

**Fermilab****Radiological Work Permit No. AD-21-115**

Area Name

**Main Injector MI-20 -- MI-62**

Permit Type General

Issue Date Jun 29, 2021

Issue Time 9:58 AM

Expiration Date Jan 31, 2022

**Description of Work**All work, tours, and inspections **EXCEPT FOR:**

1. Cutting, drilling, or grinding on radioactive material
2. Work in areas posted as High Radiation and/or Contamination areas
3. Work on beam pipes and magnet interface areas. See "Special Requirements."

**Access Type**

- Controlled Access  
 Supervised Access  
 Open Access  
 Other - Secured Area  
 N/A

**Basic Work Area Conditions**

See Enclosure Hazards Specification Sheet

**Additional Work Area Conditions**

Contamination Areas: Levels of Be-7 may not be detectable with Frisker

**Area Posting**

Radiation Area: All Enclosure

High Radiation Area - MI 230-304; 307-313; MI40 AbsorberRm

Contamination Area: MI 230-304; 307-313; MI40 Absorber Room

**Time Limits**

None

**Dose Limits**

100 mrem per week and 1500 mrem per year are administrative control limits

**Work Documents**

Job-specific HAs as applicable, see supervisor or DSO

**Dosimetry Requirements**

- None Required  
 Dosimetry Badge  
 Pocket Dosimeter  
 Ring Badge  
 Digidose  
 See Special Requirements

**Basic Training Requirements**

Radiological Worker

**Other Training Requirements****Portable Survey Instruments**

- None Required  
 LSM  
 Ludlum 14C  
 E140N/Portable Frisker  
 Minimeter  
 Teletector  
 Bicron Analyst  
 See Special Requirements

**Minimum Personal Protective Equipment**

- None Required  
 Gloves  
 Shoecovers  
 Labcoats  
 Coveralls  
 Hood  
 Eye Protection  
 Respiratory Protection  
 See attached instructions  
 See special requirements

**Additional Instructions**

- Notify ESH&Q Prior to Work  
 Rad Tech Coverage Required  
 Review Survey Map  
 Pre-Job Briefing  
 Personal Frisk on Exit  
 Survey & Label Materials on Exit  
 Post-Job De-Briefing  
 No Eating, Drinking, Smoking  
 See Special Requirements

**SPECIAL REQUIREMENTS**

Contact MCR to request RSO approval **prior** to working in any posted High Radiation (100 mrem/hr or greater) and/or Contamination Areas. There is always a potential for contamination on beampipes and in magnet interface areas, therefore before removing any material from such areas, contact RSO for additional guidance. **Shoe covers and gloves required in the posted Contamination Area. RSO approval required to walk/work in standing water. Work in standing water, rubber boots must also be worn. PPE worn inside of the posted Contamination Area must be discarded as rad waste. No carts through posted Contamination Area, see local postings. RCT coverage required for entry into MI-40 absorber room.**

Prepared By Susan McGimpsey

RSO Authorization





DATE: <u>1-18-22</u>	TIME: <u>0730</u>	PURPOSE: <u>Initial Entry</u>	RWP # <u>AP-21-115</u>
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This Survey is part of the MI-20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

## MI 20-62

### MI 130 to 624 Cover Sheet

#### MAPS INCLUDED

- 601-607
- 608-614
- NuMI A
- NuMI B
- 615-621
- 622-630
- 130-207
- 208-215
- 216-225
- 226-301
- 302-309
- 310-318
- 319-327

#### MAPS INCLUDED

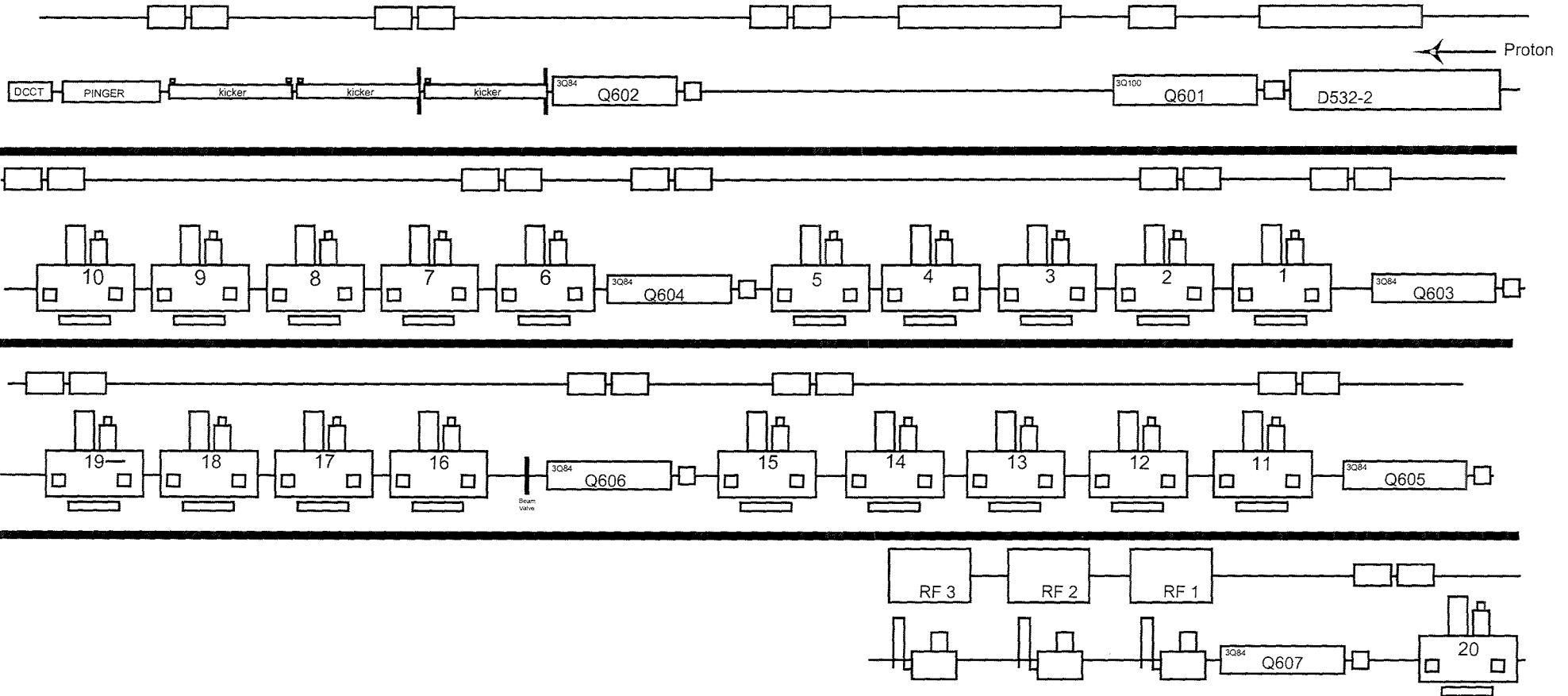
- 328-335
- 336-400
- MI-40 Abort Line
- 404-411
- MI-40 Abort
- 412-419
- 420-427
- 428-505
- 506-513
- 514-522
- P-150 Line
- 523-532

Beam Off Date: <u>1-18-22</u>	Beam Off Time: <u>0600</u>	Intensity MI: <u>off</u>	Intensity RR: <u>4E6/ppp</u>	Highest Dose Rate Found: <u>400</u> mR/hr @ 1foot
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Radiation Instruments Used			Bkgd _____ cpm		Comments:
Inst Type:	Inst No:	Batt/Source Chk:	Wipe #	Reading	
<u>LSM</u>	<u>LSM</u>	<u>Frisker</u>			
<u>7</u>	<u>40</u>	<u>93</u>			
<u>SAT</u>	<u>SAT</u>	<u>SAT</u>			
<u>4/22</u>	<u>2/22</u>	<u>2/22</u>			
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)					
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact					
A = Air Sample	(#) = Wipe	(F#) = Floor wipe			
					Surveyed By: <u>Rehr-Suggs / Sedory</u>
					Reviewed By: <u>Maddyn Schell</u>

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information

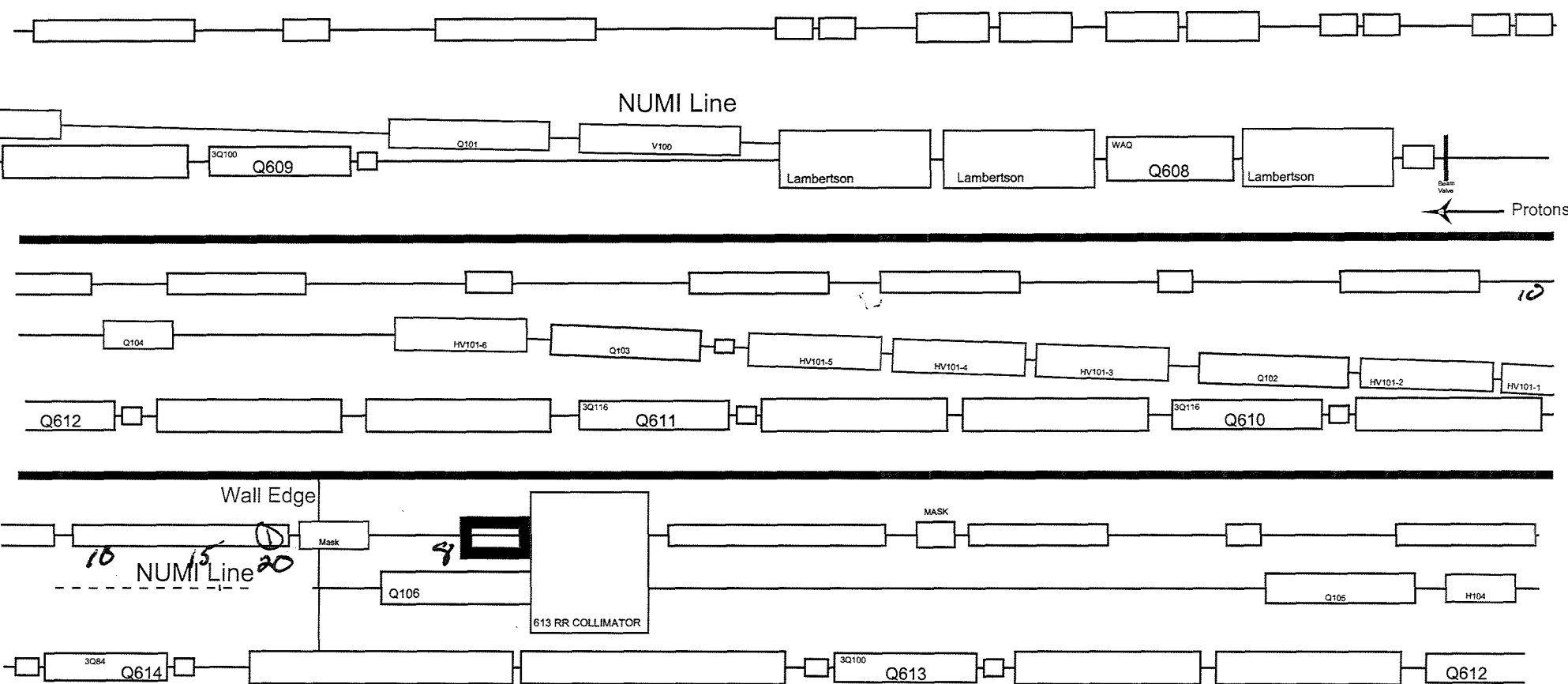
### MI 601-607



Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>&lt; 5</u> mR/hr @ 1foot	
<b>Radiation Instruments Used</b>		Bkgd _____ cpm Wipe = Reading      Wipe = Reading _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm	Comments:     Surveyed By: _____ Reviewed By: _____	
Inst Type: _____	_____			
Inst No: _____	_____			
Batt/Source Chk: _____	_____			
Cal. Due Date: _____	_____			
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)				
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample      (#) = Wipe      (F#) = Floor wipe				

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

# MI 608-614



Beam Off Date: \_\_\_\_\_ Beam Off Time: \_\_\_\_\_ Intensity: \_\_\_\_\_ Highest Dose Rate Found: 20 mR/hr @ 1foot

Radiation Instruments Used		
Inst Type:	_____	_____
Inst No:	_____	_____
Batt/Source Chk:	_____	_____
Cal. Due Date:	_____	_____

Bkgd _____ cpm			
Wipe #	Reading	Wipe #	Reading
①	0	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Comments:  
Contamination Area ██████████

All Areas < 5 mR/hr@1foot (Unless otherwise indicated)

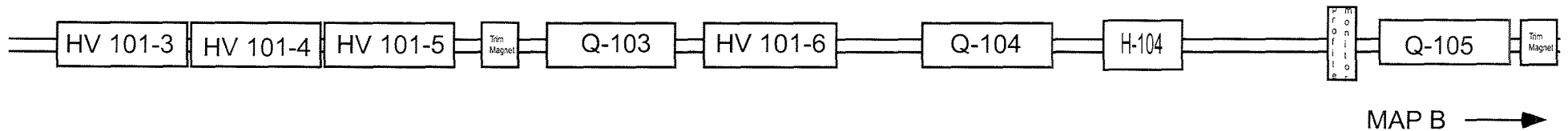
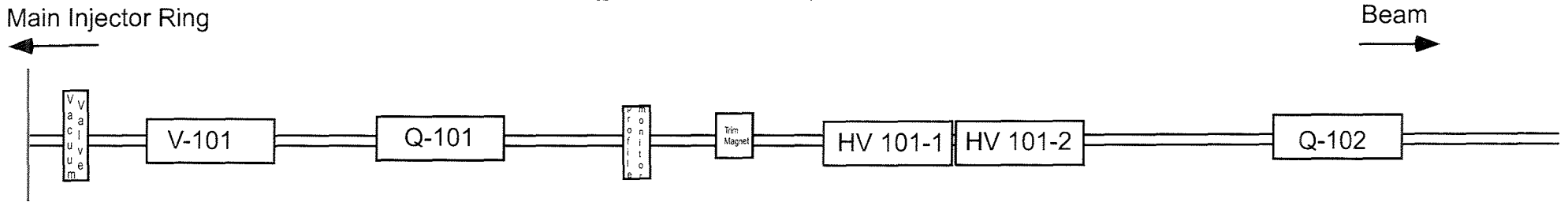
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. \* = mR/hr @ contact

A = Air Sample    ( # ) = Wipe    ( F# ) = Floor wipe

Surveyed By: \_\_\_\_\_  
Reviewed By: \_\_\_\_\_

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

## Numi Pipe Main Injector region map A



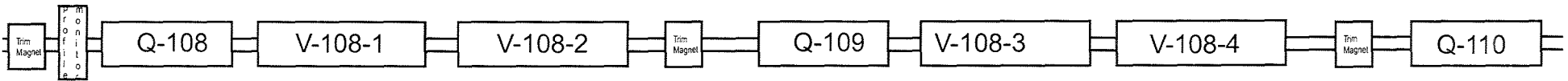
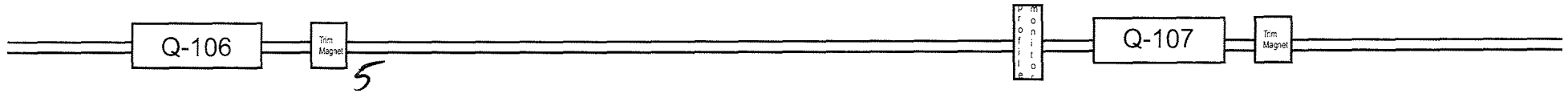
Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>&lt; 5</u> mR/hr @ 1foot																								
<b>Radiation Instruments Used</b>		Bkgd _____ cpm  <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Wipe #</td> <td style="width:50%;">Reading</td> <td style="width:50%;">Wipe #</td> <td style="width:50%;">Reading</td> </tr> <tr> <td>_____</td> <td>_____ ccpm</td> <td>_____</td> <td>_____ ccpm</td> </tr> <tr> <td>_____</td> <td>_____ ccpm</td> <td>_____</td> <td>_____ ccpm</td> </tr> <tr> <td>_____</td> <td>_____ ccpm</td> <td>_____</td> <td>_____ ccpm</td> </tr> <tr> <td>_____</td> <td>_____ ccpm</td> <td>_____</td> <td>_____ ccpm</td> </tr> <tr> <td>_____</td> <td>_____ ccpm</td> <td>_____</td> <td>_____ ccpm</td> </tr> </table>	Wipe #	Reading	Wipe #	Reading	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	Comments:     Surveyed By: _____ Reviewed By: _____
Wipe #	Reading		Wipe #	Reading																							
_____	_____ ccpm		_____	_____ ccpm																							
_____	_____ ccpm		_____	_____ ccpm																							
_____	_____ ccpm		_____	_____ ccpm																							
_____	_____ ccpm	_____	_____ ccpm																								
_____	_____ ccpm	_____	_____ ccpm																								
Inst Type: _____	_____	_____																									
Inst No: _____	_____	_____																									
Batt/Source Chk: _____	_____	_____																									
Cal. Due Date: _____	_____	_____																									
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)																											
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample    ( # ) = Wipe    ( F# ) = Floor wipe																											

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

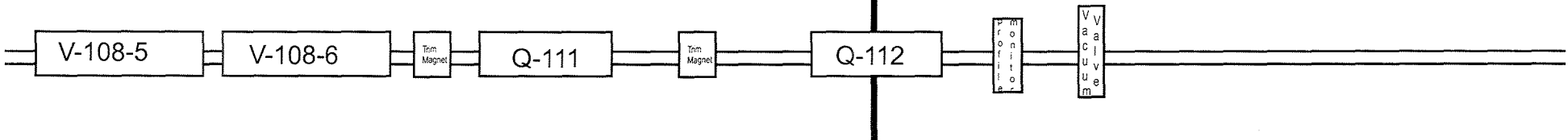
## Numi Pipe Main Injector region map B

← MAP A

→ Beam



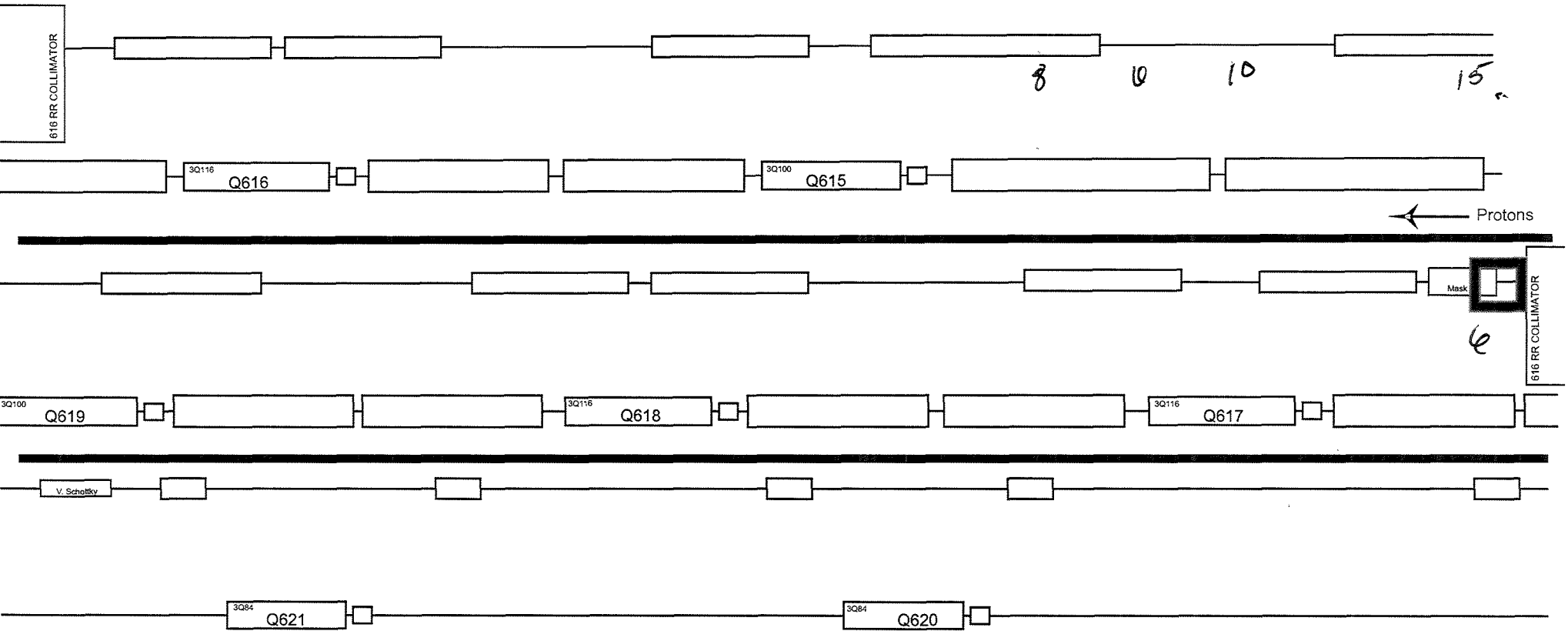
Gate to Carrier Tunnel



Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>5</u> mR/hr @ 1foot	
<b>Radiation Instruments Used</b>		Bkgd _____ cpm  Wipe #    Reading                  Wipe #    Reading _____    _____                  _____    _____ _____    _____                  _____    _____ _____    _____                  _____    _____ _____    _____                  _____    _____ _____    _____                  _____    _____ _____    _____                  _____    _____	Comments:      Surveyed By: _____ Reviewed By: _____	
Inst Type: _____	_____			_____
Inst No: _____	_____			_____
Batt/Source Chk: _____	_____			_____
Cal. Due Date: _____	_____			_____
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated) LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample    (#) = Wipe    (F#) = Floor wipe				

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

# MI 615-621



Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>15</u> mR/hr @ 1foot																								
<b>Radiation Instruments Used</b>		Bkgd _____ cpm  <table style="width:100%; border:none;"> <tr> <td style="width:50%;">Wipe #</td> <td style="width:50%;">Reading</td> <td style="width:50%;">Wipe #</td> <td style="width:50%;">Reading</td> </tr> <tr> <td>_____</td> <td>_____ ccpm</td> <td>_____</td> <td>_____ ccpm</td> </tr> <tr> <td>_____</td> <td>_____ ccpm</td> <td>_____</td> <td>_____ ccpm</td> </tr> <tr> <td>_____</td> <td>_____ ccpm</td> <td>_____</td> <td>_____ ccpm</td> </tr> <tr> <td>_____</td> <td>_____ ccpm</td> <td>_____</td> <td>_____ ccpm</td> </tr> <tr> <td>_____</td> <td>_____ ccpm</td> <td>_____</td> <td>_____ ccpm</td> </tr> </table>	Wipe #	Reading	Wipe #	Reading	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	_____	_____ ccpm	Comments: Permanent Contamination Area <span style="background-color:black; color:black;">██████████</span>  Surveyed By: _____ Reviewed By: _____
Wipe #	Reading		Wipe #	Reading																							
_____	_____ ccpm		_____	_____ ccpm																							
_____	_____ ccpm		_____	_____ ccpm																							
_____	_____ ccpm		_____	_____ ccpm																							
_____	_____ ccpm		_____	_____ ccpm																							
_____	_____ ccpm	_____	_____ ccpm																								
Inst Type: _____	_____	All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)																									
Inst No: _____	_____	<b>LEGEND:</b> Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact  A = Air Sample    ( # ) = Wipe    ( F # ) = Floor wipe																									
Batt/Source Chk: _____	_____																										
Cal. Due Date: _____	_____																										

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

# MI 622-630



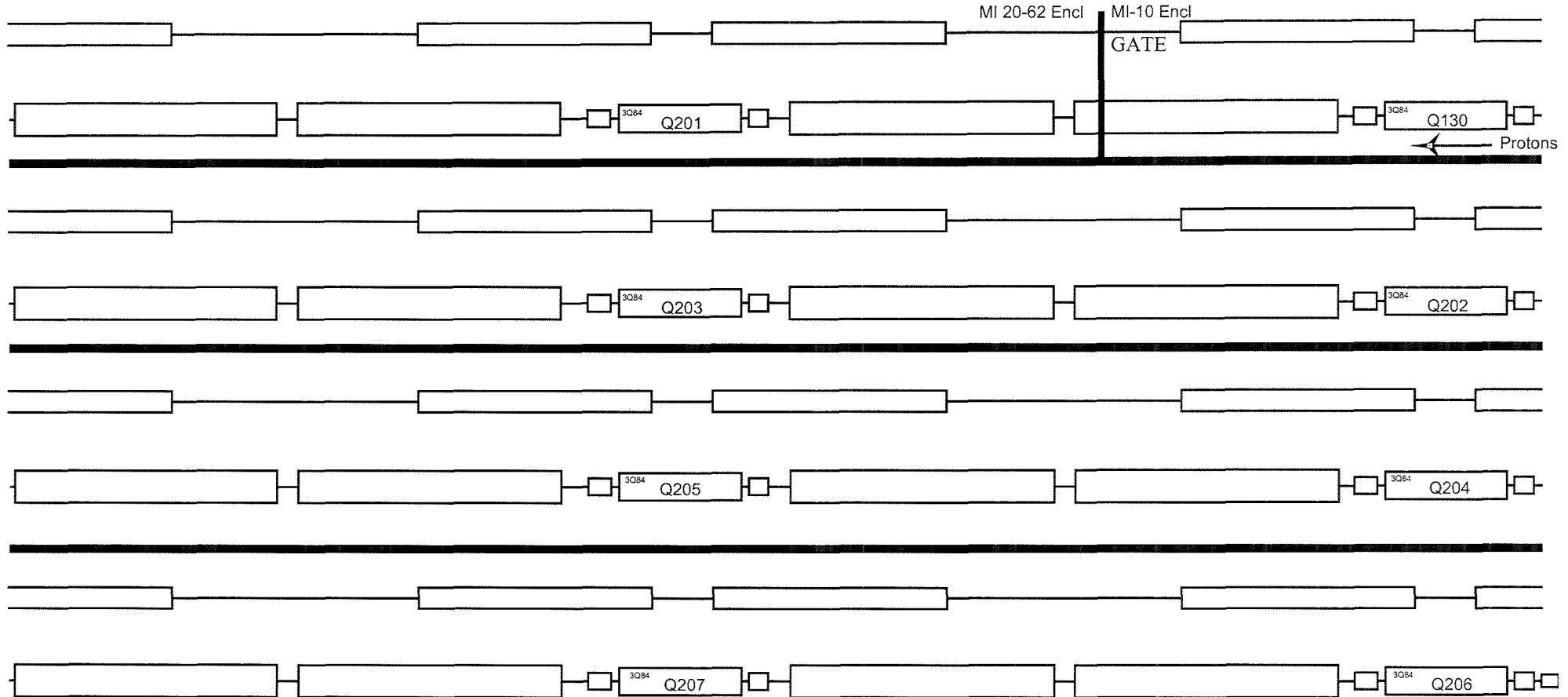
Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>&lt; 5</u> mR/hr @ 1foot
<b>Radiation Instruments Used</b>		Bkgd _____ cpm Wipe = Reading      Wipe = Reading _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm	
Inst Type: _____	Inst No: _____		
Batt/Source Chk: _____	Cal. Due Date: _____		
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)			
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample      (#) = Wipe      (F#) = Floor wipe			



DATE: 1/8/22 TIME: 0730 PURPOSE: Initial Entry RWP #

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

### MI 130-207

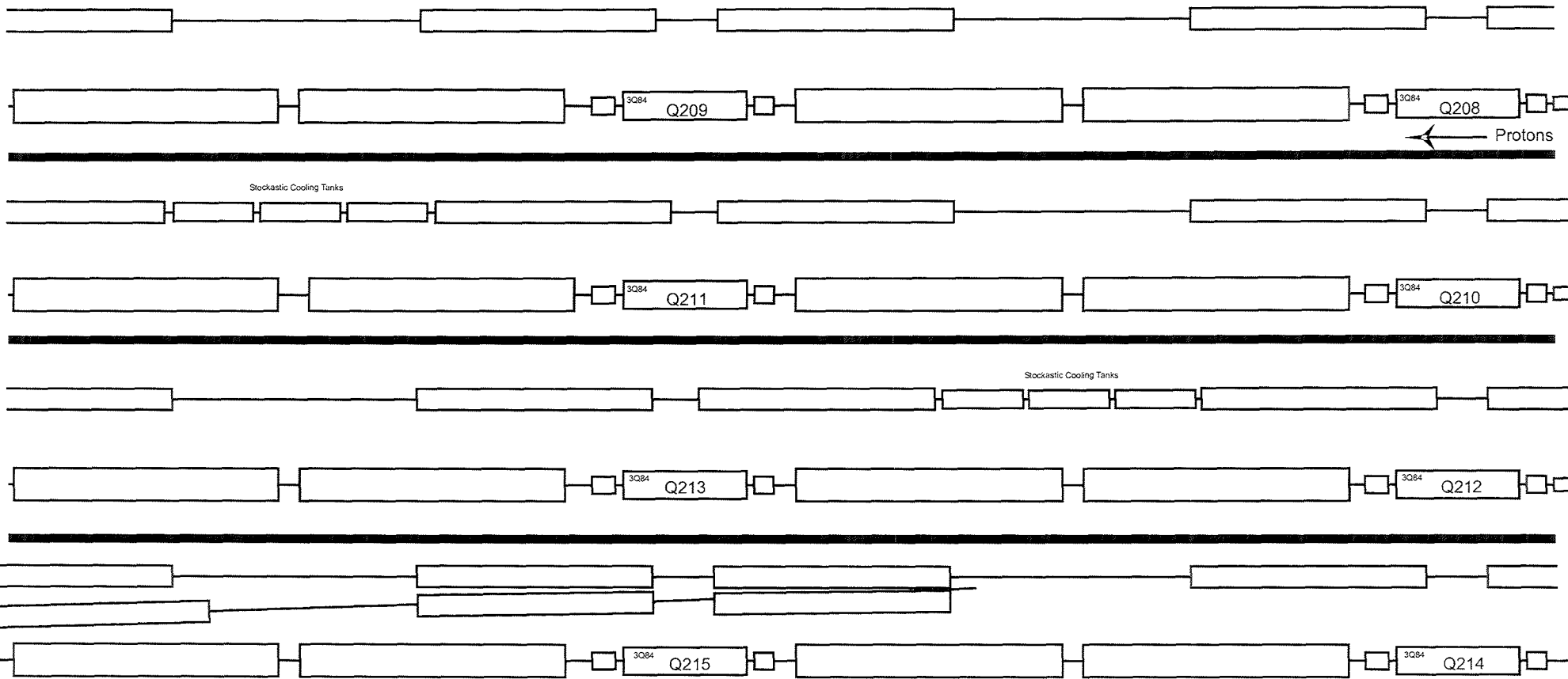


Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>5</u> mR/hr @ 1foot	
<b>Radiation Instruments Used</b>			Comments:	
Inst Type: _____	_____	_____		Bkgd _____ cpm
Inst No: _____	_____	_____		Wipe #: Reading      Wipe #: Reading
Batt/Source Chk: _____	_____	_____		_____ ccpm      _____ ccpm
Cal. Due Date: _____	_____	_____		_____ ccpm      _____ ccpm
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)			_____ ccpm      _____ ccpm	
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact			_____ ccpm      _____ ccpm	
A = Air Sample      (#) = Wipe      (F#) = Floor wipe			_____ ccpm      _____ ccpm	
			Surveyed By: _____	
			Reviewed By: _____	

DATE: 1/8/22 TIME: 0730 PURPOSE: INITIAL ENTRY RWP #

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

# MI 208-215

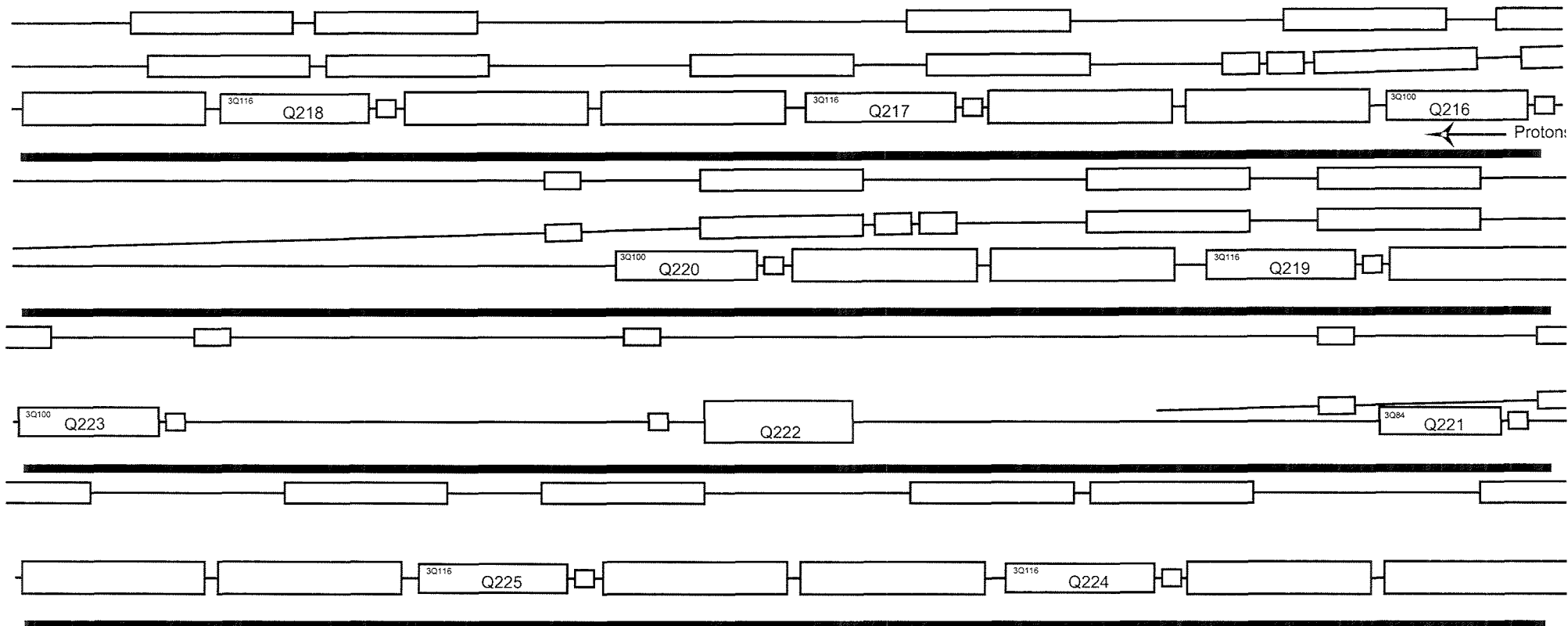


Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>5.5</u> mR/hr @ 1foot		
<b>Radiation Instruments Used</b>		Bkgd _____ cpm  Wipe #    Reading                  Wipe #    Reading _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm	Comments:     Surveyed By: _____ Reviewed By: _____		
Inst Type: _____	_____				_____
Inst No: _____	_____				_____
Batt/Source Chk: _____	_____				_____
Cal. Due Date: _____	_____				_____
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)					
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample    ( # ) = Wipe    ( F # ) = Floor wipe					

DATE: 1/5/22 TIME: 0730 PURPOSE: INITIAL ENTRY RWP #

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

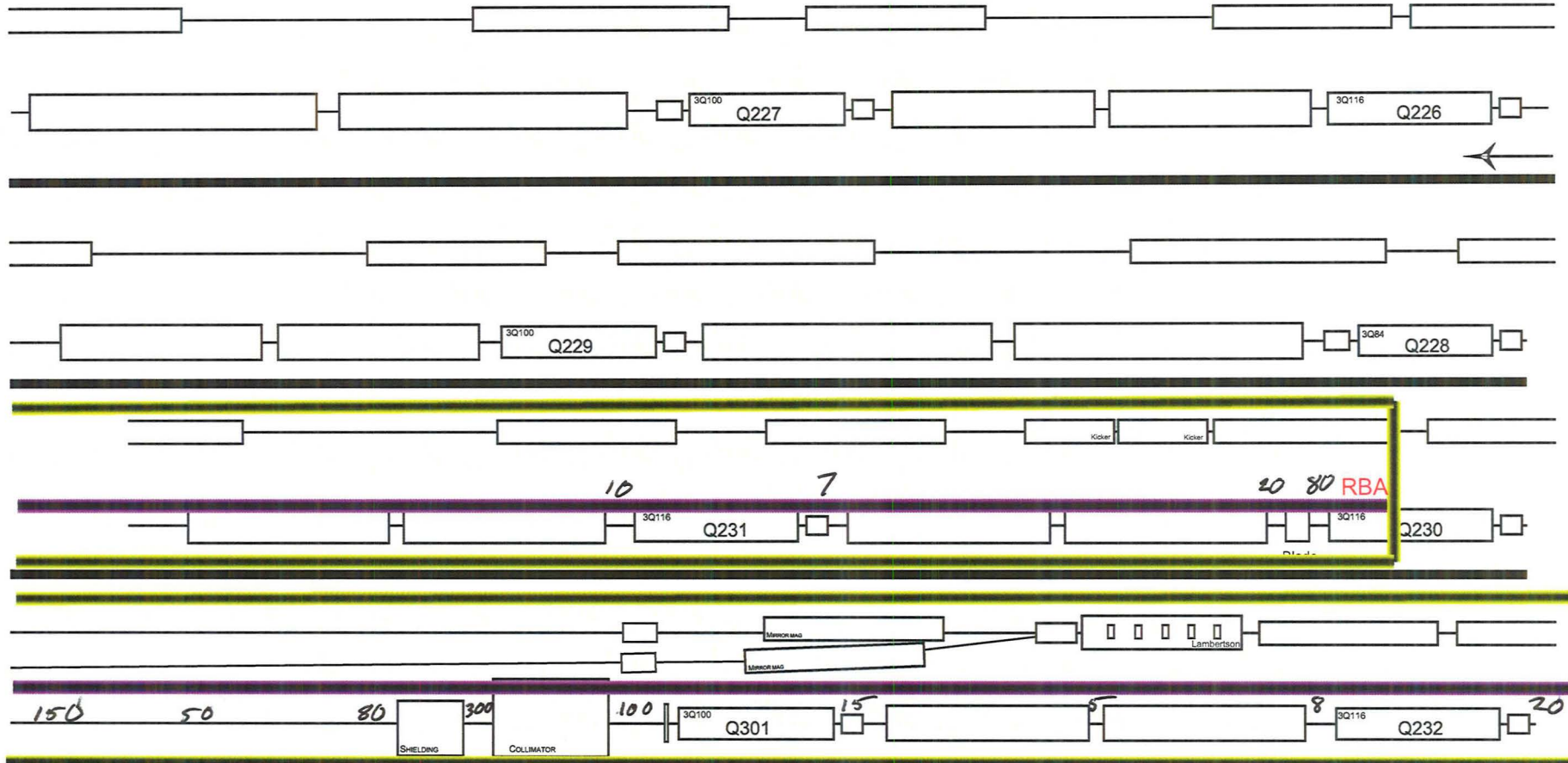
### MI 216-225



Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>&lt; 5</u> mR/hr @ 1foot																							
<b>Radiation Instruments Used</b>		Bkgd _____ cpm	Comments:																							
Inst Type: _____	_____			_____																						
Inst No: _____	_____	_____																								
Batt/Source Chk: _____	_____	_____																								
Cal. Due Date: _____	_____	_____																								
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)																										
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact																										
A = Air Sample    ( # ) = Wipe    ( F# ) = Floor wipe																										
		<table style="width:100%; border:none;"> <tr> <td style="border:none;">Wipe #</td> <td style="border:none;">Reading</td> <td style="border:none;">Wipe #</td> <td style="border:none;">Reading</td> </tr> <tr> <td style="border:none;">_____</td> <td style="border:none;">ccpm</td> <td style="border:none;">_____</td> <td style="border:none;">ccpm</td> </tr> <tr> <td style="border:none;">_____</td> <td style="border:none;">ccpm</td> <td style="border:none;">_____</td> <td style="border:none;">ccpm</td> </tr> <tr> <td style="border:none;">_____</td> <td style="border:none;">ccpm</td> <td style="border:none;">_____</td> <td style="border:none;">ccpm</td> </tr> <tr> <td style="border:none;">_____</td> <td style="border:none;">ccpm</td> <td style="border:none;">_____</td> <td style="border:none;">ccpm</td> </tr> <tr> <td style="border:none;">_____</td> <td style="border:none;">ccpm</td> <td style="border:none;">_____</td> <td style="border:none;">ccpm</td> </tr> </table>	Wipe #	Reading	Wipe #	Reading	_____	ccpm	_____	ccpm	_____	ccpm	_____	ccpm	_____	ccpm	_____	ccpm	_____	ccpm	_____	ccpm	_____	ccpm	_____	ccpm
Wipe #	Reading	Wipe #	Reading																							
_____	ccpm	_____	ccpm																							
_____	ccpm	_____	ccpm																							
_____	ccpm	_____	ccpm																							
_____	ccpm	_____	ccpm																							
_____	ccpm	_____	ccpm																							
		Surveyed By: _____																								
		Reviewed By: _____																								

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

## MI 226-301



Beam Off Date: \_\_\_\_\_ Beam Off Time: \_\_\_\_\_ Intensity: \_\_\_\_\_ Highest Dose Rate Found: 300 mR/hr @ 1foot

Radiation Instruments Used		
Inst Type:	_____	_____
Inst No:	_____	_____
Batt/Source Chk:	_____	_____
Cal. Due Date:	_____	_____

Bkgd _____ cpm			
Wipe #	Reading	Wipe #	Reading
_____	_____ ccpm	_____	_____ ccpm
_____	_____ ccpm	_____	_____ ccpm
_____	_____ ccpm	_____	_____ ccpm
_____	_____ ccpm	_____	_____ ccpm
_____	_____ ccpm	_____	_____ ccpm
_____	_____ ccpm	_____	_____ ccpm

Comments:  
 HRA \_\_\_\_\_  
 Contamination Area \_\_\_\_\_  
 RBA=Radiological Buffer Area

All Areas < 5 mR/hr@1foot (Unless otherwise indicated)

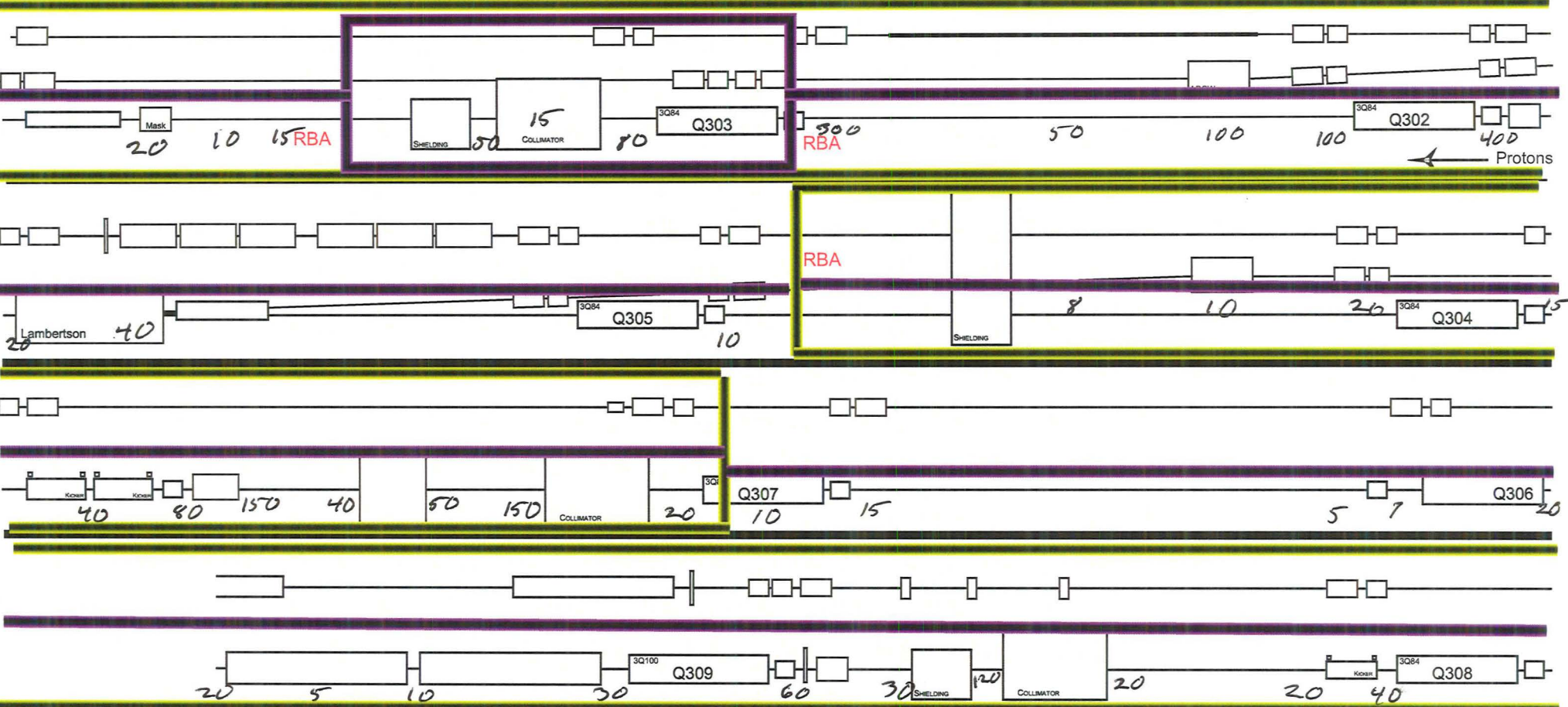
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. \* = mR/hr @ contact  
 A = Air Sample    (#) = Wipe    (F#) = Floor wipe

Surveyed By: \_\_\_\_\_  
 Reviewed By: \_\_\_\_\_



This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

### MI 302-309



Beam Off Date: \_\_\_\_\_ Beam Off Time: \_\_\_\_\_ Intensity: \_\_\_\_\_ Highest Dose Rate Found: 400 mR/hr @ 1foot

Radiation Instruments Used		
Inst Type:	_____	_____
Inst No:	_____	_____
Batt/Source Chk:	_____	_____
Cal. Due Date:	_____	_____

Bkgd _____ cpm			
Wipe #	Reading	Wipe #	Reading
_____	_____ ccpm	_____	_____ ccpm
_____	_____ ccpm	_____	_____ ccpm
_____	_____ ccpm	_____	_____ ccpm
_____	_____ ccpm	_____	_____ ccpm
_____	_____ ccpm	_____	_____ ccpm
_____	_____ ccpm	_____	_____ ccpm

Comments:  
 HRA \_\_\_\_\_  
 Contamination Area \_\_\_\_\_  
 RBA=Radiological Buffer Area

All Areas < 5 mR/hr@1foot (Unless otherwise indicated)  
 LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. \* = mR/hr @ contact  
 A = Air Sample    (#) = Wipe    (F#) = Floor wipe

Surveyed By: \_\_\_\_\_  
 Reviewed By: \_\_\_\_\_



This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

## MI 319-327



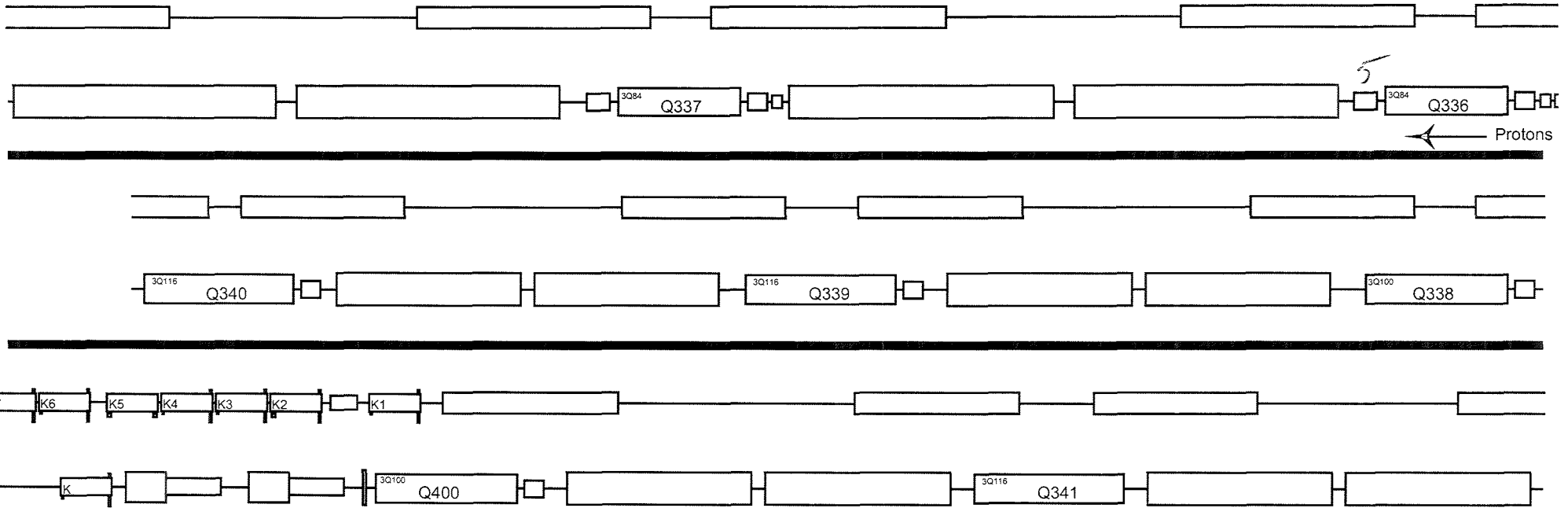
Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>10</u> mR/hr @ 1foot
<b>Radiation Instruments Used</b>		Bkgd _____ cpm	Comments:
Inst Type: _____	_____		
Inst No: _____	_____	_____	Surveyed By: _____ Reviewed By: _____
Batt/Source Chk: _____	_____	_____	
Cal. Due Date: _____	_____	_____	
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)			
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact			
A = Air Sample    ( # ) = Wipe    ( F# ) = Floor wipe			
	Wipe #    Reading	Wipe #    Reading	
	_____ ccpm	_____ ccpm	
	_____ ccpm	_____ ccpm	
	_____ ccpm	_____ ccpm	
	_____ ccpm	_____ ccpm	
	_____ ccpm	_____ ccpm	





This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

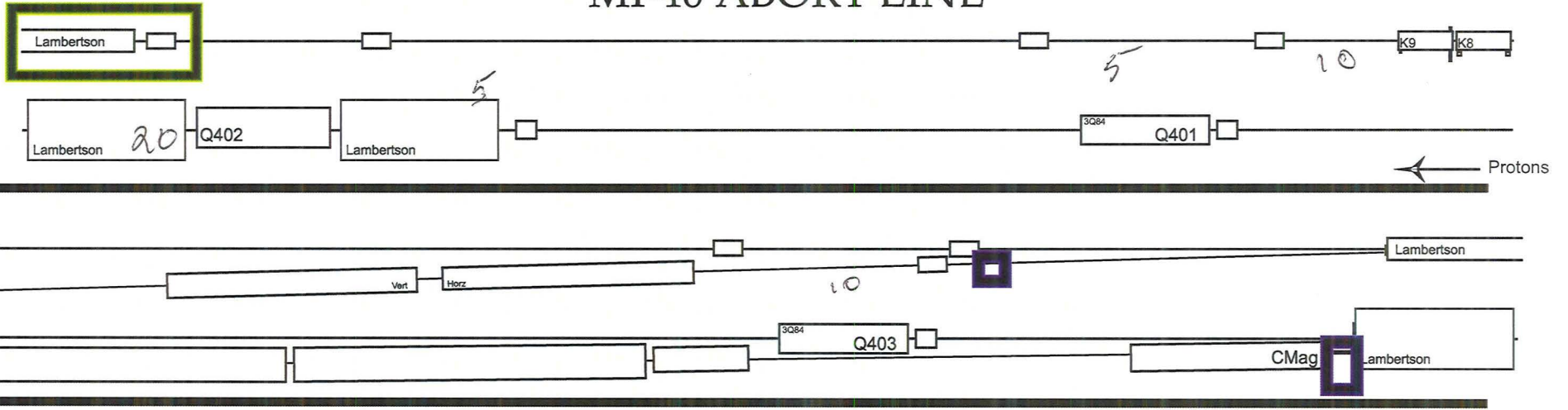
## MI 336-400



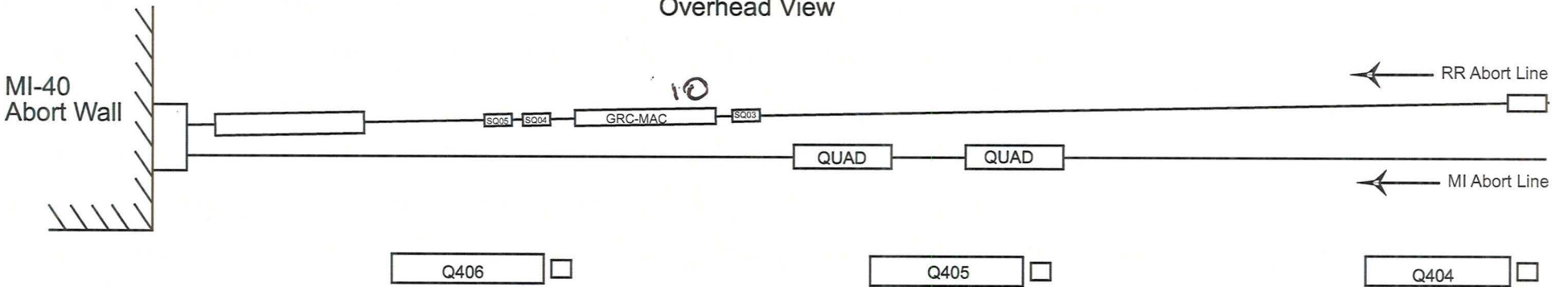
Beam Off Date: _____	Beam Off Time: _____	Intensity: _____	Highest Dose Rate Found: <u>5</u> mR/hr @ 1foot
<b>Radiation Instruments Used</b>		Bkgd _____ cpm  Wipe =    Reading                  Wipe =    Reading _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm	Comments:     Surveyed By: _____ Reviewed By: _____
Inst Type: _____	_____		
Inst No: _____	_____		
Batt/Source Chk: _____	_____		
Cal. Due Date: _____	_____		
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)		LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample      (#) = Wipe      (F#) = Floor wipe	

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

## MI-40 ABORT LINE



### Overhead View



Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>20</u> mR/hr @ 1foot
<b>Radiation Instruments Used</b>			<b>Comments:</b> HRA <span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 100px; height: 1em;"></span> Contamination Area <span style="background-color: blue; border: 1px solid black; display: inline-block; width: 100px; height: 1em;"></span>
Inst Type: _____	Inst No: _____	Bkgd _____ cpm	
Batt/Source Chk: _____	Cal. Due Date: _____	Wipe # Reading Wipe # Reading	
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)		_____ cpm _____ cpm	
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact		_____ cpm _____ cpm	
A = Air Sample	(#) = Wipe	(F#) = Floor wipe	Surveyed By: _____ Reviewed By: _____

DATE: 1/18/22	TIME: 0730	PURPOSE: INITIAL ENTRY	RWP #
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This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

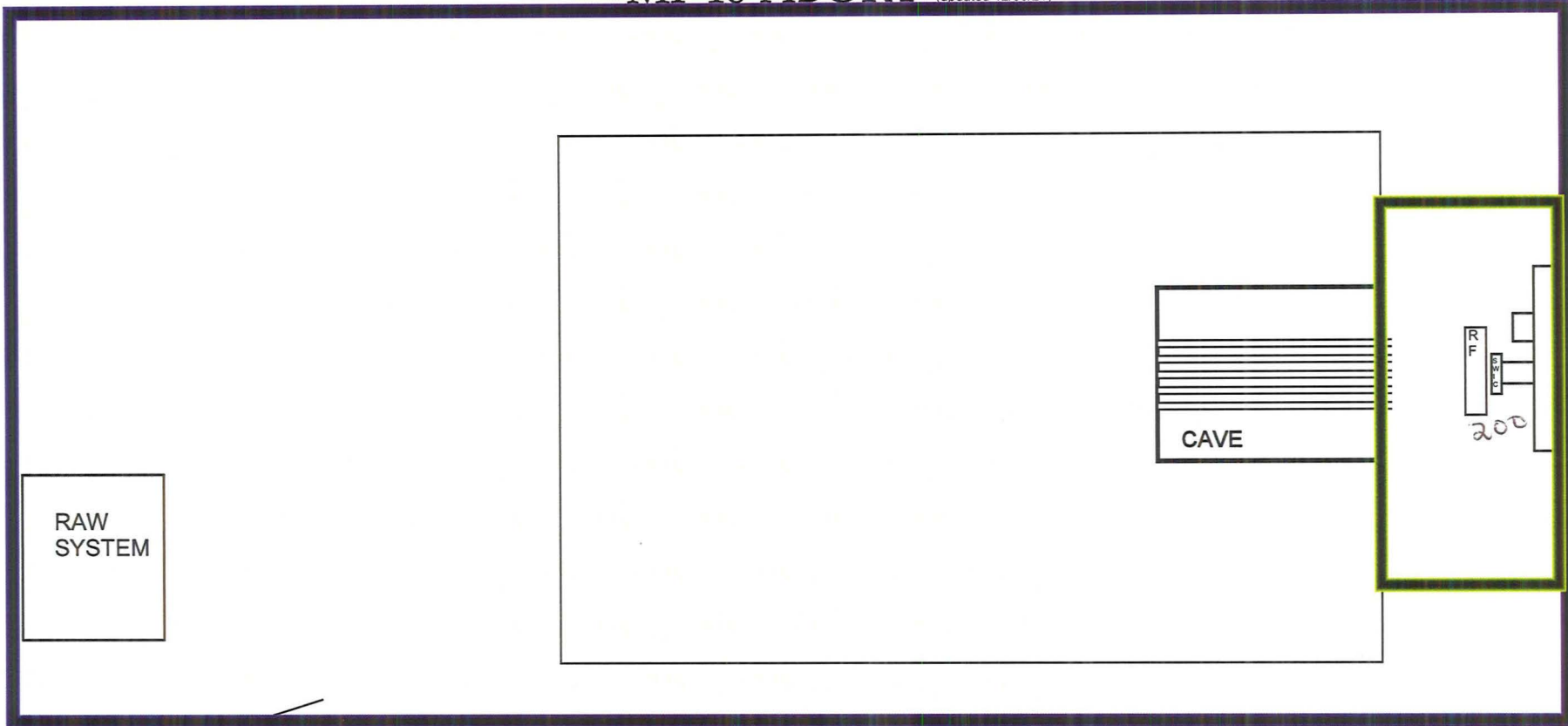
### MI 404-411



Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: 1.0 mR/hr @ 1foot
Radiation Instruments Used			Comments:  Surveyed By: _____ Reviewed By: _____
Inst Type: _____	Inst No: _____	Bkgd _____ cpm	
Batt/Source Chk: _____	Cal. Due Date: _____	Wipe # Reading Wipe # Reading	
_____	_____	_____ cpm _____ cpm	
_____	_____	_____ cpm _____ cpm	
All Areas < 5 mR/hr@1foot (Unless otherwise indicated)			
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample    ( # ) = Wipe    ( F# ) = Floor wipe			

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

## MI-40 ABORT (updated 12/30/21)

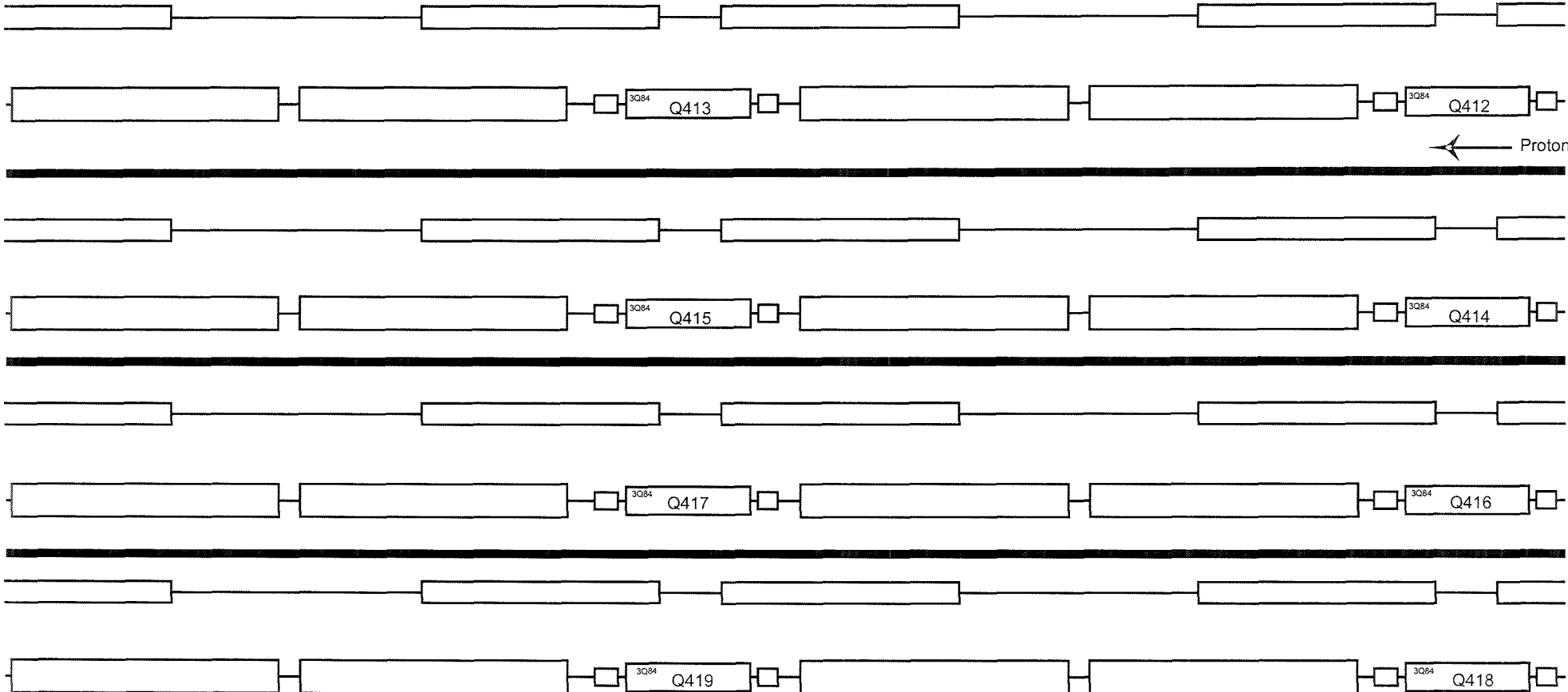


Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: 200 mR/hr @ 1foot
<b>Radiation Instruments Used</b>			
Inst Type: _____	Inst No: _____	Bkgd _____ cpm	Comments: Permanent HRA <span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 100px; height: 1em;"></span> Permanent Contamination Area <span style="background-color: black; border: 1px solid black; display: inline-block; width: 100px; height: 1em;"></span>
Batt/Source Chk: _____	Cal. Due Date: _____	Wipe #    Reading                  Wipe #    Reading	
_____	_____	_____    ccpm                  _____    ccpm	
_____	_____	_____    ccpm                  _____    ccpm	
_____	_____	_____    ccpm                  _____    ccpm	
_____	_____	_____    ccpm                  _____    ccpm	
All Areas < 5 mR/hr@1foot (Unless otherwise indicated)			Surveyed By: _____ Reviewed By: _____
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample    (#) = Wipe    (F#) = Floor wipe			

DATE: 11/8/22 TIME: 0730 PURPOSE: INITIAL ENTRY RWP # \_\_\_\_\_

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

## MI 412-419

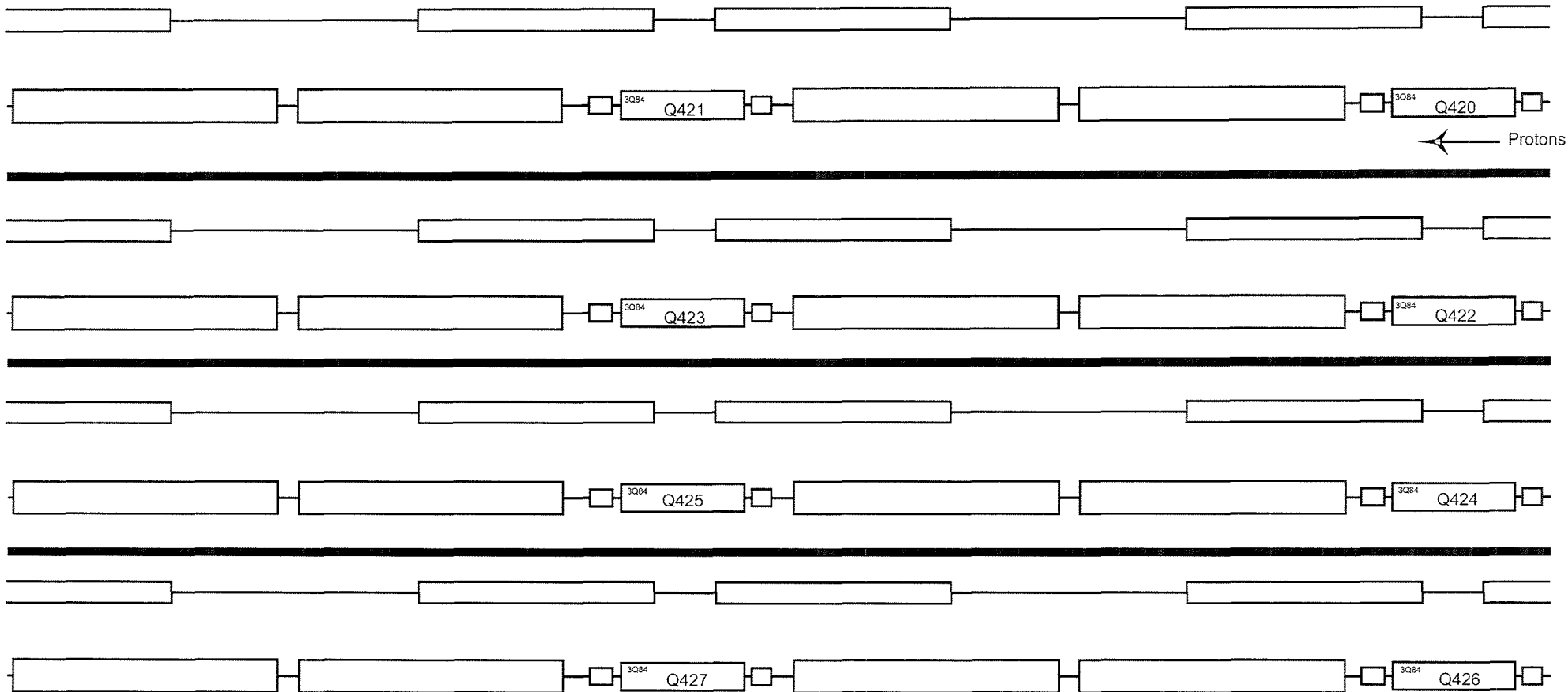


Beam Off Date: _____	Beam Off Time: _____	Intensity: _____	Highest Dose Rate Found: <u>2.5</u> mR/hr @ 1foot
<b>Radiation Instruments Used</b>		Bkgd _____ cpm  Wipe = Reading      Wipe = Reading _____ cpm      _____ cpm _____ cpm      _____ cpm _____ cpm      _____ cpm _____ cpm      _____ cpm _____ cpm      _____ cpm	Comments:     Surveyed By: _____ Reviewed By: _____
Inst Type: _____	_____		
Inst No: _____	_____		
Batt/Source Chk: _____	_____		
Cal. Due Date: _____	_____		
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)			
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample      ( # ) = Wipe      ( F # ) = Floor wipe			

DATE: 11/5/77 TIME: 0730 PURPOSE: Initial Survey RWP #

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

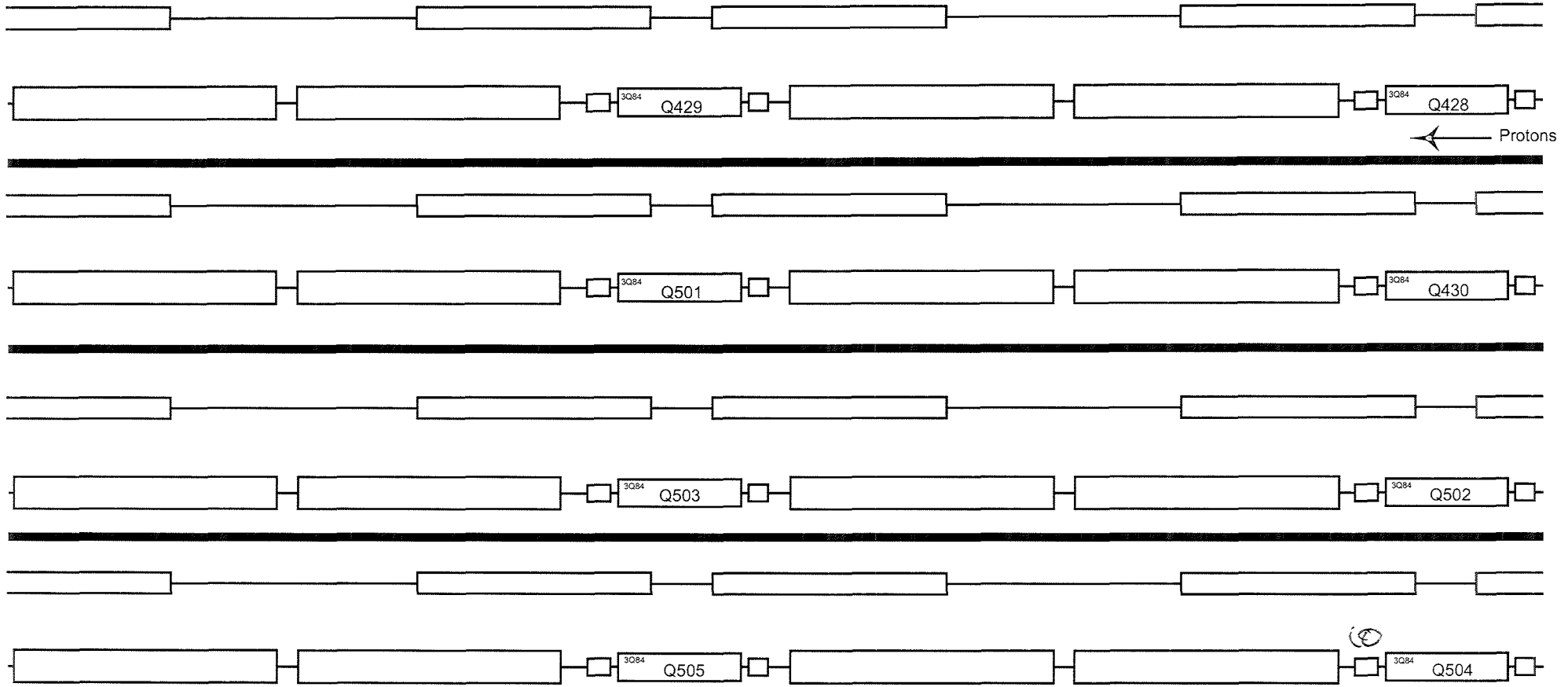
### MI 420-427



Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>45</u> mR/hr @ 1foot
<b>Radiation Instruments Used</b>		Bkgd _____ cpm  Wipe #    Reading                  Wipe #    Reading _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm _____ ccpm                  _____ ccpm	Comments:     Surveyed By: _____ Reviewed By: _____
Inst Type: _____	_____		
Inst No: _____	_____		
Batt/Source Chk: _____	_____		
Cal. Due Date: _____	_____		
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)			
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample      ( # ) = Wipe      ( F # ) = Floor wipe			

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

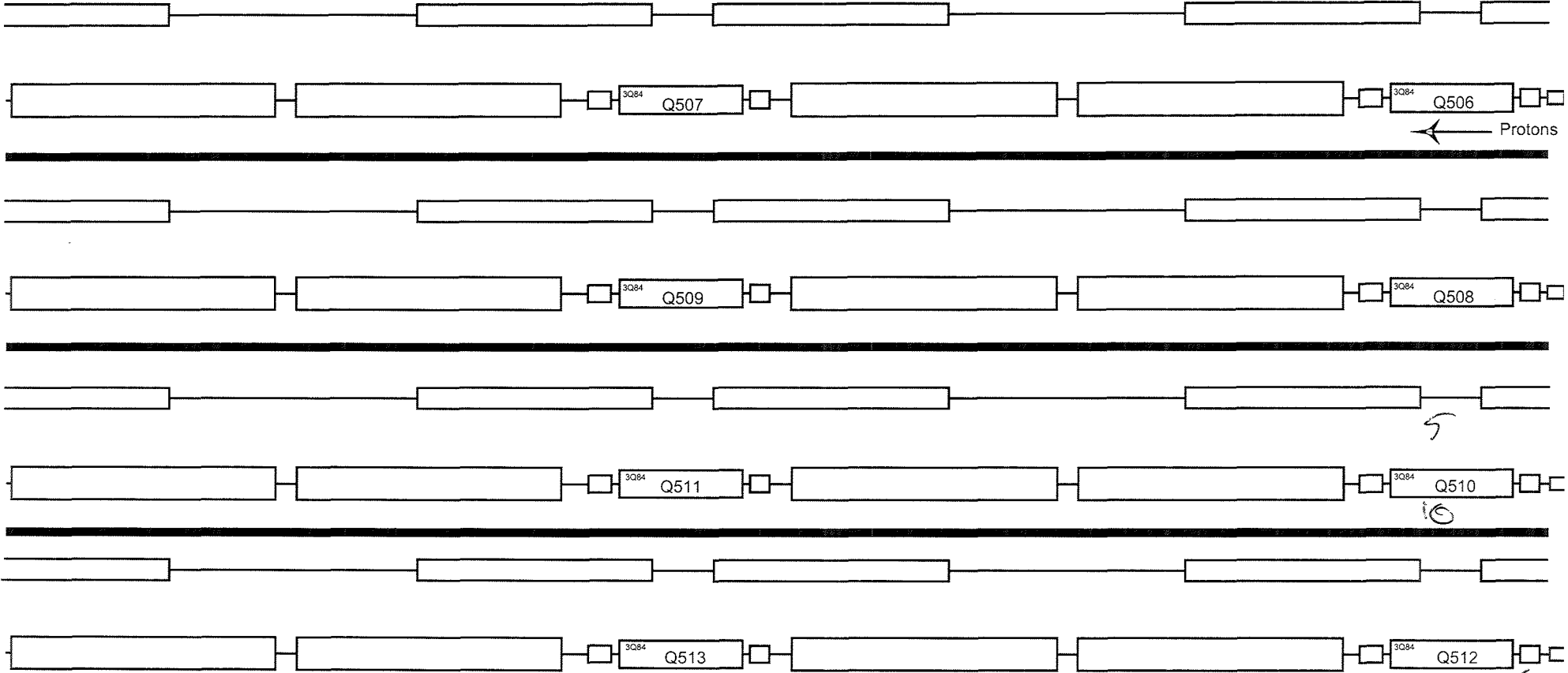
### MI 428-505



Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: 10 mR/hr @ 1foot
<b>Radiation Instruments Used</b>		Bkgd _____ cpm  Wipe = Reading      Wipe = Reading _____ cpm      _____ cpm _____ cpm      _____ cpm _____ cpm      _____ cpm _____ cpm      _____ cpm _____ cpm      _____ cpm	Comments:     Surveyed By: _____ Reviewed By: _____
Inst Type: _____	_____		
Inst No: _____	_____		
Batt/Source Chk: _____	_____		
Cal. Due Date: _____	_____		
All Areas < 5 mR/hr@1foot (Unless otherwise indicated)		LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact  A = Air Sample      ( # ) = Wipe      ( F # ) = Floor wipe	

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

## MI 506-513

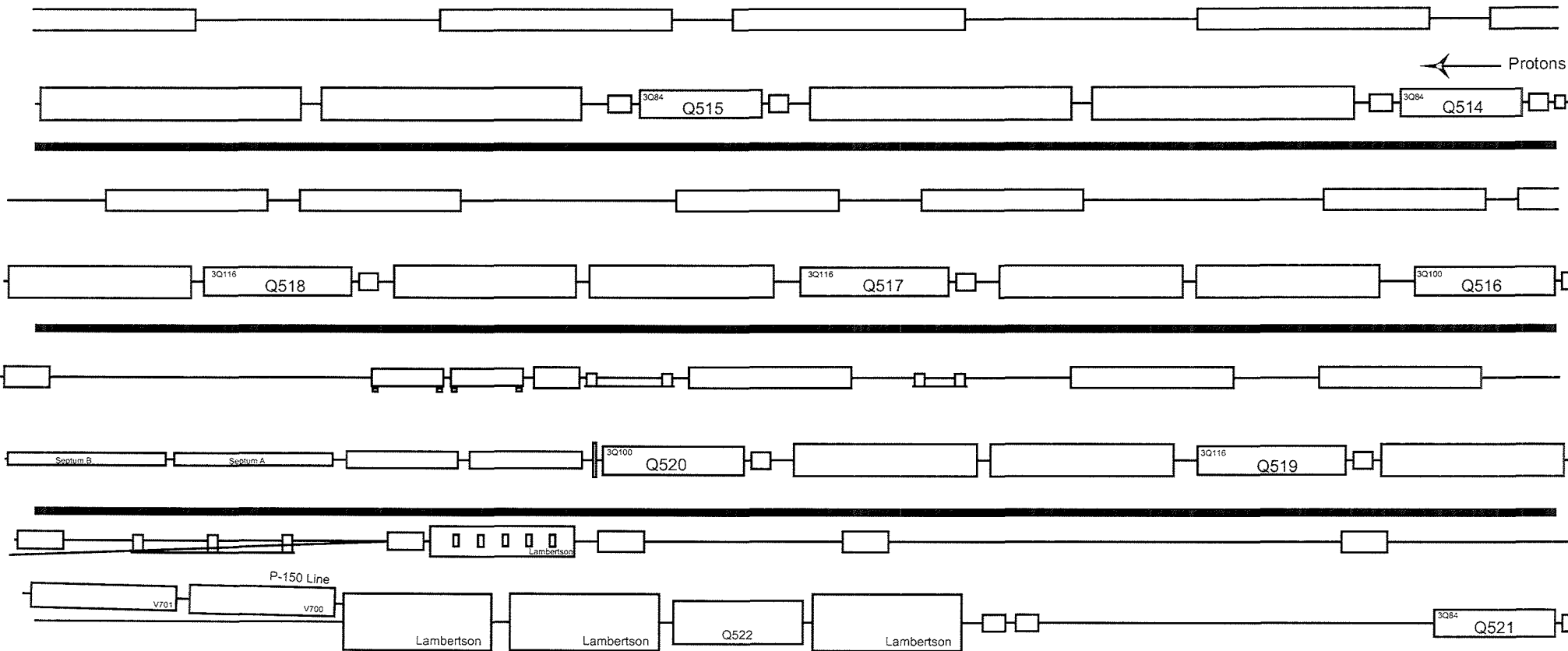


Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: 15 mR/hr @ 1foot	
<b>Radiation Instruments Used</b>			Bkgd _____ cpm  Wipe #    Reading                  Wipe #    Reading _____ cpm                  _____ cpm _____ cpm                  _____ cpm _____ cpm                  _____ cpm _____ cpm                  _____ cpm _____ cpm                  _____ cpm	
Inst Type: _____	Inst No: _____	Batt/Source Chk: _____		Comments:    Surveyed By: _____ Reviewed By: _____
Cal. Due Date: _____				
All Areas < 2 mR/hr@1foot (Unless otherwise indicated)				
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact  A = Air Sample      ( # ) = Wipe      ( F# ) = Floor wipe				



This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

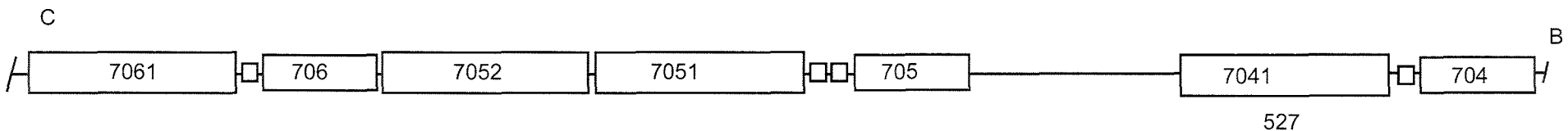
# MI 514-522



Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>1.0</u> mR/hr @ 1foot		
<b>Radiation Instruments Used</b>		Bkgd _____ cpm  Wipe # Reading      Wipe # Reading _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm	Comments:     Surveyed By: _____ Reviewed By: _____		
Inst Type: _____	_____				_____
Inst No: _____	_____				_____
Batt/Source Chk: _____	_____				_____
Cal. Due Date: _____	_____				_____
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)					
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample      ( # ) = Wipe      ( F# ) = Floor wipe					

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

## P-150 LINE

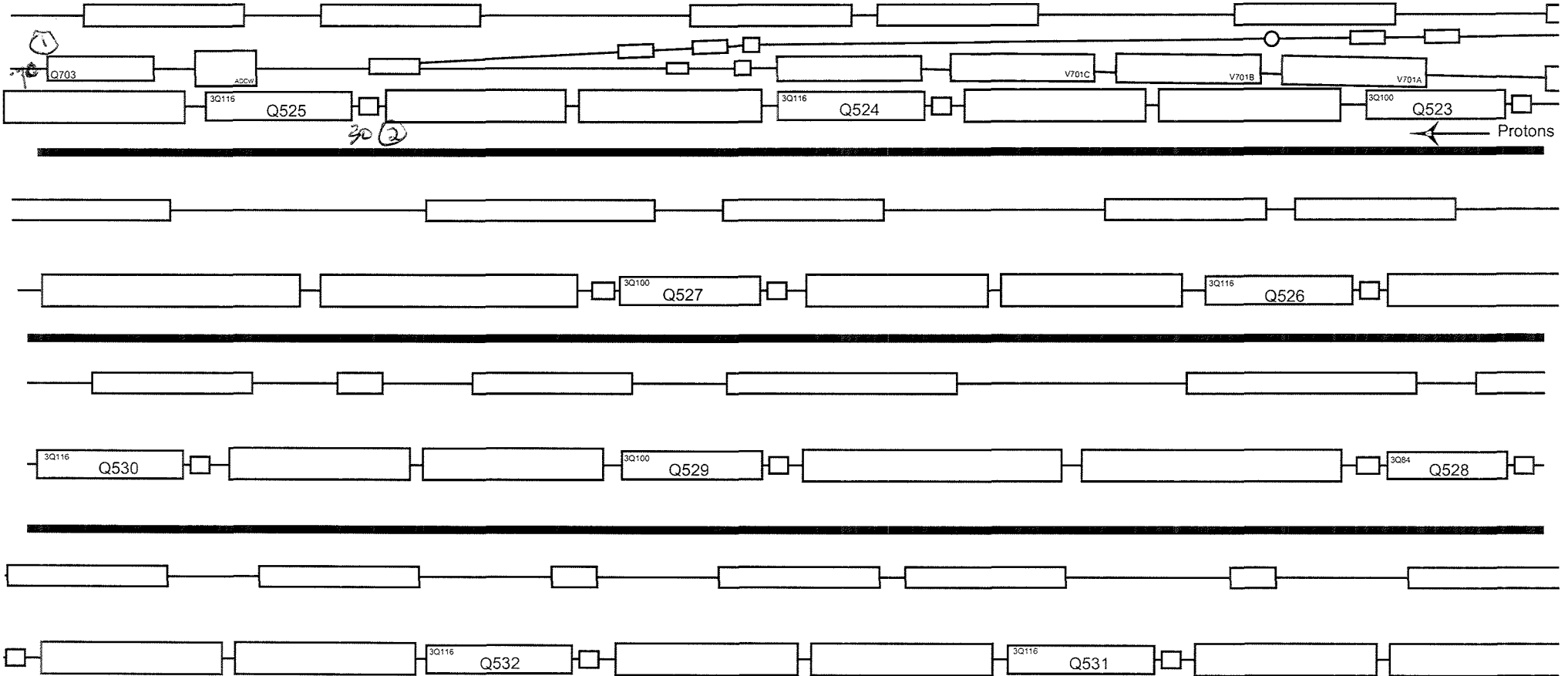


SEE F0 MAPS      F0 ENCLOSURE      GATE      MN INJ ENCLOSURE

Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>&lt; 5</u> mR/hr @ 1foot			
<b>Radiation Instruments Used</b>		Bkgd _____ cpm	Comments:			
Inst Type: _____	Inst No: _____	Wipe #		Reading	Wipe #	Reading
Batt/Source Chk: _____	Cal. Due Date: _____	_____		_____	_____	_____
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)		_____		_____	_____	_____
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact		_____		_____	_____	_____
A = Air Sample      (#) = Wipe      (F#) = Floor wipe		_____		_____	_____	_____
		Surveyed By: _____		Reviewed By: _____		

This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

### MI 523-532



Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rate Found: <u>70</u> mR/hr @ 1foot
<b>Radiation Instruments Used</b>		Bkgd _____ cpm  Wipe = Reading      Wipe = Reading 1    0    ccpm      _____ ccpm 2    0    ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm _____ ccpm      _____ ccpm	Comments:     Surveyed By: _____ Reviewed By: _____
Inst Type: _____	_____		
Inst No: _____	_____		
Batt/Source Chk: _____	_____		
Cal. Due Date: _____	_____		
All Areas < <u>5</u> mR/hr@1foot (Unless otherwise indicated)			
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample      (Z) = Wipe      (F#) = Floor wipe			