

Lambton vs Crowland

Approximately 35,000 acres of land in Ontario have been designated as a natural gas storage area by the Ontario Energy Board. Of this total, about 33,000 acres (94%) are currently being compensated based on the Lambton benchmark rate of \$134/acre. The remaining 2,000 acres (Crowland pool) receive \$6/acre. Why?

The OEB's Crozier report (1964) envisioned an industry practice of having a volume based formula for determining lease compensation rates.

"...the Board finds that the only fair and reasonable basis of payment for the storage of gas is one which is related to the capacity of the reservoir in terms of areal extent, volume and quality. This gives a true measure of the privilege granted by virtue of agreements made with owners of storage rights. Furthermore, such a basis is consistent with the trend in Ontario, as will be seen by examining the various agreements that have been reached by negotiations since 1942."

The Crozier report recommended that each given pool be assessed by its volume attributes and a unique compensation rate for that pool would apply. Lenticular pools like Crowland would be less attractive because they tend to be wide and shallow and hence should receive a smaller compensation lease rate.

However, for whatever reason, industry practice did not evolve the way the Crozier report predicted in 1964. Negotiated Lambton benchmark rates are a fixed rate per acre. The dollar amount does not vary with the market value of storage on a day to day, month to month or year to year basis. An acre of land receives \$134. It is two dimensional. It is not adjusted for volume, cycling, and proximity to market or any other natural gas storage productivity metric.

Appendix 1 attempts to illustrate what lease rates would look like in a world where volume matters. All 35 natural gas pools are rank ordered by mmcf/DSA acre. The Payne Reef pool is by far the most attractive and the Crowland pool is by far the least attractive. The lease rate/acre column adjusts each pool's lease rate to reflect its relative attractiveness by volume. Thus, Payne Reef landowners compensation would increase from \$134/acre to \$583/acre. Alternatively, Edy's Mills pool's (ranked #32) compensation would decrease from \$134/acre to \$46/acre. Of course, in the real world both Payne Reef and Edy's Mills landowners receive the same \$134/acre.

While it is clear that the Crowland pool's volume characteristics put it at the bottom of the list, pools such as Sombra Heritage (#34), Sombra Black Creek (#33) and Edy's Mills (#32) have volume/acre attributes closer to Crowland than Payne Reef. Yet these pools receive the same \$134/acre as Payne Reef while Crowland receives \$6/acre.

Enbridge is attempting to cherry pick the data by severely penalizing the poorest volume performer relative to the benchmark provincial compensation rate, but not rewarding the highest volume performer.

Appendix 2 ranks the 35 pools by their ability to "cycle". The column labeled Cycling shows how many times the entire volume of each individual pool can be turned over in a given 365 day period. For

example the Crowland pool can turn over its entire volume 43 times in a given year. Cycling is an important productivity metric that allows storage facilities to optimize services in order to take advantage of the marketplace's volatility. Based on this metric the Crowland pool is ranked #1.

One could go on forever choosing different metrics and then rank ordering all the pools to see how each stack up against one another. However it would be pointless since the negotiated Lambton benchmark rate is the de facto provincial landowner compensation rate. It is not dependent on the volume stored underneath the land or any other productivity measurement. Under the guiding principal of "fair and equitable" any acre within a designated storage area in Ontario should receive the Lambton benchmark rate.

So if volume or any other productivity metric do not account for the dramatic compensation rate difference that exists between Crowland and the rest of Ontario what does ?

The answer can be traced back to concerns raised by the Ontario Federation of Agriculture back in 1964.

The Board has given due consideration to a point continually raised by, or on behalf of, certain landowners who complain of the "inequality of bargaining positions as between the landowner and the company concerned." In its brief, the Ontario Federation of Agriculture contrasts the availability to the "Company" of financial and legal resources and of technical knowledge of the storage business with the "Farmers" lack of these advantages.

The Board is of the opinion that there are several factors which tend to make apparent inequality of position less significant than the above contention would indicate. In the first place, the landowners concerned live in a part of Ontario where negotiations between the oil and gas industry and landowners have been carried on for something like three generations and, with respect to gas storage matters, for over twenty years. The knowledge and experience thus gained is evident from the material put forward by the same people in briefs, at hearings and meetings and on other occasions when their views are presented.

Secondly, in those matters dealt with by the Board fair and reasonable consideration is assured for the representations of all interested parties, none of whom is denied an opportunity to present his case.

Lastly, and of great importance, is the strength to be found in the landowner's position as a prospective grantor of rights. Rights being sought by a would-be lessee can be withheld by the landowner by simply refusing to sign the proposed agreement.

OEB Crozier Report May 1964

Unlike the Lambton/Kent region, the Crowland Pool is isolated in an area of Ontario that does not have a rich history of negotiations occurring between the oil and gas industry and landowners. There were no network opportunities to casually compare and contrast what neighbors and fellow farmers were

receiving in other pools in and around the general geographic vicinity. Most landowners in the Crowland pool do not even know why they are receiving a lease rate from Enbridge let alone what the current industry standard is in Ontario. When a lease expired with a Crowland landowner Enbridge simply kept the compensation rate the same and asked the pore space rights owner to sign in order to extend the lease another 10-20 years.

Enbridge did not find it necessary to provide an update to the landowners of Crowland on what current industry practices were in the rest of Ontario. Without a doubt, if the Crowland pool were situated in the Lambton/Kent region then the landowners would currently be receiving around \$134.

There have been no hearings in front of the OEB related to compensation questions regarding the Crowland pool in the last 50 years. Fair and equitable consideration can only be assured by the OEB if the matter is brought to its attention.

Compensation

Appendix 3 provides a methodology to determine compensation payable. Under the column titled lease rate/acre there are 7 highlighted prices representing Lambton benchmark rates. These prices were the most complete set that we could obtain from a representative of Union Gas. The prices for all the remaining years had to be interpolated. The methodology chosen was to grow the most recent benchmark price at the rate of consumer price inflation until a new benchmark price was negotiated. Payment amounts for each year were simply price for that year multiplied by outstanding acres. These outstanding payments were then assumed to be rolled forward at the 1 year Treasury bill rate plus a credit spread of 1%. The use of a Treasury rate plus a corporate credit spread to either discount future cashflows to the present or to roll forward past cashflows to the present is common practice within the financial industry. The total amount owing is \$390,000

Appendix 1

Volume

	Name	Year	Owner	DSA Acres	Working Capacity mmcf	mmcf/ DSA acre	Lease Rate/ acre \$
1	Payne Reef Pool	1957	union	769	24,734	32.2	583
2	Dow Moore 3-21-XII Pool	1988	enbridge	1,345	26,620	19.8	359
3	Waubuno Pool	1960	union	639	9,546	14.9	270
4	Sarnia 1-8-A Pool (block a)	1992	union	545	6,371	11.7	212
5	Wilkesport Pool	1978	enbridge	720	7,872	10.9	198
6	Dawn 59-85 Pool	1943	union	530	5,604	10.6	192
7	Seckerton-Seckerton North Pool	1963	enbridge	1,253	13,045	10.4	189
8	Corunna Pool	1963	enbridge	524	5,117	9.8	177
9	Dawn 156 Pool	1962	union	2,795	26,369	9.4	171
10	Ladysmith Pool	1999	enbridge	611	5,668	9.3	168
11	Oil Springs East Pool	1990	union	404	3,708	9.2	166
12	Terminus Pool	1975	union	1,249	11,054	8.9	160
13	Kimball-Colinville Pool	1963	enbridge	4,747	34,093	7.2	130
14	Rosedale Pool	1975	union	454	3,147	6.9	126
15	Sarnia 2-11-VIII Pool (airport)	?	market hub	784	5,262	6.7	122
16	Bentpath Pool	1974	union	788	5,046	6.4	116
17	Bickford Pool	1972	union	3,305	20,935	6.3	115
18	Coveny Pool	1997	enbridge	752	4,361	5.8	105
19	Dawn 1-27-VI Pool (Bentpath east)	1999	union	844	4,718	5.6	101
20	Dawn 47-49 Pool	1942	union	839	4,630	5.5	100
21	Enniskillen 28 Pool	1989	union	720	3,500	4.9	88
22	Chatham 7-17-XII Pool	1998	enbridge	539	2,387	4.4	80
23	Oil City Pool	2000	union	391	1,723	4.4	80
24	Dawn 167 Pool	1976	union	1,137	4,679	4.1	75
25	Sombra 7-A-x1 (st Clair)	2007	market hub	306	1,116	3.6	66
26	Sarnia 5-3-II Pool (bluwater)	2000	union	557	1,995	3.6	65
27	Mandaumin Pool	2000	union	1,093	3,666	3.4	61
28	Tipperary North	2008	tribute	533	1,568	2.9	53
29	Dawn 7-28-V Pool (Booth Creek)	1999	union	648	1,840	2.8	51
30	Tipperary South	2008	tribute	533	1,437	2.7	49
31	Sombra Pool	1990	union	774	2,066	2.7	48
32	Edys Mills Pool	1993	union	947	2,426	2.6	46
33	Sombra 2-23-XII Pool (Black creek)	1997	enbridge	409	862	2.1	38
34	Sombra 8-6-xv (heritage)	2009	union	560	950	1.7	31
35	Crowland Storage	1962	enbridge	1,887	297	0.2	3

Total 34,929 258,412

Total Cost@\$134/acre 4,680,468

Average vol/acre 7.40 mmcf/acre

Appendix 2

Option Value

"Cycling"

		Working Capacity mmcf	Peak Day Deliverability mmcf/day	Cycling Working capacity turned over /365 days
1	Crowland Storage	297	35	43.1
2	Sombra 8-6-xv (heritage)	950	50	19.2
3	Sombra 7-A-x1 (st Clair)	1,116	55	18.0
4	Tipperary South	1,437	45	11.4
5	Sarnia 2-11-VIII Pool (airport)	5,262	159	11.0
6	Tipperary North	1,568	45	10.5
7	Kimball-Colinville Pool	34,093	635	6.8
8	Mandaumin Pool	3,666	63	6.3
9	Ladysmith Pool	5,668	97	6.2
10	Sombra Pool	2,066	35	6.2
11	Oil Springs East Pool	3,708	62	6.1
12	Sombra 2-23-XII Pool (Black creek)	862	14	5.9
13	Dawn 7-28-V Pool (Booth Creek)	1,840	28	5.6
14	Oil City Pool	1,723	26	5.5
15	Dawn 1-27-VI Pool (Bentpath east)	4,718	71	5.5
16	Enniskillen 28 Pool	3,500	50	5.2
17	Dawn 156 Pool	26,369	371	5.1
18	Bickford Pool	20,935	286	5.0
19	Payne Reef Pool	24,734	337	5.0
20	Waubuno Pool	9,546	130	5.0
21	Sarnia 5-3-II Pool (bluwater)	1,995	27	4.9
22	Dawn 59-85 Pool	5,604	75	4.9
23	Terminus Pool	11,054	147	4.9
24	Bentpath Pool	5,046	67	4.8
25	Dawn 47-49 Pool	4,630	59	4.7
26	Rosedale Pool	3,147	40	4.6
27	Wilkesport Pool	7,872	100	4.6
28	Coveny Pool	4,361	54	4.5
29	Dawn 167 Pool	4,679	57	4.4
30	Sarnia 1-8-A Pool (block a)	6,371	70	4.0
31	Edys Mills Pool	2,426	26	3.9
32	Dow Moore 3-21-XII Pool	26,620	285	3.9
33	Corunna Pool	5,117	50	3.6
34	Seckerton-Seckerton North Pool	13,045	120	3.4
35	Chatham 7-17-XII Pool	2,387	15	2.3
Total		258,412	3,786	

Appendix 3

Compensation

	Total owing
No Interest	114,388.28
T-bill interest	299,211.79
1 % Credit Spread	389,925.92

		Acres	CPI	lease rate/acre	Payment	1-Year T-bill	Outstanding Balance
1	1965	42.0	16.8	7.00	294.00	4.01%	294.00
2	1966	42.0	17.5	7.29	306.25	4.99%	614.98
3	1967	42.0	18.1	9.00	378.00	4.92%	1,029.82
4	1968	42.0	18.8	9.35	392.62	6.35%	1,483.40
5	1969	42.0	19.7	9.80	411.41	6.71%	2,003.84
6	1970	42.0	20.3	10.09	423.94	7.95%	2,582.29
7	1971	42.0	20.9	10.39	436.48	5.05%	3,249.88
8	1972	42.0	21.9	10.89	457.36	4.76%	3,903.85
9	1973	42.0	23.6	11.73	492.86	5.48%	4,621.58
10	1974	42.0	26.2	13.03	547.16	6.75%	5,468.21
11	1975	42.0	29.0	14.42	605.64	6.16%	6,497.64
12	1976	42.0	31.1	15.46	649.49	8.13%	7,612.36
13	1977	42.0	33.6	16.71	701.70	7.57%	9,009.07
14	1978	42.0	36.6	18.20	764.35	7.70%	10,545.50
15	1979	42.0	40.0	19.89	835.36	10.80%	12,298.32
16	1980	42.0	44.0	21.88	918.90	12.79%	14,668.41
17	1981	42.0	49.5	24.61	1,033.76	13.06%	17,724.95
18	1982	42.0	54.9	27.30	1,146.53	15.95%	21,363.60
19	1983	42.0	58.1	28.89	1,213.36	10.28%	26,198.09
20	1984	42.0	60.6	30.13	1,265.57	10.23%	30,418.81
21	1985	42.0	63.0	31.33	1,315.69	10.27%	35,150.53
22	1986	42.0	65.6	32.62	1,369.99	9.88%	40,481.98
23	1987	42.0	68.5	34.06	1,430.55	7.85%	46,316.98
24	1988	42.0	71.2	35.40	1,486.94	9.04%	51,902.97
25	1989	42.0	74.8	37.19	1,562.12	10.58%	58,676.15
26	1990	42.0	78.4	52.00	2,184.00	10.81%	67,654.84
27	1991	42.0	82.8	54.92	2,306.57	10.09%	77,951.45
28	1992	42.0	84.0	55.71	2,340.00	7.54%	88,936.27
29	1993	42.0	85.6	56.78	2,384.57	7.09%	98,916.00
30	1994	42.0	85.7	56.84	2,387.36	4.18%	109,305.66
31	1995	42.0	87.6	58.10	2,440.29	8.85%	117,407.98
32	1996	42.0	88.9	58.96	2,476.50	5.48%	131,449.16
33	1997	42.0	90.4	59.96	2,518.29	4.28%	142,485.35
34	1998	42.0	91.3	70.00	2,940.00	4.90%	152,948.58

35	1999	42.0	92.9	71.23	2,991.52	4.83%	164,964.07
36	2000	42.0	95.4	73.14	3,072.03	6.04%	177,653.50
37	2001	42.0	97.8	74.98	3,149.31	4.91%	193,309.62
38	2002	42.0	100.0	76.67	3,220.15	3.33%	207,954.37
39	2003	42.0	102.8	78.82	3,310.32	3.55%	220,269.11
40	2004	42.0	104.7	92.50	3,885.00	2.71%	234,176.36
41	2005	42.0	107.0	94.53	3,970.34	2.83%	246,834.64
42	2006	42.0	109.1	96.39	4,048.27	3.83%	260,336.68
43	2007	42.0	111.5	98.51	4,137.32	4.10%	277,048.26
44	2008	42.0	114.1	100.80	4,233.80	3.22%	295,411.52
45	2009	42.0	114.4	113.00	4,746.00	1.39%	312,623.88
46	2010	42.0	116.5	115.07	4,833.12	1.21%	324,928.71
47	2011	42.0	119.9	118.43	4,974.17	1.64%	337,083.81
48	2012	42.0	121.7	120.21	5,048.85	1.03%	351,031.67
49	2013	42.0	122.8	121.30	5,094.48	1.17%	363,252.10
50	2014	42.0		134.00	5,628.00	1.00%	376,762.67
51	2015	42.0		134.00	5,628.00	1.00%	389,925.92

Total Payment = 114,388.28