

WATER QUALITY STANDARDS FOR SEVERAL BENEFICIAL USES¹
COMPARED TO GEOTHERMAL FLUIDS FROM SAN EMIDIO DESERT

| CONSTITUENT | GEOTHERMAL WELL #1 | DRINKING WATER | AQUATIC LIFE | WILDLIFE PROPAGATION | LIVESTOCK WATERING | IRRIGATION |
|------------------|--------------------|----------------|--------------|----------------------|--------------------|------------|
| ph | 8.7 | 5.0-9.0 | 6.5-9.0 | 7.0-9.2 | 5.0-9.0 | 4.5-9 |
| TDS | 4360 | 500/1000 | | | 3000 | |
| B | 4.2 | | .55 | 2 | 5 | .75 |
| Cl | 2320 | 250/400 | | | 1500 | |
| F | 5.20 | | | 2 | 2 | 1 |
| NO ₃ | NA | 10 | 90 | 100 | 100 | |
| SiO ₂ | 207.95 | | | | | |
| SO ₄ | 220 | 250/500 | | | | |
| As | ND | .05 | .04/.44 | .2 | .2 | .1 |
| Ba | .104 ¹ | 1 | 5 | 1 | 1 | |
| Cd | ND | .01 | | .05 | 1 | .01 |
| Ca | 148.47 | | | | | |
| Cr | .025 ¹ | .05 | .016 | 1 | 1 | .1 |
| Cu | .008 ¹ | | .000233 | .5 | .5 | .2 |
| Fe | .174 ¹ | .3 | 1 | | | |
| Lead | ND | .05 | | .1 | .1 | 5 |
| Mg | .17 | | | | | |
| Mn | .128 | .05 | 1 | 10 | 10 | .2 |
| Hg | .0003 | .002 | .0024 | .0024 | .01 | |
| Ni | NA | .0134 | | | .1 | .2 |
| Se | <.0005 | .01 | .26 | .05 | .05 | .02 |
| Na | 1400.63 | | | | | |
| Ag | .014 | .05 | | | | |
| Zn | .007 ¹ | 5 | .001958 | 25 | 25 | 2 |

¹From Wind Mountain Mine 6/25/91 analysis by MPFI

Quality Standards from Nevada Division of Environmental Protection, Standards for Water Quality.

NON TRIPPLICATE
PLEASE PRINT OR TYPE

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NEVADA STATE HEALTH LABORATORY
University of Nevada School of Medicine/385
Reno, Nevada 89557
(775) 688-1335

DT
6 P⁰ 3/4
DP.

146323

09 JUN 13 AM 10:30

WATER CHEMISTRY ANALYSIS:

Attn: Fees may apply to some types of samples.

All of the information below must be filled in
or the analysis will not be performed.

TYPE OF ANALYSIS:

- Check here for ROUTINE DOMESTIC ANALYSIS.
- Circle the constituents needed for PARTIAL ANALYSIS.

State NV County WA
 Township 29 N Range 23 E Section 21
 General Location Sax. Emulio Desert
 Source Address Empire Power plant

SAMPLING INSTRUCTIONS:

The sample submitted must be representative of the source. Spring and surface water samples should be as free of dirt and debris as possible. Wells should be pumped thoroughly before sampling, changing the water in the casing at least three times. Product water from filters should be sampled after running for about ten (10) minutes.

Sampled by M.K.S. Peach Date 6-12-00
 Owner Empire Energy LLC Phone 537-2015
 Address Box 40
 City Empire State NV

REASON FOR ANALYSIS:

- Loan
- Personal health reasons
- Purchase of the property
- Rental or sale of property
- Subdivision approval
- Other Compliance

USE OF WATER:

- Domestic drinking water
 - Geothermal
 - Industrial or mining
 - Irrigation
 - Other
- Initials _____

REPORT TO:

Name Donna Potter
 Address Box 40
 City Empire
 State NV Zip 89405

SOURCE OF WATER:

- Filter Yes No
 Public Yes No
 Spring _____
 Well _____ Depth _____ ft.
 Hot _____ Cold
 IN USE: Yes No

Type cooling H2O
 Name make up - surface water
 Surface _____
 Casing diameter _____ in.
 Casing depth _____ ft.

The results below are representative only of the sample submitted to this laboratory.

| FOR LABORATORY USE ONLY | | | | | | PRINT OTHER DESIRED CONSTITUENTS BELOW | |
|-------------------------|-----|-------------|-----|-------------|-------|--|------|
| Constituent | ppm | Constituent | ppm | Constituent | ppm | Constituent | ppm |
| Chloride | 760 | Iron | 285 | Color | 46323 | | |
| Hardness | | Manganese | | Turbidity | | | |
| Calcium | | Copper | | pH | 8.11 | | |
| Magnesium | | Zinc | | EC | 1390 | | |
| Sodium | | Barium | | | | | |
| Potassium | | Boron | 0.6 | | | | |
| Sulfate | | Arsenic | | | | | |
| | | | | Boron | 0.6 | EC | 1390 |

Fee _____

Collected by _____

PWS I.D. _____

SDWA — Pri. _____ Sec. _____

1st _____ 2nd _____ 3rd _____

Date Rec'd _____ Init. _____

Remarks _____

RESULTS REPORTED
JUN 22 2000

TRIPPLICATE
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NEVADA STATE HEALTH LABORATORY
University of Nevada School of Medicine/385
Reno, Nevada 89557
(775) 688-1335

146324

CO JUN 13 AM 10:30

WATER CHEMISTRY ANALYSIS:

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or the analysis will not be performed.

TYPE OF ANALYSIS:

- Check here for ROUTINE DOMESTIC ANALYSIS.
- Circle the constituents needed for PARTIAL ANALYSIS.

State NV County WA
Township 29N Range 23E Section 16
General Location San Jacinto Desert
Source Address Empire Geo Plant

SAMPLING INSTRUCTIONS:

The sample submitted must be representative of the source. Spring and surface water samples should be as free of dirt and debris as possible. Wells should be pumped thoroughly before sampling, changing the water in the casing at least three times. Product water from filters should be sampled after running for about ten (10) minutes.

Sampled by Mike Peach Date 6-12-00
Owner Empire Energy, LLC Phone 557-205
Address Box 40
City Empire State NV

REASON FOR ANALYSIS:

- Loan
- Personal health reasons
- Purchase of the property
- Rental or sale of property
- Subdivision approval
- Other compliance

USE OF WATER:

- Domestic drinking water
 - Geothermal
 - Industrial or mining
 - Irrigation
 - Other
- Initials _____

REPORT TO:

Name D. Potter
Address Box 40
City Empire
State NV Zip 89405

SOURCE OF WATER:

- Filter Yes No
- Public Yes No
- Spring _____
- Well _____ Depth _____ ft.
- Hot Cold _____
- IN USE: Yes No

Type Production Well
Name 75-16
Surface _____
Casing diameter _____ in.
Casing depth _____ ft.

The results below are representative only of the sample submitted to this laboratory.

| FOR LABORATORY USE ONLY | | | | | | | PRINT OTHER DESIRED CONSTITUENTS BELOW | | |
|-------------------------|------|-------------|------|-------------|-----|-------------|--|-------------|-----|
| Constituent | ppm | Constituent | ppm | Constituent | ppm | Constituent | S.U. | Constituent | ppm |
| T.D.S. @ 180°C | 3700 | Chloride | 2220 | Iron | | Color | | | |
| Hardness | | Nitrate -N | | Manganese | | Turbidity | | | |
| Calcium | | Alkalinity | | Copper | | pH | 6.78 | | |
| Magnesium | | Bicarbonate | | Zinc | | EC | 7140 | | |
| Sodium | | Carbonate | | Barium | | | | | |
| Potassium | | Fluoride | 4.12 | Boron | 5.3 | | | | |
| Sulfate | | Arsenic | | | | | | | |
| | | | | Boron | 5.3 | EC | 7140 | | |

Collected by _____
WS I.D. _____
DWA — Pri. _____ Sec. _____
1st _____ 2nd _____ 3rd _____
State Rec'd _____ Init. _____

Remarks _____

M. J. 6/20/00

RESULTS REPORTED
JUN 22 2000

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University of Nevada School of Medicine/385
Reno, Nevada 89557
(775) 688-1335

146325

00 JUN 13 AM 10:29

WATER CHEMISTRY ANALYSIS

Attn: Fees may apply to some types of samples.

All of the information below must be filled in
or the analysis will not be performed.

TYPE OF ANALYSIS:

- Check here for ROUTINE DOMESTIC ANALYSIS.
- Circle the constituents needed for PARTIAL ANALYSIS.

State NV County WA
 Township 29N Range 23E Section 16
 General Location Son. Smith's Desert
 Source Address Empire Geoflow

SAMPLING INSTRUCTIONS:

The sample submitted must be representative of the source. Spring and surface water samples should be as free of dirt and debris as possible. Wells should be pumped thoroughly before sampling, changing the water in the casing at least three times. Product water from filters should be sampled after running or about ten (10) minutes.

Sampled by Mike Peach Date 6-12-00
 Owner Empire Energy, LLC Phone 557-2015
 Address Box 40
 City Empire State NV

REASON FOR ANALYSIS:

- Loan
- Personal health reasons
- Purchase of the property
- Rental or sale of property
- Subdivision approval
- Other compliance

USE OF WATER:

- Domestic drinking water
- Geothermal
- Industrial or mining
- Irrigation
- Other
- Initials _____

REPORT TO:

Name Dona Potter
 Address Box 40
 City Empire
 State NV Zip 89405

SOURCE OF WATER:

- Filter Yes No
- Public Yes No
- Spring _____
- Well _____ Depth _____ ft.
- Hot Cold _____
- IN USE: Yes No

Type Production Well
 Name 75B-16
 Surface _____
 Casing diameter _____ in.
 Casing depth _____ ft.

The results below are representative only of the sample submitted to this laboratory.

FOR LABORATORY USE ONLY

PRINT OTHER DESIRED
CONSTITUENTS BELOW

| Constituent | ppm | Constituent | ppm | Constituent | ppm | Constituent | S.U. | Constituent | ppm |
|------------------------|-------------|-----------------|-------------|--------------|------------|---------------|-------------|-------------|-----|
| <u>T.D.S. @ 180° C</u> | <u>3700</u> | <u>Chloride</u> | <u>2240</u> | Iron | | <u>146325</u> | | | |
| Hardness | | Nitrate -N | | Manganese | | Color | | | |
| Calcium | | Alkalinity | | Copper | | <u>pH</u> | <u>6.86</u> | | |
| Magnesium | | Bicarbonate | | Zinc | | EC | <u>7120</u> | | |
| Sodium | | Carbonate | | Barium | | | | | |
| Potassium | | <u>Fluoride</u> | <u>4.28</u> | Boron | <u>5.3</u> | | | | |
| Sulfate | | Arsenic | | | | | | | |
| | | | | <u>Boron</u> | <u>5.3</u> | <u>Ec</u> | <u>7120</u> | | |

Remarks _____
 Collected by _____
 WS I.D. _____
 DWA -- Pri. _____ Sec. _____
 1st _____ 2nd _____ 3rd _____
 Rec'd _____ Init. _____

HL 6/20/00
[Signature]
 RESULTS REPORTED
 JUN 22 2000

ppm = parts per million, milligrams per liter; S.U. = Standard Units

IN TRIPLICATE
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NEVADA STATE HEALTH LABORATORY
University of Nevada School of Medicine/385
Reno, Nevada 89557
(775) 688-1335

146326

00 JUN 13 AM 10:29

WATER CHEMISTRY ANALYSIS:

Attn: Fees may apply to some types of samples.

All of the information below must be filled in
or the analysis will not be performed.

TYPE OF ANALYSIS:

- Check here for ROUTINE DOMESTIC ANALYSIS.
- Circle the constituents needed for PARTIAL ANALYSIS.

State NV County WA
 Township 29N Range 23E Section 16
 General Location San Emidio Desert
 Source Address Empire Geoplast

SAMPLING INSTRUCTIONS:

The sample submitted must be representative of the source. Spring and surface water samples should be as free of dirt and debris as possible. Wells should be pumped thoroughly before sampling, changing the water in the casing at least three times. Product water from filters should be sampled after running for about ten (10) minutes.

Sampled by Nella Peadar Date 6-12-00
 Owner Empire Energy, LLC Phone 557-2015
 Address Box 40
 City Empire State NV

REASON FOR ANALYSIS:

- Loan
- Personal health reasons
- Purchase of the property
- Rental or sale of property
- Subdivision approval
- Other compliance

USE OF WATER:

- Domestic drinking water
 - Geothermal
 - Industrial or mining
 - Irrigation
 - Other
- Initials

REPORT TO:

Name Dana Potter
 Address Box 40
 City Empire
 State NV Zip 89405

SOURCE OF WATER:

- Filter Yes No
- Public Yes No
- Spring
- Well Depth ft.
- Hot Cold
- IN USE: Yes No

Type Production Well
 Name 76-16
 Surface

The results below are representative only of the sample submitted to this laboratory.

| FOR LABORATORY USE ONLY | | | | | | | PRINT OTHER DESIRED CONSTITUENTS BELOW | | |
|-------------------------|------|-------------|------|-------------|-----|-------------|--|-------------|-----|
| Constituent | ppm | Constituent | ppm | Constituent | ppm | Constituent | S.U. | Constituent | ppm |
| D.S. @ 150° C. | 3750 | Chloride | 2240 | Iron | | Color | | | |
| Hardness | | Nitrate -N | | Manganese | | Turbidity | | | |
| Calcium | | Alkalinity | | Copper | | pH | 7.19 | | |
| Magnesium | | Bicarbonate | | Zinc | | EC | 7150 | | |
| Sodium | | Carbonate | | Barium | | | | | |
| Potassium | | Fluoride | 4.24 | Boron | 5.4 | | | | |
| Sulfate | | Arsenic | | | | | | | |
| | | | | Boron | 5.4 | EC | 7150 | | |

Fee

Collected by

PWS I.D.

SDWA — Pri. Sec.

1st 2nd 3rd

Date Rec'd Init.

Remarks

[Signature] *[Signature]*

RESULTS REPORTED
JUN 22 2000

3 TRIPLICATE
PLEASE PRINT OR TYPE

NEVADA STATE HEALTH LABORATORY
University of Nevada School of Medicine/385
Reno, Nevada 89557
(775) 688-1335

146327

00 JUN 13 AM 10:29

WATER CHEMISTRY ANALYSIS:

Attn: Fees may apply to some types of samples.

All of the information below must be filled in
or the analysis will not be performed.

TYPE OF ANALYSIS:

- Check here for ROUTINE DOMESTIC ANALYSIS.
- Circle the constituents needed for PARTIAL ANALYSIS.

State NV County WA
 Township 29N Range 3E Section 21
 General Location San Emidio Desert
 Source Address Empire Geo. Plant

SAMPLING INSTRUCTIONS:

The sample submitted must be representative of the source. Spring and surface water samples should be as free of dirt and debris as possible. Wells should be pumped thoroughly before sampling, changing the water in the casing at least three times. Product water from filters should be sampled after running for about ten (10) minutes.

Sampled by Mike Beach Date 6-12-00
 Owner Empire Energy, LLC Phone 557-2015
 Address Empire
 City NV State 89405

REASON FOR ANALYSIS:

- Loan
- Personal health reasons
- Purchase of the property
- Rental or sale of property
- Subdivision approval
- Other Compliance

USE OF WATER:

- Domestic drinking water
- Geothermal
- Industrial or mining
- Irrigation
- Other
- Initials

REPORT TO:

Name Dana Potter
 Address Box 40
 City Empire
 State NV Zip 89405

SOURCE OF WATER:

- Filter Yes No
 Public Yes No
 Spring
 Well Depth ft.
 Hot Cold
 IN USE: Yes No

Type Injection Well
 Name 42-21
 Surface
 Casing diameter in.
 Casing depth ft.

The results below are representative only of the sample submitted to this laboratory.

| FOR LABORATORY USE ONLY | | | | | | | PRINT OTHER DESIRED CONSTITUENTS BELOW | | |
|-------------------------|-------------|-----------------|-------------|--------------|------------|--------------|--|-------------|-----|
| Constituent | ppm | Constituent | ppm | Constituent | ppm | Constituent | S.U. | Constituent | ppm |
| <u>Chloride</u> | <u>4150</u> | <u>Chloride</u> | <u>2220</u> | Iron | | <u>46327</u> | | | |
| Hardness | | Nitrate -N | | Manganese | | Color | | | |
| Calcium | | Alkalinity | | Copper | | <u>pH</u> | <u>6.63</u> | | |
| Magnesium | | Bicarbonate | | Zinc | | EC | <u>7120</u> | | |
| Sodium | | Carbonate | | Barium | | | | | |
| Potassium | | <u>Fluoride</u> | <u>4.20</u> | Boron | <u>5.3</u> | | | | |
| Sulfate | | Arsenic | | | | | | | |
| | | | | <u>Boron</u> | <u>5.3</u> | <u>EC</u> | <u>7120</u> | | |

Fee
 Collected by
 PWS I.D.
 SDWA - Pri. Sec.
 1st 2nd 3rd
 Date Rec'd Init.

Remarks

AN 6/20/00 RESULTS REPORTED
40 JUN 22 2000

IN TRIPLICATE
(PLEASE PRINT OR TYPE)

NEVADA STATE HEALTH LABORATORY
University of Nevada School of Medicine/385
Reno, Nevada 89557
(775) 688-1335

146328

RECEIVED

WATER CHEMISTRY ANALYSIS

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TYPE OF ANALYSIS:

- Check here for ROUTINE DOMESTIC ANALYSIS.
- Circle the constituents needed for PARTIAL ANALYSIS.

State NV County WA
 Township 29N Range 33E Section 21
 General Location San Judia Desert
 Source Address Empire Geoplat

SAMPLING INSTRUCTIONS:

The sample submitted must be representative of the source. Spring and surface water samples should be as free of dirt and debris as possible. Wells should be pumped thoroughly before sampling, changing the water in the casing at least three times. Product water from filters should be sampled after running for about ten (10) minutes.

Sampled by Mike Peach Date 6-12-00
 Owner Empire Energy, Inc Phone 557-2015
 Address Empire
 City NV State 89405

REASON FOR ANALYSIS:

- Loan
- Personal health reasons
- Purchase of the property
- Rental or sale of property
- Subdivision approval
- Other compliance

USE OF WATER:

- Domestic drinking water
 - Geothermal
 - Industrial or mining
 - Irrigation
 - Other
- Initials

REPORT TO:

Name Doree Patten
 Address Box 40
 City Empire
 State NV Zip 89405

SOURCE OF WATER:

- Filter Yes No
 Public Yes No
 Spring
- Well Depth ft.
 Hot Cold
 IN USE: Yes No

Type Cooling Tower
 Name Blowdown
 Surface

Well Depth ft. Casing diameter in.
 Casing depth ft.

The results below are representative only of the sample submitted to this laboratory.

| FOR LABORATORY USE ONLY | | | | | | PRINT OTHER DESIRED CONSTITUENTS BELOW | |
|-------------------------|-------------|-----------------|-------------|--------------|------------|--|-------------|
| Constituent | ppm | Constituent | ppm | Constituent | ppm | Constituent | ppm |
| <u>180° C</u> | <u>2420</u> | <u>Chloride</u> | <u>871</u> | Iron | | Color | |
| Hardness | | Nitrate -N | | Manganese | | Turbidity | |
| Calcium | | Alkalinity | | Copper | | <u>pH</u> | <u>8.82</u> |
| Magnesium | | Bicarbonate | | Zinc | | EC | <u>3980</u> |
| Sodium | | Carbonate | | Barium | | | |
| Potassium | | <u>Fluoride</u> | <u>1.27</u> | Boron | <u>1.7</u> | | |
| Sulfate | | Arsenic | | | | | |
| | | | | <u>Boron</u> | <u>1.7</u> | <u>EC</u> | <u>3980</u> |

Fcc
 Collected by
 PWS I.D.
 SDWA — Pri. Sec.
 1st 2nd 3rd
 Date Rec'd Init.

Remarks
SK 6/20/00
J

RESULTS REPORTED
 JUN 22 2000