

Golder Associates Inc.
1200 West Ironwood Drive, Suite 201
Coeur d'Alene, ID 83814
Telephone (208) 676-9933
Fax (208) 676-8602
www.golder.com



**Golder
Associates**

RECEIVED

APR 27 2009

WATER RESOURCES
WESTERN REGION

TRANSMITTAL LETTER

To: John F. Westra
Western Regional Manager
Western Regional Office
Idaho Department of Water Resou
2735 Airport Way
Boise, ID 83705-5082

DATE: April 24, 2009

PROJECT NO.: 083-9323909

Attention: John F. Westra

SENT VIA:

- ☐ Federal Express
☒ U.S. Mail
☐ Courier
☐ Hand Delivery
☐ Other: _____

Water Measurement

Christine Roberts

RECEIVED

APR 30 2009

DEPARTMENT OF
WATER RESOURCES

File in
Nedeernd Dairy
file

QUANTITY	ITEM	DESCRIPTION
1	copies	COCOA-NEDEERND DAIRY GROUND WATER MONITORING ANNUAL REPORT FOR 2008, OWYHEE COUNTY IDAHO
REMARKS:		

Golder Associates Inc.
1200 W. Ironwood Drive, Suite 201
Coeur d'Alene, Idaho 83814
Telephone: (208) 676-9933
Fax: (208) 676-8602



April 22, 2009

Our Ref.: 083-9317409

Nederend Dairy
4998 Hogg Road
Homedale, Idaho 83628

RECEIVED
APR 27 2009
WATER RESOURCES
WESTERN REGION

Attention: Hans Nederend

**RE: COCOA-NEDEREND DAIRY GROUND WATER MONITORING
ANNUAL REPORT FOR 2008
OWYHEE COUNTY, IDAHO**

Dear Mr. Nederend:

The Conditions of Approval and Remarks for Transfer No. 5313 of Water Right No. 57-07045 required COCOA and Nederend Dairy to jointly conduct a water quality monitoring program for ten years, and to annually report analyses and conclusions. The Transfer of Water Right was signed October 30, 1998, and water quality monitoring began in February 1999. This report summarizes the water quality monitoring activities and water quality and water level data collected during calendar year 2008. 2008 marked the tenth year of water quality monitoring at Nederend Dairy, fulfilling the requirement of Condition #5.

AREA HYDROGEOLOGY

The hydrogeology of the area is described in "2001 Annual Ground Water Quality Monitoring Summary Results for Northwest Owyhee County, Idaho" (Boyles et al., 2002):

"Sediments underlying the project area are classified within the Idaho Group geologic formation (Lindholm, 1993). Sources of these sediments are believed to originate from prehistoric Lake Idaho and from more recent deposition from the Snake River. A characteristic "blue clay" is found on well drillers' reports from Idaho Department of Water Resources (IDWR) for many of the wells in the study area. These blue clays are within the Glenns Ferry Formation (Othberg, 1994) and their low permeability characteristics can produce confined aquifer conditions. The blue clays also serve as an indicator of depositional anaerobic conditions.

Ground water used for domestic purposes in this project area appears to come from two sources: (1) a shallow system consisting of gravels and coarse grained sands, and (2) a deep system consisting of black sand that is separated from the shallow system by a blue-colored clay of varying thickness (Figure 2). Aquifer conditions appear to vary from unconfined to confined at different locations and different depths. Well driller reports indicate the presence of shallow ground water gravels and sands within 50 of the land surface. Well driller reports and the geologic cross section indicate the deep system is found at varying depths, generally less than 300 feet from the land surface (Figure 2 and Table 1). Static water levels are typically less than 60 feet."

Nederend Dairy monitoring and production well locations, contoured water table elevations, and irrigation ditches and canals are shown in Figure 1. Groundwater flow direction in the shallow aquifer is to the northwest. The hydraulic gradient between wells MW-4 and MW-3 is approximately 0.004 ft/ft.

At well MD-2, the base of the shallow aquifer is 63 feet below ground surface. At Nederend #2, the base of the shallow aquifer is approximately 55 feet below ground surface. At both locations, the shallow aquifer consists of an upper coarse-grained sand-gravel separated from a lower sand-gravel by finer-grained tan/brown clay. Most of the monitoring wells at Nederend Dairy are completed in the upper sand-gravel. Well MW-8 is completed in the lower sand-gravel of the shallow aquifer.

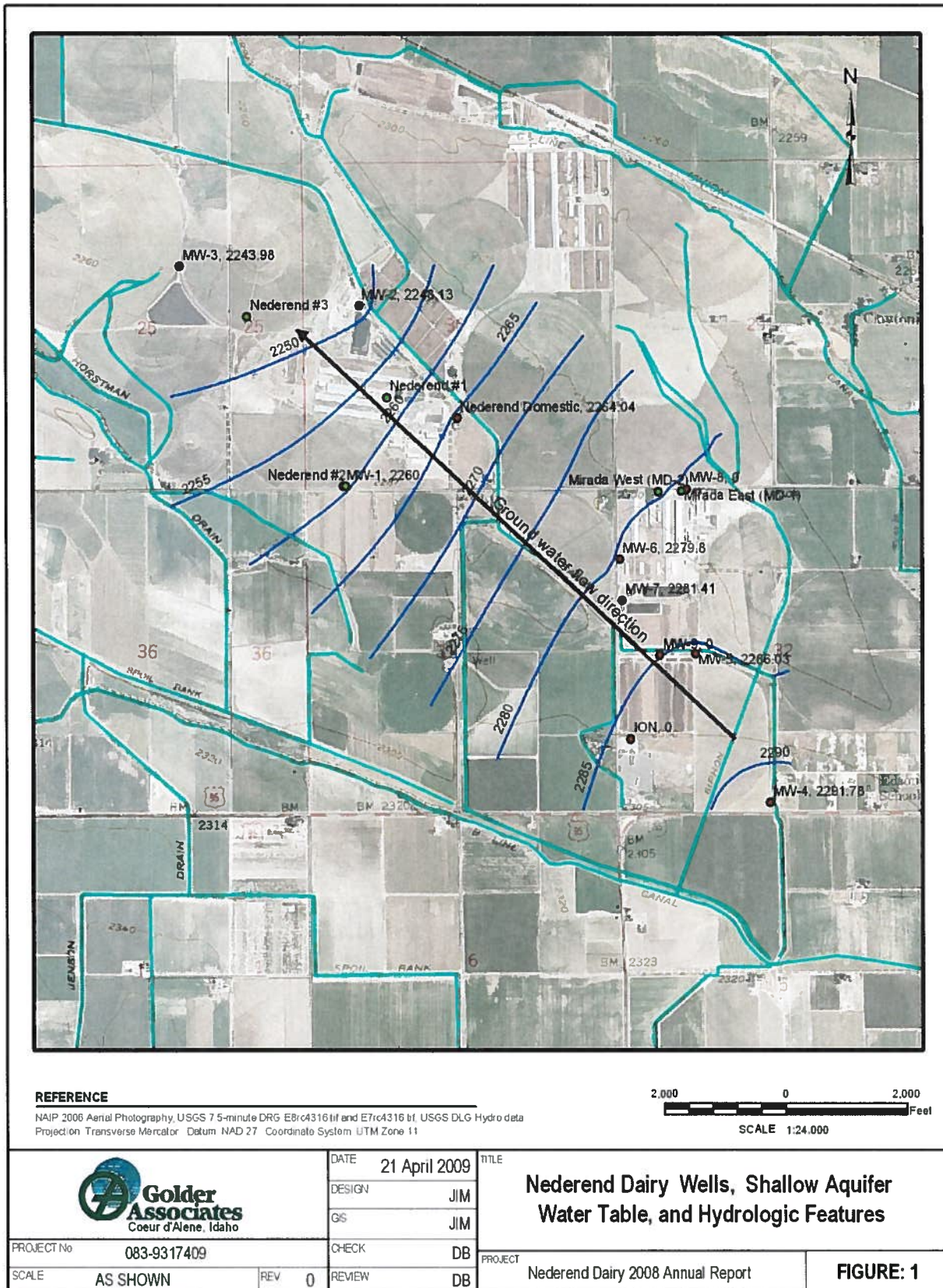
The water table is closest to the land surface at MW-4, MW-5, and MW-9, all located next to an irrigation/drainage ditch that runs through the dairies, where the water table is ~12 - 14 feet below ground surface. The drainage ditch is excavated into the upper sand-gravel at MW-4 and MW-5. The separation between the land surface and water table at wells distant from the drain is on the order of approximately 30 - 35 feet.

Geochemically, the groundwater quality in the shallow and deep aquifers is different. The shallow aquifer is characterized by lower temperatures and oxidizing conditions. Temperature in the shallow aquifer ranges from approximately 13° – 17° C. Dissolved oxygen measurements from the shallow aquifer range from approximately 0.1 to 1.5 mg/L and oxidation/reduction potential ranges from 100 to 120 mV. Ammonia in the shallow aquifer is oxidized to nitrate. The deep aquifer is warmer and is characterized by reducing conditions. Water quality measurements were recorded at well MD-2 in August 2006. Water temperature was 24°C, dissolved oxygen 0 mg/L, and the oxidation/reduction potential was -143 mV. Ammonia is present in the deep aquifer because of the reducing conditions.

Continuous water level and temperature monitoring indicates that the shallow aquifer system and surface water features are hydrologically connected. In particular, water in the drainage ditch, which runs through Dairy #2 and forms the north boundary of Dairy #1, flows into and out of the shallow aquifer on a seasonal basis. At MW-5, the coarse-grained sand-gravel is exposed in the drainage ditch during low water. Hydrographs of continuous water level monitoring data collected at well MW-6 during 2006 and MW-7 during 2008 (Figures 34 and 37) illustrate this connection. Water level and temperature at these wells responded to the beginning of irrigation season and subsequent higher water levels in the drain. The hydrographs from these wells show a low water level at the end of winter followed by rapidly rising water levels in early April, then a more gradual rise, reaching a maximum in September/October and then declining over the fall and winter months. At wells that are more distant from the drain (MW-3, Figure 33 and MW-8, Figure 35) the water level response to the beginning of irrigation season is less abrupt.

Hydrographs of monthly water level measurements at wells MW-4 and MW-5 (Figures 13 and 16) also illustrate this response. Water levels typically rise between measurements taken in March and April in response to the introduction of irrigation water into the drain on April 1st. Water levels rise over the irrigation season and then drop rapidly between October and November as water levels in the drain drop at the end of the irrigation season. Water continues to flow in the drainage ditch after the irrigation season ends, flowing throughout the winter recharged by ground water draining from the shallow aquifer back into the drain.

The shallow aquifer system is also affected by pumping at dairy production wells. Water levels in the shallow aquifer fluctuate on a daily basis in response to varying production rates at dairy wells. Water levels at well MW-1 fluctuate over a range of two to five feet on a daily basis in response to varying pumping rates (100 to 250 gpm) at production well Nederend #2, which is approximately 40 feet from



MW-2. Wells more distant from production wells fluctuate over a smaller range, on the order of approximately 0.05 to 0.1 feet. The shallow and deep aquifers are hydrologically connected by wells that are open to both aquifers. Three production wells at Nederend Dairy are open to both aquifers. Well Nederend #2 is located approximately 50 feet north of Thompson Road, and was drilled in 1971 using the cable-tool method. Nederend #2 is 544 feet deep. The well is cased with 16-inch casing from approximately two feet above ground surface to a depth of 33 feet; with 12-inch casing from land surface to a depth of 272 feet; and with 8-inch casing from 252 to 488 feet below ground surface. The well is screened over two intervals: from 35 to 55 feet below ground surface in the shallow aquifer with 12-inch 0.012-slot stainless steel screen; and from 448 to 468 feet below ground surface in the deeper aquifer with 8-inch 0.008 slot stainless steel screen. The 12-inch casing between the two screened intervals is factory perforated, and the well is gravel packed from 15 to 490 feet below ground surface.

Well Mirada East (MD-1) was drilled to a depth of 250 feet in 1962 using the air-rotary method. The well was drilled 20-inch diameter open hole to 250 feet, then cased with 12-inch diameter casing from +1 to 250 feet below ground surface. The 12-inch diameter casing is perforated from 100 to 250 feet bgs with torch-cut perforations. The well is gravel-packed from land surface to 250 feet bgs, with no surface seal.

Well Nederend #3 was drilled to a depth of 544 feet in 1971 using the cable-tool method. The well is cased with 16-inch diameter casing from 18 to 84 feet bgs and with 8-inch diameter casing from 368 – 468 feet bgs. The 16-inch casing is perforated from 35 to 55 feet bgs; the 8-inch casing from 368 to 468 feet bgs. Nederend #3 has a 15-foot surface seal and no gravel pack.

The well construction methods used to construct these wells provides a direct connection between the shallow and deep aquifers. Well driller's reports for wells Nederend #2, Nederend #3, and MD-1 are included in the attachments to this report.

WATER QUALITY DATA

Water quality data collected from wells completed in the shallow aquifer in 2008 are discussed in the following section. Water quality statistics are summarized in Tables 1-3.

MW-1 Water Quality

MW-1 water quality is shown in Figures 2 and 3, and a hydrograph of water table elevations is shown in Figure 4. MW-1 is 50 feet deep and is screened from 35 to 50 feet below ground surface in coarse-grained sand and gravel. During 2008, nitrate concentrations at well MW-1 in 2008 ranged from 24 mg/L June 2nd to 58.3 mg/L October 7th. Average nitrate at MW-1 has increased steadily over the past three years, from 19.48 mg/L in 2006, to 30.58 mg/L in 2007, and to 43.26 in 2008. All of the water quality samples collected at well MW-1 during 2008 exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L. Average chloride and sulfate concentrations at MW-1 also increased. Average sulfate concentrations at MW-1 exceeded the IDAPA 58.01.11 Secondary Water Quality Standard of 250 mg/L.

Figure 2. MW-1 Water Quality - Nitrate

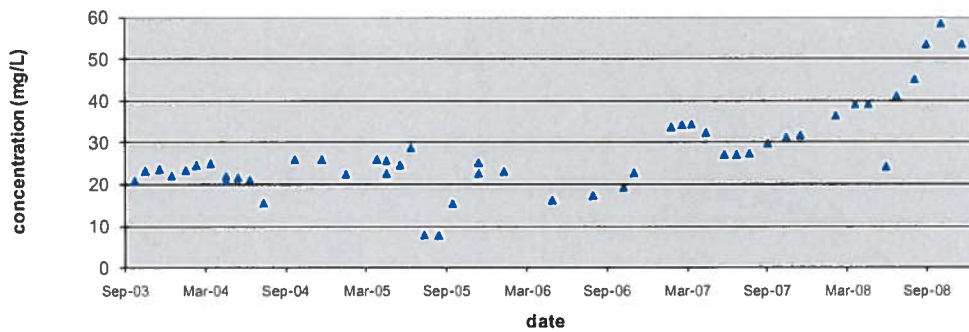


Figure 3. MW-1 Water Quality - Sulfate & Chloride

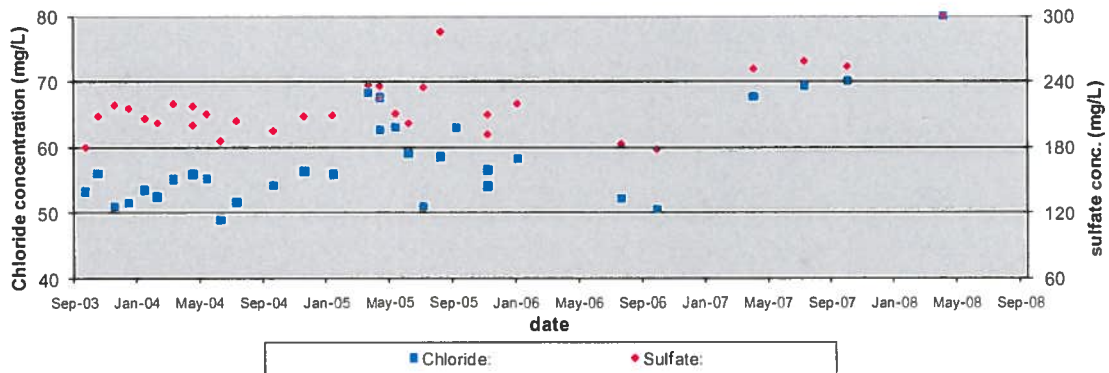
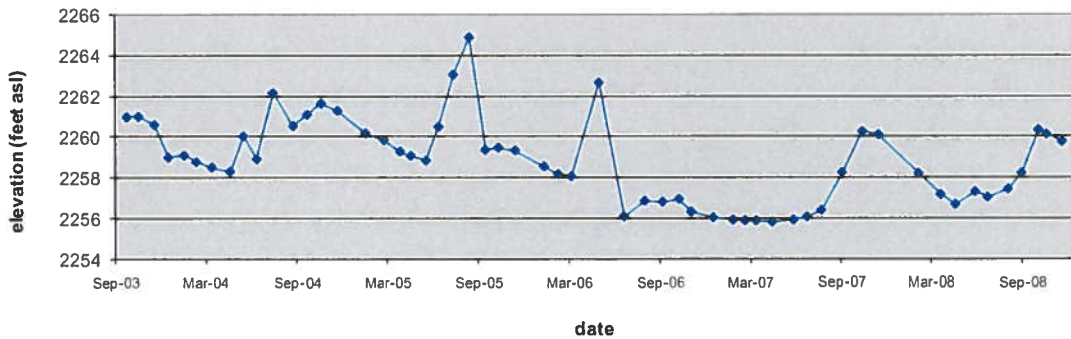
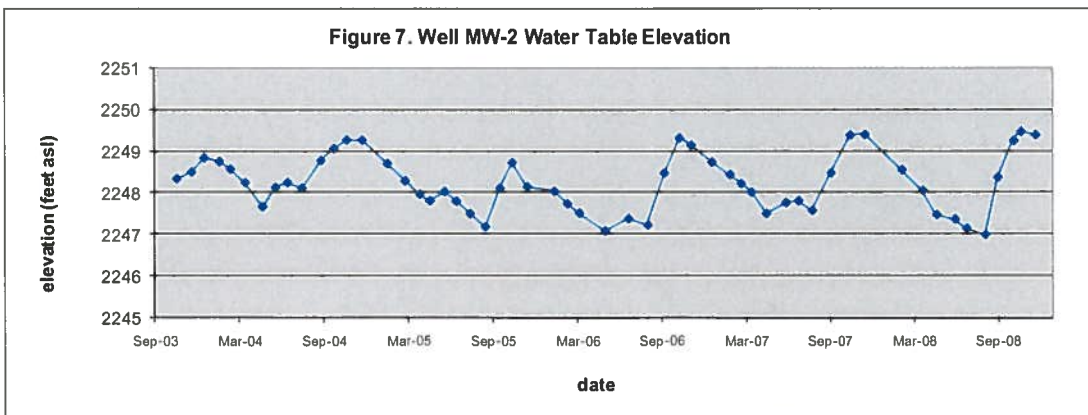
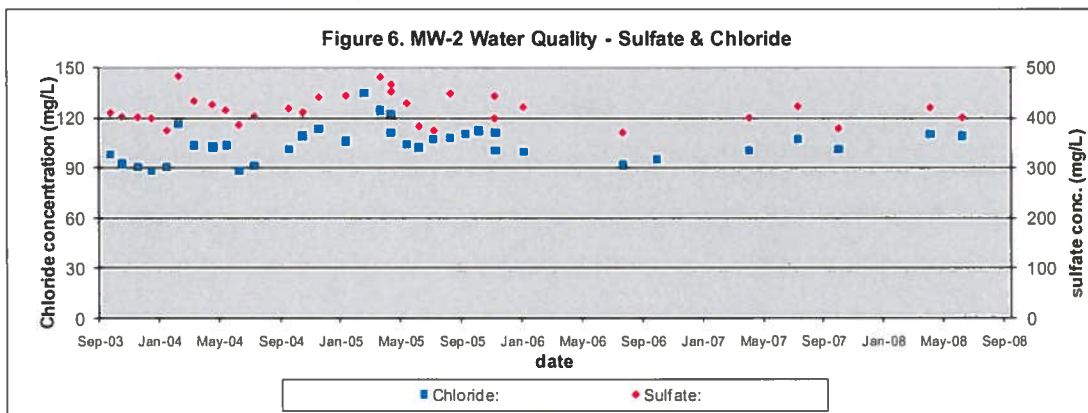
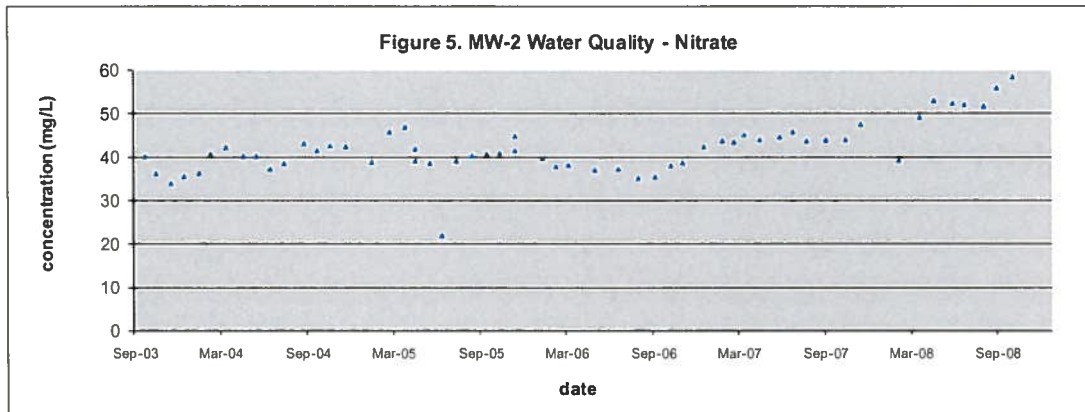


Figure 4. MW-1 Water Table Elevation



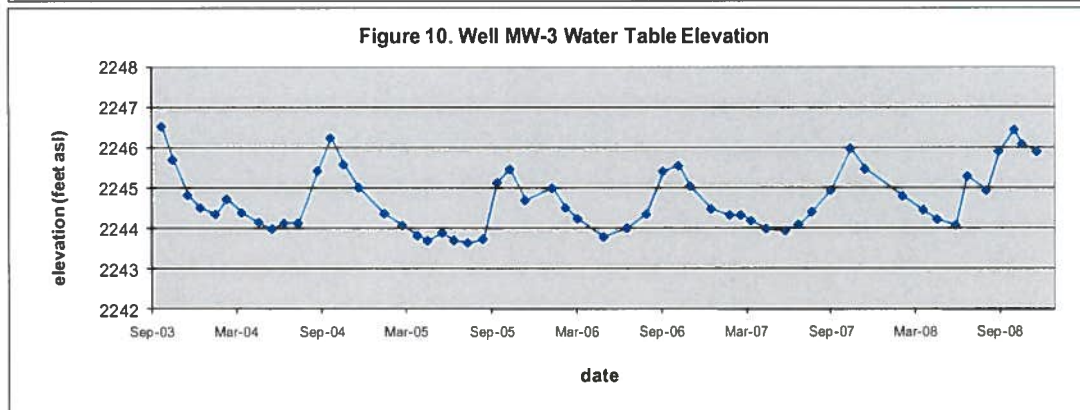
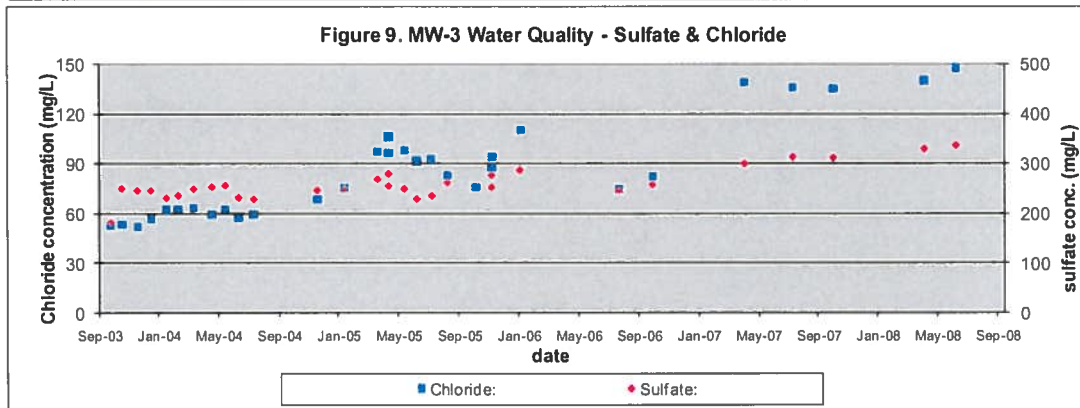
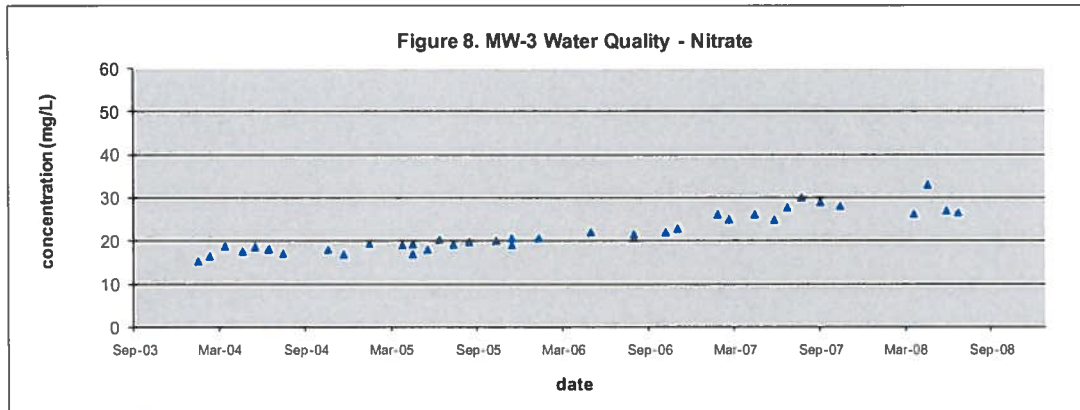
MW-2 Water Quality

MW-2 water quality is shown in Figures 5 and 6, and a hydrograph of water table elevations is shown in Figure 7. Nitrate concentrations at MW-2 increased steadily during 2008, from 39.2 mg/L February 8th to 60.9 mg/L on November 24th. Average nitrate at MW-2 have been increased steadily over the last three years from 37.93 mg/L in 2006 to 44.57 mg/L in 2007 and 54.21 mg/L in 2008. All of the water quality samples collected at well MW-2 during 2008 exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L. Average chloride and sulfate concentrations at MW-2 also increased. Average sulfate concentrations at MW-1 exceeded the IDAPA 58.01.11 Secondary Water Quality Standard of 250 mg/L.



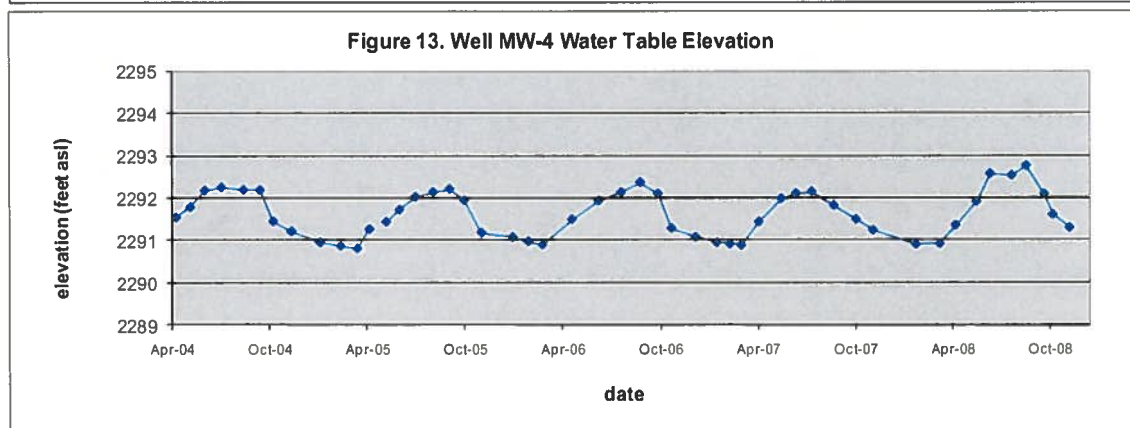
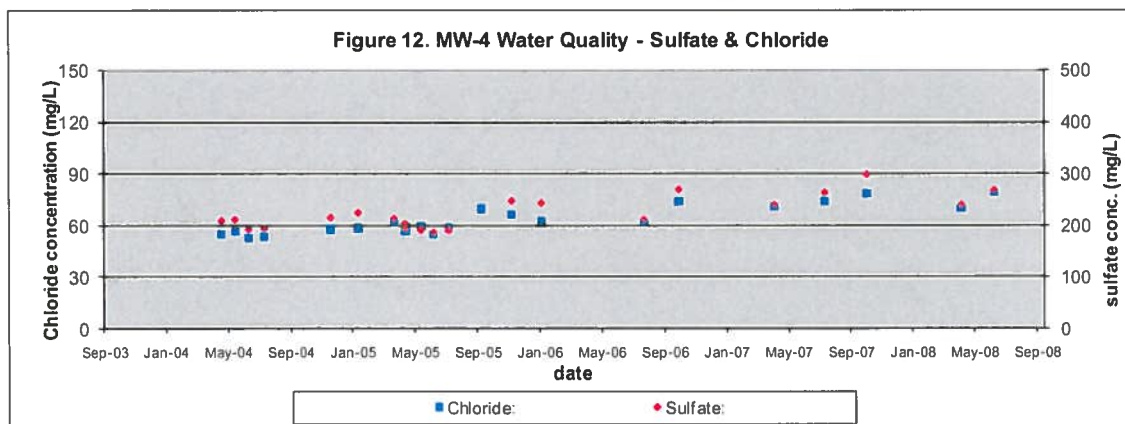
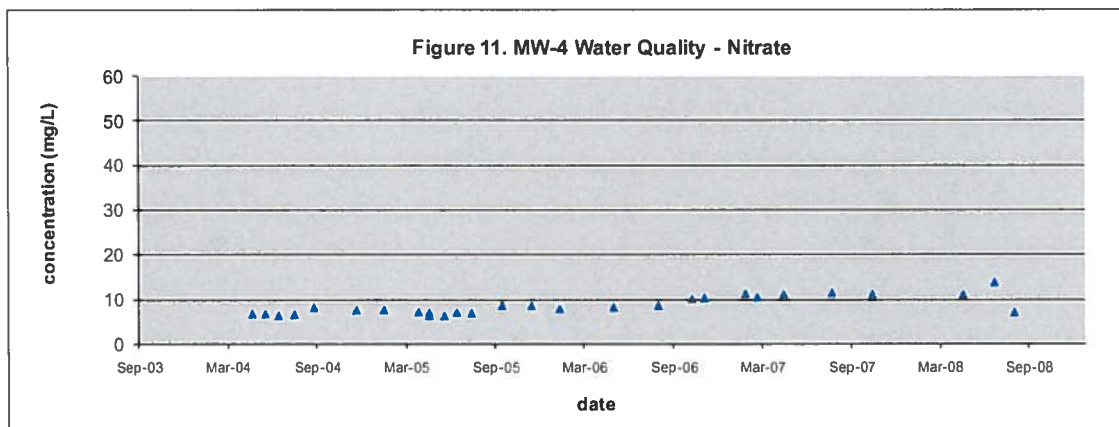
MW-3 Water Quality

MW-3 water quality is shown in Figures 8 and 9, and a hydrograph of water table elevations is shown in Figure 10. MW-3 is 30 feet deep and screened at 20 to 30 feet below ground surface in coarse sand and gravel. At well MW-3 nitrate concentrations in 2008 ranged from 26.2 mg/L March 24th to 33.0 mg/L April 23rd. Average nitrate at MW-3 have increased steadily since 2004, when the yearly average nitrate concentration was 17.32 mg/L, and has risen to 28.18 mg/L in 2008. All of the water quality samples collected at well MW-3 during 2008 exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L. Average chloride and sulfate concentrations at MW-3 increased in 2008. Average sulfate concentrations at MW-3 exceeded the IDAPA 58.01.11 Secondary Water Quality Standard of 250 mg/L.



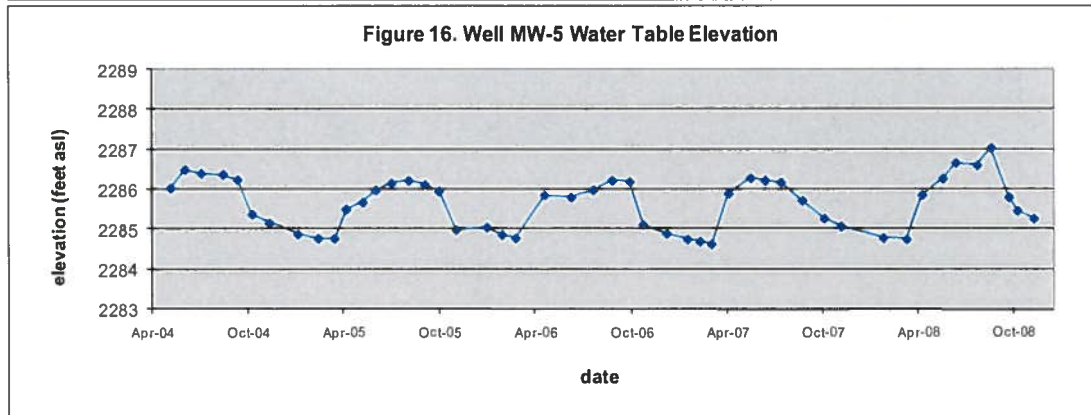
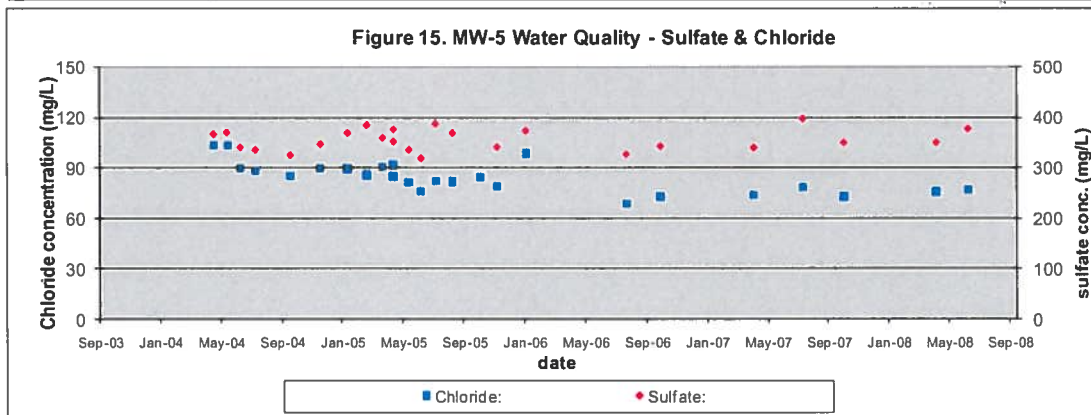
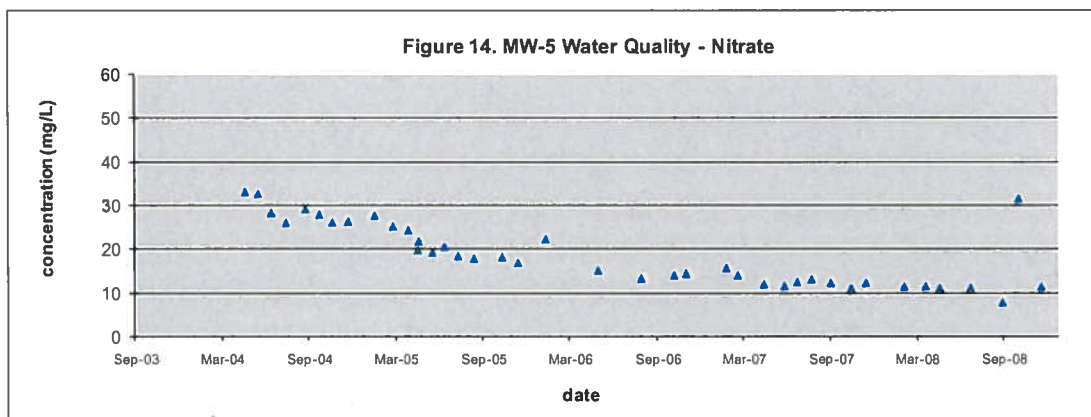
MW-4 Water Quality

MW-4 water quality is shown in Figures 11 and 12, and a hydrograph of water table elevations is shown in Figure 13. MW-4 is 25 feet deep, screened from 15 to 25 feet below ground surface in coarse sand and gravel. Nitrate concentrations at well MW-4 ranged in 2008 from 6.94 mg/L August 7th to 13.7 mg/L June 27th. Average nitrate at MW-4 decreased from 11.00 mg/L in 2007 to 10.55 mg/L in 2008. Average nitrate concentration at MW-4 in 2004 was 6.85 mg/L. Nitrate concentrations at MW-4, up-gradient of most dairy nutrient management areas, are gradually increasing over time. Two of the three water quality samples collected at well MW-4 during 2008 exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L.



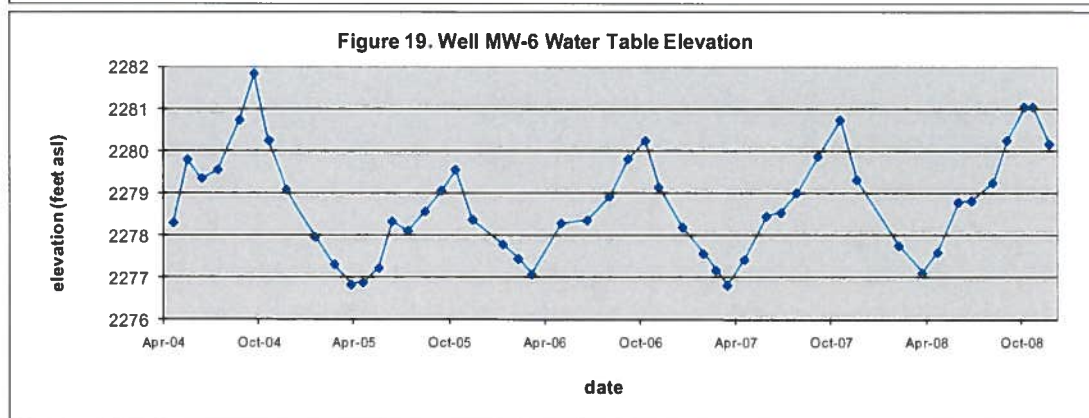
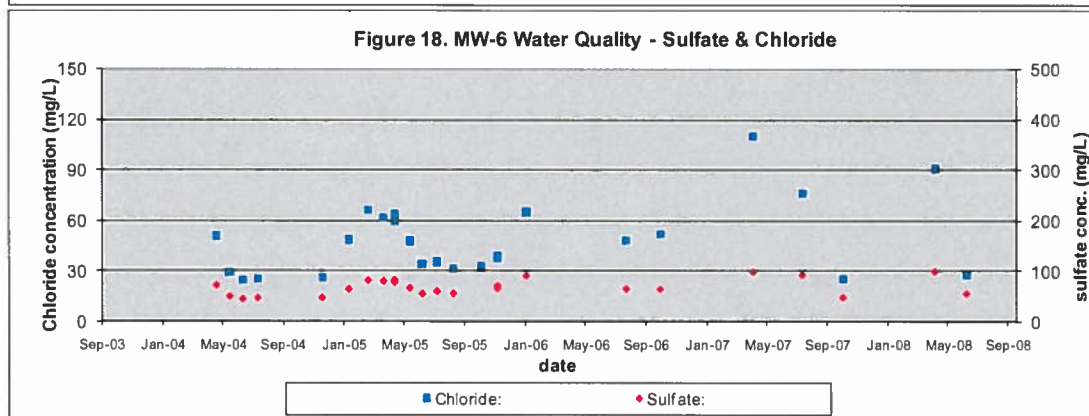
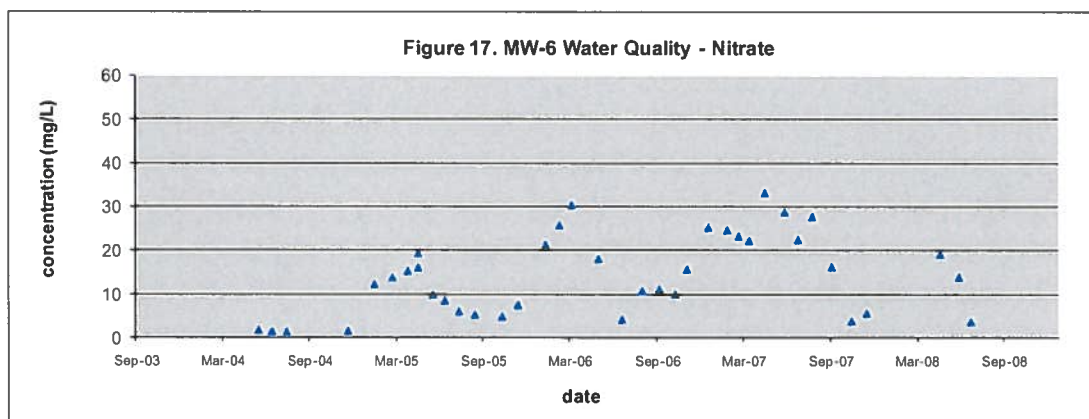
MW-5 Water Quality

MW-5 water quality is shown in Figures 14 and 15, and a hydrograph of water table elevations is shown in Figure 16. MW-5 is also 25 feet deep and screened from 15 to 25 feet below ground surface in coarse sand and gravel. Nitrate concentrations in 2008 ranged from 7.69 mg/L September 3rd to 31.5 mg/L October 7th. Average nitrate at MW-5 increased from 12.70 mg/L in 2007 to 13.67 mg/L in 2008. The 31.5 mg/L nitrate value in October was much higher than any other recent samples and may have been a lab error. Nitrate concentrations at MW-5 have been decreasing steadily since monitoring began in 2004, when the average nitrate level was 28.69 mg/L. If the October 7th sample is not included, the average nitrate level at MW-5 continues to decrease. Six of the seven water quality samples collected at well MW-5 during 2008 exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L.



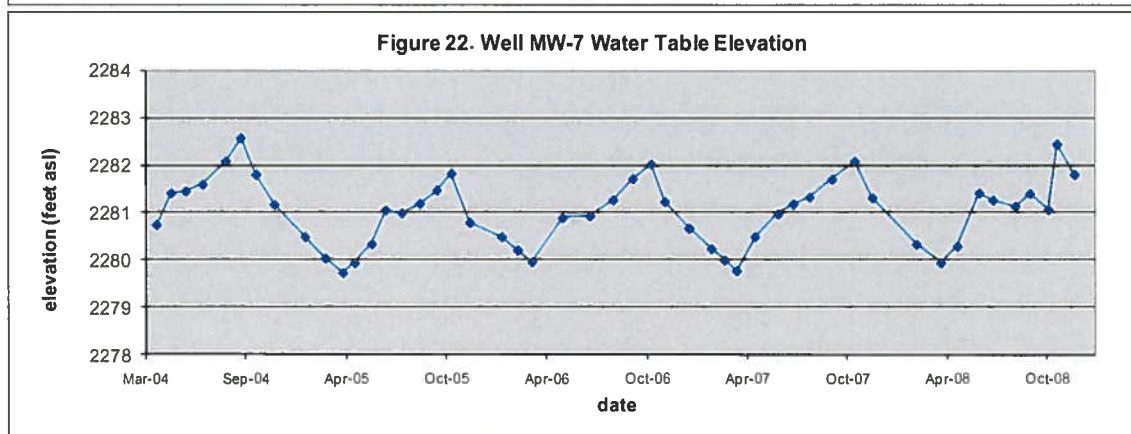
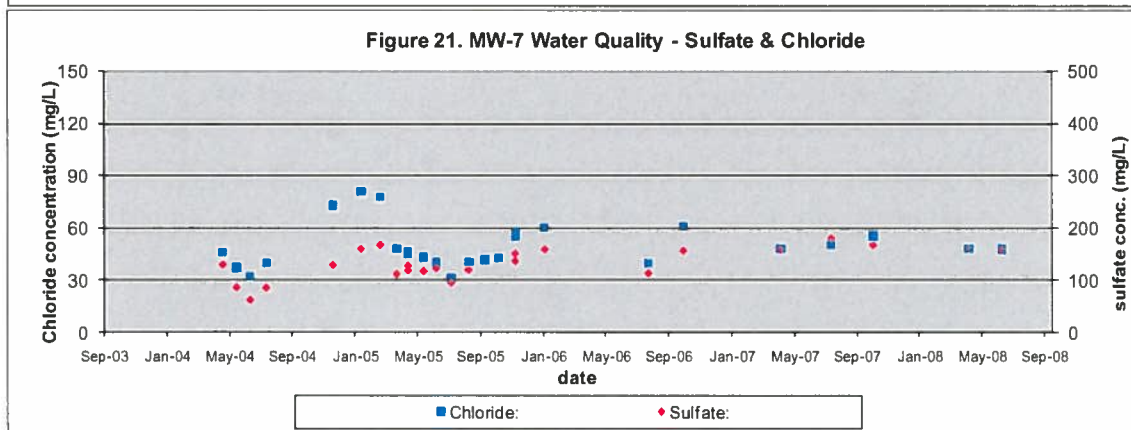
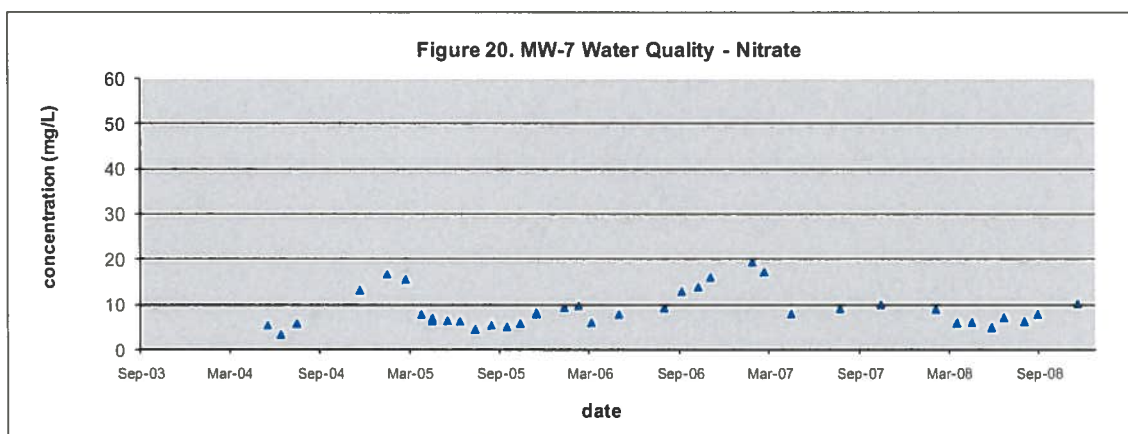
MW-6 Water Quality

MW-6 water quality is shown in Figures 17 and 18, and a hydrograph of water table elevations is shown in Figure 19. MW-6 is 40 feet deep, screened from 30 to 40 feet below ground surface in brown sand. Nitrate concentrations in 2008 ranged from 3.45 mg/L June 27th to 19 mg/L April 23rd. Average nitrate at MW-6 decreased from 20.63 mg/L in 2007 to 12.08 mg/L in 2008. The lower average nitrate concentration in 2008 relative to 2007 may be due to less frequent sampling in 2008 relative to 2007. Two of the three water quality samples collected at well MW-6 during 2008 exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L. Nitrate concentrations at MW-6 tend to be highest in March and April when water levels are low. Nitrate concentrations are lower in late summer when water levels are higher.



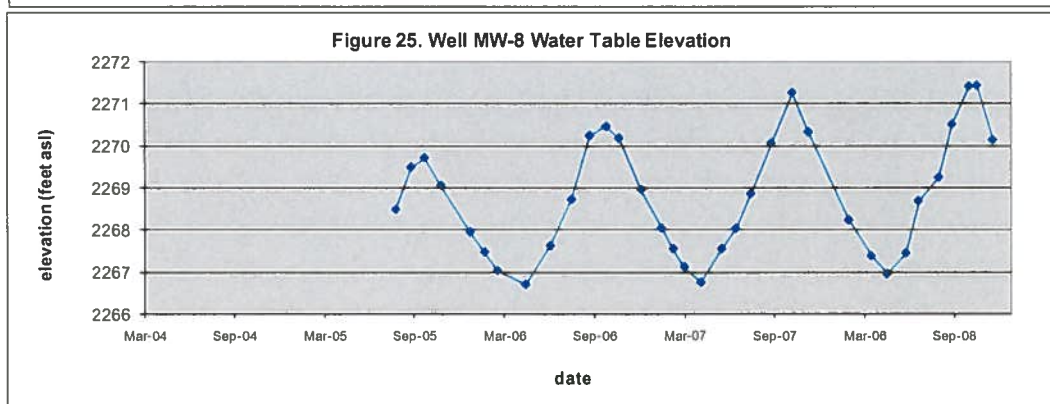
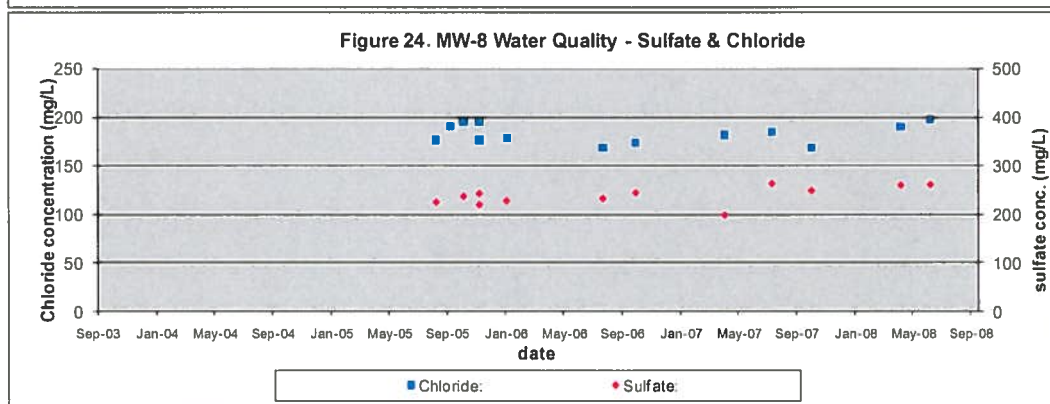
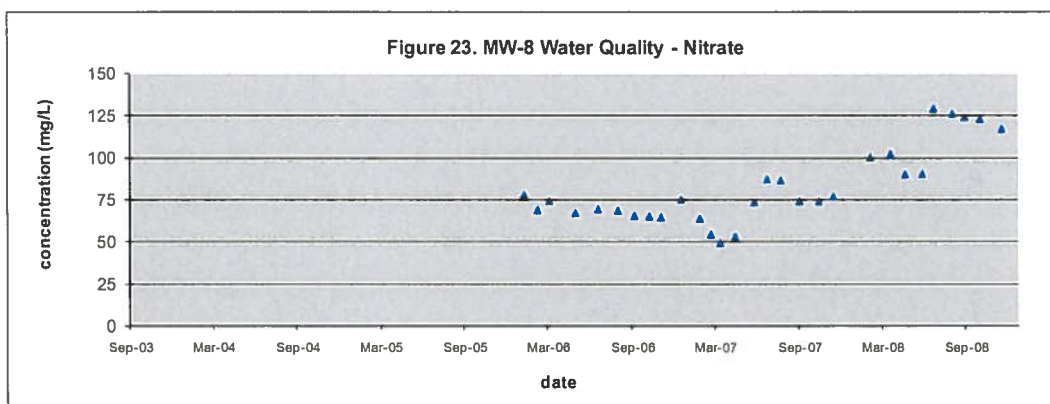
MW-7 Water Quality

MW-7 water quality is shown in Figures 20 and 21, and a hydrograph of water table elevations is shown in Figure 22. MW-7 is 30 feet deep, screened from 20 to 30 feet below ground surface in coarse sand and gravel. At well MW-7 nitrate concentrations in 2008 ranged from 5.07 mg/L June 2nd to 10.2 mg/L November 24th. Average nitrate at MW-7 decreased from 12.77 mg/L in 2007 to 7.18 mg/L in 2008. One of the eight water quality samples collected at well MW-7 during 2008 exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L. The seasonal pattern of higher nitrate concentrations in the spring when water levels are low and lower nitrate concentrations in the fall when water levels are high is similar to that seen at MW-6.



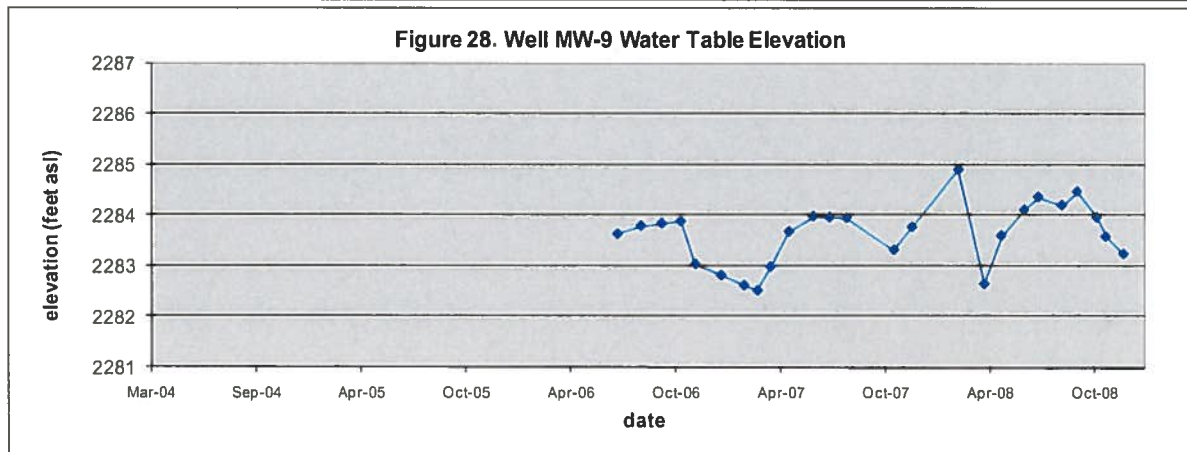
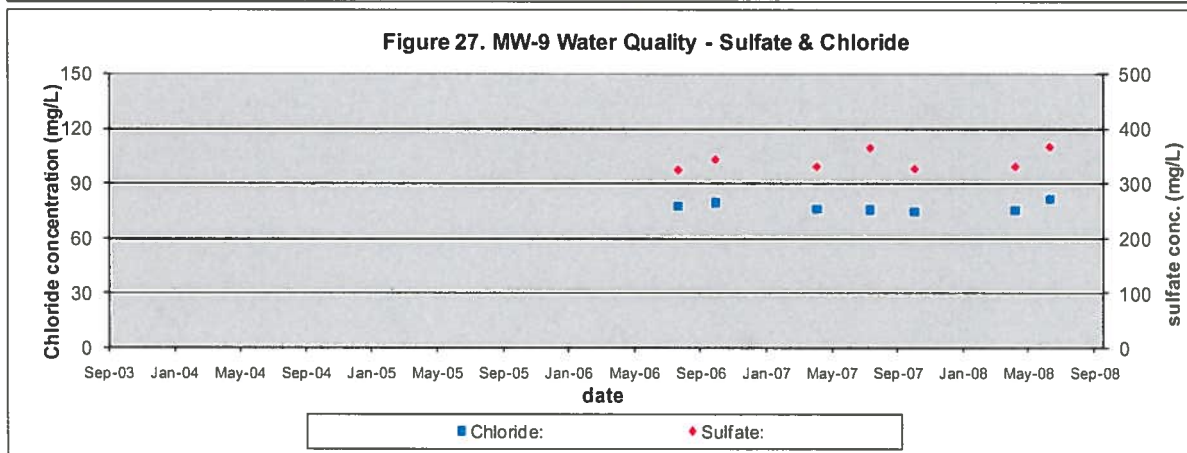
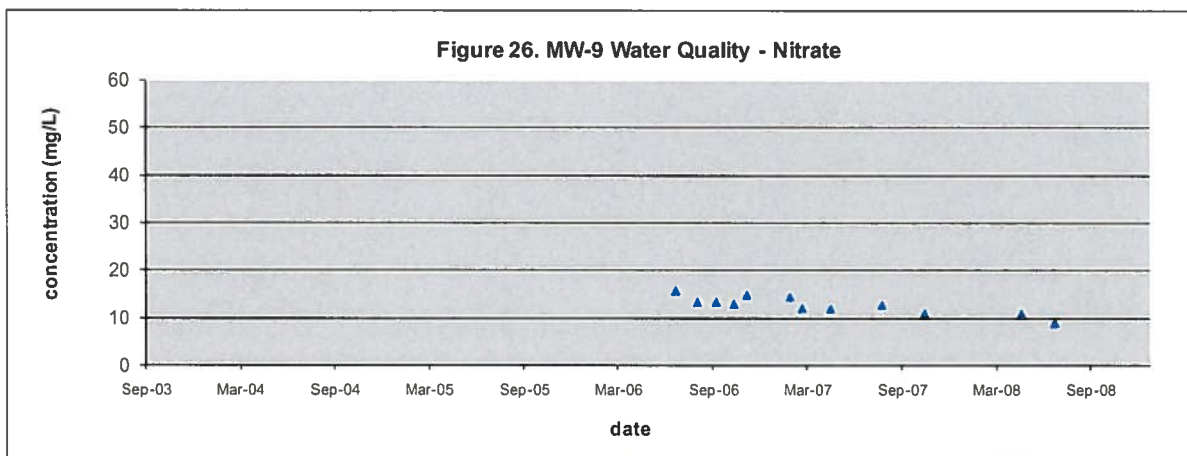
MW-8 Water Quality

MW-8 water quality is shown in Figures 23 and 24, and a hydrograph of water table elevations is shown in Figure 25. MW-8 is 59 feet deep and is screened in coarse-grained sand and gravel from 49 to 59 feet below ground surface. MW-8 is screened in the deeper portion of the shallow aquifer, beneath a brown clay layer that occurs at 27 to 44 feet. The brown clay layer separates the upper and lower sand and gravel layers. The highest nitrate concentrations occur at MW-8. The average nitrate level at MW-8 increased from 69.25 mg/L in 2007 to 111.26 mg/L in 2008. The highest nitrate levels at MW-8 in 2008 occurred on June 27th (129 mg/L). The lowest nitrate concentrations occurred on April 25th and June 2nd, coinciding with lower water table elevations. Nitrate data from MW-8 suggests some seasonal variation, with higher concentrations of nitrate occurring during the winter months. All of the water quality samples collected at well MW-8 during 2008 exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L.



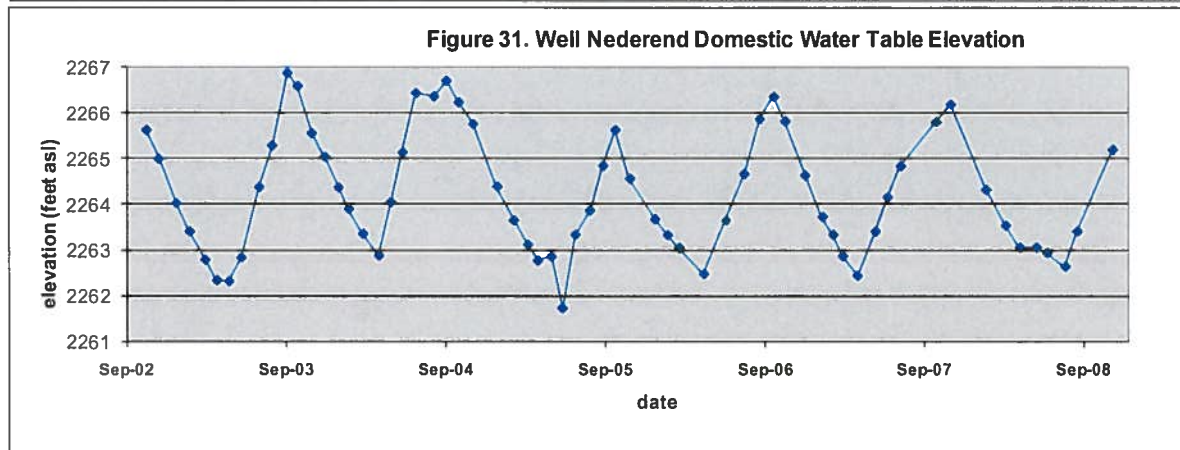
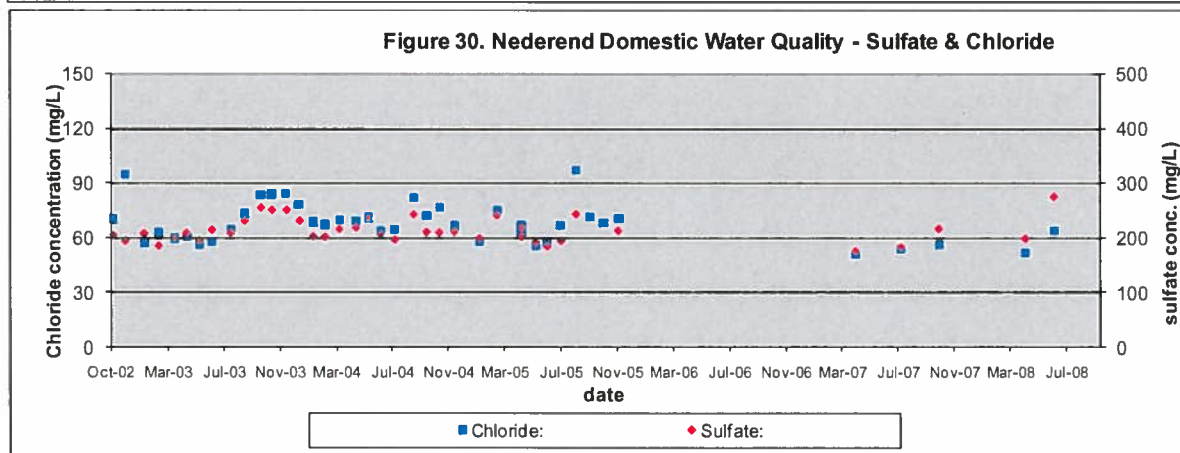
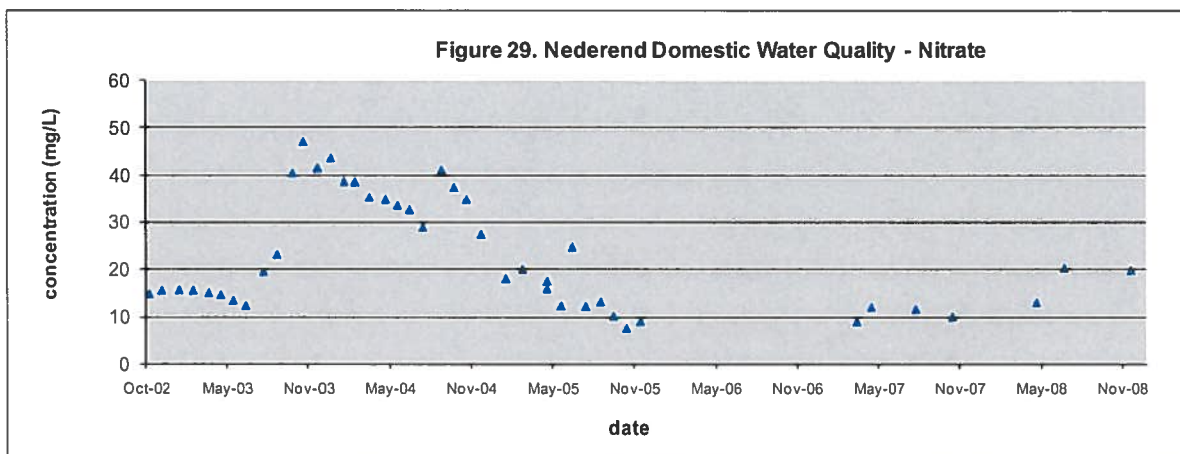
MW-9 Water Quality

MW-9 water quality is shown in Figures 26 and 27, and a hydrograph of water table elevations is shown in Figure 28. MW-9 is 17 feet deep and screened from 12 to 17 feet below ground surface in coarse-grained sand and gravel. Nitrate concentrations in 2008 ranged from 9.0 mg/L June 27th to 11.0 mg/L April 23rd. Average nitrate at MW-9 decreased from 14.04 mg/L in 2006 to 12.48 mg/L in 2007. The June 27th water quality sample collected at well MW-9 exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L.



Nederend Domestic Water Quality

Nederend Domestic water quality is shown in Figures 29 and 30, and a hydrograph of water table elevations is shown in Figure 31. Nederend domestic is a 6-inch diameter domestic water well that is 40 feet deep and cased to 39 feet below ground surface in gravel. The Nederend Domestic well was used as a water supply well until 2005. The Nederend Domestic well nitrate concentrations in 2008 ranged from 13 mg/L April 25th to 20.3 mg/L June 27th. All of the water quality samples collected at well Nederend Domestic during 2008 exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L.



Water quality statistics from 2008 are summarized in Tables 1 to 3, inclusive. The bottom row of each table shows the change in the statistical average from the previous year. Red, positive values indicate an increase in the average. Blue, negative values indicate a decrease in the average.

Table 1: 2008 Nederend Dairy Nitrate Water Quality Statistics										
	<i>MW-1</i>	<i>MW-2</i>	<i>MW-3</i>	<i>MW-4</i>	<i>MW-5</i>	<i>MW-6</i>	<i>MW-7</i>	<i>MW-8</i>	<i>MW-9</i>	<i>Domestic</i>
Average:	43.26	54.21	28.18	10.55	13.67	12.08	7.18	111.2	10.00	17.70
Std dev:	10.57	3.90	3.23	3.40	7.98	7.92	1.71	15.69	1.41	4.08
Count:	9	8	4	3	7	3	8	9	2	3
Min:	24.00	49.20	26.20	6.94	7.69	3.45	5.07	90.00	9.00	13.00
Max:	58.30	60.90	33.00	13.70	31.50	19.00	10.20	129.0	11.00	20.30
ΔAverage +/-:	+12.6 8	+9.6 4	+1.24	-0.45	+0.9 7	-8.55	-5.59	+42.0 1	-2.48	+7.06
IDAPA 58.01.11 Primary Water Quality Standard of 10 mg/L Exceeded?	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES

Table 2: 2008 Nederend Dairy Chloride Water Quality Statistics										
	<i>MW-1</i>	<i>MW-2</i>	<i>MW-3</i>	<i>MW-4</i>	<i>MW-5</i>	<i>MW-6</i>	<i>MW-7</i>	<i>MW-8</i>	<i>MW-9</i>	<i>Domestic</i>
Average:	80.05	109.50	143.50	74.50	76.40	59.55	47.90	193.50	78.00	58.10
Std dev:	0.07	0.71	4.95	6.36	0.57	44.48	0.14	4.95	4.24	8.63
Count:	2	2	2	2	2	2	2	2	2	2
Min:	80.00	109.00	140.00	70.00	76.00	28.10	47.80	190.00	75.00	52.00
Max:	80.10	110.00	147.00	79.00	76.80	91.00	48.00	197.00	81.00	64.20
ΔAverage +/-:	+10.88	+6.83	+6.83	+0.20	+1.40	-11.05	-3.30	+14.83	+2.63	+4.03
IDAPA 58.01.11 Secondary Water Quality Standard of 250 mg/L Exceeded?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Average nitrate concentration exceeded the Idaho Ground Water Quality Rule standard of 10 mg/L at all of the monitoring wells except MW-7 during 2008. Average nitrate concentrations increased at six monitoring wells and decreased at four.

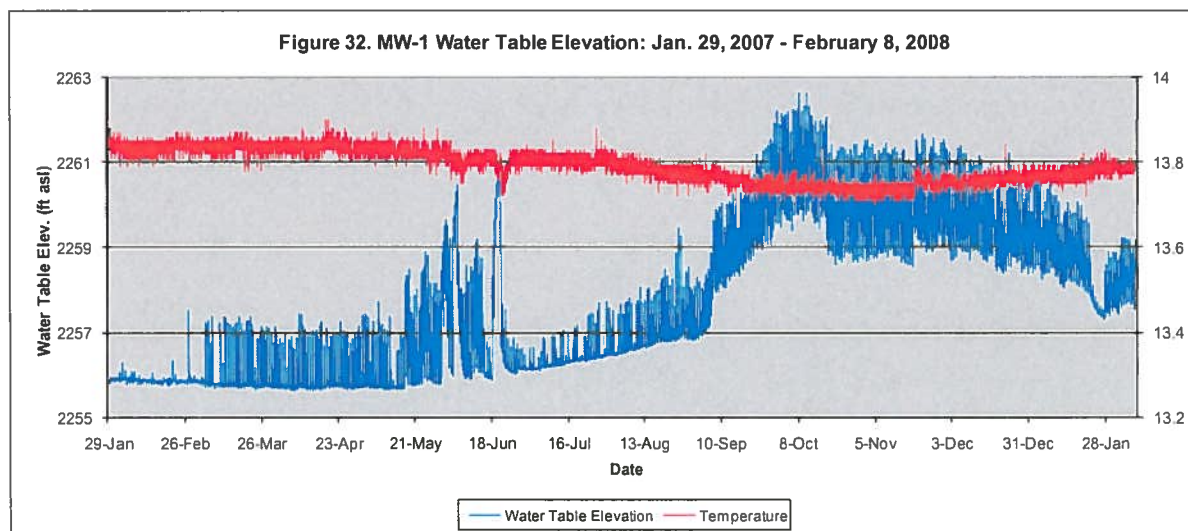
Average sulfate concentration exceeded the Idaho Ground Water Quality Rule secondary standard of 250 mg/L at seven monitoring wells during 2008. Average sulfate concentrations increased at seven monitoring wells and decreased at three. Chloride concentrations at all of the monitoring wells are below the Idaho Ground Water Quality Rule secondary standard of 250 mg/L. Average chloride level increased at eight wells and decreased at two.

Table 3: 2008 Nederend Dairy Sulfate Water Quality Statistics

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	Domestic
Average:	299	410.5	333.5	254	363.5	77.9	158.5	260.5	348	238
Std dev:	1.41	13.44	4.95	19.80	19.09	31.25	2.12	0.71	25.46	53.74
Count:	2	2	2	2	2	2	2	2	2	2
Min:	298	401	330	240	350	55.80	157	260	330	200
Max:	300	420	337	268	377	100	160	261	366	276
ΔAverage +/-:	+44	+9.83	+24.8 3	-13.67	+1.1 7	-2.20	-9.50	+23.5 0	+8	+45
IDAPA 58.01.11 Secondary Water Quality Standard of 250 mg/L Exceeded?	YES	YES	YES	YES	YES	NO	NO	YES	YES	NO

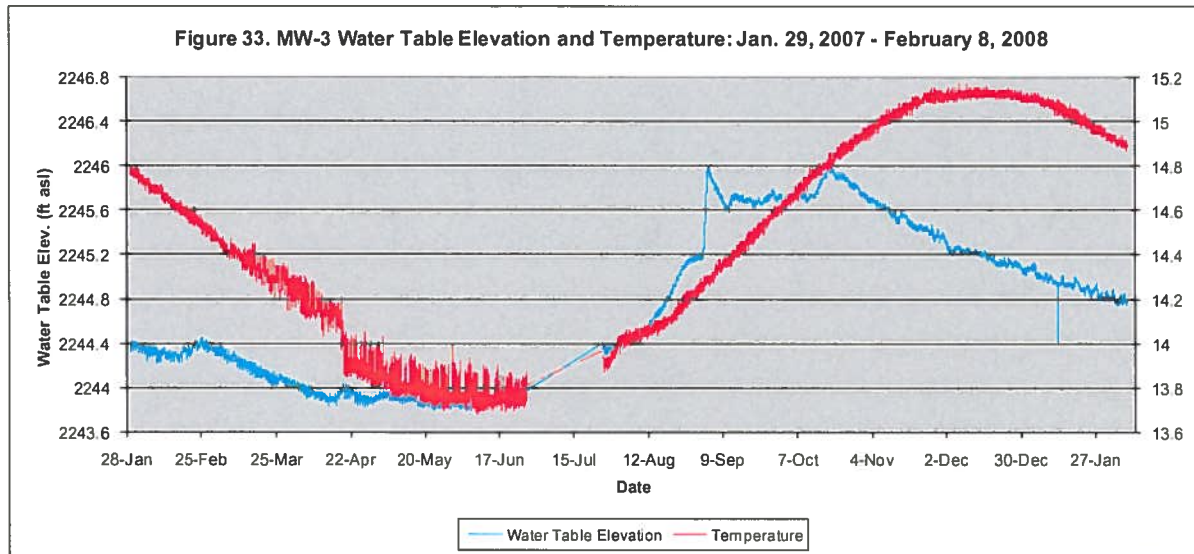
WATER LEVEL MEASUREMENTS

Pressure transducer/dataloggers have been used to continuously monitor water levels in various wells. A hydrograph of water table elevation (blue) and water temperature (red) data from the pressure transducer/datalogger installed in MW-1 is shown in Figure 32. The pressure transducer/datalogger was installed in MW-1 from January 29, 2007 through February 8, 2008.

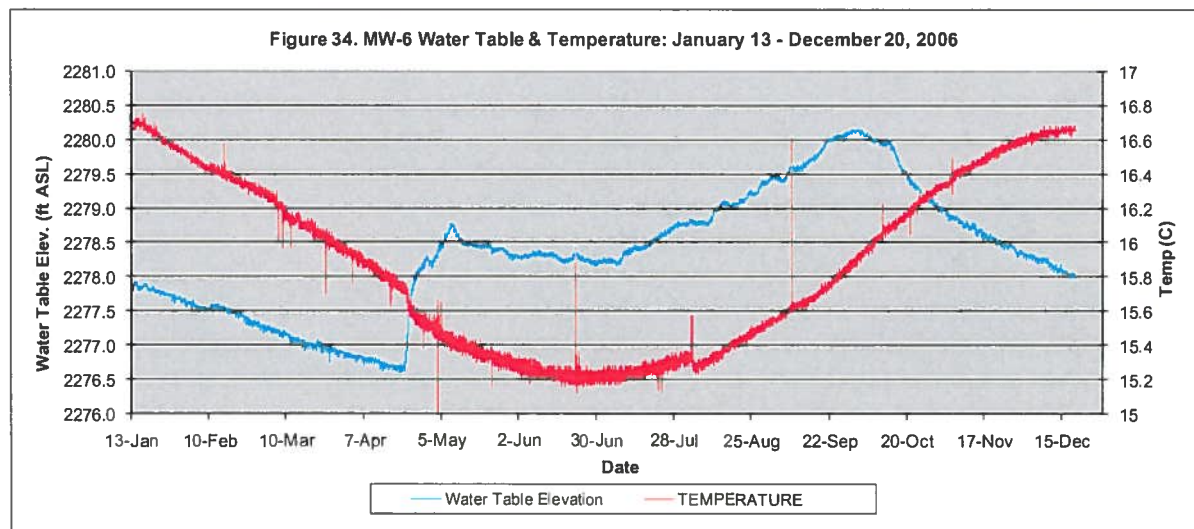


The water table at MW-1 responded to variations in the pumping rate at Nederend #2. Water levels at MW-1 had been declining steadily since water level monitoring began, reaching its lowest level in May 2007. In late February 2007 water levels in production well Nederend #2, which is completed in both aquifers, were drawn down below the net positive head required for the pump and it began to break suction and shut down. Water levels in the shallow aquifer would recover while the well was off, then be drawn back down when the well restarted. A constant-pressure, variable speed motor control was added to production well Nederend #3 in late June of 2007. The new motor controls at Nederend #3 made it possible to distribute production more equally between wells Nederend #2 and #3. Water levels at MW-1 then began to recover as the pumping rate reduced from ??? to ??? gpm.

A hydrograph of water table elevation and water temperature data from the pressure transducer/datalogger installed in MW-3 is shown in Figure 33. The water table at MW-3 responded to recharge from irrigation and pumping from Nederend #2 and Nederend #3. From January through mid-June, when Nederend #2 was providing all of the water at Nederend Dairy, water levels and temperatures at MW-3 fluctuated over a narrow range on a daily basis. The water level and temperature variations at MW-3 were smaller after the modifications to Nederend #3 took place.

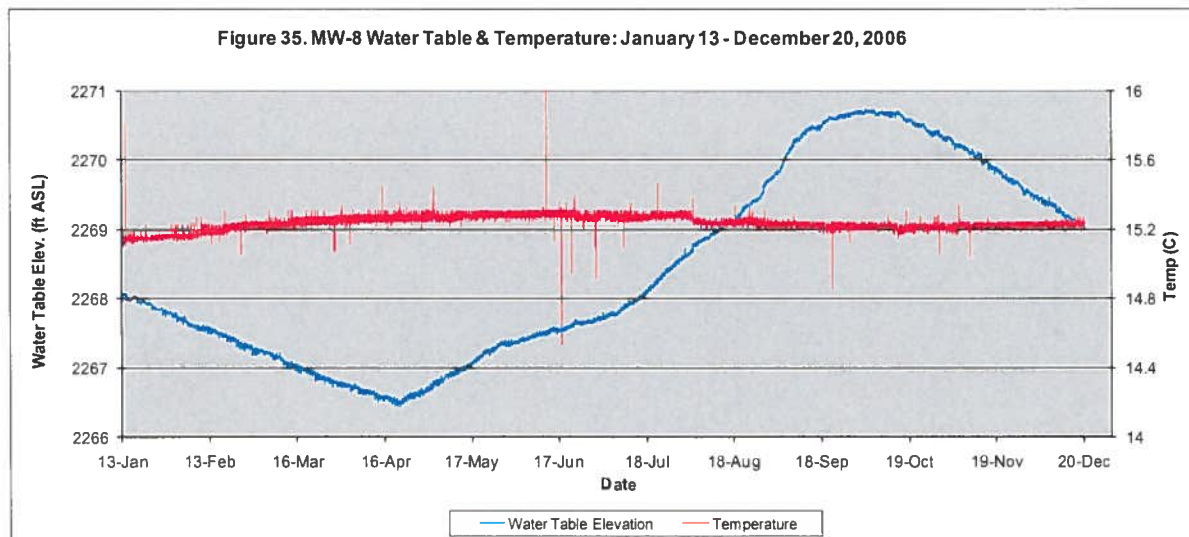


A hydrograph of water table elevation and water temperature data from MW-6 is shown in Figure 34. The water table at MW-6 responded to recharge from irrigation and pumping from dairy production wells. Water levels at MW-6 fluctuated approximately 0.1 feet on a daily basis in response to pumping at dairy wells. Water levels at MW-6 also responded to changing water levels in Horstman Drain. Water levels rose rapidly in early April in response to Horstman Drain filling with irrigation water, continued to rise over the summer, then declined with the end of irrigation season October 1st.

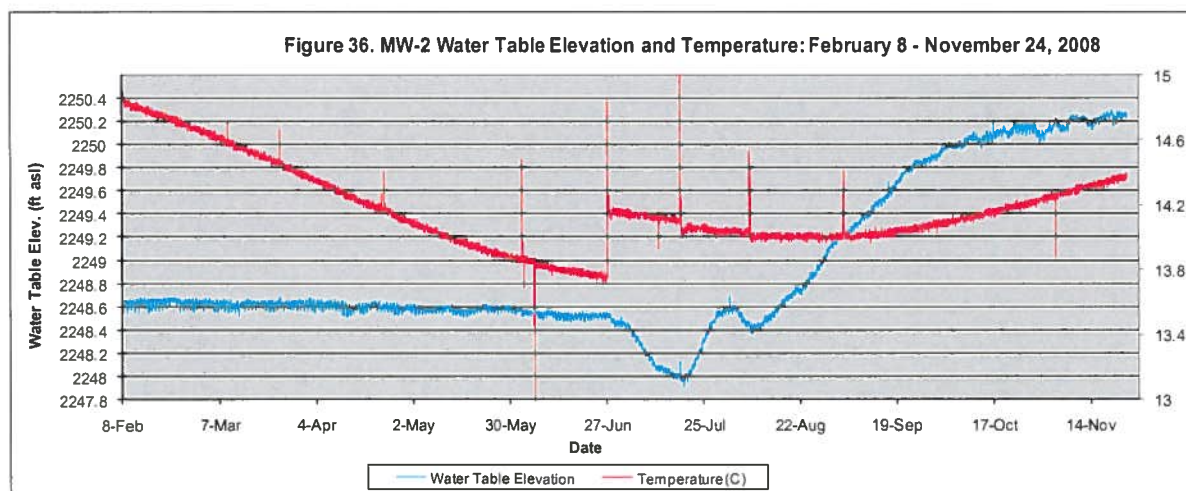


A hydrograph of water table elevation and water temperature data from MW-8 is shown in Figure 35. The water table at MW-8 responded to recharge from irrigation and pumping from dairy production wells. Water levels at MW-8 fluctuated approximately 0.1 to 0.15 feet on a daily basis in response to pumping at

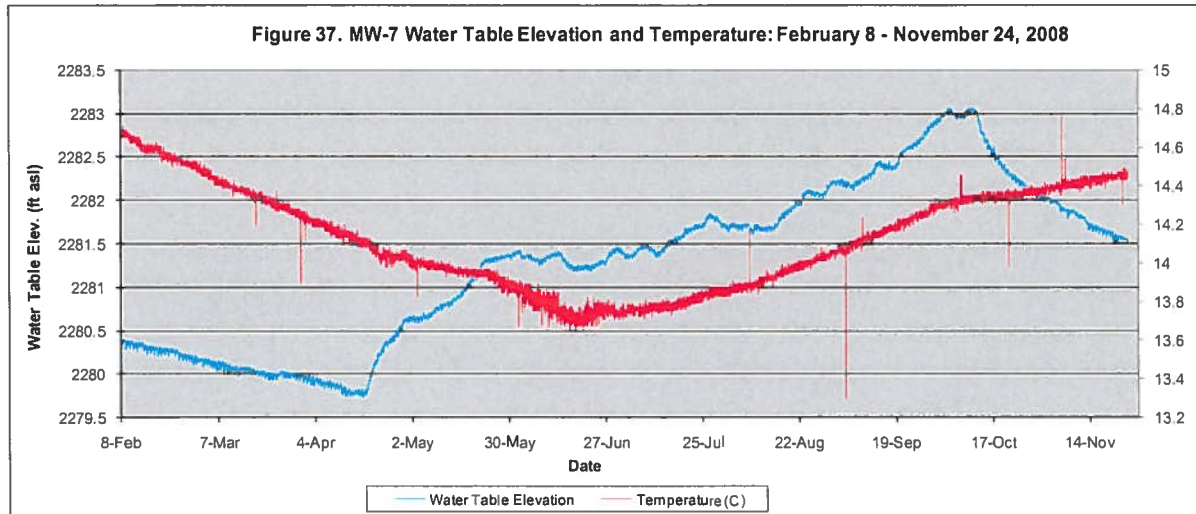
dairy wells. Water levels at MW-8 also responded to irrigation. Water levels began a gradual rise in mid April, continued to rise over the summer, and then declined with the end of irrigation season October 1st.



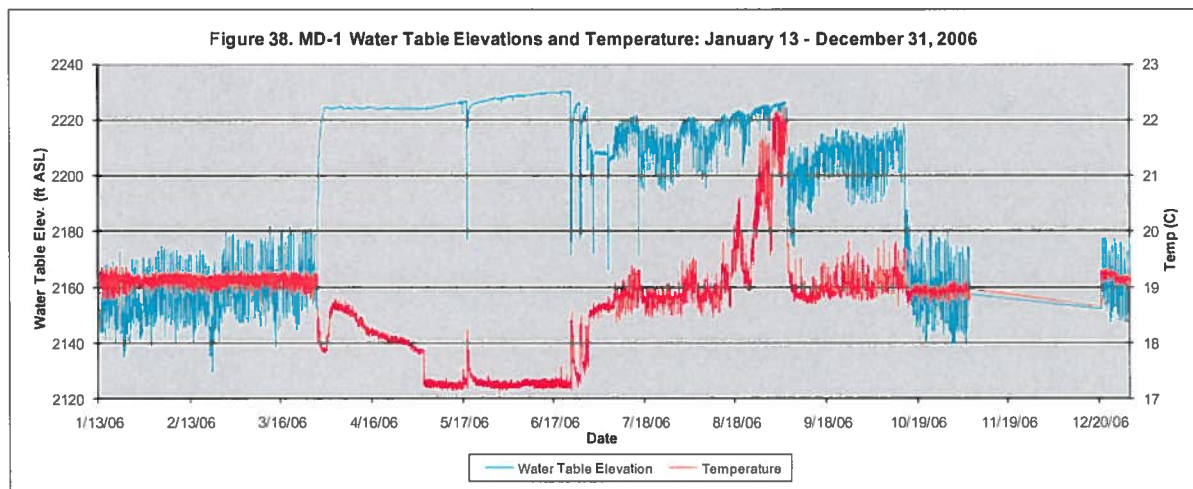
A hydrograph of water table elevation and water temperature data from MW-2 is shown in Figure 36. The MW-2 water level data from February 8th through June 27th is suspect because it is flat at a time when declining water levels are expected. The pressure transducer may have not been fully submerged during this time period. On June 27th the pressure transducer was lowered deeper into the well. Water levels declined until mid July, then began to rise through November.



A hydrograph of water table elevation and water temperature data from MW-7 is shown in Figure 37. The water table at MW-7 responded in a manner similar to that seen at MW-6 in 2006. Water levels at MW-7 fluctuated approximately 0.1 feet on a daily basis in response to pumping at dairy wells, and responded to changing water levels in the drain. Water levels rose rapidly in early April in response to the drain filling with irrigation water, continued to rise over the summer, then declined with the end of irrigation season October 1st.



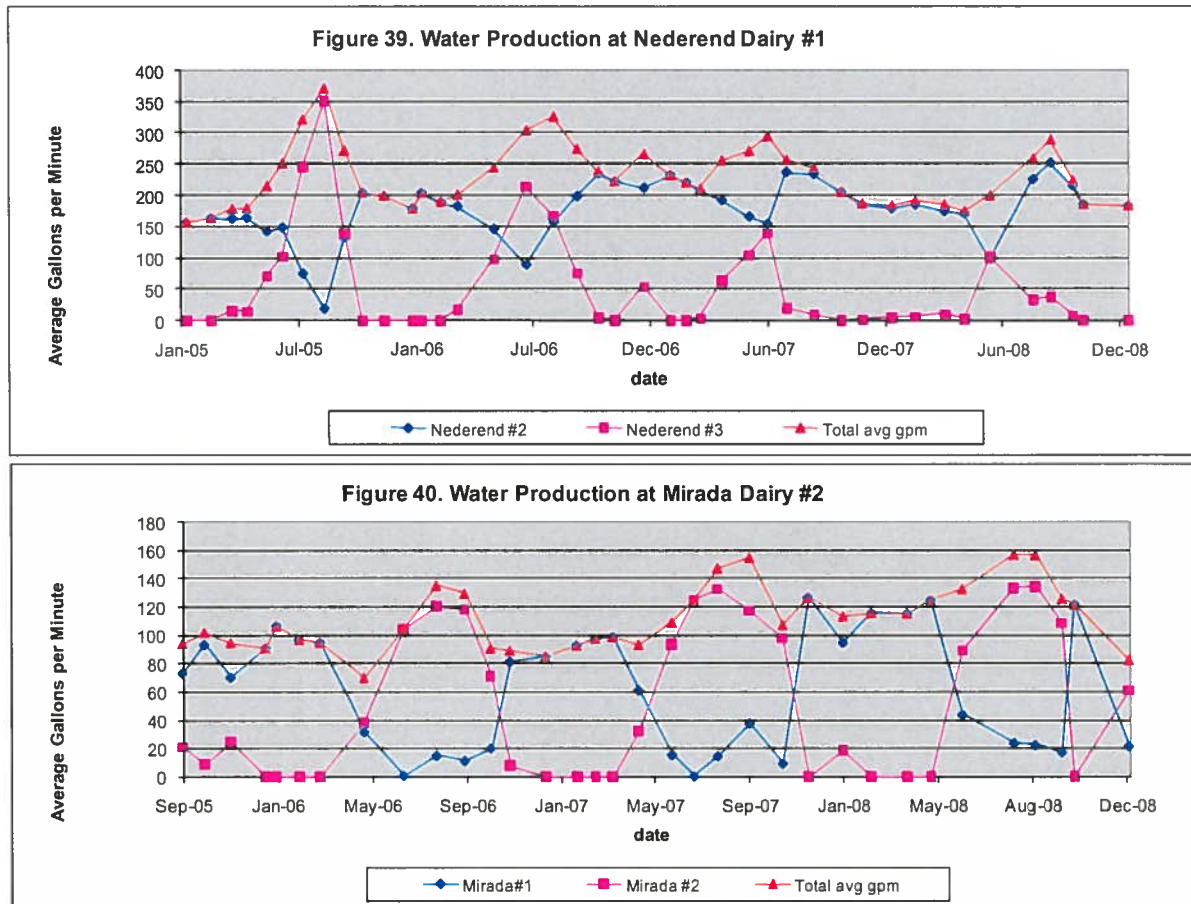
A pressure transducer/datalogger was installed in production well MD-1 in January 2006 and collected data until July 2008. The pressure transducer/datalogger was lost in the well during the July 2008 sampling event. The water table at well Mirada #1 is affected by variations in the pumping rate in the well. A hydrograph of water table elevation and water temperature data from production well MD-2 at Dairy #2 is shown in Figure 38. Well MD-1 is open to both the shallow and deep aquifers via the gravel pack that extends from ground surface to the bottom of the well, and that the well casing is perforated from 100 to 250 feet below ground surface. From January through late March of 2006 MD-1 was the sole source of water for Dairy #2. In late March drilling and construction of well MD-2 was completed and water production switched to MD-2. Water levels then recovered, and water temperature declined.



Depths to water measurements have also been made in production wells. Depth to water at MD-2 ranged from 35.16 feet September 3rd to 49.05 feet April 23rd. In June 2007, when the well was being pumped, depth to water at MD-2 was 254.71 feet. Depth to water at MD-1 ranged from 152.83 feet March 24th (while pumping) to 65.17 feet June 27th, also taken while pumping. Depth to water at Nederend #1 ranged from 26.95 feet March 24th to 29.7 feet August 7th. Nederend #1 is not used for water production.

WATER PRODUCTION

Water production from Nederend Dairy production wells over the past three years is shown graphically in Figures 39 and 40. Peak summer water use at Dairy #1 has decreased over the last three years while at Dairy #2 it has increased. Total water use in 2008 at Dairy #1 was 374.9 acre-feet, with 337.1 acre-feet pumped from well Nederend #2 and 37.8 acre-feet pumped from well Nederend #3. Total water use in 2008 at Dairy #2 was 220.8 acre-feet, with 111.5 acre-feet pumped from well MD-1 (Mirada East) and 109.4 acre-feet pumped from well MD-2 (Mirada West).



CONCLUSIONS

Water quality improved slightly during 2008 at some wells, while at other wells it has deteriorated. Water quality in the shallow aquifer at Nederend Dairies in general is poor. Farming and nutrient management practices at Nederend Dairies and on surrounding agricultural lands are degrading water quality in the shallow aquifer. Specific conclusions are:

- 2008 Average nitrate concentrations at all monitoring wells except MW-7 exceed the Idaho Ground Water Quality Rule Primary Constituent Standard of 10 mg/L.
- Average nitrate concentrations increased from 2007 to 2008 at 6 wells (MW-1, MW-2, MW-3, MW-5, MW-8, and Nederend Domestic).
- Average nitrate concentrations decreased from 2007 to 2008 at 4 wells (MW-4, MW-6, MW-7 and MW-9).

- Average nitrate concentrations at up-gradient monitoring well MW-4 exceed the Idaho Ground Water Quality Rule Primary Constituent Standard of 10 mg/L.
- 2008 Average Sulfate concentrations at MW-1, MW-2, MW-3, MW-4, MW-5, MW-8 and MW-9 exceed the Idaho Ground Water Quality Rule Secondary Constituent Standard of 250 mg/L.
- Wells Nederend #2, Nederend #3, and MD-1 provide a direct connection between the shallow and deeper aquifers.

RECOMMENDATIONS

Golder recommends the following ground water monitoring/management activities be completed in 2009:

1. Quarterly water quality and depth to water monitoring of all shallow aquifer monitoring wells and laboratory analysis for nitrate, sulfate, and chloride.
2. Conduct a hydrogeologic site investigation up-gradient of and at Mirada Dairy #2 to determine the source(s) of the very high nitrate concentrations occurring at MW-8.
3. Conduct nutrient and hydraulic balance evaluations of Nederend Dairy's nutrient management facilities using DEQ Wastewater Reuse/Land Treatment System Modeling guidelines to estimate the volume of and nitrate concentration in percolate infiltrating to the shallow aquifer.

The nutrient and hydraulic balance evaluations will be useful for determining if nutrient management and irrigation practices can be modified to reduce the amount of nitrate leaching into the shallow aquifer.

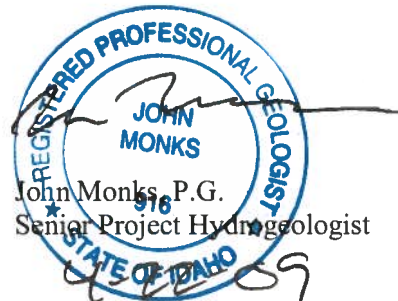
If you have any questions or comments, please give me a call at 208-263-1991 or 208-676-9933.

Sincerely,

Golder Associates Inc.



David Banton, LHG
Principal



Cc: John C. Westra, IDWR Western Regional Office; Ilene Dobbin, COCOA; Rick Carlson, ISDA

ATTACHMENT A: 2008 MONTHLY MONITORING REPORTS



Golder Associates Inc.
1200 W. Ironwood Dr. Ste 201
Coeur d'Alene, Idaho 83814
Telephone: (208) 676-9933
Fax: (208) 676-8602
www.golder.com



January 9, 2009

Our Ref.: 083-9317408

Nederend Dairy
4998 Hogg Road
Homedale, ID 83628

Attn: Mr. Hans Nederend

**RE: NOVEMBER 2008 WATER QUALITY REPORT
NEDEREND DAIRIES,
MARSING, IDAHO**

Dear Mr. Nederend:

Golder Associates Inc. (Golder) is please to present Nederend Dairies this letter report of the water quality data collected at Nederend Dairies #1 and #2 on October 23, 2008. During the October sampling trip, depth to water at eleven wells was measured and the water meters at production wells read and recorded.

WATER QUALITY

Water quality data from the November 24th sampling event are summarized in Table 1.

Table 1. November 2008 Water Chemistry Analytical Results					
Well name:	Date:	Ammonia (mg/L):	Chloride (mg/L):	Nitrate (mg/L):	Sulfate (mg/L):
Nederend Domestic	11/24/08	NS	NS	19.8	NS
MW-1	11/24/08	NA	NA	53.4	NA
MW-2	11/24/08	NA	NA	60.9	NA
MW-3	11/24/08	NS	NS	NS	NS
MW-4	11/24/08	NS	NS	NS	NS
MW-5	11/24/08	NA	NA	11.3	NA
MW-6	11/24/08	NS	NS	NS	NS
MW-7	11/24/08	NA	NA	10.2	NA
MW-8	11/24/08	NA	NA	117	NA
MW-9	11/24/08	NS	NS	NS	NS

WATER LEVEL MEASUREMENTS

The water table at most wells went down from the previous measurements. Water level data from the pressure transducers in MW-2 and MW-7 are shown on the graphs attached to this report. At MW-2 water levels and water temperature both continue to rise slowly. At MW-7 the water level began to fall in early October in response to lower water levels in the Horstman drain. The difference in the water level responses at MW-2 and MW-7 indicate that the hydrologic connection between the shallow aquifer and the Horstman drain differs at the two wells. At MW-7 the shallow aquifer and the Horstman drain are hydrologically connected, and water levels at MW-7 respond rapidly to changes in water levels in the drain. At MW-2 the shallow aquifer and the Horstman drain are not as well connected. Water level changes in the drain do not have an immediate affect on water levels at well MW-2.

WATER METER MEASUREMENTS

Water meter measurements and average water use at Nederend Dairy's production wells are summarized in Table 3 below. The meters were read on November 24, 2008.

Table 3. Water Meter Readings and Production Information: October 23 – November 24, 2008				
Well Name:	Meter Reading:	Gallons used between readings:	Average Gallons/day:	Average Production Rate (gpm):
MD-1	99,258,900	1,061,500	33172	23
MD-2	95,049,600	3,026,100	94566	66
Nederend #2	655,297,800	9,578,200	258,870	180
Nederend #3	213,236,000	600	16	0.0

DISCUSSION

Nitrate levels at MW-2 in November (60.9 mg/L) were the highest recorded since the well was installed. Nitrate levels at MW-1 and MW-8 also remain near the highest levels recorded at those wells.

If you have any questions, please contact us at 208-263-1991 or 208-676-9933.

Sincerely,

GOLDER ASSOCIATES INC.



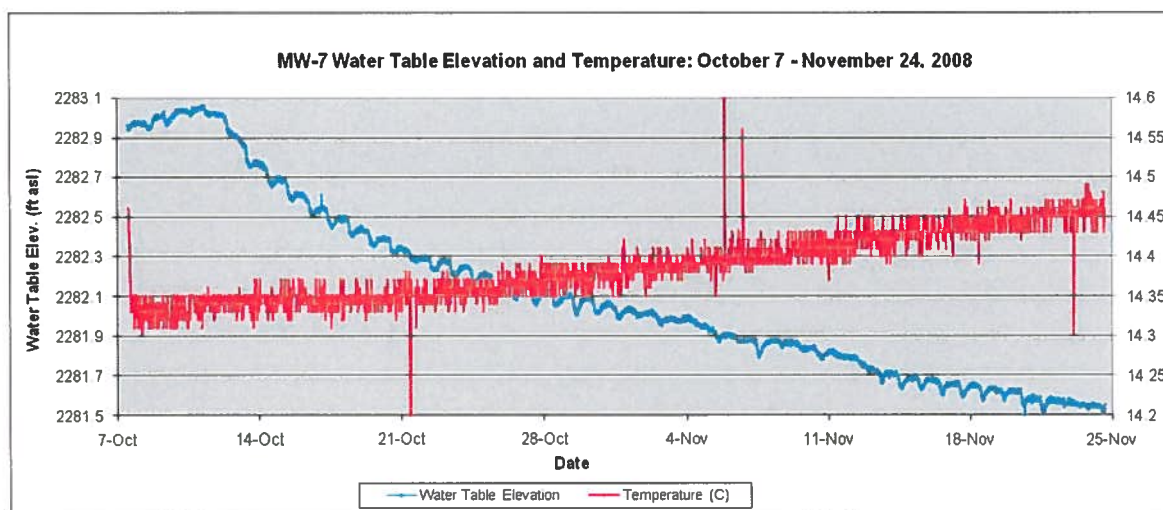
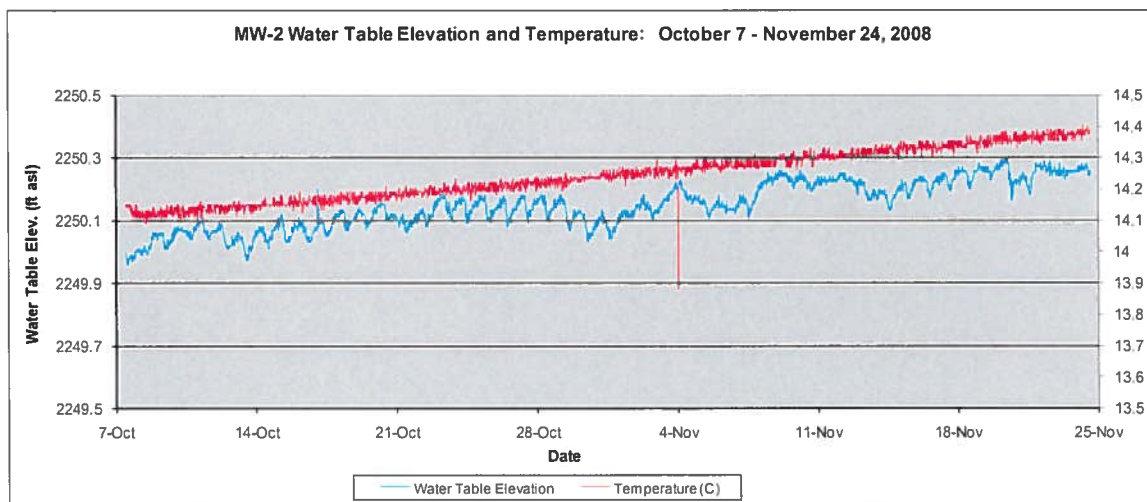
John Monks, P.G.
Senior Project Hydrogeologist



Christopher A. Sneider, P.E.
Senior Engineer/Office Manager

Attachments: Alchem Laboratories Analytical Report, Water Level Graphs

cc: Ilene Dobbin (COCOA)
(ISDA)



ANALYTICAL REPORTS

Nederend Dairies
Attn: Mr. Hans Nederend

5

January 9, 2009
083-9317407

NAME	Mile Lash		
ATTENTION	SPE Water Engineering		
ADDRESS	300 E Mallard Suite 350		
CITY	Boise	STATE	ID
PHONE #	208-4140	FAX #	83706
SAMPLER (S)	John Marks		
PROJECT OR SITE	Nederend Dairy		

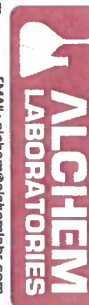
Chain of Custody Form

LAB NUMBER	DATE	TIME	SAMPLE IDENTIFICATION	WATER	SOIL	OTHER	TPH (418.1 / 8015M)	BTEX (8260) Additional analytes by request: (+N+M+EDC)	Cl. Solvents (8260)	VOC's (8260)	PAH's (8270)	Landfill Appendix I - VOC's (8260)	Landfill Appendix II - VOC's (8260)	Semi-Volatiles (625 / 8270)	RBCA - No Lead Gas BTEX+N+M (8260)	RBCA - Lead Gas EDB (8011); BTEX+N+M+EDC (8260)	RBCA - Fuel Oils BTEX (8260); PAH (8270)	RBCA - Motor Oils BTEX (8260); PAH (8270); Cl. Solvents (8260)	8 RCRA Metals	TCLP Extraction (Designate Analysis)	See Attached List	NUMBER OF CONTAINERS	
32749	11/24/08	1323	MU-1																				1
32750	11	1357	MU-2																				1
32751	11	1403	MU-7																				1
32752	11	1438	MU-5																				1
32753	11	1451	MU-8																				1
32754	11	1545	Domestic																				1
RELIQUISHED BY (Signature)				DATE	TIME	RECEIVED BY (Signature)																	
<i>[Signature]</i>				11/25/08	1115																		
Relinquished By (Signature)				Date/Time	Received for Laboratory By (Signature)		Date/Time	Received With Seal Intact?		Label Tag, COC Agree?													
<i>[Signature]</i>				11/25/08 1115	<i>[Signature]</i>		11/25/08 1115	J Yes J No		J Yes J No													

Please read "Laboratory Policies" on the reverse of this form

www.alchemlabs.com

EMAIL: alchem@alchemlabs.com



Alchem Laboratories, Inc.
104 West 31st Street
Boise, Idaho 83714
Phone (208) 336-1172
FAX (208) 336-7124

WHITE - ORIGINAL

CANARY - OFFICE

PINK - CLIENT

Nederend Dairies
Attn: Mr. Hans Nederend

6

January 9, 2009
083-9317407



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALLARD, STE. #350
BOISE, IDAHO 83706

DATE COLLECTED 11/24/2008
TIME COLLECTED 13:23
DATE RECEIVED 11/25/2008
DATE REPORTED 12/01/2008
SUBMITTED :

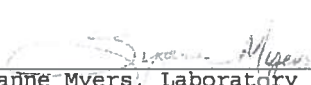
ATTENTION: MIKE LASH
SOURCE -: MW-1 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 32749

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	53.4	11/26/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

7

January 9, 2009
083-9317407



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALLARD, STE. #350
BOISE, IDAHO 83706

DATE COLLECTED 11/24/2008
TIME COLLECTED 13:07
DATE RECEIVED 11/25/2008
DATE REPORTED 12/01/2008
SUBMITTED :

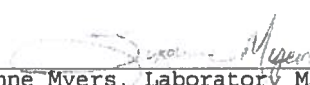
ATTENTION: MIKE LASH
SOURCE -: MW-2 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 32750

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	60.9	11/26/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager

Nederend Dairies
Attn: Mr. Hans Nederend

8

January 9, 2009
083-9317407



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALLARD, STE. #350
BOISE, IDAHO 83706

DATE COLLECTED 11/24/2008
TIME COLLECTED 14:38
DATE RECEIVED 11/25/2008
DATE REPORTED 12/01/2008
SUBMITTED :

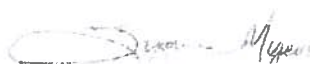
ATTENTION: MIKE LASH
SOURCE -: MW-3 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 32752

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	11.3	11/26/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager

Nederend Dairies
Attn: Mr. Hans Nederend

9

January 9, 2009
083-9317407



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALLARD, STE. #350
BOISE, IDAHO 83706

DATE COLLECTED 11/24/2008
TIME COLLECTED 14:23
DATE RECEIVED 11/25/2008
DATE REPORTED 12/01/2008
SUBMITTED :

ATTENTION: MIKE LASH
SOURCE -: MW-7 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 32751

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	10.2	11/26/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager

Nederend Dairies
Attn: Mr. Hans Nederend

10

January 9, 2009
083-9317407



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALLARD, STE. #350
BOISE, IDAHO 83706

DATE COLLECTED 11/24/2008
TIME COLLECTED 14:51
DATE RECEIVED 11/25/2008
DATE REPORTED 12/01/2008
SUBMITTED :

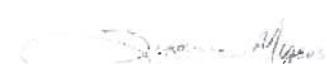
ATTENTION: MIKE LASH
SOURCE -: MW-8 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 32753

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	117.0	11/26/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager





Golder Associates Inc.
1200 W. Ironwood Dr. Ste 201
Coeur d'Alene, Idaho 83814
Telephone: (208) 676-9933
Fax: (208) 676-8602
www.golder.com



November 10, 2008

Our Ref.: 083-9317407

Nederend Dairy
4998 Hogg Road
Homedale, ID 83628

Attn: Mr. Hans Nederend

**RE: OCTOBER 2008 WATER QUALITY REPORT
NEDEREND DAIRIES,
MARSING, IDAHO**

Dear Mr. Nederend:

Golder Associates Inc. (Golder) is please to present Nederend Dairies this letter report of the water quality data collected at Nederend Dairies #1 and #2 on October 23, 2008. During the October sampling trip, depth to water at eleven wells was measured and the water meters at production wells read and recorded.

WATER QUALITY

No water quality data were gathered during the October sampling event.

WATER LEVEL MEASUREMENTS

The water table at all wells rose from the previous measurements.

WATER METER MEASUREMENTS

Water meter measurements and average water use at Nederend Dairy's production wells are summarized in Table 3 below. The meters were read on October 23, 2008.

Table 3. Water Meter Readings and Production Information: September 3 – October 23, 2008				
Well Name:	Meter Reading:	Gallons used between readings:	Average Gallons/day:	Average Production Rate (gpm):
MD-1	94,565,100	855,800	31,696	22
MD-2	86,706,100	5,235,400	193904	135
Nederend #2	637,084,600	14,830,100	296,602	206
Nederend #3	212,832,900	1,451,300	53,752	37.3

DISCUSSION

If you have any questions, please contact us at 208-263-1991 or 208-676-9933.

Sincerely,

GOLDER ASSOCIATES INC.

Nederend Dairies
Attn: Mr. Hans Nederend

2

November 11, 2008
083-9317407

John Monks, P.G.
Senior Project Hydrogeologist



Christopher A. Sneider, P.E.
Senior Engineer/Office Manager

Attachments: Alchem Laboratories Analytical Report, Water Level Graphs

cc: Ilene Dobbin (COCOA)
(ISDA)





November 19, 2008

Our Ref.: 083-9317406

Nederend Dairy
4998 Hogg Road
Homedale, ID 83628

Attn: Mr. Hans Nederend

**RE: SEPTEMBER 2008 WATER QUALITY REPORT
NEDEREND DAIRIES,
MARSING, IDAHO**

Dear Mr. Nederend:

Golder Associates Inc. (Golder) is please to present Nederend Dairies this letter report of the water quality data collected at Nederend Dairies #1 and #2 on October 7, 2008. Five wells were sampled by SPF Water Engineering LLC during this event. Data from the pressure transducer/data loggers in wells MW-2 and MW-7 were downloaded, depth to water at 13 wells was measured, and the flow meter readings were recorded.

WATER QUALITY

Water quality data from October 7th are summarized in Table 1.

Table 1. October 2008 Water Chemistry Analytical Results					
Well name:	Date:	Ammonia (mg/L):	Chloride (mg/L):	Nitrate (mg/L):	Sulfate (mg/L):
Nederend Domestic	10/7/08	NS	NS	NS	NS
MW-1	10/7/08	NA	NA	58.3	NA
MW-2	10/7/08	NA	NA	58.5	NA
MW-3	10/7/08	NS	NS	NS	NS
MW-4	10/7/08	NS	NS	NS	NS
MW-5	10/7/08	NA	NA	31.5	NA
MW-6	10/7/08	NS	NS	NS	NS
MW-7	10/7/08	NA	NA	9.17	NA
MW-8	10/7/08	NA	NA	123	NA
MW-9	10/7/08	NS	NS	NS	NS

WATER LEVEL MEASUREMENTS

The water table at most wells fell from the previous measurements in response to the end of the irrigation season. Water table elevations and temperature at MW-2 and MW-7 are shown on the graphs at the end of this report. The water level at MW-2 fluctuated on a daily basis over a range of ~0.1 feet. The water level at MW-2 rose steadily during the measurement period. The water temperature at MW-2 increased slightly over the measurement period. Water table elevations at MW-7 also fluctuated over a range of ~0.1 feet on a daily basis, and rose fairly steadily over most of the measurement period. The water level peaked on October 4th then began to decline, marking the end of the irrigation season. The water temperature at MW-7 slowly increased over the measurement period.

WATER METER MEASUREMENTS

Water meter measurements and average water use at Nederend Dairy's production wells are summarized in Table 3 below. The meters were read on October 7, 2008.

Table 3. Water Meter Readings and Production Information: September 3 – October 7, 2008				
Well Name:	Meter Reading:	Gallons used between readings:	Average Gallons/day:	Average Production Rate (gpm):
MD-1	95,395,400	830,300	24,421	17
MD-2	92,023,500	5,317,400	156,394	109
Nederend #2	632,807,700	10,553,200	310,388	216
Nederend #3	213,231,500	398,600	11,724	8.1

DISCUSSION

The nitrate concentration at MW-1 increased to 58.3 mg/L, for the fourth consecutive month the highest nitrate concentration recorded. The nitrate concentration at MW-2 increased to 58.5 mg/L, the highest nitrate concentration recorded at this well. The nitrate levels at wells MW-8 remain very high at 123 mg/L. The nitrate level at well MW-5 increased from 7.69 mg/L on September 3rd to 31.5 mg/L on October 7th. That's a pretty significant increase. Nitrate levels at MW-5 had been decreasing steadily since monitoring began at the well in 2004. MW-5 will be sampled again in November. The results from that sampling event should help to determine whether the last sample was an anomaly or the beginning of a new trend.

If you have any questions, please contact us at 208-263-1991 or 208-676-9933.

Sincerely,

GOLDER ASSOCIATES INC.



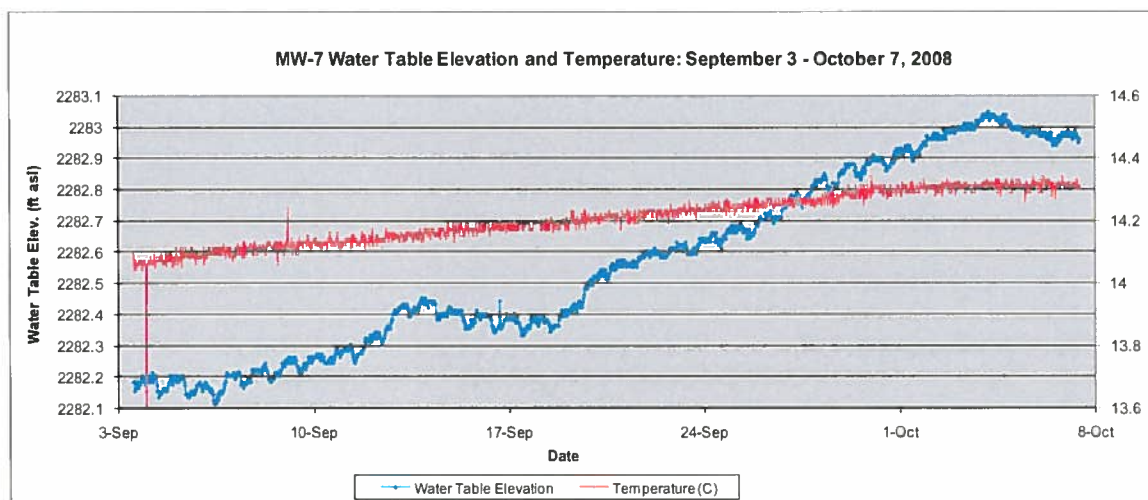
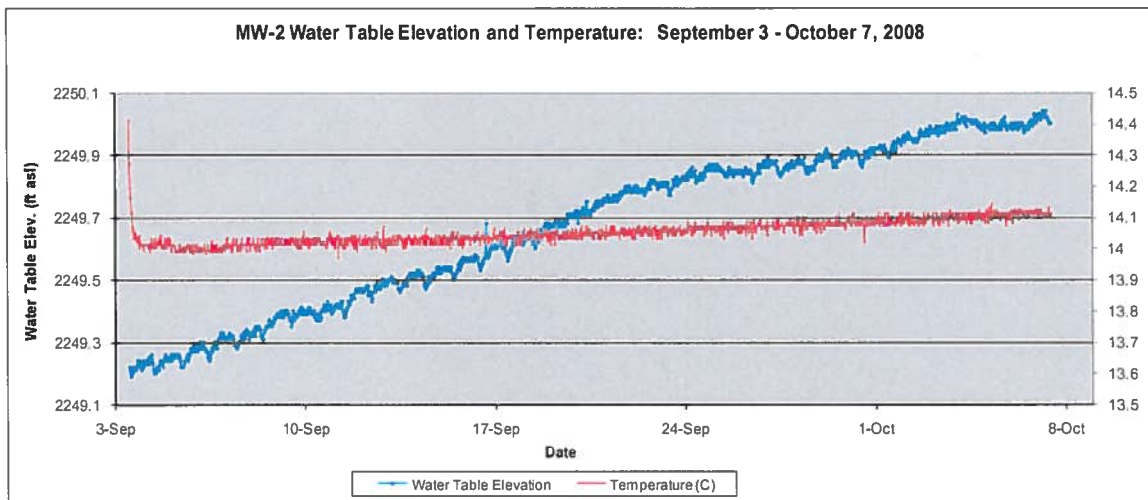
John Monks, P.G.
Senior Project Hydrogeologist



Christopher A. Sneider, P.E.
Senior Engineer/Office Manager

Attachments: Alchem Laboratories Analytical Report, Water Level Graphs

cc: Ilene Dobbin (COCOA)
(ISDA)



ANALYTICAL RESULTS

Nederend Dairies
Attn: Mr. Hans Nederend

5

November 19, 2008
083-9317406



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALARD, STE. #350
BOISE, IDAHO 83706

DATE COLLECTED 10/07/2008
TIME COLLECTED 11:51
DATE RECEIVED 10/08/2008
DATE REPORTED 10/14/2008
SUBMITTED : MIKE LASH

ATTENTION: MIKE LASH
SOURCE -: MW-8 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 31629

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	123.0	10/13/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager

Nederend Dairies
Attn: Mr. Hans Nederend

6

November 19, 2008
083-9317406



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALARD, STE. #350
BOISE, IDAHO 83706

DATE COLLECTED 10/07/2008
TIME COLLECTED 10:58
DATE RECEIVED 10/08/2008
DATE REPORTED 10/14/2008
SUBMITTED : MIKE LASH

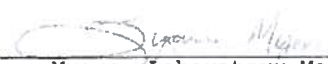
ATTENTION: MIKE LASH
SOURCE -: MW-1 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 31630

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	58.3	10/13/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

7

November 19, 2008
083-9317406



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALARD, STE. #350
BOISE, IDAHO 83706

DATE COLLECTED 10/07/2008
TIME COLLECTED 11:36
DATE RECEIVED 10/08/2008
DATE REPORTED 10/14/2008
SUBMITTED : MIKE LASH

ATTENTION: MIKE LASH
SOURCE -: MW-2 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 31631

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	58.5	10/13/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager

Nederend Dairies
Attn: Mr. Hans Nederend

8

November 19, 2008
083-9317406



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALARD, STE. #350
BOISE, IDAHO 83706

ATTENTION: MIKE LASH
SOURCE -: MW-5 / PROJ: NEDEREND DAIRIES

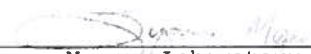
DATE COLLECTED 10/07/2008
TIME COLLECTED 12:20
DATE RECEIVED 10/08/2008
DATE REPORTED 10/14/2008
SUBMITTED : MIKE LASH

LAB SAMPLE NUMBER - 31632

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	31.5	10/13/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

9

November 19, 2008
083-9317406



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALARD, STE. #350
BOISE, IDAHO 83706

DATE COLLECTED 10/07/2008
TIME COLLECTED 12:00
DATE RECEIVED 10/08/2008
DATE REPORTED 10/14/2008
SUBMITTED : MIKE LASH

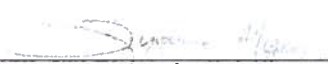
ATTENTION: MIKE LASH
SOURCE -: MW-7 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 31633

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	9.17	10/13/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager





October 14, 2008

Our Ref.: 083-9317405

Nederend Dairy
4998 Hogg Road
Homedale, ID 83628

Attn: Mr. Hans Nederend

**RE: AUGUST 2008 WATER QUALITY REPORT
NEDEREND DAIRIES,
MARSING, IDAHO**

Dear Mr. Nederend:

Golder Associates Inc. (Golder) is please to present Nederend Dairies this letter report of the water quality data collected at Nederend Dairies #1 and #2 on September 3, 2008. Five wells were sampled by SPF Water Engineering LLC during this event. Data from the pressure transducer/data loggers in wells MW-2 and MW-7 were downloaded.

WATER QUALITY

Water quality data from September 3rd are summarized in Table 1.

Table 1. August 2008 Water Chemistry Analytical Results					
Well name:	Date:	Ammonia (mg/L):	Chloride (mg/L):	Nitrate (mg/L):	Sulfate (mg/L):
Nederend Domestic	9/3/08	NS	NS	NS	NS
MW-1	9/3/08	NA	NA	53.3	NA
MW-2	9/3/08	NA	NA	55.9	NA
MW-3	9/3/08	NS	NS	NS	NS
MW-4	9/3/08	NS	NS	NS	NS
MW-5	9/3/08	NA	NA	7.69	NA
MW-6	9/3/08	NS	NS	NS	NS
MW-7	9/3/08	NA	NA	7.79	NA
MW-8	9/3/08	NA	NA	124	NA
MW-9	9/3/08	NS	NS	NS	NS

WATER LEVEL MEASUREMENTS

The water table at all wells rose from the previous measurements. Water table elevations and temperatures at MW-2 and MW-7 for the past month and for the year to date are shown on the graphs attached to this report. The water level at MW-2 fluctuated on a daily basis over a range of ~0.1 feet while rising steadily over the past month. MW-2 apparently was drawn down by pumping at well Nederend #3 during July and again for a brief period in August. The water temperature at MW-2 remained fairly constant over the measurement period. Water table elevations at MW-7 also fluctuated over a range of ~0.1 feet on a daily basis, and rose steadily over the previous month, continuing the trend that began with the beginning of the irrigation season in April. The water temperature at MW-7 began to slowly increase over the measurement period.

WATER METER MEASUREMENTS

Water meter measurements and average water use at Nederend Dairy's production wells are summarized in Table 3 below. The meters were read on September 3, 2008.

Table 3. Water Meter Readings and Production Information: August 7 – September 3, 2008				
Well Name:	Meter Reading:	Gallons used between readings:	Average Gallons/day:	Average Production Rate (gpm):
MD-1	94,565,100	855,800	31,696	22
MD-2	86,706,100	5,235,400	193904	135
Nederend #2	622,254,500	9,795,600	362,800	252
Nederend #3	212,832,900	1,451,300	53,752	37.3

DISCUSSION

The nitrate concentration at MW-1 increased to 53.3 mg/L, for the third consecutive month the highest concentration recorded. The nitrate concentration at MW-2 increased to 55.9 mg/L, the highest nitrate concentration recorded at this well. The nitrate levels at wells MW-8 remain very high at 124 mg/L.

Due to budget cuts, ISDA will not be conducting their semi-annual water quality monitoring in October 2008. John Monks of Golder Associates will be on site to conduct the October 2008 water quality monitoring activities on October 23, 2008.

If you have any questions, please contact us at 208-263-1991 or 208-676-9933.

Sincerely,

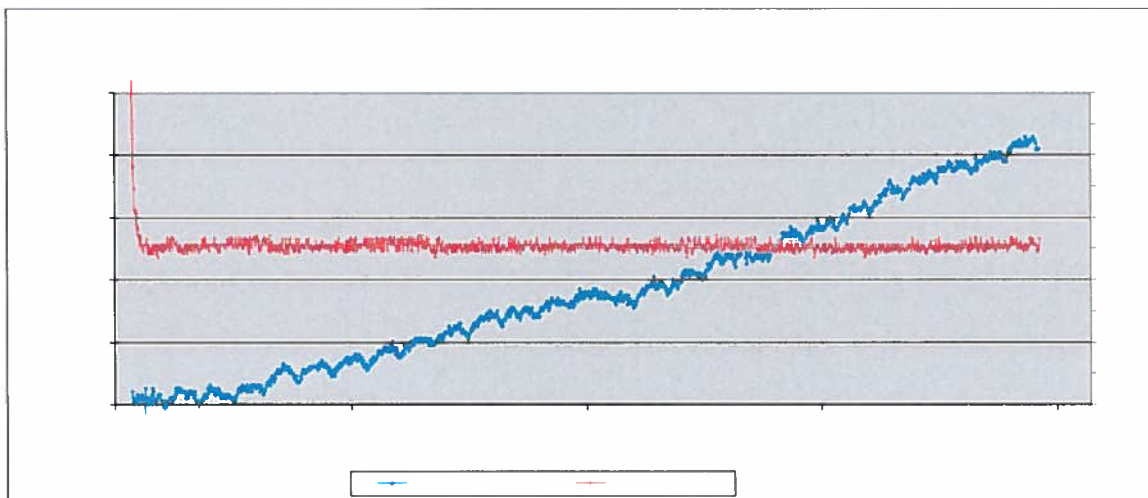
GOLDER ASSOCIATES INC.

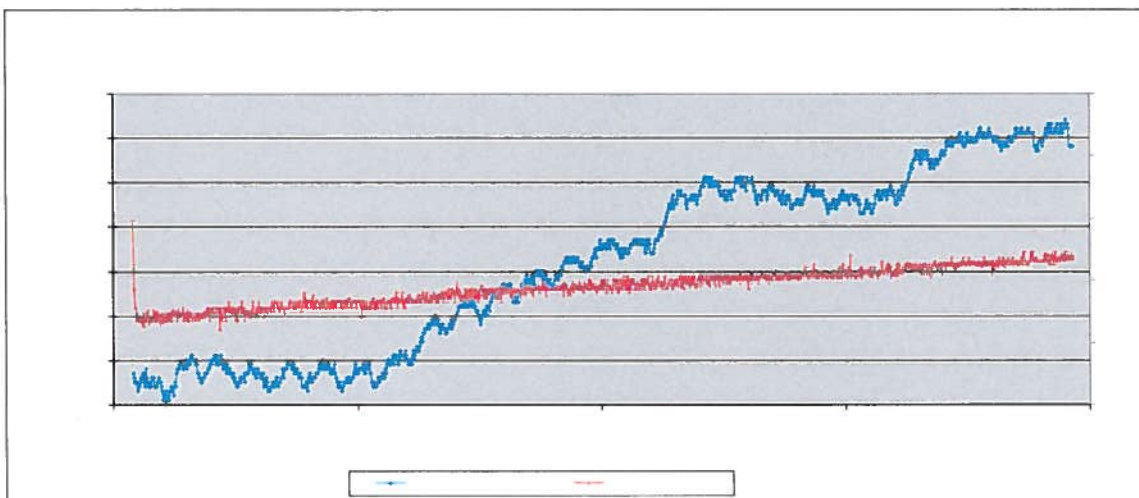

John Monks, P.G.
Senior Project Hydrogeologist


Christopher A. Sneider, P.E.
Senior Engineer/Office Manager

Attachments: Alchem Laboratories Analytical Reports, Water Level Graphs

cc: Ilene Dobbin (COCOA)
(ISDA)





ANALYTICAL RESULTS

Nederend Dairies
Attn: Mr. Hans Nederend

6

October 14, 2008
083-9317405

09/30/2008 09:40

2083367124

ALCHEM

PAGE 04



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALARD, STE. #350
BOISE, IDAHO 83706

ATTENTION: MIKE LASH
SOURCE -: MW-8 / PROJ: NEDEREND DAIRY

DATE COLLECTED 09/03/2008
TIME COLLECTED 12:18
DATE RECEIVED 09/04/2008
DATE REPORTED 09/16/2008
SUBMITTED : MIKE LASH

LAB SAMPLE NUMBER - 30723

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	124.0	09/10/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

7

October 14, 2008
083-9317405

09/30/2008 09:48 2083367124

ALCHEM

PAGE 02



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALARD, STE. #350
BOISE, IDAHO 83706

ATTENTION: MIKE LASH
SOURCE -: MW-1 / PROJ: NEDEREND DAIRY

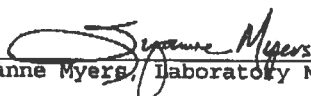
DATE COLLECTED 09/03/2008
TIME COLLECTED 11:25
DATE RECEIVED 09/04/2008
DATE REPORTED 09/16/2008
SUBMITTED : MIKE LASH

LAB SAMPLE NUMBER - 30721

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	53.3	09/10/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

8

October 14, 2008
083-9317405

09/30/2008 09:40 2083367124

ALCHEM

PAGE 06



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALARD, STE. #350
BOISE, IDAHO 83706

DATE COLLECTED 09/03/2008
TIME COLLECTED 12:05
DATE RECEIVED 09/04/2008
DATE REPORTED 09/16/2008
SUBMITTED : MIKE LASH

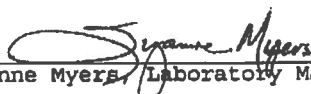
ATTENTION: MIKE LASH
SOURCE -: MW-2 / PROJ: NEDEREND DAIRY

LAB SAMPLE NUMBER - 30725

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	55.9	09/10/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

9

October 14, 2008
083-9317405

09/30/2008 09:40 2083367124

ALCHEM

PAGE 03



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALARD, STE. #350
BOISE, IDAHO 83706

ATTENTION: MIKE LASH
SOURCE -: MW-5 / PROJ: NDEREND DAIRY

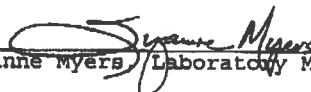
DATE COLLECTED 09/03/2008
TIME COLLECTED 1:45
DATE RECEIVED 09/04/2008
DATE REPORTED 09/25/2008
SUBMITTED : MIKE LASH

LAB SAMPLE NUMBER - 30722

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	7.69	09/23/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

10

October 14, 2008
083-9317405

09/30/2008 09:48

2083367124

ALCHEM

PAGE 05



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
300 EAST MALARD, STE. #350
BOISE, IDAHO 83706

ATTENTION: MIKE LASH
SOURCE -: MW-7 / PROJ: NEDEREND DAIRY

DATE COLLECTED 09/03/2008
TIME COLLECTED 12:55
DATE RECEIVED 09/04/2008
DATE REPORTED 09/25/2008
SUBMITTED : MIKE LASH

LAB SAMPLE NUMBER - 30724

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	7.79	09/23/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager







July 18, 2008

Our Ref.: 083-9317404

Nederend Dairy
4998 Hogg Road
Homedale, ID 83628

Attn: Mr. Hans Nederend

**RE: JULY 2008 WATER QUALITY REPORT
NEDEREND DAIRIES,
MARSING, IDAHO**

Dear Mr. Nederend:

Golder Associates Inc. (Golder) is please to present Nederend Dairies this letter report of the water quality data collected at Nederend Dairies #1 and #2 on August 7, 2008. Five wells were sampled by SPF Water Engineering LLC during this event. Data from the pressure transducer/data loggers in wells MW-2 and MW-7 were downloaded. The pressure transducer/data logger in well MD-7 appears to have been lost in the well. When Mike Lash of SPF Water Engineering LLC attempted to retrieve the pressure transducer/data logger from MD-1 the instrument felt like it was dragging against something. Mr. Lash also reported that there were bird feathers on the suspension line and that there were metal shavings around the well head.

WATER QUALITY

Water quality data from August 7th are summarized in Table 1.

Table 1. July 2008 Water Chemistry Analytical Results					
Well name:	Date:	Ammonia (mg/L):	Chloride (mg/L):	Nitrate (mg/L):	Sulfate (mg/L):
Nederend Domestic	8/7/08	NS	NS	NS	NS
MW-1	8/7/08	NA	NA	45	NA
MW-2	8/7/08	NA	NA	51.7	NA
MW-3	8/7/08	NS	NS	NS	NS
MW-4	8/7/08	NS	NS	NS	NS
MW-5	8/7/08	NA	NA	6.94	NA
MW-6	8/7/08	NS	NS	NS	NS
MW-7	8/7/08	NA	NA	6.3	NA
MW-8	8/7/08	NA	NA	126	NA
MW-9	8/7/08	NS	NS	NS	NS

WATER LEVEL MEASUREMENTS

The water table at most wells declined slightly from the previous measurements. Exceptions were at MW-1, MW-6, MW-8 and MW-9. Water table elevations and temperature at MW-2 and MW-7 are shown on the graphs at the end of this report. The water level at MW-2 fluctuated on a daily basis over a range of ~0.1 feet. The water level at MW-2 went down ~0.6 feet during the measurement period, probably in response to pumping at Nederend #3. The water temperature at MW-2 continues to decrease steadily. Water table elevations at MW-7 also fluctuated over a range of ~0.1 feet on a

daily basis, and rose fairly steadily over most of the measurement period. The water temperature at MW-7 began to slowly increase over the measurement period.

WATER METER MEASUREMENTS

Water meter measurements and average water use at Nederend Dairy's production wells are summarized in Table 3 below. The meters were read on August 7, 2008.

Table 3. Water Meter Readings and Production Information: June 2 – August 7, 2008				
Well Name:	Meter Reading:	Gallons used between readings:	Average Gallons/day:	Average Production Rate (gpm):
MD-1	93,709,300	2,231,800	33,815	23
MD-2	81,470,700	12,671,600	191,994	133
Nederend #2	612,458,900	21,426,100	324,638	225
Nederend #3	211,381,600	3,187,100	48,289	33.5

DISCUSSION

The nitrate level at MW-1 increased to 45 mg/L, the highest level recorded at this well to date. The nitrate levels at wells MW-8 and MW-2 remained essentially unchanged at 126 and 51.7 mg/L, respectively.

If you have any questions, please contact us at 208-263-1991 or 208-676-9933.

Sincerely,

GOLDER ASSOCIATES INC.



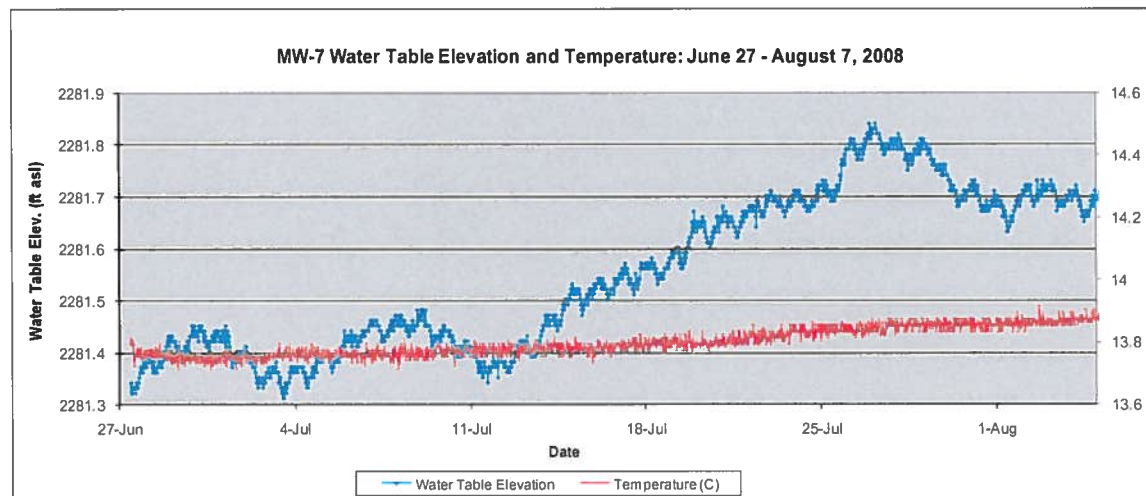
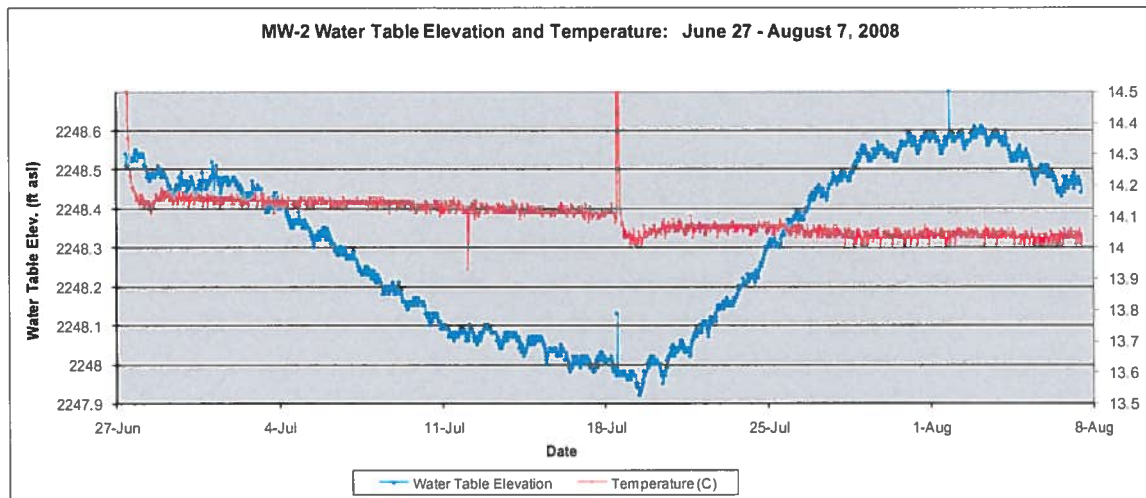
John Monks, P.G.
Senior Project Hydrogeologist



Christopher A. Sneider, P.E.
Senior Engineer/Office Manager

Attachments: Alchem Laboratories Analytical Report, Water Level Graphs

cc: Ilene Dobbin (COCOA)
Craig Tesch (ISDA)



ANALYTICAL RESULTS

Nederend Dairies
Attn: Mr. Hans Nederend

5

August 27, 2008
083-9317404



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 08/07/2008
TIME COLLECTED 12:23
DATE RECEIVED 08/07/2008
DATE REPORTED 08/15/2008

ATTENTION: MIKE LASH

SUBMITTED : MIKE LASH

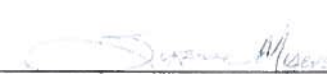
SOURCE -: MW-8 / WATER / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 29958

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	126.0	08/13/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

6

August 27, 2008
083-9317404



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 08/07/2008
TIME COLLECTED 11:16 AM
DATE RECEIVED 08/07/2008
DATE REPORTED 08/15/2008
SUBMITTED : MIKE LASH

ATTENTION: MIKE LASH
SOURCE -: MW-1 / WATER / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 29959

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	45.0	08/13/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

7

August 27, 2008
083-9317404



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 08/07/2008
TIME COLLECTED 12:00
DATE RECEIVED 08/07/2008
DATE REPORTED 08/15/2008

ATTENTION: MIKE LASH

SUBMITTED : MIKE LASH

SOURCE -: MW-2 / WATER / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 29961

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	6.94	08/13/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

8

August 27, 2008
083-9317404



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 08/07/2008
TIME COLLECTED 2:00 PM
DATE RECEIVED 08/07/2008
DATE REPORTED 08/15/2008

ATTENTION: MIKE LASH

SUBMITTED : MIKE LASH

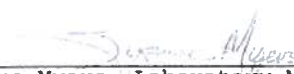
SOURCE -: MW-5 / WATER / PROJ: NDEREND DAIRIES

LAB SAMPLE NUMBER - 29960

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	51.7	08/13/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

9

August 27, 2008
083-9317404



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 08/07/2008
TIME COLLECTED 1:30
DATE RECEIVED 08/07/2008
DATE REPORTED 08/15/2008
SUBMITTED : MIKE LASH

ATTENTION: MIKE LASH
SOURCE -: MW-7 / WATER / PROJ: NDEREND DAIRIES

LAB SAMPLE NUMBER - 29962

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	6.26	08/13/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager







August 27, 2008

Our Ref.: 083-9317403

Nederend Dairy
4998 Hogg Road
Homedale, ID 83628

Attn: Mr. Hans Nederend

**RE: JUNE 2008 WATER QUALITY REPORT
NEDEREND DAIRIES,
MARSING, IDAHO**

Dear Mr. Nederend:

Golder Associates Inc. (Golder) is please to present Nederend Dairies this letter report of the water quality data collected at Nederend Dairies #1 and #2 on June 27, 2008. Six wells were sampled by SPF Water Engineering LLC during this event. Data from the pressure transducer/data loggers in wells MW-2, MW-7, and MD-1 were downloaded.

WATER QUALITY

Water quality data from June 27th are summarized in Table 1.

Table 1. June 2008 Water Chemistry Analytical Results					
Well name:	Date:	Ammonia (mg/L):	Chloride (mg/L):	Nitrate (mg/L):	Sulfate (mg/L):
Nederend Domestic	6/27/08	NA	64.2	20.3	276.0
MW-1	6/27/08	NA	80.1	41.0	298.0
MW-2	6/27/08	NA	109.0	52.1	401.0
MW-3	6/27/08	NA	147.0	26.5	337.0
MW-4	6/27/08	NA	79.0	13.7	268.0
MW-5	6/27/08	NA	76.8	11.1	377.0
MW-6	6/27/08	NA	28.1	3.5	55.8
MW-7	6/27/08	NA	47.8	7.1	157.0
MW-8	6/27/08	NA	197.0	129.0	261.0
MW-9	6/27/08	NA	81.0	9.0	366.0

WATER LEVEL MEASUREMENTS

The water table at most wells rose between June 2nd and June 27th. The exceptions were at MW-1 and MW-2 where water levels declined. Water table elevations and temperature at MW-2, MW-7, and MD-1 are shown on the graphs at the end of this report. The water level at MW-2 fluctuated on a daily basis over a range of ~0.1 feet and declined slowly over the measurement period. The water temperature at MW-2 continues to decrease steadily.

Water table elevations at MW-7 also fluctuated over a range of ~0.1 feet on a daily basis. Water levels at MW-7 rose at the beginning of the measurement period before falling slightly, then rising again, and then falling approximately 0.2 feet only to rise again. The cause of these water level fluctuations is unknown. The water temperature at MW-7 also continued to decline steadily.

At Mirada #1 the water table and temperature fluctuate on a daily basis in response to varying water demand. Production from well MD-1 resumed around June 5th. Production rates from MD-1 appear to have increased during the month of June.

WATER METER MEASUREMENTS

Water meter measurements were not recorded during the June 27, 2008 sampling event due to a misunderstanding. Water meter measurements will be recorded during all sampling events in the future.

DISCUSSION

Nitrate levels at MW-1 increased to the highest levels measured at this well, after having fallen to the lowest level measured in nearly two years on June 2nd. The decrease in nitrate levels recorded in early June probably was the result of well Nederend #2 being shut off, resulting in ground water at MW-1 that had followed a different flow path than that followed while Nederend #2 is pumping. The nitrate level at well MW-2 remained essentially unchanged at 52.1 mg/L. Nitrate levels at MW-8 have set another dubious record, 129 mg/L, a considerable increase from the already quite high 90.3 mg/L recorded June 2nd. The very high nitrate levels at MW-8 remain unexplained. Water quality data at the remaining monitoring wells remains relatively unchanged from previous sampling events.

Comparing June 2, 2008 water quality data with July 27, 2007 data shows that water quality at MW-5, MW-6 and MW-7 has improved over that time period. At all other wells water quality has deteriorated to varying extents.

If you have any questions, please contact us at 208-263-1991 or 208-676-9933.

Sincerely,

GOLDER ASSOCIATES INC.



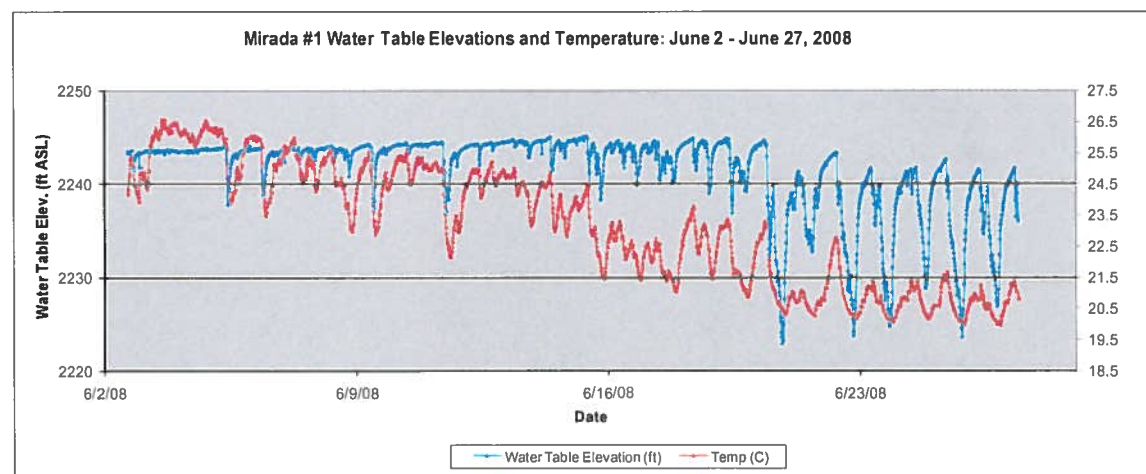
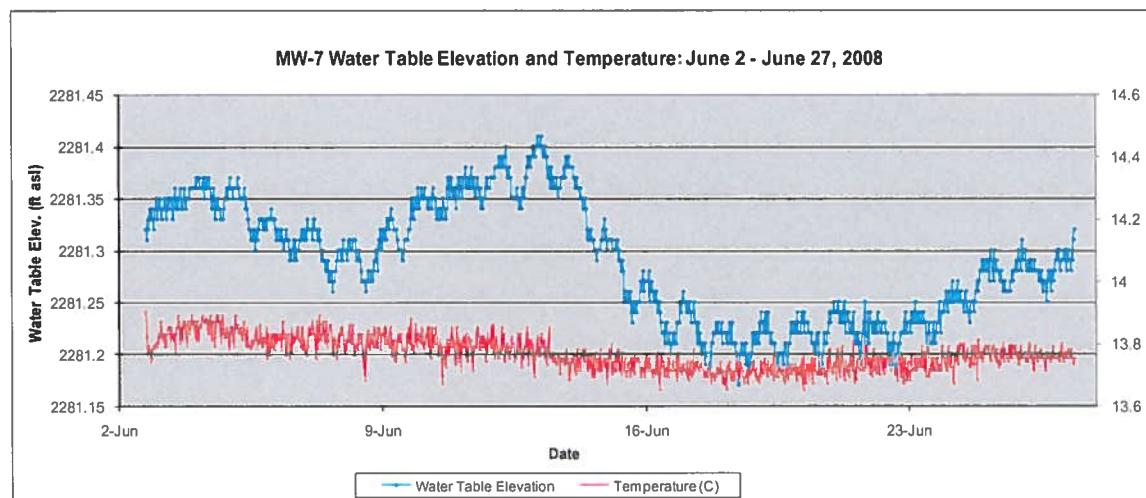
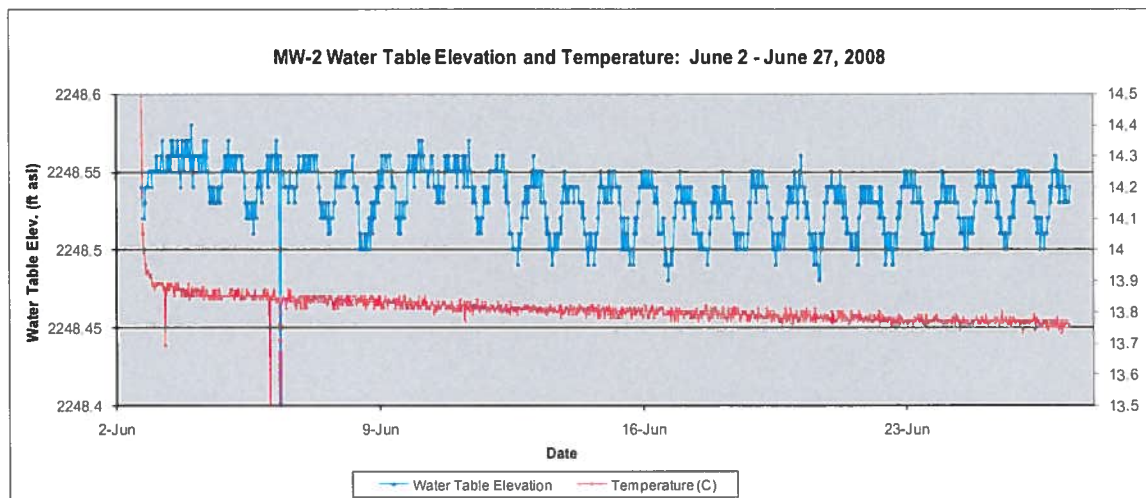
John Monks, P.G.
Senior Project Hydrogeologist



Christopher A. Sneider, P.E.
Senior Engineer/Office Manager

Attachments: Alchem Laboratories Analytical Report, Water Level Graphs

cc: Ilene Dobbin (COCOA)
Craig Tesch (ISDA)



Nederend Dairies
Attn: Mr. Hans Nederend

4

August 27, 2008
083-9317403

ANALYTICAL RESULTS

Nederend Dairies
Attn: Mr. Hans Nederend

5

August 27, 2008
083-9317403



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 07/18/2008
TIME COLLECTED 12:12 PM
DATE RECEIVED 07/18/2008
DATE REPORTED 07/30/2008
SUBMITTED : MIKE LASH

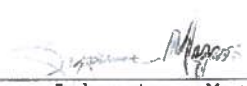
ATTENTION: MIKE LASH
SOURCE -: DOMESTIC / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 29469

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHLORIDE	64.2	07/28/2008	TK
NITRATE as N	20.3	07/23/2008	TK
SULFATE	276.0	07/28/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

6

August 27, 2008
083-9317403



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 06/27/2008
TIME COLLECTED 11:08 AM
DATE RECEIVED 06/27/2008
DATE REPORTED 07/17/2008
SUBMITTED :

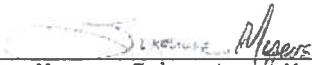
ATTENTION: MIKE LASH
SOURCE -: MW-9 ND / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 28836

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHLORIDE	81.0	07/15/2008	TK
NITRATE as N	9.00	06/27/2008	TK
SULFATE	366.0	07/15/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

7

August 27, 2008
083-9317403



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 06/27/2008
TIME COLLECTED 10:50 AM
DATE RECEIVED 06/27/2008
DATE REPORTED 07/17/2008
SUBMITTED :

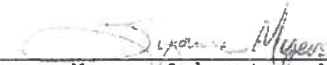
ATTENTION: MIKE LASH
SOURCE -: MW-7 ND / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 28834

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHLORIDE	47.8	07/15/2008	TK
NITRATE as N	7.10	07/07/2008	TK
SULFATE	157.0	07/15/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

8

August 27, 2008
083-9317403



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 06/27/2008
TIME COLLECTED 10:35 AM
DATE RECEIVED 06/27/2008
DATE REPORTED 07/17/2008
SUBMITTED :

ATTENTION: MIKE LASH
SOURCE -: MW-6 ND / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 28835

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHLORIDE	28.1	07/15/2008	TK
NITRATE as N	3.45	06/27/2008	TK
SULFATE	55.8	07/15/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

9

August 27, 2008
083-9317403



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

*Water, Waste Water
and Soil Analysis*

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 06/27/2008
TIME COLLECTED 9:05 AM
DATE RECEIVED 06/27/2008
DATE REPORTED 07/17/2008
SUBMITTED :

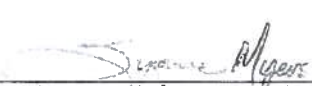
ATTENTION: MIKE LASH
SOURCE -: MW-3 ND / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 28833

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHLORIDE	147.0	07/15/2008	TK
NITRATE as N	26.5	06/27/2008	TK
SULFATE	337.0	07/15/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

10

August 27, 2008
083-9317403



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

ATTENTION: MIKE LASH
SOURCE -: MW-1 / PROJ: NEDEREND DAIRIES

DATE COLLECTED 07/18/2008
TIME COLLECTED 11:25 AM
DATE RECEIVED 07/18/2008
DATE REPORTED 07/30/2008
SUBMITTED : MIKE LASH

LAB SAMPLE NUMBER - 29472

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHLORIDE	80.1	07/28/2008	TK
NITRATE as N	41.0	07/23/2008	TK
SULFATE	298.0	07/28/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

11

August 27, 2008
083-9317403



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

ATTENTION: MIKE LASH
SOURCE -: MW-2 / PROJ: NEDEREND DAIRIES

DATE COLLECTED 07/18/2008
TIME COLLECTED 12:00 PM
DATE RECEIVED 07/18/2008
DATE REPORTED 07/30/2008
SUBMITTED : MIKE LASH

LAB SAMPLE NUMBER - 29471

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHLORIDE	109.0	07/28/2008	TK
NITRATE as N	52.1	07/23/2008	TK
SULFATE	401.0	07/28/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

12

August 27, 2008
083-9317403



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

*Water, Waste Water
and Soil Analysis*

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

ATTENTION: MIKE LASH
SOURCE -: MW-4 / PROJ: NEDEREND DAIRIES

DATE COLLECTED 07/18/2008
TIME COLLECTED 1:05 AM
DATE RECEIVED 07/18/2008
DATE REPORTED 07/30/2008
SUBMITTED : MIKE LASH

LAB SAMPLE NUMBER - 29473

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHLORIDE	79.0	07/28/2008	TK
NITRATE as N	13.7	07/23/2008	TK
SULFATE	268.0	07/28/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Nederend Dairies
Attn: Mr. Hans Nederend

13

August 27, 2008
083-9317403



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 07/18/2008
TIME COLLECTED 12:45 PM
DATE RECEIVED 07/18/2008
DATE REPORTED 07/30/2008
SUBMITTED : MIKE LASH

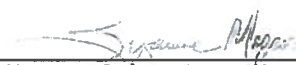
ATTENTION: MIKE LASH
SOURCE -: MW-5 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 29468

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHLORIDE	76.8	07/28/2008	TK
NITRATE as N	11.1	07/23/2008	TK
SULFATE	377.0	07/28/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager





Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Waste Water
and Soil Analysis

LABORATORY REPORT

SPF WATER ENGINEERING
600 EAST RIVER PARK LANE #105
BOISE, IDAHO 83706

DATE COLLECTED 07/18/2008
TIME COLLECTED 12:30 PM
DATE RECEIVED 07/18/2008
DATE REPORTED 07/30/2008
SUBMITTED : MIKE LASH

ATTENTION: MIKE LASH
SOURCE -: MW-8 / PROJ: NEDEREND DAIRIES

LAB SAMPLE NUMBER - 29470

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
CHLORIDE	197.0	07/28/2008	TK
NITRATE as N	129.0	07/23/2008	TK
SULFATE	261.0	07/28/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager







July 18, 2008

Our Ref.: 083-9317402

Nederend Dairy
4998 Hogg Road
Homedale, ID 83628

Attn: Mr. Hans Nederend

**RE: MAY 2008 WATER QUALITY REPORT
NEDEREND DAIRIES,
MARSING, IDAHO**

Dear Mr. Nederend:

Golder Associates Inc. (Golder) is please to present Nederend Dairies this letter report of the water quality data collected at Nederend Dairies #1 and #2 on June 2, 2008. Six wells were sampled by SPF Water Engineering LLC during this event. Data from the pressure transducer/data loggers in wells MW-2, MW-7, and MD-1 were downloaded.

WATER QUALITY

Water quality data from June 2nd are summarized in Table 1.

Table 1. June 2008 Water Chemistry Analytical Results					
Well name:	Date:	Ammonia (mg/L):	Chloride (mg/L):	Nitrate (mg/L):	Sulfate (mg/L):
Nederend Domestic	6/2/08	NS	NS	NS	NS
MW-1	6/2/08	NA	NA	24	NA
MW-2	6/2/08	NA	NA	52.4	NA
MW-3	6/2/08	NA	NA	27	NA
MW-4	6/2/08	NS	NS	NS	NS
MW-5	6/2/08	NA	NA	11.1	NA
MW-6	6/2/08	NA	NA	13.8	NA
MW-7	6/2/08	NA	NA	5.07	NA
MW-8	6/2/08	NA	NA	90.3	NA
MW-9	6/2/08	NS	NS	NS	NS

WATER LEVEL MEASUREMENTS

The water table at wells adjacent to Horstman Drain continues to rise in response to higher water levels in the drain. At some wells more distant from the drain, water levels continued to fall. Water table elevations and temperature at MW-2, MW-7, and MD-1 are shown on the graphs at the end of this report. The water level at MW-2 fluctuated on a daily basis over a range of ~0.1 feet and declined slowly over the measurement period. The water temperature at MW-2 continues to decrease steadily. Water table elevations at MW-7 also fluctuated over a range of ~0.1 feet on a daily basis, and continued to rise in response to irrigation water in Horstman Drain. The water temperature at MW-7 also continued to decline steadily.

At Mirada #1 the water table and temperature fluctuate on a daily basis in response to varying water demand. At the beginning of the measurement period the water level was drawn down below the

level of the datalogger. Well MD-1 was shut down around May 5th when water production shifted to MW-2. MD-1 is drawn down on occasions when the pump comes on for a short period of time.

WATER METER MEASUREMENTS

Water meter measurements and average water use at Nederend Dairy's production wells are summarized in Table 3 below.

Table 3. Water Meter Readings and Production Information: February 8 – March 24, 2008				
Well Name:	Meter Reading:	Gallons used between readings:	Average Gallons/day:	Average Production Rate (gpm):
MD-1	91,477,500	2,506,600	62,665	44
MD-2	68,799,100	5,137,500	128,438	89
Nederend #2	591,032,800	5,669,200	141,730	98
Nederend #3	208,194,500	5,827,300	145,683	101.2

DISCUSSION

The nitrate levels at wells MW-8 and MW-2 remained essentially unchanged at 90.3 and 52.4 mg/L, respectively. The concentration of nitrate at well MW-1 dropped from 39 to 24 mg/L. This change in water quality may be due to switching most of the water production from Nederend #2 to Nederend #3 for the summer months. The decreased pumping at Nederend #2 probably changes the ground water flow regime near the well. In other words, when Nederend #2 is shut off, ground water that we sample at MW-1 is coming from a direction that is different from when the well is pumping. Similar changes in water quality at MW-1 have occurred in the past when production switched from Nederend #2 to Nederend #3. In 2005 the nitrate concentration at MW-1 went from 28.5 mg/L in June to 7.55 mg/L in July, coinciding with a switch in production from Nederend #2 to Nederend #3.

If you have any questions, please contact us at 208-263-1991 or 208-676-9933.

Sincerely,

GOLDER ASSOCIATES INC.



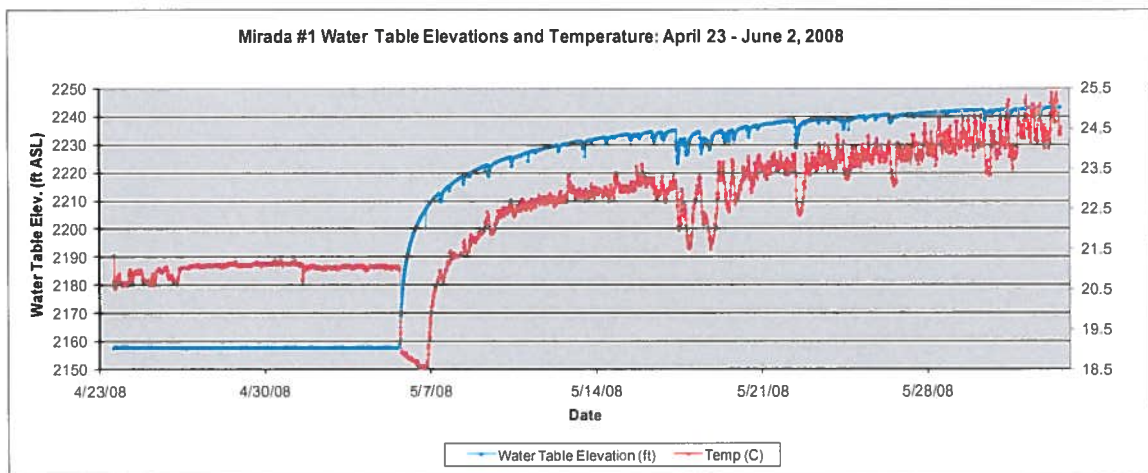
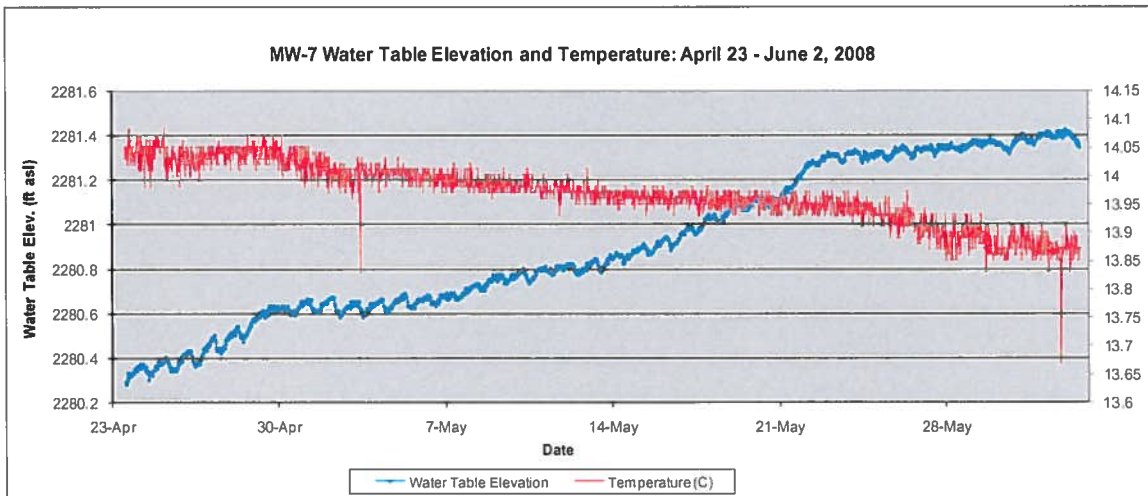
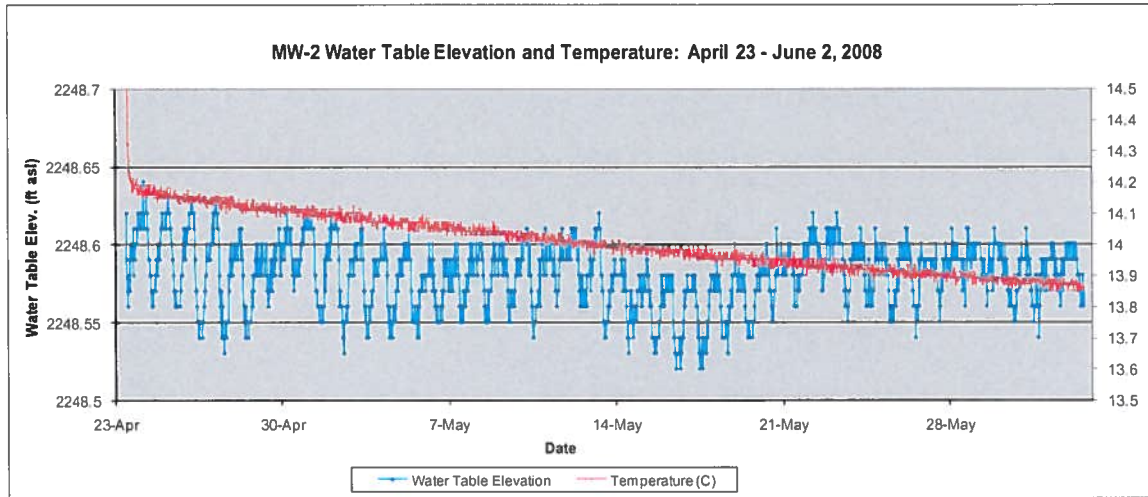
John Monks, P.G.
Senior Project Hydrogeologist



Christopher A. Sneider, P.E.
Senior Engineer/Office Manager

Attachments: Alchem Laboratories Analytical Report, Water Level Graphs

cc: Ilene Dobbin (COCOA)
Craig Tesch (ISDA)



Nederend Dairies
Attn: Mr. Hans Nederend

4

July 18, 2008
083-9317402

ANALYTICAL RESULTS

NAME	~~Mike~~ ~~East~~ ~~66der~~ ~~A~~ ~~550~~ ~~cates~~ ~~Inc.~~			
ATTENTION	John Monks			
ADDRESS	1200 West Ironwood Drive, Suite 201			
CITY	Coeur d'Alene	STATE	ID	ZIP CODE
PHONE #	208-263-1991	FAX #	208-676-8602	
SAMPLER (S)	Mike Lasun			
PROJECT OR SITE	Nedersand Dairy			
	RN / PO. NUMBER			
	083-13171.002			

Chain of Custody Form

LAB NUMBER	DATE	TIME	SAMPLE IDENTIFICATION
28121	6/2/08	440pm	MW-7
28122		340pm	MW-8
28123		300pm	MW-6
28124		315pm	MW-2
28125		505pm	MW-5
28126		224pm	MW-1
28127		245pm	MW-3

RELINQUISHED BY (Signature)

RELINQUISHED BY (Signature)

Relinquished/By (Signature)

Date/Time

6/3/08 | 130 g.u.

Received for Laboratory By (Signature)

Bank of America

Date/Time

6-3-08 1:30

Received With Seal Intact?	☐ Yes	☐ No
Label Tag, COC Agree?	☐ Yes	☐ No



www.alchemlabs.com
EMAIL: alchem@alchemlabs.com

Alchem Laboratories, Inc.
104 West 31st Street
Boise, Idaho 83714
Phone (208) 336-1172

TESTS (CIRCLE METHOD)

MATRIX

WATER
SOIL
OTHER
TPH - (418.1/ 8015M)
BTEX (+N+M+EDC) 8260
CL SOLVENTS (8260)
VOC's (8260)
PAH's (8270)
Landfill Appendix I - VOC (8260)
Landfill Appendix II - VOC (8260)
SEMI-VOLATILES (825 / 8270)
RBGA - NO LEAD GAS
BTEX + N + M (8260)
RBGA - LEADED GAS
EPA (8011) BTEX+N+M, EDC (8260)
RBGA - FUEL OILS
BTEX 98260) PAH (8270)
RBGA - MOTOR OILS
BTEX (8260) PAH (8270)
8 RCRA METALS
TCLP EXTRACTION
(DESIGNATE ANALYSIS)
Uilities
SEE ATTACHED LIST
NUMBER OF CONTAINERS

ORIGINAL



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS

SOURCE -: MW-1 / PROJ: NEDEREND DAIRY /

DATE COLLECTED 06/02/2008
TIME COLLECTED 2:24 PM
DATE RECEIVED 06/03/2008
DATE REPORTED 06/09/2008

SUBMITTED : SPF

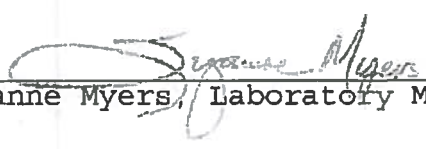
PN: 083-93174.002

LAB SAMPLE NUMBER - 28126

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	24.0	06/04/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS

SOURCE -: MW-2 / PROJ: NEDEREND DAIRY /

DATE COLLECTED 06/02/2008
TIME COLLECTED 3:15 PM
DATE RECEIVED 06/03/2008
DATE REPORTED 06/09/2008

SUBMITTED : SPF

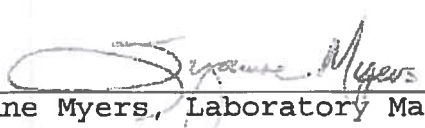
PN: 083-93174.002

LAB SAMPLE NUMBER - 28124

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	52.4	06/04/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager





Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS

SOURCE -: MW-3 / PROJ: NEDEREND DAIRY /

DATE COLLECTED 06/02/2008

TIME COLLECTED 2:45 PM

DATE RECEIVED 06/03/2008

DATE REPORTED 06/09/2008

SUBMITTED : SPF

PN: 083-93174.002

LAB SAMPLE NUMBER - 28127

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	27.0	06/04/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager





Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS

SOURCE -: MW-5 / PROJ: NEDEREND DAIRY /

DATE COLLECTED 06/02/2008
TIME COLLECTED 5:05 PM
DATE RECEIVED 06/03/2008
DATE REPORTED 06/09/2008

SUBMITTED : SPF

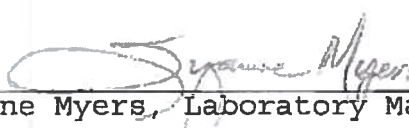
PN: 083-93174.002

LAB SAMPLE NUMBER - 28125

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	11.1	06/04/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager





Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS

SOURCE -: MW-6 / PROJ: NEDEREND DAIRY /

DATE COLLECTED 06/02/2008
TIME COLLECTED 3:00 PM
DATE RECEIVED 06/03/2008
DATE REPORTED 06/09/2008

SUBMITTED : SPF

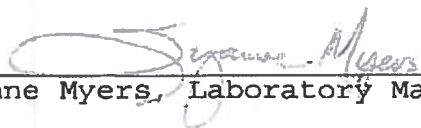
PN: 083-93174.002

LAB SAMPLE NUMBER - 28123

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	13.8	06/04/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager





Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS

SOURCE -: MW-7 / PROJ: NEDEREND DAIRY /

DATE COLLECTED 06/02/2008

TIME COLLECTED 4:40 PM

DATE RECEIVED 06/03/2008

DATE REPORTED 06/09/2008

SUBMITTED : SPF

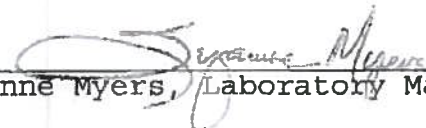
PN: 083-93174.002

LAB SAMPLE NUMBER - 28121

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	5.07	06/04/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager





Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS

SOURCE -: MW-8 / PROJ: NEDEREND DAIRY /

DATE COLLECTED 06/02/2008
TIME COLLECTED 3:40 PM
DATE RECEIVED 06/03/2008
DATE REPORTED 06/09/2008

SUBMITTED : SPF

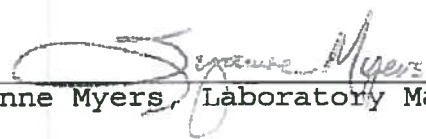
PN: 083-93174.002

LAB SAMPLE NUMBER - 28122

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	6.23	06/04/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager





Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Wastewater
Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS

SOURCE -: MW-8 / PROJ: NEDEREND DAIRY /

DATE COLLECTED 06/02/2008

TIME COLLECTED 3:40 PM

DATE RECEIVED 06/03/2008

DATE REPORTED 07/11/2008

SUBMITTED : SPF

PN: 083-93174.002

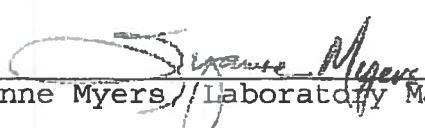
LAB SAMPLE NUMBER - 28122

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	90.3	07/08/2008	TK

COMMENTS: AMENDED REPORT: RESULT CORRECTED.

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



June 17, 2008

Our Ref.: 083-9317401

Nederend Dairy
4998 Hogg Road
Homedale, ID 83628

Attn: Mr. Hans Nederend

**RE: APRIL 2008 WATER QUALITY REPORT
NEDEREND DAIRIES,
MARSING, IDAHO**

Dear Mr. Nederend:

Golder Associates Inc. (Golder) is please to present Nederend Dairies this letter report of the water quality data collected at Nederend Dairies #1 and #2 on April 23rd & 25th, 2008. All of the wells were sampled by ISDA during this event. Data from the pressure transducer/data loggers in wells MW-2, MW-7, and MD-1 were downloaded. The sampling pump was unable to lift water from wells MW-1 and MW-8 on April 23rd and well Nederend Domestic was not functioning. ISDA and Mike Link of SPF Water Engineering returned on April 25th and sampled wells MW-1, MW-8 and Nederend Domestic.

WATER QUALITY

Water quality data from April 23rd and 25th are summarized in Table 1.

Table 1. April 2008 Water Chemistry Analytical Results					
Well name:	Date:	Ammonia (mg/L):	Chloride (mg/L):	Nitrate (mg/L):	Sulfate (mg/L):
Nederend Domestic	4/25/08	0.085	52	13	200
MW-1	4/25/08	0.023	80	39	300
MW-2	4/23/08	0.18	100	53	420
MW-3	4/23/08	<0.010	140	33	330
MW-4	4/23/08	<0.010	70	11	240
MW-5	4/23/08	<0.010	76	11	350
MW-6	4/23/08	0.18	91	19	100
MW-7	4/23/08	0.11	48	6.1	160
MW-8	4/25/08	0.16	190	90	260
MW-9	4/23/08	0.20	75	11	330

WATER LEVEL MEASUREMENTS

The water table at wells adjacent to Horstman Drain began to rise in response to the beginning of irrigation season and higher water levels in the drain. At wells more distant from the drain, water levels continued to fall. Water table elevations and temperature at MW-2, MW-7, and MD-1 are shown on the graphs at the end of this report. The water level at MW-2 fluctuated on a daily basis over a range of ~0.1 feet but on average remained relatively steady over the measurement period. The water temperature at MW-2 continues to decrease steadily. Water table elevations at MW-7 also fluctuated over a range of ~0.1 feet on a daily basis, and declined steadily until April 18th. Water levels at MW-7 rose ~0.6 feet between April 18th and 23rd, apparently in response to the introduction

of irrigation water into Horstman Drain. The water temperature at MW-7 also continued to decline steadily. A similar response to introduction of water into Horstman Drain was observed at MW-6 in 2007.

At Mirada #1 the water table and temperature fluctuate on a daily basis in response to varying water demand. The flat low water levels recorded at Mirada #1 are the result of the water level being drawn down below the level of the datalogger. The overnight water level recovery at MD-1 decreased towards the end of the measurement period until April 19th. Between April 19th and 23rd water levels remained below the level of the datalogger.

WATER METER MEASUREMENTS

Water meter measurements and average water use at Nederend Dairy's production wells are summarized in Table 3 below.

Table 3. Water Meter Readings and Production Information: February 8 – March 24, 2008				
Well Name:	Meter Reading:	Gallons used between readings:	Average Gallons/day:	Average Production Rate (gpm):
MD-1	88970900	5,390,100	179670	125
MD-2	63661600	3,200	107	0
Nederend #2	585363600	7,411,700	247,057	172
Nederend #3	202367200	127,500	4250	3.0

DISCUSSION

The nitrate level at well MW-8 declined to 90 mg/L but continue to be very high. The concentrations of nitrate at wells MW-1 and MW-2 in April 2008 were the highest measured at these wells, 39.0 and 53 mg/L, respectively. The four solids-settling lagoons at Dairy #1, just up-gradient of MW-2, were nearly full on April 23rd and, if leaking, may be contributing to the high nitrate level at MW-2. The source(s) of the increasing nitrate levels at MW-1 may be the fields south of Thompson Road or the center-pivot irrigated field adjacent to MW-1.

Comparing April 2007 ISDA water quality data with April 2008 data (Table 4) shows that the concentrations of all constituents analyzed have increased at wells MW-1, MW-2, Nederend Domestic and MW-8 over the one-year time period between sampling events.

Table 4. April 2007 – April 2008 ISDA Samples Water Quality Changes				
Well #:	Ammonia (mg/L):	Chloride (mg/L):	Nitrate (mg/L):	Sulfate (mg/L):
MW-1	0.022	12.2	7	48
MW-2	0.175	10	9	20
MW-3	0	1	7	30
MW-4	0	-0.7	0	0
MW-5	0	2.1	-1	10
MW-6	0.175	-19	-14	1
MW-7	0.105	0.1	-1.9	2
MW-8	0.155	8	37	61
MW-9	0	-1.1	-1	0
Nederend Domestic	0.08	0.6	1	23

Analytical reports from the Idaho Bureau of Laboratories for wells in the Marsing area and a map showing the locations of wells sampled by ISDA are attached. If you have any questions, please contact us at 208-263-1991 or 208-676-9933.

Sincerely,

GOLDER ASSOCIATES INC.



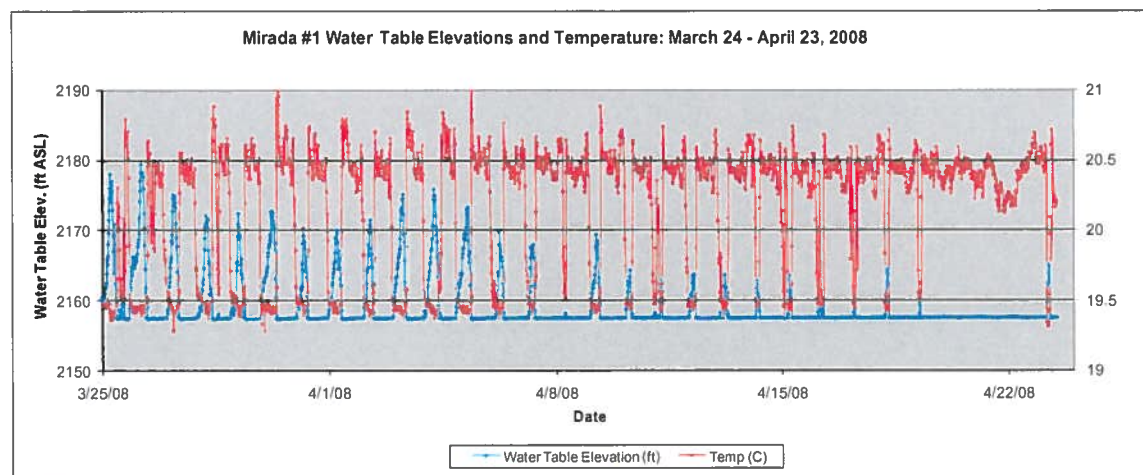
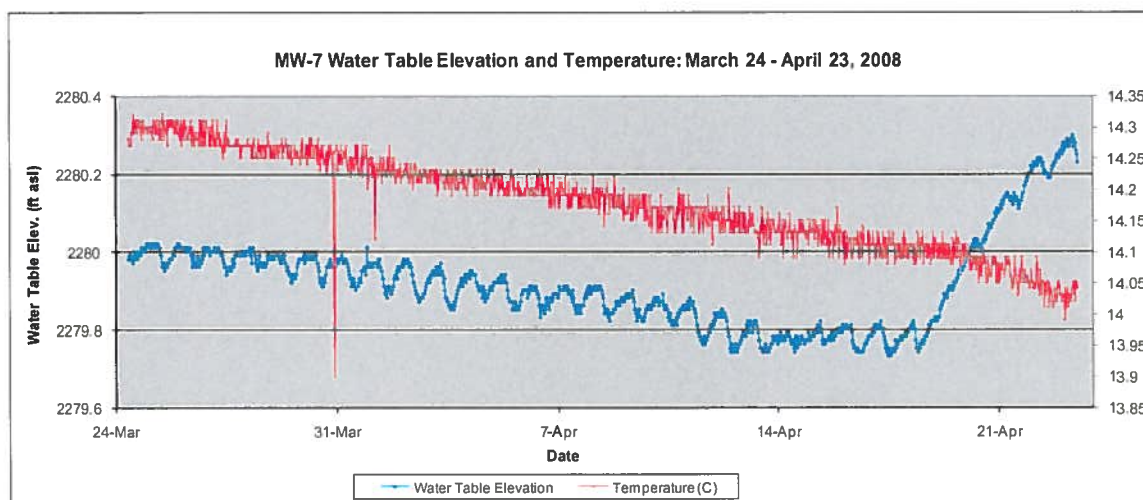
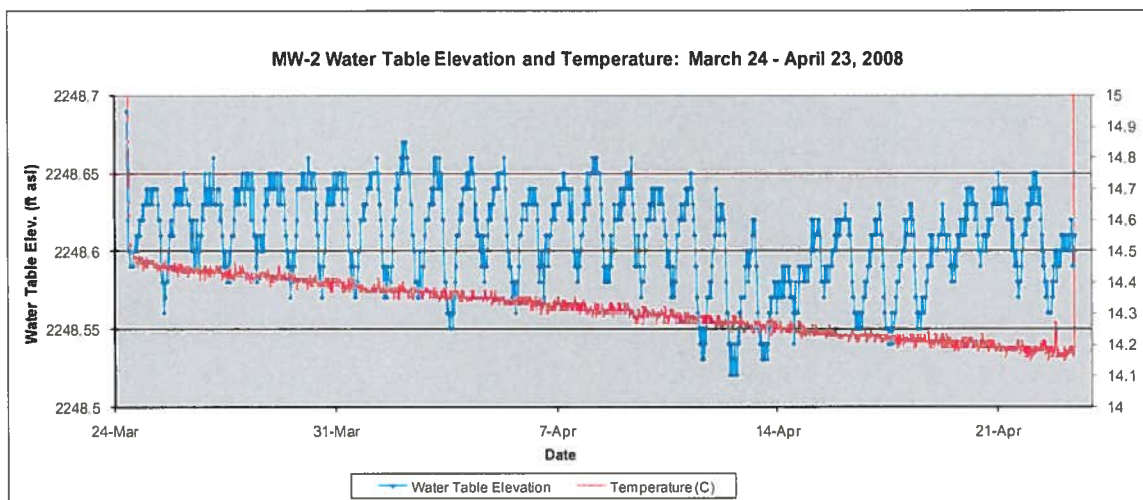
John Monks, P.G.
Senior Project Hydrogeologist



Timothy L. Martin, P.E.
Principal and Senior Consultant

Attachments: ISDA Analytical Report

cc: Ilene Dobbin (COCOA)
Craig Tesch (ISDA)



ANALYTICAL RESULTS



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712

Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED
JUN 10 2008
DIV. OF AG. RESOURCES

June 2, 2008

Report To Craig Tesch
Idaho Department of Agriculture
2270 Old Penitentiary Rd
Boise, ID 83712

Sample Submitted by Idaho Department of Agriculture

RE: Workorder E080400194 042508
Profile 850-Marsing

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, April 25, 2008. Results reported herein conform to the most current EPA standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Wally L. Baker".

Wally L. Baker

Enclosures

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

DNV. OF AG. RESOURCES

Workorde E080400194 042508

SAMPLE SUMMARY

Lab ID	Sample ID	Matrix	Date Collected	Date Received
E080400194-001	29 MW8	Water	4/25/2008	4/25/2008
E080400194-002	29 MW1	Water	4/25/2008	4/25/2008
E080400194-003	290830	Water	4/25/2008	4/25/2008

CASE NARRATIVE

Workorder Comments

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400194 042508

DIV. OF AG. RESOURCES ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400194-001 Date Received: 4/25/2008 Matrix: Water
Sample 29 MW8 Date Collected: 04/25/2008 12:25
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	260	mg/l	2.0	5/5/2008	EI		
Chloride	190	mg/l	1.0	4/30/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	0.16	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	90	mg/l	1.0	5/14/2008	BO		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712

Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400194 042508

DIV. OF AG. RESOURCES

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400194-002 Date Received: 4/25/2008 Matrix: Water
Sample 29 MW1 Date Collected: 04/25/2008 11:20
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	300	mg/l	2.0	5/5/2008	EI		
Chloride	80	mg/l	1.0	4/30/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	0.023	mg/l	0.010	5/8/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	39	mg/l	1.0	5/14/2008	BO		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

RECEIVED EPA Lab ID00018
CLIA Certified Lab

JUN 10 2008

DIV. OF AG. RESOURCES

Workorder: E080400194 042508

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400194-003 Date Received: 4/25/2008 Matrix: Water
Sample 290830 Date Collected: 04/25/2008 11:47
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	200	mg/l	2.0	5/5/2008	EI		
Chloride	52	mg/l	1.0	4/30/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	0.085	mg/l	0.010	5/8/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	13	mg/l	1.0	5/14/2008	BO		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712

Phone: (208)334-2235

Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018

CLIA Certified Lab

June 6, 2008

Report To Craig Tesch
Idaho Department of Agriculture
2270 Old Penitentiary Rd
Boise, ID 83712

RECEIVED
JUN 10 2008
DIV. OF AG. RESOURCES

Sample Submitted by Idaho Department of Agriculture

RE: Workorder E080400179 042408

Profile 850-Marsing

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, April 24, 2008. Results reported herein conform to the most current EPA standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Wally L. Baker".

Wally L. Baker

Enclosures

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

Workorde E080400179 042408

RECEIVED

JUN 10 2008

SAMPLE SUMMARY

Lab ID	Sample ID	Matrix	DIV. OF AG. RESOURCES	
			Date Collected	Date Received
E080400179-001	290811	Water	4/23/2008	4/24/2008
E080400179-002	290813	Water	4/23/2008	4/24/2008
E080400179-003	290814	Water	4/23/2008	4/24/2008
E080400179-004	290818	Water	4/23/2008	4/24/2008
E080400179-005	290819	Water	4/23/2008	4/24/2008
E080400179-006	290881	Water	4/23/2008	4/24/2008
E080400179-007	290890	Water	4/23/2008	4/24/2008
E080400179-008	290816	Water	4/23/2008	4/24/2008
E080400179-009	29MW3	Water	4/23/2008	4/24/2008
E080400179-010	29MW80	Water	4/23/2008	4/24/2008
E080400179-011	29MW2	Water	4/23/2008	4/24/2008
E080400179-012	29MW4	Water	4/23/2008	4/24/2008
E080400179-013	29MW5	Water	4/23/2008	4/24/2008
E080400179-014	29MW9	Water	4/23/2008	4/24/2008
E080400179-015	29MW7	Water	4/23/2008	4/24/2008
E080400179-016	29MW6	Water	4/23/2008	4/24/2008

CASE NARRATIVE

Workorder Comments

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

Workorder: E080400179 042408

RECEIVED

JUN 10 2008

ANALYTICAL RESULTS

DIV. OF AG. RESOURCES

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-001

Date Received: 4/24/2008

Matrix: Water

Sample 290811

Date Collected: 04/23/2008 14:04

Location: 850n Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	240	mg/l	2.0	4/30/2008	EI		
Chloride	110	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	<0.010	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	0.47	mg/l	0.010	4/29/2008	BO		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

DIV. OF AG. RESOURCES

Workorder: E080400179 042408

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-002 Date Received: 4/24/2008 Matrix: Water
Sample 290813 Date Collected: 04/23/2008 11:29
Location: 850n Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	4.8	mg/l	1.0	4/29/2008	EI		
Chloride	13	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	5.5	mg/l	0.10	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	0.016	mg/l	0.010	4/29/2008	BO		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

DIV. OF AG. RESOURCES

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-003 Date Received: 4/24/2008 Matrix: Water
Sample 290814 Date Collected: 04/23/2008 12:57
Location: 850n Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	170	mg/l	1.0	4/29/2008	EI		
Chloride	9.6	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	1.4	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	<0.010	mg/l	0.010	4/29/2008	BO		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

DIV. OF AG. RESOURCES

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-004 Date Received: 4/24/2008 Matrix: Water
Sample 290818 Date Collected: 04/23/2008 11:00
Location: 850n Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	350	mg/l	5.0	4/30/2008	EI		
Chloride	87	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	<0.010	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	13	mg/l	0.010	4/29/2008	BO		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

ANALYTICAL RESULTS

DIV. OF AG. RESOURCES

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-005

Date Received: 4/24/2008

Matrix: Water

Sample 290819

Date Collected: 04/23/2008 09:53

Location: 850n Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	220	mg/l	2.0	4/30/2008	EI		
Chloride	53	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	1.2	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	13	mg/l	0.010	5/13/2008	RA		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712

Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

DIV. OF AG. RESOURCES

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-006

Date Received: 4/24/2008

Matrix: Water

Sample 290881

Date Collected: 04/23/2008 09:00

Location: 850n Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Chloride	53	mg/l	1.0	4/29/2008	EI		
Sulfate	220	mg/l	2.0	4/30/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	1.3	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	13	mg/l	0.10	5/13/2008	RA		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

DIV. OF AG. RESOURCES

Workorder: E080400179 042408

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-007 Date Received: 4/24/2008 Matrix: Water
Sample 290890 Date Collected: 04/23/2008 08:30
Location: 850n Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	<1.0	mg/l	1.0	4/29/2008	EI		
Chloride	<1.0	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	<0.010	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	<0.010	mg/l	0.010	5/13/2008	RA		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

DIV. OF AG. RESOURCES

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-008 Date Received: 4/24/2008 Matrix: Water
Sample 290816 Date Collected: 04/23/2008 12:03
Location: 850n Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	200	mg/l	1.0	4/29/2008	EI		
Chloride	55	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	4.1	mg/l	0.10	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	<0.010	mg/l	0.010	5/13/2008	RA		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712

Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

DIV. OF AG. RESOURCES

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-009 Date Received: 4/24/2008 Matrix: Water
Sample 29MW3 Date Collected: 04/23/2008 11:12
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Chloride	140	mg/l	1.0	4/29/2008	EI		
Sulfate	330	mg/l	5.0	4/30/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	<0.010	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	33	mg/l	1.0	5/13/2008	RA		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

ANALYTICAL RESULTS DIV. OF AG. RESOURCES

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-010 Date Received: 4/24/2008 Matrix: Water
Sample 29MW80 Date Collected: 04/23/2008 11:14
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	330	mg/l	5.0	4/30/2008	EI		
Chloride	140	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	0.080	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	30	mg/l	1.0	5/13/2008	RA		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712

Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

DIV. OF AG. RESOURCES

Workorder: E080400179 042408

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-011 Date Received: 4/24/2008 Matrix: Water
Sample 29MW2 Date Collected: 04/23/2008 12:02
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Chloride	110	mg/l	1.0	4/29/2008	EI		
Sulfate	420	mg/l	5.0	4/30/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	0.18	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	53	mg/l	1.0	5/14/2008	BO		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712

Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

RECEIVED

JUN 10 2008

DIV. OF AG. RESOURCES

Workorder: E080400179 042408

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-012 Date Received: 4/24/2008 Matrix: Water
Sample 29MW4 Date Collected: 04/23/2008 12:54
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	240	mg/l	2.0	4/30/2008	EI		
Chloride	70	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	<0.010	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	11	mg/l	0.10	5/13/2008	RA		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

DIV. OF AG. RESOURCES

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-013 Date Received: 4/24/2008 Matrix: Water
Sample 29MW5 Date Collected: 04/23/2008 13:28
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	350	mg/l	5.0	4/30/2008	EI		
Chloride	76	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	<0.010	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	11	mg/l	0.10	5/13/2008	RA		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

DIV. OF AG. RESOURCES

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-014 Date Received: 4/24/2008 Matrix: Water
Sample 29MW9 Date Collected: 04/23/2008 14:01
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	330	mg/l	5.0	4/30/2008	EI		
Chloride	75	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	0.20	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	11	mg/l	0.10	5/13/2008	RA		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712
Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

DIV. OF AG. RESOURCES

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

Lab ID: E080400179-015 Date Received: 4/24/2008 Matrix: Water
Sample 29MW7 Date Collected: 04/23/2008 14:30
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	160	mg/l	1.0	4/29/2008	EI		
Chloride	48	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	0.11	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	6.1	mg/l	0.10	5/13/2008	RA		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.



Idaho Bureau of Laboratories

2220 Old Penitentiary Road
Boise, Idaho 83712

Phone: (208)334-2235
Fax: (208)334-2382

Richard F. Hudson, PhD, Chief

EPA Lab ID00018
CLIA Certified Lab

RECEIVED

JUN 10 2008

Workorder: E080400179 042408

DIV. OF AG. RESOURCES

ANALYTICAL RESULTS

Chemistry samples are disposed of after 45 days unless the laboratory is notified otherwise.

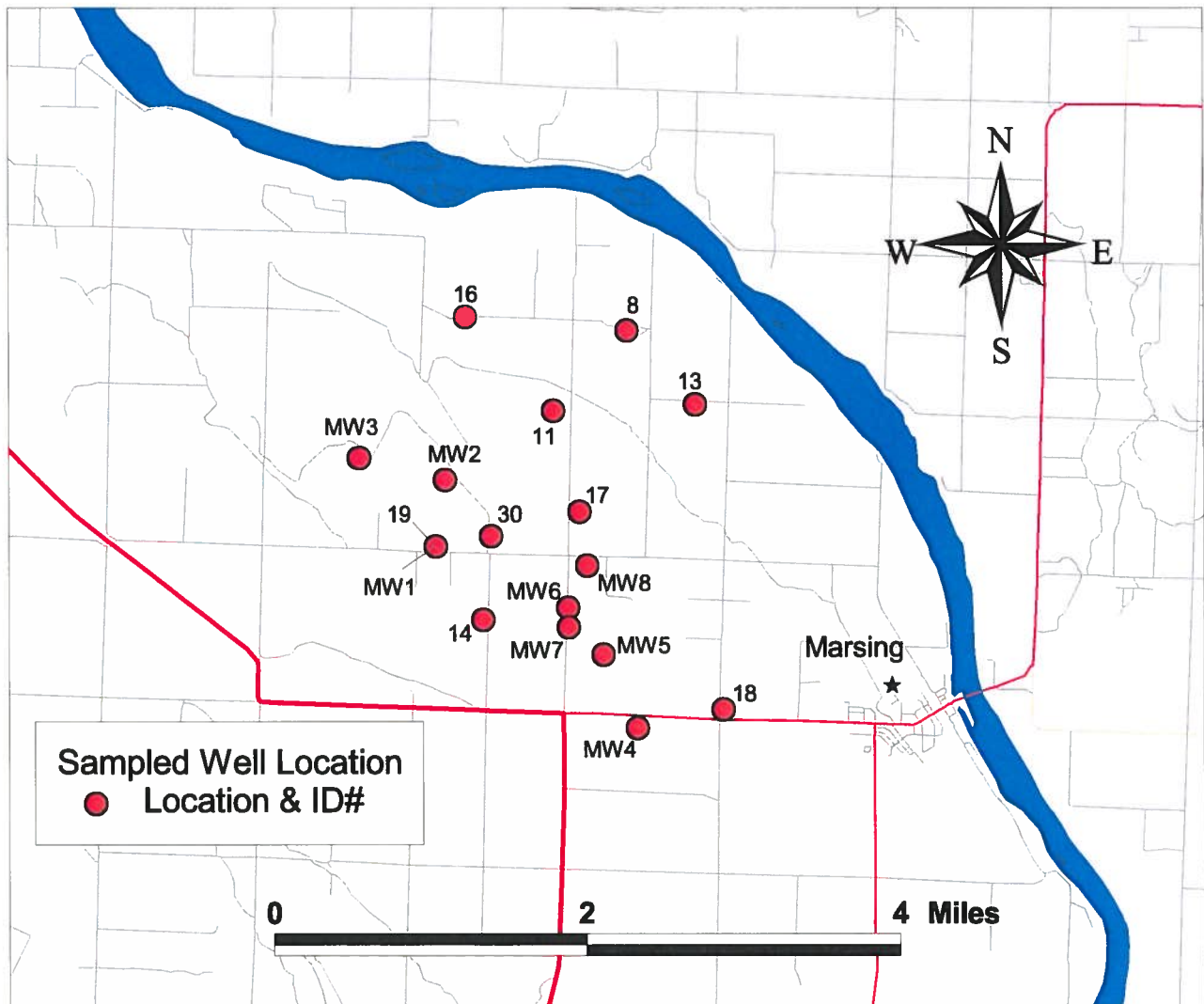
Lab ID: E080400179-016 Date Received: 4/24/2008 Matrix: Water
Sample 29MW6 Date Collected: 04/23/2008 14:56
Location: 850 Marsing

Parameters	Results	Units	Report Limit	Analyzed	By	Qual	MCL
-- General Chemistry --							
Analysis Desc: EPA 300.0	Analytical Method: EPA 300.0						
Sulfate	100	mg/l	1.0	4/29/2008	EI		
Chloride	91	mg/l	1.0	4/29/2008	EI		
Analysis Desc: EPA 350.1	Analytical Method: EPA 350.1						
Ammonia as N	0.18	mg/l	0.010	5/7/2008	BO		
Analysis Desc: EPA 353.2	Analytical Method: EPA 353.2						
Nitrogen, Nitrate-Nitrite	19	mg/l	1.0	5/14/2008	BO		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Idaho Bureau of Laboratories.

Idaho State Dept. of Agriculture Marsing Dairy Study - Well Locations





April 21, 2008

Our Ref.: 083-93174

Nederend Dairy
4998 Hogg Road
Homedale, ID 83628

Attn: Mr. Hans Nederend

**RE: MARCH 2008 WATER QUALITY REPORT
NEDEREND DAIRIES,
HOMEDALE, IDAHO**

Dear Mr. Nederend:

Golder Associates Inc. (Golder) is please to present Nederend Dairies this letter report of the water quality data collected at Nederend Dairies #1 and #2 on March 24, 2008. Wells MW-1, MW-2, MW-5, MW-7, and MW-8 were sampled during this event, and depths to water measurements were made at all monitoring wells. Data from the pressure transducer/data loggers in wells MW-2, MW-7, and MD-1 were downloaded. The pump in well Nederend Domestic was not functioning on March 24th and may need repair.

WATER QUALITY

Water quality data from March 24th are summarized in Tables 1 and 2 below.

Table 1. March 2008 Water Chemistry Analytical Results						
Well name:	Date:	Chloride (mg/L):	Nitrate (mg/L):	Sulfate (mg/L):	Coliform Bacteria	
Nederend Domestic	3/24/08	NS	NS	NS	NS	
MW-1	3/24/08	NA	39	NA	NA	
MW-2	3/24/08	NA	49.2	NA	NA	
MW-3	3/24/08	NS	26.2	NS	NS	
MW-4	3/24/08	NS	NS	NS	NS	
MW-5	3/24/08	NA	11.6	NA	NA	
MW-6	3/24/08	NS	NS	NS	NS	
MW-7	3/24/08	NA	5.98	NA	NA	
MW-8	3/24/08	NA	102	NA	NA	
MW-9	3/24/08	NS	NS	NS	NS	
Table 2. March 2008 Field Measured Water Quality Parameters						
Well name:	Temp C:	SpCond (uS/cm):	DO Conc (mg/L):	pH:	TDS (mg/L):	ORP (mV):
MW-1	12.91	1587.5	1.89	7.09	1031.873	103
MW-2	14.45	1969.3	1.45	7.16	1280.073	97
MW-3	14.41	1931.4	0.84	7.09	1255.403	93
MW-4	13.35	1313.1	0.7	7.25	853.533	92
MW-5	13.45	1641.4	0.58	7.18	1066.889	92
MW-6	15.84	1257.2	1.16	7.17	817.171	87
MW-7	14.24	1054.6	0.58	7.12	685.512	70
MW-8	15.81	2485.1	0.49	7.08	1615.307	87
MW-9	13.5	1578.1	0.97	7.18	1025.752	96
Nederend Dom	NS	NS	NS	NS	NS	NS
Nederend #2	NS	NS	NS	NS	NS	NS

WATER LEVEL MEASUREMENTS

Water table elevations and temperature at MW-2, MW-7, and MD-1 are shown on the graphs on the following page. The water level at MW-2 fluctuated on a daily basis over a range of ~0.1 feet but on average remained relatively steady over the measurement period. The water temperature at MW-2 declined steadily, from 14.91° to 14.45° C. Water table elevations at MW-7 also fluctuated on a daily basis over a range of ~0.1 feet and declined steadily over the measurement period. The water temperature at MW-7 also declined steadily, from 14.65° to 14.29° C. At Mirada #1 the water table and temperature fluctuated on a daily basis in response to varying water demand.

WATER METER MEASUREMENTS

Water meter measurements and average water use at Nederend Dairy's production wells are summarized in Table 3 below.

Table 3. Water Meter Readings and Production Information: February 8 – March 24, 2008				
Well Name:	Meter Reading:	Gallons used between readings:	Average Gallons/day:	Average Production Rate (gpm):
MD-1	83580800	7,467,700	165,949	115
MD-2	63658400	4,200	93	0
Nederend #2	577951900	11,316,200	251,471	175
Nederend #3	202239700	682,500	15,167	10.5

DISCUSSION

The nitrate level at well MW-8 continues to be very high, reaching 102 mg/L. The April 24, 2008 meeting at ISDA will address potential sources for the high nitrates at MW-8 and what can be done to determine the source(s). The concentrations of nitrate at wells MW-1 and MW-2 in March 2008 were the highest measured at these wells, 39.0 and 49.2 mg/L, respectively. The four solids-settling lagoons at Dairy #1, just up-gradient of MW-2, were nearly full on March 24th and, if leaking, may be contributing to the high nitrate level at MW-2. The source(s) of the increasing nitrate levels at MW-1 may be the fields south of Thompson Road or the center-pivot irrigated field adjacent to MW-1.

If you have any questions, please contact us at 208-263-1991 or 208-676-9933.

Sincerely,

GOLDER ASSOCIATES INC.



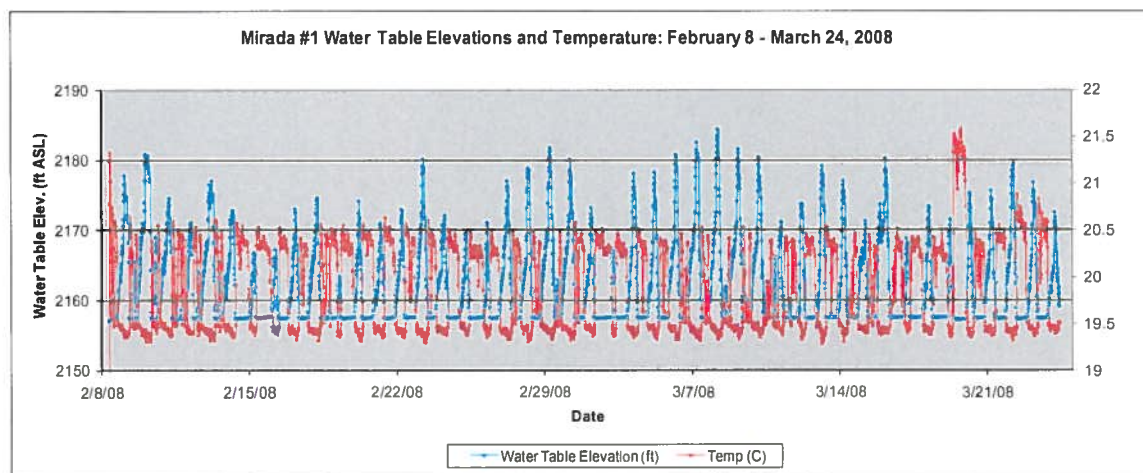
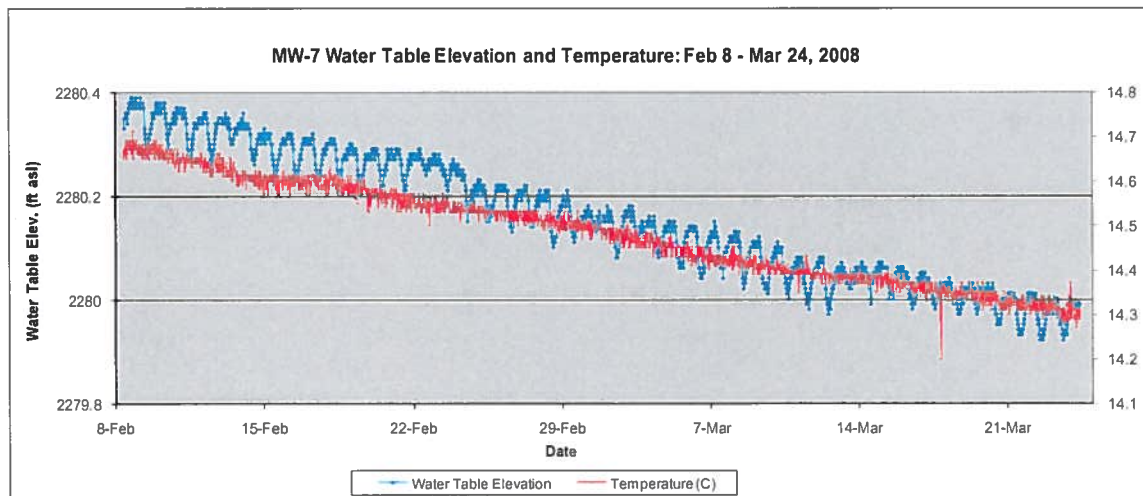
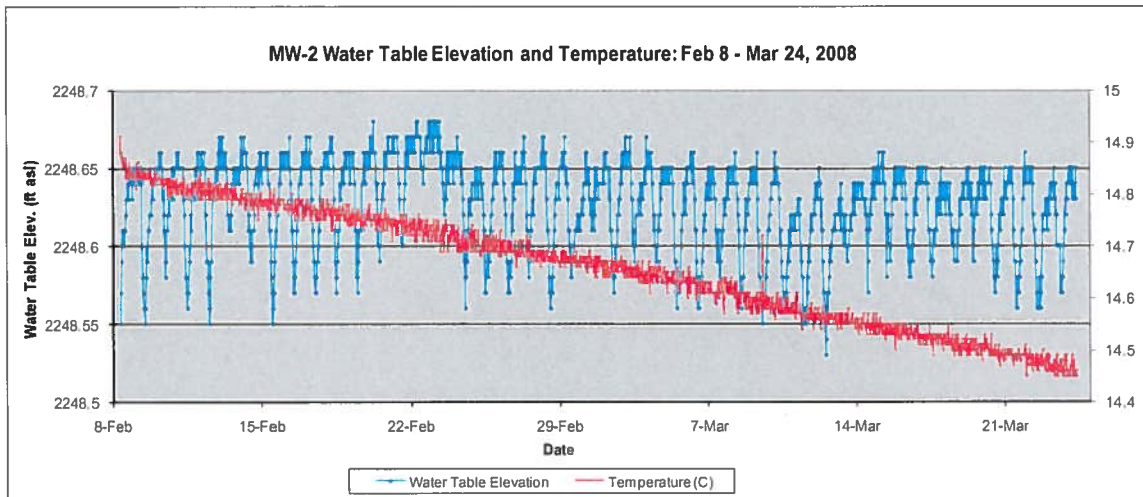
John Monks, P.G.
Senior Project Hydrogeologist



Timothy L. Martin, P.E.
Principal and Senior Consultant

Attachments: Alchem Laboratories Analytical Report

cc: Ilene Dobbin (COCOA)
Craig Tesch (ISDA)



NAME <u>Golder Associates, Inc.</u>	
ATTENTION <u>John Monks</u>	
ADDRESS <u>PO Box 362</u>	
CITY <u>Sandpoint</u>	STATE <u>ID</u> ZIP CODE <u>83864</u>
PHONE # <u>208-676-9733</u>	FAX #
SAMPLER (S) <u>Monks</u>	
PROJECT OR SITE <u>Neveveve</u>	P.N. / P.O. NUMBER

Chain of Custody Form

LAB NUMBER	DATE	TIME	SAMPLE IDENTIFICATION
26241	3/24/08	1012	MW-1
26242		1030	MW-3
26243		1055	MW-2
26244		1115	MW-7
26245		1147	MW-8
26246		1228	MW-5



Alchem Laboratories, Inc.
104 West 31st Street
Boise, Idaho 83714
Phone (208) 336-1172

www.alchemlabs.com

EMAIL: alchem@alchemlabs.com

MATRIX		TESTS (CIRCLE METHOD)														NUMBER OF CONTAINERS						
WATER	SOIL	OTHER	TPH - (418.1 / 8015M)	BTEX (+N+M+EDC) 8260	CL. SOLVENTS (8260)	VOCs (8260)	PAHs (8270)	Landfill Appendix I - VOC (8260)	Landfill Appendix II - VOC (8260)	SEMI-VOLATILES (625 / 8270)	RBGA - NO LEAD GAS	BTEX + N + M (8260)	RBGA - LEADED GAS	EDB (8011) BTEX+N+M, EDC (8260)	RBGA - FUEL OILS	BTEX 98260 PAH (8270)	RBGA - MOTOR OILS	BTEX (8260) PAH (8270)	8 RCRA METALS	TCLP EXTRACTION	(DESIGNATE ANALYSIS)	SEE ATTACHED LIST
1	1																					1
1	1																					1
1	1																					1
1	1																					1
1	1																					1
1	1																					1

RELINQUISHED BY (Signature)		DATE	TIME	RECEIVED BY (Signature)	
Relinquished By (Signature)	Date/Time	Received for Laboratory By (Signature)	Date/Time	Received With Seal Intact? ☐ Yes ☐ No Label Tag, COC Agree? ☐ Yes ☐ No	
<i>[Signature]</i>	3/24/08 1410	<i>[Signature]</i>	3-24-08 2:10		

ORIGINAL



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS
SOURCE -: MW-5

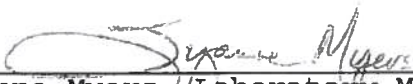
DATE COLLECTED 03/24/2008
TIME COLLECTED 12:28
DATE RECEIVED 03/24/2008
DATE REPORTED 03/26/2008
SUBMITTED :

LAB SAMPLE NUMBER - 26246

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	11.6	03/25/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS
SOURCE -: MW-1

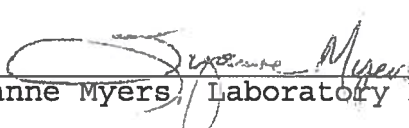
DATE COLLECTED 03/24/2008
TIME COLLECTED 10:12
DATE RECEIVED 03/24/2008
DATE REPORTED 03/26/2008
SUBMITTED :

LAB SAMPLE NUMBER - 26241

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	39.0	03/25/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS
SOURCE -: MW-3

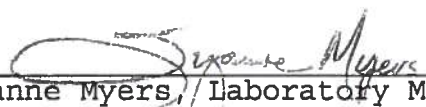
DATE COLLECTED 03/24/2008
TIME COLLECTED 10:30
DATE RECEIVED 03/24/2008
DATE REPORTED 03/26/2008
SUBMITTED :

LAB SAMPLE NUMBER - 26242

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	26.2	03/25/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager





Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS
SOURCE -: MW-2

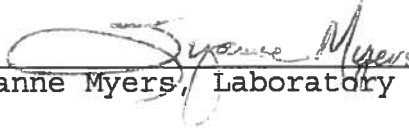
DATE COLLECTED 03/24/2008
TIME COLLECTED 10:55
DATE RECEIVED 03/24/2008
DATE REPORTED 03/26/2008
SUBMITTED :

LAB SAMPLE NUMBER - 26243

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	49.2	03/25/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS
SOURCE -: MW-7

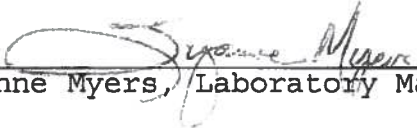
DATE COLLECTED 03/24/2008
TIME COLLECTED 11:15
DATE RECEIVED 03/24/2008
DATE REPORTED 03/26/2008
SUBMITTED :

LAB SAMPLE NUMBER - 26244

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	5.98	03/25/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager



Alchem Laboratories, Inc.

104 West 31st Street
Boise, Idaho 83714

Phone (208) 336-1172
FAX (208) 336-7124

Water, Soil and
Waste Water Analysis

LABORATORY REPORT

GOLDER ASSOCIATES
P.O. BOX 362
SANDPOINT, IDAHO 83864

ATTENTION: JOHN MONKS
SOURCE -: MW-8

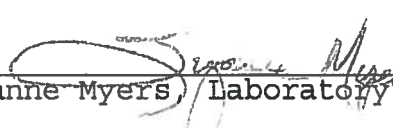
DATE COLLECTED 03/24/2008
TIME COLLECTED 11:47
DATE RECEIVED 03/24/2008
DATE REPORTED 03/26/2008
SUBMITTED :

LAB SAMPLE NUMBER - 26245

Results reported unless noted: (Chemistry Analysis as mg/l) (Bacteria as organisms/100 ml)

ANALYSIS	RESULTS	DATE ANALYZED	ANALYST
NITRATE as N	102.0	03/25/2008	TK

This report for the exclusive use of the client(s) to whom it is addressed. Its disclosure to others for use in advertising is not authorized. These results refer only to the specific sample tested and no interpretation is intended or implied.


Suzanne Myers, Laboratory Manager

ATTACHMENT B: NEDEREND DAIRY WELL DRILLER'S REPORTS

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

**USE TYPEWRITER OR
BALLPOINT PEN**

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

[illegible]

USE ADDITIONAL SHEETS IF NECESSARY — FORWARD THE WHITE COPY TO THE DEPARTMENT

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

1. WELL TAG NO. D 0038639
 DRILLING PERMIT NO. 888834-833743
 Water Right or Injection Well No. 57-07045

2. OWNER:

Name NEDEREND DAIRY
 Address RR 1 BOX 186
 City HOME DALE State ID Zip 83628

3. LOCATION OF WELL by legal description:

You must provide address or Lot, Blk, Sub. or Directions to well.

Twp. 3 North ☒ or South ☐
 Rge. 4 East ☐ or West ☒
 Sec. 32 1/4 NW 1/4 NW 1/4
 Gov't Lot 10 acres County CHUBB 100 acres

Lat: 43° 55' N Long: 111° 55' W
 Address of Well Site BUILT ROCK & THOMPSON RD
 City HOME DALE

Lt. 1 Blk. 1 Sub. Name 1

4. USE:

☐ Domestic ☐ Municipal ☒ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK check all that apply

☐ New Well ☒ Modify ☐ Abandonment ☐ Other (Replacement etc.)
00019749

6. DRILL METHOD:

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other

7. SEALING PROCEDURES

Seal Material	From	To	Weight / Volume	Seal Placement Method

Was drive shoe used? ☐ Y ☐ N Shoe Depth(s) _____

Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
2"	+1	49	SC440	PVC	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

Packer ☐ Y ☐ N Type _____

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method _____

Screen Type & Method of Installation 1" DRIFTHOLE PVC

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
49	59	.020		2"	PVC	☒	☐
						☐	☐
						☐	☐

10. FILTER PACK

Filter Material	From	To	Weight / Volume	Placement Method
451 #8-12	44	60	324	DRY POUR

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

21 ft. below ground Artesian pressure _____ lb.

Depth flow encountered _____ ft. Describe access port or control devices: _____

2" PVC CAP

Office Use Only			
Well ID No. _____			
Inspected by _____			
Twp. _____	Rge. _____	Sec. _____	
1/4 _____	1/4 _____	1/4 _____	
Lat: _____	Long: _____		

12. WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
	N/A		

Water Temp. _____ Bottom hole temp. _____

Water Quality test or comments: _____

Depth first Water Encounter _____

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
			MODIFIED EXISTING WELL INTO MONITORING WELL		
			TRIPPED DRILL STEEL IN PUSHER BRIDGE AT 320' DOWN CASING TO 350'. APPEARS TO BE BOTTOM OF WELL DRY POURED 1400# OF BENTONITE CHIPS FROM 350' TO 258'. PERFORATED 6" CASING IN BOTTOM OF WELL. PRESSURE GRouted 6000# OF HIGH SOLIDS BENTONITE TO TOP. TRIPPED BACK IN BLEND BENTONITE GROUT BACK OUT TO 65'. INSTALLED 5' BENTONITE PLUG. PERFORATED CASING FROM 49' TO 59'. INSTALLED 2" PVC PIPE AND SCREEN FROM +1' TO 59'. DRY POURED 324# OF FILTER PACK SAND FROM 44' TO 60'. DRY POURED BENTONITE CHIPS FROM 44' TO TOP.		

RECEIVED

APR 02 2008

WATER RESOURCES
WESTERN REGION

Completed Depth 59' (Measurable)

Date: Started 7-16-05 Completed 7-19-05

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Biverside Firm No. 333

Principal Driller and Date 7-29-05

Driller or Operator II Date _____

Operator I Date _____

Principal Driller and Rig Operator Required.
Operator I must have signature of Driller/Operator II.

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

Office Use Only			
Inspected by _____			
Twp _____	Rge _____	Sec _____	
1/4 _____	1/4 _____	1/4 _____	
Lat: _____	Long: _____		

1. WELL TAG NO. D 0019749
 DRILLING PERMIT NO. 715348
 Other IDWR No. 57-2341

MAY - 8 2002

11. WELL TESTS:

Department of Water Resources ☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

2. OWNER:

Name NEDEREND DAIRY
 Address RT 1 BOX 1126
 City HOMEDALE State ID Zip 83628

Field gpm	Drawdown	Pumping Level	Time
140		250'	1 1/4 hr

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N W E S	Twp. <u>3</u>	North ☒ or South ☐
	Rge. <u>4</u>	East ☐ or West ☒
	Sec. <u>32</u>	1/4 <u>NW</u> 1/4 <u>NW</u> 1/4
	Gov't Lot _____	County <u>Owyhee</u>
Lat: _____		Long: _____

Address of Well Site BUNT ROCK +
THOMPSON Rd City HOMEDALE
 (Give at least name of road - Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other COMMERCIAL

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☐ Other _____

7. SEALING PROCEDURES

SEAL/FILTER PACK	AMOUNT	METHOD
Material	From To Sacks or Pounds	
*5 BENTONITE	0 20 13 SACKS	OVER BORE TO 104' DRY HOLE

Was drive shoe used? ☒ N Shoe Depth(s) 258'

Was drive shoe seal tested? ☐ Y ☒ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
6"	+3	258	.250	STEEL	☒	☐	☒	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

Perforations _____ Method _____

Screens _____ Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

32' ft. below ground Artesian pressure _____ lb.

Depth flow encountered _____ ft. Describe access port or control devices: Sanitary Well cap

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
10"	0	1	ROAD BASE		
10"	1	3	SANDY TOP SOIL		
10"	3	20	SAND w/ SOME GRAVEL		
6"	20	27	SAND w/ SOME GRAVEL		
6"	27	44	BROWN CLAY		
	44	65	GRAVEL		
	65	66	BROWN CLAY		
	66	180	BLUE CLAY		
	180	190	BLUE CLAY w/ SAND STREAMS		
	190	205	BLUE SAND - FINE		
	205	252	BLUE CLAY		
	252	256	FINE SAND		
	256	307	BLUE CLAY		
	307	340	FINE SAND - CEMENTED		
	340	340	BLUE CLAY		
	340	380	SAND w/ SANDY SANDSTONE		
	380	415	CEMENTED SAND		
	415	416	HARD BLUE CLAY		
	416	436	CEMENTED SAND		
	436	445	BLUE CLAY		
	445	500	CEMENTED SAND		

Completed _____ Depth 500' (Measurable)
 Date: Started 4-2-02 Completed 4-7-02

13. DRILLER'S CERTIFICATION

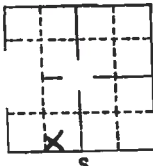
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name RIVERSIDE, INC Firm No 333

Firm Official [Signature] Date _____
 and _____
 Driller or Operator _____ Date 5-3-02
 (Sign once as Firm Official & Operator)

WELL DRILLER'S REPORT

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

1. WELL OWNER Lawrence + Ralph Linberger Address <u>Homedale Idaho</u> DP. NOT Owner's Permit No. <u>57-7045</u> Required	7. WATER LEVEL Static water level <u>26</u> feet below land surface. Flowing? ☐ Yes ☒ No G.P.M. flow _____ Artesian closed-in pressure _____ p.s.i. Controlled by: ☐ Valve ☐ Cap ☐ Plug Temperature _____ OF. Quality _____ Describe artesian or temperature zones below.																													
2. NATURE OF WORK ☐ New well ☐ Deepened ☒ <u>Repair</u> ☐ Abandoned (describe abandonment procedures such as materials, plug depths, etc. in lithologic log)	8. WELL TEST DATA ☒ Pump ☐ Baller ☐ Air ☐ Other _____ <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <th>Discharge G.P.M.</th> <th>Pumping Level</th> <th>Hours Pumped</th> </tr> <tr> <td style="text-align: center;"><u>550</u></td> <td></td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center; padding: 10px;"><u>Test pumping done by Oneds Pump</u></td> </tr> </table>	Discharge G.P.M.	Pumping Level	Hours Pumped	<u>550</u>			<u>Test pumping done by Oneds Pump</u>																						
Discharge G.P.M.	Pumping Level	Hours Pumped																												
<u>550</u>																														
<u>Test pumping done by Oneds Pump</u>																														
3. PROPOSED USE ☐ Domestic ☒ Irrigation ☐ Test ☐ Municipal ☐ Industrial ☐ Stock ☐ Waste Disposal or Injection ☐ Other _____ (specify type)	9. LITHOLOGIC LOG <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <tr> <th rowspan="2">Bore Diam.</th> <th colspan="2">Depth</th> <th rowspan="2">Material</th> <th rowspan="2">Water Yes N</th> </tr> <tr> <th>From</th> <th>To</th> </tr> <tr> <td></td> <td></td> <td></td> <td colspan="3" style="text-align: center; padding: 10px;"> <u>The original well was drilled by Holloway Drilling Co. 2-10-71 and plugged 3-4-71. The site is the wrong location and has it in the NE 1/4 SE 1/4 of Section 25 T-24N-R-4W of Canyon County.</u> </td> </tr> </table>	Bore Diam.	Depth		Material	Water Yes N	From	To				<u>The original well was drilled by Holloway Drilling Co. 2-10-71 and plugged 3-4-71. The site is the wrong location and has it in the NE 1/4 SE 1/4 of Section 25 T-24N-R-4W of Canyon County.</u>																		
Bore Diam.	Depth		Material	Water Yes N																										
	From	To																												
			<u>The original well was drilled by Holloway Drilling Co. 2-10-71 and plugged 3-4-71. The site is the wrong location and has it in the NE 1/4 SE 1/4 of Section 25 T-24N-R-4W of Canyon County.</u>																											
4. METHOD DRILLED ☒ Rotary ☐ Air ☐ Hydraulic ☐ Reverse rotary ☒ Cable ☐ Dug ☐ Other _____	10. Work started <u>1-13-92</u> finished <u>3-19-92</u>																													
5. WELL CONSTRUCTION Casing schedule: ☒ Steel ☐ Concrete ☐ Other _____ <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <tr> <th>Thickness</th> <th>Diameter</th> <th>From</th> <th>To</th> </tr> <tr> <td><u>250</u> inches</td> <td><u>16</u> inches</td> <td><u>1</u> feet</td> <td><u>33</u> feet</td> </tr> <tr> <td><u>250</u> inches</td> <td><u>12</u> inches</td> <td><u>0</u> feet</td> <td><u>35</u> feet</td> </tr> <tr> <td><u>350</u> inches</td> <td><u>12</u> inches</td> <td><u>55</u> feet</td> <td><u>272</u> feet</td> </tr> <tr> <td><u>250</u> inches</td> <td><u>8</u> inches</td> <td><u>252</u> feet</td> <td><u>488</u> feet</td> </tr> </table> Casing drive shoe used? ☐ Yes ☒ No Gravel packer or seal used? ☐ Yes ☒ No Perforated? ☒ Yes ☐ No How perforated? ☒ Factory ☐ Knife ☐ Torch Size of perforation <u>1/8</u> inches by <u>3</u> inches <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <tr> <th>Number</th> <th>From</th> <th>To</th> </tr> <tr> <td><u>3349</u> perforations</td> <td><u>55</u> feet</td> <td><u>272</u> feet</td> </tr> <tr> <td><u>2760</u> perforations</td> <td><u>252</u> feet</td> <td><u>488</u> feet</td> </tr> </table> Well screen installed? ☒ Yes ☐ No Manufacturer's name <u>Holloway</u> Type <u>304 Stainless</u> Model No. _____ Diameter <u>12</u> Slot size <u>25</u> Set from <u>35</u> feet to <u>55</u> feet Diameter <u>8</u> Slot size <u>20</u> Set from <u>448</u> feet to <u>468</u> feet Gravel packed? ☒ Yes ☐ No Size of gravel <u>1/4 inch</u> Placed from <u>15</u> feet to <u>490</u> feet Surface seal depth <u>20</u> Material used in seal: ☐ Cement grout ☒ Bentonite ☐ Puddling clay ☐ _____ Sealing procedure used: ☐ Slurry pit ☐ Temp. surface casing ☒ Overbore to seal depth Method of joining casing: ☐ Threaded ☒ Welded ☐ Solvent Weld ☐ Cemented between strata Describe access port <u>top of bench</u>	Thickness	Diameter	From	To	<u>250</u> inches	<u>16</u> inches	<u>1</u> feet	<u>33</u> feet	<u>250</u> inches	<u>12</u> inches	<u>0</u> feet	<u>35</u> feet	<u>350</u> inches	<u>12</u> inches	<u>55</u> feet	<u>272</u> feet	<u>250</u> inches	<u>8</u> inches	<u>252</u> feet	<u>488</u> feet	Number	From	To	<u>3349</u> perforations	<u>55</u> feet	<u>272</u> feet	<u>2760</u> perforations	<u>252</u> feet	<u>488</u> feet	11. DRILLERS CERTIFICATION I/We certify that all minimum well construction standards were complied with at the time the rig was removed. Firm Name <u>D. Soe Well Drilling</u> Firm No. <u>399</u> Address <u>Nampa Idaho</u> Date <u>3-23-92</u> Signed by (Firm Official) <u>[Signature]</u> and (Operator) <u>Same</u>
Thickness	Diameter	From	To																											
<u>250</u> inches	<u>16</u> inches	<u>1</u> feet	<u>33</u> feet																											
<u>250</u> inches	<u>12</u> inches	<u>0</u> feet	<u>35</u> feet																											
<u>350</u> inches	<u>12</u> inches	<u>55</u> feet	<u>272</u> feet																											
<u>250</u> inches	<u>8</u> inches	<u>252</u> feet	<u>488</u> feet																											
Number	From	To																												
<u>3349</u> perforations	<u>55</u> feet	<u>272</u> feet																												
<u>2760</u> perforations	<u>252</u> feet	<u>488</u> feet																												
6. LOCATION OF WELL Sketch map location <u>must</u> agree with written location.  Subdivision Name _____ Lot No. _____ Block No. _____ County <u>Owyhee</u> <u>1/4 SW 1/4 Sec. 30, T. 3 N, R. 4 E W.</u>																														

94942

1. DRILLING PERMIT NO. 57-98-W-0074-000

Other IDWR No. Well Log # D0007845

2. OWNER:

Name Wederend Dairy
Address Box 202 RT 1
City Marshburg State IA Zip 52635

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N

 S
 W
 E

Twp. 3 North ☒ or South ☐
 Rge. 4 East ☐ or West ☒
 Sec. 30 $\frac{7}{16}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$
 Gov't Lot _____ County 6WY Lee 10 acres 40 acres 160 acres

Address of Well Site Thompson RD
 $\frac{1}{4}$ mile N City Marsing N
(Give or least name of road + Distance to Road or Landmark)

Lt. Bk. Sub. Name

4. PROPOSED USE:

☒ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other Stock

5. TYPE OF WORK

☒ New Well ☐ Modify or Repair ☐ Replacement ☐ Abandonment

6. DRILL METHOD

☐ Mud Rotary ☐ Air Rotary ☐ Cable ☒ Other Reverse Rotary

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT	METHOD
Material	From	To	Barrels or Pounds	
Bentonite	0	300	49.00016	over bore

Was drive shoe used? ☐ Y ☐ N Shoe Depth(s) _____

Was drive shoe seal tested? Y ☐ N ☐ How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Coating	Liner	Welded	Threaded
14"	12	300	.375	Steel	☒	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

Length of Headpipe _____ Length of Tailpipe _____

9. PERFORATIONS/SCREENS

☐ Perforations Method _____

☐ Screens Screen Type _____

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
						☐	☐
						☐	☐
						☐	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

46 ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: well cap

11. WELL TESTS:

☒ Pump ☐ Baller ☐ Air ☐ Flowing Artesian

Yield gal./min.	Drawdown	Pumping Level	Time
90 GPM	241	286	2 hrs

Water Temp. 71 Bottom hole temp. _____

Water Quality test or comments: _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

[illegible]

13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Riverside Inc Firm No. 333

Firm Official Linda C. Cramer Date 3/15/99

and
Supervisor or Operator D. L. B. Date 3/15/99

(Sign once if Firm Official & Operator)

IDAHO DEPARTMENT OF WATER RESOURCES

WELL DRILLER'S REPORT

Well MD-2
(Mirada West)

833169

Office Use Only

Well ID No. 403743

Inspected by

Twp Rge Sec

1/4 1/4 1/4

Lat: : : Long: : :

1. WELL TAG NO. D 0039213
DRILLING PERMIT NO. 888464-833169
Water Right or Injection Well No. 57-2341
TRANSFER # 71191

2. OWNER:

Name NEDEREND DAIRY
Address Rt 1 Box 1126
City HOMEDALE State ID Zip 83628

3. LOCATION OF WELL by legal description:

You must provide address or Lot, Blk, Sub. or Directions to well.

Twp. 3 North ☒ or South ☐
Rge. 4 East ☐ or West ☒
Sec. 32 1/4 NW 1/4 NW 1/4
Gov't Lot County OWYHEE

Lat: : : Long: : :
Address of Well Site BUNT ROCK + THOMPSON RD
City HOMEDALE

(Give at least name of road + Distance to Road or Landmark)

Lt. Blk. Sub. Name N/A

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation
☐ Thermal ☐ Injection ☐ Other

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other

6. DRILL METHOD:

☒ Air Rotary ☐ Cable ☐ Mud Rotary ☒ Other REVERSE

7. SEALING PROCEDURES

Seal Material	From	To	Weight/Volume	Seal Placement Method
1" BENTONITE	0	203	42,000	DRY POUR
1" BENTONITE	385	345	2500	

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 259'

Was drive shoe seal tested? ☐ Y ☒ N How?

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
16"	+2	259	.375	STEEL	☒	☐	☒	☐
8"	245	388	.322	STEEL	☒	☐	☒	☐
8"	428	462	.322	STEEL	☒	☐	☒	☐

Length of Headpipe 5' Length of Tailpipe

Packer ☒ Y ☐ N Type FIGURE K

9. PERFORATIONS/SCREENS PACKER TYPE

Perforation Method

Screen Type & Method of Installation JOHNSON WIRE WRAP

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
388	428	.030		8	S.S.	☒	☐
462	492	.030		8	S.S.	☒	☐

10. FILTER PACK

Filter Material	From	To	Weight/Volume	Placement Method
0.5mm SAND #20	345	500	21,000	Dry Pour

11. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

55 ft. below ground Artesian pressure lb.

Depth flow encountered ft. Describe access port or control devices:

1 1/2" PIPE ON SIDE

12. WELL TESTS:

☒ Pump ☐ Baller ☐ Air ☐ Flowing Artesian

Yield gal/min.	Drawdown	Pumping Level	Time
150	152	207	5 hrs

Water Temp. Bottom hole temp.

Water Quality test or comments:

Depth first Water Encounter

13. LITHOLOGIC LOG: (Describe repairs or abandonment)

Water

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
28	0	8	TOP SOIL		
	8	33	SAND, S.M. GRAVEL		
	33	38	FINE SAND		
	38	43	TAN CLAY		
	43	61	SAND, GRAVEL		
	61	63	TAN CLAY		
	63	73	BROWN + BLUE CLAY		
	73	103	BLUE CLAY		
	103	106	FINE SAND w/ SAND STONE		
	106	203	BLUE CLAY		
16	203	215	FINE SAND		
	215	224	BLUE CLAY		
	224	250	FINE SAND		
	250	315	BLUE CLAY		
	315	323	FINE SAND		
	323	345	BLUE CLAY		
	345	354	FINE SAND		
	354	391	BLUE CLAY w/ SAND STREAKS		
	391	428	FINE SAND w/ CLAY STREAKS		
	428	457	BLUE CLAY		
	457	492	FINE SAND w/ S.M. CLAY STREAKS		
	492	495	BLUE CLAY		
	495	500	BLUE CLAY		

RECEIVED

AUG 31 2005

WATER RESOURCES
WESTERN REGION

Completed Depth 497' (Measurable)

Date: Started 5-31-05 Completed 8-3-05

14. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name RIVERSIDE INC Firm No. 333

Principal Driller Date 8-30-05

Driller or Operator II Date

Operator I Date 8-30-05

Principal Driller and Rig Operator Required.
Operator I must have signature of Driller/Operator II.

FORWARD WHITE COPY TO WATER RESOURCES

Well MD-1 (Mirada East)

REPORT OF WELL DRILLER
State of Idaho

State law requires that this report shall be filed with the State Reclamation Engineer within 30 days after completion or abandonment of the well.

WELL OWNER:

Name JOHN H. BRANDT (BRANDT & TIEGS)Address 275 11th Ave. So.Nampa, IdahoOwner's Permit No. G-30598NATURE OF WORK (check): Replacement well ☐New well ☒ Deepened ☐ Abandoned ☐Water is to be used for: IrrigationMETHOD OF CONSTRUCTION: Rotary ☒ Cable ☐Dug ☐ Other ☐ (explain)CASING SCHEDULE: Threaded ☐ Welded ☒12 "Diam. from 0 ft. to 250 ft. "Diam. from ft. to ft. "Diam. from ft. to ft. "Diam. from ft. to ft.Thickness of casing: 250 Material:Steel ☒ concrete ☐ wood ☐ other ☐

(explain)

PERFORATED? Yes ☒ No ☐ Type of
perforator used: TorchSize of perforations: 1/8" " by 6" " perforations from 180 ft. to 250 ft. perforations from ft. to ft. perforations from ft. to ft. perforations from ft. to ft.WAS SCREEN INSTALLED? Yes ☐ No ☐Manufacturer's name Type Model No. Diam. Slot size Set from ft. to ft.Diam. Slot size Set from ft. to ft.CONSTRUCTION: Well gravel packed? Yes ☒No. ☐ size of gravel 3/8" Gravelplaced from 0 ft. to 250 ft. Surface sealprovided? Yes ☐ No ☒ To what depth? ft. Material used in seal: Did any strata contain unusable water? Yes ☐No. ☒ Type of water: Depth of strata ft. Method of sealing
strata off: Surface casing used? Yes ☐ No. ☒Cemented in place? Yes ☐ No ☒

Locate well in section

X		
	Sec.	

LOCATION OF WELL: County OwyheeNW ☒ NW ☒ Sec. 32 T. 3 N/E R. 4 E/W

Use other side for additional remarks

RECEIVED

November 30 1962

Department of Reclamation

Size of drilled hole: 20"
 depth of well: 250 Standing water
 level below ground: 30' Temp.
 Fahr. ° Test delivery: 535 gpm
 or cfs Pump? ☒ Bail ☐
 Size of pump and motor used to make test:

Length of time of test: 7 Hrs. 30 Min.
 Drawdown: 230 ft. Artesian pressure: ft.
 above land surface Give flow cfs
 or gpm. Shutoff pressure:

Controlled by: Valve ☐ Cap ☐ Plug ☐
 No control ☐ Does well leak around casing?
 Yes ☐ No ☐ 045102

DEPTH MATERIAL WATER
 FROM TO YES OR NO
 FEET FEET

0	10	Sand	no
10	20	Sand	no
20	30	Sand	no
30	34	Sand and gravel	no
34	44	Sand	no
44	50	Gravel	no
50	60	Sand	no
60	66	Sand	no
66	70	Gravel and sand	no
70	80	Sand and blue clay	yes
80	90	Sand and blue clay	yes
90	134	Gravel and clay	yes
134	150	Blue clay	no
150	160	Blue clay with streaks of gravel	yes
160	168	Blue clay	no
168	171	Rock	no
171	240	Clay and gravel	yes
240	250	Gravel	yes

Work started: 7-30-62Work finished: 8-6-62

Well Driller's Statement: This well was
 drilled under my supervision and this report
 is true to the best of my knowledge.

Name: R. & M. EQUIPMENT CO., INC.Address: CALDWELL, IDAHOSigned by: E. E. RAYNORLicense No. 221 Date:

USGS