Finger Lakes Cavern Pressures

1	Current Cavern Pressure - Brine filled	1040 psig	0.52 psi/ft x2000' (average cavern depth)
2	Finger Lakes Gallery 2 - Maximum Operating Pressure[1]	1240 psig	.62 psi/ft
3	Re-entry Pressure - Finger Lakes Gallery 1	1340 psig	Current cavern pressure plus surface pressure of 300 psig at re-entry
	Re-entry Pressure - Finger Lakes Gallery 2	1672 psig	Current cavern pressure plus surface pressure of 632 psig at re-entry
4	Finger Lakes Gallery 1 Long Term Brine Test	1500 psig	.75 psi/ft
5	Mechnical Integrity Test Pressure	1500 psig	.75 psi/ft

Other Pressure Reference Numbers:

-	Arlington Gallery 1 - Maximum operating pressure	1500 psig	
-	Arlington Gallery 1 - Mechanical Integrity Test	1600 psig	
-	Arlington Gallery 2 - Long Term Brine Test	1600 psig	
-	To Initiate Hydraulic Fracturing - General	2720 psig	
-	Hydraulic fracturing initiation pressures used by U.S. Salt on wells in the Arlington storage field[2]	2,500-3,500 psig	1.36 psi/ft to 1.70 psi/ft

[1] The maximum operating pressures for the wells to access Gallery 1 (i.e., FL-1 and FL-2) will be established when the wells are installed.

[2] December 6, 2013. Communication between A.J. Rana (FERC Environmental Staff Geologist) and Mr. Peter Briggs (NYSDEC, Director, Bureau of Oil & Gas Permitting and Management) See Table 1 attached

Table 1. Summary of Fracture Pressures for Salt Point Field, Reading, Schuyler County, New York.

Well No.	Fracture Date[1]	Targeted Interval[1,2] (ft)	Maximum Surface Pressure[1,3] (psig)	Fracture Depth for Calculation (ft)	Assumed Fluid Pressure Gradient (psi/ft)	Fracture Pressure Gradient (psi/ft)[4]	Comments
Well 28	6/10/1957	2,702	2,835	2,703	0.433	1.48	Fluid described as water that becomes saturated brine after salt is fractured.[1] Fluid pressure gradient for freshwater used in fracture pressure calculation. Fractured to connect to Well 27.
Well 33	9/13/1962	2,703 - 2,705	2,500	2,703	0.433	1.36	Fluid used for fracturing unknown.[1] Fluid pressure gradient for freshwater used in fracture pressure calculation. Pressure information from partial records.[1]
Well 40	1/4/1966	2,875	3,400	2,875	0.433	1.62	Brine used for fracturing but saturation is unknown.[1] Fluid pressure gradient for freshwater used in fracture pressure calculation. Fractured to connect to Well 39.
Well 43	10/21/1966	2,755 - 2,757	3,500	2,755	0.433	1.70	Fluid used for fracturing unknown.[1] Fluid pressure gradient for freshwater used in fracture pressure calculation. Fractured to connect to Well 33
Well 44	3/29/1967	2,720	2,800	2,720	0.433	1.46	Fluid used for fracturing unknown.[1] Fluid pressure gradient for freshwater used in fracture pressure calculation. Fractured to connect to Well 34
Well 45	7/23/1968	2,817 - 2,819	3,500	2,817	0.433	1.68	Fluid used for fracturing unknown.[1] Fluid pressure gradient for freshwater used in fracture pressure calculation. Fractured to connect to Wells 30 and 31.

1 Information for Well 28 based on the 1962 article by Jacoby titled *International Salt Brine Field at Watkins Glen, New York*. Information for Wells 33, 40, 43, 44, and 45 based on conversations between Barry Moon (Inergy) and Eric Rodriguez (NYSDEC) on 10/25/13 and 11/5/13

2 Targeted interval for Wells 40 and 44 assumed to be bottom of hole based on records

3 Maximum surface pressure is the pressure recorded prior to a pressure decrease caused by fracturing.

4 1.55 average psi/ft