

GEOHERMAL BRANCH

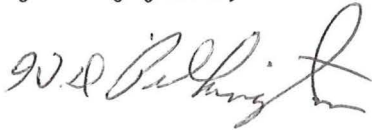
June 11, 1982

Grace Geothermal
970 East 4800 South Suite 2
Salt Lake City, UT 84117

Gentlemen:

Attached, please find copies of Hydrogeochemical Data which include a map and the Chemical Analyses of Water Samples from the Bully Creek Area, Oregon.

Very truly yours,



H. Dean Pilkington

/jp

W10232, 9, 91, 91
0.2, <0.1 0.2, 3.1

W10233, 12, 94, 53
0.2, <0.1 0.2, 2.1

W10230, 12, 90, 58
0.2, <0.1 0.2, 1.9

W15500, 14, 82, 76
0.2, <0.1 0.2, 0.6

W15502, 30, 111, 82
0.2, <0.1 0.5, 2.4

W10231, 12, 110, -
0.2, <0.1 0.2, 2.8

W10074, 19, 94, 43
0.2, <0.1 0.7, 23.0

W10234, 30, 107, 73
0.2, <0.1 0.5, 4.0

W10075, 17.5, 81, 91
0.2, <0.1 0.9, 10.0

X 89828, 96, 167, 183
4.3, 0.3 9.2, 140.0

AMAX EXPLORATION, INC.
DENVER, COLORADO

Hydrogeochemical Map
BULLY CREEK
Sample # One, Two, Three, Four
B, Li O, F, Cl
Figure 1.

Table I. Chemical Analyses of Water Samples
from the Bully Creek Area, Oregon.

	X89828 Jordan H.S. <u>NENWS9T18SR43E</u>	X89844 Vale H.S. <u>SWSES20T18SR45E</u>	W10074 Bully Creek C.S. <u>NWSWS28T17SR43E</u>	W10075 Coyote Spring <u>SENWS5T18SR43E</u>
Temp°C	96.0	91.0	19.0	17.5
Flow (gpm)	100.0	25.0	1.0	2.0
pH	7.59	7.78	8.1	7.6
Cl	140.0	340.0	23.0	10.0
F	9.2	6.2	0.7	0.9
SO ₄	110.0	120.0	18.0	75.0
HCO ₃	198.0	151.0	126.0	197.0
CO ₃	0	0	0	0
SiO ₂	196.0	120.0	75.0	60.0
Na	218.0	320.0	23.0	490.0
K	17.0	15.0	4.1	8.5
Ca	6.0	19.0	40.0	50.0
Mg	0.3	0.5	9.0	16.0
Li	0.3	0.3	0.1	0.1
B	4.3	9.0	0.2	0.2
TDS	901.0	982.0	319.1	907.7
Ec(k)	---	---	---	---
TqSiO ₂	167.0	142.0	120.0	1110.0
TcSiO ₂	157.0	122.0	94.0	81.0
TNa-K	197.0	160.0	272.0*	102.0
TNa-K-Ca	183.0	153.0	43.0	91.0
TNa/Li	94.0*	73.0	177.0*	9.0*
TLi	116.0*	116.0	86.0	86.0
Cl/HCO ₃	1.22	3.88	0.31	0.91
Cl/SO ₄	3.45	7.68	3.46	0.36

*Values probably do not reflect true subsurface temperatures.

Table I. Continued

	W10230 Bannock Corral Spr. SWNES23T17SR42E	W10231 Grouse Spr. SWNWS27T17SR42E	W10232 Boston Horse Camp Spr. SESES31T16SR42E	W10233 Rattlesnake Sp SESWS6T17SR42E
Temp ^{OC}	12.0	12.0	9.0	12.0
Flow (gpm)	2.0	2.3	2.0	7.8
pH	7.2	6.7	6.7	7.1
Cl	1.9	2.8	3.1	2.1
F	0.2	0.2	0.2	0.2
SO ₄	12.0	12.0	10.0	10.0
HCO ₃	34.0	38.0	43.0	68.0
CO ₃	0	0	0	0
SiO ₂	71.0	99.0	72.0	76.0
Na	5.9	6.2	8.4	13.0
K	3.5	1.0	4.8	3.4
Ca	7.0	13.0	7.0	13.0
Mg	2.0	3.0	3.0	5.0
Li	0.1	0.1	0.1	0.1
B	0.2	0.2	0.2	0.2
TDS	137.8	175.5	151.8	191.0
Ec(k)	---	---	---	---
TqSiO ₂	117.0	132.0	118.0	120.0
TcSiO ₂	90.0	110.0	91.0	94.0
TNa-K	439.0*	262.0*	432.0*	316.0*
TNa-K-Ca	58.0	16.0*	71.0	53.0
TNa/Li	340.0*	322.0*	287.0*	234.0*
TLi	86.0	86.0	86.0	86.0
Cl/HCO ₃	0.1	0.13	0.12	0.05
Cl/SO ₄	0.43	0.63	0.84	0.57

Table I. Continued

	W10234 Warm Well <u>NENWS1T18SR42E</u>	W14500 Kern Cr. Sprs. <u>NWNES24T17SR42E</u>	W15502 737-54 <u>NENWS25T17SR42E</u>
Temp ^{OC}	30.0	14.0	30.0
Flow (gpm)	150.0+	2-3	10.0
pH	7.3	7.2	8.6
Cl	4.0	0.6	2.8
F	0.5	0.2	0.5
SO ₄	10.0	13.0	17.0
HCO ₃	185.0	40.0	188.0
CO ₃	0	0	16.0
SiO ₂	94.0	61.0	100.0
Na	36.0	6.0	29.0
K	9.8	5.6	9.1
Ca	38.0	5.7	20.0
Mg	13.0	2.0	16.0
Li	0.1	0.1	0.1
B	0.2	0.2	0.2
TDS	390.6	134.4	398.7
Ec(K)	---	96.0	436.0
TqSiO ₂	130.0	111.0	133.0
TcSiO ₂	107.0	82.0	111.0
TNa-K	321.0*	531.0*	340.0*
TNa-K-Ca	73.0	76.0	82.0
TNa/Li	141.0	337.0*	155.0
TLi	86.0	86.0	86.0
Cl/HCO ₃	0.04	0.03	0.03
Cl/SO ₄	1.08	0.13	0.45

*Do not reflect true subsurface temperatures.