

APPENDIX 2: Homestake Well Water Quality Data (USGS).

Analyte (units)	4/13/1978	8/17/1982	4/29/1986	8/11/1987
Acidity, (H <sup>+</sup> , hydrogen ion, unfiltered) (mg/L)	0	0	0	0
Alkalinity as CaCO <sub>3</sub> , unfiltered, field (mg/L)			242, 244	244
Alkalinity as CaCO <sub>3</sub> , unfiltered, lab (mg/L)		239	246	
Alpha particle, Gross, filtered (µg/L)	ND	ND		
Aluminum, filtered (µg/L)	50		ND	ND
Ammonia and ammonium as NH <sub>4</sub> , unfiltered (mg/L)	0.245			
Ammonia and ammonium as NH <sub>4</sub> , filtered (mg/L)				0.039
Ammonia and ammonium as N, unfiltered (mg/L)	0.19			
Ammonia and ammonium as N, filtered (mg/L)				0.03
Arsenic, filtered (µg/L)	1	ND	ND	
Barium, filtered (µg/L)	ND	12	7	
Beryllium, filtered (µg/L)			ND	
Beta particle, Gross, Cs-137 curve, filtered (picocuries/L)	ND	ND		
Beta particle, Gross, Sr-90/Y-90 curve, filtered (picocuries/L)		ND		
Bicarbonate as HCO <sub>3</sub> , unfiltered, field (mg/L)	269		255	293
Boron, filtered (µg/L)	80			90
Bromide, filtered (mg/L)			0.04	
Cadmium, filtered (µg/L)	ND	ND	ND	
Calcium, filtered (mg/L)	1.2	1.7	1.4	1.3
Carbon dioxide, unfiltered (mg/L)	0.3	0.5	0.3	0.7
Carbon-13/Carbon-12 ratio, filtered (per mil, δ)				-7.6
Carbon-14 (percent modern)				4.5
Carbonate as CaCO <sub>3</sub> , unfiltered, field (mg/L)			244	
Carbonate as CO <sub>3</sub> , unfiltered, field (mg/L)	20		21	26
Chemical oxygen demand, (high level), unfiltered (mg/L)	7			
Chloride, filtered (mg/L)	3.5	3.8	4.3	3.3
Chromium, filtered (µg/L)	ND	ND	ND	
Cobalt, filtered (µg/L)	ND		ND	
Copper, filtered (µg/L)	ND	ND	1	
Deuterium/Hydrogen ratio, unfiltered (per mil, δ)			-87	-89.5
Fluoride, filtered (mg/L)	0.7	0.5	0.5	0.7
Hardness, Ca, Mg as CaCO <sub>3</sub> (mg/L)	4	5	5	4.55
Hardness, non-carbonate as CaCO <sub>3</sub> , unfiltered (mg/L)	0	0	0	
Inorganic nitrogen (nitrate and nitrite) as N, unfiltered (mg/L)	0.01			
Inorganic nitrogen (nitrate and nitrite) as N, filtered (mg/L)	0.01	ND		ND
Iodide, filtered, (mg/L)			0.008	
Iron, filtered, (µg/L)	ND	ND	10	ND
Kjeldahl nitrogen as N, unfiltered, (mg/L)	0.31			
Kjeldahl nitrogen as N, filtered, (mg/L)				ND

Lead, filtered (µg/L)	0	ND	ND	
Lithium, filtered (µg/L)	30		23	
Magnesium, filtered (mg/L)	0.3	0.2	0.3	0.31
Manganese, filtered (µg/L)		0	2, ND	2
Mercury, filtered (µg/L)	ND	ND	ND	
Molybdenum, filtered (µg/L)	2		ND	
Nickel, filtered (µg/L)			1	
Nitrate as NO <sub>3</sub> , filtered (mg/L)	0			ND
Nitrate as N, filtered (mg/L)	0.01			ND
Nitrite as N, filtered (mg/L)	ND			ND
Nitrite as NO <sub>2</sub> , filtered (mg/L)	0			ND
Nitrogen, mixed forms (NH <sub>3</sub> ), (NH <sub>4</sub> ), organic, (NO <sub>2</sub> ) and (NO <sub>3</sub> ) as N, unfiltered (mg/L)	0.32			
Nitrogen, mixed forms (NH <sub>3</sub> ), (NH <sub>4</sub> ), organic, (NO <sub>2</sub> ) and (NO <sub>3</sub> ) as N, unfiltered (mg/L)				ND
Nitrogen, mixed forms (NH <sub>3</sub> ), (NH <sub>4</sub> ), organic, (NO <sub>2</sub> ) and (NO <sub>3</sub> ) as NO <sub>3</sub> , unfiltered (mg/L)	1.4			
Organic carbon, suspended sediment (mg/L)	0.2			
Organic carbon, Total, unfiltered (mg/L)	0.1			
Organic carbon, Dissolved, filtered (mg/L)	0.3		1.1	
Organic nitrogen as N, filtered (mg/L)				ND
Organic nitrogen as N, unfiltered, (mg/L)	0.12			
Orthophosphate as P, filtered (mg/L)	0.02			0.01
Orthophosphate as PO <sub>4</sub> , filtered (mg/L)	0.06			0.031
Oxygen-18/Oxygen-16 ratio, unfiltered, relative to VSMOW (per mil, δ)			-11.8	-11.9
pH, unfiltered, field (standard units)	9.2	8.9	9.1	8.8
pH, unfiltered, lab (standard units)		9.2	9.0	9.1
Phosphorus as P, unfiltered (mg/L)	ND			
Phosphorus as P, filtered (mg/L)				0.02
Potassium, filtered (mg/L)	0.8	0.8	0.8	0.7
Radium-226, filtered (picocuries/L)	0.06	0.07		
Selenium, filtered (µg/L)	ND	ND	ND	
Silica as SiO <sub>2</sub> , filtered (mg/L)	14	14	13	13
Silver, filtered (µg/L)	ND	ND	ND	
Sodium, filtered (mg/L)	120	130	130	130
Sodium adsorption ratio [(Na)/(sq root of 1/2 Ca + Mg)]	25	26	27	26.6
Sodium, percent total cations	98	98	98	98
Specific conductance at 25° C, unfiltered (µS/cm)	490	500	548	525
Specific conductance at 25° C, unfiltered, lab (µS/cm)		543	556	559
Strontium, filtered (µg/L)	ND		27	26
Sulfate, filtered (mg/L)	18	34	32	35
Sulfide, unfiltered (mg/L)	0.2			
Sulfide, filtered (mg/L)	0.2			
Sulfur-34/Sulfur-32 ratio, unfiltered (per mil, δ)				-10.4
Temperature, water (degrees Celsius)	17.5	18	18	18

Total dissolved solids, filtered, sum (mg/L)	312	329	330	355
Total dissolved solids, filtered (short tons/acre-foot)	0.39	0.45	0.45	0.48
Total dissolved solids, filtered, dried (mg/L)	287			
Tritium, unfiltered (picocuries/L)				0.4
Turbidity, unfiltered (NTU)	0.15			
Uranium, filtered (µg/L)	ND	ND		
Vanadium, filtered (µg/L)	0		ND	
Zinc, filtered (µg/L)		ND	ND	

---

ND = Not detected

Blank = Not tested