



▪WILLIAM D. MARRIOTT & ASSOCIATES LTD.▪

139 Royal Birkdale Drive NW, Calgary, Alberta T3G 5R8
(403) 239-2516 cell (403) 554-1390

Trends in Surface Compensation 1999 – 2008

William D. Marriott and Associates Ltd.

July 17, 2009

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 1999 to 2008. 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, 2007, and 2008.

The analysis focuses on two 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:

- surface compensation continues to increase dramatically in Alberta, in all categories and in all areas,
- the rate of growth in Alberta compensation reached a record high in 2008:
 - First Year payments increased 17% compared to 13% in 2007,
 - Rentals increased nearly 19% compared to 9% in 2007,
- 2008 is the first year for a large increase in Saskatchewan,
- in the last three years the 'Land Value' categories in Alberta have increased by 55% while agricultural real estate values have increased about 30% (see Figure 1).
- In Alberta:
 - all categories increased, with the most dramatic increase in the 'Land Value' category where the ten-year experience of well sites and pipelines is closely correlated with an **118-136%** increase,
 - the majority of the increase took place in the last 4 years, 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:
 - after years of little change, Saskatchewan in 2008 experienced increases in all categories in a range from 8 to 23%,
 - the most significant 2008 increase took place in 'Loss of Use' category at 22.91% followed by 'Adverse Effect' at 18.48%,
 - 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

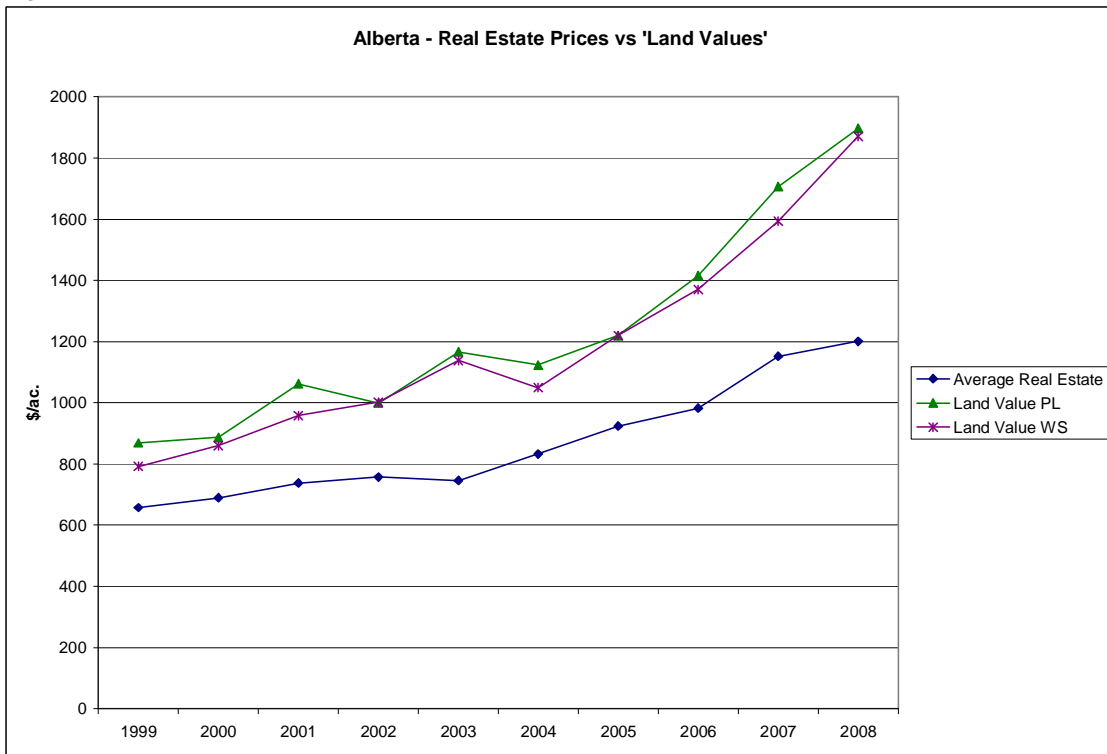
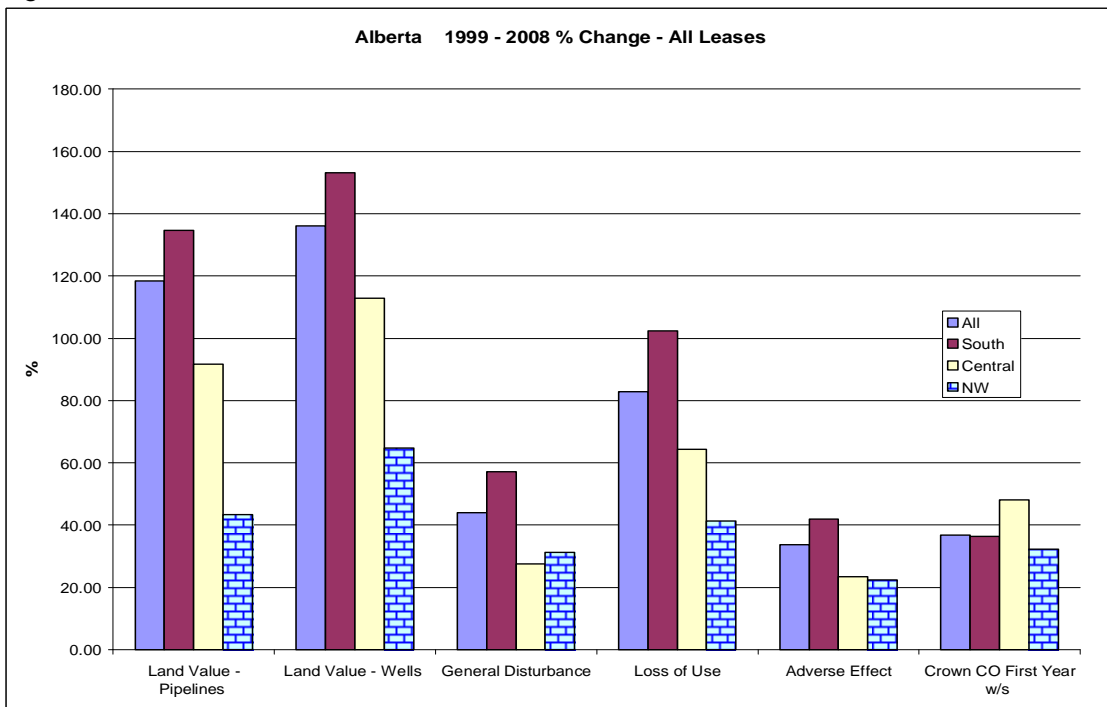


Figure 2



2. Methodology

The study covers the years 1999-2008. The data source for this analysis is the Surface Land Compensation Database, which, for the study period contains information on 21,850 Alberta surface leases and 6,200 Saskatchewan leases. 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

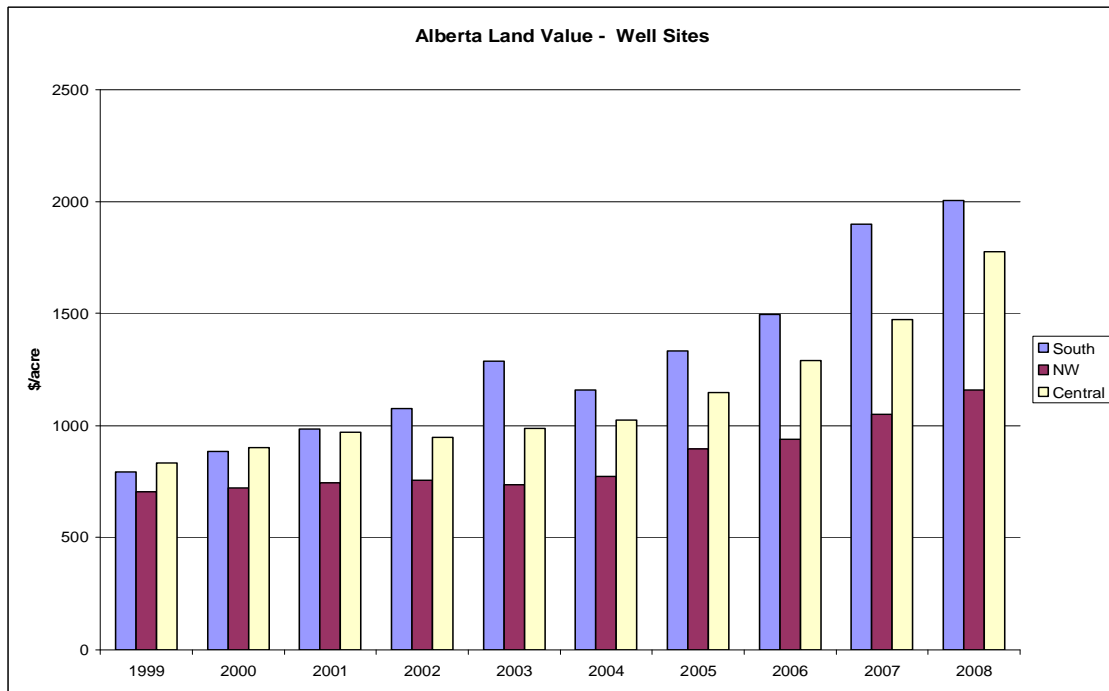
3.1 Alberta

Over the ten years 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 ten-year changes in each compensation category. See Appendix A for all the detailed numbers.

3.1.1 Alberta Land Value - Well Sites

Land Value for well sites in Alberta was the fastest growing category at 136.09%. Over the past four years the annual growth rate was nearly 14%. The highest rate of increase was in the South part of the province at 153.10%. In absolute terms the highest Land Values are in the South followed by Central, and lastly the NW. Land Values for well sites is summarized in Figure 3.

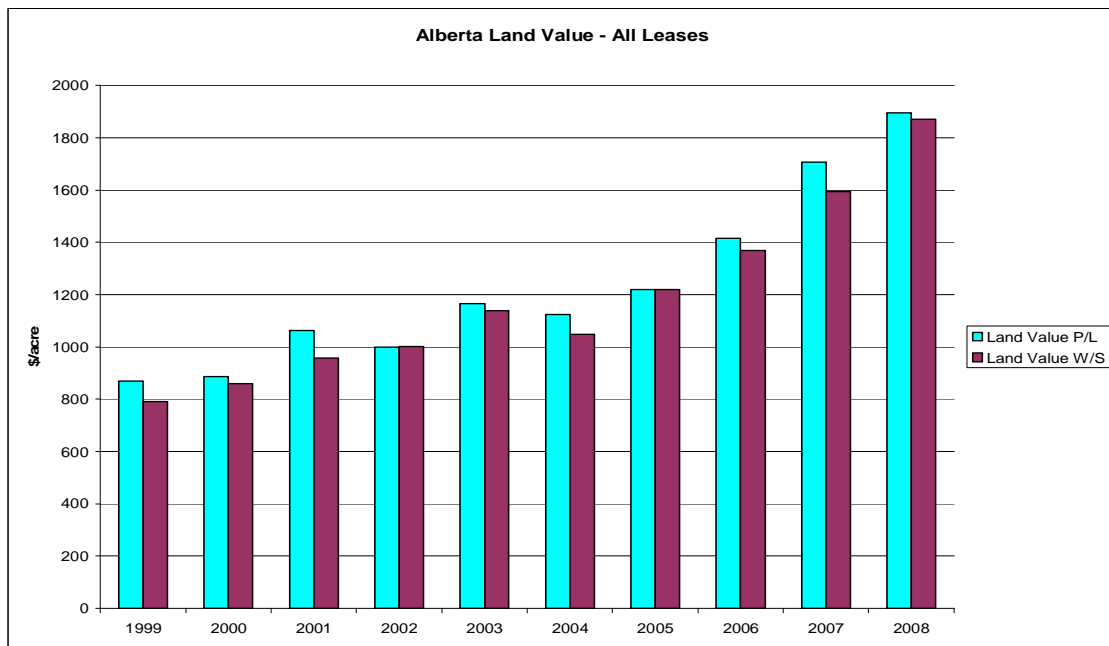
Figure 3



3.1.2 Alberta Land Value - Pipelines

Land Value for pipelines in Alberta was the second fastest growing category at 118.39%. The majority of the increase took place between 2005 and 2008. The highest increase was in the South part of the province at 134.72%.

Figure 4

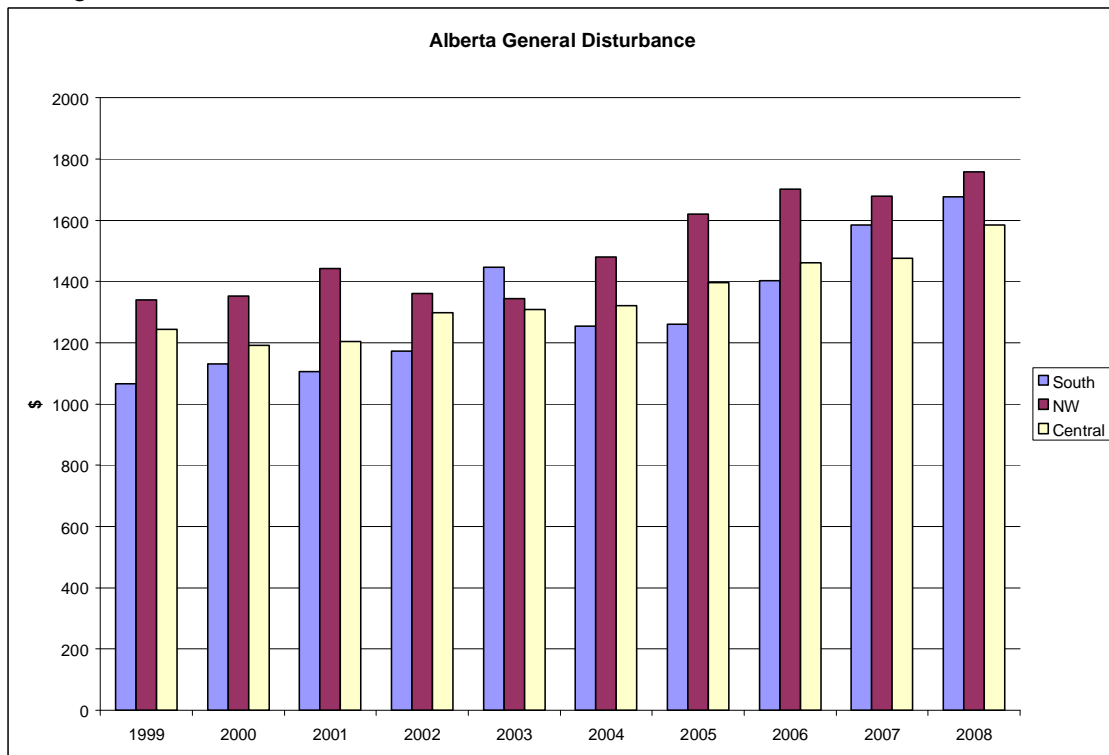


The average Land Value paid for pipelines has a small premium to what is paid for well sites, no doubt this can be explained by the global approach to handling pipelines which pays the same Land Value along the entire length of the line.

3.1.3 Alberta General Disturbance

General Disturbance had the third lowest change over the 10-year period at 44.03%. 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. General Disturbance is advancing slightly faster than Adverse Effect at 33.76%. Geographically, the highest amounts are in the South area and lowest in the NW.

Figure 5



3.1.4 Alberta Loss of Use

Loss of Use increased 82.97% over the period and experienced the largest increase of all the categories in 2008. 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 NW area with the highest rates in the South. The Loss of Use data is summarized in Figure 6 with the 2003 South data being an anomaly.

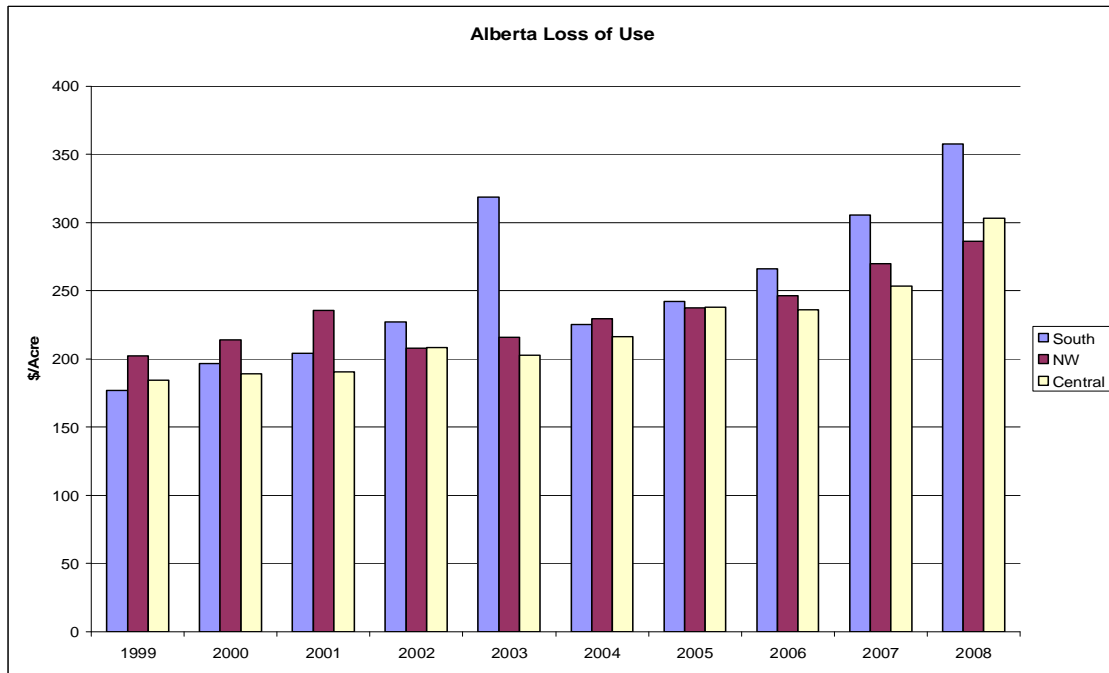
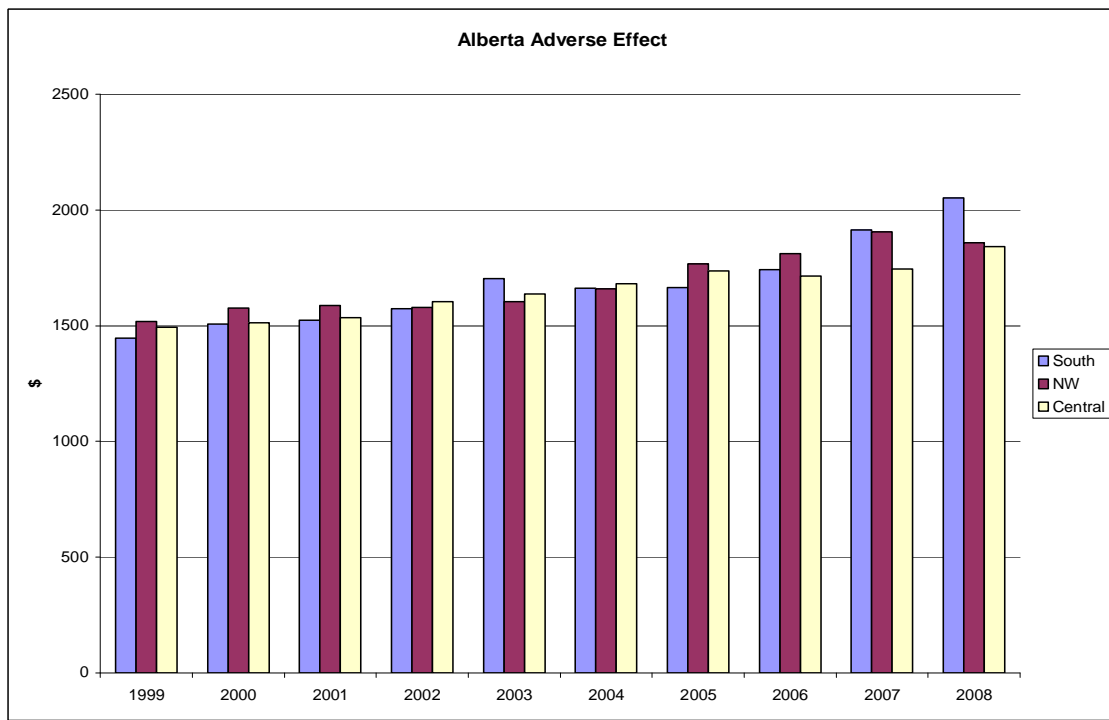


Figure 6

3.1.5 Alberta Adverse Effect

Adverse Effect increased 33.76% over the period, the lowest increase of all the categories and remains remarkably consistent across the province.

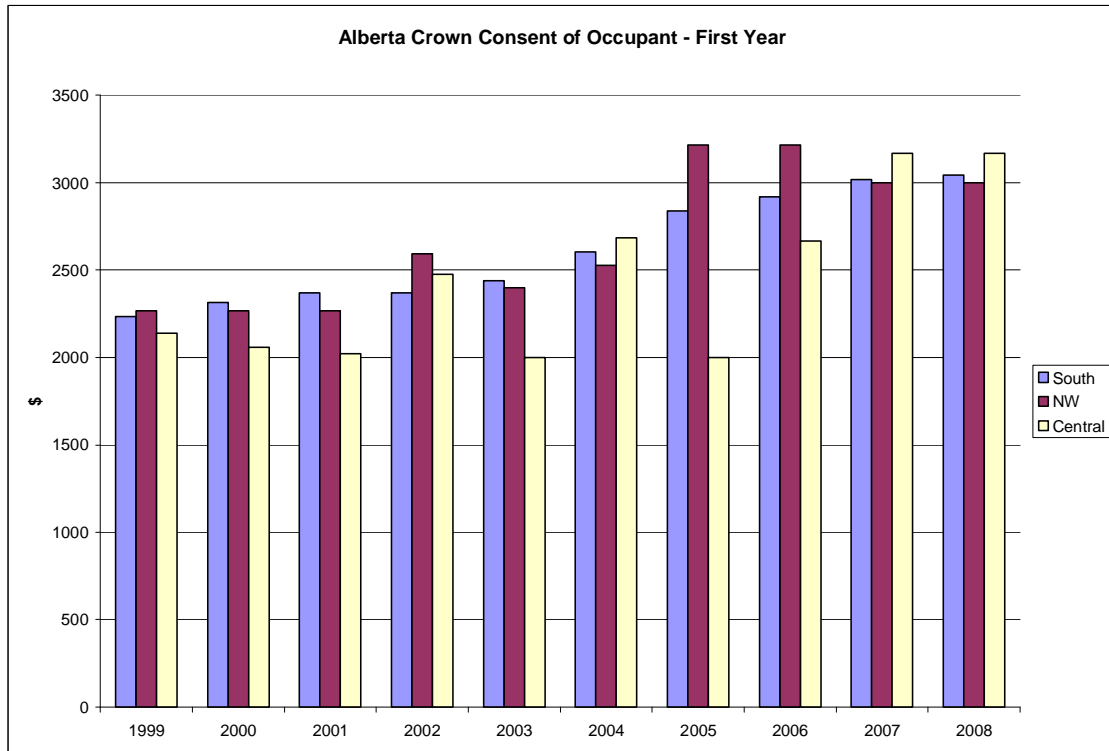
Figure 7



3.1.6 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 36.78% and the data shows increasing values until 2008. Nearly 90% of the CO data occurs in the South region making inter-regional comparisons less meaningful.

Figure 8



3.1 Saskatchewan

Over the ten-year period, compensation changed very little in Saskatchewan until 2008. All the categories experienced a double digit increase with the highest one-year increase in the Loss of Use category at 22.91%. This is the same as Alberta where the highest growth was Loss of Use as well. All the detailed numbers can be found in Appendix B.

3.3.1 Saskatchewan Land Values

Land Values have experienced little change over the years and well sites maintain a slight premium to pipelines. This is exactly the opposite of what was observed in Alberta. These values are summarized in Figure 9.

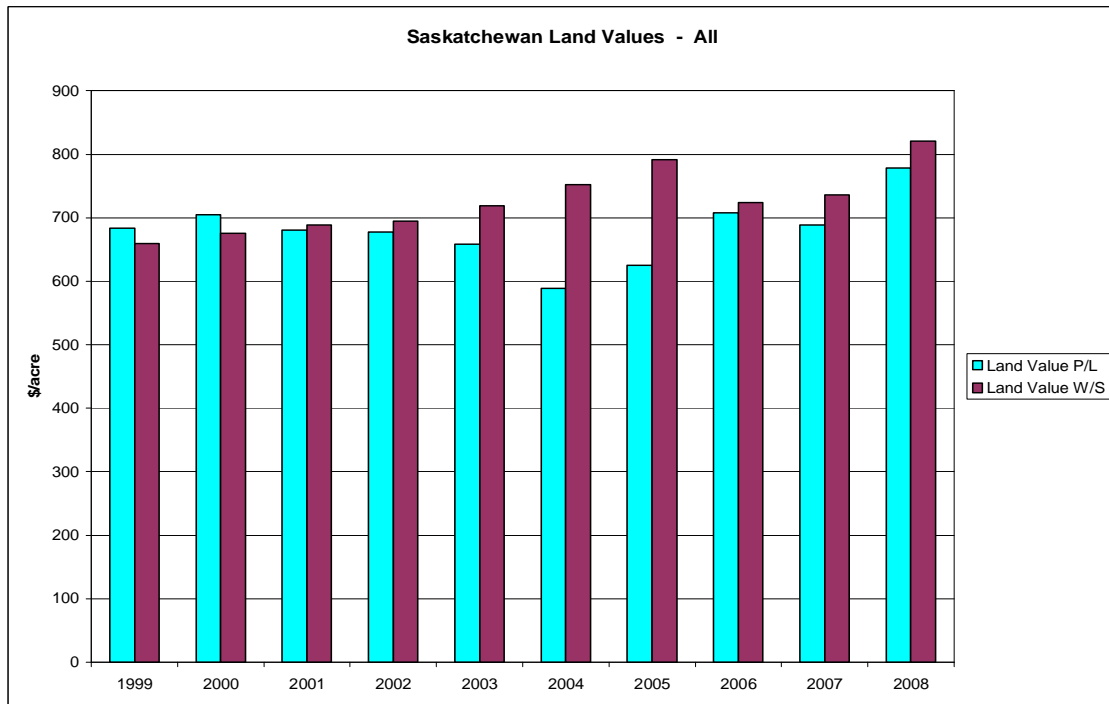
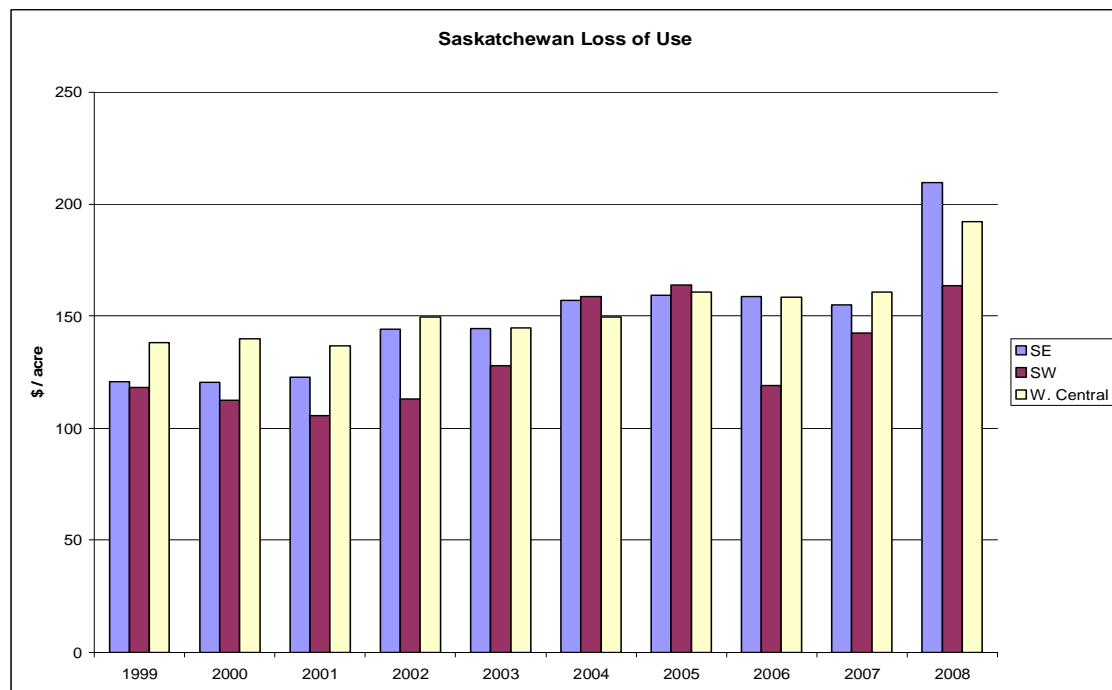


Figure 9

3.1.2 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 2000-2008. For First Year payments (per acre) the average annual growth rate is 7.90% while the growth rate for Rentals (per acre) is 6.00%. In 2008 the per acre First Year payment was \$3180 which is expected to increase to \$4650 by 2013. In 2007, a forecast was made based on the growth from 2000-2006. In 2008, another forecast was made based on 2000-2007. Since the recent years growth rates in compensation have been well in excess of those earlier in the decade the previous forecasts have underestimated the increases.

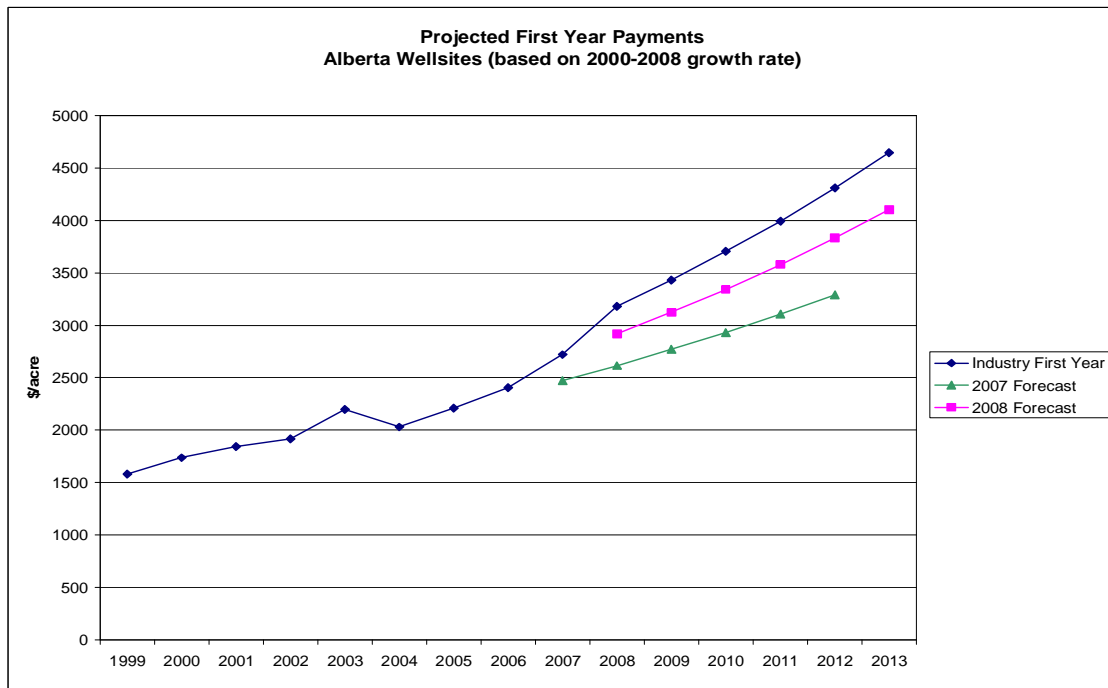


Figure 12

5. Comparisons to Agricultural Real Estate Prices

The Farmers' Advocate Office publishes average Alberta agricultural real estate prices for the province as a whole and for each municipality in Alberta. Figure 1 on page 2 of this report, the Alberta averages, shows that starting in 2004 these values are diverging at an increasing rate.

The individual municipal 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. In the NW (Figure 13), the huge increase in real estate values in 2007 started to narrow what has traditionally been a nearly 100% premium paid for Land Value. In the Central and South areas (Figure 14 and 15), the gap is increasing as Land Values are growing far in excess of real estate values.

Figure 13

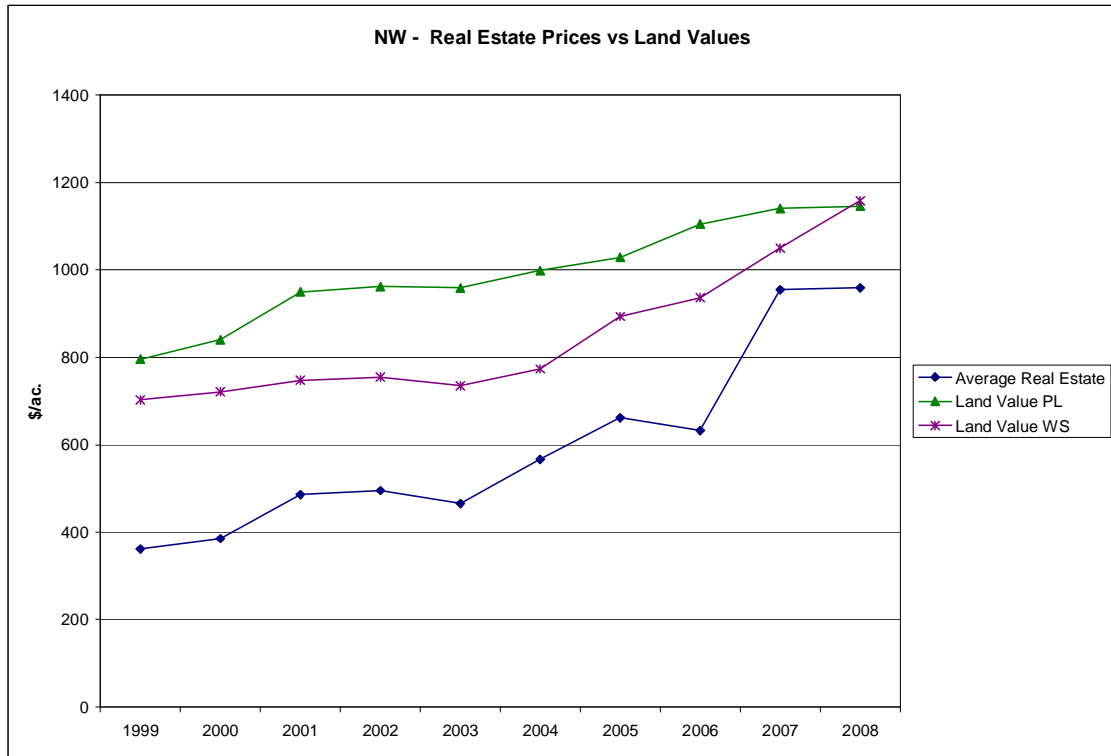


Figure 14

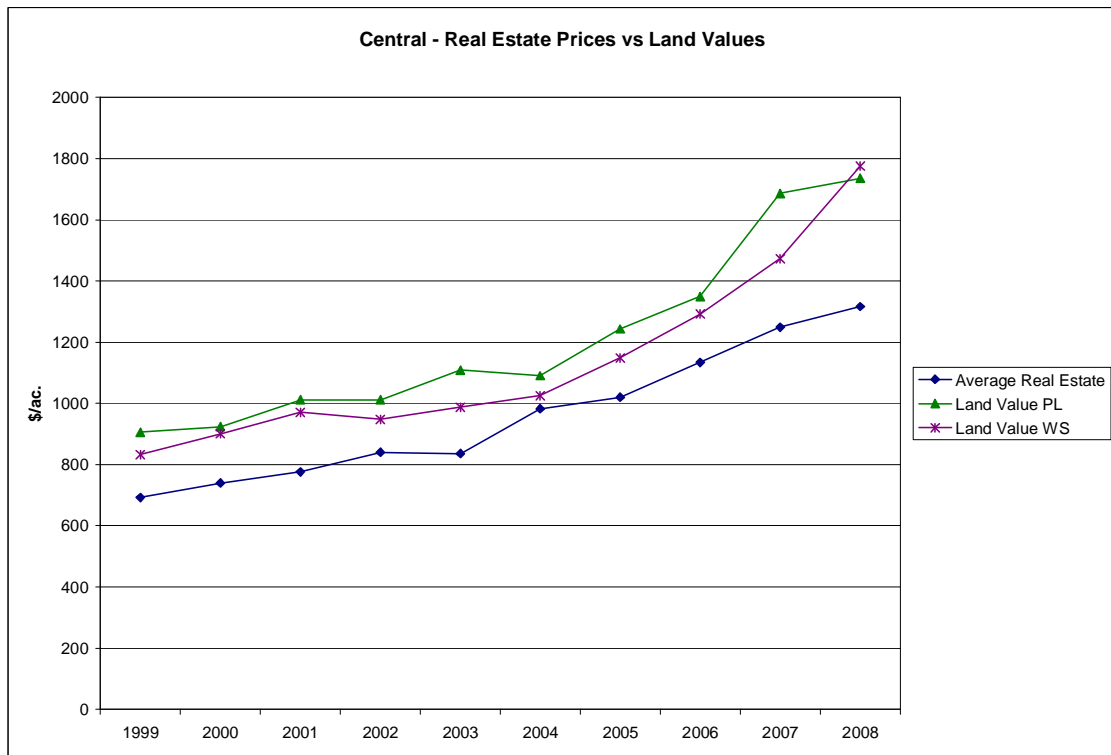
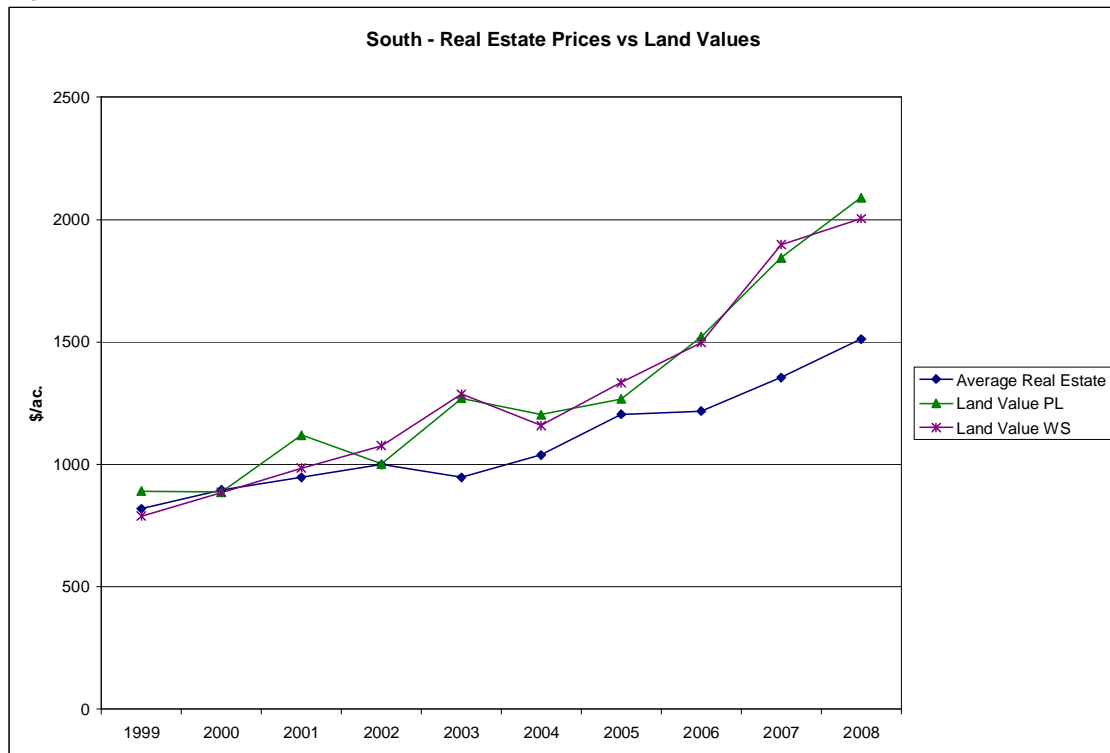


Figure 15



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 2009.xls – projected first year payments and rentals
- Real Estate Prices by Area 2009.xls – raw data for real estate values

Appendix A - Alberta Summary**Summary 1999-2008 % Change - All Leases**

	<u>All</u>	<u>South</u>	<u>Central</u>	<u>NW</u>
<u>Data Sample (# of leases)</u>				
Leases Pipelines	9976	4992	3526	1441
Leases Well Sites	10837	5878	3781	1159
Leases Crown CO	1038	952	65	21
<u>Ten-Year % Change</u>	<u>All</u>	<u>South</u>	<u>Central</u>	<u>NW</u>
Land Value - Pipelines	118.39	134.72	91.61	43.41
Land Value - Wells	136.09	153.10	112.88	64.72
General Disturbance	44.03	57.27	27.52	31.30
Loss of Use	82.97	102.34	64.27	41.42
Adverse Effect	33.76	41.88	23.35	22.38
Crown CO First Year w/s	36.78	36.29	48.15	32.35

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>
2000	2.18	7.82	3.95	7.88	3.65	2.80
2001	19.66	10.30	-2.24	2.74	0.71	2.36
2002	-5.92	4.44	5.34	7.45	3.22	1.85
2003	16.77	11.90	11.70	19.85	5.33	1.91
2004	-3.72	-8.48	-6.07	-22.50	-0.41	7.22
2005	8.59	13.99	2.36	7.16	2.13	6.49
2006	16.03	10.96	7.19	5.04	2.07	4.41
2007	20.59	14.03	6.05	8.32	5.03	4.57
2008	11.14	14.81	6.34	16.95	6.67	0.47
	118.39	136.09	44.03	82.97	33.76	36.78

Appendix B - Saskatchewan Summary**Summary 1999-2008 % Change - All Leases**

	<u>All</u>	<u>SE</u>	<u>SW</u>	<u>W. Central</u>
<u>Data Sample (# of leases)</u>				
Leases Pipelines	2189	605	890	425
Leases Well Sites	4014	411	2161	774

<u>Ten-Year % Change</u>	<u>All</u>	<u>SE</u>	<u>SW</u>	<u>W. Cent.</u>
Land Value - Pipelines	13.74	-4.40	39.44	14.99
Land Value - Wells	24.62	26.38	21.75	20.14
Severance	20.02	19.96	12.62	48.81
Loss of Use	56.15	73.59	38.26	38.99
Adverse Effect	39.57	34.07	57.24	17.21
Nuisance	22.59	15.43	40.45	15.43

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>
2000	2.94	2.45	1.98	-0.25	4.15	3.47
2001	-3.37	1.96	-1.86	-5.07	-1.64	-1.73
2002	-0.39	0.86	1.10	6.25	-0.03	0.90
2003	-2.84	3.39	1.55	8.77	3.50	4.36
2004	-10.62	4.43	1.77	11.94	-0.54	-0.01
2005	6.17	4.87	2.64	3.97	4.12	7.43
2006	13.31	-9.35	-6.10	-20.60	-5.60	-11.41
2007	-2.70	1.72	8.64	9.57	8.19	6.20
2008	12.94	10.34	7.56	22.91	18.48	9.42
	13.74	24.62	20.02	56.15	39.57	22.59