

Eric

PUNA GEOTHERMAL VENTURE

A Hawaii Partnership

February 22, 1993

Mr. John P. Keppeler, Acting Chairperson
State Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809


SUBJ: PRODUCTION AND INJECTION REPORTS FOR JANUARY, 1993

Dear Mr. Keppeler,

Pursuant to DLNR regulations 18-183-86, Puna Geothermal Venture (PGV) submits herewith the required monthly production and injection reports.

If you have questions, please have your staff contact me.

Sincerely,


for Thomas G. Kizis
Environmental Manager

TGK/sls

Attachments

cc: S. Morris
Drilling File
Mesquite

File: 14.5
Memo: A:21517

PUNA GEOTHERMAL VENTURE
KS-1A INJECTION WELL DATA

Date	Hours On Inj.	Quantities of Fluid Injected (M pounds)					Average Inj Rate (M lb/hr)	Wellhead Press, psig		Average Annulus N2 Press (psig)	Average Inj Temp (Deg F)
		Geofluid	Supp Wtr	Other		Total		Avg.	Max.		
				Code	Quantity						
01/01/93	0	0	0		0	0	0	0	0	1230	
01/02/93	0	0	0		0	0	0	0	0	1230	
01/03/93	0	0	0		0	0	0	0	0	1230	
01/04/93	0	0	0		0	0	0	0	0	1230	
01/05/93	0	0	0		0	0	0	0	0	1230	
01/06/93	0	0	0		0	0	0	0	0	1230	
01/07/93	0	0	0		0	0	0	0	0	1230	
01/08/93	0	0	0		0	0	0	0	0	1220	
01/09/93	0	0	0		0	0	0	0	0	1220	
01/10/93	0	0	0		0	0	0	0	0	1220	
01/11/93	0	0	0		0	0	0	0	0	1220	
01/12/93	0	0	0		0	0	0	0	0	1220	
01/13/93	0	0	0		0	0	0	0	0	1220	
01/14/93	0	0	0		0	0	0	0	0	1220	
01/15/93	0	0	0		0	0	0	0	0	1220	
01/16/93	0	0	0		0	0	0	0	0	1220	
01/17/93	0	0	0		0	0	0	0	0	1220	
01/18/93	0	0	0		0	0	0	0	0	1220	
01/19/93	0	0	0		0	0	0	0	0	1220	
01/20/93	0	0	0		0	0	0	0	0	1220	
01/21/93	0	0	0		0	0	0	0	0	1210	
01/22/93	0	0	0		0	0	0	0	0	1210	
01/23/93	0	0	0		0	0	0	0	0	1210	
01/24/93	0	0	0		0	0	0	0	0	1210	
01/25/93	0	0	0		0	0	0	0	0	1210	
01/26/93	0	0	0		0	0	0	0	0	1210	
01/27/93	0	0	0		0	0	0	0	0	1210	
01/28/93	0	0	0		0	0	0	0	0	1210	
01/29/93	0	0	0		0	0	0	0	0	1210	
01/30/93	0	0	0		0	0	0	0	0	1210	
01/31/93	0	0	0		0	0	0	0	0	1210	
Mo. Total	0	0	0		0	0					

PUNA GEOTHERMAL VENTURE
KS-3 INJECTION WELL DATA

Date	Hours On Inj.	Quantities of Fluid Injected (M pounds)					Average Inj Rate (M lb/hr)	Wellhead Press, psig		Average Annulus N2 Press (psig)	Average Inj Temp (Deg F)
		Geofluid	Supp Wtr	Other		Total		Avg.	Max.		
				Code	Quantity						
01/01/93	0	0	0		0	0	0	0	0	890	
01/02/93	0	0	0		0	0	0	0	0	890	
01/03/93	0	0	0		0	0	0	0	0	890	
01/04/93	0	0	0		0	0	0	0	0	890	
01/05/93	0	0	0		0	0	0	0	0	890	
01/06/93	0	0	0		0	0	0	0	0	890	
01/07/93	0	0	0		0	0	0	0	0	890	
01/08/93	0	0	0		0	0	0	0	0	880	
01/09/93	0	0	0		0	0	0	0	0	880	
01/10/93	0	0	0		0	0	0	0	0	870	
01/11/93	0	0	0		0	0	0	0	0	870	
01/12/93	0	0	0		0	0	0	0	0	870	
01/13/93	0	0	0		0	0	0	0	0	870	
01/14/93	0	0	0		0	0	0	0	0	870	
01/15/93	0	0	0		0	0	0	0	0	860	
01/16/93	0	0	0		0	0	0	0	0	840	
01/17/93	0	0	0		0	0	0	0	0	840	
01/18/93	0	0	0		0	0	0	0	0	840	
01/19/93	0	0	0		0	0	0	0	0	840	
01/20/93	0	0	0		0	0	0	0	0	840	
01/21/93	0	0	0		0	0	0	0	0	840	
01/22/93	0	0	0		0	0	0	0	0	840	
01/23/93	0	0	0		0	0	0	0	0	840	
01/24/93	0	0	0		0	0	0	0	0	840	
01/25/93	0	0	0		0	0	0	0	0	840	
01/26/93	0	0	0		0	0	0	0	0	840	
01/27/93	0	0	0		0	0	0	0	0	830	
01/28/93	0	0	0		0	0	0	0	0	830	
01/29/93	0	0	0		0	0	0	0	0	830	
01/30/93	0	0	0		0	0	0	0	0	900	
01/31/93	0	0	0		0	0	0	0	0	900	
Mo. Total	0	0	0		0	0					

PUNA GEOTHERMAL VENTURE
KS-4 INJECTION WELL DATA

Date	Hours On Inj.	Quantities of Fluid Injected (M pounds)					Average Inj Rate (M lb/hr)	Wellhead Press, psig		Average Annulus N2 Press (psig)	Average Inj Temp (Deg F)
		Geofluid	Supp Wtr	Other		Total		Avg.	Max.		
				Code	Quantity						
01/01/93	0	0	0		0	0	0	0	0	820	
01/02/93	0	0	0		0	0	0	0	0	820	
01/03/93	0	0	0		0	0	0	0	0	820	
01/04/93	0	0	0		0	0	0	0	0	820	
01/05/93	0	0	0		0	0	0	0	0	960	
01/06/93	0	0	0		0	0	0	0	0	1100	
01/07/93	0	0	0		0	0	0	0	0	1100	
01/08/93	0	0	0		0	0	0	0	0	1090	
01/09/93	0	0	0		0	0	0	0	0	1090	
01/10/93	0	0	0		0	0	0	0	0	1080	
01/11/93	16	0	5378		0	5378	336	30	74	1080	105*
01/12/93	0	0	0		0	0	0	0	0	1080	
01/13/93	0	0	0		0	0	0	0	0	990	
01/14/93	0	0	0		0	0	0	0	0	1000	
01/15/93	0	0	0		0	0	0	0	0	1000	
01/16/93	0	0	0		0	0	0	0	0	1000	
01/17/93	0	0	0		0	0	0	0	0	1000	
01/18/93	0	0	0		0	0	0	0	0	1010	
01/19/93	0	0	0		0	0	0	0	0	1010	
01/20/93	0	0	0		0	0	0	0	0	1010	
01/21/93	0	0	0		0	0	0	0	0	1010	
01/22/93	0	0	0		0	0	0	0	0	1010	
01/23/93	0	0	0		0	0	0	0	0	1010	
01/24/93	0	0	0		0	0	0	0	0	1010	
01/25/93	0	0	0		0	0	0	0	0	1010	
01/26/93	0	0	0		0	0	0	0	0	1010	
01/27/93	0	0	0		0	0	0	0	0	1010	
01/28/93	0	0	0		0	0	0	0	0	1010	
01/29/93	0	0	0		0	0	0	0	0	1010	
01/30/93	0	0	0		0	0	0	0	0	1010	
01/31/93	0	0	0		0	0	0	0	0	1010	
Mo. Total	16	0	5378		0	5378	*INJECTIVITY TEST				

PUNA GEOTHERMAL VENTURE
KS-8 PRODUCTION WELL DATA

Date	Hours On Prod	Quantities Produced (M lb)			Average Total Mass Prod Rate (M lb/hr)	Average Wellhead Pressure (psig)
		Steam	Brine	Total		
01/01/93	0	0	0	0	0	0
01/02/93	0	0	0	0	0	0
01/03/93	0	0	0	0	0	0
01/04/93	0	0	0	0	0	0
01/05/93	0	0	0	0	0	0
01/06/93	0	0	0	0	0	0
01/07/93	0	0	0	0	0	0
01/08/93	0	0	0	0	0	0
01/09/93	0	0	0	0	0	0
01/10/93	0	0	0	0	0	0
01/11/93	0	0	0	0	0	0
01/12/93	0	0	0	0	0	0
01/13/93	0	0	0	0	0	0
01/14/93	0	0	0	0	0	0
01/15/93	0	0	0	0	0	0
01/16/93	0	0	0	0	0	0
01/17/93	0	0	0	0	0	0
01/18/93	0	0	0	0	0	0
01/19/93	0	0	0	0	0	0
01/20/93	0	0	0	0	0	0
01/21/93	0	0	0	0	0	0
01/22/93	0	0	0	0	0	0
01/23/93	0	0	0	0	0	0
01/24/93	0	0	0	0	0	0
01/25/93	0	0	0	0	0	0
01/26/93	0	0	0	0	0	0
01/27/93	0	0	0	0	0	0
01/28/93	0	0	0	0	0	0
01/29/93	0	0	0	0	0	0
01/30/93	0	0	0	0	0	0
01/31/93	0	0	0	0	0	0
Mo. Total	0	0	0	0		

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PUNA GEOTHERMAL VENTURE

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Case # 100-20

33 FEB 1 10:44

STATE OF HAWAII
DEPARTMENT OF LAND & NATURAL RESOURCES

January 28, 1993

Mr. William Paty, Chairperson
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

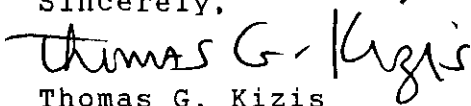
SUBJ: PRODUCTION AND INJECTION REPORTS FOR DECEMBER 1992

Dear Mr. Paty,

Pursuant to DLNR regulations Section 13-183-86, Puna Geothermal Venture (PGV) hereby submits the required monthly production and injection reports.

Should you or your staff have questions, please contact me.

Sincerely,



Thomas G. Kizis
Environmental Manager

c: S. Morris
Drilling
Mesquite
V. Goldstein

File: UIC

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DIV. OF WATER &
LAND DEVELOPMENT

33 FEB 2 11:40

PUNA GEOTHERMAL VENTURE
KS-8 PRODUCTION WELL DATA

Date	Hours On Prod	Quantities Produced (M lb)			Average Total Mass Prod Rate (M lb/hr)	Average Wellhead Pressure (psig)
		Steam	Brine	Total		
12/01/92	0	0	0	0	0	0
12/02/92	0	0	0	0	0	0
12/03/92	0	0	0	0	0	0
12/04/92	0	0	0	0	0	0
12/05/92	0	0	0	0	0	0
12/06/92	0	0	0	0	0	0
12/07/92	0	0	0	0	0	0
12/08/92	0	0	0	0	0	0
12/09/92	0	0	0	0	0	0
12/10/92	0	0	0	0	0	0
12/11/92	0	0	0	0	0	0
12/12/92	0	0	0	0	0	0
12/13/92	0	0	0	0	0	0
12/14/92	0	0	0	0	0	0
12/15/92	0	0	0	0	0	0
12/16/92	0	0	0	0	0	0
12/17/92	0	0	0	0	0	0
12/18/92	0	0	0	0	0	0
12/19/92	0	0	0	0	0	0
12/20/92	0	0	0	0	0	0
12/21/92	0	0	0	0	0	0
12/22/92	0	0	0	0	0	0
12/23/92	0	0	0	0	0	0
12/24/92	0	0	0	0	0	0
12/25/92	0	0	0	0	0	0
12/26/92	0	0	0	0	0	0
12/27/92	0	0	0	0	0	0
12/28/92	0	0	0	0	0	0
12/29/92	0	0	0	0	0	0
12/30/92	0	0	0	0	0	0
12/31/92	0	0	0	0	0	0
Mo. Total	0	0	0	0		

~~6/15/92~~

PUNA GEOTHERMAL VENTURE

A Hawaii Partnership

RECEIVED
Janet to
Black
Jan

92 OCT 15 A 9: 04
Chris
(Fr)

October 15, 1992

DEPT. OF LAND
& NATURAL RESOURCES
STATE OF HAWAII

John C. Lewin, M.D.
Director of Health
State Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

SUBJ: WELL MONITORING RECORDS

Dear Dr. Lewin,

Attached please find water chemistry reports for Puna Geothermal Venture (PGV) monitoring wells MW-1, MW-2, and MW-3 for the period May 15 through October 2, 1992. Also attached please find temperature and water level data for wells MW-2 and KS-7 for the period August 6 through October 7, 1992.

Please let me know if you have any questions.

Sincerely,

Thomas G. Kizis

Thomas G. Kizis
Environmental Manager

/cm

cc: C. Hew (DOH)
W. Paty (DLNR)

Files: MW-1
MW-2
MW-3
KS-7

Memo: A:21398

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OCT 16 11: 00
DEPT. OF WATER &
LAND DEVELOPMENT



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURES
P O BOX 1337
HILO, HAWAII 96721

ATTN: Jeffrey Sternfeld

JOB NUMBER: 7157-1
Date: May 16, 1992

SAMPLE LOCATION: MW-2

Date/Time Sampled: 05/05/92 @1100
Date/Time Received: 05/05/92 @1130

Matrix: Water

ANALYSIS	RESULTS mg/l	Detection Limits mg/l	Date Analyzed	Method Number
Sodium	426	0.01	05/14/92	273.1
Potassium	53	0.01	05/14/92	258.1
Magnesium	5.3	0.01	05/14/92	242.1
Calcium	36	0.01	05/14/92	215.1
Chlorides	900	0.5	05/06/92	325.3
Sulfates	37.4	1.0	05/11/92	375.4
Alkalinity	62	1.0	05/06/92	310.1
Total Dissolved Solids	1655		05/15/92	160.1
Silica	21.6	0.2	05/06/92	370.1
pH (units)	8.7		05/06/92	150.1

ND = Not Detected

BREWER ENVIRONMENTAL LABORATORIES
P.O. BOX 552
PAPAIKOU, HI 96781
PHONE (808) 964-5522
FAX (808) 964-5309

Approved by: Jana Malcolm-Bow



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURES
P O BOX 1337
HILO, HAWAII 96721

ATTN: Jeffrey Sternfeld

JOB NUMBER: 7157-2
Date: May 16, 1992

SAMPLE LOCATION: MW-3

Date/Time Sampled: 05/05/92 @1130
Date/Time Received: 05/05/92 @1130

Matrix: Water

ANALYSIS	RESULTS mg/l	Detection Limits mg/l	Date Analyzed	Method Number
Sodium	58	0.01	05/14/92	273.1
Potassium	13	0.01	05/14/92	258.1
Magnesium	11	0.01	05/14/92	242.1
Calcium	24	0.01	05/14/92	215.1
Chlorides	20	0.5	05/06/92	325.3
Sulfates	189	1.0	05/11/92	375.4
Alkalinity	29	1.0	05/06/92	310.1
Total Dissolved Solids	634		05/15/92	160.1
Silica	102	0.2	05/06/92	370.1
pH (units)	7.4		05/06/92	150.1

ND = Not Detected

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PAPAIOU, HI 96781
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FAX (808) 964-5309

Approved by: Jane Malcolm



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURES
P O BOX 1337
HILO, HAWAII 96721

ATTN: Jeffrey Sternfeld

JOB NUMBER: 7316

Date: June 5, 1992

SAMPLE LOCATION:

Date Sampled: 05/21/92 @ --
Date Received: 05/21/92 @1030

Matrix: WATER
Analysis Date: 05/21-06/04/92

ANALYSIS	SAMPLE ID	SAMPLE ID	Reporting Limits mg/l	Method Number
	MW-2	MW-3		
Sodium	45.7	394	0.01	273.1
Potassium	9.35	25.5	0.01	258.1
Magnesium	9.87	4.81	0.01	242.1
Calcium	17.1	30.2	0.01	215.1
Chlorides	20	900	0.5	325.3
Sulfates	184	57.9	1.0	375.4
Alkalinity	29	62	1.0	310.1
Total Dissolved Solids	413	1640		160.1
Silica	101	23.5	0.2	370.1
pH (units)	7.8	8.7		150.1

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PHONE (808) 964-5522
FAX (808) 964-5309

Approved by: *Jane Malachuk-Bur*



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURES
P O BOX 1337
HILO, HAWAII 96721

ATTN: JEFFREY STERNFELD

JOB NUMBER: 7453

Date: June 15, 1992

SAMPLE LOCATION:

Date Sampled: 06/03/92
Date Received: 06/03/92

Matrix: WATER
Analysis Date: 06/03-10/92

ANALYSIS	SAMPLE ID	SAMPLE ID	Reporting Limits mg/l	Method Number
	MW-1	MW-2		
Sodium	19.6	165	0.01	273.1
Potassium	10.4	26.5	0.01	258.1
Magnesium	12.6	7.20	0.01	242.1
Calcium	24.9	42.8	0.01	215.1
Chlorides	20.0	913	0.5	325.3
Sulfates	182	65.3	1.0	375.4
Alkalinity	30.0	65.0	1.0	310.1
Total Dissolved Solids	472	1700		160.1
Silica	101	27.1	0.2	370.1
pH (units)	7.7	8.6		150.1

ND = Not Detected

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P.O. BOX 552
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FAX (808) 964-5309

Approved by: *Jane Malcolm-Brewer*



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a C BREWER company

LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURE
P.O. BOX 30
PAHOA, HAWAII 96778

ATTN: JEFFREY STERNFELD

JOB NUMBER: 7578

DATE: JULY 07, 1992

SAMPLE LOCATION:

Date/Time Sampled: 06/17/92 @ as noted
Date/Time Received: 06/17/92 @ 1230

Matrix: WATER

SAMPLE ID#:	MW-1	MW-2			
Time Sampled:	0900	1015			
ANALYSIS	RESULT mg/L	RESULT mg/L	DETECTION LIMIT mg/L	ANALYSIS DATE	METHOD NUMBER
CALCIUM	19.6	38.3	0.01	07/02/92	7140
MAGNESIUM	11.4	7.62	0.01	07/02/92	7450
POTASSIUM	9.36	29.3	0.01	07/02/92	7610
SODIUM	55.6	545	0.01	07/02/92	7770
ALKALINITY	30.0	64.0	0.2	06/17/92	310.0
CHLORIDE	20.0	925	1	06/17/92	325.2
pH (units)	7.8	8.5		06/17/92	150.1
SULFATE	186	70.8	5	06/23/92	375.4
SILICA	99.2	29.6	0.01	06/19/92	370.1
TOTAL DISSOLVED SOLIDS	475	1776	1	06/18/92	160.1

BREWER ENVIRONMENTAL LABORATORIES
PO. BOX 552
PAPAIKOU, HI 96781
PHONE (808) 964-5522
FAX (808) 964-5309

Approved by: *Jana Malcolm-Brew*



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INDUSTRIES, INC.
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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURE
P.O. BOX 30
PAHOA, HAWAII 96778

ATTN: JEFFREY STERNFELD

JOB NUMBER: 7733-1

DATE: JULY 17, 1992

SAMPLE LOCATION:

Date/Time Sampled: 07/01/92 @ ---
Date/Time Received: 07/06/92 @ 0905

Matrix: WATER
DATE ANALYZED: 07/07-16/92

ANALYSIS	SAMPLE ID# MW-1	SAMPLE ID# MW-2	DETECTION LIMIT mg/L	METHOD NUMBER
CALCIUM	25.8	47.1	0.01	6010
IRON	ND	ND	0.05	6010
MAGNESIUM	14.6	9.2	0.01	6010
POTASSIUM	12.9	34.9	0.1	6010
SODIUM	61.4	537	0.01	6010
ALKALINITY	34	65	0.2	310.1
CHLORIDE	20	963	1	325.2
pH (units)	7.7	8.4		150.1
SULFATE	177	72.1	5	375.4
SILICA	98.7	26.2	0.01	370.1
TOTAL DISSOLVED SOLIDS	488	1821	1	160.1

ND = NOT DETECTED

BREWER ENVIRONMENTAL LABORATORIES
PO. BOX 552
PAPAIKOU, HI 96781
PHONE (808) 964-5522
FAX (808) 964-5309

Approved by: 



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ENVIRONMENTAL
INDUSTRIES, INC.
A C BREWER company

LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURE
P.O. BOX 30
PAHOA, HAWAII 96778

ATTN: JEFFREY STERNFELD

JOB NUMBER: 7733-2

DATE: JULY 17, 1992

SAMPLE LOCATION:

Date/Time Sampled: 07/01/92 @ ---
Date/Time Received: 07/06/92 @ 0905

Matrix: WATER
DATE ANALYZED: 07/07-16/92

ANALYSIS	SAMPLE ID# MW-3	SAMPLE ID# GTW3	DETECTION LIMIT mg/L	METHOD NUMBER
CALCIUM	25.6	246	0.01	6010
IRON	0.14	0.51	0.05	6010
MAGNESIUM	15.0	200	0.01	6010
POTASSIUM	12.7	326	0.1	6010
SODIUM	62.9	2836	0.01	6010
ALKALINITY	29	28	0.2	310.1
CHLORIDE	20	5940	1	325.2
pH (units)	7.8	7.7		150.1
SULFATE	183	503	5	375.4
SILICA	97.9	201	0.01	370.1
TOTAL DISSOLVED SOLIDS	461	10984	1	160.1

BREWER ENVIRONMENTAL LABORATORIES
PO. BOX 552
PAPAIOLOU, HI 96781
PHONE (808) 964-5522
FAX (808) 964-5309

Approved by: 



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURE
P.O. BOX 30
PAHOA, HAWAII 96778

ATTN: JEFFREY STERNFELD

JOB NUMBER: 7832

DATE: JULY 23, 1992

SAMPLE LOCATION:

Date/Time Sampled: 07/15/92 @ as noted
Date/Time Received: 07/15/92 @ 1317

Matrix: WATER
DATE ANALYZED: 07/15-20/92

ANALYSIS	SAMPLE ID#	SAMPLE ID#	DETECTION LIMIT mg/L	METHOD NUMBER
Time Sampled:	MW-2 1107	MW-3 1022		
	RESULT mg/L	RESULT mg/L		
CALCIUM	48.8	31.1	0.01	6010
MAGNESIUM	11.6	16.1	0.01	6010
POTASSIUM	38.2	15.7	0.1	6010
SODIUM	568	65.4	0.01	6010
ALKALINITY	60	31	0.2	310.1
CHLORIDE	975	20	1	325.2
SULFATE	89.3	200	5	375.4
TOTAL DISSOLVED SOLIDS	1798	447	1	160.1
SILICA	35.8	98.4	0.01	370.1
pH (units)	8.6	7.5		150.1

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Approved by: *Jana Malin-Brew*



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURE
P.O. BOX 30
PAHOA, HAWAII 96778

ATTN: JEFFREY STERNFELD

JOB NUMBER: 7957

DATE: AUG. 06, 1992

SAMPLE LOCATION:

Date/Time Sampled: 07/29/92 @ ---
Date/Time Received: 07/29/92 @ 1525

Matrix: WATER
SAMPLE #: MW-2

ANALYSIS	RESULT mg/L	DETECTION LIMIT mg/L	ANALYSIS DATE	METHOD NUMBER
CALCIUM	46.1	0.01	07/31/92	7140
MAGNESIUM	7.8	0.01	07/31/92	7450
POTASSIUM	14.1	0.01	07/31/92	7610
SODIUM	392	0.01	07/31/92	7770
ALKALINITY	60	0.2	07/29/92	310.1
CHLORIDE	1000	1	08/04/92	325.2
pH (units).	8.7		07/29/92	150.1
SULFATE	72	5	08/04/92	375.4
SILICA	24.3	0.2	07/31/92	370.1
TOTAL DISSOLVED SOLIDS	1766	1	08/05/92	160.1

BREWER ENVIRONMENTAL LABORATORIES
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FAX (808) 964-5309

Approved by: *James Malcolm-Brown*



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURE
P.O. BOX 30
PAHOA, HAWAII 96778

ATTN: JEFFREY STERNFELD

JOB NUMBER: 7957

DATE: AUG. 06, 1992

SAMPLE LOCATION:

Date/Time Sampled: 07/29/92 @ ---
Date/Time Received: 07/29/92 @ 1525

Matrix: WATER
SAMPLE #: MW-3

ANALYSIS	RESULT mg/L	DETECTION LIMIT mg/L	ANALYSIS DATE	METHOD NUMBER
CALCIUM	27.6	0.01	07/31/92	7140
MAGNESIUM	13.0	0.01	07/31/92	7450
POTASSIUM	5.0	0.01	07/31/92	7610
SODIUM	47.6	0.01	07/31/92	7770
ALKALINITY	31	0.2	07/29/92	310.1
CHLORIDE	19.5	1	08/04/92	325.2
pH (units)	7.8		07/29/92	150.1
SULFATE	178	5	08/04/92	375.4
SILICA	95.2	0.2	07/31/92	370.1
TOTAL DISSOLVED	413	1	08/05/92	160.1

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FAX (808) 964-5309

Approved by: *Jane Malcolm-Bru*



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURE
P.O. BOX 30
PAHOA, HAWAII 96778

ATTN: DAVE
JOB NUMBER: 8389-1
DATE: OCT. 02, 1992

SAMPLE LOCATION:

Date/Time Sampled: 09/16/92 @ ---
Date/Time Received: 09/17/92 @ 1138

Matrix: WATER
SAMPLE #: GT-W3

ANALYSIS	RESULT mg/L	DETECTION LIMIT mg/L	ANALYSIS DATE	METHOD NUMBER
CALCIUM	242	0.01	09/28/92	200.7
MAGNESIUM	216	0.01	09/28/92	200.7
POTASSIUM	291	0.01	09/28/92	200.7
SODIUM	2860	0.01	09/28/92	200.7
ALKALINITY	27	0.2	09/19/92	310.1
CHLORIDE	6350	1	09/18/92	325.2
pH (units)	7.3		09/19/92	150.1
SILICA	213	0.01	09/23/92	370.1
SULFATE	549	5	09/23/92	375.4
TOTAL DISSOLVED SOLIDS	11940	1	09/22/92	160.1

BREWER ENVIRONMENTAL LABORATORIES
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PAPA'IKOU, HI 96781
PHONE (808) 964-5522
FAX (808) 964-5309

Approved by: Jana Malcolm-Brewer



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURE
P.O. BOX 30
PAHOA, HAWAII 96778

ATTN: DAVE

JOB NUMBER: 8389-2

DATE: OCT. 02, 1992

SAMPLE LOCATION:

Date/Time Sampled: 09/16/92 @ ---
Date/Time Received: 09/17/92 @ 1138

Matrix: WATER
SAMPLE #: MW-2

ANALYSIS	RESULT mg/L	DETECTION LIMIT mg/L	ANALYSIS DATE	METHOD NUMBER
CALCIUM	62.9	0.01	09/28/92	200.7
MAGNESIUM	32.5	0.01	09/28/92	200.7
POTASSIUM	29.8	0.01	09/28/92	200.7
SODIUM	576	0.01	09/28/92	200.7
ALKALINITY	49	0.2	09/19/92	310.1
CHLORIDE	1150	1	09/18/92	325.2
pH (units)	7.9		09/19/92	150.1
SILICA	93.4	0.01	09/23/92	370.1
SULFATE	147	5	09/23/92	375.4
TOTAL DISSOLVED SOLIDS	2270	1	09/22/92	160.1

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FAX (808) 964-5309

Approved by: Jana Malala-Bier



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURE
P.O. BOX 30
PAHOA, HAWAII 96778

ATTN: DAVE

JOB NUMBER: 8389-3

DATE: OCT. 02, 1992

SAMPLE LOCATION:

Date/Time Sampled: 09/16/92 @ ---
Date/Time Received: 09/17/92 @ 1138

Matrix: WATER
SAMPLE #: MW-3

ANALYSIS	RESULT mg/L	DETECTION LIMIT mg/L	ANALYSIS DATE	METHOD NUMBER
CALCIUM	26.1	0.01	09/28/92	200.7
MAGNESIUM	14.8	0.01	09/28/92	200.7
POTASSIUM	8.3	0.01	09/28/92	200.7
SODIUM	61.2	0.01	09/28/92	200.7
ALKALINITY	30	0.2	09/19/92	310.1
CHLORIDE	20.2	1	09/18/92	325.2
pH (units)	7.8		09/19/92	150.1
SILICA	78.9	0.01	09/23/92	370.1
SULFATE	195	5	09/23/92	375.4
TOTAL DISSOLVED SOLIDS	477	1	09/22/92	160.1

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PAPAIKOU, HI 96781
PHONE (808) 964-5522
FAX (808) 964-5309

Approved by: Jana Malachuk-Ber



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LABORATORY ANALYSIS REPORT
Environmental Laboratories Division

CLIENT: PUNA GEOTHERMAL VENTURE
P.O. BOX 30
PAHOA, HAWAII 96778

ATTN: DAVE
JOB NUMBER: 8427
DATE: SEPT. 23, 1992

SAMPLE LOCATION:

Date/Time Sampled: 09/21/92 @ ---
Date/Time Received: 09/21/92 @ 1350

Matrix: WATER
SAMPLE #: MW-1

ANALYSIS	RESULT mg/L	DETECTION LIMIT mg/L	ANALYSIS DATE	METHOD NUMBER
TOTAL SUSPENDED SOLIDS	10	1	09/22/92	160.2

BREWER ENVIRONMENTAL LABORATORIES
PO. BOX 552
PAPAIKOLI, HI 96781
PHONE (808) 964-5522
FAX (808) 964-5309

Approved by: Jana Malcolm-Barr

Puna Geothermal Venture

MW-2 Water Level and Temperature Data

KS-7 Water Level and Temperature Data

August 6 - October 7, 1992

MW-2

Date	Time	W. L. (FT)	Temperature (F)
06-Aug-92	10:38 AM	575.83	148
11-Aug-92	10:28 AM	575.89	148
21-Aug-92	07:50 AM	575.9	146
31-Aug-92	11:57 AM	576.02	147
01-Sep-92	01:03 PM	568.85	147
02-Sep-92	02:37 PM	574.42	146
03-Sep-92	09:12 AM	574.47	150
04-Sep-92	12:54 PM	576.03	150
08-Sep-92	08:28 AM	576.04	145
11-Sep-92	11:08 AM		150
14-Sep-92	07:19 AM		148
15-Sep-92	08:45 AM		146
17-Sep-92	02:21 PM		145
21-Sep-92	11:09 AM	575.45	146
22-Sep-92	09:07 AM	575.39	146
25-Sep-92	07:37 AM	575.33	146
07-Oct-92	02:15 PM	575.27	149

KS - 7

Date	Time	W. L. (FT)	Temperature (F)
06-Aug-92	12:45 PM	47.98	134
11-Aug-92	08:00 AM	48.03	130
21-Aug-92	08:43 AM	49.4	134
22-Aug-92	08:35 AM	49.43	120
23-Aug-92	08:44 AM	49.47	135
24-Aug-92	07:50 AM	49.47	132
25-Aug-92	07:38 AM	49.53	135
26-Aug-92	07:31 AM	49.6	136
27-Aug-92	07:30 AM	49.63	134
29-Aug-92	09:12 AM	49.77	136
01-Sep-92	08:23 AM	49.92	138
02-Sep-92	03:13 PM		136
03-Sep-92	10:05 AM	49.85	134

KS-7 (cont'd)

04-Sep-92	01:21 PM	27.86	132
10-Sep-92	08:13 AM		126
16-Sep-92	08:12 AM		130
21-Sep-92	03:10 PM	50.2	120

DIVISION OF WATER AND LAND DEVELOPMENT

FROM: *WJ*

DATE: *9-8*

FILE IN: _____

TO: _____

INIT: _____

PLEASE: _____

REMARKS: _____

- ___ M. TAGOMORI
- ___ L. Nanbu
- ✓ ~~___~~ G. Akita
- ___ L. Chang
- ___ E. Lau
- ✓ ~~___~~ A. Monden
- ___ ~~___~~ H. Young
- ___ T. Kam
- ___ G. Miyashiro
- ___ D. Lee
- ✓ ~~___~~ *osher's*
- ___ ~~___~~ *Make for contact*
- ___ R. LOUI *Chris*
- ___ S. Kokubun

- ___ See Me
- ___ Call
- ✓ ___ Review & Comment
- ___ Take Action
- ___ Investigate & Report
- ___ Draft Reply
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- ___ Type Draft
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FOR YOUR: _____

- ___ Approval
- ___ Signature
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WL

PUNA GEOTHERMAL VENTURE

A Hawaii Partnership

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92 SEP 8 AIO: 52

92 AUG 28 9: 29

August 26, 1992

Dr. John C. Lewin, M.D.
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, HI 96801

DIV. OF WATER &
LAND DEVELOPMENT

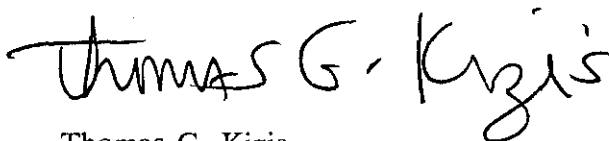
DEPT. OF LAND
& NATURAL RESOURCES
STATE OF HAWAII

Dear Dr. Lewin:

Attached please find the weekly well monitoring records for Kapoho State 7 and MW-2 as requested by the DLNR letter dated March 13, 1991. MW-2 and KS-7 are currently being monitored a minimum of 3 times per week. Water samples from MW-1 and/or MW-3 and MW-2 are collected every other week for fluid chemistry changes. In conjunction with water sampling two gases, carbon dioxide and hydrogen sulfide, from MW-1 and/or MW-3 are now measured in the field. This report covers the period between July 26 and August 1, 1992. Included are temperature and depth to water level data for KS-7 and MW-2, and carbon dioxide/hydrogen sulfide concentrations for MW-1.

Should you need any additional information or clarification, please do not hesitate to call me at 961-2786.

Sincerely,



Thomas G. Kizis
Environmental Manager

/mm

Attachment

cc: C. Hew, DOH
W. Paty, DLNR
D. Berube
J. Sternfeld

File: KS-7
MW-2
MW-1

MW-2 Water Level and Temperature Data
KS-7 Water Level and Temperature Data
MW-1 CO2 and H2S Concentrations

MW - 2

Date	Time	W. L. (FT)	Temperature (F)
27-Jul-92	10:38 AM	575.83	148
30-Jul-92	10:28 AM	575.89	148
31-Jul-92	07:50 AM	575.9	146

KS - 7

Date	Time	W. L. (FT)	Temperature (F)
27-Jul-92	12:49 PM	47.75	124
30-Jul-92	10:54 AM	47.91	125
31-Jul-92	08:14 AM	47.95	123

MW - 1

Date	Time	CO2 PPM	H2S PPM
29-Jul-92	11:00 AM	1200	0

file activity report

PUNA GEOTHERMAL VENTURE
745 Fort Street Mall
Hawaii Tower, Suite 1804
Honolulu, Hawaii 96813

TEL: (808) 528-5225
FAX: (808) 524-9349

August 10, 1992

DAILY ACTIVITY REPORT

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Comments: Project Activities:

Working on preparation for flow test.

PUNA GEOTHERMAL VENTURE

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MW-2
Cabinet 4
File # 2

92 NOV 13 A 9: 2

DIV. OF WATER &
LAND DEVELOPMENT

44
RCES
II
Geo. S. Smith

November 9, 1992

John C. Lewin, M.D., Director
State Department of Health
P.O. Box 3378
Honolulu, HI 96801

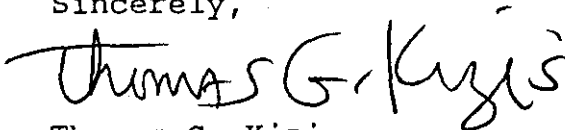
SUBJ: WELL MONITORING DATA

Dear Dr. Lewin,

Attached please find water level and temperature data for wells MW-2 and KS-7 for the period October 9, 1992 through November 6, 1992.

Please let me know if you have any questions.

Sincerely,



Thomas G. Kizis
Environmental Manager

TGK/sls

cc: W. Paty (DLNR)
C. Hew (DOH)
N. Hayashi (HCPD)

Files: MW-2/KS-7
Memo: 21444

Puna Geothermal Venture
MW-2 Water Level and Temperature Data
KS-7 Water Level and Temperature Data
October 9 - November 6, 1992

MW-2

Date	Time	W. L. (FT)	Temperature (F)
09-Oct-92	02:45 PM	51.1	126
27-Oct-92	02:00 PM	52.2	119
29-Oct-92	12:40 PM	52.3	124
31-Oct-92	12:00 PM	52.33	139
02-Nov-92	03:00 PM	52.49	133
05-Nov-92	10:00 AM	52.48	142
06-Nov-92	01:37 PM	52.5	141

KS - 7

Date	Time	W. L. (FT)	Temperature (F)
09-Oct-92	02:45 PM	51.1	126
27-Oct-92	02:00 PM	52.2	119
29-Oct-92	12:40 PM	52.3	124
31-Oct-92	12:00 PM	52.33	139
02-Nov-92	03:00 PM	52.49	133
05-Nov-92	10:00 AM	52.48	142
06-Nov-92	01:37 PM	52.5	141