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Trends in Surface Compensation 1998 – 2007

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1. Introduction and Summary of Results

The purpose of this study is to examine recent trends in surface compensation in Alberta and Saskatchewan. Specifically, the study quantifies the changes in compensation over the years 1998 to 2007. A year-by-year analysis was undertaken in all the 'heads of compensation' categories (Land Value, Loss of Use, etc.) specific to each jurisdiction. This study is an update of an analysis that was done in 2005, and 2007.

The analysis focuses on three areas:

1. provide an analysis of any general trends in surface compensation in Alberta and Saskatchewan, and
2. provide benchmarking for specific companies against the general trends.

The overall findings of the analysis are:

- the rates of surface compensation have increased dramatically in Alberta but remain largely unchanged or declining slightly in Saskatchewan.
- in the last three years land values have increased in Alberta by 40-45%
- in Alberta:
 - all categories increased, with the most dramatic increase in the 'Land Value' category where the overall experience of well sites and pipelines is closely correlated with an 95-116% increase.
 - the majority of the increase took place between 2001 to 2007, while the rates changed very little prior to 2001.
 - Oddly, rates in all categories dropped in 2004 with 'Loss of Use' taking a large 22% decline.
 - on a regional basis, the largest increases took place in the area south of Red Deer and the lowest rate of increase took place in the NW in the Grande Prairie and Peace River area.
 - see Appendix A for the Alberta details.
- In Saskatchewan:
 - the only category to increase significantly was 'Land Value' for well sites which increased only 10.5% during the period.
 - the regional variations presented no trend with some area increasing in some categories but declining in others.
 - see Appendix B for the Saskatchewan details.

Figure 1

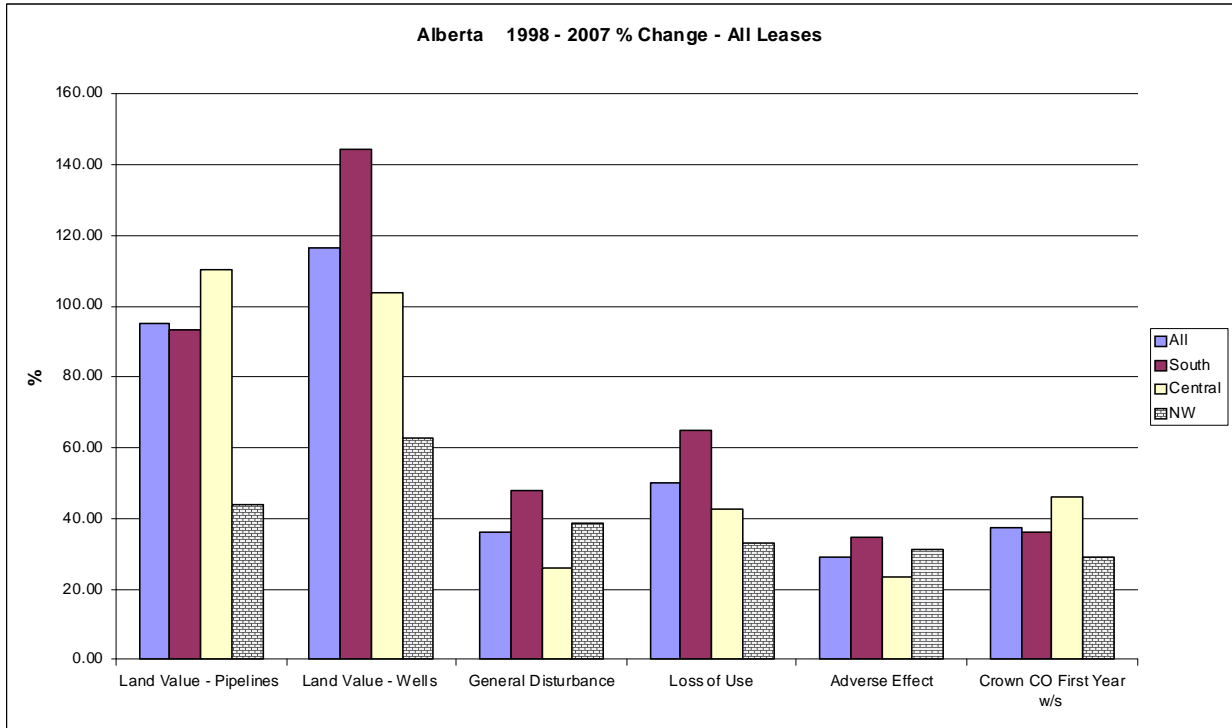
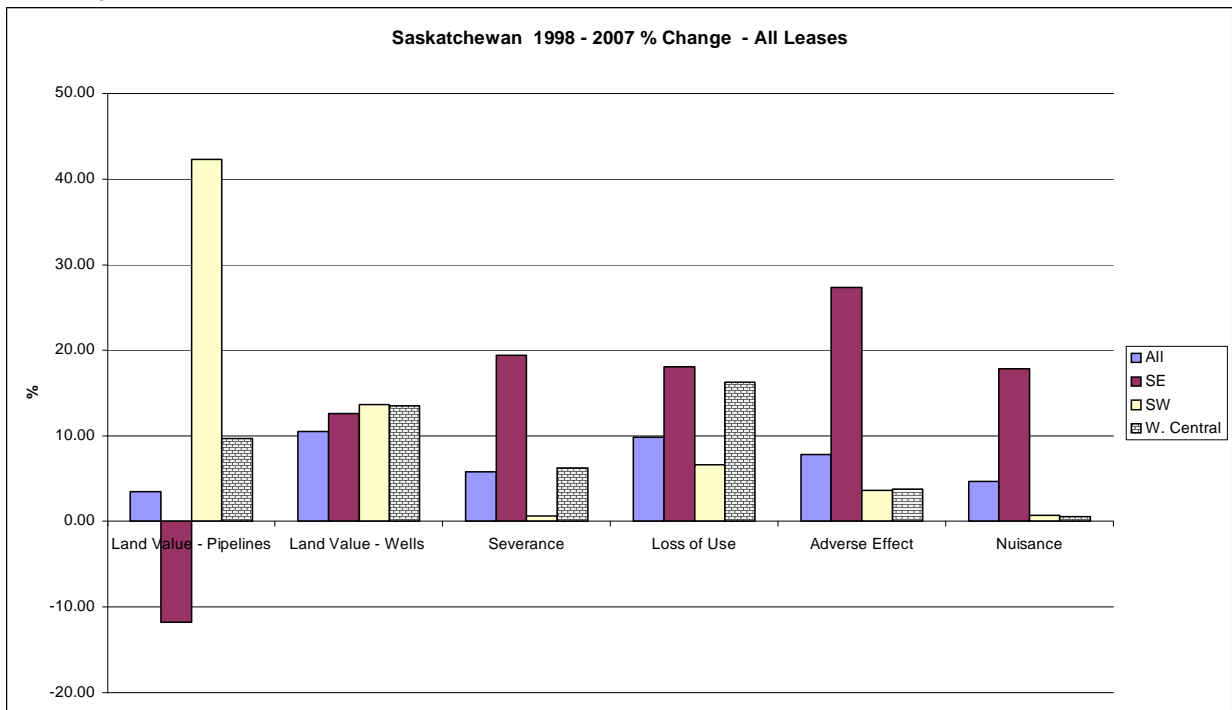


Figure 2



2. Methodology

The data source for this analysis is the Surface Land Compensation Database, which contains information on 29,600 Alberta surface leases and 8,500 Saskatchewan leases. The study covers the years 1998-2007. The data for the general trending includes only new takings while excluding rent reviews, amendments, and Surface Rights Board orders. For Alberta, the four standard categories: Land Value, General Disturbance, Loss of Use, and Adverse Effect are analysed. In Saskatchewan, the categories of Land Value (Capital Damage), Severance, Loss of Use, Adverse Effect, and, Nuisance and Inconvenience are analysed. An analysis of Land Value is done separately for well sites and pipelines. Also a separate analysis is provided for Alberta Crown Consent of Occupant payments.

The method of analysis was to break each province into areas so there is enough data to provide an unbiased data sample. Within each area, the data in each compensation category (eg Land Value) is averaged for each year and then a rate of change calculated on the differences between the year-to-year averages.

For Alberta, the province is broken into three areas:

- (1) South comprised of everything south of Township 39;
- (2) Central, everything between Township 38 and 68;
- (3) Northwest, Township 68-90, Range 13-26, W5M, and Township 68-90, Range 1-13, W6M.

For Saskatchewan, the province is broken into three areas:

- (1) Southeast comprised of Township 1-16, Range 30-34 W1M and Township 1-16, Range 1-16 W2M;
- (2) Southwest, Township 1-21, Range 9-30 W3M;
- (3) West Central, Township 27-53, Range 16-29 W3M.

3. Surface Compensation Trends

3.1 Alberta

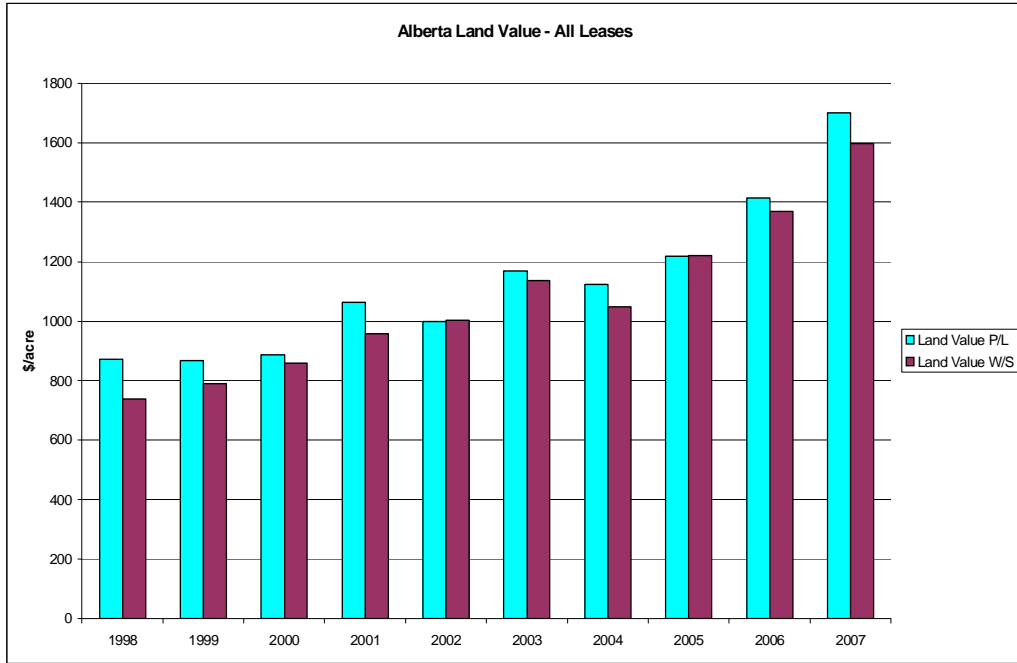
None of the data exhibited a smooth trend but rather large changes were observed in various years. The discussion below provides comments on the observed changes in each compensation category. See Appendix A for all the detailed numbers.

3.1.1 Alberta Land Value - Pipelines

Land Value for pipelines in Alberta was the second fastest growing category at 95.10%. The only category to grow faster was Land Value for well sites at 116.49%. The majority of the increase took place between 2001 and 2006, with a small decline in 2004. The highest increase was in the Central part of the province at 110.29%. Land Value is summarized in Figure 3.

Significantly, the average Land Value paid for pipelines is about 6% higher per acre than the average Land Value paid for well sites. This means that the pipelines have both the highest prices and the highest rates of increase. No doubt this can be explained by the global approach to handling pipeline

Figure 3

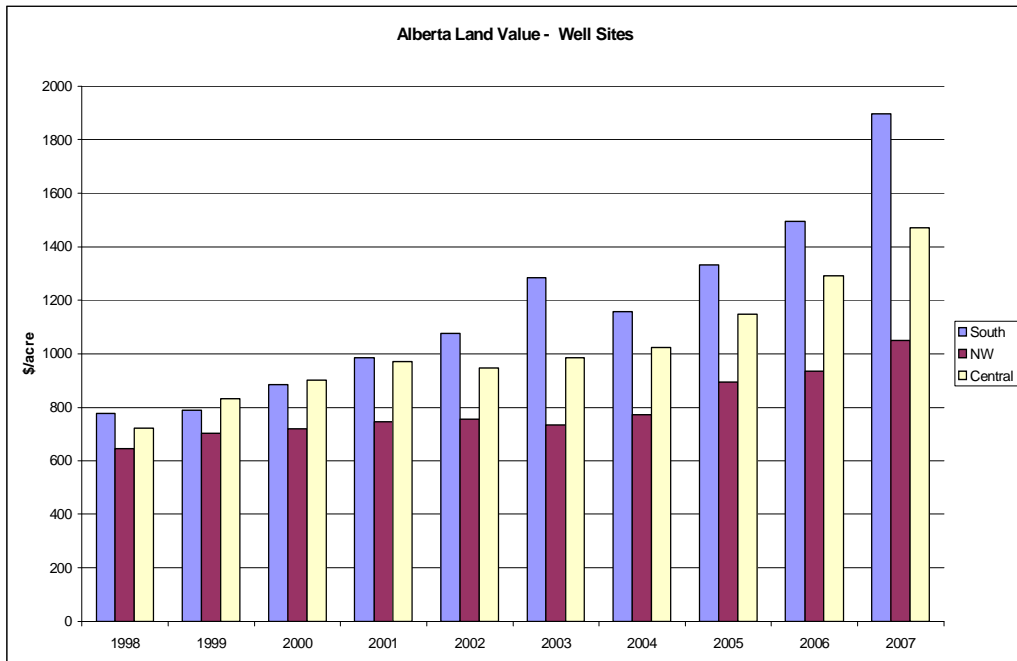


compensation versus the individual nature of well site negotiations. The global approach of offering the same Land Value along the entire length of the line is more likely to err on the side of higher values, a sort of “highest common denominator” approach.

3.1.2 Alberta Land Value - Well Sites

Land Value for well sites in Alberta was the fastest growing category at

Figure 4

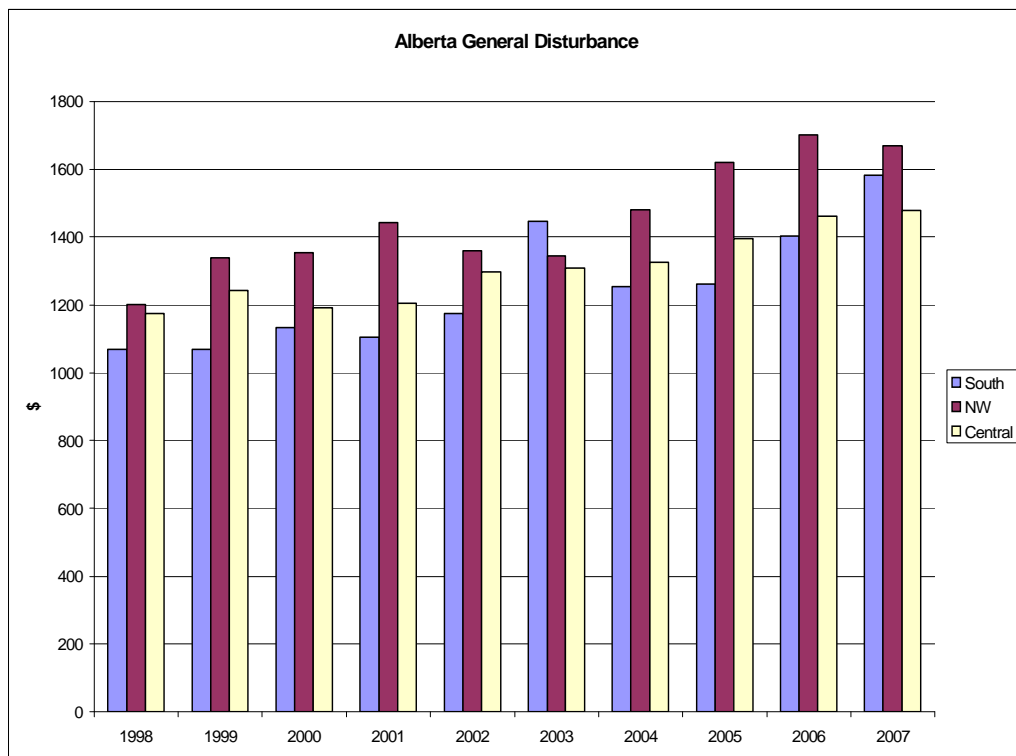


116.49%. Unlike Land Value for pipelines there is a steady increase starting in 1998 and continuing to 2003. The highest increase was in the South part of the province at 144.17%. In absolute terms the highest Land Values are in the South followed by Central, and lastly the NW.

3.1.2 Alberta General Disturbance

General Disturbance had the second lowest change over the 10-year period at 36.24%. This increase is somewhat unexpected since nuisance, inconvenience and noise are more or less constant and not subject to market factors, as are land values. Similar to the other categories the highest increase took place in 2003 and the amounts fell off somewhat in 2004. Geographically, the highest amounts are in the NW and lowest in the South.

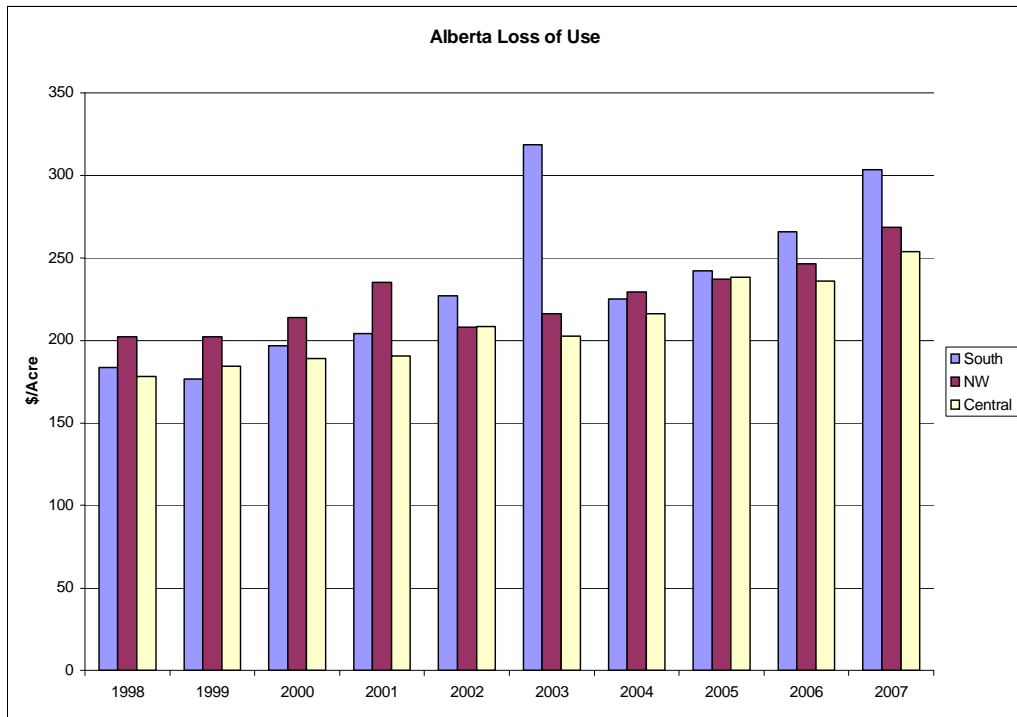
Figure 5



3.1.3 Alberta Loss of Use

Loss of Use increased 50.16% over the period although a remarkable 22.49% reduction took place in 2004. The lower increase in Loss of Use compared to Land Value is somewhat surprising since there should be a high correlation between agricultural real estate values and the value of production from agricultural lands. Geographically, the lowest Loss of Use is in the Central area with the highest rates in the NW. This somewhat surprising since the NW had the lowest Land Values. The Loss of Use data is summarized in Figure 6.

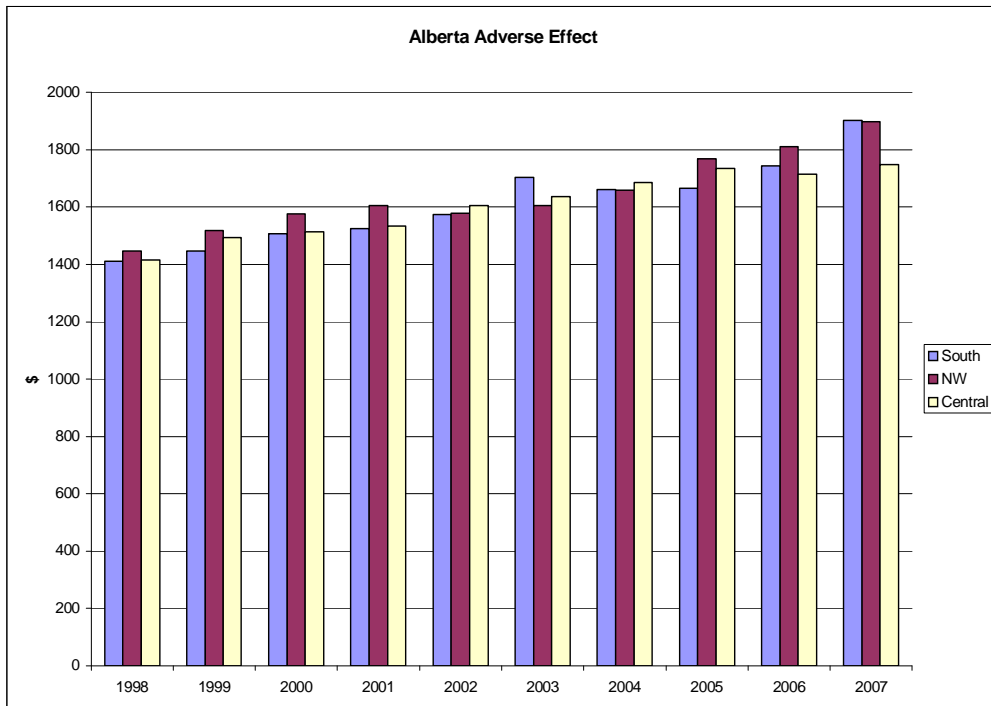
Figure 6



3.1.4 Alberta Adverse Effect

Adverse Effect increased 28.88% over the period, the lowest increase of all the categories and remains remarkably consistent across the province.

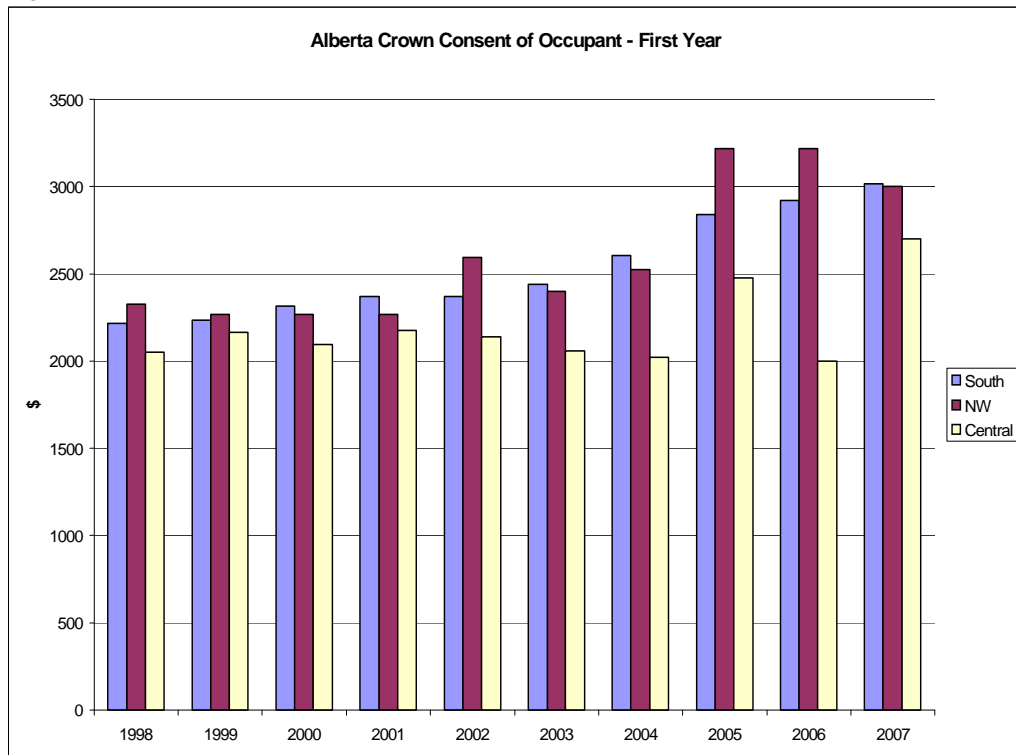
Figure 7



3.1.5 Alberta Crown CO First Year – Well sites

Data was also analyzed for Crown Consent of Occupant (CO) payments. First year payments on well sites is summarized in Figure 8. Overall, first year CO payments increased 37.58% and the data shows a slow but steady increase until 2004. Nearly 90% of the CO data occurs in the South region making intr-regional comparisons less meaningful.

Figure 8



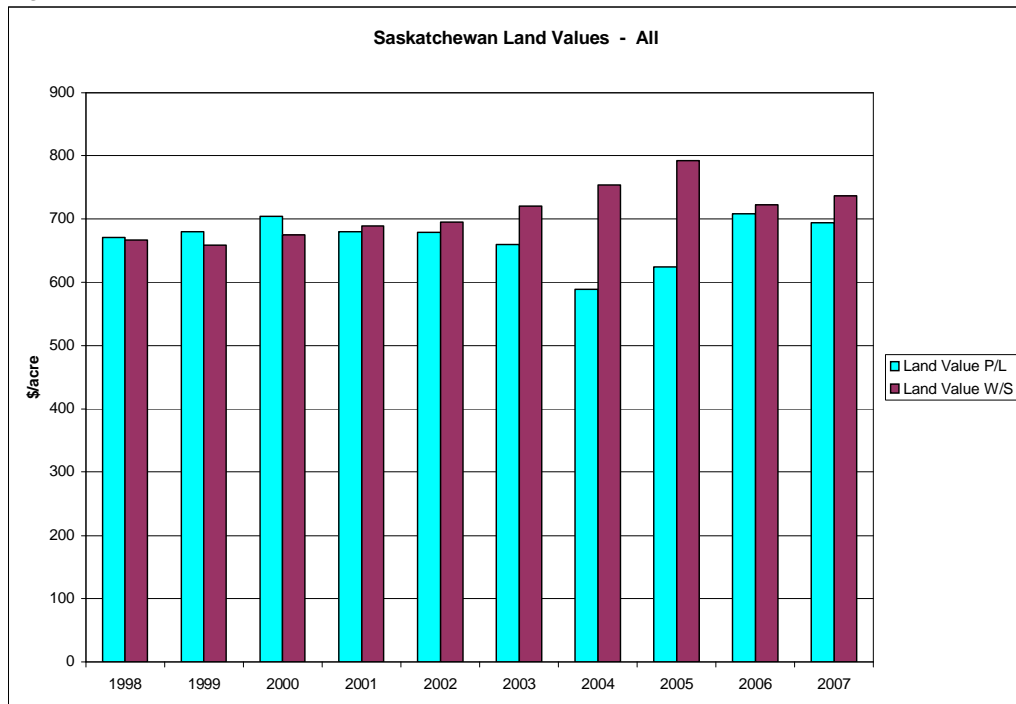
3.2 Saskatchewan

Overall, compensation has changed very little in Saskatchewan. The highest increase was in the category Land Value for well sites and that only increased 10.50%. The detailed numbers can be found in Appendix B.

3.2.1 Saskatchewan Land Values

Land Values have remained relatively constant except for the last few years where pipeline values have been decreasing and well site values have increased. This is completely the opposite result than was observed in Alberta. These values are summarized in Figure 9.

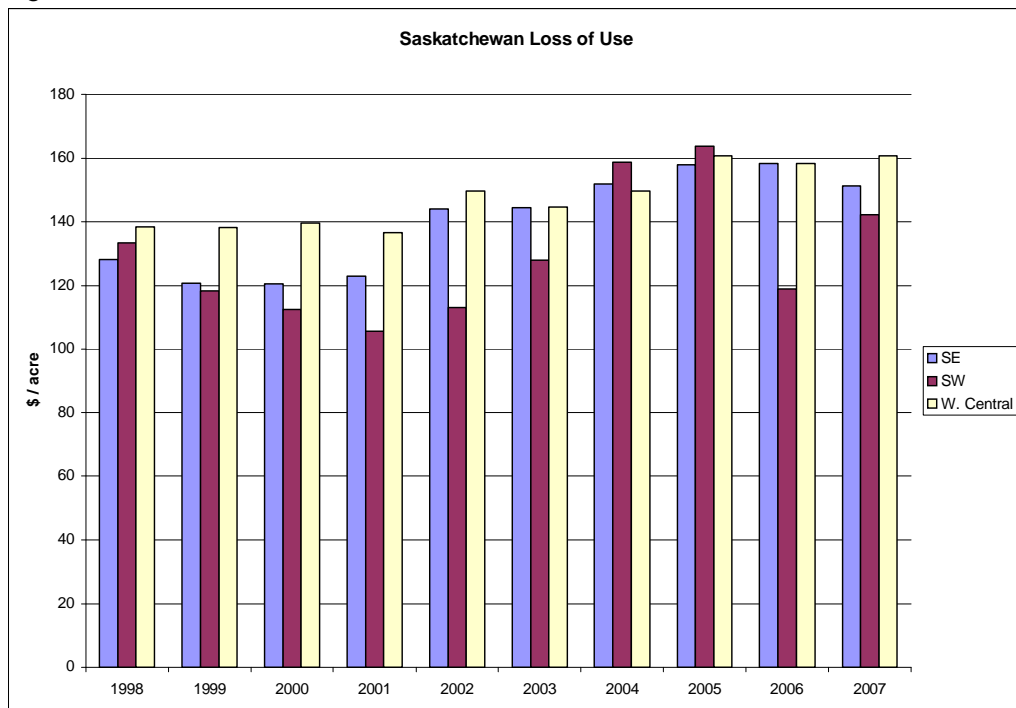
Figure 9



3.2.2 Saskatchewan Loss of Use

Loss of Use showed the lowest rates of growth in the SW area and the highest growth rates in the SE.

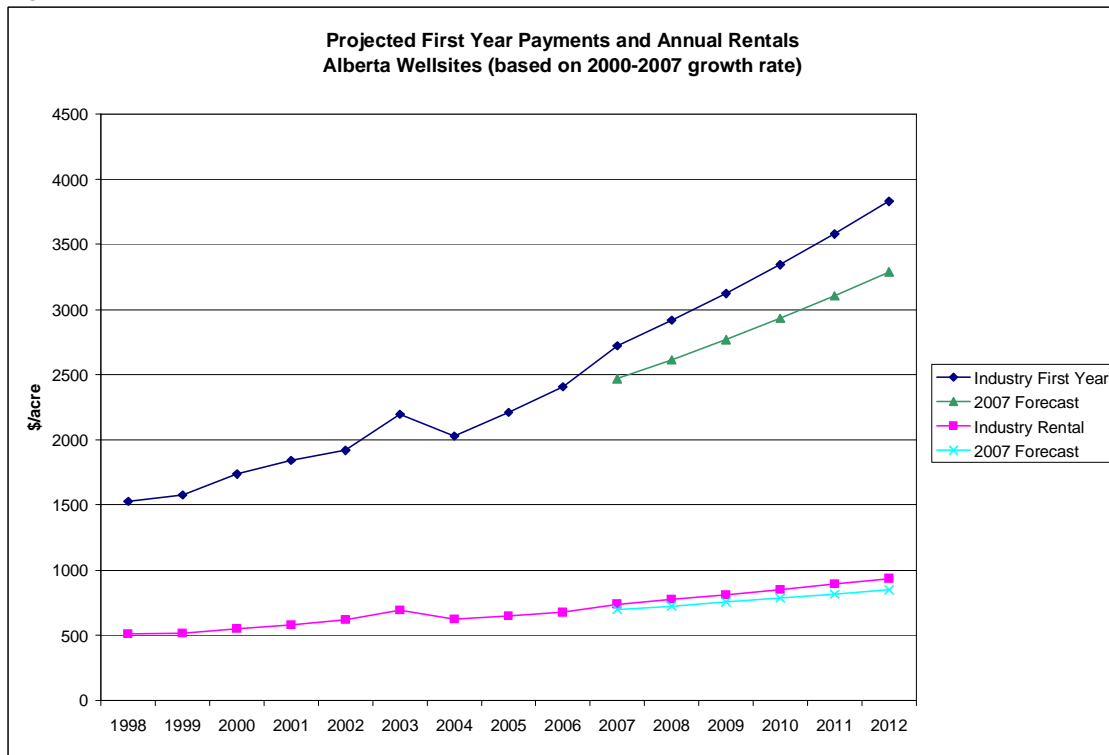
Figure 10



4. Average Growth Rates

To summarize all of the findings and provide a simple method to project surface costs into the future, the average annual growth rate is calculated for Alberta wellsites for the period 2000-2007. For First Year payments (per acre) the average annual growth rate is 7.06% while the growth rate for Rentals (per acre) is 4.65%. In 2007 the per acre First Year payment was \$2724 which will increase to \$3831 by 2012. See Figure 12 for a graphical representation.

Figure 12



5. Comparisons to Agricultural Real Estate Prices

The Farmers' Advocate Office publishes average agricultural real estate prices for each county in Alberta. These county values were averaged over the geographic areas used in this study to determine if the Land Value component paid in surface compensation is close to the actual real estate values. The results are summarized on the three graphs below. In general, Land Values are in excess of real estate prices in all three areas. The greatest discrepancy is in the NW where Land Values are 70% higher, while the Central area is 12% higher and the South was 8% higher.

Figure 13

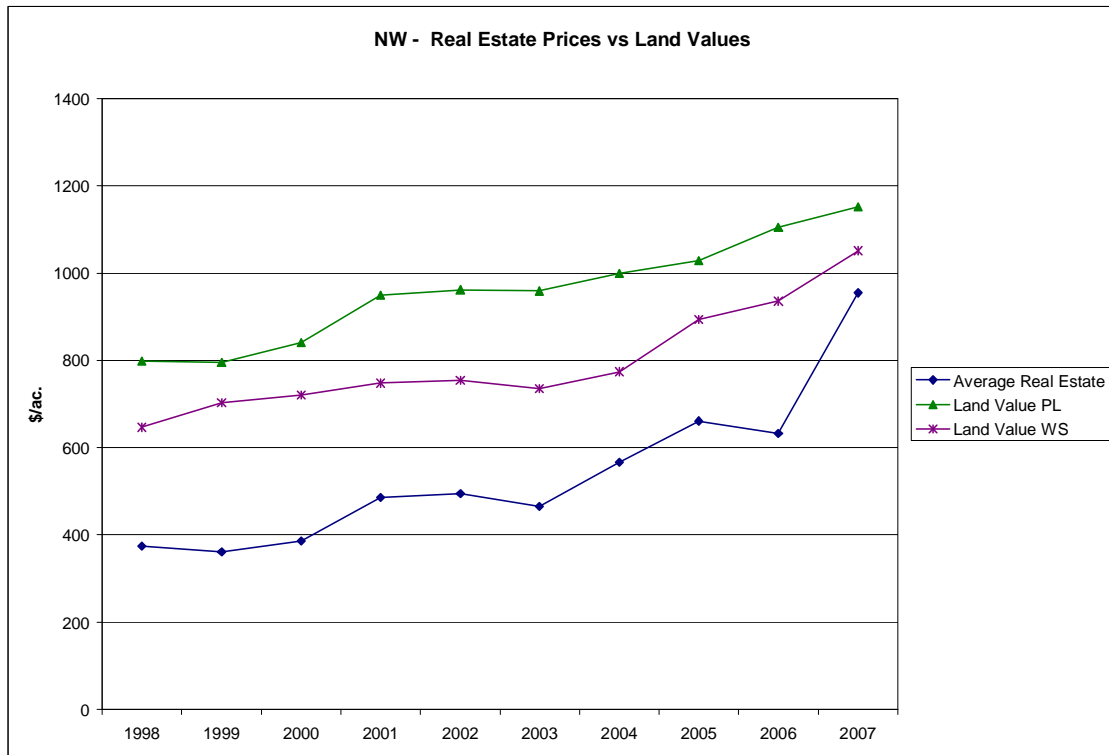


Figure 14

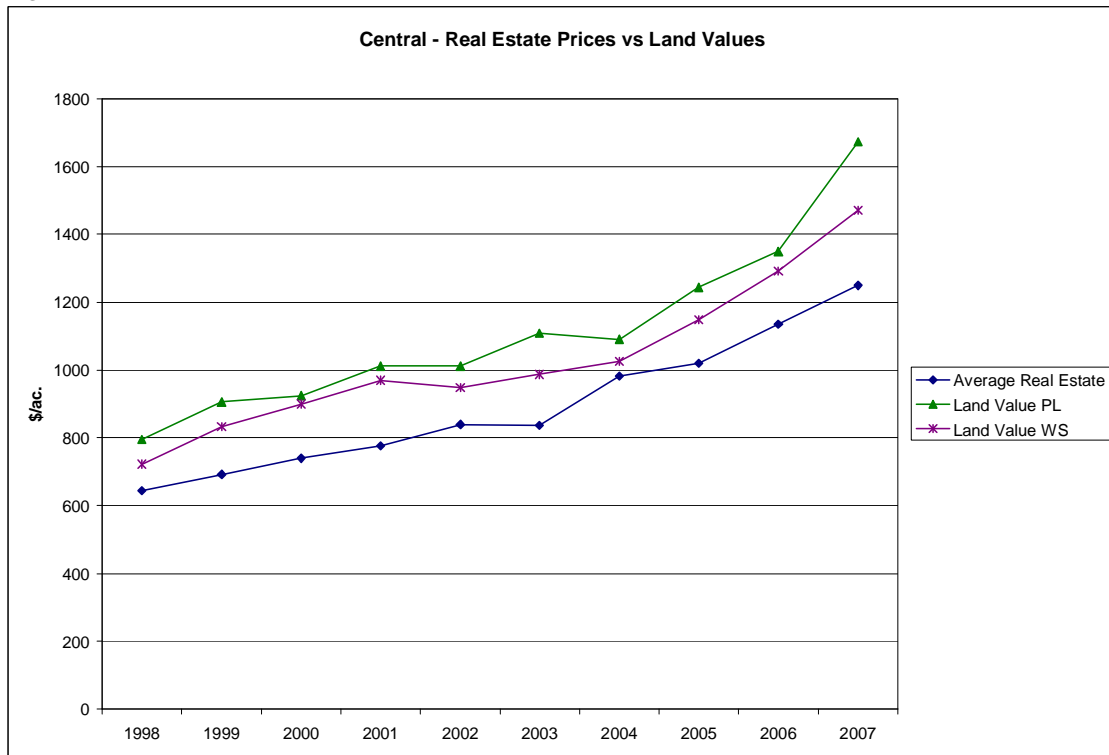
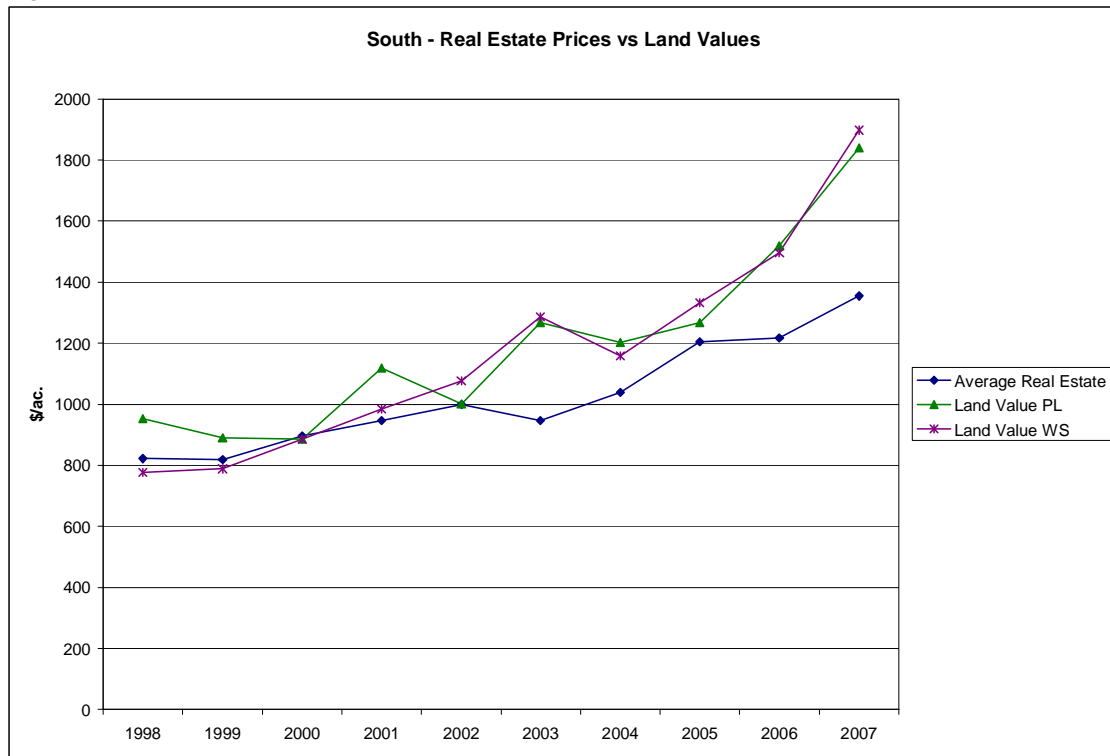


Figure 15



6. Supporting Excel Spreadsheets

The following files contain all the supporting data for study:

- AB Summary.xls – Alberta % changes and year to year in each compensation category
- AB CO.xls – raw data for Alberta consent of occupant
- AB PL.xls – raw data for Alberta pipelines
- AB WS.xls – raw data for Alberta well sites
- SK Summary.xls – Saskatchewan % changes and year to year
- SK PL.xls – raw data for Saskatchewan pipelines
- SK WS.xls – raw data for Saskatchewan well sites
- Annual Growth Rates.xls – projected first year payments and rentals

Appendix A - Alberta Summary**Summary 1998-2007 % Change - All Leases**

	<u>All</u>	<u>South</u>	<u>Central</u>	<u>NW</u>
<u>Data Sample (# of leases)</u>				
Leases Pipelines	9528	4655	3368	1490
Leases Well Sites	10201	5460	3584	1143
Leases Crown CO	1066	951	91	23
<u>Ten-Year % Change</u>				
Land Value - Pipelines	95.10	93.30	110.29	44.14
Land Value - Wells	116.49	144.17	103.52	62.62
General Disturbance	36.24	47.85	26.06	38.82
Loss of Use	50.16	65.04	42.43	32.89
Adverse Effect	28.88	34.85	23.44	31.11
Crown CO First Year w/s	37.58	36.16	46.11	29.03

Summary of Year to Year % Changes - All Areas

	<u>Land Value Pipelines</u>	<u>Land Value Well Sites</u>	<u>General Disturbance</u>	<u>Loss of Use</u>	<u>Adverse Effect</u>	<u>Crown CO w/s First Year</u>
1999	-0.53	6.60	1.34	-0.84	3.36	1.01
2000	2.24	8.06	3.81	7.88	3.65	2.80
2001	19.78	10.37	-2.28	2.71	0.83	2.36
2002	-5.94	4.48	5.43	7.48	3.13	1.91
2003	16.87	11.70	11.65	19.85	5.32	1.80
2004	-3.88	-8.36	-6.02	-22.49	-0.36	7.27
2005	8.47	14.01	2.31	7.15	2.07	6.43
2006	16.00	10.92	7.22	5.03	2.07	4.47
2007	20.46	14.28	5.83	8.00	4.80	4.60
	95.10	116.49	36.24	50.16	28.88	37.58

Appendix B - Saskatchewan Summary**Summary 1998-2007 % Change - All Leases**

	<u>All</u>	<u>SE</u>	<u>SW</u>	<u>W. Central</u>
Data Sample (# of leases)				
Leases Pipelines	1808	509	721	442
Leases Well Sites	3740	334	2164	822

<u>Ten-Year % Change</u>				
Land Value - Pipelines	3.48	-11.79	42.30	9.67
Land Value - Wells	10.50	12.55	13.64	13.51
Severance	5.76	19.43	0.65	6.26
Loss of Use	9.89	18.09	6.62	16.28
Adverse Effect	7.81	27.31	3.61	3.76
Nuisance	4.69	17.83	0.73	0.58

Summary of Year to Year % Changes - All Areas

	<u>Land Value Pipelines</u>	<u>Land Value Well Sites</u>	<u>Severance</u>	<u>Loss of Use</u>	<u>Adverse Effect</u>	<u>Nuisance</u>
1999	1.43	-1.20	-5.43	-8.67	-4.52	-6.51
2000	3.46	2.42	1.95	-0.26	4.12	3.45
2001	-3.36	1.99	-1.83	-5.06	-1.61	-1.70
2002	-0.18	0.83	1.11	6.19	-0.01	0.90
2003	-2.94	3.61	2.06	8.83	3.99	4.86
2004	-10.73	4.44	1.56	11.81	-0.77	-0.26
2005	6.17	4.77	2.65	3.99	4.15	7.47
2006	13.31	-9.55	-6.59	-20.69	-6.10	-11.96
2007	<u>-1.93</u>	<u>1.87</u>	<u>9.21</u>	<u>9.04</u>	<u>7.44</u>	<u>6.72</u>
	3.48	10.50	5.76	9.89	7.81	4.69