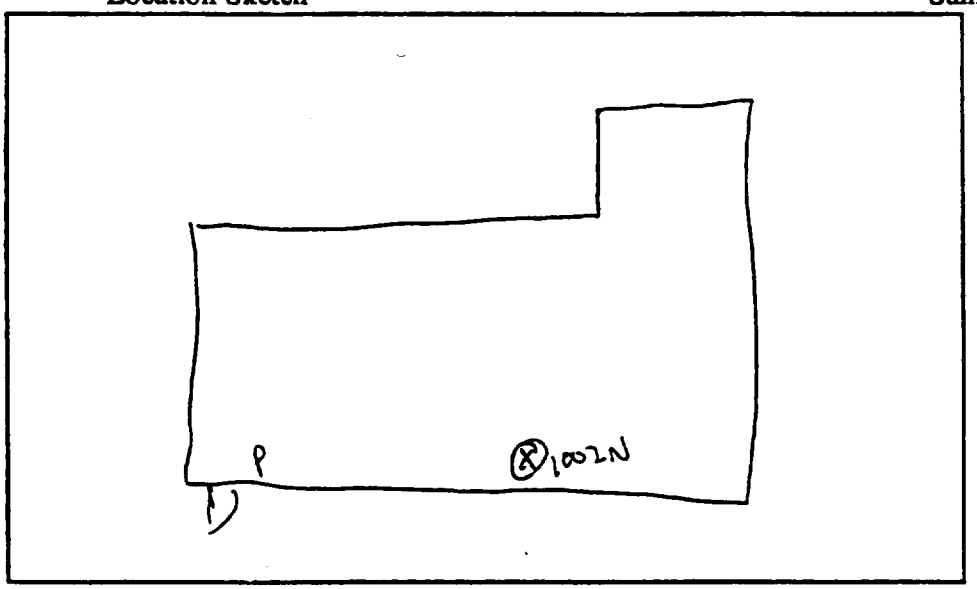
Samplers: DJH
RS

C.O.C. #: ____

Room No: 144

Elevation: 0

Location Sketch



Equipment/Component Description: Stain on floor under pulverizer

Test Kit/Equipment ID: ____

Optical Density Difference of Duplicate Standards ____ (PCB Only)

Tare Weight: ____ Sample Result: ____

Sample Weight: ____ PCB Containing: ____ (PCB Only)

Analyses Requested: ____
(ICP, PCBs, Other)

Comments: ____

Appendix B

FIELD LOG OF PHYSICAL HAZARDS ASSESSMENT

Physical Hazard Assessment
for TA-3-141

JR Miller

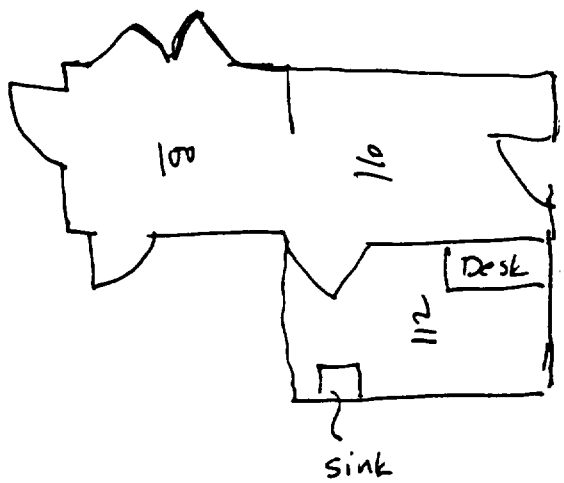
ROOM NUMBER	DIMENSIONS	DATE
110 / 100 ~~112~~ 3m		12-16-95

ROOM FUNCTION: Hallways ; Custodial closet ~~112~~ 3m

ROOM OCCUPANCY: 0-1

GENERAL HOUSEKEEPING: good

ROOM LAYOUT



Drawings show custodial closet unnumbered, 112 is above door

HAZARDS:

A. Confined Spaces:

Name	Location
None	

- ☐ not designed for human occupancy
- ☐ limited ingress and egress
- ☐ contains hazard(s)

OVER

B. Electrical Hazards:

- ☐ open/damaged conduit
- ☐ open/damaged busbar
- ☐ other deficiency: _____
- ☑ electrical renovation hazard: follow lockout procedure

C. Fall Hazards:

None Observed

- ☐ unlevel floors
- ☐ missing or unacceptable guardrail/handrail
- ☐ deficient ladders
- ☐ poor lighting
- ☐ other deficiency: _____
- ☐ fall hazard during renovation: _____

D. Heat Stress:

- ☑ hot work areas/poorly ventilated areas excessive steam heat
- ☐ other deficiency: _____
- ☑ heat stress during renovation: potentially

E. Elevated Work Areas:

- ☑ elevated objects to be removed: Overhead lights, sewer lines, steam lines, ~~[illegible]~~ electrical lines, vent. supply ducts, sprinklers
- ☑ elevated work concerns during renovation: will require work 3-5' above ground on ladders or scaffold.

F. Other Physical Hazards:

- ☑ pressurized systems (laboratory (none) gas lines): steam, sprinkler
- ☑ lockout/tagout concerns: steam, electrical, sprinkler
- ☐ current hazards: _____
- ☑ hazards during renovation: traffic control, tight quarters

Physical Hazard Assessment
for TA-3-141

JR Miller

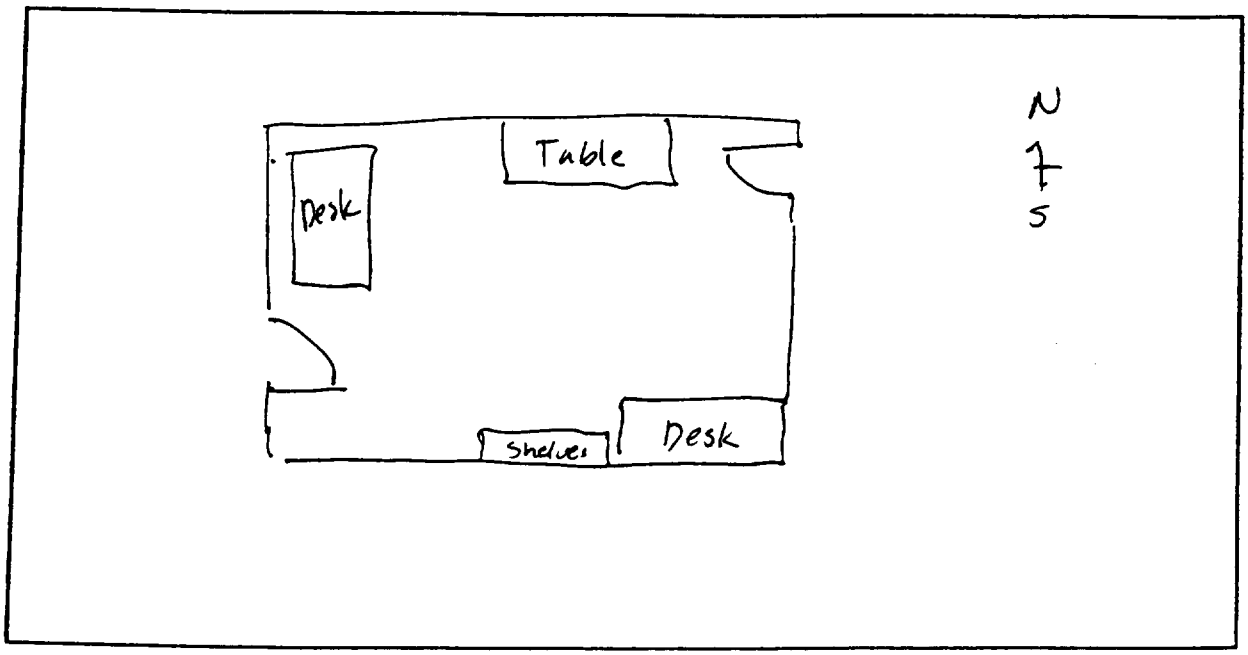
ROOM NUMBER	DIMENSIONS	DATE
102	~ 18' x 12' x 10'	12-16-95

ROOM FUNCTION: Office

ROOM OCCUPANCY: 1-2

GENERAL HOUSEKEEPING: good

ROOM LAYOUT



HAZARDS:

A. Confined Spaces:

Name	Location
None	

- ☐ not designed for human occupancy
- ☐ limited ingress and egress
- ☐ contains hazard(s)

OVER

B. Electrical Hazards:

- ☐ open/damaged conduit
- ☐ open/damaged busbar
- ☐ other deficiency: _____
- ☑ electrical renovation hazard: follow lockout procedure

C. Fall Hazards:

- ☐ unlevel floors — None Observed
- ☐ missing or unacceptable guardrail/handrail
- ☐ deficient ladders
- ☐ poor lighting
- ☐ other deficiency: _____
- ☐ fall hazard during renovation: _____

D. Heat Stress:

- ☐ hot work areas/poorly ventilated areas — low probability
- ☐ other deficiency: _____
- ☐ heat stress during renovation: _____

E. Elevated Work Areas:

- ☑ elevated objects to be removed: lights, ceiling tile, sewer line, sprinklers, ductwork, electrical lines, steam lines
- ☑ elevated work concerns during renovation:

  will require work 3-5' off ground on ladder, scaffold or platform.

F. Other Physical Hazards:

- ☑ pressurized systems (laboratory (none) gas lines): steam, sprinklers
- ☐ lockout/tagout concerns: _____
- ☑ current hazards: roof leak
- ☑ hazards during renovation: tight quarters, traffic control

Appendix C

HISTORICAL RADIOLOGICAL AND BERYLLIUM DATA

Los Alamos
NATIONAL LABORATORY
memorandum

Environment, Safety and Health Division
Industrial Hygiene and Safety Group (ESH-5)

To/MS: Sherri Bingert, MST-6 (G770)
From/MS: Kathryn Creek, ESH-5 (K494) KCreek
Phone/FAX: 5-1929/7-1945
Symbol: ESH-5:95-14056
Date: August 22, 1995

SUBJECT: AIR SAMPLING FOR BERYLLIUM

EXECUTIVE SUMMARY

On July 19, 1995, eight personal samples were collected for beryllium analysis. The operations sampled were plasma spraying, cleaning the HEPA vacuum, and wire brushing parts, located in Room 136A; and arc melting and control panel troubleshooting located in Room 141.

Results show that exposure levels, while conducting arc melting, are below permissible exposure limits. Results show that exposure levels while conducting plasma spray operation, polishing parts with wire grinder in the hood, and cleaning the HEPA vacuum, are above exposure limits without regard to respiratory protection. There were no exposures above permissible exposure limits when full face respiratory protection is accounted for.

Further controls must be implemented to reduce airborne concentrations to beryllium for the plasma spray operation, cleaning the HEPA vacuum, and polishing parts with a wire grinder.

RESULTS

Table I lists the results for each individual sample along with a brief description of the operation that was being conducted. Table II lists Time Weighted Average (TWA) results for individual operators.

The samples were sent to CST-9 laboratory. The blind quality control (QC) sample as well as other QC procedures showed that the sample results are accurate and within acceptable limits. The samples were analyzed using NIOSH method 7300.

TABLE I
Beryllium Air Sampling at TA-3-141, Rooms 136A and 141
COLLECTED 7/19/95

ESH-5 Sample Number	Operator Identifier	Operation	Sampling Time (minutes)	Average Concentration ($\mu g/m^3$)	
95-14056 A	Operator 1	Are melting. Cleaning of arc melter. Three attempts at making 94% Be/6% Cu. 30 gram ingot. Room 141	488	0.09	
95-14056 B	Operator 2	Vacuuming inside spray chamber. Polishing parts in hood with wire grinder in hood. Assisted in cleaning out HEPA vacuum cleaner. Room 136A	105	21.0	5
95-14056 C	Operator 3	Prepping equipment for plasma spraying. Cleaning vacuum cleaner. Around plasma spray chamber while other employee was vacuuming inside chamber. Room 136A	49	58.2	6
95-14056 D	Operator 3	Plasma spraying. (didn't open chamber) Room 136A	27	5.66	2
95-14056 E	Operator 3	Plasma spraying. Around plasma spray chamber while other employee was vacuuming inside chamber. Room 136A	25	18.8	4
95-14056 F	Operator 3	In spray chamber area. Polishing parts with wire grinder in hood. vacuuming spray chamber. Room 136A	59	14.0	3
95-14056 I	Operator 2	Working on control panel. Room 141	233	0.35	
95-14056 J	Operator 3	Plasma spraying. opened chamber. Room 136A	107	1.76	1

TABLE II
Beryllium Time Weighted Averages
COLLECTED 7/19/95

Operator Identifies	Total Sampling Time (Minutes)	8-Hour TWA[1] without Calculating Respiratory Protection) ($\mu g/m^3$)	8-Hour TWA[1] Calculating Respiratory Protection[2]
Operator 1	488	0.09	N/A
Operator 2	338	4.76	0.26
Operator 3	267	9.35	0.19

1 Zero exposure is assumed for unsampled period. Note that the pump quit while sampling Operator 3. Approximately 1 more hour of work inside room 136A was conducted by Operator 3 that was unsampled.
2 Protection Factor of 50 for a full face respirator is used in the calculations.

RESULTS APPLIED TO CONTROL MEASURES

Calculating the result using a respiratory protection factor for full face respirator of 50, the exposures to personnel were not over the Permissible Exposure Limit (PEL) of 2 $\mu g/m^3$ as shown in Table II. See Attachment A for PELs. Airborne beryllium concentrations were above the 8-hour TWA of 2ug/m^3 and ceiling of 5 $\mu g/m^3$ for the plasma spray operation, but respiratory protection reduces the exposure to within acceptable limits.

NOTIFICATION REQUIREMENTS

Posting these sample results will meet federal Department of Labor and the Department of Energys employee notification requirements. A personal notification is not required since the employees have been copied on this memo with their sampling results given on the appropriate attachment.

RECOMMENDATIONS

The order of control that shall be used for reducing personal exposures is first engineering controls, then administrative controls such as work practices, then personal protection equipment such as the use of respiratory protection. Respiratory protection is the last resort and should be used only after engineering controls and administrative controls have proven, or are known, to be ineffective or infeasible.

It is evident from these sampling results and prior results conducted on May 17, 1995 that airborne beryllium concentrations must be reduced for the following operations:

- Plasma spray operation,
- Cleaning HEPA vacuum,
- Polishing or cleaning parts in the hood using a wire grinder.

It is currently unclear as to the reason why during the plasma spray operation airborne concentration of beryllium are above the PEL limit, even while the chamber is closed. See sample 95-14056D. Personal or area samples need to be conducted before and after housekeeping in Room 136A to determine if general room airborne concentrations are due to a leak in the chamber, poor housekeeping or dirty coveralls.

With regards to airborne concentration levels, further steps must be taken to reduce these levels. Steps could include:

- Designing additional or more effective ventilation of spray chamber,
- System to evacuate chamber of powder prior to opening chamber,
- Dust collection control in bottom of chamber,
- Allowing personnel to only put up to forearms inside chamber,
- Changing coveralls when beryllium dust is visible,
- Attaching a local exhaust to the wire grinder,
- Cleaning the HEPA vacuum inside hood,

- Using attachments on the vacuum cleaner to reduce time personnel are inside chamber,
- Vacuuming parts and equipment prior to manipulating them
- Conducting housekeeping on a consistent basis.

Further sampling should be conducted for beryllium operations to fully characterize the exposure potential for specific operations. For specific operations the number of sampling events depends on the variability of the operation. Sampling should be conducted as soon as possible since some operations will be put on hold for the reconsideration effort.

Feel free to call me should you have any questions.

KLC:ns

Cy: Paul Wiemann, MST-DO (G752), w/o attachments
Richard Mah, MST-6 (G770)
Loren Jacobson, MST-6 (G770), w/o attachments
Paul Stanek, MST-6 (G770), w/o attachments
Mike Ziehm, MST-6 (G770), w/o attachments
Steve Abeln, MST-6 (G770), w/o attachments
Keith Elliott, MST-6 (G770), w/o attachments
Jan Clements, MST-DO (G770), w/o attachments
Richard Castro, MST-6 (G75 w/ attachment A only
William Hults, MST-6 (G75 w/ attachment B only
Timothy McKechnie, Plasma Processess, Inc., w/ attachment C only
Dan Macdonell, ESH-5 (K486)
Gerry Langner, ESH-5 (K494)
Mel Garcia, ESH-5 (K494)
IHFSS Files, ESH-5 (K494)

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APPENDIX A
OCCUPATIONAL EXPOSURE LIMITS

The following are OSHA s Permissible Exposure Limits as found in 29 CFR 1910.1000, Air Contaminants, Table Z-2.

8-hour TWA*	2 $\mu g/m^3$
Acceptable Ceiling	5 $\mu g/m^3$
Maximum Peak	25 $\mu g/m^3$

During an 8-hour work shift, an employee may be exposed to a concentration of beryllium and beryllium compounds above 5 $\mu g/m^3$, but never above 25 $\mu g/m^3$, only for a maximum period of 30 minutes. Such exposures must be compensated by exposures to concentrations less than 2 $\mu g/m^3$ so that the cumulative exposure for the entire 8-hour work shift does not exceed a weighted average of 2 $\mu g/m^3$.

* The 8-hour TWA ACGIH TLV is als 2 $\mu g/m^3$ for beryllium.

Los Alamos
NATIONAL LABORATORY

memorandum

Environment, Safety and Health Division
Industrial Hygiene and Safety Group (ESH-5)

To/MS: Sherri Bingert, MST-6 (G770)
From/MS: Kathryn Creek, ESH-5 (K494) KCreek
Phone/FAX: 5-3270/7-1945

Symbol: ESH-5:95-15452
Date: October 17, 1995

SUBJECT: AIR SAMPLING RESULTS FOR BERYLLIUM

EXECUTIVE SUMMARY

On August 14-17, 1995, thirteen personal and 2 area samples were collected for beryllium analysis. The operations sampled were grinding metal parts and setting up equipment, plasma spraying, beryllium waste handling, glovebox work, and general equipment repair. See Appendix A for results.

Results show that 8-hr TWA Occupational Exposure Level (OEL) of 2 $\mu g/m^3$ was exceeded for the plasma spray operation. See Appendix B for explanation of OELs. The 30-minute ceiling OEL of 5 $\mu g/m^3$ was exceeded for the following operations:

Plasma Spraying,
Vacuuming Spray Chamber, and
Transferring Beryllium Waste.

Some samples were above the 5 $\mu g/m^3$, but the sampling times were greater than 30 minutes. These work operations could possibly be over the ceiling limit. The following operations fit into this category:

Grinding metal parts with wire grinder,
Cleaning inside hood, and
General Equipment Repair.

The peak OEL of 25 $\mu g/m^3$ was exceeded for the following operations:

Grinding of metal parts with wire grinder, and
Vacuuming Spray Chamber.

Personnel were protected from overexposures due to the use of respiratory protection. However, under 29 CFR 1910.1000(e), respiratory protection shall be used only after engineering and administrative controls have proven, or are known to be ineffective or infeasible, or when controls are in the process of being established. From this sampling event and those in May and July, data conclusively show that additional controls must be implemented to reduce exposure levels for grinding of metal parts and the plasma spray operation which includes vacuuming out the chamber.

There is insufficient data to fully characterize other operations. Further sampling is necessary for transferring of beryllium waste, general equipment repair, and cleaning inside the hood to make a full evaluation.

NOTIFICATION REQUIREMENTS

Posting these sample results will meet federal Department of Labor and the Department of Energy's employee notification requirements. A personal notification is not required since the employees have been copied on this memo and their sampling results given on the appropriate attachment.

RECOMMENDATIONS

Post the results as a means of notifying affected employees in the area of sampling results.

- Implement workplace controls for the plasma spray operation and wire grinding to reduce exposure levels. (I will work with your staff to develop plans for the controls)
- Instruct personnel to change outer coveralls when visibly contaminated.
- Doff outer coveralls while in Room 136A, instead of in the airlock.
- Continue to have personnel monitored to confirm or refute the high results on the transfer of beryllium waste, general equipment repair, and cleaning inside the hood.
- Continue to have exposure to other beryllium operations characterized.

Should you need any assistance in conveying this information to personnel or management, please contact me. Consult Administrative Requirement 6-7 or Technical Bulletin 607 for more information. Feel free to call me should you have any questions.

KLC:ns

Att: a/s

Cy: Richard Mah, MST-6, (G770)
Paul Wiemann, MST-DO (G752), w/o attachments
Steve Abeln, MST-6, (G770), w/o attachments
Richard Castro, MST-6, (G770) w/ attachment A only
Keith Elliott, MST-6, (G770), w/ attachment B only
Paul Stanek, MST-6, (G770), w/ attachment C only
Barbara Hargis, ESH-5, (K486)
Gerry Langner, ESH-5 (K494)
Mel Garcia, ESH-5 (K494)
IHFSS Files, ESH-5 (K494)

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APPENDIX A

Beryllium Air Sampling Results

MST-6 | **TA - 3 - 141 , Room 136A** | **TABLE A-1**

Date	Sample Number	Sample Type	Time Sampled	Total Time (minutes)	Location or Operation	Sample result	
8/14/95	95-14584A	P	10:10 - 10:43 10:53 - 11:47	87	Grinding metal parts inside chamber with wire grinder, Setting up equipment for plasma spray operation, Cleaning chamber using paper towels	43.1 ug/m3	13
8/14/95	95-14584B	P	15:10 - 15:41	31	Plasma Spraying	2.33 ug/m3	8
8/14/95	95-14584C	P	14:15 - 15:15	60	Conducting III Sampling of personnel	0.43 ug/m3	4
8/14/95	95-14584D	P	15:41 - 16:12	31	Plasma Spraying, Door closed entire time	0.45 ug/m3	5
8/15/95	95-14621A	P	13:47 - 14:15	28	Plasma Spraying, Door closed entire time	0.1 ug/m3	1

P= Personal Sample, A=Area Sample

03-Oct-95

Date	Sample Number	Sample Type	Time Sampled	Total Time (minutes)	Location or Operation	Sample result	
8/15/95	95-14621B	P	14:22 - 14:52	30	Plasma Spraying, Vacuuming inside chamber, Adjusting torch, Obtaining powder sample from inside chamber	49 ug/m3	14
8/15/95	95-14621C	P	14:52 - 15:22	30	Plasma Spraying, Door closed entire time	9.2 ug/m3	11
8/16/95	95-14585A	P	9:07 - 9:37	30	Vacuuming Spray Chamber, Checking contents of waste drums	59 ug/m3	15
8/16/95	95-14585B	A	9:17 - 14:42	325	Inside air lock on lab bench	0.1 ug/m3	2
8/16/95	95-14585C	A	9:28 - 14:29	301	On Beige control panel about 2 feet from plasma spray chamber	0.13 ug/m3	3
8/16/95	95-14585D	P	9:37 - 10:12	35	Transfering beryllium waste from one drum to another, Closing drums	23 ug/m3	12

P= Personal Sample, A=Area Sample

Date	Sample Number	Sample Type	Time Sampled	Total Time (minutes)	Location or Operation	Sample result	
8/16/95	95-14585E	P	10:12 - 10:56	44	Setting up plasma spray operation, Cleaned inside hood using vacuum and wet wiping	6.5 ug/m3	9
8/16/95	95-14585F	P	10:56 - 11:47	51	Plasma Spraying, Door closed entire time	0.78 ug/m3	6
8/16/95	95-14585G	P	13:42 - 14:23	41	Repair water pump and disconnect AC Starter	7.7 ug/m3	10
8/17/95	95-14586A	P	11:08 - 11:46 14:23 - 16:05	140	Filled 2 hemishells with beryllium inside glovebox, removed hemishells from glovebox, Washed hemishells with water, (Spray chamber opened in adjacent area for approximately 20 minutes)	1.7 ug/m3	7

P= Personal Sample, A=Area Sample

APPENDIX A

TABLE A-II Beryllium Time Weighted Averages TA-3-141, Room 136A				
Date	Operator Identifier	Sampling Time (minutes)	8-hr TWA Without Calculating Respiratory Protection ($\mu g/m^3$)	8-hr TWA Calculating Respiratory Protection ($\mu g/m^3$) (APF=100)
8/14/95	Operator 1	149	8.0	0.08
8/15/95	Operator 1	88	3.6	0.04
8/16/95	Operator 1	109	6.0	0.06
8/16/95	Operator 2	41	0.66	0.01
8/17/95	Operator 3	140	0.49	<0.01

Los Alamos
NATIONAL LABORATORY
memorandum

Environment, Safety and Health Division
Industrial Hygiene and Safety Group (ESH-5)

To/MS Sherri Bingert, MST-6 (G770)
Jim Cotton, MST-6 (G770)
From/MS Kathryn Creek, ESH-5 (K494)
Phone/FAX 5-1929/7-1945
Symbol ESH-5:95-14909
Date October 10, 1995

SUBJECT: BERYLLIUM ANALYSIS RESULTS FROM QUARTERLY SWIPES AT TA-3-141

EXECUTIVE SUMMARY

Quarterly swipe samples were taken on August 16, 1995, September 1, 1995 and September 5, 1995 at TA-3, Building 141, Rooms 136A, 139, and 141 and analyzed for beryllium (Be) concentration. The results are given in Appendix A. Results were provided to Sherri Bingert on August 27, 1995 and September 8, 1995 and to Jim Cotton on September 2, 1995 and September 8, 1995. Locations were recleaned and reswiped where initial swipe sample results indicated Be concentrations exceed action levels listed in Appendix B. All but two locations that were reswiped were under action levels which showed adequate housekeeping efforts. Routine housekeeping is necessary in order to minimize the potential for contamination spread and exposure due to migration or resuspension of beryllium dust from horizontal surfaces.

RESULTS

The samples were sent to CST-9 laboratory. The blind quality control (QC) sample as well as other QC procedures showed that the sample results are accurate and within acceptable limits. The samples were analyzed using NIOSH method 7300. See Appendix A for results.

RECOMMENDATIONS

- Conduct HEPA vacuuming and mopping/wet wiping of all horizontal surfaces in the beryllium operation areas on a routine basis.
- Emphasize the importance of general housekeeping practices to beryllium operations workers, and
- Notify beryllium operations workers of these results.

Please consult Administrative Requirement 6-7 or Technical Bulletin 607 for more information. Feel free to call me should you have any questions.

KLC:ns

Att: Appendix A and B
Tables A-I and A-II

Cy: Paul Wiemann, MST-DO (G752)
Richard Mah, MST-6 (G770)
Steve Abeln, MST-6 (G770)
Paul Stanek, MST-6 (G770)
Gerry Langner, ESH-5 (K494)
Mel Garcia, ESH-5 (K494)
IHFSS Files, ESH-5 (K494)

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APPENDIX A

TABLE A-I Be SWIPE SAMPLE RESULTS COLLECTED 8/16/95					
LOCATION NUMBER	ESH-5 SAMPLE NUMBER	LOCATION*	RESULT µg ft²	ACTION REQUIRED	
1	95-14641-1	Room 139, Outside Entrance	1.8	None	1
2	95-14641-2	Room 139, Center of Floor South of Benches	7.5	Level 1	2
3	95-14641-3	Room 139, Center of Floor North of Benches	9.5	None	3
4	95-14641-4	Room 141, Floor in Front of Arc Button Melter	92	Level 1	3
5	95-14641-5	Room 141, Floor in Front of Pad going into Air Lock	13	None	1
6	95-14641-6	Room 141, Lip of Hood #15051	290	Level 2	5
7	95-14641-7	Room 141, Lip of Hood #15050	39	Level 1	2
8	95-14641-8	Room 136A Air lock, Floor in Front of Clothes Hamper	57	Level 1	2
9	95-14641-9	Room 136A, Floor in Front of Pad going into Air lock	31	None	1
10	95-14641-10	Room 136A, Floor in Front of Spray Chamber by East Wall	540	Level 2	9
11	95-14641-11	Room 136A, Floor in Center of Room	500	Level 2	8
12	95-14641-12	Room 136A, Window of Glove box	3800	Level 2	14
13	95-14641-13	Room 136A, Floor in Front of Exit Doors, East	230	None	6
14	95-14641-14	Room 136A, Top of Atomizer	290	Level 2	7
15	95-14641-15	Room 136A, West Side of Plugged Floor Drain Under Atomizer	2600	Level 2	12
16	95-14641-16	Room 136A, Lip of Hood #15060	58	None	3
17	95-14641-17	Room 136A, Top of Hood #15060	62	None	4
	95-14641-18	Room 136A, Top of tool box near atomizer	930	Level 2	10
	95-14641-19	Room 136A, Near sink	81	None	5

TABLE A-I Be SWIPE SAMPLE RESULTS COLLECTED 8/16/95					
	95-14641-20	Room 136A. Table on which Glove box is placed	2700	Level 2	13
	95-14641-21	Room 136A. Lower shelf of cart next to spray chamber door	24000	Level 2	~~14~~ 15
	95-14641-22	Room 136A. Top of large, gray tool box near east doors	2300	Level 2	11
	95-14641-23	Room [illegible]1. Platform of polisher	240	Level 2	4

* Locations shown in Figure 1.

TABLE A-II Be SWIPE SAMPLE RESULTS COLLECTED 9/1/95 and 9/5/95					
LOCATION NUMBER	ESH-5 SAMPLE NUMBER	LOCATION*	RESULT $\mu g/ft^2$	ACTION REQUIRED	
1	95-14909-1	Room 139. Outside Entrance	0.13	None	1
2	95-14909-2	Room 139. Center of Floor South of Benches	0.54	None	2
3	95-14909-3	Room 139. Center of Floor North of Benches	0.72	None	3
4	95-14909-4	Room 141. Floor in Front of Arc Button Melter	1.1	None	1
5	95-14909-5	Room 141. Floor in Front of Pad going into Air Lock	2.5	None	2
6	95-14909-6	Room 141. Lip of Hood #15051	15	None	3
7	95-14909-7	Room 141. Lip of Hood #15050	20	None	4
8	95-14909-8	Room 136A Air lock. Floor	1.2	None	1
9	95-14909-9	Room 136A. Floor in Front of Pad going into Air lock	18	None	7
10	95-14909-10	Room 136A. Floor in Front of Spray Chamber by East Wall	94	None	11
11	95-14909-11	Room 136A. Floor in Center of Room	16	None	6
12	95-14909-12	Room 136A. Window of Glove box	3.5	None	2

TABLE A-II Be SWIPE SAMPLE RESULTS COLLECTED 9/1/95 and 9/5/95					
13	95-14909-13	Room 136A. Floor in Front of Exit Doors. East WMwl	5.1	None	4
14	95-14909-14	Room 136A. Top of Atomizer	230	None	13
15	95-14909-15	Room 136A. West Side of Plugged Floor Drain Under Atomizer	120	None	12
16	95-14909-16	Room 136A. Lip of Hood #15060	14	None	5
17	95-14909-17	Room 136A. Top of Hood #15060	530	Level 2	14
	95-14909-18	Room 136A. Top of tool box near atomizer	63	None	9
	95-14909-19	Room 136A. Near sink	33	None	8
	95-14909-20	Room 136A. Table on which Glove box is placed	70	None	10
	95-14909-21	Room 136A. Top of large, gray tool box near east doors	3.7	None	3
	95-14909-22	Room 141. Platform of grinder	29	Level 1	5

APPENDIX B
ADMINISTRATIVE REQUIREMENT 6-7 SWIPE LIMITS

TABLE B-I BERYLLIUM SWIPE ACTION LEVEL 1	
Action Limit ($\mu g/ft^2$)	Location(s)
X > 2	Outside dressing area in Room 139
25 < X < 100	Inside dressing area in Room 139. Room 141. 136A Air Lock

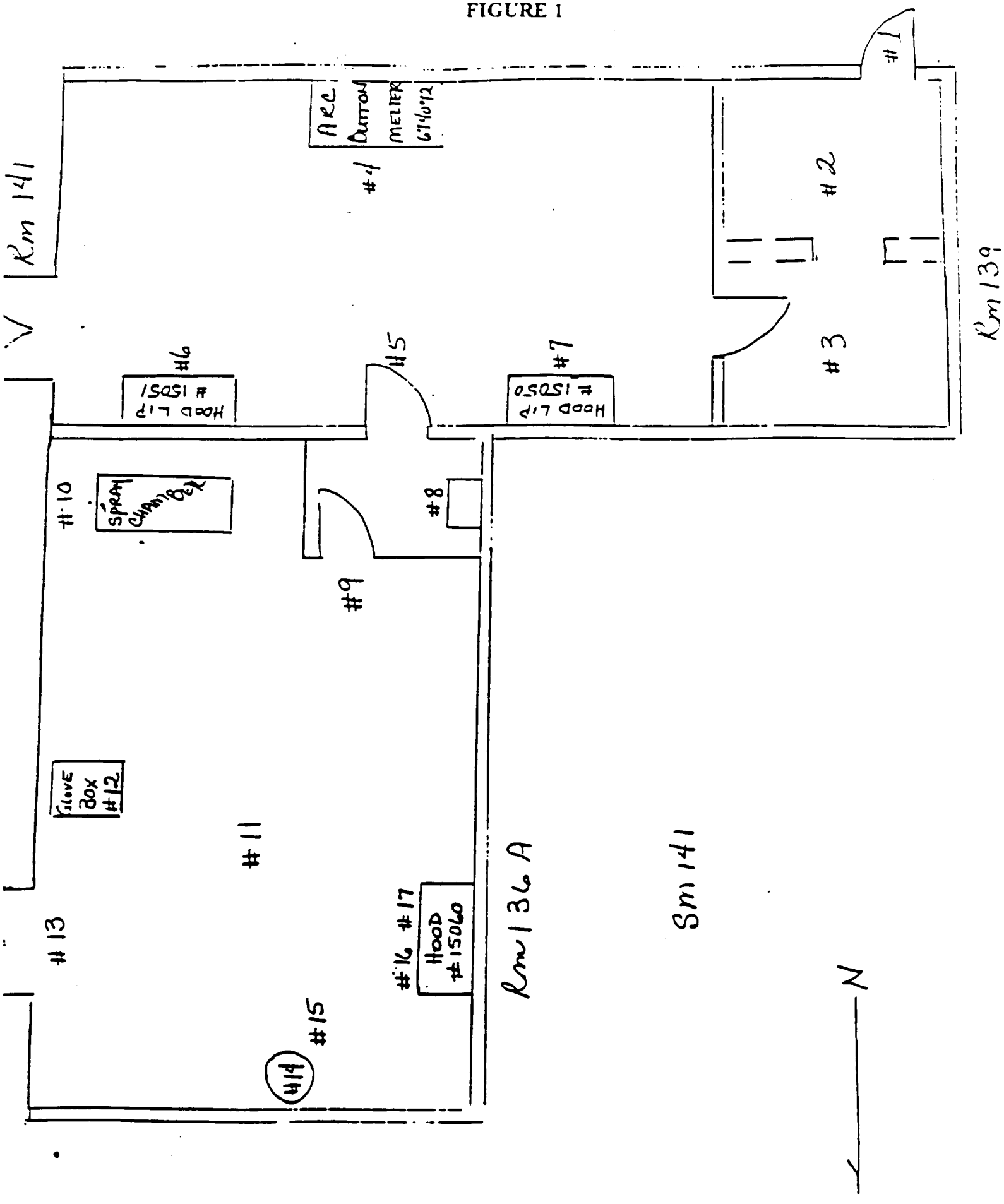
TABLE A-II BERYLLIUM SWIPE ACTION LEVEL 2	
Action Limit ($\mu g/ft^2$)	Location(s)
X > 100	Inside dressing area in Room 139. Room 141. 136A Air Lock
X > 250	Room 136

Actions Required for Readings that Exceed Surface Swipe Limits.

- Action Level 1--Re-evaluate the operations to determine (1) what factors are causing the excessive readings and (2) what appropriate corrective measures, in addition to cleaning the area, must be taken.

- Action Level 2--Operations are terminated and cleaning activities begin. Operations may not resume until surface swipe levels are satisfactorily reduced to the limits stated in Table I of AR 6-7.

FIGURE 1



Rm 141
#1
#2
#3
Rm 139
ARC BUTTON METER 6740-72
#4
#5
#6
HOOD LIP # 15051
#7
HOOD LIP # 15050
#8
#9
#10
SPRAY CHAMBER
GLOVE BOX #12
#11
#13
#14
#15
#16 #17
HOOD #15060
Rm 136 A
Sm 141
N

Los Alamos
NATIONAL LABORATORY
memorandum
Environment, Safety and Health Division
Industrial Hygiene and Safety Group (ESH-5)

To/MS: Sherri Bingert, MST-6 (G770)
Thru: Kathryn Creek, ESH-5 (K494) KCreek
From/MS: Mel Garcia, ESH-5 (K494) MG
Phone/FAX: 5-8214/7-1945
Symbol: ESH-5:95-14670
Date: October 17, 1995

SUBJECT: SWIPE SAMPLE RESULTS FOR WASTE BARRELS AND OTHER EQUIPMENT

EXECUTIVE SUMMARY

Swipe samples were taken on August 18, 1995 at TA-3, Building 141, Rooms 139 and 141, and analyzed for possible beryllium contamination. Samples were taken on some waste barrels and other equipment to determine if they could be removed from the area. Paul Stanek was notified of these results.

RESULTS

The samples were sent to the CST-9 laboratory. The blind quality control (QC) sample as well as other QC procedures showed that the sample results are accurate and within acceptable limits. The samples were analyzed using NIOSH method 7300. See Appendix A for results.

DISCUSSION

Surface swipe samples revealed concentrations of beryllium above the Los Alamos National Laboratory's surface swipe limit of 2 $\mu g/ft^2$ for a non-beryllium operations area. Please review Appendix A and B of this memo for appropriate required actions.

MEG:ns

Att: Appendix A
Appendix B

Cy: Paul Wiemann, MST-DO (G752)
Richard Mah, MST-6 (G770)
Steve Abeln, MST-6 (G770)
Paul Stanek, MST-6 (G770)
Gerry Langner, ESH-5 (K494)
IHFSS, ESH-5 (K494)

F:\KLC\KLC95023.MSW

APPENDIX A

TABLE I BERYLLIUM SWIPE SAMPLE RESULTS TA-3-141. COLLECTED 8/18/95				
ESH-5 NUMBER	LOCATION	RESULT ug/ft2	ACTION REQUIRED	
95-14670A	Room 141. Yellow Arc Starter. Top	1.3	None	5
95-14670B	Room 141. Yellow Arc Starter. Front	7.6	Level 1	14
95-14670C	Room 141. Orange Arc Starter. Top	100	Level 1	25
95-14670D	Room 141. Orange Arc Starter. Front	14	Level 1	17
95-14670 E	Room 141. Orange Arc Starter. Inside	15	Level 1	20
95-14670F	Room 141. Hemi A. Outide	1.3	None	6
95-14670G	Room 141. Hemi A. Inside	3.4	Level 1	9
95-14670I	Room 141. Hemi B. Outside	2.7	Level 1	8
95-14670J	Room 141, Hemi B. Inside	10	Level 1	16
95-14670L	Room 141. Drum D1. Lid	8.4	Level 1	15
95-14670M	Room 141. Drum D1. Side	56	Level 1	24
95-14670N	Room 141. Drum D2. Lid	21	Level 1	21
95-14670O	Room 141. Drum D2. Side	7	Level 1	13
95-14670P	Room 141. Blue Trash Can. Lip	22	Level 1	22
95-14670Q	Room 141. Blue Trash Can. Top. Side	32	Level 1	23
95-14670R	Room 141. Control Panel. Top	5.4	Level 1	10
95-14670S	Room 141. Control Panel. Side. Front	0.33	None	2
95-14670T	Room 141. Control Panel. Inside	0.14	None	1
95-14670U	Room 141. Control Panel. Foot Control	14	Level 1	18
95-14670V	Room 141. Drum D3. Lid	0.47	None	3
95-14670W	Room 141. Drum D3. Side	0.86	None	4
95-14670X	Room 141. Drum D4. Lid	6.3	Level 1	~~10~~
95-14670Y	Room 141. Drum D4. Side	2.3	Level 1	7
95-14670Z	Room 141. Drum D5. Lid	6.9	Level 1	12
95-14670AA	Room 141. Drum D5. Side	14	Level 1	19

ESH-1 SMEAR SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 8/19/95 No. Of Samples: 351

TA: 3 Bldg: 141

CT: R W JUNG Z Number: 106338

Phone/Fax: 50327 / 59427

SAMPLE TRACKING NUMBER

ESH-1 SAMPLE TRACKING

95004668

C

PURPOSE OF SURVEY

☐ ROUTINE ☐ PRE-JOB ☐ POST-JOB ☐ HOT JOB

☐ ITEM RELEASE ☐ OFFSITE SHIPMENT ☐ ONSITE SHIPMENT

☒ NON-ROUTINE (OTHER) Baseline

INSTRUMENTATION

TYPE	HSE No.	CAL DUE	% EFF	BKG

ADDITIONAL INFORMATION

☐ Occurrence No.: N/A

☐ Incident No.:

☐ RWP No.:

Smear No.	Location	Alpha*	Beta*	Gamma*
1	Floor of lab			
	in Bldg 141			
3	see map for			
4	location			
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Smear No.	Location	Alpha*	Beta*	Gamm
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
31				
32				
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55				

Smear No.	Location	Alpha*	Beta*	Gam
56				
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80				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location		Alpha*	Beta*	Gamma*
81					
82					
83					
84					
85					
86					
87					
88					
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102					
103					
104					
105					

Smear No.	Location		Alpha*	Beta*	Gamm
106					
107					
108					
109					
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130					

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location		Alpha*	Beta*	Gamma*
131					
132					
133					
134					
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Smear No.	Location		Alpha*	Beta*	Gamma
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180					

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location		Alpha*	Beta*	Gamma*
181					
182					
183					
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203					
205					

Smear No.	Location		Alpha*	Beta*	Gamm
206					
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208					
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225					
226					
227					
228					
229					
230					

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
231				
232				
233				
234				
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252				
253				
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255				

Smear No.	Location	Alpha*	Beta*	Gamm
256				
257				
258				
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260				
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277				
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280				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location		Alpha*	Beta*	Gamma*
281					
282					
283					
284					
285					
286					
287					
288					
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293					
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300					
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302					
303					
304					
305					

Smear No.	Location		Alpha*	Beta*	Gamm
306					
307					
308					
309					
310					
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319					
320					
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322					
323					
324					
325					
326					
327					
328					
329					
330					

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
331				
332				
333				
334				
335				
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337				
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Smear No.	Location	Alpha*	Beta*	Gamm
356				
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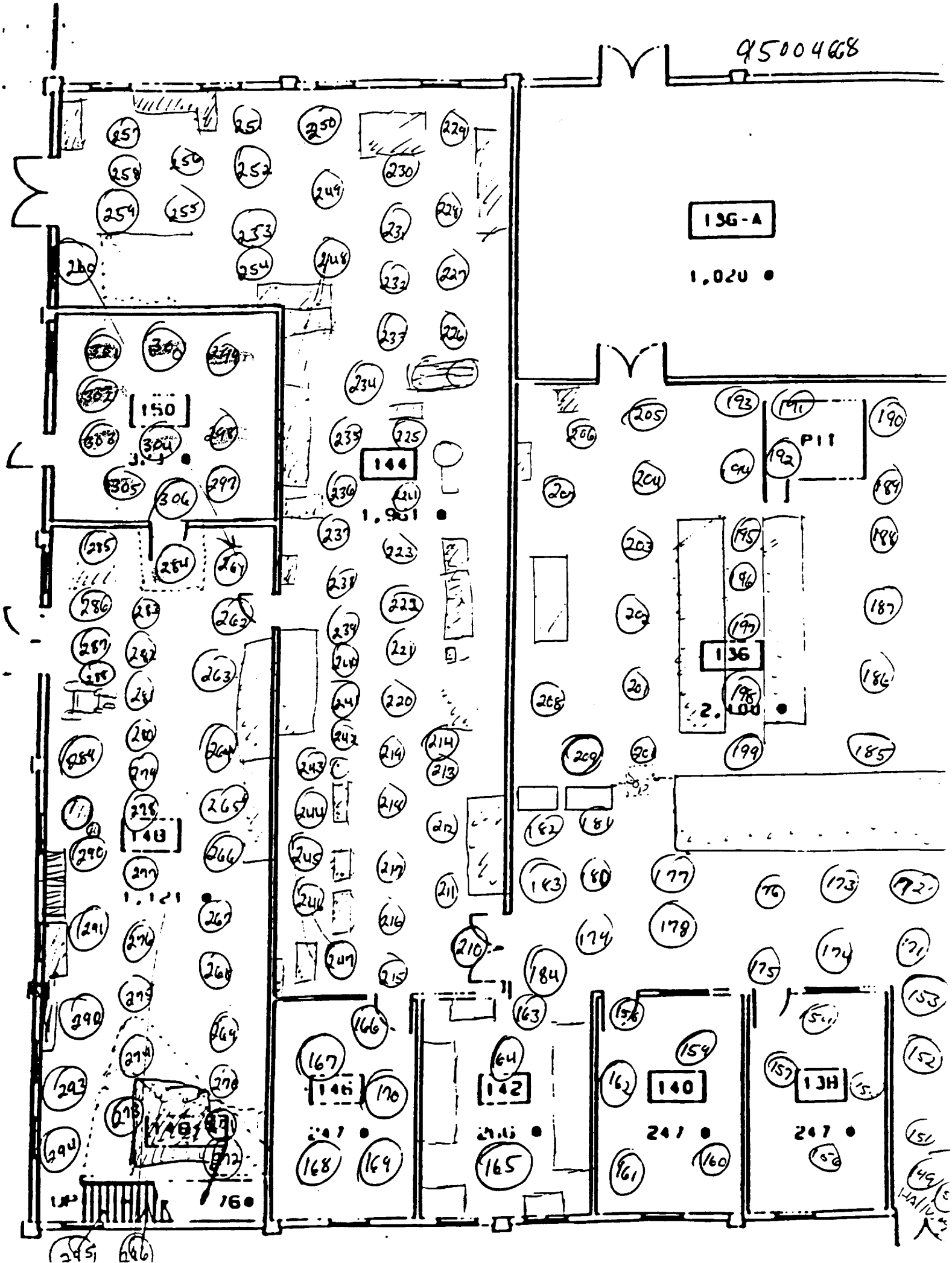
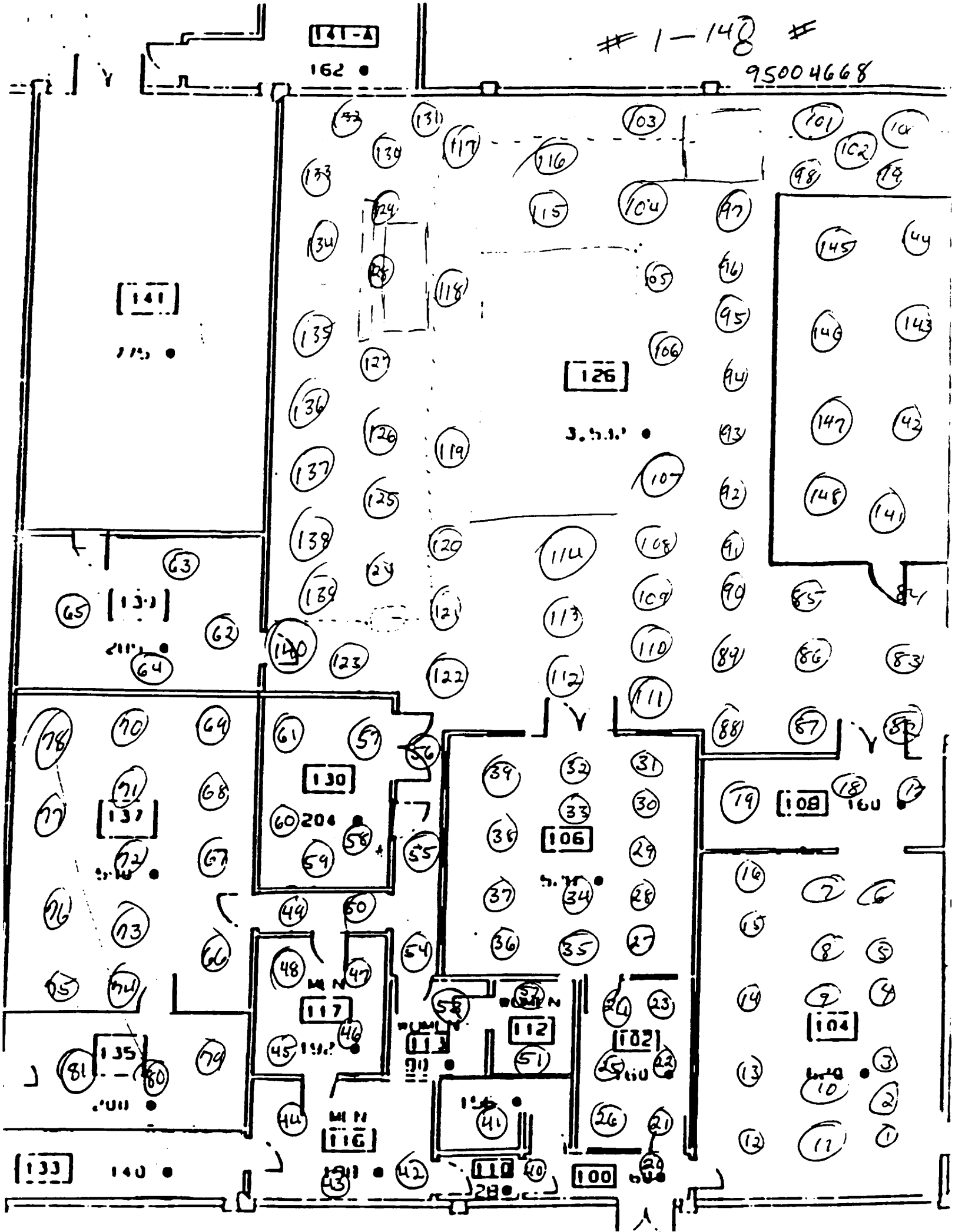
95004668

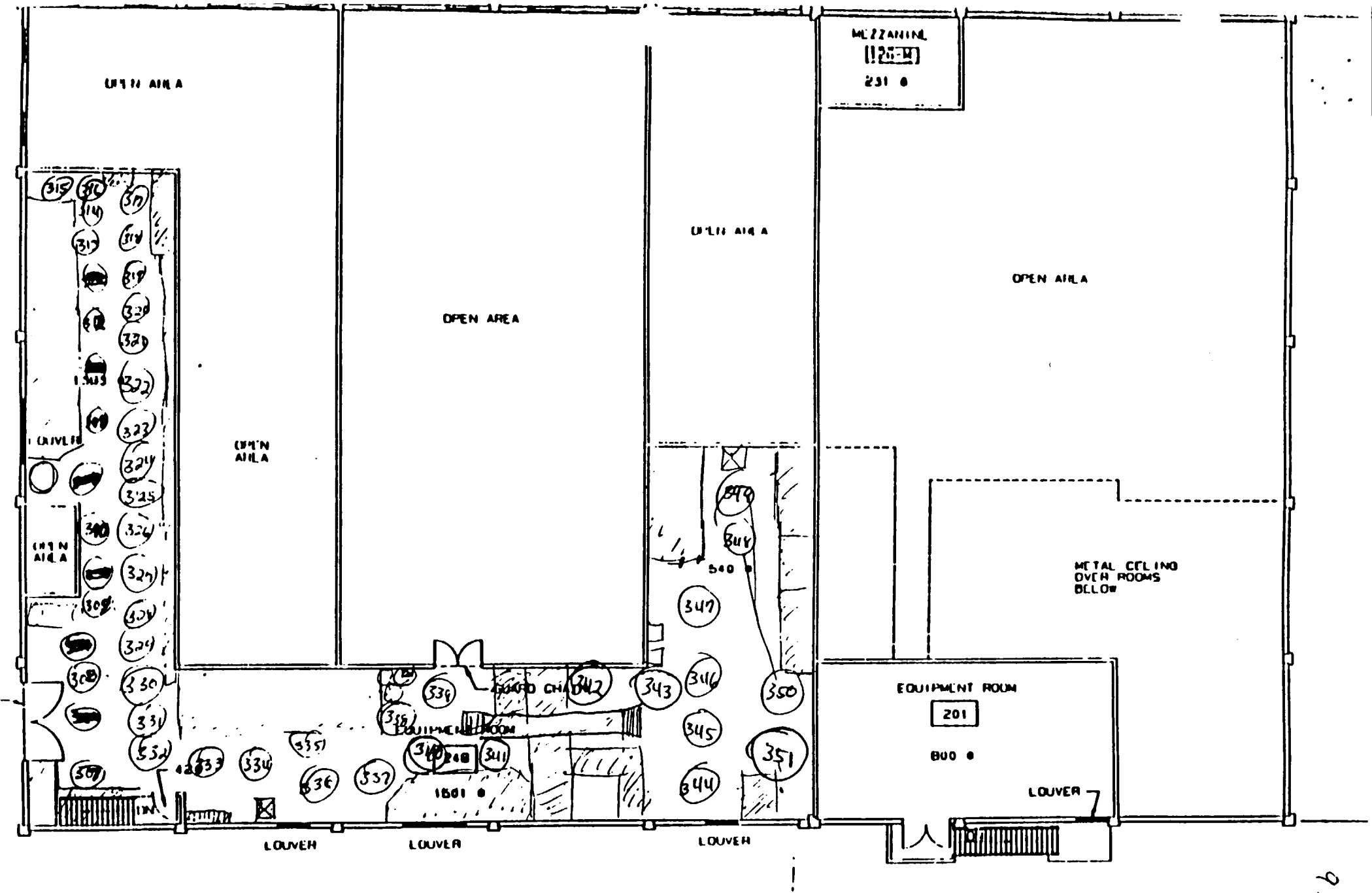


136-A
1,020
150
144
1,961
136
2,100
148
1,121
146
142
140
13H
247
247
247
P11

1-148

95004668





Lucas's

#307 + 351

95004668

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Login Date	8/23/95	Analysis Date	8/24/95
Survey Location	TA 3 Building 141 Room N/A	HPAL	Tech Area 35
RCT's Z	106388	HPAL Technician	Richard M Belian
Analysis/Media	Gross-Alpha-Beta Nucon Smear	HPAL Instrument	LB770 1
Custody Number	95004668		

NDA = Non Detectable Activity Alpha MDA 6 dpm Beta MDA 9 dpm

Custody Number 95004668

Alpha			Beta		
Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
1	NDA		1	NDA	
2	NDA		2	NDA	
3	NDA		3	NDA	
4	NDA		4	NDA	
5	NDA		5	NDA	
6	NDA		6	NDA	
7	NDA		7	NDA	
8	NDA		8	NDA	
9	NDA		9	NDA	
10	NDA		10	NDA	
11	NDA		11	NDA	
12	NDA		12	NDA	
13	NDA		13	NDA	
14	NDA		14	NDA	
15	NDA		15	NDA	
16	NDA		16	NDA	
17	NDA		17	NDA	
18	NDA		18	NDA	
19	NDA		19	NDA	
20	NDA		20	NDA	
21	NDA		21	NDA	
22	NDA		22	NDA	
23	NDA		23	NDA	
24	NDA		24	NDA	
25	NDA		25	NDA	
26	NDA		26	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004668

Alpha			Beta		
Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
27	NDA		27	NDA	
28	NDA		28	NDA	
29	NDA		29	NDA	
30	NDA		30	NDA	
31	NDA		31	NDA	
32	NDA		32	NDA	
33	NDA		33	NDA	
34	NDA		34	NDA	
35	NDA		35	NDA	
36	NDA		36	NDA	
37	NDA		37	NDA	
38	NDA		38	NDA	
39	NDA		39	NDA	
40	NDA		40	NDA	
41	NDA		41	NDA	
42	NDA		42	NDA	
43	NDA		43	NDA	
44	NDA		44	NDA	
45	NDA		45	NDA	
46	NDA		46	NDA	
47	NDA		47	NDA	
48	NDA		48	NDA	
49	NDA		49	NDA	
50	NDA		50	NDA	
51	NDA		51	NDA	
52	NDA		52	NDA	
53	NDA		53	NDA	
54	NDA		54	NDA	
55	NDA		55	NDA	
56	NDA		56	NDA	
57	NDA		57	NDA	
58	NDA		58	NDA	
59	NDA		59	NDA	
60	NDA		60	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004668

Alpha			Beta		
Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
61	NDA		61	NDA	
62	NDA		62	NDA	
63	NDA		63	NDA	
64	NDA		64	NDA	
65	NDA		65	NDA	
66	NDA		66	NDA	
67	NDA		67	NDA	
68	NDA		68	NDA	
69	NDA		69	NDA	
70	NDA		70	NDA	
71	NDA		71	NDA	
72	NDA		72	NDA	
73	NDA		73	NDA	
74	NDA		74	NDA	
75	NDA		75	NDA	
76	NDA		76	NDA	
77	NDA		77	NDA	
78	NDA		78	NDA	
79	NDA		79	NDA	
80	NDA		80	NDA	
81	NDA		81	NDA	
82	NDA		82	NDA	
83	NDA		83	NDA	
84	NDA		84	NDA	
85	NDA		85	NDA	
86	NDA		86	NDA	
87	NDA		87	NDA	
88	NDA		88	NDA	
89	NDA		89	NDA	
90	NDA		90	NDA	
91	NDA		91	NDA	
92	NDA		92	NDA	
93	NDA		93	NDA	
94	NDA		94	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004668

	Alpha			Beta		
	Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
	95	NDA		95	NDA	
	96	NDA		96	NDA	
	97	NDA		97	NDA	
	98	NDA		98	NDA	
	99	NDA		99	NDA	
	100	NDA		100	NDA	
	101	NDA		101	NDA	
	102	NDA		102	NDA	
	103	NDA		103	NDA	
	104	NDA		104	NDA	
	105	NDA		105	NDA	
	106	NDA		106	NDA	
	107	NDA		107	NDA	
126 1	108	NDA		108	42	29
	109	NDA		109	NDA	
	110	NDA		110	NDA	
	111	NDA		111	NDA	
	112	NDA		112	NDA	
	113	NDA		113	NDA	
126 2	114	16	56	114	167	14
	115	NDA		115	NDA	
	116	NDA		116	NDA	
	117	NDA		117	NDA	
	118	NDA		118	NDA	
	119	NDA		119	NDA	
	120	NDA		120	NDA	
	121	NDA		121	NDA	
	122	NDA		122	NDA	
	123	NDA		123	NDA	
	124	NDA		124	NDA	
	125	NDA		125	NDA	
	126	NDA		126	NDA	
126 3	127	NDA		127	10	66
126 4	128	9	77	128	46	28

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004668

	Alpha			Beta		
	Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
126 5	129	NDA		129	9	72
	130	NDA		130	NDA	
	131	NDA		131	NDA	
	132	NDA		132	NDA	
126 6	133	NDA		133	11	64
	134	NDA		134	NDA	
	135	NDA		135	NDA	
	136	NDA		136	NDA	
	137	NDA		137	NDA	
126 7	138	NDA		138	11	64
	139	NDA		139	NDA	
	140	NDA		140	NDA	
	141	NDA		141	NDA	
	142	NDA		142	NDA	
	143	NDA		143	NDA	
	144	NDA		144	NDA	
	145	NDA		145	NDA	
	146	NDA		146	NDA	
	147	NDA		147	NDA	
	148	NDA		148	NDA	
	149	NDA		149	NDA	
	150	NDA		150	NDA	
	151	NDA		151	NDA	
	152	NDA		152	NDA	
	153	NDA		153	NDA	
	154	NDA		154	NDA	
	155	NDA		155	NDA	
	156	NDA		156	NDA	
	157	NDA		157	NDA	
	158	NDA		158	NDA	
	159	NDA		159	NDA	
	160	NDA		160	NDA	
	161	NDA		161	NDA	
	162	NDA		162	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004668

	Alpha			Beta		
	Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
	163	NDA		163	NDA	
	164	NDA		164	NDA	
	165	NDA		165	NDA	
	166	NDA		166	NDA	
	167	NDA		167	NDA	
	168	NDA		168	NDA	
	169	NDA		169	NDA	
	170	NDA		170	NDA	
	171	NDA		171	NDA	
	172	NDA		172	NDA	
	173	NDA		173	NDA	
	174	NDA		174	NDA	
	175	NDA		175	NDA	
	176	NDA		176	NDA	
	177	NDA		177	NDA	
	178	NDA		178	NDA	
	179	NDA		179	NDA	
	180	NDA		180	NDA	
	181	NDA		181	NDA	
	182	NDA		182	NDA	
	183	NDA		183	NDA	
	184	NDA		184	NDA	
136	8 185	6	94	185	104	19
136	9 186	6	91	186	37	32
	10 187	15	58	187	53	26
	11 188	17	56	188	61	24
	12 189	77	26	189	232	12
	13 190	30	42	190	191	14
	14 191	59	29	191	326	10
	15 192	21	50	192	88	20
	16 193	30	42	193	112	18
	17 194	9	77	194	40	30
	18 195	9	78	195	21	45
	19 196	6	91	196	28	37

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004668

		Alpha			Beta	
	Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
136 20	197	28	43	197	53	26
21	198	17	56	198	43	29
22	199	10	73	199	28	38
23	200	13	64	200	32	36
24	201	NDA		201	47	28
25	202	12	68	202	46	28
26	203	6	93	203	33	34
27	204	14	61	204	24	40
28	205	10	73	205	21	44
29	206	25	45	206	27	39
30	207	18	54	207	68	23
	208	NDA		208	NDA	
136 31	209	NDA		209	32	34
	210	NDA		210	NDA	
	211	NDA		211	NDA	
	212	NDA		212	NDA	
	213	NDA		213	NDA	
	214	NDA		214	NDA	
	215	NDA		215	NDA	
	216	NDA		216	NDA	
	217	NDA		217	NDA	
	218	NDA		218	NDA	
	219	NDA		219	NDA	
	220	NDA		220	NDA	
	221	NDA		221	NDA	
	222	NDA		222	NDA	
	223	NDA		223	NDA	
	224	NDA		224	NDA	
144 32	225	9	78	225	20	46
	226	NDA		226	NDA	
	227	NDA		227	NDA	
	228	NDA		228	NDA	
	229	NDA		229	NDA	
	230	NDA		230	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004668

Alpha			Beta		
Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
231	NDA		231	NDA	
232	NDA		232	NDA	
233	NDA		233	NDA	
234	NDA		234	NDA	
235	NDA		235	NDA	
236	NDA		236	NDA	
237	NDA		237	NDA	
238	NDA		238	NDA	
239	NDA		239	NDA	
240	NDA		240	NDA	
241	NDA		241	NDA	
242	NDA		242	NDA	
243	NDA		243	NDA	
244	NDA		244	NDA	
245	NDA		245	NDA	
246	NDA		246	NDA	
247	NDA		247	NDA	
248	NDA		248	NDA	
249	NDA		249	NDA	
250	NDA		250	NDA	
251	NDA		251	NDA	
252	NDA		252	NDA	
253	NDA		253	NDA	
254	NDA		254	NDA	
255	NDA		255	NDA	
256	NDA		256	NDA	
257	NDA		257	NDA	
258	NDA		258	NDA	
259	NDA		259	NDA	
260	NDA		260	NDA	
261	NDA		261	NDA	
262	NDA		262	NDA	
263	NDA		263	NDA	
264	NDA		264	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004668

	Alpha			Beta		
	Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
	265	NDA		265	NDA	
	266	NDA		266	NDA	
	267	NDA		267	NDA	
	268	NDA		268	NDA	
	269	NDA		269	NDA	
	270	NDA		270	NDA	
	271	NDA		271	NDA	
	272	NDA		272	NDA	
	273	NDA		273	NDA	
	274	NDA		274	NDA	
	275	NDA		275	NDA	
	276	NDA		276	NDA	
	277	NDA		277	NDA	
	278	NDA		278	NDA	
	279	NDA		279	NDA	
	280	NDA		280	NDA	
	281	NDA		281	NDA	
	282	NDA		282	NDA	
	283	NDA		283	NDA	
148 33	284	9	77	284	33	34
	285	NDA		285	NDA	
	286	NDA		286	NDA	
	287	NDA		287	NDA	
	288	NDA		288	NDA	
	289	NDA		289	NDA	
	290	NDA		290	NDA	
	291	NDA		291	NDA	
	292	NDA		292	NDA	
	293	NDA		293	NDA	
	294	NDA		294	NDA	
	295	NDA		295	NDA	
	296	NDA		296	NDA	
150 34	297	27	44	297	81	21
150 35	298	NDA		298	16	51

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004668

	Alpha			Beta		
	Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
150 36	299	NDA		299	17	49
37	300	NDA		300	21	44
38	301	9	77	301	23	42
39	302	34	39	302	70	23
40	303	39	37	303	121	17
41	304	13	64	304	40	30
42	305	NDA		305	23	43
43	306	15	58	306	35	33
	307	NDA		307	NDA	
	308	NDA		308	NDA	
	309	NDA		309	NDA	
	310	NDA		310	NDA	
	311	NDA		311	NDA	
	312	NDA		312	NDA	
	313	NDA		313	NDA	
	314	NDA		314	NDA	
	315	NDA		315	NDA	
	316	NDA		316	NDA	
	317	NDA		317	NDA	
	318	NDA		318	NDA	
	319	NDA		319	NDA	
	320	NDA		320	NDA	
	321	NDA		321	NDA	
	322	NDA		322	NDA	
	323	NDA		323	NDA	
	324	NDA		324	NDA	
	325	NDA		325	NDA	
	326	NDA		326	NDA	
	327	NDA		327	NDA	
	328	NDA		328	NDA	
	329	NDA		329	NDA	
	330	NDA		330	NDA	
	331	NDA		331	NDA	
	332	NDA		332	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004668

Alpha			Beta		
Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
333	NDA		333	NDA	
334	NDA		334	NDA	
335	NDA		335	NDA	
336	NDA		336	NDA	
337	NDA		337	NDA	
338	NDA		338	NDA	
339	NDA		339	NDA	
340	NDA		340	NDA	
341	NDA		341	NDA	
342	NDA		342	NDA	
343	NDA		343	NDA	
344	NDA		344	NDA	
345	NDA		345	NDA	
346	NDA		346	NDA	
347	NDA		347	NDA	
348	NDA		348	NDA	
349	NDA		349	NDA	
350	NDA		350	NDA	
351	NDA		351	NDA	

ESH-1 SMEAR SURVEY FORM

C

SAMPLE DESCRIPTION

Sample Date/Time: 8/19/95 No. Of Samples: 200

TA: 3 Bldg: 141

RCT: R W JUNG Z Number: 106338

Phone/Fax: 50327 / 5-9427

Cox & Siddoway

PURPOSE OF SURVEY

☐ ROUTINE ☐ PRE-JOB ☐ POST-JOB ☐ HOT JOB

☐ ITEM RELEASE ☐ OFFSITE SHIPMENT ☐ ONSITE SHIPMENT

☒ NON-ROUTINE/OTHER: Baseline

ADDITIONAL INFORMATION

☐ Occurrence No.:

☐ Incident No.: N/A

☐ RWP No.:

SAMPLE TRACKING NUMBER

ESH-1 SAMPLE TRACKING

95004669

INSTRUMENTATION

TYPE	HSE No.	CAL DUE	% EFF	BKG

Smear No.	Location	Alpha*	Beta*	Gamma*
1	TA-3-141 -			
2	WALLS (see			
3	MAP for			
4	Locations			
5				
6				
7				
8				
9				
10				
11				
12				
13				
15				

Smear No.	Location	Alpha*	Beta*	Gamm
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

dpm/100 cm2

\CORELDRW\HPALMST CDR

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				

Smear No.	Location	Alpha*	Beta*	Gamr
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				
71				
72				
73				
74				
75				
76				
77				
78				
79				
80				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
81				
82				
83				
84				
85				
86				
87				
88				
89				
90				
91				
92				
3				
94				
95				
96				
97				
98				
99				
100				
101				
102				
103				
105				

Smear No.	Location	Alpha*	Beta*	Gamm
106				
107				
108				
109				
110				
111				
112				
113				
114				
115				
116				
117				
118				
119				
120				
121				
122				
123				
124				
125				
126				
127				
128				
129				
130				

ESH-1 SMEAR CONTINUATION FORM

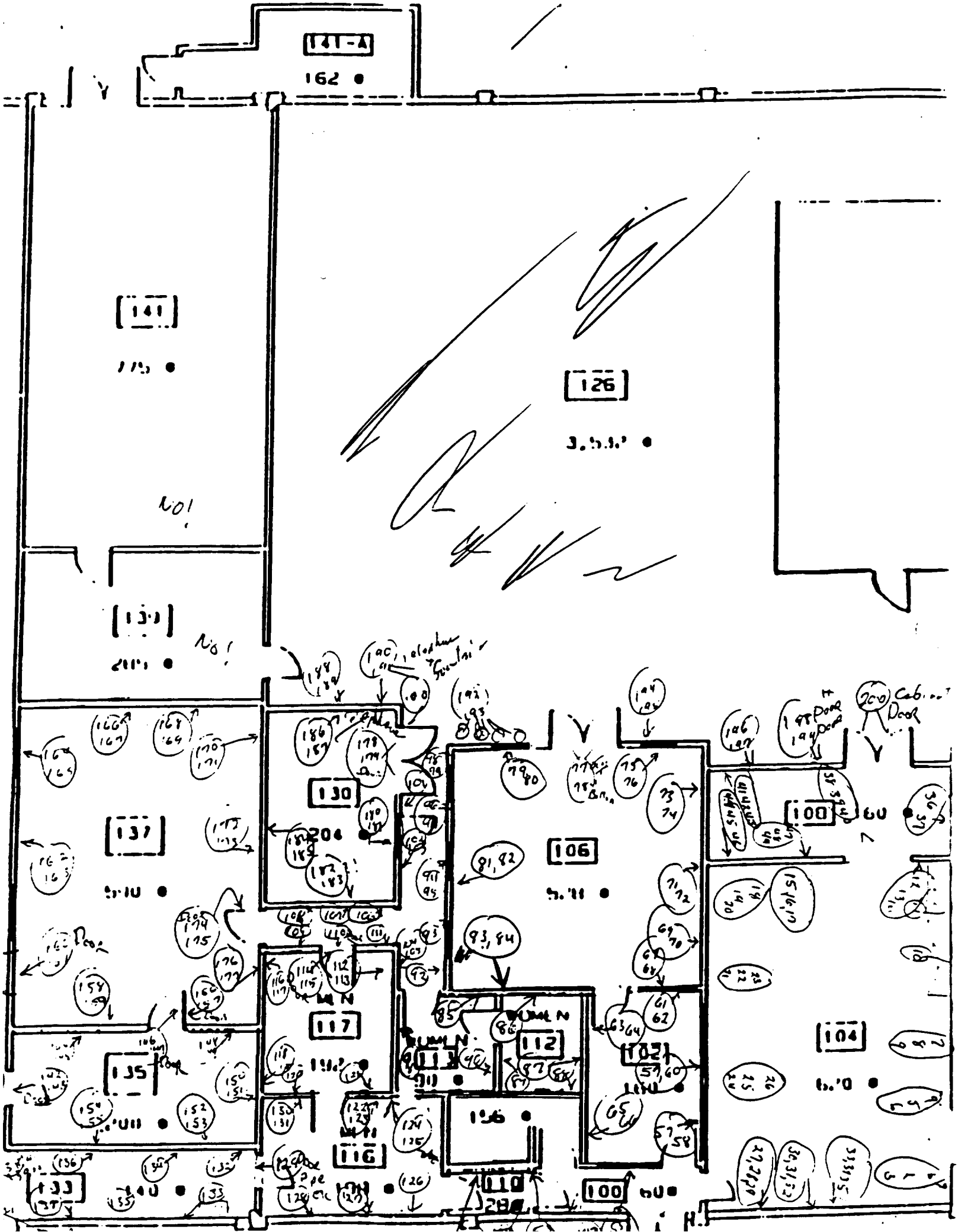
Smear No.	Location	Alpha*	Beta*	Gamma*
121				
132				
133				
134				
135				
136				
137				
138				
139				
140				
141				
142				
143				
144				
145				
146				
147				
148				
149				
150				
151				
152				
153				
154				
155				

Smear No.	Location	Alpha*	Beta*	Gamm.
156				
157				
158				
159				
160				
161				
162				
163				
164				
165				
166				
167				
168				
169				
170				
171				
172				
173				
174				
175				
176				
177				
178				
179				
180				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
181				
182				
183				
184				
185				
186				
187				
188				
189				
190				
191				
192				
193				
194				
195				
196				
197				
198				
199				
200				
201				
202				
203				
205				

Smear No.	Location	Alpha*	Beta*	Gamm
206				
207				
208				
209				
210				
211				
212				
213				
214				
215				
216				
217				
218				
219				
220				
221				
222				
223				
224				
225				
226				
227				
228				
229				
230				


141-A
162
141
126
No!
No!
130
204
137
106
100
117
112
104
135
116
110
100
133
Cabinet Door
Door

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Login Date	8/23/95	Analysis Date	8/24/95
Survey Location	TA 3 Building 141 Room N/A	HPAL	Tech Area 35
RCT's Z	106388	HPAL Technician	Ron L. Day
Analysis/Media	Gross-Alpha-Beta Nucon Smear	HPAL Instrument	LB770 1
Custody Number	95004669		

NDA = Non Detectable Activity Alpha MDA 6 dpm Beta MDA 9 dpm

Custody Number 95004669

Alpha Sample Number	Alpha DPM	Alpha % 2 sigma	Beta Sample Number	Beta DPM	Beta % 2 sigma
1	NDA		1	NDA	
2	NDA		2	NDA	
3	NDA		3	NDA	
4	NDA		4	NDA	
5	NDA		5	NDA	
6	NDA		6	NDA	
7	NDA		7	NDA	
8	NDA		8	NDA	
9	NDA		9	NDA	
10	NDA		10	NDA	
11	NDA		11	NDA	
12	NDA		12	NDA	
13	NDA		13	NDA	
14	NDA		14	NDA	
15	NDA		15	NDA	
16	NDA		16	NDA	
17	NDA		17	NDA	
18	NDA		18	NDA	
19	NDA		19	NDA	
20	NDA		20	NDA	
21	NDA		21	NDA	
22	NDA		22	NDA	
23	NDA		23	NDA	
24	NDA		24	NDA	
25	NDA		25	NDA	
26	NDA		26	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004669

Alpha			Beta		
Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
27	NDA		27	NDA	
28	NDA		28	NDA	
29	NDA		29	NDA	
30	NDA		30	NDA	
31	NDA		31	NDA	
32	NDA		32	NDA	
33	NDA		33	NDA	
34	NDA		34	NDA	
35	NDA		35	NDA	
36	NDA		36	NDA	
37	NDA		37	NDA	
38	NDA		38	NDA	
39	NDA		39	NDA	
40	NDA		40	NDA	
41	NDA		41	NDA	
42	NDA		42	NDA	
43	NDA		43	NDA	
44	NDA		44	NDA	
45	NDA		45	NDA	
46	NDA		46	NDA	
47	NDA		47	NDA	
48	NDA		48	NDA	
49	NDA		49	NDA	
50	NDA		50	NDA	
51	NDA		51	NDA	
52	NDA		52	NDA	
53	NDA		53	NDA	
54	NDA		54	NDA	
55	NDA		55	NDA	
56	NDA		56	NDA	
57	NDA		57	NDA	
58	NDA		58	NDA	
59	NDA		59	NDA	
60	NDA		60	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004669

Alpha			Beta		
Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
61	NDA		61	NDA	
62	NDA		62	NDA	
63	NDA		63	NDA	
64	NDA		64	NDA	
65	NDA		65	NDA	
66	NDA		66	NDA	
67	NDA		67	NDA	
68	NDA		68	NDA	
69	NDA		69	NDA	
70	NDA		70	32	35
71	NDA		71	NDA	
72	NDA		72	NDA	
73	NDA		73	NDA	
74	NDA		74	NDA	
75	NDA		75	NDA	
76	NDA		76	NDA	
77	NDA		77	NDA	
78	NDA		78	NDA	
79	NDA		79	NDA	
80	NDA		80	NDA	
81	NDA		81	NDA	
82	NDA		82	NDA	
83	NDA		83	NDA	
84	NDA		84	NDA	
85	NDA		85	NDA	
86	NDA		86	NDA	
87	NDA		87	NDA	
88	NDA		88	NDA	
89	NDA		89	NDA	
90	NDA		90	NDA	
91	NDA		91	NDA	
92	NDA		92	NDA	
93	NDA		93	NDA	
94	NDA		94	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004669

Alpha			Beta		
Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
95	NDA		95	NDA	
96	NDA		96	NDA	
97	NDA		97	NDA	
98	NDA		98	NDA	
99	NDA		99	NDA	
100	NDA		100	NDA	
101	NDA		101	NDA	
102	NDA		102	NDA	
103	NDA		103	NDA	
104	NDA		104	NDA	
105	NDA		105	NDA	
106	NDA		106	NDA	
107	NDA		107	NDA	
2 108	6	92	108	NDA	
109	NDA		109	NDA	
110	NDA		110	NDA	
111	NDA		111	NDA	
112	NDA		112	NDA	
113	NDA		113	NDA	
114	NDA		114	NDA	
115	NDA		115	NDA	
116	NDA		116	NDA	
117	NDA		117	NDA	
118	NDA		118	NDA	
119	NDA		119	NDA	
120	NDA		120	NDA	
121	NDA		121	NDA	
122	NDA		122	NDA	
123	NDA		123	NDA	
124	NDA		124	NDA	
125	NDA		125	NDA	
126	NDA		126	NDA	
127	NDA		127	NDA	
128	NDA		128	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004669

Alpha			Beta		
Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
129	NDA		129	NDA	
130	NDA		130	NDA	
131	NDA		131	NDA	
132	NDA		132	NDA	
133	NDA		133	NDA	
134	NDA		134	NDA	
135	NDA		135	NDA	
136	NDA		136	NDA	
137	NDA		137	NDA	
138	NDA		138	NDA	
139	NDA		139	NDA	
140	NDA		140	NDA	
141	NDA		141	NDA	
142	NDA		142	NDA	
143	NDA		143	NDA	
144	NDA		144	NDA	
145	NDA		145	NDA	
146	NDA		146	NDA	
147	NDA		147	NDA	
148	NDA		148	NDA	
149	NDA		149	NDA	
150	NDA		150	NDA	
151	NDA		151	NDA	
152	NDA		152	NDA	
153	NDA		153	NDA	
154	NDA		154	NDA	
155	NDA		155	NDA	
156	NDA		156	NDA	
157	NDA		157	NDA	
158	NDA		158	NDA	
159	NDA		159	NDA	
160	NDA		160	NDA	
161	NDA		161	NDA	
162	NDA		162	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004669

	Alpha			Beta		
	Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
	163	NDA		163	NDA	
	164	NDA		164	NDA	
	165	NDA		165	NDA	
	166	NDA		166	NDA	
	167	NDA		167	NDA	
	168	NDA		168	NDA	
	169	NDA		169	NDA	
	170	NDA		170	NDA	
	171	NDA		171	NDA	
	172	NDA		172	NDA	
	173	NDA		173	NDA	
	174	NDA		174	NDA	
	175	NDA		175	NDA	
	176	NDA		176	NDA	
	177	NDA		177	NDA	
	178	NDA		178	NDA	
	179	NDA		179	NDA	
	180	NDA		180	NDA	
	181	NDA		181	NDA	
	182	NDA		182	NDA	
	183	NDA		183	NDA	
	184	NDA		184	NDA	
	185	NDA		185	NDA	
	186	NDA		186	NDA	
	187	NDA		187	NDA	
	188	NDA		188	NDA	
	189	NDA		189	NDA	
	190	NDA		190	NDA	
	191	NDA		191	NDA	
3	192	13	64	192	NDA	
	193	NDA		193	NDA	
4	194	15	58	194	NDA	
	195	NDA		195	NDA	
	196	NDA		196	NDA	

ESH-4 HEATH PHYSICS ANALYTICAL LABORATORIES
SWIPE ANALYSIS RESULTS REPORT

Custody Number 95004669

Alpha			Beta		
Sample Number	DPM	% 2 sigma	Sample Number	DPM	% 2 sigma
197	NDA		197	NDA	
198	NDA		198	NDA	
199	NDA		199	NDA	
200	NDA		200	NDA	

ESH-1 SMEAR SURVEY FORM

(C)

SAMPLE DESCRIPTION

Sample Date/Time: 9-2-95 No. Of Samples: 375

TA: 3 Bldg: 141- All Rooms

ICT: R W JUNG / B Cox Z Number: 106338 /

Phone/Fax: 50327 / 59427

SAMPLE TRACKING NUMBER

ESH-1 SAMPLE TRACKING

95005092

PURPOSE OF SURVEY

☐ ROUTINE ☐ PRE-JOB ☐ POST-JOB ☐ HOT JOB

☐ ITEM RELEASE ☐ OFFSITE SHIPMENT ☐ ONSITE SHIPMENT

☒ NON-ROUTINE OTHER: Release room

INSTRUMENTATION

TYPE	HSE No.	CAL DUE	% EFF	BKG

ADDITIONAL INFORMATION

☐ Occurrence No.:

☐ Incident No.:

☐ RWP No.:

Smear No.	Location	Alpha*	Beta*	Gamma*
1	See map for			
2	location of			
3	smears			
4	(calls)			
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Smear No.	Location	Alpha*	Beta*	Gamma*
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

pm/100 cm2

CORELDRW\HPALMST CDR

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				

Smear No.	Location	Alpha*	Beta*	Gamr
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				
71				
72				
73				
74				
75				
76				
77				
78				
79				
80				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
81				
82				
83				
84				
85				
86				
87				
88				
89				
90				
91				
92				
[illegible]				
94				
95				
96				
97				
98				
99				
100				
101				
102				
103				
[illegible]				
105				

Smear No.	Location	Alpha*	Beta*	Gamma
106				
107				
108				
109				
110				
111				
112				
113				
114				
115				
116				
117				
118				
119				
120				
121				
122				
123				
124				
125				
126				
127				
128				
129				
130				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
121				
132				
133				
134				
135				
136				
137				
138				
139				
140				
141				
142				
143				
144				
145				
146				
147				
148				
149				
150				
151				
152				
153				
154				
155				

Smear No.	Location	Alpha*	Beta*	Gamm
156				
157				
158				
159				
160				
161				
162				
163				
164				
165				
166				
167				
168				
169				
170				
171				
172				
173				
174				
175				
176				
177				
178				
179				
180				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
181				
182				
183				
184				
185				
186				
187				
188				
189				
190				
191				
192				
93				
194				
195				
196				
197				
198				
199				
200				
201				
202				
203				
[illegible]				
205				

Smear No.	Location	Alpha*	Beta*	Gamm
206				
207				
208				
209				
210				
211				
212				
213				
214				
215				
216				
217				
218				
219				
220				
221				
222				
223				
224				
225				
226				
227				
228				
229				
230				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
231				
232				
233				
234				
235				
236				
237				
238				
239				
240				
241				
242				
243				
244				
245				
246				
247				
248				
249				
250				
251				
252				
253				
254				
255				

Smear No.	Location	Alpha*	Beta*	Gamma
256				
257				
258				
259				
260				
261				
262				
263				
264				
265				
266				
267				
268				
269				
270				
271				
272				
273				
274				
275				
276				
277				
278				
279				
280				

ESH-1 SMEAR CONTINUATION FORM

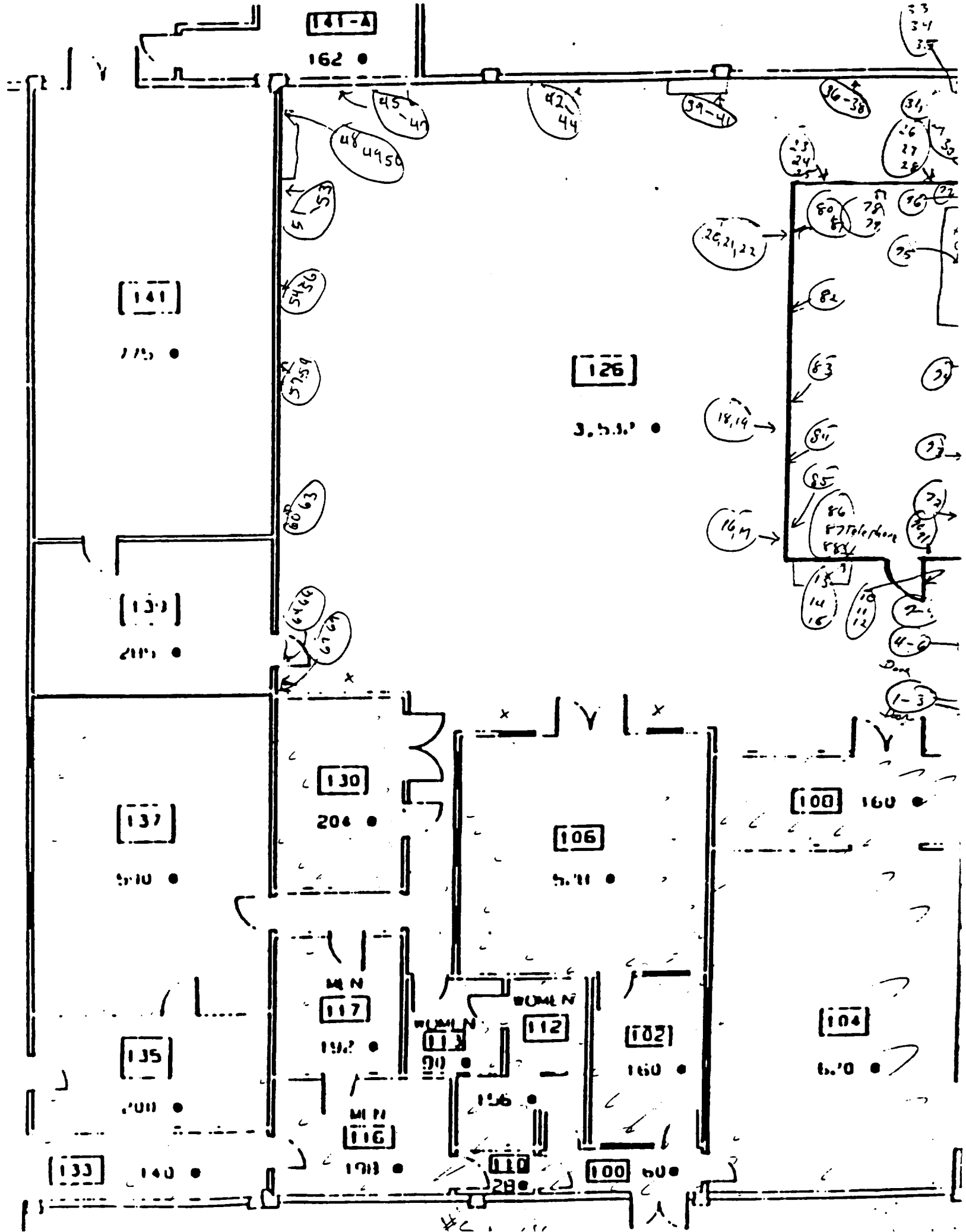
Smear No.	Location	Alpha*	Beta*	Gamma*
281				
282				
283				
284				
285				
286				
287				
288				
289				
290				
291				
292				
293				
294				
295				
296				
297				
298				
299				
300				
301				
302				
303				
[illegible]				
305				

Smear No.	Location	Alpha*	Beta*	Gamm
306				
307				
308				
309				
310				
311				
312				
313				
314				
315				
316				
317				
318				
319				
320				
321				
322				
323				
324				
325				
326				
327				
328				
329				
330				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
331				
332				
333				
334				
335				
336				
337				
338				
339				
340				
341				
342				
343				
344				
345				
346				
347				
348				
349				
350				
351				
352				
353				
354				
355				

Smear No.	Location	Alpha*	Beta*	Gamma
356				
357				
358				
359				
360				
361				
362				
363				
364				
365				
366				
367				
368				
369				
370				
371				
372				
373				
374				
375				
376				
377				
378				
379				
380				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162
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126
130
204
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106
100
160
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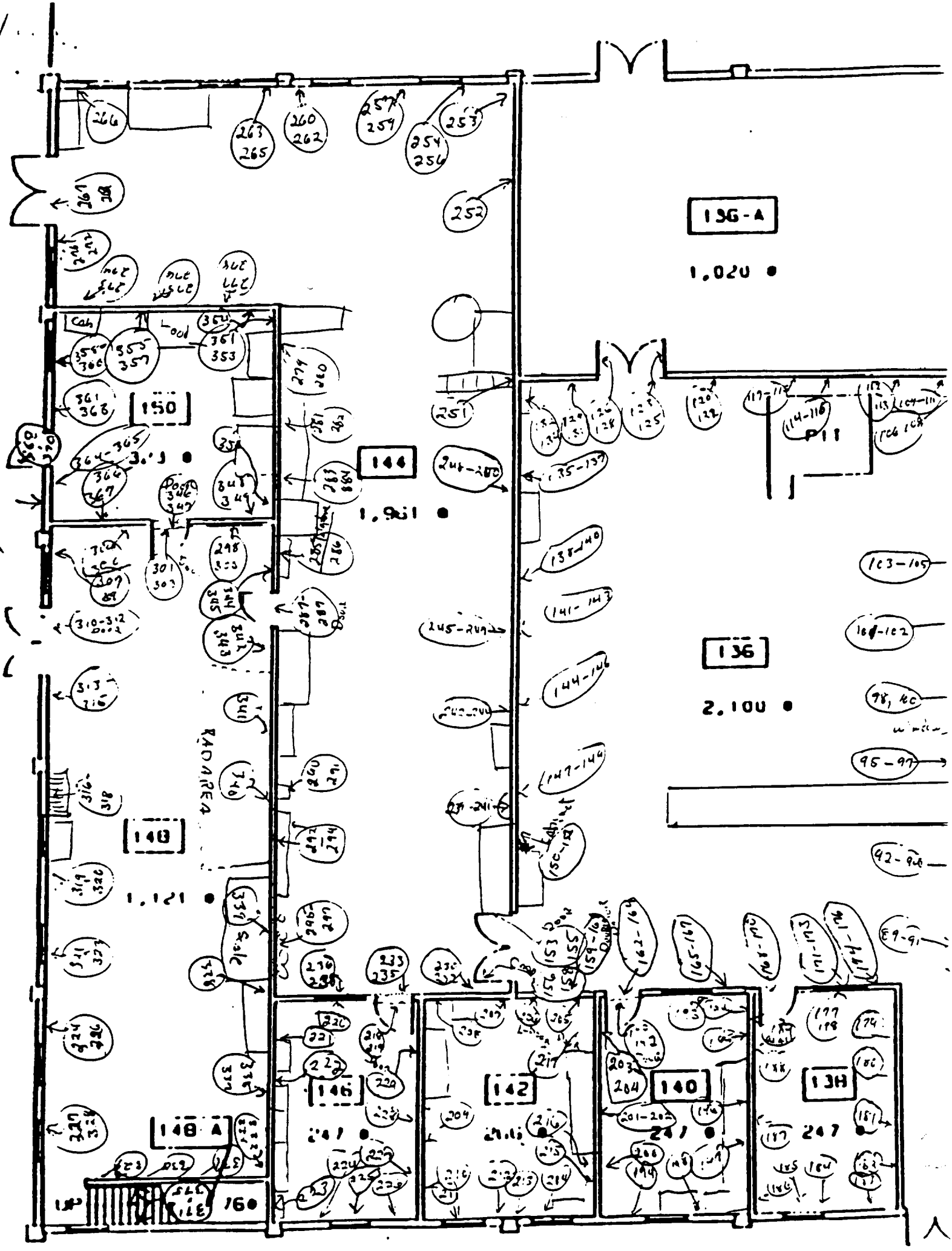
117
WOMEN
112
102
160
104
135
MEN
116
133
140
110
100
60
Telephone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150
144
1,961
136
2,100
148
1,121
RADAREA
146
142
140
138
148-A
247
247
247
P11

HPAL SUBMITTAL FORM

SAMPLE DESCRIPTION

Sample Date/Time: 8/26/95 No. Of Samples: 375

TA: 3 Bldg: 141 - All Rooms

.CT: Ru Jung Z Number: 106388

RCT Signature: Ru Jung MS: G752

Phone/Fax: 5 0329 / 5 9427

TYPE OF SAMPLE SUBMITTED

☒ Smear ☐ LAS ☐ Oils ☐ Liquid ☐ Soil ☐ Solid

☐ CAM ☐ Air Sample ☐ Nasal Swipe ☐ Wound

☐ Stack

☐ Special/Type:

ANALYSIS REQUESTED

☒ Gross (check the appropriate box) ☒ Alpha ☒ Beta ☐ Gamma

☐ Gamma Spec ☐ Alpha Spec ☐ Liquid Scint

☒ Nuclide: D 38

SAMPLE TRACKING NUMBER

ESH-1 SAMPLE TRACKING

95005092

SAMPLE PRIORITY STATUS

REMARKS

Relinquished by	Date	Time	Received by	Date	Time
Printed Name					
Signature					
Z Number					
Printed Name					
Signature					
Z Number					
Printed Name					
Signature					
Z Number					
Printed Name					
Signature					
Z Number					
Printed Name					
Signature					
Z Number					

HPAL ANALYSIS REPORT FORM

FILE: 95005092

SAMPLE DESCRIPTION	ANALYSIS REQUESTED	RCT
Sample Date: 09/07/95	Nucon Smear	Name: Russell Jung
TA: 3	LLD (cpm): Alpha = 0 Beta= 0	TA: 41
BLDG: 141	Analyst: Ron Day	MS: C348

Sample ID #	Alpha Activity dpm	2*sigma cpm	Beta Activity dpm	2*sigma cpm
1	NDA	NDA	NDA	NDA
2	NDA	NDA	NDA	NDA
3	NDA	NDA	NDA	NDA
4	NDA	NDA	NDA	NDA
5	NDA	NDA	NDA	NDA
6	NDA	NDA	NDA	NDA
7	NDA	NDA	NDA	NDA
8	NDA	NDA	NDA	NDA
9	NDA	NDA	NDA	NDA
10	NDA	NDA	NDA	NDA
11	NDA	NDA	NDA	NDA
12	NDA	NDA	NDA	NDA
13	NDA	NDA	NDA	NDA
14	NDA	NDA	NDA	NDA
15	NDA	NDA	NDA	NDA
16	NDA	NDA	NDA	NDA
17	NDA	NDA	NDA	NDA
18	NDA	NDA	NDA	NDA
19	NDA	NDA	NDA	NDA
20	NDA	NDA	NDA	NDA
21	NDA	NDA	NDA	NDA
22	NDA	NDA	NDA	NDA
23	NDA	NDA	NDA	NDA
24	NDA	NDA	NDA	NDA
25	NDA	NDA	NDA	NDA

(continued on next page)

HPAL ANALYSIS REPORT FORM
-------Page: 2 ----------
FILE: 95005092
Nucon Smear

Sample Date: 09/07/95 TA: 3 BLDG: 141

Russell Jung

Sample ID #	Alpha Activity dpm	2*sigma cpm	Beta Activity dpm	2*sigma cpm
26	NDA	NDA	NDA	NDA
27	NDA	NDA	NDA	NDA
28	NDA	NDA	NDA	NDA
29	NDA	NDA	NDA	NDA
30	NDA	NDA	NDA	NDA
31	NDA	NDA	NDA	NDA
32	NDA	NDA	NDA	NDA
33	NDA	NDA	NDA	NDA
34	NDA	NDA	NDA	NDA
35	NDA	NDA	NDA	NDA
36	NDA	NDA	NDA	NDA
37	NDA	NDA	NDA	NDA
38	NDA	NDA	NDA	NDA
39	NDA	NDA	NDA	NDA
40	NDA	NDA	NDA	NDA
41	NDA	NDA	NDA	NDA
42	NDA	NDA	NDA	NDA
43	NDA	NDA	NDA	NDA
44	NDA	NDA	NDA	NDA
45	NDA	NDA	NDA	NDA
46	NDA	NDA	NDA	NDA
47	NDA	NDA	NDA	NDA
48	NDA	NDA	NDA	NDA
49	NDA	NDA	NDA	NDA
50	NDA	NDA	NDA	NDA
51	NDA	NDA	NDA	NDA
52	NDA	NDA	NDA	NDA
53	NDA	NDA	NDA	NDA
54	NDA	NDA	NDA	NDA
55	NDA	NDA	NDA	NDA

(continued on next page)

HPAL ANALYSIS REPORT FORM
-------Page: 3 ----------
FILE: 95005092
Nucon Smear

Sample Date: 09/07/95 TA: 3 BLDG: 141

Russell Jung

Sample ID #	Alpha Activity dpm	2*sigma cpm	Beta Activity dpm	2*sigma cpm
56	NDA	NDA	NDA	NDA
57	NDA	NDA	NDA	NDA
58	NDA	NDA	NDA	NDA
59	NDA	NDA	NDA	NDA
60	NDA	NDA	NDA	NDA
61	NDA	NDA	NDA	NDA
62	NDA	NDA	NDA	NDA
63	NDA	NDA	NDA	NDA
64	NDA	NDA	NDA	NDA
65	NDA	NDA	NDA	NDA
66	NDA	NDA	NDA	NDA
67	NDA	NDA	NDA	NDA
68	NDA	NDA	NDA	NDA
69	NDA	NDA	NDA	NDA
70	NDA	NDA	NDA	NDA
71	NDA	NDA	NDA	NDA
72	NDA	NDA	NDA	NDA
73	NDA	NDA	NDA	NDA
74	NDA	NDA	NDA	NDA
75	NDA	NDA	NDA	NDA
76	NDA	NDA	NDA	NDA
77	NDA	NDA	NDA	NDA
78	NDA	NDA	NDA	NDA
79	NDA	NDA	NDA	NDA
80	NDA	NDA	NDA	NDA
81	NDA	NDA	NDA	NDA
82	NDA	NDA	NDA	NDA
83	NDA	NDA	NDA	NDA
84	NDA	NDA	NDA	NDA
85	NDA	NDA	NDA	NDA

(continued on next page)

HPAL ANALYSIS REPORT FORM
-------Page: 4 ----------
FILE: 95005092
Nucon Smear

Sample Date: 09/07/95 TA: 3 BLDG: 141

Russell Jung

Sample ID #	Alpha Activity dpm	2*sigma cpm	Beta Activity dpm	2*sigma cpm
86	NDA	NDA	NDA	NDA
87	NDA	NDA	NDA	NDA
88	NDA	NDA	NDA	NDA
89	NDA	NDA	NDA	NDA
90	NDA	NDA	NDA	NDA
91	NDA	NDA	NDA	NDA
92	NDA	NDA	NDA	NDA
93	NDA	NDA	NDA	NDA
94	NDA	NDA	NDA	NDA
95	NDA	NDA	NDA	NDA
96	NDA	NDA	NDA	NDA
97	NDA	NDA	NDA	NDA
98	NDA	NDA	NDA	NDA
99	NDA	NDA	NDA	NDA
100	NDA	NDA	NDA	NDA
101	NDA	NDA	NDA	NDA
102	NDA	NDA	NDA	NDA
103	NDA	NDA	NDA	NDA
104	NDA	NDA	NDA	NDA
105	NDA	NDA	NDA	NDA
106	NDA	NDA	NDA	NDA
107	NDA	NDA	NDA	NDA
108	NDA	NDA	NDA	NDA
109	NDA	NDA	NDA	NDA
110	NDA	NDA	NDA	NDA
111	NDA	NDA	NDA	NDA
112	NDA	NDA	NDA	NDA
113	NDA	NDA	NDA	NDA
114	NDA	NDA	NDA	NDA
115	NDA	NDA	NDA	NDA

(continued on next page)

HPAL ANALYSIS REPORT FORM
-------Page: 5 ----------
FILE: 95005092
Nucon Smear

Sample Date: 09/07/95 TA: 3 BLDG: 141

Russell Jung

Sample ID #	Alpha Activity dpm	2*sigma cpm	Beta Activity dpm	2*sigma cpm
116	NDA	NDA	NDA	NDA
117	NDA	NDA	NDA	NDA
118	NDA	NDA	NDA	NDA
119	NDA	NDA	NDA	NDA
120	NDA	NDA	NDA	NDA
121	NDA	NDA	NDA	NDA
122	NDA	NDA	NDA	NDA
123	NDA	NDA	NDA	NDA
124	NDA	NDA	NDA	NDA
125	NDA	NDA	NDA	NDA
126	NDA	NDA	NDA	NDA
127	NDA	NDA	NDA	NDA
128	NDA	NDA	NDA	NDA
129	NDA	NDA	NDA	NDA
130	NDA	NDA	NDA	NDA
131	NDA	NDA	NDA	NDA
132	NDA	NDA	NDA	NDA
133	NDA	NDA	NDA	NDA
134	NDA	NDA	NDA	NDA
135	NDA	NDA	NDA	NDA
136	NDA	NDA	NDA	NDA
137	NDA	NDA	NDA	NDA
138	NDA	NDA	NDA	NDA
139	NDA	NDA	NDA	NDA
140	NDA	NDA	NDA	NDA
141	NDA	NDA	NDA	NDA
142	NDA	NDA	NDA	NDA
143	NDA	NDA	NDA	NDA
144	NDA	NDA	NDA	NDA
145	NDA	NDA	NDA	NDA

(continued on next page)

HPAL ANALYSIS REPORT FORM
-------Page: 6 ----------
FILE: 95005092
Nucon Smear

Sample Date: 09/07/95 TA: 3 BLDG: 141

Russell Jung

Sample ID #	Alpha Activity dpm	2*sigma cpm	Beta Activity dpm	2*sigma cpm
146	NDA	NDA	NDA	NDA
147	NDA	NDA	NDA	NDA
148	NDA	NDA	NDA	NDA
149	NDA	NDA	NDA	NDA
150	NDA	NDA	NDA	NDA
151	NDA	NDA	NDA	NDA
152	NDA	NDA	NDA	NDA
153	NDA	NDA	NDA	NDA
154	NDA	NDA	NDA	NDA
155	NDA	NDA	NDA	NDA
156	NDA	NDA	NDA	NDA
157	NDA	NDA	NDA	NDA
158	NDA	NDA	NDA	NDA
159	NDA	NDA	NDA	NDA
160	NDA	NDA	NDA	NDA
161	NDA	NDA	NDA	NDA
162	NDA	NDA	NDA	NDA
163	NDA	NDA	NDA	NDA
164	NDA	NDA	NDA	NDA
165	NDA	NDA	NDA	NDA
166	NDA	NDA	NDA	NDA
167	NDA	NDA	NDA	NDA
168	NDA	NDA	NDA	NDA
169	NDA	NDA	NDA	NDA
170	NDA	NDA	NDA	NDA
171	NDA	NDA	NDA	NDA
172	NDA	NDA	NDA	NDA
173	NDA	NDA	NDA	NDA
174	NDA	NDA	NDA	NDA
175	NDA	NDA	NDA	NDA
176	NDA	NDA	NDA	NDA
177	NDA	NDA	NDA	NDA
178	NDA	NDA	NDA	NDA

180	NDA	NDA	NDA	NDA
181	NDA	NDA	NDA	NDA
182	NDA	NDA	NDA	NDA
183	NDA	NDA	NDA	NDA
184	NDA	NDA	NDA	NDA
185	NDA	NDA	NDA	NDA
186	NDA	NDA	NDA	NDA
187	NDA	NDA	NDA	NDA
188	NDA	NDA	NDA	NDA
189	NDA	NDA	NDA	NDA
190	NDA	NDA	NDA	NDA
191	NDA	NDA	NDA	NDA
192	NDA	NDA	NDA	NDA
193	NDA	NDA	NDA	NDA
194	NDA	NDA	NDA	NDA
195	NDA	NDA	NDA	NDA
196	NDA	NDA	NDA	NDA
197	NDA	NDA	NDA	NDA
198	NDA	NDA	NDA	NDA
199	NDA	NDA	NDA	NDA
200	NDA	NDA	NDA	NDA
201	NDA	NDA	NDA	NDA
202	NDA	NDA	NDA	NDA
203	NDA	NDA	NDA	NDA
204	NDA	NDA	NDA	NDA
205	NDA	NDA	38	N/A
206	NDA	NDA	NDA	NDA
207	NDA	NDA	NDA	NDA
208	NDA	NDA	NDA	NDA
209	NDA	NDA	NDA	NDA
210	NDA	NDA	NDA	NDA
211	NDA	NDA	NDA	NDA
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213	NDA	NDA	NDA	NDA
214	NDA	NDA	NDA	NDA
215	NDA	NDA	NDA	NDA
216	NDA	NDA	NDA	NDA
217	NDA	NDA	NDA	NDA
218	NDA	NDA	NDA	NDA
219	NDA	NDA	NDA	NDA
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221	NDA	NDA	NDA	NDA
222	NDA	NDA	NDA	NDA
223	NDA	NDA	NDA	NDA
224	NDA	NDA	NDA	NDA
225	NDA	NDA	NDA	NDA
6	NDA	NDA	NDA	NDA

227	NDA	NDA	NDA	NDA
228	NDA	NDA	NDA	NDA
229	NDA	NDA	NDA	NDA
230	NDA	NDA	NDA	NDA
231	NDA	NDA	NDA	NDA
232	NDA	NDA	NDA	NDA
233	NDA	NDA	NDA	NDA
234	NDA	NDA	NDA	NDA
235	NDA	NDA	NDA	NDA
236	NDA	NDA	NDA	NDA
237	NDA	NDA	NDA	NDA
238	14	N/A	NDA	NDA
239	NDA	NDA	NDA	NDA
240	NDA	NDA	NDA	NDA
241	NDA	NDA	NDA	NDA
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245	NDA	NDA	NDA	NDA
246	NDA	NDA	NDA	NDA
247	NDA	NDA	NDA	NDA
248	NDA	NDA	NDA	NDA
249	NDA	NDA	NDA	NDA
250	NDA	NDA	NDA	NDA
251	NDA	NDA	NDA	NDA
252	NDA	NDA	43	N/A
253	NDA	NDA	NDA	NDA
254	NDA	NDA	NDA	NDA
255	NDA	NDA	NDA	NDA
256	NDA	NDA	NDA	NDA
257	NDA	NDA	NDA	NDA
258	NDA	NDA	NDA	NDA
259	NDA	NDA	NDA	NDA
260	NDA	NDA	NDA	NDA
261	NDA	NDA	NDA	NDA
262	NDA	NDA	NDA	NDA
263	NDA	NDA	NDA	NDA
264	NDA	NDA	NDA	NDA
265	NDA	NDA	NDA	NDA
266	NDA	NDA	NDA	NDA
267	NDA	NDA	NDA	NDA
268	NDA	NDA	NDA	NDA
269	NDA	NDA	NDA	NDA
270	NDA	NDA	NDA	NDA
271	NDA	NDA	NDA	NDA
272	NDA	NDA	NDA	NDA
273	NDA	NDA	NDA	NDA
274	NDA	NDA	NDA	NDA

276	NDA	NDA	NDA	NDA
277	NDA	NDA	NDA	NDA
278	NDA	NDA	NDA	NDA
279	NDA	NDA	NDA	NDA
280	NDA	NDA	NDA	NDA
281	NDA	NDA	NDA	NDA
282	NDA	NDA	NDA	NDA
283	NDA	NDA	NDA	NDA
284	NDA	NDA	NDA	NDA
285	NDA	NDA	NDA	NDA
286	NDA	NDA	NDA	NDA
287	NDA	NDA	NDA	NDA
288	NDA	NDA	NDA	NDA
289	NDA	NDA	NDA	NDA
290	NDA	NDA	NDA	NDA
291	NDA	NDA	NDA	NDA
292	NDA	NDA	NDA	NDA
293	NDA	NDA	NDA	NDA
294	NDA	NDA	NDA	NDA
295	NDA	NDA	NDA	NDA
296	NDA	NDA	NDA	NDA
297	NDA	NDA	NDA	NDA
298	NDA	NDA	NDA	NDA
299	NDA	NDA	NDA	NDA
300	NDA	NDA	NDA	NDA
301	NDA	NDA	NDA	NDA
302	NDA	NDA	NDA	NDA
303	NDA	NDA	NDA	NDA
304	NDA	NDA	NDA	NDA
305	NDA	NDA	NDA	NDA
306	NDA	NDA	NDA	NDA
307	NDA	NDA	NDA	NDA
308	NDA	NDA	NDA	NDA
309	NDA	NDA	NDA	NDA
310	23	N/A	78	N/A
311	NDA	NDA	NDA	NDA
312	NDA	NDA	17	N/A
313	NDA	NDA	NDA	NDA
314	NDA	NDA	NDA	NDA
315	NDA	NDA	NDA	NDA
316	NDA	NDA	NDA	NDA
317	NDA	NDA	NDA	NDA
318	NDA	NDA	NDA	NDA
319	NDA	NDA	NDA	NDA
320	NDA	NDA	NDA	NDA
321	NDA	NDA	NDA	NDA
2	NDA	NDA	NDA	NDA

324	NDA	NDA	NDA	NDA
325	NDA	NDA	NDA	NDA
326	NDA	NDA	NDA	NDA
327	NDA	NDA	NDA	NDA
328	NDA	NDA	NDA	NDA
329	NDA	NDA	NDA	NDA
330	NDA	NDA	NDA	NDA
331	NDA	NDA	NDA	NDA
332	NDA	NDA	NDA	NDA
333	NDA	NDA	NDA	NDA
334	NDA	NDA	NDA	NDA
335	NDA	NDA	NDA	NDA
336	NDA	NDA	NDA	NDA
337	NDA	NDA	NDA	NDA
338	NDA	NDA	NDA	NDA
339	NDA	NDA	NDA	NDA
340	NDA	NDA	NDA	NDA
341	NDA	NDA	NDA	NDA
342	NDA	NDA	NDA	NDA
343	NDA	NDA	NDA	NDA
344	NDA	NDA	NDA	NDA
345	NDA	NDA	NDA	NDA
346	NDA	NDA	NDA	NDA
347	NDA	NDA	NDA	NDA
348	NDA	NDA	NDA	NDA
349	NDA	NDA	NDA	NDA
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351	NDA	NDA	NDA	NDA
352	NDA	NDA	NDA	NDA
353	NDA	NDA	NDA	NDA
354	NDA	NDA	NDA	NDA
355	NDA	NDA	NDA	NDA
356	NDA	NDA	NDA	NDA
357	NDA	NDA	NDA	NDA
358	NDA	NDA	NDA	NDA
359	NDA	NDA	NDA	NDA
360	NDA	NDA	NDA	NDA
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362	NDA	NDA	NDA	NDA
363	NDA	NDA	NDA	NDA
364	NDA	NDA	NDA	NDA
365	NDA	NDA	NDA	NDA
366	NDA	NDA	NDA	NDA
367	NDA	NDA	NDA	NDA
368	NDA	NDA	NDA	NDA
369	NDA	NDA	NDA	NDA
370	NDA	NDA	NDA	NDA

372	NDA	NDA	NDA	NDA
373	NDA	NDA	NDA	NDA
374	NDA	NDA	NDA	NDA
375	NDA	NDA	NDA	NDA

ESH-1 SMEAR SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 10/14/95 No. Of Samples: 125

TA: 3 Bldg: 141

RCT: Rufung Z Number: 106388

Phone/Fax: 50327 / 59427

R Cox, B Jung & S. Siddoway

SAMPLE TRACKING NUMBER

ESH-1 SAMPLE TRACKING

95005104

PURPOSE OF SURVEY

☐ ROUTINE ☐ PRE-JOB ☐ POST-JOB ☐ HOT-JOB

☐ ITEM RELEASE ☐ OFFSITE SHIPMENT ☐ ONSITE SHIPMENT

☒ NON-ROTINE/OTHER: Baseline

INSTRUMENTATION

TYPE	HSE No.	CAL DUE	% EFF	BKG
for KC				

ADDITIONAL INFORMATION

☐ Occurrence No.:

☐ Incident No.: NA

☐ RWP No.:

Smear No.	Location	Alpha*	Beta*	Gamma*
1	See next			
2	Page —			
3	START @			
4	#376-500			
5				
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Smear No.	Location	Alpha*	Beta*	Gamma*
16				
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* dpm/100 cm2

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
331				
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Smear No.	Location	Alpha*	Beta*	Gam
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366				
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372				
373				
374				
375				
376	See MAP for	NDA	NDA	
377	Location of			
378	Smears!			
379				
380				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
381		NDA	NDA	
382				
383				
384				
385				
386				
387				
388				
389				
390				
391				
392				
393				
394		7		
395		NDA		
396		26	61	
397		13	15	
398		49	96	
399		25	48	
400		NDA	NDA	
401		12	23	
402		NDA	15	
403		8.7	21	
404		NDA	NDA	
405		9	16	

Smear No.	Location	Alpha*	Beta*	Ga
406		NDA	NDA	
407			11	
408			NDA	
409				
410				
411				
412				
413				
414				
415			10	
416			NDA	
417				
418				
419				
420				
421				
422				
423				
424				
425				
426				
427		16	48	
428		NDA	NDA	
429				
430				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
~~431~~ 431	(continued)	NDA	NDA	
432				
433				
434				
435				
436				
437				
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453				
454				
455		8U		

Smear No.	Location	Alpha*	Beta*	Ga
456		NDA	NDA	
457				
458				
459				
460				
461				
462				
463				
464				
465				
466				
467				
468				
469				
470				
471				
472			13	
473			NDA	
474			NDA	
475				
476				
477				
478				
479				
480				

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
481		NDA	NDA	
482				
483				
484				
485				
486				
487				
488				
489				
490				
491				
492				
3				
494		8	15	
495		NDA	NDA	
496				
497				
498				
499				
500		36	68	
501				
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503				
504				
505				

Smear No.	Location	Alpha*	Beta*	Gam
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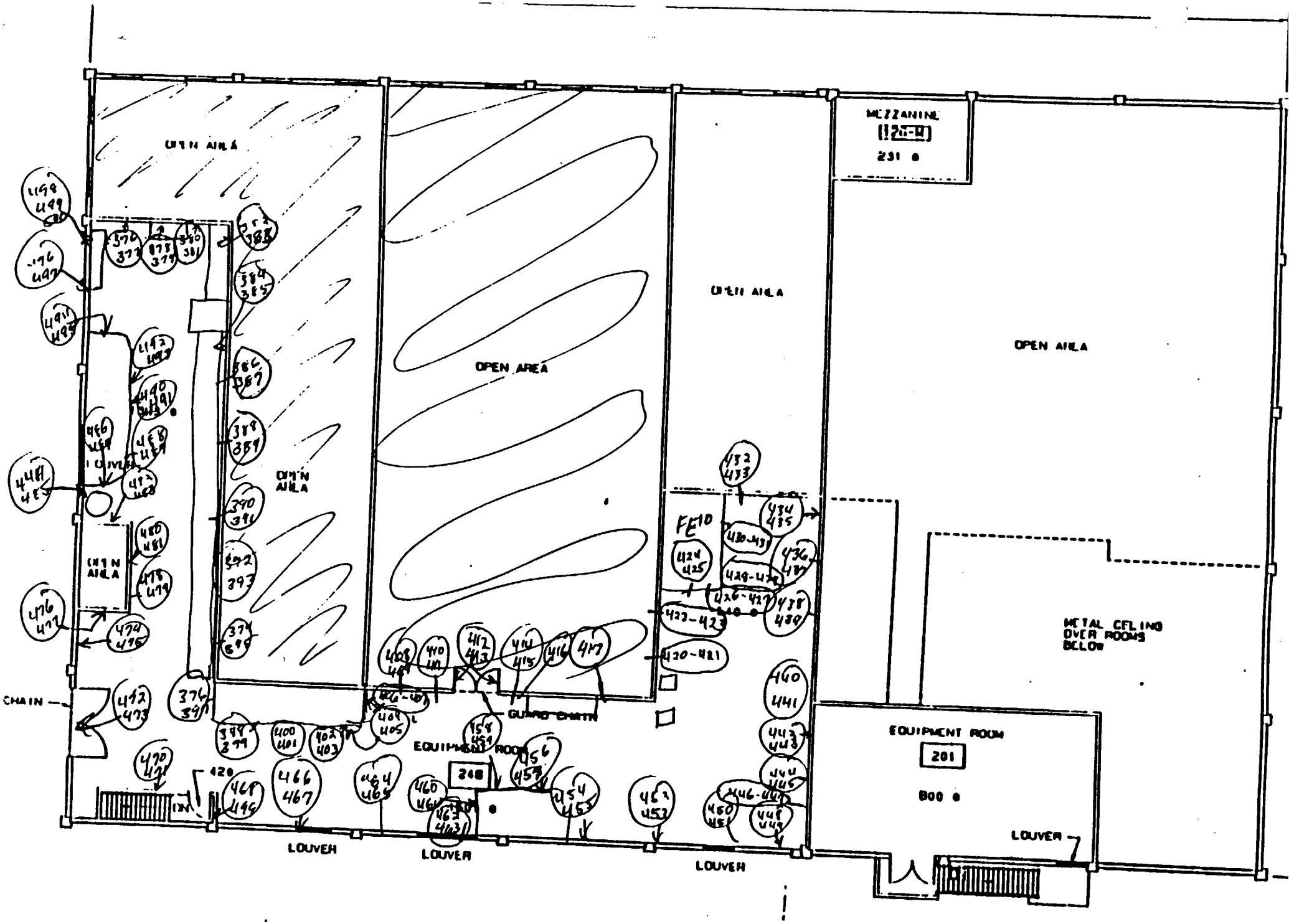
MEZZANINE
231
OPEN AREA
OPEN AREA
OPEN AREA
OPEN AREA
OPEN AREA
OPEN AREA
METAL CEILING OVER ROOMS BELOW
EQUIPMENT ROOM
248
EQUIPMENT ROOM
201
800
CHAIN
GUARD CHAIN
LOUVER
LOUVER
LOUVER
LOUVER

376-500

ESH-1 SMEAR SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 10/14/95 No. Of Samples: 350

TA: 3 Bldg: 141 –

PCT: R W JUNG Z Number: 106338

Phone/Fax: 50327 / 59427

B. Cox, S. Siddaway

PURPOSE OF SURVEY

☐ ROUTINE ☐ PRE-JOB ☐ POST-JOB ☐ HOT JOB

☐ ITEM RELEASE ☐ OFFSITE SHIPMENT ☐ ONSITE SHIPMENT

☒ NON-ROUTINE/~~OTHER~~: Baseline - items

ADDITIONAL INFORMATION

☐ Occurrence No.:

☐ Incident No.: NA

☐ RWP No.:

SAMPLE TRACKING NUMBER

ESH-1 SAMPLE TRACKING

95005103

INSTRUMENTATION

TYPE	HSE No.	CAL DUE	% EFF	BK
for KC				

Smear No.	Location	Alpha*	Beta*	Gamma*
1	Graphite Cylinder	NDA	10	
2	Chart Recorder	10	27	
3	Cabinet - Top	10	16	
4	" Front	NDA	NDA	
5	" Sides	↓	↓	
6	Table - Top	↓	↓	
7	" Legs	↓	↓	
8	Wood Box	6	29	
9	Cardboard Boxes	NDA	12	
10	Display Case	↓	12	
11	Graphite Items	↓	NDA	
12	Matrex assemb	↓	↓	
13	Light Tubes	↓	11	
14	Transformer Top	7	NDA	
15	" Sides	7	↓	

Smear No.	Location	Alpha*	Beta*	Gam
16	Transformer Stand	11	28	
17	Chamber	NDA	NDA	
18	Galvanized Pail	↓	↓	
19	Yellow Mop Bucket Outside	↓	↓	
20	" " " Inside	18	59	
21	Power Controller Top	NDA	22	
22	" " Front	↓	NDA	
23	" " Sides	8	↓	
24	Chair	NDA	10	
25	Black Step ladder	35	122	
26	Cabinet - Top	NDA	29 ~~[illegible]~~	
27	" Front	↓	↓	
28	" Sides	↓	↓	
29	Orange Trucks	105	577	
30	Workbench - Top	16	66	

pm/100 cm2

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
31	Work Bench Top Left Drawer	7	45	
32	Top 2nd Drawer	NDA	12	
33	Top 3rd Drawer	7	17	
34	Top Right Drawer	19	74	
35	2nd Left Drawer	165	603	
36	2nd Right Drawer	147	441	
37	3rd Drawer	14	17	
38	4th Drawer	17	31	
39	Drawer Faces	NDA	22	
40	Electronics Top		NDA	
41	Electronics Front			
42	" Sides			
43	Pump Ori Barrel outside			
44	Barrel Dollie	12	72	
45	Ram	83	423	
46	Red Dollie Left Handle	8	NDA	
47	" " " Cable	16		
48	" " " Frame	13		
49	" " " Platform	NDA	10	
50	Rack - Top	50	244	
51	" - Legs	82	293	
52	Crane Pedastal	NDA	NDA	
53	Electron. Rack Top	7		
54	" " Front	NDA		
55	" " Sides	NDA		

Smear No.	Location	Alpha*	Beta*	Gar
56	Chamber - Top	NDA	NDA	
57	" West Side			
58	" Filter			
59	Crane Chain			
60	Gasket Rack			
61	Cabinet - Top	28	38	
62	" Front	NDA	NDA	
63	" Sides	7		
64	Cabinet - Top	30	50	
65	" Front	7	NDA	
66	" Top Shelf	NDA		
67	" 2nd Shelf		9	
68	" 3rd Shelf		NDA	
69	" 4th Shelf			
70	" 5th Shelf			
71	" 6th Shelf			
72	" Bottom Shelf			
73	Cabinet - Top	10	36	
74	" Front	NDA	NDA	
75	" Top Shelf			
76	" 2nd Shelf			
77	" 3rd Shelf	19	45	
78	" 3rd Shelf Contents	15	27	
79	Cabinet Top	17	34	
80	" Face	NDA	NDA	

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
81	Cabinet Top Shelf	NDA	NDA	
82	" 2nd Shelf			
83	" 3rd Shelf			
84	" 4th Shelf			
85	" 5th Shelf		10	
86	" Shelf Bottom		NDA	
87	" Side	8.3	9.0	
88	Oven - Top	NDA	NDA	
89	" Front			
90	" Sides			
1	" Inner Door			
2	" Inside		14	
[illegible]	Oven Stand Shelf		44	
94	Vacuum Pump		NDA	
95	Hood Door			
96	" Inside Left	83	243	
97	" Inside Right	1730	6911	
98	" Bottom	46	138	
99	" Drawer Top Left	17	52	
100	" 2nd Left	NDA	NDA	
101	" 3rd Left		14	
102	" Top Right		NDA	
103	" 2nd Right		28	
[illegible]	" 3rd Right		25	
105	" Cabinet		NDA	

Smear No.	Location	Alpha*	Beta*	Gamm
106	Hood - Face	7	19	
107	Hood - Top	NDA	NDA	
108	" Bottom	230	628	
109	" ~~Inside~~ Left	2552	11045	
110	" Inside Right	595	2019	
111	" Top left	28	47	
112	" 2nd Left	13	24	
113	" 3rd Left	12	36	
114	" 4th Left	NDA	22	
115	" Top Right		NDA	
116	" 2nd Right	120	285	
117	" 3rd Right	NDA	13	
118	" Cabinet Shelf		NDA	
119	" Cabinet Bottom Shelf		12	
120	" BLK Can		NDA	
121	" sm Vacuum	28	34	
122	" RM Can M-77	NDA	NDA	
123	" Drawer Face		14	
124	Hood - Glass		14	
125	" Bottom	76	11	
126	" Left	234	798	
127	" Right	98	360	
128	" Drawer's Top Left	14	48	
129	" Top Right	207	562	
130	" 2nd Drawer	12	11	

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
131	Hood 3rd Drawer	NDA	11	
132	" Bottom Dr	26	83	
133	" Cabinet	NDA	NDA	
134	" Cabinet Contents	↓	↓	
135	" Face	8	21	
136	Transformer Top	21	71	
137	" Front	NDA	NDA	
138	Mercralac Motor Pump		16	
139	" " Chamber		11	
140	Glove Box Back		NDA	
141	" " Oven outside		14	
142	Oven inside		NDA	
143	Glove Box Back	↓	14	
144	" " Pass thru	10	14	
145	Glove Box Back	NDA	NDA	
146	" " Back	↓	NDA ~~1893~~	
147	Cabinet Sink	275	1893 ~~1326~~	
148	" Top Right	317	1326 ~~96~~	
149	" " Center	38	96 ~~156~~	
150	" " Left	47	188 ~~27~~	
151	Cabinet Face Right	16	27 ~~13~~	
152	" Shelf under sink	NDA	13 ~~NDA~~	
153	" Face Center			
154	" Top Shelf			
155	" Bottom "	↓	↓	

Smear No.	Location	Alpha*	Beta*	Gam
156	Cabinet Drawers Top	NDA	NDA	
157	" 2nd	↓	↓	
158	" 3rd			
159	" Bottom			
160	" Face Left	9	29	
161	" Shelf	10	20	
162	" Shelf Contents	595	29	
163	" Drawers Top	NDA	NDA	
164	" 2nd	↓	↓	
165	" 3rd			
166	" Bottom	28	42	
167	Rad Waste Can	21	126	
168	" " Box	NDA	26	
169	Press Frame	47	110	
170	" Ram	1001	2517	
171	" Plate	28	60	
172	Press Cart	16	95	
173	" " Lower Shelf	18	26	
174	Table	16	89	
175	Hood - inside	17	31	
176	Table Bottom Shelf	NDA	31	
177	" Left Drawer		NDA	
178	" Right "		10	
179	Glove Box inside	NDA	NDA	
180	" " inside	20	21	

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
181	Glove Box Glass Face	NDA	NDA	
182	" " Front Panel			
183	Glove Box - Glass Plate			
184	" " Front Panel			
185	Glove Box Pass Thru			
186	Sony Monitor			
187	Monitor Cart		26	
188	VCR		NDA	
189	Monitor Cart Bottom shelf		10	
190	Electronics - Top		NDA	
191	" Face			
192	" Right Side			
193	" Left Side			
194	" Back			
195	Furnace	8	32	
196	" Stand	121	161	
197	" Pump	NDA	NDA	
198	" " Catch Pan			
199	Step Ladder			
200	Door Panel			
201	Ladder Top			
202	" Steps			
203	Roller System	8	14	
204	Cabinet - Top	NDA	NDA	
205	" Top Shelf		10	

Smear No.	Location	Alpha*	Beta*	Gamma
206	Cabinet 2nd Shelf	13	20	
207	" 3rd	NDA	NDA	
208	" 4th	6	10	
209	" 5th	NDA	NDA	
210	" Bottom	7		
211	" Face	NDA		
212	Shelving Top			
213	" 1st Shelf			
214	" 2nd "	8		
215	" 3rd "	8		
216	" 4th "	NDA		
217	" 5th "		21	
218	" Bottom "		11	
219	Waste Barrel		NDA	
220	Power-Trak - Face			
221	" " Top			
222	" " Sides			
223	" " Back			
224	Red Ladder	11	27	
225	Lg Blue Coil	NDA	NDA	
226	Sm Blue Coil			
227	Aluminum Pipe			
228	Hydraulic Ram			
229	Top of Press			
230	Chamber	10		

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
231	Controls for Press	NDA	11	
232	Compressor	↓	10	
233	Bootie Bin	↓	12	
234	Rag Box	8	30	
235	Felt Box	NDA	NDA	
236	Fresker Station Drawers	↓	↓	
237	" Top	↓	↓	
238	" Side	↓	↓	
239	Rm 150 Waste Box	↓	↓	
240	Furnace	11	38	
241	" Cart Top	14	56	
242	" " Bottom	168	607	
243	Lg Blue Cart-Top	38	89	
244	" " " Bottom	10	38	
245	" " " Items	57	100	
246	Lights	NDA	15	
247	Hood Upper Face	↓	9	
248	Hood Inside	452	1305	
249	" Left Top Drawer	40	75	
250	" Right Top Drawer	9	35	
251	" Middle Drawer	112	300	
252	" Cabinet	43	100 ~~NDA~~	
253	" Drawer Face	NDA	NDA	
254	" Sides	26	48	
255	Hood Top Upper Face	NDA	17	

Smear No.	Location	Alpha*	Beta*	Gamm
256	Hood Inside	220	542	
257	" Drawer Left	25	46	
258	" " Right	40	87	
259	" Middle Drawer	85	140	
260	" " " contents	23	56	
261	" Cabinet	25	66	
262	" " contents	22	38	
263	" Drawer Face	NDA	14	
264	" Sides	↓	26	
265	Rad Materials Cabinet Top	↓	16	
266	" Top Shelf	29	56	
267	" 2nd Shelf	21	58	
268	" 3rd "	245	698	
269	" 4th "	58	191	
270	" 5th "	NDA	NDA	
271	" Top Contents	14	18	
272	" 2nd Contents	9	28	
273	" 3rd Contents	16	75	
274	" 4th Contents	69	~~72~~ 150	
275	" Bottom Contents	70	117	
276	" Face	NDA	NDA	
277	" Sides	7	↓	
278	Autoclave Top	NDA	↓	
279	" Control Panel	9	23	
280	" Left Side	NDA	NDA	

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
281	Auto Clave Right Side	NDA	11	
282	Hood Upper Face	NDA	21	
283	" Inside Left	146	543	
284	" Inside Right	40	452	
285	" Sink	1866	13124	✓
286	" Drawers Left Top	48	86	
287	" Left 2nd	40	81	
288	" Right Top	43	74	
289	" Right 2nd	42	111	
290	" Right 3rd	NDA	13	
291	" Lg Drawer Top	↓	13	
292	" Contents	16	23	
293	" Lg Drawer Bottom	114	143	
294	" Cabinet	215	705	
295	" Drawers Face	NDA	12	
296	" Left Side	8	33	
297	" Right Side	NDA	31	
298	Metal Sample Can	9	16	
299	Blue Can	7	18	
300	Metal RM Bucket	NDA	16	
301	Plastic " "	71	9	
302	Cabinet Top	NDA	NDA	
303	" Front	↓	↓	
304	" Sides	↓	8	
305	Top Shelf	↓	NDA	

Smear No.	Location	Alpha*	Beta*	Gamma*
306	Cabinet - 2nd Shelf	NDA	NDA	
307	" 3rd "	↓	↓	
308	" 4th "	↓	↓	
309	" Bottom "	↓	↓	
310	" Contents	↓	↓	
311	Bottle/Meter	30	30	
312	Tungsten Can	407	1715	
313	Lg Drum Top	NDA	NDA	
314	" " Side Seam	↓	↓	
315	" " Side	↓	↓	
316	" " Bottom	21	81	
317	Sm Drum Top	NDA	NDA	
318	" " Seam Side	↓	↓	
319	" " Side	↓	↓	
320	" " Bottom	↓	↓	
321	Grinder/Blender	↓	↓	
322	" " Inside	104	33	
323	Grinder - Motor	NDA	18	
324	" Funnel	14	38	
325	" Table	22	85	
326	" " Bottom	NDA	NDA	
327	Contents	↓	↓	
328	Can	93	58	
329	Rad Waste Can	48	29	
330	Poly Rag Can	12	41	

ESH-1 SMEAR CONTINUATION FORM

Smear No.	Location	Alpha*	Beta*	Gamma*
331	White Cart - Top	101	489	
332	" " Bottom	NDA	19	
333	Press - Catch Pan	14	33	
334	" Ram	7	12	
335	" pressure gauging	NDA	NDA	
336	" Hydraulic Pump	12	15	
337	" Piston	NDA	15	
338	" Top of Cabinet	15	44	
339	" Side	14	26	
340	" end	10	11	
341	" Side	NDA	NDA	
342	" Attached Plate			
343	Ladder			
344	Press Controls Side			
345	Blender exterior			
346	" Interior			
347	" Motors			
348	" Catch Pan			
349	" ~~Top~~ Bottom Shelf			
350	" Mixing Bowl			
351				
352				
353				
354				
355				

Smear No.	Location	Alpha*	Beta*	Gamm
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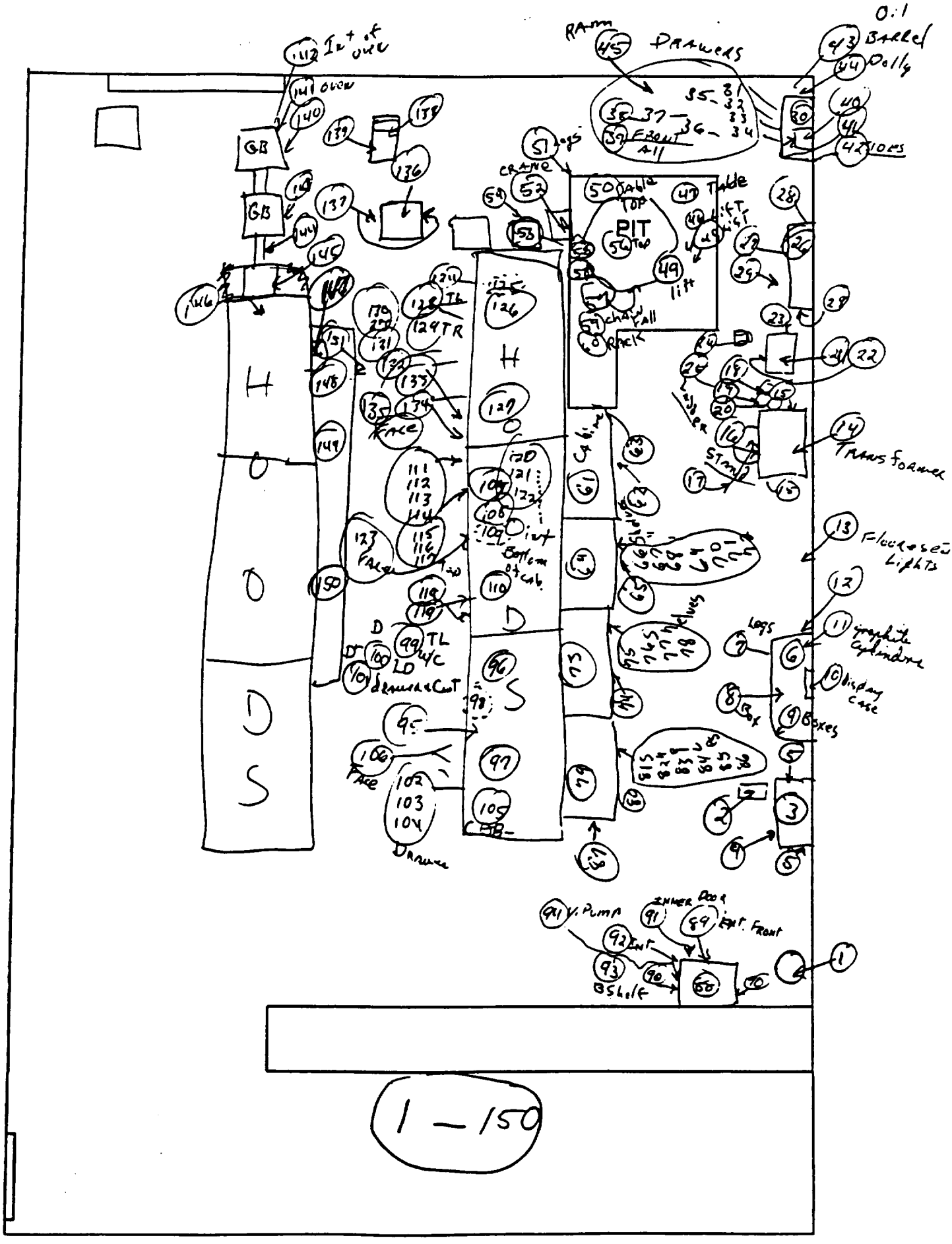
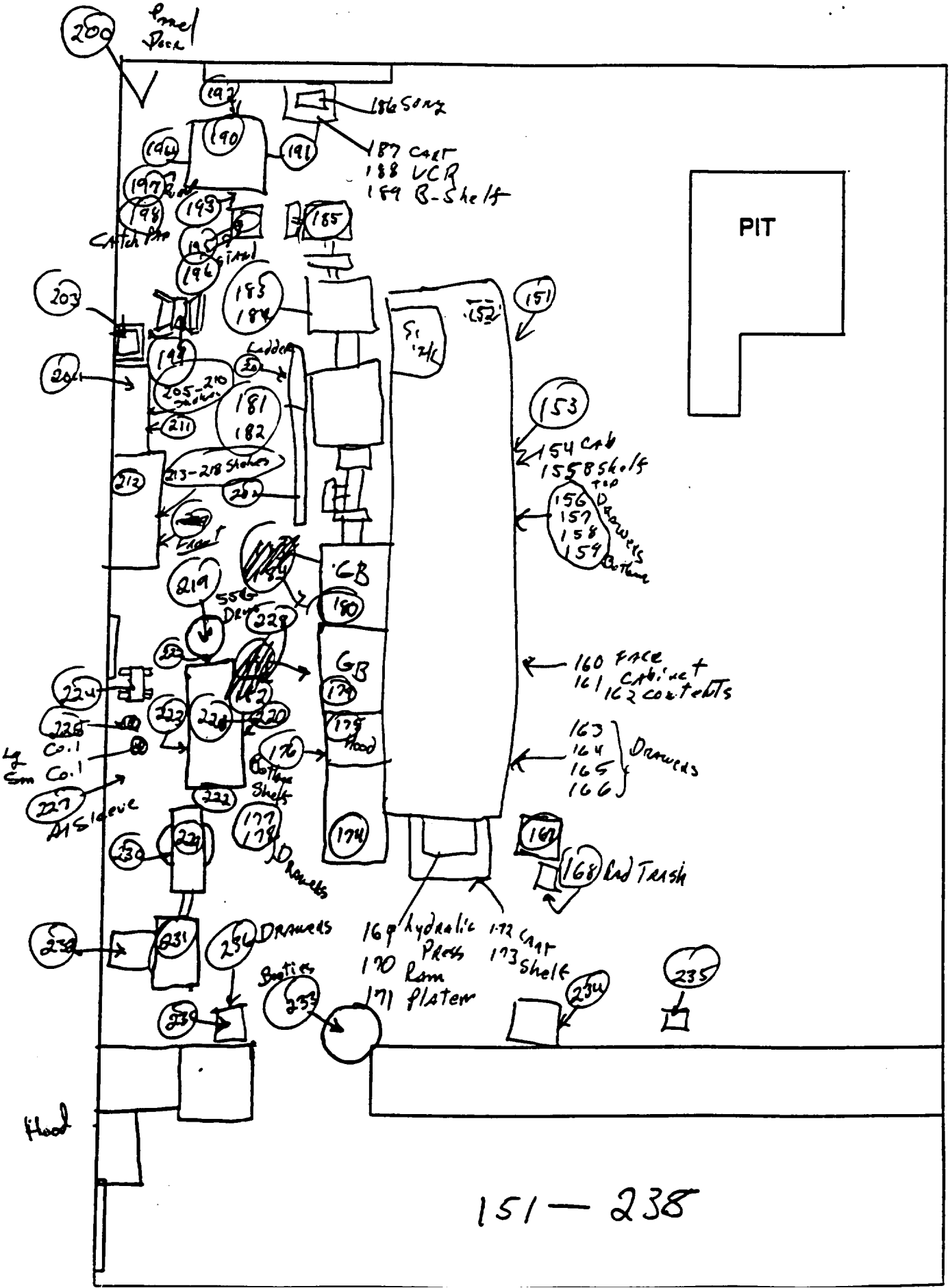
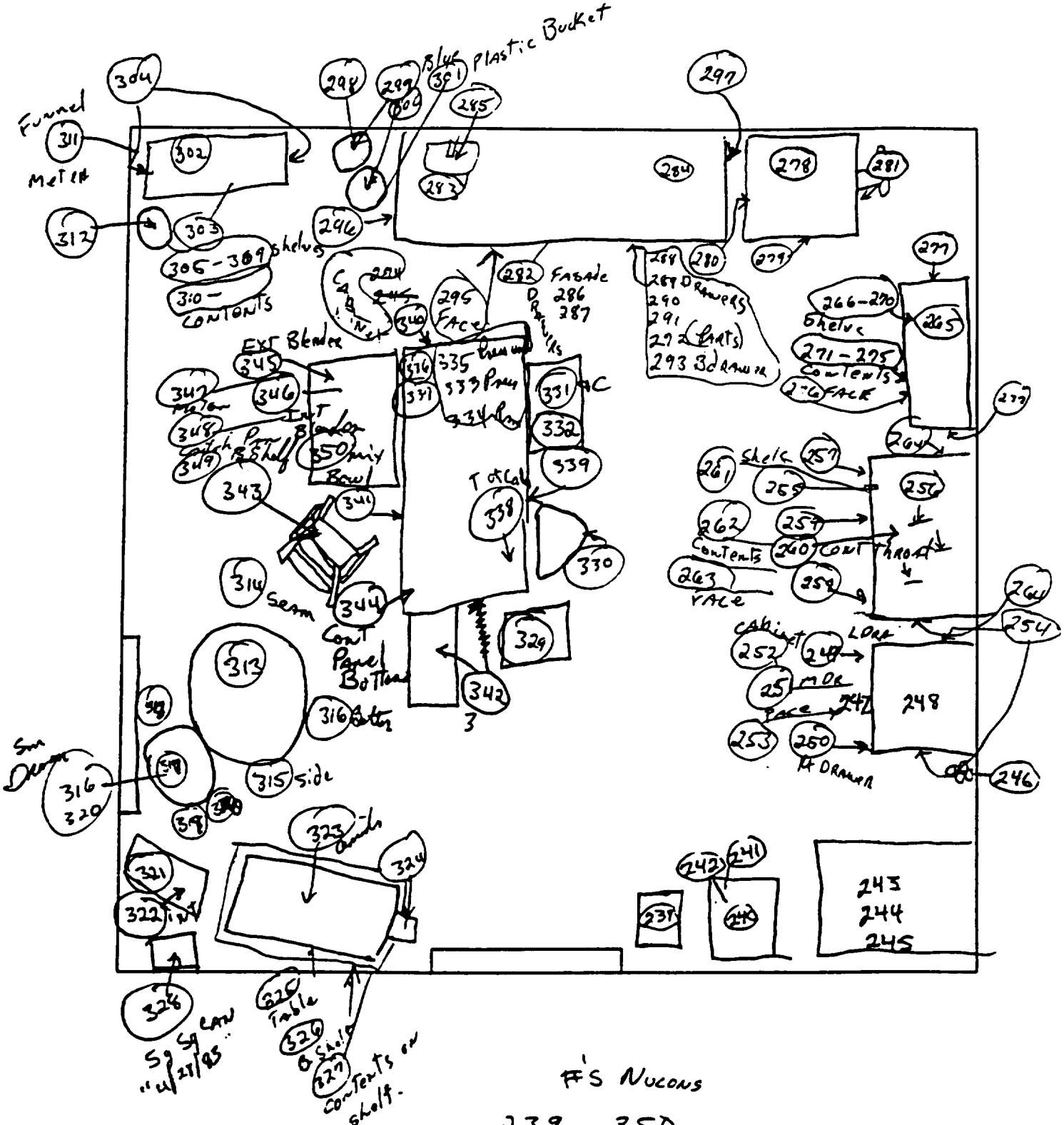

Oil Barrel
Dolly
Drawers
Ram
Oven
GB
GB
Crane
Table
Pit
Lift
Chain Fall
Rack
Face
Face
Face
Cabinet
Transformer
Flourescent Lights
Graphite cylinder
Display case
Boxes
Box
Legs
Inner Door
Ext. Front
V. Pump
Int
B Shelf
Drawer
Cab
1 — 150


Panel Door
186 Sony
187 Cart
188 VCR
189 B-Shelf
PIT
Catch Pan
Ladder
205-210 Shelves
213-218 Shelves
Front
154 Cab
155 B Shelf
156 Top Drawers
157
158
159 Bottom
GB
GB
160 Face
161 Cabinet
162 Contents
163
164
165
166
Drawers
Hood
Bottom Shelf
Drawers
Lg Co.1
Sm Co.1
A1 Sleeve
168 Rad Trash
169 Hydraulic Press
170 Ram
171 Platen
172 Cart
173 Shelf
Drawers
Bottles
Hood
151 — 238

TA-3-141-150



#'s Nucons

239 — 350

ESH-1 SMEAR SURVEY FORM

SAMPLE DESCRIPTION

Sample Date/Time: 12-14-95 No. Of Samples: 9

TA: 3 Bldg: Sm 141

RCT: Dinwiddie Z Number: 086225

Phone/Fax: 5-4926- 7-5186

SAMPLE TRACKING NUMBER

ESH-1 SAMPLE TRACKING

95017275

PURPOSE OF SURVEY

☐ ROUTINE ☐ PRE-JOB ☒ POST-JOB ☐ HOT-JOB

☐ ITEM RELEASE ☐ OFFSITE SHIPMENT ☐ ONSITE SHIPMENT

☒ NON-ROUTINE/OTHER:

INSTRUMENTATION

TYPE	HSE No.	CAL DUE	% EFF	BKG

ADDITIONAL INFORMATION

☐ Occurrence No.:

☐ Incident No.:

☐ RWP No.:

Smear No.	Location	Alpha*	Beta*	Gamma*
1	FE 9- inside Door	58.8	100.7	
2	FE 9 Plenum	70.2	152.2	
3	FE 9 "	378.5	2080.5 ~~2080.5~~ RED 12-21-95	
4	FE 9 "	44.4	151.9	
5	FE 9 "	129.8	247.2	
6	FE 10 Duct	30.8	104.2	
7	FE 10 Housing	398.8	1117.8	
8	FE 10 Plenum	191.8	288.6	
9	FE 10 "	31.7	57.9	
10				
11				
12				
13				
14				
15				

Smear No.	Location	Alpha*	Beta*	Gamm
16				
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dpm/100 cm2