

STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

SPRING/WELL DATA

Name of Source P.B. #1 DOGAMI Drill Hole Collector(s) Gary McLean
KGRA _____ Date Dec 18 1980
Well/Spring No. 16S, 14E, 16, AAb Affiliation State Dept of Geology
Twp. Rg. Sec. Ltrs. Elevation _____
Project Powell Buttes Geothermal Evaluation Latitude, Longitude: _____
State Oregon Degrees _____ Minutes _____ E/W _____
County Cook Degrees _____ Minutes _____ E/W _____
Geol. Province High Lava Plains
Map Ref. Powell Buttes 7 1/2 Quad
Other Locality Information _____

Source Type (circle one): SPRING WELL FUMAROLE OTHER: _____
Point of Collection Well head
Sample Type (circle one): WATER STEAM OTHER: _____
Analysis(s) in this report: WATER CONDENSATE GAS OTHER: _____
Bottle Numbers _____
Utilization of Source Geothermal Test Well
Owner of Source DOGAMI
Sample Temperature (°C) 32.5°
Ambient Temperature (°C) 5-6° General Weather Clear-Cool
Discharge (well or spring) 25-30 gpm Aquifer Depth ~~570'-640'~~ 590'-640'
Alteration or Deposits None
Odor None
Geologic Control _____
Other Sample Information _____

FIELD ANALYSIS DATA

Analyzer(s) Gary D McLean Affiliation State Dept of Geology
Analysis Date Dec 18 1980
Temperature (°C) 32.5° NaCl 62.5 ppm
pH 8.75 NH₃ 23 ppm
Hardness 57.3 (AS CaCO₃) SiO₂ _____
Alkalinity _____ (AS _____) SO₄ 80 ppm
Conductivity _____ H₂S _____
Other Analysis Information High NH₃ and some of the pH could be attributed
To breakdown of Foaming Agent

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PB-1 DOGAMI D H

ELEMENT CONCENTRATION (PPM)

Geothermometers:

NA	43
K	6
CA	7
MG	3
FE	2.06
AL	1.6
SI (AS SiO2)	46
TI	0.3
F	< 0.625
SR	0.03
BA	< 0.625
V	< 1.25
CR	< 0.050
MN	< 0.250
CO	< 0.025
NI	< 0.125
CU	< 0.063
MO	< 1.25
PB	< 0.250
ZN	1.0
CD	< 0.063
AG	< 0.050
AU	< 0.100
AS	< 0.625
SB	< 0.750
BI	< 2.50
U	< 6.25
TE	< 1.25
SN	< 0.125
W	< 0.125
LI	< 0.050
BE	< 0.005
B	< 0.125
ZR	< 0.125
LA	< 0.125
CE	< 0.250
TH	< 2.50
TDS	286
SO4	40
Cl	10
F	0.4

$$\text{Na:K } t_{oc} = 200.62^{\circ}\text{C}$$

$$\text{Na:K: } \frac{1}{3}\text{Ca } t_{oc} = 183.21^{\circ}\text{C}$$

$$\text{Na:K: } \frac{4}{3}\text{Ca } t_{oc} = 96.23^{\circ}\text{C}$$

$$\text{SiO}_2 \text{ (cond) } t_{oc} = 97.96^{\circ}\text{C}$$

$$\text{SiO}_2 \text{ (adiabatic) } t_{oc} = 99.23^{\circ}\text{C}$$

$$\text{SiO}_2 \text{ (chalcedony) } t_{oc} = 67.75^{\circ}\text{C}$$

$$\text{SiO}_2 \text{ (opal) } t_{oc} = -17.31^{\circ}\text{C}$$

BEST (?)

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PB-1 630'

F00.M

ELEMENT CONCENTRATION (PPM)

NA		8
K	<	2.50
CA		5
MG		3
FE		0.41
AL	<	0.625
SI (AS SiO2)		20
TI	<	0.125
F	<	0.625
BR		0.03
BA	<	0.625
V	<	1.25
CR	<	0.050
MN	<	0.250
CO	<	0.025
NI	<	0.125
CU	<	0.063
MO	<	1.25
PB	<	0.250
ZN		1.3
CD	<	0.063
AG	<	0.050
AU	<	0.100
AS	<	0.625
SB	<	0.750
BI	<	2.50
U	<	6.25
TE	<	1.25
SN	<	0.125
W	<	0.125
LI	<	0.050
BE	<	0.005
B	<	0.125
ZR	<	0.125
LA	<	0.125
CE	<	0.250
TH	<	2.50
TDS		520
SO4		79
Cl		16
F		0.1