# **Summary Report of Polson's Water Rights**



Hell Roaring Reservoir circa November 6, 1991

February 27, 2015

AWC Project No. 107.05

Prepared For:

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## 1.0 INTRODUCTION

The City of Polson has a number of water rights from both groundwater and surface water sources. These rights are important to understand because they define the quantity of water that the City has a legal right to use. The purpose of this report is to summarize the status of the City of Polson's water rights with regard to the permitted flow rates and volumes and also compare the existing use with the permitted appropriations. A discussion regarding the history and rules pertinent to Montana's water-right permitting process is presented prior to describing Polson's water rights.

# 1.1 Water Rights Background

Water rights in Montana are guided by the Doctrine of Prior Appropriation (i.e. first in time, first in right). A person's right to use water depends on when the use of water began. The first person to use water from a source established the first right; the second person could establish a right to the remaining water, and so on. During dry years, the person with the first right has the first chance to use the available water to fulfill their right. The holder of the second right has the next chance. Water users are limited to the amount of water that can be beneficially used.

# 1.1.1 Montana Water Use Act

The Montana Water Use Act of 1973, Title 85, Chapter 2 Montana Code Annotated (MCA) was the most comprehensive change in Montana's water right laws in the State's history. The act changed water rights administration significantly in a number of ways:

- All water rights existing prior to July 1, 1973, are to be finalized through the statewide adjudication process and the Montana Water Court.
- A permit system was established for obtaining water rights for new or additional water developments.
- An authorization system was established for changing water rights.
- A centralized records system was established. Prior to 1973, water rights were recorded inconsistently in county courthouses throughout the state.
- A system was provided to reserve water for future consumptive uses and to maintain minimum in-stream flows for water quality, and fish and wildlife.

## 1.1.2 Water Rights Administration

Water rights in Montana are managed by three entities; the Department of Natural Resources and Conservation (DNRC), the Montana Water Court, and the district courts. DNRC administers the portions of the Montana Water Use Act that relates to

water uses after June 30, 1973. DNRC provides assistance to the Water Court, which is responsible for adjudicating water rights that existed before July 1, 1973.

Montana is divided into four water divisions, and the Water Court presides over each division for the purpose of adjudicating existing water rights. The Water Court decides any legal issues certified to it by DNRC that may arise in connection with a permit or change applications, or in disputes filed in the district courts. The district courts can issue injunctive relief while it certifies water right issues to the Water Court for decision.

DNRC maintains a central records system for all permits, changes, and certificates issued after June 30, 1973, and for all existing water rights filed as part of the statewide adjudication.

# 1.1.3 Adjudication of Existing Water Rights

In 1979, the legislature passed Senate Bill 76 amending the adjudication procedures originally established by the Montana Water Use Act. Rather than adjudicating existing water rights one basin at a time, the legislature opted for a comprehensive general adjudication of the entire state. Existing water rights are those that originated before July 1, 1973, the effective date of the Montana Water Use Act.

The Reserved Water Rights Compact Commission (RWRCC) was created to negotiate compacts with federal agencies and Indian tribes to quantify their reserved water rights in Montana. The RWRCC is an integral part of the statewide adjudication process.

On June 8, 1979, the Montana Supreme Court issued an order requiring every person claiming ownership of an existing water right to file a statement of claim for that right with the DNRC no later than January 1, 1982. Stockwater and domestic claims for groundwater or instream flow were exempted from this process, though such claims could be filed voluntarily. Existing water rights not filed by the deadline would, by statute, be conclusively presumed to have been abandoned.

On December 7, 1981, the Montana Supreme Court extended the deadline to April 30, 1982. Over 200,000 claims were received by the deadline. A number of late filed claims were received after that deadline. In 1992, the Montana Supreme Court ruled that untimely-filed claims were forfeited.

In 1993, the legislature passed Senate Bill 310, which provided, under certain terms and conditions, the remission of the forfeiture of existing rights caused by the failure to comply with the April 30, 1982 deadline. Essentially, the remission bill revived previously forfeited late claims and allowed an opportunity for users to file additional late water right claims in the general adjudication process.

The priority date of a late claim may be subordinated to other timely filed existing water rights. The deadline for filing late claims was July 1, 1996. Approximately 4,900 late claims were filed by the July 1, 1996 deadline.

In 1997, the legislature passed Senate Bill 108; which generally revised the water adjudication laws relating to different types of decrees. This legislation allows the Water Court to adjudicate water right claims and to review federal reserved water right compacts when necessary, and without the need to wait until other types of claims in the same basin are ready for inclusion into a decree. In addition, the bill added two new sections to the law. One requires objections to be filed at the initial decree stage, and the other allows claimants an opportunity to file counter objections. Since all the claims cannot be adjudicated at once, claims are being decreed by basin for each of Montana's 85 drainage basins.

DNRC's role in the process is to provide technical assistance to the Water Court. Prior to the issuance of a decree, DNRC examines each claim for completeness, accuracy, and reasonableness. The elements of a water right, individually and in combination, are checked using examination rules adopted by the Montana Supreme Court. If DNRC finds apparent discrepancies in the claimed right, the claimant is contacted to discuss the issues. If the apparent discrepancies can be resolved, the claimant amends the claim voluntarily. If the issues cannot be resolved, the water right remains as claimed, but DNRC attaches a remark identifying the potential problem. After all claims in a basin are examined, DNRC issues a Summary Report to the Water Court. This report is available to the public. The court uses this report in preparing the decree for the basin.

Our assessment relied on data derived from the DNRC Water Rights Bureau's records, water use records obtained from the City of Polson's archives, a variety of engineering reports, and Applied Water Consulting's in-house records and reports.

# 1.1.4 Flathead Indian Reservation Moratorium

Three individuals had applied for water rights on the reservation. The Confederated Salish and Kootenai Tribes (CSKT) objected and filed suit that DNRC could not issue water use permits on the reservation until the Tribes' reserved water rights had been quantified. The Montana Supreme Court held that DNRC could not issue new water use permits or water right change authorizations on the Flathead Reservation until the reserved water rights (i.e. compact) of the Flathead Tribes were determined.

Currently no new appropriations or changes of use can occur on the Flathead Indian Reservation a result of the series of Montana Supreme Court decisions beginning with Matter of Beneficial Water Use Permit, 278 Mont. 50, 923 P.2d 1073 (1996). Wells drilled since 1996 do not possess valid permits (Montana Reserved Water Rights Compact Commission, January 2014). This date is questionable because DNRC continued issuing water rights through 1998 and the decision date of the Montana Supreme Court ruling was December 30, 1999. This ruling essentially

placed a moratorium on issuance of new water right applications or change authorizations in most of Lake County and parts of Sanders County.

## 1.1.5 Water Rights Compact with the Confederated Salish and Kootenai Tribes

The Montana Reserved Water Rights Compact Commission (Commission) was established by the Legislature in 1979 to negotiate on behalf of the Governor and represent the interests of state water users in negotiations with the tribes and the federal government for the equitable division and apportionment of the waters of the State of Montana. The Commission has completed seventeen compacts with six tribes and five federal agencies in Montana.

A compact with the CSKT would quantify for the Tribes a right from the Flathead River in the amount of 229,383 acre-feet per year diverted, 128,158 acre-feet per year consumed, to be supplied from the Flathead River, Flathead Lake and the South Fork of Flathead River, including Hungry Horse Reservoir. A portion of this right could be satisfied by an allocation of 90,000 acre-feet of stored water from Hungry Horse Reservoir, 11,000 acre-feet of which is earmarked, by the State of Montana, for the mitigation of net depletions arising from new or existing domestic, commercial, municipal and/or industrial (DCMI) uses of water at any point in the Flathead or Clark Fork Basins. Because of large hydropower rights in these basins, there exist legal demand limitations on the development of new uses of water in the Clark Fork Basin that often require the applicant to show a source of mitigation water to offset any possible adverse effects to these senior rights.

The Tribal water right quantified in Article III would also include all existing uses by the Tribes, their members, and allottees, which are not otherwise quantified by the Compact. Such uses, in order to be recognized as part of the Tribal water right carrying the Tribes' 1855 priority date, must be registered according to the terms of the Unitary Management Ordinance that is attached to the Compact. These uses primarily include stock water and domestic, commercial, municipal, and industrial uses. Once registered, they would have a priority date of 1855.

## 1.1.6 Drainage Basin Demarcation

The City of Polson is unique in that the city limits are located within two drainage basins: 76L – the Flathead River below Flathead Lake and 76LJ – the Flathead River above and including Flathead Lake. The drainage basin boundary is essentially located on the north side of the airport, comes across U.S. Highway 93 bridge, and continues in a southeasterly direction transecting Sections 3 and 10 of Township 22 North, Range 20 West, Lake County, Montana. A copy of the drainage basin map showing the dividing line between 76L and 76LJ is provided as **Figure 1**. For this reason Polson's water rights have two different prefix designations.



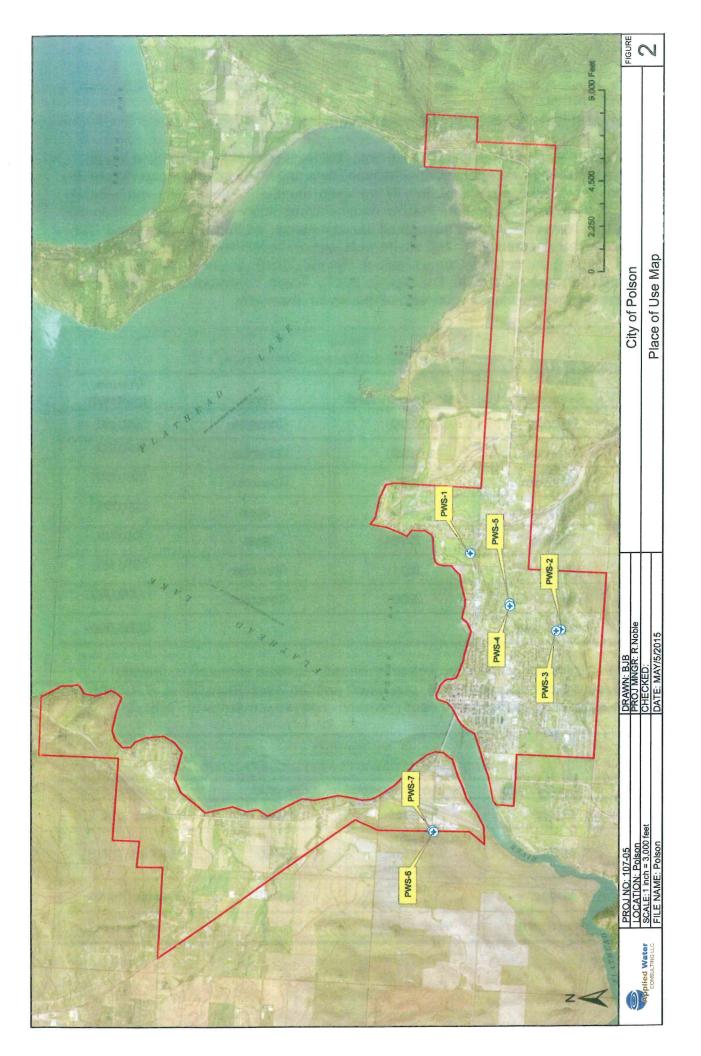
## 2.0 POLSON WATER SUPPLY SYSTEM

Polson's water service area extends from Hell Roaring Creek Reservoir to lands adjacent to the west shore of the Flathead River and Flathead Lake (see **Figure 2**). The northern boundary is essentially the south shore of Flathead Lake and extends southward to the crest of the Polson moraine along Skyline Drive. There are seven storage reservoirs located throughout the community, the three newest being: 1) a million gallon reservoir located on the west side of the Flathead River; 2) a new 500,000-gallon concrete storage tank at Hillcrest (2010); 3) and a new 500,000-gallon concrete storage tank at Skyline (2011). **Table 1** provides a summary of the type and storage capacity for each of the seven reservoirs.

	Table 1 Polson Water Storage Reservoirs								
Reservoir	Date Constructed	Туре	Volume (gallons)						
Hillcrest	2010	Concrete	500,000						
Clearview	1990	Concrete	500,000						
Woodbine	1990	Concrete	500,000						
East Hillside	1960	Steel	500,000						
Skyline	1976	Steel	500,000						
Skyline II	2011	Concrete	500,000						
West Shore	2000	Concrete	1,000,000						
Total Capacity		7	4,000,000						

The City's water distribution system is divided into three primary (i.e. gravity) pressure zones (upper, middle, and lower) and the West Shore zone. A summary of the water sources that serve each pressure zone are presented in **Table 2**.

Sumi	Table 2 Summary of Water Sources in Each Pressure Zone								
Pressure Zone	Storage Reservoir	Elevation	Water Supply Source						
Lower	Hillcrest	3,092	Well Nos. 1, 4, & 5						
Middle	Hillside Woodbine Clearview	3,190	Well Nos. 2 & 3						
Upper	Skyline Steel Skyline Concrete	3,437	Booster Pumps						
West Shore	West Shore	3,125	Well Nos. 6 & 7						



## 3.0 POLSON WATER RIGHTS

As previously mentioned, water rights filed prior to July 31, 1973 are Statement of Claims. These water rights are being adjudicated through the Montana Water Court.

## 3.1 Statements of Claim

The following narrative provides a discussion of each Statement of Claim, which are the pre-1973 water rights. A summary of the flow rates and volumes appurtenant to each claim is provided in **Table 3**.

Table 3 – Statements of Claim for Pre – July 1, 1973 Water Rights								
Water Right	Priority Date	Diversion Name	Flow Rate (gpm)	Volume (acre-feet)				
76LJ 148954 00	01/03/1922	Hell Roaring Creek Reservoir	897.66	1,447.84				
76LJ 148955 00	09/04/1947	Hell Roaring Creek	224.42	365.00				
76L 148956 00	07/31/1961	Well No. 2	448.83	690.00				
76LJ 214453 00	06/30/1973	Well No. 1	450.00	77.00				

## 3.1.1 Statement of Claim 76LJ 148954 00 Hell Roaring Creek Reservoir

A Statement of Claim was filed April 26, 1982 by then Mayor John Dowdall to divert water from Hell Roaring Creek Reservoir in compliance with the Adjudication Program. An Amendment to the Statement of Claim was filed May 25, 2011 to clarify the issue remarks on the abstract. A second amendment was filed on February 12, 2015 to revise the volume to be consistent with the flow rate of two cfs (897.66 gpm). The current water right abstract for 76LJ 148954 00 reflects these modifications. The priority date for this claim is January 3, 1922. All of the issue remarks associated with the claim filing have been removed. A copy of the water right abstract and place of use map for each Statement of Claim are provided in **Appendix A**. Copies of the claim filings and amendments are provided in the electronic version of this report.

# 3.1.2 Statement of Claim 76LJ 148955 00 - Hell Roaring Creek

This claim is based on historic use from Hell Roaring Creek to supplement flow and volume to the City. The claim was filed April 26, 1982 by then Mayor John Dowdall in compliance with the Adjudication Program. The original claim was for a flow rate of 2.5 cfs and a volume of 1,825 acre-feet. The priority date is September 4, 1947. Support documentation in the original claim filing indicates that the City needed additional supply in the "summer months when the water supply of two cubic feet per second was insufficient." The documents also indicate the actual capacity of the pipeline is limited to 2.5 cfs. As stated in the agreement with Flathead Irrigation Project, "...we will interpose no objection to the taking of 2.5 second feet except at times when the additional 0.5 second feet will create deficiencies of supply for project lands. This will probably never occur so that the City of Polson has in effect an available supply of 2.5 second feet." Therefore, an amendment to the claim was filed to adjust the flow rate to 0.5 cfs and a commensurate volume of 365.00 acre-feet. The claim also clarified the historic place of use and historic demands. The water right abstract states: "This water right is presumed not be abandoned pursuant to 8-2-227, MCA." All of the issue remarks associated with the claim filing have been removed. A copy of the abstract is provided in Appendix A.

# 3.1.3 Statement of Claim 76L 148956 00 - Well No. 2

Well No. 2 was drilled in May 1960 by Osborne Drilling Co. The total depth is 166 feet and the well is cased with 12-inch steel casing from two feet above ground surface to a depth of 152 feet. The well is screened with Johnson well screen from 150.5 to 160.5 feet below ground surface from which the water enters the well. The well was originally equipped with a Louis Allis 30-horsepower, turbine pump motor coupled to a Worthington, 4-stage, line-shaft pump. According to the pump curve, the pumping capacity of this pump is 480 gpm, although it was measured at 575 gpm using a flow meter. A copy of the well log is provided in **Appendix A**.

A Statement of Claim was filed April 26, 1982 for the City's first well, which is referred to a Well No. 2. In 1970, the City of Polson had a population of 2,464. Using DNRC's volume guideline of 250 gallons per capita per day, the annual maximum use volume would be 690 acre-feet. The priority date for this claim is July 31, 1961. An Amendment to Statement of Claim was submitted May 25, 2011 to modify the place of use and revise the volume. All of the issue remarks associated with the claim filing have been removed. The current water right abstract for 76L 148956 00 reflects these modifications as provided in **Appendix A**. This source has provided uninterrupted water service to the City through a system of main lines and service pipes as the City has continued to grow and expand.

## 3.1.4 Statement of Claim 76LJ 214453 00 - Well No. 1

Well No. 1 (a.k.a. Highway 93 Well) was completed May 15, 1969 as part of the Polson Water System Improvements project by Liberty Drilling and Pump Co. The well was initially drilled to a depth is 525 feet to evaluate the potential for water-bearing strata with depth. The well is cased with 10-inch steel casing from 3 feet above ground surface to a depth of 490 feet. The lower, nonproductive section of the well was filled with a concrete plug from 295 feet to 525 feet. The well was perforated with a Mills knife (¼-inch x 2½-inch slots) from 251 to 261 feet and from 287 to 292 feet below ground surface. All of the water enters the well through perforations and from fractures in the rock between 492 and 512 feet deep. The well was originally equipped with a Johnson 50 horsepower, line-shaft turbine pump that produced 450 gpm. However, the pump was rebuilt and reinstalled in 1999. When the pump was turned on, the natural gravel pack around the well collapsed and the well has not been used since then. A copy of the well log is provided in **Appendix A**.

This Statement of Claim for water right 76LJ 124453 00 for Well No. 1 was filed March 3, 1994. As such, it is designated as a "Late Claim" because it was submitted after the claim filing date of April 30, 1982. Therefore, the enforceable priority date for this claim is June 30, 1973 and is junior to all valid and timely filed State based claims. An Amendment to the Statement of Claim was submitted May 25, 2011 to correct the place of use and substantiate the flow rate and volume. The current water right abstract for 76LJ 214453 00 reflects these modifications as provided in **Appendix A**.

## 3.2 Provisional Permits

The City of Polson has three provisional permits for municipal use that were obtained under the 1973 Montana Water Use Act. These permits are based on projected water-use demands and do not represent the perfected or actual use amounts. None of the permits have yet been verified. The following narrative provides a summary for each of the post-1973 water right permits. A summary of the flow rates and volumes associate with each permit is provided in **Table 4**. The date the Notice of Completion is due to be filed is also noted.

Permits
<b>Provisional Permit</b>
of Polson's
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1
Table

Water Right	Diversion Name	Permitted Flow Rate (GPM)	Actual Surplus Flow Rate Flow Rate (GPM) (GPM)	Surplus Flow Rate (GPM)	Permitted Volume (ac-ft)	Actual Volume (ac-ft)	Surplus Volume (ac-ft)	NOC Completion Date
76L 89198 00	Well No. 3	650.00	650.00	0	246.00	271.93	25.93	December 31, 2034
76LJ 99791 00	Well Nos. 4 & 5 <sup>1,3</sup>	1,000.00	375.00	625.00	712.00	253.69	458.31	December 31, 2019
76L 104016 00 <sup>4</sup>	Well Nos. 6 & $7^2$	1,000.00	900.00	100.00	100.00 1,269.40	91.97	1,177.43	December 31, 2018
	Total	2,650.00		1,925.00 725.00	2,227.40	617.59	1,609.81	
-								

– 375 gpm is the combined pumping rate of 150 gpm for Well No. 4 and 125 gpm for Well No. 5. – 900 gpm is the combined pumping rate of 450 gpm for Well No. 6 and 450 gpm for Well No. 7.

- Change Authorization - to include additional place of use.

# 3.2.1 Provisional Permit 76L 89198 00 - Well No. 3

Well No. 3 was drilled to a depth of 177 feet below ground surface (bgs). The well is cased with 16-inch O.D. steel casing from 3.75 feet above the ground to a depth of 154.25 feet. The well screen assembly consists of Johnson-Watermark 304 stainless steel, 16-inch telescoping screen from 152.2 to 164.8 feet with 0.5-inch size slots. A tailpipe consisting of blank 14-inch O.D. steel casing extends from 164.8 to 174.75 feet. A steel plate was welded to the bottom of the tailpipe to exclude any sandy or silty water below a depth of 174.75 feet. All of the water is entering through the 11.5-foot screened interval. The well was completed December 3, 1976 by Liberty Drilling Company. A copy of the well log is provided in **Appendix B**.

It was determined by DNRC in 1993 that a water right for this well did not exist. An application was subsequently submitted February 24, 1994. A Provisional Permit was issued by DNRC having a priority date of March 3, 1994. The maximum flow rate and volume for this water right is 650.00 gpm and 246.00 acre-feet, respectively. A project completion notice was due on December 31, 2014. As with any municipal water right, the City is continually developing and expanding its service area. For this reason, an Application for Extension of Time to extend the notice of completion for an additional 20 years was filed at the DNRC on December 15, 2014. Therefore, the water right is still in the process of being perfect and a Notice of Completion will not need to be filed until December 31, 2034.

# 3.2.2 Provisional Permit 76LJ 99791 00 – Well Nos. 4 and 5

Well No.4 was drilled to a depth of 150 feet below ground surface. The well is cased with 10-inch I.D. steel casing from two feet above the ground to a depth of 128 feet. The well screen assembly consists of Johnson 304 stainless steel, 10-inch telescoping screen from 128 to 140 feet. An 8-inch I.D. tailpipe extends from 140 to 150 feet. A steel plate was welded to the bottom of the tailpipe to exclude any sandy or silty water below a depth of 150 feet. All of the water is entering through the 12-foot screened interval. The well was completed March 6, 2000 by Liberty Drilling and Pump Company, Inc. A copy of the well log is provided in Appendix B.

Well No.5 was drilled to a depth of 135 feet below ground surface. The well is cased with 10-inch I.D. steel casing from two feet above the ground to a depth of 113 feet. The well screen assembly consists of Johnson 304 stainless steel, 10-inch telescoping screen from 113 to 125 feet. An 8-inch I.D. tailpipe extends from 125 to 135 feet. A steel plate was welded to the bottom of the tailpipe to exclude any sandy or silty water below a depth of 135 feet. All of the water is entering through the 12-foot screened interval. The well was completed April 6, 2000 by Liberty Drilling and Pump Company, Inc. A copy of the well log is provided in **Appendix B**.

Provisional Permit 76LJ 99791 00 is associated with a Change Application that moved the original point of diversion from the NE¼SW¼ of Section 11, Township 22 North, Range 20 West (Walmart Test Well) to the two Hillcrest Wells (Well Nos. 4 and 5) located NE¼NW¼NE¼ of Section 10, Township 22 North, Range 20 West, Lake County, Montana. The combined flow rate and volume for these two wells is 1,000 gpm and 712.00 acre-feet, respectively. This water right is still being perfected; the deadline for filing the Notice of Completion is December 31, 2019. It is recommended that the place of use map be updated when the Notice of Completion is filed to reflect Polson's existing and future water distribution service area.

# 3.2.3 Provisional Permit 76L 104016 00 - Well Nos. 6 and 7

Well No.6 was drilled to a depth of 385 feet below ground surface. The well is cased with 12-inch I.D. steel casing from 2 feet above the ground to 258 feet below ground surface with 8-inch I.D. steel casing. The remainder of the borehole is unlined (i.e. open hole) from 258 to 385 feet. Cement grout was installed to a depth of 165 feet. The grout provides a sanitary surface seal and prevents seepage of surface runoff from entering the aquifer. Water flows from the fractures into the open borehole. The well was completed November 9, 1999 by Castlio Drilling Company, Inc. A copy of the well log report is provided in **Appendix B**.

Well No.7 was drilled to a depth of 350 feet below ground surface. The well is cased with 10-inch I.D. steel casing from two feet above ground surface to a depth of 239 feet. The remainder of the borehole is unlined (i.e. open hole) from 239 to 350 feet. Cement grout was installed to a depth of 100 feet. The grout provides a sanitary surface seal and prevents seepage of surface runoff from entering the aquifer. The well was completed May 2, 2001 by Castlio Drilling Company, Inc. A copy of the well log report is provided in **Appendix B**.

Provisional Permit 76L 104016 00 authorizes the diversion for a maximum flow rate of 1,000 gpm and a maximum volume of 1,269.40 acre-feet per annum from Well Nos. 6 and 7. The priority date for the permit is April 15, 1998. This water right is still in the process of being perfected and has a Notice of Completion deadline of December 31, 2018. Both Well Nos. 6 and 7 are located on the west shore of the Flathead River north of the airport and completed in the bedrock aquifer.

The original place of use specified on the application was limited to the West Shore Service Area. Therefore, an Application to Change a Water Right was submitted to DNRC on December 17, 2002. The change application was to include the entire Polson water distribution service area to allow water from Well Nos. 6 and 7 to be used on the east side of the Flathead River (i.e. East Shore Service Area). However, the change application was terminated at the request of the applicant after DNRC conceded that water right 76L 104016 00 is associated with the place of use to be the West Shore Planning Area and the existing Polson service area. A copy of the letter from DNRC to the City dated February 6, 2003 is provided in **Appendix B**.



However, Tim Davis, DNRC attorney, determined on March 3, 2015 that Mr. Hafferman's letter was issued in error because any land outside of what was Public Noticed through issuance cannot be corrected. It will therefore be necessary to resubmit an Application to Change a Water Right to include the East Shore Service Area if the compact is ratified.

# 3.3 Irrigation Water Rights

The City has three additional water rights that are specifically designated for irrigation rather than municipal use. A list of these rights is provided in **Table 5**. A description of each right is provided in the following narrative. Copies of the water right abstracts and place of use maps are provided in **Appendix C**.

	Table 5 - Irrigation Water Rights											
Water Right	Source	Rate (gpm)	Volume (ac-ft)	Priority Date	Purpose							
76LJ 62050 00	Flathead River	30.00	4.42	3/10/1986	Riverside Park Irrigation							
76LJ 67848 00	Groundwater	350.00	156.40	6/13/1988	Irrigation at Municipal Golf Course							
76LJ 101149 00	Groundwater	300.00	141.08	3/5/1997	Expansion at Municipal Golf Course							

# 3.3.1 Provisional Permit 76LJ 62050 00 - Flathead River for Riverside Park

The point of diversion for this right is from the Flathead River and has a maximum flow rate of 30 gpm and a maximum volume of 4.42 acre-feet. The period of diversion is from May 1 through September 30, per annum. The water right is to irrigate 4.00 acres in Riverside Park. The water right is to replace the use of potable water from the municipal supply with river water. A copy of the application is provided in the electronic version of **Appendix C**.

The DNRC conducted a field inspection on October 15, 2008 to verify the water right. The inspector, Kimberly Brown, determined the pump has a 7.5-hp motor capable of producing 116 gpm, which exceeds the 10 percent variance allowed over the permitted flow rate. Any verified flow rate in excess of 10 percent greater than the permit will require a new permit application. The inspector determined that 4.00 acres were being irrigated. The City will need to submit an application to increase the flow rate commensurate to the pumping rate of the larger pump. A copy of the verification documents is provided in the electronic version of **Appendix C**.

# 3.3.2 Provisional Permit 76LJ 67848 00 – Polson Municipal Golf Course

This provisional permit is for the well that supplies irrigation water to Polson's municipal golf course. The well was drilled in to a depth of 220 feet below ground surface. The well is cased with 8-inch I.D. steel casing from the ground surface to a depth of 211 feet. Eight (8)-inch, stainless steel telescoping screen was installed from 208 to 218 feet deep. The original static water level was 10 feet below the ground surface. All of the water is entering through the well screen and the open-bottom of the casing. The well was completed March 5, 1988 by Castlio Drilling Company, Inc. A copy of the well log report is provided in **Appendix C**.

A water right application was submitted to the DNRC on June 13, 1988 to use the well for irrigation. The requested pumping rate was 350 gpm and a volume of 156.4 acre-feet. The original application was to irrigate 68 acres within specific quarter-sections of Section 2, Township 22 North, Range 20 West, Lake County, Montana. A copy of the application is provided in the electronic version of **Appendix C**.

The DNRC conducted a field inspection on October 15, 2008 to verify the water right. The inspector, Kimberly Brown, determined the original 20-hp submersible pump was replaced with a 30-hp Goulds submersible pump. The well pumps to a storage reservoir (i.e. Pond #1) and then water is pumped from the pond to irrigate the golf course. The DNRC also determined that this water right is appurtenant to the 40 acres associated with holes 1, 2, 3, 9, 10, 11, 16, 17, and 18 and not the entire 18 holes of the Champion Course. The verified pumping rate and volume are 350 gpm and 156.4 acre-feet, respectively. A copy of the verification forms is provided in the electronic version of **Appendix C**.

# 3.3.3 Provisional Permit 76LJ 101149 00 - Polson Municipal Golf Course

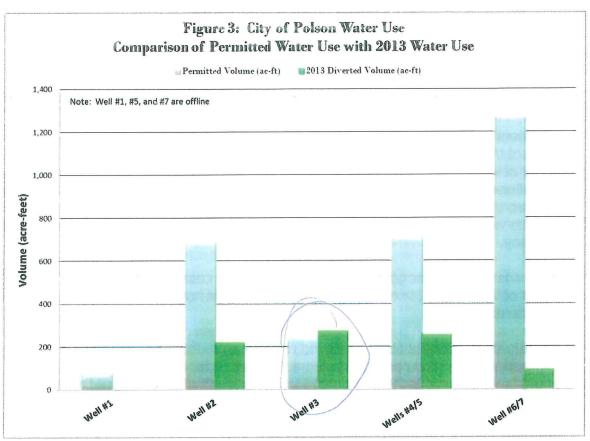
A second water right application was submitted to DNRC on March 5, 1997 to increase the flow rate from 350 gpm to 650 gpm from the golf course irrigation well. The place of use was expanded to include holes 4, 5, 6, 7, 8, 12, 13, 14, and 15 on the Champion Course. This water right is appurtenant to 75.7 acres and has a maximum volume of 141.08 acre-feet. As such, this water right then provided sufficient irrigation water to include the remainder of the holes that were not included under water right 76LJ 67848 00. The water right was verified on November 30, 1999 by Cristy Coats, DNRC Water Right Specialist.

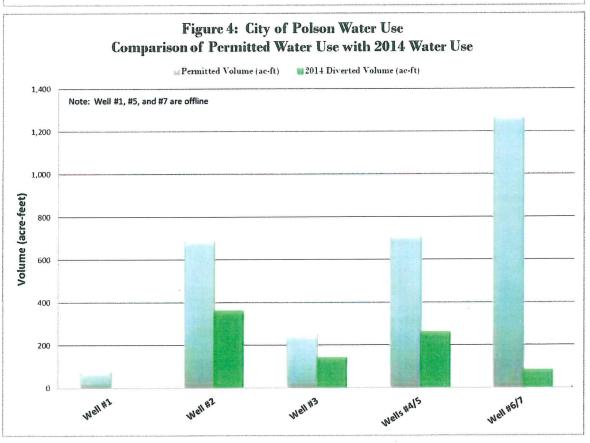
## 4.0 WATER USE COMPARED WITH ACTUAL USE

Water use records from calendar years 2013 and 2014 were used to evaluate the City's net water use as compared to the permitted volume for each water source. **Figure 3** is a bar graph of the different sources comparing the permitted volume with the amount of water actually used in 2013. For reference, the light blue bars represent the permitted volume listed on the water right and the green bars are the amount of water the City pumped during 2013. The salient observation is the City has sufficient water right capacity relative the actual amount of water being used. However, the City is not currently utilizing all of the sources because of operational problems with Well Nos. 1, 5, and 7. Therefore, the City is operating a net production deficiency.

**Figure 4** is a similar bar graph of water production in calendar year 2014. The total amount of water used is nearly the same, but different amounts were pumped from the different wells.

A similar evaluation was also conducted relative to the total volume used as compared with the total permitted volume. **Figure 5** displays two pie charts of the amount of water used in 2013 and 2014 as compared with the amount the City can use under the existing water rights. As shown, the City is using approximately one-quarter of their allocated volume, meaning the City has considerable room for expansion without obtaining new water rights.





# Figure 5: City of Polson Water Use Compared to Permitted Volume



## 5.0 SUMMARY AND CONCLUSIONS

The City of Polson currently has adequate water rights to accommodate future growth and expansion for some time. Furthermore, the two water rights appurtenant to Hell Roaring Creek could be used in the future through a change authorization to move the point of diversion from Hell Roaring Reservoir to a point on Flathead Lake where a water treatment plant could be constructed. It is recommended that the place of use for all of the existing municipal water rights be updated to include the City's entire water service area. However, the aforementioned recommendations cannot be implemented until either the water right moratorium is rescinded or a water right compact is ratified with the CSKT. At the time of this writing, Senate Bill 262, which establishes a water rights compact, is being heard in the 2015 Montana Legislature. Should the water rights compact become effective, it is further recommended that the City pursue attaining a priority date of July 15, 1855 for the Hell Roaring Reservoir and Hell Roaring Creek water rights, which would be consistent with the CSKT's priority date.

# Appendix A

# STATEMENT OF CLAIM ABSTRACTS

Summary Report of City of Polson's Water Rights City of Polson Public Works Department Polson, Montana

#### STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

## GENERAL ABSTRACT

Water Right Number:

76LJ 148954-00 STATEMENT OF CLAIM

Version: 1 -- ORIGINAL RIGHT

Version Status: ACTIVE

Owners:

POLSON, CITY OF %WATER DEPT 106 1ST ST E POLSON, MT 59860

Priority Date:

**JANUARY 3, 1922** 

Enforceable Priority Date: JANUARY 3, 1922

Type of Historical Right: USE

Purpose (use):

MUNICIPAL

Maximum Flow Rate:

2.00 CFS

Maximum Volume:

1,447.84 AC-FT

Source Name:

HELL ROARING CREEK RESERVOIR

Source Type:

SURFACE WATER

Point of Diversion and Means of Diversion:

ID

**Govt Lot** 

Qtr Sec SENWSW

Sec 34

Twp Rge County 23N 19W LAKE

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: HEADGATE

Reservoir:

OFF STREAM
Govt Lot

Reservoir Name HELL ROARING CREEK RESERVOIR

Otr Sec S SENWSW

Sec Twp 34 23N Rge County
19W LAKE

Diversion to Reservoir: DIVERSION # 1

Period of Use:

JANUARY 1 to DECEMBER 31

### Place of Use:

<u>ID</u> 1	Acres	<b>Govt Lot</b>	Otr Sec	Sec	Twp	Rge	County
1				2	22N	20W	LAKE
2				4	22N	20W	LAKE
4				8	22N	20W	LAKE
5				10	22N	20W	LAKE
6				1	22N	20W	LAKE
7				12	22N	20W	LAKE
8				4	22N	19W	LAKE
9				5	22N	19W	LAKE
10				6	22N	19W	LAKE
11				7	22N	19W	LAKE
12				8	22N	19W	LAKE
13				3	22N	20W	LAKE
14				5	22N	20W	LAKE
16				9	22N	20W	LAKE
17				11	22N	20W	LAKE

### Remarks:

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

89198-00

148954-00

148955-00

148956-00

214453-00

THE FOLLOWING ELEMENTS WERE AMENDED BY THE CLAIMANT ON 2/17/2015: PLACE OF USE AND VOLUME.

THIS WATER RIGHT IS PRESUMED TO NOT BE ABANDONED PURSUANT TO 85-2-227, MCA.

STARTING IN 2008, PERIOD OF DIVERSION WAS ADDED TO MOST CLAIM ABSTRACTS, INCLUDING THIS ONE.

THIS CLAIM IS LOCATED IN WHOLE OR IN PART WITHIN THE EXTERIOR BOUNDARY OF THE FLATHEAD INDIAN RESERVATION.

## Remarks:

THIS APPROPRIATION OF WATER TAKES WATER FROM A SOURCE IN 76LJ AND USES IT IN THE CITY OF POLSON WHICH IS LOCATED IN BOTH 76LJ AND 76L BASINS.

# Water Right Number: 76LJ 148954 00

	+	91 12 2 24	06 07 18 23 N 2 19 29		04	3/4	) ', 2	8	06 0W 18	20	21	15 1 22 23N 1
02	3	6 3	1		_n@olson	, in		L		1	-	27 20 4 35
14	12	-07	Fis .	42	54	1	12	+	08	1		
23	24	19	20	22 21	15 N 20W	23	24	18	17	16	15 N 19W-	14
5	25	30	29	Service Servic		25	25	30	29	21	22	23
5	36	31	32	P. Ja	ميوم	35	36	31	32	33	34	35
+	01 12	06	05	04	23	02 B	01 abio	96.	05	04	63	62
+	12	07	98	99	10	11	12	07	0.8	09	10	11

## STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

## GENERAL ABSTRACT

Water Right Number:

76LJ 148955-00 STATEMENT OF CLAIM

Version: 1 - ORIGINAL RIGHT

Version Status: ACTIVE

Owners:

POLSON, CITY OF **%WATER DEPT** 106 1ST ST E POLSON, MT 59860

Priority Date:

SEPTEMBER 4, 1947

Enforceable Priority Date: SEPTEMBER 4, 1947

Type of Historical Right: USE

Purpose (use): Maximum Flow Rate:

MUNICIPAL 0.50 CFS

Maximum Volume:

365.00 AC-FT

Source Name:

Source Type:

HELL ROARING CREEK SURFACE WATER

Point of Diversion and Means of Diversion:

ID

Govt Lot

SENWSW

Twp 34 23N

Rge County 19W LAKE

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: DAM

Reservoir:

ON STREAM

Reservoir Name HELL ROARING CREEK RESERVOIR

Govt Lot

Otr Sec Sec SENWSW 34

Twp 23N

Rge County 19W

Diversion to Reservoir: DIVERSION # 1

Dam Height:

30.00 FEET

Depth:

20.00 FEET **5.23 ACRES** 

Surface Area:

Current Capacity: 41.84 ACRE-FEET

SEE THE RESERVOIR WORKSHEET IN THE CLAIM FILE FOR ADDITIONAL

RESERVOIR DATA.

Period of Use:

JANUARY 1 to DECEMBER 31

## Place of Use:

<u>1D</u>	Acres	Govt Lot	Otr Sec	Sec	Twp	Rge	County
1			W2NW	4	22N	19W	LAKE
2			E2NE	5	22N	19W	LAKE
3			NESE	5	22N	19W	LAKE
4			S2S2	5	22N	19W	LAKE
5			N2N2	8	22N	19W	LAKE
6			S2S2	6	22N	19W	LAKE
7			N2N2	7	22N	19W	LAKE
8			S2S2	1	22N	20W	LAKE
9			N2N2	12	22N	20W	LAKE
10			S2S2	2	22N	20W	LAKE
11			N2SW	2	22N	20W	LAKE
12			S2NW	2	22N	20W	LAKE
13			N2N2	11	22N	20W	LAKE
14				3	22N	20W	LAKE
15			N2NE	10	22N	20W	LAKE
16			N2SWNE	10	22N	20W	LAKE
17			NW	10	22N	20W	LAKE
18			N2N2SW	10	22N	20W	LAKE
19				4	22N	20W	LAKE
20			NE	9	22N	20W	LAKE
21			N2SE	9	22N	20W	LAKE
22			N2SWSE	9	22N	20W	LAKE
23			E2NW	9	22N	20W	LAKE
24			N2NESW	9	22N	20W	LAKE
25			NENE	8	22N	20W	LAKE

#### Place of Use:

<u>1D</u>	Acres	Govt Lot	Otr Sec	Sec	Twp	Rge	County
26	7 8 6 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	The state of the s	SE	5	22N	-	LAKE
27			SENE	5	22N	20W	LAKE
28			S2NENE	5	22N	20W	LAKE

#### Remarks:

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

148954-00

148955-00 148956-00

214453-00

THE FOLLOWING ELEMENTS WERE AMENDED BY THE CLAIMANT ON 5/31/2011: PLACE OF USE, FLOW RATE, VOLUME.

THE WATER RIGHTS LISTED FOLLOWING THIS STATEMENT ARE ASSOCIATED. THEY SHARE THE SAME RESERVOIR. 76LJ 148955-00, 76LJ 148954-00.

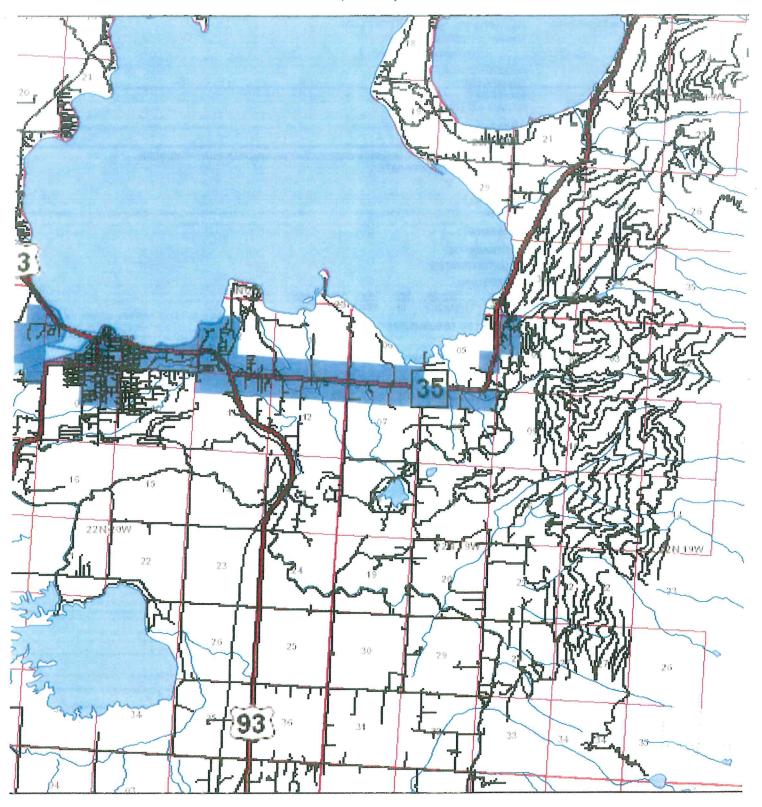
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THIS APPROPRIATION OF WATER TAKES WATER FROM A SOURCE IN 76LJ AND USES IT IN THE CITY OF POLSON WHICH IS LOCATED IN BOTH 76LJ AND 76L BASINS

undefined 148955



## STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

# **GENERAL ABSTRACT**

Water Right Number:

76L 148956-00 STATEMENT OF CLAIM

Version: 1 -- ORIGINAL RIGHT

Version Status: ACTIVE

Owners:

POLSON, CITY OF **%WATER DEPT** 106 1ST ST E POLSON, MT 59860

Priority Date:

JULY 31, 1961

Enforceable Priority Date: JULY 31, 1961

FOR DATA BASE CONVERSION PURPOSES A DAY OR MONTH AND DAY HAVE BEEN

ADDED TO THE PRIORITY DATE.

Type of Historical Right: USE

Purpose (use): MUNICIPAL 1.00 CFS Maximum Flow Rate: Maximum Volume: 690.00 AC-FT Source Name:

Source Type:

GROUNDWATER

GROUNDWATER

Point of Diversion and Means of Diversion:

Qtr Sec Twp Rge County **Govt Lot** NENESW 22N 20W LAKE

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: WELL

Period of Use:

JANUARY 1 to DECEMBER 31

## Place of Use:

Acre	S	Govt Lot		Otr Sec	Sec	Twp	Rge	County
				<b>S2S2</b>	1	22N	20W	LAKE
				N2N2	12	22N	20W	LAKE
				S2S2	2	22N	20W	LAKE
				N2SW	2	22N	20W	LAKE
				S2NW	2	22N	20W	LAKE
				N2N2	11	22N	20W	LAKE
					3	22N	20W	LAKE
				N2NE	10	22N	20W	LAKE
				N2SWNE	10	22N	20W	LAKE
				NW	10	22N	20W	LAKE
				N2N2SW	10	22N	20W	LAKE
					4	22N	20W	LAKE
				NE	9	22N	20W	LAKE
				N2SE	9	22N	20W	LAKE
				N2SWSE	9	22N	20W	LAKE
				E2NW	9	22N	20W	LAKE
				N2NESW	9	22N	20W	LAKE
				NENE	8	22N	20W	LAKE
				SE	5	22N	20W	LAKE
				SENE	5	22N	20W	LAKE
				S2NENE	5	22N	20W	LAKE
				W2NW	4	22N	19W	LAKE
				E2NE	5	22N	19W	LAKE
				NESE	5	22N	19W	LAKE
				S2S2	5	22N	19W	LAKE
				N2N2	8	22N	19W	LAKE
				<b>S2S2</b>	6	22N	19W	LAKE
				N2N2	7	22N	19W	LAKE
	Acre	Acres	Acres Govt Lot	Acres Govt Lot	\$282 \$282 \$1282	\$282 1 N2N2 12 \$282 2 N2SW 2 \$2NW 2 \$2NW 2 \$2NW 11 3 N2NE 10 N2SWNE 10 NW 10 N2N2SW 10 N2N2SW 10  NE 9 N2SE 9 N2SWSE 9 E2NW 9 N2NESW 9 N2NESW 9 SENE 5 SENE 5 SENE 5 S2NENE 5 W2NW 4 E2NE 5 S2S2 5 N2N2 8 \$222 5	S2S2       1       22N         N2N2       12       22N         S2S2       2       22N         N2SW       2       22N         S2NW       2       22N         N2N2       11       22N         N2NE       10       22N         N2SWNE       10       22N         NW       10       22N         N2N2SW       10       22N         N2N2SW       9       22N         N2SWSE       9       22N         N2SWSE       9       22N         N2NESW       9       22N         N2NESW       9       22N         NENE       8       22N         NENE       5       22N         NENE       5       22N         NENE       5       22N         NENE       5       22N         NESE       5       22N	\$2\$2 1 22N 20W \$2\$2 2 22N 20W \$2\$2 2 22N 20W \$2\$2 2 22N 20W \$2\$2W 20W \$3 22N 20W \$2\$2W 20W

#### Remarks:

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

89198-00

148954-00

148955-00

148956-00

214453-00

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

89198-00

148956-00 214453-00

THE FOLLOWING ELEMENTS WERE AMENDED BY THE CLAIMANT ON 5/31/2011: PLACE OF USE, FLOW RATE, VOLUME.

THIS WATER RIGHT IS PRESUMED TO NOT BE ABANDONED PURSUANT TO 85-2-227, MCA.

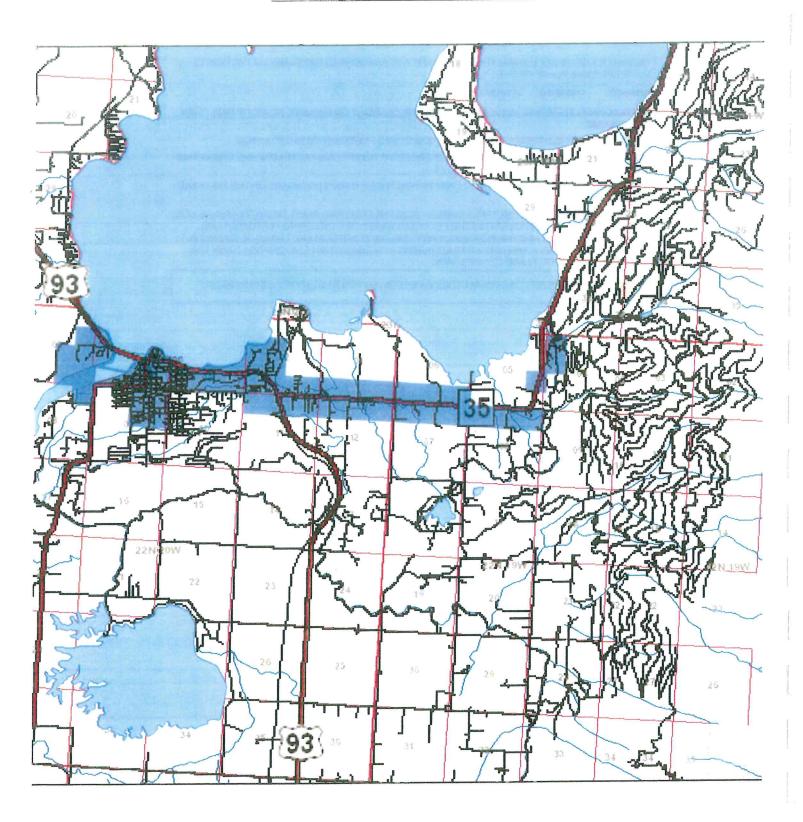
STARTING IN 2008, PERIOD OF DIVERSION WAS ADDED TO MOST CLAIM ABSTRACTS, INCLUDING THIS ONE.

THIS CLAIM IS LOCATED IN WHOLE OR IN PART WITHIN THE EXTERIOR BOUNDARY OF THE FLATHEAD INDIAN RESERVATION.

THIS APPROPRIATION OF WATER TAKES WATER FROM THE FLATHEAD RIVER, BELOW FLATHEAD LAKE DRAINAGE (BASIN 76L) AND USES IT IN THE FLATHEAD RIVER, TO & INCLUDING FLATHEAD LAKE DRAINAGE (BASIN 76LJ) AND THE FLATHEAD RIVER, BELOW FLATHEAD LAKE DRAINAGE (BASIN 76L). ANY OBJECTION TO THIS RIGHT MAY BE FILED DURING THE OBJECTION PERIODS FOR EITHER THE POINT OF DIVERSION OR PLACE OF USE BASIN.

IT IS NOT CLEAR WHETHER THIS CLAIM IS FOR A RESERVED WATER RIGHT OR A STATE BASED RIGHT.

Water Right Number: 76L 148956 00



P.D. MOX 830 MISSOULA, MONTANA

May 1960

City of Polson Polson, MT 59860

MW-2 148956

## WELL LOG

Location: Twelve inch well next to Claffey test well #one

## Formation Log:

0 - 2 Black dirt and gravel.

2 - 53 Gravel and cobblestones mixed in silty clay.

53 - 54 Coarse sand.

54 - 83 Gravel and cobblestones in clay like material.

83 - 148 Very fine sand and tan silt.

148 - 152 Sand and fine gravel. Some water.

152 - 161 Clean coarse gravel. Water. 1000+ gallons per minute.

161 - 164 Sand. Water.

164 - 166 Tan clay.

## Water Log:

Well produced in excess of 1000 gallons per minute of clear sand-free water on a 24 hour test with a turbine pump. Drawdown was about 3 inches. Static water level at completion of well was 126 feet from surface.

## Casing Log:

From two feet above surface to 152 feet below surface well is cased with 12 3/4" OD x .375 wall new black steel water well casing. A twelve inch forged steel drive shoe is welded to the bottom of the twelve inch casing.

## Screening Log:

A Johnson Everdur Metal wire wound well screen assembly is set from 150'6" to 160'5". The top two feet has 75/1000 slot openings and the lower seven feet has 150/1000 slot openings. The screen is fitted with standard fittings and a lead packer on top, tightly swaged to snugly fit inside of the twelve inch casing.

## 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 compiled 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.

## Other Options

Return to menu Plot this site on a topographic map View scanned well log (7/8/2009 11:13:50 AM) View scanned update/correction (11/14/2012 3:34:46 PM)

Site Name: CITY OF POLSON \* WELL 02 UPPER

BOOSTER GWIC ld: 76956

DNRC Water Right: C148956-00

Section 1: Well Owner(s)

1) POLSON WATER DEPARTMENT (MAIL) 106 1ST ST E PO BOX 238

POLSON MT 59860 [06/25/1999] 2) CITY OF POLSON (MAIL)

**BOX 238** 

POLSON MT 59860 [01/01/1960]

Section 2: Location

Township Range Section 22N 20W 10

County

Quarter Sections NE14 NW14 NE14 SW1/4

Geocode

LAKE

Latitude Longitude 47.6815 114,1472

Geomethod MAP

Datum NAD27

**Ground Surface Altitude** 

Section 3: Proposed Use of Water

Section 5: Well Completion Date

Date well completed: Sunday, May 01, 1960

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Wall

Thickness

**PUBLIC WATER SUPPLY (1)** 

Section 4: Type of Work

Drilling Method: UNKNOWN

Status: NEW WELL

Casing

From To

Method Datum

Joint Type

STEEL

Section 7: Well Test Data

Total Depth: 160.42 Static Water Level: 126 Water Temperature:

Pump Test \*

Depth pump set for test feet.

1000 gpm pump rate with 0.25 feet of drawdown after 24

hours of pumping. 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.

GRAVEL AND COBBLESTONES IN CLAY LIKE

Addition

Block

Lot

Date Section 8: Remarks

Section 9: Well Log **Geologic Source** 

112DRFT - GLACIAL DRIFT

Description From To 2 BLACK DIRT AND GRAVEL GRAVEL AND COBBLESTONES MIXED IN SILTY 53 CLAY 53 54 COARSE SAND

54

83

148 152 SAND AND FINE GRAVEL. SOME WATER CLEAN COARSE GRAVEL, WATER, 1000+ 152

83

GALLONS PER MINUTE 164 SAND, WATER.

MATERIAL

148 VERY FINE SAND AND TAN SILT

161 164 166 TAN CLAY

152 12 0.375 Completion (Perf/Screen)

Diameter

From	То		100	Size of Openings	Description
150.42	152.42	12		75/10000	SCREEN-OTHER
152.42	160.42	12		150/1000	SCREEN-OTHER

Pressure

Rating

Annular Space (Seal/Grout/Packer)

There are no annular space records 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.

Company: OSBORNE DRILLING CO.

License No: -

Date 5/1/1960 Completed:

## STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

# GENERAL ABSTRACT

Water Right Number:

76LJ 214453-00 STATEMENT OF CLAIM

Version: 1 -- ORIGINAL RIGHT

Version Status: ACTIVE

Late Claim: B

Owners:

POLSON, CITY OF **%WATER DEPT** 106 1ST ST E POLSON, MT 59860

**Priority Date:** 

JUNE 1, 1969

Enforceable Priority Date: JUNE 30, 1973

CLAIM FILED LATE 03/03/94 . AS MANDATED BY SECTION 85-2-221(3), MCA, THIS CLAIM IS SUBORDINATE, AND THEREFORE JUNIOR, TO ALL INDIAN AND FEDERAL RESERVED

WATER RIGHTS AND ALL VALID TIMELY FILED CLAIMS BASED ON STATE LAW.

Type of Historical Right: USE

Purpose (use):

MUNICIPAL

Maximum Flow Rate:

450.00 GPM

Maximum Volume:

77.00 AC-FT

Source Name:

**GROUNDWATER** 

Source Type:

**GROUNDWATER** 

Point of Diversion and Means of Diversion:

ID

**Govt Lot** 

Rge County

22N 20W LAKE SWNWSW

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: WELL

Period of Use:

JANUARY 1 to DECEMBER 31

Place of Use:

riace (	n use:						
ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1			W2NW	4	22N	19W	LAKE
2			E2NE	5	22N	19W	LAKE
3			S2S2	5	22N	19W	LAKE
4			NESE	5	22N	19W	LAKE
5			N2N2	8	22N	19W	LAKE
6			S2S2	6	22N	19W	LAKE
7			N2N2	7	22N	19W	LAKE
8			S2S2	1	22N	20W	LAKE
9			N2N2	12	22N	20W	LAKE
10			S2S2	2	22N	20W	LAKE
11			N2SW	2	22N	20W	LAKE
12			S2NW	2	22N	20W	LAKE
13				3	22N	20W	LAKE
14			N2NE	10	22N	20W	LAKE
15			N2SWNE	10	22N	20W	LAKE
16			NW	10	22N	20W	LAKE
17			N2N2SW	10	22N	20W	LAKE
18				4	22N	20W	LAKE
19			NE	9	22N	20W	LAKE
20			N2SE	9	22N	20W	LAKE
21			N2SWSE	9	22N	20W	LAKE
22			E2NW	9	22N	20W	LAKE
23			N2NESW	_ 9	22N	20W	LAKE
24			NENE	8	22N	20W	LAKE
25			SE	5	22N	20W	LAKE
26			SENE	5	22N	20W	LAKE
27			S2NENE	5	22N	20W	LAKE

#### Remarks:

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

89198-00 148954-00 148955-00 148956-00 214453-00

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

89198-00 148956-00 214453-00

THIS WATER RIGHT IS ASSOCIATED WITH WATER RIGHTS NOS. 76LJ-W148956, 76LJ-P089198, AND 76L-P104016. THE WATER RIGHTS ARE ASSOCIATED BECAUSE THEY SHARE A COMMON PLACE OF USE.

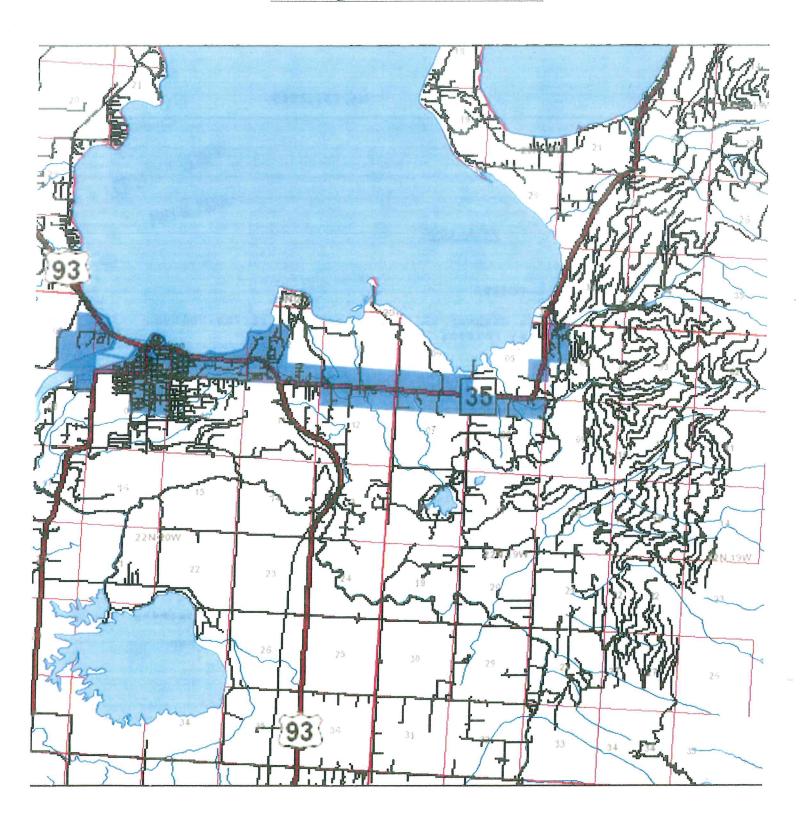
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THIS CLAIM IS LOCATED IN WHOLE OR IN PART WITHIN THE EXTERIOR BOUNDARY OF THE FLATHEAD INDIAN RESERVATION.

THIS APPROPRIATION OF WATER TAKES WATER FROM THE FLATHEAD RIVER, TO & INCLUDING FLATHEAD LAKE DRAINAGE (BASIN 76LJ) AND USES IT IN THE FLATHEAD RIVER, TO & INCLUDING FLATHEAD LAKE DRAINAGE (BASIN 76L) AND THE FLATHEAD RIVER, TO & INCLUDING FLATHEAD LAKE DRAINAGE (BASIN 76LJ). ANY OBJECTION TO THIS RIGHT MAY BE FILED DURING THE OBJECTION PERIODS FOR EITHER THE POINT OF DIVERSION OR PLACE OF USE BASIN.

CLAIM FILED LATE 03/03/94. IN ADDITION TO BEING SUBORDINATE TO ALL INDIAN AND FEDERAL RESERVED WATER RIGHTS AND ALL VALID TIMELY FILED CLAIMS BASED ON STATE LAW, THIS RIGHT MAY ALSO BE SUBORDINATE TO CERTAIN PERMITS AND RESERVATIONS OF WATER. SEE SECTION 85-2-221 MCA.



May 15, 1969

Water System Improvements City Of Polson Folson, Montana FILMED
JUN 3 1994

## WELL LOG

EUA PROJECT NO. 07 - 1 - 00427

\_d - 525 Solid blue rock.

Location: Adjacent to U.S. Highway 93 in the south end of the Pulson City Golf Course, Polson, Montana,

# Formations Log:

Gravel and cobblestones mixed in tun silt. fied gravel mixed with tan clay. 43 Ked gravel and cobblestones mixed with tan clay. 59 hed gravel and cobblestones tightly imbedded in tan clay. 59 -94 Sand and gravel mixed in tan silt. Soops of silty water. -94 - 112Tan clay with some gravel mixed in. 112 - 138 Gravel imbedded in tan silty clay. 158 - 197 197 - 208Fine tan sand mixed in tan silt, 208 - 251 Gravel imbedded in ton clay. 251 - 262 Poorly graded fine silty sand to coarse gravel. Water Static water level 61 foet from surface. 262 - 287 Gravel imbedded in tan clay. foorly graded sand and gravel. . water, SWI. 61' from surface. 257 - 292 252 - 298 Gravel imbedded in tan clay. 298 - 307 Fine brown silty sand. Water. Too fine and silty to screek, 307 - 432Gravel imbedded in tan clay. 432 - 456Gravel imbedded in tan clay with thin seams of fine brown silty sand. Some sandy silty water. 456 - 469 Blue clay. 169 - 476 Brown loam and clay. 476 - 481Gray sandy clay. 481 - 487 Black loamy clay. 487 - 488Blue shaley clay. 488 - 489 Hard gray rock. 489 - 492 Gray and tan colored rock in thin alternate layers. 2 - 509 Broken blue - green rock. Water. 5WL 55! from surface. 509 - 512 Broken light blue rock. Water. SWL 55' from surface. ? - 518 Sclid blue - green rock.

PDA PROJECT NO. 07 - 1 - 00427

# Casing Log:

well cased from three feet above surface to 490 feet with 10 3/4 inch OD by .365 wall plack Steel Water well Casing. A forged steel drive show is welded to the bottom of the ten inch casing.

# rerforations Log:

Twenty four 1/4" x 21/2" slots per foot were cut in casing with a P:111s knife from 251 feet to 261 feet and from 287 feet to 292 feet.

# peveloping Log:

4/21/69	Ran valved surge, sand pumped and bailed. Lots sand. Yery muddy. Transmitting poorly.	of	2	hrs.
4/22/69	ing valved surge, sand pumped and bailed. Lots	of	ŋ	90
4/23/69	Ran valved surge, sand pumped and hailed. Less		8	99
4/24/69	sand, silty water. Transmitting fair.		•	01
4/25/69	sand, silty water, Transmitting fair. Such can valved surge, sand pumped and bailed. Buch		9	
1/26/69	less and, water still silty. Transmitting better		915	91
4/23/69	less sand. Water silty. Transmitting good Ran valved surge, sand pumped and bailed. Water		24	07
4/20/09	sandy but not filling up well. Water still silty but transmitting very good.	, .	9	99
4/29/69	Surged and pumped with 600 CFM Air Compressor, approximately 5% sand. Water silty	10	0	R
4/30/69	Surged and pumped with 600 CFM Air Compressor, approximately 2% sand. Water clearing.	1 2	2	09
5/ 1/69	Surged and pumped with 600 CFM Air Compressor, approximately 2% sand. Yater clears when well		<i>.</i> . •	
5/ 2/69	not being surged. Surged and numbed with 600 CFM Air Compressor,	9	3	97
<i>y,</i> _, ,	sand less than 1%. Water clears when well jot being surged.	9	•	P <b>q</b>
5/ 5/69	Surged and pumped with 600 CFM Air Compressor. Clear and sand free except after surging.			
5/ 6/69	Surged most of day on 3 to 5 minute cycles. Surged and pumped with 600 CFM Air Compressor.	6		00
<i>31</i> 0107	Clear and sand free except after surging. Surged steadily on 3 to 5 minute cycles.	9	}	90
5/ 7/69	Surged and pumped with 600 CFH Air Compressor. Water difficult to roll or bring in any more			
	sand even during and after surging.	911	14	irs.

EDA PROJECT NO. 07 - 1 - 00427

Well was developed with valved surge, sand pump, bailer and compressed air. Capacity of well increased during developing from seventy gallons per minute of very sandy silty water to over 800 gallons per minute of clear sand free water.

Water Logs

At completion well produced in excess of 800 gallons per minute of clear sand free water. Static water level after development was 56 feet from surface. All water entering well is coming through perforations in the casing from 251 feet to 261 feet and from 287 feet to 292 feet and from fractures and seams in the rock between 492 feet and 512 feet.

Other Options

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 compiled 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.

Return to menu Plot this site on a topographic map View field visits for this site View water quality for this site

Site Name	: CITY	OF	POLSON	- NEAR	GOLF	COURSE

GWIC Id: 6202

Section 1: Well Owner(s)

Section 2: Location

Township Range 22N

Section 20W 2 County

**Quarter Sections** SE1/4 NW1/4 SW1/4 Geocode

LAKE

Latitude 47.6941 Longitude 114.1302

Geomethod Datum MAP

**Ground Surface Altitude** 2920

NAD27 Method Datum Date

Addition

Block

Lot

# Section 3: Proposed Use of Water

**PUBLIC WATER SUPPLY (1)** 

Section 4: Type of Work

**Drilling Method:** Status: NEW WELL

## Section 5: Well Completion Date

Date well completed: N/A

#### Section 6: Well Construction Details

There are no borehole dimensions assigned to this well. There are no casing strings assigned to this well. 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: 525 Static Water Level: 54 Water Temperature:

**Unknown Test Method\*** 

Yield 380 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 112ALVM - ALLUVIUM (PLEISTOCENE) 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:	3,000
Company:	
License No: -	
Date	
Completed:	

# Appendix B

# **PROVISIONAL PERMIT ABSTRACTS**

Summary Report of City of Polson's Water Rights City of Polson Public Works Department Polson, Montana

#### STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

# GENERAL ABSTRACT

Water Right Number:

76L 89198-00 PROVISIONAL PERMIT

Version: 1 - ORIGINAL RIGHT

Version Status: ACTIVE

Owners:

POLSON, CITY OF **%WATER DEPT** 106 1ST ST E POLSON, MT 59860

Priority Date:

MARCH 3, 1994 at 08:10 A.M.

Enforceable Priority Date: MARCH 3, 1994 at 08:10 A.M.

Purpose (use):

MUNICIPAL

Maximum Flow Rate:

650.00 GPM

Maximum Volume:

246.00 AC-FT

Source Name:

GROUNDWATER

Source Type:

**GROUNDWATER** 

Point of Diversion and Means of Diversion:

ID

Govt Lot

Qtr Sec **NENESW** 

Sec 10 Rge County

Twp 20W LAKE 22N

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: WELL

Well Depth:

177.00 FEET

Static Water Level: 99.00 FEET

Casing Diameter: 16.00 INCHES

Pump Size:

60.00 HP

Purpose (Use):

MUNICIPAL

Volume:

246.00 AC-FT

Period of Use:

JANUARY 1 to DECEMBER 31

#### Place of Use:

Place of t	ose:						
<u>ID</u>	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1			W2NW	4	22N	19W	LAKE
2				5	22N	19W	LAKE
3			S2S2	6	22N	19W	LAKE
4			N2N2	7	22N	19W	LAKE
5			N2N2	8	22N	19W	LAKE
6			S2S2	1	22N	20W	LAKE
7				2	22N	20W	LAKE
8				3	22N	20W	LAKE
9				4	22N	20W	LAKE
10			E2	5	22N	20W	LAKE
11			NENE	8	22N	20W	LAKE
12				9	22N	20W	LAKE
13				10	22N	20W	LAKE
14 -			N2	11	22N	20W	LAKE
15			N2N2	12	22N	20W	LAKE

WITHIN THE BOUNDARIES OF THE CITY OF POLSON MUNICIPAL WATER SERVICE

## Remarks:

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

89198-00

148954-00

148955-00

148956-00

214453-00

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME PLACE OF USE.

89198-00

148956-00

214453-00

#### Remarks:

#### ASSOCIATED RIGHT

THIS PERMIT AND WATER RIGHT NOS. 76LJ-W148954-00 76LJ-W148955-00, 76LJ-W148956-00 AND 76LJ-W214453-00 ARE MANIFOLD TOGETHER AND HAVE THE SAME PLACE OF USE.

#### ASSOCIATED RIGHT

THIS PERMIT IS ASSOCIATED WITH WATER RIGHTS NOS. 76LJ-W148956, 76L-P104106, AND 76LJ-B214453. THE WATER RIGHTS ARE ASSOCIATED BECAUSE THEY SHARE A COMMON PLACE OF USE.

#### **GROUNDWATER WASTE & CONTAMINATION**

THIS RIGHT IS SUBJECT TO SECTION 85-2-505, MCA, REQUIRING ALL WELLS BE CONSTRUCTED SO THEY WILL NOT ALLOW WATER TO BE WASTED OR CONTAMINATE OTHER WATER SUPPLIES OR SOURCES, AND ALL FLOWING WELLS SHALL BE CAPPED OR EQUIPPED SO THE FLOW OF THE WATER MAY BE STOPPED WHEN NOT BEING PUT TO BENEFICIAL USE.

#### **GROUNDWATER WELL-ACCESS PORT**

THE FINAL COMPLETION OF THE WELL(S) MUST INCLUDE AN ACCESS PORT OF AT LEAST .50 INCH SO THE STATIC LEVEL OF THE WELL MAY BE ACCURATELY MEASURED.

# CONFEDERATED SALISH AND KOOTENAI TRIBES - RESERVED WATER RIGHTS

THIS RIGHT IS SUBJECT TO ALL PRIOR INDIAN RESERVED WATER RIGHTS OF THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN THE SOURCE OF SUPPLY. IT IS THE TRIBE'S POSITION THAT ECONOMIC INVESTMENTS MADE IN RELIANCE UPON THIS RIGHT, DO NOT CREATE IN THE APPROPRIATOR ANY EQUITY OF VESTED RIGHT AGAINST THE TRIBES. THE APPROPRIATOR IS HEREBY NOTIFIED THAT ANY FINANCIAL OUTLAY OR WORK INVESTED IN A PROJECT PURSUANT TO THIS RIGHT IS AT THE APPROPRIATOR'S RISK. THE ISSUANCE OF THIS RIGHT DOES NOT REDUCE THE APPROPRIATOR'S LIABILITY FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. IT DOES NOT MAKE THE DEPARTMENT LIABLE FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. NOR IS THE DEPARTMENT LIABLE FOR ANY LOSS TO THE APPROPRIATOR CAUSED BY THE EXERCISE OF SENIOR RESERVED WATER RIGHTS. THE STATE OF MONTANA'S JURISDICTION TO ISSUE WATER RIGHTS WITHIN THE EXTERIOR BOUNDARIES OF THE FLATHEAD RESERVATION HAS BEEN CHALLENGED BY THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN CAUSE NO. ADV 92-745 (MONTANA FIRST JUDICIAL DISTRICT COURT, LEWIS AND CLARK COUNTY, HELENA - FILED MAY 15, 1992), AND IN CAUSE NO. CV 92-54-M-CCL (UNITED STATES-FILED DISTRICT COURT, DISTRICT OF MONTANA, MISSOULA DIVISION - FILED MAY 15, 1992), WHICH CASES ARE CURRENTLY PENDING. ANY WATER RIGHT ISSUED BY THE STATE IN THE ABSENCE OF JURISDICTION TO ISSUE THE WATER RIGHT IS VOID.

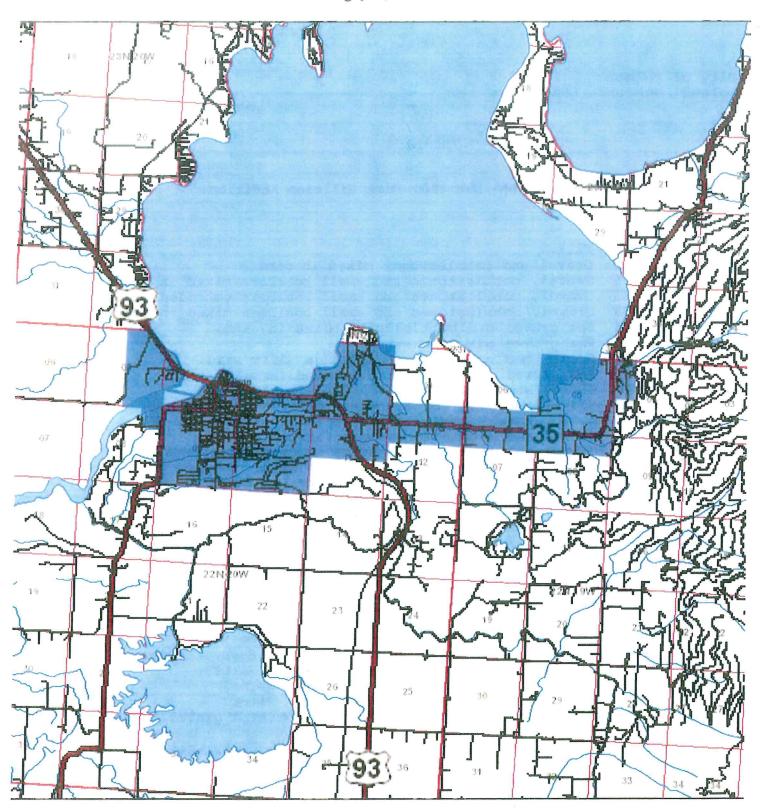
#### REISSUED RIGHT

THE RIGHT ISSUED ON 03031995 WAS REISSUED. THE RIGHT WAS REISSUED BECAUSE THE BASIN WAS CORRECTED TO 76L.

#### WATER MEASUREMENT - STATIC WATER LEVEL MEASUREMENTS REQUIRED - KALISPELL

THE APPROPRIATOR SHALL MEASURE AND RECORD THE STATIC WATER LEVEL EACH YEAR IN THE WELL DURING EACH OF THE FOLLOWING TIME PERIODS: 1) MARCH 1ST - 15TH; 2) JUNE 15TH - 30TH; 3) OCTOBER 15TH - 31ST. RECORDS MUST INCLUDE THE WATER LEVEL, METHOD OF MEASUREMENT, DATE AND TIME OF MEASUREMENT AND DESCRIPTION OF THE MEASURING POINT ON THE CASING. THE MEASUREMENT SHALL BE RECORDED ONLY AT A TIME WHEN THE WATER LEVEL IS STATIC OR THERE IS NO SIGNIFICANT CHANGE IN MEASUREMENTS TAKEN 1 - 2 MINUTES APART. SUBMIT THE RECORDS BY NOVEMBER 30TH OF EACH YEAR AND/OR UPON REQUEST TO THE WATER RESOURCES REGIONAL OFFICE, PO BOX 860, KALISPELL, MT, 59903-0860.

undefined 76L 89198 00



MUNICIPAL INDUSTRIAL WELLS DOMESTIC IRRIGATION

LICENSED, BONDED AND INSURED

3850 HIGHWAY 93 SOUTH PH. 755-5544 KALISPELL, MONTANA 59901

December 3; 1976

City of Polson Polson, Montana 59860 p089198

MW-3

## WELL LOG

Polson, Montana. Lot #10, East Hillside Addition.

## Formation Log:

167 - 168

0 -1 Fill. 1 -19 Gravel and cobblestones mixed in sand. 19 -Gravel, cobblestones and small boulders mixed in sand. 33 Gravel, cobblestones and small boulders embedded in clay. 33 -Gravel, cobblestones and small boulders mixed in coarse sand. 39 39 -44 Pea gravel and cobblestones mixed in sand. 44 -49 Pea gravel mixed in sand. 55. 49 -52 Gravel and cobblestones mixed in silty sand. 52 -61 Pea gravel and cobblestones mixed in silty sand. 61 -66 Gravel and small boulders mixed in sand. 66 -75 Gravel embedded in tan sandy clay. 75 -81 A few gravels embedded in tan sandy clay. 81 -82 Gravel and cobblestones mixed in coarse sand. 82 -91 Grave'l and cobblestones mixed in coarse brown sand. 91 -Gravel and cobblestones mixed in silt. 95 95 -99 Gravel, cobblestones and boulders embedded in tan clay. 99 - 100Gravel and cobblestones packed in sand. 100 - 104Gravel and cobblestones and small boulders mixed in sand. 104 - 107Gravel, cobblestones and tan clay balls mixed in sand. 107 - 114Gravel, cobblestones and boulders embedded in tan sandy clay. 114 - 115 Tight sand. 115 - 126 A few gravels embedded in sandy tan clay. 126 - 138 Gravel, cobblestones and boulders mixed in silty sand. 138 - 143 Clean gravel mixed in coarse sand. 143 - 148A few gravels mixed in silty sand. Seep of silty water. 148 - 150 Gravel mixed in clean coarse sand. Some water. 150 - 153 Gravel tightly packed in silty sand. Seep of water. 153 - 158 Gravel tightly packed in clean sand. Water. 158 - 162 Gravel mixed in coarse brown sand. 162 - 164 Gravel mixed in clean coarse sand. Water. 164 - 167 Gravel and cobblestones mixed in cemented gravel.

Gravel and cobblestones mixed in fine sand. Seep of water.

168 - 170 Gravel embedded in light brown sandy clay.

170 - 176 Gravel embedded in light brown clay.

176 - 177 Gravel embedded in brown clay.

of Polson Log ember 3, 1976 ,ge 2 of 2

Nater Log:

The well produced in excess of 1400 Gallons Per Minute of clear sand-free water on a eight hour test with an air lift pump. Static water level at completion of well was 99'2" from surface.

1/4.4 3/29/05

Casing Log:

The well is cased from 3'9" above surface to 154'3" with sixteen inch OD by .375 Wall Black Steel Water Well Casing. A sixteen inch forged steel drive shoe is welded to the bottom of the sixteen inch casing.

Screen Log:

From 152'2" to 174'9" a sixteen inch telescope size screen assembly was installed in the well. A figure K packer top was welded to the top of the sixteen inch telescope size assembly to provide a means of centering it in the sixteen inch casing and to provide a smooth entrance into the screen for drilling and development tools.

From 152'2" to 164'10" the assembly consists of a sixteen inch telescope size Johnson Watermark 304 Stainless Steel Screen with .500 size slots.

From 164'10" to 174'9" the assembly consists of a blank tailpipe made of fourteen inch OD by .250 Wall Black Steel Water Well Casing. A fourteen inch steel plate two inches thick is welded to the bottom of the casing in order to exclude any sandy or silty water below 174'9".

## Grouting Log:

A 24 inch hole was drilled to a depth of twelve feet in order to provide an annulus around the sixteen inch surface casing. This annulus was filled with cement grout in order to provide a sanitary surface seal and to prevent surface waters and other contaminants from entering the well.

## Note:

Wells of this type in this area can be depended upon year after year to produce clear sand-free water as long as they are not overpumped, i.e., they should be pumped at rates not in excess of 70 to 80 percent of the tested capacity of the aguifer.

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 compiled 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.

## Other Options

1400 gpm with drill stem set at \_ feet for 8 hours.

\* 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

Return to menu Plot this site on a topographic map View field visits for this site View water quality for this site View scanned well log (7/8/2009 11:14:02 AM) View scanned update/correction (11/14/2012 4:27:49 PM)

Site Name: CITY OF POLSON \* WELL 03 BOOSTER

STATION

**GWIC Id: 76957** 

DNRC Water Right: C148956-00

Section 1: Well Owner(s)

1) POLSON WATER DEPARTMENT (MAIL)

106 1ST ST E

POLSON MT 59860 [06/25/1999]

2) CITY OF POLSON (MAIL)

**BOX 238** 

22N

POLSON MT 59860 [01/01/1960]

Section 2: Location

Township Range

20W

Section 10

**Quarter Sections** NE' NW' NE' SW' Geocode

County

LAKE

Addition

Latitude 47.6816

Longitude 114.1473

Geomethod Datum MAP

**Ground Surface Altitude** 

Method

NAD27 Date Datum

3055

Block

Lot

Section 8: Remarks

the well casing.

Section 9: Well Log **Geologic Source** 

From To

112DRFT - GLACIAL DRIFT

Description

Section 7: Well Test Data

Total Depth: 174.75

Air Test \*

Static Water Level: 99.2 Water Temperature:

Time of recovery hours.

Pumping water level \_ feet.

Recovery water level 99.17 feet.

Section 3: Proposed Use of Water **PUBLIC WATER SUPPLY (1)** 

Section 4: Type of Work Drilling Method: UNKNOWN

Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Friday, December 03, 1976

Section 6: Well Construction Details

**Borehole dimensions** From To Diameter

0 12

Casing

From	То	Diameter	Wall Thickness	Pressure Rating	Joint	Туре
-3.75	154.17	16	0.375		WELDED	STEEL
164.83	174.17	14	0.25			STEEL

Completion (Perf/Screen)

From	То			Size of Openings	Description
152.17	164.83	16		0.500	SCREEN- CONTINUOUS- STAINLESS
174.75	174.75	14	NACES THE RESIDENCE OF THE PERSONS ASSESSMENT ASSESSMENT ASSESSMENT ASSESSMENT ASSESSMENT ASSESS	A114 (2011)	BOTTOM CAP

Annular Space (Seal/Grout/Packer)

			Cont.
From	To	Description	Fed?
0	12	CEMENT GROUT	Υ

. , .			2000 Palett				
	0	1	FILL				
	1	19	GRAVEL AND COBBLESTONES MIXED IN SAND				
1	19	25	GRAVEL, COBBLESTONES AND SMALL BOULDERS MIXED IN SAND				
2	25	33	GRAVEL, COBBLESTONES AND SMALL BOULDERS EMBEDDED IN CLAY				
3	3	39	GRAVEL, COBBLESTONES AND SMALL BOULDERS MIXED IN COARSE SAND				
3	9	44	PEA GRAVEL AND COBBLESTONES MIXED IN SAND				
4	4	49	PEA GRAVEL MIXED IN SAND				
4	9	271	GRAVEL AND COBBLESTONES MIXED IN SILTY SAND.				
5	2		PEA GRVAEL AND COBBLESTONES MIXED IN SILTY SAND				
6	1	66	GRAVEL AND SMALL BOULDERS MIXED IN SAND				
6	6	75	GRAVEL EMBEDDED IN TAN SANDY CLAY				
7:	5	81	A FEW GRAVELS EMBEDDED IN TAN SANDY CLAY				
8	1	871	GRAVEL AND COBBLESTONES MIXED IN COARSE SAND				
82	2	uii	GRAVEL AND COBBLESTONES MIXED IN COARSE BROWN SAND				
91		95	GRAVEL AND COBBLESTONES MIXED IN SILT				

## **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: LIBERTY DRILLING & PUMP CO

License No: -

Date 12/3/1976 Completed:

Site Name: CITY OF POLSON GWIC Id: 76957 Additional Lithology Records From To Description 99 GRAVEL, COBBLESTONES, AND BOULDERS EMBEDDED IN TAN SANDY CLAY 95 99 100 GRAVEL AND COBBLESTONES PACKED IN SAND 104 GRAVEL AND COBBLESTONES AND SMALL BOULDERS MIXED IN SAND 100 104 107 GRAVEL, COBBLESTONES, AND TAN CLAY BALLS MIXED IN SAND GRAVEL, COBBLESTONES AND BOULDERS EMBEDDED IN TAN SANDY CLAY 107 114 115 TIGHT SAND 115 126 A FEW GRAVELS EMBEDDED IN SANDY TAN CLAY 138 GRAVEL, COBBLESTONES, AND BOULDERS MIXED IN SILTY SAND 126 138 143 CLEAN GRAVEL MIXED IN COARSE SAND 148 A FEW GRAVELS MIXED IN SILTY SAND, SEEP OF SILTY WATER 143 148 150 GRAVEL MIXED IN CLEAN COARSE SAND, SOME WATER 153 GRAVEL TIGHTLY PACKED IN SILTY SAND, SEEP OF WATER 150 153 158 GRAVEL TIGHTLY PACKED IN CLEAN SAND, WATER 158 162 GRAVEL MIXED IN COARSE BROWN SAND, WATER 164 GRAVEL MIXED IN CLEAN COARSE SAND, WATER 162 167 GRAVEL AND COBBLESTONE MIXED IN CEMENTED GRAVEL, SEEP OF 164 WATER 167 168 GRAVEL AND COBBLESTONES MIXED IN FINE SAND, SEEP OF WATER 168 170 GRAVEL EMBEDDED IN LIGHT BROWN SANDY CLAY 176 GRAVEL EMBEDDED IN LIGHT BROWN CLAY 170 177 GRAVEL EMBEDDED IN BROWN CLAY 176

#### STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION 1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

# GENERAL ABSTRACT

Water Right Number:

76LJ 99791-00 PROVISIONAL PERMIT

Version: 2 -- CHANGE AUTHORIZATION

Version Status: ACTIVE

Owners:

POLSON, CITY OF %WATER DEPT 106 1ST ST E POLSON, MT 59860

Priority Date:

OCTOBER 9, 1996 at 01:30 P.M.

Enforceable Priority Date: OCTOBER 9, 1996 at 01:30 P.M.

Purpose (use):

MUNICIPAL

Maximum Flow Rate:

1,000.00 GPM

Maximum Volume:

712.00 AC-FT

Source Name:

GROUNDWATER

Source Type:

**GROUNDWATER** 

Point of Diversion and Means of Diversion:

ID

Govt Lot

Otr Sec

Twp Rge County

Sec 22N 20W LAKE 10 NENWNE

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: WELL

Well Depth:

150.00 FEET

Static Water Level: 81.00 FEET

Casing Diameter: 10.00 INCHES

NENWNE 10 22N 20W LAKE

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: WELL

Well Depth:

135.00 FEET

Static Water Level: 80.00 FEET

Casing Diameter: 10.00 INCHES

Purpose (Use):

MUNICIPAL

Volume:

712.00 AC-FT

Period of Use:

JANUARY 1 to DECEMBER 31

Place of Use:

I INCC OF	CDU					_	_
ID	Acres	Govt Lot	Otr Sec	Sec	Twp	Rge	County
1			W2W2NW	4	22N	19W	LAKE
2				5	22N	19W	LAKE
3			S2S2	6	22N	19W	LAKE
4			N2N2	7	22N	19W	LAKE
5			N2N2	8	22N	19W	LAKE
6			S2S2	1	22N	20W	LAKE
7				2	22N	20W	LAKE
8				3	22N	20W	LAKE
9				4	22N	20W	LAKE
10			SE	5	22N	20W	LAKE
11			NENE	8	22N	20W	LAKE
12				9	22N	20W	LAKE
13				10	22N	20W	LAKE
14			N2N2	11	22N	20W	LAKE
15			N2N2	12	22N	20W	LAKE
16			S2S2	35	23N	20W	LAKE

THE PLACE OF USE IS WITHIN THE BOUNDARIES OF THE CITY OF POLSON MUNICIPAL WATER SERVICE AREA.

#### Remarks:

#### **GROUNDWATER WASTE & CONTAMINATION**

THIS RIGHT IS SUBJECT TO SECTION 85-2-505, MCA, REQUIRING ALL WELLS BE CONSTRUCTED SO THEY WILL NOT ALLOW WATER TO BE WASTED OR CONTAMINATE OTHER WATER SUPPLIES OR SOURCES, AND ALL FLOWING WELLS SHALL BE CAPPED OR EQUIPPED SO THE FLOW OF THE WATER MAY BE STOPPED WHEN NOT BEING PUT TO BENEFICIAL USE.

## CONFEDERATED SALISH AND KOOTENAI TRIBES - RESERVED WATER RIGHTS

THIS RIGHT IS SUBJECT TO ALL PRIOR INDIAN RESERVED WATER RIGHTS OF THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN THE SOURCE OF SUPPLY. IT IS THE TRIBE'S POSITION THAT THE EXERCISE OF JUNIOR WATER RIGHTS EITHER WITHIN OR OUTSIDE OF THE EXTERIOR BOUNDARIES OF THE FLATHEAD INDIAN RESERVATION MAY AFFECT THE RESERVED WATER RIGHTS OF THE TRIBE WITHIN THE EXTERIOR BOUNDARIES OF THE RESERVATION. IT IS THE TRIBE'S POSITION THAT ECONOMIC INVESTMENTS MADE IN RELIANCE UPON THIS RIGHT DO NOT CREATE IN THE APPROPRIATOR ANY EQUITY OR VESTED RIGHT AGAINST THE TRIBES. THE APPROPRIATOR IS HEREBY NOTIFIED THAT ANY FINANCIAL OUTLAY OR WORK INVESTED IN A PROJECT PURSUANT TO THIS RIGHT IS AT APPROPRIATOR'S RISK. THE ISSUANCE OF THIS RIGHT DOES NOT REDUCE THE APPROPRIATOR'S LIABILITY FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. NOR IS THE DEPARTMENT LIABLE FOR ANY LOSS TO THE APPROPRIATOR CAUSED BY THE EXERCISE OF SENIOR RESERVED WATER RIGHTS.

#### IMPORTANT INFORMATION

THE APPROPRIATOR SHALL TAKE MONTHLY STATIC WATER LEVEL MEASUREMENTS OF THE WELLS OWNED BY OBJECTORS FOR A PERIOD OF THREE YEARS FROM THE DATE THE CITY COMMENCES FULL PRODUCTION FROM THE WELL(S) AT OR NEAR THE FLOW RATE OF 1000 GPM. THE APPROPRIATOR SHALL KEEP WRITTEN RECORDS OF THE WATER LEVEL, METHOD OF MEASUREMENT, DATE AND TIME OF MEASUREMENT, AND DESCRIPTION OF THE MEASURING POINT ON THE CASING. STATIC WATER LEVEL MEASUREMENTS SHALL BE RECORDED ONLY AT A TIME WHEN THE WATER LEVEL IS STATIC. THESE RECORDS WILL BE EVALUATED TO DETERMINE WHETHER THE DRAWDOWN, IF ANY, IS AN ADVERSE AFFECT. IF IT IS DETERMINED THERE IS AN ADVERSE AFFECT, THEAPPROPRIATOR MAY NEED TO SHOW WHY THE PERMIT SHOULD NOT BE MODIFIED OR REVOKED. THE APPROPRIATOR SHALL SUBMIT THE RECORDS BY NOVEMBER 30 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT RECORDS MAY BE CAUSE FOR REVOCATION OR MODIFICATION OF THE CHANGE. RECORDS MUST BE SUBMITTED TO THE WATER RESOURCES REGIONAL OFFICE. CONTACT THE REGIONAL OFFICE LISTED BELOW TO OBTAIN THEIR CURRENT ADDRESS.

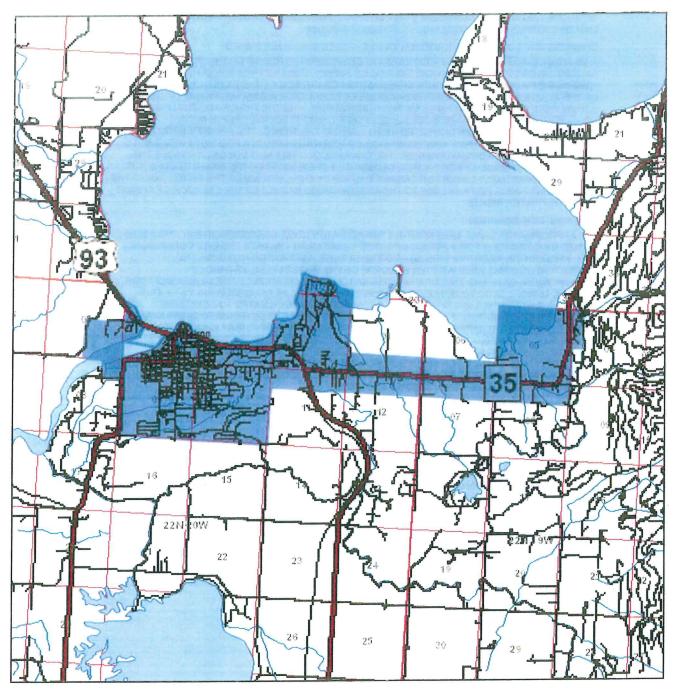
#### IMPORTANT INFORMATION

THE NEW WELLS ARE LOCATED 5,000 FEET FROM THE OLD WELL.

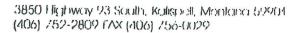
# WATER MEASUREMENT-INLINE FLOW METER REQUIRED

THE APPROPRIATOR SHALL INSTALL A DEPARTMENT APPROVED IN-LINE FLOW METER AT A POINT IN THE DELIVERY LINE APPROVED BY THE DEPARTMENT. WATER MUST NOT BE DIVERTED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. ON A FORM PROVIDED BY THE DEPARTMENT, THE APPROPRIATOR SHALL KEEP A WRITTEN MONTHLY RECORD OF THE FLOW RATE AND VOLUME OF ALL WATER DIVERTED, INCLUDING THE PERIOD OF TIME. RECORDS SHALL BE SUBMITTED BY NOVEMBER 30 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OF A PERMIT OR CHANGE. THE RECORDS MUST BE SENT TO THE WATER RESOURCES REGIONAL OFFICE. THE APPROPRIATOR SHALL MAINTAIN THE MEASURING DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE AND VOLUME ACCURATELY.

-<u>undefined</u> 7621 99791 00



# LIBERTY DRILLING & PUMP COMPANY. INC.





March 6, 2000

City of Polson Polson, Montana 59860

MW-4

WELL LOG

Location: Production Well #4 - Hillcrest

Formation Log:

1 Topsoil.

1 -9 Silty clay matrix.

9 - 23 Fine to medium tan sand.

23 - 55 Fine tan sand.

55 - 74 Mixed gravel in sandy clay matrix.
74 - 89 Small to medium gravel and scattered cobblestones in silty sand matrix.

89 - 103 Small to medium gravel and cobblestones in silty sand matrix. Seeps of water.

103 - 107 Large gravel and cobblestones in sand.

107 - 109 Scattered gravel and cobblestones in sand.

109 - 114 Larger gravel in sand. Seeps of water.

114 - 119 Gravel and cobblestones in sand - some cemented gravel. Seeps of water.

119 - 121 Cleaner sand and gravel - comented. Some water.

121 - 125 Gravel and scattered cobblestones in sand. Some water.

125 - 130 Gravel and cobblestones in sand - some cemented gravel. Some water.

130 - 135 Gravel and cobblestones in less sand - some cemented gravel. Some water.

135 - 136 Gravel embedded in clay.

Cemented sand and gravel - some cobblestones. Some water. 136 - 141

141 - 150 Gravel embedded in silty clay matrix.

Water Log:

The well produced in excess of 300 gallons per minute after extensive cable tool, air and pump development. Static water level at completion of well was 81 feet from surface.

Casing Log:

Well is cased with 10 3/4" OD x .365 wall new black steel casing from two feet above surface to 128 feet. A ten inch forged steel drive shoe is welded to the bottom of the ten inch casing.

Grouting Log:

A 14" diameter hole was drilled from surface to 60' in order to provide an annulus around the ten inch steel casing. This annulus was filled with neat cement grout in order to provide a sanitary surface seal and prevent seepage of surface waters and other contaminants into and around the well.

Page 1 of 2

March 6, 2000 City of Polson Personal Well Log Page 2 of 2

# Screen Assembly Log:

A 10" telescoping Johnson 304 stainless steel screen is installed in the well from 128' to 140'. A Figure K packer in installed on 2'6" of 9½" OD riser pipe. Eight inch tail pipe extends from the bottom of the screen to 150'. A 3/4" steel plate is welded to the bottom of the tail pipe. The screened area consists of the following:

128' to 130' .020 slot 130' to 132' .070 slot 132' to 134' .040 slot 134' to 136' .100 slot 136' to 140' .140 slot

Other Options

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 compiled 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.

Return to menu Plot this site on a topographic map View scanned well log (11/13/2012 3:43:22 PM)

Site Name: CITY OF POLSON \* WELL 04

GWIC ld: 269038

Section 1: Well Owner(s) 1) CITY OF POLSON (MAIL) 106 FIRST STREET EAST POLSON MT 59860 [03/06/2000]

Section 2: Location

Latitude

47.68843718265

Township Range

22N 20W Section 10

Quarter Sections NE% NW% NE%

County

Geocode

Longitude 114.1421615505 Geomethod Datum TRS-SEC NAD83

**Ground Surface Altitude** 

Method Datum Date

Addition

LAKE

Block

Lot

\* 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.

300 gpm pump rate with 21.8 feet of drawdown after 24

Section 3: Proposed Use of Water

**PUBLIC WATER SUPPLY (1)** 

Section 4: Type of Work Drilling Method: ROTARY Status: NEW WELL

Section 5: Well Completion Date Date well completed: Monday, March 06, 2000

Section 6: Well Construction Details

Borehole dimensions From To Diameter 0 60 14 60 150 10

Casing

From	То	Diameter	Wall Thickness	Pressure Rating	Joint	Туре
2	128	10	0.365		WELDED	STEEL
Compl	lation	/Dowleas				-

Comp	Completion (Perf/Screen)								
From	То	Diameter	# of Openings	Size of Openings	Description				
128	130	10		0.020	SCREEN- CONTINUOUS- STAINLESS				
130	132	10		Contract Contract	SCREEN- CONTINUOUS- STAINLESS				
132	134	10			SCREEN- CONTINUOUS- STAINLESS				
134	136	10		0.100	SCREEN- CONTINUOUS- STAINLESS				
136	140	10		0.140	SCREEN- CONTINUOUS- STAINLESS				

Section 8: Remarks

Section 7: Well Test Data

Depth pump set for test 120 feet.

Total Depth: 140

hours of pumping.

Time of recovery \_ hours.

Recovery water level \_ feet.

Pumping water level feet.

Pump Test \*

Static Water Level: 81

Water Temperature:

TEST DATA AVAILABLE AT LAND AND WATER CONSULTING

Section 9: Well Log Geologic Source Unassigned

	Ullass	signed	
	From	То	Description
	0	1	TOPSOIL
	1	9	SILTY CLAY MATRIX
	9	23	FINE TO MEDIUM TAN SAND
	23	55	FINE TAN SAND
	55	74	GRAVEL IN SANDY CLAY MATRIX
	74	89	SMALL TO MEDIUM GRAVEL AND COBBLES IN SILTY SAND MATRIX
	89	103	SMALL TO MEDIUM GRAVEL AND COBBLES IN SILTY SAND-SEEPS
٦	103	107	LARGE GRAVEL AND COBBLESTONES IN SAND
$\prod$	107	109	SCATTERED GRAVEL AND COBBLES IN SAND
	109		LARGER GRAVEL IN SAND - SEEPS OF WATER
ار	114	119	GRAVEL AND COBBLES IN SAND, SOME CEMENTED, SOME WATER
$\ $	119		CLEANER SAND AND GRAVEL, CEMENTED, SOME WATER
	121	125	GRAVEL AND COBBLES IN SAND, SOME WATER
	125	130	GRAVEL AND COBBLES IN SAND/SOME CEMENTED, SOME WATER
	130	135	GRAVEL AND COBBLES IN LESS SAND, CEMENTED, SOME 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: WILLIAM GARDNER Company: LIBERTY DRILLING & PUMP CO License No: WWC-458 3/6/2000

Annular Space (Seal/Grout/Packer)

From	То	B	Cont. Fed?
0	60	NEAT CEMENT	
130.5	130.5	FIGURE K PACKER	

Date	
Completed:	

Site Name: CITY OF POLSON

GWIC Id: 269038

Additional Lithology Records

From To Description

135 136 GRAVEL EMBEDDED IN CLAY

136 141 CEMENTED SAND AND GRAVEL, SOME COBBLES, SOME WATER

141 150 GRAVEL EMBEDDED IN SILTY CLAY MATRIX

# LIBERTY DRILLING & PUMP COMPANY, INC.



3850 Highway 93 South, Kalispell, Montana 59904 (406) 752-2809 FAX (406) 756-0029

April 6, 2000

City of Polson 106 1st Street East Polson, Montana 59860

MW-5

WELL LOG

Location: Production Well #5 - Hillcrest

PO99791

# Formation Log:

0 - 2 Topsoil.

2 - 10 Tan silty sandy clay matrix.

10 - 45 Fine to medium sand with scattered small gravel. 45 - 79 Mixed gravel in fine to medium silty sand matrix.

79 - 91 Tan silty sandy clay matrix.

91 - 96 Small to medium gravel in tan silty sand matrix - seeps of silty, sandy water.

96 - 99 Tight small to medium gravel in tan silty sand matrix - seep of silty, sandy water.

99 - 105 Mixed gravel in silty sand matrix - 35 gpm sandy water.

105 - 107 Medium to large gravel & cobblestones in medium to coarse sand.

107 - 111 Scattered large gravel in fine to medium tan silty sand matrix.

111 - 119 Medium to coarse sand & gravel in tan silt - water.

119 - 125 Larger gravel in coarse sand & tan silt - some cemented - water.

125 - 126 Gravel embedded in tan clay.

126 - 129 Gravel embedded in silty, sandy tan clay matrix.

129 - 135 Sand & gravel embedded in tan silty clay matrix.

## Water Log:

Well produced in excess of 300 gallons per minute after extensive cable tool and pumping development. On a 24 hour test constant rate test pump, the well produced 250 gallons per minute with a drawdown of 14'. Static water level at completion of well was 80 feet from surface.

# Casing Log:

Well is cased with 10 3/4" OD x .365 wall new black steel casing from two feet above surface to 113'. A ten inch forged steel drive shoe is welded to the bottom of the ten inch steel casing.

## Screen Log:

A ten inch Johnson telescoping hi-flo 304 stainless steel screen is installed in the well from 110' to 125'. A double Figure K packer is installed at 110'. Eight inch tailpipe extends from the bottom of the screen at 125' to 135'. A 3/4" steel plate is welded to the bottom of the tail pipe.

Page 1 of 2

April 6, 2000 City of Polson Production Well #5 - Hillcrest Personal Well Log Page 2 of 2

# Screen Log:

The screened area consists of the following:

113' - 118' .080 slot 118' - 121' .060 slot 121' - 125' .020 slot

# Grouting Log:

A 14" diameter hole was drilled from surface to 42 feet. The annulus between the 14" hole and the 10" steel casing was filled with neat cement grout in order to provide a sanitary surface seal and prevent seepage of surface waters and other contaminants into or around the well.

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 compiled 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.

# Other Options

Return to menu Plot this site on a topographic map View scanned well log (11/13/2012 3:46:44 PM)

Site Name: CITY OF POLSON \* WELL 05

GWIC ld: 269037

Section 1: Well Owner(s) 1) CITY OF POLSON (MAIL) 106 FIRST STREET EAST POLSON MT 59860 [04/05/2000]

Section 2: Location

Township 22N

Range 20W

Section 10

Quarter Sections NE% NW% NE%

Geocode

County Latitude

47.68843718265

LAKE

Longitude 114.1421615505 Geomethod TRS-SEC

Datum NAD83

**Ground Surface Altitude** 

Method

Datum Date

Block

Section 7: Well Test Data

Total Depth: 125 Static Water Level: 80 Water Temperature:

Pump Test \*

Depth pump set for test 105 feet.

250 gpm pump rate with 14 feet of drawdown after 24

hours of pumping.

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

Addition

Lot

\* 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 3: Proposed Use of Water

**PUBLIC WATER SUPPLY (1)** 

Section 4: Type of Work Drilling Method: CABLE TOOL

Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Wednesday, April 05, 2000

Section 6: Well Construction Details

Borehole dimensions From To Diameter 42 42 135 10

Casing

From	То	Diameter	Wall Thickness	Pressure Rating	Joint	Туре
-2	113	10	0.365		WELDED	STEEL

Comp	Completion (Perf/Screen)							
			# of	Size of				
From	To	Diameter	Openings	Openings	Description			
113	118	10		.08	SCREEN- CONTINUOUS- STAINLESS			
118	121	10		.06	SCREEN- CONTINUOUS- STAINLESS			
121	125	10		.02	SCREEN- CONTINUOUS- STAINLESS			

Section 8: Remarks

Section 9: Well Log **Geologic Source** 

Unass	signed	
From	To	Description
0	2	TOPSOIL
2	10	TAN SILTY ANDY CLAY MATRIX
10	45	FINE TO MEDIUM SAND WITH SCATTERED GRAVEL
45	79	MIXED GRAVEL IN FINE TO MED SILTY SAND MATRIX
79	91	TAN SILTY SANDY CLAY MATRIX
91	96	SMALL TO MEDIUM GRAVEL IN TAN SILTY SAND- SEEPS
96	99	ISAND-SEEPS
99	105	MIXED GRAVEL IN SILTY SAND MATRIX - 35 SANDY GPM
105	107	MEDIUM TO LARGE GRAVEL AND COBBLES IN MEDIUM TO COARSE SAND
107	7771	SCATTERED LARGE GRAVEL IN FINE TO MEDIUM TAN SILTY SAND MATRIX
111	119	MEDIUM TO COARSE SAND AND GRAVEL IN TAN SILT-WATER
119	125	LARGER GRAVEL IN COARSE SAND AND SILT - SOME CEMENTED - WATER
125	126	GRAVEL EMBEDDED IN TAN CLAY
126		GRAVEL EMBEDDED IN SILTY, SANDY TAN CLAY MATRIX
129	1351	SAND AND GRAVEL EMBEDED IN TAN SILTY CLAY MATRIX

Annular Space (Seal/Grout/Packer)

From	To	il .	Cont. Fed?
0	42	NEAT CEMENT	
110	110	K PACKER	

# **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: WILLIAM GARDNER

Company: LIBERTY DRILLING & PUMP CO

License No: WWC-458

Date 4/5/2000 Completed:

#### STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION 1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

# GENERAL ABSTRACT

Water Right Number:

76L 104016-00 PROVISIONAL PERMIT

Version: 1 - ORIGINAL RIGHT Version Status: ACTIVE

Owners:

POLSON, CITY OF **%WATER DEPT** 106 1ST ST E POLSON, MT 59860

**Priority Date:** 

APRIL 15, 1998 at 03:30 P.M.

Enforceable Priority Date: APRIL 15, 1998 at 03:30 P.M.

Purpose (use):

MUNICIPAL

Maximum Flow Rate:

1,000.00 GPM

Maximum Volume:

1,269.40 AC-FT

Source Name:

GROUNDWATER

Source Type:

GROUNDWATER

Point of Diversion and Means of Diversion:

ID

**Govt Lot** 

Otr Sec NENESW Twp Rge County

Sec 5 22N 20W LAKE

Period of Diversion: JANUARY 1 TO DECEMBER 31

Diversion Means: WELL

THIS PERMIT IS FOR ONE OR MORE WELLS.

Purpose (Use):

MUNICIPAL

Volume:

1,269.40 AC-FT

Period of Use:

JANUARY 1 to DECEMBER 31

### Place of Use:

I lace of C	Je.						
ID	Acres	<b>Govt Lot</b>	Otr Sec	Sec	Twp	Rge	County
1			SWNW	4	22N	20W	LAKE
2			NWSW	4	22N	20W	LAKE
3			E2	5	22N	20W	LAKE
4			SESW	5	22N	20W	LAKE
5			S2S2	16	23N	20W	LAKE
6			S2S2N2	20	23N	20W	LAKE
7			\$2	20	23N	20W	LAKE
8				21	23N	20W	LAKE
9				28	23N	20W	LAKE
10				29	23N	20W	LAKE
11			E2	30	23N	20W	LAKE
12			NW	30	23N	20W	LAKE
13				32	23N	20W	LAKE

THE PLACE OF USE IS WITHIN THE BOUNDARIES OF THE CITY OF POLSON MUNICIPAL WATER SERVICE AREA WEST OF FLATHEAD RIVER AND THE BOUNDARIES OF THE WEST SHORE PLANNING AREA.

Remarks:

#### Remarks:

#### **ASSOCIATED RIGHT**

THIS PERMIT IS ASSOCIATED WITH WATER RIGHTS NOS. 76LJ-B214453, 76LJ-W148956, AND 76LJ-P089198. THE WATER RIGHTS ARE ASSOCIATED BECAUSE THEY SHARE A COMMON PLACE OF USE.

#### CONFEDERATED SALISH AND KOOTENAI TRIBES - RESERVED WATER RIGHTS

THIS RIGHT IS SUBJECT TO ALL PRIOR INDIAN RESERVED WATER RIGHTS OF THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN THE SOURCE OF SUPPLY. IT IS THE TRIBE'S POSITION THAT ECONOMIC INVESTMENTS MADE IN RELIANCE UPON THIS RIGHT, DO NOT CREATE IN THE APPROPRIATOR ANY EQUITY OF VESTED RIGHT AGAINST THE TRIBES. THE APPROPRIATOR IS HERBY NOTIFIED THAT ANY FINANCIAL OUTLAY OR WORK INVESTED IN A PROJECT PURSUANT TO THIS RIGHT IS AT THE APPROPRIATOR'S RISK. THE ISSUANCE OF THIS RIGHT DOES NOT REDUCE THE APPROPRIATOR'S LIABILITY FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. IT DOES NOT MAKE THE DEPARTMENT LIABLE FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. NOR IS THE DEPARTMENT LIABLE FOR ANY LOSS TO THE APPROPRIATOR CAUSED BY THE EXERCISE OF SENIOR RESERVED WATER RIGHTS. THE STATE OF MONTANA'S JURISDICTION TO ISSUE WATER RIGHTS WITHIN THE EXTERIOR BOUNDARIES OF THE FLATHEAD RESERVATION HAS BEEN CHALLENGED BY THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN CAUSE NO. CV-92-54-M-CCL (UNITED STATES DISTRICT COURT, DISTRICT OF MONTANA, MISSOULA DIVISION - FILED MAY 15, 1992) WHICH CASE IS CURRENTLY PENDING. ANY WATER RIGHT ISSUED BY THE STATE IN THE ABSENCE OF JURISDICTION TO ISSUE THE WATER RIGHT IS VOID.

#### REISSUED RIGHT

THIS PERMIT WAS REISSUED 12/20/99 IN LIEU OF THE RIGHT ISSUED 07/28/98. THE YEARLY PROGRESS REPORT CONDITION IS UNNECESSARY AND IS DELETED.

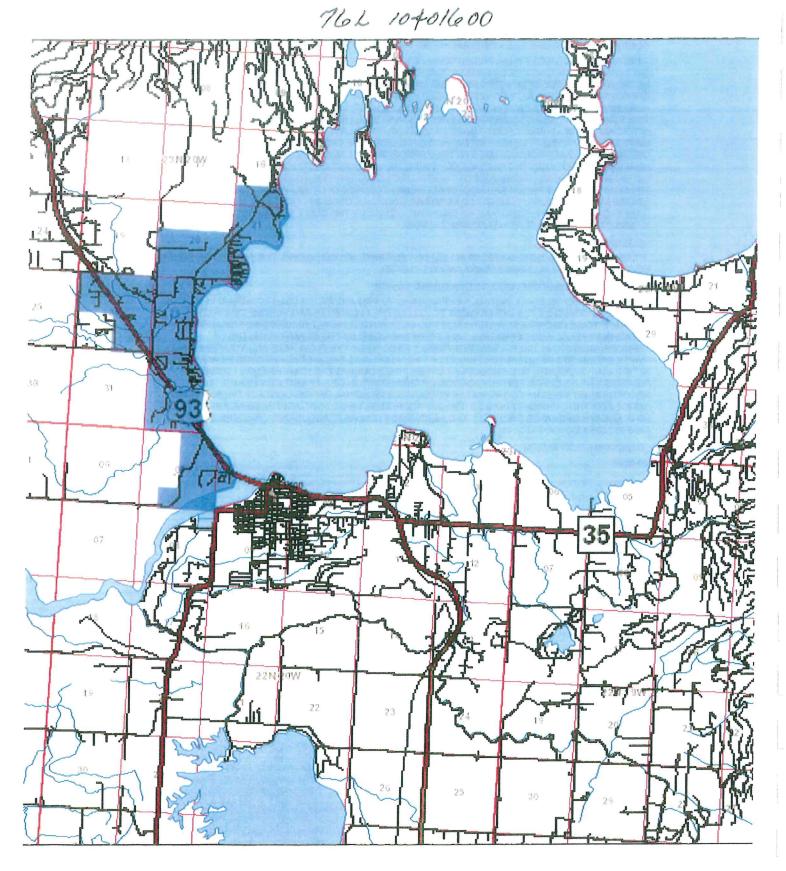
# WATER MEASUREMENT-WATER USE MEASURING DEVICE

THE APPROPRIATOR SHALL INSTALL A DEPARTMENT APPROVED WATER USE MEASURING DEVICE AT A POINT APPROVED BY THE DEPARTMENT TO ALLOW THE FLOW RATE AND VOLUME OF WATER DIVERTED TO BE RECORDED. WATER MUST NOT BE DIVERTED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. ON A FORM PROVIDED BY THE DEPARTMENT, THE APPROPRIATOR SHALL KEEP A WRITTEN WEEKLY RECORD OF THE FLOW RATE AND VOLUME OF ALL WATER DIVERTED INCLUDING THE PERIOD OF TIME AND SHALL SUBMIT THE RECORDS BY NOVEMBER 30 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OR MODIFICATION OF A PERMIT OR CHANGE. THE RECORDS MUST BE SENT TO THE WATER RESOURCES REGIONAL OFFICE. CONTACT THE REGIONAL OFFICE FOR THE CURRENT ADDRESS. THE APPROPRIATOR SHALL MAINTAIN THE MEASURING DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE ACCURATELY. KALISPELL - PH: 406-752-2288 FAX: 406-752-22843

## **OBJECTION INFORMATION**

98-036

undefined



West show well #6

Form No. 603 Rz-97

# WELL LOG REPORT

	con	
ile	No.	

				and the second of the second o
1.	WELL OWNER Name City Of Polson	appro	oriation. I	nuously at a constant discharge at least as great as the intended in addition to the above information, water level data shall be corded on the Department's "Aquifer Test Data" form.
1 -	CURRENT MAILING ADDRESS YX 106- 1st E.	MOTE	E: All waits	small be equipped with an access port 1/2 inch minimum or a that will indicate the shut-in pressure of a flowing well
	Polson. Mt. 59860	Remo	ovable cap	s are acceptable as access ports.
The section and se	WELL LOGATION  X NE ½ X SW ½ X Section 5  Township 22PW/5 Range 20W ErW County Lake  Govn't Lot , or Lot , Block  Subdivision Name  Tract Number Latitude Longitude  PROPOSED USE: Domestic Stock Imagestion L	a) Si b) Di c) Pi d) M	aximum dra uration of t	r DATA mmediately before testing 64.5 ch pump is set for test 720.250 m  600 gpm.  awdown 102.3 ft.  est: pumping time 23 hrs/min recovery time hrs/min el 64.5 ft me to recovery level hrs.
	Other specify Municiple	11. PUM	- INSTALL	ATION INFORMATION
5.	TYPE OF WORK:  New well CX Method: Dug C Bored C  Despend C Cable C Driven C  Reconditioned C Rotary 25 Jelled C	Actua Manu Type	l pumping facturer's	rateModel NoH.P.
6.	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	17 700	, 110111	GGED OR ABANDONED? Yes No. 20 g 2012 _
	Dia 8 in from 260 ft. to 385 ft.		1 (ft)	Formation M.B.M.G.
7.	CONSTRUCTION DETAILS: Casing, Steel Dis. 8 in from 1 to 1.	From	To 1	Blk. dirt
	Threaded [] Welderof Y Dia in from R. to R.	1	22	Tan clay
	Type A 53 - B Wall Thickness _ a 250	92		Hard green rock
	Casing: Plastic         Dia	90	95	Hard purple rock & a little
	PERFORATIONS: Yes \(\sigma\) N&\(\frac{\partial}{\partial}\)			water
	Type of perforator used	95	107	Hard gray rock
	Size of perforations in. by in.	107	112	Hard green rock
	perforations fromfi. tofi.	IIZ	152	Med hard gray rock
	perforations from ft. to ft. to ft.	152	158	Fractured green & brown rock
	SCREENS: Yes No G	- 10		& water
	Manufacture's Name	158	170	Med hard green rock
	Type Model No.	170	174	Fractured green & brown rock
	Dia.         Slot size         from         ft. to         ft.           Dia.         Slot size         from         ft. to         ft.	d role	050	
		174 252	252 254	Hard green rock Fractured green & brown rb
	GRAVEL PACKED: Yes No 🖄 Size of gravel ft. to ft. to ft.	272	254	& water
	GROUTED: To what depth? 165 ft.	254	265	Hard green rock
-	Material used in grouting <u>Bentonite &amp; cement</u>	265	276	Frac. green & brown rock &
8.	WELL HEAD COMPLETION: Pitiess Adapter Yes □ No ઊ		-	water (200+ gpm)
_		with the same of t	-	HEETS ATTACHED
9.	WELL TEST DATA The information requested in this section is required for all wells. All	14.YELL	OWSTONE	CLOSURE AREA: WATER TEMPERATURE
	depth measurements must be from the top of the well casing.  All wells <u>under 100 ppm</u> must be tested for a minimum of one hour and	15.DATE	COMPLE	YED 10-9999
	provide the following information:			RACTOR'S CERTIFICATION
	e) Air Pump X Bailer  b) Static water level immediately before testing 64 5 ft. II			illed under my jurisdiction and this report is true to the best
	b) Static water level immediately before testing 64 5 ft. If flowing; closed-in pressure psi gpm.	or my	knowledge	
	c) Pumping level after one hour 107.3 ft.	Canti	io D	rilling Co., Inc.
	d) Recovery level 64 5 R. Time of recovery min/hrs.			159, Polson, Mt, 59860
	e) Pumping rate 600 gpm.  Wells intended to yield 100 gpm or more shall be tested for a period of 8	Addisat		
	hours or more. The test shall follow the development of the well, and shall be	Signatu		1) Santo Ucardo Ho
-	A CONTRACT OF THE PROPERTY OF	Sample of the last	AND DESCRIPTION OF THE PERSON	TELEVISION (TELEVISION)

MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION 48 N. LAST CHANCE GULCH P.O. BOX 201601 HELENA, MT 59620-1601 444-6610



# City of Polson Well Log

# NE1/4 SW1/4

# S5 T22N R20W

276-284 Hardigreen rock
284-285 Farctured green & brown rock & water
285-305 Hard green rock.
305-312 Fractured green & white rock & water
312-315 Hardigreen rock
315-317 Fractured green & brown rock & water
317-329 Med hard green rock.
329-332 Fractured green & white took & water [500+gpm]
332-355 Hardigreen rock.
355-363 Fractured green & brown rock & water
363-373 Hardigreen rock.
373-375 Fractured green rock & water
375-385 Hardigreen rock.

# RECEIVED

DEC 2 1 1999

MONTANA D.N.R.C. KALISPELL REGIONAL OFFICE

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 compiled 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.

## Other Options

Return to menu Plot this site on a topographic map View scanned well log (11/13/2012 3:30:20 PM)

Site Name: CITY OF POLSON \* WELL 06

GWIC Id: 269036

Section 1: Well Owner(s) 1) CITY OF POLSON (MAIL) 106 1ST STREET EAST POLSON MT 59860 [10/09/1999]

Section 2: Location

Township Range 22N County

20W

Section **Quarter Sections** NE14 SW1/4

Geocode

LAKE

Latitude 47.69484912485

Longitude 114.191846783

5

Geomethod Datum NAD83 TRS-SEC

Date Method Datum

Addition

Block

Lot

**OPEN BOTTOM** 

Section 3: Proposed Use of Water **PUBLIC WATER SUPPLY (1)** 

**Ground Surface Altitude** 

Section 4: Type of Work Drilling Method: ROTARY Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Saturday, October 09, 1999

## Section 6: Well Construction Details

Wall

**Borehole dimensions** From To Diameter 14.75 0 22 22 260 12 260 385 8

asin	y	

From	To	Diameter	Thickness	Rating	Joint	Туре
0	0	8			WELDED	A53B STEEL
Comp	leti	on (Perf/S	creen)			
	T	T	# of	Size	of	

From To Diameter Openings Openings Description

Pressure

Annular Space (Seal/Grout/Packer)

From	То		Cont. Fed?
165	165	BENTONITE AND CEMENT	

Section 7: Well Test Data

Total Depth: 385 Static Water Level: 64.5 Water Temperature:

Pump Test \*

Depth pump set for test 250 feet. 600 gpm pump rate with 107.3 feet of drawdown after hours of pumping. Time of recovery 0.5 hours. Recovery water level 64.5 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**

Unassigned

Ollubo	191100				
From	To	Description			
0	1	BLACK DIRT			
1	22	TAN CLAY			
22		HARD GREEN ROCK			
90	95	HARD PURPLE ROCK AND A LITTLE WATER			
95	107	HARD GRAY ROCK			
107		HARD GREEN ROCK			
112		MEDIUM HARD GRAY ROCK			
152	158	FRACTURED GREEN AND BROWN ROCK AND WATER			
158	170	MEDIUM HARD GREEN ROCK			
170	174	FRACTURED GREEN AND BROWN ROCK AND WATER			
174	252	HARD GREEN ROCK			
252	254	FRACTURES GREEN AND BROWN ROCK AND WATER			
254		HARD GREEN ROCK			
265	276	FRACTURED GREEN AND BROWN ROCK AND WATER (200 PLUS GPM)			
276	284	HARD GREEN 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: KELLY CASTLIO Company: CASTLIO DRILLING License No: WWC-551

Date 10/9/1999 Completed:

Site Name: CITY OF POLSON GWIC Id: 269036 Additional Lithology Records To Description From 285 FRACTURED GREEN AND BROWN ROCK AND WATER 284 285 305 HARD GREEN ROCK 312 FRACTURED GREEN AND WHITE ROCK AND WATER 305 312 315 HARD GREEN ROCK 317 FRACTURED GREEN AND WHITE ROCK AND WATER 315 329 MED HARD GREEN ROCK 317 332 FRACTURED GREEN AND WHITE ROCK AND WATER [500+ GPM] 329 355 HARD GREEN ROCK 332 363 FRACTURED GREEN AND BROWN ROCK AND WATER 355 373 HARD GREEN ROCK 363 375 FRACTURED GREEN ROCK AND WATER 373 385 HARD GREEN ROCK 375

1000

Form No. 603 R2-99

Well ID#

This log reports the activities of a licensed Montana well driller and serves as the official record of work done within the borehole and casing and describes the amount of water encountered. This form is to be completed by the driller and filed with DNRC within 60 days of completion of the work. Acquiring Water Rights is the well owner's responsibility and is not accomplished by the filing of this report.

Well log information is stored in the Groundwater Information Center at the Montana Bureau of Mines and Geology (Butte) and water right information is stored in the Water Rights Bureau records (Helena).

For fields that are not applicable, enter NA. Optional fields have a gr	rayed background. A	ecord additional information in the REMARKS section.
1. WELL OWNER: Name City Of Folson PwS 0630 B Mailing address 009	All depth r Time of re	ninimum is the amount water level is lowered below static level, neasurements shall be from the top of the well casing, covery is hours/minutes since pumping stopped.
2. WELL LOCATION: List ¼ from smallest to largest		gpm with drill stem set atft. forhours coveryhrs/min. Recovery water levelft.
/4		
Township N/S Range E/W County	OA Bailer tes	pm with it. of drawdown after hours
Lat, Tract/BlkSubdivision Name	Time of re	coveryhrs/min. Recovery water levelft.
Well Address GPS □ Yes □ No	OR Pump tes	1*
Latitude Longitude		np set for test <u>4.8.0.</u> ft.
Error as reported by GPS locator ( ± feet) Horizontal datum □ NAD27 □ WGS84	400_ gpm Time of re	pump rate with 5.3 ft. of drawdown after 24 hrs pumping coveryhrs/min. Recovery water level _51 ft.
3. PROPOSED USE: ☐ Domestic ☐ Stock ☐ Irrigation ☐ Public water supply ☐ Monitoring Well ☐ Other:	OR Flowing A	urtesian* gpm forhours
4. TYPE OF WORK:	Flow contr	olted by
	not be the sustainal well casing.	t the discharge rate shall be as uniform as possible. This rate may or may ble yield of the welf. Sustainable yield does not include the resevoir of the
5. WELL CONSTRUCTION DETAILS:	7. WELL LOG:	Material:
Borehole:	Depth, Feet	color/rock and type/descriptor (example: blue/shale/hard.
Dia. in from ft. to 40 ft.	From To	or brown/gravel/water, or brown/sand/heaving)
Dia. in. from ft. to ft. to ft.		Well log stisched
Casing: Steel: Wall thickness		
Plastic: Pressure Rating   Ibs. Threaded Welded   Dia.   in, from   ft, to   ft.		
Perforations/Slotted Pipe:		and the second of the second o
Type of perforator used Size of perforations/slots in. 5		
no. of perforations/slots from the to the fit.		
no. of perforations/slots fromft. toft.		
Screens: Tyes No		
Material from ft. to ft.		
Dia. Slot size from tt. to ft.		The state of the s
Gravel Packed: Yes No		
Size of gravel		
Gravel placed from tt. to ft.		
Packer: Yes No Type Depth(s)	C ADDITIONAL S	
Grout: Material used Nant negent & bentonite		OMPLETED:
Depth fromtt. toft. OR   Continuous feed	9. REMARKS:	And the second s
<ol> <li>WELL TEST DATA:</li> <li>A well test is required for all wells. (See details on well log report cover.)</li> </ol>	All work performe	NTRACTOR'S CERTIFICATION: d and reported in this well log is in compliance with the
Static water levelft. below top of casing or Closed-in artesian pressurepsi.	knowledge.	struction standards. This report is true to the best of my
How was test flow measured: bucket/stopwatch, weir, flume, flowmeter, etc Flowmonton		poration (print) 11 y Eastlin Drillin
Yellowstone Controlled Groundwater Area - Water Temperature °F		2/1////
AQUIFER TEST DATA FORM ATTACHED	Date	Carl all total of Acade States and Acade
Approximate programme and the contract of the	THE PROPERTY OF THE PROPERTY OF THE PARTY OF	MBMG ID#

Montana DNRC P.O. BOX 201601 HELENA, MT 59620-1601 444-6610

19407

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 compiled 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.

## Other Options

Return to menu Plot this site on a topographic map View scanned well log (7/8/2009 10:45:17 AM)

Site Name: CITY OF POLSON - WELL #7

GWIC Id: 194071

DNRC Water Right: C010416-00

Section 1: Well Owner(s)

1) POLSON WATER DEPARTMENT (MAIL) 106 1ST ST E POLSON MT 59860 [07/16/2002] 2) CITY OF POLSON (MAIL) **PO BOX 238** 

POLSON MT 59860 [05/02/2001]

Section 2: Location

Township Range Section 22N 20W 5

**Quarter Sections** NW% NW% NW% SE% Geocode

County

LAKE

Longitude Latitude 47.6961 114.1872

Geomethod Datum MAP

**Ground Surface Altitude** 

Date Method Datum

Addition

Lot

Section 3: Proposed Use of Water

**PUBLIC WATER SUPPLY (1)** 

Section 4: Type of Work **Drilling Method: ROTARY** Status: NEW WELL

Date well completed: Wednesday, May 02, 2001

#### Section 6: Well Construction Details

Section 5: Well Completion Date

**Borehole dimensions** 

From	To	Diameter
0	40	17
40	239	14
239	350	10

Casing

From	То		Wall Thickness	Pressure Rating	Joint	Туре
-2	239	10	0.365			STEEL

Completion (PartiScreen)

Comp	I I I I I I I I I I I I I I I I I I I							
			# of	Size of				
From	To	Diameter	Openings	Openings	Description			
239	350	10			<b>OPEN HOLE</b>			

Annular Space (Seal/Grout/Packer)

From	То		Cont. Fed?
0	100	CEMENT AND BENTONITE	

Section 7: Well Test Data

Total Depth: 350 Static Water Level: 51 Water Temperature:

Pump Test \*

Depth pump set for test feet. 400 gpm pump rate with \_ feet of drawdown after 24 hours of pumping. Time of recovery \_ hours. Recovery water level 51 feet. Pumping water level 104 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** 

112ALVM - ALLUVIUM (PLEISTOCENE)

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: CASTLIO DRILLING License No: WWC-551

Date 5/2/2001 Completed:

# Appendix C

# **IRRIGATION WATER RIGHT ABSTRACTS**

Summary Report of City of Polson's Water Rights City of Polson Public Works Department Polson, Montana

#### STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

# GENERAL ABSTRACT

Water Right Number:

76LJ 62050-00 PROVISIONAL PERMIT

Version: 1 -- ORIGINAL RIGHT

Version Status: ACTIVE

Owners:

POLSON, CITY OF **%WATER DEPT** 106 1ST ST E POLSON, MT 59860

**Priority Date:** 

MARCH 10, 1986 at 10:30 A.M.

Enforceable Priority Date: MARCH 10, 1986 at 10:30 A.M.

Purpose (use):

IRRIGATION

Maximum Flow Rate:

30.00 GPM

Maximum Volume:

4.42 AC-FT

Maximum Acres:

4.00

Source Name:

FLATHEAD RIVER (FLATHEAD LAKE)

Source Type:

SURFACE WATER

#### Point of Diversion and Means of Diversion:

ID

Qtr Sec Govt Lot SWSWNWSE

Rge County Twp 22N 20W LAKE

Period of Diversion: MAY 1 TO SEPTEMBER 30

Diversion Means: PUMP

7.50 HP

Pump Size:

Purpose (Use): Volume:

**IRRIGATION** 4.42 AC-FT

Period of Use:

MAY 1 to SEPTEMBER 30

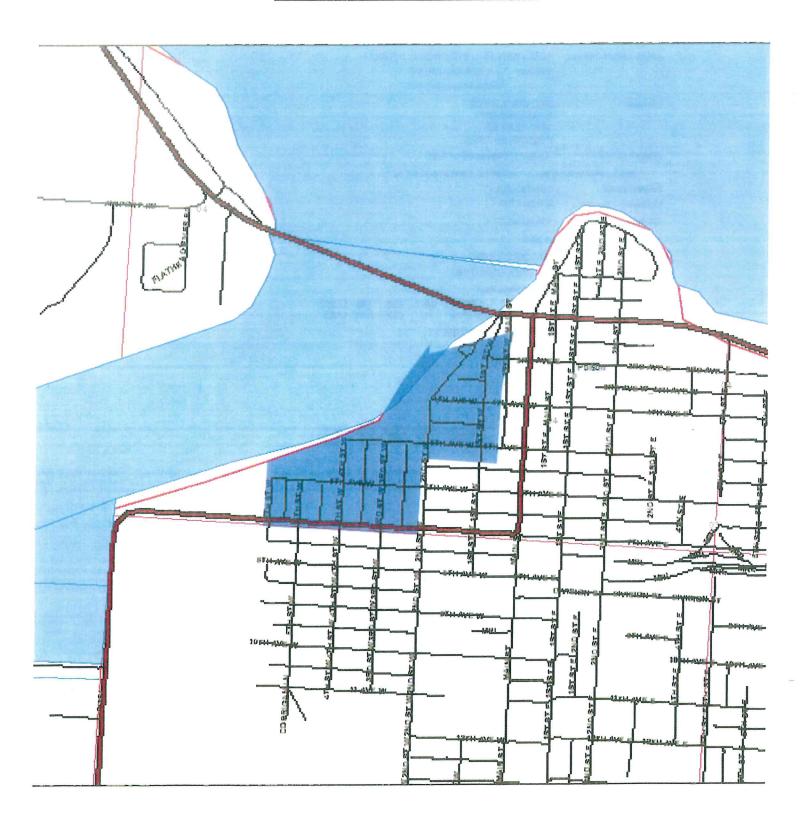
## Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	0.17	5	NESESW	4	22N	20W	LAKE
2	0.18	5	SENESW	4	22N	20W	LAKE
3	0.55		NWSWSE	4	22N	20W	LAKE
4	3.10		SWNWSE	4	22N	20W	LAKE
Total:	4.00						

#### Remarks:

## CONFEDERATED SALISH AND KOOTENAI TRIBES - RESERVED WATER RIGHTS

THIS RIGHT IS SUBJECT TO ALL PRIOR INDIAN RESERVED WATER RIGHTS OF THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN THE SOURCE OF SUPPLY. IT IS THE TRIBE'S POSITION THAT ECONOMIC INVESTMENTS MADE IN RELIANCE UPON THIS RIGHT, DO NOT CREATE IN THE APPROPRIATOR ANY EQUITY OF VESTED RIGHT AGAINST THE TRIBES. THE APPROPRIATOR IS HEREBY NOTIFIED THAT ANY FINANCIAL OUTLAY OR WORK INVESTED IN A PROJECT PURSUANT TO THIS RIGHT IS AT THE APPROPRIATOR'S RISK. THE ISSUANCE OF THIS RIGHT DOES NOT REDUCE THE APPROPRIATOR'S LIABILITY FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. IT DOES NOT MAKE THE DEPARTMENT LIABLE FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. NOR IS THE DEPARTMENT LIABLE FOR ANY LOSS TO THE APPROPRIATOR CAUSED BY THE EXERCISE OF SENIOR RESERVED WATER RIGHTS. THE STATE OF MONTANA'S JURISDICTION TO ISSUE WATER RIGHTS WITHIN THE EXTERIOR BOUNDARIES OF THE FLATHEAD RESERVATION HAS BEEN CHALLENGED BY THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN CAUSE NO. CV-92-54-M-CCL (UNITED STATES DISTRICT COURT, DISTRICT OF MONTANA, MISSOULA DIVISION - FILED MAY 15, 1992) WHICH CASE IS CURRENTLY PENDING. ANY WATER RIGHT ISSUED BY THE STATE IN THE ABSENCE OF JURISDICTION TO ISSUE THE WATER RIGHT IS VOID.



#### STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION 1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

# GENERAL ABSTRACT

Water Right Number:

76LJ 67848-00 PROVISIONAL PERMIT

Version: 1 - ORIGINAL RIGHT

Version Status: ACTIVE

Owners:

POLSON, CITY OF **%WATER DEPT** 

106 1ST ST E POLSON, MT 59860

Priority Date:

JUNE 13, 1988 at 08:01 A.M.

Enforceable Priority Date: JUNE 13, 1988 at 08:01 A.M.

Purpose (use):

IRRIGATION

Maximum Flow Rate:

350.00 GPM

Maximum Volume:

156.40 AC-FT

Maximum Acres:

68.00

Source Name:

**GROUNDWATER** 

Source Type:

**GROUNDWATER** 

Point of Diversion and Means of Diversion:

ID

Govt Lot

Rge County

20W LAKE NESENW

Period of Diversion: MARCH 1 TO OCTOBER 31

Diversion Means: WELL

Well Depth: 220.00 FEET

Static Water Level: 10.00 FEET

Casing Diameter: 8.62 INCHES

Pump Size:

20.00 HP

Reservoir:

OFF STREAM

Govt Lot

Rge County Twp Sec

Qtr Sec 22N 20W LAKE NESENW

Surface Area:

1.44 ACRES

Current Capacity: 8.00 ACRE-FEET

Purpose (Use):

**IRRIGATION** 

Irrigation Type:

**SPRINKLER** 

Volume:

156.40 AC-FT

Period of Use:

MARCH 1 to OCTOBER 31

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	28.00		NWSE	2	22N	20W	LAKE
2	11.00		NESW	2	22N	20W	LAKE
3	13.00	3	NENW	2	22N	20W	LAKE
4	13.00	5	SENW	2	22N	20W	LAKE
5	3.00		W2W2SWNE	2	22N	20W	LAKE
Total:	68.00						

### Remarks:

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME MEANS OF DIVERSION.

67848-00

101149-00

#### Remarks:

## **ASSOCIATED RIGHT**

THIS PERMIT IS ASSOCIATED TO WATER RIGHT NO. 76LJ 101149-00. THEY SHARE A COMMON WELL WITH A COMBINED APPROPRIATION OF 650 GPM UP TO 297.48 ACRE-FEET.

#### **GROUNDWATER WASTE & CONTAMINATION**

THIS RIGHT IS SUBJECT TO SECTION 85-2-505, MCA, REQUIRING A WELL BE CONSTRUCTED SO IT WILL NOT ALLOW WATER TO BE WASTED OR CONTAMINATE OTHER WATER SUPPLIES OR SOURCES, AND A FLOWING WELL MUST BE CAPPED OR EQUIPPED SO THE FLOW OF THE WATER MAY BE STOPPED WHEN NOT BEING PUT TO BENEFICIAL USE.

#### **GROUNDWATER WELL-ACCESS PORT**

THE FINAL COMPLETION OF THE WELL(S) MUST INCLUDE AN ACCESS PORT OF AT LEAST .50 INCH SO THE STATIC LEVEL OF THE WELL MAY BE ACCURATELY MEASURED.

#### ATTACHMENT

THIS RIGHT IS ALSO SUBJECT TO EXHIBIT A.

### CONFEDERATED SALISH AND KOOTENAI TRIBES - RESERVED WATER RIGHTS

THIS RIGHT IS SUBJECT TO ALL PRIOR INDIAN RESERVED WATER RIGHTS OF THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN THE SOURCE OF SUPPLY. IT IS THE TRIBE'S POSITION THAT ECONOMIC INVESTMENTS MADE IN RELIANCE UPON THIS RIGHT, DO NOT CREATE IN THE APPROPRIATOR ANY EQUITY OF VESTED RIGHT AGAINST THE TRIBES. THE APPROPRIATOR IS HEREBY NOTIFIED THAT ANY FINANCIAL OUTLAY OR WORK INVESTED IN A PROJECT PURSUANT TO THIS RIGHT IS AT THE APPROPRIATOR'S RISK. THE ISSUANCE OF THIS RIGHT DOES NOT REDUCE THE APPROPRIATOR'S LIABILITY FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. IT DOES NOT MAKE THE DEPARTMENT LIABLE FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. NOR IS THE DEPARTMENT LIABLE FOR ANY LOSS TO THE APPROPRIATOR CAUSED BY THE EXERCISE OF SENIOR RESERVED WATER RIGHTS. THE STATE OF MONTANA'S JURISDICTION TO ISSUE WATER RIGHTS WITHIN THE EXTERIOR BOUNDARIES OF THE FLATHEAD RESERVATION HAS BEEN CHALLENGED BY THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN CAUSE NO. CV-92-54-M-CCL (UNITED STATES DISTRICT COURT, DISTRICT OF MONTANA, MISSOULA DIVISION - FILED MAY 15, 1992) WHICH CASE IS CURRENTLY PENDING. ANY WATER RIGHT ISSUED BY THE STATE IN THE ABSENCE OF JURISDICTION TO ISSUE THE WATER RIGHT IS VOID.

#### WATER MEASUREMENT INFORMATION (OLD)

THE APPROPRIATOR SHALL KEEP A WRITTEN RECORD OF THE FLOW RATE AND VOLUME OF ALL WATERS DIVERTED, INCLUDING THE PERIOD OF TIME, AND SHALL SUBMIT SAID RECORDS BY NOVEMBER 30 OF EACH YEAR TO THE WATER RESOURCES REGIONAL OFFICE LISTED BELOW. KALISPELL, MT PH: 406-752-2288 FAX: 406-752-2842

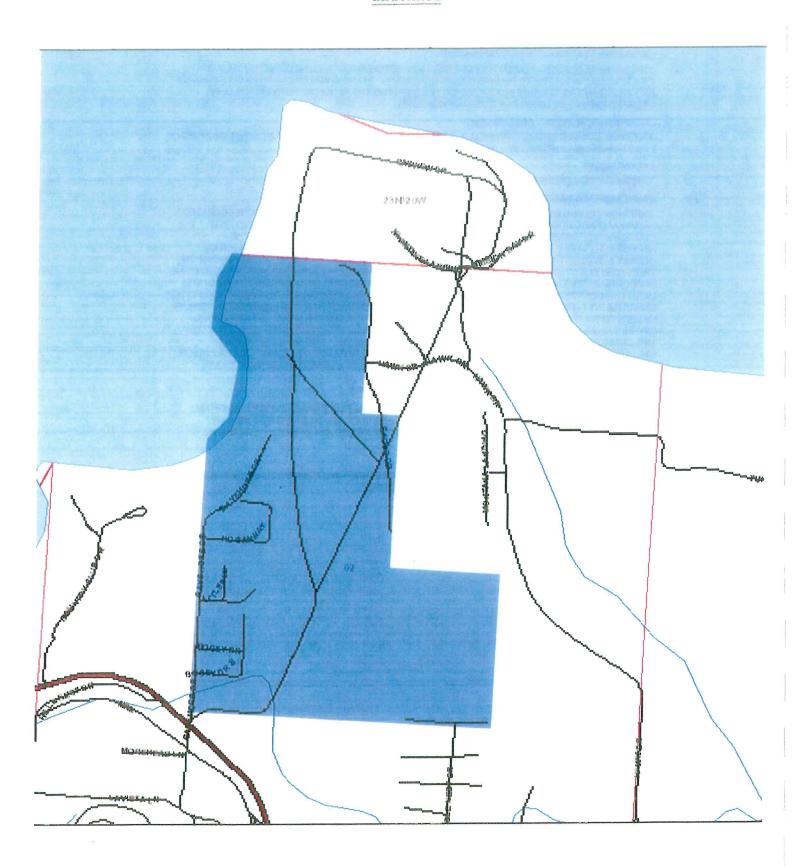
## WATER MEASUREMENT INFORMATION (OLD)

THE APPROPRIATOR SHALL INSTALL AN ADEQUATE FLOW METERING DEVICE TO ALLOW THE FLOW RATE AND VOLUME OF WATER DIVERTED TO BE RECORDED.

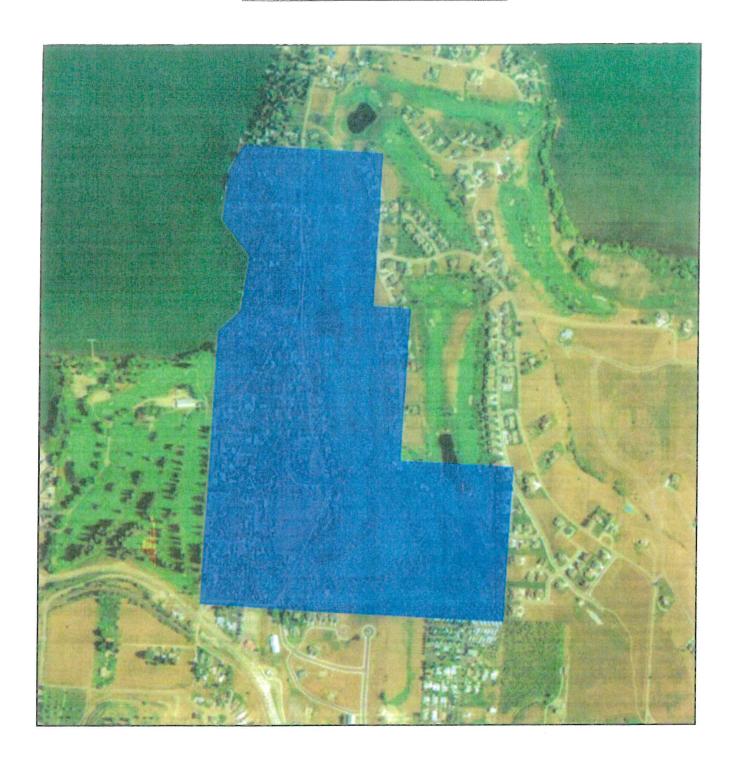
### **OBJECTION INFORMATION**

12-362

# undefined



Water Right Number: 76LJ 67848 00



Form No. 603 R8/83

STATE PUBLISHING CO . HELEMA MONT

File	No.		
	-	 	

# **WELL LOG REPORT**

State law requires that this form be filed by the water well driller within 60 days after completion of the well.

1. WELL OWNER Name City of Polson  2. CURRENT MAILING ADDRESS  Polson, MT. 59860	8. WATER LEVEL Static water level 10 jeet below land surface If flowing; closed-in pressure psi gpm Controlled by: valve, reducers, X other, (specify)
3. WELL LOCATION  County Lake Township N/S Range E/W  1/4 1/4 Section  Lot Block Subdivision	9. WELL TEST DATA pump bailer X other, (specify) Air Pumping water level below land surface: ft. after hrs. pumping gpm 150 ft. after 1½ hrs. pumping 1000 gpm  10. WAS WELL PLUGGED OR ABANDONED? Yes X No
4. PROPOSED USE Domestic  Stock I Irrigation  Other specify Industrial	If yes, how?
Other Specify Industrial	11. DATE COMPLETED March 5, 1988
5. DRILLING METHODcable,bored,	12. WELL LOG  Depth (ft.) From To Formation  O 1 Black Dirt
6. WELL CONSTRUCTION AND COMPLETION	1 17 Tan Clay
Size of drillod hole of casing 8" 8 5/8 O.D. 0 211 2" .080 208 218	17 155 Sand with seams of gravel and water 155 158 Gravel & water (150 gpm) 158 210 Sand with seams of gravel and water 210 218 Gravel & water 218 220 Sandy silt & gravel and a little water
Was casing left open end? X Yes No	
Was a packer or seal used? Yes X No	(use separate sheet if necessary)
If so, what material  Was the well gravel packed? Yes X No  Was the well grouted? X Yes No  To what depth? 20°  Material used in grouting Cement  Well head completion: Pitless adapter  Yes X No  Top of casing 12 in. or greater above grade  X Yes No  7. WHAT IS THE TEMPERATURE OF THE WATER?	13. DRILLER'S CERTIFICATION This well was drilled under my jurisdiction and this report is true to the best of my knowledge.  3/5/88  Date  Castlio Drilling Co., Inc. Firm Name P.O. Box 159 Polson, MT. 59860 Address Signature  Address Add
MONTANA DEPARTMENT OF NATURAL RESOLUTION SOLUTION SOLUTIO	

# DEPARTMENT COPY

Other Options

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 compiled 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.

Return to menu Plot this site on a topographic map View scanned well log (7/8/2009 9:38:43 AM)

Site Name: CITY OF POLSON

**GWIC Id: 137580** 

DNRC Water Right: 67848

Section 1: Well Owner(s) 1) CITY OF POLSON (MAIL)

POLSON MT 59860 [03/05/1988]

Section 2: Location

Township 22N

Range Section 20W 2

Quarter Sections SW1/4 SW1/4 NE1/4

County

Geocode

LAKE

Latitude 47.69726

**Ground Surface Altitude** 

114.123346

TRS-SEC Method

as possible. This rate may or may not be the sustainable yield NAD83 Date Datum

Section 7: Well Test Data

Total Depth: 220 Static Water Level: 10 Water Temperature:

Air Test \*

1000 gpm with drill stem set at \_ feet for 1.5 hours.

\* During the well test the discharge rate shall be as uniform

Time of recovery \_ hours. Recovery water level feet. Pumping water level 150 feet.

Longitude

Geomethod Datum

of the well. Sustainable yield does not include the reservoir of the well casing.

Addition

Block

Lot

Section 8: Remarks

Section 3: Proposed Use of Water

PUBLIC WATER SUPPLY (1)

Section 4: Type of Work

**Drilling Method: FORWARD ROTARY** 

Status: NEW WELL

Section 5: Well Completion Date

Date well completed: Saturday, March 05, 1988

Section 6: Well Construction Details

There are no borehole dimensions assigned to this well.

Cacina

From	То	A	Wall Thickness	Pressure Rating	 Туре
0	211.2	8			STEEL

			# of	Size of	
From	То	Diameter	Openings	Openings	Description
208	218	8			SS SCREEN

Annular Space (Seal/Grout/Packer)

			Cont.
From	То	Description	Fed?
0	20	CEMENT	

Section 9: Well Log **Geologic Source** 

112ALVM - ALLUVIUM (PLEISTOCENE)

		ALLO VIOIN (I LLIO I O OLIVL)			
From	То	Description			
0	1	BLACK DIRT			
1	17	TAN CLAY			
17	155	SAND WITH SEAMS OF GRAVEL AND WATER			
155		GRAVEL & WATER (150 GPM)			
158	210	SAND WITH SEAMS OF GRAVEL AND WATER			
210	218	GRAVEL & WATER			
218	220	SANDY SILT & GRAVEL SAND AND A LITTLE 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: CASTLIO DRILLING

License No: WWC-387

Date 3/5/1988 Completed:

#### STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

1424 9TH AVENUE P.O.BOX 201601 HELENA, MONTANA 59620-1601

# GENERAL ABSTRACT

Water Right Number:

76LJ 101149-00 PROVISIONAL PERMIT

Version: 1 -- ORIGINAL RIGHT

Version Status: ACTIVE

Owners:

POLSON, CITY OF **%WATER DEPT** 106 1ST ST E POLSON, MT 59860

**Priority Date:** 

MARCH 5, 1997 at 08:06 A.M.

Enforceable Priority Date: MARCH 5, 1997 at 08:06 A.M.

Purpose (use):

IRRIGATION

Maximum Flow Rate:

300.00 GPM

Maximum Volume:

141.08 AC-FT

Maximum Acres:

75.70

Source Name:

GROUNDWATER

Source Type:

GROUNDWATER

Point of Diversion and Means of Diversion:

ID

**Govt Lot** 

Otr Sec Sec NESENW 2

E2

Twp 22N

22N

Rge County 20W LAKE

Period of Diversion: MARCH 1 TO OCTOBER 31

Diversion Means: WELL

Well Depth:

220.00 FEET

Static Water Level: 10.00 FEET Casing Diameter: 8.63 INCHES

Pump Size:

30.00 HP

Reservoir:

ON STREAM

Govt Lot

Otr Sec Sec Twp 2

Rge County 20W LAKE

Surface Area:

**2.40 ACRES** 

Current Capacity: 15.00 ACRE-FEET

Purpose (Use):

IRRIGATION

Irrigation Type:

SPRINKLER

Volume:

141.08 AC-FT

Period of Use:

MARCH 1 to OCTOBER 31

## Place of Use:

<u>ID</u>	Acres	<b>Govt Lot</b>	Qtr Sec	Sec	Twp	Rge	County	
1	8.80		NENE	2	22N	20W	LAKE	
2	18.40		NWNE	2	22N	20W	LAKE	
3	21.30		SWNE	2	22N	20W	LAKE	
4	8.50		NWSE	2	22N	20W	LAKE	
5	1.10		SESE	35	23N	20W	LAKE	
6	12.10		SWSE	35	23N	20W	LAKE	
7	5.50		SESW	35	23N	20W	LAKE	
Total:	75.70							

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE ASSOCIATED WHICH MEANS THE RIGHTS SHARE THE SAME MEANS OF DIVERSION.

67848-00

101149-00

#### Remarks:

#### **ASSOCIATED RIGHT**

THIS RIGHT IS ASSOCIATED TO WATER RIGHT NO. 76LJ P067848-00. THEY SHARE A COMMON DIVERSION.

#### CONFEDERATED SALISH AND KOOTENAI TRIBES - RESERVED WATER RIGHTS

THIS RIGHT IS SUBJECT TO ALL PRIOR INDIAN RESERVED WATER RIGHTS OF THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN THE SOURCE OF SUPPLY. IT IS THE TRIBE'S POSITION THAT ECONOMIC INVESTMENTS MADE IN RELIANCE UPON THIS RIGHT, DO NOT CREATE IN THE APPROPRIATOR ANY EQUITY OF VESTED RIGHT AGAINST THE TRIBES. THE APPROPRIATOR IS HEREBY NOTIFIED THAT ANY FINANCIAL OUTLAY OR WORK INVESTED IN A PROJECT PURSUANT TO THIS RIGHT IS AT THE APPROPRIATOR'S RISK. THE ISSUANCE OF THIS RIGHT DOES NOT REDUCE THE APPROPRIATOR'S LIABILITY FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. IT DOES NOT MAKE THE DEPARTMENT LIABLE FOR DAMAGE CAUSED BY THE EXERCISE OF THE RIGHT. NOR IS THE DEPARTMENT LIABLE FOR ANY LOSS TO THE APPROPRIATOR CAUSED BY THE EXERCISE OF SENIOR RESERVED WATER RIGHTS. THE STATE OF MONTANA'S JURISDICTION TO ISSUE WATER RIGHTS WITHIN THE EXTERIOR BOUNDARIES OF THE FLATHEAD RESERVATION HAS BEEN CHALLENGED BY THE CONFEDERATED SALISH AND KOOTENAI TRIBES IN CAUSE NO. CV-92-54-M-CCL (UNITED STATES DISTRICT COURT, DISTRICT OF MONTANA, MISSOULA DIVISION - FILED MAY 15, 1992) WHICH CASE IS CURRENTLY PENDING. ANY WATER RIGHT IS SUED BY THE STATE IN THE ABSENCE OF JURISDICTION TO ISSUE THE WATER RIGHT IS VOID.

#### IMPORTANT INFORMATION

THIS RIGHT IS ASSOCIATED TO WATER RIGHT NO. 76LJ P067848-00. THEY SHARE A COMMON WELL WITH A COMBINED APPROPRIATION OF 650 GPM UP TO 297.48 ACRE-FEET. THE PURPOSE OF THIS PERMIT IS TO INCREASE THE AREA OF THE POLSON GOLF COURSE BY ADDING A THIRD NINE CONSISTING OF 75.70 IRRIGATED ACRES.

#### WATER MEASUREMENT-INLINE FLOW METER REQUIRED

THE APPROPRIATOR SHALL INSTALL A DEPARTMENT APPROVED IN-LINE FLOW METER AT A POINT IN THE DELIVERY LINE APPROVED BY THE DEPARTMENT TO RECORD THE FLOW RATE AND VOLUME OF WATER DIVERTED. WATER MUST NOT BE DIVERTED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. ON A FORM PROVIDED BY THE DEPARTMENT, THE APPROPRIATOR SHALL KEEP MONTHLY WRITTEN RECORDS OF THE FLOW RATE AND VOLUME MEASUREMENTS AND SHALL SUBMIT THE RECORDS BY NOVEMBER 30 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR.FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OR MODIFICATION OF A PERMIT OR CHANGE. THE REPORTS MUST BE SENT TO THE WATER RESOURCES REGIONAL OFFICE LISTED BELOW. THE APPROPRIATOR SHALL MAINTAIN THE MEASURING DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE ACCURATELY. KALISPELL - PH: 406-752-2288 FAX: 406-752-2843

### **OBJECTION INFORMATION**

98-009

-undefined-7625 101149 00

