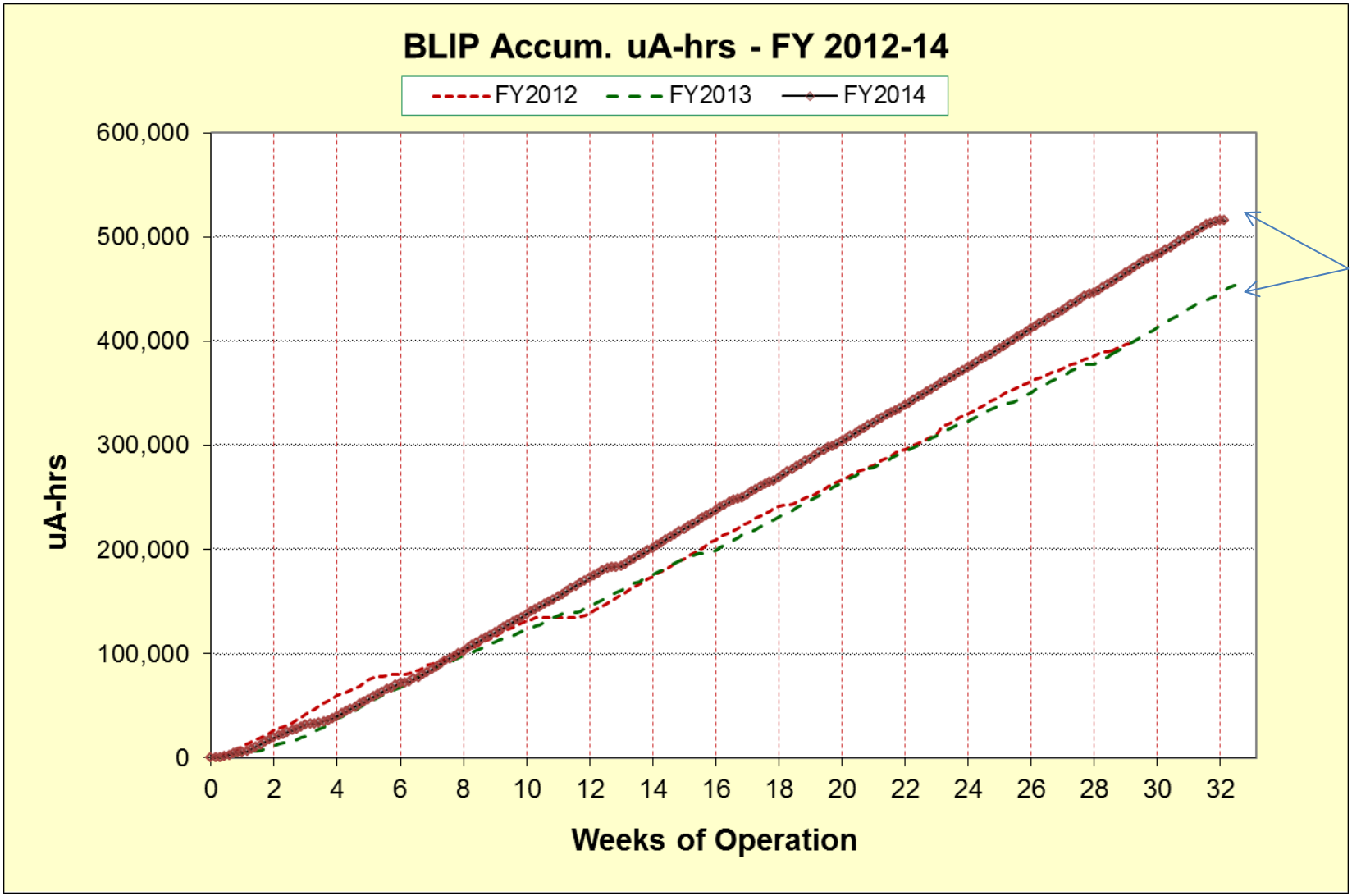
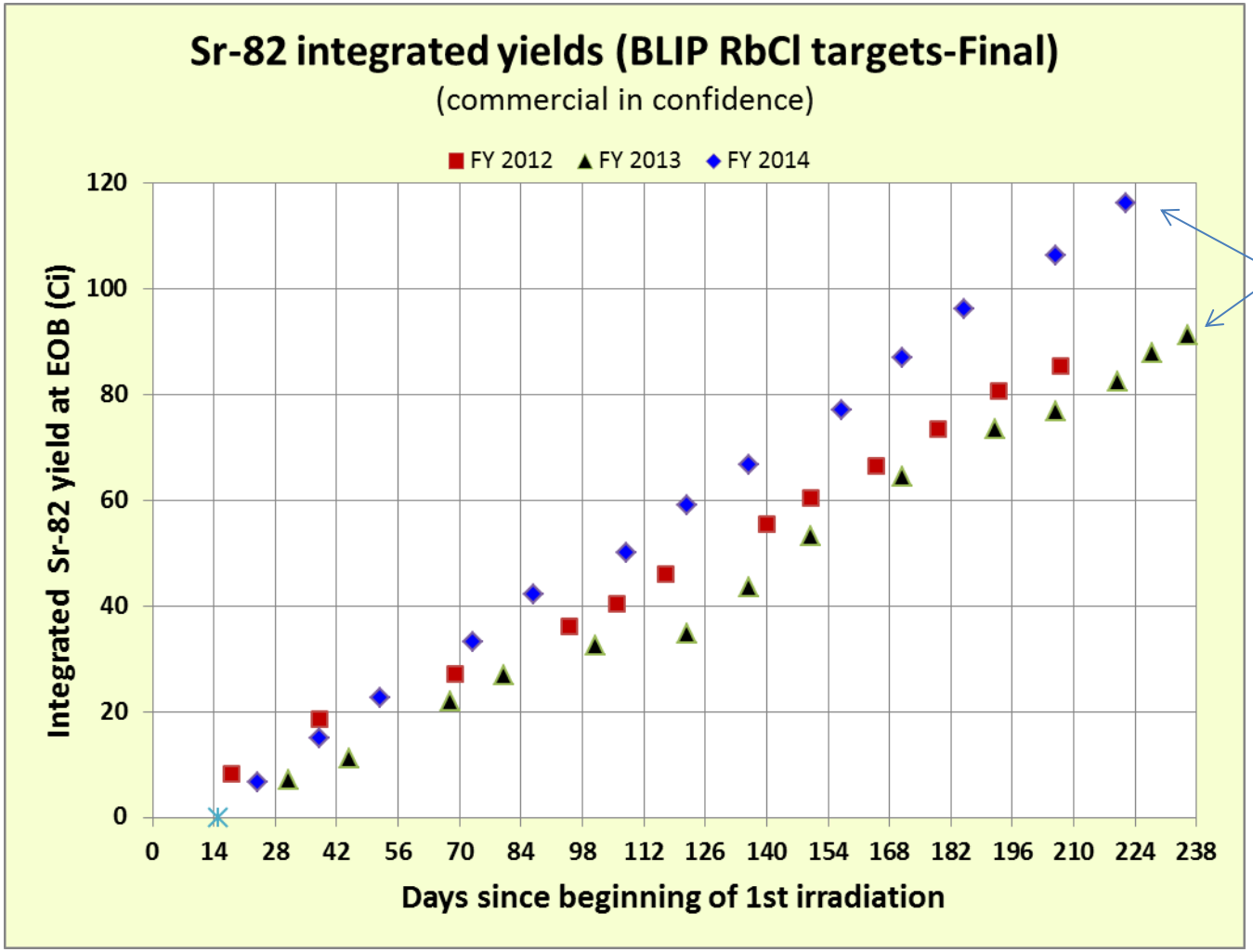
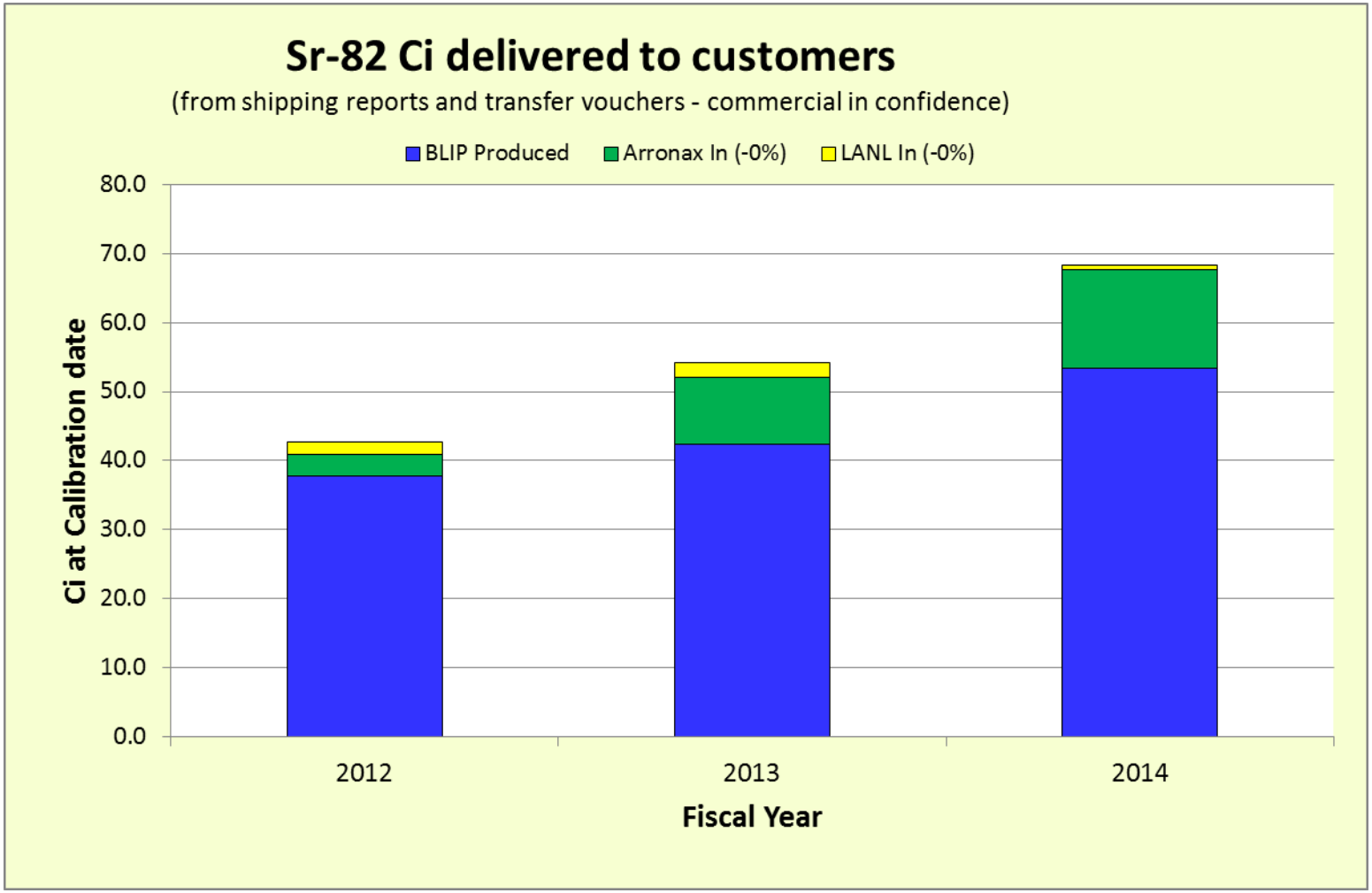


Δ = 13%

	FY 2012	FY 2013	FY 2014
Beam On Average Current (μA)	90.9	93.7	105.7
Total Integrated Current (μA-hr)	397,835	454,913	515,815


Sr-82 integrated yields (BLIP RbCl targets-Final)
(commercial in confidence)
FY 2012
FY 2013
FY 2014
Integrated Sr-82 yield at EOB (Ci)
0
20
40
60
80
100
120
0
14
28
42
56
70
84
98
112
126
140
154
168
182
196
210
224
238
Days since beginning of 1st irradiation

Δ = 27%



BLIP Ci = Total Sr-82 shipped at Calibration Date less Ci from Arronax and LANL.
Ci for LANL and Arronax assumes no losses in processing/blending/decay
loss on shelf beyond Calibration Date.

Blip produced (and shipped) = Total shipped according to shipping reports less
[Arronax In + LANL In] – i.e. a lower limit as there are some losses

Isotope Program Production FY2012 through FY2014
(shipping reports used for Ci of Sr-82)

Isotope Program Production
FY2012 thru FY2014 11/12/2014, with correction for 2013 Sr-82 units sold

Cost of Goods Sold FY 2014

Asset Code	Isotope	Cost of Goods Sold (WN)	Units sold in mCis	Cost per mCi (C/D)	No. of Shipments	No. of Batches
091	**Be-7**	$ (0)	0.0	$0.00	0	0
072	**Cu-67**	$ -	0.0	$0.00	0	0
098	**Fe-55**	$ 2,606	200.0	$13.03	1	0
06S	**Ge-68**	$ -	0.0	$0.00	0	0
06N	**Ni-63**	$ 507,462	90,052.0	$5.64	9	0
06T	**Rb-83**	$ 5,529	5.3	$1,043.16	1	1
093	**Sr-82**	$ 7,062,472	68,356.5	$103.32	155	13
099	**Y-86**	$ (0)	0.0	$0.00	0	0
06W	**Zn-65**	$ 8,351	6.0	$1,391.77	1	1
		$ 7,586,419	158,619.8		167	15

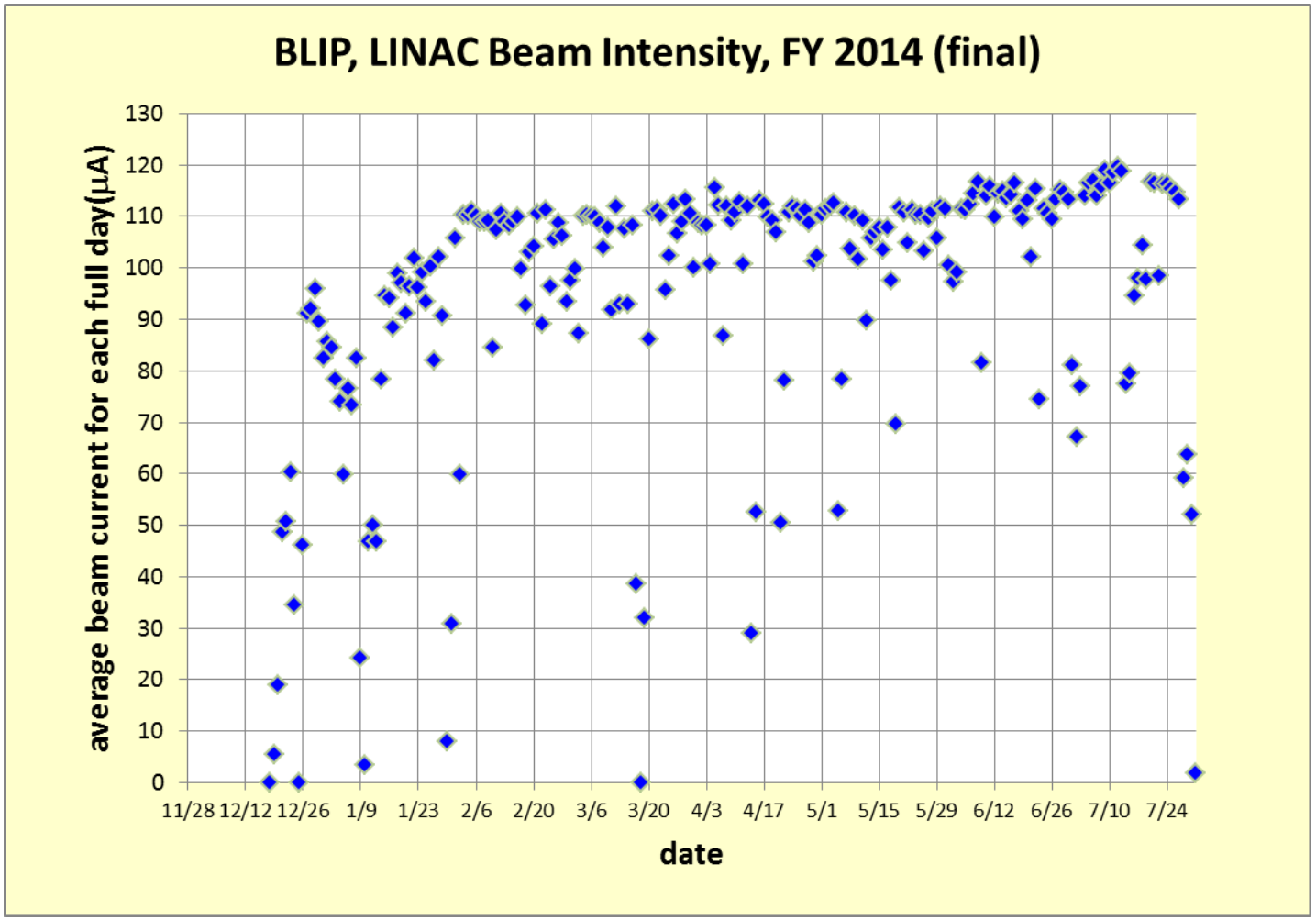
Cost of Goods Sold FY 2013

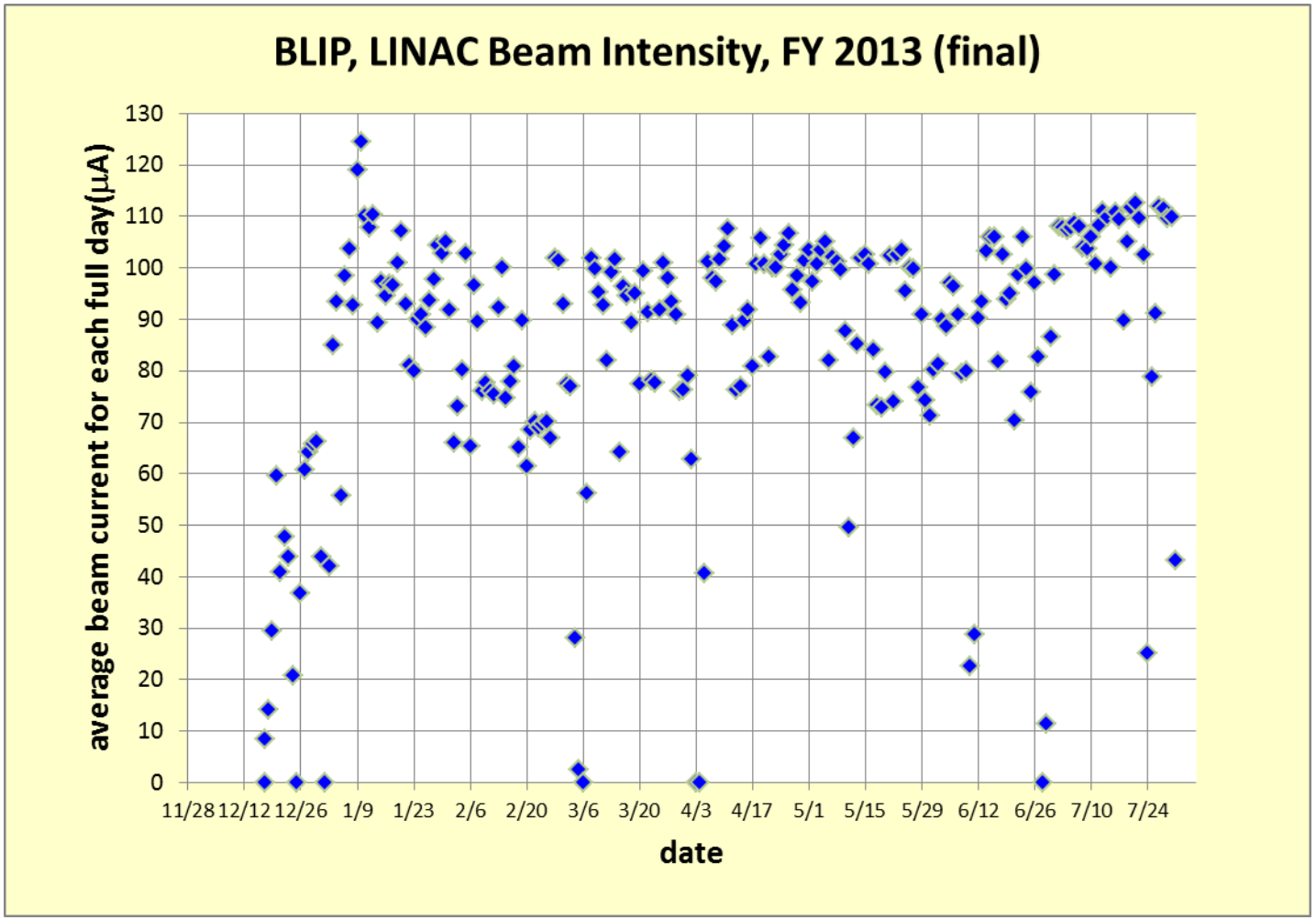
Asset Code	Isotope	Cost of Goods Sold (WN)	Units sold in mCis	Cost per mCi (C/D)	No. of Shipments	No. of Batches
091	**Be-7**	$ -	0.0	$0.00	0	0
072	**Cu-67**	$ 33,429	12.0	$2,785.72	5	2
098	**Fe-55**	$ 2,300	220.1	$10.45	4	0
06S	**Ge-68**	$ 308,013	697.5	$441.60	5	3
06N	**Ni-63**	$ 240,814	69,011.0	$3.49	7	0
06T	**Rb-83**	$ 2,342	8.0	$292.79	2	0
093	**Sr-82**	$ 3,456,422	54,191.0	$63.78	81	16
099	**Y-86**	$ -	0.0	$0.00	0	0
06W	**Zn-65**	$ 27,899	12.0	$2,324.93	3	0
		$ 4,071,219	124,151.6		107	21

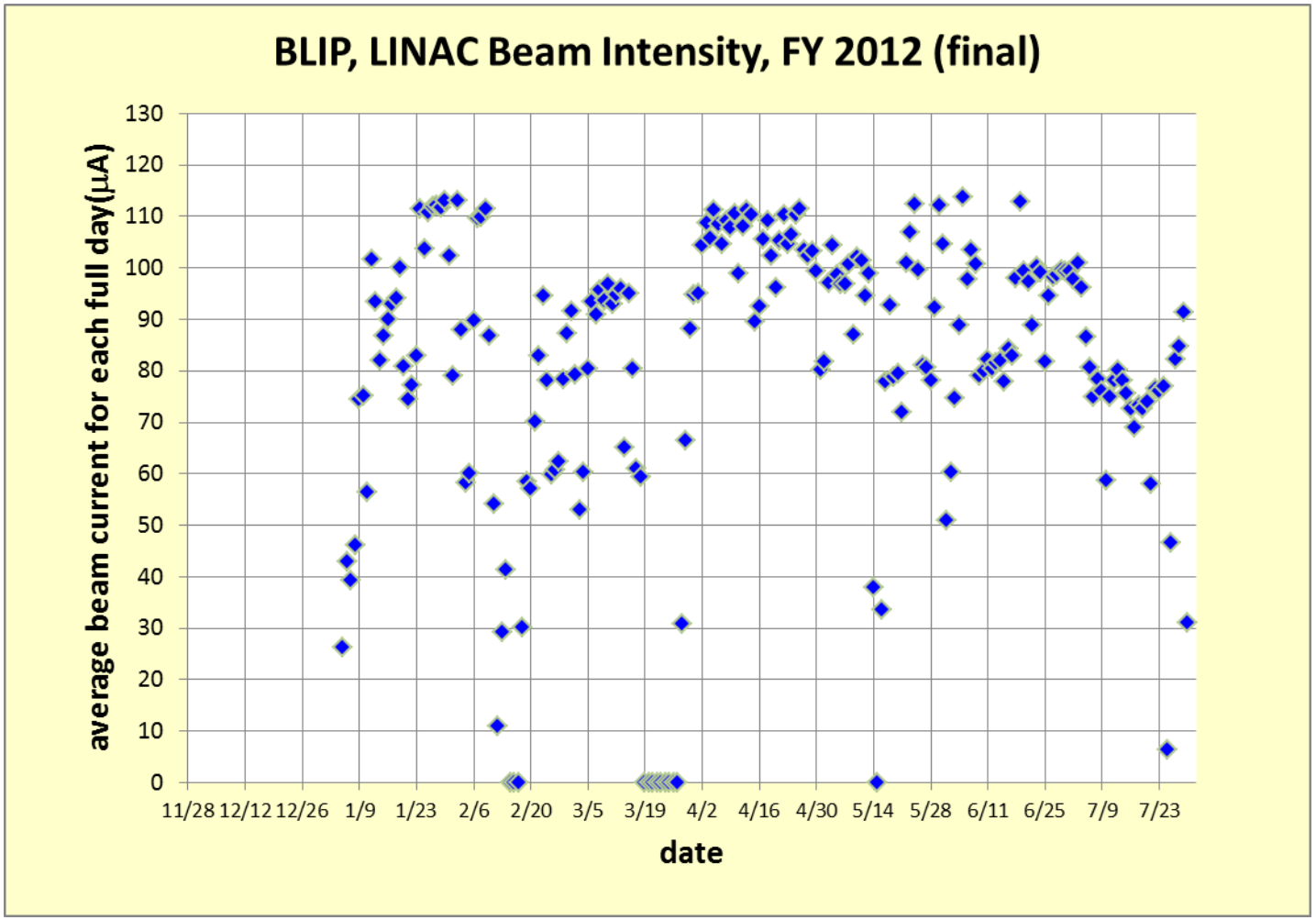
Cost of Goods Sold FY 2012

Asset Code	Isotope	Cost of Goods Sold (WN)	Units sold in mCis	Cost per mCi (C/D)	No. of Shipments	No. of Batches
091	**Be-7**	$ -	0.0	$0.00		
072	**Cu-67**	$ -	0.0	$0.00		
	Fe-55	$ 264	300.0	$0.88	2	
06S	**Ge-68**	$ 695,353	1,818.5	$382.38	17	3
06N	**Ni-63**	$ 207,220	132,003.0	$1.57	10	
06T	**Rb-83**	$ 58	7.0	$8.27	3	
093	**Sr-82**	$ 1,909,387	42,599.4	$44.82	67	13
099	**Y-86**	$ -	0.0	$0.00		
06W	**Zn-65**	$ 749	6.7	$111.82	4	
		$ 2,813,031	176,734.6		103	16

Commercial in Confidence


BLIP, LINAC Beam Intensity, FY 2014 (final)
average beam current for each full day(μA)
130
120
110
100
90
80
70
60
50
40
30
20
10
0
11/28
12/12
12/26
1/9
1/23
2/6
2/20
3/6
3/20
4/3
4/17
5/1
5/15
5/29
6/12
6/26
7/10
7/24
date


BLIP, LINAC Beam Intensity, FY 2013 (final)
average beam current for each full day(μA)
130
120
110
100
90
80
70
60
50
40
30
20
10
0
11/28
12/12
12/26
1/9
1/23
2/6
2/20
3/6
3/20
4/3
4/17
5/1
5/15
5/29
6/12
6/26
7/10
7/24
date


BLIP, LINAC Beam Intensity, FY 2012 (final)
average beam current for each full day(μA)
130
120
110
100
90
80
70
60
50
40
30
20
10
0
11/28
12/12
12/26
1/9
1/23
2/6
2/20
3/5
3/19
4/2
4/16
4/30
5/14
5/28
6/11
6/25
7/9
7/23
date

From P. Ingrassia

BLIP & Linac Availability 2012-2014

P. Ingrassia

Year	Production (HRS)	BLIP Failure (HRS)	Linac Failure (HRS)	Setup (HRS)	Sch. Main. (HRS)	Sch. Shut. (HRS)	UnschShut. (HRS)	BLIP Avail (HRS)	Linac Avail (HRS)
2012	4385	362	172	35	22	12	0	92.4	96.3
2013	4842	89	215	36	45	187	1.97	98.2	95.8
2014	4849	24	210	77	154	83	0.25	99.5	95.9

System	2012 (%)	2013(%)	2014 (%)
RF	15.13	33.99	28.11
Source	48.82	18.81	22.78
Power dip	13.07	10.97	14.55
Vacuum	0.12	2.72	11.55
Human Error	1.53	5.52	5.12
Cool. water	0.47	7.52	3.69
Access Ctr	7.32	5.62	3.66
Quad	9.70	9.01	3.14