Fermilab	AD 04 445	Permit Type	General					
Radiological Work Permit No. Area Name	AD-21-115	Issue Date	Jun 29, 2021					
Main Injector MI-20 MI	-62	Issue Time	9:58 AM					
•		Expiration Date	Jan 31, 2022					
Description of Work All work, tours, and inspections EXCE 1. Cutting, drilling, or grinding on radic 2. Work in areas posted as High Rad 3. Work on beam pipes and magnet in Requirements."	pactive material iation and/or Contamination areas	Access Type Controlled Act Supervised A Open Access Other - Secur N/A	ccess					
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 End	closure					
	,	High Radiation Area - I 307-313; MI40 Absorb	erRm					
Time Limits None	Dose Limits 100 mrem per week and 1500 mrem per year are administrative control limits	Contamination Area: N 307-313; MI40 Absorbe Work Documents Job-specific HAs as ap supervisor or DSO	er Room					
Dosimetry Requirements ☐ None Required ☑ Dosimetry Badge ☑ Pocket Dosimeter ☐ Ring Badge ☐ Digidose ☐ See Special Requirements	Basic Training Requirements Radiological Worker	Other Training Requiren	nents					
•	nimum Personal Protective Equipment	Additional Instruction	s					
None Required LSM Ludlum 14C E140N/Portable Frisker Minimeter Teletector Bicron Analyst See Special Requirements	None Required Gloves Shoecovers Labcoats Coveralls Hood Eye Protection Respiratory Protection See attached instructions	 Notify ESH&Q Prior to Wo Rad Tech Coverage Requisite Review Survey Map Pre-Job Briefing Personal Frisk on Exit Survey & Label Materials Post-Job De-Briefing No Eating, Drinking, Smo See Special Requirement 	uired on Exit king					
SPECIAL REQUIREMENTS	☐ See special requirements	Occ opedial requirement	.5					
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	Prepared By Susan McGimpsey RSO Authorization							



				
DATE: 148.22	TIME:0730	PURPOSE: In: tial	Entry	RWP # 4 p-21-115

MI 20-62

MI 130 to 624 Cover Sheet

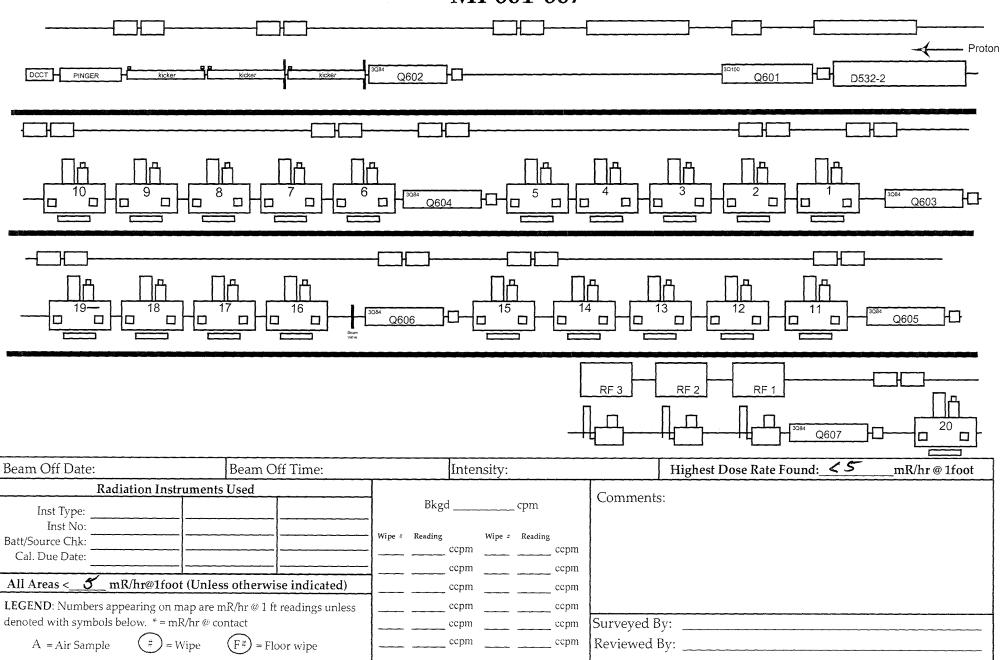
MAPS INCLUDED
328-335
336-400
MI-40 Abort Line
404-411
MI-40 Abort
412-419
420-427
428-505
506-513
514-522
P-150 Line
523-532

Beam Off Date: 1-18-22	Beam Off Time:	1600 I	Intensity	у МI: ,	off_	Intens	sity RR: 4E	Kenpp	Highest Dose Rate Found: 400 mR/hr @ 1foot
Radiation In	struments Used							Comments	
Inst Type: LSM	LSM	Frisker			Bkgd	c	pm	Comments	
Inst No: 7	40	93		Wipe =	Reading	Wipe =	Reading		
Batt/Source Chk: 547 Cal. Due Date: 4/22		SAT			ccpm		ccpm		
Cai. Due Date. 4/2-2	3/22	2/22			ccpm		ccpm		
All Areas < 5 mR/hr@1fe	oot (Unless otherwi	se indicate	ed)		ccpm		ccpm		
LEGEND: Numbers appearing or	n map are mR/hr @ 1 f	t readings ur	nless .		ccpm		cepm		
denoted with symbols below. *=	mR/hr @ contact		1.		ccpm		ccpm	Surveyed By	1: Rehr-Sugariot Selon
A = Air Sample	= Wipe $(F^{\#}) = FI$	oor wipe			ecpm		ccpm	Reviewed B	y: Maddyn Schoell



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In inc Victoria	TELL ALE : 7 2mm	DITED DOCE.			RWP #	
DATE: 11422	TIME:O	PUKPUSE: 4-~	TRUENTU	\sim	IKVVP #	
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MI 601-607

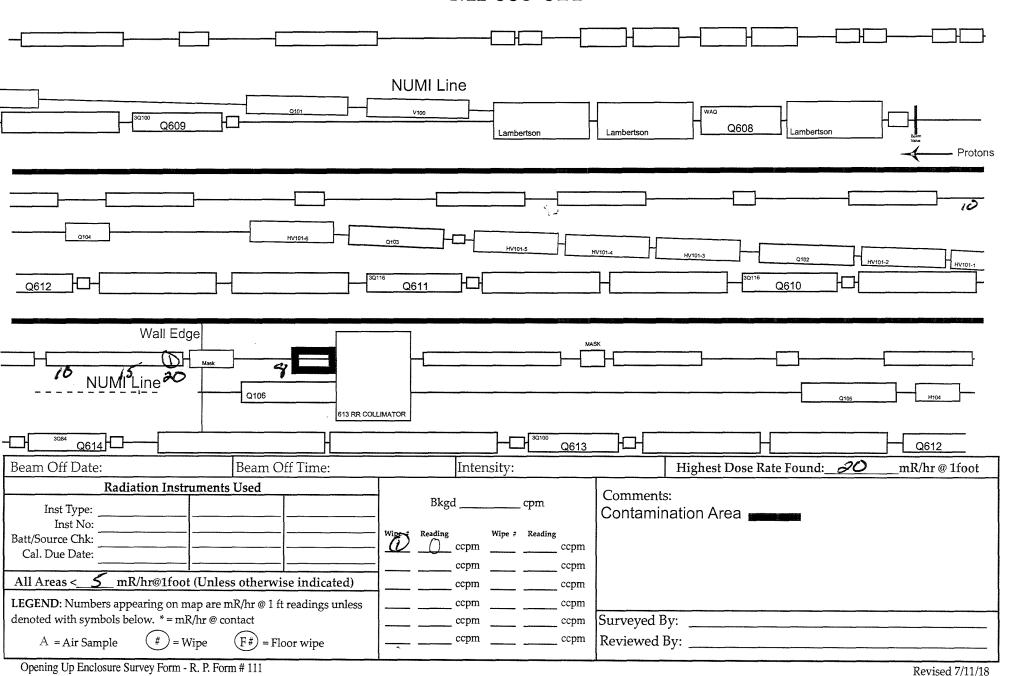




DATE: \\\ \s/22 TIME: 0730 PURPOSE: Tow FAR ENTRY RWP#

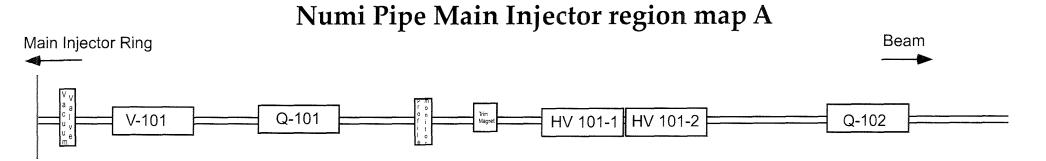
This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

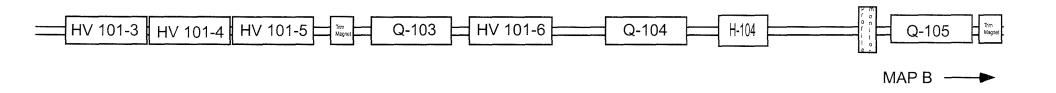
MI 608-614





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100	TE ded -	TIME O 230	PURPOSE: IN , TIME	2	RWP#	
D_F	11E: 11822	THATE. O THE	I CKI OSL. JW / CIRC	CN TYG	IXVVI #	
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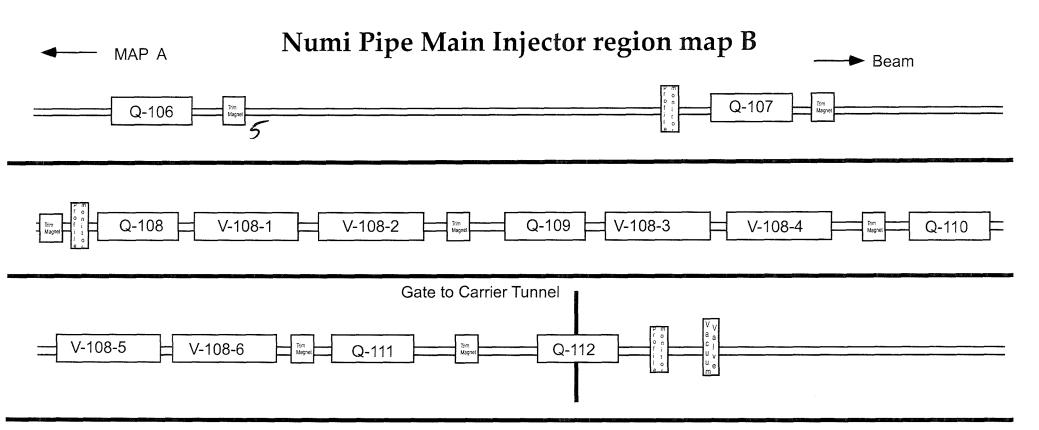




Beam Off Date:	Beam Off Time:	Intensity	7:	Highest Dose Rate Found: <5 mR/hr @ 1foot
Radiatio	on Instruments Used			Community
Inst Type: Inst No: Batt/Source Chk: Cal. Due Date:		Bkgd Wipe = Reading Wipe ccpm ccpm	cpm reading ccpm ccpm	
All Areas < 5 mR/h	ar@1foot (Unless otherwise indicated)	ccpm	ccpm	
LEGEND: Numbers appear	ring on map are mR/hr @ 1 ft readings unless	ccpm	ccpm	
denoted with symbols below		ccpm	ccpm	Surveyed By:
A = Air Sample (# = Wipe $#$ = Floor wipe	ccpm	ccpm	Reviewed By:



DATE: 1/8/22 1	TIME · ~ 7 mt.	PURPOSE: -wirth	F ~1 ~ ~ ~	RWP#
DATE: NO/	1111111.02/	1 UNI USE VO 11 W	(C) ()	Ιζγγί π



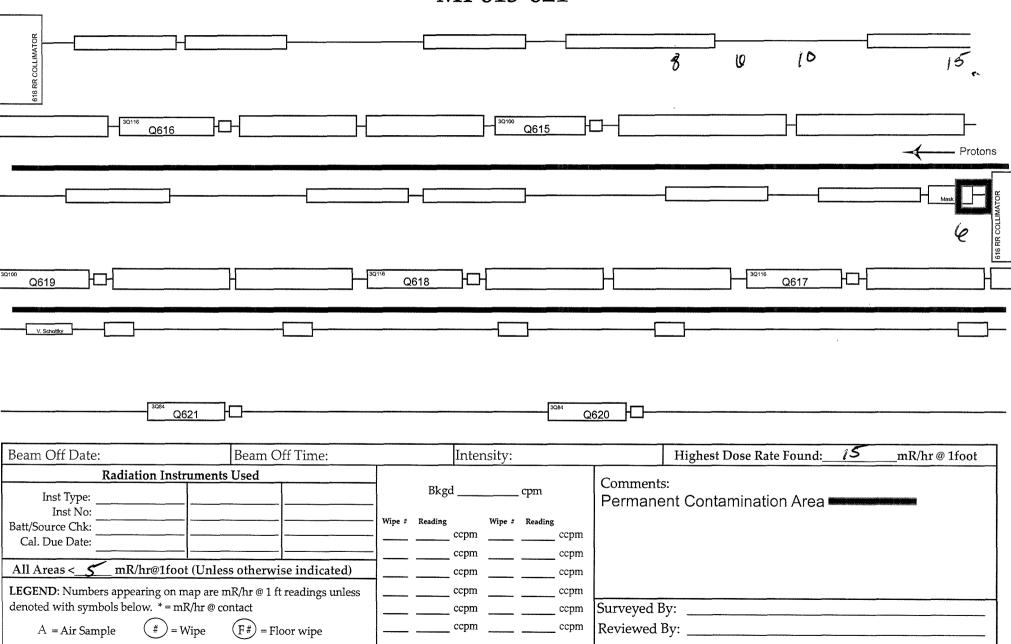
Beam Off Date:	Beam Off Time:		Intensity	y:		Highest Dose Rate Found:mR/hr @ 1foot
Radiation Instruments Used					Commen	ło.
Inst Type:		Bkį	gd	cpm	Commen	ts.
Inst No:		Wipe = Reading	TA/5 m	e = Reading		
Batt/Source Chk: Cal. Due Date:		wipe - Reading	_ ccpm	e - Reading	n	
Cai. Due Date.			cepm	ccp	n	
All Areas < mR/hr@1foot	(Unless otherwise indicated)		ccpm	cep	n	
LEGEND: Numbers appearing on m	ap are mR/hr @ 1 ft readings unless		ecpm	ccr	n	
denoted with symbols below. * = mR	/hr @ contact		cepm	ecp	n Surveyed	Ву:
A = Air Sample $\# = W$	Tipe $(F^{\#})$ = Floor wipe		ccpm	cep	^m Reviewed	By:



DATE: 18/22 TIME: 0730 PURPOSE: IN THE ENTY RWP#

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

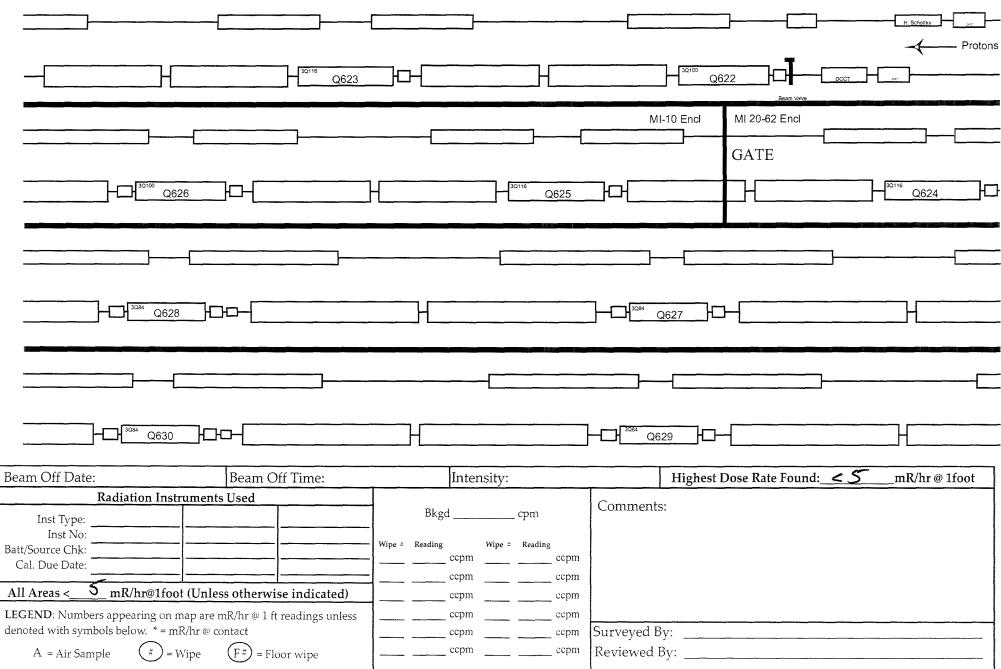
MI 615-621





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TIME - 736	PURPOSE: INITIAL	2	RM/P #
DATEL KY 22 TIME:0750	PURPOSE: DATTIFE	E 10 ()	IXVVI #
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MI 622-630

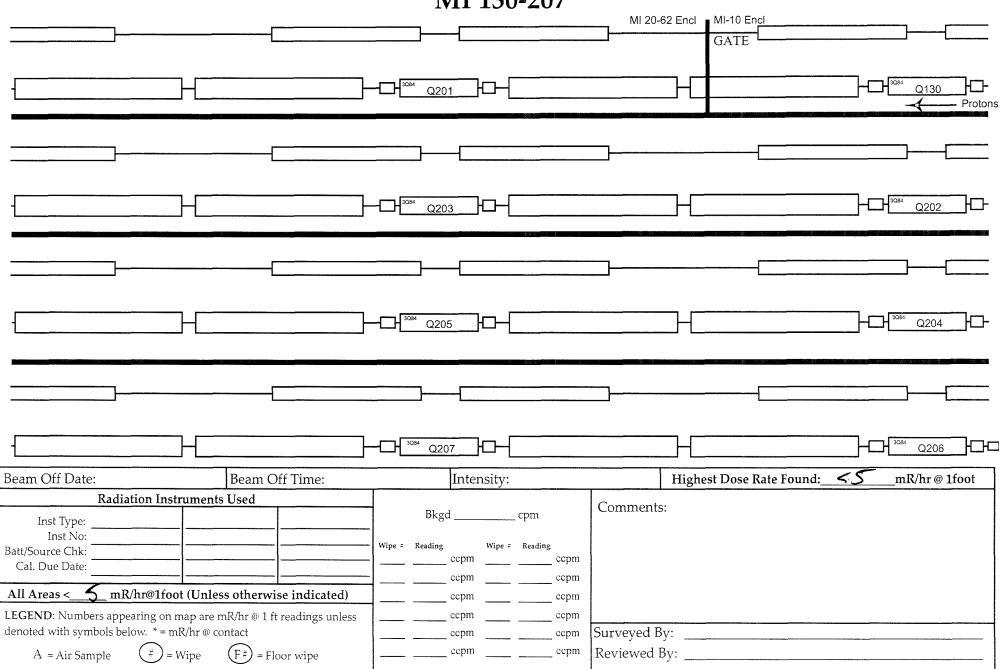




DATE: \\18/22 TIME: 6730 PURPOSE: Two, an Enty RWP#

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

MI 130-207

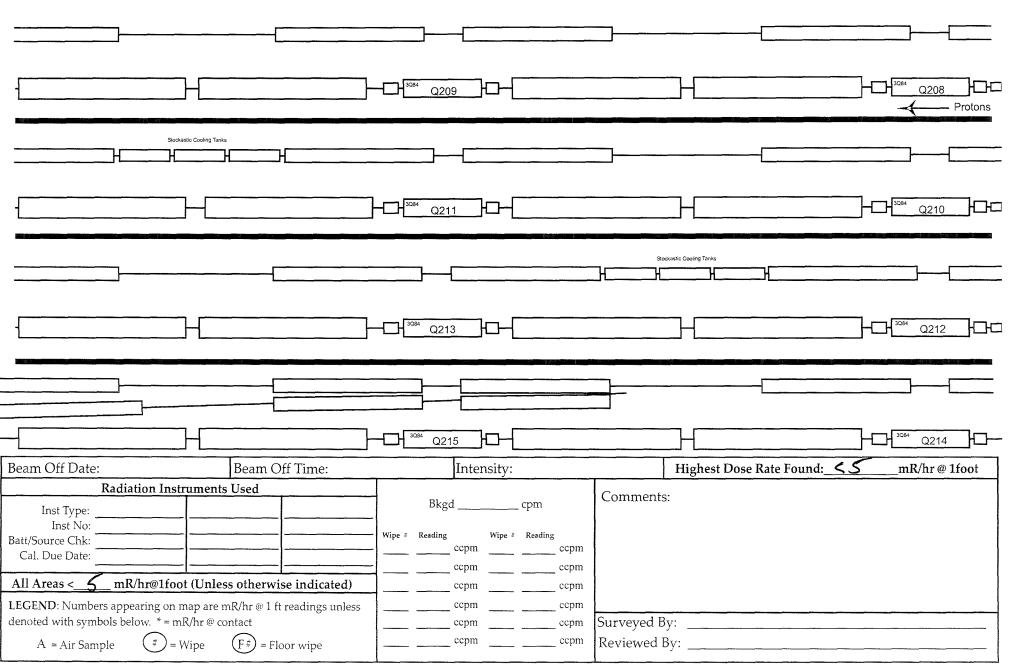




DATE: 18/22 TIME:0730 PURPOSE: INITIAL ENTY RWP#

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

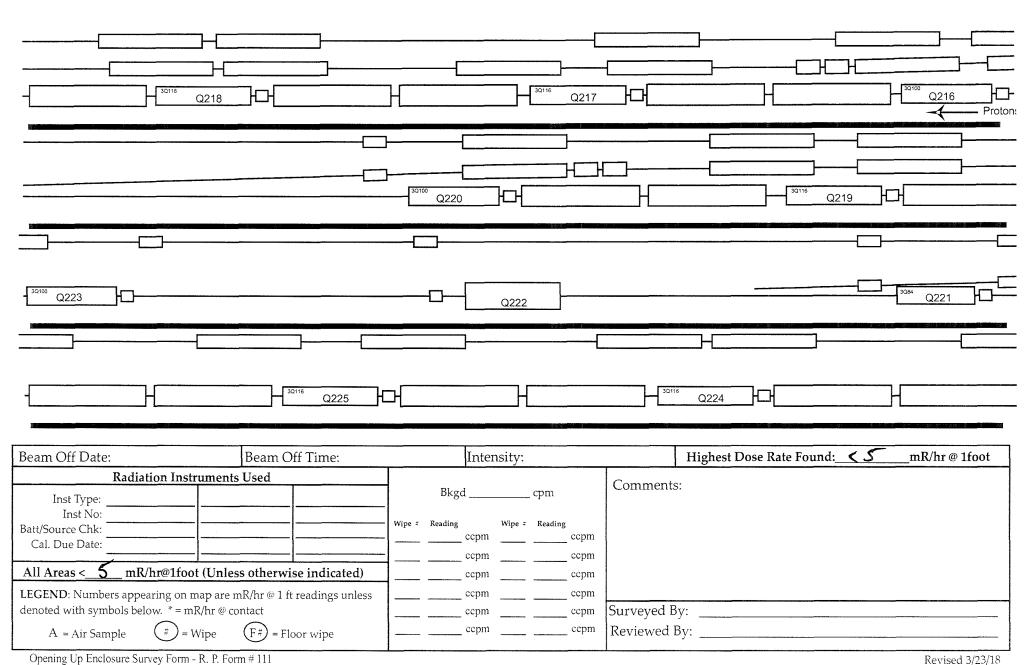
MI 208-215





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DATE 1/4/2外 TIME: 0730	PLIRPOSE. TWO TOWN	T. IRW	D #
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MI 216-225

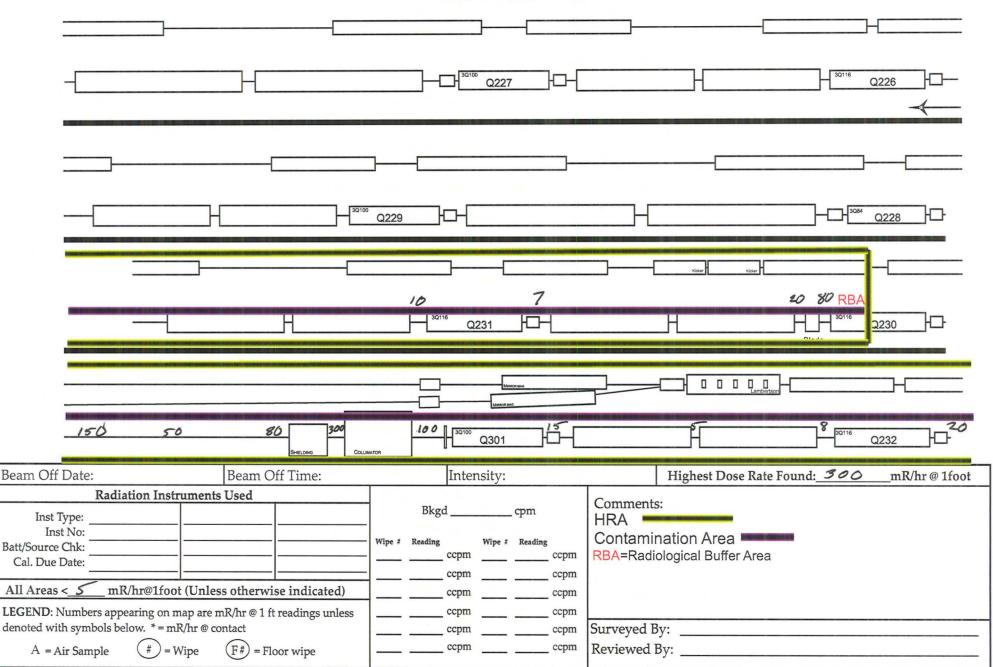




DATE: 1/18/22 TIME: 0130 PURPOSE: IN IT IN TENSO RWP#

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

MI 226-301

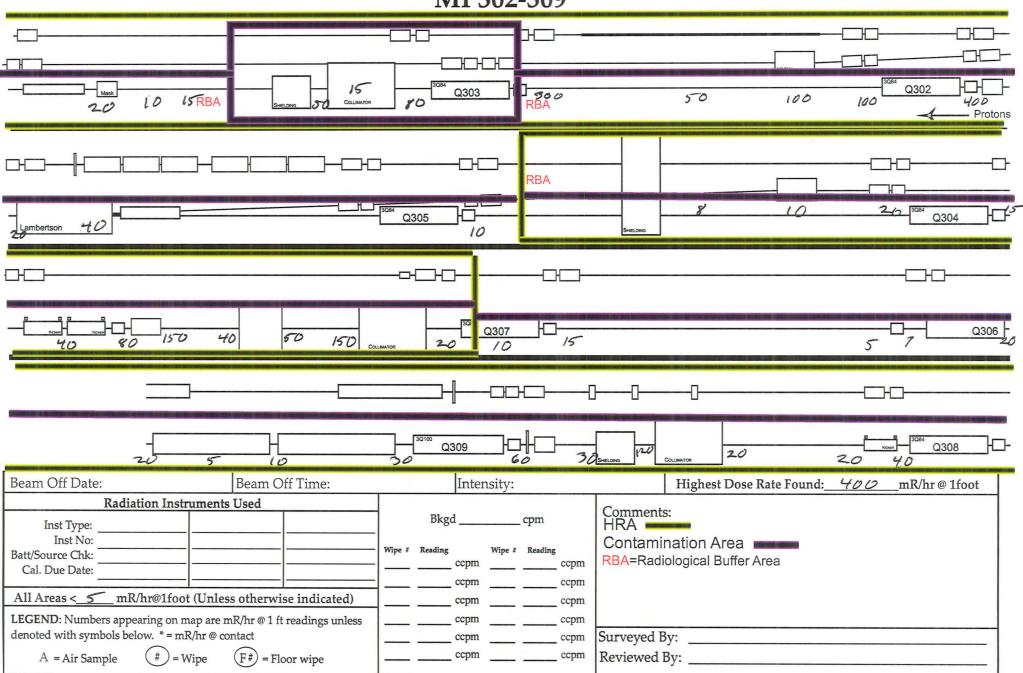




DATE: 1/18/22 TIME: 6730 PURPOSE: INITIAL ENTENT RWP#

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

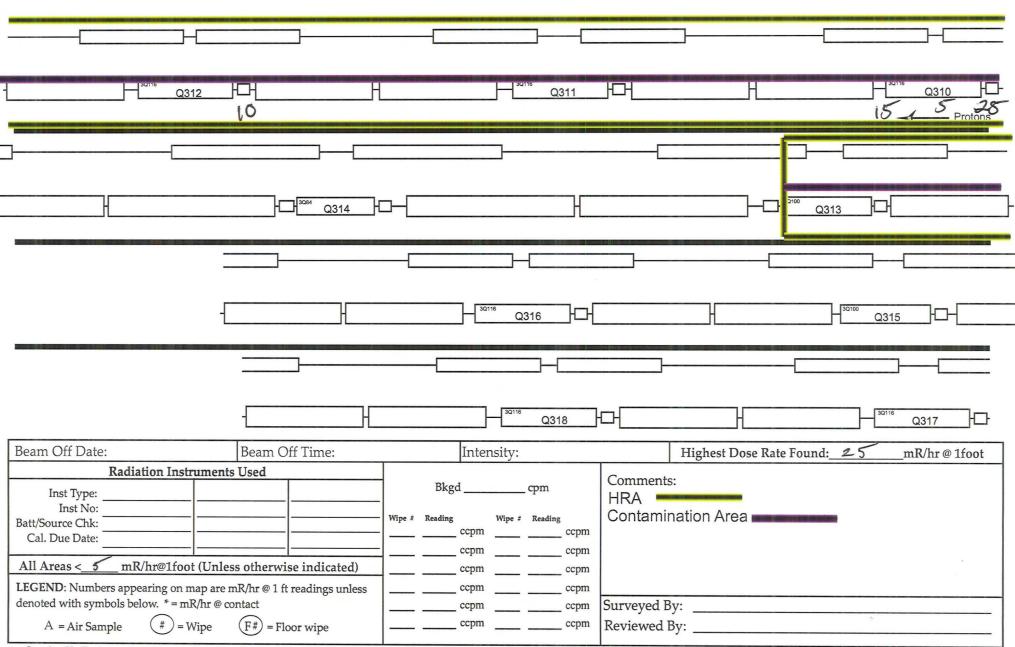
MI 302-309





DATE: \\8/22	TIME: 0730	PURPOSE:	IN, TISH ENTY	RWP#	435.
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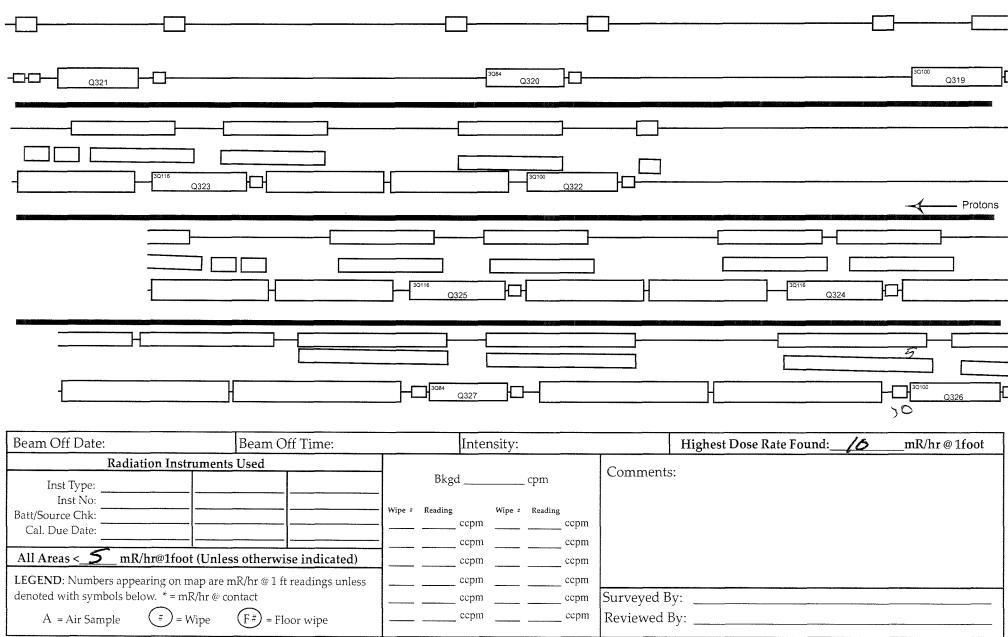
MI 310-318





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IDAME: 4/8/23	TIME MIZO	PURPOSE: (n, tial	Entra	DMD#	
DATE://Uldd	111V1L.0450	HURIOSE. IN FICE	E16779	1X VV 1 #	

MI 319-327





DATE: 1/8/D TIME: 0730 PURPOSE: (notial Entry RWP#

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

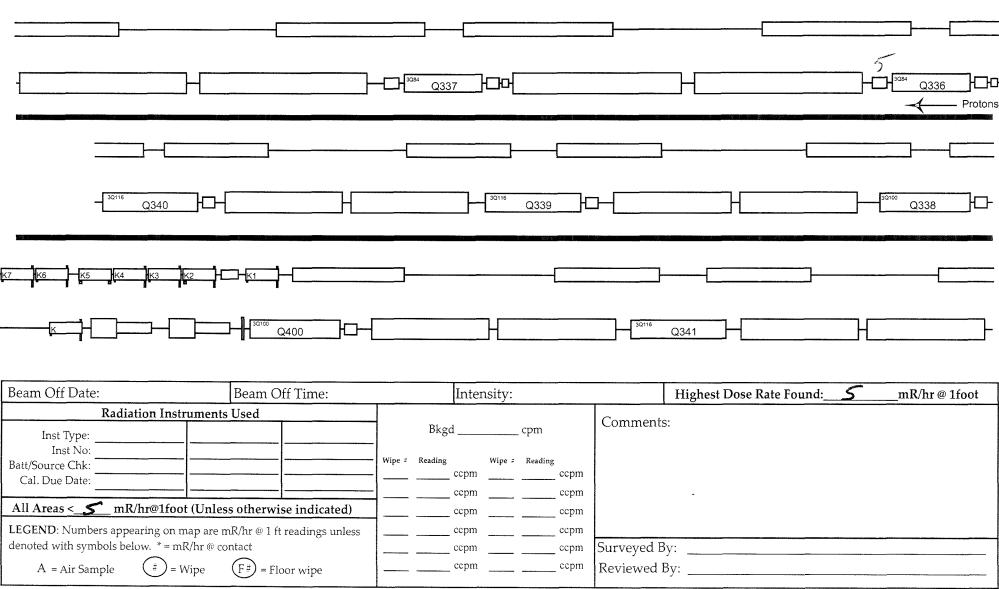
MI 328-335

	Q329 Q329		9084 Q328 Protons
-	Q331 Q331		—————————————————————————————————————
	Q333 D		
	Q335 D		
Beam Off Date: Radiation Instruments Used Inst Type: Inst No: Batt/Source Chk: Cal. Due Date:	Intensity: Bkgd cpm Wipe = Reading Wipe = Reading ccpm ccpm	Highest Dose Rate Found:_ Comments:	MR/hr@1foot
All Areas < 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	ccpm ccpm ccpm ccpm ccpm ccpm ccpm ccpm ccpm ccpm ccpm ccpm	Surveyed By:	



1/10/20 TIME 02	30 PURPOSE / La fine / Forter	RWP #
DATE: 118/22 HME: 07	SO PURPOSE: La Mai carry	KVVP#

MI 336-400



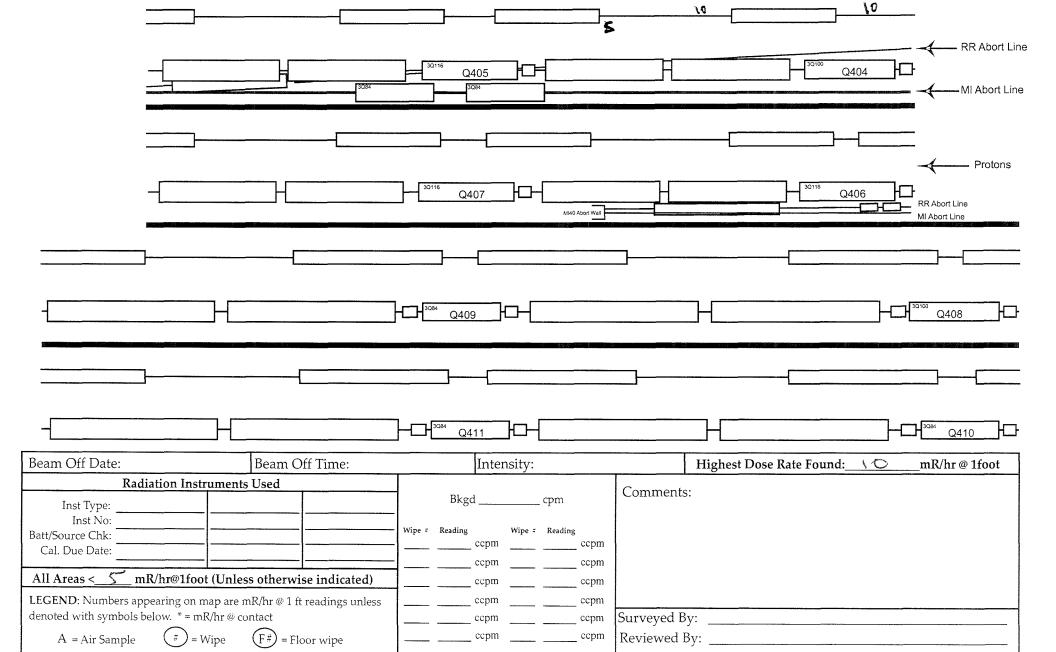
Fermila ES&H	b This Surv	Vey is part of the MI 20-62 survey point MI-40 ABOI	ackage. See attached cover sheet for surve	RWP # eyor, instrument, and review information.
	Vert. Horz	3084	Q403	Lambertson CMagambertson
MI-40 Abort Wall	Q406	Overhead View GRC-MAC S003 QUAD	QUAD Q405	RR Abort Line MI Abort Line
Beam Off Date:	Beam Off Time:	Intensity:	Highest Dose Rat	e Found: R/hr@1foot
Inst Type: Inst No: Batt/Source Chk: Cal. Due Date:			Comments: HRA Contamination Area	
All Areas < 5 mR/hr@1foot LEGEND: Numbers appearing on ma	(Unless otherwise indicated)		ccpm	
denoted with symbols below. * = mR/			ccpm Surveyed By:	
A = Air Sample # = Wi	pe $F^{\#}$ = Floor wipe	ccpm		
Opening Up Enclosure Survey Form - F	R. P. Form # 111			Revised 3/23/18



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

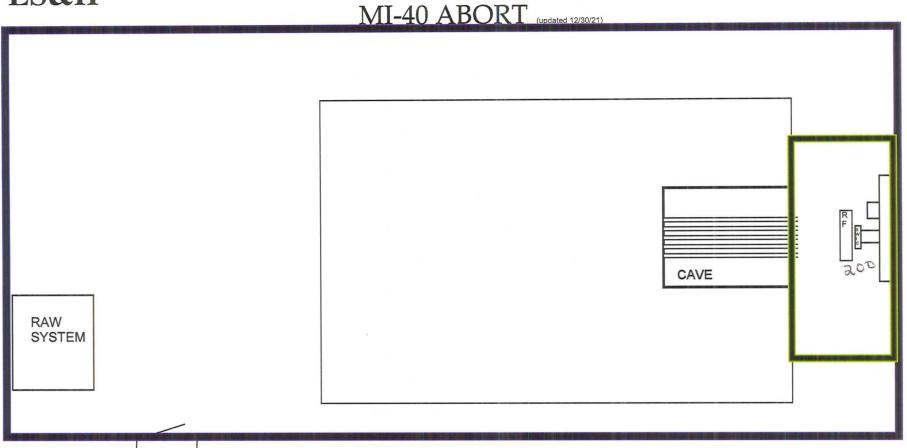
This Survey is part of the MI 20-62 survey package. See attached cover sheet for surveyor, instrument, and review information.

MI 404-411





DATE: \ 48 22 TIME: 0730	PURPOSE: INITIAL ENT	RWP #
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Beam Off Date:	Beam Off Time:			In	tensity:			Highest Dose Rate Found:mR/hr @ 1foot
Radiation Instr	uments Used							Comments:
Inst Type:				Bkgd		cpm		Permanent HRA
Inst No: Batt/Source Chk:			Wipe #	•	•	Reading		Permanent Contamination Area
Cal. Due Date:				ccr			epm	
				ccr	m	cc	pm	
All Areas < 5 mR/hr@1foot	(Unless otherwise indica	ted)		ccr	m	cc	epm	
LEGEND: Numbers appearing on m	nap are mR/hr @ 1 ft readings	unless		ccr	m	cc	epm	
denoted with symbols below. * = mF	R/hr @ contact			ccr	m	cc	epm	Surveyed By:
A = Air Sample # = W	Vipe $F^{\#}$ = Floor wipe		_	ccr	om	co	epm	Reviewed By:



DATE: 1 8 27 TIME: 6730 PURPOSE: IN THE 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

			—————————————————————————————————————
	Q415 D-	H	-C-1 ^{3Q84} Q414
		H	3084 Q416
	Q419 Q419	H	Q418 D-
Beam Off Date: Beam Off Time: Radiation Instruments Used	Intensity:	<u> </u>	Found: 2 5 mR/hr@1foot
Inst Type: Inst No: Batt/Source Chk: Cal. Due Date: All Areas < mR/hr@1foot (Unless otherwise indicated)	Bkgd cpm Wipe = Reading ccpm ccpm ccpm ccpm ccpm ccpm ccpm ccpm	Comments:	
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless denoted with symbols below. * = mR/hr @ contact A = Air Sample π = Wipe $F\pi$ = Floor wipe	ccpmccpmccpm	Surveyed By: Reviewed By:	i i



					
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D111L. (1) 517					

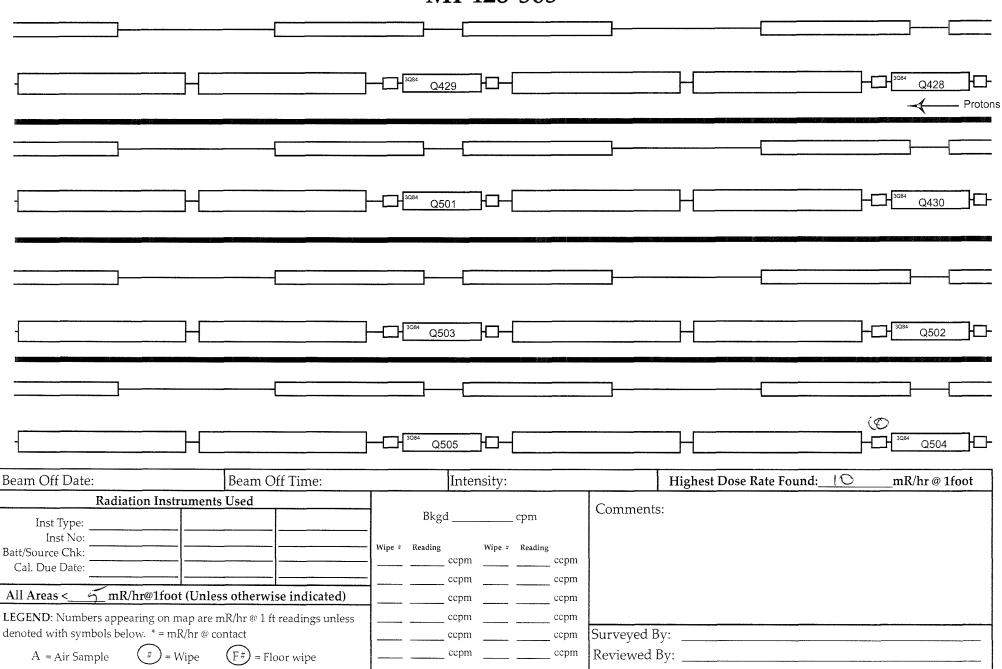
MI 420-427

	Q421 D-	→ Q420 → Protor
	3084	3084
	Q425 D	
	Q427 Q427	
Beam Off Date: Beam Off Time:	Intensity:	Highest Dose Rate Found: 45 mR/hr@1foot
Radiation Instruments Used Inst Type: Inst No: Batt/Source Chk: Cal. Due Date:	Bkgd cpm	Comments:
All Areas < mR/hr@1foot (Unless otherwise indicated	d) ccpm ccpm	
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unlidenoted with symbols below. * = mR/hr @ contact $A = Air Sample $	ccpm ccpm	Surveyed By: Reviewed By:



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- I I I	TO 10 - 5 7.	DUDDOCE	. 11	DIMP #
DATE: 128/22	111ME:0 670	PURPOSE: IN MAL ENTRY	. 11	XVVI #
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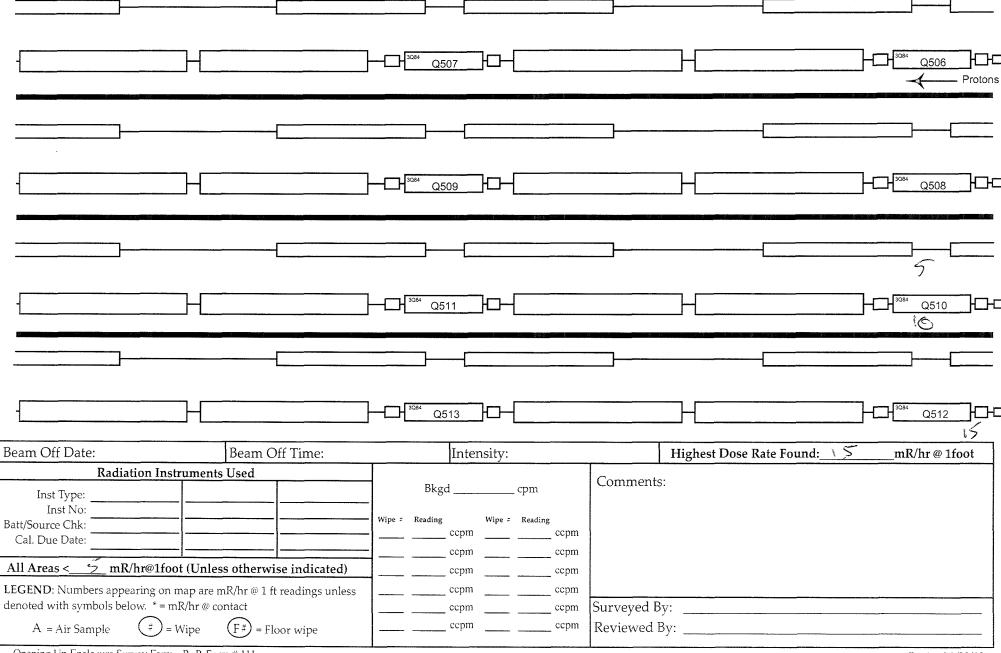
MI 428-505





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DATE: 1/18/22	TIME	PURPOSE: IN THE ENTRY	RWP #
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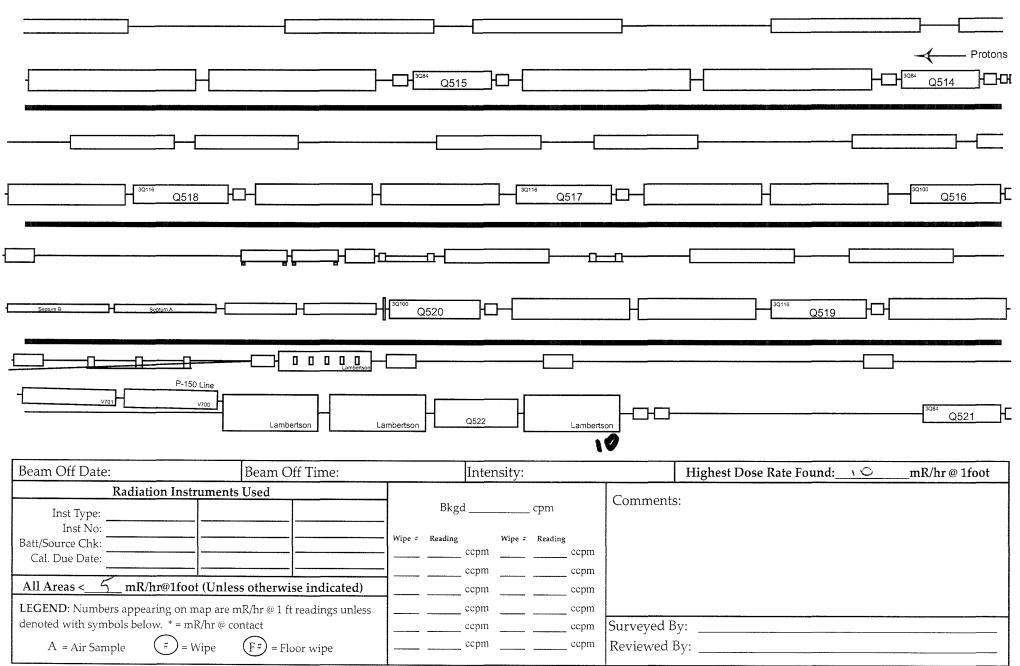
MI 506-513





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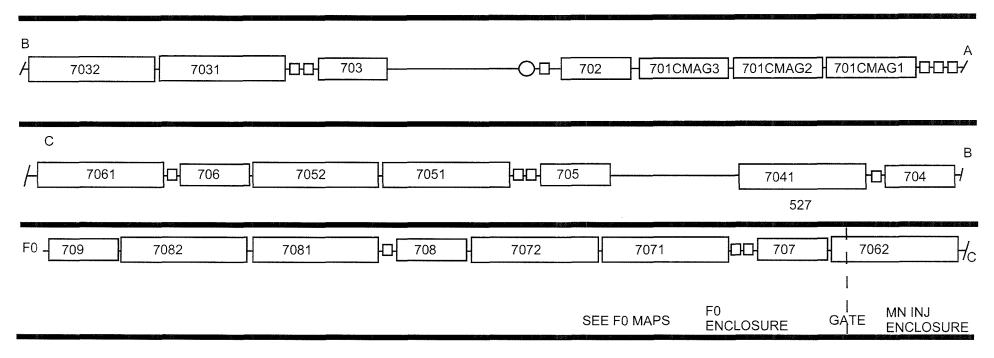
MI 514-522





DATE: 1/18/22	TIME: & 730	PURPOSE: INITIAL ENTRY	RWP #
		,	

P-150 LINE



Beam Off Date:	Beam Off Time:	eam Off Time:		Intensity:		Highest Dose Rate Found:	<5	_mR/hr @ 1foot
Radiation Instruments Used					Comments			
Inst Type: Inst No:		Bkgc		cpm Reading	Comments	•		
Batt/Source Chk: Cal. Due Date:		, ·	ccpm	ccpm	İ			
Cal. Due Date.			ccpm	ccpm				
All Areas < 5 mR/hr@1foot (Unless otherwise indicated)			ccpm	ccpm				
LEGEND: Numbers appearing on map are mR/hr @ 1 ft readings unless			ccpm	ccpm				
denoted with symbols below. * = mR/hr @ contact			ccpm	ccpm	Surveyed B	y:		
A = Air Sample # = Wipe	$(F^{\#})$ = Floor wipe]	ccpm	ccpm	Reviewed E	By:	······	



DATE: \\ \s/22 TIME: 0730 PURPOSE: Two The RWP#

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

MI 523-532

