

GL03011-4088

# ARIZONA TESTING LABORATORIES

A DIVISION OF CLAUDE E. McLEAN & SON LABORATORIES, INC.  
817 WEST MADISON ST. PHOENIX, ARIZONA 85007

PHONE 254-6181

For: Geothermal Kinetics  
301 West Indian School Road  
Phoenix, Arizona 85013

Date: March 27, 1973

Lab. No.: 4059

Sample: Water

Marked:

Received: ---

Submitted by: Same

## REPORT OF LABORATORY TESTS

GKSC #1 Power	0956 hrs. just at end of blow	1236 hrs. near end of blow
Total Dissolved Solids	18,300	17,900
Lithium	15	15
Fluorides	5.4	5.4
Calcium	470	450
Magnesium	4	4
Potassium	94	94
Sodium	6,300	5,900
Chlorides	9,250	9,250
Carbonates	0	0
Bicarbonates	20	15
Sulphates	2,150	2,150
Nitrates		
Boron	8	8
pH	7.2	6.9
Hydroxide		

less

\*Lt= than

Respectfully submitted,

ARIZONA TESTING LABORATORIES

RECEIVED

APR 20 1973

Claude E. McLean, Jr.

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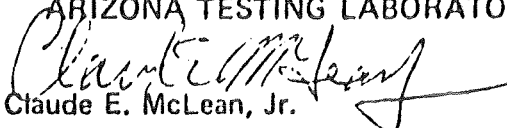
## REPORT OF LABORATORY TESTS

	0230 hrs. 2nd blow 22 stands off bottom	0835 hrs. just after blow	0900 hrs. 3/4 point in blow and at end
GKSC #L Power			
Ta 6163 ft Sample taken with stand level at 4193 ft + no drilling only.			
Total Dissolved Solids	17,000	16,100	18,200
Lithium	15	14	16
Fluorides	5.0	5.2	5.5
Calcium	460	450	450
Magnesium	1	4	4
Potassium	93	84	93
Sodium	5,600	5,300	6,100
Chlorides	8,700	8,350	9,250
Carbonates	48	0	0
Bicarbonates	0	12	22
Sulphates	1,970	1,870	2,280
Nitrates	*Lt 1		
Boron	7	7	8
pH	10.0	5.7	7.5
Hydroxide	1		

\*Lt = less than

Respectfully submitted,

ARIZONA TESTING LABORATORIES

  
 Claude E. McLean, Jr.

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# ARIZONA TESTING LABORATORIES

A DIVISION OF CLAUDE E. McLEAN & SON LABORATORIES, INC.  
817 WEST MADISON ST. PHOENIX, ARIZONA 85007

PHONE 254-6181

For: Geothermal Kinetics  
301 West Indian School Road  
Phoenix, Arizona 85013

Date: April 19, 1973

Lab. No.: 4237

Sample: Water

Marked: GKSC #1 Power

Received: 4-13-73

Submitted by: same

## REPORT OF LABORATORY TESTS

	No HF 4-10-73 8997'	HF	No HF 4140' 5th Blow	HF 4140' 5th Blow
Total Dissolved Solids	244,000	193,000	43,000	36,000
Lithium	43	43	17	18
Iron	5	4,300	16	13
Calcium	30,000	10,000	2,100	13
Magnesium	42	62	24	3
Sodium	61,200	54,400	13,800	12,000
Potassium	2,220	2,080	300	260
Chloride	150,000	122,000	25,200	22,400
Carbonate	46	0	0	0
Bicarbonate	164	0	7	0
Sulphate	165	6	1,520	1,350
Nitrate	1	1	1	1
Fluoride	1.0	-----	4.7	-----
Boron	21	13	8	5
pH	8.2	0.4	4.8	1.8
Silica	14	61	8	17
Mercury	0.001*	0.001*	0.001*	0.001*

\*=Less Than

Respectfully submitted,

ARIZONA TESTING LABORATORIES

RECEIVED

APR 20 1973

O & G CONS. COMM.

Claude E. McLean, Jr.

ARIZONA STATE HEALTH LABORATORY  
 REPORT OF CHEMICAL EXAMINATION OF WATER

July 17, 1973

DATE RECEIVED

JUL 11 2 56 PM '73

EXISTING WATER SOURCE  PUBLIC  LABORATORY NUMBER 12305

NEW WATER SOURCE  PRIVATE  W. S.       CODE NUMBER

Name of Water System GEOTHERMAL KINETICS SYSTEMS CORP. *Oil & Gas Commission Form 516*

Nearest City HIGHLAND County MARICOPA *Milliken 7-17-73*

Mailing Address 4515 N. 7th Avenue City PHOENIX

Source Number or Name POWER RANCHES #1 Sec. 1 TWP 2S RGE 6E Well  Surface  Spring

Well - Depth 9207 Ft. Static Level \_\_\_\_\_ Ft. Capacity (GPM) 75-100

Sample Collected By Oil & Gas Commission Date July 17, 1973 SOURCE: Treated  Untreated

Describe Treatment \_\_\_\_\_

REMARKS Please notify the Oil & Gas Commission of results as soon as possible.

A. CHEMICAL EXAMINATION

ROUTINE ELEMENTS (mg/l)	TRACE ELEMENTS (mg/l)
SPR _____	Arsenic (0.05) _____
Soluble Solids (500) <u>80,663</u>	Silver (0.05) _____
Total Hardness <u>8100</u>	Chromium (0.05) <u>&lt;.01</u>
Calcium <u>3160</u>	Cadmium (0.01) _____
Magnesium <u>48</u>	Lead (.05) _____
Sodium <u>17,000</u>	Barium (1.0) _____
Total Iron (0.3) <u>0.8</u>	Cyanide (0.2) _____
Alk. P <u>0</u>	Selenium (0.01) _____
Alk. MP <u>30</u>	Fluoride (var.) <u>3.8</u>
Chlorides (250) <u>34,300</u>	Mercury (.005) _____
Nitrates (45) <u>1</u>	
Sulfates (250) <u>2250</u>	
Manganese (.05) <u>1.4</u>	
pH <u>7.2</u>	
Copper (1.0) <u>0.06</u>	
Zinc (.50) <u>0.14</u>	

B. PHYSICAL EXAMINATION

Color (15) \_\_\_\_\_

Taste (3) \_\_\_\_\_

Odor (3) \_\_\_\_\_

Turbidity (5) \_\_\_\_\_

Sediment \_\_\_\_\_

CHEMIST REMARKS \_\_\_\_\_

By SR Date 7/17/73

FOR DEPARTMENT USE ONLY

Emergency \_\_\_\_\_ Rush \_\_\_\_\_ INITIAL \_\_\_\_\_

SPECIAL TESTS AS CHECKED

Radiological \_\_\_\_\_ MBR (ABS) (0.5) \_\_\_\_\_ Petroleum Residue \_\_\_\_\_ CCE (0.2) \_\_\_\_\_ Phenols (0.001) \_\_\_\_\_ Pestic \_\_\_\_\_

INTERPRETATION OF RESULTS, WATER SUPPLY DIVISION, ENVIRONMENTAL HEALTH SERVICE, ARIZONA STATE DEPARTMENT OF HEALTH

Acceptable for Public Usage  Rejected for Public Usage (see comments below)

Provisionally Acceptable for Public Usage  See Attached Sheet for Further Interpretation on excessive chemicals

RECEIVED

JUL 21 1973

O & G COMS. COMM.

By \_\_\_\_\_ Date \_\_\_\_\_

ARIZONA STATE HEALTH LABORATORY  
 REPORT OF CHEMICAL EXAMINATION OF WATER

May 10, 1973  
 DATE RECEIVED  
 MAY 10 1973

M 252

53302

EXISTING WATER SOURCE  PUBLIC  
 NEW WATER SOURCE  PRIVATE  
 LABORATORY NUMBER (Sample No. 2)  
 W. S. CODE NUMBER

Name of Water System: Geothermal Kinetics Systems, Inc. Power Ranches No. 1  
 Nearest City: Higley County: Maricopa  
 Mailing Address: 4515 N. 7th Avenue, Phx. 85013 City: Phoenix  
 Source Number or Name: Power Ranches #1 Cat. 1 TWP: 2 South RGE: 6 East Well  Surface  Spring   
 WELL - Depth: 9207' Ft. State Level: unknown Ft. Capacity (GPM): Pumping 75 GPM  
 Sample Collected By: William E. Allen Date: May 8, 1973 SOURCE: Treated  Untreated

Describe Treatment: \_\_\_\_\_  
 REMARKS: This sample taken from a geothermal resources test well.

A. CHEMICAL EXAMINATION

ROUTINE ELEMENTS (mg/l)  
 SPR \_\_\_\_\_  
 Soluble Solids (500) \_\_\_\_\_  
 Total Hardness 2520  
 Calcium 964  
 Magnesium 26  
 Sodium 8600  
 Total Iron (0.3) \_\_\_\_\_  
 Alk. P \_\_\_\_\_  
 Alk. MP \_\_\_\_\_  
 Chlorides (250) 16300  
 Nitrates (45) \_\_\_\_\_  
 Sulfates (250) 1600  
 Manganese (.05) \_\_\_\_\_  
 pH \_\_\_\_\_  
 Copper (1.0) \_\_\_\_\_  
 Zinc (5.0) \_\_\_\_\_  
Conductivity 20,000 mho

TRACE ELEMENTS (mg/l)  
 Arsenic (0.05) \_\_\_\_\_  
 Silver (0.05) \_\_\_\_\_  
 Chromium (.05) \_\_\_\_\_  
 Cadmium (0.01) \_\_\_\_\_  
 Lead (.05) \_\_\_\_\_  
 Barium (2.0) \_\_\_\_\_  
 Cyanide (0.2) \_\_\_\_\_  
 Selenium (0.01) \_\_\_\_\_  
 Fluoride (var.) \_\_\_\_\_  
 Mercury (.005) \_\_\_\_\_

B. PHYSICAL EXAMINATION

Color (15) \_\_\_\_\_  
 Taste (3) \_\_\_\_\_  
 Odor (3) \_\_\_\_\_  
 Turbidity (5) \_\_\_\_\_  
 Sediment \_\_\_\_\_

ANALYST REMARKS \_\_\_\_\_  
 By WAC Date 5/11/73

FOR DEPARTMENT USE ONLY

Emergency INITIAL \_\_\_\_\_  Rush INITIAL \_\_\_\_\_

SPECIAL TESTS AS CHECKED

Radiological  MBR (ABS) (0.5)  Petroleum Residue  CCE (0.2)  Phenols (0.001)  Pesticide

INTERPRETATION OF RESULTS, WATER SUPPLY DIVISION, ENVIRONMENTAL HEALTH SERVICE, ARIZONA STATE DEPARTMENT OF HEALTH

Acceptable for Public Usage  Rejected for Public Usage (see comments below)  
 Potentially Acceptable for Public Usage  See Attached Sheet for Further Interpretation on excessive chemicals not a

COMMENTS \_\_\_\_\_  
 RECEIVED  
 J. H. L. 5/11/73

By \_\_\_\_\_ Date 0 & G CONS. COMM

ARIZONA STATE HEALTH LABORATORY  
 REPORT OF CHEMICAL EXAMINATION OF WATER

EXISTING WATER SOURCE  PUBLIC  LABORATORY NUMBER 59702

NEW WATER SOURCE  PRIVATE  W. B. CODE NUMBER

Name of Water System GEOTHERMAL KINETICS SYSTEMS INC. POWER PLANT #1

Nearest City Yuma County MARICOPA

Billing Address 4815 N 17th Ave, Apt 1850 B City PHOENIX

Well Number or Name POWER PLANT #1 Sec. 1 TWP. 2 SOUTH RGE. 6 EAST Well Type  Surface  Spring

Well Depth 7200 Ft. Static Level --- Ft. Capacity (GPM) 75 GPM

Sample Collected By FERRY BONNE Date 8-14-73 SOURCE: Treated  Untreated

Describe Treatment \_\_\_\_\_

Remarks Sample from geothermal resources Test well

A. CHEMICAL EXAMINATION

ROUTINE ELEMENTS (mg/l)

SPR	<u>&lt;400</u>
Soluble Solids (500)	<u>22,229</u>
Total Hardness	<u>3400</u>
Calcium	<u>1016</u>
Magnesium	<u>206</u>
Sodium	<u>7500</u>
Total Iron (0.3)	<u>0.2</u>
Alk. P	<u>0</u>
Alk. MP	<u>34</u>
Chlorides (250)	<u>15,900</u>
Nitrates (45)	<u>21</u>
Sulfates (250)	<u>1450</u>
Manganese (0.05)	<u>0.4</u>
pH	<u>7.4</u>
Copper (1.0)	<u>&lt;0.05</u>
Zinc (5.0)	<u>0.3</u>

TRACE ELEMENTS (mg/l)

Arsenic (0.05)	<u>0.03</u> OK
Silver (0.05)	<u>&lt;0.01</u> OK
Chromium (.05)	<u>&lt;0.01</u> OK
Cadmium (0.01)	<u>&lt;0.01</u> OK (RARELY)
Lead (.05)	<u>&lt;0.05</u> OK (RARELY)
Barium (1.0)	
Cyanide (0.2)	
Selenium (0.01)	<u>&lt;0.01</u> OK (RARELY)
Fluoride (var.)	<u>0.8</u>
Mercury (.005)	<u>&lt;0.005</u> OK

B. PHYSICAL EXAMINATION

Color (15)	
Taste (3)	<u>RECEIVED</u>
Odor (3)	
Turbidity (5)	<u>100</u>
Sediment	

ANALYST REMARKS Preliminary report O & A CONS. COMM.

By [Signature] Date 8-14-73

FOR DEPARTMENT USE ONLY

Emergency  INITIAL \_\_\_\_\_ Rush  INITIAL \_\_\_\_\_

SPECIAL TESTS AS CHECKED

Radiological  MBR (ABS) (0.5)  Petroleum Residue  CCE (0.2)  Phenols (0.001)  Pesticides

INTERPRETATION OF RESULTS, WATER SUPPLY DIVISION, ENVIRONMENTAL HEALTH SERVICE, PHOENIX

Acceptable for Public Usage  (Selected for Public Usage (see comments below))

Provisionally Acceptable for Public Usage  (See Attached Sheet for further interpretation on excessive chemical levels)

REMARKS: This water chemistry does not comply with the 1962 Drinking Water Standards of the Public Health Service as the Soluble solids exceed the recommended limit of 500 mg/l. may affect the taste of coffee, chlorides exceed the recommended limit of 250 mg/l. affect the taste of the water, sulfates exceed the recommended limit of 250 mg/l. A turbidity objection may be noted by nonconsumers and certain

Manganese exceeds the recommended limit of 0.05 mg/l.

Fluoride exceeds the mandatory limit of 1.4 mg/l.

The water from this source is not acceptable for a domestic water supply without approved treatment.

copy sent to : Geothermal Kinetics Systems 6/18/73

PORT OF CHEMICAL EXAMINATION OF WATER

STING WATER SOURCE

PUBLIC

WATER SOURCE

PRIVATE

53703

LABORATORY NUMBER

W. S.

CODE NUMBER

of Water System Geothermal Injection Systems Inc. Park Meadows #1

est City Yuma County Maricopa

ng Address 4515 N. 7th Ave. Box 95013 City Phoenix

o Number or Name 1 Sec. 1 TWP 2 South RGE 6 East Well  Surface  Spring

L - Depth 9207 Ft. Static Level --- Ft. Capacity (GPM) 75 GPM

le Collected By Perry Paine Date 5-14-73 SOURCE: Treated  Untreated

ribe Treatment ---

ARKS Sample from geothermal resources test well

A. CHEMICAL EXAMINATION

ROUTINE ELEMENTS (mg/l)	
OR	<u>&lt;400</u>
soluble Solids (500)	<u>22,239</u>
total Hardness	<u>3400</u>
alcium	<u>1016</u>
agnesium	<u>206</u>
dium	<u>7300</u>
total Iron (0.3)	<u>0.2</u>
k. P	<u>0</u>
k. MP	<u>34</u>
lorides (250)	<u>15,900</u>
trates (45)	<u>0.1</u>
lfates (250)	<u>1450</u>
nganese (.05)	<u>0.4</u>
	<u>7.4</u>
pper (1.0)	<u>0.05</u>
nc (5.0)	<u>0.3</u>

TRACE ELEMENTS (mg/l)	
Arsenic (0.05)	<u>0.03</u>
Silver (0.05)	<u>&lt;0.01</u>
Chromium (.05)	<u>&lt;0.01</u>
Cadmium (0.01)	<u>&lt;0.01</u>
Lead (.05)	<u>&lt;0.05</u>
Barium (1.0)	<u>---</u>
Cyanide (0.2)	<u>---</u>
Selenium (0.01)	<u>&lt;0.01</u>
Fluoride (var.)	<u>0.8</u>
Mercury (.005)	<u>&lt;0.0005</u>

B. PHYSICAL EXAMINATION

Color (15)	<u>---</u>
Taste (3)	<u>---</u>
Odor (3)	<u>---</u>
Turbidity (5)	<u>---</u>
Sediment	<u>---</u>

IST REMARKS Preliminary test NR

By NR Date 5-14-73

FOR DEPARTMENT USE ONLY

Emergency --- INITIAL --- Rush --- INITIAL ---

SPECIAL TESTS AS CHECKED

Radiological  MBR (ABS) (0.5)  Petroleum Residue  CCE (0.2)  Phenols (0.001)  Pesticide

PRETATION OF RESULTS, WATER SUPPLY DIVISION, ENVIRONMENTAL HEALTH SERVICE, ARIZONA STATE DEPARTMENT OF HEALTH

ceptable for Public Usage  Rejected for Public Usage (see comments below)  
visionally Acceptable for Public Usage  See Attached Sheet for Further Interpretation on excessive chemicals note

ENTS --- RECEIVED  
JUN 1 1973  
By --- Director, COMAL