



Bob

14-2  
12-35  
82-33

April 18, 1984

INTER-OFFICE CORRESPONDENCE / SUBJECT:

Spinner Surveys  
RHSU Injection Wells  
Beaver County, Utah

To: D. L. Reese

From: T. A. Turner

Approval is requested for spinner surveys to be performed on the three injection wells at RHSU. Cost of the job is estimated at \$2,000 gross and \$1,468 net to Phillips. This will be charged to RHSU Lease Operating Expense and was included in both the 1984 Partner and Phillips' budgets. This procedure has been approved by the project engineer, engineering supervisor and myself.

Michael J. Berna  
RHS Project Engineer

April 19/1984  
Date

Terry S. Allen  
Engineering Supervisor

4/24/84  
Date

Thomas J. Turner  
Director, Development and Operations

4-26-84  
Date

Daniel Reese  
Geothermal Manager

2 May 84  
Date

TAT/MAP/mb  
Attachment

cc: M. J. Kerna  
R. C. Rice  
W. B. Nowell  
K. P. Goyal  
T. S. Allen (r)

File: RHSU W-15 (12-35)  
W-15 (14-2 )  
W-15 (82-33)

## Phillips Geothermal Responsible Personnel

Spinner Survey Job Supervisor:	Mark Payne Station Motel Milford, Utah	(801) 387-2481
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Field Supervisor:	Bob Rice North Main Milford, Utah	(801) 387-5009
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Salt Lake City Office:	Mike Kerna RHSU Project Engineer	Office: (801) 263-3129 Home: (801) 942-3460
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Terry Allen Engineering Supervisor	Office: (801) 263-3129 Home: (801) 277-0339
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Tom Turner Director, Development and Operations	Office: (801) 263-3129 Home: (801) 942-4566
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Workover Procedure  
Spinner Surveys  
RHSU Injection Wells  
14-2, 82-33 and 12-35

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Description of Work:

RU wireline truck and lubricator. Run 2 7/8" gauge ring to TD. While injecting at approximately 500,000 lbm/hr from various combinations of producers (RHSU 54-3, 35-3, 27-3, and 13-10), run spinner survey in injection wells. Make five-minute stops at the designated depths. Retrieve tool, and examine data. Rig down and move off.

Pertinent Data:

14-2	82-33	12-35
Casting: 9 5/8" 40# K-55	9 5/8" 40# K-55	9 5/8" 40# K-55
Casting ID: 8.835"	8.835"	8.835"
Casting Depth RKB: 1805'	2001'	1814'
RKB (ft above GL): 21'	22'	22'
Open Hole (bit size) 8 1/2"	8 1/2"	8 1/2"
PRTD: 6100'	6028'	7350'
Liner: -	-	7" 23# K-55
Liner top: -	-	1632'
Liner bottom: -	-	4397'
Liner ID: -	-	6.366"

Mating interface for all wells: 3" female NPT.

\* See wellbore diagrams (Attachment II) for more details.

Service Company Specifications

Tool OD: 2.25"	Time Clock: 3 hours	Liner: stick line .092" OD	Maximum Pull: 1500 lbs (Do not exceed 1200 lbs pull without SLC approval.)
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Procedure: (The following steps are typical for each well.)

1. Record downhole pressure. Mark capillary tubing so chamber can be rerun to the same previous setting depth. Pull pressure chamber and lay down 2" lubricator prior to commencing injection operations.
2. Hold safety meeting. All personnel are to wear hard hats and steel-toed shoes. Safety glasses are required for any individual who wears corrective lens. However, safety glasses are optional for all other personnel, but they are strongly recommended.
3. Ensure injection well is taking fluid and all surface equipment is operating normally.
4. MI and RU wireline company. Attach lubricator to 3" female NPT bore at top of 3" swab gate valve.
5. Pressure test lubricator by cracking 3" swab gate valve and inspecting for leakage.
6. RIH to PBTD (ref. Pertinent Data Sheet) with 2 7/8" gauge ring and sinker bars. Note parted casing in 12-35 and junk consisting of BHP chamber in 82-33 (ref. Wellbore Diagram). COOH.
7. Dress and RU 2 1/4" spinner tool to wireline.
8. Insure injection flowrate is stabilized at approximately 500,000 lbm/hr. Have UP&L put the subject well on flow control.
9. GIH and stop for 5 minutes at each of the following depths:

Stop No.	14-2	82-33	12-35
1	700'	700'	700'
2	1700'	1600'	1500'
3	1850'	1647'	1700'
4	2500'	1652'	2300'
5	3200'	1657'	2900'
6	3900'	1662'	3200'
7	4600'	1667'	3350'
8	5300'	1800'	3450'
9	5700'	2100'	4300'
10	6000'	3000'	4500'
11		4500'	6000'
12		6000'	7300'

10. Retrieve tool and examine results of the data collected. If there are errors in the data or further information is desired, repeat steps 6, 7, and 8 at the depths deemed necessary.
11. RD lubricator and wireline truck.
12. Rerun pressure chamber after injection well is shut in.

## ATTACHMENT I

### Emergency Action Procedures and Notification Lists

Attachment 1

EMERGENCY NOTIFICATION CHECKLIST

Beaver County, Utah

- A. In the event of a work-related emergency or accident which results in a fatality, contact the following persons immediately:

Management

David L. Reese	Office: (801) 263-3129
Manager, Geothermal Operations	Home: (801) 943-4661
Fred Terry	Office: (303) 850-3310
Manager, Alternate Energy	
Minerals Division	

Safety

Jerry Koiro	Office: (214) 669-5971
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Public Relations

Ray Lusty	Office: (303) 850-3486
Sheldon Jones	Office: (303) 850-3483

Government Relations

Terry Covington	Office: (303) 850-3379
	Home: (303) 337-5527

Beaver County Sheriff Department	Beaver: (801) 438-2862
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Milford Valley Memorial Hospital )	Milford: (801) 387-2411
Emergency Rescue )	
Fire Department )	

- B. In the event of a blowout or similar environmental emergencies, the Phillips Operator is to shut in the well if possible and immediately contact the Field Superintendent:

R. C. Rice	Office: (801) 387-2442
Field Superintendent	Home: (801) 387-5009

The Superintendent will contact the first available person on the following list:

Salt Lake City Geothermal Office

(801) 263-3129

Terry S. Allen	Home: (801) 277-0339
Engineering Supervisor	

Thomas A. Turner	Home: (801) 942-4566
Director, Development & Operations	

David L. Reese	Home: (801) 943-4661
Geothermal Operations Manager	

The Salt Lake City contact will then:

1. Brief the Development and Operations Director in Salt Lake on the situation and course of action underway. The Operations and Development Director will then inform the Geothermal Manager who is to contact the appropriate PPCo environmental and public relations personnel.
2. Contact the Environmental Representative who will call the following agencies or regulatory bodies as soon as practical and in the following order:

G. E. Merrihew	Office: (801) 263-3129
Environmental Representative	Home: (801) 968-8569

Ed Guynn	(801) 524-3029
Chief, Branch of Fluid Minerals	
Bureau of Land Management	
Utah State Office	
University Club Building	
136 East South Temple	
Salt Lake City, Utah 84111	

Sheridan Hansen	(801) 586-2458
Area Manager	
Bureau of Land Management	
Beaver River	
444 South Main	
Cedar City, Utah 84720	

Mr. G. Riding	(801) 533-6146
Bureau of Water Pollution Control	
Utah Department of Health	
150 West North Temple	
Salt Lake City, Utah 84103	

Mr. Brent Bradford	(801) 533-6108
Director, Bureau of Air Quality	
Utah Department of Health	
P. O. Box 2500	
Salt Lake City, Utah 84110	

The immediate action and future actions will be reviewed with Ben Ballard, Director of Environmental Control Branch, at (918) 661-5330 by the Environmental Representative.

3. Close all roads leading into the well and control all traffic going to same.
4. The Supervisor is to be certain that all safety practices and procedures are being followed and that all members of the operations staff are performing their assigned duties correctly.
5. Clean-up measures will be carried out in accordance with BLM recommendations, and surface areas will be returned as near as possible to their natural state and reseeded with native grasses.



- C. In the event of a work-related accident which results in a serious injury, arrangements will be made to care for the injured party(ies).

#### Hospitals

Milford Valley Memorial Hospital (801) 387-2411  
451 North Main  
Milford, Utah 84751

Beaver Valley Hospital (801) 438-2416  
85 North 400 East  
Beaver, Utah

Valley View Medical Center (801) 586-6587  
595 South 75 East  
Cedar City, Utah

#### Doctors

Dr. P. A. Symond (801) 387-2844 or  
405 South Main (801) 438-2416  
Milford, Utah

Dr. Henrie Terry or (801) 438-2844 or  
Dr. Noal Robinson (801) 438-2416  
95 North 400 East  
Beaver, Utah

#### Ambulance Service

##### Ground:

Milford (801) 387-2854  
Beaver (801) 438-2651  
Beaver (801) 438-2201

##### Air:

Cedar City (801) 373-1508  
Cedar City (801) 586-3881  
Richfield (801) 896-5484  
Salt Lake City (Life Flight) (801) 581-2291

Phillips Petroleum Company's on-site supervisor will have the responsibility and authority to respond immediately to any emergency situation. Depending on the nature of the emergency, the Phillips supervisor will contact, as appropriate, the following:

Milford Police Department (801) 387-2251  
Milford Fire Department (801) 387-2441 or 387-2433  
Utah Highway Patrol, Cedar City, Utah (801) 586-9445  
Beaver County Sheriff Department (801) 438-2862 or 387-2750

## ATTACHMENT II

### Diagrams

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Completed: 11/76

WELL: Roosevelt 14-2

FIELD: Roosevelt Hot Springs, Beaver County, Utah

LOCATION: SW, NW, SEC 2 - 27S- 9W

DEPTH: 6100' TD - PBD ELEVATION: 6240 GL 6261 RKB

HOLE: 26" TO 79', 17" TO 650'

12½" TO 1805', 8½" TO 6100'

CASING: 20", 94# CSA 79' CMT W/ 200 Sx,  
H-40 2% CaCl<sub>2</sub>

13 3/8", 54# CSA 645' CMT W/ 400 Sx, Class B,  
K-55 1:1 perlite, 2% gel, 40% silica flo

9 5/8", 40# CSA 1805' CMT W/ 400 Sx, Class B,  
K-55 1:1 perlite, 2% gel, 40% silica flo  
.3% HR-5, .5% CFR-2  
\_\_\_\_\_, \_\_\_\_\_ CSA \_\_\_\_\_ CMT W/ \_\_\_\_\_

PERFS: None

MAXIMUM STATIC BHT 510° MAXIMUM STATIC BHP \_\_\_\_\_

9 5/8" @ 1805'

LOGS: SEE ATTACHED SHEET

ISO. ZONE:

FRACTURES:

LOSS CIRC:

DRLG BRK:

HISTORY: 48 hour flow test, 11-16-78 to 11-18-76, mass  
flow 495,000 lbm/lb, 70 psig, 17.8% flash.

PBTD 6000' 9/82  
8½ @ 6100'

4/19/84

WELL: Roosevelt KGRA, No. 82-33

FIELD: Roosevelt Hot Springs, Beaver County, Utah

LOCATION: NE, NE, SEC 33 - 26S- 9W

DEPTH: 6028 TD PBD ELEVATION: 5833 GL5855 RKB

HOLE: 26" TO 168', 17½" TO 616'

12½" TO 2004', 8½" TO 6028'

CASING: 20", 910' CSA164 CMT W/ 400 Sx, Class B

3% CaCl<sub>2</sub>

13 3/8", 54.5'

CSA 575 CMT W/ 500 Sx, Class B,

1:1 perlite, 40% silica flour, 2%

Gel, .2% CFR, .4% HR-4.

9 5/8", 401'

CSA2001 RKB CMT W/ 200 Sx, Class B,

1:1 perlite, 40% silica flour, 2%

Gel, .4% HR-4, .5% CFR-2

9 5/8", 401'

CSA2001 RKB CMT W/ 600 Sx, Class B,

1:1 perlite, 40% silica flour, 2%

Gel, .4% HR-4, .5% CFR-2

PERFS: 1647 to 1667 w/ 4JSPF, 1650 to 1670 w/ 4JSPF  
357.8° F.

MAXIMUM STATIC BHT @ 5810' MAXIMUM STATIC BHP \_\_\_\_\_

9 5/8" @ 2001'

LOGS: SEE ATTACHED SHEET

ISO. ZONE: .

FRACTURES: 1655 - 57, 5740

LOSS CIRC: 1623' to

2240', 3410 - 18'

DRLG BRK:

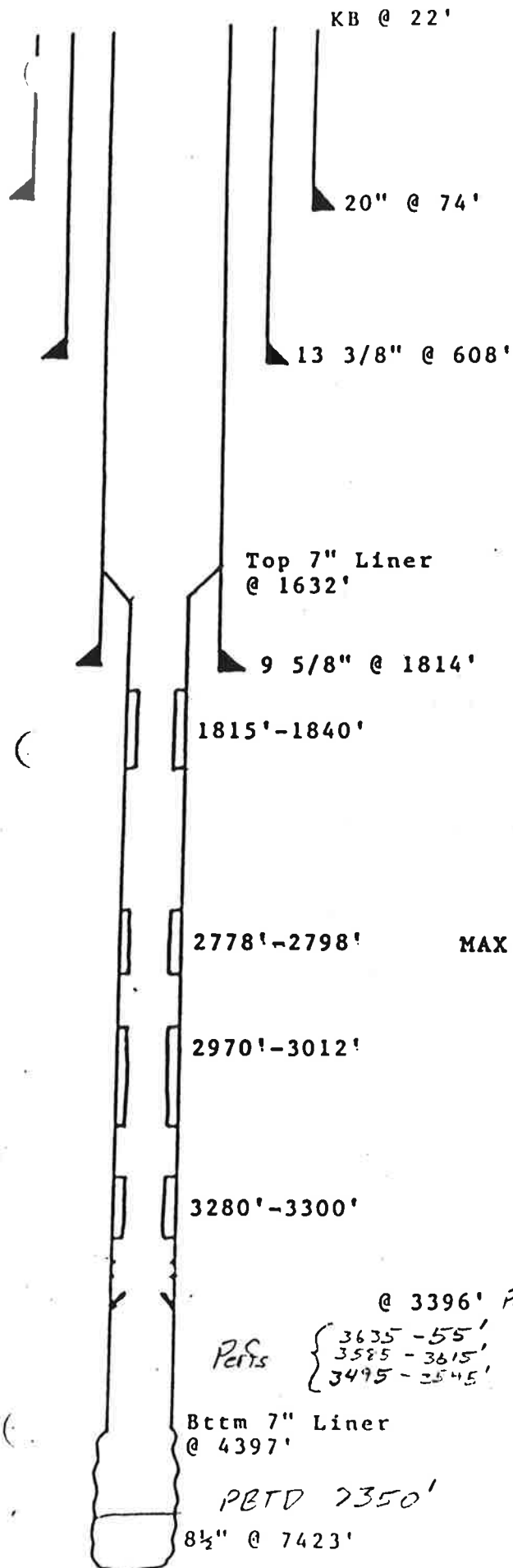
HISTORY: 11/13/79 Lost 2000' of 3/32" SS Tbg and  
BHP chamber in well.

*BHP Chamber  
2000' 3/32" SS Tbg*

8½" @ 6028'

4/19/84

4/19/84



WELL: Roosevelt No. 12-35

FIELD: Roosevelt Hot Springs County, UT

LOCATION: NW NW Section 35 - 26S - 9W

DEPTH: 7423' TD ELEVATION: 6172' GL  
7350' PBD 6194' RKB

HOLE: 26" TO 77', 17 1/2" TO 609'  
12 1/2" TO 1814, 8 1/2" TO 7324'

CASING: 20", 133# CSA 74' CMT W/200 sx,  
Class B 3% CaCl<sub>2</sub>

13 3/8", 54.5# CSA 608' CMT W/785 sx  
Class B 1:1 perlite,  
40% silica flour, .5%  
CFR-2, 2% gel, 2% CaCl<sub>2</sub>

9 5/8", 40# CSA 1814' CMT W/595 sx,  
Class B 1:1 perlite, 40%  
silica flour, 2% gel  
.4% HR-4, .5% CFR-2

7", 23# CSA 4397' CMT W/125 sx,  
Class B, 1:1 perlite,  
40% silica flour, .5%  
HR-12, 2% gel, .5% CFR-2

PERFS: 1815-1840', 2778-2798', 2970-3012',  
3280-3300' w/4 (1/2) JSPF

MAX STATIC: BHT 353.8°F @ 7320' BHP 2813# @ 7359'

LOGS: See Attached

LOSS CIRC: 5841' to 5906'

HISTORY: 9/25/75 Attempted to kick off -  
would not sustain flow.  
Ran 7" liner

4/13/76- Flowed estimated 15,000  
4/16/76 #/hr steam & 57,000 #/hr  
water

Squeezed, 210 sx, class B  
cmt, 1:1 perlite 40% sf,  
2% gel, @ 4170', no return

8/79 Perf. step-rate inj. test

9/81 Ran Wire line temp & pres;  
bomb - hung up @ 3396'  
pulled 1600# - tools came  
free - metal markings on  
bttm of tools

2/10/82 Set E-Z drill retainer @  
3379' & perforated as  
listed above.

# ROOSEVELT HOT SPRINGS WELL 12-35

FIG. 4

