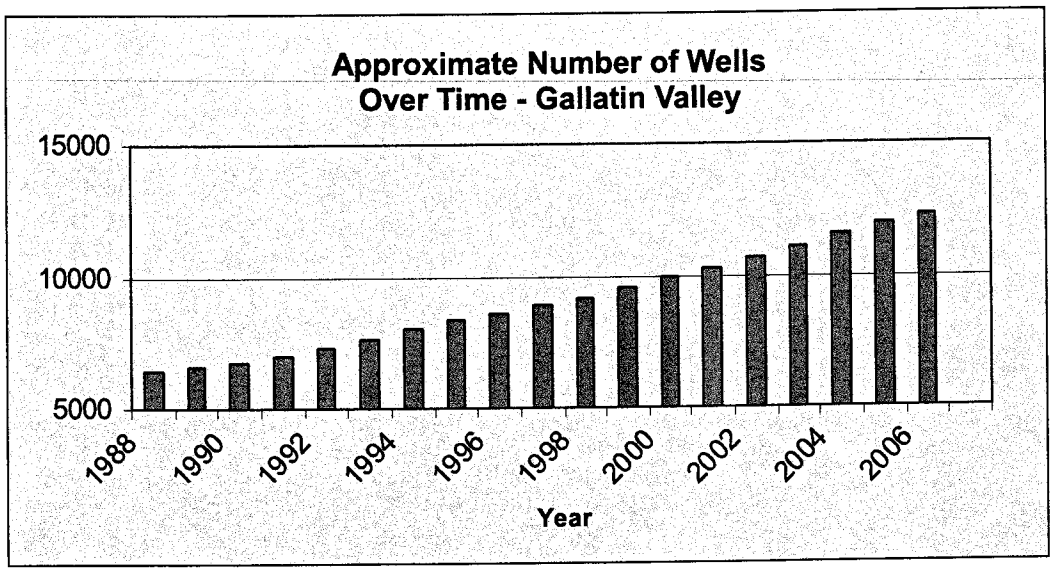
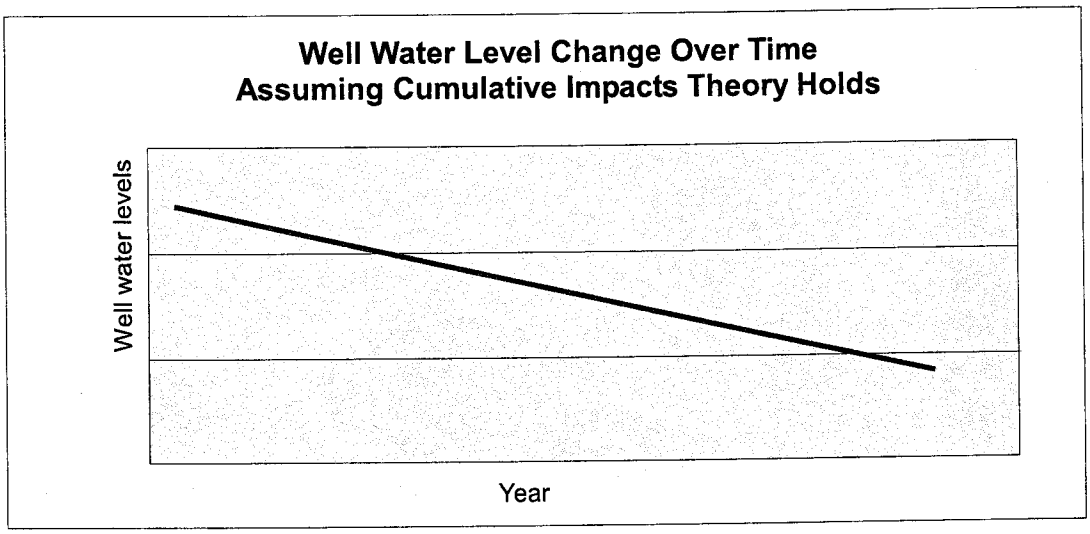
EXHIBIT 4
DATE 1-29-07
HB 262



According to the theory of some, the increasing number of wells is causing significant cumulative impacts. If this hypothesis is correct, then there should be a proportionate response or decrease in water levels as more wells are added. The graph below is a conceptualization of what should be occurring in terms of water levels.



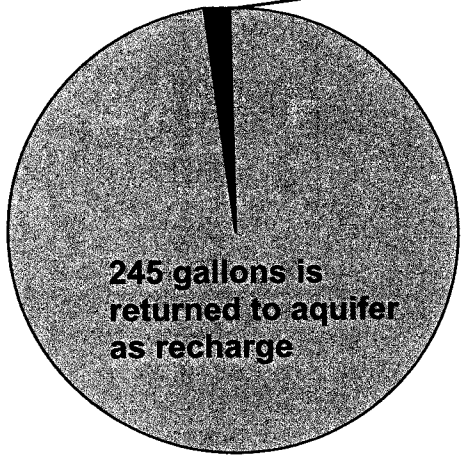
If the cumulative impacts theory is correct, then there should be a constant or persistent decline in water level over time as more wells are added.

Note that the number of wells estimate should be considered approximate and illustrative. It is based upon a proration of wells mapped in NRIS.

Date: 01/22/07 c:\leg\gal\rep\A-1 For Doney Law Firm	NICKLIN EARTH & WATER, INC.	**Theoretical Decline of Water Levels Assuming the Hypothesis "Cumulative Impacts"**	Figure S-1

Summary of What Happens
Typical Residential Pumping Well
(0.25 acres of lawn/garden)

250 gallons of water pumped per day (non-irrigation season)

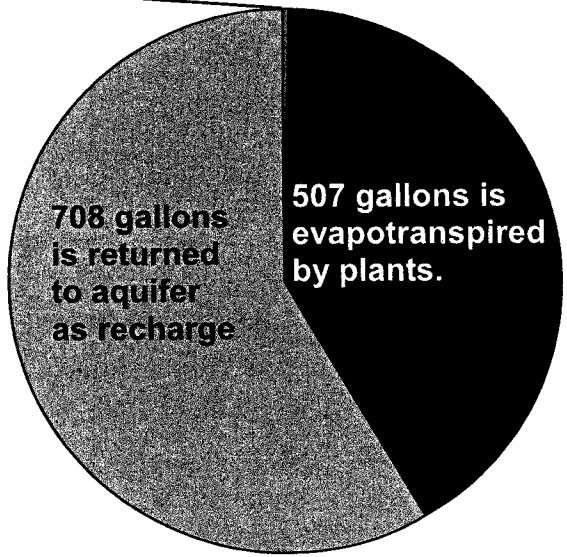


Daily Average Well Pumping Rate = 0.17 gallons per minute (most returning to ground water as recharge)

Total Annual Consumption = 0.006 ac-ft

5 gallons is lost to household consumption (cooking, bathing, etc.)

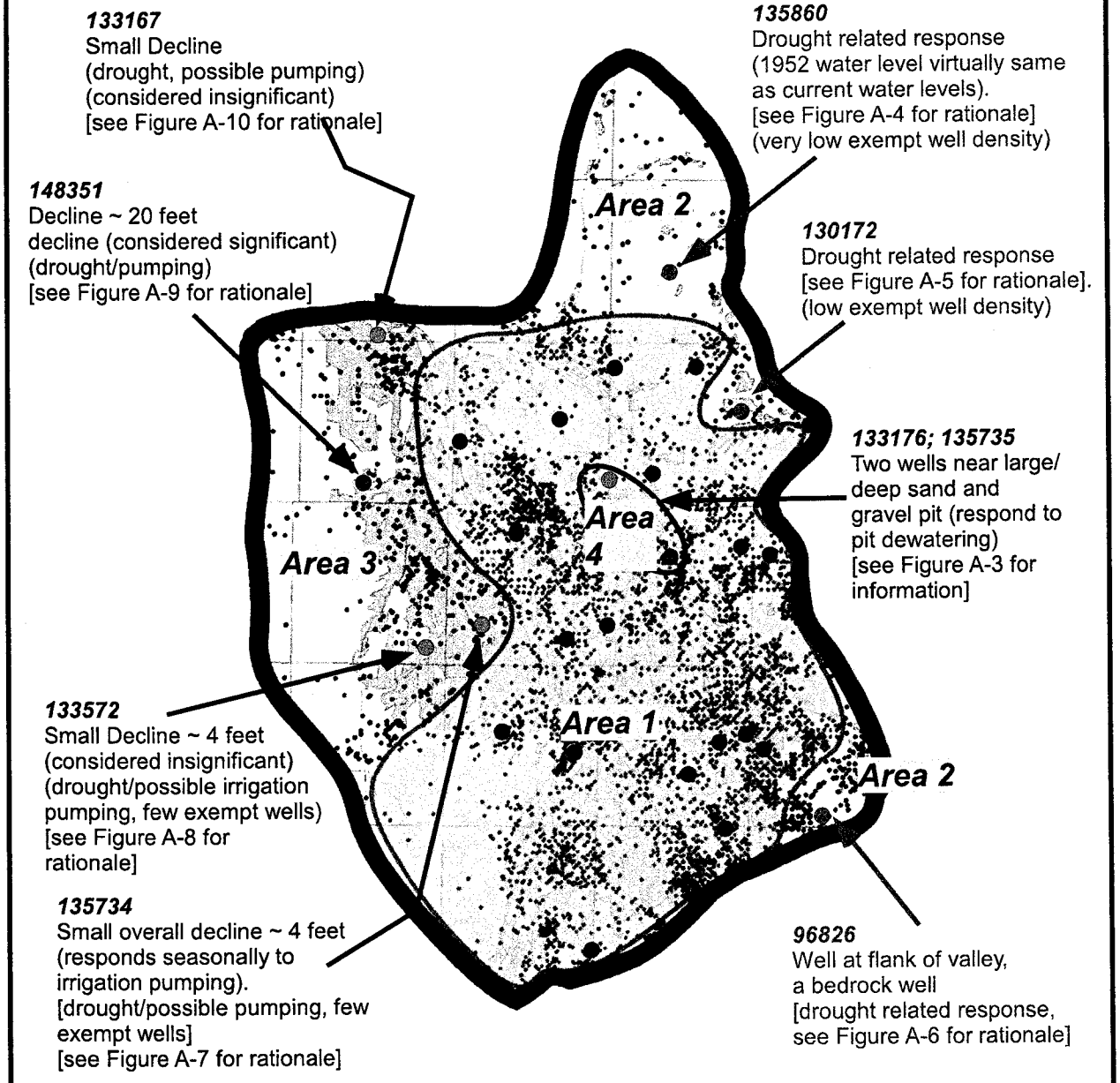
1,220 gallons of water pumped per day (153 day irrigation season)



Daily Average Well Pumping Rate = 0.85 gallons per minute (more than one-half returning to ground water as recharge)

Total Yearly Net Irrigation Consumption = 0.24 ac-ft

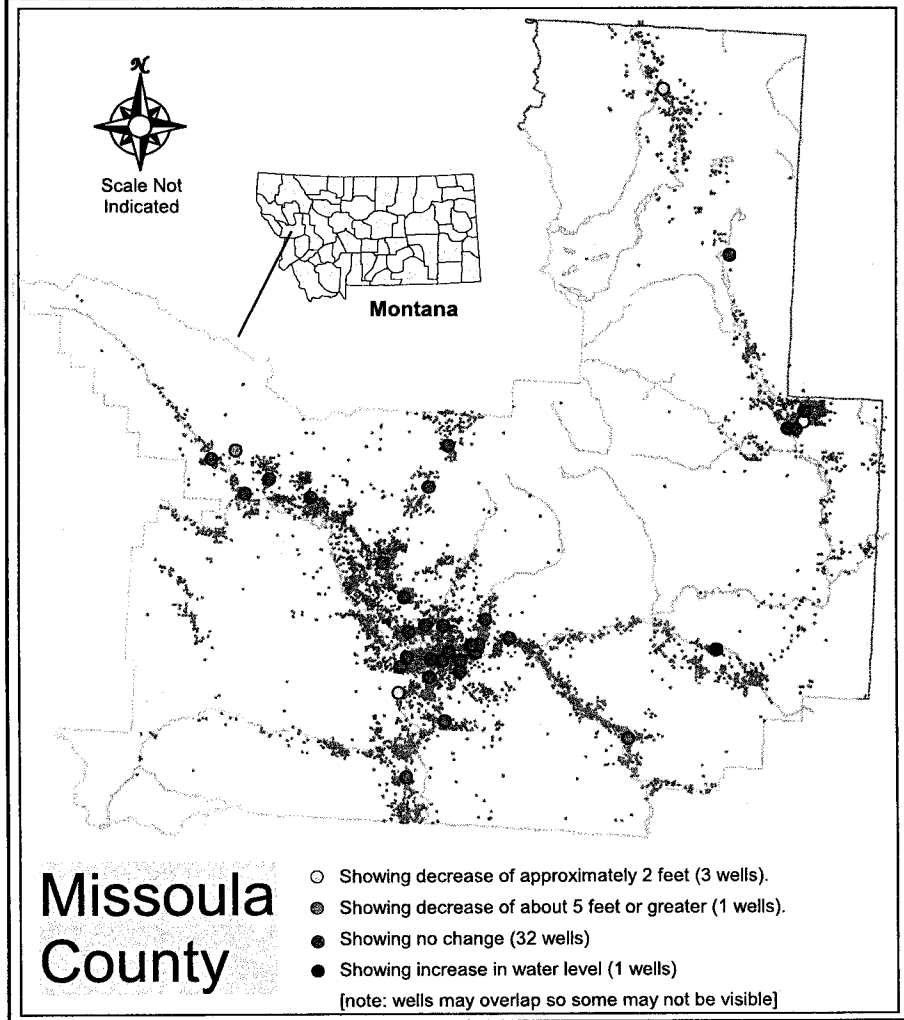
Date: 01\23\07 c:\leg\adden\fig S-2 For Doney Law Firm	NICKLIN EARTH & WATER, INC.	Typical Pumping Requirements What Happens to Ground Water Residential Exempt Well - Gallatin Valley	**Figure S-2**



Area 1: About 90 % of the wells (all wells) in the valley are within an area showing no trends for decline in water level.
Area 2: Three wells to the east of the blue shaded boundary are likely responding to drought cycles.
Area 3: Wells to the west of the blue shaded area are likely exhibiting long-term responses to drought and possibly irrigation well pumpage. With the exception of one well, most of the declines are deemed to be small.
Area 4: Two wells are responding to a large sand and gravel pit operation. See Figure A-3.

See Figures A-3 through A-10 for well by well evaluation for MBMG wells in Areas 2 - 4.

Date: 01/06/07 c:\leg\gal\rep\S-3 For Doney Law Firm	NICKLIN EARTH & WATER, INC.	**General Patterns for Observations MBMG Statewide Monitoring Well Network - Gallatin Valley**	Figure S-3



The Addition

Approximate Number of Domestic "Exempt" Wells	Effective Precip	Turf Requires Inches	Estimated Irrigation Consumption Acre-ft/yr
10,250	6.34	14.95	3,192

Nearest Major Stream	Stream Measurement Location	Flow Cfs	Annual Vol. Acre-ft	Annual% GW to SW
Clarks Fork	Missoula	2,450	1,774,934	0.18%

The subtraction needs to be performed next to address factors such as prior irrigation, changes in irrigation area, evapotranspiration, etc., in order to properly compute the net increase or decrease in consumptive use.

Based upon the above factors, and the relative lack of response of ground-water levels to well pumping as defined in the Montana of Mines and Geology State-wide monitoring program (exempt, public water supply, and irrigation wells), there is no evidence of so-called "cumulative impacts." The few changes that are observed are likely in response to long-term drought conditions.

Date: January 27, 2007
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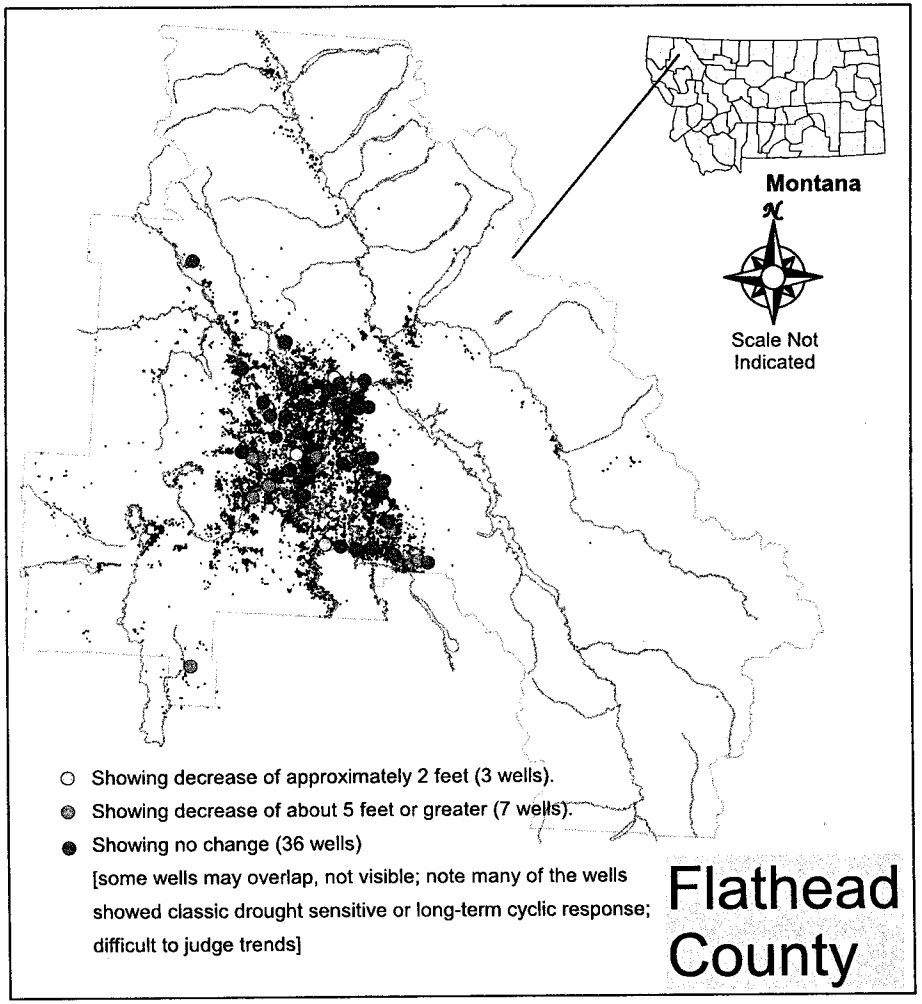
NICKLIN EARTH & WATER, INC.

General Water Resource Evaluation
Missoula County, Montana

Figure S-4



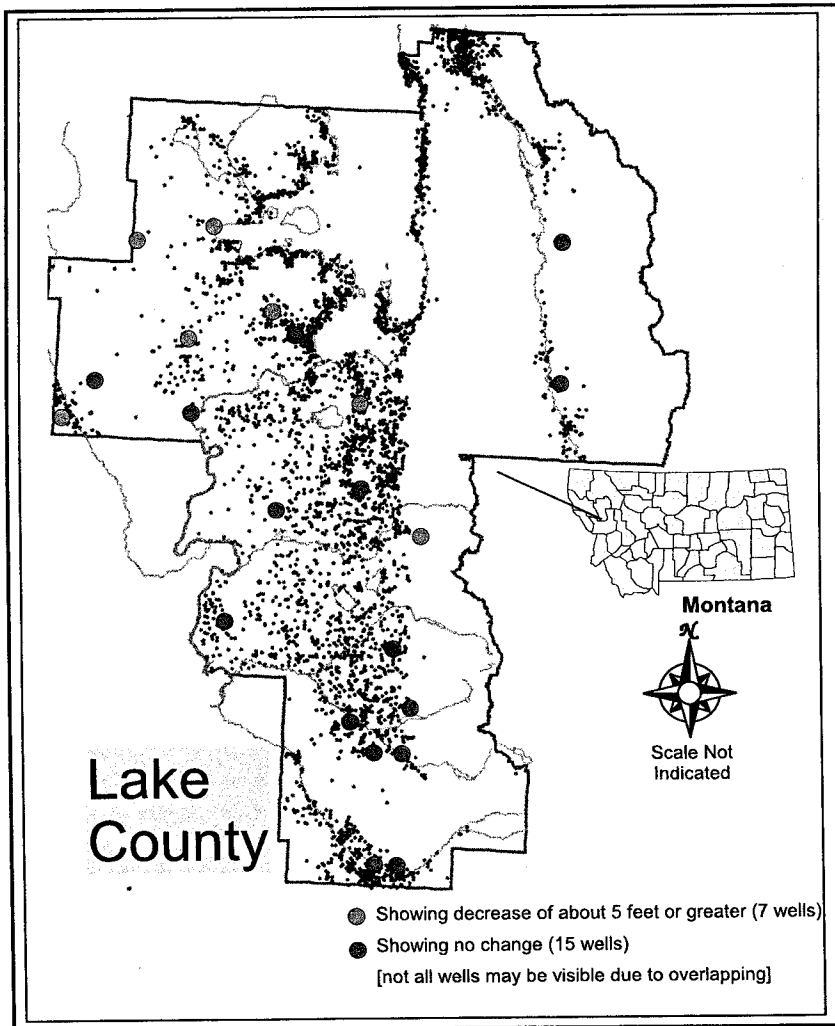
The Addition

Approximate Number of Domestic "Exempt" Wells		Effective Precip	Turf Requires Inches	Estimated Irrigation Consumption Acre-ft/yr
13,240		6.64	14.51	4,002
Nearest Major Stream	**Stream Measurement Location**	**Flow Cfs**	**Annual Vol. Acre-ft**	**Annual% GW to SW**
Flathead	Columbia Falls	6,320	4,578,605	0.09%

The subtraction needs to be performed next to address factors such as prior irrigation, changes in evapotranspiration, etc., in order to properly compute the net increase or decrease in consumptive use.

Based upon the above factors, and the relative lack of response of ground-water levels to well pumping as defined in the Montana of Mines and Geology State-wide monitoring program (exempt, public water supply, and irrigation wells), there is no evidence of so-called "cumulative impacts." The few changes that are observed are probably in response to long-term drought conditions. Evaluations of snow-pack conditions and precipitation conditions should be performed to better quantify the underlying factors.

Date: January 27, 2007 **File c:\leg\doney\state\Fig_S-5** **Issued for Doney Law Firm**	NICKLIN EARTH & WATER, INC.	**General Water Resource Evaluation** **Flathead County, Montana**	**Figure S-5**



The Addition

Approximate Number of Domestic "Exempt" Wells		Effective Precip	Turf Requires Inches	Estimated Irrigation Consumption Acre-ft/yr
5,072		6.94	14.08	1,488
Nearest Major Stream	**Stream Measurement Location**	**Flow Cfs**	**Annual Vol. Acre-ft**	**Annual% GW to SW**
Flathead	Polson	9,650	6,991,066	0.02%

The subtraction needs to be performed next to address factors such as prior irrigation, changes in evapotranspiration, etc., in order to properly compute the net increase or decrease in consumptive use.

Based upon the above factors, and the relative lack of response of ground-water levels to well pumping as defined in the Montana of Mines and Geology State-wide monitoring program (exempt, public water supply, and irrigation wells), there is no evidence of so-called "cumulative impacts." The few changes that are observed are probably in response to long-term drought conditions. Evaluations of snow-pack conditions and precipitation conditions should be performed to better quantify the underlying factors.

Date: January 27, 2007
File c:\leg\doney\state\Fig_S-6
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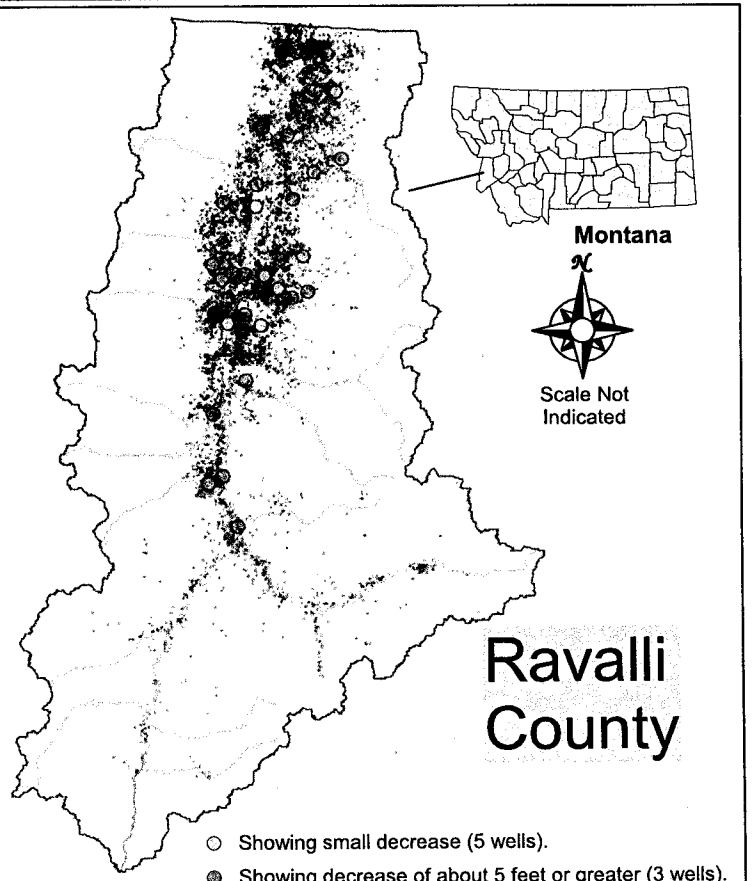
NICKLIN
EARTH & WATER, INC.

General Water Resource Evaluation
Lake County, Montana

Figure S-6



The Addition

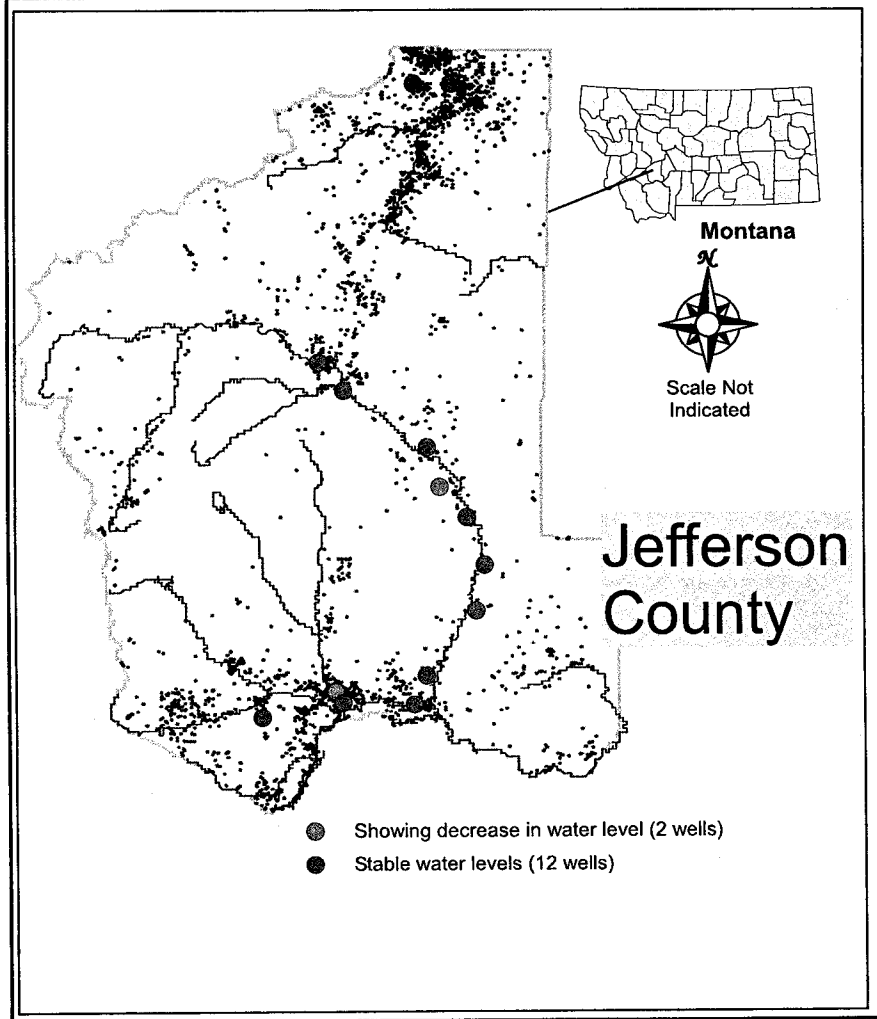
Approximate Number of Domestic "Exempt" Wells	Effective Precip	Turf Requires Inches	Estimated Irrigation Consumption Acre-ft/yr
14,632	7.45	13.36	4,073

Nearest Major Stream	Stream Measurement Location	Flow Cfs	Annual Vol. Acre-ft	Annual% GW to SW
Bitterroot	Missoula	971	703,453	0.58%

The subtraction needs to be performed next to address factors such as prior irrigation, changes in evapotranspiration, etc., in order to properly compute the net increase or decrease in consumptive use.

Based upon the above factors, and the relative lack of response of ground-water levels to well pumping as defined in the Montana of Mines and Geology State-wide monitoring program (exempt, public water supply, and irrigation wells), there is no evidence of so-called "cumulative impacts." The few changes that are observed are likely in response to long-term drought conditions. Evaluations of snow-pack conditions and precipitation conditions should be performed to better quantify the underlying factors.

Date: January 27, 2007 File c:\leg\doney\state\Fig_S-7 Issued for Doney Law Firm	NICKLIN EARTH & WATER, INC.	General Water Resource Evaluation Ravalli County, Montana	Figure S-7



The Addition

Approximate Number of Domestic "Exempt" Wells		Effective Precip	Turf Requires Inches	Estimated Irrigation Consumption Acre-ft/yr
2,908		5.27	16.47	998
Nearest Major Stream	**Stream Measurement Location**	**Flow Cfs**	**Annual Vol. Acre-ft**	**Annual% GW to SW**
Jefferson	Three Forks	1,300	941,802	0.11%

The subtraction needs to be performed next to address factors such as prior irrigation, changes in evapotranspiration, etc., in order to properly compute the net increase or decrease in consumptive use.

Based upon the above factors, and the relative lack of response of ground-water levels to well pumping as defined in the Montana of Mines and Geology State-wide monitoring program (exempt, public water supply, and irrigation wells), there is no evidence of so-called "cumulative impacts."

Date: January 27, 2007
File c:\leg\doney\state\Fig_S-8
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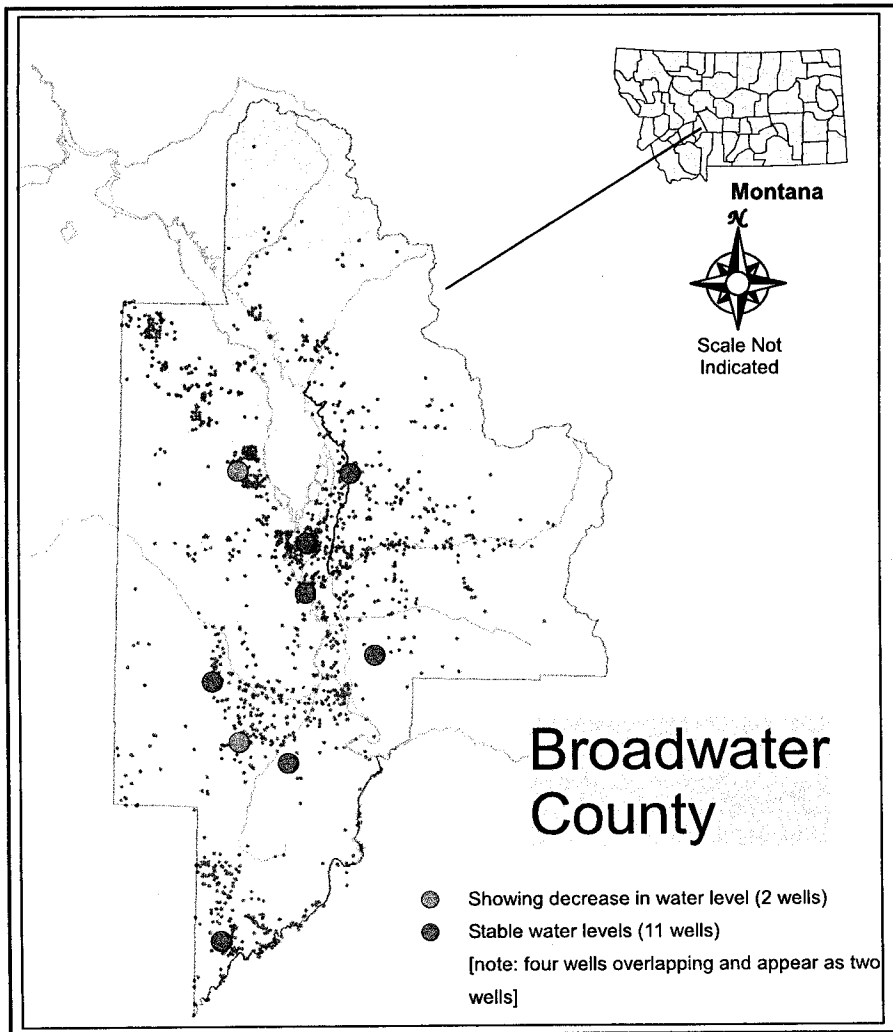
NICKLIN
EARTH & WATER, INC.

General Water Resource Evaluation
Jefferson County, Montana

Figure S-8



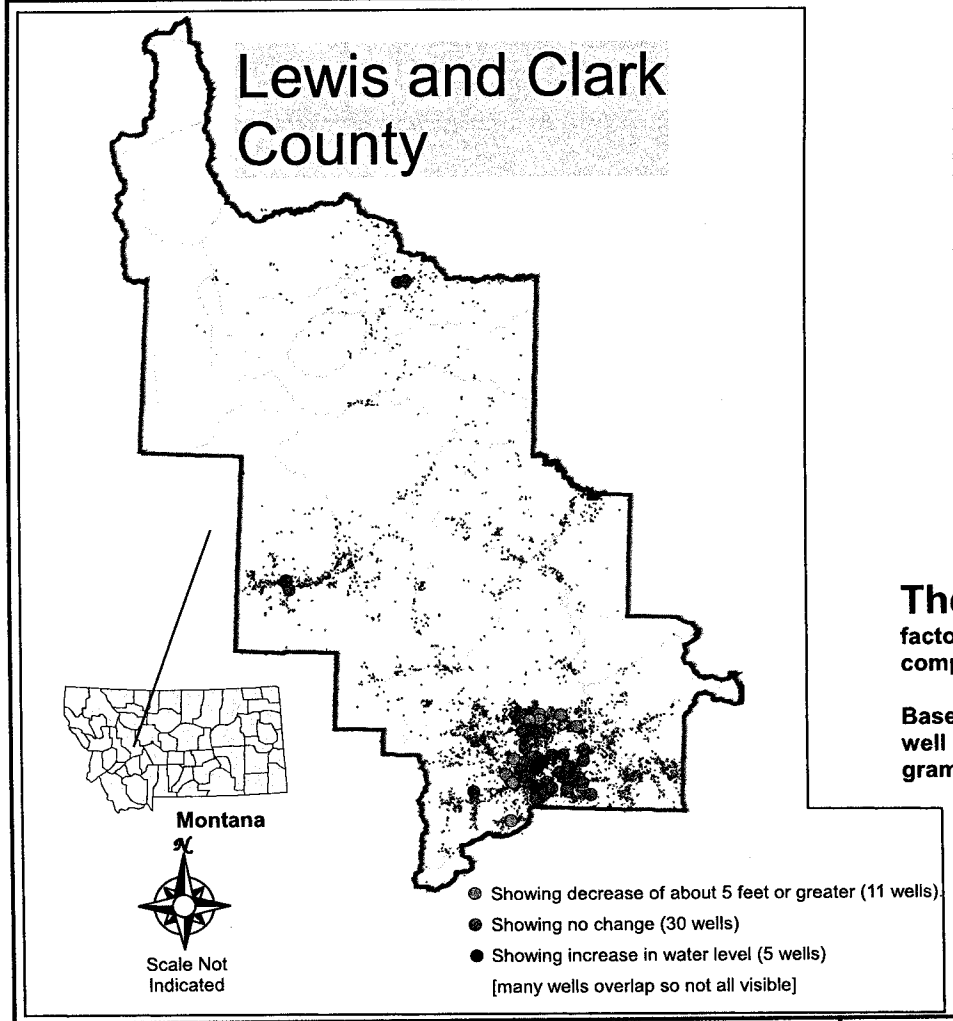
The Addition

Approximate Number of Domestic "Exempt" Wells		Effective Precip	Turf Requires Inches	Estimated Irrigation Consumption Acre-ft/yr
1,559		6.12	15.26	496
Nearest Major Stream	**Stream Measurement Location**	**Flow Cfs**	**Annual Vol. Acre-ft**	**% GW to SW**
Missouri	Toston	3,710	2,687,757	0.02%

The subtraction needs to be performed next to address factors such as prior irrigation, changes in evapotranspiration, etc., in order to properly compute the net increase or decrease in consumptive use.

Based upon the above factors, and the relative lack of response of ground-water levels to well pumping as defined in the Montana of Mines and Geology State-wide monitoring program (exempt, public water supply, and irrigation wells), there is no evidence of so-called "cumulative impacts." The few changes that are observed are likely in response to long-term drought conditions.

Date: January 27, 2007 File c:\leg\doney\state\Fig_S-9 Issued for Doney Law Firm	NICKLIN EARTH & WATER, INC.	General Water Resource Evaluation Broadwater County, Montana	Figure S-9



The Addition

Approximate Number of Domestic "Exempt" Wells	Effective Precip	Turf Requires Inches	Estimated Irrigation Consumption Acre-ft/yr
9,626	6.27	15.05	3,018

Nearest Major Stream	Stream Measurement Location	Flow Cfs	Annual Vol. Acre-ft	Annual% GW to SW
Missouri	Hauser	3,600	2,608,066	0.12%

The subtraction needs to be performed next (to address factors such as prior irrigation, changes in evapotranspiration, etc., in order to properly compute the net increase or decrease in consumptive use).

Based upon the above factors, and the general lack of decline of ground-water levels to well pumping as defined in the Montana of Mines and Geology State-wide monitoring program (exempt, public water supply, and irrigation wells), there is no evidence of so-called "cumulative impacts." The decreases are most probably due to drought. The increases in water levels in some wells may be due to imported surface water.

Date: January 27, 2007
File c:\leg\doney\state\Fig_S-10
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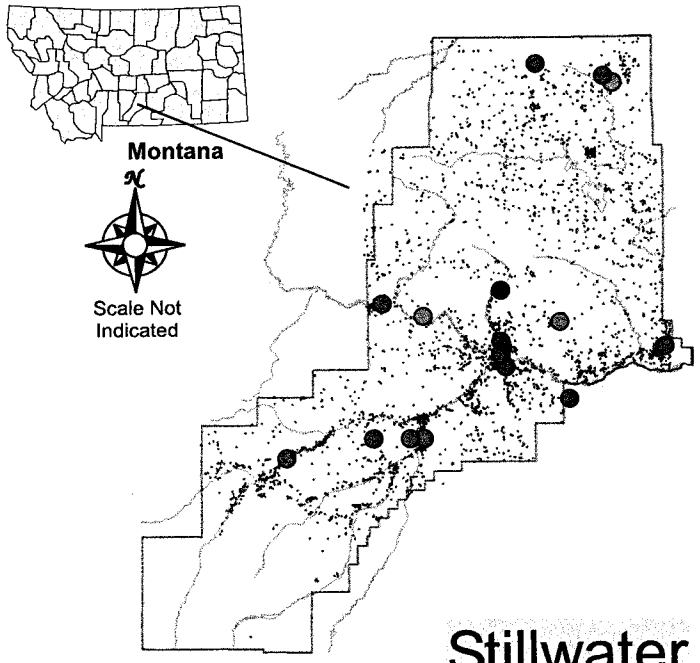
NICKLIN
EARTH & WATER, INC.

General Water Resource Evaluation
Lewis and Clark County, Montana

Figure S-10



- Showing increasing water level (1 well)
- Showing decrease in water level (3 wells)
- Stable water levels (13 wells)

  [note: two wells overlapping and appear as one well]

The Addition

Approximate Number of Domestic "Exempt" Wells	Effective Precip	Turf Requires Inches	Estimated Irrigation Consumption Acre-ft/yr
2,606	7.58	13.17	715

Nearest Major Stream	Stream Measurement Location	Flow Cfs	Annual Vol. Acre-ft	Annual % GW to SW
Yellowstone	Livingston	1,380	999,759	0.07%

The subtraction needs to be performed next (to address factors such as prior irrigation, changes in evapotranspiration, etc., in order to properly compute the net increase or decrease in consumptive use).

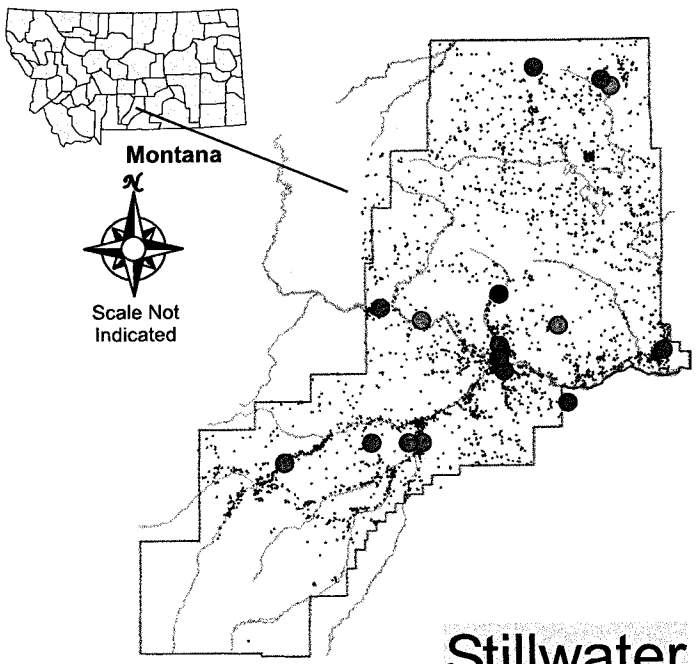
Based upon the above factors, and the general lack of decline of ground-water levels to well pumping as defined in the Montana of Mines and Geology State-wide monitoring program (exempt, public water supply, and irrigation wells), there is no evidence of so-called "cumulative impacts."

Date: January 27, 2007
File c:\leg\doney\state\Fig_S-11
Issued for Doney Law Firm

NICKLIN
EARTH & WATER, INC.

General Water Resource Evaluation
Stillwater County, Montana

Figure S-11



- Showing increasing water level (1 well)
- Showing decrease in water level (3 wells)
- Stable water levels (13 wells)

[note: two wells overlapping and appear as one well]

The Addition

Approximate Number of Domestic "Exempt" Wells	Effective Precip	Turf Requires Inches	Estimated Irrigation Consumption Acre-ft/yr
2,606	7.58	13.17	715

Nearest Major Stream	Stream Measurement Location	Flow Cfs	Annual Vol. Acre-ft	Annual % GW to SW
Yellowstone	Livingston	1,380	999,759	0.07%

The subtraction needs to be performed next (to address factors such as prior irrigation, changes in evapotranspiration, etc., in order to properly compute the net increase or decrease in consumptive use).

Based upon the above factors, and the general lack of decline of ground-water levels to well pumping as defined in the Montana of Mines and Geology State-wide monitoring program (exempt, public water supply, and irrigation wells), there is no evidence of so-called "cumulative impacts."

Date: January 27, 2007 File c:\leg\doney\state\Fig_S-11 Issued for Doney Law Firm	NICKLIN EARTH & WATER, INC.	General Water Resource Evaluation Stillwater County, Montana	Figure S-11