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HYDROLOGY DIVISION

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Butte, Montana 59731

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ENVIRONMENTAL ASSESSMENT

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final
environmental assessment record
MARYSVILLE GEOTHERMAL



U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT



butte district

montana

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

UNIVERSITY OF UTAH
RESEARCH INSTITUTE
EARTH SCIENCE LAB.

Water Quality Analysis
(Lab No 75M1359)

MONTANA BUREAU OF MINES AND GEOLOGY
BUTTE, MONTANA 59701 (406)792-8321

ST	MONTANA	COUNTY	LEWIS AND CLARK
LATITUDE-LONGITUDE	464516N 1122228W	SAMPLE LOCATION	12N 6W 32ABD
TOPOGRAPHIC MAP	GRANITE BUTTE	SAMPLE SOURCE	WELL
GEOLOGICAL SOURCE	120PLNC	STATION CODE	MARYSDEEPWELL5750
DRAINAGE BASIN	41*I	BOTTLE NO.	7
AGENCY + SAMPLER	USGS * RBL	ALTITUDE OF SAMPLE POINT	5320.
DATE SAMPLED	08-29-75	TOTAL DEPTH OF WELL	6790
TIME SAMPLED	1300	DEPTH WATER ENTERS WELL	5730
LAB + ANALYST	MBMG * LAW	SWL ABOVE(+) OR BELOW GS	530.
DATE ANALYZED	09-26-75	FLOW MEAS METHOD	
SAMPLE HANDLING	4 4	WATER FLOW RATE	
METHOD SAMPLED	GRAB	WATER USE	UNUSED

SAMPLING SITE MARYSVILLE DEEP WELL DEPTH 5750
GEOLOGICAL SOURCE

	MG/L	MEQ/L		MG/L	MEQ/L
CALCIUM (CA)	7.7	0.384	BICARBONATE (HCO3)	264.00	4.327
MAGNESIUM (MG)	0.46	0.038	CARBONATE (CO3)	0.0	0.000
SODIUM (NA)	208.	9.048	CHLORIDE (CL)	51.00	1.438
POTASSIUM (K)	10.4	0.266	SULFATE (SO4)	176.0	3.664
TOT. IRON (FE)	0.02	0.001	NITRATE (AS N)	0.226	0.016
MANGANESE (MN)	0.09	0.003	NO3+NO2 TOT (AS N)	.	0.000
ALUMINUM (AL)	.	0.000	FLUORIDE (F)	20.0	1.052
SILICA (SIO2)	68.5		O-PHOSPHATE (AS P)	.	0.000
TOTAL CATIONS		9.741	TOTAL ANIONS		10.497

STANDARD DEVIATION OF ANION - CATION BALANCE 2.89 SIGMA

LABORATORY PH	6.62	TOTAL HARDNESS AS CaCO3	21.
FIELD TEMPERATURE	206. F	TOTAL ALKALINITY AS CaCO3	264.
CALCULATED DISSOLVED SOLIDS	672.4	SODIUM ADSORPTION RATIO	51.0
SUM OF DISS. CONSTITUENTS	806.4	RYZNAR STABILITY INDEX	9.8
LAB SPEC. COND. (MICROMHOS/CM)	1004.0	LANGLIER SATURATION INDEX	-1.6

ADDITIONAL PARAMETERS

BORON, DISS (MG/L AS B)	0.10	LITHIUM, DISS (MG/L AS LI)	2.0
STRONTIUM, DISS (MG/L-SR)	0.07	CNDUCTVY, FIELD MICROMHOS	950.
PH, FIELD (SU)	7.9	ALKALINITY, FLD (AS CaCO3)	200.
COPPER, DISS (MG/L AS CU)	0.01	MERCURY, DISS (MG/L AS HG)	< 0.0003

PRELIMINARY DATA - SUBJECT TO REVISION

REMARKS: GEOTHERMAL-USGS-BATTELLE NOTE DATUM IS 20 FT ABOVE PRESENT CASING TOP

EXPLANATION: MG/L=MILLIGRAMS PER LITER MEQ/L=MILLIEQUIVALENTS PER LITER
ALL CONSTITUENTS DISSOLVED (DISS) EXCEPT AS NOTED: TOT=TOTAL SUSP=SUSPENDED
TR=TOTAL RECOVERABLE (M)=MEASURED (R)=REPORTED (E)=ESTIMATED M=METERS

PROCESSING PGM: GWANAL (FORM 153)

FUND: /

PERCENTAGE REACTANCE VALUES									
CA	MG	NA	K	CL	SO4	HCO3	CO3	NO3	
3	0	92	2	13	34	41	0	0	

NOTE: IN CORRESPONDENCE RELATED TO THIS ANALYSIS REFER TO NUMBER 75M1359

Appendix 4

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