<table>
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<td>Broken cinders, 18&quot; close</td>
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**SUMMARY DRILLING LOG**

Q'O'E WELL O953-01
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<tr>
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Remarks:

Signed C. R. Watsky Date 2/7/1956
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<th>Hole No.</th>
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<tbody>
<tr>
<td>June 25</td>
<td>815 W-20</td>
<td>2530</td>
<td>5484 ft</td>
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</table>

**Customer:**

**Location:**

**Driller:** Ken Harlan  16 Hrs.  Drilling

**Helper:**  10 Hrs.  Gas

**Arv. Job**  10 Hrs.  Or. No.

**Bit Size:** 12 in.  Type

**Casing Size:** 11 1/2 in., Length in hole 20 7/2 ft., Amt. Perforated 2 ft., in.

**Depth Start:** 670 ft., Depth Stop 875 ft., Feet Drilled 57 ft.

**Water Levels:** Time 8:25 M., Time 8:35 M., ft.

### Measurements

<table>
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<tr>
<th>Depth</th>
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<td>670</td>
<td>Sand</td>
<td>Cased Bit 3 Hours</td>
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<tr>
<td>695</td>
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<td>Bit stuck a Day</td>
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**Remarks:**

Signed  K Harlan  Date 6/25/1950
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

Date: June 26, 1950
Job No. 51
Hole No. 26
Elevation 600 ft.

Customer

Location

Driller

Helper

Drilling Hrs.
4.5
4.5

Rig

Gas

Oil

Repairs

Arv. Job

Or. No.

Bit-Size

12"

Casing-Size

4 1/2" in.

Depth Start

49.75 ft.

Depth Stop

54.50 ft.

Feet Drilled

4.75 ft.

Water Levels, Time

M. 3:25 ft.


Depth

Formation

Remarks

Top

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
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<td>49.75</td>
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<td>Boring and Punt</td>
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<td>Bore Core 37 ft</td>
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Remarks:

Signed: C. B. Harha
Date: 6/26/50 1950
Date: June 30 1966  
Job No. SW-26  
Hole No. 046301  
Elevation 84501 ft.

Customer: N/A  
Location: ROE  

Driller: David Hunter  
10 Hrs.  
Rig:  

Helper: Albert Robinson  
10 Hrs.  
Gas:  

Helper:  
Hrs.  
Oil:  

Arr. Job 9:00 AM  
Lv. Job 5:00 PM  
10 Hrs.  

Bit-Size: 13"  
Type:  

Casing-Size: 24  
Length in hole 20 ft.  
Amt. Perforated 757 ft.  

Depth Start: 1 ft.  
Depth Stop: 570 ft.  
Feet Drilled:  

Water Levels, Time: M 5 ft.  
Time: M  

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<td>660</td>
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<td>David Bito Jr.</td>
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<tr>
<td>7-2</td>
<td>3rd Layer</td>
<td>Times  &amp;  Date</td>
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Remarks:  

Signed: C. D. Hunter  
Date: 10/2/1966
Date: June 23, 1950

Job No.: A H-46 Hole No.: 95967
Elevation: 5400 ft.

Customer: __________________________ Location: KOP Hcn

Driller: Anderson W. 10 Hrs. Rig: ____________

Helper: Adam Raima 10 Hrs. Gas: ____________

Helper: ____________ Hrs. Oil: ____________

Arv. Job: ____________ Hrs. Repairs: ____________

Or. No.: ____________

Bit-Size: 12-1/4


Depth Start: 455 ft., Depth Stop: 1050 ft., Feet Drilled: 5

Water Levels, Time: M 5 ft., Time: M ____________ ft.

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Remarks: 

Signed: ____________ Date: 6/23/50
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</tr>
<tr>
<td>Takeo Fujii</td>
<td>Take action by</td>
</tr>
<tr>
<td>James Yoshimoto</td>
<td>Route to your branch</td>
</tr>
<tr>
<td>Manabu Tagomori</td>
<td>Review &amp; comment</td>
</tr>
<tr>
<td>George Morimoto</td>
<td>Draft reply by</td>
</tr>
<tr>
<td>Hong Fong Chang</td>
<td>For information</td>
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<tr>
<td>Herbert Morimatsu</td>
<td>Xerox distributed</td>
</tr>
<tr>
<td>George Miyashiro</td>
<td>Acknowledge receipt</td>
</tr>
<tr>
<td>Harold Sakai</td>
<td>Jane Sakai</td>
</tr>
<tr>
<td>Leslie Asari</td>
<td>Doris Hamada</td>
</tr>
<tr>
<td>Albert Ching</td>
<td>Lorraine Nanbu</td>
</tr>
<tr>
<td>George Matsumoto</td>
<td>Jean Siarot</td>
</tr>
<tr>
<td>Daniel Lum</td>
<td>Elsie Yonamine</td>
</tr>
<tr>
<td>Paul Matsuo</td>
<td></td>
</tr>
<tr>
<td>Noboru Kaneshiro</td>
<td></td>
</tr>
<tr>
<td>Edwin Sakoda</td>
<td></td>
</tr>
</tbody>
</table>

Let's get going. Ok. We'll sign the Damaas. 6/14/75.
Date: Dec 26 1962  
Job No. 26  
Hole No. 26  
Elevation 635.21 ft.

Customer: G. R. Arakawa
Location: KCI

Driller: Original Hrs. 16  
Rig
Helper: Additional Hrs. 16  
Gas
Helper:  
Oil
Arv. Job 7:00 AM  
Lv. Job 3:00 PM  
16 Hrs.

Rig

Gas

Oil

Repairs

Arv. Job 7:00 AM  
Lv. Job 3:00 PM  
16 Hrs.

Or. No.

Bit-Size: 12"  
Type
Casing-Size: 14.5" in., Length in hole 41.57 ft.  
in., Amt. Perforated 0 ft.  
Depth Start 611.2 ft., Depth Stop 665.5 ft., Feet Drilled  
Water Levels, Time M ft, Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>612.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>623</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>633</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Measurements

A   B

Bottom: 648.01

Remarks:

- Be careful of BM at Top
- Yoshik up 1/3

5 mm + 3.5 T3 or 80

Signed: D. D. Mohelen  
Date: 1/20 1963
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819

TELEPHONE (808) 839-6888 • 833-1444

---

Date: June 19 1949

Job No.: SHW-26

Hole No.: 45-301

Elevation: 5450 ft.

Customer: [Name]

Location: [Location]

---

**Driller:** [Name]

16 Hrs.

**Helper:** [Name]

11 Hrs.

**Helper:** [Name]

11 Hrs.

**Arv. Job:** [Name]

4 Hrs.

**Rig:** Rig

**Gas:** Oil

**Oil:** Oil

**Repairs:** [Type]

**Or. No.:** [Number]

---

**Bit-Size:** 12 in.

**Type:** [Type]

**Casing-Size:** 12 in.

**Length in hole:** 480 ft.

**Amt. Perforated:** [Number] ft.

---

**Depth Start:** 50 ft.

**Depth Stop:** 75 ft.

**Feet Drilled:** 65

---

**Water Levels, Time:**

[Measurements]

---

**Depth** | **Formation** |
---|---|
56 ft. | Basalt + Muddy, Lavaad Pipe |
61 ft. | Hard Rock |

---

**Remarks:**

[Remarks]

---

Signed: [Name]

Date: 6/19 1950
## Drilling Log

**Ruscoe Moss Company**

830 AUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

### Date

**April 15, 1960**

**Job No.** 8444

**Location** OKF

**Customer** Refinery Resources

---

### Driller

**Oswald Hawley**

**16 Hrs.**

**Helper**

**Adam Kanua**

**10 Hrs.**

**Av. Job** 10 Hrs.

---

### Bit-Size

**12 in.**

**Type** T702

---

### Casing-Size

**9 ½ in.**

**Length in hole** 16 ft.

**Depth Start** 822 ft.

**Depth Stop** 832 ft.

**Feet Drilled** 10

---

### Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>822</td>
<td>Linhay Bagelle</td>
<td>Deepwell Bile and sand sand. Be Bill the Bouncer the Bile Flat Bile</td>
</tr>
<tr>
<td>832</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### Signed

**O. L. Houston**

**Date** 6/15/58

1960
Date: August 17, 1940  Job No: 414W-26  Hole No: 056301  Elevation: $1601 ft.

Customer: 3rd Natural Resources  Location: OKF

Driller: Omoel Harter  10 Hrs.  Rig: 

Helper: J. B. Kamanu  10 Hrs.  Gas: 

Helper:  

Arrv: Job 7:00 AM lv.: Job 6:00 PM  10 Hrs.  Or. No.:

Bit-Size: 19 1/2'  Type: 


Depth Start: 812 ft.  Depth Stop: 623 ft.  Feet Drilled: 10

Water Levels, Time: M ft.  Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>812</td>
<td>Sand, Basalt</td>
<td>Dressed Bit for</td>
<td></td>
</tr>
<tr>
<td>612</td>
<td>mud, dolomite</td>
<td>Turn on Stop</td>
<td></td>
</tr>
</tbody>
</table>

Measurements

Signed: O. B. Harter  Date: 6/17/1950
**DRILLING LOG**

**830 AHUA STREET • HONOLULU, HAWAII 96819**
**TELEPHONE (808) 839-6888 • 833-1444**

**Date**: June 16 1990  
**Job No.**: Hvn-26  
**Hole No.**: 095301  
**Elevation**: 84661 ft.

**Customer**: Pacific Power & Light Co.  
**Location**: OKO

**Driller**: Angel Harrison  
**10 Hrs.**

**Helper**: Daniel Kaimo  
**10 Hrs.**

**Arv. Job**: 700 AM  
**Job No.**: 500 PM  
**10 Hrs.**

**Rig**:  
**Gas**:  
**Oil**:  
**Repairs**:  
**Or. No.**:  

**Bit-Size**: 12"  
**Type**: Stan

**Casing-Size**: 24 1/2 12 1/2 in., Length in hole 40 + 237 ft. in., Amt. Perforated 23 ft. in.

**Depth Start**: 803 ft.  
**Depth Stop**: 1950 ft.  
**Feet Drilled**: 10

**Water Levels, Time**:  
**M**: ft., Time**: M**: ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>802</td>
<td></td>
<td><strong>Silt</strong></td>
<td><strong>Bottom</strong></td>
</tr>
<tr>
<td>6 1/2</td>
<td></td>
<td><strong>Drilling Damaged Bit and</strong></td>
<td><strong>mudstone, soft, went after water</strong></td>
</tr>
</tbody>
</table>

**Remarks:**

**Signed**: C. D. Hart  
**Date**: 6/16 1990
Date: August 13 1952
Job No: 1446
Hole No: 95301
Elevation: 211801 ft

Customer:

Driller: 

Helper: 

Arv. Job 7:00 AM, Lv. Job 5:00 PM

Bit-Size: 19"

Top Depth: 900 ft.

Formation: Sandstone Mako

Remarks: Signed: Dale

Date: 6/13/80
Date: June 11, 1950  
Job No.: 8HW-26  
Hole No.: 295-381  
Elevation: 6680 ft.

Customer: _____________________  
Location: OK of Hawaii

Driller: Samuel Harty  
10 Hrs.  
Rig: Gas

Helper: Alama Kaiona  
10 Hrs.  
Oil

Helper: ________________________  

Arv. Job: 7:44 AM  
Lv. Job: 5:00 PM  
10 Hrs.

Bit-Size: 12  
Type: ________________

Casing-Size: 2 1/4 x 12  
Length in hole: 28 + 257 ft.  
Amt. Perforated: __________ ft.  
in.

Depth Start: 760 ft.  
Depth Stop: 280 ft.  
Feet Drilled: 10

Water Levels, Time: M ft.  
Time: M ft.

Remarks: _____________________________

Depth  
Formation  
Remarks  
Top

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>760</td>
<td>Sandstone</td>
<td>Ground Water</td>
<td></td>
</tr>
<tr>
<td>720</td>
<td>Sandstone</td>
<td>Ground Water</td>
<td></td>
</tr>
</tbody>
</table>

Signed: G. L. Hart  
Date: 6/11/1950
Date: January 19 1950  
Job No: 811  
Hole No: 245-36  
Elevation: 5480 ft.  

Customer: District Enterprises  
Location: Kauai, Hawaii  

Driller: Clyde Harlan  
Hrs.: 10  
Rig:  

Helper:  
Hrs.: 10  
Gas:  
Oil:  

Helper:  
Hrs.:  
Repairs:  

Arv. Job: 7:00 AM  
Lv. Job: 5:00 PM  
16 Hrs.  

Or. No.:  

Bit-Size: 3  
Type: 

Casing-Size: 2 1/2 x 12 in.  
Length in hole: 20 ft.  
Amt. Perforated:  

Depth Start: 780 ft.  
Depth Stop: 790 ft.  
Feet Drilled: 10  

Water Levels, Time: M  
M  


<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>780</td>
<td>Limestone</td>
<td>Dressed Bit    3</td>
<td></td>
</tr>
<tr>
<td>790</td>
<td>Sand</td>
<td>Time a Day    90</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: ____________________________  

Signed: O. A. Moss  
Date: 6/12/50  
1950
**Drilling Log**

**Ruscoe Moss Company**

830 Ahua Street • Honolulu, Hawaii 96819

Telephone (808) 839-6285 • 833-1444

---

**Date**: June 10, 1980

**Job No.**: SW-86

**Hole No.**: 29354

**Elevation**: 840 ft.

**Customer**: State of Hawaii Resource

**Location**: Chet of Hawaii

---

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hours</th>
<th>Rig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arvil Korps</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hours</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alan Kaira</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hours</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Arv. Job**: 700 AM

**Lvd. Job**: 500 PM

**Hrs. Repairs**: 10

**Date**

**Job No.**

**Or. No.**

---

**Bit-Size**: 12"

**Type**: Field

**Casing-Size**: 24 + 12'" in., Length in hole: 1757 ft.

**In. Amt. Perforated**: 1757 ft.

**Depth Start**: 760 ft.

**Depth Stop**: 770 ft.

**Feet Drilled**: 10

---

**Water Levels, Time**

**M ft. Time**

---

**Depth**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>760</td>
<td></td>
<td>Drilling Gas</td>
</tr>
<tr>
<td>770</td>
<td></td>
<td>and Air Coal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dressed Bit</td>
</tr>
</tbody>
</table>

---

**Remarks**

---

**Signed**

**Date**: 6/10/1980
**Drilling Log**

Date: June 7, 1980  
Job No.: CH-76  
Hole No.: 093301  
Elevation: 8480 ft.

**Customer:** Duke Natural Resources  
**Location:** KKEE, Hawaii

**Driller:** Orson Harter  
**Hrs.:** 10  
**Rig:**  

**Helper:** Salo Naimo  
**Hrs.:** 10  
**Gas:**  
**Oil:**  

**Arv. Job:** 700 AM  
**Lv. Job:** 5:00 PM  
**10 Hrs.**  
**Or. No.:**

**Bit-Size:** 12"  
**Type:** A-1

**Casing-Size:** 24 ft. 12", Length in hole 20 ft. 1.75 ft. in., Amt. Perforated 17 ft.  
**Depth Start:** 757 ft., Depth Stop 760 ft., Feet Drilled 3

**Water Levels, Time:** M ft.  
**Time:** M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>757</td>
<td>Drilling cut air</td>
</tr>
<tr>
<td>760</td>
<td>in hole</td>
</tr>
</tbody>
</table>

**Remarks:**

**Signed:** L. Hart
**Date:** 6/9/1980
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 ANUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

---

**Date:** June 19 70  
**Job No.:** 0753-16  
**Hole No.:** 0913-01  
**Elevation:** ft.

**Customer:**  
**Driller:**  
**Helper:**

**Location:** OKE, Hawaii

---

**Rig:**  
**Gas:**  
**Oil:**

---

**Arv. Job:**  
**Arr. M.:**  
**Job No.:**

---

**Bit-Size:**  
**Type:**

---

**Casing-Size:**  
**Length in hole:** ft.  
**Depth Start:** ft., Depth Stop:** ft., Feet Drilled:**

---

**Water Levels:**  
**Time:**

---

**Depth** | **Formation** | **Remarks** | **Top** | **Measurements**
--- | --- | --- | --- | ---

---

**Remarks:**

---

**Signed:**  
**Date:** 6/6/70

---
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

---

**Date** January 5, 1940  
**Job No.** 5H  
**Hole No.** C  
**Elevation** 5486.1 ft.

**Customer**  
**Location** OKIE HAWAII

**Driller**  
**Hrs.**  
**Rig**  
**Gas**  
**Oil**  
**Repairs**  
**Arv. Job** 7:00 AM  
**Lvs. Job** 4:30 PM  
**Hrs.** 9

**Helper**  
**Hrs.**  

---

**Bit-Size** 1 1/4"  
**Type**  

**Casing-Size** 2 1/4 x 12 in.  
**Length in hole** 96 ft.  
**Amt. Perforated** 50 ft.

**Depth Start** 769 ft.  
**Depth Stop** 262 ft.  
**Feet Drilled** 0

---

**Water Levels, Time**  
**M ft.**  
**Time**  

---

**Depth**  
**Formation**  
**Remarks**  
**Top**

---

**Remarks:**

---

**Signed**  
**Date** June 15, 1940
### DRILLING LOG

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

---

**Date:** June 14, 1950
**Job No.:** 84 W-46
**Hole No.:** 095301
**Elevation:** 4086 ft.
**Location:** 6965 C.C. F.

**Driller:** O.P. Henderson

**Helper:** J.J. Kauai

**Arv. Job:** 7:30 AM
**Lv. Job:** 4:30 PM

**Bit-Size:** 16"
**Type:** 3LZ

**Casing-Size:** 9 1/2 in.
**Length in hole:** 138 ft.
**Amt. Perforated:** 0 ft.

**Depth Start:** 162 ft.
**Depth Stop:** 264 ft.
**Feet Drilled:** 0

**Water Levels:**
- Time: M ft., Time: M ft.

**Remarks:**

- "Shoe Canada in the Lab."  

---

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Signed:** O.P. Henderson
**Date:** 6/14/1950
Date: June 3, 1950

Job No: 849

Hole No: 3451

Elevation: 20 ft.

Customer: Oahu Telephone

Location: Oahu, Hawaii

Driller: W. A. Hamilton

Helper: A. K. In

Rig: Oil

Gas: Oil

Repairs:

Arv. Job: 7:00 AM

Lv. Job: 11:00 PM

9 Hrs.

Bit Size: 1 5/8"

Type: 1 5/8"

Casing Size: 2 1/2 x 12'

Length in hole: 640 ft.

Amt. Perforated:

Depth Start: 100 ft.

Depth Stop: 160 ft.

Feet Drilled: 0

Water Levels:

Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formations</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>

Remarks:

Signed: C. L. Hamilton

Date: 6/3/1950
Date: June 2, 1960  
Job No.: GHW 501  
Hole No.: 03-701  
Elevation: 5745.01 ft.

Customer: Light and Water District  
Location: O K O

Driller: E. A. Harman  
9 Hrs.  
Rig:  
Gas:  
Oil:  

Helper:  
9 Hrs.  
Repairs:  

Arv. Job Time: 0450  
Job 9696 Time: 0850  
9 Hrs.  
Or. No.:

Bit-Size: 12''  
Type:  

Casing-Size: 4''  
2''  
in., Length in hole: 160 ft.  
in., Amt. Perforated:  

Depth Start: 1612 ft., Depth Stop: 1672 ft., Feet Drilled: 0  

Water Levels, Time:  

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
<th>A</th>
<th>B</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

Signed: E. A. Harman  
Date: 6/9/60  
1960
Date: May 30, 1950
Job No. S.H.W. 94
Hole No. 09530
Elevation 86901 ft.

Customer: Oil Natural Resources
Location: O.T.O. of Hawaii

Driller: Angel Hart
9 Hrs.
Rig: 

Helper: Adam Kaimoana
9 Hrs.
Gas: 
Oil: 

Helper: 
Hrs. 
Repairs: 

Arr. Job Time
Lav. Job Time
9 Hrs.
Or. No. 

Bit-Size: 16"
Type: 

Casing-Size: 2 1/4 in.
Length in hole: 20 ft.
Amt. Perforated: 

Depth Start: 
Depth Stop: 
Feet Drilled: 0 

Water Levels, Time: M ft., Time: M ft.

Depth | Formation | Remarks |
--- | --- | --- |
| | | Want to go young brothers
| | | and go wild again
| | | Slap on and
| | | Want to be a band engineer
| | | and get Carpenters

Signed: C.T. Horstein
Date: 5/30 1950
### DRILLING LOG

**RUSCO MOSS COMPANY**

830 Ahua Street • Honolulu, Hawaii 96819

Telephone (808) 839-8888 • 833-1444

---

#### May 29, 1950

**Job No.:** 446
**Hole No.:** 076301
**Elevation:** 2650.1 ft.
**Location:** Oho'e, Hawaii

<table>
<thead>
<tr>
<th>Driller</th>
<th>Ray Harrer</th>
<th>9 Hrs.</th>
<th>Rig</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Adam Kamata</td>
<td>9 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Repairs</td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td>7:00 AM</td>
<td>9 Hrs.</td>
<td></td>
<td>Or. No.</td>
</tr>
</tbody>
</table>

**Bit-Size:** 2.54”
**Type:** Driller

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>8.4”</th>
<th>Length in hole</th>
<th>20 ft.</th>
<th>Amt. Perforated</th>
<th>2 ft.</th>
</tr>
</thead>
</table>

**Depth Start:** 71.8 ft., **Depth Stop:** 76.2 ft., **Feet Drilled:**

**Water Levels, Time:**

**Remarks:**

**Depth** | **Formation** | **Remarks**
--- | --- | ---

---

**Remarks:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Want to 17 ft after Well Casing</td>
</tr>
</tbody>
</table>

---

**Signed:** O. A. Koster
**Date:** 5/29/1950
# Drilling Log

**Roscoe Moss Company**

**830 Aua Street • Honolulu, Hawaii 96819**

**Telephone:** (808) 839-8888 • 833-1444

**8/23/46** 09/03/01

---

**Date:** 8/23/46  
**Job No.:** SHW-7C  
**Hole No.:** 093301  
**Elevation:** 1480 ft.

**Customer:** National Reserves  
**Location:** OKE

---

**Driller:**  
**Helper:**

**Rig:**  
**Gas:**

**Oil:**

**Repairs:**

**Arv. Job:** 7/6/46  
**P. C. Job:** 7/13/41  
**Or. No.:**

---

**Bit-Size:** 16"  
**Type:**

**Casing-Size:** 2-7/8  
**in., Length in hole:** 26  
**ft., in., Amt. Perforated:** 32  
**ft., in.**

**Depth Start:** 762 ft.  
**Depth Stop:** 762 ft.  
**Feet Drilled:**

**Water Levels, Time:**

**Remarks:**

---

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Remarks:**

*Want to set 7 ft. to get well casing*

---

**Signed:**  
**Date:** 5/29/50 1950
Date: May 27, 1960
Job No.: 5114-26
Location: 0-201

Driller: David Hashi
9 Hrs. Rig

Helper: Adam Kainaha
9 Hrs. Gas

Helper
9 Hrs. Repairs

Arv. Job 7:00 AM, Job 11:00 AM, 9 Hrs.

Bit-Size 1 1/2" Type Steel

Casing-Size 2 1/4" in., Length in hole 80 ft. in., Amt. Perforated ft. in.

Depth Start 1762 ft., Depth Stop 262 ft., Feet Drilled 1000

Water Levels, Time M ft., Time M ft.

Remarks: Drilling and Coring

Signed: O.K. Hashi
Date: 5/27/60
**DRILLING LOG**

830 AHUA STREET • HONOLULU, HAWAII 96819

TELEPHONE (808) 839-6888 • 833-1444

Date: May 26, 1956
Job No. CHW-26
Hole No. A1453
Elevation 5075 ft.

Customer: (First Name Last Name)

Driller: 
Hrs.

Helper: 
Hrs.

Arr. Job 700 AM, Lf. Job 4:00 PM
Or. No.

Bit-Siz. 
Typ.

Casing-Siz. 
in., Length in hole 
ft. 
in., Amt. Perforated 
ft. 

Depth Start 
ft., Depth Stop 
ft., Feet Drilled

Water Levels, Time 
M ft., Time 
M ft.

**Depth** | **Formation** | **Remarks** | **Top**
--- | --- | --- | ---

Remarks:

Signed: C.L. Harper
Date: 5/26/56
**DRILLING LOG**

Date: **May 93, 1980**  
Job No. **FH-6**  
Location **K OF**

<table>
<thead>
<tr>
<th>Customer</th>
<th>Driller</th>
<th>Helper</th>
<th>Rig</th>
<th>Gas</th>
<th>Casing-Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driller</td>
<td>H. C.</td>
<td>A. K.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>A. K.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Helper Repairs**

<table>
<thead>
<tr>
<th>Arv. Job</th>
<th>Drilled</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM</td>
<td>7:45 AM</td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size**  
Type: **MN#1**

**Casing-Size**  
Length in hole **20 ft.**

**Depth Start**  
**763 ft.**

**Depth Stop**  
**762 ft.**

**Feet Drilled**  
**1 ft.**

**Water Levels**  
Time **M ft.**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>763</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>762</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

- Drilling But the hole is still casual in

**Signed** **O. R. Hout**  
**Date** **5/23/1980**
**DRILLING LOG**

**Ruscoe Moss Company**
830 Ahua Street, Honolulu, Hawaii 96819
Telephone (808) 839-6888, 833-1444

---

**Date:** May 22, 1950  
**Job No.:** HW-36  
**Hole No.:** 645301  
**Elevation:** 84901 ft.

**Customer:**  
**Driller:** Carl Harker  
**Hrs.:** 9  
**Rig:**  
**Helper:** Adam Kaimaa  
**Hrs.:** 9  
**Gas:**  
**Oil:**  
**Helper:**  
**Hrs.:**  
**Repairs:**  
**Arv. Job:** 7:00 AM  
**Lv. Job:** 4:30 PM  
**Hrs.:** 9  
**Or. No.:**

---

**Bit-Size:** 2 1/4"  
**Type:**  
**Casing-Size:** 2 1/4 in., Length in hole 20 ft.  
**in., Amt. Perforated:** 0 ft.  
**in.**

**Depth Start:** 742 ft.  
**Depth Stop:** 762 ft.  
**Feet Drilled:** 20 ft.

**Water Levels, Time:** M ft., Time M ft.

---

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Running out this side and the hole in steel covers in.</td>
</tr>
</tbody>
</table>

**Remarks:**

---

**Signed:** C. S. Harker  
**Date:** 5/22/50
### DRILLING LOG

**Date:** May 21, 1980  
**Job No.:** OVW-26  
**Hole No.:** 59530  
**Elevation:** 8482 ft.

**Customer:**  
Location:  
**Driller:** Oral Hank  
**Helper:** Andy Kan  
**Arv. Job:**  
**Lv. Job:**  
**Or. No.:**

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2”</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>Length in hole</th>
<th>Amt. Perforated</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1/4”</td>
<td>20 ft.</td>
<td></td>
</tr>
</tbody>
</table>

**Depth Start:** 758 ft.  
**Depth Stop:** 258 ft.  
**Feet Drilled:** 0

**Water Levels, Time:** M ft.  
**Remarks:**

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Running coat help and change bag.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reach and find hole in stock.</td>
</tr>
</tbody>
</table>

**Signed:**  
**Date:** 5/21/1980
**Date:** May 26, 1940  
**Job No.:** 8-1N-2  
**Hole No.:** 0  
**Elevation:** 840 ft.

**Customer:**  
**Location:** OKE

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hrs.</th>
<th>Rig</th>
<th>Helper</th>
<th>Hrs.</th>
<th>Gas</th>
<th>Repairs</th>
<th>Helper</th>
<th>Hrs.</th>
<th>Arv. Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gordon Hackett</td>
<td>9</td>
<td></td>
<td>Adam Keilman</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7:00 AM</td>
</tr>
</tbody>
</table>

**Bit-Size:** 16"  
**Type:** Star  
**Depth:** Start 858 ft., Stop 554 ft., Feet Drilled 0

**Water Levels:**  
**Measurement:** A | B

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Remarks and Form</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>12&quot; to 16&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**  
**Signed:** O.K. Hart  
**Date:** 5/26/1940
**DRILLING LOG**

**ROSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819  
TELEPHONE (808) 839-6888 • 833-1444

---

**Date:** May 17, 1956  
**Job No:** 9 Hw 16  
**Hole No:** 595701  
**Elevation:** 649.7 ft.

---

**Customer:**  
Location: C A 15

---

**Driller:**  
**Rig:**

---

**Helper:**  
**Gas:**

---

**Arv. Job 70 AMV. Job 600 Pw 9 Hrs.**  
**Or. No.:**

---

**Bit-Size:** 12 in.  
**Type:** Steel

---

**Casing-Size:** 2 1/4 in.  
**Length in hole:** 96 ft.  
**Amt. Perforated:** 100 ft.  
**Feet Drilled:** 4

---

**Depth Start:** 758 ft.  
**Depth Stop:** 762 ft.  
**Water Levels:**

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>758</td>
<td>Sisken</td>
<td>Drilling Past Sisken</td>
<td></td>
</tr>
<tr>
<td>758</td>
<td></td>
<td>With 12&quot; Bit.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Change Bit.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Love &amp; 9&quot; Bit.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bad Rimming</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lost Circ.</td>
<td></td>
</tr>
</tbody>
</table>

---

**Remarks:**

---

**Signed:** O. R. Harker  
**Date:** 5/15/1956  

---

**Measurements**

---

**Received**
Date: 3rd May 1980  
Job No: 8467  
Hole No: 07  
Elevation: 4940 ft.

Customer: D.A. Sales Corp.  
Location: D.K.E.  

Driller: Orval Hulbert  
Helper: Adam Kerse  
Arv. Job: 6:00 AM

Rig:  
Gas: Oil:  
Repairs:  
Or. No:  

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 5/16</td>
<td>MH</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>Length in hole</th>
<th>Amt. Perforated</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 3/4 in.</td>
<td>26 ft.</td>
<td>75 ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>257 ft.</td>
<td>359 ft.</td>
<td>102 ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remarks:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>139</td>
<td>Linwood</td>
<td>Fielding for Bailer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
</tbody>
</table>

Signed: C.J. Harter  
Date: 4/25/80
<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>134</td>
<td>Sinina</td>
<td>- Graded Bit and</td>
<td></td>
</tr>
<tr>
<td>137</td>
<td>casing in</td>
<td>- Pick for Chai</td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

Signed C. B. Hacker Date 11/24/1940
<table>
<thead>
<tr>
<th>Date</th>
<th>April 23 1950</th>
<th>Job No.</th>
<th>04114-26</th>
<th>Hole No.</th>
<th>045301</th>
<th>Elevation</th>
<th>5480 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td></td>
<td>Driller</td>
<td>Chad Hartoe</td>
<td>16 Hrs.</td>
<td>Rig</td>
<td>Gas</td>
<td>Oil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Helper</td>
<td>Daniel Hanrae</td>
<td>16 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
<td>Oil</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Repairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Or. No.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Arv. Job</td>
<td>6:00 AM</td>
<td>Job</td>
<td>7:00 PM</td>
<td>10 Hrs.</td>
<td></td>
</tr>
<tr>
<td>Bit-Size</td>
<td>1 1/16</td>
<td>Type</td>
<td>M.H</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing-Size</td>
<td>2 1/4</td>
<td>in., Length in hole</td>
<td>20 ft.</td>
<td>in., Amt. Perforated</td>
<td>ft.</td>
<td>in.</td>
<td></td>
</tr>
<tr>
<td>Depth Start</td>
<td>7 1/2 ft.</td>
<td>Depth Stop</td>
<td>7 1/2 ft.</td>
<td>Feet Drilled</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M</td>
<td>ft., Time</td>
<td>M</td>
<td>ft.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>958</td>
<td>Linwood Benton</td>
<td>Drilled Bit</td>
</tr>
<tr>
<td>1,54</td>
<td>1st Hard</td>
<td>2nd and 3rd Bit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drilling Loosens Bit Cast</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Bailer in the</td>
</tr>
</tbody>
</table>

Remarks:

Signed: C. E. Hartoe Date: 4/23/1950
### Drilling Log

**Date:** April 9, 1960  
**Job No.:** THW-26  
**Hole No.:** 69526  
**Elevation:** 54901 ft.

**Location:** 5K08 HUW

**Driller:** Carlos Ho'oh  
**Hrs.:** 10

**Helper:** Adam Kawaihae  
**Hrs.:** 10

**Arv. Job:** 6:00 AM  
**Lv. Job:** 1:00 PM  
**Hrs.:** 11

**Bit-Size:** 1  
**Type:** M-14

**Casing-Size:** 2  
**in., Length in hole:** 950 ft.  
**in., Amt. Perforated:** 6 ft. in.

**Depth Start:** 747 ft.  
**Depth Stop:** 750 ft.  
**Feet Drilled:** 3

**Water Levels, Time:** M  
**ft., Time:** M  
**ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>747</td>
<td>Lime-Rawal</td>
<td>lavoro in</td>
<td>750</td>
</tr>
<tr>
<td></td>
<td>Basalt</td>
<td>succeed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.50 ft.</td>
<td>without</td>
<td></td>
</tr>
<tr>
<td></td>
<td>South East Drift</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Top Head Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and Drilled Bore</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

---

**Signed:** O. K. Hartson  
**Date:** 4/22/60
**Date:** April 21, 1980  
**Job No.:** 8HW-24  
**Hole No.:** 095301  
**Elevation:** 8480 ft.

**Customer:**  
**Location:**  
**Driller:**  
**Helper:**  
**Rig:**  
**Gas:**  
**Oil:**  
**Repairs:**  
**Av. Job:**  
**Lv. Job:**  
**Or. No.:**  

**Bit-Size:** 18½ in.  
**Type:** M-1  
**Casing-Size:** 9¼ in.  
**Length in hole:** 26 ft.  
**Amt. Perforated:**  

**Depth Start:** 7412 ft.  
**Depth Stop:** 7477 ft.  
**Feet Drilled:** 5  

**Water Levels, Time:**  
**Top:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>7412</td>
<td>Sinking</td>
<td>Drilled Bit</td>
<td></td>
</tr>
<tr>
<td>7477</td>
<td>Basalt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Measurements**

**Remarks:**

**Signed:** C. R. Hart  
**Date:** 11/21/1980
Driller: [Name] 10 Hours
Helper: [Name] 15 Hours
Arv. Job: 11/14/48

Depth

<table>
<thead>
<tr>
<th>Forma</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Water Levels, Time

Measurements

Signed: [Signature]
Date: 11/19/48
**DRILLING LOG**

<table>
<thead>
<tr>
<th>Date</th>
<th>Job No.</th>
<th>Hole No.</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/17/50</td>
<td>44W-26</td>
<td>0975+1</td>
<td>44801 ft.</td>
</tr>
</tbody>
</table>

**Customer**

**Location**

**Driller**

<table>
<thead>
<tr>
<th>Name</th>
<th>Hours</th>
<th>Rig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Helper**

<table>
<thead>
<tr>
<th>Name</th>
<th>Hours</th>
<th>Gas</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Arv. Job**

**A/C**

**Hrs.**

**Or. No.**

---

**Bit-Size**

<table>
<thead>
<tr>
<th>Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Casing-Size**

<table>
<thead>
<tr>
<th>Size</th>
<th>Length in hole</th>
<th>Amt. Perforated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Depth Start**

<table>
<thead>
<tr>
<th>Start</th>
<th>Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Water Levels, Time**

<table>
<thead>
<tr>
<th>M ft.</th>
<th>M ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Remarks:**

---

**Signed**

<table>
<thead>
<tr>
<th>Date</th>
<th>11/19/50</th>
</tr>
</thead>
</table>

---

**Remarks:**

---

---
**Date**: April 16, 1960  
**Job No.**: E.U.W. 26  
**Hole No.**: 595761  
**Elevation**: 8450 ft.  

**Customer**:  
**Location**: O'CE

**Driller**:  
**Helper**:  
**Helper**:  
**Arv. Job**: 1:00 A.M.  
**Job End**: 1:00 P.M.  
**Hrs.**: 10 Hrs.  
**Hrs.**: 10 Hrs.  
**Hrs.**: 10 Hrs.  

**Bit-Size**: 18"  
**Type**:  

**Casing-Size**: 2 1/4 in.  
**Length in hole**: 200 ft.  
**Amt. Perforated**: ft. in.  

**Depth Start**: 7 3/47 ft.  
**Depth Stop**: 234 ft.  
**Feet Drilled**:  

**Water Levels, Time**: M ft.  
**Time**: M ft.  

---

**Formation**:  
**Remarks**:  

**Top**: A B  

**Remarks**:  

---

**Signed**: C. A. Haltom  
**Date**: 4/16/60  
**Year**: 1960
Date: April 15, 1976  
Job No.: 2446-36  
Customer:  
Driller:  
Helper:  
Arv. Job:  
Rig:  
Gas:  
Oil:  
Repaired:  
Bit Size:  
Type:  
Casing Size:  
in., Length in hole:  
ft., In., Amt. Perforated:  
ft., In.  
Depth Start:  
ft., Depth Stop:  
ft., Feet Drilled:  
Water Levels, Time:  
M. ft., Time:  
M. ft.  
Remarks:  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>2446</td>
<td>Sand</td>
<td>Opposed Bit gets stuck and stuck up.</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Hard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:  

Signed: C. R. Harrigan  
Date: 4/15/1976  
Location: O'Keefe
**DRILLING LOG**

Date: April 14, 1980
Job No.: SHW-26
Hole No.: 293701
Elevation: 86801 ft.

Customer: Est. Nuena Enterprises
Location: ROCOE HAWAII

Driller: David Hooper
10 Hrs.

Helper: Samuel Kawai
10 Hrs.

Arv. Job: 6:00 AM, Lv. Job: 12:00 PM
10 Hrs.

Bit-Size: 12"
Type: K-23

Casing-Size: 3 1/4 in., Length in hole: 26 ft.
Amt. Perforated: ft. in.

Depth Start: 425 ft.
Depth Stop: 736 ft.
Feet Drilled: 3

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>122</td>
<td>Sand, Basalt</td>
<td>George Bitz and summary</td>
</tr>
<tr>
<td>128</td>
<td>Land</td>
<td>Howard Water turn times today</td>
</tr>
</tbody>
</table>

Remarks:

Signed: P. Hand Date: 4/14/1980
<table>
<thead>
<tr>
<th>Date</th>
<th>Job No.</th>
<th>Hole No.</th>
<th>Elevation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>1114-2L</td>
<td>O-953-01</td>
<td>848-01</td>
<td></td>
</tr>
<tr>
<td>Customer</td>
<td>Left Contour Surface</td>
<td>Location</td>
<td>95-01</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hrs.</th>
<th>Rig</th>
<th>Helper</th>
<th>Hrs.</th>
<th>Gas</th>
<th>Oil</th>
<th>Helper</th>
<th>Hrs.</th>
<th>Repairs</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Arv. Job</th>
<th>6:00 AM</th>
<th>Job</th>
<th>11:00 PM</th>
<th>Hrs.</th>
<th>Or. No.</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
<th>Casing-Size</th>
<th>in.</th>
<th>Length in hole</th>
<th>ft.</th>
<th>Amt. Perforated</th>
<th>ft.</th>
<th>in.</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>241</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**
- Linen Pennant
- "Dreadful Bit and Driller", bottom is so rough, stuck up in hole.

**Signed**
- C. R. Hester
**Date**
- 11/11/1982
**DRILLING LOG**

**Date:** April 6, 1980  
**Job No.:** 944  
**Hole No.:** 097101  
**Location:** CAP  
**Elevation:** 8461 ft.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 Hrs.</td>
<td>6 Hrs.</td>
<td>Hrs. Repairs</td>
<td>6.00 PM, Job 4:00 PM, 16 Hrs.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>1 4/8 in.</th>
<th>Type</th>
<th>5T</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>2 1/2 in.</th>
<th>Length in hole</th>
<th>20 ft.</th>
<th>Amt. Perforated</th>
<th>3 ft.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>7 1/8 ft.</th>
<th>Depth Stop</th>
<th>2 3/8 ft.</th>
<th>Feet Drilled</th>
<th>3</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time M ft., Time</th>
<th>Measurements</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 1/8</td>
<td>Suction, Drilling, Drilling Bit</td>
<td></td>
</tr>
<tr>
<td>5 1/8</td>
<td>Slow Hard rock, Drilling Back</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rock, Back in, Stop Hard Drilling</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

Signed C.R. Hornak  
**Date:** 11/11/1980
**Date:** 12/19/66  
**Job No.: 491**  
**Hole No.: 04/9201**  
**Elevation:** 54801 ft.

<table>
<thead>
<tr>
<th>Customer</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hrs.</th>
<th>Rig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hrs.</th>
<th>Gas</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hrs.</th>
<th>Repairs</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>in.</th>
<th>Length in hole</th>
<th>ft.</th>
<th>Amt. Perforated</th>
<th>ft.</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>ft.</th>
<th>Depth Stop</th>
<th>ft.</th>
<th>Feet Drilled</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td></td>
<td></td>
</tr>
<tr>
<td>181</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

- [Handwritten notes]

**Signed:**  
**Date:** 1/7/71  
**1956**
Date: April 8, 1960  
Job No.: 1144  
Hole No.: 04537  
Elevation: 8'11.36", ft.

Customer:   
Location:   

Driller:   
Hrs.:   
Rig:   

Helper:   
Hrs.:   
Gas:   

Helper:   
Hrs.:   
Oil:   

Arv. Job: 10:00 AM  
Job: 4:00 PM  
Hrs.:   

Remarks: __________________________________________

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>712</td>
<td>715</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signed: C.R. Hart  
Date: 4/8/60
| Date       | Job No. | Hole No. | Elevation | Customer     | Location      | Driller       | Hrs. | Rig     | Helper       | Hrs. | Gas | Oil | Helper       | Hrs. | Repairs | Or. No. |
|-----------|---------|----------|-----------|--------------|---------------|---------------|-------------|--------|----------|--------------|------|-----|----|--------------|------|---------|---------|
|           | 6/21/57 | 11-Mar-21|           |              |               |               |             |        |          |              |      |     |    |              |      |         |         |
|           |         |          |           |              |               |               |             |        |          |              |      |     |    |              |      |         |         |

**Driller:**

**Helper:**

**Arv. Job:** 10:00, **Lv. Job:** 4:00, **Hrs.:**

**Bit-Size:** 6" | **Type:**

**Casing-Size:** 10", **Length in hole:** 20 ft., **Amt. Perforated:** ft.

**Depth Start:** 107 ft., **Depth Stop:** 712 ft., **Feet Drilled:** 5

**Water Levels, Time:** M ft., **Time:** M ft.

### Depth Formation

<table>
<thead>
<tr>
<th>Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>107</td>
<td>Timbrel Brentt Drilled Pipe Stuck In Steel Shell Taking the Drilling Equipment 10 ft. Into the Walls</td>
</tr>
</tbody>
</table>

### Remarks:

Signed: A H. C. Date: 6/17/57
**Date:** April 17, 1960  
**Job No.:** 511W-36  
**Hole No.:** 095301  
**Elevation:** 84801 ft.

**Customer:**  
**Driller:**  
**Helper:**

**Drilling Time:**  
**Rig:**

**Gas:**

**Oil:**

**Repair:**

**Arv. Job:** 6:00 AM  
**Job:** 11:00 PM  
**Hrs:** 10

**Bit-Size:** 1 1/2

**Casing-Size:** 2 1/2 in., Length in hole 926 ft.  
**Amt. Perforated:**

**Depth Start:** 701 ft.  
**Depth Stop:** 801 ft.  
**Feet Drilled:**

**Water Levels:**

### Remarks:

- **Formation:**  
  - 701 ft.: Hard  
  - 801 ft.: Hard

### Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top A</th>
<th>Top B</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>801</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

**Signed:** O.K. Moss  
**Date:** 7/11/1960
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

Date: April 7, 1950  
Job No.: S11  
Hole No.: 24  
Elevation: 41801 ft.

**Customer:**  
**Location:** OKF, Hawaii

**Driller:** Earl Hunter  
10 Hrs.  
**Rig:**

**Helper:** Archie Kama  
10 Hrs.  
**Gas:**

**Helper:**

**Hrs.**  
**Repairs:**

**Arv. Job:** 6:00  
**Lv. Job:** 14:00  
**10 Hrs.**

**Bit-Size:** 18  
**Type:**

**Casing-Size:** 2 1/4 in.  
**Length in hole:** 525 ft.  
**Amt. Perforated:** 102 ft. in.

**Depth Start:** 695 ft.  
**Depth Stop:** 201 ft.  
**Feet Drilled:** 494

**Water Levels, Time:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>877</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>701</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hard Hold and Work on 4 ft. Biter</td>
<td></td>
</tr>
</tbody>
</table>

**Measurements**

**Depth**  
**Remarks**  
**Top**

**Remarks:**

Signed: C. H. Hunter  
Date: 4/30/1950
**DRILLING LOG**

Date: APRIL 21 1980  
Job No.: HW-26  
Hole No.: 595701  
Elevation: 84801 ft.

Customer:  
Location: O'KOE, HAWAII

Driller: David Harter  
Hrs.: 10

Helper: L. J. Krause  
Hrs.: 10

Arv. Job: 6:00  
Lv. Job: 11:00  
10 Hrs.

Bit-Size: 15  
Type:  

Casing-Size: 2 1/4 in.  
Length in hole: 90 ft.  
Amt. Perforated:  

Depth Start: 687 ft.  
Depth Stop: 685 ft.  
Feet Drilled: 6

Water Levels, Time:  
M: 10 ft., Time:  
M:  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>687</td>
<td></td>
<td>Easing 6 1/2 in. Recess and Load with Sand.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>900</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drilled Bit at 900 ft. Sand. Water and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drilled Bit at 900 ft. 3 PM</td>
</tr>
</tbody>
</table>

Remarks:

Signed: O. B. Harter  
Date: 7/3/1980
**DRILLING LOG**

**RUSCOE MOSS COMPANY**
830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 838-6888 • 833-1444

---

**Date:** 19... 
**Job No.:** 0H... 
**Hole No.:** 095301 
**Elevation:** 8180... 

**Customer:** 

**Driller:** D...H... 
**Hrs.:** 10 
**Rig:** 

**Helper:** D...L... 
**Hrs.:** 10 
**Gas:** 

---

**Arv. Job:** 6:00 
**Lv. Job:** 4:00 
**Hrs.:** 10 
**Or. No.:** 0 

---

**Bit-Size:** 18” 
**Type:** S.F. 

**Casing-Size:** 2 1/4” 
**in., Length in hole:** 20 ft. 
**in., Amt. Perforated:** 

**Depth Start:** 686 ft. 
**Depth Stop:** 689 ft. 
**Feet Drilled:** 3 

**Water Levels, Time:** 
**ft., Time:** 
**M ft., ft.:** 

---

**Measurements**

---

**Depth** | **Formation** | **Remarks** | **Top**
--- | --- | --- | ---
686 | Lindale Basalt | Drywell, Start Best | 0

---

**Remarks:**

---

**Signed:** D...H... 
**Date:** 11/1/1980
Date: MARCH 31, 1980  
Job No.: 98W-36  
Hole No.: 025701  
Elevation: E 4801 ft.

Customer: Dept. Interior Resources  
Location: O K O E HAWAI'I

Driller: C. A. Hunter  
Rig:  
Gas:  
Oil:  
Repairs:  
Or. No.:  

Helper: Ahon A. Kaneka  
Hrs.:  

Arv. Job: 5:00  
Lv. Job: 9:00  

Bit-Size: 18"  
Type: 

Casing-Size: 2 1/4 in.  
Length in hole: 20 ft.  
Amt. Perforated:  

Depth Start: 1685 ft.  
Depth Stop: 686 ft.  
Feet Drilled: 1

Water Levels, Time:  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>695</td>
<td>Bunker Bagalt</td>
<td>went to young, inspected and measured</td>
<td></td>
</tr>
<tr>
<td>681</td>
<td>Rain Hard</td>
<td>inspected and measured, approved and signed</td>
<td></td>
</tr>
</tbody>
</table>

Remarks:  

Signed: C. A. Hunter  
Date: 3/31/1980

[Handwritten note on the page]
Date: 27 March 1980  
Job No.: HW-26  
Hole No.: 0463.01  
Elevation: 848.01 ft.  

Customer: Dept. Natural Resources  
Location: OHE

Driller: Dave Horton  
Hrs.: 12 1/2 Hrs.  
Rig:  
Gas:  
Oil:  

Helper: Adam Kamoa  
Hrs.: 12 1/2 Hrs.  
Repairs:  

Arr. Job: 5:30  
Lv. Job: 6:00  
Or. No.:  

Bit-Size: 18  
Type: 5-T  

Casing-Size: 2 1/4 in.  
Length in hole: 20 ft.  
Amt. Perforated:  

Depth Start: 6.80 ft.  
Depth Stop: 685 ft.  
Feet Drilled: 5

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.80</td>
<td>Linda Rock</td>
<td>Bit of Stan Bit, very hard</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and marks on Mt.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>from water with</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Boiler and pump and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>much of Quicks end</td>
</tr>
</tbody>
</table>

Remarks: ________________________________

Signed: O.L. Horton  
Date: 3/27 1980  
OK
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 ANUA STREET • HONOLULU, HAWAII 96818
TELEPHONE (808) 839-6888 • 833-1444

---

**Date:** March 26, 1980  
**Job No.:** 8HW-26  
**Hole No.:** 097701  
**Elevation:** 8480 ft.

**Customer:** Dept. Natural Resources  
**Location:** DOE

---

**Driller:** David Kato  
**Hrs.:** 19

**Helper:** Adam Kainoa  
**Hrs.:** 19

**Arv. Job:** 5:30  
**Lv. Job:** 6:00  
**13 1/2 Hrs.**

---

**Bit-Size:** 18”  
**Type:** Slit

**Casing-Size:** 2-7/8” in.  
**Length in hole:** 90 ft.  
**Amt. Perforated:** 90 ft. in.

**Depth Start:** 624 ft.  
**Depth Stop:** 699 ft.  
**Feet Drilled:** 6

**Water Levels, Time:** M __ ft., Time __ M ft.

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>674</td>
<td>Linda Rock</td>
<td>Went back to take tender and check out</td>
<td></td>
</tr>
<tr>
<td>670</td>
<td>Mahiai Hard</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

---

**Signed:** O. P. Foster  
**Date:** 3/26/1980
**DRILLING LOG**

**Moss Company**

830 Ahua Street • Honolulu, Hawaii 96819
Telephone (808) 839-6888 • 833-1444

Date: March 25, 1980  Job No. SHW-26  Hole No. 075101  Elevation 5480 ft.
Customer: DEPT NATURAL RESOURCES  Location: DK PE

<table>
<thead>
<tr>
<th>Driller</th>
<th>12.5 Hrs.</th>
<th>Rig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chelvel Horton</td>
<td></td>
<td>Gas</td>
</tr>
<tr>
<td>Helper: Adam Kaina</td>
<td>12.5 Hrs.</td>
<td>Oil</td>
</tr>
<tr>
<td>Helper:</td>
<td></td>
<td>Repairs</td>
</tr>
<tr>
<td>Arv. Job 5:30</td>
<td>6:00</td>
<td>Or. No.</td>
</tr>
</tbody>
</table>

| Bit-Size 18''      | Type S |          |
|                   |       |           |
| Casing-Size 2 3/4 in., Length in hole 20 ft. |     |
| Amnt. Perforated  | ft.    | in.       |
| Depth Start 674'   | ft.    | Depth Stop |
| Feet Drilled      |       |           |

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>674'</td>
<td></td>
<td>Chuck off chuck house and tried to back track and tried it a further and went to Hilo after pant and stuck up hole and stuck back up and stuck it back to tattoo</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurements</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
</table>

**Drilling Log**

**Ruscoe Moss Company**

830 Ahua Street * Honolulu, Hawaii 96819

Telephone (808) 839-6888 * 833-1444

---

**Date:** 24 March 1980  
**Job No.:** SHW-2b  
**Hole No.:** 0453.01  
**Elevation:** 848.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** Olde

<table>
<thead>
<tr>
<th>Driller</th>
<th>Oliver Horton</th>
<th>12 1/2 Hrs.</th>
<th>Rig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Aden Kaina</td>
<td>12 1/2 Hrs.</td>
<td>Gas</td>
</tr>
</tbody>
</table>

**Arv. Job:** 5:30  
**Lv. Job:** 6:00  
**12 1/2 Hrs.**

**Bit-Size:** 19  
**Type:** M.H.

**Casing-Size:** 24 in. Length in hole: 30 ft.  
**in., Amt. Perforated:** ft. in.

**Depth Start:** 666 ft.  
**Depth Stop:** 674 ft.  
**Feet Drilled:** 8

**Water Levels, Time:** M ft.  
**Time:** M ft.

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>666</td>
<td>Lin Rock</td>
<td>Fast on Stop Bit</td>
<td></td>
</tr>
<tr>
<td>674</td>
<td>Medium Hard</td>
<td>Due to Latch off</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quicksand With</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bails stayed With</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Balsa</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

---

**Signed:** O.R. Harkins  
**Date:** March 24, 1980
DIVISION OF WATER & LAND DEVELOPMENT

From: [Date: 2/31]

To: Initial

Robert T. Chuck
Takeo Fujii
James Yoshimoto
Manabu Tagomori
George Morimoto
Hong Fong Chang
Herbert Morimatsu
George Miyashiro
Harold Sakai
Leslie Asari

Albert Ching
George Matsumoto
Daniel Lum
Paul Matsuo
Noboru Kaneshiro
Edwin Sakoda

Jane Sakai
Doris Hamada
Lorraine Nanbu
Jean Starot
Elsie Yonamine

D.C. SOMETHING WRONG ON FOOTAGE. MAY 1
GET THE FILE ON LOGS. HOW WOULD YOU
EXECUTE

Previous logs indicate drilled to depth
of 698 on 2-28-80.
**Drilling Log**

**Roscoss Moss Company**

830 Ahua Street • Honolulu, Hawaii 96819

Telephone (808) 839-6888 • 833-1444

---

**Date:** 20 March 1980  
**Job No.:** HW-26  
**Location:** Oahu

**Customer:** DNR Natural Resources  
**Elevation:** 848.0 ft.

**Driller:** Bob Barnes  
**Hrs.:** 12  
**Rig:**

**Helper:** Dave Horton  
**Hrs.:** 12  
**Gas:**

**Helper:** Adam Kainoa  
**Hrs.:** 12  
**Oil:**

**Av. Job:** 5:30  
**Lv. Job:** 6:00

---

**Bit-Size:** 4"  
**Type:** M.I.

**Casing-Size:** 24 in., Length in hole: 20 ft.  
**In., Amt. Perforated:**

---

**Depth Start:** 660 ft.  
**Depth Stop:** 660 ft.  
**Feet Drilled:** 6

---

**Water Levels, Time:** M ft., Time: M ft.

---

**Depth**  
**Formation**

---

**Remarks:**

Hit a crevice losing water  
CAUSING BIT TO STICK OCCASIONALLY  
ADD WATER WITH BAILER  
every hr. and welding  
But every 30-45 minutes  
FINISHED GETTING EXTRA BIT  
INTO SHAPE. Had to take  
main belt cover off to tighten  
clutch. Rained from 2:30  
till quitting time.

---

**Remarks:**

WHAT'S WITH FOOTAGE?

---

**Signed:** Bobby L. Barnes  
**Date:** 20 March 1980
**Date:** 19 March 1980  
**Job No.:** HW-26  
**Hole No.:** 095301  
**Elevation:** 848.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** OKOE

**Driller:** Bob Barnes  
**Helper:** Orest Horton  
**Helper:** Adam Kainoa  
**Arv. Job:** 5:30  
**Lv. Job:** 6:00  
**Rig:** 12 1/2 Hrs.  
**Gas:** 12 1/2 Hrs.  
**Oil:** 12 1/2 Hrs.  
**Repairs:**

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Blue Rock, very hard</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>650 ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>660 ft.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Formation:** Blue Rock, very hard  
**Remarks:**
- Rock very hard building up
- Bit every 30 - 45 min.
- Helper replaced bolts in truck rear-end

**Bit-Size:** 19 in.  
**Type:** M.H.

**Casing-Size:** 2 1/2 in.  
**Length in hole:** 30 ft.  
**Amt. Perforated:** 4 ft.

**Depth Start:** 1656 ft.  
**Depth Stop:** 660 ft.  
**Feet Drilled:**

**Water Levels, Time:** M ft., Time M ft.

<table>
<thead>
<tr>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
</tbody>
</table>

**Signed:** Bobby L. Barnes  
**Date:** 19 March 1980
### DRILLING LOG

**Company:** Roscoe Moss Company  
**Address:** 830 Ahua Street, Honolulu, Hawaii, 96819  
**Telephone:** (808) 839-6888, (808) 833-1444

**Date:** 18 March 1980  
**Job No.:** E4W-3  
**Hole No.:** 0953.01  
**Elevation:** 849.01 ft.

**Customer:** Department of Natural Resources  
**Location:** DOE

**Driller:** Bob Barnes  
**Helper A:** Deryl Horton  
**Helper B:** Adam Kainoa

**Arrival Time:** 5:30  
**Departure Time:** 6:00  
**10 1/2 Hrs.**

---

**Bit-Size:** 18  
**Type:** M.H.

**Casing-Size:** 24 in., Length in hole: 20 ft.  
**Amm. Perforated:** in.

**Depth:** 654 ft., Depth Stop: 656 ft., Feet Drilled: 2

**Water Levels, Time:** M, ft., Time: M, ft.

---

#### Depth

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>654</td>
<td>Blue Rock very hard</td>
<td>Rained till about 11:00 &amp; then off and on rest of day went after water in Am. Drilled in afternoon. Work on extra bit to get into shape</td>
<td></td>
</tr>
<tr>
<td>656</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Signed:** Bobby T. Barnes  
**Date:** 18 March 1980
## DRILLING LOG

**Customer:** Dept. Natural Resources  
**Location:** 0KOE

<table>
<thead>
<tr>
<th>Date</th>
<th>17 March 1980</th>
<th>Job No.</th>
<th>8HW-26</th>
<th>Hole No.</th>
<th>0453.01</th>
<th>Elevation</th>
<th>848.01 ft</th>
</tr>
</thead>
</table>

**Driller:** Bob Barnes  
**Rig:**  
**Oil:**  
**Gas:**  
**Repairs:**  
**Arv. Job:** 5:30  
**Lv. Job:** 6:00  
**Or. No.:**  
**Hrs.:** 12  
**12 1/2 Hrs.:**  
**12 1/2 Hrs.:**  
**Or. No.:**  

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18</th>
<th>Type</th>
<th>M H</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>24 in.</th>
<th>Length in hole</th>
<th>20 ft.</th>
<th>Amt. Perforated</th>
<th>ft.</th>
<th>in.</th>
</tr>
</thead>
</table>

**Depth Start:** 650 ft.  
**Depth Stop:** 654 ft.  
**Feet Drilled:** 4  
**Water Levels, Time:** M ft., Time M ft.  
**Remarks:**______________________________

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>650</td>
<td>Very hard Blue Rock</td>
<td>Added water to drill with bailer. Worked on bit. Keeping</td>
</tr>
<tr>
<td>654</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Signed:** Bobby Barnes  
**Date:** 17 March 1980
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

**830 AHUA STREET • HONOLULU, HAWAII 96819**
**TELEPHONE (808) 533-6888 • 833-1444**

---

**Date**: 14 March 1980  
**Job No.**: BHW-26  
**Hole No.**: D853.01  
**Elevation**: 848.01 ft.

**Customer**: Dept. Natural Resources  
**Location**: OKEE

**Driller**: Bob Barnes  
**Helpers**: Dyer, Hinton  
**Helper**: Adam  
**Arv. Job**: 6:30  
**Lv. Job**: 4:30  
**10 Hrs.**

**Rig**  
**Gas**  
**Oil**  
**Repairs**

---

**Bit-Size**: 18  
**Type**: M.H.

**Casing-Size**: 24 in.  
**Length in hole**: 20 ft.  
**in. Amt. Perforated**: ______________ ft. ______________ in.

**Depth Start**: ______________ ft.,  
**Depth Stop**: ______________ ft.,  
**Feet Drilled**: ______________

**Water Levels, Time**: M ______________ ft.,  
**Time**: M ______________ ft.,  

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Remarks:**

---

**Signed**: Bobby L. Barnes  
**Date**: 14 March 1980
Date: 13 March 1980
Job No.: HW-26
Hole No.: D-53-01
Elevation: 848.01 ft.

Driller: Bob Barnes
10 Hrs. Rig

Helper: Arnold Hinton
10 Hrs. Gas

Helper: Adam
10 Hrs. Oil

Arv. Job: 6:30
Lv. Job: 4:30
10 Hrs. Repairs

Bit-Size: 18
Type: M.H.

Casing-Size: 24 in.
Length in hole: 20 ft.
Amt. Perforated: in.

Depth Start: ft.
Depth Stop: ft.
Feet Drilled:

Water Levels, Time: M ft., Time: M ft.

Remarks: Went to the docks to get water tank. Helped Dr. get an apartment & moved him from Waimalu.

Signed: Bobby L. Barnes
Date: 13 March 1980
Date: 10 March 1980  
Job No.: HW-26  
Customer: Dept. Natural Resources  
Location: OKOE

Driller: Bob Barnes  
Helper: Adam  
Helper:  
Arv. Job: 6:30  
Lv. Job: 4:30  

Elevation: 849.01 ft.  
Depth: 19 ft.  
Type: MH

Casing-Size: 24 in.  
Depth Start:  
Depth Stop:  
Feet Drilled:

Water Levels: Time M ft., Time M ft., Time M ft.

Remarks: Ran the dummy test. It went to the bottom. Checked on water and prepared to start drilling.

Signed: Bobby L. Barnes  
Date: 10 March 1980
Date: 7 March 1980  
Job No.: SHU-26  
Hole No.: 0453.01  
Elevation: 848.01 ft.  

Customer: Dept. Natural Resources  
Location: OKDE

Driller: Bob Barnes  
7 Hrs.  
Rig: ____________

Helper: Adam  
7 Hrs.  
Gas: ____________

Helper: ____________  
8 Hrs.  
Oil: ____________

Arv. Job: 6:30  
Lv. Job: 2:30  
8 Hrs.  
Repairs: ____________

Bit-Size: 18  
Type: M.H.

Casing-Size: 24 in.  
Length in hole: 20 ft.  
In., Amt. Perforated: ____________

Depth Start: ____________ ft.  
Depth Stop: ____________ ft.  
Feet Drilled: ____________

Water Levels, Time: M ____________ ft.  
Time: M ____________ ft.

Remarks: Finished switching cable. Reun the rope socket.

Signed: Bob Barnes  
Date: 7 March 1980
Date: 6 March 1980  
Job No.: 8HU-24  
Hole No.: 095301  
Elevation: 847.01 ft.

Customer: Dept. Natural Resources  
Location: Oahu

Driller: Bob Barnes  
Helper: Adam  
Arv. Job: 6:30  
Lv. Job: 4:30  

Or. No.

Bit-Size:  
Type:  
Depth Start: ft., Depth Stop: ft., Feet Drilled:  
Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>

Measurements

Remark: Started switching cable, took load to pipe & picked up freight at Kauhauahe.

Signed: Bobbi L. Barnes  
Date: 6 March 1980
**Date:** 5 March 1980  
**Job No.:** 8HW-26  
**Hole No.:** 0253.01  
**Elevation:** 9420 ft.  

**Customer:**  
**Location:** O'ahu  

**Driller:** Bob Barnes  
**Helper:** Adam  
**Arv. Job:** 6:30  
**Lv. Job:** 4:30  

**Rig:**  
**Gas:**  
**Oil:**  
**Repairs:**  

**Arr. Hrs.:** 10  
**L. Hrs.:** 10  
**Or. No.:**  

**Bit-Size:** 14  
**Casing-Size:** 24 in., Length in hole: 20 ft.  
**Type:** M.H.  
**Amt. Perforated:**  
**Depth Start:** ft., Depth Stop:** ft., Feet Drilled:  

**Water Levels, Time:** M ft., Time: M ft.  

**Depth | Formation | Remarks | Top**  
--- | --- | --- | ---  

**Measurements**  

**Remarks:** Finished building up bit  

**Signed:** Billy L. Barnes  
**Date:** 5 March 1980
**DRILLING LOG**

**Ruscoe Moss Company**

830 Ahua Street • Honolulu, Hawaii 96819
Telephone (808) 838-6888 • 833-1444

---

**Date:** 4 March 1980  
**Job No.:** SHW-26  
**Hole No.:** 0953-01  
**Elevation:** 848-01 ft.

**Customer:** Dept Natural Resources

**Driller:** Bob Barnes  
**Rig Hrs.:** 10

**Helper:** Adam  
**Gas Hrs.:** 10

**Arv. Job:** 6:30  
**Lv. Job:** 4:30  
**Or. No.:** 10:00

**Bit-Size:** 19  
**Type:** NH

**Casing-Size:** 24 in., **Length in hole:** 20 ft.  
**In., Amt. Perforated:** ft., in.

**Depth Start:** ft., **Depth Stop:** ft., **Feet Drilled:**

**Water Levels, Time:** M ft., **Time:** M ft.

---

**Depth** | **Formation** | **Remarks** | **Top** | **A** | **B**
---|---|---|---|---|---|

---

**Remarks:** Building on bit

---

**Signed:** Bobby L. Barnes  
**Date:** 4 March 1980
Date 29 FEB 1980  | Job No. 444026  | Hole No. 0957-01  | Elevation 848.0 ft.
Customer Dept Natural Resources  | Location OKE HwY
Driller Bob Barnes  | 10 Hrs.  | Rig
Helper Adam  | 10 Hrs.  | Gas
Helper  | 10 Hrs.  | Oil
Bit-Size 13  | Type M.H.
Casing-Size 2 4 in., Length in hole 20 ft.  | in., Amt. Perforated  ft.  | in.
Depth Start ft., Depth Stop ft., Feet Drilled
Water Levels, Time M ft., Time M ft.,

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>

Remarks: Broke bit apart & started working off battered bottom of hole & build to be done.

Signed Bob Barnes  | Date 29 FEB 1980
### Drilling Log

**Date:** 28 Feb 1980  
**Job No.:** 8HW-70  
**Driller:** Bob Barnes  
**Helper:** Adam  
**Customer:** Dept. Natural Resources  
**Location:** OKO Island

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hrs.</th>
<th>Rig</th>
<th>Helper</th>
<th>Hrs.</th>
<th>Gas</th>
<th>Oil</th>
<th>Repairs</th>
<th>Hours</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bob Barnes</td>
<td>10 Hrs.</td>
<td></td>
<td>Adam</td>
<td>10 Hrs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rig</td>
<td></td>
<td></td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Arr. Job:** 6:30  
- **Lv. Job:** 4:30  
- **10 Hrs.**

**Bit-Size:** 5 1/8  
**Type:** M.H.

**Casing-Size:** 2 1/2 in.  
**Length in hole:** 20 ft.  
**Amt. Perforated:** 1 ft.  
**In.**

**Depth Start:** 695 ft.  
**Depth Stop:** 698 ft.  
**Feet Drilled:** 3

**Water Levels, Time:** M  
**M ft., Time:** M

### Depth Log

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>695 ft</td>
<td>Very hard</td>
<td>Building bit every 30-40 minutes casing from above, making lots of mud</td>
</tr>
<tr>
<td>698 ft</td>
<td>Blue Rock</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** OUT OF WATER FROM ABOVE

**Signed:** Bob Barnes  
**Date:** 28 Feb 1980
**DRILLING LOG**

Date: 27 Feb 1980  
Job No.: SHW-46  
Hole No.: 0953-01  
Elevation: 848.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** O'Kane

**Driller:** Bob Barnes  
**Rig:**  
**Helper:**  
**Gas:**  
**Oil:**

**Helper:**  
**Repairs:**

**Arv. Job:** 6:30  
**Lv. Job:** 4:30  
**10 Hrs.**

**Bit-Size:**  
**Type:** M +

**Casing-Size:** 24 in.  
**Length in hole:** 20 ft.  
**Amt. Perforated:**  

**Depth Start:** 693 ft.  
**Depth Stop:** 695 ft.  
**Feet Drilled:** 2 ft.

**Water Levels:** M ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>693</td>
<td>Very hard</td>
<td>Building bit every 30-40 minutes due going out slowly</td>
</tr>
<tr>
<td>695</td>
<td>Blue Rock</td>
<td>Going</td>
</tr>
</tbody>
</table>

Remarks: Took off rope socket, bottom of mandrell came unscrewed. Built up bit, too much stuck in better of hole cause it to come unscrewed.

Signed: Billy L. Barnes  
Date: 27 Feb 1980
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHAU STREET * HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 * 833-1444

Date 26 Feb 1980

<table>
<thead>
<tr>
<th>Driller</th>
<th>10 Hrs.</th>
<th>Rig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bob Baanes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>10 Hrs.</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th></th>
<th>Oil</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Arv. Job</th>
<th>4:30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lv. Job</td>
<td>6:30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 1/2 in., Length in hole</td>
</tr>
<tr>
<td></td>
<td>in., Amt. Perforated</td>
</tr>
<tr>
<td></td>
<td>ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>692 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth Stop</td>
<td>693 ft.</td>
</tr>
</tbody>
</table>

| Feet Drilled  | 1       |

| Water Levels, Time | M 740 ft Time | M 740 ft |

<table>
<thead>
<tr>
<th>Remarks</th>
<th>Build bit every 30 - 40 min.</th>
</tr>
</thead>
</table>

**Blue Rock very hard**

**Remarks:** Went to airport to pick up come-a-long worker on pit.

**Signed**

Bobby S. Burns

Date 26 Feb 1980
Date: 25 Feb 1980  
Job No.: SHW-46  
Customer: Dept Natural Resources  
Location: O'ahu, Hawaii

Driller: Bob Barnes  
Helper: Adam  
Arv. Job: 6:30  
Lv. Job: 4:00  
Depth Formations: 691 ft. Blue Rock very hard  
Remarks: Rope socket plus built up bit. Bit in bad shape. Tried to take it off, broke come-a-long

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>691</td>
<td>Blue Rock</td>
<td>very hard</td>
</tr>
<tr>
<td>692</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signed: Bobby L. Barnes  
Date: 25 Feb 1980
Date: 25 Feb 1980  
Job No: BHU-26  
Hole No: 0953-01  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources  
Location: OKIE

Driller: Bob Barnes  
10 1/2 Hrs.  
Rig: 

Helper: Adam  
10 1/2 Hrs.  
Gas: Oil

Arv. Job: 6:30  
Lv. Job: 8:00  
10 1/2 Hrs.  
Or. No.:

Bit-Size: 
Type: M.H.
Casing-Size: 24 in., Length in hole: 20 ft.  
Depth Start: 691 ft.  
Depth Stop: 692 ft.  
Feet Drilled: 1

Water Levels: Time: M ft.  
Time: M ft.  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>691</td>
<td>Blue Rock very hard</td>
<td>hole caving making lots of mud</td>
<td>A</td>
</tr>
<tr>
<td>692</td>
<td></td>
<td></td>
<td>B</td>
</tr>
</tbody>
</table>

Remarks: Resue Rake socket plus built up bit. Bit in bad shape. Tried to take it off broke came a long.

Signed: Bobby L. Barnes  
Date: 25 Feb 1980
Date: 22 February 1980  
Job No.: 8HW-26  
Hole No.: 0953-01  
Elevation: 848.01 ft.  
Customer: Dept. Natural Resources  
Location: OKOF, Hawaii  

Driller: Bob Barnes  
8 Hrs. Rig  

Helper: Adam  
8 Hrs. Gas  

Arv. Job: 6:30  
Lv. Job: 2:30  
8 Hrs. Repairs  
Or. No.:  

Bit-Size: 18  
Type: M. H.  

Casing-Size: 24 in.  
Length in hole: 20 ft.  
Amt. Perforated:  

Depth Start: 690 ft.  
Depth Stop: 691 ft.  
Feet Drilled:  

Water Level, Time: M___ ft., Time: M___ ft.  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>
| 690   | Very hard  | Blue Rock  
bottom of bit  
was so hard it  
destroyed  
bit  
|      |            | Repair bit and run new  
bit  |    |
| 691   |            | Rope socket  
Monday  |    |

Remarks:  

Signed: Betty R. Barnes  
Date: 22 February 1980
**DRILLING LOG**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

<table>
<thead>
<tr>
<th>Date</th>
<th>21 February 1980</th>
<th>Job No.</th>
<th>84W-26</th>
<th>Hole No.</th>
<th>0863-01</th>
<th>Elevation</th>
<th>548.01 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept Natural Resources</td>
<td>Location</td>
<td>O'ROE HAWAII</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Bob Barnes</td>
<td>10 Hrs.</td>
<td>Rig.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Adam</td>
<td>10 Hrs.</td>
<td>Gas.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18</th>
<th>Type</th>
<th>M-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td>24 in.</td>
<td>Length in hole</td>
<td>20 ft.</td>
</tr>
<tr>
<td>Depth Start</td>
<td>687 ft.</td>
<td>Depth Stop</td>
<td>690 ft.</td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M</td>
<td>ft.</td>
<td>Time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>687</td>
<td>Red Clay &amp; Red Layers</td>
<td>Drilled up cement we put in last Friday to help hold sides. Hit a layer of Blue Rock very hard. Having trouble getting water to bottom. Drilled 3 ft casing making lots of mud.</td>
<td></td>
</tr>
<tr>
<td>690</td>
<td>Very Very hard Blue Rock</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

Signed: Bob L. Barnes  Date: 21 February 1980
**DRILLING LOG**

---

**Date:** 2/14 1980  
**Job No.:** SHW-26  
**Hole No.:** 0953-01  
**Elevation:** 848.01 ft.

**Customer:** Dept Natural Resources  
**Location:** Akoe

<table>
<thead>
<tr>
<th>Driller</th>
<th>Richard Bourne</th>
<th>10 Hrs.</th>
<th>Rig</th>
<th>360</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Bob Barnes</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hrs. Repairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Or. No.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size:** 18  
**Type:** M.H

**Casing-Size:** 24 in., Length in hole: 50 ft., Amt. Perforated: __________ ft., in.

**Depth Start:** 695 ft., Depth Stop: 687 ft., Feet Drilled: 18 ft.

**Water Levels, Time:** M ft., Time: M ft.

---

**Depth** | **Formation** | **Remarks** | **Top**
---|---|---|---
695 ft. | Roka Hard | | 
685 ft. | Sand Layer ended today 7/288 | | 
682 ft. | Blue Rock | Leaking up bit hole | 
687 ft. | Hard | Trying to come down to rig |

**Remarks:**

- Acts like Cinder above Blue rockannel  
- Cut 2 7/8 holes well over week end.

---

**Signed:** Richard Bourne  
**Date:** 2/14 1980
**DRILLING LOG**

**830 AHUA STREET • HONOLULU, HAWAII 96819**
**TELEPHONE (808) 839-6888 • 833-1444**

<table>
<thead>
<tr>
<th>Date</th>
<th>2/15 1980</th>
<th>Job No.</th>
<th>HW-26</th>
<th>Hole No.</th>
<th>0953-01</th>
<th>Elevation</th>
<th>848-01 ft.</th>
</tr>
</thead>
</table>

**Customer:** Dept. Natural Resources  
**Location:** Aloha

<table>
<thead>
<tr>
<th>Driller</th>
<th>Bob Brown</th>
<th>10 Hrs.</th>
<th>Rig</th>
<th>364</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Bob Brown</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td></td>
<td>Repairs</td>
</tr>
</tbody>
</table>

|------------|-----------|---------|---------|

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18</th>
<th>Type</th>
<th>M. H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td>24 in.</td>
<td>Length in hole</td>
<td>24 ft.</td>
</tr>
<tr>
<td>Depth Start</td>
<td>66 3 ft.</td>
<td>Depth Stop ft.</td>
<td>Feet Drilled</td>
</tr>
</tbody>
</table>

**Water Levels, Time:** M ft. ft., Time M ft. ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>66 3</td>
<td>Blue Rock</td>
<td>Hole caved in but still some coming from</td>
</tr>
<tr>
<td>66 4</td>
<td>Very Hard</td>
<td>Some caved up but not hard</td>
</tr>
<tr>
<td>66 7</td>
<td>Very Hard</td>
<td>Some caved up but not hard</td>
</tr>
</tbody>
</table>

**Remarks:** Doing some damage to bit but not lit's wood.

**Signed:** Bob Brown  
**Date:** 2/15 1980
**DRILLING LOG**

**Date:** 3/13/80

**Job No.:** 8104 - 36

**Hole No.:** 0954 - 01

**Elevation:** 848 - 01 ft.

**Customer:** dept. natural resources

**Location:** Okoo

**Driller:** Richard Bourne
**Hrs.:** 10

**Helper:** Bob Barnes
**Hrs.:** 10

**Arv. Job.**

**Lv. Job.**

**Rig:** 364

**Gas:** 

**Oil:**

**Repairs:**

**Bit-Size:** 18

**Type:** MH

**Casing-Size:** 24 in., Length in hole: 20 ft., Amt. Perforated: ft. in.

**Depth Start:** 660 ft., Depth Stop: 669 ft., Feet Drilled: 3

**Water Levels, Time:** M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>660</td>
<td>Blue Rock</td>
<td>Welding every 30 minutes</td>
<td></td>
</tr>
<tr>
<td>663</td>
<td>Very Hard</td>
<td>lot of coming from above</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Didn't get any water through pipe line till about 10:30, done bit repair & other repairs, helper sounds lazy.

**Signed:** Richard Bourne

**Date:** 3/13/80
Date: 2/13/80  Job No. 89/01  Hole No. 0753-01  Elevation 248-01 ft.

Customer: Dept. Natural Resources  Location: O'ahu

Driller: Richard Born  6.0 Hrs.  Rig: 361

Helper: Bob Born  6.0 Hrs.  Gas  Oil

Arv. Job  Hrs.  Or. No.

Job No. 6.0 Hrs.  Lv. Job  Hrs.  Or. No.

Bit-Size  18  Type: M.H

Casing-Size  24 in., Length in hole 50 ft.  in., Amt. Perforated 40 ft.  in.

Depth Start  659 ft., Depth Stop 660 ft., Feet Drilled 1

Water Levels, Time  M ft., Time  M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>659</td>
<td>Blue Rock</td>
<td>Welding every 30 minutes</td>
<td></td>
</tr>
<tr>
<td>660</td>
<td>Hard Rock</td>
<td>Run out of water, won't run any till tomorrow.</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Built bit - I done some repairs on bottom,Maggy up gone.

Signed: Richard Born  Date: 2/11/80
### DRILLING LOG

RUSCOE MOSS COMPANY

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 835-6888 • 833-1444

Date: 2/11 1980  Job No. 864 - 26  Hole No. 07-3 - 01  Elevation 848 - 01 ft.
Customer: Dept. Natural Resources  Location: Aorea

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hours</th>
<th>Rig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Barns</td>
<td>10</td>
<td>36L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hours</th>
<th>Gases</th>
<th>Oils</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bob Barns</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hours</th>
<th>Repairs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size**: 18
**Type**: M.H

**Casing-Size**: 24 in., Length in hole: 20 ft. in., Amt. Perforated: __ ft. __ in.

**Depth Start**: __ ft., Depth Stop: __ ft., Feet Drilled: __

**Water Levels, Time**: M __ ft., M __ ft., M __ ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>65'</td>
<td>Pitty Cinder</td>
<td>Common Addley</td>
<td></td>
</tr>
<tr>
<td>65'</td>
<td>Chalcedony</td>
<td>Bentonite</td>
<td></td>
</tr>
<tr>
<td>65'</td>
<td>Blue Flint</td>
<td>Heavy</td>
<td></td>
</tr>
<tr>
<td>65'</td>
<td>Very Hard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks**: 60 ft. within hard or soft hard layers. Not a steady good bore. Bore true for one run. Not so out of water in line many hours to haul. More first haul reading 37,000 present 47,800.

**Signed**: Richard Barns  Date: 2/11 1980
Date: 2/8 1980  
Job No.: SHW-26  
Hole No.: 0959-01  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources  
Location:  

Driller: Richard Burner  
Hrs.: 10  
Rig:  

Helper: Bob Barnes  
Hrs.: 6  
Gas:  
Oil:  
Repairs:  

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit-Size: 18"  
Type: M.H.  

Casing-Size: 24"  
in.  
Length in hole: 20 ft.  
in.  
Amt. Perforated:  
ft.  
in.  

Depth Start:  
ft.  
Depth Stop:  
ft.  
Feet Drilled:  

Water Levels, Time:  
M.  
ft.  
Time:  
M.  
ft.  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>

Remarks: Break down rope socket chew in top Collapse ASD trying same pull off line took out sleeve tried to run but side up from play broke down & left out Monabel brought to machine shop to have made picked up latter 6:00 pm.

Signed: Richard Burner  
Date: 2/8 1980
**Date** 2/7/80  
**Job No.** 8HW-26  
**Hole No.** C957-21  
**Elevation** 848.01 ft.  
**Customer** Dept. Natural Resources  
**Location** Kaae  
**Driller** Richard Bourn  
**Helper** Bob Barnes  
**Rig** 364  
**Gas**  
**Oil**  
**Hrs.** 10  
**Hrs.** 10  
**Arv. Job**  
**Lv. Job**  
**Hrs.**  
**Or. No.**  

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18”</th>
<th>Type</th>
<th>M.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td>8”</td>
<td>in.</td>
<td>Length in hole</td>
</tr>
<tr>
<td>Depth Start</td>
<td>647 ft.</td>
<td>Depth Stop</td>
<td>714 ft.</td>
</tr>
<tr>
<td>Water Levels</td>
<td>Time</td>
<td>M ft.</td>
<td>Time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>647</td>
<td>Blue Rock Hord</td>
<td>All material either hand</td>
<td></td>
</tr>
<tr>
<td>649</td>
<td>Hard</td>
<td>Can't make footage, or so</td>
<td></td>
</tr>
<tr>
<td>649</td>
<td>Rock</td>
<td>Loose Cone</td>
<td></td>
</tr>
<tr>
<td>655</td>
<td>Hard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Rope socket seems to be hanging up going to change in A.M.

**Signed** Richard Bourn  
**Date** 2/7/1980
Date: 2/6/80  
Job No.: HW-26  
Hole No.: 0954-01  
Elevation: 849.01 ft.

Customer: Dept. Natural Resources  
Location: Above

Driller: Richard Brown  
10 Hrs.  
Rig: 561

Helper: Bob Barnes  
10 Hrs.  
Gas:  
Oil:  
Reps.:  

Arr. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit Size: 18"  
Type: M.H.

Casing Size: 24" in.  
Length in hole: 20 ft.  
Amt. Perforated:  

Depth Start: 644 ft.  
Depth Stop: 644 ft.  
Feet Drilled: 3 ft.

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>644</td>
<td>Blue Sand</td>
<td>welding every 30 minutes</td>
<td></td>
</tr>
<tr>
<td>649</td>
<td>muddy mud</td>
<td>also casing from above in soft stuff</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Material don't seem to change only from hard to soft, then hole gets big hole to stabilize with bentonite to get started into hard again.

Signed: Richard Brown  
Date: 2/6/80
Date: 2/5/80  Job No. S44V- 26  Location: Office

Customer: Dept. Natural Resources

Driller: Richard Bourn  10 Hrs.  Rig: 361
Helper: Bob Barnes  10 Hrs.  Gas:  Oil


Depth Start: 644 ft., Depth Stop: 644 ft., Feet Drilled: 0 ft.

Water Levels, Time: M ft., Time: M ft.

Bit Size: 2.5H

---

## Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>

---

Reminders:
- Went to Dallas job site got things ready
- Moved pump & other junk made 3 holes to clean up job site
- Showed new helper where to pick up freight at harbor
- Showed facts other places on way back
- Got back to hotel about 4:15
- Filled truck up with fuel ready for tomorrow

Signed: Richard Bourn  Date: 2/5/80

---
Date: 2/4 1980  
Job No. 8764-26  
Hole No. 953-01  
Elevation: 748.01 ft.

**Customer:** Department of Natural Resources  
**Location:** Kapa

<table>
<thead>
<tr>
<th>Driller</th>
<th>10 Hrs.</th>
<th>Rig 364</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>10 Hrs.</td>
<td>Gas</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td>Oil</td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hrs. Repairs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size:** 18"  
**Casing-Size:** 24" in., Length in hole 20 ft., in., Amt. Perforated 0 ft., In.

**Depth Start:** 638 ft., Depth Stop 644 ft., Feet Drilled 6 ft.

**Water Levels, Time:** M 1 ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>638</td>
<td>Juka &amp; Chukue</td>
<td>Coming some water</td>
</tr>
<tr>
<td>644</td>
<td></td>
<td>Bent out.</td>
</tr>
</tbody>
</table>

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Picked up new helper at Agent went to job site. 
Guess he will be OK but time will tell. Great truck in so could go more pump for dam. See Q.M.

**Signed:** Richard Brown  
**Date:** 2/4 1980
<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>634</td>
<td>8' Clay</td>
<td>Coming some, but not to bed 8' sand level of mud and bentonite.</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

Rent mower has shipped out, Brode pickup came back early to work. Brode had to fetch plane at 4:30 didn't get much work done during 4-12.

Signed: Richard Brown  Date: 3/1  1980
**Date:** 1/21/80  
**Job No.:** SHU-34  
**Hole No.:** 0753.01  
**Elevation:** 848.01 ft.

**Driller:** Richard Bourn  
*Hrs.:* 10  
*Rig:* 361

**Helper:** Bradley Kneese  
*Hrs.:* 10  
*Gas:*  
*Oil:*  
*Repairs:*  

**Arv. Job:**  
**Lv. Job:**  
**Hrs.:**  

**Bit-Size:** 19  
**Type:**  

**Casing-Size:** 24 in., Length in hole: 20 ft.  
**in., Amt. Perforated:** ft.  
**in.**

**Depth Start:** 633 ft.  
**Depth Stop:** 634 ft.  
**Feet Drilled:** 1 ft.

**Water Levels, Time:** M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>632</td>
<td>Felt Clinite</td>
<td>Seems to be a mixture</td>
<td></td>
</tr>
<tr>
<td>634</td>
<td>9 Clinite</td>
<td>Had to keep from caving</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**  
Admix cement of bentonite helps stable muds  
 Holding they run on gauges, Desire to be getting harder again  

**Signed:** Richard Bourn  
**Date:** 1/31/1980
Date: 1/30 1980  
Job No: 8HW-26  
Hole No: 2952-01  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources  
Location: Ala

Driller: Richard Bourn  
10 Hrs.  
Rig: 361

Helper: Bradley Neece  
10 Hrs.  
Gas:  
Oil:  
Reps:  

Arv. Job:  
Lv. Job:  
Hrs. Repairs: 
Or. No.  

Bit-Size: 18  
Type: M. H

Casing-Size: 24 in., Length in Hole: 20 ft.  
In., Amt. Perforated: ft. in.

Depth Start: 608 ft., Depth Stop: 622 ft., Feet Drilled: 14 ft

Water Levels, Time: M ft.  
Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>608</td>
<td>Carbonite s pubs</td>
<td>Cement help hold wall</td>
<td></td>
</tr>
<tr>
<td>622</td>
<td>Carbonite</td>
<td>Some material very abrasive</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Material cuts gauge off bit, fixed. Adding cement help to form Dallas.

Signed: Richard Bourn Date: 1/30 1980
### DRILLING LOG

**RUSCOE MOSS COMPANY**  
830 AHUA STREET • HONOLULU, HAWAII 96819  
TELEPHONE (808) 839-6999 • 833-1444

---

**Date:** 1/29 1980  
**Job No:** 841W - 26  
**Hole No:** 0753-01  
**Elevation:** 848.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** Akeo

**Driller:** Richard Bourn  
**Helper:** Bradley Kimet

**Rig:** 10 Hrs.  
**Gas:** 10 Hrs.  
**Oil:**

**Arv. Job:**  
**Lv. Job:**  
**Hrs. Repairs:**

**Or. No.**

**Bit-Size:** 18 in.  
**Type:** M H.

**Casing-Size:** 24 in.  
**Length in hole:** 20 ft.  
**Amt. Perforated ft.:**

**Depth Start:** 595 ft.  
**Depth Stop:** 608 ft.  
**Feet Drilled:** 13 ft.

**Water Levels, Time:** M ft.  
**Time:** M ft.

**Remarks:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>595</td>
<td>Cinders &amp; Clinkers</td>
<td>Cemented Hole also added bentonite.</td>
</tr>
<tr>
<td>603</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Hob Casing put in cement lost men how with morning.

**Signed:** Richard Bourn  
**Date:** 1/29 1980
Date: 1/28/1980  
Job No.: 80W-26  
Hole No.: 0753-01  
Elevation: 898.01 ft.

**Customer:**  
Dept. Natural Resources  
Location: Cane  
Location: Cane

<table>
<thead>
<tr>
<th>Driller</th>
<th>10 Hrs.</th>
<th>Rig</th>
<th>Helper</th>
<th>10 Hrs.</th>
<th>Gas</th>
<th>Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Brown</td>
<td>10 Hrs.</td>
<td>361</td>
<td>Bradley Kneiss</td>
<td>10 Hrs.</td>
<td>Oil</td>
<td></td>
</tr>
</tbody>
</table>

Arv. Job:  
Lv. Job:  
Hrs:  
Or. No.:  

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18&quot;</th>
<th>Type</th>
<th>MH</th>
</tr>
</thead>
</table>

|-------------|--------|----------------|-------|----|----------------|-------|----|

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>595 ft.</th>
<th>Depth Stop</th>
<th>598 ft.</th>
<th>Feet Drilled</th>
<th>3 ft.</th>
</tr>
</thead>
</table>

Water Levels, Time: M ft.  
Time: M ft.  

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>595</td>
<td>Blue Rock</td>
<td>Seems to be getting softer</td>
<td></td>
</tr>
<tr>
<td>598</td>
<td>very very Hard</td>
<td>may break out soon</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**  
Carried a lot of water to keep up with casing  

**Signed:**  
Richard Brown  
Date: 1/28/1980
### DRILLING LOG

**Date:** 1/25-1980  
**Job No.:** 844-34  
**Hole No.:** 844 - 01  
**Elevation:** 848 - 01 ft.

**Customer:** Dept. Natural R  
**Location:** Ake Hauhi

<table>
<thead>
<tr>
<th>Driller</th>
<th>10 Hrs.</th>
<th>Rig 361</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Hrs.</td>
<td>Gas</td>
</tr>
<tr>
<td>Helper</td>
<td>Hrs.</td>
<td>Oil</td>
</tr>
<tr>
<td></td>
<td>Or. No.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td>in.</td>
</tr>
<tr>
<td></td>
<td>Length in hole ft. in.</td>
</tr>
<tr>
<td></td>
<td>Amt. Perforated ft. in.</td>
</tr>
<tr>
<td>Depth Start</td>
<td>ft.</td>
</tr>
<tr>
<td></td>
<td>Depth Stop ft.</td>
</tr>
<tr>
<td></td>
<td>Feet Drilled</td>
</tr>
</tbody>
</table>

**Water Levels, Time:** M ft., Time M ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>531</td>
<td>Blue Fork</td>
<td>Tender lining very</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ford</td>
<td>tender lining very</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>70 minutes</td>
<td></td>
</tr>
<tr>
<td>625</td>
<td>Bond</td>
<td>Bond didn't work</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>went home for</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 days</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Done some repair work on rig in  
P.M. have one clutch that keeps dropping out  
Pins & Cickers fund same.

**Signed:** Richard Bourn  
**Date:** 1/25-1980
Date 1/24 1980 Job No. 84W-26 Hole No. 5053-01 Elevation 848-01 ft.
Customer Dept. Natural Resources Location Aina HAWAII
Driller Richard Bourn 10 Hrs. Rig 36L
Helper Bradley Kuenz 10 Hrs. Gas Oil
Helper Hrs. Repairs

Bit-Size 18" Type Star
Casing-Size ___________ in., Length in hole ___________ ft., Amt. Perforated ___________ ft., in.
Depth Start 580 ft., Depth Stop 591 ft., Feet Drilled 11 ft.
Water Levels, Time M ___________ ft., Time M ft.

Depth Formation Remarks Top

580 Cinders & Cinders Adding Cement & Bentonite
591 Coning - seems to be hard again at 591 ft.

Remarks: Honey some Coning but think can make through with Cement. A ware out running slow to keep tools from stopping.

Signed Richard Bourn Date 1/24 1980
**Drilling Log**

**Date:** 1/25/78  
**Job No.:** 8401-24  
**Hole No.:** 0753-01  
**Elevation:** 848-01 ft.

**Customer:** Dept. Natural Resources  
**Location:** Oahu, Hawaii

**Driller:** Richard Bourn  
**Hrs. Rig:** 366

**Helper:** Bradley Keese  
**Hrs. Gas:**

**Arv. Job:**  
**Lv. Job:**  
**Hrs. Repairs:**

**Bit-Size:** 18"  
**Type:** M.H.

**Casing-Size:** 24" in.  
**Length in hole:** 20 ft.  
**In., Amt. Perforated:**

**Depth Start:** 572 ft.  
**Depth Stop:** 580 ft.  
**Feet Drilled:** 8 ft

**Water Levels, Time:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>572</td>
<td>Picky Hard &amp; Soft layers</td>
<td>Hit Cruisers at 580, Cemented same when left job.</td>
</tr>
<tr>
<td>580</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Measurements**

**Remarks:** Picked up more cement to boys to add to help get through 400 ft. Stalling out.

**Signed:** Richard Bourn  
**Date:** 1/23/78
Date: 1/23 1980  
Job No.: SHW-26  
Hole No.: 0953-01  
Elevation: 848-01 ft.

Customer: Dept. Natural Resources  
Location: Oahu, Hawaii

Driller: Richard Bourn  
10 Hrs.  
Rig: 36L

Helper: Bradley Kneese  
10 Hrs.  
Gas:  
Oil:  
Repairs: 

Arv. Job:  
Lv. Job:  
Or. No.: 

Bit-Size: 18"  
Type: M.H.

Casing-Size: 24" in., Length in hole: 20 ft.  
Amt. Perforated: 

Depth Start: 560 ft., Depth Stop: 572 ft., Feet Drilled: 12

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>560</td>
<td></td>
<td>Soft &amp; hard layers, some layers</td>
<td></td>
</tr>
<tr>
<td>572</td>
<td></td>
<td>Very hard but thin close to some damage to bit</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Adding bentonite to try & stabilize hole.

Signed: Richard Bourn  
Date: 1/23 1980
### Drilling Log

- **Date:** 1/31/80
- **Job No.:** SSW-56
- **Hole No.:** 0951.01
- **Elevation:** 848.01 ft.
- **Location:** Kao HAWAII

**Driller:** Richard Brown  
**Helper:** Bradley Kneau  
**Arv. Job:**  
**Lv. Job:**  

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Formation</th>
<th>Remarks</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>55'5</td>
<td>Blue Rock</td>
<td>Measured in line was off</td>
<td></td>
</tr>
<tr>
<td>55'7</td>
<td>Hard Hard</td>
<td>About 6 ft Med Change</td>
<td>Welding every 30 minutes</td>
</tr>
<tr>
<td>55'7</td>
<td>Pinka &amp; Chunks</td>
<td>Some Coming through</td>
<td></td>
</tr>
<tr>
<td>56'0</td>
<td>Pinka &amp; Chunks</td>
<td>Some Coming through</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**
- Almost stalled, Ashley Bartola helping some.
- Had 200 bars of water. Having trouble with hedges.
- Getting up in AM, won't go back up until for long.

**Signed:** Richard Brown  
**Date:** 1/31/1980
**Drilling Log**

### General Details
- **Date:** 1/19 1980
- **Job No.:** SW-26
- **Hole No.:** 953.01
- **Elevation:** 848.01 ft.
- **Customer:** Dept. Natural Resources
- **Location:** Alaka'i, HAWAII
- **Driller:** Richard Bourne
- **Helper:** Bradley Kneer

### Drilling Details
- **Rig:** 36L
- **Gas:** Oil
- **Depth Start:** 557 ft.
- **Depth Stop:** 1640 ft.
- **Feet Drilled:**

### Depth Chart

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>557</td>
<td>Blue Rock</td>
<td>Welding every 30 min.</td>
<td></td>
</tr>
<tr>
<td>560</td>
<td>Hard Hard</td>
<td>pulled 250 ft line &amp; run new pipe</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Water Levels
- **Start:** M ft.
- **Stop:** M ft.

### Casing Details
- **Casing Size:**
- **Length in Hole:** in.
- **Depth Drilled:** ft.
- **Amount Perforated:** ft.

### Measurements
- **A:**
- **B:**

### Remarks
- **Old line getting bad, home to change to new one soon.**

**Signed:** Richard Bourne  
**Date:** 1/19 1980
**DRILLING LOG**

<table>
<thead>
<tr>
<th>Date</th>
<th>1/18 1980</th>
<th>Job No.</th>
<th>SWW-26</th>
<th>Hole No.</th>
<th>0753.01</th>
<th>Elevation</th>
<th>848.01 ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept Natural Resources</td>
<td>Location</td>
<td>Oahu</td>
<td>HAWAII</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driller</th>
<th>Richard Bouna</th>
<th>10 Hrs.</th>
<th>Rig</th>
<th>362</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Bradley Kneze</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
</tr>
<tr>
<td>Arv. Job</td>
<td>Lv. Job</td>
<td>Hrs.</td>
<td>Repairs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18&quot;</th>
<th>Type</th>
<th>MH</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td>24&quot; in.</td>
<td>Length in hole</td>
<td>20 ft.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>in., Amt. Perforated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth</td>
<td>Start ft.</td>
<td>Depth Stop</td>
<td>ft. Feet Drilled</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Levels, Time</td>
<td>M</td>
<td>ft., Time</td>
<td>M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Picked up freight at Duke Kahanamou
- Boney & fellow ran new pipe socket
- Bent pipe & cable got to job about 11:30
- Ran new pipe socket
- Blue rock hard
- Hole too close to condo to dig some
- Layer of dirt and coming from soft material below

**Remarks:**

Come out hole line should be about 250 ft. up. Going to hard to do much. Planned to rig up to pull off hole line.

**Signed:** Richard Bouna  
**Date:** 1/18 1980
**DRILLING LOG**

**Customer:** Dept. Natural Resources  
**Location:** Oahu, Hawaii

**Date:** 1/17/80  
**Job No.:** SHW-26  
**Hole No.:** 0953  
**Elevation:** 848.01 ft.

**Driller:** Richard Brown  
**Helper:** Bradley Kness  
**Arv. Job:**  
**Lv. Job:**  
**Or. No.:**

**Bit-Size:** 18"  
**Type:** M, H

**Casing-Size:** 24"  
**Length in hole:** 20 ft.  
**Amt. Perfated:**

**Depth Start:**  
**Depth Stop:**  
**Feet Drilled:**

**Water Levels, Time:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>544</td>
<td>Blue Park Hard</td>
<td>Welding every 30 minutes</td>
<td></td>
</tr>
<tr>
<td>545</td>
<td>Hard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>546</td>
<td>Juka Hard &amp; Soft</td>
<td>Hard core but then 3 or 4&quot;</td>
<td></td>
</tr>
<tr>
<td>556</td>
<td>Lysres</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

Hole gets big in soft material also soft stuff very abrasive.

**Signed:** Richard Brown  
**Date:** 1/17  
**1980**
**DRILLING LOG**

**RSOCOE MOSS COMPANY**

830 Ahua Street • Honolulu, Hawaii 96819

teLemon (808) 839-6888 • 833-1444

---

**Date:** 11/6/1980  
**Job No:** 84W-26  
**Hole No:** 0953-01  
**Elevation:** 848.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** Oahu, Hawaii

---

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Hrs.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driller</td>
<td>Richard Bourn</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Kruse</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repairs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

| Bit-Size | 18" | Type | M.H |

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>24&quot; in.</th>
<th>Length in hole</th>
<th>20 ft.</th>
<th>Amt. Perforated</th>
<th>ft.</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth Start</td>
<td>54' 1&quot;</td>
<td>Depth Stop</td>
<td>54' 4&quot;</td>
<td>Feet Drilled</td>
<td>3'</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M</th>
<th>ft., Time</th>
<th>M</th>
<th>ft.</th>
</tr>
</thead>
</table>

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>54' 1&quot;</td>
<td>Blue Rock Lenses</td>
<td></td>
</tr>
<tr>
<td>54' 4&quot;</td>
<td>thin but hard and</td>
<td>Welding about every 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>minutes.</td>
</tr>
</tbody>
</table>

---

**Remarks:** Chicken & Cinders very abrasive. Cut off right off bit. Material would float rising bottom to lift off bottom.

**Signed:** Richard Bourn  
**Date:** 11/6/1980
Date: 1/15/80
Job No.: 3164 - 26
Hole No.: 0753.01
Elevation: 848.01 ft.

Customer: Dept. Natural Resources
Location: Office

Driller: Richard Bourn
10 Hrs.
Rig: 361

Helper: Bradley Knaus
10 Hrs.
Gas: Oil

Helper: 
Hrs.
Repairs:

Arv. Job: 
Lv. Job: 
Hrs.
Or. No.:

Bit-Size: 18
Type: M.H.

Casing-Size: 2-7/8 in.
Length in hole: 54 ft.
Amt. Perforated: 2 ft.

Depth Start: 531 ft.
Depth Stop: 541 ft.
Feet Drilled: 10 ft.

Water Levels, Time: M 531 ft., Time: M

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>531</td>
<td>Faba Rock</td>
<td>Soft clay, some sand, good.</td>
<td></td>
</tr>
<tr>
<td>540</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>541</td>
<td>Blue Rock</td>
<td>Hawiian Sand, some clay, trying</td>
<td></td>
</tr>
<tr>
<td>541</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Measurements

Signed: Richard Bourn
Date: 1/15/80
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6555 • 833-1444

<table>
<thead>
<tr>
<th>Date</th>
<th>1/11 1980</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Oahu</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driller</th>
<th>Richard Bone</th>
<th>10 Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Bradley Kniece</td>
<td>10 Hrs.</td>
</tr>
<tr>
<td>Arv. Job.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>M.H.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>2 7/8 in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length in hole</td>
<td>22' ft.</td>
</tr>
<tr>
<td>Amt. Perforated</td>
<td>in.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>5 3/4 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth Stop</td>
<td>5 1/2 ft.</td>
</tr>
<tr>
<td>Feet Drilled</td>
<td>9 ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M</th>
<th>ft.</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>5'2 1/2</td>
<td>Rock, hard &amp; soft</td>
<td></td>
</tr>
<tr>
<td>5'3</td>
<td>Layers some layers</td>
<td>Very hard but thin</td>
</tr>
</tbody>
</table>

Remarks: Raining & some wind today but not as bad as has been.

Signed: Richard Bone Date: 1/11 1980
**Drilling Log**

Date: 4/10/19

**Customer:** Dept. Natural Resources

**Driller:** Richard Bourn

**Helper:** Bradley Kriese

**Helper:**

**Arv. Job:**

**Hrs.**

**Rig:** 36.6

**Gas:**

**Oil:**

**Repairs:**

**Or. No.:**

---

**Bit-Size:** 18

**Type:** M.H

**Casing-Size:** 24 in.

**Length in hole:** 20 ft.

**Amt. Perforated:** ft.

**Depth Start:** 515 ft.

**Depth Stop:** 522.2 ft.

**Feet Drilled:** 7

---

**Water Levels, Time:** M ft.

**Time:** M ft.

---

**Depth** | **Formation** | **Remarks** | **Top** | **A** | **B**
---|---|---|---|---|---
517 | Blue Rock | Leaving up bit lost | | | |
517 | | Two up | all up | | |
517 | Pine Creek | Pull of boiler & valves | All lost | | |
5.24 | | | glass | | |

---

**Remarks:** Had to quit as couldn't keep bent on rig in hard new forming. Licensed every thing to keep from thing 2 from blowing away.

---

**Signed:** Richard Bourn

**Date:** 4/10/1980
<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>No Work</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Wind &amp; Rain To Go!</strong></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

Signed: Richard Brown  Date: 1/9/80
Date: 11/8/1980  
Job No.: SWW-36  
Hole No.: O953-01  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources  
Location: Oahu  

Driller: Richard Brown  
10 Hrs.  
Rig 36A  

Helper: Bradley Kuenzi  
10 Hrs.  
Gas  
Oil  

Arv. Job  
Lv. Job  
Hrs.  

Bit: Size _______ Type _______  


Depth Start: 512 ft., Depth Stop: 515 ft., Feet Drilled: 3.4 ft.  

Water Levels, Time _______ ft., Time _______ M _______ ft.  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>512</td>
<td>Blue Rock</td>
<td>Very</td>
<td></td>
</tr>
<tr>
<td>515</td>
<td>Hard Sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Welding 50 minutes</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: High wind, rain, hard time welding.

Signed: Richard Brown  
Date: 11/8/1980
**Date**: 1/4/80  
**Job No.**: BHW-26  
**Hole No.**: 0953.01  
**Elevation**: 848.01 ft.

**Customer**: Dept Natural Resources  
**Location**: Above

**Driller**: Richard Bourn  
**Hrs.**: 10  
**Rig**: 764

**Helper**: Bradley Knese  
**Hrs.**: 10  
**Gas**: Oil

**Arv. Job**:  
**Lv. Job**:  
**Or. No.**:  

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
<th>M.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>18&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>in. Length in Hole</th>
<th>ft.</th>
<th>Amt. Perforated</th>
<th>ft.</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>24&quot;</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>ft.</th>
<th>Depth Stop</th>
<th>ft.</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M</th>
<th>ft.</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
</tr>
</thead>
</table>

**Formation**  
- 504: Kaka Park &  
- 510: (cont'd)  
- 514: Blue Rock Post  
- 512:ard.  

<table>
<thead>
<tr>
<th>Remarks</th>
</tr>
</thead>
</table>
| Some coming when started drilling Blue Rock.  
| Well flooded every 30 minutes.  
| Rock harder than was before.  
| Must be hard sand. |

**Remarks**:  
How to add cutouts in soft zone as Cant make any  
Think Home water problems solved.

**Signed**: Richard Bourn  
**Date**: 1/4/1980
Date: 11/3 1980  
Job No.: 846-26  
Hole No.: 0953-01  
Elevation: 849.01 ft.

Customer: Dept. Natural Resources  
Location: O'ahu

Driller: Richard Bourne  
10 Hrs.  
Rig: 364

Helper: Bradley Knauer  
10 Hrs.  
Gas:  
Oil:

Helper:  
Hrs.  
Repairs:

Arv. Job:  
Lv. Job:  
Hrs.  
Or. No.:  

Bit-Size: 18'  
Type: M.H.

Casing-Size: 24" in., Length in hole: 20' ft. 
Amt. Perforated:  
ft., in.

Depth Start: 496 ft., Depth Stop: 5'00 ft., Feet Drilled: 4'84

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>496</td>
<td>Hard Hold Blue</td>
<td>pulling every 30 minutes</td>
<td></td>
</tr>
<tr>
<td>700</td>
<td></td>
<td>still having water problems.</td>
<td></td>
</tr>
<tr>
<td>800</td>
<td>Puka Rock #4</td>
<td>Can't drill no water casing.</td>
<td></td>
</tr>
<tr>
<td>701</td>
<td>Clambers</td>
<td>none down hole.</td>
<td></td>
</tr>
</tbody>
</table>

measurements

Remarks:

At Mac's Farms to hold water & dump into tank on top of hill. Using 7,000 gal. tanker.

Water from the other side of south point about 30 min. from 12,000 per thousand gal.

Signed: Richard Bourne  
Date: 11/3 1980
DRILLING LOG

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

Date: 1/2 1980  Job No.: SHW-26 Hole No.: 0953-01 Elevation: 848.01 ft.

Customer: Dept. Natural Resources  Location: Aiea

Driller: Richard Bourn  10 Hrs.  Rig No.: 301
Helper: Bradley Kriese  10 Hrs.  Gas
Helper:  10 Hrs.  Oil

Bit-Size: 18"  Type: M. H.
Depth Start: ft.  Depth Stop: ft.  Feet Drilled: __________

Water Levels, Time: M __________ ft., Time: M __________ ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>497</td>
<td>Hard Hard Blue</td>
<td>Drilling every 50 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>496</td>
<td>Rock</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: New new pipe socket, replaced hose dry in clutch. No water again today in tank, using up what I have stored in tank. Air injection leaving the same either on till no line doesn't show any severe bubbling.

Signed: Richard Bourn  Date: 1/2 1980
Date: 11/1/1980
Job No.: HW-26
Hole No.: 0953-01
Elevation: 848.01 ft.

Customer: Div. Natural Resources
Location: OKOE

Driller: Richard Brown
10 Hrs.
Rig: 361

Helper: Bradley Kuehne
10 Hrs.
Gas: Oil

Arv. Job: 
Lv. Job: 
Hrs.: 
Reps.: 
Or. No.: 

Bit-Size: 1 1/2" Type: M.H.

Casing-Size: 24" in.
Length in hole: 20' ft.
Amt. Perforated: 

Depth Start: 470 ft.
Depth Stop: 493 ft.
Feet Drilled: 3

Water Levels, Time: M ft., Time: M ft.

Depth | Formation | Remarks | Top |
---|---|---|---|
470 | Hardford Blue | welding every 30 minutes | |
493 | | | |

Remarks: Had to rest sand line mount on line wouldn't spread right. Didn't eat all day nothing open. Not even store until evening.

Signed: Richard Brown
Date: 11/1/1980
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

**RECEIVED**

830 ANUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-8888 • 833-1444

**HAWAII**

Date: 01/31/79
Job No. HW-26
Hole No. 0953-01
Elevation: 848.01 ft.

**Customer:** Dept. Natural Resources
**Location:** Okoe

**Driller:** Richard Bourn
**Helper:** Bradley Kneese

<table>
<thead>
<tr>
<th>Rig</th>
<th>Gas</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>361</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Repairs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>18&quot;</td>
<td>M.H.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>Length in hole</th>
<th>Amt. Perforated</th>
</tr>
</thead>
<tbody>
<tr>
<td>24&quot; in.</td>
<td>20' ft.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>488 ft.</td>
<td>490 ft.</td>
<td>2 ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M</th>
<th>ft.</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>488&quot;</td>
<td>Hard Hard Blue</td>
<td>welding every 30 minutes.</td>
</tr>
<tr>
<td>490&quot;</td>
<td>Rock</td>
<td>Rock test for lots of fleas &amp; lumen crystals even in the thin layers of purple chert.</td>
</tr>
</tbody>
</table>

Remarks: Hole rebuilt since on sand line. Bottom collapsed and to remove & install new piece & cut to repair.

Signed: Richard Bourn
Date: 01/31/79
Date: 12/30/79  
Job No.: 9418-21  
Hole No.: 0953-01  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources  
Location: Akwa

Driller: Richard Bourn  
10 Hrs.  
Rig: 361

Helper: Bradley Knese  
10 Hrs.  
Gas: Oil

Helper:  
Hrs.  
Repairs: 

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit-Size: 18"  
Type: M.H.

Casing-Size: 24" in.  
Length in hole: 20 ft.  
Amt. Perforated: ft. in.

Depth Start: 485 ft.  
Depth Stop: 488 ft.  
Feet Drilled: 3 ft.

Water Levels, Time: M ft. Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>489</td>
<td>Blue Rock, very dry</td>
<td></td>
</tr>
<tr>
<td>488</td>
<td>Hard.</td>
<td>Rock having big chunks out of bit.</td>
</tr>
</tbody>
</table>

Remarks: Striving some water problems as big tank.
## Drilling Log

**Date:** 06/27/79  
**Job No.:** 549  
**Hole No.:** 21  
**Elevation:** 848.01 ft.

|------------------|---------|-----|-----------------|--------|-----|-----|-----------------|------|--------------------------|----------|---------|------|---------|

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18&quot;</th>
<th>Type</th>
<th>Casing-Size</th>
<th>in. Length in hole</th>
<th>ft.</th>
<th>in.</th>
<th>Amt. Perforated</th>
<th>ft.</th>
<th>in.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>434</th>
<th>5 ft.</th>
<th>Depth Stop</th>
<th>735</th>
<th>5 ft.</th>
<th>Feet Drilled</th>
<th>756</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M ft.</th>
<th>Time</th>
<th>M ft.</th>
</tr>
</thead>
</table>

### Remarks:

- 434 ft. Date End  
- 549 ft. Date End  
- 735 ft. Date End  
- Remarks:  
  - Data End
  - Field notes, legible, initial bit, shiek bit,  
  - Initial remarks, legible, initial bit, welding  
  - Remarks:  
    - Initial remarks, legible, initial bit, welding  

**Remarks:**  
- Field notes, legible, initial bit, shiek bit,  
- Initial remarks, legible, initial bit, welding  
- Remarks:  
  - Initial remarks, legible, initial bit, welding  

**Signed:** John Brown  
**Date:** 12/31/1979
**DRILLING LOG**

<table>
<thead>
<tr>
<th>Date</th>
<th>12/28 1979</th>
<th>Job No.</th>
<th>5488 - 26</th>
<th>Hole No.</th>
<th>0952.01</th>
<th>Elevation</th>
<th>848.01 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Must Natural Resources</td>
<td>Location</td>
<td>AK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Brown</td>
<td>Hrs.</td>
<td>Rig</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Kruse</td>
<td>Hrs.</td>
<td>Gas</td>
<td></td>
<td>Oil</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Bit-Size  | 18"         | Type   | M.H.        |       |          |           |
| Casing-Size | in., Length in hole | ft. | in., Amt. Perforated | ft. | in. |          |

| Depth Start | ft., Depth Stop | ft., Feet Drilled | Water Levels, Time | M | ft., Time | M | ft. |

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>417</td>
<td>1st Rock w/c</td>
<td>Missing Stone</td>
<td>A</td>
</tr>
<tr>
<td>417</td>
<td>plug</td>
<td>Pickup filter</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>mud sop out in tank</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changed Oil in Oil infield</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>removed C-1 from field</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engine home</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Caloring pum bue, trying to unplug inclute but | 130 Jan | Hard water into tank seems can show | 150 Jan | 130 Jan | 130 Jan | 130 Jan | 130 Jan | 130 Jan | 130 Jan | 130 Jan |

Signed: Richard Brown | Date: 12/38 1979 |

Notes:
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

**Address:** 830 AHUA STREET, HONOLULU, HAWAII 96819

**Telephone:** (808) 839-6888 * 833-1444

---

**Date:** 12/27/79  
**Job No.:** 844-26  
**Hole No.:** 0253-01  
**Elevation:** 848.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** Ake

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driller</td>
<td>Richard Brown</td>
</tr>
<tr>
<td>Helper</td>
<td>Rodney Brown</td>
</tr>
<tr>
<td>Rig</td>
<td>366</td>
</tr>
<tr>
<td>Gas</td>
<td>Oil</td>
</tr>
<tr>
<td>Repairs</td>
<td></td>
</tr>
<tr>
<td>Or. No.</td>
<td></td>
</tr>
<tr>
<td>Bit-Size</td>
<td>18&quot;</td>
</tr>
<tr>
<td>Type</td>
<td>M.H.</td>
</tr>
<tr>
<td>Casing-Size</td>
<td></td>
</tr>
<tr>
<td>Length in hole</td>
<td></td>
</tr>
<tr>
<td>in., ft.</td>
<td></td>
</tr>
<tr>
<td>Amt. Perforated</td>
<td></td>
</tr>
<tr>
<td>ft. in., in.</td>
<td></td>
</tr>
<tr>
<td>Depth Start</td>
<td>4' 4&quot;</td>
</tr>
<tr>
<td>Depth Stop</td>
<td>4' 7½&quot;</td>
</tr>
<tr>
<td>Feet Drilled</td>
<td>3' 4&quot;</td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M. ft., M. ft.</td>
</tr>
</tbody>
</table>

**Depth** | **Formation** | **Remarks** | **Top** | **A** | **B**
--- | --- | --- | --- | --- | ---
4'-41" | [Blank] | Must hire cracker to break job. | | | |
4'-47½" | [Blank] | Add 1½ drill罗马 | | | |
5'-0" | [Blank] | Welding after. | | | |

**Remarks:** [Blank]

**Signed:** Richard Brown  
**Date:** 12/27/79 1979
<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>477</td>
<td>1st Rbk.</td>
<td>Having on bit every</td>
<td></td>
</tr>
<tr>
<td>479</td>
<td>1st Rbk.</td>
<td>Compressing very abrasive</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: 'Tied up air at Faire Trak. Medicine find is return to him to replace 500 gal jet after his leave.

Signed: Richard Bowers  Date 1/26/79
**DRILLING LOG**

RUSCOE MOSS COMPANY
830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 831-6888 • 833-1444

---

**Date:** 12/20 1979  **Job No.:** SMW-44  **Hole No.:** 2753-01  **Elevation:** 848.01 ft.

**Customer:** Dept. Natural Resources  **Location:** Koe

<table>
<thead>
<tr>
<th>Driller</th>
<th>Richard Browne</th>
<th>10 Hrs.</th>
<th>Rig: 361</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Bradley Knese</td>
<td>10 Hrs.</td>
<td>Gas: Oil</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Repairs:</td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size:** 18"  **Type:** M, H

**Casing-Size:** 24 in., Length in hole: 20 ft.  **Amt. Perforated:** 0 in.

**Depth Start:** 468 ft.  **Depth Stop:** 471 ft.  **Feet Drilled:** 3 ft.

**Water Levels, Time:** M ft.  **Time:** M ft.

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>468</td>
<td>Blue Rock</td>
<td>Wellboring every 20 minutes</td>
<td></td>
</tr>
<tr>
<td>471</td>
<td>Very Hard</td>
<td>Towing puller broke</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Material very abrasive. Besides being very hard, every 20 minutes, I had to lift cathead. Loaded same as before. Water in well good. Can't see any blowout conditions.

**Signed:** Richard Browne  **Date:** 12/20 1979
<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>468</td>
<td>Blue Rock</td>
<td>very very hard &amp; abrasive</td>
<td></td>
</tr>
<tr>
<td>468</td>
<td>gas</td>
<td>some coming from above</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>hard to tell what material is for sure but seems up bit.</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Went & picked up 500 gal. fuel & got back to start drilling at 11:30. Welding every 50 or 45 minutes.

**Signed:** Richard Brown  **Date:** 12/19 1979
<table>
<thead>
<tr>
<th>Date</th>
<th>12/18 1979</th>
<th>Job No.</th>
<th>8HW-46</th>
<th>Hole No.</th>
<th>09/4-01</th>
<th>Elevation</th>
<th>848.01 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>Aker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Brown</td>
<td>10 Hrs.</td>
<td>Rig 36 L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Knuss</td>
<td>10 Hrs.</td>
<td>Gas. Oil</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Bit-Size | 18" | Type | M H. |
| Depth Start | 460 ft. | Depth Stop | 465 ft. | Feet Drilled | 5 ft. |
| Water Levels, Time | M ft. | M ft. | Time | M ft. |

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>460</td>
<td>HH Hard Coal</td>
<td>Hard drilling welding</td>
<td></td>
</tr>
<tr>
<td>465</td>
<td>Blue Rock</td>
<td>every 30 to 45 minutes</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Going to pick up 500 gallon fuel tank from Am. Am.

Signed: Richard Brown  Date: 12/18/1979
Date: 12/17/79   Job No. 8HW-#6  Hole No. 6953-01  Elevation 848.01 ft.
Customer: Dept. Natural Resources  Location: Alaska

Driller: Richard Bourne  10 Hrs.  Rig: 564
Helper: Bradley Kusee  10 Hrs.  Gas:  -  Oil: -


Bit-Size: 18"  Type: M.H.
Depth Start:  ft., Depth Stop:  ft., Feet Drilled:  

Water Levels, Time:  M  ft., Time:  M  ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>

Measurements

**Remarks:**  No drilling today went to Sammy's job & helped out change of tables with wall hootes. Didn't finish until 7 pm! Sam never came until 10 am.

Signed: Richard Bourne  Date: 12/17/79
Date 12/16 1979  Job No. SW-26  Hole No. 0953-01  Elevation 848.01 ft.
Customer Dept. Natural Resources  Location Aikoo

Driller Richard Brown  10 Hrs.  Rig 561
Helper Bradley Kneese  10 Hrs.  Gas
Helper  10 Hrs.  Oil
Arv. Job  10 Hrs.
Lv. Job  Or. No.

Bit-Size  18"  Type M.H.
Casing-Size  13 4"  in.  Length in hole  100 ft.  in., Amt. Perforated  20 ft.  in.
Depth Start  450 ft.  Depth Stop  460 ft.  Feet Drilled  10 ft

Water Levels, Time  M  ft., Time  M  ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>450</td>
<td>6-5 A layer of clay</td>
<td>Material hard &amp; very abrasive. Can't get material to raise or bottom even with bentonite.</td>
</tr>
</tbody>
</table>

Remarks: Hose had to weld every 30 to 45 minutes due to damage to hose. And most of all cute going off bit. Rock very abrasive. Almostsome material hit wall or going OK. No severe was on line.

Signed: Richard Brown  Date 12/16 1979
### Drilling Log

**Date:** 12/15 1979  
**Job No:** HW-2K  
**Hole No:** 095  
**Elevation:** 848.01 ft.

**Customer:** Natural Resources  
**Location:** Unknown

<table>
<thead>
<tr>
<th>Driller</th>
<th>Helper</th>
<th>Rig No.</th>
<th>Gas</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Born</td>
<td>Bradley Knese</td>
<td>36 L</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
<th>M. H</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 in.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>Length in hole</th>
<th>Amt. Perforated</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 in.</td>
<td>30 ft.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>452 ft.</td>
<td>456 ft.</td>
<td>4 ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M ft.</th>
<th>Time</th>
<th>M ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>452 ft</td>
<td>Blue Park</td>
<td></td>
</tr>
<tr>
<td>456 ft</td>
<td>Way over Hard</td>
<td>Welding after.</td>
</tr>
</tbody>
</table>

**Remarks:** Almost staying same oh lhope.

**Signed:** Richard Born  
**Date:** 12/15 1979
### DRILLING LOG

**Customer:** Dept. Natural Resources  
**Location:** Ahe

<table>
<thead>
<tr>
<th>Date</th>
<th>Job No.</th>
<th>Hole No.</th>
<th>Elevation</th>
<th>1979</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/14</td>
<td>8HW-26</td>
<td>0953-01</td>
<td>848.01</td>
<td></td>
</tr>
</tbody>
</table>

**Driller:**  
**Helper:**

<table>
<thead>
<tr>
<th>Job No.</th>
<th>Hrs.</th>
<th>Rig No.</th>
<th>Gas</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>361</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper Hr</th>
<th>Repairs</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Arv. Job:**  
- **Lv. Job:**  
- **Hrs.:**

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 3/4</td>
<td>M.H.</td>
</tr>
</tbody>
</table>

**Casing-Size:** 2 1/4 in., Length in hole: 20 ft. in., Amt. Perforated: 10 ft. in.

**Depth Start:** 447 ft., Depth Stop: 453 ft., Feet Drilled: 6 ft.

**Water Levels, Time:** M 37 ft., Time: M 37 ft.

<table>
<thead>
<tr>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
</tbody>
</table>

### Depth Formations

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>447</td>
<td>Blue Rock</td>
<td>Material about 75% Crystals</td>
</tr>
<tr>
<td>452</td>
<td>Very Very Hard</td>
<td>No time lost, bit-up very slow perforating every 30 minutes.</td>
</tr>
</tbody>
</table>

**Remarks:**

- Picked up freight at 10:00 a.m. today. Made arrangements to take 500 gal fuel ordered some oil.

**Signed:** Richard Bourne  
**Date:** 12/14 1979
Customer: Dept. Natural Resources  Location: Above

Date: 12/13/79  Job No.: HW-26  Hole No.: 1953  Elevation: 848.01

Driller: Richard Bourn  10 Hrs.  Rig: 364
Helper: Bradley Kneese  10 Hrs.  Gas:  Oil: 
Helper:  Hrs.  Repairs: 

Bit-Size: 18'"  Type: M.H.
Depth Start: 435 ft., Depth Stop: 447 ft., Feet Drilled: 12

Water Levels, Time M ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>435</td>
<td>Blue Rock very</td>
<td>Caving and cutting, more water, bentonite.</td>
<td></td>
</tr>
<tr>
<td>495</td>
<td>Hard</td>
<td>Fund Cycling without suspendol</td>
<td></td>
</tr>
<tr>
<td>495</td>
<td>Palm Soft</td>
<td>Gouging, cutting, water added</td>
<td></td>
</tr>
<tr>
<td>497</td>
<td>Palm Soft</td>
<td>Gouging, cutting, water added</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: No change in line measurement as for.

Signed: Richard Bourn  Date: 12/13/79 1979
### DRILLING LOG

- **830 AHUA STREET • HONOLULU, HAWAII 96818**
- **TELEPHONE (808) 839-6888 • 833-1444**

#### Customer:
- Dept Natural Resources

#### Job:
- No. 811W - 26

#### Hole No.:
- 0753.61

### Elevations:
- Start: 848.04 ft.
- Stop: 839.65 ft.

### Driller:
- Richard Bourne
  - Hours: 10 Hrs.
  - Rig: 361

### Helper:
- Bradley Kneese
  - Hours: 10 Hrs.
  - Gas: Oil

### Arv. Job:
- __________

### Lv. Job:
- __________

### Remarks:
- Drilling on bit every 30 minutes.
- Fine measurement holding. No gas either on wall or going off. No sign of water on line.

### Casing Size:
- 24 in., Length in hole: 20 ft.

### Bit Size:
- 1 1/2 in.

### Water Levels:
- Time: M ft.

### Measurements:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>830</td>
<td>Puka Soil</td>
<td></td>
</tr>
<tr>
<td>433</td>
<td>Blue Rock</td>
<td></td>
</tr>
<tr>
<td>435</td>
<td>very very hard</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>12/11 1979</td>
<td>Job No.</td>
</tr>
<tr>
<td>--------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Customer</td>
<td>Dept Nat Resources</td>
<td>Location</td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Bourn</td>
<td>10 Hrs.</td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Kneese</td>
<td>10 Hrs.</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Bit-Size     | 18''       | Type    | M. K.   |          |         |           |            |
| Depth Start  | 4'15" ft.  | Depth Stop | 430 ft. | Feet Drilled | 15 ft |          |
| Water Levels | Time M ft  | Time M ft |          |           |         |           |            |

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>490</td>
<td>soft</td>
<td>Cutting settling out on bottom can't eam cause with bentonite - 100</td>
</tr>
<tr>
<td>430</td>
<td>D-2</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Worked on bit also worked on high speed clutch.

Signed: Richard Bourn | Date: 12/11 1979
**Date:** 12/6/79  
**Job No.:** S4601  
**Hole No.:** 0953.01  
**Elevation:** 848.01 ft.

**Customer:** Dept Nat - Reuse  
**Location:** Okoa

**Driller:** Richard Bourne  
**Hrs.:** 10  
**Rig:** 364

**Helper:** Bradley Kuna  
**Hrs.:** 10

**Arv. Job:**  
**Lv. Job:**  
**Or. No.:**

**Bit-Size:** 18"  
**Type:** MH

**Casing-Size:** 24 in.,  
**Length in hole:** 20 ft.,  
**In., Amt. Perforated:** ft.,  
**In.**

**Depth Start:** ft.,  
**Depth Stop:** ft.,  
**Feet Drilled:**

**Water Levels, Time:** M ft.,  
**Time:** M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ramed Hole to 415 line holding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>To for</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Broad drilling up 16&quot; but had to come some on well to bring hole to original measurement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**
- Long to build 6 ft.Dummy & Drill
- Check hole with same

**Signed:** Richard Bourne  
**Date:** 12/6/79  
**1979**
<table>
<thead>
<tr>
<th>Date</th>
<th>12/5/79</th>
<th>Job No.</th>
<th>SMW - 46 Hole No.</th>
<th>953-01</th>
<th>Elevation</th>
<th>848.01 ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>AKs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Bourn</td>
<td>10 Hrs.</td>
<td>Rig</td>
<td>36-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Knice</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td>Hrs.</td>
<td>Repairs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td>Or. No.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hrs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size** 18"  **Type** M-H

**Casing-Size** 24 in., Length in hole 20 ft., in., Amt. Perforated 30 ft., in.

**Depth Start** 20 ft., **Depth Stop** 20 ft., Feet Drilled 20 ft.

**Water Levels, Time** M ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reaming to 18&quot; hole.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spent 2½ hours changing bit for reaming.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reaming not going to run pilot hole.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Many men had to control.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>300 - 405 thinning, sharp edges</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bit too cut wall.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Hole not good but have to go some time. Changed alignment on rig to keep line off wall. Time running.

**Signed** Richard Bourn Date 12/5/79
Date 2/4/79
Job No. 5HW-4 Hole No. 0953-01 Elevation 848.01 ft.

Customer Dept. Not Recorded
Location Okai

Driller Richard Bourne 10 Hrs. Rig 364
Helper Bradley Knuee 10 Hrs. Gas

Help Hrs. Repairs

Bit-Size 1 2
Type Star


Depth Start 408 ft., Depth Stop 416 ft., Feet Drilled 2

Water Levels, Time M ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>408</td>
<td>Blue Rock Hard and Drift starting at 410</td>
<td></td>
<td></td>
</tr>
<tr>
<td>410</td>
<td>Vala Hard 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>416</td>
<td>Soft layers thru bedding on bit way 30 minutes.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Signed Richard Bourne Date 2/4/79
Date: 12/3 1979  Job No: SHW-26  Hole No: 0753-01  Elevation: 848.01 ft.
Customer:  Dept:  Net:  Reasons:  Location:  Please

Driller: Richard Bourn  10 Hrs.  Rig: 36-L
Helper: Bradley Kruise  10 Hrs.  Gas:  Oil

Arv. Job  Lv. Job  Hrs.  Repairs

Bit-Size: 12  Type: STAR
Casing-Size: 4 x in., Length in hole: 5 ft. in., Amt. Perforated: 4 ft. in.
Depth Start: 390 ft., Depth Stop: 408 ft., Feet Drilled: 18 ft.
Water Levels, Time: M ft. Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>390</td>
<td>Blue Rock and Ford</td>
<td></td>
<td></td>
</tr>
<tr>
<td>392</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>393</td>
<td>Puka Hord &amp; soft layers thin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>407</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>408</td>
<td>Blue Rock and Ford</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Lift holding some loose sand can hold.

Signed: Richard Bourn  Date: 12/3 1979
# DRILLING LOG

**SCOEMOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

<table>
<thead>
<tr>
<th>Date</th>
<th>12/2 1979</th>
<th>Job No.</th>
<th>844 - 46</th>
<th>Hole No.</th>
<th>0.953-01</th>
<th>Elevation</th>
<th>848.0 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>Oahu</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driller</th>
<th>Richard Brown</th>
<th>10 Hrs.</th>
<th>Rig 36L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Rodney Knowles</td>
<td>10 Hrs.</td>
<td>Oil</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td>Hrs.</td>
<td>Repairs</td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td>Hrs.</td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size**: 12" Type M.H

**Casing-Size**: 2" in., Length in hole 26 ft., Amt. Perforated 24 ft., In.

**Depth Start**: ft., Depth Stop __ ft., Feet Drilled __ ft.

**Water Levels, Time**: M __ ft., Time M ft.

## Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>335</td>
<td>F. ha. Soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>339</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>387</td>
<td>Blue Rock quarry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>394</td>
<td>Foid.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks**: Drilling 12" pilot hole then Bennet 18".

**Signed**: Richard Brown Date 12/2 1979
### DRILLING LOG

**Customer:** Dept. Mutual Recons.  
**Location:** Akon

**Date:** 11/30 1979  
**Job No.:** 5744  
**Hole No.:** 0953-C  
**Elevation:** 848.01 ft.

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hrs.</th>
<th>Rig</th>
<th>Helper</th>
<th>Hrs.</th>
<th>Gas</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Brown</td>
<td>10</td>
<td>564</td>
<td>Bradley Kriese</td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Arv. Job</th>
<th>Hrs.</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hrs.</th>
<th>Repairs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Arv. Job</th>
<th>Hrs.</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Arv. Job</th>
<th>Hrs.</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

**Bit-Size:** 12"  
**Type:** Star

**Casing-Size:**   
**Length in hole:** ft.  
**Amt. Perforated:** ft. in.

**Depth Start:**  
**Depth Stop:**  
**Feet Drilled:**

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M</th>
<th>M</th>
<th>ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Measurements</th>
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<tr>
<td>A</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

1. **Cleaning out hole, got down to**
2. **375 ft only loose stuff in bottom**
3. **Had to build 8" back to called hole.**
4. **Working in 14" hole now.**
5. **Wipe pump went out on pickup truck.**
6. **Come up loader, 15 M, using Trades pickup**
7. **11/30 Day.**

**Remarks:** Straightened up several sections after breaking into bottom. As much work in progress as when first drilled hole.

**Signed:** Richard Brown  
**Date:** 11/30 1979
Date: 11/29/1979  
Job No: 8761-26  
Hole No: 2753-01  
Elevation: 848-01 ft.

Customer:  
Dept: Natural Resources  
Location: Okole

Driller: Richard Boyer  
10 Hrs.  
Rig: 361

Helper: Bradley Kauwe  
10 Hrs.  
Gas: Oil

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  
Hrs.:  
Hrs.:  
Hrs.:  
Hrs.:  

Bit-Size: 12”  
Type: Slow

Casing-Size: 24” in.  
Length in hole: 20 ft.  
Am. Perforated:  
in. ft.

Depth Start:  
Depth Stop:  
Feet Drilled:  

Water Levels, Time:  
M  
ft., Time:  
M  
ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Remarks:  
Hauled tank to Kauai. Took Cent. But couldn't  
see lighter & ship as they were busy  
Eased & Bradley went to Kauai. I bailed.  
Cookie took on drill. Stopped & put new  
bulling in Ford truck. Had to pick up voltage  
By an return to Kauai at 10:00 to go  
t. Lent the end for job.

Signed: Richard Boyer  
Date: 11/29/1979
**DRILLING LOG**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 539-6888 • 833-1444

### Customer
Dept: Natural Resources  
Location: Oahu

### Driller
Richard Bourn  
10 Hrs. Rig: 361

### Helper
Bradley Kruse  
10 Hrs. Gas:  
Oil:

### Arv. Job
------  
Lv. Job:

### Hrs.
---

### Repairs
Arv. Job: _____  
Lv. Job: _____  
Hrs: ________  
Or. No. ________

### Bit-Size
12"

### Type
Stov

### Casing-Size
24" in.

### Length in hole
20 ft.

### Amt. Perforated
ft.

### in.

### Depth Start
ft.

### Depth Stop
ft.

### Feet Drilled

### Water Levels, Time
M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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</thead>
<tbody>
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</tr>
</tbody>
</table>

**Drilling & Cleaning and Hole - Loaded 14"**

pipe Earl came over on early flight  

**Hoist came to Wleared & Loaded **

**Tied it & loaded drill tools to hotel**

**Not to ship in A.M.**

**Remarks:**  
Halt work late to get things loaded only  

**Signed:** Richard Bourn  
Date: 11/28 1979
Date 11/27/79  Job No. 846-26  Hole No. 643-01  Elevation 848.01 ft.

Customer: Dept. Nat. Resources  Location: Akoe

Driller: Richard Bourn  10 Hrs.  Rig 361
Helper: Bradley Jerns  10 Hrs.  Gas
Helper:  Hrs.  Oil
Arv. Job  Hrs.  Or. No.
Lv. Job  Hrs.

Bit-Size  12"  Type  Sco
Casing-Size  24 in.  Length in hole  20 ft.  in.  Amt. Perforated  ft.  in.
Depth Start  ft.  Depth Stop  ft.  Feet Drilled
Water Levels, Time  M  ft., Time  M  ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
|       |           | Rolling & Cleaning. Hole down about 340 -
|       |           | Our new rope docked, stranded line.  Just about same.
|       |           |         |     |

Remarks: Slow going down well, 15" bit on half way I hate of material to take out.

Signed Richard Bourn  Date 11/27/79
**DRILLING LOG**

<table>
<thead>
<tr>
<th>Date</th>
<th>11/26/79</th>
<th>Job No.</th>
<th>846W-26</th>
<th>Hole No.</th>
<th>0953-01</th>
<th>Elevation</th>
<th>848.01 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept Natural Resources</td>
<td>Location</td>
<td>Ohooe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Bourn</td>
<td>10 Hrs.</td>
<td>Rig</td>
<td>36L</td>
<td>79 DEC 73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Fricke</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>79 DEC 73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Repairs</td>
<td>79 DEC 73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size**

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>12 in.</th>
<th>Type</th>
<th>Star</th>
</tr>
</thead>
</table>

**Casing-Size**

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>24 in.</th>
<th>Length in hole</th>
<th>30 ft.</th>
<th>in.</th>
<th>Amt. Performed</th>
<th>5 ft.</th>
<th>in.</th>
</tr>
</thead>
</table>

**Depth Start**

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>ft.</th>
<th>Depth Stop</th>
<th>ft.</th>
<th>Feet Drilled</th>
<th></th>
</tr>
</thead>
</table>

**Water Levels, Time**

<table>
<thead>
<tr>
<th>M</th>
<th>ft.</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
<th></th>
</tr>
</thead>
</table>

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Changed bit from 18&quot; M.H. to 12&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Star see if can clean out hole any</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>faster</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Worked Sunday &amp; made up day -</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Little cleaned down to about 350 ft</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some faster but not much.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

He may big is places takes lot of

**Drilling it Clean out same.**

Signed: Richard Bourn | Date: 11-26/79 |
Date 11/24 1979  Job No. 812-24  Hole No. 0953-01  Elevation 848.01 ft.
Customer  Dept. Natural Resources  Location O'ahu
Driller Richard Bourn  10 Hrs.  Rig 361
Helper Bradley Kneese  10 Hrs.  Gas
Helper  Hrs.  Repairs
Bit-Size  18"  Type M.H.
Depth Start ft., Depth Stop ft., Feet Drilled
Water Levels, Time M ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reset rig as shown has settled on one.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Side Core, Keep rubber goring wires loose. Location like Cow Lot.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hole just went clean or Cleanout past.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Core good on alignment as for.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Down about 290°</td>
</tr>
</tbody>
</table>

Remarks: Hole clean as slow as drilling or slower in shale. Think the earth quoted might have something to do with fill in.

Signed Richard Bourn  Date 11/24  1979
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

Date 11/23 1979 Job No. HW-26 Hole No. __________________________ Elevation ft.
Customer __________________________________________________________________________ Location __________________________________________________________________________

Driller: Richard Bourn 10 Hrs. Rig 361
Helper Bradley Knier 10 Hrs. Gas Oil
Helper __________________________________________________________________________ Hrs. Repairs __________________________________________________________________________
Arv. Job ___________ Lv. Job ___________ Hrs. __________________________________________________________________________ Or. No. __________________________________________________________________________

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>M. H.</td>
</tr>
<tr>
<td>Casing-Size</td>
<td>in., Length in hole ft. in., Amt. Perforated ft. in.</td>
</tr>
<tr>
<td>Depth Start</td>
<td>ft., Depth Stop</td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M ft., Time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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</tr>
</tbody>
</table>

Remarks: Hole closed out just like drilling but in improving. Hole - worked about 3 hrs on clutch and tightening. Pedal Bearing & taking out shine.

Signed: Richard Bourn Date 11/23 1979
**Date**: 11/21/79  
**Job No.**: 8766-26  
**Hole No.**: 6953-61  
**Elevation**: 885.01 ft.

**Customer**: Dept. Natural Resources  
**Location**: Okā

**Driller**: Richard Brown  
**Hrs.**: 16  
**Rig**: 366

**Helper**: Bradley K.  
**Hrs.**: 16  
**Gas**:  
**Oil**:  
**Repairs**: 

**Arr. Job**:  
**L. Job**:  
**Hrs.**:  
**Or. No.**: 

**Bit Size**: 18"  
**Type**: 911

**Casing Size**: in., Length in hole ft., in.,  
**Amt. Perforated**: ft., in.

**Depth Start**: ft., **Depth Stop**: ft., **Feet Drilled**: 

**Water Levels**: M ft., **Time**: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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<tbody>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td><em>Removing &amp; cleaning out hole</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Down 260</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks**: Process took just as long as drilling, but impression hole very much.

**Signed**: Richard Brown  
**Date**: 11/21/79
Date: 11/26/1979  
Job No.: 34-26  
Hole No.: 253-01  
Elevation: 848.01 ft.

Customer: Dept. No. 1  
Location: A'Kaa

Driller: Chaly  
16 Hrs.

Rig: 36L

Helper: Robert Kane  
16 Hrs.

Gas: Oil

Helper:  
Hrs.

Repairs:

Arv. Job:  
Lv. Job:  
Hrs.

Or. No.:  

Bit-Size:  
Type:


Depth Start: ft., Depth Stop: ft., Feet Drilled:

Water Levels, Time: M ft., Time: M ft.

### Depth Formations

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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<tbody>
<tr>
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</tbody>
</table>

### Measurements

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
</table>

**Remarks:**

- Many slow progress did pull just like drilling
- No results

**Signed:** Richard Brown  
**Date:** 11/26/1979
Date: 11/15 1979  
Job No.: S116-2  
Hole No.: 0951-01  
Elevation: 348.01 ft.

Customer: Dept. of Natural Resources  
Location: Akoo

Driller: Richard Bourn  
Helper: Bradley Kueser

<table>
<thead>
<tr>
<th>Hours</th>
<th>Rig</th>
<th>Gas</th>
<th>Oil</th>
<th>Repairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10</td>
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<table>
<thead>
<tr>
<th>Arv. Job</th>
</tr>
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<table>
<thead>
<tr>
<th>Hv. Job</th>
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<table>
<thead>
<tr>
<th>Drilling Ao.</th>
</tr>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Loc. &amp; Rigs.</th>
</tr>
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<tbody>
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</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
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<tbody>
<tr>
<td></td>
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</table>

<table>
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<th>Water Level</th>
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</table>

<table>
<thead>
<tr>
<th>Bit Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>18&quot;</td>
<td>M.H.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing Size</th>
<th>Length in Hole</th>
<th>Amt. Perforated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
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<th>Remarks</th>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Top A</th>
<th>Top B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:  
- Not having much luck here. Cleaning hole at bottom.

Signed: Richard Bourn  
Date: 11/15 1979
### Drilling Log

**Date:** 11/14 1979  
**Job No.:** SHW-4  
**Hole No.:** 0932-01  
**Elevation:** 848.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** Paha

**Driller**  
Name: Richard Bourne  
Hrs.: 10  
Rig: 360

**Helper**  
Name: Bradley Keene  
Hrs.: 10  
Gas: Oil

**Arv. Job**  
Hrs.:  
Or. No.: 
L. Job:  
Repairs: 

---

**Bit-Size:** 18"  
**Type:** M.H.

**Casing-Size:** in., Depth Start: ft., Feet Drilled:  
**Length in hole:** ft., Depth Stop: ft., Depth:  
**Amt. Perforated:** ft. in.

---

**Water Levels, Time:** M ft., Time: M ft.

---

**Depth**  
**Formation**  
**Remarks**  
**Top**

---

**Remarks:**  
"Put biggeruggy on shoulder of bit had spot at 240. Can't reach to 24". As to much casing.

---

**Signed:** Richard Bourne  
**Date:** 11/14 1979
Date: 11/13/1979  
Job No.: 8748-46  
Hole No.: 8953-01  
Elevation: 848.01 ft.

Customer: Department of Natural Resources  
Location: Ahi

Driller: Richard Bourn  
10 Hrs.  
Rig: 36L

Helper: Bradley Knese  
10 Hrs.  
Gas: Oil

Repair:  

Arv. Job:  
Lv. Job:  
Or. No.:  

Bit-Size:  
Type:  

Casing-Size: in., Length in hole: ft.  
Amt. Perforated: ft. in.

Depth Start: ft., Depth Stop: ft., Feet Drilled:  

Water Levels, Time: M ft., Time: M ft.

<table>
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<tr>
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<th>Formation</th>
<th>Remarks</th>
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</table>

Remarks:  

Signed: Richard Bourn  
Date: 11/13/1979

Note: The text contains handwritten notes about drilling operations.
Date: 11/13/79 1979  
Job No. 54W-46  
Hole No. 253-01  
Elevation: 840.01 ft.

Customer: Dept. Natural Resources  
Location: Aiea

Driller: Richard Brown  
10 Hrs. Rig: 364

Helper: Bradley Kneese  
10 Hrs.  
Gas:  
Oil:  
Repairs:

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit Size: 24"  
Type: Star- 

Casing Size:  
in., Length in hole:  
ft. in., Amt. Perforated:  
ft. in.

Depth Start:  
ft., Depth Stop:  
ft., Feet Drilled:  

Water Levels, Time: M  
ft., Time: M  
ft.

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<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>
|       | Reaming to 24" Butt cutting lugs on motion of 24" bit.  
|       | Hole bridged off again changed bit to  
|       | 18" & started drilling out plug. |

Remarks: Hole driller just like it was new hole very slow.

Signed: Richard Brown  
Date: 11/13  
1979
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

---

**Date** 11/11 1979  
**Job No.** 84W-46  
**Hole No.** 0953-46  
**Elevation** 848.01 ft.

**Customer** Dept. Natural Resources  
**Location** Oahu

**Driller** Richard Bourn  
**Hours** 10 Hrs.  
**Rig**

**Helper** Bradley Kneee  
**Hours** 10 Hrs.  
**Gas**

**Helper**

**Arr. Job**

**Lv. Job**

**Hrs.**

**Or. No.**

---

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
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<table>
<thead>
<tr>
<th>Depth Start</th>
<th>ft.</th>
<th>Depth Stop</th>
<th>ft.</th>
<th>Feet Drilled</th>
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<tr>
<th>Water Levels, Time</th>
<th>M</th>
<th>ft.</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
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**Measurements**

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<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
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<tbody>
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</tbody>
</table>

- Changed bit to 24" Reaming may have to change back to 18" before long. Reaming hole to 24" from 18" hole.
- Bridge off in every place that it comes down to size lots of material falling in from puka holes.
- 11-10 worked 9 hr. to make up for hours lost in days we traveled home & back.

**Remarks:**

- Changed bit to 18" Drilled out plug & cleaned. Later changed back to 24" I started Reaming again down 10" in lots of coming.

**Signed** Richard Bourn  
**Date** 11/11 1979
**Date**: 11/3/79  
**Job No.**: 544-46  
**Hole No.**: 953-01  
**Elevation**: 848.01 ft.

**Customer**: Dept. Natural Resources  
**Location**: Okane

**Driller**: Richard Brown  
**10 Hrs.**: Rig

**Helper**: Bradley Kneese  
**10 Hrs.**: Gas  
**Oil**

**Arv. Job**:  
**Lv. Job**:  
**Hrs.**:  
**Or. No.**: 

**Bit-Size**: 
**Type**: 

**Casing-Size**: in., **Length in hole**: ft.  
**in., Amt. Perforated**: ft.  
**in.**

**Depth Start**: ft., **Depth Stop**: ft., **Feet Drilled**: 

**Water Levels, Time**: M ft., **Time**: M ft.

**Depth** | **Formation** | **Remarks** | **Top**
--- | --- | --- | ---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Remarks</th>
</tr>
</thead>
</table>
| Went to job sight, String up fishing  
| 7 P.M. |
| Had to change design of hook a couple  
| of times finally picked up bit about |
| Signed: Richard Brown  
| Date: 11/2  
| 1979 |
Date: 11/8/79
Job No.: 940 - 46
Hole No.: 2759-01
Elevation: 848.01 ft.

Customer: Dept. Natural Resources
Location: Oahu

Driller: Richard Bourn
10 Hrs.
Rig: 36L

Helper: Bradley Jones
10 Hrs.
Gas: Oil

Helper: ____________
Hrs.
Reps: ____________

Arv. Job: _______  
Lv. Job: _______  
Hrs.: _______  
Or. No.: _______

Bit-Size: _______  
Type: _______


Depth Start: _______ ft., Depth Stop: _______ ft., Feet Drilled: _______.

Water Levels, Time: _______ M ft., Time: _______ M ft., _______.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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<tbody>
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</tbody>
</table>

Went & picked up tire for truck. Changed Same.

Went to Manhattan, back home would be
in by 10 pm but never got in till after
11 - never got anything off dock until
after 3:30.

Lot tire fixed for truck. Disbld. &

Remarks: Never got done till after 5:00 p.m.

Ready to go field in a.m.

Signed: Richard Bourn  Date: 11/8/79
<table>
<thead>
<tr>
<th>Date</th>
<th>11/07 1977</th>
<th>Job No.</th>
<th>HW-46</th>
<th>Hole No.</th>
<th>HW-46-01</th>
<th>Elevation</th>
<th>848.01 ft.</th>
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</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>Honolulu, Hawaii</td>
<td>96819</td>
<td></td>
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</tr>
<tr>
<td>Driller</td>
<td>Richard Bourn</td>
<td>10 Hrs.</td>
<td>Rig</td>
<td>361</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Knees</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Repairs</td>
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<tr>
<td>Arv. Job</td>
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<tr>
<td>Lv. Job</td>
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<td>Hrs.</td>
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<td>Bit-Size</td>
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<td>ft., in., Amt. Perforated</td>
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<td>Depth Start</td>
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<tr>
<td>ft., Depth Stop</td>
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<td></td>
<td></td>
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<tr>
<td>ft., Feet Drilled</td>
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<tr>
<td>Water Levels, Time</td>
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<tr>
<td>M ft., Time</td>
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<tr>
<td>M ft.</td>
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<tr>
<td>Measurements</td>
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### Depth

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hot Road Block South, Stone had to help</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Full run on through stone walls &amp; change course of right away.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Building hooks &amp; grabs but can't do any good fishing with sand line</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tried hook on bottom of 12' hit but can't see what going.</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Fishing tools will be in on Barge tomorrow then can do business.

**Signed:** Richard Bourn | Date: 11/7 1977
**Date:** 11/6 1979  
**Job No.:** 546  
**Location:**  
**Elevation:** 848.01 ft.

<table>
<thead>
<tr>
<th>Customer</th>
<th>K &amp; T Natural Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driller</td>
<td>Richard Brown</td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Knuke</td>
</tr>
<tr>
<td>Rig</td>
<td>361</td>
</tr>
<tr>
<td>Gas</td>
<td></td>
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<tr>
<td>Oil</td>
<td></td>
</tr>
<tr>
<td>Hrs.</td>
<td>16</td>
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**helper** 

<table>
<thead>
<tr>
<th>Rigs</th>
<th>Hrs.</th>
<th>Repairs</th>
</tr>
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<tbody>
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**Helper:** ______________  
**Hrs.:** ______________  
**Repairs:** ______________

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**Bit-size** 

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**Casing-Size:** 

<table>
<thead>
<tr>
<th>in., Length in hole</th>
<th>ft. in., Amt. Perforated</th>
<th>ft. in.</th>
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**Depth Start:** 

<table>
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<th>Start</th>
<th>Stop</th>
<th>Feet Drilled</th>
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**Measurement**

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<th>M ft., Time</th>
<th>M ft.</th>
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<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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</table>

- Drilled 24 ft out of hole but laying down on 30% angle rock and sandwall
- Bottom out of hole on other side
- Run down from under water hole
- Can't get down through square
- Building hook took 1 fish for rest of day

**Remarks:** Can't seem to hole up so much can't seem to get over 24 ft down. But kind of well look like we're doing it.

**Signed:** Richard Brown  
**Date:** 11/6 1979
**DRILLING LOG**

RUSCOE MOSS COMPANY

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TELEPHONE (808) 839-6888 • 833-1444

---

**Date:** 11/5/79  
**Job No.:** 876  
**Hole No.:** 3  
**Elevation:** 848.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** Okau

**Driller:** Richard Bourn  
**Rig:** 36  
**10 Hrs.**

**Helper:** Bradley Kunce  
**Gas:**  
**Oil:**  
**10 Hrs.**

**Arv. Job:**  
**Lv. Job:**  
**Repairs:**  
**Hrs.:**

---

**Bit-Size**  
**Type**

**Casing-Size**  
**in.,**  
**Length in hole ft.**  
**in.,**  
**Amt. Perforated ft.**  
**in.,**

**Depth Start**  
**ft.,**  
**Depth Stop ft.,**  
**Feet Drilled**

**Water Levels, Time**  
**M**  
**ft.,**  
**Time**  
**M**  
**ft.**

---

**Depth**  
**Formation**  
**Remarks**  
**Top**

**Measurements**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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</table>

**Remarks:**

- Caught up to fish bit laying on angle in hole
- Had hard time getting anything over sams
- Had hall stand to pick sams, bit
- Bit wall & roll out of hook
- Went down hole & big slabs on top

---

**Signed:** Richard Bourn  
**Date:** 11/5/79
**DRILLING LOG**

**Customer:** Dept. Natural Resources  
**Location:** Ala Moana

- **Date:** 11/4/1979  
- **Job No.:** SSW-46  
- **Hole No.:** 0753.01  
- **Elevation:** 848.01 ft.

**Driller:** Richard Brown  
**Helper:** Bradley Kincaid  

**Hrs.:**  
- Rig: 16  
- Gas: 16  
- Oil: 16  
- Repairs:  

**Arv. Job:**  
**Lv. Job:**  
**Hrs.:**

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
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<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>in., Length in hole</th>
<th>ft.</th>
<th>in., Amt. Perforated</th>
<th>ft.</th>
<th>in.</th>
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**Depth Start:**  
**Depth Stop:**  
**Feet Drilled:**

**Water Levels, Time:** M ft., Time M ft.

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<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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</table>

**Wt. Lost:** M ft., Time M ft.

**Bit-Size:** in., Length in hole ft., Amt. Perforated ft., in.

**Casing-Size:** in., Length in hole ft., Amt. Perforated ft., in.

**Drill.d:**

**Comments:**

- Went to job sight to pick up truck
- Same tool that fell down hill
- Changed tool on truck. Looked for it.
- Came back went to Kahala to pick up stuff. Large was late. Neared Stem, took a rest till after
- 3 pm

**Remarks:** Came back to manager. Had to 5:30

**Signed:** Richard Brown  
**Date:** 11/4/1979
**DRILLING LOG**

RUSCOE MOSS COMPANY

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TELEPHONE (808) 839-6688 • 833-1444

Date 11/3/79  
Job No. 8844  
Hole No. 095-9-01  
Elevation 848.01 ft.

Customer: Next Natural Resources  
Location: Hawaii

Driller: Richard Born  
Hrs.: 70

Helper: Bradley Luce  
Hrs.: 7

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  
Rig: 36L

Bit-Size: 14"  
Type:  

Casing-Size: 24" in.  
Length in hole: 26 ft.  
Amt. Perforated:  
in.  

Depth Start:  
Depth Stop:  
Amt. Drilled:  

Water Levels, Time:  

**Depth**  
**Formation**  
**Remarks**  
**Top**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Drilling out plug.</td>
</tr>
<tr>
<td></td>
<td>Bit jumped &amp; not well jumped</td>
</tr>
<tr>
<td></td>
<td>Pin on 14&quot; bit.</td>
</tr>
<tr>
<td></td>
<td>Bit hanging down in hole. Wire can't hold back &amp; first same.</td>
</tr>
<tr>
<td></td>
<td>Reamed lead on bit on pt.</td>
</tr>
</tbody>
</table>

**Remarks:**

Signed: Richard Born  
Date: 11/3/79
Date: 10/26 1979  
Job No.: 8HW-46  
Hole No.: 0953-01  
Elevation: 848.01 ft.

Customer: Dept. of Natural Resources  
Location: Olive

Driller: Richard Bourn  
10 Hrs.  
Rig:  
Gas:  
Oil:  

Helper: Bradley Kuenzi  
10 Hrs.  
Hrs.  
Repairs:  

Arv. Job:  
Lv. Job:  
Hrs.  

Bit-Size: 24"  
Type:  

Casing-Size: in., Length in hole: ft. in.,  
Amt. Perforated: ft. in.

Depth Start: ft., Depth Stop: ft.  
Feet Drilled:

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>

- Reaming hole to 24" gas down to about 85 ft.
- Hard layers. Coned down to 18" sure.
- Makes good cleaning.

Remarks: Work tapering up but have to repair lugs every 30 minutes. Hole still casing air pulses.

Signed: Richard Bourn  
Date: 10/26 1979
Date: 10/25 1979  Job No: 8FW-16 Hole No: 0953-01  Elevation: 848-01 ft.

Customer: Dept. Natural Resources  Location: O'Kee

Driller: Richard Bourn  10 Hrs.  Rig: 36L
Helper: Bradley Kneese  10 Hrs.  Gas: Oil
Helper:  Hrs.  Repairs: 

Bit-Size: 24"  Type: Star
Casing-Size: 24" in.  Length in hole: 20 ft.
Depth Start: ft.  Depth Stop: ft.  Feet Drilled: 
Water Levels, Time: M ft.  Time: M ft.

Depth  Formation  Remarks  Top

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Changed size to 14&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>to drill out Bridge</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Had about 10 ft plug cleaned hole to bottom</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spooled line over &amp; Hall Cone in over 105 ft</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>All ready back to 380 ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cleaned hole to bottom &amp; Changed tool &amp; Bock to 14&quot; kit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>New new Rope Socket</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Water Levels, Time: M ft.  Time: M ft.

Remarks:  Went back to Reaming at 55 ft. to 24"  Halb still coming.

Signed: Richard Bourn  Date: 10/25 1979
DRILLING LOG

RUSCOE MOSS COMPANY

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

Date: 10/24/79
Job No. 8944 - 46
Hole No. 0953-01
Elevation 848.01 ft.

Customer: Dept. Natural Resources
Location: Hikoe

Driller: Richard Bourn
10 Hrs.
Rig: 364

Helper: Bradley Knuss
10 Hrs.
Gas: 100%
Oil: 0%

Helper:

Arv. Job: 10/23/79
Lv. Job: 10/24/79
Hrs.

Bit-Size: 2-7/8"
Type: Star

Casing-Size: 2-7/8" in., Length in hole: 20 ft.
Depth Start: ft., Depth Stop: ft., Feet Drilled:

Depth
Formation

Remarks

Top

A

B

Rigged up & shot ledge off so could
set surface pipe down straight to next ledge
set down crooked but can't pull back stick.
hole bridged off 40', big slab & chunks
ledge off hook.

Remarks: May have to put a small bit to punch out
plug as can't make much headway

Signed: Richard Bourn
Date: 10/24/79
**DRILLING LOG**

Date: 10/23 1979  
Job No.: 8HW-A  
Hole No.: 0953-01  
Elevation: 848.01 ft.

Customer: Dept. Natural Resource  
Location: Oahu

**Driller:** Richard Bourne  
10 Hrs.  
Rig: 361

**Helper:** Bradley Kaese  
10 Hrs.  
Gas:  
Oil: 

**Arv. Job:**  
**Lv. Job:**  
**Hrs.:**  

**Bit-Size:** 24”  
**Type:** Star

**Casing-Size:** 24” in.  
**Length in hole:** 20 ft.  
**Amnt. Perforated:** ft. in.

**Depth Start:** ft.  
**Depth Stop:** ft.  
**Feet Drilled:** _______

**Water Levels, Time:** M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>
| Pulled 18” Surface pipe 4 broke off 18”  
Hit bit up for 18” bit & Surface pipe  
Having hard time leaning off top ledge  
To set pipe: breaking lots of big stuff  
Down hole  
Worked on bit for over 3hrs before.  
Got started leaning. |

**Remarks:**  
May have to shoot off with Powder  
To get pipe in Hole.

Signed: Richard Bourne  
Date: 10/23 1979
Date: 10/24 1979  Job No. SHW-26  Hole No. 0753-01  Elevation 848.01 ft.

Customer: Dept. Natural Resources  Location: Oahu

Driller: Richard Bourn  10 Hrs.  Rig: 361
Helper: Bradley Kneese  10 Hrs.  Gas:  Oil


Bit-Size: 24"  Type: Star

Casing-Size: 24" in., Length in hole 20 ft. in., Amt. Perforated ______ ft. in.

Depth Start  ft., Depth Stop  ft., Feet Drilled ______

Water Levels, Time ______ M ______ ft., Time ______ M ______ ft.

Remarks:

Went & picked up truck & Check out  & get gas went to dock to pick up bit & pipe.

78 NOV 5

LAND DEVELOPMENT

RECEIVED

Remarks: Was late getting things off dock; went & picked up fuel & returned to job. Got dock 4:30 P.M.

Signed: Richard Bourn  Date: 10/24 1979
Date: 10/18/79  
Job No.: 884576  
Hole No.: 0953-01  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources  
Location: Office

Driller: Richard Brown  
10 Hrs.  
Rig: 361

Helper: Dudley Kimes  
10 Hrs.  
Gas: Oil

Arv. Job:  
Lv. Job:  
Hrs.:  
Qu. No.:  

Bit-Size: 18"  
Type: Star

Casing-Size: 18" in, Length in hole: 34 ft.  
In., Amt. Perforated:  
ft.  
in.

Depth Start:  
ft., Depth Stop:  
ft., Feet Drilled:  

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reaming on wall.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HalfLooks Like Hill Count</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>So much water that no Honest</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Down To Work.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Half Rod Should Not Have Drilled 74'
Right Hole as Colt needs control in such material when Reaming.

Signed: Richard Brown  
Date: 10/18/79
<table>
<thead>
<tr>
<th>Date</th>
<th>10/17 1979</th>
<th>Job No.</th>
<th>874W-46</th>
<th>Hole No.</th>
<th>0953-01</th>
<th>Elevation</th>
<th>848.01 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>AKoe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Bourn</td>
<td>10 Hrs.</td>
<td>Rig</td>
<td>36-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Kreese</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Hrs.</td>
<td>Repairs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hrs. Repairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bit-Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing-Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth Start</td>
<td>370 ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth Stop</td>
<td>375 ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feet Drilled</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measurements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>370</td>
<td>A.A. Giltin</td>
<td>Drilling took in bottom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>375</td>
<td></td>
<td>Hand control using diem</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Worked on wall trying to drain off Dome mast head help much. Hole liner like cork drew.

Signed: Richard Bourn Date: 10/17 1979
<table>
<thead>
<tr>
<th>Date</th>
<th>10/29</th>
<th>Job No. 8411 - 46</th>
<th>Location</th>
<th>848.01 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept Natural Resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Michael Brown</td>
<td>10 Hrs.</td>
<td>Rig</td>
<td>361</td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Lee</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Hrs. Repairs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th></th>
<th>Type</th>
<th></th>
</tr>
</thead>
</table>

|-------------|----------------|-----|-----------------|-----|-----|

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M</th>
<th>ft.</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Checked out Hole 4 Have only one</td>
</tr>
<tr>
<td></td>
<td>Alternative Down to 24” or move</td>
</tr>
<tr>
<td></td>
<td>I will new Hr. or go as is best</td>
</tr>
<tr>
<td></td>
<td>time will soon be again well on account</td>
</tr>
<tr>
<td></td>
<td>of drift</td>
</tr>
<tr>
<td></td>
<td>Ordered 34” bit 1” Starter pipe to start</td>
</tr>
<tr>
<td></td>
<td>working over hole</td>
</tr>
<tr>
<td></td>
<td>Going to Home</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remarks:</th>
<th>Order 34” bit 1” Starter pipe to start</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Working over hole</td>
</tr>
<tr>
<td></td>
<td>Going to Home</td>
</tr>
</tbody>
</table>

| Signed | Richard Brown | Date 10/19 1979 |
### DRILLING LOG

**RUSCONE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

<table>
<thead>
<tr>
<th>Date</th>
<th>10/16 1979</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job No.</td>
<td>HW-46</td>
</tr>
<tr>
<td>Hole No.</td>
<td>593-01</td>
</tr>
<tr>
<td>Elevation</td>
<td>848.01 ft.</td>
</tr>
</tbody>
</table>

**Customer**

Dept. Natural Resources, Location Okie

**Driller**

Richard Bourn 10 Hrs.

**Helper**

Bradley Kriese 10 Hrs.

**Arv. Job**

Lv. Job

**Bit-Size**

18" Type Siter

**Casing-Size**

18" in. Length in hole 31 ft. in. Amt. Perforated 5 ft. in.

**Depth Start**

365 ft., Depth Stop 370 ft., Feet Drilled 5

**Water Levels, Time**

M ft., Time M ft.

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>365</td>
<td>Medium</td>
<td>Hard Fred</td>
<td></td>
</tr>
<tr>
<td>590</td>
<td>Above</td>
<td>Still wear bit bod.</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

Changed bit from Mothers Hub to 8 Star worked all A M. on Star bit. Had new bod. Don't know if Can Save or just went. Stop druf. from coming back so quick.

**Signed:** Richard Bourn  Date 10/16 1979
Drilling Log

830 Ahua Street • Honolulu, Hawaii 96819
Telephone (808) 838-6888 • 833-1444

Date: 10/11 1979
Job No.: 8460-46
Hole No.: 0513-01
Elevation: 848.01 ft.

Customer: Dept. Natural Resources
Location: Oahu

Driller: Richard Bourn
10 Hrs.
Rig: 362

Helper: Bradley Knauss
10 Hrs.
Gas: Oil

Helper: [Blank]
[Blank Hrs.]
[Blank Repairs]

Arv. Job: [Blank]
Lv. Job: [Blank]
[Blank Hrs.]
Or. No.: [Blank]

Bit-Size: 18" Type: MH1

Casing-Size: 18" in., Length in hole: 34 ft.

Depth Start: 350 ft., Depth Stop: 365 ft., Feet Drilled: [Blank]


<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>weekday</td>
<td></td>
</tr>
</tbody>
</table>

Remarks:
- Drilled right hole 13½ in rep 18" bit to screen under 18" screen
- Cleaning hole to 18"
- Hard layers then, up bit had
- 350 - 365 -

Signed: Richard Bourn
Date: 10/11 1979
Date: 10/10 1979  
Job No. 8HW-46  
Hole No. 6953-01  
Elevation: 848.0 ft.

Driller: Richard Boura 10 Hrs.  
Rig: Oil

Helper: Bradley Kacca 10 Hrs.  
Gas: Oil

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit-Size:  
Type:


Depth Start: ft., Depth Stop: ft., Feet Drilled:  

Water Levels: Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Remarks:  
Hole seems to flow as it drilled.

Signed: Richard Boura  
Date: 10/10 1979
Date: 10/9/79  Job No: SHW-46  Hole No: A953-01  Elevation: 848.01 ft.
Customer: Dept. Natural Resources  Location: Aloe

Driller: Richard Bourn  10 Hrs.  Rig: 364
Helper: Bradley Kinsie  10 Hrs.  Gas: Oil


Bit-Size: 18 Type: Regular
Depth Start: ft., Depth Stop: ft., Feet Drilled:

Water Levels, Time: M ft., Time: M ft.

Depth | Formation | Remarks | Top
--- | --- | --- | ---

Remarks:
- Perceiving hole to 18" fats had to move to weld casing 50 minutes or later.
- Changed from 3/5 to 3/30. Run new rope socket.

Signed: Richard Bourn  Date: 10/9/79
**Drilling Log**

**Date:** 10/8 1979  
**Job No.:** 346-7  
**Hole No.:** 0953-01  
**Elevation:** 888.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** Okoa

**Driller:** Richard Bourn  
**Hours:** 10 Hrs.  
**Rig:** 364

**Helper:** Bradley Hansen  
**Hours:** 10 Hrs.  
**Rig:** Gas, Oil

**Arv. Job:**  
**Lv. Job:**  
**Hrs.:**  
**Or. No.:**

**Bit-Size:** 18"  
**Type:** Star.

**Casing-Size:** 18" in., Length in hole 24 ft.  
**In., Amt. Perforated:** ft. in.

**Depth Start:** ft.  
**Depth Stop:** ft., Feet Drilled

**Water Levels, Time:** M ft., Time M ft.

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

- Reaming Hole from 14" to 18"
- Hole looks bad from 285 to 300 but pipe should go by.Couldn't remove reaming
- Couldn't drilling area with powder or drilling on iron part.

**Remarks:** Took about 4 hours to clean mud pit with scraper T  
**Sand lines:** Reaming 305-315

**Signed:** Richard Bourn  
**Date:** 10/8 1979
**DRILLING LOG**

**Date:** 04/16/79  
**Job No.:** 93W-P  
**Hole No.:** 0953-01  
**Elevation:** 848.01 ft.

**Customer:** Dept. of Natural Resources  
**Location:** Pearl

**Driller:** Richard Brown  
**Hrs.:** 10  
**Rig:**  
**Gas:**  
**Oil:**

**Helper:** Bradley Barnes  
**Hrs.:** 10  
**Reps.:**  
**Or. No.:**

**Arv. Job:**  
**Lv. Job:**  
**Hrs.:**

**Bit-Size:** 18"  
**Type:** M.H.

**Casing-Size:** 18"  
**in., Length in hole:** 24 ft.  
**in., Amt. Perforated ft. in.:**

**Depth Start:**  
**ft., Depth Stop:**  
**ft., Feet Drilled:**

**Water Levels, Time:**  
**M ft., Time:**  
**M ft.:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reaming to 18&quot; from 14&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reaming my slow as Rock Ford</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Broke out of Ford, but didn't help Alumina</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Much 285 - 305</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**  
Gaining some better now. Casing has stopped some. Hole must be completely filled in as cast work not bridge.

**Signed:** Richard Brown  
**Date:** 04/16/79
**Drilling Log**

**Ruscoe Moss Company**

830 Ahua Street • Honolulu, Hawaii 96819

Telephone (808) 836-6888 • 833-1444

<table>
<thead>
<tr>
<th>Date: 10/5/79</th>
<th>Job No: 8HW-46</th>
<th>Hole No: 0953-01</th>
<th>Elevation: 818-01 ft.</th>
</tr>
</thead>
</table>

**Customer:** Dept. Natural Resources  
**Location:** Akoee

**Driller:** Richard Brown  
**10 Hrs.** Rig 300

**Helper:** Bradley Koa  
**10 Hrs.** Gas Oil

**Arv. Job**  
**Lv. Job**  
**Hrs.**  
**Or. No.**

**Bit-Size:** 18"  
**Type:** Star

**Casing-Size:** 18" in., Length in hole 24 ft. in., Amt. Perforated ft. in.

**Depth Start:** ft., **Depth Stop:** ft., **Feet Drilled**

**Water Levels, Time:** M. ft., **Time:** M. ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Went to Idaho to pick up fuel & freight**

**Couldn't get any fuel. Don't need folks. But never got any for us.**

**Brought fuel back to work & made arrangement to meet fuel man first of week for fuel.**

**Went to unloading truck.**

**Remarks:** Never got any drilling done.

**Signed:** Richard Brown  
**Date:** 10/5/79
### DRILLING LOG

**Customer**: Dept. Natural Resources  
**Location**: O'ahu  
**Driller**: Richard Brown  
**Helper**: Bradley Lueosto  
**Rig**: 366  
**Gas**:  
**Oil**:  
**Arv. Job**:  
**Lv. Job**:  

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td>18&quot; in., Length in hole 24 ft.</td>
</tr>
<tr>
<td>Depth Start</td>
<td>ft.</td>
</tr>
<tr>
<td>Depth Stop</td>
<td>ft.</td>
</tr>
<tr>
<td>Feet Drilled</td>
<td></td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M ft., Time M ft.</td>
</tr>
</tbody>
</table>

#### Depth

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Resaving hole from 14&quot; to 18&quot; moving</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lost time at rock very hard hole must be completely filled in as can't seem to knock out bridge. Drilling on bridge</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Very unusual alignment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>275 to 285</td>
<td></td>
</tr>
</tbody>
</table>

#### Remarks:

- Not much help on alignment but feels will go by drape.

**Signed**: Richard Brown  
**Date**: 10/4 1979
**DRILLING LOG**

RUSCOE MOSS COMPANY

830 AHUA STREET • HONOLULU, HAWAII 96818
TELEPHONE (808) 839-6888 • 833-1444

Date 10/3 1979 Job No. 8HW-26 Hole No. 0953-01 Elevation 84801 ft.
Customer Dept Natural Resources Location Okoe

Driller: Richard Bourn 10 Hrs. Rig 366
Helper: Bradley Knowe 10 Hrs. Gas Oil
Helper: ______________________ Hrs. Repairs

Bit-Size: 18" Type M.H.
Casing-Size 18" in., Length in hole __________ ft. __________ in., Amt. Perforated __________ ft. __________ in.
Depth Start: __________ ft., Depth Stop: __________ ft., Feet Drilled: __________ __________ __________
Water Levels, Time M ft., Time M ft. __________ __________ __________

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reading Hub 14&quot; to 18&quot; coming hell of time sticking &amp; jerking also some coming from up above 270-275 Run new Pope socket &amp; bolt and shelly out box</td>
<td></td>
</tr>
</tbody>
</table>

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Remarks: Well drilling very slow minutes to be able to keep gauge on sight. Have up now that there.

Signed: Richard Bourn Date 10/3 1979
**DRILLING LOG**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

---

**Date**: 10/2 1979  
**Job No.**: FW-A  
**Hole No.**: 053-01  
**Elevation**: 838.01 ft.

**Customer**: Dept. Natural Resources  
**Location**: Oke

---

**Driller**: Richard Bourne  
**Hours**: 10 Hrs.  
**Rig**: 361

**Helper**: Bradley Krueze  
**Hours**: 10 Hrs.  
**Gas**:  
**Oil**:  
**Repairs**:

**Arv. Job**:  
**Lv. Job**:  
**Hrs.**:  
**Or. No.**:

---

**Bit-Size**: 18"  
**Type**: M.H.

**Casing-Size**: 18"  
**In., Length in hole**: 24 ft.  
**In., Amt. Perforated**: ft.  
**In.**, Depth Start**: ft.  
**Depth Stop**: ft., Feet Drilled**:

**Water Levels, Time**: M ft., Time**: M ft.

---

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

- Reaming hole from 17" to 18"

- Drilling on bridge in hard rock.

- 260 to 270.

---

**Remarks**: Material turns bit up so lite gauge right off.

---

**Signed**: Richard Bourne  
**Date**: 10/3 1979
Date: 11/3/1979  
Job No: 8456 - 46  
Hole No: 0953-01  
Elevation: 848.01 ft.

Customer:  
Dept. Natural Resources  
Location: Aheki

Driller:  
Richard Brown  
16 Hrs.  
Rig

Helper:  
Bradley Brown  
14 Hrs.  
Gas  
Oil

Helper:  
24 Hrs.  
Reparis

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.: 

Bit-Size:  
34"  
Type:  
X

Casing-Size:  
24"  
im.  
Length in hole:  
26 ft.  
im.  
Amt. Perforated:  
6 ft.  
im.

Depth Start:  
ft.  
Depth Stop:  
ft.  
Feet Drilled:

Water Levels, Time:  
M  
ft., Time:  
M  
ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Tap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Christmas Day to 24&quot;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changed bit to 14&quot; Kicked out top plug</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changed back to 24&quot; And Started cleaning</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Again</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Not sure if this was from last)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Saturday which we never sent )</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Remarks:  
Hole bridged again Changed back to 14" bit 9 started to drill out plug.

Signed:  
Richard Brown  
Date: 12/3/1979
## DRILLING LOG

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

<table>
<thead>
<tr>
<th>Date</th>
<th>9/28</th>
<th>Job No.</th>
<th>SHW-46</th>
<th>Hole No.</th>
<th>0953-01</th>
<th>Elevation</th>
<th>848.01 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>Akoo</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driller</th>
<th>Richard Bourne</th>
<th>10 Hrs.</th>
<th>Rig</th>
<th>361</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Bradley Knae</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Arv. Job   |                |         |     |     |
| Lv. Job    |                |         |     |     |
| Hrs.       |                |         |     |     |

| Or. No.    |                |         |     |     |

| Bit-Size   | 18"            | Type | M. H. |
| Casing-Size| 18" in., Length in hole 24 ft. | in., Amt. Perforated | ft. in. |
| Depth Start| 24.5 ft. | Depth Stop  | 260 ft. | Feet Drilled | 15 ft |
| Water Levels, Time | M | ft., Time | M | ft. |

### Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cleaning Hole from 14&quot; to 18&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hobbridged off at 255 going to drill</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and do may slay alignment.</td>
</tr>
</tbody>
</table>

**Remarks:** Drilling & boring on bridge. Helping lab & some.

**Signed:** Richard Bourne  **Date:** 9/28 1979
**Date:** 9/27 1979  
**Job No.:** 84W-46  
**Hole No.:** 0953-01  
**Elevation:** 848.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** Aho

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Richard Bourn</td>
<td>10</td>
<td>361</td>
<td>Bradley Knauss</td>
<td>10</td>
<td>Gas</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper Hrs.</th>
<th>Gas</th>
<th>Oil</th>
<th>Repairs</th>
<th>Hrs.</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18&quot;</th>
<th>Type</th>
<th>M.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>18&quot;</th>
<th>Length in hole</th>
<th>24 ft.</th>
<th>Amt. Perforated</th>
<th>4 ft.</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
<th>Water Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>420 ft.</td>
<td>245 ft.</td>
<td>25 ft.</td>
<td>M ft. Time M ft.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurements</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M ft.</th>
<th>Time</th>
<th>M ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

**Depth Formotion:**

<table>
<thead>
<tr>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welding often on bit to keep up in shape.</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

<table>
<thead>
<tr>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drilling Hole from 14&quot; to 18&quot;</td>
</tr>
<tr>
<td>Working on wall same to try &amp; correct</td>
</tr>
<tr>
<td>Drift some.</td>
</tr>
</tbody>
</table>

**Signed:** Richard Bourn  
**Date:** 9/27 1979
Date: 9/26/79

Customer: Dept. Natural Resources
Location: Aina

Driller: Richard Bourn 10 Hrs.

Helper: Bradley Knez 10 Hrs.

Arv. Job ____________________________ Hrs. ____________________________ Or. No. ________________

Rig 361

Gas Oil

Hrs. Repairs ____________________________

Helper Hrs. Repairs ____________________________

Depth Start 210 ft., Depth Stop 220 ft., Feet Drilled 10 ft

Water Levels, Time __________ M ft., Time __________ M ft.

Bit-Size 18" Type M.H.

Casing-Size 18" in., Length in hole 24 ft. __________ in., Amt. Perforated __________ ft. __________ in.

Remarks: "Welding after reaming on blue rock"

"Strike 1 drive, face off gouge."

"Run new rope socket."

Signed: Richard Bourn  Date 9/26/79
Date: 9/25-1979  
Job No.: 8HW-26  
Hole No.: 0953-01  
Elevation: 848.01 ft.

Customer: Dept Natural Resources  
Location: Aina

Driller: Richard Bourne  
Hrs.: 10  
Rig: 061

Helper: Broderick Reeves  
Hrs.: 10  
Gas:  
Oil:

Helper:  
Hrs.:  
Repairs:

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit-Size: 18"  
Type: M.H.

Casing-Size: 18" in., Length in hole: 24 ft.  
Amt. Perforated: __ ft. __ in.


Water Levels, Time: M __ ft., Time: M __ ft.

---

Depth | Formation | Remarks | Top
---|---|---|---

"Reaming hole from 14" to 18""

---

Remarks: Cut bottom off - M/H bit run flat for reaming  
Still have to mud gauge - often an invasive bed.

---

Signed: Richard Bourne  
Date: 9/25-1979
**DRILLING LOG**

830 AUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

Date: 9/24 1979  
Job No. 814W-26  
Hole No. 0953-01  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources  
Location: Oahu

Driller: Richard Bourn  
10 Hrs. Rig 36 L

Helper: Bradley Kneese  
10 Hrs. Gas  
Oil

Or. No.  

Arv. Job  
Lv. Job  
Hrs.  Or. No.

**Measurements**

- Bit-Size: 18"  
- Type: star

- Casing-Size: 18"  
in., Length in hole: 24 ft.  
in., Amt. Perforated: ft. in.

- Depth Start: 165 ft.  
- Depth Stop: 185 ft.  
- Feet Drilled: 20

- Water Levels, Time: M ft., Time: M ft.

**Remarks:**

- Running hole from 18" to 18"  
- Hard work for new bit.  
  Bored nonstop 30 minutes

**Depth**  
**Formation**  
**Remarks**  
<table>
<thead>
<tr>
<th>Depth</th>
<th>Formaion</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**Signed:** Richard Bourn  
**Date:** 9/24 1979
### DRILLING LOG

**Date:** 9/21 1979  
**Job No.:** SS424-46  
**Hole No.:** 0953-01  
**Elevation:** 848.01 ft.

**Customer:** Dept. Natural Resources  
**Location:** Office

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hours</th>
<th>Rig No.</th>
<th>Helper</th>
<th>Hours</th>
<th>Gas</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Brown</td>
<td>10</td>
<td>361</td>
<td>Bradley Kresse</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hours</th>
<th>Repairs</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
<th>18&quot;</th>
<th>Star</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>in., Length in hole</th>
<th>ft.</th>
<th>in., Amt. Perforated</th>
<th>ft.</th>
<th>in.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Dilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>155 ft.</td>
<td>165 ft.</td>
<td>Reaming 10 ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M</th>
<th>ft., Time</th>
<th>M</th>
<th>ft.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worked Saturday to make up for lost week. Sunday on next week.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Tap</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

**Remarks:**  
Built 18" Reaming bit took big part of day. Changed 19" Bit to 18" Bit Reaming hole.

**Signed:** Richard Brown  
**Date:** 9/21 1979
Date: 9/20/1979  
Job No.: SW-46  
Hole No.: 0953-01  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources  
Location: Akoa

Driller: Richard Bourn  
10 Hrs.  
Rig: 361

Helper: Bradley Keese  
10 Hrs.  
Gas: Oil

Arv. Job:  
Lv. Job:  
Hrs.  
Repairs:  
Or. No.:  

Bit-Size: 14"  
Type: Star

Casing-Size: 14" in.  
Length in hole: 218 ft.  
In., Amt. Perforated:  
ft., in.

Depth Start: 360 ft.  
Depth Stop: 375 ft.  
Feet Drilled: 15 ft

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>364</td>
<td>puka</td>
<td>Coming material but goes slow.</td>
<td></td>
</tr>
<tr>
<td>375</td>
<td>puka</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Pulled casing in P.M. - Set in 24'-18" Surface pipe for pilot. Going to have to build ressure lift up 2½" long job.

Signed: Richard Bourn  
Date: 9/20/1979
**Date:** 9/19 1979  
**Job No.:** 8HW-46  
**Hole No.:** 0953-01  
**Elevation:** 848.0 ft.

**Customer:** Dept. Natural Resources  
**Location:** Ala Moana

**Driller:** Richard Brown  
**Helper:** Bradley Knese

**10 Hrs.** Rig 36L  
**10 Hrs.** Gas Oil

**Arv. Job**  
**Lv. Job**  
**Hrs. Repairs**

**Bit-Size:** 14"  
**Type:** Star

**Casing-Size:** 14" in., Length in hole 218 ft.  
**in., Amt. Perforated** ft. in.

**Depth Start:** 352 ft., **Depth Stop:** 360 ft., **Feet Drilled:** 8 ft.

**Water Levels, Time** M ft., **Time** M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>352</td>
<td>Blue Rock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>355</td>
<td>Very heavy hard</td>
<td>Waiting 30 minutes</td>
<td></td>
</tr>
<tr>
<td>355</td>
<td>Rock, Reddish</td>
<td>Some Caving, Abrasion</td>
<td></td>
</tr>
<tr>
<td>357</td>
<td>Brown</td>
<td>Adding bentonite again</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Had worst hill water since Loye we add mud to mix material. Drift starting to move may have to stop pipe & re-start.

**Signed:** Richard Brown  
**Date:** 9/19 1979
Date: 9/18 1979  Job No. 8HW-#6  Hole No. 0953-01  Elevation 848.01 ft.
Customer Dept. Natural Resources  Location Oahu

Driller: Richard Bourn  10 Hrs.  Rig 361
Helper: Bradley Kneese  10 Hrs.  Gas
Helper:  Hrs.  Oil

Bit-Size:  14"  Type: Star
Casing-Size:  14" in., Length in hole 218 ft.  in., Amt. Perforated ft. in.
Depth Start:  349 ft., Depth Stop:  359 ft., Feet Drilled:  5 ft

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>349</td>
<td>Reddish Gravel</td>
<td>Welding on bit 2 hrs. to rebuild</td>
<td></td>
</tr>
<tr>
<td>349</td>
<td>Cinders Coming</td>
<td>Abnormal Nasty Absence</td>
<td></td>
</tr>
<tr>
<td>352</td>
<td>Blue Rock</td>
<td>Very very Hard</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Welding on bit every 30 minutes</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Converted Cinders hold better than Bentonite.

Signed: Richard Bourn  Date 9/18 1979
# Drilling Log

## Information

- **Date:** 9/17 1979
- **Job No.:** 8HW-26
- **Hole No.:** 09 53 61
- **Elevation:** 8,806 ft.
- **Customer:** Dept. Natural Resources
- **Location:** Akok
- **Driller:** Richard Bourn
- **Helper:** Bradley Kresse
- **Rig:** 361 ELECT
- **Gas:**
- **Oil:**
- **Hrs.:**
- **Or. No.:**

## Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>337</td>
<td>Dakota</td>
<td>AH layers very abrasive</td>
<td>A</td>
</tr>
<tr>
<td>339</td>
<td></td>
<td>build my bit every run</td>
<td></td>
</tr>
<tr>
<td>343</td>
<td>AH very hard</td>
<td>tearing my bit after every 30 minutes</td>
<td></td>
</tr>
<tr>
<td>349</td>
<td>Cinders - Caving</td>
<td>using bentotile to hold walls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

## Remarks:
```
All material full of clays but very abrasive. Cinders won't hold unless add mud.
```

Signed: Richard Bourn  Date: 9/17 1979
Date: 9/15/79  
Job No.: 8HW-46  
Hole No.: 0752-06  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources
Location: Oahu

Driller: Richard M. Bourn  
10 Hrs.  
Rig: 36L

Helper: Bradley Kusse  
10 Hrs.  
Gas:  
Oil:  
Repairs:  

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit-Size:  
Type:  


Depth Start: ___________ ft., Depth Stop: ___________ ft., Feet Drilled: ___________ ft.

Water Levels, Time: ___________ M ___________ ft., Time: ___________ M ___________ ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Measurements

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Remarks:  
Best cleaning mud yet & cleaning up grease on rig cleaned up truck.  
Will make up time later forlor lost.

Signed: Richard Bourn  
Date: 9/15/79
Date: 9/14/79  
Job No.: 7H1-46  
Hole No.: 953-26  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources  
Location: Aloe

Driller: Richard Bourne  
Hrs.: 10  
Rig: 362

Helper: Bradley Kneese  
Hrs.: 10  
Gas:  
Oil:  
Repairs:  

Av. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit-Size: 14"  
Type: Stars

Casing-Size: 14" in.  
Length in hole: 218 ft.  
Amt. Perforated:  

Depth Start:  
Depth Stop:  
Feet Drilled:  

Water Levels:  
Time: M ft.  
Time: M ft.  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>315</td>
<td>Brown Puka -</td>
<td>Same Casing</td>
<td></td>
</tr>
<tr>
<td>328</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>328</td>
<td>AA Very Hard</td>
<td>Welding every 30 minutes</td>
<td></td>
</tr>
<tr>
<td>331</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>331</td>
<td>Brown Puka</td>
<td>Hard &amp; soft Layers</td>
<td></td>
</tr>
<tr>
<td>331</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>339</td>
<td></td>
<td>Same very Very Hard but thin</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Worked long hours to make up for tomorrow.

Signed: Richard Bourne  
Date: 9/14/79
Date: 9/13/79  
Job No.: 346-46  
Hole No.: 0763-01  
Elevation: 548.61 ft.

Customer: Dept. of Natural Resources  
Location: Rose

Driller: Richard Bourn  
10 Hrs.  
Rig: 764

Helper: Bradley Kneese  
10 Hrs.  
Gas:  
Oil:

Helper:  
Hrs.  
Repairs:

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:

Bit Size: 14"  
Type: Star

Casing Size: 14" in., Length in hole: 218 ft.  


Water Levels, Time: M ft., Time: M ft.

Remarks:

Table:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>285</td>
<td>Brown Parks</td>
<td>Rock has lots of Alumine very abrasive</td>
</tr>
<tr>
<td>215</td>
<td></td>
<td>Hole had to be bit every run for gauge</td>
</tr>
</tbody>
</table>

Signed: Richard Bourn  
Date: 9/13/79
Date: 9/12/79  
Job No.: 844W-26  
Hole No.: 0953-01  
Elevation: 849.01 ft.

Customer: Dept. Natural Resources  
Location: Haleiwa

Driller: Richard Bourn  
10 Hrs.  Rig: 366

Helper: Bradley Kneze  
10 Hrs.  Gas:  Oil

Driller:  
10 Hrs.  Repairs

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit-Size: 14"  Type: Steel


Depth Start: 2 ft., Depth Stop: 3 ft., Feet Drilled: 25 ft.

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

No drilling. Went to Kawaihae to drop material for use of Sam. Couldn't get any fuel, left Kobe with Sam to see if Carson will have fuel for us.

Told Harold material to Kailua became too wet after last week.

Remarks: Arrived late day when moved to go to Locke.

Signed: Richard Bourn  
Date: 9/12/1979
Date 9/11 1979 Job No. 3HW-86 Hole No. 0953-01 Elevation 842.01 ft.

Customer Dept Natural Resources Location Office

Driller Richard M. Brown 10 Hrs. Rig 36
Helper Bradley Knuese 10 Hrs.
Helper

Arv. Job

Lv. Job

Hrs. Repairs

Or. No. 


Depth Start 28.5 ft., Depth Stop 28.5 ft., Feet Drilled 3 ft.

Water Levels, Time M ft., Time M ft.

Depth Formation Remarks

282 Blue Rock very very Welding every 30 minutes

284 Hard

283 Brown - jake -

285 Left

Remarks: Took truck in & got some supplies for use at Muus Station Corp Cook.

Signed Richard Brown Date 9/11 1979
### DRILLING LOG

**Customer:** Dept. Natural Resources  
**Location:** Oahu  
**Contact:** Telephone (808) 839-6888 • 833-1444  

**Date:** 9/6 1979  
**Job No.:** SHW-24  
**Hole No.:** 0763-01  
**Elevation:** 848.01 ft.  

| Driller       | Richard Bourn | 10 Hrs. | Rig 36 L  
|---------------|---------------|---------|-----------  
| Helper        | Bradley Kneese | 10 Hrs. | Gas Oil  
| Helper        |               |         | Repairs    
| Arv. Job      |               |         | Or. No.    

**Bit-Sizes:**  
**Type:** Star  
**Depth Start:** 278 ft.  
**Depth Stop:** 284 ft.  
**Feet Drilled:** 6 ft.  

**Water Levels:**  
**Time:** M ft., Time M ft.  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>278</td>
<td>Blue Clay very soft</td>
<td>Welding of grinding bit</td>
<td>A</td>
</tr>
<tr>
<td>282</td>
<td>Hard Hard.</td>
<td>Drift holding so far as good as Hard Rock drilling</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>very tight gaggle. Has been rainy every day</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>From about 11-o'clock on A.m. to getting some done</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drift holding so far as good as Hard Rock drilling</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Drift holding so far as good as Hard Rock drilling. Very tight gaggle. Has been rainy every day from about 11 o'clock on A.M. to getting some done. Some time gone to drill some times.  

**Signed:** Richard Bourn  
**Date:** 9/6 1979
**DRILLING LOG**

RUSCOE MOSS COMPANY

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

---

**Date**: 9/5 1979  
**Job No.**: BH-46  
**Hole No.**: 0953-01  
**Elevation**: 848.01 ft.

**Customer**:Dept. Natural Resources  
**Location**: Ala

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Richard Bourn</td>
<td>Bradley Kneese</td>
<td></td>
<td>10 Hrs.</td>
<td>10 Hrs.</td>
<td>Rig 366</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
<th>Casing-Size</th>
<th>Length in hole</th>
<th>Amt. Perforated</th>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Star</td>
<td>14 in.</td>
<td>218 ft.</td>
<td>in.</td>
<td>274 ft.</td>
<td>278 ft.</td>
<td>4 ft.</td>
</tr>
</tbody>
</table>

**Water Levels, Time**

- **A**: M ft.  
- **B**: M ft.

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>274</td>
<td>Blue Rock</td>
<td>Very very</td>
<td>10</td>
</tr>
<tr>
<td>278</td>
<td>Hard Hard</td>
<td>Leaking but up every</td>
<td>30 minutes but ai 0</td>
</tr>
</tbody>
</table>

- **Top Holding Hole down to help before**

**Remarks**: Seems to have gotten rid of floor now goes some better still spend 75% of time welding.

**Signed**: Richard Bourn  
**Date**: 9/5 1979
**Date: 7/4 1979**  
**Job No.: 8 HW-4**  
**Hole No.: 0953-01**  
**Elevation: 848.01 ft.**

**Customer:** Dept. Natural Resources  
**Location:** Okoe

**Driller:** Richard Bourn  
**Rig:** 361

**Helper:** Bradley Kneese  
**Gas:** 10 Hrs.  
**Oil:**

**Helper:**  
**Hrs.:**  
**Repairs:**

**Arv. Job:**  
**Lv. Job:**  
**Hrs.:**  
**Or. No.:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>270</td>
<td>Blue Rock very very drift seems to</td>
<td>Home Blown down some. will be ok when seem to</td>
<td></td>
</tr>
<tr>
<td>277</td>
<td>Hard</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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</tbody>
</table>

**Remarks:** Drilling & welding on bit every 30 minutes. Some trouble hard sticking on bit. Material very very abrasive. Beside being very Hard using gauge feet too to be careful need to stay down too long.

Signed: Richard Bourn  
**Date:** 7/4 1979
<table>
<thead>
<tr>
<th>Date</th>
<th>9/3/79</th>
<th>Job No.</th>
<th>8HW-46</th>
<th>Hole No.</th>
<th>0953.01</th>
<th>Elevation</th>
<th>848.01 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>O'Koe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Bourne</td>
<td>10 Hrs.</td>
<td>Rig 36L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Kuenke</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td></td>
<td>Repairs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td></td>
<td>Or. No.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>14&quot;</th>
<th>Type</th>
<th>Star</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td>14&quot; in.</td>
<td>Length in hole</td>
<td>218 ft.</td>
</tr>
<tr>
<td>Depth Start</td>
<td>268 ft.</td>
<td>Depth Stop</td>
<td>270 ft.</td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M</td>
<td>ft., Time</td>
<td>M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>268</td>
<td>Blue Rock very very</td>
<td>Also has some</td>
<td></td>
</tr>
<tr>
<td>270</td>
<td>Hard</td>
<td>From left to drill up or</td>
<td>Top of Blue Rock.</td>
</tr>
</tbody>
</table>

Remarks: Cut for off bit & replaced with new one. Took about 4 hrs. to get bit fixed up in shop.
Material looks clean & gray but damn hard.

Signed: Richard Bourne Date 9/3 1979
Date: 9/2 1979
Job No.: 8940-46
Hole No.: 6953-01
Elevation: 848.01 ft.

Customer: Dept. of Natural Resources
Location: O'ahu

Driller: Richard Bourn
Arv. Job: 
Lv. Job: 
Hrs: 10
Rig: 

Helper: Bradley Kane

Helper Hrs: 
Hrs. Repairs: 

Arv. Job: 
Lv. Job: 
Hrs: 
Or. No.: 

Bit-Size: 14" Type: 


Depth Start: 268 ft., Depth Stop: ft., Feet Drilled: 

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>set rod drilled out hole</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>pull off some 5&quot; on line</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>but will be cut when seem</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>to 18&quot;, drag rod doesn't</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>seem to help too much</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Run new hose check & done some more bit changing, bit ruined on bit may have to put on new dr. # Blue Check at 268 Battery Dr.

Signed: Richard Bourn
Date: 9/2 1979
Date: 9/1/1979  
Job No.: X-440-24  
Hole No.: 2953-01  
Elevation: 848.01 ft.

Customer: Dept. Natural Resources  
Location: Okau

Driller: Richard Bowman  
10 Hrs.  
Rig: 361

Helper: Bradley Kuewe  
10 Hrs.  
Gas:  
Oil:

Arv. Job:  
Lv. Job:  
Or. No.: 

Bit-Size: 14"  
Type: Slur

Casing-Size: 14" in.  
Length in hole: 218 ft.  
Amt. Perforated: ft. in.

Depth Start: ft.  
Depth Stop: ft.  
Feet Drilled:

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Added more fill to hole, still drilling on pad, don't seem to help much, about 33%.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Progress looks slow but can't seem to do any better, only wear it out.</td>
</tr>
</tbody>
</table>

Measurements

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
</table>

Remarks: Building that I am working with is quieter and getting some off. Can't wait to work on some spot forever may have to go on by I hope to get off before dinner to 18".

Signed: Richard Bowman  
Date: 9/1/1979
<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>Aiea</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Bourn</td>
<td>10 Hrs.</td>
<td>Rig 366</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Kneze</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td></td>
<td>Repairs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td></td>
<td>Or. No.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
<td></td>
<td>Or. No.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size:** 14”
**Type:** Stan

**Casing-Size:** 14” in., Length in hole 218 ft.
**in., Amt. Perforated:** ft. in.

**Depth Start:** ft., **Depth Stop:** ft., **Feet Drilled:**

**Water Levels:** Time M ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checked out hole off over 1” on line, built up bit 4’ ground sharp to come off pump about 3 ft. bad hole.</td>
</tr>
</tbody>
</table>

**Remarks:** Reaming on job not much progress can’t seem to get much hole. Bore filled 4 ft. + panned with water. Drilling on pod.

**Signed:** Richard Bourn
**Date:** 8/31 1979
DRILLING LOG

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

Date 8/30 1979

<table>
<thead>
<tr>
<th>Customer</th>
<th>Dept. Natural Resources</th>
<th>Location</th>
<th>Driller</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Richard Bourn</td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Kneese</td>
<td></td>
<td>10 Hrs. Rig 36 1</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>10 Hrs. Gas Oil</td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td>14 Hrs.</td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
<td>14 Hrs.</td>
</tr>
</tbody>
</table>

Bit-Size 1 1/4" Type Star

Casing-Size 1 1/4" in., Length in hole 218 ft., in., Amt. Perforated ft. in.

Depth Start 256 ft., Depth Stop 268 ft., Feet Drilled 12 ft.

Water Levels, Time M ft., Time M ft., 

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>256</td>
<td>IA Puka Laya</td>
<td>Turner thin but won't stop anyway some cant seem 1 drill off hole go in any direction.</td>
</tr>
</tbody>
</table>

Remarks: Note even if you hold back hot hot days progress slow but if crowd cant control drift.

Signed Richard Bourn Date 8/30 1979
Date: 8/29 1979
Job No.: 8-HW-4c
Customer: Dept. Natural Resources
Location: Okoe

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Richard Bowen</td>
<td>Bradley Kruse</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10 Hrs.</td>
<td>10 Hrs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rig 36L</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Casing-Size</th>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>14&quot;</td>
<td>14&quot; in.</td>
<td>247 ft.</td>
<td>256 ft.</td>
<td>9 ft.</td>
</tr>
<tr>
<td>Type</td>
<td>Length in hole</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Star</td>
<td>218 ft.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
<th>M ft., Time</th>
<th>M ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>247</td>
<td>AA Hard &amp; Soft</td>
<td></td>
</tr>
<tr>
<td>256</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Run new rope, Socket built up, tools still some coming from up above.

Remarks: Welding on bit, often as hard to get, tore up bad. All material very abrasive, lots of claim.

Signed: Richard Bowen
Date: 8/29 1979
Date: 8/28 1979  
Job No. 8-1424  
Hole No. 953-01  
Elevation: 848.01 ft.  

Customer: Dept. Natural Resources  
Location: Aiea

Driller: Richard Bourn  
10 Hrs.  
Rig: 36 MENT

Helper: Bradley Kneese  
10 Hrs.  
Gas:  
Oil

Arv. Job:  
Lv. Job:  
Hrs.  
Or. No.:  

Bit-Size: 14"  
Type: Star

Casing-Size: 14" in., Length in hole: 218 ft.  
Amt. Perforated:  

Depth Start: 245 ft.  
Depth Stop: 247 ft.  
Feet Drilled: 2 ft

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>245</td>
<td>Blue Rock or HA</td>
<td>Hole drifted all time Cast</td>
<td></td>
</tr>
<tr>
<td>247</td>
<td>Very very hard</td>
<td>33% to Central Hard Layers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>About 30% angle. Casting from up above. Yielding on hole</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>About every 30 minutes.</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Stranded wire about 10 ft. above pipe, socket happened about 90 degrees. Spun wire around pipe. Heavy on wrench till any hint of picked up oxygen & Acet Gas for welder.

Signed: Richard Bourn  
Date: 8/28 1979
### DRILLING LOG

**RUSCOE MOSS COMPANY**

830 AHUA STREET * HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

---

**Date:** 8/24 1979  
**Job No.:** 79  
**Hole No.:** 7  
**Elevation:** 848.01 ft.

**Driller:** Richard Bourn  
**Helper:** Bradley Kneese

---

**Location:** Above

---

**Bit-Size:** 14”  
**Type:** Star

---

**Casing-Size:** 14” in., Length in hole 218 ft.  
**Amt. Perforated:** ft. in.

---

**Depth Start:** 230 ft., Depth Stop 245 ft., Feet Drilled 15 ft.

---

**Water Levels, Time:** M ft., Time  M ft.

---

**Measurements**

---

**Depth** | **Formation** | **Remarks** | **Top**
---|---|---|---
230 | Red Cinders |  |
231 | Casing Pod. |  |
232 | AA Cinders & Casing Down hole, hole casing |  |
245 | Pipe casing, same bentonite. |  |

---

**Remarks:** Hole still on general drift have to back up & sub wall to correct same.

---

**Signed:** Richard Bourn  
**Date:** 8/24 1979
**DRILLING LOG**

830 AUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-8888 • 833-1444

Date: 8/23 1979
Job No: 79
Hole No: #1
Elevation: 848.01 ft.

Customer: Dept. Natural Resources
Location: Alaia

Driller: Richard Bourn
10 Hrs.
Rig: 364

Helper: Bradley Kneese
10 Hrs.
Gas: Oil

Arv. Job
Hrs.

Lv. Job
Hrs.

Repairs

Casing Size 14"

Bit Size 14"

Type Star

Depth Start 225 ft.

Depth Stop

Feet Drilled

Water Levels, Time

M ft.

Time

M ft.

Blue Rock, very hard, welding on bit every 30 min.

Red Muders, Carving in Muders using Cement.

Remarks: Can't make much headway as Carving going to try some cement to hold some.

Signed: Richard Bourn
Date: 8/23 1979
### DRILLING LOG

**RUSCOE MOSS COMPANY**
830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

Date: **8/23 1979**  
Job No.: **79**  
Hole No.: **#**  
Elevation: **848.01 ft.**  

**Customer:** Dept Natural Resources  
**Location:** Alake

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hours</th>
<th>Rig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Bourn</td>
<td>10</td>
<td>361</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hours</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradley Knese</td>
<td>10</td>
<td>Gas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hours</th>
<th>Repairs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

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<tbody>
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</tbody>
</table>

**Bit-Size:** 14"  
**Type:** Stem

**Casing-Size:** 14"  
**Length in Hole:** 218 ft.  
**Amt. Perforated:** 4 ft.  
**Depth Start:** 221 ft.  
**Depth Stop:** 225 ft.  
**Feet Drilled:** 4

**Water Levels, Time:** M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top A</th>
<th>Top B</th>
</tr>
</thead>
<tbody>
<tr>
<td>221</td>
<td>Blue Rock</td>
<td>very very</td>
<td>afternoon</td>
<td>30 minutes</td>
</tr>
<tr>
<td>225</td>
<td>Hard</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Anchored pipe lined up same & welded to rig for anchor.

**Signed:** Richard Bourn  
**Date:** 8/23 1979
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET * HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

---

**Date**: 8/21/79
**Job No.**: 779
**Hole No.**: 1
**Elevation**: 848.01 ft.
**Customer Dept**: Natural Resources
**Location**: Close

<table>
<thead>
<tr>
<th>Driller</th>
<th>10 Hrs.</th>
<th>Rig 36L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richardson</td>
<td>10 Hrs.</td>
<td>Gas</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td>Oil</td>
</tr>
</tbody>
</table>

|----------|---------|------|---------|

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>14&quot;</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>Length in hole</th>
<th>Amt. Perforated</th>
</tr>
</thead>
<tbody>
<tr>
<td>218 ft.</td>
<td>218 ft.</td>
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<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>219 ft.</td>
<td>231</td>
<td>3 ft</td>
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</table>

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<thead>
<tr>
<th>Water Levels, Time</th>
<th>M</th>
<th>ft.</th>
<th>Time</th>
<th>M</th>
<th>ft.</th>
</tr>
</thead>
</table>

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>218</td>
<td>Blue Rock</td>
<td>Very very\n</td>
</tr>
</tbody>
</table>

| Remarks: | Put up gin pole on truck \+ straightened out things\n|----------| on location. That got more gas out of well.\n|          | Shell gas will permat. Hope done some good. |

**Signed**: Richard Bourne
**Date**: 8/21/79
Date 8/20 1979  Job No. 479  Hole No. 2  Elevation 848.01 ft.
Customer Dept. Natural Resources  Location Koe

Driller Richard Bourn  10 Hrs.  Rig 56 L
Helper Bradley Kneese  10 Hrs.  Gas Oil
Helper  Hrs.  Repairs

Bit-Size  14" Type Star
Casing-Size  14" in., Length in hole 218 ft. in., Amt. Perforated ft. in.
Depth Start ft., Depth Stop ft., Feet Drilled
Water Levels, Time M ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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</table>

Finished Gunning Casing built up bit & cut off legs. Started drilling casing to bottom. Heading off in bottom, Raised pipe out 212 ft. & broke off. Hole will now clean & drilled pipe down pipe still breaking off but can live with it now. Shot at 217 ft. Hole Measurement was off 6 ft.

Remarks: Was running all afternoon. Had to cut 9 mud almost every joint of pipe to make match & took long time on casing.

Signed Richard Bourn  Date 8/26 1979
## DRILLING LOG

**Customer:** Dept. Natural Resources  
**Location:** Akoo  
**Job No.:** 1-79  
**Hole No.:** #1  
**Date:** 8/18/79  
**Elevation:** 848.01 ft.  

<table>
<thead>
<tr>
<th>Driller</th>
<th>Helper</th>
<th>Rig No.</th>
<th>Helper</th>
<th>Helper</th>
<th>Repairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Bourne</td>
<td>Bradley Knuess</td>
<td>Rig 361</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Arv. Job</th>
<th>Lv. Job</th>
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<tbody>
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<tr>
<th>Bit-Size</th>
<th>Type</th>
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</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
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</thead>
<tbody>
<tr>
<td></td>
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<thead>
<tr>
<th>Water Levels, Time</th>
<th>M</th>
<th>ft., Time</th>
<th>M</th>
<th>ft.</th>
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**Measurements**

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<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
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</table>

**Remarks:**

- Had hard time pulling 18" pipe as flared out on bottom.
- Went to air port picked up knorke wrench
- Hard hell of time fitting wheel off & Changed
- Bradley went with his 4-wheel drum pick up & picked up spare time got changed. went to job sight & unloaded. Changed bits all.

**Remarks:**

- Ground pulled 18" pipe & rigged up to run 14" doubled end of pipe for 2 ft & started running pipe. sailled all after noon, Some mess. One hell of place to load pipe & heavy loads too.

**Signed:** Richard Bourne  
**Date:** 8/18/79
Date: 8/17/79  
Job No.: 1-79  
Hole No.: 1  
Elevation: 848.01 ft.

Driller: Richard Bourn  
10 Hrs.  
Rig: J-64

Helper: Bradley Kneese  
10 Hrs.  
Gas: Gas  
Oil: Oil

Helper:  
Hrs.  
Repairs: Repairs

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit-Size:  
Type:  

Casing-Size: __________ in., Length in hole: __________ ft.  
Amt. Perforated: __________ in., __________ ft.

Depth Start: __________ ft., Depth Stop: __________ ft., Feet Drilled: __________

Water Levels, Time: __________ M ft., __________ M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
</table>

Remarks:  

Unloaded truck & went back to Kamehameha  
After 1st set of pipe & tools. Blew tire on  
trunk, but mon tire service took to crespe  
home. Ordered new tire & knocker wrench  
from How to fix & take almost  
full day to go to Dodge & back. It was  

truck slow & with bad tire even slower  
blew tire clear into.

Signed: Richard Bourn  
Date: 8/17/79 1979
## Drilling Log

### Details
- **Date:** 8/16 1979
- **Job No.:** 1-79
- **Hole No.:** #1
- **Elevation:** 848.0 ft.

### Personnel
- **Driller:** Richard Bourn (10 Hrs.)
- **Helper:** Bradley Kneese (10 Hrs.)

### Additional Information
- **Location:** O'o
- **Customer:** Dept. Natural Resources
- **Rig:** 56L
- **Gas:**
- **Oil:**
- **Repairs:**

### Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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<tbody>
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</tbody>
</table>

### Remarks
- Hauling casing from dock blew plate off top of manhole got days to lock to get dock to farm. Home to make some types didn't get clay till after noon, not time to unload.

**Signed:** Richard Bourn  
**Date:** 8/16 1979
**Date**: 8/15 1979  
**Job No.**: 1-79  
**Hole No.**:  
**Elevation**: 848.0 ft.

**Driller**: Richard Bourn  
**Helper**: Bradley Kneese  
**Rig**: 366  
**Oil/Gas**: Oil  
**Repairs**:  
**Arv. Job**:  
**Lv. Job**:  
**Hrs.**:  
**Or. No.**:  

**Bit-Size**: 1  
**Type**: star  

**Casing-Size**: 18 in.  
**Length in hole**: 76 ft.  
**Amt. Perforated**: ft. in.  
**Depth Start**: ft.  
**Depth Stop**: ft.  
**Feet Drilled**:  

**Water Levels**: M ft.  
**Time**: M ft.  

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Remarks**:  
- Working on hole now, hole place  
- Ordered 14" Casing from Hon. will be in house, silenced truck & got ready to haul pipe & tools.

**Remarks (additional)**:  
- Worked on hole place in hole all day  
- Also worked filled some in bottom before put in Casing to try & Straighten some drift. Too much material coming down hole to drill.

**Signed**: Richard Bourn  
**Date**: 8/15 1979
### DRILLING LOG

**Date:** 8/14/79  
**Job No.:** 1-79  
**Hole No.:** 275  
**Elevation:** 848.0 ft.  

**Customer:** Dept. Natural Resources  
**Location:** OKee

<table>
<thead>
<tr>
<th>Driller</th>
<th>Helper</th>
<th>Hours</th>
<th>Rig</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Brown</td>
<td>Bradley Kness</td>
<td>10</td>
<td>36</td>
<td>Development</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>10 Hrs.</th>
<th>Gas</th>
<th>Oil</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>10 Hrs.</th>
<th>Repairs</th>
</tr>
</thead>
</table>

|--------------|----------|---------|---------|

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>17</th>
<th>Type</th>
<th>Star</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>18 in.</th>
<th>Length in hole</th>
<th>36 ft.</th>
<th>Amt. Perforated ft.</th>
<th>in.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>213 ft.</th>
<th>Depth Stop</th>
<th>135 ft.</th>
<th>Feet Drilled</th>
<th>3 ft.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Water Levels</th>
<th>Time M ft.</th>
<th>Time M ft</th>
<th>Measurements</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>214</td>
<td>Blue Rock</td>
<td>Hole coming can't make</td>
<td></td>
</tr>
<tr>
<td>255</td>
<td>Very very hard</td>
<td>Any help stay as you</td>
<td>Keeps material coming down.</td>
</tr>
</tbody>
</table>

**Remarks:** Washed up for over 2 hrs. from big material coming down hole. Need pipe. Hole seems to be on drift again now but can't tell for sure. June too much mud in hole. Drilled 3 ft, took out about 10 feet of mud.

**Signed:** Richard Brown  
**Date:** 8-14-1979
### Drilling Log

**Date:** 8/10 1979  **Job No.:** 1-79  **Hole No.:** #1  **Elevation:** 850 ft.

**Customer:** Dept Natural Resources  **Location:** Oahu

**Driller:** Richard Bourne  **Hrs.:** 10  **Rig:** 361

**Helper:** Bradley Greene  **Hrs.:** 10  **Gas:** Oil

**Helper:**  **Hrs.:**  **Repairs:**

**Arv. Job:**  **Lv. Job:**  **Hrs.:**  **Or. No.:**

**Bit-Size:** 17  **Type:** Star

**Casing-Size:** 18 in.  **Length in hole:** 36 ft.  **Amt. Perforated:** ft. in.

**Depth Start:** 214 ft.  **Depth Stop:** 232 ft.  **Feet Drilled:** 8 ft

**Water Levels, Time:** M ft.  **Time:** M ft.  **Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>214</td>
<td>Ruka or Cinder</td>
<td>Coming had a hit</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>219</td>
<td>Reddish Brown</td>
<td>Blue Rock Again in formation</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>219</td>
<td>Blue Rock</td>
<td>Welding on bit every 30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>222</td>
<td>Very very hard</td>
<td>Another 28 x 30 timeless</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deep, finding water but can't</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>keep mud above or from coming</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>from vibrations of hitting blue Rock</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Asl seems to be coming to size but still some lots of repairs on bit. Still lots of coming from up above but don't hang you up.

**Signed:** Richard Bourne  **Date:** 8/16 1979
Date 8/9 1979 Job No. 1-79 Hole No. #1 Elevation 850 ft.
Customer Dept. Natural Resources Location Oko
Driller Richard Boren 10 Hrs. Rig 364
Helper Bradley Kneese 10 Hrs. Gas Oil
Helper __________ Hrs. Repairs __________
Arv. Job __________ Lv. Job __________ Hrs. __________ Or. No. __________

Bit-Size 1-7 Type Star
Casing-Size 18 in. Length in hole 36 ft. Amt. Perforated __ in. __ ft. __ in.
Depth Start 20.5 ft. Depth Stop 214 ft. Feet Drilled 94 ft.
Water Levels, Time ______ M ft. Time ______ M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>205'</td>
<td>Red clay</td>
<td>clay</td>
<td></td>
</tr>
<tr>
<td>214'</td>
<td>Pesta</td>
<td>water</td>
<td>Headway</td>
</tr>
</tbody>
</table>

Remarks: Aimeside went out on starter today the tiny lady game.
Cinders & Chickens coming down from above, but not much problem from push up. Alignment ok.

Signed Richard Boren Date 8/9 1979
## DRILLING LOG

**Ruscoe Moss Company**

830 Ahua Street • Honolulu, Hawaii 96819

Telephone (808) 839-6888 • 833-1444

---

**Date:** 8/8 1979  
**Job No.:** 1-39  
**Hole No.:** #1  
**Elevation:** 850 ft.

**Customer:** Dept. Natural Resources  
**Location:** Akoo

---

**Driller:** Richard Bourn  
10 Hrs.  
**Rig:** 364

**Helper:** Bradley Kreece  
10 Hrs.  
**Gas:**  
**Oil:**

---

**Arv. Job:**  
**Lv. Job:**  
**Hrs.**  
**Or. No.:**

---

**Bit-Size:** 17  
**Type:** Star

---

**Casing-Size:** 18 in.  
**Length in hole:** 36 ft.  
**Amt. Perforated:**

---

**Depth Start:** 136 ft.  
**Depth Stop:** 205 ft.  
**Feet Drilled:** 9 ft

---

**Water Levels, Time:** M ft.  
**Time:** M ft.

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>196</td>
<td>Kula &amp; Eunice</td>
<td>Salt Casing Big Wont</td>
<td></td>
</tr>
<tr>
<td>205</td>
<td>Rabish Brown</td>
<td>Salt Water</td>
<td></td>
</tr>
</tbody>
</table>

---

**Remarks:** Jacked rig over to fit hole as drift went one way so for changed alinement all around.

---

**Signed:** Richard Bourn  
**Date:** 8/8 1979
**DRILLING LOG**

**Customer:** Dept. Natural Resources  
**Location:** Piole

**Driller:** Richard Bourn  
**Hrs.:** 10  
**Rig:** 36L  
**Helper:** Bradley Kneese  
**Hrs.:** 10  
**Gas:** Oil  
**Hrs.:**  
**Reparis:**  
**Arv. Job:**  
**Lv. Job:**  
**Hrs.:**  
**Or. No.:**  

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
<th>2 1/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td>18 in.</td>
<td>Length in hole</td>
</tr>
<tr>
<td>Depth Start</td>
<td>186 ft.</td>
<td>Depth Stop</td>
</tr>
<tr>
<td>Feet Drilled</td>
<td>10 ft.</td>
<td></td>
</tr>
</tbody>
</table>

**Water Levels:** Time M ft., Time M ft.,

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>186</td>
<td>Blue Rock</td>
<td>Hole drift stopped</td>
</tr>
<tr>
<td>186</td>
<td>Hard Hard Hard</td>
<td>for now anyway</td>
</tr>
<tr>
<td>186</td>
<td>Redish Brown</td>
<td></td>
</tr>
<tr>
<td>190</td>
<td>Cinder &amp; Clusters</td>
<td>Coming had hole very big</td>
</tr>
</tbody>
</table>

**Remarks:** Hole don't look very good may change. Rig to sit Hole.

**Signed:** Richard Bourn  
**Date:** 8/7 1979
### DRILLING LOG

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII, 96819
TELEPHONE (808) 839-6886 • 833-1444

**Date**: 8/6/79  
**Job No.**: 1-79  
**Hole No.**: 2  
**Elevation**: 850 ft.

**Customer**: Dept. Natural Resources  
**Location**: Oahu

---

**Driller**: Richard Brown  
**Hours**: 10 Hrs.  
**Rig**: 861 - DEVELOPMENT

**Helper**: Bradley Kneese  
**Hours**: 10 Hrs.  
**Gas**:  
**Oil**:  
**Repairs**: 

**Arr. Job**:  
**Lvd. Job**:  
**Hrs. Repairs**: 

**Or. No.**: 

---

**Bit-Size**: 17  
**Type**: Stav

**Casing-Size**: 18 in., Length in hole 36 ft., Amt. Perforated 

**Depth Start**: 185 ft., Depth Stop 185 ft., Feet Drilled 

**Water Levels**: Time M ft, Time M ft.

---

**Depth** | **Formation** | **Remarks** | **Top** |
---|---|---|---|

1 | Remining on wall all day trying to |  |  |

|

**Remarks**:  
**Signed**: Richard Brown  
**Date**: 8/6/79
Date: 8/4 1979  
Job No.: 1-79  
Hole No.: 1  
Elevation: 850 ft.

Customer: Dept. of Natural Resources  
Location: Oahu

Driller: Richard Burns  
10 Hrs.  
Rig No.: 364

Helper: Bradley Kneezel  
10 Hrs.  
Gas:  
Oil:

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  
Repairs:

Bit-Size: 17  
Type:  

Casing-Size: in., Length in hole: ft.  
Amt. Perforated: ft. in.

Depth Start: 181 ft.  
Depth Stop: 185 ft.  
Feet Drilled: 4 ft.

Water Levels, Time:  
M. ft., Time: M. ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>181</td>
<td>Blue Rock Limestone</td>
<td>Hold drift Cary hardly hold hole about 1&quot; or line. More.</td>
<td></td>
</tr>
<tr>
<td>185</td>
<td>Sand</td>
<td>Hold drift Cary hardly hold hole about 1&quot; or line. More.</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: welded my bit to change design but not too much. Drift may have to be backfill face done. Don't know if can drill them or not.

Signed: Richard Burns  
Date: 8/4 1979
**DRILLING LOG**

RUSCOE MOSS COMPANY

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

<table>
<thead>
<tr>
<th>Date</th>
<th>Job No.</th>
<th>Hole No.</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/3</td>
<td>1-79</td>
<td>#1</td>
<td>850 ft.</td>
</tr>
</tbody>
</table>

**Customer**

Dept. Natural Resources

**Location**

Alae

**Driller**

Richard Brown 10 Hrs.  Rig 36

**Helper**

Bradley Kunee 10 Hrs. Gas. Oil

**Arv. Job**

Lv. Job

**Casing-Size**

18 in., Length in hole 36 ft. in., Amt. Perforated ft. in.

**Depth Start**

178 ft., Depth Stop 181 ft., Feet Drilled 3 ft.

**Water Levels**

M ft., Time M ft., Time

**Remarks**

Rock the very last drift can't make any footage or goes off to stuck.

*Remarks:*

Ash and some caving from up high yet but not enough to worry to much about. Don't think powder will do any good at hole very big on one side.

Signed: Richard Brown  Date  8/3  1979
Date: 8/3 1979  
Job No.: 1-79  
Hole No.: 8  
Elevation: 850 ft.  
Customer: Dept. Natural Resources  
Location: Oahu

Driller: Richard Brown  
10 Hrs.  
Rig: 366

Helper: Bradley Kneez  
10 Hrs.  
Gas:  
Oil:

Helper:  
Hrs.  
Repairs:

Arv. Job:  
Lv. Job:  
Hrs.  
Or. No.:

Bit-Size: 1 1/2"  
Type: Star

Casing-Size: in., Length in hole: ft.  
in.

Depth Start: 125 ft., Depth Stop: 178 ft., Feet Drilled: 54 ft.

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>175</td>
<td>Blue Rock very very</td>
<td>Rock able to drill but lost a lot of time, going back to shift too much.</td>
</tr>
<tr>
<td>178</td>
<td>Hard</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: using some time in hole to try to control drift but not much help. Spent most of time welding, working on bit about every 30 minutes.

Signed: Richard Brown  
Date: 8/3 1979
### Drilling Log

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-9888 • 833-1444

---

<table>
<thead>
<tr>
<th>Date</th>
<th>1979</th>
<th>Job No.</th>
<th>1-79</th>
<th>Hole No.</th>
<th>Elevation</th>
<th>850 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>O'Kee</td>
<td>Details</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Driller:** Richard Bourne  
**Helper:** Bradley Kneese

**Bit-Size:** 17  
**Type:** Stem

**Casing-Size:** 18 in., Length in hole 22 ft.  
**Rig:** 36L  
**Gas:** Oil

**Helper:**  
**Helper Hours:** 10  
**Repairs:**

**Arv. Job:**  
**Lv. Job:**

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>174</td>
<td>Blue-Gray clay</td>
<td>Cleaned back to bottom</td>
<td>A</td>
</tr>
<tr>
<td>175</td>
<td>Red-Gray clay</td>
<td>About 20 ft hole seems to be ok. Done some walking</td>
<td>B</td>
</tr>
</tbody>
</table>

**Water Levels, Time:** M  
**M:**

---

**Remarks:** Built butt out Zone 1. Ground broken up. To try to drill well so still drift put in some down to carry rock about 20 ft. on line measurement to the 20 ft.

**Signed:** Richard Bourne  
**Date:** 8/1  
**1979**

---

**Measurements:**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
</table>
**DRILLING LOG**

Date: 7-31 1979  Job No: 1-79  Hole No: #1  Elevation: 850 ft.

Customer: Dept Natural Resources  Location: Okae

Driller: Richard Bourn  10 Hrs.  Rig: 36L
Helper: Bradley Kneese  10 Hrs.  Gas:  Oil


---

Bit-Size: 17  Type:  


Depth Start:  ft., Depth Stop:  ft., Feet Drilled:  

Water Levels, Time  M  ft., Time  M  ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Remarks:**

Shot hole at 174' Caved in to 145'.

Cleaned out some, but didn't get back to bottom.

Don't know if that done any good or not yet.

Cinders I pulse Caved in.

Signed: Richard Bourn  Date: 7/31 1979
Date 7/27 1979  Job No. 1-79  Hole No. #1  Elevation 850 ft.

Customer: Dept. Natural Resources  Location: Akoa

Driller: Richard Bourn  10 Hrs.  Rig 361
Helper: Bradley Knezei  10 Hrs.  Gas  Oil

Arv. Job __________  Lv. Job __________  Hrs. __________  Or. No. __________

Bit-Size 17  Type  

Casing-Size 18 in.  Length in hole 36 ft.  Amt. Perforated  ft.  in.

Depth Start 170 ft.  Depth Stop 174 ft.  Feet Drilled 4

Water Levels, Time M ft. Time M ft. __________

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>170</td>
<td>Blue Rock</td>
<td>Cleaning out hole to</td>
</tr>
<tr>
<td>174</td>
<td>Very Hard Sand</td>
<td>Bottom, Controlling drift</td>
</tr>
</tbody>
</table>

Remarks: Cleared out hole to bottom, drift took OK but needs shot in bottom.

Signed: Richard Bourn  Date 7/27 1979
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

<table>
<thead>
<tr>
<th>Date</th>
<th>7/26 1979</th>
<th>Job No.</th>
<th>1-29</th>
<th>Hole No.</th>
<th>1</th>
<th>Elevation</th>
<th>850 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>Oahu</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Bourne</td>
<td>10 Hrs.</td>
<td>Rig</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Knese</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td>Repairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
<td>Or. No.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size** | 14

**Casing-Size** | 18 in., Length in hole | 36 ft. | Amt. Perforated | 5 ft. | in.

**Depth Start** | 167 ft., Depth Stop | 170 ft. | Feet Drilled | 3 ft.

**Water Levels, Time** | M ft., Time | M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>167</td>
<td>Blue Rock</td>
<td>Hole drifting - off almost</td>
<td></td>
</tr>
<tr>
<td>190</td>
<td>Upper Grayson</td>
<td>1.5&quot; on Wire Measurement</td>
<td></td>
</tr>
</tbody>
</table>

**Measurements**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Short hole about 3 P.M. never got cleaned out to bottom only about 8 ft. filled in.

**Signed:** Richard Bourne

**Date:** 7/26 1979
<table>
<thead>
<tr>
<th>Date</th>
<th>2/25 1979</th>
<th>Job No.</th>
<th>1-29</th>
<th>Hole No.</th>
<th>#1</th>
<th>Elevation</th>
<th>850 ft.</th>
</tr>
</thead>
</table>

**Customer:** Dept. Natural Resources  
**Location:** Ala Moana

**Driller:** Richard Bourn  
**Helper:** Bradley Kness

**Drill:** Rig 366  
**Gas:**  
**Oil:**

**Hrs.**

**Helper**

**Arv. Job**

**Lv. Job**

**Hrs.**

**Or. No.**

---

**Bit-Size:** 17  
**Type:**

**Casing-Size:** 18 in.  
**Length in hole:** 96 ft.  
**In., Amt. Perforated:**

**Depth Start:** 16 ft.  
**Depth Stop:** 16 ft.

**Feet Drilled:** 4 ft.

**Water Levels, Time:** M ft., Time M ft.

---

**Depth**  
**Formation**  
**Remarks**  
**Top**

16 ft.  
Blue Rock  
Welding on bit every 60 minutes.

---

Remarks: Hole on steady drift May have to shoot again tomorrow. Teamy bit up bad.

---

**Signed:** Richard Bourn  
**Date:** 7/25 1979
### DRILLING LOG

**Roscoe Moss Company**

830 Ahua Street • Honolulu, Hawaii 96819

Telephone (808) 333-6688 • 833-1444

---

**Date:** 7/23 1979  
**Job No.:** 1-79  
**Hole No.:** #1  
**Elevation:** 850 ft.

**Customer:** Dept Natural Resources  
**Location:** Akoee

<table>
<thead>
<tr>
<th>Driller</th>
<th>Richard Brown</th>
<th>10 Hrs.</th>
<th>Rig</th>
<th>Cove</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helper</td>
<td>Bradley Jones</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size:** 17  
**Type:** Stan.  
**Casing-Size:** 18", Length in hole: 96 ft.  
**Amt. Perforated:** ft. in.

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>161 ft.</td>
<td>163 ft.</td>
<td>2 ft.</td>
</tr>
</tbody>
</table>

**Water Levels, Time:**  
**Feet Drilled:** M ft.  
**Depth:** M ft.

---

**Remarks:**  
- Blue Rock "on slow drift."
- Very very hard.
- Shot hole out 12 ft. came in but not hard to clean but...  
- Cleared out to 16 ft. off in bottom shat.  
- Shot again, 5 ft. came in.

**Remarks:** Hole is hard in bottom doing damage to  
**Shot Welding every 20 minutes.**  

---

**Signed:** Richard Brown  
**Date:** 7/23 1979
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

**830 AHUA STREET • HONOLULU, HAWAII 96819**
**TELEPHONE (808) 839-6888 • 833-1444**

---

**Date:** 7/22/1979  
**Job No.:** 1-79  
**Hole No.:** 1  
**Elevation:** 950 ft.

**Customer:** Dept. Natural Resources  
**Location:** Okole

**Driller:** Richard Boomer  
**Hrs.:** 10  
**Rig:** 36 L

**Helper:** Bradley Kriese  
**Hrs.:** 10  
**Gas:**  
**Oil:**

**Helper:**  
**Hrs.:**  
**Repairs:**

**Arv. Job:**  
**Lv. Job:**  
**Hrs.:**  
**Or. No.:**

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Star</td>
</tr>
</tbody>
</table>

**Casing-Size:** 18 in.  
**Length in hole:** 36 ft.  
**Amt. Perforated:** ft. in.

**Depth Start:** ft.  
**Depth Stop:** ft.  
**Feet Drilled:**

**Water Levels, Time:** M ft.  
**Time:** M ft.

---

**Depth** | **Formation** | **Remarks** | **Top** | **Measurements** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B</td>
</tr>
</tbody>
</table>

**Remarks:**
- Back filled hole to 150 & cleaned out, hole filled solid. Bottom can’t be done good with them for pad need powder.

**Remarks:** Went to rounded up powder Cap & primers going to shoot holes in Q.M.  
- Got 2 boxes powder 1000 ft primers. 1 box caps.  
- Ahi Smith.

**Signed:** Richard Boomer  
**Date:** 7/22/1979
### DRILLING LOG

**Address:**
830 Ahua Street, Honolulu, Hawaii 96819
Telephone (808) 839-8888

**Date:** 7/20 1979
**Job No.:** 1-79
**Hole No.:** #4
**Elevation:** 850 ft.

**Customer:** Dept. Natural Resources
**Location:** Akia

**Driller:** Richard Bourn
**Hrs.:** 10 Hrs.
**Rig:**

**Helper:** Bradley Kneese
**Hrs.:** 10 Hrs.
**Gas:** Oil
**Oil:**
**Repairs:**

**Arv. Job:** 
**Lv. Job:**
**Hrs.:**  
**Or. No.:**

**Bit-Size:** 19 in.
**Type:**
**Casing-Size:** 18 in., Length in hole 76 ft.,
**Amt. Perforated:** 191 ft., Feet Drilled 5 ft.

**Depth Start:** 156 ft., Depth Stop 161 ft.,
**Water Levels, Time:** M ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>156</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>161</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**
- Back filled & restarted drilling again.
- Hole off about 5 in. in bottom.
- No progress since last week.

**Signed:** Richard Bourn
**Date:** 7/20 1979
### Drilling Log

**Date:** 7/20 1979  
**Job No.:** 1-79  
**Hole No.:** #1  
**Elevation:** 850 ft.

**Customer:** Dept. Natural Resources  
**Location:** Area

**Driller:** Richard Burm  
**Hrs.:** 10  
**Rig:** Gas

**Helper:** Bradley Krews  
**Hrs.:** 10  
**Gas:** Oil

**Arv. Job:**  
**Lv. Job:**  
**Or. No.:**

**Bit-Size:** 12”  
**Type:** Steel

**Casing-Size:** 18” in.  
**Length in hole:** 36 ft.  
**Amt. Perforated:** 36 ft.  
**In.**

**Depth Start:** ft.  
**Depth Stop:** ft.  
**Feet Drilled:**

**Water Levels, Time:** M ft., Time: M ft.

### Measurements

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Drilling put fill in with clear pool helping some, but slope very severe over 12” to the foot can’t hole hole.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Starter blew up as rig took about 2 hours to repair same, had to load &amp; solder on new Greece &amp; change washer plates in Celeme.</td>
</tr>
</tbody>
</table>

**Remarks:** Welding & grinding left for sharp edge.

**Signed:** Richard Burm  
**Date:** 7/19 1979
Date: 7/19 1978  Job No.: 1-79  Hole No.: #1  Elevation: 850 ft.

Customer: Dept. Natural Resources  Location: Clear

Driller: Richard Brown  10 Hrs.  Rig:

Helper: Bradley Knesi  10 Hrs.  Gas: Oil

Helper:

Arv. Job:

Bit-Size: 12  Type: 


Depth Start: ft., Depth Stop: ft., Feet Drilled:

Water Levels, Time: M ft., Time: M ft.

Depth  Formation  Remarks  Top

Remarks: Holes filled back to 148 ft. and pooled with entire salinized 12" headed off when mud got stuck upscreen. 

Signed: Richard Brown  Date: 7/19 1979
**Date**: 7/18/78
**Job No.**: 1-79
**Hole No.**: #1
**Elevation**: 850 ft.

**Customer**: Dept. Natural Resources
**Location**: Okane

**Driller**: Richard Bourn
**10 Hrs.**: 36.1
**Rig**: 36.1

**Helper**: Brodie Kneese
**10 Hrs.**: Gas
**Oil**

**Arv. Job**: Hrs. 0
**Lv. Job**: Hrs. 0

**Bit-Size**: 12”
**Type**: Casing

**Casing-Size**: 18” in., Length in hole 152 ft., Depth Stop 156 ft., Feet Drilled 4 ft.

**Depth Start**: 152 ft., Depth Stop 156 ft., Feet Drilled 4 ft.

**Water Levels, Time**: M ft., Time M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>152</td>
<td>Hall Torens on well</td>
<td>Drilling &amp; Chipping</td>
<td></td>
</tr>
<tr>
<td>156</td>
<td>Blue Rock</td>
<td>Checked out hole off bottom line</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks**: Changed bit over to 16” in P.M. going to try to press with 17” bit & straighten hole. Came back some but still crooked. Got pivot hole any way.

**Signed**: Richard Bourn  **Date**: 7/18/78
**DRILLING LOG**

**Date**: 7/17/79  
**Job No.**: 1-79  
**Hole No.**: #1  
**Elevation**: 850 ft.

**Customer**: Dept. Natural Resources  
**Location**: Oahu

**Driller**: Richard Bourn  
**Hrs.**: 10 Hrs.  
**Rig**: 3641

**Helper**: Bradley Kneace  
**Hrs.**: 10 Hrs.  
**Gas**: Oil

**Arv. Job**:  
**Lv. Job**:  
**Hrs.**:  
**Or. No.**: 

---

**Bit-Size**:  
**Type**: 

**Casing-Size**: in., **Length in hole**: ft., **Amt. Perforated**: ft. in., **Depth Start**: ft., **Depth Stop**: ft., **Feet Drilled**: 

**Water Levels, Time**: M. ft., **Time**: M. ft.

---

**Depth** | **Formation** | **Remarks** | **Top** | **A** | **B**
---|---|---|---|---|---

---

**Remarks**:

- Went picked up truck. Gas up some.
- Went to Kamehame to move some tools & heavy stuff on truck.
- Rig pulled belly wheels out from under rig. Spent most of day fixing some & to finish more.
- Came back picked up freight. Hit Fortunate.
- Last back home late.

---

**Signed**: Richard Bourn  
**Date**: 7/17/79
**DRILLING LOG**

**RUSCOE MOSS COMPANY**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-8880 • 833-1444

---

**Date:** 7/13/79  
**Job No.:** 1-79  
**Hole No.:** 1  
**Elevation:** 850 ft.

**Customer:** Dept. of Natural Resources  
**Location:** Okole

**Driller:** Richard Bourn  
**Helper:** Bradley Karase  
**Rig:** 36L  
**Gas:** Oil

**Helper:**  
**Repairs:**

**Arv. Job:**  
**Lv. Job:**  
**Or. No.:**

---

**Bit-Size:** 12”  
**Casing-Size:** 18” in., Length in hole 36 ft., Amt. Perforated  
**Depth Start:** ft., Depth Stop:** ft., Feet Drilled

**Water Levels, Time:** M ft., Time:** M ft.

---

**Depth** | **Formation** | **Remarks** | **Top**
---|---|---|---
| | | | 10 9.5

**Remarks:**  
Hole Bock to open改装 but had some fill in.  
Mud was dry. Cement to come over week end.  
Hole taking late of water may get some complaint about usage from ranch.

**Signed:** Richard Bourn  
**Date:** 7/13/79
Date: 7/12/79  Job No. 1-79  Hole No. #1  Elevation: 850 ft.
Customer: Dept. Natural Resources  Location: Okie

<table>
<thead>
<tr>
<th>Driller</th>
<th>10 Hrs.</th>
<th>Rig</th>
<th>Helper</th>
<th>10 Hrs.</th>
<th>Gas</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Bourn</td>
<td></td>
<td></td>
<td>Bradley Kneese</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Arv. Job</th>
<th>Hrs.</th>
<th>Or. No.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Star</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>Length in hole</th>
<th>Amt. Perforated</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 in.</td>
<td>36 ft.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>195 ft.</td>
<td>152 ft.</td>
<td>17 ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Levels, Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>M ft. [ ] ft. Time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>135</td>
<td>Puke</td>
<td>hard</td>
</tr>
<tr>
<td>135</td>
<td>layers</td>
<td>soft</td>
</tr>
<tr>
<td></td>
<td>vision</td>
<td>to age</td>
</tr>
</tbody>
</table>

Remarks: Hol gas down to 135. I started making mud but it crooked over 1/2” on line. Measurement.

Whereas, hole comes down to age, I made a thick hole drift off. Hole for about 13 ft. But drill off OK.

Coming all afternoon.

Signed: Richard Bourn  Date: 7/12/79
**Date**: 7/11 1979  | **Job No.**: 1-79  | **Hole No.**: #1  | **Elevation**: 850 ft.

**Customer**: Dept. Natural Resources  | **Location**: Okau

**Driller**: Richard Bourn  | **Rig**: 36L

**Helper**: Bradley Knese  | **Gas**:  | **Oil**:

**Helper**  | **Hrs.**:  | **Hrs.**:  | **Hrs.**:  | **Or. No.**:

**Arv. Job**  | **Lv. Job**  | **Hrs.**

---

**Bit-Size**: 12"  | **Type**: star

**Casing-Size**: 18" in.  | **Length in hole**: 36 ft.  | **In.**:  | **Amt. Perforated**: ft. in.

**Depth Start**: 125 ft.  | **Depth Stop**: 135 ft.  | **Feet Drilled**: 10

**Water Levels, Time** M ft.  | **Time** M ft.

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>Puka Hard &amp; Soft</td>
<td>Hole still coming in</td>
<td></td>
</tr>
<tr>
<td>135</td>
<td>Layer some cinder not much hanging but does both up.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks**: Anytime big rock fell out of well today almost pushed line past out & took over 2 hrs. to drill out hole using some cement to hold walls down rather than bentonite.

**Signed**: Richard Bourn  | **Date**: 7/11 1979
<table>
<thead>
<tr>
<th>Date</th>
<th>7/10 1979</th>
<th>Job No.</th>
<th>1-79</th>
<th>Hole No.</th>
<th>#1</th>
<th>Elevation</th>
<th>850 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>Akak</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Bourn</td>
<td>Hrs.</td>
<td>10</td>
<td>Rig</td>
<td>36L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradly Kneese</td>
<td>Hrs.</td>
<td>10</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td>Hrs.</td>
<td></td>
<td>Repairs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td>0</td>
<td>Lv. Job</td>
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<td></td>
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<tr>
<td>Lv. Job</td>
<td>0</td>
<td>Hrs.</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>12&quot;</th>
<th>Type</th>
<th>Star</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casing-Size</td>
<td>18&quot;</td>
<td>in., Length in hole</td>
<td>56 ft.</td>
</tr>
<tr>
<td>Depth Start</td>
<td>118 ft.</td>
<td>Depth Stop</td>
<td>125 ft.</td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M ft.</td>
<td>Time</td>
<td>M ft.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>118</td>
<td>Ruka &amp; Ayden</td>
<td>very loose in spots often</td>
<td>10 9 1/2</td>
</tr>
<tr>
<td>125</td>
<td>Hard &amp; soft layers</td>
<td>lövig very hard</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Turn new rope, socket, hole cased in big rock, shut off hole too, go up + then drill back to bottom. Mr. Wright at Kawaihae got pick up 10 ft. 18" pipe from Sam.

Signed: Richard Bourn Date 7/10 1979
Date: 7-9 1979  
Job No.: #1-79  
Hole No.: #1  
Elevation: 850 ft.

Customer: Dept. Natural Resources  
Location: Oahu.

Driller: Richard Brown  
Hrs.: 10  
Rig: 361

Helper: Bradley Kinmura  
Hrs.: 10  
Gas:  
Oil:  
Repairs:  

Arv. Job:  
Lv. Job:  
Hrs.:  
Or. No.:  

Bit-Size: 12"  
Type: Star  

Casing-Size: 18" in.  
Length in hole: 96 ft.  
Amt. Perforated:  

Depth Start: ft.  
Depth Stop: ft.  
Feet Drilled:  

Water Levels, Time: M ft.  
Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
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<tbody>
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</tbody>
</table>

Measurements

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
</table>

Remarks: Worked on Ledli hole most of day. Changed bit to 12" trying to get hole down to size.

Signed: Richard Brown  
Date: 7-9 1979
<table>
<thead>
<tr>
<th>Date</th>
<th>7/7 1979</th>
<th>Job No.</th>
<th>1-49</th>
<th>Hole No.</th>
<th>#1</th>
<th>Elevation</th>
<th>850 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
<td>Location</td>
<td>Oko.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Brown</td>
<td>10 Hrs.</td>
<td>Rig</td>
<td>36 C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Acree</td>
<td>10 Hrs.</td>
<td>Gas</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td></td>
<td></td>
<td>Repairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
<td></td>
<td>Or. No.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing Size</td>
<td>18 in.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bit-Size</td>
<td>18 in.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casing-Size</td>
<td>18 in.</td>
<td></td>
<td>36 ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amt. Perforated</td>
<td></td>
<td></td>
<td></td>
<td>ft.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth Start</td>
<td>110 ft.</td>
<td></td>
<td>118 ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth Stop</td>
<td>113 ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feet Drilled</td>
<td>84 ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M ft.</td>
<td>M ft.</td>
<td>M ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>Chalk &amp; Clastics</td>
<td>Had bad hole problems</td>
</tr>
<tr>
<td>118</td>
<td>On pack, hard to drill, &amp; pack</td>
<td>Can’t seem to keep from breaking through hard layers &amp; loose, flowing, lode.</td>
</tr>
</tbody>
</table>

Remarks: Going to put on 12" bit in AM & reduce hole to 12 ft. to see if can come down to size some.

Signed: Richard Brown Date 7/7 1979
DRILLING LOG

Date: 7/16/79  Job No.: 1-79  Hole No.: 1  Elevation: 850 ft.
Customer: Dept. Natural Resources Location: O'ahu

Driller: Richard Bourn 10 Hrs.  Rig: 364
Helper: Bradley Kresse 10 Hrs.  Gas:  Oil:  Repairs: 
Arv. Job:  Lv. Job: 

Bit-Size: 18"  Type: M.H.
Casing-Size 18" in., Length in hole 36 ft.  in., Amt. Perforated ft.  in.
Depth Start: 105 ft., Depth Stop: 115 ft., Feet Drilled: 5 ft.

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>105</td>
<td>Cliffs &amp; Crus</td>
<td>Hole big on all but out</td>
</tr>
<tr>
<td>115</td>
<td>Sayers</td>
<td>Can't make too much progress</td>
</tr>
</tbody>
</table>

Remarks: Helper went to Kauai to pick up freight & fuel 4 x 4 box for month. Worked on driller, picked up new pipe & muffler. Was trying to get freight.

Signed: Richard Bourn  Date: 7/16/79
## Drilling Log

**RUSCOE MOSS COMPANY**

830 AUA STREET • HONOLULU, HAWAII 96818
TELEPHONE (808) 838-6688 • 833-1444

---

**Date:** 7/5 1979  
**Job No.:** 1-79  
**Hole No.:** #1  
**Elevation:** 850 ft.

**Customer:** Dept Natural Resources  
**Location:** Oahu

<table>
<thead>
<tr>
<th>Driller</th>
<th>10 Hrs.</th>
<th>Rig</th>
<th>364</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Brown</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>10 Hrs.</th>
<th>Gas</th>
<th>Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradley Knause</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hrs.</th>
<th>Repairs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
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<tbody>
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</tr>
</tbody>
</table>

**Bit-Size:** 18"  
**Type:** N. T.

**Casing-Size:** 18" in.  
**Length in hole:** 96 ft.  
**Amt. Perforated:** ft. in.

**Depth Start:** 95 ft.  
**Depth Stop:** 105 ft.  
**Feet Drilled:**

**Water Levels, Time:** M ft., Time M ft.

---

**Depth**

<table>
<thead>
<tr>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>95</td>
<td>Red mud, River bed drilling big veins</td>
</tr>
<tr>
<td>105</td>
<td>Chalk, &amp; cinders, Bentonite to drill hole went hold water.</td>
</tr>
</tbody>
</table>

**Measurements**

<table>
<thead>
<tr>
<th>Depth</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Remarks:**  
Some crooked hole, probably is mud gite. Too thick hole looses. Off in hard soft layers losing ledge in partley straightened out.

---

**Signed:** Richard Brown  
**Date:** 7/5 1979
**Drilling Log**

**Ruscoe Moss Company**

---

**Date:** 7/4 1979  
**Job No.:** 1-79  
**Hole No.:** #1  
**Elevation:** 850.0 ft.  
**Customer:** Dept. Natural Resources  
**Location:** Above

**Driller:** Richard Bowman  
**Hours:** 10  
**Rig:** 362

**Helper:** Bradley Kneese  
**Hours:** 10  
**Gas:** Oil

**Arv. Job:**  
**Lv. Job:**  
**Hrs. Repairs:**

---

**Bit-Size:** 18"  
**Type:** M.H.

**Casing-Size:** 18" in.  
**Length in hole:** 36 ft.  
**Amt. Perforated:**  
**Depth Start:** 85 ft.  
**Depth Stop:** 95 ft.  
**Feet Drilled:** 10 ft.

**Water Levels, Time:** M ft., Time M ft., M ft.

---

**Depth** | **Formation** | **Remarks** | **Top**
---|---|---|---
75 | Bemish Krey |  
95 | Puka Cliffs & Cinders | Hole Drilling Big casing |  
Cement &liners to Mr. G and some very hard ridges & beyond |

**Remarks:** Changed bit again & put on Jane Ann new  
**Cable Tacker:**

---

**Signed:** Richard Bowman  
**Date:** 7/4 1979
Date: 7/3/79, Job No.: 1-79, Hole No.: #1

Customer: Dept. Natural Resources, Location: Akee

Driller: Richard Bourn, 10 Hrs., Rig
Helper: Bradley Kreese, 10 Hrs., Gas
Helper: __________, __________, __________
Arv. Job: __________, Lv. Job: __________, Hrs.: __________, Or. No.: __________

Drilling Log

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>18&quot;</th>
</tr>
</thead>
</table>


Depth Start: 81 ft., Depth Stop: 85 ft., Feet Drilled: __________ ft.

Water Levels, Time: M __________ ft., Time: M __________ ft.

Depth | Formation | Remarks | Top |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>86</td>
<td>Brownish Gray</td>
<td>Some Clinker Layers, Very Pulp</td>
<td></td>
</tr>
<tr>
<td>85</td>
<td></td>
<td>Hard But Thin, Very Carbonin in Between Layers, Hole Drilling Very Big</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Changed bit to 18" M.H. As Crooker, very deep in neck wrench. Square of iron bit bend, Some repair work on chuck & adjustment arms.

Signed: Richard Bourn, Date: 7/3/79
<table>
<thead>
<tr>
<th>Date: 6/29/79</th>
<th>Job No: 1-79</th>
<th>Hole No: #1</th>
<th>Elevation: 850.0 ft.</th>
</tr>
</thead>
</table>

**Customer:** Dept. Natural Resources  
**Location:** O'Koa

**Driller:** Richard Bourn  
**Hrs:** 10  
**Rig:** 366

**Helper:** Bradley Kuuene  
**Hrs:** 10  
**Gas:**  
**Oil:**

**Arv. Job:** 7:30  
**Lv. Job:** 4:30  
**Hrs:**

**Bit-Size:** 18''  
**Type:** Star

**Casing-Size:** 18'' in.  
**Length in hole:** 76 ft.  
**Amnt. Perforated:**

**Depth Start:** 70 ft.  
**Depth Stop:** 81 ft.  
**Feet Drilled:** 11 ft

**Water Levels, Time:**  
**M:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Brownish Clay</td>
<td>Hardy soft lavers than 10 9/2</td>
</tr>
<tr>
<td>81</td>
<td>Four peka</td>
<td>Hole coming, drilling big water.</td>
</tr>
</tbody>
</table>

**Remarks:** Cemented stop with cement & Berlitz to keep from water.  
Water didn't help much. Drilling big but quality doesn't seem to want to shift much. Achievement: Drilling OK.

**Signed:** Richard Bourn  
**Date:** 6/29/79
Date: 6/28 1979  
Job No.: 1-79  
Hole No.: #1  
Elevation: 850.0 ft.  

Customer: Dept. Natural Resources  
Location: Akul

Driller: Richard Bourn  
Hrs.: 10  
Rig: 36L

Helper: Bradley Kneese  
Hrs.: 10  
Gas: Oil

Arv. Job:  
Lv. Job:  
Hrs.:  

Bit-Size: 18"  
Type: Star

Casing-Size: 18" in., Length in hole: 36' ft.  
Amt. Perforated:  

Depth Start: 60' ft., Depth Stop: 20' ft., Feet Drilled: 10' ft.

Water Levels, Time: M  

Depth  | Formation  | Remarks  | Top  | A  | B  |
-------|------------|----------|-----|----|----|
60     | Basement   | Hard & soft layers  | 10  | 9  | 2  |
190    | Lava pipe  | Holes Curing  |     |    |    |
        |            | Gas leak pipe replaced to  
        |            | Alignement on top ok, leak  
        |            | over or bottom.

Remarks: Hole almost sticking out of wall 55 ft. Work on some  
 cured time in 7 out of hole. Work only 60 1/2 half 3  
times in 90 1/2 - training in pm. Worked on knot  
about 8 hrs - ok now.

Signed: Richard Bourn  
Date: 6/28 1979
Date: 6/27/79  
Job No.: 1-79  
Hole No.: 1  
Elevation: 8501.0 ft.  

Customer: Dept. Natural Resources  
Location: Close

Driller: Richard Bourn  
10 Hrs.  
Rig: 36L

Helper: Bradley Kissel  
10 Hrs.  
Gas:  
Oil: 
Repairs: 

Arv. Job:  
Lv. Job: 
Or. No.: 

Bit Size: 18"  
Type: Star

Casing Size: 28" in., Length in hole: 36" ft.  
Amt. Perforated: ft. in.

Depth Start: 45 ft., Depth Stop: 60 ft.  
Feet Drilled: 15 ft.

Water Levels: Time  
M ft., Time  
M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top A</th>
<th>Top B</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 ft</td>
<td>Brownfield Toys</td>
<td>Hole keeps coming between two layers of hard material then core in hard layers on side of you.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 ft</td>
<td>Lava pipe</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Using bentonite & cement to try to stabilize hole so can drill, pulled pipe against rest of hole, Roullier back in well & anchored top to rig with that same reaming unit.

Signed: Richard Bourn  
Date: 6/27/79
**DRILLING LOG**

**RUSCOE MOSS COMPANY**
830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 839-6888 • 833-1444

Date 6/26 1979 Job No. 1-79 Hole No. 1 Elevation 850.0 ft.
Customer Dept. Natural Resources Location AlaK

Driller Richard Bourn 10 Hrs. Rig 
Helper Bradley Kneese 10 Hrs. Gas 
Helper 
Arv. Job 
Lv. Job 

| Bit-Size | 18" |
| Casing-Type | STAR |

| Casing-Size | 18" in., Length in hole | 36 ft. in., Amt. Perforated |
| Depth Start | 36 ft., Depth Stop | 45 ft., Feet Drilled 9 ft |

Water Levels, Time | M | ft., Time | M | ft. |

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>Brown土</td>
<td>Coming small from up above hole</td>
<td>Coming</td>
</tr>
<tr>
<td>45</td>
<td>Kind of puka</td>
<td>down to size.</td>
<td>pulled pipe out twice</td>
</tr>
</tbody>
</table>

Remarks: Boulder keep coming out of well kicking bottom of surface pipe over in hole. Hole wont hold water.

Signed Richard McBourn Date 6/26 1979
**DRILLING LOG**

830 Ahua Street • Honolulu, Hawaii 96818
Telephone (808) 838-8888 • 833-1444

<table>
<thead>
<tr>
<th>Date</th>
<th>6/25/79</th>
<th>Job No.</th>
<th>1-79</th>
<th>Hole No.</th>
<th>#1</th>
<th>Elevation</th>
<th>850.0 ft.</th>
</tr>
</thead>
</table>

Customer: Dept. Natural Resources  
Location: Oahu

Driller: Richard Bourn  
10 Hrs.  
Rig: 364

Helper: Bradley Kresse  
10 Hrs.  
Gas: Oil

<table>
<thead>
<tr>
<th>Helper</th>
<th>Hrs.</th>
<th>Repairs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
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<tbody>
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<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
<th>Stc</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Casing-Size</th>
<th>18&quot; in.</th>
<th>Length in hole</th>
<th>30 ft.</th>
<th>Amt. Perforated</th>
<th>ft.</th>
<th>in.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth Start</th>
<th>Depth Stop</th>
<th>Feet Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 ft.</td>
<td>360 ft.</td>
<td>6 ft.</td>
</tr>
</tbody>
</table>

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Depth** | **Formation** | **Remarks** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Loose Cinder</td>
<td>pulled pipe again &amp; logged</td>
</tr>
<tr>
<td>36</td>
<td>Coming</td>
<td>but hit sand some where</td>
</tr>
<tr>
<td></td>
<td></td>
<td>to get pipe on down.</td>
</tr>
</tbody>
</table>

**Remarks:**  
Reset pipe in p.m. I drilled some back down, goodness keep coming out of wall & pushing pipe over in hole.  
Made some progress hole seems to be solid in bottom.

Signed: Richard Bourn  
Date: 6/25/79 1979
Date: 6/23 1979 Job No. 1-79 Hole No. #1 Elevation 850.0 ft.
Customer: Dept. Natural Resources Location: Oahu

Driller: Richard Bourn 10 Hrs. Rig: 364
Helper: Bradley Reeves 10 Hrs. Gas: Oil
Helper: Hrs. Repairs
Arv. Job: Hrs. Or. No.:
Lv. Job: ______

Bit-Size: 18" Type: Star
Casing-Size: 18" in., Length in hole: 100 ft. in., Amt. Perforated: 0 ft. in.
Depth Start: ft., Depth Stop: ft., Feet Drilled: ________

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Openings last 6 ft. Hole gets to get pipe down
Till 100 ft. Time also pipe in very
hard change had to match as under all

Material that is coming is small like
G ′ s cant keep water in hole.

Remarks: Hole seemed about 5 ft. but had to drill
up long as pipe wouldn't go on account of feet on
hill. Last hole seemed 1 set pipe down to 30 ft. took
filled in that much.

Signed: Richard Bourn  Date: 6/23 1979
**DRILLING LOG**

830 AHUA STREET • HONOLULU, HAWAII 96819
TELEPHONE (808) 539-6888 • 833-1444

---

**Date:** 6/33 1979  
**Job No.:** 1-79  
**Hole No.:** 1  
**Elevation:** 850 ft.

**Customer:** Dept. Natural Resources  
**Location:** Ako'e

**Driller:** Richard Brown  
**10 Hrs.**  
**Rig:** 36L

**Helper:** Bradley Know  
**10 Hrs.**  
**Gas, Oil, Repairs**

**Arv. Job:**  
**Lv. Job:**  
**Hrs.:**

**Bit-Size:** 18”  
**Type:** Stone

**Casing-Size:** 18” in., Length in hole 18 ft.  
**Amt. Perforated:** ft. in.

**Depth Start:** 24 ft.  
**Depth Stop:** 36 ft.  
**Feet Drilled:** 12

**Water Levels, Time:** M ft., Time M ft.

---

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Brown, Corkers</td>
<td>Won't stand, kept clogging up hole</td>
</tr>
<tr>
<td>36</td>
<td>Hole went too even with cement</td>
<td>Pulled pipe &amp; lagged out of 6 ft. to 8 in. hole</td>
</tr>
<tr>
<td></td>
<td>Reap hole</td>
<td>locally no slay to hold stem keepers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plugging on side</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worked all day but no luck</td>
</tr>
</tbody>
</table>

**Remarks:**

---

**Signed:** Richard Brown  
**Date:** 6/33 1979
**Date**: 6/31 1979  
**Job No.**: 1-79  
**Hole No.**: #1  
**Elevation**: 850.0 ft.

**Customer**: Dept. Natural Resources  
**Location**: Oahu

**Driller**: Richard Baum  
**Helper**: Bradley Kinsey  
**Rig**: #61  
**Gas**:  
**Oil**: 
**Hrs.**: 10 Hrs.  
**Repair**:  
**Arv. Job**:  
**Lv. Job**: 

**Bit-Size**: 18”  
**Type**: 
**Casing-Size**: 18” in., Length in hole 18 ft.  
**Amt. Perforated**: ft. in.

**Depth Start**: 18 ft., Depth Stop**: 24 ft., Feet Drilled**: 6 ft.

**Water Levels, Time**: 

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Blue Rock</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Ford Mulhein Bed</td>
<td>New Lone Buidle hole, yet for samples.</td>
</tr>
</tbody>
</table>

**Remarks**: Hit Cul-de-sac again at 24 - don’t want to go cemented.  
Some Water Some Mud.

**Signed**: Richard Baum  
**Date**: 6/31 1979
### Drilling Log

**Date:** 6/20 1979  
**Job No.:** 1-79  
**Hole No.:** #1  
**Elevation:** 850 ft.

**Customer:** Dept. Natural Resources  
**Location:** Oahu

**Driller:** Richard Bourn  
**Rig:** 361

**Helper:** Bradley Brown  
**Gas:**  
**Oil:**

**Arv. Job:**  
**Lv. Job:**

**Bit-Size:** 18"  
**Type:**

**Casing-Size:** 18" in., Length in hole 14 ft.  
**in., Amt. Perforated:**

**Depth Start:** 14' ft.  
**Depth Stop:** 18' ft.  
**Feet Drilled:** 2' ft.

**Water Levels, Time:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 ft</td>
<td>Broken Cinder</td>
<td>Can't get going very good Went half way down till fell in after shot.</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Last powder from Smith & shot off Builder 4 set casing drilled down to

**Signed:** Richard Bourn  
**Date:** 6/20 1979
<table>
<thead>
<tr>
<th>Date</th>
<th>6/19 1979</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job No.</td>
<td>1-79</td>
</tr>
<tr>
<td>Hole No.</td>
<td>#1</td>
</tr>
<tr>
<td>Elevation</td>
<td>850.0 ft.</td>
</tr>
<tr>
<td>Customer</td>
<td>Dept. Natural Resources</td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Brown</td>
</tr>
<tr>
<td>Helper</td>
<td>Bradley Jones</td>
</tr>
<tr>
<td>Helper</td>
<td></td>
</tr>
<tr>
<td>Arv. Job</td>
<td></td>
</tr>
<tr>
<td>Lv. Job</td>
<td></td>
</tr>
<tr>
<td>Hrs.</td>
<td>10</td>
</tr>
<tr>
<td>Rig</td>
<td>361</td>
</tr>
<tr>
<td>Gas</td>
<td></td>
</tr>
<tr>
<td>Oil</td>
<td></td>
</tr>
<tr>
<td>Repairs</td>
<td></td>
</tr>
<tr>
<td>Bit-Size</td>
<td>18&quot;</td>
</tr>
<tr>
<td>Type</td>
<td>Star</td>
</tr>
<tr>
<td>Casing-Size</td>
<td>18&quot; in.</td>
</tr>
<tr>
<td>Length</td>
<td></td>
</tr>
<tr>
<td>Amt. Perforated</td>
<td></td>
</tr>
<tr>
<td>Depth Start</td>
<td>8 ft.</td>
</tr>
<tr>
<td>Depth Stop</td>
<td>14 ft.</td>
</tr>
<tr>
<td>Feet Drilled</td>
<td></td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M        ft.</td>
</tr>
<tr>
<td>Measurements</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>To pull pipe seem hole big boulder rocking over casing won't go down. Cant seem to knuckle same off. pipe too crooked to bale. pulled out again, need powder.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Put cause up around dog house.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bradley picked up pipe yesterday also need # should to location.</td>
</tr>
</tbody>
</table>

Remarks:

Signed: Richard Brown Date: 6/19 1979
**DRILLING LOG**

Date: 6/15/1979  
Job No.: 1-79  
Hole No.: 1  
Elevation: 850.0 ft.  
Customer: Dept. Natural Resources  
Location: Okane  

<table>
<thead>
<tr>
<th>Driller</th>
<th>Hrs.</th>
<th>Rig</th>
<th>Helper</th>
<th>Hrs.</th>
<th>Gas</th>
<th>Oil</th>
<th>Helper</th>
<th>Hrs.</th>
<th>Repairs</th>
<th>Or. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bradley Kniece</td>
<td>10 Hrs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Bit-Size**: 18"  
**Type**: Stov  

**Casing-Size**: 20" in.,  
Length in hole: 6 ft.  
Amt. Perforated:  
In.  

Depth Start:  
Depth Stop:  
Feet Drilled:  

**Water Levels, Time**: M __ ft., Time __ M __ ft.  

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

**Measurements**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Had Brad working on rig. Chipping paint. Chewing cap. Beenetching at Rig. got all steel for setting around. Had some more roof to put on dog house.  
Chipping 18" casing from Hon.  

Signed: Richard Brown  
Date: 6/15/1979
Date: 6/14 1979  Job No. 479  Hole No. #1  Elevation 850.0 ft.
Customer: Dept. Natural Resources  Location: Aiea

Driller: Richard Brown  10 Hrs.  Rig: 366
Helper: Earl Ching  10 Hrs.  Gas: Oil
Helper: Bradley Aikane  10 Hrs.  Repairs:

Bit-Size: 18"  Type: Star
Depth Start: 6  ft., Depth Stop: 14  ft., Feet Drilled: 8  ft.

Water Levels, Time: M ft., Time: M ft.

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Boulder Tra</td>
<td>Corning in hole getting big as entrance. Need more surface pipe.</td>
</tr>
<tr>
<td>14</td>
<td>Blue</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Finished building dog house & hooked up rest of water lines, fixed things up around rig. Came in to look for more pipe. Came to town.

Signed: Richard Brown  Date: 6/14 1979
<table>
<thead>
<tr>
<th>Date</th>
<th>6/13 1979</th>
<th>Job No.</th>
<th>1-79</th>
<th>Hole No.</th>
<th>#1</th>
<th>Elevation</th>
<th>850.0 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>Dept Natural Resources</td>
<td>Location</td>
<td>Okeo</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driller</td>
<td>Richard Brown</td>
<td>10 Hrs.</td>
<td>Rig</td>
<td>364</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Earl Ching</td>
<td>10 Hrs.</td>
<td>Gas.</td>
<td>Oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helper</td>
<td>Brad Nomura</td>
<td>10 Hrs.</td>
<td>Repairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bit-Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth Start</td>
<td>ft., Depth Stop ft., Feet Drilled</td>
</tr>
<tr>
<td>Water Levels, Time</td>
<td>M ft., Time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth</th>
<th>Formation</th>
<th>Remarks</th>
<th>Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Drill &amp; Rock Coupl.</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>Rock Zone Solid</td>
<td>Drilling to size</td>
<td>B</td>
</tr>
<tr>
<td>3</td>
<td>Blue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Earl & Brad went to Kauaiha to pick up fuel & supplies. Some snags around gathering my supplies. Earl & Brad left about 1:30. We cleaned the truck & checked for loaded fuel. We started to sped in about 9:30 am the fuel sold out.

Signed: Richard Brown  Date: 6/13 1979