

IDENTIFYING WELL LOGS WITHIN A SPECIFIED RADIUS

An operator applying for an opencut mining permit or amendment must provide the depths, water levels, and uses of water wells in and within 1,000 feet of the main permit area (ARM 17.24.217[1b]). The operator includes this information in Section I-G of the *Plan of Operation*. Available well logs must be attached to the *Plan of Operation*. In addition, locations of existing and proposed water wells in and within 1,000 feet of the main permit area must be shown and labeled on the Site Map or Area Map (ARM 17.24.221[5]).

To assist operators in meeting these requirements, this document describes a convenient method for:

1. Identifying existing wells on or near the site of a proposed opencut mining operation; and
2. Downloading the well logs.

This method uses the Montana Natural Resource Information System website available at <http://maps2.nris.mt.gov/mapper/> to access well data compiled from paper records by the Montana Bureau of Mines and Geology (MBMG), Ground Water Information Center (GWIC).

Current GWIC metadata indicates:


- Well locations in GWIC do not represent the locations of all water wells in Montana. Although the total number of water wells constructed in the state is unknown, GWIC locations are thought to represent 50-60% of all water wells.
- For wells listed in GWIC, there may be substantial errors in a well's horizontal location. The greatest source of locational error is the original landowner or well driller's ability to correctly report the township, range, section, and tract description.
- The location of each well is plotted based on GWIC data and will generally fall within the last tract described by the landowner or driller. (For example, a well location reported to the section is plotted at the center of that section, while if the same well's location had been reported to the quarter section, it would be plotted at the center of that quarter section. In this example, the difference in the well's reported locations is approximately 1,000 feet.)

As a result, well locations obtained using this method are approximate at best and DEQ may require the operator to field-verify well locations.

Montana On-Line Interactive Map Builder - Microsoft Internet Explorer

File Edit View Favorites Tools Help

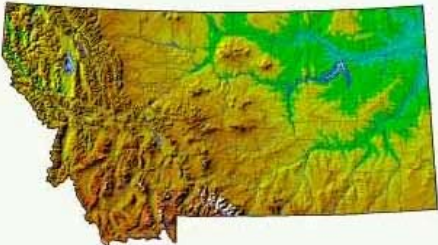
Address <http://maps2.nris.mt.gov/mapper/>




Montana Natural Resource Information System Digital Atlas of Montana

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- [Guided Tour](#)
- [Suggest New Map Ideas Here](#)




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The following link goes to this webpage:
<http://maps2.nris.mt.gov/mapper/>

Local intranet

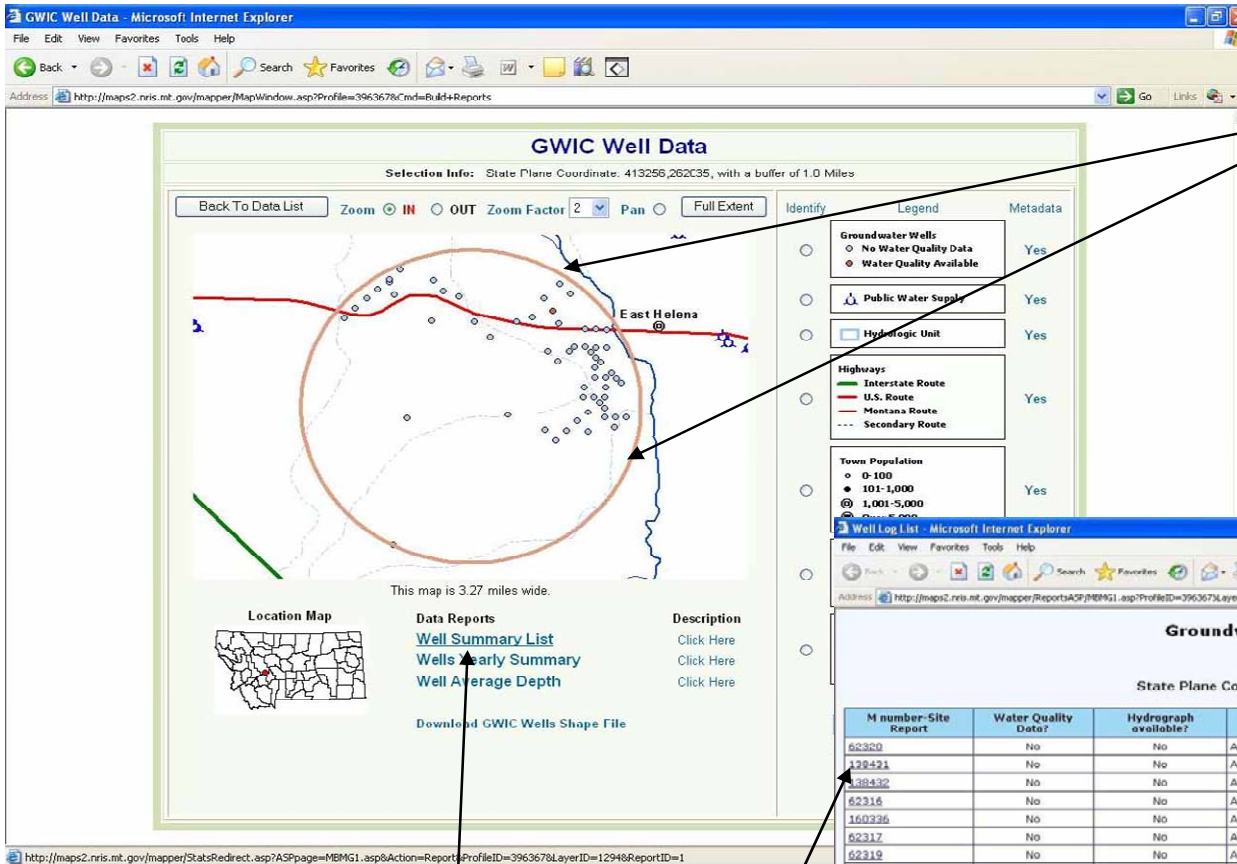
Enter in the Decimal Degree Latitude & Longitude of the approximate center of the Proposed Permit Boundary (Pit)

Choose the appropriate buffer zone (make sure the buffer zone is large enough to cover at least 1,000' outside your proposed permit boundary)

Click the "Locate D.dddd" button

Click on the "Water" tab then, Click on the "Ground Water Information Center Wells"

MAP



All the wells are displayed and located within the buffer zone chosen

In the lower right corner of the screen you can choose to display a Topo or Aerial photo background

Notice: The displayed well points are approximate and are not always shown in the correct Geographical location.

M number-Site Report	Water Quality Data?	Hydrograph available?	Name	Water Right #	PWS ID	Depth	Date Completed
62320	No	No	A S & R SMELTER	C096763-00		135	7/25/1975
138421	No	No	ALIED PAVING	C087901-00		90	4/10/1993
38432	No	No	ALIED PAVING	C087902-00		99	4/10/1993
62316	No	No	AMERICAN CHEMET			160	4/15/1985
160326	No	No	AMERICAN CHEMET			260	9/23/1996
62317	No	No	AMERICAN CHEMET CORP	C025702-00		140	10/18/1979
62319	No	No	AMERICAN CHEMIT	C625703-00		220	3/22/1989
62315	No	No	AMERICAN CHEMIT CORP			162	11/23/1981
163912	No	No	ASARCO * MIW-1			68	6/26/1997
181290	No	No	ASARCO * DH-31			28	11/4/1999
181787	No	No	ASARCO * DH-32			30	10/23/1999
181792	No	No	ASARCO * DH-33			30	11/6/1999
181791	No	No	ASARCO * DH-34			30	11/5/1999
181788	No	No	ASARCO * DH-35			29.5	10/26/1999
181786	No	No	ASARCO * DH-36			32	10/12/1999
181789	No	No	ASARCO * DH-37			30	11/22/1999
181781	No	No	ASARCO * DH-19			31	10/10/1999
181792	No	No	ASARCO * DH-50			36	10/8/1999
181795	No	No	ASARCO * DH-51			34	10/7/1999
181167	No	No	ASARCO * P-6				11/20/1987
181168	No	No	ASARCO * P-9				12/16/1987
125462	No	No	ASARCO EAST HELENA * APSD-1			14	8/20/1991
125461	No	No	ASARCO EAST HELENA * APSD-2			18	8/20/1991
125460	No	No	ASARCO EAST HELENA * APSD-3			12.5	8/21/1991
125459	No	No	ASARCO EAST HELENA * APSD-4			14	8/21/1991
146890	No	No	ASARCO EAST HELENA * EH-101			45	10/23/1986
125465	No	No	ASARCO EAST HELENA * STP-3			27	8/16/1991
125464	No	No	ASARCO EAST HELENA * STP-4			30	8/16/1991

Click on "Well Summary List" to get a list of all well logs within the chosen buffer zone

Click on the well log you want to look at

CHOOSE THE WELL LOG(S) YOU WANT FOR PRINTING

MONTANA WELL LOG REPORT

Other Options
[Plot this site on a topographic map](#)
[View scanned well log \(11/6/2006 3:07:50 PM\)](#)

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.

Site Name: ASARCO ' MW-1
GWIC Id: 163912

Section 1: Well Owner
Owner Name
 ASARCO
Mailing Address
 764
City State Zip Code
 EAST HELENA MT 59635

Section 2: Location

Township	Range	Section	Quarter Sections
10N	03W	36	NE¼ SW¼
County		Geocode	
LEWIS AND CLARK			
Latitude	Longitude	Geomethod	Datum
46.578988	111.927634	TRS-SEC	NAD83
Altitude	Method	Datum	Date
Addition	Block	Lot	

Section 3: Proposed Use of Water
 MONITORING (1)

Section 4: Type of Work
 Drilling Method: AIR ROTARY

Section 5: Well Completion Date
 Date well completed: Thursday, June 26, 1997

Section 6: Well Construction Details
Borehole dimensions

From	To	Diameter
0	68	7

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-2	3	6				STEEL
-1.9	68	2				PVC

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
58	68	2		0.010	SLOTS

Annular Space (Seal/Grout/Packer)

Section 7: Well Test Data
 Total Depth: 68
 Static Water Level: 49.8
 Water Temperature:
Unknown Test Method *
 Yield _ 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
 Unassigned

From	To	Description
0	5	SILT CLAY LIGHT BROWN TAN SOFT TRACE COARSE GRAINE SAND DRY LOOSE TRACE ROUNDED FINE GRAVEL
5	10	SILTY CLAY AS ABOVE GRADING TO CLAYEY SILT IN PART VERY SLIGHTLY MOIST TRACE COARSE GRAIN SAND VERY SOFT LOW PLASTICITY
10	15	SILTY CLAY AS ABOVE GRADING TO CLAYEY SILT TRACE COARSE SAND & FINE GRAVEL
15	20	SILTY CLAY AS ABOVE GRADING TO CLAYEY SILT SLIGHTLY DARKER BROWN VERY SLIGHTLY MOIST TO DRY
20	25	SILTY CLAY RUST BROWN BECOMING GRAVELLY WITH 1/4 TO 1/2 IN SIZE GRAVEL
25	30	SANDY GRAVEL 1/4 TP 3/4 INCH SIZE GRAVEL ANGULAR TRACE SUBROUNDED BASALT QUARTZITE FINE TO COARSE SAND UNCONSOLIDATED DRY
30	35	SANDY GRAVEL AS ABOVE ANGULAR FINE GRAVEL TOUGH DRILLING
35	40	GRAVELLY SILTY CLAY ORANGE BROWN 8% FINE ANGULAR GRAVEL 10% FINE TO COARSE GRAIN SAND VERY SLIGHTLY MOIST UNCONSOLIDATED LOW PLASTICITY
40	45	SANDY CLAY LIGHT TAN FINE TO MEDIUM GRAIN SAND MODERATELY SORTED DAMP TO VERY DAMP VERY SOFT LOW PLASTICITY
45	50	SANDY CLAY AS ABOVE DAMP SOFT STICKY 20% FINE TO COARSE SAND TRACE FINE ANGULAR GRAVEL DAMP
50	55	SANDY CLAY AS ABOVE 10% FINE TO MEDIUM GRAIN SAND SOFT VERY DAMP
55	60	CLAYEY SAND LIGHT TAN FINE TO MEDIUM GRAIN 5% COARSE GRAIN LOOSE WET
60	68	CLAYEY SAND COARSER THAN ABOVE MEDIUM TO COARSE GRAIN TRACE FINE GRAVEL WET

Driller Certification

You can click on "Plot this site on a topographic map" to find this well's approximate location