Peak Health & Fitness Center well

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: SCHARBAUER PAMELA R.

WESTERN MT SPORTS MED. PO BOX 5066

GWIC Id: 67088

Owner Name

MISSOULA

Mailing Address

Section 1: Well Owner

SCHARBAUER PAMELA R

Section 7: Well Test Data

Total Depth: 120 Static Water Level: 11 Water Temperature:

Pump Test *

Depth pump set for test feet.

100 gpm pump rate with _ feet of drawdown after 3 hours of pumping.

* During the well test the discharge rate shall be as uniform as possible.

yield does not include the reservoir of the well casing.

This rate may or may not be the sustainable yield of the well. Sustainable

Time of recovery _ hours. Recovery water level _ feet.

Pumping water level 55 feet.

Section 2: Location

Township Section **Quarter Sections** Range 12N SW¼ NW¼ 20W 2 County Geocode

State

Zip Code

59806

MISSOULA Latitude Longitude Geomethod **Datum** 46.828828 114.085347 TRS-SEC NAD83 **Altitude** Method Date Datum

Addition Block Lot Section 8: Remarks

Section 3: Proposed Use of Water

MEDICAL (1)

Section 4: Type of Work Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Wednesday, April 16, 1986

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	То	1	Wall Thickness	Pressure Rating	Joint	Туре
-2	118.8	6				STEEL

Completion (Perf/Screen)

			# of	Size of	
From	То	Diameter	Openings	Openings	Description
55	118	6		1/8X1	PULL DOWN SLOTS

Annular Space (Seal/Grout/Packer)

			Cont.
From	То	Description	Fed?
0	22	CEMENT	

Section 9: Well Log **Geologic Source**

400BFLT - BFLT SUPERGROUP

From	То	Description
0	17	CLAY AND GRAVEL
17	50	CLAY SAND GRAVEL AND WATER
50	55	BROWN BROKEN ROCK AND WATER
55	57	BROWN BROKEN ROCK
57	63	BROWN ROCK
63	118	PINK ROCK AND WATER
118	120	PINK ROCK

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:

Company: CAMP WELL DRILLING

License No: WWC-7 Date Completed: 4/16/1986

Peak Health & Fitness Center well

MONTANA WELL LOG REPORT

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Site Name: WESTERN MONTANA SPORTS MEDICINE

GWIC Id: 67089

Owner Name

Section 7: Well Test Data

Total Depth: 118.5 Static Water Level: 10 Water Temperature:

Pump Test *

WESTERN MT SPORTS MEDICINE

Mailing Address

Section 1: Well Owner

C/O PAMELA RUGH SCHARBAUER BOX 5006

City State **Zip Code MISSOULA** MT 59806

Section 2: Location

	Township	Range Section		Quarter Sections	
	12N	20W	2	SW1/4 NW1/4	
	C	ounty	Geocode		
٨	MISSOULA				
	Latitude	Longi	tude	Geomethod	Datum
	46.828828	114.08	35347	TRS-SEC	NAD83
	Altitude	N	lethod	Datum	Date

Block

Depth pump set for test _ feet.

180 gpm pump rate with _ feet of drawdown after 6 hours of pumping. Time of recovery _ hours.

Recovery water level _ feet. Pumping water level 18 feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 3: Proposed Use of Water

MEDICAL (1)

Addition

Section 4: Type of Work Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Friday, August 15, 1986

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

			Wall	Pressure			
From	То	Diameter	Thickness	Rating	Joint	Туре	
-2	118.5	6				STEEL	
Completion (Perf/Serson)							

			# of	Size of	
From	То	Diameter	Openings	Openings	Description
40	118	6			1/8X1 SLOTS

Annular Space (Seal/Grout/Packer)

			Cont.
From	То	Description	Fed?
0	20	CEMENT	

Section 9: Well Log **Geologic Source**

111ALV	111ALVM - ALLUVIUM (HOLOCENE)							
From	То	Description						
0	15	CLAY SAND AND GRAVEL						
15	48	SAND GRAVEL AND WATER						
48	55	PINK CLAY GRAVEL BROKEN ROCK AND WATER						
55	59	PINK CLAY AND ROCK						
59	200	PINK CLAY BROKEN ROCK AND WATER						

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge

Name:

Company: CAMP WELL DRILLING

License No: WWC-7 Date Completed: 8/15/1986

Other area wells

MONTANA WELL LOG REPORT

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Site Name: POTTER W H

GWIC Id: 67078

DNRC Water Right: 15329

Section 1: Well Owner

Owner Name POTTER W.H. Mailing Address

5100 EVERGREEN RD

 City
 State
 Zip Code

 MISSOULA
 MT
 59801

Section 2: Location

		••			
T	ownship	Range	Section	Quarter Se	ections
	12N	20W	2		
County				Geocod	le
MISS	OULA				
1	Latitude	Longi	tude	Geomethod	Datum
4	6.827025	114.07	7412	TRS-SEC	NAD83
	Altitude	N	lethod	Datum	Date

Addition Block Lot

WORNATH ADDITION #2

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Monday, March 28, 1977

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	То		Wall Thickness	Pressure Rating	Joint	Туре	
-1	150	6				STEEL	
Commission (Doubleonson)							

Completion (Perf/Screen)

			# of	Size of	
From	То	Diameter	Openings	Openings	Description
100	143	6			DRILLED HOLES

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 150 Static Water Level: 60 Water Temperature:

Air Test *

8 gpm with drill stem set at _ feet for 1.5 hours.

Time of recovery _ hours.

Recovery water level _ feet.

Pumping water level _ 70 feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log Geologic Source

400BELT - BELT SUPERGROUP

From	То	Description
0	5	TOPSOIL
5	90	GRAVEL RED CLAY
90	100	RED ROCK
100	150	BROKEN RED ROCK

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:

Company: JEROME AND OKEEFE DRILLING CO

License No: WWC-249

Date Completed: 3/28/1977

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: GILLILAND STAN AND OTIS

GWIC Id: 67079

Section 1: Well Owner

Owner Name

GILLILAND STAN AND OTIS

Mailing Address

5120 HWY 93 S

City State Zip Code **MISSOULA** MT 59801

Section 2: Location

	Township	Range	Section	Quarter	Sections
	12N	20W	2		
		County		Geoc	ode
MI	SSOULA				
	Latitude	Longit	ude	Geomethod	Datum
	46.827025	114.07	7412	TRS-SEC	NAD83
	Altitude	М	ethod	Datum	Date
Ad	dition		Block		Lot

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Friday, November 15, 1985

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	То		Wall Thickness	Pressure Rating	Joint	Туре	
-1.5	59	6				STEEL	
Completion (Part/Screen)							

Completion (Perf/Screen)

F	rom	То		 Size of Openings	Description
3	5	59	6	1/8X1	PULL DOWN SLOTS

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 60 Static Water Level: 15 Water Temperature:

Air Test *

12 gpm with drill stem set at _ feet for 1 hours. Time of recovery hours.

Recovery water level feet.

Pumping water level 45 feet.

* During the well test the discharge rate shall be as uniform as possible.
This rate may or may not be the sustainable yield of the well. Sustainable
yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log **Geologic Source**

400BELT - BELT SUPERGROUP

From	То	Description
0	12	SANDY CLAY
12	19	CLAY SAND AND GRAVEL
19	23	CLAY SAND AND GRAVEL AND WATER
23	28	PINK CLAY
28	34	PINK CLAY AND PINK BROKEN ROCK
34	60	PINK ROCK AND WATER
60	80	PINK ROCK

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:

Company: CAMP WELL DRILLING

License No: WWC-7 Date Completed:11/15/1985

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: PATRICK WILLIAM J.

GWIC Id: 67080

Section 1: Well Owner **Owner Name** PATRICK WILLIAM J. **Mailing Address** 5100 EVERGREEN RD City State Zip Code **MISSOULA** MT 59801

Section 2: Location

	Township	Range	Section	Quarter S	Sections
	12N	20W	2		
		County		Geoco	de
Μ	ISSOULA				
	Latitude	Longi	tude	Geomethod	Datum
	46.827025	114.07	7412	TRS-SEC	NAD83
	Altitude	M	ethod	Datum	Date
A	ddition		Block		Lot

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Monday, August 18, 1986

Wall

Section 6: Well Construction Details

From To Diameter Thickness Rating

There are no borehole dimensions assigned to this well.

Pressure

Joint Type

6 INCH

Casing

-2	140	6			STEEL	
Completion (Perf/Screen)						
			# of	Size of		
From	То	Diameter	Openings	Openings	Description	
95	105	6			6 INCH	

Annular Space (Seal/Grout/Packer)

130 6

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 140 Static Water Level: 45 Water Temperature:

Pump Test *

Depth pump set for test _ feet.

15 gpm pump rate with feet of drawdown after 3.5 hours of pumping.

Time of recovery hours. Recovery water level _ feet. Pumping water level <u>57</u> feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks JEROMES FILE NO: 1774

Section 9: Well Log **Geologic Source**

120SDI	20SDMS - SEDIMENTS (TERTIARY)								
From	То	Description							
0	2	SOIL							
2	43	CLAY SAND							
43	95	CLAY GRAVEL							
95	105	CLAY GRAVEL WITH WATER							
105	120	CLAY GRAVEL							
120	140	CLAY GRAVEL WITH WATER							

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge

Company: JEROMES DRILLING CO

License No: WWC-249 Date Completed: 8/18/1986

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: RANGITSCH ROBERT JR

GWIC Id: 67081

Section 1: Well Owner **Owner Name**

RANGITSCH ROBERT JR **Mailing Address**

5150 FOREST HILLS DR

City

State Zip Code **MISSOULA** MT 59801

Section 2: Location

	Township	Range	Section	Quarter Se	ections
	12N	20W	2		
	(County		Geocod	le
Ν	MISSOULA				
	Latitude	Longit	tude	Geomethod	Datum
	46.827025	114.07	7412	TRS-SEC	NAD83
	Altitude	M	lethod	Datum	Date
Δ	ddition			Block	Lot

WORNATH ORCHARDS

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Monday, August 03, 1987

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	То		Wall Thickness	Pressure Rating	Туре
-2.5	173.8	6			STEEL
100	320	5			STEEL

Completion (Perf/Screen)

			# of	Size of	
From	То	Diameter	Openings	Openings	Description
180	220	5		1/8X3	TORCH CUTS

Annular Space (Seal/Grout/Packer)

From	То	Description	Cont. Fed?
0	20	BENTONITE	

Section 7: Well Test Data

Total Depth: 320 Static Water Level: 142 Water Temperature:

Air Test *

40 gpm with drill stem set at _ feet for 2 hours.

Time of recovery hours. Recovery water level feet. Pumping water level 170 feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log **Geologic Source**

400BELT - BELT SUPERGROUP

		Description
FIOIII		
0	75	CLAY AND BOULDERS
75	120	CLAY AND BROKEN ROCK
120	155	BROKEN ROCK
155	320	BROKEN ROCK AND WATER

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:

Company: CAMP WELL DRILLING

License No: WWC-7 Date Completed: 8/3/1987

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: MILLER NEIL & VIRGINIA

GWIC Id: 67082

Section 1: Well Owner

Owner Name

MILLER NEIL AND VIRGINIA

Mailing Address

City State Zip Code **MISSOULA** MT

Section 2: Location

Township	Range	Section	Quarter Sections		
12N	20W	2			
County			Geocode		
MISSOULA					
Latitude	Lon	Longitude		Datum	
46.827025	114.0	077412	TRS-SEC	NAD83	
Altitude	•	Method	Datum	Date	
3203					
Addition		Block		Lot	

Section 3: Proposed Use of Water

DOMESTIC (1) **IRRIGATION (2)**

Section 4: Type of Work Drilling Method: DRIVEN

Section 5: Well Completion Date

Date well completed: Tuesday, December 13, 1966

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

			Wall	Pressure				
From	То	Diameter	Thickness	Rating	Joint	Туре		
0	55	6				STEEL		

Completion (Perf/Screen)

			# of	Size of	
From	То	Diameter	Openings	Openings	Description
45	50.5	6			TORCH CUTS

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 55 Static Water Level: 10 Water Temperature:

Air Test *

40 gpm with drill stem set at _ feet for 2.5 hours. Time of recovery hours. Recovery water level feet.

Pumping water level 21 feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log **Geologic Source**

120SDN	20SDMS - SEDIMENTS (TERTIARY)						
From	То	Description					
0	1	TOPSOIL					
1	8	SANDY CLAY FEW SCATTERED ROCKS					
8	12	BROKEN ROCK AND COBBLESTONES MIXED IN TAN SILT					
12	26	SAND GRAVEL AND COBBLESTONES MIXED IN TAN SILT					
26	43	FINE TO COARSE SAND AND GRAVEL. SOME WATER					
43	45	TAN CLAY					
45	50.5	SAND AND GRAVEL WATER					
50.5	55	GRAVEL IMBEDDED IN TAN CLAY					

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge

Name:

Company: LIBERTY DRILLING & PUMP CO

License No: WWC-52 Date Completed: 12/13/1966

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: VAN ALLEN J.L.

GWIC ld: 67083

Section 1: Well Owner

Owner Name VAN ALLEN J.L. **Mailing Address** 223 WEST ALDER

City State Zip Code МТ

MISSOULA

Section 2: Location

Townsh	ip Ra	nge Se	ction	Quarter Sections		
12N	20	WC	2			
County			Geocode			
MISSOULA						
Latitud	le	Longitude		Geomethod	Datum	
46.8270	25	114.077412		TRS-SEC	NAD83	
Altitu	ıde	Metho	d	Datum	Date	
Addition			Block		Lot	

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work

Drilling Method:

Section 5: Well Completion Date

Date well completed: Monday, March 30, 1959

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	То	Diameter	Wall Thickness	Pressure Rating	Joint	Туре			
-1	105	6				IRON			
C	Completion (Bert/Coreen)								

Completion (Perf/Screen)

From	То		 Size of Openings	Description
105	105	6		OPEN BOTTOM *

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 105 Static Water Level: 60 Water Temperature:

Bailer Test *

12 gpm with _ feet of drawdown after 0.5 hours.

Time of recovery hours. Recovery water level feet. Pumping water level 60 feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log **Geologic Source**

120SDMS - SEDIMENTS (TERTIARY)

From	То	Description					
0	1	TOPSOIL					
1	29	RAVEL BOULDERS AND CLAY					
29	35	BOULDERS					
35	38	GRAVEL CLAY SMALL BOULDERS					
38	41	BOULDERS AND CLAY					
41	50	GRAVEL CLAY AND COBBLESTONES					
50	70	70 CLAY GRAVEL SAND ABOUT 1.5 GPM WATER AT 70 FEET					
70	78	CLAY AND GRAVEL					
78	80	BROKEN SOFT RED ROCK					
80	87	SMALL GRAVEL AND SILT A LITTLE WATER					
87	103	SILTY AND SANDY CLAY					
103	106	WATER GRAVEL AND SAND					

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge

Name:

Company: CAMP WELL DRILLING

License No:-Date Completed: 3/30/1959

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: AYALA WILLIE & VICKY

GWIC Id: 133903

Section 1: Well Owner Owner Name

AYALA WILLIE & VICKY

Mailing Address

2428 SO. 10TH WEST

 City
 State
 Zip Code

 MISSOULA
 MT
 59801

Section 2: Location

Township	Range	Section	Quarter S	ections
12N	20W	2		
	County		Geoco	de
ISSOULA				
Latitude	Longit	ude	Geomethod	Datum
46.827025	114.07	7412	TRS-SEC	NAD83
Altitude	M	ethod	Datum	Date
ddition			Block	Lot
ORNATH #8				1
	12N ISSOULA Latitude 46.827025	12N 20W County ISSOULA Latitude Longit 46.827025 114.07 Altitude M	12N 20W 2	12N 20W 2 County Geocol ISSOULA Latitude Longitude Geomethod 46.827025 114.077412 TRS-SEC Altitude Method Datum ddition Block

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Thursday, January 28, 1993

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	То		Wall Thickness	Pressure Rating	Joint	Туре
-2	80	6				STEEL
15	300	4				PVC

Completion (Perf/Screen)

			# of	Size of	
From	То	Diameter	Openings	Openings	Description
220	300	4			TORCH CUTS

Annular Space (Seal/Grout/Packer)

From	То	Description	Cont. Fed?
0	20	BENTONITE	

Ground-Water Information Center Water Quality Report

Report Date: 4/16/2008

Location Information

Section 7: Well Test Data

Total Depth: 300 Static Water Level: 70 Water Temperature:

Air Test *

10 gpm with drill stem set at _ feet for 2 hours.

Time of recovery _ hours.

Recovery water level _ feet.

Pumping water level _ 105_ feet.

* During the well test the discharge rate shall be as uniform as possible.

This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks
JEROMES FILE NO: 3615

Section 9: Well Log Geologic Source

400BELT - BELT SUPERGROUP

From	То	Description		
0	2	SOIL		
2	2 34 RED CLAY			
34	34 93 RED ROCK CONGLOMERATE			
93	200	ROCK CONGLOMERATE		
200	300	RED FRACTURED ROCK		

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:

Company: JEROMES DRILLING CO

License No: WWC-249
Date Completed: 1/28/1993

Site Name: KENYON SHERRI

Sample Id/Site Id: 2000Q0416 / 173855 Sample Date: 10/24/1999 2:12:00 PM

Location (TRS): 12N 20W 02 CABB

Agency/Sampler: MBMG / CAC

Latitude/Longitude: 46° 49' 30" N 114° 4' 50" W

Datum: NAD27

Lab Date: 1/12/2000

Altitude: 3185 Lab/Analyst: MBMG / JMC
County/State: MISSOULA / MT Sample Method/Handling: PUMPED / 4220
Site Type: WELL Procedure Type: DISSOLVED

Geology: 400BELT Total Depth (ft): 180
USGS 7.5' Quad: SW MISSOULA SWL-MP (ft): 74.24
PWS Id: Depth Water Enters (ft): 150

Project: GWCP04

Major Ion Results

	mg/L	meq/L		mg/L	meq/L	
Calcium (Ca)	32.200	1.607	Bicarbonate (HCO3)	164.700	2.699	
Magnesium (Mg)	17.500	1.440	Carbonate (CO3)	0.000	0.000	
Sodium (Na)	21.500	0.935	Chloride (CI)	30.420	0.858	
Potassium (K)	0.927	0.024	Sulfate (SO4)	10.110	0.211	
Iron (Fe)	<.01	0.000	Nitrate (as N)	3.911 P	0.279	
Manganese (Mn)	0.004	0.000	Fluoride (F)	0.231	0.012	
Silica (SiO2)	19.100		Orthophosphate (OPO4)	<.05	0.000	
Tota	I Cations	4.011	To	otal Anions	4.060	

Trace Element Results (µg/L)

Aluminum (AI):	<60	Cesium (Cs):	NR	Molybdenum (Mo):	<10	Strontium (Sr):	224.000
Antimony (Sb):	<2	Chromium (Cr):	<2	Nickel (Ni):	2.600	Thallium (TI):	<5
Arsenic (As):	1.420	Cobalt (Co):	<2	Niobium (Nb):	NR	Thorium (Th):	NR
Barium (Ba):	215.000	Copper (Cu):	7.910	Neodymium (Nd):	NR	Tin (Sn):	NR
Beryllium (Be):	<2	Gallium (Ga):	NR	Palladium (Pd):	NR	Titanium (Ti):	<20
Boron (B):	<30	Lanthanum (La):	NR	Praseodymium (Pr):	NR	Tungsten (W):	NR
Bromide (Br):	52.200	Lead (Pb):	<2	Rubidium (Rb):	NR	Uranium (U):	NR
Cadmium (Cd):	<2	Lithium (Li):	13.600	Silver (Ag):	<1	Vanadium (V):	<5
Cerium (Ce):	NR	Mercury (Hg):	NR	Selenium (Se):	<1	Zinc (Zn):	3.790
						Zirconiuim (Zr):	<10

Field Chemistry and Other Analytical Results

NR	Ammonia (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	212.990	**Total Dissolved Solids (mg/L):
NR	T.P. Hydrocarbons (µg/L):	152.430	Hardness as CaCO3:	296.710	**Sum of Diss. Constituents (mg/L):
NR	PCP (µg/L):	164	Field Alkalinity as CaCO3 (mg/L):	386	Field Conductivity (µmhos):
<.2	Phosphate, TD (mg/L as P):	135.33	Akalinity as CaCO3 (mg/L):	377	Lab Conductivity (µmhos):
2.000	Field Nitrate (mg/L):	7.922	Ryznar Stability Index:	8.2	Field pH:
NR	Field Dissolved O2 (mg/L):	0.775	Sodium Adsorption Ratio:	7.8	Lab pH:
NR	Field Chloride (mg/L):	-0.061	Langlier Saturation Index:	12	Water Temp (°C):
242.9	Field Redox (mV):	NR	Nitrite (mg/L as N):	NR	Air Temp (°C):

Hydroxide (mg/L as OH):

NR

Notes

Sample Condition:CLEAR Field Remarks: Lab Remarks:

Explanation: mg/L = milligrams per Liter; µg/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC

Qualifiers: \mathbf{A} = Hydride atomic absorption; \mathbf{E} = Estimated due to interference; \mathbf{H} = Exceeded holding time; \mathbf{K} = Na+K combined; \mathbf{N} = Spiked sample recovery not within control limits; \mathbf{P} = Preserved sample; \mathbf{S} = Method of standard additions; $\mathbf{*}$ = Duplicate analysis not within control limits; $\mathbf{**}$ = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, CI, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

<u>Disclaimer</u>

These data represent the contents of the GWIC databases at the Montana Bureau of Mines and Geology at the time and date of the retrieval. The information is considered unpublished and is subject to correction and review on a daily basis. The Bureau warrants the accurate transmission of the data to the original end user. Retransmission of the data to other users is discouraged and the Bureau claims no responsibility if the material is retransmitted.

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: PERESINI DON

GWIC Id: 67100

Section 1: Well Owner

Owner Name PERESSINI DON A

Mailing Address

RT3

City State Zip Code **MISSOULA** MT

Section 2: Location

•		•			
	Township	Range	Section	Quarter Se	ections
	12N	20W	2	NE1/4 S	W1⁄4
	С	ounty		Geocod	le
M	IISSOULA				
	Latitude	Latitude Longitude		Geomethod	Datum
	46.825223	114.08	80057	TRS-SEC	NAD83
	Altitude	N	lethod	Datum	Date

Block

Lot

Section 3: Proposed Use of Water

DOMESTIC (1)

Addition

Section 4: Type of Work Drilling Method: CHURN

Section 5: Well Completion Date

Date well completed: Monday, April 01, 1968

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	То		Wall Thickness	Pressure Rating	Joint	Туре
0	92	6				STEEL

Completion (Perf/Screen)

			# of	Size of		
From	То	Diameter	Openings Openings		Description	
92	92	6			OPEN BOTTOM *	

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 92 Static Water Level: 32 Water Temperature:

Unknown Test Method *

Yield 12 gpm.

Pumping water level 88 feet. Time of recovery _ hours. Recovery water level _ feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log **Geologic Source**

400BELT - BELT SUPERGROUP							
From	То	Description					
0	2	TOPSOIL AND COBBLES					
2	15	CLAY AND ROCK					
15	25	CLAY					
25	50	CLAY AND SHALE					
50	92	SHALE WITH ROCK STRATAS					

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge

Name: Company: PICKENS License No: WWC-71 Date Completed: 4/1/1968

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: EMMANUAL BAPTIST CHURCH

GWIC Id: 157714

Section 1: Well Owner

Owner Name

EMMANUAL BAPTIST CHURCH

Mailing Address

336 LIVINGSTON

City State Zip Code MT

MISSOULA

Section 2: Location

	bechon z. Locan	OII				
	Township	Range	Section	Quarter Sections		
	12N	20W	2	NE1/4 S	W1⁄4	
	C	ounty		Geocode		
Ν	MISSOULA					
	Latitude Longitude		tude	Geomethod	Datum	
	46.825223	114.08	80057	TRS-SEC	NAD83	
	Altitude	N	lethod	Datum	Date	

Addition Block Lot

WORNATH ORCHARD TRACTS

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work Drilling Method: CABLE

Section 5: Well Completion Date

Date well completed: Friday, May 24, 1996

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

Casing									
			Wall	Pressure					
From	То	Diameter	Thickness	Rating	Joint	Туре			
0	40	6				STEEL			

There are no completion records assigned to this well.

Annular Space (Seal/Grout/Packer)

			Cont.
From	То	Description	Fed?
0	18	BENTONITE	

Section 7: Well Test Data

Total Depth: 40 Static Water Level: Water Temperature:

Bailer Test 1

gpm with feet of drawdown after 2 hours.

Time of recovery hours. Recovery water level _ feet. Pumping water level _ feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log **Geologic Source**

400BFLT - BFLT SUPERGROUP

From	То	o Description					
0	2	BLACK DIRT					
2	10	ROCK CLAY					
10	20	CLAY RED SHALE					
20	40	RED SHALE					
40	170	RED SHALE WATER @ 155'					

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge

Company: EAGLE DRILLING AND PUMP SERVICE

License No: WWC-572 Date Completed: 5/24/1996

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: VAERAY LLC *FIRE SUPRESSIO	N
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GWIC Id: 206965

Section 1: Well Owner

Owner Name

VAERAY LLC *FIRE SUPRESSION

Mailing Address

4940 BUCKHOUSE LANE

CityStateZip CodeMISSOULAMT59803

Section 2: Location

36	Section 2: Location							
	Township	Range	Section	Quarter Se	ections			
	12N	20W	2	NE1/4 S	W1⁄4			
	С	ounty		Geocod	le			
M	ISSOULA							
	Latitude	Longi	itude	Geomethod	Datum			
	46.825223	114.08	30057	TRS-SEC	NAD83			
	Altitude	N	/lethod	Datum	Date			

Block

Lot

Section 3: Proposed Use of Water

FIRE PROTECTION (1)

Addition

Section 4: Type of Work
Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Wednesday, October 01, 2003

Section 6: Well Construction Details

Borehole dimensions
From To Diameter
0 120 6

Casing

From	То	Diameter	Wall Thickness	Pressure Rating	Joint	Туре
-2	58	6			WELDED	STEEL
55	120	4		160.00	WELDED	PLASTIC

Completion (Perf/Screen)

			# of	Size of	
From	То	Diameter	Openings	Openings	Description
45	50	6		6 IN	HOLTE PERFORATOR SLOTS
105	120	4		4IN	PVC SLOTTED

Annular Space (Seal/Grout/Packer)

From	То		Cont. Fed?
0	25	BENT SURFACE SEAL	

Section 7: Well Test Data

Total Depth: 120 Static Water Level: 20 Water Temperature:

Air Test *

15 gpm with drill stem set at 40 feet for 1 hours.

Time of recovery _ hours.

Recovery water level _ feet.

Pumping water level _ feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log Geologic Source

400BELT - BELT SUPERGROUP

From	То	Description
0	8	CLAY
8	16	CLAY / GRAVEL AND SAND
16	30	CLAY / GRAVEL / SAND AND WATER
30	40	CLAY
40	50	GRAVEL / CLAY / SAND AND WATER
50	94	ROCK AND CLAY
94	105	HARD ROCK
105	120	HARD ROCK AND WATER

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:

Company:CAMP WELL DRILLING License No:WWC-7 Date Completed:10/1/2003

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT

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accomplished by the filing of this report.

Site Name: MBA RENTALS * WENGER MICHAEL & LINDA

GWIC Id: 222147

Section 1: Well Owner
Owner Name
WENGER MICHEAL & LINDA
Mailing Address

 PO BOX 251
 State
 Zip Code

 LOS BANOS
 CA
 93635

Section 2: Location

T	ownship	Range	Section	Quarter	Sections
	12N	20W	2	NE1/4	SW¼
		County		Geoc	ode
MISS	OULA				
1	Latitude	Longit	ude	Geomethod	Datum
4	6.825223	114.08	0057	TRS-SEC	NAD83
	Altitude	M	ethod	Datum	Date
Addi	tion		Block		Lot

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Sunday, August 21, 2005

Section 6: Well Construction Details

Borehole dimensions
From To Diameter
65 240 6

Casing

From	То	Diameter		Pressure Rating	Joint	Туре
-2	240	6	0.250		WELDED	STEEL

Completion (Perf/Screen)

			# of	Size of	
From	То				Description
205	220	6	20	<u> </u>	HOLTE PERFORATOR SLOTS

Annular Space (Seal/Grout/Packer)

			Cont.
From	То	Description	Fed?
0	0	BENTONITE	Y

Section 7: Well Test Data

Total Depth: 240 Static Water Level: 38 Water Temperature:

Air Test *

23 gpm with drill stem set at 225 feet for 2 hours.

Time of recovery <u>0.5</u> hours. Recovery water level <u>38</u> feet. Pumping water level _ feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log Geologic Source

400BELT - BELT SUPERGROUP

From	То	Description
0	1	SOIL
1	38	SAND GRAVEL
38	50	SAND GRAVEL W/ WATER
50	200	RED FRACTURED ROCK
200	240	FRACTURED RED ROCK W/ WATER
,		

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:

Company: JEROMES DRILLING CO

License No:WWC-600

Date Completed:8/21/2005

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT

Datum

Date

View scanned document (5/18/2006 10:42:03 AM)

accomplished by the filing of this report.

Site Name: MBA RENTALS

GWIC Id: 222730

Section 1: Well Owner

Owner Name MBA RENTALS

Mailing Address

BOX 251 City

 City
 State
 Zip Code

 LOS BANOS
 CA
 93635

Section 2: Location

Altitude

Township	Range	Section	Quarter S	ections
12N	20W	2	NE1/4 S	₩¼
	County		Geoco	de
MISSOULA				
Latitude	Longi	tude	Geomethod	Datum
46.825223	114.08	0057	TRS-SEC	NAD83

Addition Block Lot

Method

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Sunday, August 21, 2005

Section 6: Well Construction Details

Borehole dimensions
From To Diameter
0 240 6

Casing

From	То	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	240	6	0.250		WELDED	STEEL

Completion (Perf/Screen)

			# of	Size of	
Fron	n To	Diameter	Openings	Openings	Description
205	225	6	20	3/16X1	HOLTE PERFORATOR SLOTS

Annular Space (Seal/Grout/Packer)

			Cont.
From	То	Description	Fed?
0	0	BENTONITE	Y

Section 7: Well Test Data

Total Depth: 240 Static Water Level: 38 Water Temperature:

Air Test *

23 gpm with drill stem set at 225 feet for 2 hours.

Time of recovery <u>0.5</u> hours. Recovery water level <u>38</u> feet. Pumping water level _ feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log Geologic Source

400BELT - BELT SUPERGROUP

From	То	Description
0	1	SOIL
1	38	SAND GRAVEL
38	50	SAND GRAVEL WITH WATER
50	200	RED FRACTURED ROCK
200	240	FRACTURED RED ROCK WITH WATER
,		

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:

Company: JEROMES DRILLING CO

License No:WWC-600

Date Completed:8/21/2005

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: WONRATH GUS

GWIC Id: 706263

Section 1: Well Owner

Owner Name

N/A

Section 2: Location

Township	Range	Section	Quarter	Sections
12N	20W	2	NE1/4	SW1/4
	County		Geoc	ode
MISSOULA				
Latitude	Longitude	е	Geomethod	Datum
46.825	114.0786		MAP	NAD27
Altitude	Me	thod	Datum	Date
3156				
Addition		Block	k	Lot

Section 3: Proposed Use of Water

DOMESTIC (1)

Section 4: Type of Work Drilling Method: CABLE

Section 5: Well Completion Date

Date well completed: Thursday, January 01, 1959

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	То		Wall Thickness	Pressure Rating	Joint	Туре
0	197	6				

There are no completion records assigned to this well.

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 197 Static Water Level: Water Temperature:

Unknown Test Method *

Yield 11 gpm. Pumping water level feet. Time of recovery _ hours. Recovery water level _ feet.

* During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

Section 9: Well Log **Geologic Source** 400BELT - BELT SUPERGROUP

Lithology Data

There are no lithologic details assigned to this well.

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name: Company: License No:-Date Completed: 1/1/1959

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well View water quality for this site owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: RUSS SAGE/SAGES REC

GWIC Id: 67120

Section 1: Well Owner Owner Name

RUSS SAGE/SAGES REC **Mailing Address**

5000 HWY 93

 City
 State
 Zip Code

 MISSOULA
 MT

Section 2: Location

Town	ship	Range	Section	Quarte	r Sections
12	N	20W	2	NE1/4 SW1	4 NW1/4 SE1/4
		County		Ge	eocode
MISSOU	ILA				
Latit	ude	Longi	itude	Geomethod	Datum
46.8	244	114.0	741	NAV-GPS	NAD27
Alti	tude	Meth	nod	Datum	Date
31	130				10/24/1999
Addition	1		Е	Block	Lot
Alti 31	tude 130		nod	Datum	Date 10/24/1999

Section 3: Proposed Use of Water

DOMESTIC (1) IRRIGATION (2)

Section 4: Type of Work Drilling Method: DRIVEN

Section 5: Well Completion Date

Date well completed: Monday, May 01, 1967

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Casing

From	То		Wall Thickness	Pressure Rating	Joint	Туре
-1	51	6				STEEL
<u> </u>		(D(10-				

Completion (Perf/Screen)

	- Company					
		# of	Size of			
Fro	m To Diame	ter Opening	s Openings	Description		
51	51.6			OPEN BOTTOM *		

Annular Space (Seal/Grout/Packer)

There are no annular space records assigned to this well.

Section 7: Well Test Data

Total Depth: 51 Static Water Level: 12 Water Temperature:

Air Test *

45 gpm with drill stem set at _ feet for 4 hours.

Time of recovery _ hours.

Recovery water level _ feet.

Pumping water level 23 feet.

* During the well test the discharge rate shall be as uniform as possible.

This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks

JET PUMP MOUNTED IN PIT BESIDE WELL LOOSEN HOSE RING; PULL UP COVER OVER WELL TO OBTAIN SWL

Section 9: Well Log Geologic Source

112ALVM - ALLUVIUM (PLEISTOCENE)

	LUVIUM (PLEISTOCENE)
То	Description
4	TOPSOIL
6	YELLOW CLAYEY SAND
19	TAN SILTY SAND WITH FEW SCATTERED GRAVELS
32	FINE TO COARSE SAND AND GRAVEL
43	SAND AND GRAVEL IMBEDDED IN TAN CLAY
49	FINE TO COARSE SAND AND GRAVEL WATER
51	TAN CLAY
	4 6 19 32 43 49

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:

Company: OSBORNE License No: WWC-52 Date Completed: 5/1/1967

Site Name: RUSS SAGE/SAGES REC

Ground-Water Information Center Water Quality Report

Report Date: 4/16/2008

Location Information

Sample Id/Site Id: 2000Q0415 / 67120 Sample Date: 10/24/1999 5:48:00 PM

Location (TRS): 12N 20W 02 DBCA

Agency/Sampler: MBMG / CAC

Latitude/Longitude: 46° 49' 27" N 114° 4' 26" W

Field Number: 67120

Datum: NAD27 Lab Date: 1/12/2000
Altitude: 3130 Lab/Analyst: MBMG / JMC
County/State: MISSOULA / MT Sample Method/Handling: PUMPED / 4220
Site Type: WELL Procedure Type: DISSOLVED

Total Depth (ft): 51

USGS 7.5' Quad: SW MISSOULA SWL-MP (ft): 9.7
PWS Id: Depth Water Enters (ft): 51

Project: GWCP04

Geology: 112ALVM

Major Ion Results

	mg/L	meq/L		mg/L	meq/L
Calcium (Ca)	10.200	0.509	Bicarbonate (HCO3)	54.900	0.900
Magnesium (Mg)	2.310	0.190	Carbonate (CO3)	0.000	0.000
Sodium (Na)	3.650	0.159	Chloride (CI)	1.064	0.030
Potassium (K)	1.060	0.027	Sulfate (SO4)	2.970	0.062
Iron (Fe)	0.037	0.002	Nitrate (as N)	<.5 P	0.000
Manganese (Mn)	0.003	0.000	Fluoride (F)	0.115	0.006
Silica (SiO2)	11.800		Orthophosphate (OPO4)	<.05	0.000
Tota	I Cations	0.888	Tot	al Anions	0.998

Trace Element Results (µg/L)

Aluminum (AI):	<60	Cesium (Cs):	NR	Molybdenum (Mo):	<10	Strontium (Sr):	47.400
Antimony (Sb):	<2	Chromium (Cr):	<2	Nickel (Ni):	<2	Thallium (TI):	< 5
Arsenic (As):	<1	Cobalt (Co):	<2	Niobium (Nb):	NR	Thorium (Th):	NR
Barium (Ba):	29.300	Copper (Cu):	<2	Neodymium (Nd):	NR	Tin (Sn):	NR
Beryllium (Be):	<2	Gallium (Ga):	NR	Palladium (Pd):	NR	Titanium (Ti):	<20
Boron (B):	< 30	Lanthanum (La):	NR	Praseodymium (Pr):	NR	Tungsten (W):	NR
Bromide (Br):	< 50	Lead (Pb):	<2	Rubidium (Rb):	NR	Uranium (U):	NR
Cadmium (Cd):	<2	Lithium (Li):	<10	Silver (Ag):	<1	Vanadium (V):	<5
Cerium (Ce):	NR	Mercury (Hg):	NR	Selenium (Se):	<1	Zinc (Zn):	7.950
						Zirconiuim (Zr):	<10

Field Chemistry and Other Analytical Results

NR	Ammonia (mg/L):	NR	Field Hardness as CaCO3 (mg/L):	60.610	**Total Dissolved Solids (mg/L):
NR	T.P. Hydrocarbons (µg/L):	34.980	Hardness as CaCO3:	88.520	**Sum of Diss. Constituents (mg/L):
NR	PCP (µg/L):	196	Field Alkalinity as CaCO3 (mg/L):	91	Field Conductivity (µmhos):
<.2	Phosphate, TD (mg/L as P):	45.11	Akalinity as CaCO3 (mg/L):	79	Lab Conductivity (µmhos):
0.000	Field Nitrate (mg/L):	10.654	Ryznar Stability Index:	7	Field pH:
NR	Field Dissolved O2 (mg/L):	0.294	Sodium Adsorption Ratio:	7.02	Lab pH:
NR	Field Chloride (mg/L):	-1.817	Langlier Saturation Index:	9.7	Water Temp (°C):
201	Field Redox (mV):	NR	Nitrite (mg/L as N):	NR	Air Temp (°C):

Hydroxide (mg/L as OH):

NR

Notes

Sample Condition:CLEAR
Field Remarks:
Lab Remarks:

Explanation: $mg/L = milligrams per Liter; \mu g/L = micrograms per Liter; ft = feet; NR = No Reading in GWIC$

Qualifiers: **A** = Hydride atomic absorption; **E** = Estimated due to interference; **H** = Exceeded holding time; **K** = Na+K combined; **N** = Spiked sample recovery not within control limits; **P** = Preserved sample; **S** = Method of standard additions; * = Duplicate analysis not within control limits; ** = Sum of Dissolved Constituents is the sum of major cations (Na, Ca, K, Mg, Mn, Fe) and anions (HCO3, CO3, SO4, CI, SiO2, NO3, F) in mg/L. Total Dissolved Solids is reported as equivalent weight of evaporation residue.

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is complied electronically from the contents of the Ground-Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Site Name: NORCO PRODUCTS - WELL 2

GWIC Id: 67119

Section 1: Well Owner

Owner Name

NORCO PRODUCTS

Mailing Address

BOX 4227

Addition

CityStateZip CodeMISSOULAMT59806

Section 2: Location

Township	Range	Section	Quarter Sections	
12N	20W	2	NE1/4 NW1/4 SE1/4 SW1/4	
	County		Geoco	de
MISSOULA				
Latitude	Long	itude	Geomethod	Datum
46.8236	114.	0783	MAP	NAD27
Altitude		Method	Datum	Date

Block

I of

Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 4: Type of Work Drilling Method: ROTARY

Section 5: Well Completion Date

Date well completed: Thursday, August 18, 1988

Section 6: Well Construction Details

Borehole dimensions

From	То	Diameter
0	150	6
150	390	4

Casing

				Pressure		
From	То	Diameter	Thickness	Rating	Joint	Туре
-2	150	6				17 LB STEEL
10	390	4				PVC

Completion (Perf/Screen)

			# of	Size of	
From	То	Diameter	Openings	Openings	Description
330	350	4			4 INCH
370	390	4			4 INCH

Annular Space (Seal/Grout/Packer)

			Cont.
From	То	Description	Fed?
0	20	BENTONITE	

Section 7: Well Test Data

Total Depth: 390 Static Water Level: 95 Water Temperature:

Air Test *

15 gpm with drill stem set at _ feet for 3 hours. Time of recovery _ hours. Recovery water level _ feet.

Pumping water level <u>190</u> feet.

* During the well test the discharge rate shall be as uniform as possible.

This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.

Section 8: Remarks
JEROMES FILE NO: 2096

Section 9: Well Log Geologic Source

400BFLT - BFLT SUPERGROUP

From		Description
	1	
0	1	CLAY COBBLES
7	150	FRACTURED RED ROCK
150	200	RED GREEN ROCK
200	390	RED GREEN ROCK WITH WATER

Driller Certification

All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name:

Company: JEROMES DRILLING CO

License No:WWC-249

Date Completed:8/18/1988