Appendix 2

Target Loading Table

Title Arsenic Metal Sputtering--RbCl--RbCl Array

Target Array Number: TA 16-09a

Preparer: Anthony J. DeGraffenreid

Proposed Run Time (e.g. days, hrs.): 12 days (288 hours)

Desired Completion Date: January 16th, 2017

Requested Beam Energy (MeV): 116.5

Requested Beam Current (μA): 165

	Item	Type and stamped ID (*if available*)	Layer #'s from "Target Array and Energy Propagation Calculations"	Thickness *inch*	BLIP Operator *(Initial)*	Witness *(Initial)*
Box 1	1	Water Gap	6	0.2		
	2	Arsenic Metal Sputtering	7-9	0.120		
	3	Water Gap	10	0.2		
	4	1st RbCl	11-13	0.670		
	5	Water Gap	14	0.2		
	6	2nd RbCl	15-17	0.524		
	7	Water Gap	18	0.2		
	8	Aluminium Beam Stop	19	0.754		
	9	Water Gap	20	0.2		

RSC Approval: Dana Beavis

Date Approved: Jan. 3, 2017

Appendix 1

Target Array and Energy Propagation Calculations

TITLE: Arsenic Metal Sputtering--RbCl--RbCl Array

Target Array Number: TA 16-09a

Preparer: Anthony J. DeGraffenreid

Layer Number	Layer	Material	Density	Thickness inch	Thickness mm	MeV Ei	MeV Eout	Energy deposited
1	Beryllium		1.85	0.012	0.3048	116.50	116.19	0.31
2	AlBeMet		2.10	0.012	0.3048	116.19	115.85	0.34
3	Stainless Steel Window		7.99	0.031	0.7870	115.85	112.93	2.92
4	Water		1.00	0.106	2.6921	112.93	111.10	1.83
5	Stainless Steel Window		7.99	0.020	0.5080	111.10	109.19	1.91
6	Water		1.00	0.200	5.0800	109.19	105.65	3.54
7	Aluminum Window--Front		2.70	0.020	0.5080	105.65	104.90	0.75
8	As Sputtering		5.21	0.025	0.6350	104.90	103.30	1.60
9	Aluminum Window--Back		2.70	0.075	1.9050	103.30	100.40	2.90
10	Water		1.00	0.200	5.0800	100.40	96.61	3.79
11	Inconel Can Window--Front		8.43	0.012	0.3048	96.61	95.24	1.37
12	RbCl Salt		2.20	0.646	16.4084	95.24	75.60	19.64
13	Inconel Can Window--Back		8.43	0.012	0.3048	75.60	73.97	1.63
14	Water		1.00	0.200	5.0800	73.97	69.14	4.83
15	Inconel Can Window--Front		8.43	0.012	0.3048	69.14	67.40	1.74
16	RbCl Salt		2.20	0.500	12.7000	67.40	47.00	20.40
17	Inconel Can Window--Back		8.43	0.012	0.3048	47.00	44.66	2.34
18	Water		1.00	0.200	5.0800	44.66	37.16	7.50
19	Aluminum Window--Front		2.7	0.754	19.15	37.16	Stop	37.16
20	Water		1.00	0.200	5.0800	Stop	#N/A	#N/A

RSC Approval: Tom Burns

Date Approved: Jan 3, 2017