Cell Name	Fill Type	Geometry	Glass	Metal	Max Lifetime (hr)	Fill Date
Tyrion	NGP	Sphere	GE180	Gold on glass	1.21	6/18/09
Gold Maiden1	NGP	Flange	Pyrex	Gold on Copper	2.14	6/18/10
Gold Maiden2	NGP	Flange	Pyrex	Gold on Copper	None	8/14/10
Gold Maiden3	NGP	Flange	Pyrex	Gold on Copper	6.49	11/11/10
Goldfinger	NGP	Vertical	Pyrex	Gold on Copper	3.59	4/28/13
Cupid	NGP	Vertical	Pyrex	Bare Copper	3.13	6/15/13
Goldeneye	NGP	Vertical with Valve	Pyrex	Gold on Copper	13.94	10/2/13
GoldRush	NGP	Vertical	Pyrex	Gold on Copper	14.81†	11/8/13
Pyrah	NGP	Vertical	Pyrex	None	26.52†	2/1/14
GoldenVec	NGP	Horizontal	Pyrex	Gold on Copper	10.6	10/18/14
TitanVec	NGP	Horizontal	Pyrex	Gold on Titanium	0.52	12/15/14
GoldenVec2	Cryogenic	Horizontal	Pyrex	Gold on Copper	15.6	2/14/15
Titan	NGP	Vertical	Pyrex	Bare Titanium	None	3/11/15
GoldenVec180	Cryogenic	Horizontal	GE180	Gold on Copper	4.43	6/17/15
GolderVec360	Cryogenic	Horizontal	GE180	Gold on Copper	3.01	7/11/15
Tweety	Cryogenic	Vertical	Pyrex	Canary Glass	22.7	9/22/15
Sylvester	Cryogenic	Horizontal	GE180	Canary Glass	6.39	11/20/15
Kappa1	Cryogenic	Sphere	GE180	None	72.17	2/6/16
Goldfinger180	Cryogenic	Vertical	GE180	Gold on Copper	12.4 †	5/19/16

Table 1: Shown are the fill information, design and maximum measured lifetime of the test cells. Fill type is the method of cleaning gas filled into the cell. † indicates the maximum lifetime was obtained at an elevated position.

$$P_{pc}(t) = \gamma_{se} P_A t - \frac{1}{2}\gamma_{se} P_A (\gamma_{se} + \Gamma_{pc} + d_{pc}) t^2 \tag{1a}$$

$$P_{tc}(t) = \frac{1}{2}\gamma_{se} P_A d_{tc} t^2 \tag{1b}$$

This is a test:

$$1 - e^{-t\cdot\Gamma_{PNMR}} = 1 - e^{-1\times\frac{1}{50}} = 0.0198 = 2\% \tag{2}$$

$^{\circ}C$

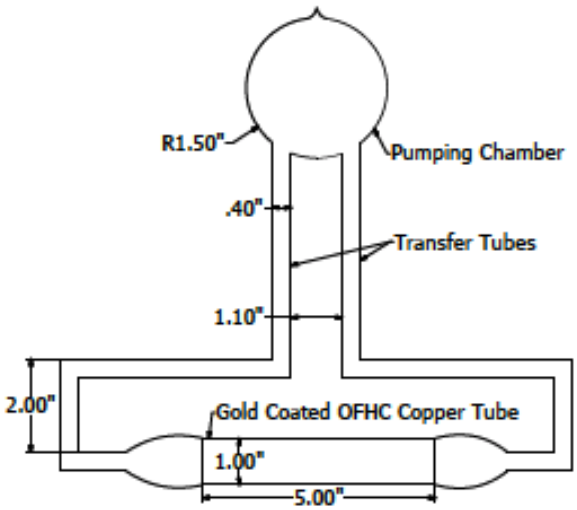

Figure 1: Design of the horizontal cell GoldenVec.

	turns	radius	separation
x	42	33 cm	64 cm
y	100	28 cm	56 cm
z	8	66 cm	66 cm

See in Fig. **??**

The energy levels of ^{87}Rb are shown in Fig. **??**. where Γ_A is the pressure dependent FWHM, $\Gamma_A \approx 0.04 nm/amg \cdot [^3He]$.

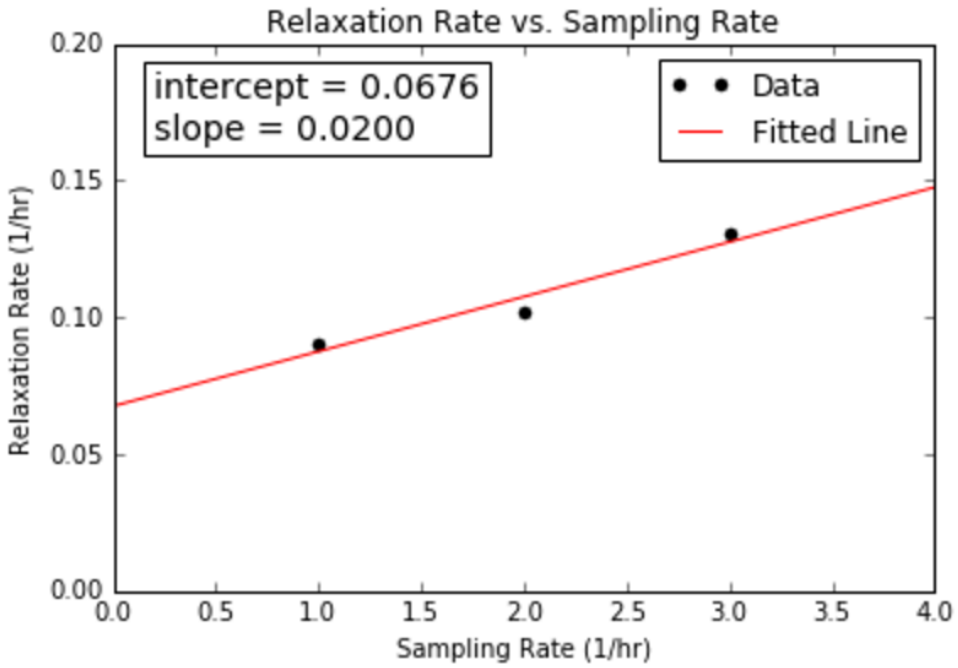

Figure 2: A linear fit to extract lifetime corrected for relaxation due to PNMR losses.

Bibliography