

1977 Recce
Program

MARY'S RIVER

The Mary's River Hot Springs are in Sections 11 and 14 of Township 38 North, Range 59 East, about 40 kilometers northwest of Wells (Plate 5).

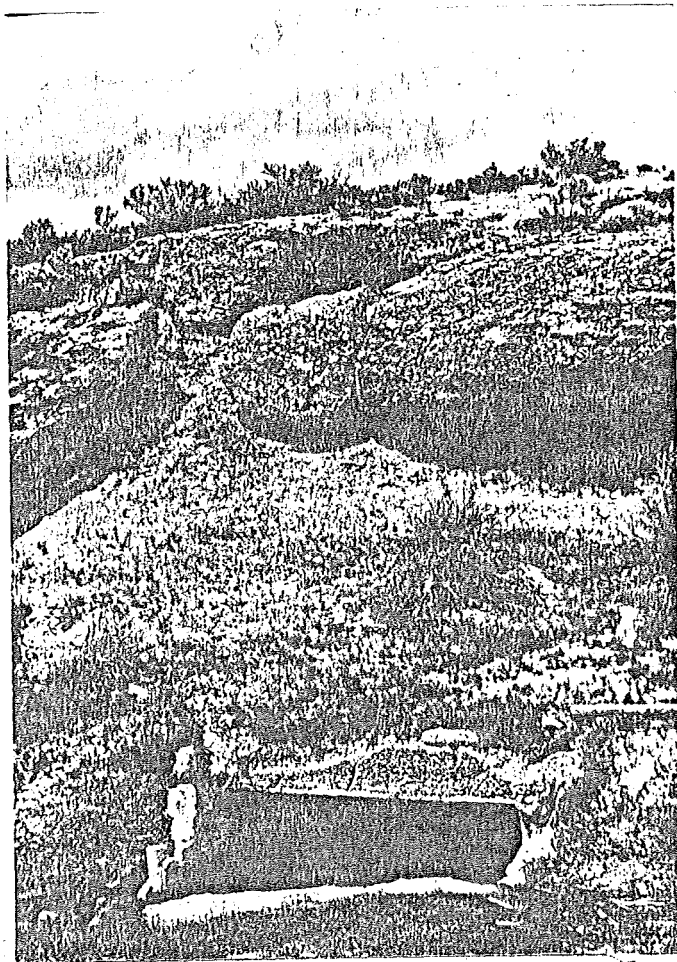


Plate 5. Mary's River Hot Springs

The springs deposit neither carbonate nor silica. The thermal waters are somehow associated with a nearby outcrop of the Eastern Carbonate Assemblage (Paleozoic) seen in figure 6 as Twin Buttes. The remaining rocks in the area are late tertiary tuffaceous sediments.

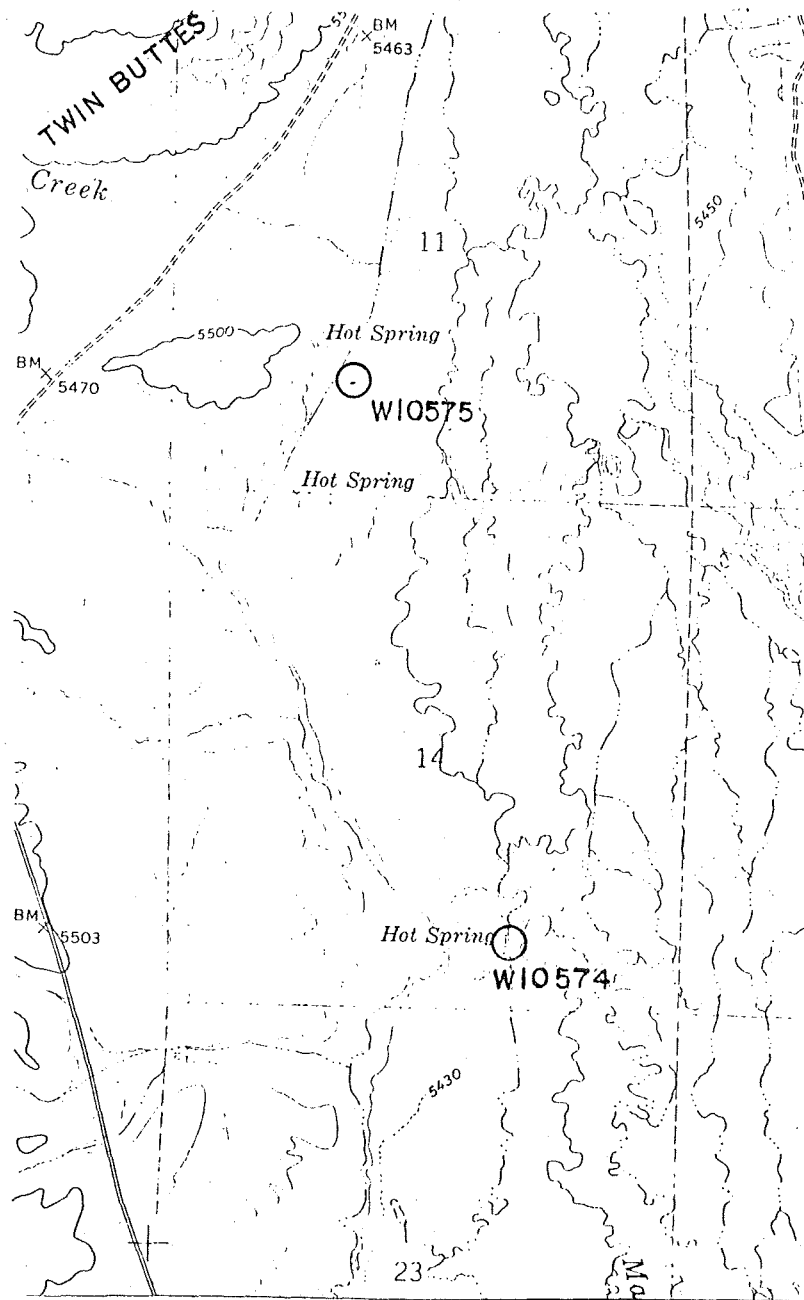
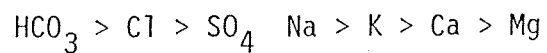


Figure 6. Location of the Mary's River Hot Springs.

The major ions of the thermal waters are distributed as follows:



The waters are very high in fluoride (22 mg/l) and are depleted in lithium, boron and ammonia. Geothermometry should be reliable owing to the low calcium content. Temperatures range from 161 to 197°C (Table 8).

W-10574	
County	Elko
Temp (C)	38.
Flow (GPM)	5.
pH	8.15
Cl	29.
F	22.
SO ₄	5.
HCO ₃	988.
CO ₃	0
SiO ₂	150.
Na	500.
K	34.
Ca	3.
Mg	.4
Li	0
Cu	0
B	0
MO	15.
NH ₃	.2
TDS	1741.7
TSiO ₂	161.
TNa-K	143.
TNa-K-Ca	197.

Table 8. Analysis of Mary's River Hot Springs.

W14977
NWSES7T38NR60E
Elko Co., NV

W14978
SW/4S26T37NR58E
Elko Co., NV

Temp (°C)	13.	16.
Flow (gpm)	5.	30.
pH	9.5	8.5
Cl	6.2	16.0
F	4.2	3.5
SO ₄	17.0	22.0
HCO ₃		
CO ₃		
SiO ₂	72.0	80.
Na	140.0	87.0
K	4.8	12.0
Ca	1.0	4.3
Mg	0.1	0.8
Li	1.0	1.0
Cu	20.0 (ppb)	<2.0 (ppb)
B	0.6	0.5
MO	<5.0 (ppb) *	5.0 (ppb)
NH ₃		
Ec(K)	619.	474.
TDS	246.9	226.9
T _q SiO ₂	118.	122.
T _c SiO ₂	91	
TNa-K	140	246.
TNa-K-Ca	113.	161.

* Interference