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. Although canary glass is not metal, it is listed in the column of metal for Tweety and Sylvester for the sake of convenience.

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

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

This is a test:

$$\boldsymbol{H}_b(\boldsymbol{r}_b) = \frac{8\pi\mu_b}{3I_b}\boldsymbol{I}_b\delta(\boldsymbol{r}_b) + \frac{\mu_b}{I_b}\boldsymbol{I}_b \cdot \frac{3\boldsymbol{r}_b\boldsymbol{r}_b - 3r_b^2\mathbf{1}}{r_b^5} \tag{2}$$

$\boldsymbol{r}_b$

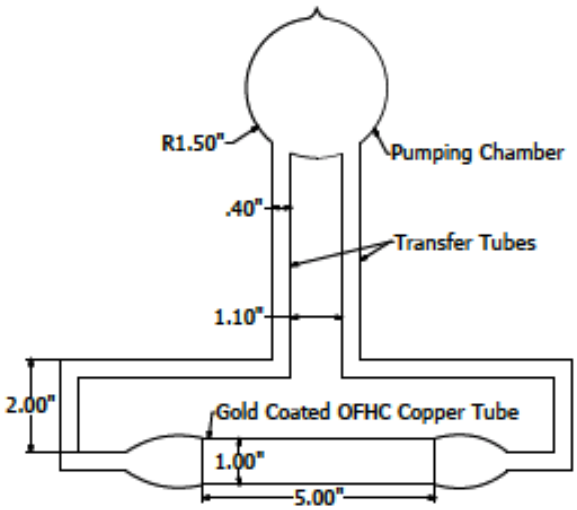

Figure 1: Design of the horizontal cell GoldenVec.

	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, $\Gamma_A \approx 0.04 nm/amg \cdot [^3He]$.

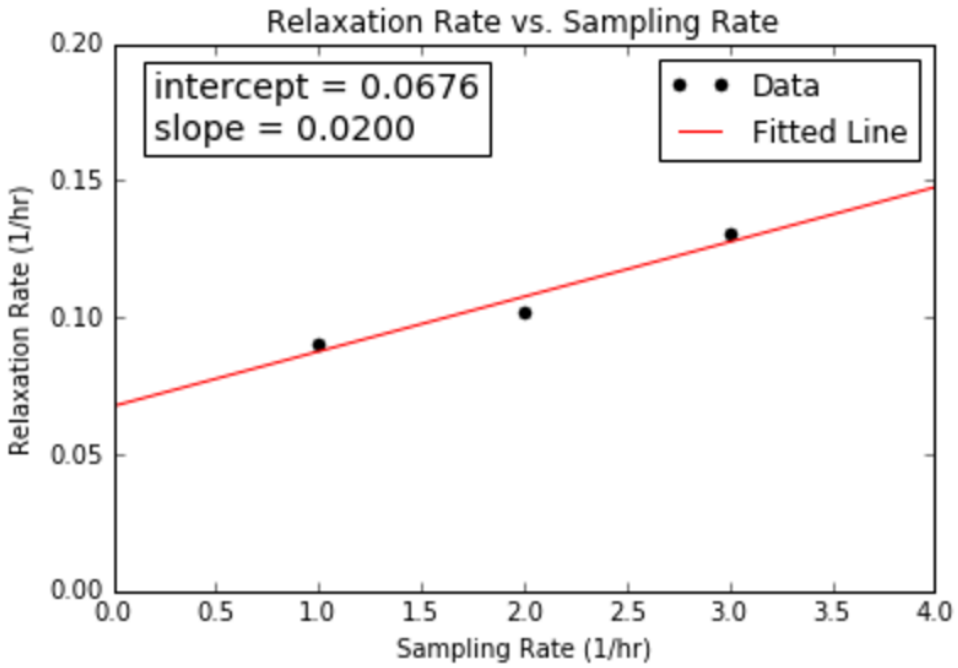

Figure 2: A linear fit to extract lifetime corrected for relaxation due to PNMR losses.

Bibliography